



# **Citrix Analytics for Security**

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## What's new

April 17, 2024

A goal of Citrix is to deliver new features and product updates to Citrix Analytics customers when they are available. New releases provide more value, so there's no reason to delay updates.

To you, the customer, this process is transparent. Initial updates are applied to Citrix internal sites only, and are then applied to customer environments gradually. Delivering updates incrementally in waves helps to ensure product quality and to maximize the availability.

April 15, 2024

### New Executive Summary report

You now have the option to consolidate multiple reports into a single executive report which can be scheduled for the required time period. With this new feature, you are only providing your audience with necessary graphical information. For more information, see [Executive summary report](#).

January 29, 2024

### Workspace App Status field updates

- **Self-Service Search:** You can now perform queries to find out the support status of a Workspace App version by utilizing the newly introduced **Workspace App status** field for the **Citrix Apps and Desktops** data source.
- **Users:** The **Workspace App Status** column has been removed.

For more information, see [self-service search for Apps and Desktops](#).

January 25, 2024

### Inconsistencies in the CAS UI are streamlined

The following problems have been resolved in the **Self-Service Search** feature for the **Apps and Desktops** data source:

- Events that were previously displayed out of order within a session now appear correctly.
- The default columns have been updated.

## January 24, 2024

### Enhanced user profile events on SIEM environments

The user profile events exported to your SIEM environments now include:

- IP address insights
- Citrix Virtual Apps and Desktops and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) location insights

These new enhancements enable you to identify the client's IP address used to access your organization's data and gather user location information from both Citrix Virtual Apps and Desktops, as well as Citrix DaaS.

For more information, see [Risk insights data for SIEM](#).

## December 01, 2023

### Admin Email Settings page for Weekly email and SIEM alerts

The new **Admin Email Settings** feature allows you to configure custom distribution list recipients for system alerts. This enhancement ensures that administrators receive only the system alerts that are relevant to them.

For more information, see [Admin email settings](#).

### Users dashboard - New active user count time filter and updated the Overview section

The new time filter in the **Users** dashboard allows you to view and modify the total number of active users in your organization for a specific time period, considering the data sources for which you have enabled Citrix Analytics.

The enhanced **Overview** section in the **Users** dashboard displays the total number of users in your organization, as well as the number of active and inactive users who are currently logged on.

For more information, see [Users dashboard](#).

### Enhanced custom reports

- You can now create and schedule custom reports using the events and insights available in Citrix Analytics for Security. Custom reports help you to extract information of specific interest and organize the data graphically.

- You can now use the enhanced Custom Report platform capabilities that include Self-Service Search query-based reports, templates, better visualizations, coverage of all data sources and metrics, scheduling reports, and exporting PDFs.

For more information, see [Custom reports](#).

## **November 30, 2023**

### **Removal of all ShareFile capabilities in Citrix Analytics**

The following ShareFile detection capabilities are removed:

- Share Links
- Associated Risk Indicators
- Policies with their occurrences
- Content Collaboration Data Export configurations
- Content Collaboration Reports
- Content Collaboration datasource on Search
- Content Collaboration Saved Searches
- Content Collaboration Data Source.

The removal of these capabilities might result in a temporary inconsistency in risk score and user time-lines. All other Citrix Analytics capabilities remain the same.

Learn how [ShareFile simplifies access to security controls directly](#) from ShareFile.com.

## **September 22, 2023**

### **Citrix Secure Browser data source in Custom Indicator**

You can now create risk indicators for the Citrix Secure Browser data source to track a user's activity in the Secure browser. For more information, see [Custom Indicators](#).

### **Enhancement of Weekly Email with SIEM Data Export**

The Weekly email has been enhanced to provide deeper insight into your organization's security posture by enabling the SIEM data export. You can now onboard and activate more data sources to discover a wide range of events around your users. The weekly email includes the following new additions:

- The data summary section shows the status of data consumption in the SIEM environment.
- Recommendations for Data Exports based on the data export consumption status.

For more information, see [Weekly email notification](#).

### **Consumption of custom administrator's notification preferences in emails**

Citrix Analytics for Security now honors the notification preferences set by custom administrators in Citrix Cloud. This enhancement provides custom administrators with greater flexibility in managing their notification preferences. This preference is also leveraged while sending notification emails such as weekly emails, Notify Administrators action emails, and alerts for data exports.

For more information, see [Manage administrator roles for Security Analytics](#).

### **July 04, 2023**

#### **OR operator support in Self-Service Search and Custom Indicator**

The **OR** operator is now available in the **Self-Service Search** and **Custom Risk Indicator** features. You can use the **OR** operator in search views such as Self-Service Search and Custom Indicator queries.

For more information, see [Supported operators in search query](#).

### **June 15, 2023**

#### **Enable VDA clipboard telemetry**

An event called VDA.Clipboard triggers when you initiate any clipboard operation in Citrix Apps and Desktops. These clipboard logs provide vital information such as the VDA name, clipboard size, clipboard format type, client IP, clipboard operation, clipboard operation direction, and whether the clipboard operation was permitted. The VDA Clipboard event attributes are also available on the Self-service search and Custom Risk Indicators workflows.

- **Self-service search:** You can generate reports, save queries and review the VDA.Clipboard events along with all its attribute details.
- **Custom Risk Indicators:** Attributes for the VDA clipboard events are available with Custom Indicators workflow. You can use these event key/value pairs to configure custom indicator triggers and setup automated policies with actions.

You can use the **Clipboard place metadata collection for Security monitoring** policy to enable the clipboard telemetry and transmission of clipboard logs to Citrix Analytics for Security. By default, this policy is enabled. To disable, navigate to the Policy page and disable it to stop the collection of data from the VDAs.

For more information, see [Enabling clipboard telemetry for Citrix DaaS](#).

**June 14, 2023**

### **Availability of Session Recording App lifecycle and Registry events in Citrix Analytics for Security**

The following **App Lifecycle** and **Registry** events from **Session Recording** are now available in Citrix Analytics for Security:

- Citrix.EventMonitor.RegistryChange
- Citrix.EventMonitor.SessionLaunch
- Citrix.EventMonitor.SessionEnd
- Citrix.EventMonitor.Clipboard
- Citrix.EventMonitor.FileTransfer

You can view these events, create custom indicators, and export these events to your SIEM environments.

For more information, see [Event types and supported fields](#).

**June 08, 2023**

### **Fixed issues**

- Some session logon events that are sent to Citrix Analytics for Security, do not have a username. This results in the username column showing as **NA** for some events on Self Service Search and Access Assurance User Logons page. Sometimes, It also results in having a unique user count as zero although the total logon count is non-zero in the Access Assurance IP Registering Organizations chart when viewing the data for a small time range such as **Last 1 Hour** or **Last 1 Day**. This issue is fixed now.[CAS-70954]
- In Self-service search for Apps and Desktops, for Session.Logon and Session.end user events, the App-Name dimension in search queries is populated with Delivery Group names rather than the name of the application or desktop launched, which can be misleading to administrators. The App-Name dimension is more useful for queries on App.Start/App.End events, as it points to the applications which are being launched. For more details, refer [Self-service search for Apps and Desktops](#). This issue is fixed now. [CAS-67968]
- If your organization is onboarded to Citrix Cloud in the **Asia Pacific South** home region, the Content Collaboration events are not visible in your Citrix Analytics tenants. This issue is fixed now. [CAS-62317]
- Few versions of the Citrix Workspace app and Citrix Receiver client do not send specific events to Citrix Analytics. Therefore, Citrix Analytics cannot provide insights and generate risk indicators

for these events. This issue is fixed now. For more information, see [Check 6: Are the virtual apps and desktops events transmitted to Analytics?](#). [CAS-16151]

## May 29, 2023

### Citrix Analytics Add-On for Splunk Now Available on Splunk Cloud Platform

Splunk Integration for Citrix Analytics utilizes Citrix Analytics Add-On for Splunk to connect to the analytics environment and bring in business critical data into your Splunk Environment.

Earlier, the add-on was vetted by Splunk only for installation on the Splunk Enterprise layer and the customers were responsible for configuring the add-on within their on-premises Splunk environment. With the latest version of 2.1.2, the add-on has the added Splunk platform compatibility with Splunk Cloud. Customers using **Classic** instances with IDM or **Victoria** instances can utilize this platform compatibility enhancement. Now, customers have the flexibility to choose between Splunk Enterprise or Splunk Cloud while considering the deployment of our add-on to facilitate Splunk integration.

For more information, see [Splunk Integration](#).

### Session Recording events in SIEM

The **Session Recording** events can now be exported to SIEM in the form of **Risk Insight** events and **Data Source** events for Apps and Desktops. The newly added event types can be found in the Data events for export stage under the **Data Exports** page.

For more information, see [Policies and Actions](#).

## May 24, 2023

### Notify End User Global Action

The **Policies and Actions** feature in Citrix Analytics now supports the **Notify End User** global action which can be paired with built-in or custom risk indicator trigger(s). Administrators can create policies with the **Notify End User** action that generates email notifications for end users only. This action can be used for various of compliance use cases such as notifying the users for unsanctioned application usage, or alerting for suspicious behavior on their Citrix accounts without taking any disruptive actions. Administrators can customize the email message body and subject line depending upon the specific scenario.

For more information, see [Notify End User](#).

**May 04, 2023**

### **Test Event Generation**

The **Test event generation** feature is created to aid customers for quickly testing their Citrix Analytics - SIEM pipeline. Earlier, if the administrator had to test this integration, she/he would have to wait for data source onboarding and user activity to check if the events were being generated by Citrix Analytics and hence received by their SIEM environment. This is no longer a necessity. One can simply click the **Send test data** button to send a dummy event into the SIEM environment and use the query provided to check if the Citrix Analytics SIEM Integration is set as expected. This can also work for the administrator who's trying to debug disrupted data flow since it can help in isolating the point of failure.

For more information, see [Test Event Generation](#).

### **SIEM Email Alert Generation**

The SIEM Email Alert Generation capability takes the troubleshooting journey of Data Exports to a new level of ease. Citrix Analytics sends system alerts for activities that can lead to or indicate SIEM data flow disruption. The email gets distributed amongst Citrix Cloud administrators, Security full administrators, Security read-only administrators, and Security and Performance read-only administrators. The following are the different types of alerts that are sent:

#### **1. SIEM Data Export Alert - Password was reset**

This email is triggered whenever the account password is reset from the Data Exports page. If only done on Citrix Analytics for Security GUI, it can lead to disruption in the data flow. This alert contains the time at which password reset was performed and hence makes getting back to successful data flow that much easier.

#### **2. SIEM Data Export Alert - Data Flow Stopped**

This email is triggered whenever the customer has faced data flow disruption from

- **More than 24 hours** - Critical time to quickly get back to successful data flow by using the helpful troubleshooting tips within the alert or utilizing the **Data Export Summary** tab with **Quick Guide**.
- **More than 7 days** - The Kafka retention policy for each customer's topic is seven days which means there's a possibility that some security postured data has expired. Imperative to use the troubleshooting tools to reinstate data flow to SIEM.
- **More than 30 days** - This means that the customer has suffered from security-inclined data and needs to pay immediate attention to restoring the data flow from Citrix Analytics to the SIEM environment.

For more information, see [SIEM Email Alert Generation](#).

## April 13, 2023

### Fixed issue

Windows Citrix Workspace App sends an empty file name, path, and format property from Citrix Workspace App Version 2203 and later versions. As a result, Citrix Analytics for Security GUI shows NA values for Download File Name, Download File Path, and Download File Format columns. This issue is fixed now. [CAS-73498]

## March 31, 2023

### Session Recording Events in Citrix Analytics for Security

In Citrix Apps and Desktops, two new event types have been added to help identify and assess session recording-based events.

- Citrix.EventMonitor.RDPConnection
- Citrix.EventMonitor.UserAccountModification

Administrators can now easily identify and assess potential security risks. They can use these events to gather information on vital data such as process IDs, destination IP addresses and descriptions of user account operations. Additionally, these events can also be found on **Custom Risk Indicators** page and the **Self-Service Search** page.

- **Self-Service Search:** You can view these events along with their attribute details.
  - **Custom Risk Indicators:** You can configure any custom indicator using these event types.
- For more information, see [Event types and supported fields](#).

### App Protection Events in Self-Service Search

A new event called **AppProtection.ScreenCapture** triggers when you try to capture a screenshot while being in a protected session under Citrix Apps and Desktops data source. The **AppProtection.ScreenCapture** events are also available on **Self-Service Search** and **Data Exports** pages.

- **Self-service search:** You can view the **AppProtection.ScreenCapture** results along with all its attribute details.
- **Data Exports:** You can view the **AppProtection.ScreenCapture** event type under the Data Exports section. Navigate to, **Settings > Data Exports > Configuration > Data Events for Export > select Apps and Desktops** from the Data Source Events (Optional) category.

You can also view a new attribute called **App Protection Policies** for the **Session.Logon** event.

For more information, see [Event types and supported fields](#).

## March 30, 2023

### Custom Roles support

An administrator can be added for custom roles using groups in your Active Directory or Azure Active Directory or by setting up an Okta integration for Citrix Analytics for Security. This integration enables a streamlined approach to manage service access permissions for all group administrators.

After successfully adding an administrator to Active Directory or Azure Active Directory, the administrator can create groups and assign a custom role to a specific group. Individual permissions are given preference over group permissions if an administrator is a member of both.

For more information, see [Custom Roles Support](#).

### Troubleshooting panel for SIEM UI

The Data Exports UI is enhanced with the following changes:

- **Summary Tab:** The Summary tab describes the SIEM event metrics, data source onboarding status and the data consumption status in the following scenario:
  - **Available Data in Citrix Analytics:** Provides the onboarding status for the different data sources.
  - **Available Events for SIEM Consumption:** Provides the number of insights that are being sent to your SIEM environment.
  - **Data Consumption by SIEM:** Provides the data consumption status.
- **Configuration Tab:** The **Configuration** tab contains the information about your account setup, SIEM environment setup and data events selection.
- **Data Export Quick Guide:** Administrators can now make use of the **Quick Guide**, which makes it simpler to set up and maintain SIEM integrations. The **Data Export Quick Guide** link is accessible from both the **Summary** and **Configuration** tabs.

For more information, see [Troubleshooting Data Exports](#).

## March 24, 2023

### Change in User Profile view

**Users' profile data** related to Applications, Locations, Devices, and ShareFile data usage are not available on the **User Info** page in User's Timeline. The following user information that comes from Active Directory is still available -

- Job Title
- Address
- Email
- Phone
- Location
- Organization

There are no changes in the user profile data that is exported to SIEM. For more information, see [User profile](#).

### Removal of Dynamic Auto-suggestions from all Search Views

The auto-suggestion functionality for dimensions based on the tenant's historical data is now deprecated for the following pages:

- Self-Service Search
- Custom Risk Indicator

However, static suggestions for dimensions such as **Event-Type** and **Clipboard-Operations** are still available in the search box.

For more information, see [How to use self-service search](#).

## March 21, 2023

### Recommendations panel to help onboard on-premise StoreFront data source

A new **Recommendations** panel has been introduced on the **Data Sources** page. The **Recommendations** panel on the **Data Sources** page educates the user on the importance of onboarding on-premise StoreFront data sources. It helps the user onboard the on-premise StoreFront data sources easily and also provides an option for the user to review and ensure onboarding of all the available data sources.

For more details, see [Connect to a StoreFront Deployment](#).

## February 23, 2023

### Fixed issues

The actions are failing for the On-premises Citrix Apps and Desktop deployments where the Citrix Apps and Desktop version > 1912. This issue has been seen in both the manual and policy-based actions. This issue is fixed now. [CAS-69098]

The Self-service search for Apps and Desktops page displays multiple app start and app end events when virtual apps are launched only once. This issue occurs on Citrix Workspace app for Linux client versions. This issue is fixed now. [CAS-36236]

User events from the Secure Private Access service after 4th April 2022 and up to end of May 2022 might not be available in your Citrix Analytics tenants. This issue is fixed now. [CAS-66897]

## February 22, 2023

### Enhancement in weekly email notifications

Citrix Analytics sends weekly email notifications that help summarize your organization's security risk exposures. The weekly emails notification has been improved with the following updates:

- Provides a view of the users risk distribution - total discovered users, number of risky, and non-risky users for a week
- Total events processed for a week
- Total indicators triggered for a week
- Total actions performed for a week
- Total data sources that are turned on for data processing

For more details, see [Weekly email notification](#).

### Added Download File Format field for App.SaaS.File.Download event type

In the Self-Service Search page for the Apps and Desktops data source, a new **Download File Format** field has been added for the App.SaaS.File.Download event type. With this change, you can now configure custom risk indicators for the **Download File Format** field and also export the field as part of the Export to CSV format.

For more information, see [Self-service search for Apps and Desktops](#).

## Change in Browser-derived fields

Previously, the Self-Service Search page featured the **Browser**, **Browser Major Version** and **Browser Minor Version** fields to represent the browser names and versions. However, to ensure clarity and accuracy, now these three fields are deprecated and replaced with **Browser Name** and **Browser Version** in Self-Service Search, Custom indicator template and CSV download for Apps and Desktops data source.

For more information, see [Self-service search for Apps and Desktops](#).

## February 16, 2023

### Fixed issue

Weekly emails are affected for some of the EU and APS customers while fetching the Username Masking status for a tenant. As a result, the administrators are receiving 10 identical weekly emails because of the exception. Once the exception occurred, succeeding tenants did not receive the weekly email. This issue has been fixed now. [CAS-76138]

## February 03, 2023

### Analytics support for the Citrix Secure Private Access service available in the European Union and the Asia Pacific South regions

Citrix Analytics for Security now processes user events from Citrix Secure Private Access available in the European Union region and the Asia Pacific South region. If your organization is onboarded to Citrix Cloud from the European Union region or the Asia Pacific South region, you can view the risk insights of the users who are using the Secure Private Access service.

For more information, see [Data Sources](#).

## January 11, 2023

### Removal of the Web filtering capability from Secure Private Access

The Web filtering capability has been removed from the Secure Private Access category. The following capabilities on Citrix Analytics for Security are impacted due to the deprecation of Category-based web filtering by Secure Private Access:

1. Data fields such as Category-Group, Category, and Reputation of URLs are no longer available on the Citrix Analytics for Security dashboard.

2. The Risky website access indicator which relies on the same data is also deprecated and is not triggered for customers.
3. Any existing custom risk indicators using the data fields (Category-Group, Category, and Reputation of URLs) and its associated policies are not triggered anymore.
4. The **User Access** and **App Access** tabs.
5. The SIEM exports continue to have the urlcategory, urlcategorygroup and urlcategoryreputation attributes for some time with the following dummy values:
  - 99999 for Category and Category-Group
  - 0 for Reputation

For more information, see [Self-service search for Secure Private Access](#).

## December 27, 2022

### Change in data source drop-down for Self-service Search

The data source list is changed to reflect **Sessions** by default instead of **Apps and Desktops** in the Self-service Search page. Also, the Performance section is moved to the top followed by the Security section as the performance data sources were not visible.

For more information, see [Self-service search](#).

## December 13, 2022

### Users dashboard enhancement

The Users dashboard is revamped with summaries and charts to help admins monitor the security posture of the organization. The view not only provides details of discovered users, risk indicators triggered, and actions applied, but also provides time-based trend line of critical metrics for better assessment of risks. Administrators can drill down on data of interest and navigate to relevant dashboards with the right context for faster risk analysis.

For more information, see [Users dashboard](#).

## December 05, 2022

### Access assurance dashboard - Logon Network

The Logon Network section is newly added and provides the following user details:

- The organizations associated with the IP addresses from which the users have logged on.
- The total unique public subnet and private subnet from where the users have logged on.
- The details that the user has logged on using proxies and private VPN services.

Using these additional details, an administrator can validate the user logon details and ensure that the user logon is within the security expectation of the organization.

For more details, see [Access Assurance Dashboard](#).

## November 18, 2022

### Fixed issue

- The geofence indicators which were erroneously triggered without having any source events have been fixed. [CAS-73222]

## November 08, 2022

### Rename actions

Some of the actions used in Citrix Analytics for Security are renamed to provide more clarity. Those actions are:

- **Notify admins** - Notify administrator(s)
- **Lock user** - Lock user account
- **Log off user** - Log off active sessions
- **Unlock user** - Unlock user account
- **Disable user** - Disable User Account

For more information, see [What are the actions?](#)

### Fixed issues

- If you select an option from the timeline actions dropdown, you cannot trigger any manual action as the Clear and Apply buttons are not visible. This condition occurs in the latest Firefox version. This issue is fixed now. [CAS-72051]
- The **HardDrive**, **harddrive**, and **HDD** categories are combined into a single category as **Hard Disk Drive** for the Download-Device-Type field in Self-Service Search for the Apps and Desktops data source. [CAS-67188]

- Sometimes, duplicated notifications are received from Microsoft Graph with the same alert ID, and that causes the creation of duplicated risk events. A deduplication mechanism is implemented within the applications to prevent this issue. [CAS-66731]

## **October 19, 2022**

### **Date Source events selection and export**

You can now leverage the new Data events export workflow to export data source events in addition to the machine-learning generated risk insights events and associated data.

This enables Security and Security operations (SOC) admins to:

- Correlate data from Citrix Analytics with other data source events aggregated on security information and event management (SIEMs)
- Control what data events flow to SIEMs for storage cost optimization

The data events are delivered to your existing SIEM integrations and data connectors and in parity to what is available on our Self-service event search view.

For more information, see [Data events exported from Citrix Analytics for Security to your SIEM service](#).

## **October 18, 2022**

### **Allow administrator to run dynamic session recording action on Citrix DaaS sites**

Administrators can now run dynamic session recording actions on Citrix DaaS sites and dynamically record users' virtual sessions. They can configure the action with a policy to automatically start recording user sessions in case of a risky activity by a given user gets detected by Citrix Analytics for Security.

For more information, see [What are the actions?](#)

## **October 14, 2022**

### **Provide feedback for User Risk indicators**

Citrix Analytics for Security administrators can now report user risk indicators as helpful or not helpful by providing feedback on the indicators details panel. This feature enables administrators to report false positives, reduce noise for frequently triggered indicators, and share additional context with

other administrators. As an additional outcome, the unhelpful risk indicator is hidden from the user's timeline, and the user risk score is recalibrated.

For more information, see [Provide feedback for User Risk indicators](#).

## September 26, 2022

### Access assurance to support geofence block list

The **Safe** and **Risky location** tabs are added under the Geofence settings.

- Safe location geofencing helps to identify and restrict access outside of a defined geofenced area.
- Risky location geofencing helps to detect and narrow down risky user access as per the organization's known behavior.

Both Safe and Risky geofencings are backed by their own pre-configured custom risk indicators.

For more information, see [Enable geofencing](#).

### Fixed issues

- Citrix Cloud API to display the **Customer Name** in the email body. Now, the email uses the nickname to display the **Customer Name** in the email body sent to the admins. [CAS-65350]
- Citrix Gateway data source card is common among **Citrix Analytics for Security** and **Citrix Analytics for Performance**. The data processing was constantly invoking Citrix Analytics for Security endpoint and was broken for customers having only **Citrix Analytics for Performance** entitlement. [CAS-70817]
- When more than one entitlement messages are received simultaneously from Citrix Cloud, there is a race condition that arises while updating the Redis Cache. In such scenario, one entitlement message is updated to the cache and remaining go missing. This issue is now fixed to update all the Entitlement messages in the cache.[CAS-70823]

## September 13, 2022

### Sharelink dashboard enhancement

The Sharelink dashboard is revamped with a summary and detailed view. The summary view consists of the top active shares and top risky shares. The detailed view provides more information to the admin with the introduction of attributes created by, activity count, authentication type, permission,

share type, and content. The Admin can drill down and filter further as needed and change/provide the time frame to see the data of interest.

For more information, see Share Links dashboard.

## September 09, 2022

### Impossible Travel RI Enhancement

The Impossible Travel risk indicators have been enhanced to report the registering organization and routing type of client IP addresses. These new fields are available both in the user timeline indicator detail views and in indicator details sent to SIEM.

For more information on the default policies, see the following articles:

- [Continuous risk assessment](#).
- [Policies and actions](#)

## August 19, 2022

### Enable VDA Print telemetry

An event called VDA.Print triggers when a printing job is initiated in Citrix Apps and Desktops. The VDA Print events are also available on **Self-service search** and **Custom Risk Indicators** pages.

- **Self-service search:** You can view the VDA.Print results along with all its attribute details.
- **Custom Risk Indicators:** New events are provided for VDA print telemetry via EventHub and are available within Custom Indicator as well. You can use these event key/value pairs to configure custom indicator triggers.

To enable the print telemetry and transmission of printing logs to Citrix Analytics for Security, you need to create registry keys and configure your VDA. These printing logs provide vital information about printing activities such as, printer names, print file names, and total printed copies. As a security administrator, you can use these logs to analyze the risk and investigate your users.

For more information, see [Enabling print telemetry for Citrix DaaS](#).

## August 18, 2022

### Fixed issue

- In the Self-Service search for Apps and Desktops and in User Logons page under the Access assurance location dashboard, the Workspace app version value was populated as **NA** (not avail-

able) in the downloaded CSV file, while it was available in the page view. This issue is now fixed. [CAS-70361]

## August 17, 2022

### Customization of end-user email per policy

You can now customize the content of the email sent to end-users per policy. Specifically, when you create a policy with the Request End User Response action or a disruptive action on the user's account (such as Log Off user and Lock user), the email content sent to end-users when the policy is applied is customizable.

For more information on customizing the end-user mail per policy, see [Policies and Actions](#).

## August 11, 2022

New questions about **Access assurance –Geolocation** have been added under the **FAQ** article. For more details, refer [FAQ](#).

### Fixed issue

- The **View All Notifications** button redirected the administrator to <https://citrix.cloud.com/notifications> weekly email link that had a typo. [CAS-69236]

## June 17, 2022

### Data Processing is enabled by default for new paid entitlements

Previously, customers with new paid entitlement to Citrix Analytics for Security had to turn on Data Processing in the site card of specific data sources to begin processing data for those data sources.

With this release, when the new paid entitlement to Citrix Analytics for Security is provisioned, data processing is turned on by default for the following Citrix Cloud services:

- Citrix Secure Private Access
- Citrix Content Collaboration
- Citrix DaaS

For more information, see [Getting started](#).

## June 09, 2022

### Fixed issue

- Microsoft Graph risk indicators generated by Azure AD identity protection and Microsoft Defender for Endpoint may be displayed multiple times in Security Analytics. This issue is now fixed. [CAS-66593,CAS-66731]

## June 02, 2022

### Fixed issues

- In the Self-service search for Policies, when selecting **Policy-Name** dimension in your search query to filter events, a list of non-valid policies was suggested along with the valid policies for Security Analytics. [CAS-66838]
- The download file size of **File.Download** events from Windows Citrix Receiver was shown incorrectly in Self-service search. This issue surfaced because the actual value was in KBs and the UI treated the value as bytes leading to incorrect values being displayed to the users. [CAS-67105]

## May 24, 2022

### Introducing Impossible travel risk indicators for Content Collaboration, Citrix DaaS and Citrix Virtual Apps and Desktops, and Gateway data sources

If the user logs on from two locations that are too far apart to travel within the elapsed time, Citrix Analytics detects this activity as an impossible travel scenario and triggers the **Impossible travel** risk indicator. For more information about the Impossible travel risk indicators, see the following articles:

- Citrix Content Collaboration risk indicators
- [Citrix Gateway risk indicators](#)
- [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#)

## May 17, 2022

### Virtual Apps and Desktops is renamed to Apps and Desktops

On the Security Analytics dashboards and reports and in the data sent by Security Analytics to your SIEM service, all the Virtual Apps and Desktops labels are now updated as Apps and Desktops to align with the rebranded product name.

For example, on the Data Sources page, the Virtual Apps and Desktops labels are renamed as Apps and Desktops.

The Apps and Desktops label represents both [Citrix on-premises Citrix Virtual Apps and Desktops](#) and [Citrix DaaS](#) (formerly Citrix Virtual Apps and Desktops service) in your organization.

## Fixed issues

Citrix Analytics does not automatically discover the Citrix DaaS Cloud Monitor or Director sites that are associated with your Citrix Cloud account. [CAS-66801]

## April 05, 2022

### What's new

#### Secure Workspace Access is renamed to Secure Private Access

On the Analytics dashboards and reports, all the **Secure Workspace Access** labels are now updated as **Secure Private Access** to align with the rebranded product name.


For example, on the **Data Sources** page and the **Self-service search page**, the **Secure Workspace Access** labels are renamed as **Secure Private Access**.

## March 21, 2022

### Fixed issue

- In the **Create Risk Indicator** page, auto-suggestions for dimensions and operators do not work if the previous condition of your search query contains a dimension value that is separated by a space.

For example, in the following query, auto-suggestions stop working after you select the city as [San Jose](#). This issue is now fixed. [CAS-64126]



App-Name = "calculator" AND City = "San Jose"

## March 10, 2022

### What's new

#### Notify administrator email enhancements

- The email notification for the **Notify administrator(s)** action now provides the details of the multiple risk indicators associated with a triggered policy.
- You can view the name, severity level, and the trigger date of each risk indicator associated with the policy.
- Click **View Risk Details** to open the user timeline page in Citrix Analytics and view the latest risk indicator that triggered the policy. On the user timeline page, you can also view all the risk indicators triggered for the user.

# Multiple risk indicators have been detected



Citrix Analytics has detected 4 risk indicators.

We have detected multiple risk indicators in your organization.

1	Risk indicator:	First time access from new device
	Severity:	MEDIUM
	Detected on:	19 Jul, 2021 03:30 PDT (UTC-10:30)
2	Risk indicator:	Suspicious logon
	Severity:	MEDIUM
	Detected on:	19 Jul, 2021 03:30 PDT (UTC-10:30)
3	Risk indicator:	Potential Data Exfiltration
	Severity:	MEDIUM
	Detected on:	19 Jul, 2021 03:30 PDT (UTC-10:30)
	User:	wgerrish@smarttools.clm
	Customer name:	US-Production-Analytics
	Organization ID:	inte9ad836d

View Risk Details

For more information about the **Notify administrator(s)** action, see [Policies and actions](#).

## Fixed issue

Citrix Analytics fails to receive user events from the Secure Workspace Access data source. Therefore, you don't see the user events in the corresponding self-service search page. Also, you can't create custom risk indicators for the Secure Workspace Access data source. [CAS-64619]

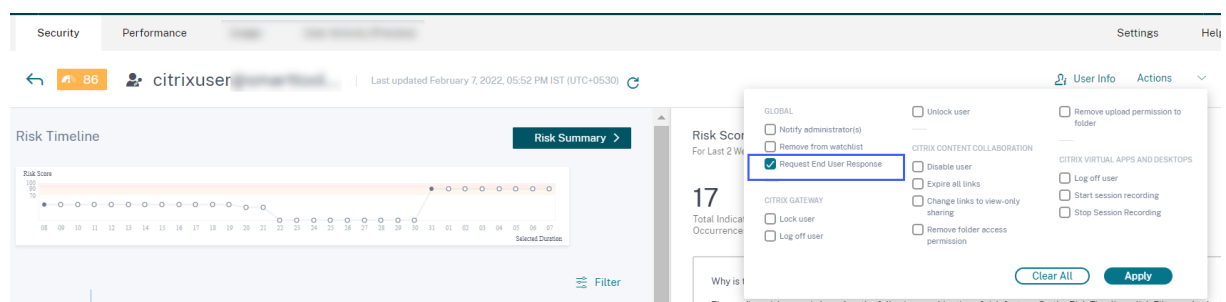
## March 03, 2022

### What's new

**Apply request end user response manually** Previously you can apply the **Request End User Response** action on a user account only by creating a policy.

With this release, you can select the action from the **Actions** list on the user timeline and manually apply this action on a risk indicator.

For more information about the action and how to apply actions manually, see [Policies and actions](#).



**Request end user response enhancements for policy** When you create a policy with the **Request End User Response** action, you see the following enhancements:

- After selecting **Notify administrator(s)** as the next action, you can now view the default and the created email distribution lists that you can choose from.

Create a policy to take actions based on a user's activity

IF THE FOLLOWING CONDITION IS MET

Risk Score: Risk score is Greater than 90

+ Add Condition

THEN DO THE FOLLOWING

Global: Request End User Response

Configure the next course of action to be taken on the user's account.

If the user does not recognize the activity, then:

Notify administrator(s)

Select the email lists who will receive notification

Citrix administrators - default list Selected

EMAIL PREVIEW

test

Security alert for your <User ID> account

Hi <User ID>.

We have identified the following event(s) on your account. If it wasn't you, your account is at risk.

Activity: <Policy name> as defined by your administrator.

Device: <MacBook Air 2020>

Date and Time: <25 Jan 2022, 03:12 pm IST>

- You can now select one of the actions from Citrix Content Collaboration or Citrix Virtual Apps and Desktops and Citrix DaaS as the next action. Previously, you can only select one of the Global actions or the Citrix Gateway actions.

THEN DO THE FOLLOWING

Global: Request End User Response

Configure the next course of action to be taken on the user's account.

If the user does not recognize the activity, then:

Disable user

GLOBAL

Add to watchlist

Notify administrator(s)

Remove from watchlist

CITRIX GATEWAY

Lock user

Log off user

Unlock user

CITRIX CONTENT COLLABORATION

Disable user

Expire all links

Change links to view-only sharing

Remove folder access permission

Remove upload permission to folder

CITRIX VIRTUAL APPS AND DESKTOPS

Log off user

EMAIL PREVIEW

test

Security alert for your <User ID> account

Hi <User ID>.

We have identified the following event(s) on your account. If it wasn't you, your account is at risk.

Activity: <Policy name> as defined by your administrator.

Device: <MacBook Air 2020>

Date and Time: <25 Jan 2022, 05:59 pm IST>

Do you recognize this activity?

Yes, It was me

No, protect my account

Successfully accessed locations:

LOCATION	PRODUCT	DATE
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat

If you do not respond to this email in the next 5 minutes, services to your account might be interrupted. Contact us for

For more information about the action, see [Policies and actions](#).

**February 23, 2022****What's new**

**Recommended actions for a risk indicator** Citrix Analytics suggests you to apply actions such as **Notify administrator(s)**, **Add to watchlist**, and **Create a policy** when the following risk indicators are triggered for a user:

- Unusual authentication failure (Content Collaboration data source)
- [Unusual authentication failure](#) (Gateway data source)
- [Suspicious logon](#) (Citrix Virtual Apps and Desktops and Citrix DaaS data source)

When you go to the user timeline and select the risk indicator, you can view all the suggested actions in the **RECOMMENDED ACTION** section.

For example, in the Unusual authentication failure risk indicator, you can view the following recommended actions:

The screenshot displays the 'Unusual authentication failure' risk indicator in the Citrix Analytics for Security interface. At the top, the title 'Unusual authentication failure' is followed by an information icon. Below it, the source is listed as 'Source: Citrix Content Collaboration'. A teal pill-shaped button labeled 'Logon-Failure-Based Risk Indicators' is present. Under the heading 'WHAT HAPPENED', a yellow box contains the text: '1 logon failure from 1 IP address without any historic login success from this subnet.' The 'RECOMMENDED ACTION' section is highlighted with a blue border and contains the following content:

You can apply one of the actions below in order to improve your security posture.

- Notify administrator(s)**  
Citrix Analytics sends an email notification to all Citrix Cloud administrators. You can also select the administrators to whom you want to notify.
- Add to watchlist**  
When you want to monitor a user for future potential threats, you can add them to a watchlist.

For additional actions please refer to the Actions menu at the top.

This feature provides guidance to choose an action that you can take depending on the severity of the risk posed by the user. However, you can also take an appropriate action that is outside the recommended list and depending on your risk analysis.

## Fixed issue

- If your organization is onboarded to Citrix Cloud in the **Asia Pacific South** home region, then Citrix Analytics might not receive user events from the Authentication data source. Therefore, you might not see the user events in the corresponding self-service search page. This issue is fixed. [CAS-62300]

## February 17, 2022

### What's new

**Improved data collection and reporting for the Citrix Virtual Apps and Desktops and Citrix DaaS data source** With this release, you see the following changes:

- Improvements in data collection, correlation, and reporting of events from Citrix Workspace app clients and Citrix Monitor service.
- Improvements in the quality of events received from users and client versions, which can be used for the self-service search, custom risk indicators, and overall risk detection.

**Support for contextual templates for the session events and the app events in Content Collaboration** On the self-service search page, you can now view the details of only the relevant fields associated with the file, folder, session, share, and user events. The non-applicable fields for the events are removed.

For example, you can view the following details of the [File .Copy](#) events:

- File ID
- File Copy ID
- File Path
- Destination File Path
- Stream ID
- Zone ID

These details help you during the risk investigation and analysis of a user account associated with a risky behavior. You can drill down to the specific attributes of an event that seems to be risky.

For more information about the fields, see [Self-service search for Content Collaboration](#).

## February 10, 2022

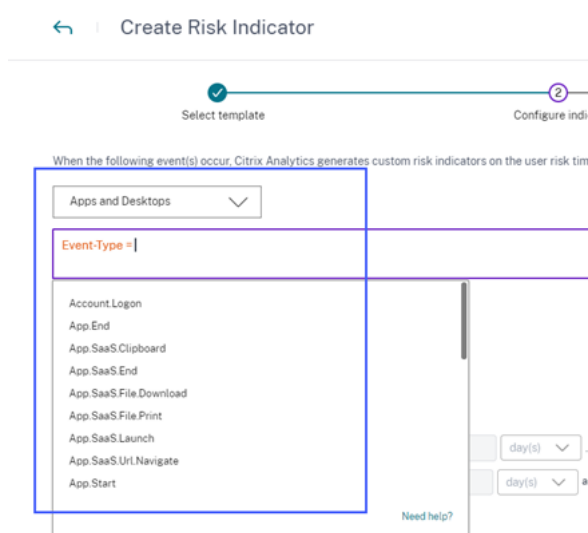
### What's new

**Auto suggested values for the dimensions in the custom risk indicator** In the custom risk indicator page, when you select a dimension and a valid operator in the condition bar, the values for the dimension are shown automatically. Select a value from the auto-suggested list or manually enter a value depending on your use cases. When you type a value, the matching values available in the records are auto-suggested.

The list of values suggested for a dimension is either predefined (known values) in the data base or based on historical events.

For example, when you select the dimension **Event-Type** and the assignment operator, the known values are auto-suggested. You can select a value depending on your requirement.

For more information, see [Custom risk indicators](#).



## February 09, 2022

### What's new

**New custom roles for the administrators** As a Citrix Cloud administrator with full access permission, you can invite other administrators to manage Security Analytics in your organization. You can now assign the following custom roles to the invited administrators:

- Security Analytics- Full Administrator
- Security Analytics- Read Only Administrator

Using the custom role, you can provide either read-only or full access permissions to your administrators and allow them to manage the various features of Security Analytics.

For more information about the access permissions for these custom roles, see [Manage administrator roles for Security Analytics](#).



### Custom access

Custom access allows you to determine the exact part of Citrix Cloud your administrators can manage.

① Switching to custom access will remove management access to certain services.

[Deselect All](#)



Analytics

All roles selected



Security & Performance Analytics – Read Only Administrator



Security Analytics - Full Administrator



Security Analytics - Read Only Administrator

Cancel

Send Invite

**Support for email notifications for custom access administrators** If you are a Citrix Cloud administrator with custom access (read-only or full access) permissions to manage Security Analytics, you now get the following notifications:

- Weekly notifications about the security risks detected in your organization. For more information, see [Weekly email notification](#).
- Notifications about the risk indicators when the **Notify administrator(s)** action is applied manually or triggered by a policy. For more information, see [Policies and action](#).

## January 28, 2022

### What's new

**Introducing Suspicious Logon risk indicators for Content Collaboration and Gateway data sources** Citrix Analytics for Security now detects user logons that are suspicious in nature based on multiple contextual factors such as:

- The location is deemed unusual with respect to the user and the organization history

- The device is deemed unusual with respect to the user and the organization history
- The network is deemed unusual with respect to the user and the organization history
- The IP address is deemed suspicious based on the IP threat intelligence feeds

When a user logs on from a suspicious context based on the combination of these factors, the risk indicator is triggered.

This risk indicator replaces the Access from an unusual location risk indicator associated with the Citrix Content Collaboration and Citrix Gateway data sources. Any existing policies that are based on the Access from an unusual location risk indicator are automatically linked to the new risk indicator- Suspicious Logon.

For more information about the risk indicators, see Suspicious logon- Content Collaboration and [Suspicious logon- Gateway](#).

For more information about the schema of the risk indicators, see [Citrix Analytics data format for SIEM](#).

## January 20, 2022

### What's new

**Microsoft Azure Active Directory integration** You can now connect your Azure Active Directory with Citrix Analytics for Security to:

- Import the user details and the user groups from your organization's domain to Citrix Analytics for Security.
- Enrich the user profiles with additional details such as job title, organization, office location, email, and contact details, which help you during risk investigation and analysis.

For more information, see [Azure Active Directory integration](#).

## January 18, 2022

### What's new

**Support for the share link actions on all Content Collaboration risk indicators** Previously, you can apply the share link actions- **Expire all links** and **Change link to view-only sharing** on the following share link-based risk indicators associated with the Content Collaboration service:

- Anonymous sensitive share link download
- Excessive share link downloads

- Excessive file sharing

With this release, you can now apply the share link actions on the following user-based risk indicators associated with the Content Collaboration service:

- Access from an unusual location
- Excessive access to sensitive files
- Excessive file uploads
- Excessive file downloads
- Excessive file or folder deletion
- Malware files detected
- Ransomware activity suspected
- Unusual authentication failures

You can also apply the share link actions on the custom risk indicators associated with the Content Collaboration service.

For more information about the actions and the risk indicators, see the following articles:

- [Policies and actions](#)
- Content Collaboration risk indicators
- [Custom risk indicators](#)

**Integration with SIEM is now generally available** You can integrate Citrix Analytics for Security with your Security Information and Event Management (SIEM) services and export the users' data from the Citrix IT environment to your SIEM. The integration helps you to correlate the data collected from various sources and get a holistic view of your organization's security.

Currently, you can integrate Citrix Analytics for Security with the following services:

- Splunk
- Microsoft Sentinel
- Elasticsearch
- Other SIEM services by using Kafka or Logstash based data connector

For more information, see [Security Information and Event Management \(SIEM\) integration](#).

## December 23, 2021

### What's new

**Share link risk indicators enhancements** Following enhancements are made:

- You can now create a policy with the **Anonymous sensitive share link download** risk indicator.
- The **Anonymous sensitive share download** risk indicator is renamed as **Anonymous sensitive share link download** to distinguish it as a share link risk indicator.
- The **Excessive downloads** risk indicator is renamed as **Excessive share link downloads** to distinguish it as a share link risk indicator and to differentiate it from the user-based **Excessive file downloads** risk indicator.

For more information, see Citrix share link risk indicators.

## December 21, 2021

### What's new

**Send notifications about risk indicators to your non-Citrix Cloud administrators** You can now notify the non-Citrix Cloud administrators in your organization with the **Notify administrator(s)** action.

To notify these administrators, create an email distribution list. Select the administrators in the email distribution list either from the external domains that are connected to Citrix Cloud or by using their email addresses directly. When applying the **Notify administrator(s)** action, select the email distribution list that contains the non-Citrix Cloud administrators.

For more information, see [Email distribution list](#).

## December 20, 2021

### What's new

**Send user response notifications to your Content Collaboration users** In addition to your Active Directory users, you can now apply the **Request End User Response** action to your Content Collaboration users.

This action sends email notifications to the users when Citrix Analytics detects any unusual activities in their Citrix accounts. For more information about the **Request End User Response** action, see [Policies and actions](#).

**Access Control is renamed to Secure Workspace Access** On the **Security** Analytics dashboards and reports, all the **Access Control** labels are now updated as **Secure Workspace Access** to align with the rebranded product name.

For example, on the **Data Sources** page, **Self-service search** page, and **Policies** page, the Access Control labels are renamed as Secure Workspace Access.

#### Fixed issue

- For the Apps and Desktops data source, when you download the search report as a CSV file, some field values in the CSV file are shown as not available (N/A) although their values are available. For example, the values of the fields such as [Download File Name](#), [Session Launch Type](#), and [Workspace App Version](#) are shown on the **Self-service search** page, but in the downloaded CSV file, you see these values as not available (N/A). This issue is now fixed. [CAS-62299]

### December 09, 2021

#### What's new

**Create your custom risk indicators easily with templates** You can now select a template based on your use case and create a custom risk indicator. The templates guide you by providing predefined queries and parameters. It eases your effort while creating a custom risk indicator.

For more information, see [Custom risk indicators](#).

### December 07, 2021

#### Fixed issue

- On Citrix Analytics for Security, you don't receive the events of the users who are using the Citrix Secure Browser that was released on September 2021. The issue exists because the **Host-name tracking** policy is not visible in the Citrix Secure Browser post release September 2021 and therefore can't be enabled to integrate with Citrix Analytics for Security. This issue is now fixed. [CAS-62254]

## December 02, 2021

### What's new

**Malware files detected risk indicator** You can now get an alert when a user uploads an infected file in Content Collaboration.

The risk indicator detects a file that is infected by a malware such as trojan, virus, or any other malicious threats. It provides visibility into the details of the malicious file such as the file owner, virus name, and the file location.

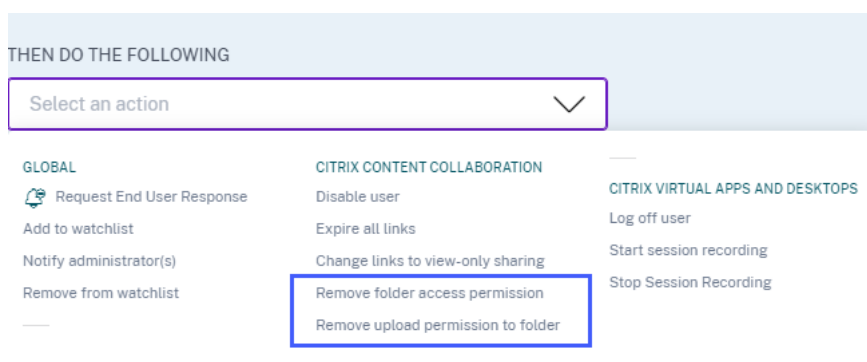
The risk factor associated with the **Malware files detected** risk indicator is the File-based risk indicator.

For more information on the risk indicator and the actions that you can apply, see the [Malware files detected risk indicator](#).

**New actions for Content Collaboration data source** You can apply the following actions when the **Malware files detected** risk indicator is triggered for a user:

- **Remove folder access permission.** You can block the access permission of the user who uploads the infected file. The user cannot access the folder where the infected file was uploaded.
- **Remove upload permission to folder.** You can block the upload permission of the user who uploads the infected file. The user cannot upload a file to the folder where the infected file was uploaded.

For more information about the actions for Content Collaboration, see [Policies and actions](#).



## November 29, 2021

### What's new

**Email settings enhancements for user notifications** As an administrator, you can now add banner image, header, and footer text in the user-response email template. These fields enhance the

legitimacy of your email, thus increasing the users' attention and responses towards your email.

For more information, see [End user email settings](#).

#### Email Settings

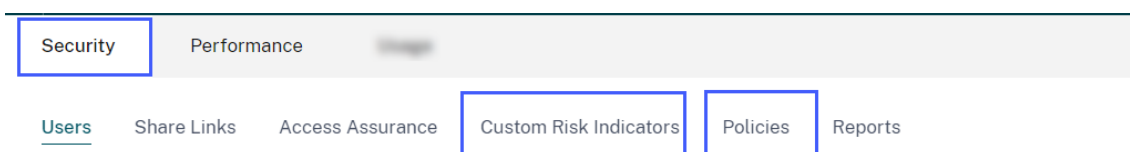
The screenshot displays the 'Email Settings' configuration page. On the left, there are three main sections: 'BANNER IMAGE' with an 'Upload' button; 'HEADER' with a text input field; and 'FOOTER' with another text input field. Below these is the 'USER RESPONSE SETTINGS' section, which includes a note about the 'Request user response' action, a time input field set to '60 mins.', and a 'Save Changes' button. On the right, an 'EMAIL PREVIEW' window shows a sample email. The email header includes a title 'Type the text you want in header'. The body contains a security alert for a user account, mentioning a policy name, device (MacBook Air 2020), and date/time. It asks the user to recognize the activity, providing 'Yes, it was me' and 'No, protect my account' buttons. Below this is a table of 'Successfully accessed locations' with columns for LOCATION, PRODUCT, and DATE, showing placeholder data. The email concludes with a warning about service interruption if no response is received within 60 minutes, a signature 'Regards, Admin', and a footer 'Type the text you want in footer'.

**November 26, 2021**

#### What's new

**Custom risk indicators and policies menu changes** The navigation links of the following features are updated:

- [Custom risk indicators](#): Use this feature by clicking **Security > Custom Risk Indicators**.
- [Policies](#): Use this feature by clicking **Security > Policies**.



## November 25, 2021

### What's new

#### Security Information and Event Management (SIEM) integration enhancements

##### Note

This integration is in preview.

You can now integrate Citrix Analytics for Security with the following SIEM services:

- Microsoft Sentinel
- Elasticsearch with visualization services such as Kibana and SIEM service such as LogRhythm
- Any other SIEM services using the Logstash data collection engine

Depending on your business needs, import the users' data from Citrix Analytics for Security to your SIEM service. This integration enables your Security Operations teams to correlate, analyze, and search data from disparate logs within the SIEM services in your organization, helping them to identify and quickly remediate the security risks.

For more information, see [Security Information and Event Management \(SIEM\) integration](#).

## November 09, 2021

### Fixed issue

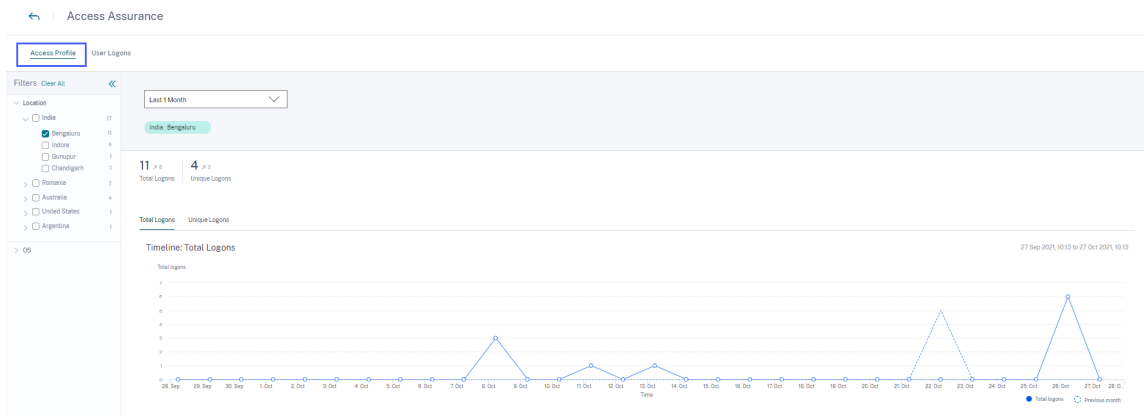
- On few tenants, the user policies are not working. This issue occurred when the alerts for the virtual apps have empty string values for the domains. This issue is now fixed. [CAS-60920]

## November 02, 2021

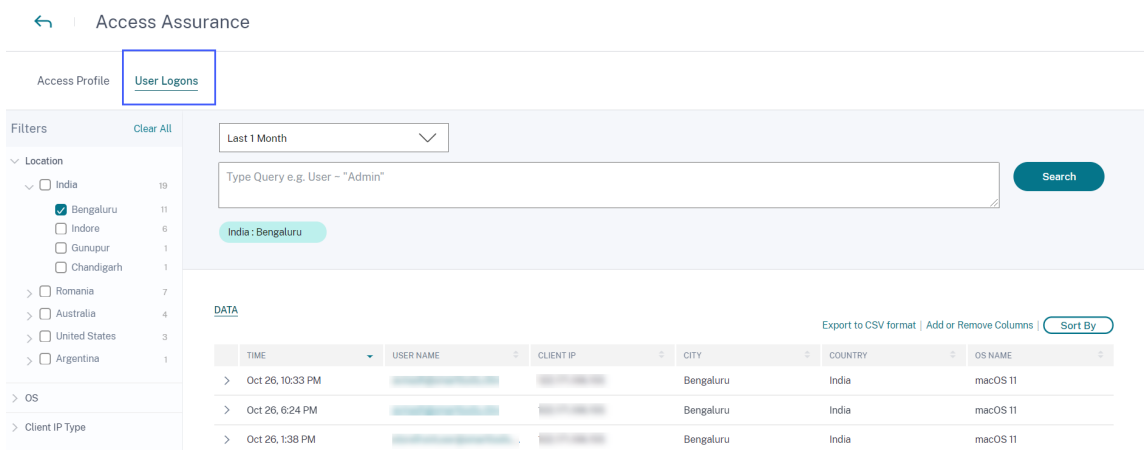
### What's new

**View access profiles and logon details of the Citrix Virtual Apps and Desktops and Citrix DaaS users** On the **Access Assurance Location** dashboard, you can view the access profiles and the logon details of the users who have logged on to virtual apps and virtual desktops. This information helps you during threat investigation and analysis.

- The **Access Profile** page provides the summary of the user accesses from the selected locations. You can view the trend analysis and top access events of the total users and the unique users logons.



- The **User Logons** page provides the details of the user logons to virtual apps and virtual desktops from the selected locations.



For more information, see the [Access Assurance Location dashboard](#).

**View malware logs on the self-service search page for Content Collaboration** On the self-service page for Content Collaboration, you can now view the malware event `File.VirusInfected` and its associated logs. This event is triggered when a Content Collaboration user uploads a file that is infected with a malware.

For more information, see [Self-service search for Content Collaboration](#)

TIME	USER EMAIL	CITY	COUNTRY	EVENT TYPE	FILE NAME	UPLOAD FILE SIZE	DOWNLOAD FILE SIZE
Oct 26, 10:31:46 AM	[REDACTED]	NA	NA	File.VirusInfected	eicar (1).com	NA	NA
<div> <div> Client OS : Not Available  Client IP : [REDACTED]  File Creator Email Address : [REDACTED]  File Owner Email Address : [REDACTED]  File Name : eicar (1).com  File Path : /test-2/eicar (1).com  Virus Name : (HEX)EICAR.TEST.3.UNOFFICIAL  File ID : [REDACTED] </div> <div> User Name : [REDACTED]  File Creator Name : [REDACTED]  File Owner Name : [REDACTED]  File Size : 68 B  Shared Folder Name : test-2  File Creation Date : 2021-10-26T01:01:41.173  File Hash : [REDACTED] </div> </div>							

## Fixed issue

- A few Content Collaboration users are incorrectly set as non-employees while processing the events in Citrix Analytics. Therefore, the users are not identified as Discovered users. This issue is now fixed. [CAS-59608]

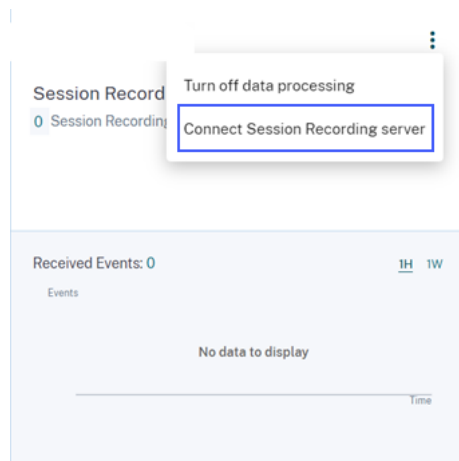
## October 20, 2021

### What's new

**Session Recording server integration** For your Citrix Virtual Apps and Desktops and Citrix DaaS deployment, you can now configure your Session Recording servers to send the user events to Citrix Analytics for Security. These user events are processed to provide actionable insights into users' behavior.

On the **Data Sources > Security** page, go to the **Virtual Apps and Desktops** site card. On the **Session Recording** site card, click vertical ellipsis (⋮) and then select **Connect Session Recording Server**.

For more information, see [Connect to Session Recording deployment](#).



## October 19, 2021

### What's new

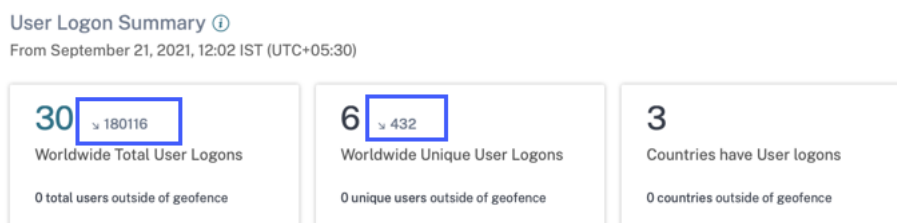
**Notify administrator email template enhancements** The email notification that an administrator receives after applying the **Notify administrator(s)** action is enhanced to provide better insights into the user risky events.

- The notification now provides detailed information about the triggered risk indicator or the applied policy. For example, you can view the severity and triggered time of the default and custom risk indicators. The content structure is improved for better readability.
- The administrators can now access the user timeline directly from the email notification and view details about the risky events.
- A feedback option is added in the notification. This option helps to collect the responses from the administrators and continuously improve the content of the notification based on the responses.

For more information about the **Notify administrator(s)** action, see [Policies and actions](#).

### User log on summary enhancements

- You can now view the upward or downward trend of the user logons for the world wide total user logons and world wide unique user logons.



- The **DEVIATION** column on the **Unique Logon Locations** table shows the upward or downward change in the unique user logons for a particular location.

## Unique Logon Locations

Top 10 Locations			Unknown Locations		
LOCATION		USER COUNT	DEVIATL...		
Bengaluru, India		4	-2		
New Delhi, India		3	+3		
Jaipur, India		2	+2		
Unknown City, United...		1	+1		
Chandigarh, India		1	+1		
Hyderabad, India		1	+1		
Noida, India		1	+1		
Sydney, Australia		1	+1		

[Learn more](#) about the unknown locations.

These metrics help you to understand how the user logons have changed (positive or negative) from the previous period. It provides visibility into the user interactions with your Citrix Virtual Apps and Desktops and Citrix DaaS deployments.

For more information, see [Access assurance location dashboard](#).

### Fixed issue

- On the **Access Assurance Location** dashboard, the **User Logon Summary** cards fail to display the user logon metrics (worldwide total user logons, worldwide unique user logons, and countries have user logons) when no users log on from outside the geofence areas. This issue is now fixed. [CAS-59595]

## October 01, 2021

### What's new

**View audit logs on the self-service search for Content Collaboration** On the self-service search for Content Collaboration, you can now view the audit logs. These logs provide insights into the permissions and the actions applied on the user accounts by the Content Collaboration administrators. Using these data, you can verify if the Content Collaboration administrators have taken valid actions on their user accounts. As a security administrator, it helps you during risk investigation and analysis.

For more information on audit logs, see [Self-service search for Content Collaboration](#).

## Fixed issue

The administrators who log on to Citrix Cloud by using Azure AD are unable to access the Citrix Analytics service when the previous expired session ID comes along with the new session ID. This issue is now fixed. [CAS-59385]

## September 29, 2021

### What's new

**Access assurance location dashboard is now generally available** The dashboard provides visibility into the locations of your Citrix Virtual Apps and Desktops and Citrix DaaS users. You can identify the users whose locations are unusual by enabling geofencing and apply appropriate actions to prevent any threats.

To view the dashboard, click **Security > Access Assurance**. Select the time period for which you want to view the location details.

For more information, see [Access assurance location dashboard](#).

## September 15, 2021

### What's new

#### Custom risk indicator enhancements

- When a custom risk indicator is triggered, it gets displayed on the [user timeline](#) immediately. However, the risk summary and the risk score of the user get updated after a few minutes (approximately 15- 20 minutes).
- If you modify the attributes such as condition, risk category, severity, and name of an existing custom risk indicator, on the user timeline, you can still view the previous occurrences of the custom risk indicator (with the old attributes) that were triggered for the user.
- If you delete a custom risk indicator, on the user timeline, you can still view the previous occurrences of the custom risk indicator that were triggered for the user.

For more information, see [Custom risk indicators](#).

## September 14, 2021

### What's new

**Introducing Suspicious Logon risk indicator** Citrix Analytics for Security now detects user logons that are suspicious in nature based on multiple contextual factors such as:

- The location is deemed unusual with respect to the user and the organization history
- The device is deemed unusual with respect to the user and the organization history
- The network is deemed unusual with respect to the user and the organization history
- The IP address is deemed suspicious based on the IP threat intelligence feeds

When a Citrix Virtual Apps and Desktops and Citrix DaaS user logs on from a suspicious context based on the combination of these factors, the risk indicator is triggered.

This risk indicator replaces the **Access from an unusual location** risk indicator associated with the Citrix Virtual Apps and Desktops data source. Any existing policies that are based on the **Access from an unusual location** risk indicator are automatically linked to the new risk indicator- **Suspicious Logon**.

For more information about the risk indicator, see [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#).

**SIEM messages enhancement** Citrix Analytics for Security now send the schema details of the **Suspicious logon** risk indicator to your SIEM service. You can view the schema of the indicator summary and the event details of the **Suspicious logon** risk indicator. For more information, see [Citrix Analytics data format for SIEM](#).

### Fixed issue

- For the Apps and Desktops self-service search, the client IP value is missing in the downloaded CSV file. This issue is now fixed. [CAS-58426]

## August 19, 2021

### What's new

#### Introducing Citrix Analytics App for Splunk

##### Note

The app is in preview.

Citrix Analytics App for Splunk enables you to view the data collected from Citrix Analytics for Security in the form of insightful dashboards on your Splunk. The dashboards provide insights into the risky events of your users. You can also correlate the Citrix Analytics data with logs collected from various other data sources. Correlation helps you to find relations between events and take timely actions to protect your IT environment.

To download the app, go to [Splunkbase](#). Install the app on your Splunk search head.

For more information, see [Citrix Analytics App for Splunk](#).

**Custom risk indicator schema for SIEM** In your SIEM service, you can now view the schema of the custom risk indicators created for Citrix Virtual Apps and Desktops and Citrix DaaS. This data helps you to gain insight into your organization's security risk posture.

For more information about the custom risk indicator schema, see [Citrix Analytics data format for SIEM](#).

**Support for Citrix Director as a data source** You can now configure your on-premises sites on the Citrix Director to send events to Security Analytics. These events are used to discover the users connected to Security Analytics and determine the Workspace app versions installed on the users' devices.

By default, the data processing is enabled after the discovery of the sites. On the **Monitoring** card, you can view all the connected sites.

For more information on how to configure your sites on the Director, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).

**Support for geofence in the Access assurance location dashboard** You can now use the **Geofence Settings** in the dashboard to select and enable the geofenced areas. After enabling the geofence, the map displays the geofenced areas (countries) and the user logons from outside and inside the geofence. This feature uses the **CVAD-Session started outside of geofence** risk indicator to monitor the user logons.

For more information, see [Access assurance location dashboard](#).

**Workspace app status on the Users page** On the **Users** page, you can now view the status of the Citrix Workspace app clients that are supported by Citrix Analytics. The page shows the following status:

- Supported
- Partially supported

- Unsupported
- Not Available
- Inactive

The status helps you to identify any unsupported client versions used by the users and recommend the users to upgrade their clients to a supported version. A supported client version sends the user events to Citrix Analytics.

**Note**

To view the Citrix Workspace app status, you must onboard your Citrix Director data source. Otherwise, the status for every Citrix Virtual Apps and Desktops and Citrix DaaS user is shown as **Inactive**.

For more information, see the [Users dashboard](#).

**Support for the IS EMPTY operator** While creating a custom risk indicator, you can now use the **IS EMPTY** operator in your condition to check for null or empty dimension.

**Note**

The operator works for only string-type dimensions such as App-Name, Browser, and Country.

For more information, see [Custom risk indicators](#).

**Improved risk scoring** On the user's timeline, you can now view the risk summary of a user. The risk summary provides information about the risk factors associated with user events. The risk factor helps you to identify the type of anomalies in the user events and also determines the risk score. The following are the risk factors:

- Device-based risk indicators
- Location-based risk indicators
- IP-based risk indicators
- Logon-failure-based risk indicators
- Data-based risk indicators
- File-based risk indicators
- Custom risk indicators
- Other risk indicators

On the user's timeline, you can now apply the filter to view the user events based on the risk factors.

For more information, see the following topics:

- [Citrix user risk indicators](#)
- [User risk timeline and profile](#)

## July 29, 2021

### Deprecated feature

**Deprecated actions associated with Citrix Endpoint Management** The following actions are removed from the Citrix Endpoint Management data source. You can no longer apply these actions on the risk indicators or create policies using these actions.

- Lock device
- Notify Endpoint Management admin
- Notify user
- Revoke device
- Wipe device

In your existing policies, if these actions are already in use, they are automatically replaced by the **Add to watchlist** action. And you can monitor such users from the watchlist.

## July 14, 2021

### What's new

**Support for the IS NOT EMPTY operator** While creating a custom risk indicator, you can now use the **IS NOT EMPTY** operator in your condition to check if the dimension is not empty (not blank).

#### Note

The operator works for only string-type dimensions such as App-Name, Browser, and Country.

For example, the following condition detects user logon events from any country where the country value is not null. In other words, the country name is specified.

`Event-Type = "Session.logon" AND Country IS NOT EMPTY`

For more information, see [Custom risk indicators](#).

July 06, 2021

What’s new

**View non-risky users on the Users dashboard** On the **Users** dashboard, you can now view the number of non-risky users for the selected time period. These discovered users are identified as non-risky based on the zero risk score for the selected period. Click the **Non Risky Users** card to view all the users that have zero risk score.

For more information, see [Users dashboard](#).



July 01, 2021

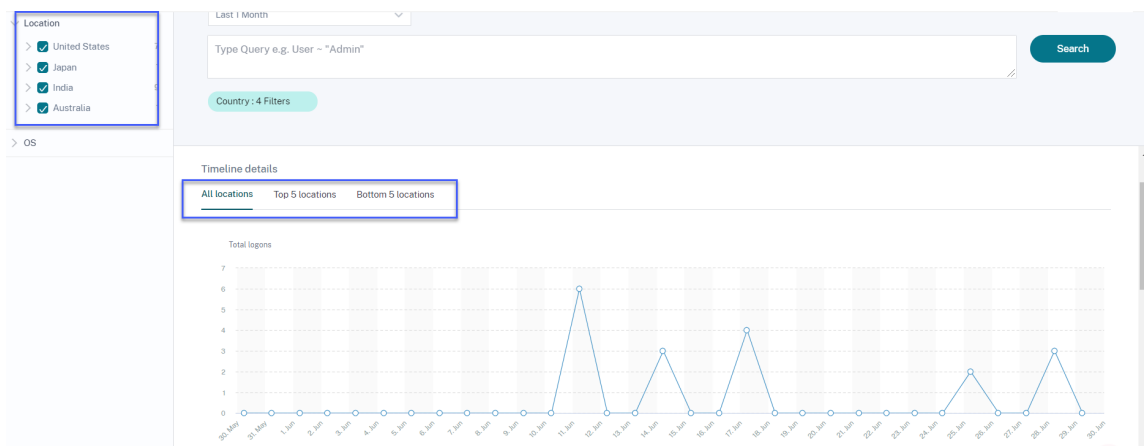
What’s new

Access assurance location dashboard enhancements

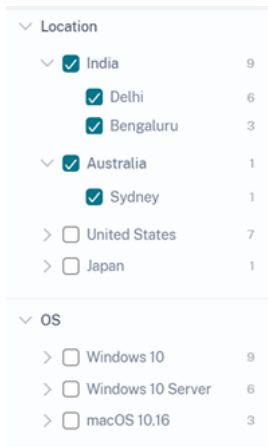
- On the **Top 10 Unique Logon Locations** table, you can view the number of unique user logons from unknown locations. This list is a subset of the top 10 unique logon locations. You can also find the reasons why the locations are unknown and the possible ways to get the users’ locations.



- On the **Access Location** page, if you select multiple locations, you can view and compare the timeline details of user logons from all locations, top five locations, and bottom five locations.

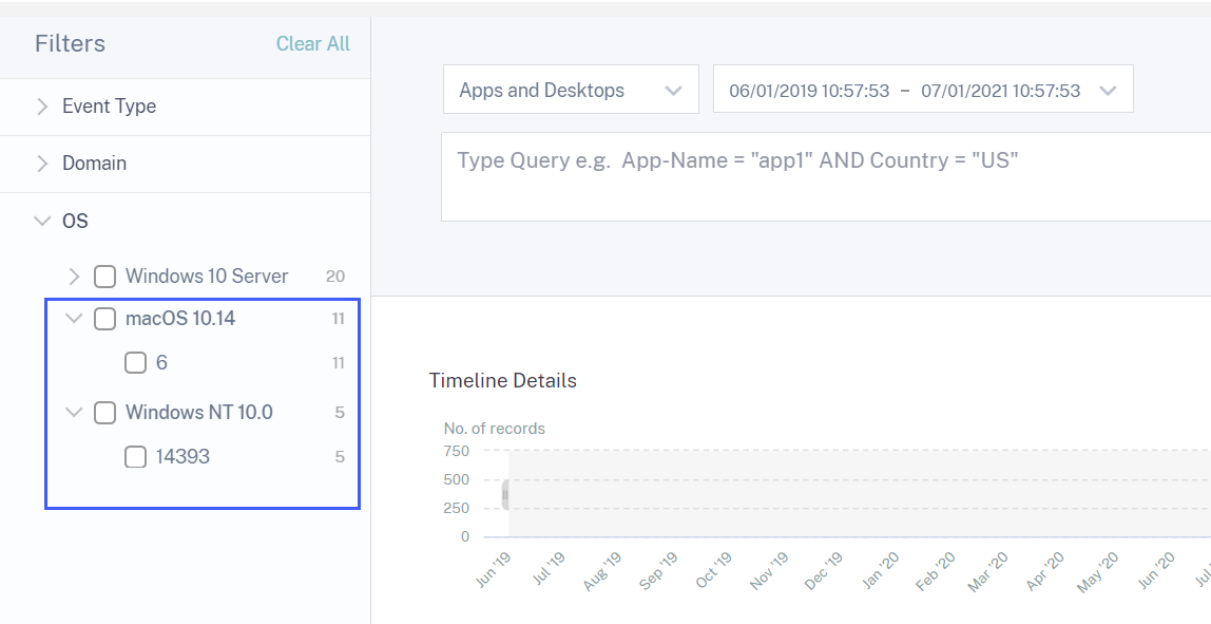


- On the **Access Location** page, you can use the nested facets such as country and their cities, operating systems- major and minor versions. These facets enable you to filter the events in a granular way.



For more information, see [Access assurance location](#).

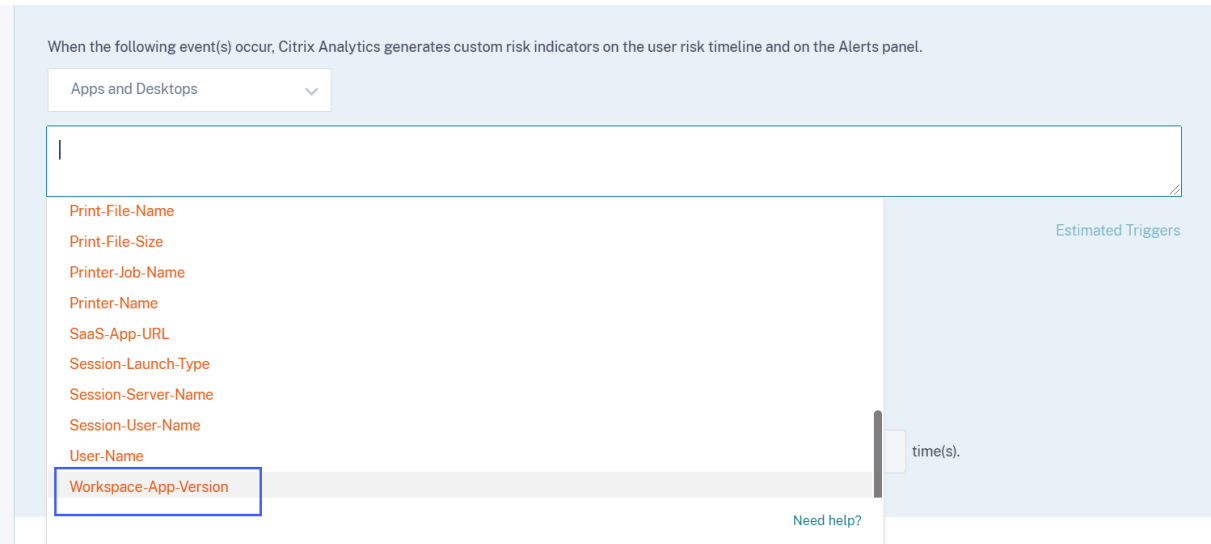
**Updated the OS facet in self-service search for Virtual Apps and Desktops** You can now filter the Apps and Desktops events using the nested OS facet. Select the major version and the minor version associated with an operating system and filter the events in a granular way. For more information, see [Self-service search for Apps and Desktops](#).



## June 30, 2021

### What's new

**Added Workspace app version in custom risk indicator condition for Apps and Desktops** For the **Apps and Desktops** data source, you can now use the **Workspace-App-Version** dimension to define your condition while creating a custom risk indicator. For more information on the dimension, see [Self-service search for Apps and Desktops](#).



## June 23, 2021

### What's new

**SIEM messages enhancements** The following fields are now added to the schema of the risk indicators:

- **indicator\_vector\_name**- Indicates the risk vector associated with a risk indicator. The risk vectors are Device-based Risk Indicators, Location-based Risk Indicators, Logon-failure-based Risk Indicators, IP-based Risk Indicators, Data-based Risk Indicators, File-based Risk Indicators, and Other Risk Indicators.
- **indicator\_vector\_id**- The ID associated with a risk vector. ID 1 = Device-based Risk Indicators, ID 2 = Location-based Risk Indicators, ID 3 = Logon-failure-based Risk Indicators, ID 4 = IP-based Risk Indicators, ID 5 = IP-based Risk Indicators, ID 6 = Data-based Risk Indicators, ID 7 = Other Risk Indicators, and ID 999 = Not available.

For more information, see [Citrix Analytics data format for SIEM](#).

## June 07, 2021

### What's new

**Enhancements to the notify administrator(s) action** When you apply the **Notify administrator(s)** action to a risk indicator or create a policy with the action, you can now select the administrators who receive notification about the user's risky behavior. For more information on the action, see [Policies and actions](#).

**Added support for the view-only sharing action** If a user shares files excessively, Citrix Analytics triggers the **Excessive file sharing** risk indicator. From the user's risk timeline, you can now apply the **Change links to view-only sharing** action to the **Excessive file sharing** risk indicator. You can also apply the action on a particular share link on the share link risk timeline. This action prevents other users from downloading, copying, or printing the files associated with the share links. For more information about the action, see [Policies and actions](#).

## May 18, 2021

### What's new

**Migrating the default risk indicators to custom risk indicators** The following default risk indicators are migrated to preconfigured custom risk indicators.

Default risk indicator	Data source	Preconfigured custom risk indicator
First time access from new device	Citrix Virtual Apps and Desktops and Citrix DaaS	CVAD-First time access from new device
First time access from new IP	Citrix Gateway	Gateway-First time access from new IP

With this migration to the custom risk indicators, the default risk indicators and the associated machine learning algorithms are deprecated.

The corresponding custom risk indicators are triggered based on the following preconfigured conditions:

- When a user access from a new device for the first time or an existing device that has not been used for a minimum 90 days.
- When a user signs in from a new IP address for the first time or an existing IP address that has not been used for a minimum 90 days.

Along with the preconfigured conditions, you can now add your own conditions for these custom risk indicators to identify the threats in your Citrix environment. This option gives you flexibility to configure the custom risk indicator based on your security needs. You can also create policies to apply actions on the risky events detected by these custom risk indicators.

However, on the user's time line, you can still view the previously triggered default risk indicators and their events.

The policies associated with these default risk indicators are automatically linked to the corresponding preconfigured custom risk indicators.

For more information, see [Preconfigured custom risk indicators and policies](#).

### Enhancements in self-service search for Gateway

- The **Event Type** filter is now renamed to **Record Type**. Select one of the following record types to filter your events- VPN\_AI, VPN\_IF, and, VPN\_ST.
- On the **DATA** table, expand a row for a user event to view the corresponding event type. The event types can be one the following- Authentication, ICA File, or Session Logout.

The following table describes the correlation between the record types and the event types.

Record type	Event type
VPN_AI	Authentication
VPN_IF	ICA File
VPN_ST	Session Logout

For more information, see [Self-service search for Gateway](#).

### Fixed issue

- Custom risk indicator gets triggered based on the case sensitivity of the conditional values. For example, in the user events containing device IDs in the allowed list, you see the following behavior:

- If you enter the value of the `Device-ID` dimension in the lower case, the custom indicator gets triggered.

```
Event-Type = Session.Logon AND Device-ID NOTIN ("1621d2cb-f598-5ef7-a5bf-81747496ed2e")
```

- If you enter the value of the `Device-ID` dimension in the upper case for the same device, the custom indicator does not get triggered.

```
Event-Type = Session.Logon AND Device-ID NOTIN ("1621D2CB-F598-5EF7-A5BF-81747496ED2E")
```

This issue is now fixed and the custom risk indicator gets triggered irrespective of the case-sensitivity of the conditional values.

[CAS-50153]

### April 29, 2021

#### What's new

**Events details for a custom risk indicator** On the user's risk timeline page, you can now view the events that triggered a custom risk indicator. Previously, you were able to view only the defined conditions, description, and the trigger frequency for a custom risk indicator. Click **Event Search** to view the details of the events associated with the user and the risk indicator.

For more information, see [Custom risk indicators](#).

## Fixed issue

- An administrator is unable to create custom risk indicators even after their access permission is changed from read-only admin to full admin. [CAS-49628]

## April 16, 2021

### What's new

**SIEM messages enhancements** You can view the following enhancements on the risk indicator schema format:

- The client IP address is now available in the schema for all the batch risk indicators. Previously the client IP address was available only for a few batch risk indicators:
  - EPA scan failure
  - Excessive authentication failures
  - Logon from suspicious IP
  - Access from an unusual location
  - Unusual authentication failure
  - Anonymous sensitive share download
  - Potential data exfiltration
- If an integer data type field value is unavailable, the value assigned is **-999**. For example, "`latitude`"= -999.
- If a string data type field value is unavailable, the value assigned is **NA**. For example, "`city`"= "NA".

For more information, see [Citrix Analytics data format for SIEM](#).

## March 26, 2021

### What's new

**Restriction on the SIEM messages** Citrix Analytics sends a maximum of 1000 events details for each risk indicator occurrence to your SIEM service. These events are sent in a chronological order of occurrence. For more information, see [Citrix Analytics data format for SIEM](#).

**Added the data source ID and the indicator category ID fields in the SIEM messages** Following fields are added in the indicator summary schema and the indicator event details schema.

Field	Description
<code>data_source_id</code>	The ID associated with a data source. ID 0 = Citrix Content Collaboration, ID1 = Citrix Gateway, ID 2 = Citrix Endpoint Management, ID 3 = Citrix Virtual Apps and Desktops, ID 4 = Citrix Access Control
<code>indicator_category_id</code>	The ID associated with a risk indicator category. ID 1 = Data exfiltration, ID 2= Insider threats, ID 3 = Compromised users

For more information, see [Citrix Analytics data format for SIEM](#).

## March 18, 2021

### What's new

#### Access assurance location dashboard

##### Note

The feature is in preview.

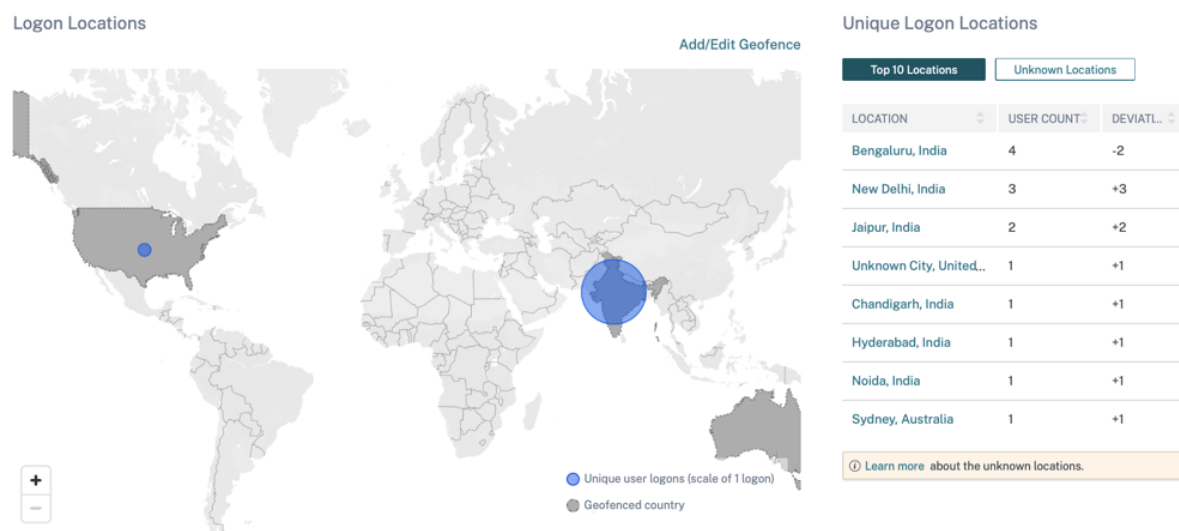
The **Access Assurance Location** dashboard provides an overview of the locations from where the Citrix Virtual Apps and Desktops and Citrix DaaS users have logged on for a selected period. Citrix Analytics receives these user logon events from Citrix Workspace app installed on the users' devices.

To view the dashboard, click **Security > Access Assurance**.

You can view the following information for a selected period:

- Total number of user logons from a particular location and across the locations.
- Total number of unique user logons across the locations.
- Total number of countries from where the users have logged on.
- Top 10 locations with unique user logons.

For more information, see [Access assurance location](#).



**Support for the NOT LIKE (!~) operator** For the self-service search query and the custom risk indicator condition, you can now use the NOT LIKE (!~) operator. The operator checks for the user events for the matching pattern that you have specified. It returns the events that do not contain the specified pattern anywhere in the event string.

For example, the query `User-Name !~ "John"` displays events for the users except John, John Smith, or any such users that contain the matching name "John".

For more information, see [Self-service search](#).

**Translated operating system version** For the Citrix Virtual Apps and Desktops and Citrix DaaS data source, the **Platform** dimension is now translated as the **OS-Major-Version**, **OS-Minor-Version**, and **OS-Extra-Details** dimensions. Based on the operating system details of a user, Citrix Analytics displays these dimensions on the self-service search page.

You can use these dimensions to define your conditions for a custom risk indicator.

For the previously created custom risk indicators, if you have used the **Platform** dimension as a condition, Citrix Analytics automatically replaces the **Platform** dimension with the **OS-Major-Version**, **OS-Minor-Version**, and **OS-Extra-Details**. This update does not affect the integrity of your defined condition.

For more information on the new dimensions, see [Self-service search for Virtual Apps and Desktops](#).

**Updated the data fields for Apps and Desktops** On the Self-service search for Apps and Desktops, view the updated data fields based on the contextual template.

For more information, see [Self-service search for Apps and Desktops](#).

**Deprecated feature**

**Removed the VPN\_AF and VPN\_SU events from the self-service search page** On the self-service search page for the Citrix Gateway data source, the following record types are now removed.

Record type	Record name
VPN_SU	Session Update record
VPN_AF	Application Launch Failure record

So, you cannot filter and view your events based on these record types. Any custom risk indicators based on these record types stop functioning.

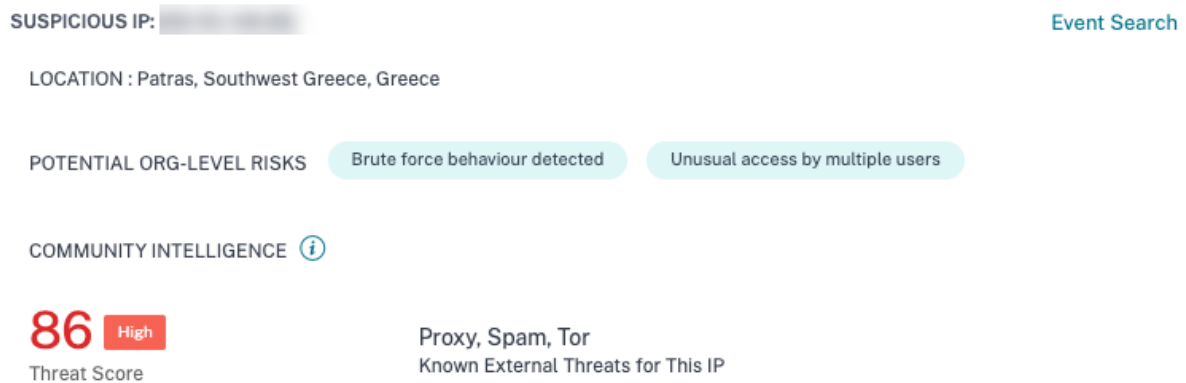
For more information, see [Self-service search for Gateway](#).

**March 11, 2021****What's new**

**Current timestamp for the user risk score schema** A new field `last_update_timestamp` is added in the user risk score schema format. This field indicates the time when the risk score was last updated. For more information on the schema format, see [User risk score schema](#).

**March 03, 2021****What's new**

**Enhancements to the Logon from suspicious IP risk indicator** On the user's risk timeline page, a new section **Suspicious IP** is displayed for the **Logon from suspicious IP** risk indicator. This section provides the following information:



- The IP address from which suspicious sign-in activity is detected.
- The location of the user.
- Any patterns of suspicious IP activity that Citrix Analytics has recently detected in your organization.
- Community-level intelligence feed about the IP address.

For more information, see the [Logon from suspicious IP](#) risk indicator.

### Enhancements to Access from an unusual location risk indicator

- In the Access from an unusual location risk indicator for Citrix Content Collaboration, added the **TOOL NAME** column in the event table. Removed the **DEVICE BROWSER** column from the event table. For more information, see Citrix Content Collaboration risk indicators.
- In the Access from an unusual location risk indicator for Citrix Virtual Apps and Desktops and Citrix DaaS, added the **DEVICE ID** and the **RECEIVER TYPE** columns in the event table. For more information, see [Citrix Virtual Apps and Desktops risk indicators](#).

**Citrix Analytics data format for SIEM** The [article](#) describes the schema of the processed data generated by Citrix Analytics for your SIEM service.

### Fixed issue

- For a Content Collaboration user, if the `Is Employee<!--NeedCopy-->` value is null, then the user is not displayed on the discovered users list. [CAS-47815]

**February 18, 2021**

## What's new

**Support for the first time access from a new entity in the custom risk indicator** You can now create a risk indicator that triggers when Citrix Analytics receives events from a new entity for the first time. Some examples of entities are Client IP, City, and Country.

On the **Create Indicator** page, click the **First time** option. Enable the **First time for a new** button, and select a valid entity from the list based on the data source. You need not assign any specific value to the entity. For example, if you select **City** from the list, Citrix Analytics triggers a risk indicator whenever users sign in from a new city for the first time.

For more information, see [Creating a custom risk indicator](#).

[←](#) | [Create Risk Indicator](#)

When the following event(s) occur, Citrix Analytics generates custom risk indicators on the user risk timeline and on the Alerts panel. \*

Apps and Desktops

Estimated Triggers

Advanced Options

☐ Every time: Generate the risk indicator every time the event(s) occur.

☒ First time: Generate the risk indicator when the event(s) occur for the first time.

☐

First time for a new

☐ Excessive: Generate the risk indicator when the event(s) occur  time(s) in  day(s) .

☐ Frequent: Generate the risk indicator when the event(s) occur  time(s) in  day(s) and it repeats  time(s).

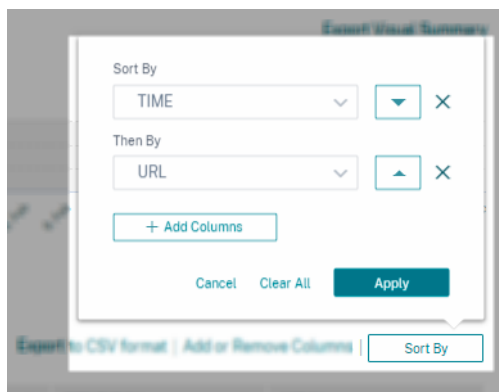
**Maximum limit for creating custom risk indicator** You can now create custom risk indicators up to a maximum limit of 50. If you reach this maximum limit, you must either delete or edit any existing custom risk indicator to create a custom risk indicator.

For more information, see [Custom risk indicators](#).

**User location data from Citrix Virtual Apps and Desktops and Citrix DaaS** On the **User Info** page, Citrix Analytics now displays the user's location from the Citrix Virtual Apps and Desktops and Citrix DaaS data source.

For more information about the user location, see [User profile](#).

**Multi-column sorting** On the self-service search page, you can now sort the user events by more than one column. Click **Sort By**, add the columns, and the sorting order. Click **Apply** to sort the user events. You can add up to six columns to perform a multi-column sorting.



For more information, see [Self-service search](#).

## Deprecated features

**Excessive authorization failure risk indicator deprecated** The Citrix Gateway risk indicator - **Excessive authorization failure** has been deprecated. You can only view historic data related to this indicator.

The following changes are applicable as part of this deprecation:

- Citrix Analytics no longer generates these risk indicators.
- Citrix Analytics no longer generates policies with these risk indicators as the conditions.
- Default policies with these risk indicators as the conditions no longer take effect.

For more information, see [Citrix Gateway risk indicators](#).

## January 27, 2021

### What's new

**Enhancements to the Access from an unusual location risk indicator** For Citrix Content Collaboration, Citrix Gateway, and Citrix Virtual Apps and Desktops, the **Access from an unusual location** risk indicator is now triggered when the user signs in from an IP address associated with a new country, or a new city that is anomalously far away from any previous sign-in location. Other factors include the user's overall level of mobility and the relative frequency of sign-ins from the city across all users in your organization. In all cases, user location history is based on the previous 30 days of sign-in activity.

For more information about the risk indicator, see the following topics:

- Citrix Content Collaboration risk indicators

- [Citrix Gateway risk indicators](#)
- [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#)

## January 20, 2021

### Fixed issue

- For the Apps and Desktops data source with on-premises StoreFront, the data processing fails although the StoreFront deployment is successfully connected.

[CAS-46656]

## January 19, 2021

### Fixed issue

- In the custom risk indicator page, after correcting an invalid condition in the search field, the **Estimate Trigger** link does not respond.

For example, you type an invalid condition *Client-IP = 10.10.10.10*. After you correct this condition and type as *Client-IP = "10.10.10.10"*, the **Estimate Trigger** link does not respond.

**Workaround:** Refresh the custom indicator page and then create the custom indicator with a valid condition.

[CAS-46316]

## January 13, 2021

### What's new

**New version of Citrix Analytics Add-on for Splunk is available** Citrix Analytics Add-on version 2.1.0 for Splunk is now available. Go to the [downloads](#) page to download the file.

**Added support for Splunk Cloud Inputs Data Manager (IDM) and Splunk 8.1 64-bit** You can now integrate Citrix Analytics for Security with Splunk Cloud IDM and Splunk 8.1 64-bit. For more information, see [Splunk integration](#).

### Deprecated support

**Removed support for Splunk 7.1 64-bit** You can no longer integrate Citrix Analytics for Security with Splunk 7.1 64-bit. For information on supported Splunk versions, see [Splunk integration](#).

## January 11, 2021

### Fixed issue

- On the Virtual Apps and Desktops site card, the label **Supported client users** is renamed to **Received events from users**. The label **Unsupported client users** is renamed to **Unable to receive events from users**.

[CAS-44773]

## December 17, 2020

### What's new

**Use preconfigured custom risk indicators and a policy to block access from unusual locations (geofencing)** Citrix provides a list of preconfigured custom risk indicators and a policy that help you monitor the security of your Citrix infrastructure. With these indicators and a policy, you can block the user access originating from countries that are outside their usual operating country. By default, the country is set to “United States”. You can set your required country for geofencing.

The following are the preconfigured custom risk indicators and a policy:

- CVAD-Session started outside of geofence
- GW-Geofence crossing
- CCC-Geofence crossing
- Session start outside of geofence

For more information, see [Preconfigured custom risk indicators and policies](#).

**View accessed locations in the user-response email** Instead of a user device's IP address, the user-response email now displays all locations accessed by the user in the last 15 minutes. The location is displayed in the <City>, <Country><!--NeedCopy--> format. If the city or country is unavailable, the corresponding value is shown as “Unknown”.

For more information, see [Request user response](#).

**Renamed Content Collaboration risk indicator- First time access from new location** The Citrix Content Collaboration risk indicator **First time access from new location** is renamed as **Access from an unusual location**.

For more information, see [Access from an unusual location](#).

## Deprecated features

**Risk indicator feedback** The risk indicator feedback mechanism is removed. If the Content Collaboration risk indicator- Access from an unusual location is incorrectly triggered, you can no longer report it as a false positive and provide feedback.

## December 07, 2020

### What's new

**Improvements to the Potential data exfiltration risk indicator** The following enhancements are made to the risk indicator:

- The information in the **WHAT HAPPENED** section is updated. The time format is updated to maintain consistency.
- The device location information appears in the event list.

For more information about the risk indicator, see [Potential data exfiltration](#).

### Improvements to the Content Collaboration risk indicator- First time access from new location

On the user risk timeline, select **First time access from new location** to view the following information:

- **Sign in locations:** Displays a geographical map view of the usual and unusual locations from where the user has signed in.
- **Number of sign-ins from usual locations - last 30 days:** Displays a pie chart view of the top 6 usual locations from where the user has signed in the last 30 days. It also displays the number of sign-in events from these locations.
- **Event details for unusual location:** Provides the list of the sign-in events from the unusual location for the user.

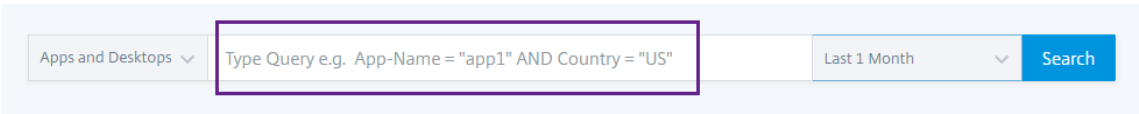
For more information about the risk indicator, see [First time access from new location](#).

## November 30, 2020

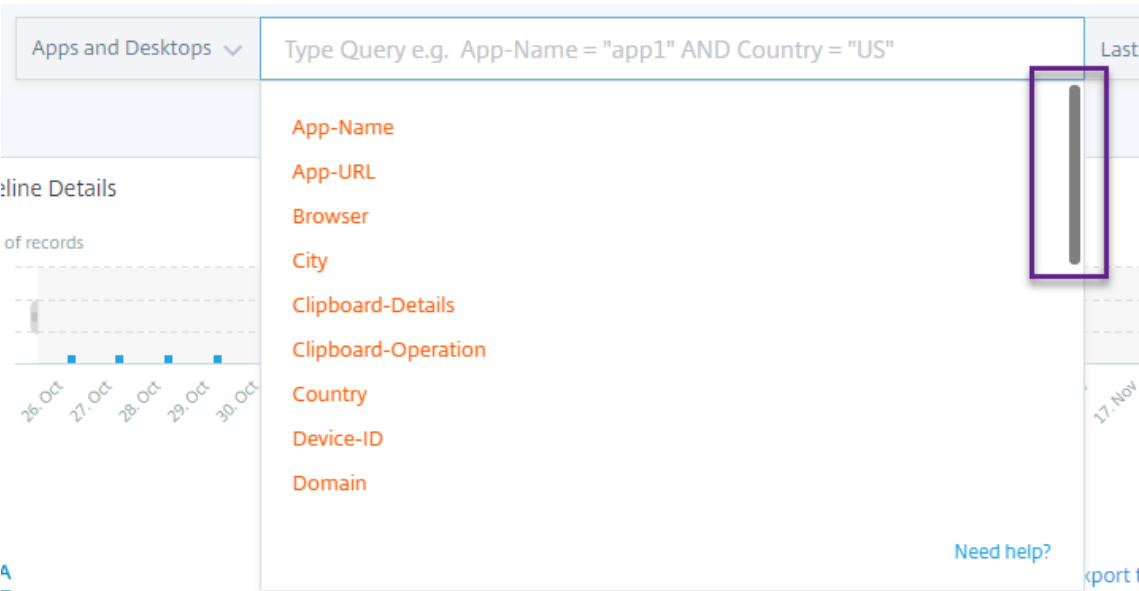
### What's new

**Self-service search page improvements** Following improvements are made to enhance the usability of the self-service search page:

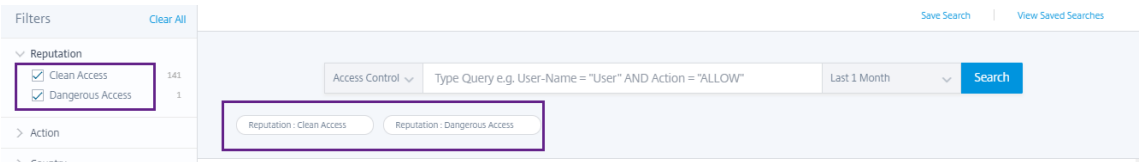
- The search box displays an example of a query to indicate how to type your own query.



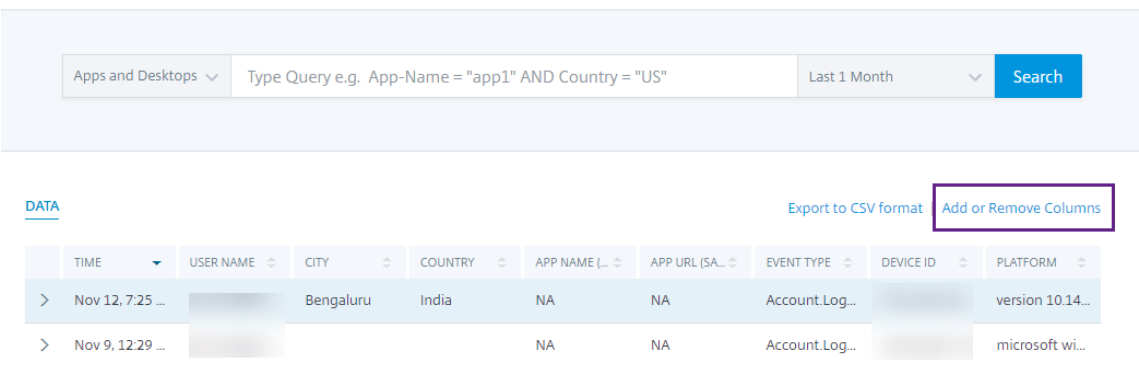
- In macOS, the scroll bar on the dimension list now appears by default.



- The applied filters now appear as chips.



- The **Add or Remove Columns** label replaces the + icon.



For more information, see [Self-service search](#).

**Policy improvements** The **Policies** page now displays the policies associated with the data sources that are successfully discovered and connected to Citrix Analytics. This page does not display the policies that have a condition defined for the undiscovered data sources. Turning off data processing for an already connected data source does not affect the existing policies on the **Policies** page.

For more information, see [Configure policies and actions](#).

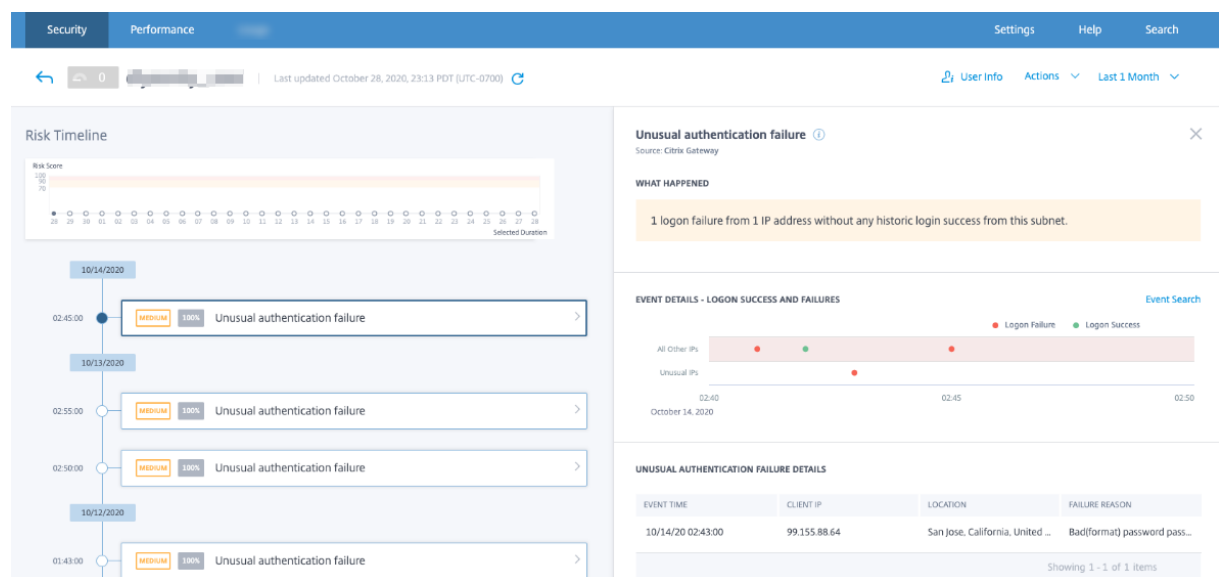
## November 04, 2020

### What's new

**Unusual Authentication Failure - Citrix Gateway risk indicator** Citrix Analytics detects access-based threats when a user has logon failures from an unusual IP address and triggers the **Unusual Authentication Failure** risk indicator.

This risk indicator is triggered when a user in your organization has logon failures from an unusual IP address that is contrary to their usual behavior.

For more information, see [Citrix Gateway risk indicators](#).



## October 20, 2020

### Fixed issue

- The risk indicator **First time access from new device** with **Log off user** action applied is not working as expected.

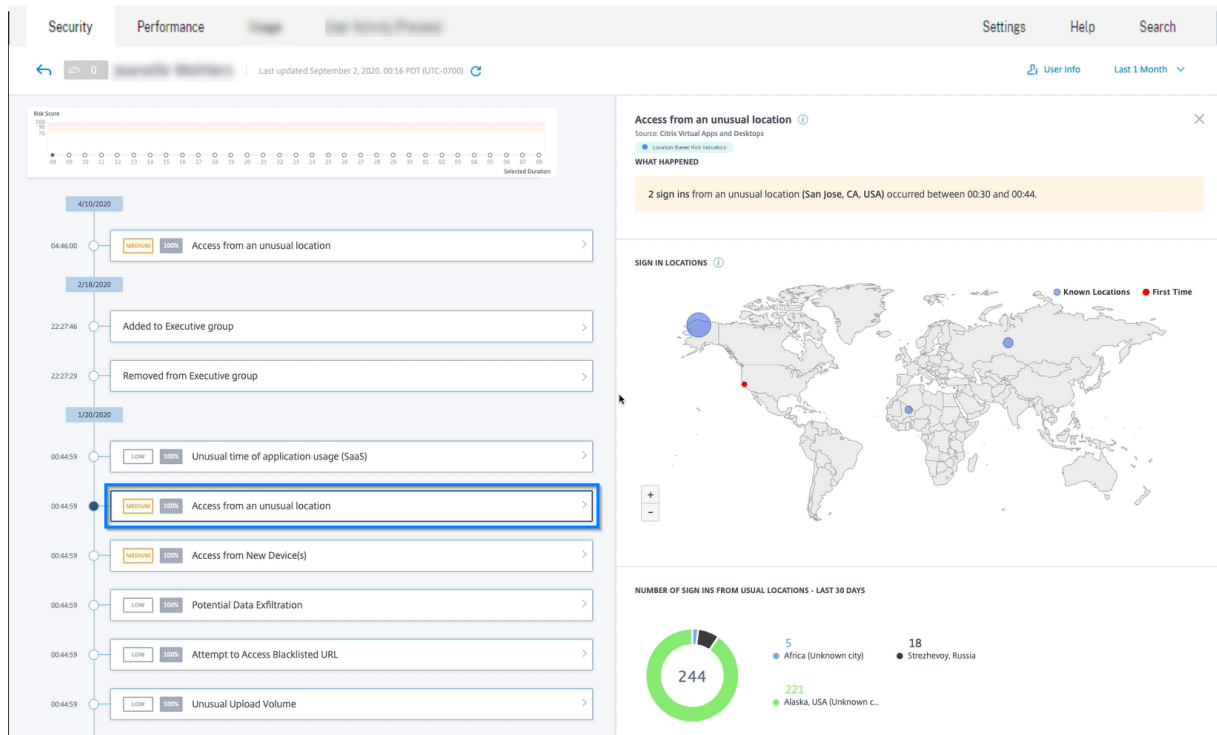
[CAS-40743]

**October 15, 2020**

## New features

### Access from an unusual location –Citrix Virtual Apps and Desktops and Citrix DaaS risk indicator

Citrix Analytics detects access-based threats based on unusual sign-ins from Citrix Workspace and triggers the corresponding risk indicator.



For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#).

## Share Link dashboard enhancements

- The SHARE URL column is now replaced by the SHARE ID column. Each share URL is now identified with a share ID.
- Time selection on the dashboard is removed. Now, this dashboard displays all share links from the active state to the expired state instead of a selected period.
- All share links are sorted in the order of active links first and then the expired links. By default, the share link with highest risk indicator count appears on the top of the list.
- The risky links now display the active links that have risky behavior. It does not show the expired links. By default, the risky link with highest risk indicator count appears on the top of the list.
- The trend view in the Risky Share Links card and the All Share Links card is removed.

For more information, see [Share Links dashboard](#).

**Share Link risk timeline enhancements** The risk timeline now displays the share ID instead of the share URL. For more information, see [Share Link risk timeline](#).

## Deprecated features

**Access from device with unsupported operating system (OS) risk indicator deprecated** The Citrix Virtual Apps and Desktops risk indicator - **Access from device with unsupported operating system (OS)** has been deprecated. You can only view historic data related to this indicator.

The following changes are applicable as part of this deprecation:

- Analytics no longer generates these risk indicators.
- Analytics no longer generates policies with these risk indicators as the conditions.
- Default policies with these risk indicators as the conditions no longer take effect.

For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#).

## September 10, 2020

### New features

**Checklist for StoreFront** Citrix Analytics now displays a list of prerequisites that you must meet before downloading the StoreFront configuration file. Review the checklist and ensure that all the minimum requirements are selected. If the minimum requirements are not selected, you cannot download the configuration file. For more information, see [Citrix Virtual Apps and Desktops data source](#).

**Self-service search - support for NOT EQUAL (!=) operator** You can now use the NOT EQUAL (!=) operator in your query in the following features:

- Custom risk indicator
- Self-service search

You can use this operator for the following conditions:

Data source	Dimensions
Content Collaboration	Country, City, Client OS
Access Control	Country, City, Action, URL, URL Category, Reputation, Browser, OS, Device

Data source	Dimensions
Apps and Desktops	Country, City, App Name, Clipboard operation, Browser, OS
Gateway	Authentication Stage, Client IP

Using the operator, create a custom indicator expression with a single value such as “Country != XYZ” and view the list of users. Then create a policy to apply actions such as Add to watchlist, Notify admin, or Disable user.

You can also use the operator in the self-service search of the specified data sources to filter the user events.

While entering the values for the dimensions in your query, use the exact values that are shown on the self-service search page for a data source. The dimension values are case-sensitive.

## September 08, 2020

### New features

**User Correlation** Analytics now correlates the users discovered from various data sources. This mechanism eliminates most of the duplicate users from the discovered users list. The discovered users in Analytics now display the list of unique users along with their data sources and the risk indicators.

For example, the user “Joe Smith” can have multiple user identifiers- JosephSm, [joe.smith@citrix.com](mailto:joe.smith@citrix.com), and joe.smith based on the data sources. Analytics now identifies this user with a unique identifier name. All other user identifiers are correlated and events received for Joe Smith from various data sources is linked to this unique name.

For more information, see [Discovered users](#)

### Fixed issue

From the **Actions** list, after selecting the action options and clicking **Apply**, an error message is displayed.

[CAS-39914]

## August 11, 2020

### Fixed issues

- You are not able to integrate Microsoft Graph Security with Citrix Analytics. This issue occurred because the Microsoft portal failed to redirect to Citrix Analytics.

[CAS-38021]

## July 31, 2020

### Fixed issues

- The **Estimated Triggers** option in the custom risk indicator does not predict the custom risk indicator instances for the last one day.

[CAS-38129]

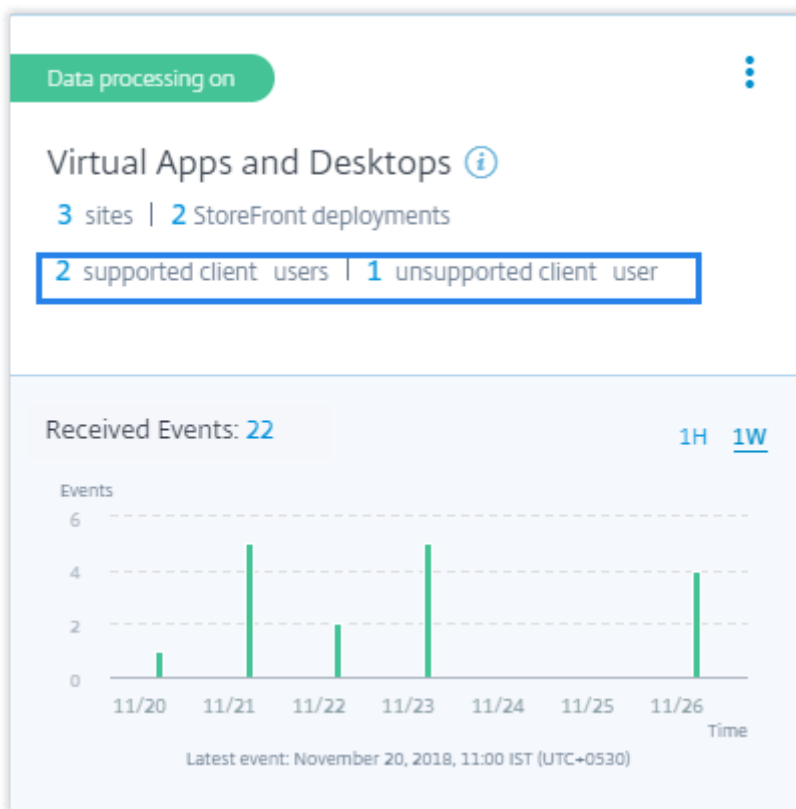
## July 09, 2020

### New features

**Virtual Apps and Desktops site card displays users with supported and unsupported clients** On the site card, you can now view the number of users who are using supported and unsupported versions of Citrix Workspace app or Citrix Receiver clients on their endpoints.

- Click the user count for the supported clients to view the **User** page that displays all the discovered users.
- Click the user count for the unsupported clients to download a CSV file. The file lists the users and their unsupported client versions. Analytics does not receive user events from the unsupported clients and therefore, does not add the users as discovered users. Using the CSV file, you identify the users who must upgrade their clients to a supported version so that Analytics can provide security insight into their behavior.

To view the list of supported clients, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).

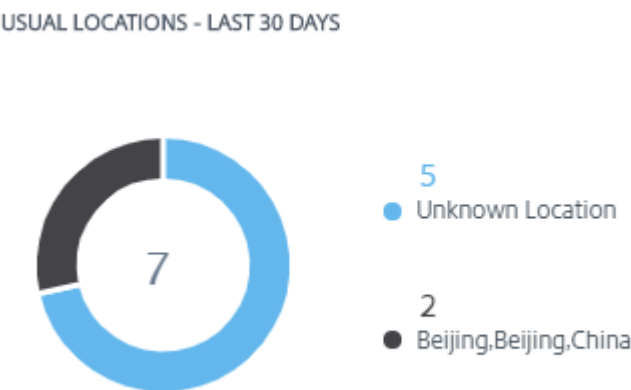


### Access from an unusual location risk indicator

- The Citrix Gateway risk indicator **First time access from new location** is renamed as **Access from an unusual location**.
- On the user risk timeline, a geographical map and a pie chart are introduced in the event details section.
  - **Sign in locations:** This section displays a geographical map view of the user's usual and unusual locations. The usual and unusual locations are indicated by a color code on the top right section of the geo map. You can zoom the geo map to get a closer look of the location.



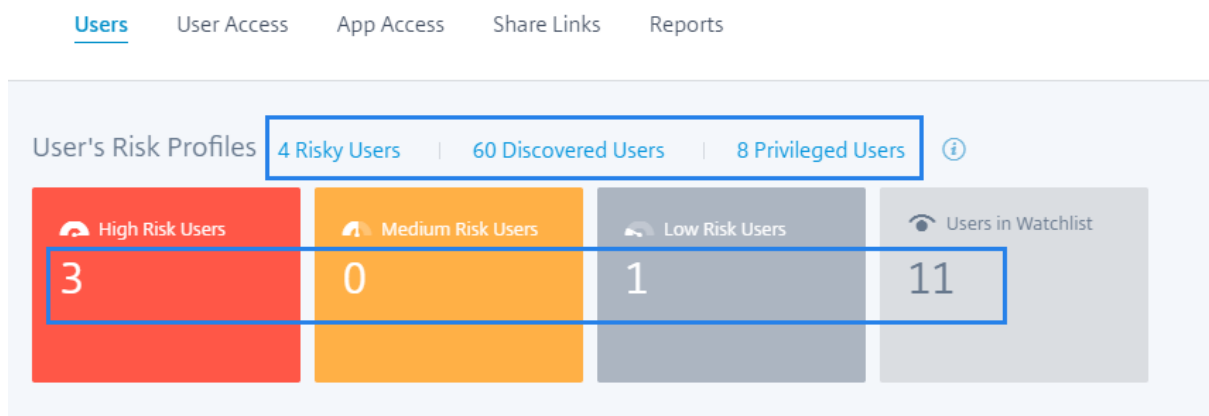
- **Usual locations - last 30 days:** This section displays a pie chart that gives a view of the top 6 usual locations that the user has signed in from. Each location is marked with a different color code. You can sort the section by the location to get a detailed view of the selected location.



For more information, see [Access from an unusual location](#).

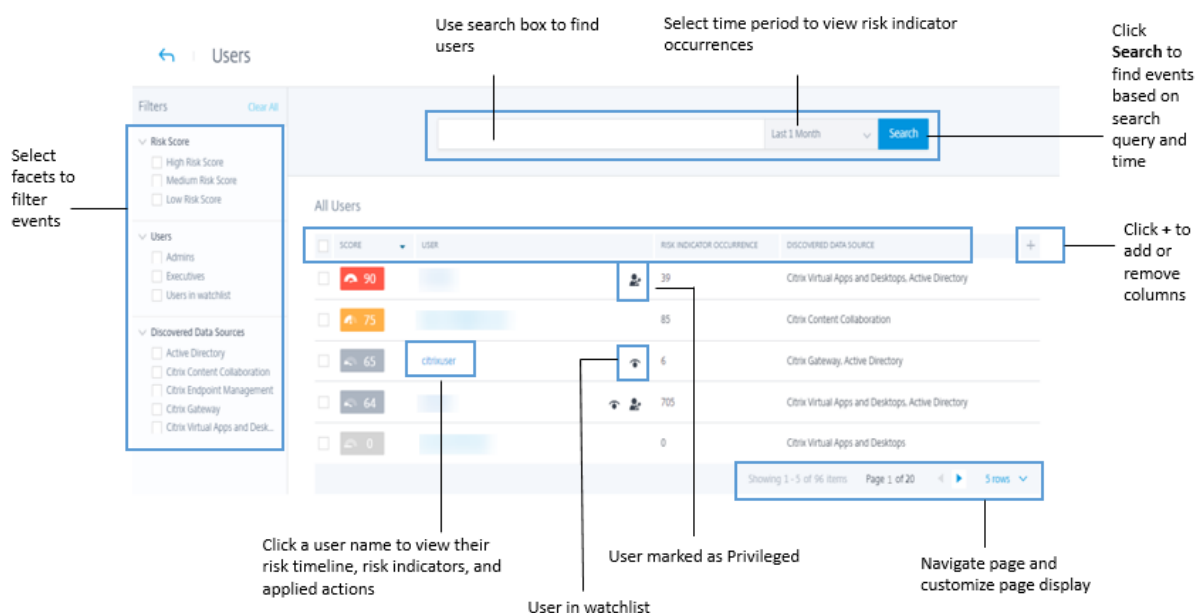
**Users dashboard data** The number of risky users, discovered users, privileged users, and users in the watchlist are displayed for the last 13 months irrespective of the time period selected on the **Users** dashboard and the **Users** page. When you select the time period, the risk indicator occurrences change.

For more information, see [Users dashboard](#).



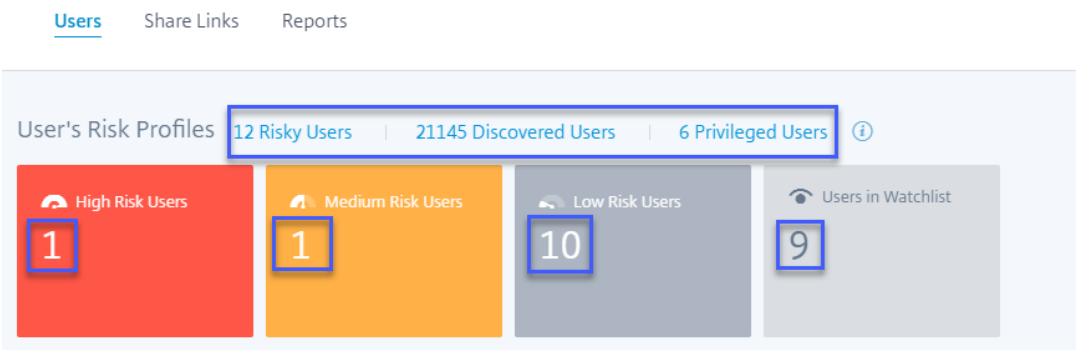
**Redesigned Users page** The **Users** page has been enhanced for a better user experience. It provides a consolidated summary of the user events based on the user risk scores, data source, and user type.

To support a more focused search, the **Users** page contains the **Filters** section on the left pane and the search bar on top. You can search for user events for a preset time or a customized time range.



To view the **Users** page:

- Go to **Security > Users** to view the **Users** dashboard and do the following:
  - Click one of the following links or the cards.



- On the **Risky Users** pane, click **See More**.
  - On the **Users in Watchlist** pane, click **See More**.
  - On the **Privileged Users** pane, click **See More**.
- Go to **Settings > Data Sources > Security**. Click the number of users on any data source site card.

For more information, see [Users dashboard](#).

**Risky Users pane enhancements** The **Change** column is replaced with the **Risk Indicators** column. The **Risk Indicators** column displays the total risk indicator occurrences of a user for a specific time period.

For more information, see [Risky Users](#).

Risky Users ⓘ

Highest Score | Risk Indicator

SCORE	RISK INDICATORS	USER
100	2	[User Name]
70	1	[User Name]
16	19	[User Name]
14	1	[User Name]
3	1	[User Name]

[See More](#)

**Users in Watchlist pane enhancements** The **Change** column is replaced with the **Risk Indicators** column. The **Risk Indicators** column displays the total risk indicator occurrences of a user for a specific time period.

For more information, see [Users in watchlist](#).

Users in Watchlist ⓘ

SCORE	RISK INDICATORS	USER	
3	0	[blurred]	
3	0	[blurred]	
0	0	[blurred]	
0	0	[blurred]	
0	0	[blurred]	

See More

**Privileged Users pane enhancements**

- The **Change** column is replaced with the **Risk Indicators** column. The **Risk Indicators** column displays the total risk indicator occurrences of a user for a specific time period.
- Click **See More** to view the **Users** page. The **Users** page that displays the list of admin and executive privileged users. On this page, you can add or remove a user as a privileged user.

For more information, see [Privileged users](#).

Privileged Users ⓘ

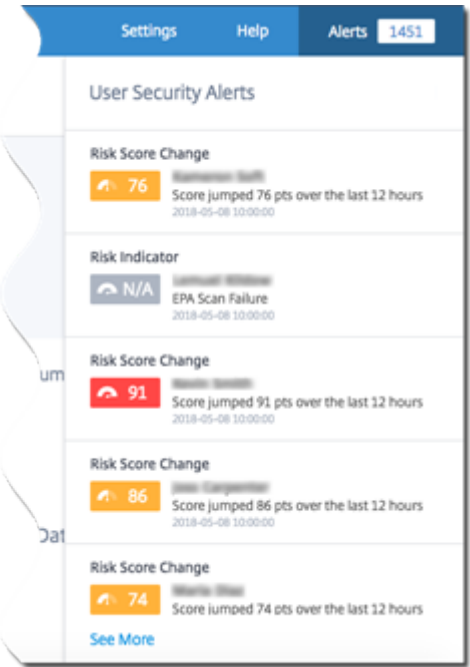
Service Accounts Executives Admins

SCORE	RISK INDICATORS	USER
100	0	
65	0	
8	19	
3	0	
0	0	

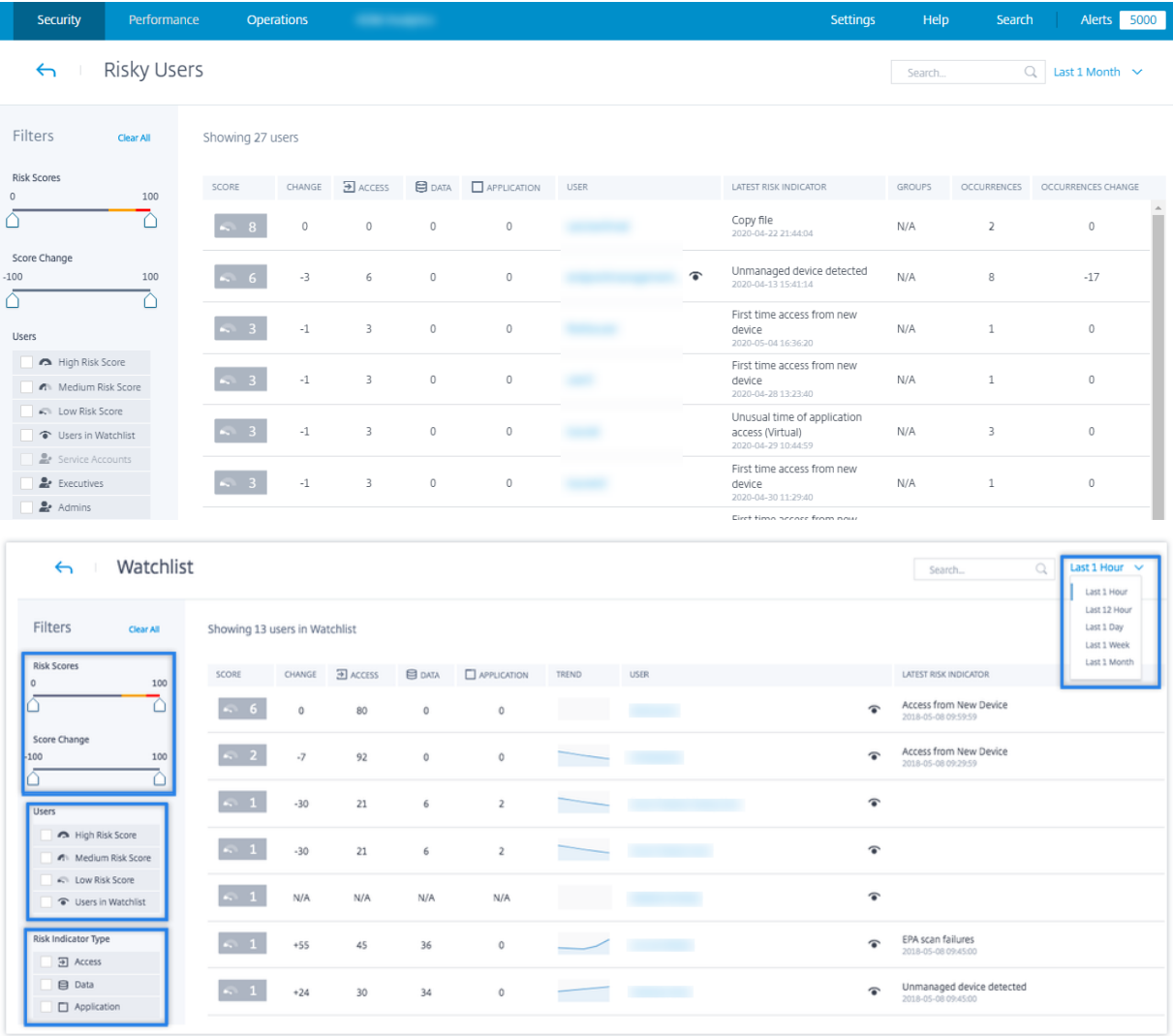
See More

Deprecated features

**Alerts** The **Alerts** feature is now deprecated and no longer available on the Analytics user interface.



**Risky Users and Watchlist page** The **Risky Users** and **Watchlist** pages are deprecated. They are replaced with the **Users** page that summarizes all the risky user events and the users in the watchlist.



**Risky Users pane** The **Highest Score Change** and **Risk Indicator Change** tabs are removed from the **Risky Users** pane.

Risky Users ⓘ

Highest Score

Highest Score Change

Risk Indicator

Risk Indicator Change

SCORE	CHANGE	RISK INDICATORS	USER
8	0	2	
6	-3	8	
3	-1	1	
3	-1	1	
3	-1	3	

See More

Risk Indicator pane

- The **Occurrence Change** tab and the **CHANGE** column are removed.

Risk Indicators ⓘ

Severity

Total Occurrences

Occurrence Change

SEVERITY	OCCURRENCES	CHANGE	TYPE	NAME
High	1	-1	Default	<a href="#">Excessive file downloads</a>
High	2	-4	Default	<a href="#">Jailbroken / rooted device de...</a>
High	3	-1	Custom	<a href="#">Status-Code = Login Failure</a>
High	7	-8	Default	<a href="#">Excessive access to sensitive ...</a>
High	3	0	Custom	<a href="#">File Copy2</a>

See More

- The **Risk Indicator Details** page is deprecated. Previously, this page was displayed when a risk indicator was selected on the **Risk Indicators** pane or on the **Risk Indicator Overview** page.

←

Risk Indicator Details

Last 1 Month

🚩

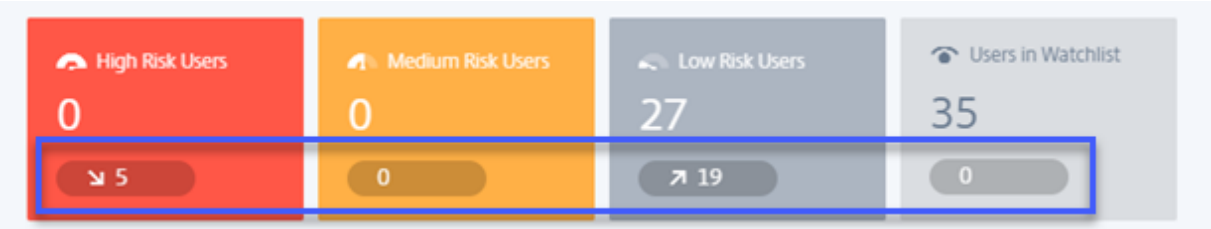
Access from New Device(s)

Default Risk Indicator | Virtual Apps and Desktops

Total Occurrences: 23

TIME	USER	EVENT DETAILS
Jul 08, 2019, 12:13		<a href="#">View</a>
Jul 08, 2019, 12:34		<a href="#">View</a>
Jul 09, 2019, 02:41		<a href="#">View</a>
Jul 09, 2019, 11:58		<a href="#">View</a>
Jul 09, 2019, 13:37		<a href="#">View</a>
Jul 09, 2019, 16:25		<a href="#">View</a>

**Trend view** On the **Users** dashboard, the trend view of user count is removed from the **High Risk Users**, **Medium Risk Users**, **Low Risk Users**, and **Users in Watchlist** cards.



**User Groups page** The **User Groups** page under the **Settings** option is deprecated. You can no longer add or remove a user group as a privileged group. However, you can add or remove individual users as privileged users. For more details, see [Privileged users](#).

←

User Groups

Search groups

Filters

Source

☐ AD 83

Organization

+ 8 more

Domain

83 Groups

USER GROUP	SOURCE	USERS	DESCRIPTION
	AD	1	--
	AD	1	--
	AD	1	--
	AD	1	--
	AD	1	--
	AD	18	--
	AD	1	--
	AD	3	--

## June 26, 2020

### Deprecated features

**Unusual time of application access (Virtual/SaaS) risk indicators deprecated** The Citrix Virtual Apps and Desktops risk indicators - **Unusual time of application access (Virtual)** and **Unusual time of application access (SaaS)** have been deprecated. You can only view historic data related to these indicators.

The following changes are applicable as part of this deprecation:

- Analytics no longer generates these risk indicators.
- Analytics no longer generates policies with these risk indicators as the conditions.
- Default policies with these risk indicators as the conditions no longer take effect.

For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#).

## June 02, 2020

### Fixed issues

- On the user risk timeline, the status of the Virtual Apps and Desktops actions (policy-based or manually applied) appears as “Failure” even though the actions are successfully applied on the user account. For example, the **Start session recording** action is successfully applied on the user account, but the result is shown as “Failure”. [CAS-32773]

The screenshot displays the Citrix Analytics for Security interface. The top navigation bar includes tabs for Security, Performance, Operations, ADM Analytics, Settings, Help, Search, and Alerts (3468). Below the navigation bar, a timeline for Tuesday shows several actions. The action 'Start session recording' at 14:50:26 is highlighted with a blue box. To the right, a detailed view of this action is shown, including the title 'Start session recording', the subtitle 'Analytics Admin Action', and a section titled 'WHAT HAPPENED'. This section lists details: User Status (Start Session Recording), Date & Time (Apr 7, 14:50:26), By Admin (Staging tenant), In Product (Citrix Virtual Apps and Desktops), and Result (Failure). The 'Result' field is also highlighted with a blue box.

## May 11, 2020

### Fixed issues

- For some users, the policy-based actions are not triggered and the policy enforcement mode cannot be applied. This issue occurs when the customer IDs are not in lower case.

[CAS-34209], [CAS-34141]

- Unable to create custom risk indicators for some users. This issue occurs when the customer IDs are not in lower case.

[CAS-34139]

## April 29, 2020

### Fixed issues

- Actions applied on Citrix Virtual Apps and Desktops risk indicators fail to take effect although Analytics displays a message that the actions are successfully applied. This issue is observed in the Citrix Virtual Apps and Desktops 7 1912 version.

[CAS-31544]

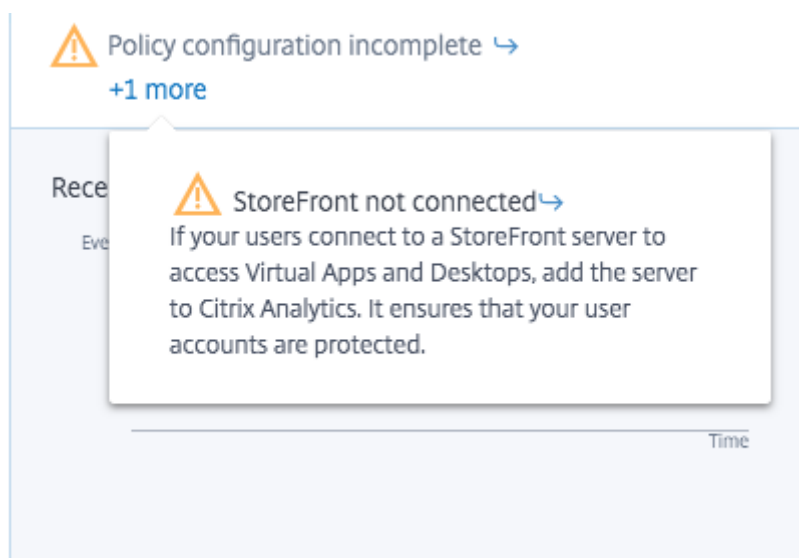
## April 02, 2020

### New features

**Disable data processing when StoreFront is not added** On the **Settings > Data Sources > Security > Virtual Apps and Desktops** data source site card, the **Turn on Data Processing** button does not get enabled if you have not onboarded StoreFront. You see the **StoreFront not connected** warning message on the site card. If you have an active on-premises site from where you want Analytics to receive data, you must verify that you have onboarded StoreFront to Citrix Analytics. It ensures that your user accounts are protected.

On the **Virtual Apps and Desktops** site card, select the vertical ellipsis (⋮) and click **Connect StoreFront deployment**. On the screen that is displayed, follow the instructions and complete the StoreFront configuration.

For more information, see [Onboard Citrix Virtual Apps and Desktops on-premises sites using StoreFront](#).



### Fixed issues

- For Citrix Content Collaboration users, policy-based actions fail to take effect under the following conditions:
  - When custom risk indicator conditions are defined
  - Until a risk indicator is generated for a user

[CAS-29226]

### March 04, 2020

#### Fixed issues

- When Gateway users onboard to Analytics for the first time, they see the error **Citrix ADC is unresponsive or credentials are incorrect**. Upon retrying, they see the error **Device with this IP address already exists**.

[CAS-31180]

### February 20, 2020

#### New features

**Citrix Analytics for Security offering** Citrix Analytics for Security is now available for individual subscription.

You can subscribe to Citrix Analytics for Security and get insights that are specific to this offering. For more information, see [Get started](#).

**Risk Categories dashboard** Citrix Analytics introduces categorization of risk indicators based on risks that have a similar impact on the organization's security aspect. This dashboard provides a comprehensive view of the risk exposures and critical risks that require immediate attention. For default risk indicators, Analytics automatically assigns a risk category based on the risk exposure. For custom risk indicators, you must select an appropriate risk category based on the risk exposure.

Analytics supports the following risk categories:

- Data exfiltration
- Insider threats
- Compromised users
- Compromised endpoints

For more information, see [Risk Categories](#).



**Risk Category column on the Custom Indicators page** The **Risk Category** column is introduced on the Custom Risk Indicator page. Based on type of risk exposure, you can select a risk category for your custom risk indicator. Previously created custom risk indicators are displayed on the Risk Categories dashboard if you modify them by selecting a risk category.

For more information, see [Custom risk indicators](#).

When the following event(s) occur, Citrix Analytics generates custom risk indicators on the user risk timeline and on the Alerts panel. \*

Access Control

Advanced Options

☒ Every time: Generate the risk indicator every time the event(s) occur.

☐ First time: Generate the risk indicator when the event(s) occur for the first time.

☐ Excessive: Generate the risk indicator when the event(s) occur  time(s) in  day(s) .

☐ Frequent: Generate the risk indicator when the event(s) occur  time(s) in  day(s) and it repeats  time(s).

Estimated Triggers

Risk Category \*

Severity \*  Low Medium High

Indicator Name \*  Remaining Characters: 64

Description  Remaining Characters: 256

☐ Disabled

**Change in risk indicator names** The following risk indicator names have been changed:

Data Source	Old Name	New Name
Citrix Virtual Apps and Desktops and Citrix DaaS	Unusual application usage (Virtual)	Unusual time of application access (Virtual)
Citrix Virtual Apps and Desktops and Citrix DaaS	Unusual application usage (SaaS)	Unusual time of application access (SaaS)
Citrix Content Collaboration	Excessive logon failures	Excessive authentication failures
Citrix Content Collaboration	Unusual logon access	First time access from new location
Citrix Access Control	Unusual download volume	Excessive data download
Citrix Gateway	Logon failures	Excessive authentication failures

Data Source	Old Name	New Name
Citrix Gateway	Authorization failures	Excessive authorization failures
Citrix Gateway	Unusual logon access	First time access from new location

For more information, see [Risk indicators](#).

### Fixed issues

- For some users, Citrix Analytics is unable to receive any data from Virtual Apps and Desktops even though the data source is successfully onboarded and StoreFront is enabled. [CAS-24134]
- Citrix Analytics is unable to receive download events from Citrix Content Collaboration. Therefore, the following risk indicators are not triggered:

- Anonymous sensitive share download
- Excessive share link downloads
- Excessive access to sensitive files
- Excessive file downloads

[CAS-29207]

- For newly onboarded users, manual and policy-based actions applied on Citrix Gateway risk indicators do not take any effect. [CAS-29029]
- Some users are unable to view the site cards on the Data Sources page. This issue is resolved by repopulating the cache. [CAS-28781]

## January 09, 2020

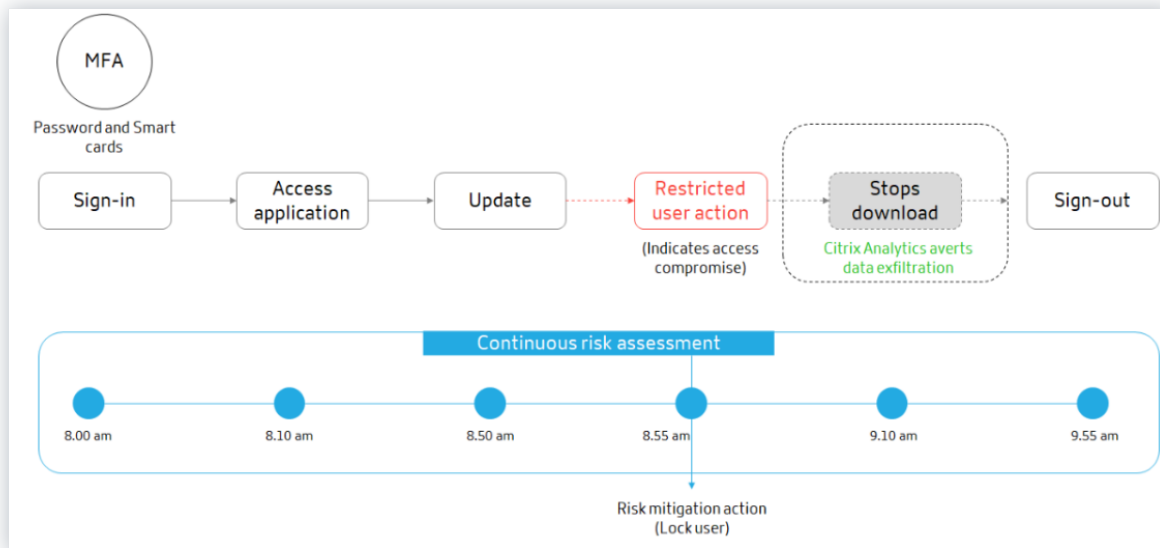
### New features

**Continuous risk assessment** Some challenges Citrix Workspace users face are that, remote access exposes sensitive data to security risks through cyber-criminal activities like data exfiltration, theft, vandalism, and service disruptions. Employees within organizations are also likely to contribute to this damage.

Some ways of addressing these risks are to implement multifactor authentication, enforce short sign-in timeouts, and so on. Although these risk assessment methods ensure a higher level of security, they do not provide complete security after the initial validation.

To enhance the security aspect and to ensure a better user experience, Citrix Analytics introduces the solution of continuous risk assessment. This solution helps you to continuously monitor user profiles and take various actions when risky events are detected.

For more, information, see [Continuous risk assessment](#).



**Policy configuration** Citrix Analytics helps you to manage policy configurations more efficiently. You can protect user accounts from malicious attacks with the help of the following capabilities:

- **Default policies:** Citrix Analytics supports the following default policies:
  - Successful credential exploit
  - Potential data exfiltration
  - Unusual access from a suspicious IP
  - Unusual app access from an unusual location
  - Low risk user - first time access from new IP
  - First time access from device

You can modify the default policies based on your requirements.

6 Policies						Create Policy
Delete						
<input type="checkbox"/>	NAME	STATUS	DAYS ACTIVE	OCCURRENCES	MODIFIED	
<input type="checkbox"/>	Successful credential exploit	<input checked="" type="checkbox"/>	1w	0	12/24/2019	
<input type="checkbox"/>	Potential data exfiltration	<input checked="" type="checkbox"/>	1w	0	12/24/2019	
<input type="checkbox"/>	Unusual access from a suspicious IP	<input checked="" type="checkbox"/>	1w	0	12/24/2019	
<input type="checkbox"/>	Unusual app access from an unusual location	<input checked="" type="checkbox"/>	1w	0	12/24/2019	
<input type="checkbox"/>	Low risk user - first time access from new IP	<input checked="" type="checkbox"/>	1w	0	12/24/2019	
<input type="checkbox"/>	First time access from device	<input checked="" type="checkbox"/>	1w	0	12/24/2019	

- **Multiple conditions:** A policy can contain up to four conditions. The conditions can be set with combinations of risk scores and risk indicators, or both.

IF THE FOLLOWING CONDITION IS MET

Select a condition

AND

Select a condition

+ Add Condition

- **Default and custom risk indicators:** The conditions menu on the **Create Policy** page is now segregated based on default and custom risk indicators. When creating a policy, you can switch between the default and custom risk indicators tabs, and set the risk indicator conditions.

IF THE FOLLOWING CONDITION IS MET

Select a condition

Default Risk Indicators Custom Risk Indicators

**RISK SCORE**

Risk score

**CITRIX GATEWAY**

EPA scan failure

Excessive authentication failures

Logon from suspicious IP

Suspicious logon

Access from an unusual location

**CITRIX SECURE PRIVATE ACCESS**

Attempt to access blacklisted URL

Risky website access

**CITRIX VIRTUAL APPS AND DESKTOPS**

Excessive data download

Unusual upload volume

Potential data exfiltration

Suspicious logon

**CITRIX ENDPOINT MANAGEMENT**

Device with blacklisted apps detected

Jailbroken / rooted device detected

Unmanaged device detected

- **Request end user response:** Citrix Analytics introduces the **Request end user response** action. Using this action, you can send an email notification to the user regarding the risky activity detected. Once the user responds about the activity, you can determine the next course of action to be taken on their account. You can also set the user response time. If no response is received, Citrix Analytics considers **No response** as the status.

THEN DO THE FOLLOWING

Global: Request End User Response

Configure the next course of action to be taken on the user's account.

If the user does not recognize the activity, then:

Select an action

If the user does not respond within 60 minutes, then add the user to the watchlist.

To change the user response time, from the top bar, click **Settings > Alert Settings > End User Email Settings**.

EMAIL PREVIEW

Security alert for your <User ID> account

Hi <User ID>.

We have identified the following event(s) on your account. If it wasn't you, your account is at risk.

**Activity:** <Policy name> as defined by your administrator.

**Device:** <MacBook Air 2020>

**Date and Time:** <30 Nov 2021, 10:02 am IST>

Do you recognize this activity?

Yes, It was me

No, protect my account

Successfully accessed locations:

LOCATION	PRODUCT	DATE
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat

If you do not respond to this email in the next 60 minutes, services to your account might be interrupted. Contact us for further assistance.

Regards,

- **Apply disruptive actions:** You can notify the users when a disruptive action such as **Log off user** or **Lock user**, is applied. A notification is sent to the user with details of the activity and the action applied. This action temporarily disrupts services to the user's account to prevent further misuse. To continue accessing the account, the user must contact the administrator for assistance.

THEN DO THE FOLLOWING

Log off user

Citrix Analytics sends an email notification to the user after an action is applied on the user's account.

EMAIL PREVIEW

Action taken on your <User ID> account

Hi <User ID>.

We identified that you performed the following unusual activity:

**Activity:** <Policy name> as defined by your administrator.

**Device:** <MacBook Air 2020>

**Date and Time:** <03 Jan 2020, 05:16 pm IST>

**IP Address:** <74.21.18.180>, <74.21.19.181>

To protect your account, we have taken following action:

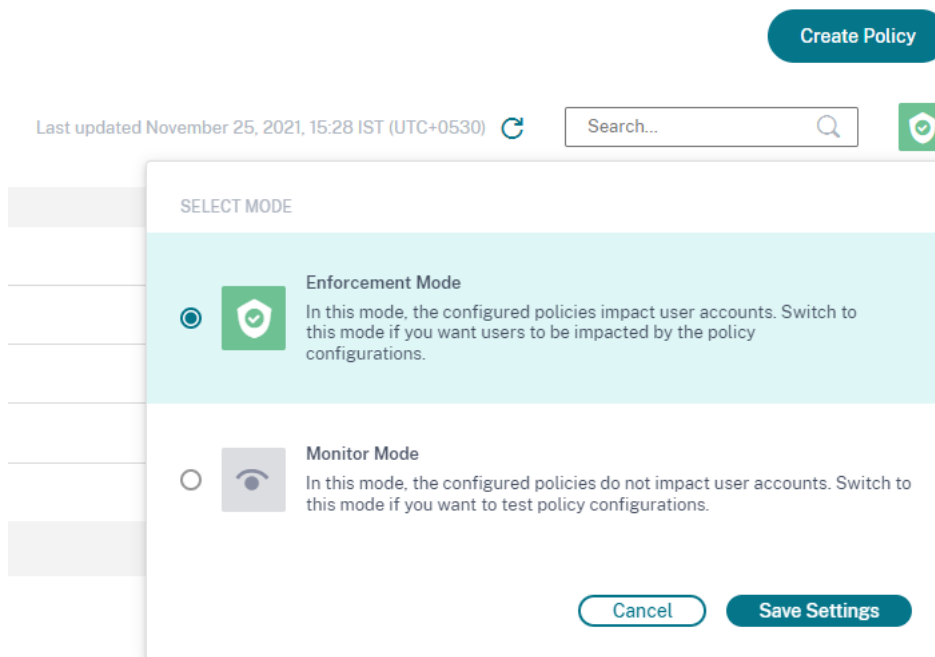
Log off user

We apologize for the inconvenience that this may have caused. To continue using our services, please contact us for assistance.

Regards,

Admin

- **Enforcement and monitor modes:** You can set enforcement or monitor modes to your policies.



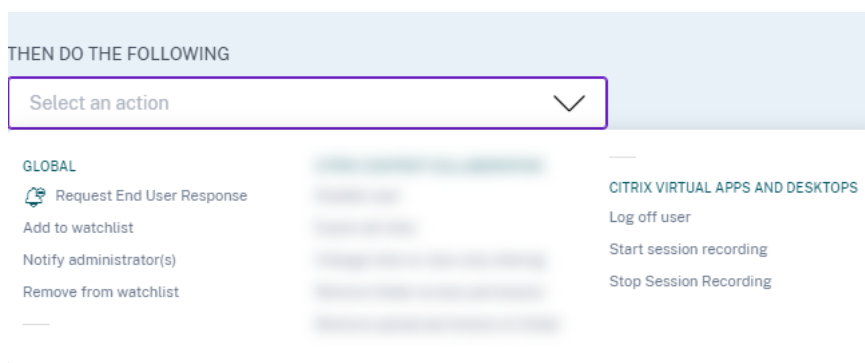
For more information on policy enhancements, see [Policies and actions](#).

**Lock user and Unlock user actions** Citrix Analytics introduces the following Gateway actions:

- Lock user
- Unlock user

You can apply these actions either manually or when you configure policies.

For more information, see [What are actions](#).



**Access summary dashboard** Citrix Analytics introduces the **Access Summary** panel on the **Users** dashboard. It summarizes the total number of attempts that users have made to access the resources within an organization.

For more information, see [Access summary](#).



**Policies and actions dashboard** Citrix Analytics introduces the **Policies and Actions** panel on the **Users** dashboard. It displays the top five policies and actions applied on user profiles. You can sort data based on the top policies and the top actions for a selected time period.

For more information, see [Policies and actions](#).

Policies and Actions ⓘ

Top Policies

Top Actions

POLICY	USERS	OCCURRENCES
Request End User Response if ekam@smarttools.clm ...	1	40
Session-start-outside-geofence	3	9
push notification policy	1	6
Request End User Response if Unusual authentication...	1	1
Notify administrator(s) if Jailbroken / rooted device de...	1	1

[See More](#)

**Self-service search for policies** Use the self-service search to view the user events that met your defined policies. You can also view the actions that Analytics has applied for these anomalous events. Use the facets and the search box to search for the required events.

To view the events, in the search box, select **Policies** from the list, select the time period, and then click **Search**.

For more information, see [Self-service search for Policies](#).

## Deprecated features

**Risk score change policy-based condition removed** When you configure policies, you cannot use the **Risk score change** policy-based condition anymore. Citrix Analytics does not support this condition.

For more information, see [Policies and actions](#).

**Multiple policy-based actions removed** When you configure policies, you cannot apply multiple actions anymore. Citrix Analytics supports only one action for each policy.

For more information, see [Policies and actions](#).

## Fixed issues

- Delegated read-only administrators encounter an error while accessing the **User Access** and **App Access** dashboards. [CAS-16297]

## December 12, 2019

### New features

**Splunk version support** Citrix Analytics supports the following versions of Splunk:

- **Splunk 8.0 64-bit**
- **Splunk 7.3 64-bit**

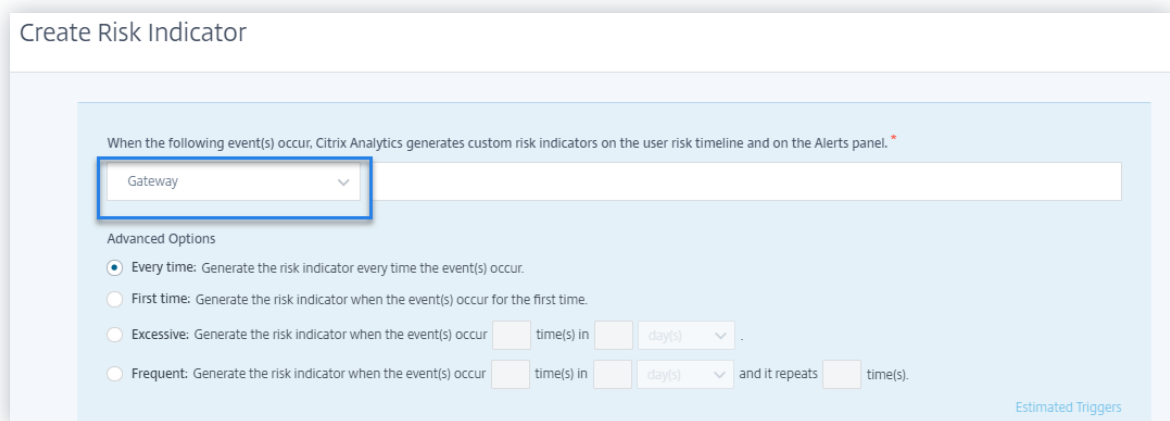
To get the maximum security benefits of Splunk integration, upgrade to the latest version of the Splunk add-on app from the [Download](#) page.

For more information on supported Splunk versions, see [Supported versions](#).

## December 04, 2019

### New features

**Custom risk indicator for Citrix Gateway** Using custom risk indicators, you can now define the conditions and the frequency for triggering risk indicators for Citrix Gateway events. When a user event meets the conditions, Analytics triggers the risk indicators. For more information on how to create custom risk indicator, see [Custom risk indicators](#).



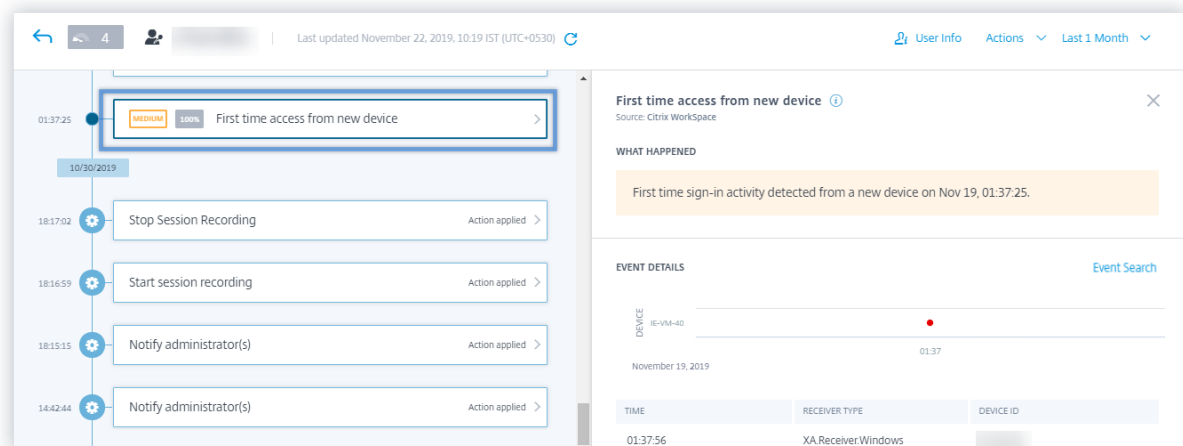
The screenshot shows the 'Create Risk Indicator' interface. At the top, it says 'Create Risk Indicator'. Below this, a text box contains the instruction: 'When the following event(s) occur, Citrix Analytics generates custom risk indicators on the user risk timeline and on the Alerts panel. \*'. A dropdown menu is set to 'Gateway'. Under 'Advanced Options', there are four radio button options: 'Every time: Generate the risk indicator every time the event(s) occur.' (which is selected), 'First time: Generate the risk indicator when the event(s) occur for the first time.', 'Excessive: Generate the risk indicator when the event(s) occur [ ] time(s) in [ ] day(s) .', and 'Frequent: Generate the risk indicator when the event(s) occur [ ] time(s) in [ ] day(s) and it repeats [ ] time(s)'. A link 'Estimated Triggers' is at the bottom right.

## November 22, 2019

### New features

**First time access from new device –Citrix Virtual Apps and Desktops risk indicator** Citrix Analytics detects access threats based on access from a new device and triggers the corresponding risk indicator.

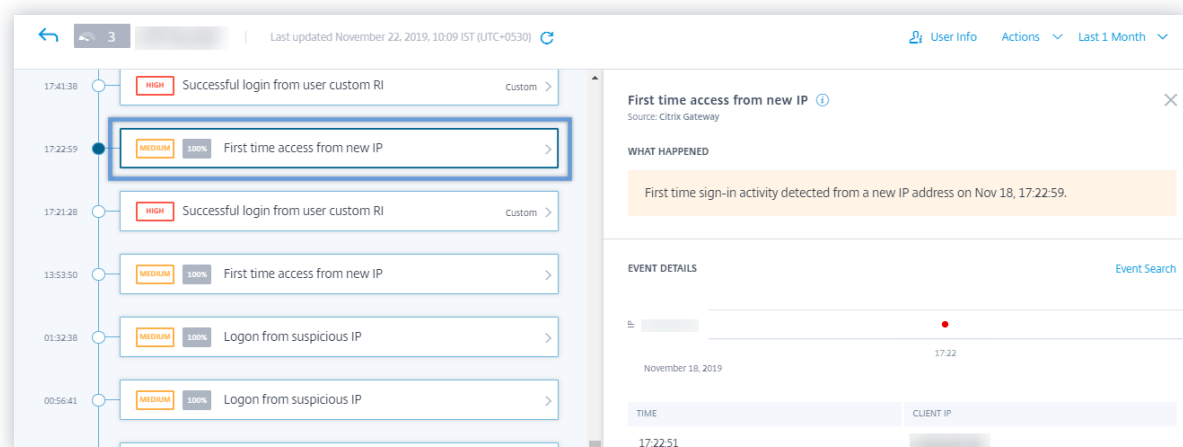
The **First time access from new device** risk indicator is triggered when a user signs in from a device after 90 days. This event is triggered because Citrix Receiver has no sign-in records from this new or unfamiliar device for the last 90 days. For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators](#).



**First time access from new IP - Citrix Gateway risk indicator** Citrix Analytics detects access threats based on access from a new IP address and triggers the corresponding risk indicator.

The **First time access from new IP** risk indicator is triggered when a user signs in from an IP address after 90 days. This event is triggered because Citrix Receiver has no sign-in records from the new or unfamiliar IP address for the last 90 days.

For more information, see [Citrix Gateway risk indicators](#).



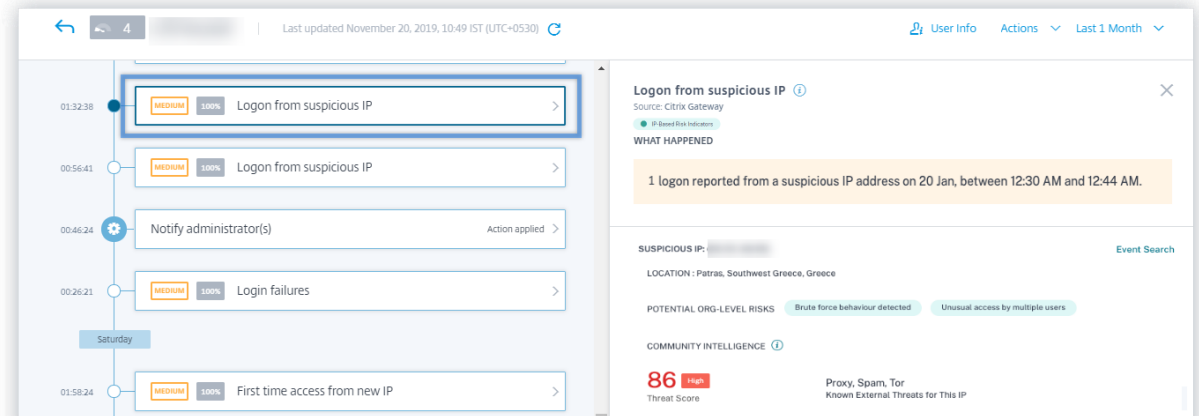
**Logon from suspicious IP - Citrix Gateway risk indicator** Citrix Analytics detects user access threats based on the suspicious IP sign-in activity and triggers the **Logon from suspicious IP** risk indicator.

This risk indicator is triggered when a user attempts to access the network from a suspicious IP address. Analytics considers an IP address as suspicious based on any of the following conditions:

- Is listed on the external IP threat intelligence feed

- Has multiple user sign-in records from an unusual location
- Has excessive failed sign-in attempts that might indicate a brute-force attack

For more information, see [Citrix Gateway risk indicators](#).



**Self-service search for Citrix Gateway events** Use the self-service search feature to get insight into user events received from the Citrix Gateway data source. Citrix Analytics receives events such as authentication stage, authorization type, VPN session code, VPN session state for Citrix Gateway users. Use the facets and the search box to search for the required events and explore the underlying data.

To view the events, in the search box, select **Gateway** from the list, select the time period, and then click **Search**.

For more information, see [Self-service search for Gateway](#).

**Self-service search for Citrix Remote Browser Isolation events** Use the self-service search feature to get insight into the browsing events received from the Citrix Remote Browser Isolation Service. Citrix Analytics receives events such as session connect, session launch, published applications, deleted applications for each user connection. Use the search box to search for the required events and explore the underlying data.

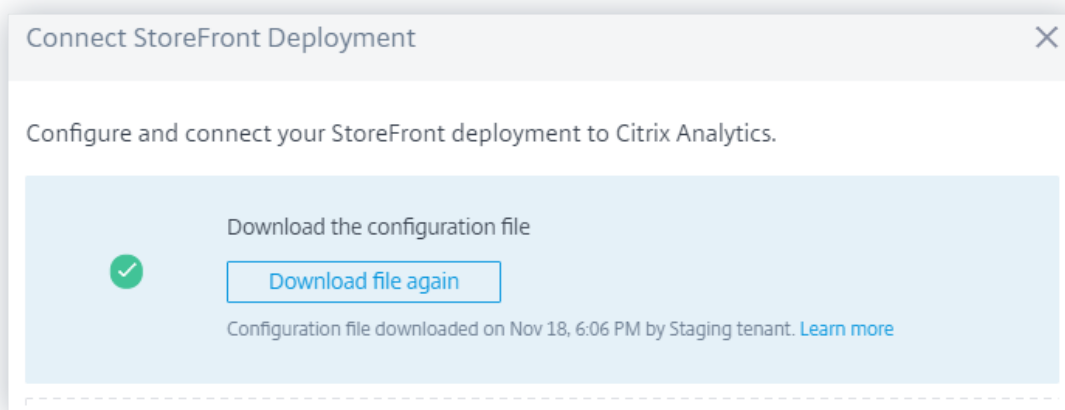
To view the events, in the search box, select **Remote Browser Isolation** from the list, select the time period, and then click **Search**.

For more information, see [Self-service search for Remote Browser Isolation](#).

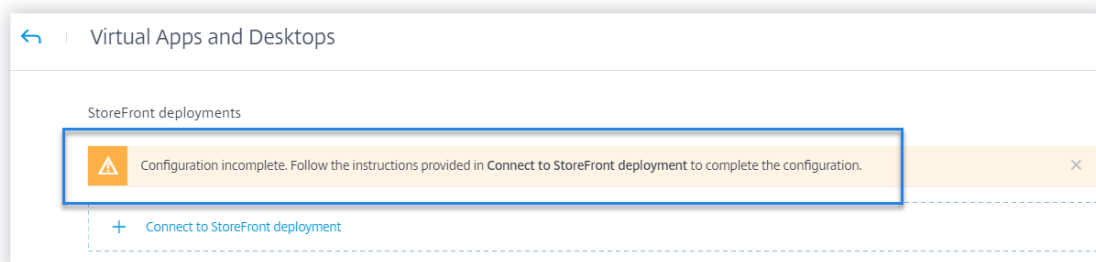
**Remove from watch list action** You can remove a user from the watchlist either by applying the manual method or by applying a policy-based method. For more information, see [Watchlist](#).

**Improved onboarding messages when configuring a StoreFront deployment** Citrix Analytics now provides the following messages to help you configure your StoreFront deployments:

- After downloading the configuration file, you can see a message indicating the date and time of the download and the user name. When you refresh this page, the **Download file** button changes to **Download file again**.



- If your StoreFront configuration is incomplete, you see a warning message instructing you to follow configuration steps and connect your StoreFront deployment with Analytics.



For more information on how to configure your StoreFront deployment, see [Onboard Citrix Virtual Apps and Desktops on-premises sites using StoreFront](#).

## Deprecated features

**Risk indicator - Access from new device remove** Citrix Analytics no longer triggers the **Access from new device** risk indicator. However, on the user dashboard, user timeline, and the policy dashboard, you can view historic data related to this risk indicator.

For previously created policies based on **Access from new device**, you must either modify the policy or create a policy with the new risk indicator **First time access from new device**.

## Fixed issues

- The self-service search for authentication fails to display the events. [CAS-24959]

## November 08, 2019

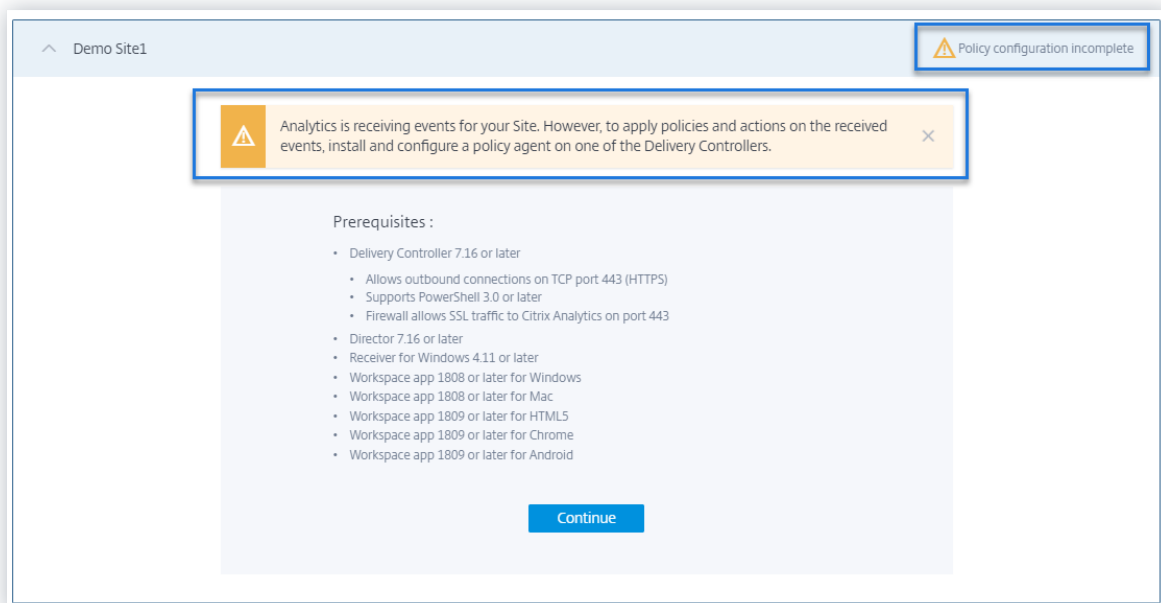
### Fixed issues

- For Citrix Content Collaboration risk indicators, users are unable to apply actions on the risk timeline. [CAS-24844]
- Citrix Workspace app for Chrome prior to version 1911 fail to send event details to Citrix Analytics. [CAS-24938]

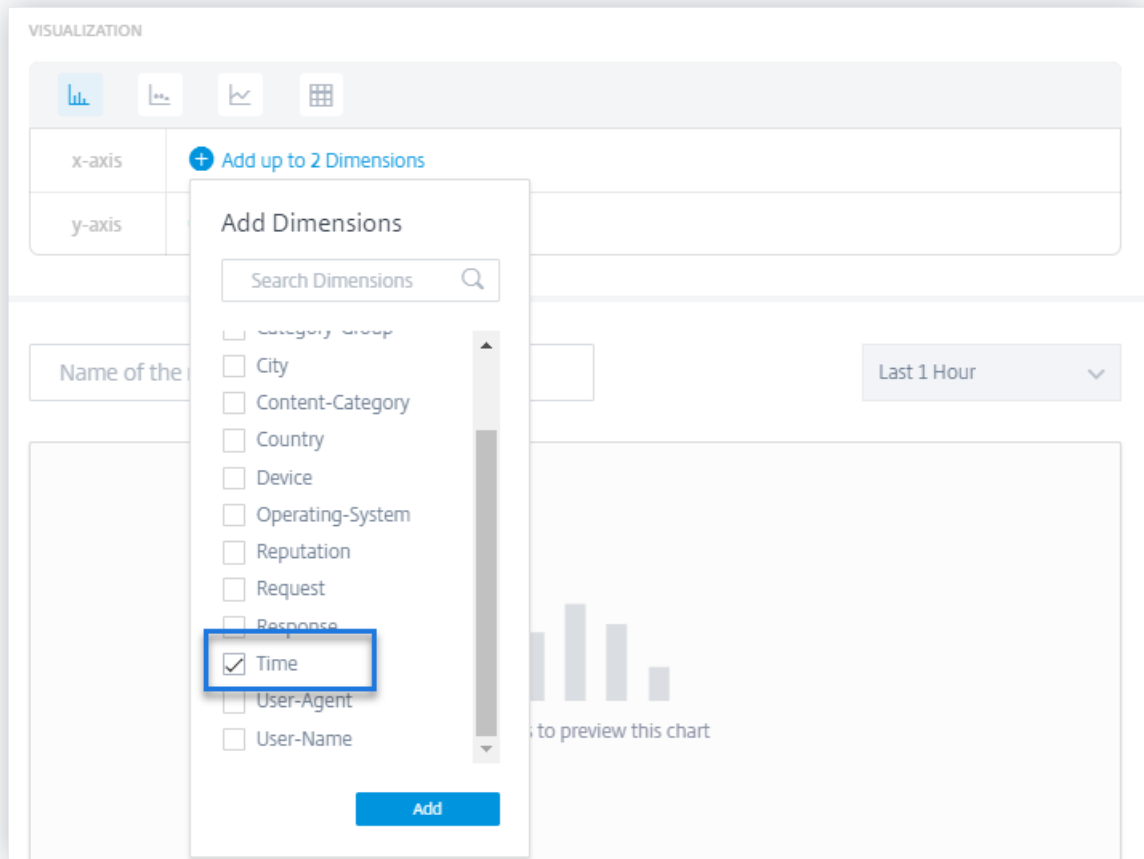
## October 21, 2019

### New features

**Modified name for analytics agent** The agent name is now mentioned as **Analytics policy agent** on the user interfaces to indicate its role. When onboarding the on-premises Citrix Virtual Apps and Desktops data sources, Citrix Analytics clearly notifies that a policy agent is required only to configure policies and actions for your Site. This agent has no role in transmitting data from the data source. For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).



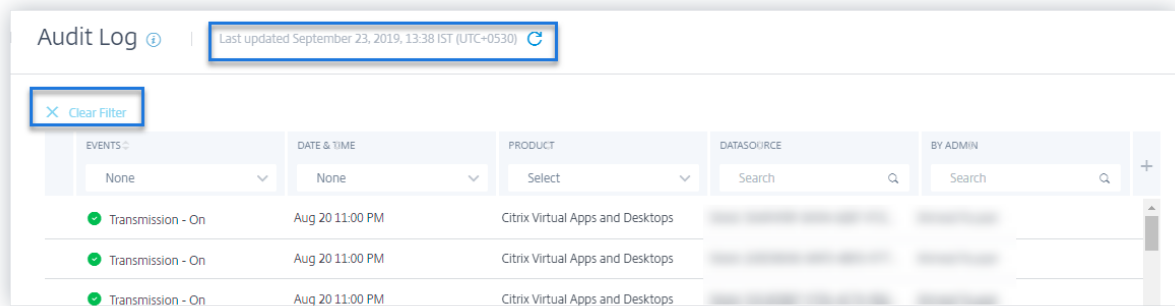
**Support for the time dimension for custom report** You can now group the events based on time by selecting the **Time** dimension for the x-axis. The report displays the total events received based on the time intervals for the selected period. For more information on how to create reports, see [Custom reports](#).



**Audit logs enhancements** The user experience of the **Audit Log** page is enhanced.

- You can view the date and time details when the **Audit Log** page was last updated and refresh the page to view the latest audit logs.
- You can clear all the filters that were applied on the audit logs.

For more information on the audit data, see [Audit logs](#).



**Fixed issues**

- Citrix Analytics is unable to generate the **Anonymous IP address** risk indicator even though Microsoft Graph Security is successfully onboarded. [CAS-21329]
- Citrix Workspace app for HTML5 prior to version 1910 fail to send event details to Citrix Analytics. [CAS-24938]

**September 23, 2019**

**Fixed issues**

- On the data sources site cards, the **Latest event** field displays incorrect date and time information. [CAS-24087]

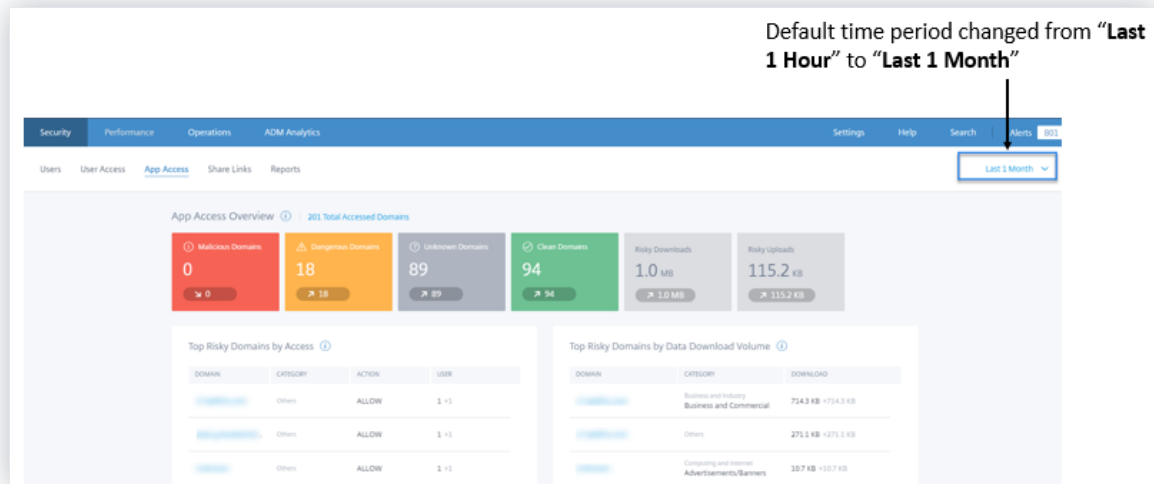
**August 30, 2019**

**New features**

**Change in default time period across dashboards** The default time period on the following dashboards is changed from **Last 1 Hour** to **Last 1 Month**:

- Users
- Risk Timeline
- User Access
- App Access
- Share Links
- Alerts History

Now the dashboards display the events for the last one month by default. You get a more engaging experience while using these dashboards. For example, when you open the **App Access** dashboard, the dashboard displays the app access events for the last one month by default.



## Fixed issues

- For Content Collaboration risk indicators, the **Disable user** policy-based action cannot be applied successfully. [CAS-17304]
- Citrix Analytics cannot process events from Citrix Gateway 13.0. This issue occurs because Citrix Gateway 13.0 fails to provide user names in the logon events sent to Citrix Analytics. [CAS-21339]

## August 20, 2019

### New features

#### Self-service search enhancements

- The user experience of the self-service page is enhanced. You can now seamlessly switch back and forth between the user risk timeline and the self-service search page.
- You can now sort your events by time. By default, the latest events appear first in the event table. Click the sort icon on the **TIME** column to sort the events based on either latest time or earliest time.

For more information on how to use self-service search, see [Self-service search](#).






### Custom report enhancements

- New dimensions are added for the Access Control, Content Collaboration, and Apps and Desktops data sources. You can choose these dimensions to create reports. The following dimensions are added for the data sources:
  - **Access Control:** User Agent, User Name
  - **Content Collaboration:** User Email, User Name, Created by, Account Id, OAuth Client Id, Event Id, Folder Id, Folder Name, Resource Id, Form Id, Client IP
  - **Apps and Desktops:** User Name, IP Address, Device Id, Jail Broken, Session Launch Type, Session Server Name, Session User Name, Download File Name, Download File Path, Printing Printer Name, Printing Job Details File Name, SaaS App Launch URL, Clipboard Operation, Clipboard Details Result
- The custom report user interface is enhanced with support for pagination and a **Clear All** option for the filters.

For more information on how to create a custom report using these dimensions, see [Custom reports](#).

**Risk Indicators dashboard** The **Risk Indicators** dashboard is introduced on the **Users** page. It summarizes the top five default and custom risk indicators for a user. A See More link redirects you to the **Risk Indicator Overview** page. This page provides detailed information about the risk indicators generated for a selected time period.

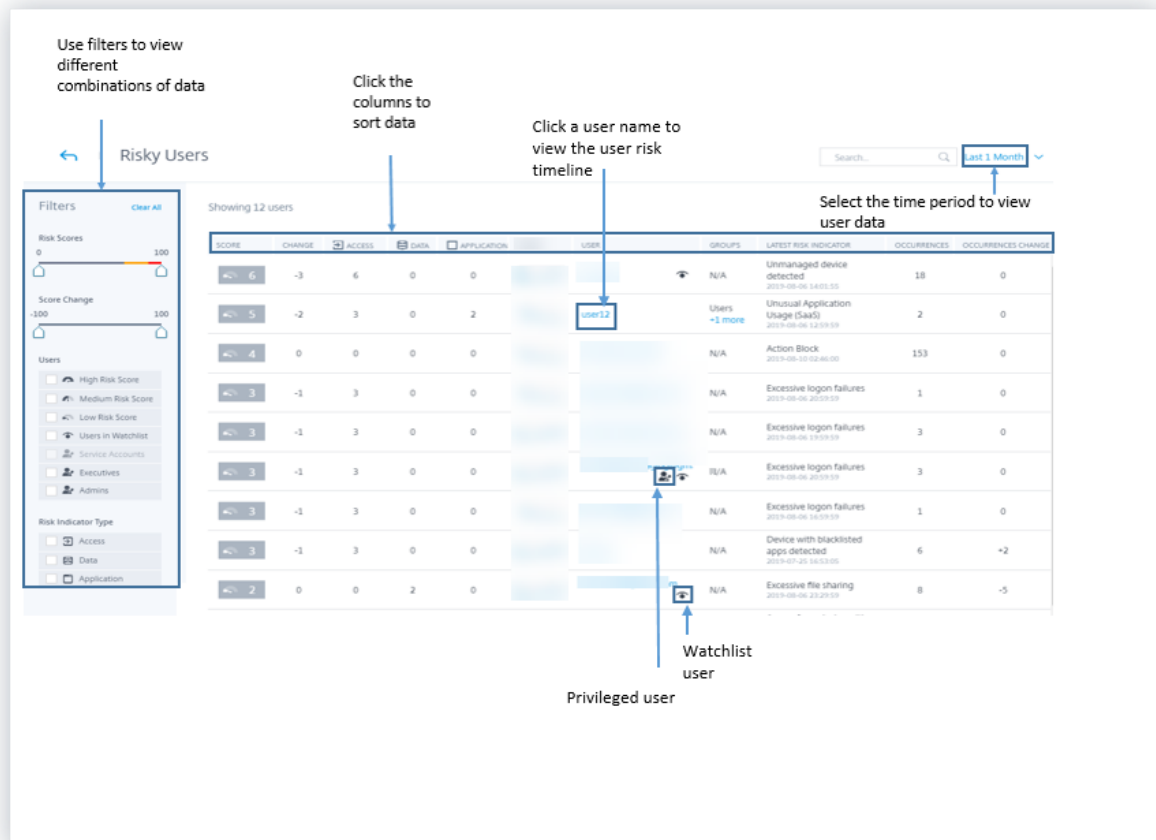
For more information, see [Users dashboard](#).

Risk Indicators					
Severity		Total Occurrences	Occurrence Change		
SEVERITY		OCCURRENCES	CHANGE	TYPE	NAME
 High		2	-5	Default	<a href="#">Excessive access to sensitive ...</a>
 High		2	-2	Default	<a href="#">jailbroken or rooted device d...</a>
 High		1515	0	Custom	<a href="#">Action Block</a>
 High		13	-16	Default	<a href="#">Access from New Device(s)</a>
 High		7	0	Custom	<a href="#">Login alert for user</a>
					<a href="#">See More</a>

**Risky Users dashboard enhancements** Citrix Analytics introduces the **Risk Indicators** and **Risk Indicators Change** tabs on the **Risky Users** dashboard. You can view the top five risky users based on these tabs. The dashboard also introduces the **Risk Indicators** column. It shows the number of risk indicators for a user.

The **Risky Users** page introduces the **Occurrences** and **Occurrences Change** columns. These columns summarize the total occurrences and the change in occurrences of the custom and the default risk indicators.

For more information, see [Users dashboard](#).



**Share link risk indicator - Excessive downloads** Citrix Analytics detects access threats based on excessive downloads on a share link and triggers the **Excessive downloads** risk indicator. By identifying share links with excessive downloads, based on previous behavior, you can monitor the share link for potential attacks. This risk indicator helps you identify an excessive file download activity.

For more information, see [Excessive downloads](#).

**Self-service search for the Authentication data** Use self-service search to get insights into the authentication events. Citrix Analytics receives the authentication events such as user login, user logoff, and client update from the Identity and Access Management service of Citrix Cloud. The search provides a detailed report on the authentication events, helps you to identify any authentication issues, and troubleshoot them. You can also define a search query to retrieve events that match your defined criteria.

To view the events, select **Authentication** from the list, select the time period, and then click **Search**.

For more information, see [Self-service search for Authentication](#).

**July 11, 2019**

## **New features**

**Custom risk indicators** The default risk indicators that Citrix Analytics generates are based on machine learning algorithms. Citrix Analytics now allows you to create custom risk indicators. Based on user events, you can define the conditions and create custom risk indicators.

When the defined conditions are met, Citrix Analytics generates the custom risk indicators similar to default risk indicators, and displays them on the user's risk timeline. Custom risk indicators are denoted with a label on the user's risk timeline.

For more information, see [Custom risk indicators](#).

## **Privileged status on risk timeline**

The user risk timeline displays the following events whenever there is a change in the Admin or Executive privilege status of a user:

- Added to Executive group
- Removed from Executive group
- Privilege elevated to Admin
- Admin privilege removed

When a risk indicator is triggered for a user, you can co-relate it with the specified privilege status change event. If necessary, you can apply appropriate actions on the user profile.

For more information, see [User risk timeline](#).

## **Expire share link action**

Citrix Analytics enables you to apply actions on share link risk indicators. Currently, the supported action is **Expire share link**.

For more information, see Citrix share link risk indicators.

## **Self-service search enhancements**

- **Support for wild card character \* in search query:** Use the asterisk (\*) character in your search query to match any character zero or more times. For example, the search query User-Name = "John\*" displays events for the all user names that begin with John.

- **Added the Clear All option for facets:** Click **Clear All** to remove all the selected facets at a time.
- **View hidden column data in the event list:** After removing a column from the event table, you can view the corresponding data in the user event list. Expand the event row for a user and view the data.

For more information, see [Self-service search](#).

### Data error status on the site cards

The Site cards display the **No data received** label in red when Citrix Analytics does not receive events for the last one hour from the data source. It also displays the number of events received and is linked to the corresponding self-service search page. This feature helps you view the corresponding events on the self-service search page and check for any data transmission issues.

#### Note

Currently, self-service search is available only for the Access, Content Collaboration, and Apps and Desktop data sources.

For more information, see [Enable Analytics on Citrix data sources](#).

### Fixed issues

- For the Access Control data source, the number of events on the site card does not match the self-service search results. [CAS-18286]

## June 19, 2019

### Fixed issues

- The **Audit Log** page displays the data transmission on or off status every time the Active Directory data source is discovered. [CAS-17575]
- The time period menu on the **Users** dashboard does not load accurately. It displays a timeout error message. [CAS-19467]
- Users get an error message on Citrix Analytics while connecting to a tenant from Splunk. Occasionally, onboarding of new data sources fails. [CAS-19429]

## June 17, 2019

### New features

#### StoreFront configuration

If your organization uses on-premises StoreFront, you can now configure StoreFront to connect to Citrix Analytics. Configuration is performed using a configuration file imported from Citrix Analytics. After the configuration is successful, Citrix Workspace app sends user events to Citrix Analytics for generating actionable insights into user behaviors. The insights help you to detect any anomalous user behaviors and proactively handle security threats in your organization. For more information, see [Onboard Citrix Virtual Apps and Desktops on-premises sites using StoreFront](#).

## May 30, 2019

### New features

#### Excessive logon failures

Citrix Analytics detects access threats based on excessive logon activity and triggers the Excessive logon failures risk indicator. This risk indicator is triggered when a user experiences multiple failed logon attempts to access Content Collaboration. By identifying users with excessive logon failures, based on previous behavior, administrators can monitor the user's account for brute force attacks.

#### Note

**Excessive logon failures** is now renamed as **Excessive authentication failures**.

### Fixed issues

- For some user events transmitted by Citrix Workspace apps, the data source is incorrectly identified as Endpoint Management instead of Citrix Virtual Apps and Desktops.

[CAS-17323]

- The **Users** dashboard takes a long time to load for the **Last 1 Month** time period. This issue occurs when the number of users are high. In some instances, you might even encounter 601 errors.

[CAS-16300]

- Citrix Content Collaboration is not discovered as a data source although some users subscribe to the service on Citrix Cloud.

[CAS-16299]

**May 09, 2019**

## **New features**

### **Creating custom reports**

You can now create custom reports based on your operational requirements. Citrix Analytics provides a list of dimensions and metrics according to the selected data source. Choose the required parameters and the visualization types such as bar chart, event chart, line chart, or table to create your reports. Creating reports help you to organize and analyze your data graphically.

To create a custom report, from the **Security** tab, click **Reports > Create Report**. To view your previously created reports, from the **Security** tab, click **Reports**. For more information, see [Custom reports](#).

### **Privileged user monitoring**

Citrix Analytics enables you to closely monitor the behavior anomalies of privileged users in an organization. As privileged users are highly vulnerable to security threats, it becomes challenging to distinguish their daily activities from the malicious ones. Hence, the malicious activities of privileged users remain undetected for a long time. This feature enables you to proactively monitor such activities and take appropriate actions on the appropriate user accounts. Privileged users are represented with an icon on the **Users** dashboard.

Citrix Analytics supports monitoring for the following types of privileged users:

- **Admins** - Users who are assigned Admin privileges by the respective Citrix service. Currently, Citrix Analytics supports privileged user monitoring for users with Admin privileges in the Content Collaboration service.
- **Executives** - On Citrix Analytics, you can mark an AD group as an Executives group. Marking an AD group as an Executive group makes all the users in the group as privileged users. If there is no need to further support the behavior anomalies of users in an AD group, you can remove the group as an Executive group.

For more information, see [Privileged users](#).

### **Weekly email summary**

Citrix Analytics sends a weekly email to the administrators summarizing the security risk exposures in their organization's IT environment. The email notification is sent every Tuesday to the administrators and it highlights the security events that have occurred in the previous week. This email ensures that

the administrators are informed about the security risk exposures without signing in to Citrix Analytics. For more information, see [Weekly email summary](#).

## April 26, 2019

### New features

#### Delegated administrators

Citrix Analytics now supports delegated administrator roles. This functionality enables you to invite other administrators to your Citrix Cloud account to manage Citrix Analytics for your organization. If you are a Citrix Analytics administrator with full access permission, you can add other administrators to your Citrix Cloud account. These additional administrators are called delegated administrators. You can currently assign read-only access to the delegated administrators. For more information, see [Delegated administrators](#).

### Fixed issues

Few risk indicators for the data sources that use data streaming do not generate alerts. You do not get any alert notifications and policy-based actions are not applied automatically if any one of the following risk indicators is triggered:

- **Citrix Endpoint Management risk indicators** - Unmanaged device, Jailbroken or rooted device, and Device with blacklisted apps.
- **Citrix Virtual Apps and Desktops risk indicator** - Access from device with unsupported operating system (OS).
- **Citrix Content Collaboration risk indicator** - Excessive access to sensitive files.

[CAS-14590]

## February 19, 2019

### New features

#### Splunk integration

Citrix Analytics integrates with Splunk to enhance your security incident monitoring and troubleshooting experiences. This integration augments your existing data sources with the risk analysis capabilities and intelligence of Citrix Analytics for Security such as risk indicators, risk scores, and user profiles.

Citrix Analytics exports risk analysis information to a channel. Splunk pulls the same from this channel.

Splunk integration involves configuration on Citrix Analytics, installation of the **Citrix Analytics Add-on for Splunk** app, and configuration of the app. Ensure to turn on data processing for at least one data source. It helps Citrix Analytics to begin the Splunk integration process.

For more information, see [Splunk integration](#).

**Dynamic session recording** Citrix Analytics introduces the ability to trigger session recording dynamically on the users' current Virtual Apps and Desktops sessions. It helps to capture evidences required for risk analysis and take appropriate incident response actions such as disconnect sessions and block user.

For more information, see [Policies and actions](#).

**Share Links dashboard and risk indicator** Citrix Analytics introduces the risk visibility to Share Links based on data collected from Citrix Content Collaboration. It helps you to understand the risk exposure of share links through the risk indicators that the share links trigger.

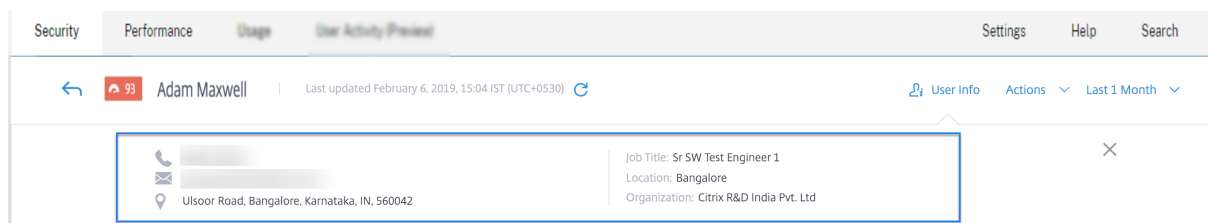
For more information, see [Share Links dashboard](#).

Currently, the Anonymous sensitive share download risk indicator is triggered for a share link. When Content Collaboration detects this risky behavior, Citrix Analytics receives the events. You are notified in the **Alerts** panel and the Anonymous sensitive share download risk indicator is added to the share link's risk timeline.

For more information, see [Share Link risk timeline and Citrix Share Link risk indicators](#).

**Microsoft Active Directory integration** You can now integrate Microsoft Active Directory with Citrix Analytics. This integration enhances the context of risky users with additional information such as job title, organization, office location, email, and contact details. You can get a better visibility of a user on the user profile page in Citrix Analytics.

For more information, see [Integrate Analytics with Microsoft Active Directory](#).



**January 04, 2019****New features**

**Addition of SOURCE column for existing risk indicators** The **SOURCE** column has been introduced in the **EVENT DETAILS** section for the following risk indicators:

- Excessive file uploads
- Excessive file downloads
- Excessive file sharing
- Excessive file or folder deletion

For more information, see Citrix Content Collaboration risk indicators.

**Advanced user profile** The **User Info** view on the user profile has been enhanced. The **Trend View** link has been introduced at the top right corner of the **Application**, **Devices**, and **Data Usage** sections. The **Map View** link has been introduced at the top right corner of the **Locations** section. These links provide a graphic representation about the user's historical behavior during a specific time period. You can navigate to **User Info** from the user's risk timeline or from the **Data Sources** page.

**Note**

The **Authentication** and **Domains** data are currently not available on the User Info profile.

For more information, see [User risk timeline and profile](#).



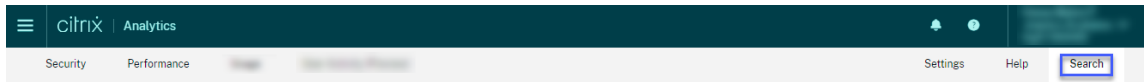
**Microsoft Graph Security risk indicators** The onboarded Microsoft Graph Security can receive risk indicator details from one of the following security providers, and forwards it to Citrix Analytics:

- Azure AD Identity Protection
- Microsoft Defender for Endpoint

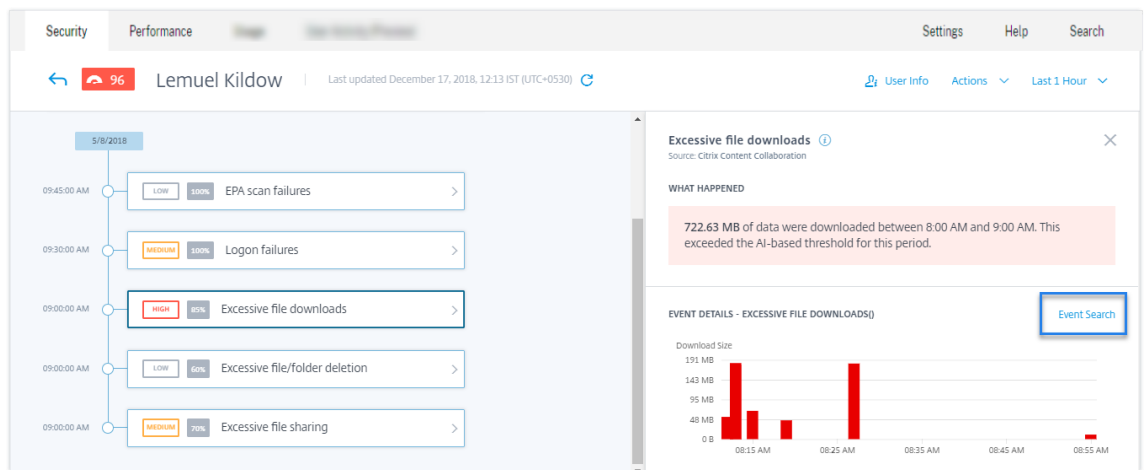
For more information, see [Microsoft Graph Security risk indicators](#).

**Ways to enter the self-service search page** You can now access the self-service search page using the following options:

- **Top bar:** Click **Search** on the top bar to directly access the search page.



- **Risk timeline on user profile page:** Click **Event Search** to access the search page and view the events corresponding to a specific user's risk indicator and the data source. For more information, see [Self-service search](#).



**Self-service search for Content Collaboration** Use self-service search to get insight into the events associated with the Content Collaboration data source. To view the events, select **Content Collaboration** from the list, select the time period, and then click **Search**.

For more information, see [Self-service search for Content Collaboration](#).

**Self-service search for Apps and Desktops** Use self-service search to get insight into the events associated with the Apps and Desktops data source. To view the events, select **Apps and Desktops** from the list, select the time period, and then click **Search**. For more information, see [Self-service search for Apps and Desktops](#).

**Export self-service search events to CSV file** You can now export the self-service search events to a CSV file and download the file for future use. For more information, see [Self-service search](#).

**Improved onboarding for Citrix Virtual Apps and Desktops** The onboarding process for the Citrix Virtual Apps and Desktops data source is now improved to provide a better user experience. The site cards and the on boarding steps have been modified. For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).

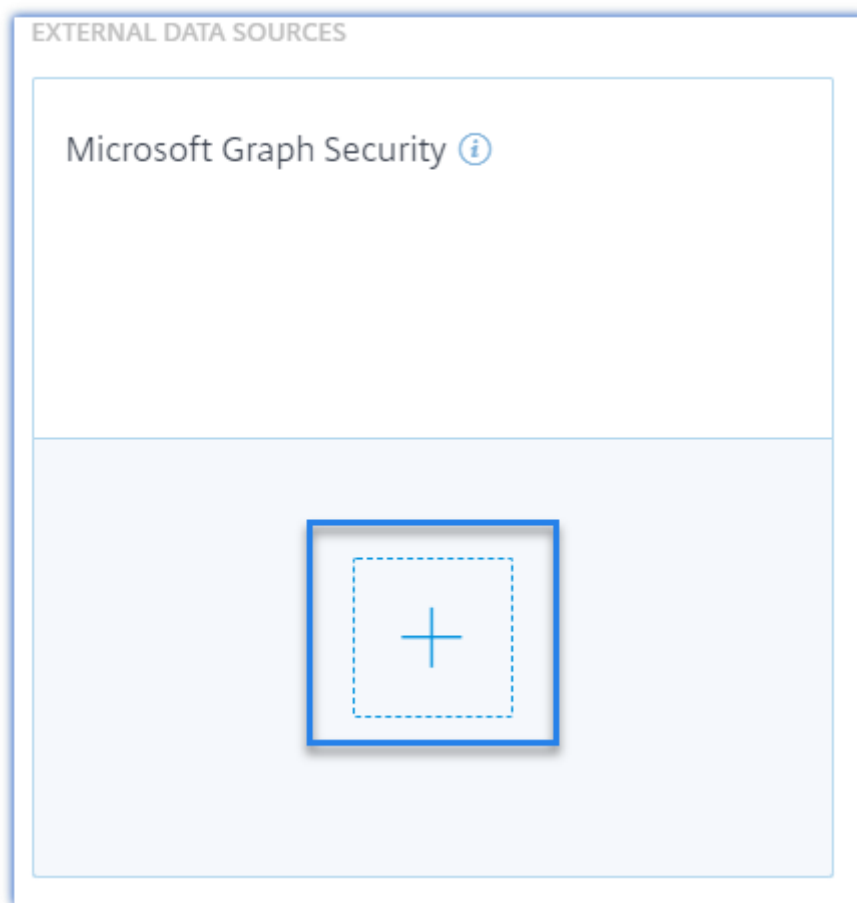
**November 29, 2018**

### New features

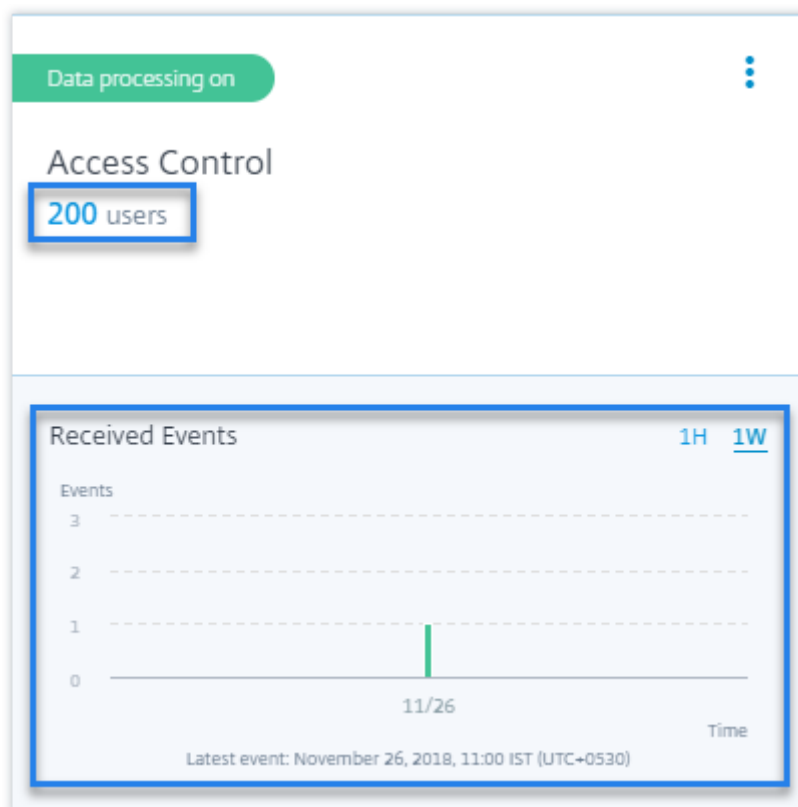
**Microsoft Security Graph data source** [Microsoft Graph Security](#) is an external data source that aggregates data from multiple security providers. It also provides access to the user inventory data.

Citrix Analytics currently supports the **Azure AD identity protection** and **Microsoft Defender for Endpoint** security providers associated with this data source.

To onboard this data source, you must obtain permissions from the Microsoft identity platform. For more information, see [Microsoft Graph Security](#).



**View event details and discovered users on the site cards for data sources** The site cards for the data sources now display event details and the number of users. For example, you can view the event details and the users for Access Control on the site card. For more information, see [Enable Analytics on data sources](#).



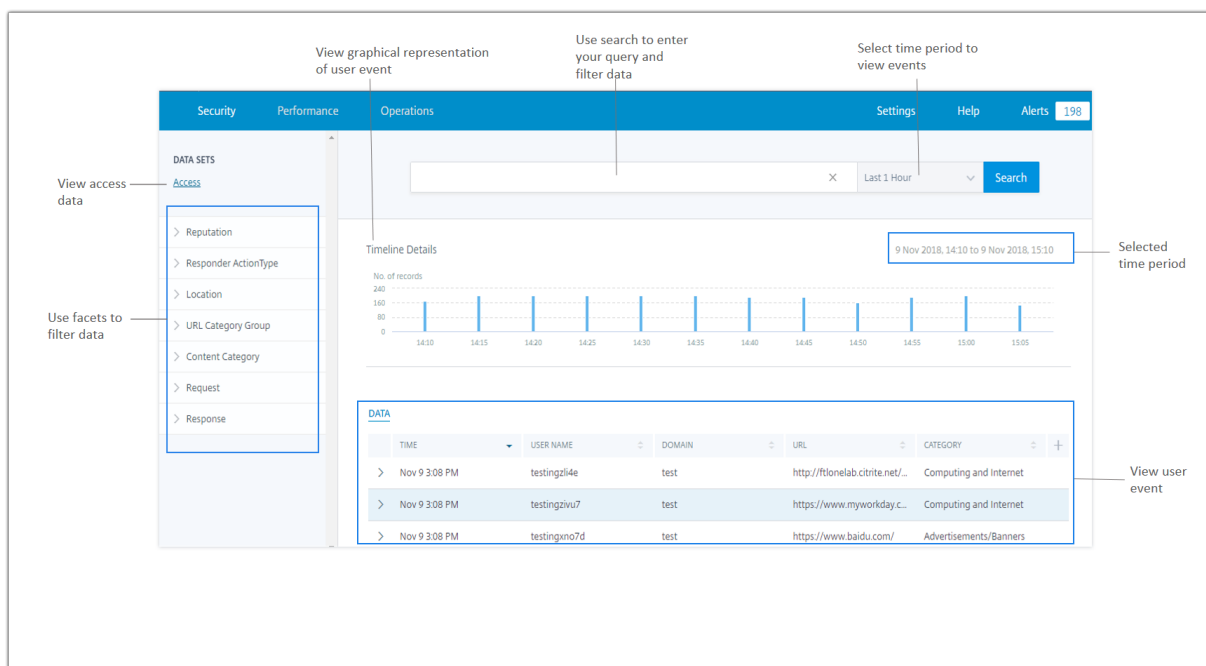
## November 16, 2018

### New features

**Self-service search for access data** You can use self-service search to get insight into the access details for the users in your enterprise. Citrix Analytics collects the users' access details from the Citrix Access Control service. Use the facets and the search query to narrow down your search results.

To use the self-service search page, from the **Security** tab, click **Event Search**.

For more information, see [Self-service search for Access](#).



**Risk indicator feedback** Using the risk indicator feedback feature on Citrix Analytics, you can provide feedback regarding a risk indicator. Your feedback helps to confirm if the security incident reported is accurate or not.

Currently, this feature is supported on the **Unusual logon access** risk indicator triggered by the Content Collaboration data source. If this risk indicator triggered is incorrect, you can report it as a false positive and provide feedback. You can also edit feedback that you have previously submitted. Citrix Analytics captures your feedback and validates the predicted information to optimize the anomalous behavior detection.

**First time access from new location** ⓘ  
Source: Citrix Content Collaboration

**WHAT HAPPENED**

1 unusual logon between 10:00 AM and 10:14 AM.

[Report false positive](#) ⓘ Reported by [User Name] on November 15, 2018, IST (UTC+0530)

## Fixed issues

- You cannot edit and save a policy if you are accessing Citrix Analytics using Internet Explorer 11.0.

## Known Issues

November 30, 2023

Citrix Analytics for Security has the following known issues:

- Citrix Workspace app for Linux fails to send printing events to Citrix Analytics when apps and desktops are opened through a web browser and launched from ICA on the native client. [CAS-36238]

### Note

For more information on the lifecycle dates and lifecycle phases (General Availability, End of Maintenance, and End of Life) of Citrix Workspace app and Citrix Receiver on all platforms, see [Lifecycle Milestones for Citrix Workspace app & Citrix Receiver](#).

## Citrix Analytics offerings

November 28, 2023

### Citrix Analytics for Security

Collates and provides visibility into user and application behavior, collected from customers' connected data sources, such as Secure Private Access, Citrix Virtual Apps and Desktops, Citrix DaaS Site, or NetScaler Gateway. You can track every aspect of the behavior, and by leveraging advanced Machine Learning algorithms, you can distinguish between normal behavior and a malicious attacker. Thus, enabling you to proactively identify and manage internal and external threats.

**Learn more:** [Citrix Analytics for Security](#)

Citrix Analytics for Performance

Provides holistic end-to-end visibility across hybrid deployments of Citrix Virtual Apps and Desktops and Citrix DaaS sites. Performance is indicated by the User Experience Score which quantifies historical factors and metrics that define the experience a user has while using a Citrix-provided published application, published desktop, or Remote PC.

Learn more: [Citrix Analytics for Performance](#)

Citrix Analytics - Usage (End of Life)

Note

**Attention:** Citrix Usage Analytics has reached its end of life and is no longer available to users.

Data Sources

February 9, 2024

Data sources are the cloud services and the on-premises products that send data to Citrix Analytics.

Citrix data sources

The following table lists various Citrix data sources supported by Citrix Analytics for Security. For more information, see [Getting started](#).

Data Source	Deployment Type	Required Agents	Product Component and version
Citrix Endpoint Management	Service	N/A	Citrix Endpoint Management
Gateway	On-premises	Application Delivery Management agent	Citrix Gateway 12.0.56.16 or later
Citrix Identity provider	Service	N/A	Citrix Identity and Access Management
Citrix Secure Private Access	Service	(Not applicable) N/A	Citrix Secure Private Access
Citrix Remote Browser Isolation	Service	N/A	Citrix Remote Browser Isolation

Data Source	Deployment Type	Required Agents	Product Component and version
Citrix DaaS (formerly Virtual Apps and Desktops service)	Service	N/A	Citrix Workspace app for Windows 1907 or later, Citrix Workspace app for Mac 1910.2 or later, Citrix Workspace app for HTML5 2007 or later, Citrix Workspace app for Chrome-Latest version available in Chrome Web Store, Citrix Workspace app for Android-Latest version available in Google Play, Citrix Workspace app for iOS-Latest version available in Apple App Store, Citrix Workspace app for Linux 2006 or later
Citrix Virtual Apps and Desktops	On-premises	Virtual Apps and Desktops agent	Citrix Virtual Apps and Desktops 7 1808, Citrix XenApp and XenDesktop 7.16 and later

Data Source	Deployment Type	Required Agents	Product Component and version
		Agent is required for advanced features such as Actions.	Citrix Workspace app for Windows 1907 or later, Citrix Workspace app for Mac 1910.2 or later, Citrix Workspace app for HTML5 2007 or later, Citrix Workspace app for Chrome-Latest version available in Chrome Web Store, Citrix Workspace app for Android-Latest version available in Google Play, Citrix Workspace app for iOS-Latest version available in Apple App Store, Citrix Workspace app for Linux 2006 or later Citrix Director 7.16 or later <b>For Workspace users:</b> Virtual Apps and Desktops on-premises Sites must be added to Workspace using Site Aggregation.

Data Source	Deployment Type	Required Agents	Product Component and version
			<b>For StoreFront users:</b> StoreFront deployment version must be StoreFront 1906 or later. StoreFront must be accessed using one of the clients: Citrix Receiver for Web sites in HTML5-compatible browsers, Citrix Workspace app 1907 for Windows or later, Citrix Workspace app 2006 for Linux or later, Citrix Workspace app 2006 for Mac or later.  <b>LTSR support:</b> For Citrix Virtual Apps and Desktops 7 1912 LTSR, the supported StoreFront version is 1912.

**Note**

Refer to [Citrix Cloud services](#) to know about the Citrix products and their subscriptions.

**External data sources**

The following table lists the external data sources (third-party products) that are supported by Citrix Analytics for Security.

Data source	Deployment type	Required Agents
Microsoft Graph Security	Service	N/A

Data source	Deployment type	Required Agents
Microsoft Active Directory	On-premises	Citrix Cloud Connector

## Supported home regions

Citrix Analytics for Security is supported in the following home regions:

- United States (US)
- European Union (EU)
- Asia Pacific South (APS)

Depending on the location of your organization, you can onboard to Citrix Cloud in one of the home regions.

If your organization is onboarded to Citrix Cloud in a home region where a data source is not supported, you don't get user events from the data source.

Use the following table to view the data sources and the regions where they are supported.

Data source	Supported in US Region	Supported in EU Region	Supported in APS Region
Citrix Endpoint Management	Yes	Yes	Yes
Citrix Gateway (on-premises)	Yes	Yes	Yes
Citrix Identity provider	Yes	Yes	Yes
Citrix Secure Private Access	Yes	Yes	Yes
Citrix Remote Browser Isolation	Yes	Yes	Yes
Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)	Yes	Yes	Yes
Citrix Virtual Apps and Desktops on-premises	Yes	Yes	Yes
Microsoft Active Directory	Yes	Yes	Yes

Data source	Supported in US Region	Supported in EU Region	Supported in APS Region
Microsoft Graph Security	Yes	Yes	Yes

### Citrix Workspace app version matrix

This section displays the supported versions of Citrix Workspace app which sends all telemetry and contains all critical bugfixes needed.

The following table lists the supported and unsupported versions for Citrix Workspace app.

Platform	Supported version
Windows	All the LTSR 2203 releases after CU3 23.0.3.0 or above
HTML5	21.5.0.0 or above
Macintosh	21.0.4.0 or above
Linux	21.4.0.0 or above
Chrome	21.5.0.0 or above
iOS	21.4.0.0 or above
Android	21.5.0.0 or above

The following table lists the minimum version of Citrix Workspace app required for the operating system to receive the following user event attributes in Citrix Analytics for Security.

Event attributes	Associated features	Windows	Mac	Linux	HTML5	Chrome	iOS	Android
City, Country	Access assurance location, Self-service search-Apps and Desk-tops	2008 or above	2006 or above	2104 or above	2007 or above	Latest version available in Chrome Web Store	Latest version available in Apple App Store	Latest version available in Google Play
Client IP	Self-service search-Apps and Desk-tops	2008 or above	2006 or above	2104 or above	2007 or above	Latest version available in Chrome Web Store	Latest version available in Apple App Store	Latest version available in Google Play
OS name, OS version, OS extra info	Self-service search-Apps and Desk-tops	2109 or above	2108 or above	2104 or above	2007 or above	Latest version available in Chrome Web Store	Latest version available in Apple App Store	Latest version available in Google Play
Printer name	Self-service search-Apps and Desk-tops	2106 or later	1809 or later	2006 or later	1911 or later	Latest version available in Chrome Web Store	Latest version available in Apple App Store	Latest version available in Google Play

Event attributes	Associated features	Windows	Mac	Linux	HTML5	Chrome	iOS	Android
All user events for web launch	Self-service search-Apps and Desk-tops	2008 or later	2006 or later	2006 or later	Not applicable	Not supported	Latest version available in Apple App Store	Latest version available in Google Play

## Data Governance

November 30, 2023

This section provides information regarding the collection, storage, and retention of logs by the Citrix Analytics service. Any capitalized terms not defined in the Definitions section carry the meaning specified in the [Citrix End User Services Agreement](#).

Citrix Analytics is designed to provide customers with insight into activities in their Citrix computing environment. Citrix Analytics enables security administrators to choose the logs they want to monitor and take directed action based on the logged activity. These insights help security administrators manage access to their computing environments and protect Customer Content in the customer's computing environment.

### Data residency

Citrix Analytics logs are maintained separately from the data sources and are aggregated in multiple Microsoft Azure Cloud environments, which are located in the United States, the European Union, and the Asia Pacific South regions. The storage of the logs depends on the home region selected by the Citrix Cloud administrators when onboarding their organizations to Citrix Cloud. For example, if you choose the **European region** when onboarding your organization to Citrix Cloud, Citrix Analytics logs are stored in Microsoft Azure environments in the European Union.

For more information, see [Citrix Cloud Services Customer Content and Log Handling](#) and [Geographical Considerations](#).

## **Data collection**

Citrix Cloud services are instrumented to transmit logs to Citrix Analytics. Logs are collected from the following data sources:

- Citrix ADC (on-premises) along with subscription for Citrix Application Delivery Management
- Citrix Endpoint Management
- Citrix Gateway (on-premises)
- Citrix Identity provider
- Citrix Secure Browser
- Citrix Secure Private Access
- Citrix Virtual Apps and Desktops
- Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)
- Microsoft Active Directory
- Microsoft Graph Security

## **Data transmission**

Citrix Cloud logs are transmitted securely to Citrix Analytics. When the administrator of the customer environment explicitly enables Citrix Analytics, these logs are analyzed and stored on a customer database. The same is applicable to Citrix Virtual Apps and Desktops data sources with Citrix Workspace configured.

For Citrix ADC data sources, log transmission is initiated only when the administrator explicitly enables Citrix Analytics for the specific data source.

## **Data control**

Logs sent to Citrix Analytics can be turned on or off at any time by the administrator.

When turned off for Citrix ADC on-premises data sources, communication between the particular ADC data source and Citrix Analytics stops.

When turned off all for other data sources, the logs for the particular data source are no longer analyzed and stored in Citrix Analytics.

## Data retention

Citrix Analytics logs are retained in identifiable form for a maximum of 13 months or 396 days. All logs and associated analytics data such as user risk profiles, user risk score details, user risk event details, user watch list, user actions, and user profile are retained for this period.

For example, if you have enabled Analytics on a data source on January 1, 2021, then by default, data collected on January 1, 2021, will be retained in Citrix Analytics until January 31, 2022. Similarly, the data collected on January 15, 2021, will be retained until February 15, 2022, and so on.

This data is stored for the default data retention period even after you have turned off data processing for the data source or after you have removed the data source from Citrix Analytics.

Citrix Analytics deletes all Customer Content 90 days after the expiry of the subscription or the trial period.

## Data export

This section explains the data exported from Citrix Analytics for Security and Citrix Analytics for Performance.

Citrix Analytics for Performance collects and analyzes performance metrics from the [Data Sources](#).

You can download the data from the Self-service search page as a CSV file.

Citrix Analytics for Security collects user events from various products (data sources). These events are processed to provide visibility into the users' risky and unusual behavior. You can export these processed data related to users' risk insights and users' events to your System Information and Event Management (SIEM) service.

Currently, the data can be exported in two ways from Citrix Analytics for Security:

- Integrating Citrix Analytics for Security with your SIEM service
- Downloading the data from the Self-service search page as a CSV file.

When you integrate Citrix Analytics for Security with your SIEM service, the data is sent to your SIEM service by using either the north-bound Kafka topic or a Logstash-based data connector.

Currently, you can integrate with the following SIEM services:

- Splunk (by connecting through Citrix Analytics Add-on)
- Any SIEM service that support Kafka topic or Logstash-based data connectors such as Elasticsearch and Microsoft Azure Sentinel

You can also export the data to your SIEM service by using a CSV file. In the Self-service search page, you can view the data (user events) for a data source and download these data as a CSV file. For more information about the CSV file, see [Self-service search](#).

### **Important**

After the data is exported to your SIEM service, Citrix is not responsible for the security, storage, management, and the use of the exported data in your SIEM environment.

You can turn on or off data transmission from Citrix Analytics for Security to your SIEM service.

For information on the processed data and the SIEM integration, see [Security Information and Event Management \(SIEM\) integration](#) and [Citrix Analytics data format for SIEM](#).

## **Citrix Services Security Exhibit**

Detailed information concerning the security controls applied to Citrix Analytics, including access and authentication, security program management, business continuity, and incident management, is included in the Citrix Services Security Exhibit.

## **Definitions**

**Customer Content** means any data uploaded to a customer account for storage or data in a customer environment to which Citrix is provided access to perform Services.

**Log** means a record of events related to the Services, including records that measure performance, stability, usage, security, and support.

**Services** means the Citrix Cloud Services outlined above for the purposes of Citrix Analytics.

## **Data collection agreement**

By uploading your data to Citrix Analytics and by using the features of Citrix Analytics, you agree and consent that Citrix may collect, store, transmit, maintain, process and use technical, user, or related information about your Citrix products and services.

Citrix always treats the received information according to the [Citrix Privacy Policy](#).

## **Appendix: logs collected**

- Citrix Analytics for Security logs
- Citrix Analytics for Performance logs

## **Citrix Analytics for Security logs**

### **General logs**

In general, Citrix Analytics logs contain the following header identification data points:

- Header Keys
- Device Identification
- Identification
- IP Address
- Organization
- Product
- Product Version
- System Time
- Tenant Identification
- Type
- User: Email, Id, SAM Account Name, Domain, UPN
- Version

### **Citrix Endpoint Management service logs**

The Citrix Endpoint Management service logs contain the following data points:

- Compliance
- Corporate Owned
- Device Id
- Device Model
- Device Type
- Geo Latitude
- Geo Longitude
- Host Name
- IMEI
- IP Address

- Jail Broken
- Last Activity
- Management Mode
- Operating System
- Operating System Version
- Platform Information
- Reason
- Serial Number
- Supervised

#### **Citrix Secure Private Access logs**

- AAA User Name
- Auth Policy Action Name
- Authentication Session ID
- Request URL
- URL Category Policy Name
- VPN Session ID
- Vserver IP
- AAA User Email ID
- Actual Template Code
- App FQDN
- App Name
- App Name Vserver LS
- Application Flags
- Authentication Type
- Authentication Stage
- Authentication Status Code
- Back-end Server Dst IPv4 Address
- Back-end Server IPv4 Address

- Back-end Server IPv6 Address
- Category Domain Name
- Category Domain Source
- Client IP
- Client MSS
- Client Fast Retx Count
- Client TCP Jitter
- Client TCP Packets Retransmitted
- Client TCP RTO Count
- Client TCP Zero Window Count
- Clt Flow Flags Rx
- Clt Flow Flags Tx
- Clt TCP Flags Rx
- Clt TCP Flags Tx
- Connection Chain Hop Count
- Connection Chain ID
- Egress Interface
- Exporting Process ID
- Flow Flags Rx
- Flow Flags Tx
- HTTP Content Type
- HTTP Domain Name
- HTTP Req Authorization
- HTTP Req Cookie
- HTTP Req Forw FB
- HTTP Req Forw LB
- HTTP Req Host
- HTTP Req Method
- HTTP Req Rcv FB

- HTTP Req Rcv LB
- HTTP Req Referer
- HTTP Req URL
- HTTP Req XForwarded For
- HTTP Res Forw FB
- HTTP Res Forw LB
- HTTP Res Location
- HTTP Res Rcv FB
- HTTP Res Rcv LB
- HTTP Res Set Cookie
- HTTP Rsp Len
- HTTP Rsp Status
- HTTP Transaction End Time
- HTTP Transaction ID
- IC Cont Grp Name
- IC Flags
- IC No Store Flags
- IC Policy Name
- Ingress Interface Client
- NetScaler Gateway Service App ID
- NetScaler Gateway Service App Name
- NetScaler Gateway Service App Type
- NetScaler Partition ID
- Observation Domain ID
- Observation Point ID
- Origin Res Status
- Origin Rsp Len
- Protocol Identifier
- Rate Limit Identifier Name

- Record Type
- Responder Action Type
- Response Media Type
- Srv Flow Flags Rx
- Srv Flow Flags Tx
- Srvr Fast Retx Count
- Srvr TCP Jitter
- Srvr TCP Packets Retransmitted
- Srvr TCP Rto Count
- Srvr TCP Zero Window Count
- SSL Cipher Value BE
- SSL Cipher Value FE
- SSL Client Cert Size BE
- SSL Client Cert Size FE
- SSL Clnt Cert Sig Hash BE
- SSL Clnt Cert Sig Hash FE
- SSL Err App Name
- SSL Err Flag
- SSL FFlags BE
- SSL FFlags FE
- SSL Handshake Error Msg
- SSL Server Cert Size BE
- SSL Server Cert Size FE
- SSL Session ID BE
- SSL Session ID FE
- SSL Sig Hash Alg BE
- SSL Sig Hash Alg FE
- SSL Srvr Cert Sig Hash BE
- SSL Srvr Cert Sig Hash FE

- SSL iDomain Category
- SSL iDomain Category Group
- SSL iDomain Name
- SSL iDomain Reputation
- SSL iExecuted Action
- SSL iPolicy Action
- SSL iReason For Action
- SSL iURL Set Matched
- SSL iURL Set Private
- Subscriber Identifier
- Svr Tcp Flags Rx
- Svr Tcp Flags Tx
- Tenant Name
- Tracing Req Parent Span ID
- Tracing Req Span ID
- Tracing Trace ID
- Trans Clt Dst IPv4 Address
- Trans Clt Dst IPv6 Address
- Trans Clt Dst Port
- Trans Clt Flow End Usec Rx
- Trans Clt Flow End Usec Tx
- Trans Clt Flow Start Usec Rx
- Trans Clt Flow Start Usec Tx
- Trans Clt IPv4 Address
- Trans Clt IPv6 Address
- Trans Clt Packet Tot Cnt Rx
- Trans Clt Packet Tot Cnt Tx
- Trans Clt RTT
- Trans Clt Src Port

- Trans Clt Tot Rx Oct Cnt
- Trans Clt Tot Tx Oct Cnt
- Trans Info
- Trans Srv Dst Port
- Trans Srv Packet Tot Cnt Rx
- Trans Srv Packet Tot Cnt Tx
- Trans Srv Src Port
- Trans Svr Flow End Usec Rx
- Trans Svr Flow End Usec Tx
- Trans Svr Flow Start Usec Rx
- Trans Svr Flow Start Usec Tx
- Trans Svr RTT
- Trans Svr Tot Rx Oct Cnt
- Trans Svr Tot Tx Oct Cnt
- Transaction ID
- URL Category
- URL Category Group
- URL Category Reputation
- URL Category Action Reason
- URL Set Matched
- URL set Private
- URL Object ID
- VLAN Number

### **Citrix Virtual Apps and Desktops and Citrix DaaS logs**

The Citrix Virtual Apps and Desktops and Citrix DaaS logs contains the following data points:

- App Name
- Browser
- Customer ID

- Details: Format Size, Format Type, Initiator, Result
- Device ID
- Device Type
- Feedback
- Feedback ID
- File Name
- File Path
- File Size
- Is like
- Jail Broken
- Job Details: File Name, Format, Size
- Location: Estimated, Latitude, Longitude

**Note**

The location information is provided at the city and the country level and does not represent a precise geolocation.

- Long CMD Line
- Module File Path
- Operation
- Operating System
- Platform Extra Information
- Printer Name
- Question
- Question ID
- SaaS App Name
- Session Domain
- Session Server Name
- Session User Name
- Session GUID
- Timestamp

- Time Zone: Bias, DST, Name
- Total Copies Printed
- Total Pages Printed
- Type
- URL
- User Agent

### **Citrix ADC logs**

The Citrix ADC logs contain the following data points:

- Container
- Files
- Format
- Type

### **Citrix DaaS Standard for Azure logs**

The Citrix DaaS Standard for Azure logs contain the following data points:

- App Name
- Browser
- Details: Format Size, Format Type, Initiator, Result
- Device Id
- Device Type
- File Name
- File Path
- File Size
- Jail Broken
- Job Details: File Name, Format, Size
- Location: Estimated, Latitude, Longitude

**Note**

The location information is provided at the city and the country level and does not represent a precise geolocation.

- Long CMD Line
- Module File Path
- Operation
- Operating System
- Platform Extra Information
- Printer Name
- SaaS App Name
- Session Domain
- Session Server Name
- Session User Name
- Session GUID
- Timestamp
- Time Zone: Bias, DST, Name
- Type
- URL
- User Agent

**Citrix Identity provider logs**

- User Login:
  - Authentication Domains: Name, Product, IdP Type, IdP Display Name
    - ★ IdP Properties: App, Auth Type, Customer Id, Client Id, Directory, Issuer, Logo, Resources, TID
    - ★ Extensions:
      - Workspace: Background Color, Header Logo, Logon Logo, Link Color, Text Color, StoreFront Domains
      - ShareFile: Customer Id, Customer Geo

- Long Lived Token: Enabled, Expiry Type, Absolute Expiry Seconds, Sliding Expiry Seconds
- Authentication Result: User Name, Error Message
- Sign-in Message: Client Id, Client Name
- User Claim: AMR, Access Token Hash, Aud, Auth Time, CIP Cred, Auth Alias, Auth Domains, Groups, Product, System Aliases, Email, Email Verified, Exp, Family Name, Given Name, IAT, IdP, ISS, Locale, Name, NBF, SID, Sub
  - \* Auth Alias Claims: Name, Value
  - \* Directory Context: Domain, Forrest, Identity Provider, Tenant Id
  - \* User: Customers, Email, OID, SID, UPN
  - \* IdP Extra Fields: Azure AD OID, Azure AD TID
- User Logoff: Client Id, Client Name, Nonce, Sub
- Client Update: Action, Client Id, Client Name

### **Citrix Gateway logs**

- Transaction events:
  - ICA App: Record Type, Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, ICA Session Guid, MSI Client Cookie, Flow Id Rx, ICA Flags, Connection Id, Padding Octets Two, ICA Device Serial Number, IP Version 4, Protocol Identifier, Source IPv4 Address Rx, Destination IPv4 Address Rx, Source Transport Port Rx, Destination Transport Port Rx, ICA Application Start up Duration, ICA Launch Mechanism, ICA Application Start up Time, ICA Process ID Launch, ICA Application Name, ICA App Module Path, ICA Application Termination Type, ICA Application Termination Time, Application Name App Id, ICA App Process ID Terminate, ICA App
  - ICA Event: Record Type, Actual Template Code, Source IPv4 Address Rx, Destination IPv4 Address Rx, ICA Session Guid, MSI Client Cookie, Connection Chain ID, ICA Client Version, ICA Client Host Name, ICA User Name, ICA Domain Name, Logon Ticket Setup, Server Name, Server Version, Flow Id Rx, ICA Flags, Observation Point Id, Exporting Process Id, Observation Domain Id, Connection Id, ICA Device Serial Number, ICA Session Setup Time, ICA Client IP, NS ICA Session Status Setup, Source Transport Port Rx, Destination Transport Port Rx, ICA Client Launcher, ICA Client Type, ICA Connection Priority Setup, NS ICA Session Server Port, NS ICA Session Server IP Address, IPv4, Protocol Identifier, Connection Chain Hop Count, Access Type

- ICA Update: Record Type, Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, ICA Session Guid, MSI Client Cookie, Flow Id Rx, ICA Flags, Connection Id, ICA Device Serial Number, IPv4, Protocol Identifier, Padding Octets Two, ICA RTT, Client Side RX Bytes, Client Side Packets Retransmit, Server Side Packets Retransmit, Client Side RTT, Client Side Jitter, Server Side Jitter, ICA Network Update Start Time, ICA Network Update End Time, Client Side SRTT, Server Side SRTT, Client Side Delay, Server Side Delay, Host Delay, Client Side Zero Window Count, Server Side Zero Window Count, Client Side RTO Count, Server Side RTO Count, L7 Client Latency, L7 Server Latency, App Name App Id, Tenant Name, ICA Session Update Begin Sec, ICA Session Update End Sec, ICA Channel Id 1, ICA Channel Id 2, ICA Channel Id 2 Bytes, ICA Channel Id 3, ICA Channel Id 3 Bytes, ICA Channel Id 4, ICA Channel Id 4 Bytes, ICA Channel Id 5, ICA Channel Id 5 Bytes
- AppFlow Config: Record Type, Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, System Rule Flag 1, System Safety Index, AppFlow Profile Relaxed Flags, AppFlow Profile Block Flags, AppFlow Profile Log Flags, AppFlow Profile Learn Flags, AppFlow Profile Stats Flags, AppFlow Profile None Flags, AppFlow App Name Id, AppFlow Profile Sign Disabled, AppFlow Profile Sign Block Count, AppFlow Profile Sign Log Count, AppFlow Profile Sign Stat Count, AppFlow Incarnation Number, AppFlow Sequence Number, AppFlow Profile Sign Auto Update, AppFlow Safety Index, AppFlow App Safety Index, AppFlow Profile Sec Checks Safety Index, AppFlow Profile Type, Iprep App Safety Index, AppFlow Profile Name, AppFlow Sig Name, AppFlow App Name Ls, AppFlow Sig Rule ID1, AppFlow Sig Rule ID2, AppFlow Sig Rule ID3, AppFlow Sig Rule ID4, AppFlow Sig Rule ID5, AppFlow Sig Rule Enabled Flags, AppFlow Sig Rule Block Flags, AppFlow Sig Rule Log Flags, AppFlow Sig Rule File Name, AppFlow Sig Rule Category1, AppFlow Sig Rule Logstring1, AppFlow Sig Rule Category2, AppFlow Sig Rule Logstring2, AppFlow Sig Rule Category3, AppFlow Sig Rule Category4, AppFlow Sig Rule Logstring4, AppFlow Sig Rule Category5, AppFlow Sig Rule LogString5
- AppFlow: Actual Template Code, Observation Domain Id, Observation Point Id, Exporting Process Id, Transaction Id, Appfw Violation Occurred Time, App Name App Id, Appfw Violation Severity, Appfw Violation Type, Appfw Violation Location, Appfw Violation Threat Index, Appfw NS Longitude, Appfw NS Latitude, Source IPv4 Address Rx, Appfw Http Method, Appfw App Threat Index, Appfw Block Flags, Appfw Transform Flags, Appfw Violation Profile Name, Appfw Session Id, Appfw Req Url, Appfw Geo Location, Appfw Violation Type Name 1, Appfw Violation Name Value 1, Appfw Sig Category 1, Appfw Violation Type Name 2, Appfw Violation Name Value 2, Appfw Sig Category 2, Appfw Violation Type Name 3, Appfw Violation Name Value 3, Appfw Sig Category3, Appfw Req X Forwarded For, Appfw App Name Ls, App Name Ls, Iprep Category, Iprep Attack Time, Iprep Reputation Score, Iprep NS Longitude, Iprep NS Latitude, Iprep Severity, Iprep HTTP Method, Iprep App Threat Index, Iprep Geo Location, Tcp Syn Attack Cntr, Tcp Slow

Ris Cntr, Tcp Zero Window Cntr, Appfw Log Expr Name, Appfw Log Expr Value, Appfw Log Expr Comment

- VPN: Actual Template Code, Observation Domain Id, Access Insight Flags, Observation Point Id, Exporting Process Id, Access Insight Status Code, Access Insight Timestamp, Authentication Duration, Device Type, Device ID, Device Location, App Name App Id, App Name App Id1, Source Transport Port Rx, Destination Transport Port Rx, Authentication Stage, Authentication Type, VPN Session ID, EPA Id, AAA User Name, Policy Name, Auth Agent Name, Group Name, Virtual Server FQDN, cSec Expression, Source IPv4 Address Rx, Destination IPv4 Address Rx, Cur Factor Policy Label, Next Factor Policy Label, App Name Ls, App Name 1 Ls, AAA User Email Id, Gateway IP, Gateway Port, Application Byte Count, VPN Session State, VPN Session Mode, SSO Auth Method, IIP Address, VPN Request URL, SSO Request URL, Backend Server Name, VPN Session Logout Mode, Logon Ticket File Info, STA Ticket, Session Sharing Key, Resource Name, SNIP Address, Temp VPN Session ID
- HTTP: Actual Template Code, Http Req Method, Http Req Url, Http Req User Agent, Http Content Type, Http Req Host, Http Req Authorization, Http Req Cookie, Http Req Referer, Http Res Set Cookie, Ic Cont Grp Name, Ic Flags, Ic Nostore Flags, Ic Policy Name, Response Media Type, Ingress Interface Client, Origin Res Status, Origin Rsp Len, Srv Flow Flags Rx, Srv Flow Flags Tx, Flow Flags Rx, Flow Flags Tx, App Name, Observation Point Id, Exporting Process Id, Observation Domain Id, Http Trans End Time, Transaction Id, Http Rsp Status, Trans Clt Ipv4 Address, Trans Clt Dst Ipv4 Address, Backend Svr Dst Ipv4 Address, Backend Svr Ipv4 Address, Http Rsp Len, Trans Svr RTT, Trans Clt RTT, Http Req Rcv FB, Http Req Rcv LB, Http Res Rcv FB, Http Res Rcv LB, Http Req Forw FB, Http Req Forw LB, Http Res Forw FB, Http Res Forw LB, Http Req X Forwarded For, Http Domain Name, Http Res Location, Protocol Identifier, Egress Interface, Backend Svr Ipv6 Address, SSL Flags BE, SSL Flags FE, SSL Session IDFE, SSL Session IDBE, SSL Cipher Value FE, SSL Cipher Value BE, SSL Sig Hash Alg BE, SSL Sig Hash Alg FE, SSL Svr Cert Sig Hash BE, SSL Svr Cert Sig Hash FE, SSL Clnt Cert Sig Hash FE, SSL Clnt Cert Sig Hash BE, SSL Server Cert Size FE, SSL Server Cert Size BE, SSL Client Cert Size FE, SSL Client Cert Size BE, SSL Err App Name, SSL Err Flag, SSL Handshake Error Msg, Client IP, Virtual Server IP, Connection Chain Id, Connection Chain Hop Count, Trans Clt Tot Rx Oct Cnt, Trans Clt TotTx Oct Cnt, Trans Clt Src Port, Trans Clt Dst Port, Trans Srv Src Port, Trans Srv Dst Port, VLAN Number, Client Mss, Trans Info, Trans Clt Flow End Usec Rx, Trans Clt Flow End Usec Tx, Trans Clt Flow Start Usec Rx, Trans Clt Flow Start Usec Tx, Trans Svr Flow End Usec Rx, Trans Svr Flow End Usec Tx, Trans Svr Flow Start Usec Rx, Trans Svr Flow Start Usec Tx, Trans Svr Tot Rx Oct Cnt, Trans Svr Tot Tx Oct Cnt, Clt Flow Flags Tx, Clt Flow Flags Rx, Trans Clt Ipv6 Address, Trans Clt Dst Ipv6 Address, Subscriber Identifier, SSLi Domain Name, SSLi Domain Category, SSLi Domain Category Group, SSLi Domain Reputation, SSLi Policy Action, SSLi Executed Action, SSLi Reason For Action, SSLi URL Set Matched, SSLi URL Set Private, URL Category, URL Category Group, URL Category Reputation, Responder Action Type, URL Set Matched, URL Set Private, Cat-

egory Domain Name, Category Domain Source, AAA User Name, VPN Session ID, Tenant Name

- Metric events:

- VServer LB: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, CPU, GSLB Server, GSLB VServer, Interface, Memory Pool, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer LB: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot Response Bytes, RATE Si Tot Responses, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Clt Ttlb Pkt Rcvd, RATE Si Tot Clt Ttlb Pkt Sent, RATE Vsvr Tot Hits, Si Cur Clients, Si Cur Conn Established, Si Cur Servers, Si Cur State, Si Tot Request Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Pkt Rcvd, Si Tot Pkt Sent, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions, Vsvr Active Svcs, Vsvr Tot Hits, Vsvr tot Req Resp Invalid, Vsvr Tot Req Resp Invalid Dropped
- CPU: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, Cc CPU Use GSLB Server, GSLB Vserver, Interface, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User
- Server Service Group: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, Cc CPU Use, GSLB Server, GSLB Vserver, Interface, Memory Pool, NetScaler, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, Server Service Group: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot\_Response Bytes, RATE Si Tot Responses, RATE Si Tot Clt Ttlb, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Svr Ttlb, RATE Si Tot Svr Ttlb Transactions, RATE Si Tot Svr Ttlb, RATE Si Tot Svr Ttlb Transactions, RATE Si Tot Ttlb Frustrating Transactions, RATE Si Tot Ttlb Tolerating Transactions, Si Cur State, Si Tot Request Bytes, Si Tot Requests, Si Tot Response Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Svr Ttlb, Si Tot Svr Ttlb Transactions, Si Tot Svr Ttlb, Si Tot Svr Ttlb Transactions, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions
- Server SVC CFG: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, CPU Use, GSLB Server, GSLB Vserver, Interface, Memory Pool, NetScaler, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, Server Svc Cfg: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot Response Bytes, RATE Si Tot Responses, Si Tot Clt Ttlb, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Pkt Rcvd, RATE Si Tot Pkt Sent, RATE Si Tot Svr Busy Err, RATE Si Tot Svr Ttlb, RATE Si Tot Svr Ttlb Transactions, RATE Si Tot Svr Ttlb, RATE Si Tot Svr Ttlb Transactions, RATE Si Tot Ttlb Frustrating Transactions, RATE Si Tot Ttlb Tolerating Transactions, Si Cur State, Si Cur Transport, Si Tot Request Bytes, Si Tot Requests, Si Tot Response Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Pkt Rcvd, Si Tot Pkt Sent, Si Tot

Svr Busy Err, Si Tot Svr Ttfb, Si Tot Svr Ttfb Transactions, Si Tot Svr Ttlb, Si Tot Svr Ttlb Transactions, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions

- NetScaler: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Representation, Schema Type, Time, GSLB Server, GSLB VServer, Interface, Memory Pool, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, NetScaler: RATE All Nic Tot Rx Mbits, RATE All Nic Tot Rx Mbits, RATE Dns Tot Queries, RATE Dns Tot Neg Nxdmn Entries, RATE Http Tot Gets, RATE Http Tot Others, RATE Http Tot Posts, RATE Http Tot Requests, RATE Http Tot Requests 1.0, RATE Http Tot Requests 1.1, RATE Http Tot Responses, RATE Http Tot Rx Request Bytes, RATE Http Tot Rx Response Bytes, RATE Ip Tot Rx Mbits, RATE Ip Tot Rx Bytes, RATE Ip Tot Rx Pkts, RATE Ip Tot Tx Mbits, RATE Ip Tot Tx Bytes, RATE Ip Tot Tx Pkts, RATE SSL Tot Dec Bytes, RATE SSL Tot Enc Bytes, RATE SSL Tot SSL Info Session Hits, RATE SSL Tot SSL Info Total Tx Count, RATE Tcp Err Rst, RATE Tcp Tot Client Open, RATE Tcp Tot Server Open, RATE Tcp Tot Rx Bytes, RATE Tcp Tot Rx Pkts, RATE Tcp Tot Syn, RATE Tcp Tot Tx Bytes, RATE Tcp Tot Tx Pkts, RATE Udp Tot Rx Bytes, RATE Udp Tot Rx Pkts, RATE Udp Tot Tx Bytes, RATE Udp Tot Tx Pkts, All Nic Tot Rx Mbits, All Nic Tot Tx Mbits, Cpu Use, Dns Tot Queries, Dns Tot Neg Nxdmn Entries, Http Tot Gets, Http Tot Others, Http Tot Posts, Http Tot Requests, Http Tot Requests1.0, Http Tot Requests1.1, Http Tot Responses, Http Tot Rx Request Bytes, Http Tot Rx Response Bytes, Ip Tot Rx Mbits, Ip Tot Rx Bytes, Ip Tot Rx Pkts, Ip Tot Tx Mbits, Ip Tot Tx Bytes, Ip Tot Tx Pkts, Mem Cur Free size, Mem Cur Free size Actual, Mem Cur Used size, Mem Tot Available, Mgmt Additional Cpu Use, Mgmt Cpu 0 Use, Mgmt Cpu Use, SSL Tot Dec Bytes, SSL Tot Enc Bytes, SSL Tot SSL Info Session Hits, SSL Tot SSL Info Total Tx Count, Sys Cpus, Tcp Cur Client Conn, Tcp Cur Client Conn Closing, Tcp Cur Client Conn Est, Tcp Cur Server Conn, Tcp Cur Server Conn Closing, Tcp Cur Server Conn Est, Tcp Err Rst, Tcp Tot Client Open, Tcp Tot Server Open, Tcp Tot Rx Bytes, Tcp Tot Rx Pkts, Tcp Tot Syn, Tcp Tot Tx Bytes, Tcp Tot Tx Pkts, Udp Tot Rx Bytes, Udp Tot Rx Pkts, Udp Tot Tx Bytes, Udp Tot Tx Pkts
- Memory Pool: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Schema Type, Time, CPU, Gslb Server, Gslb VServer, Interface, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, VServer Lb, VServer SSL, VServer User, Memory Pool: Mem Cur Alloc Size, Mem Err Alloc Failed, Mem Tot Available
- Monitoring Service Binding: Bind Entity Name, Entity Name, NetScalerId, SchemaType, Time, CPU, Gslb Server, Gslb VServer, Interface, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, Vserver Lb, VServer SSL, VServer User, Mon Service Binding: RATE Mon Tot Probes, Mon Tot Probes
- Interface: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Schema Type, Time, CPU, Gslb Server, Gslb VServer, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, Vserver Lb, VServer SSL, VServer

User, Interface: RATE NIC Tot Rx Bytes, RATE NIC Tot Rx Packets, RATE NIC Tot Tx Bytes, RATE NIC Tot Tx Packets, NIC Tot Rx Bytes, NIC Tot Rx Packets, NIC Tot Tx Bytes, NIC Tot Tx Packets

- VServer CS: Bind Entity Name, Entity Name, Mon Service Binding, NetScaler Id, Schema Type, Time, CPU, Gslb Server, Gslb VServer, Memory Pool, NetScaler, Server Service Group, Server Svc Cfg, VServer Authn, VServer Cr, VServer Cs, Vserver Lb, VServer SSL, VServer User, VServer Cs: RATE Si Tot Request Bytes, RATE Si Tot Requests, RATE Si Tot Response Bytes, RATE Si Tot Responses, RATE Si Tot Clt Ttlb, RATE Si Tot Clt Ttlb Transactions, RATE Si Tot Pkt Rcvd, RATE Si Tot Pkt Sent, RATE Si Tot Ttlb Frustrating Transactions, RATE Si Tot Ttlb Tolerating Transactions, RATE Vsvr Tot Hits, Si Cur State, Si Tot Request Bytes, Si Tot Requests, Si Tot Response Bytes, Si Tot Responses, Si Tot Clt Ttlb, Si Tot Clt Ttlb Transactions, Si Tot Pkt Rvd, Si Tot Pkt Sent, Si Tot Ttlb Frustrating Transactions, Si Tot Ttlb Tolerating Transactions, Vsvr Tot Hits, Vsvr Tot Req Resp Invalid, Vsvr Tot Req Resp Invalid Dropped

### **Secure Browser logs**

- Application Post:
  - Logs before the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination URL, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External, Whitelist Internal, Whitelist Redirect
  - Logs after the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External URL, Whitelist Internal URL, Whitelist Redirect URL
- Application Delete:
  - Logs before the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination URL, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External, Whitelist Internal, Whitelist Redirect
  - Logs after the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource

Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External URL, Whitelist Internal URL, Whitelist Redirect URL

- Application Update:
  - Logs before the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination URL, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External, Whitelist Internal, Whitelist Redirect
  - Logs after the published application: Authentication, Browser, Change Id, Created, Customer Name, Destination, E-Tag, Gateway Service Product Id, Session Id, Legacy Icon, Application Name, Policies, Published Application Id, Region, Resource Zone, Resource Zone Id, Subscription, Session Idle Timeout, Session Idle Timeout Warning, Watermark, Whitelist External URL, Whitelist Internal URL, Whitelist Redirect URL
- Entitlement Create:
  - Logs before the entitlement creation: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
  - Logs after the entitlement creation: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
- Entitlement Update:
  - Logs before the entitlement update: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
  - Logs after the entitlement update: Approved, Customer Id, Data Retention Days, End Date, Grace Period Days, Session Id, Product SKU, Quantity, Serial Numbers, Start Date, State, Type
- Session Access Host: Accept Host, Client IP, Date Time, Host, Session, User Name
- Session Connect:
  - Logs before the session connection: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
  - Logs after the session connection: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name

- Session Launch:
  - Logs before the session launch: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
  - Logs after the session launch: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
- Session Tick:
  - Logs before the session tick: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name
  - Logs after the session tick: Application Id, Application Name, Browser, Created, Customer Id, Duration, Session Id, IP Address, Last Updated, Launch Source, User Name

### **Microsoft Graph Security logs**

- Tenant Id
- User Id
- Indicator Id
- Indicator UUID
- Event Time
- Create Time
- Category of alert
- Logon Location
- Logon IP
- Logon Type
- User Account Type
- Vendor Information
- Vendor Provider Information
- Vulnerability States
- Vulnerability Severity

### **Microsoft Active Directory logs**

- Tenant Id
- Collect Time
- Type
- Directory Context
- Groups
- Identity
- User Type
- Account Name
- Bad Password Count
- City
- Common Name
- Company
- Country
- Days Until Password Expiry
- Department
- Description
- Display Name
- Distinguished Name
- Email
- Fax Number
- First Name
- Group Category
- Group Scope
- Home Phone
- Initials
- IP Phone
- Is Account Enabled
- Is Account Locked

- Is Security Group
- Last Name
- Manager
- Member of
- Mobile Phone
- Pager
- Password Never Expires
- Physical Delivery Office Name
- Post Office Box
- Postal Code
- Primary Group Id
- State
- Street Address
- Title
- User Account Control
- User Group List
- User Principal Name
- Work Phone

### **Citrix Analytics for Performance logs**

- actionid
- actionreason
- actiontype
- adminfolder
- agentversion
- allocationtype
- applicationid
- applicationname
- applicationpath

- applicationtype
- applicationversion
- associateduserfullnames
- associatedusername
- associatedusernames
- associateduserupns
- authenticationduration
- autoreconnectcount
- autoreconnecttype
- AvgEndpointThroughputBytesReceived
- AvgEndpointThroughputBytesSent
- blobcontainer
- blobendpoint
- blobpath
- brokerapplicationchanged
- brokerapplicationcreated
- brokerapplicationdeleted
- brokeringdate
- brokeringduration
- brokerloadindex
- brokerregistrationstarted
- browsername
- catalogchangeevent
- catalogcreatedevent
- catalogdeletedevent
- catalogid
- catalogname
- catalogsync
- clientaddress

- clientname
- clientplatform
- clientsessionvalidateddate
- clientversion
- collecteddate
- connectedviahostname
- connectedviaipaddress
- connectionid
- connectioninfo
- connectionstate
- connectiontype
- controllerdnsname
- cpu
- cpuindex
- createddate
- currentloadindexid
- currentpowerstate
- currentregistrationstate
- currentsessioncount
- datetime
- deliverygroupadded
- deliverygroupchanged
- deliverygroupdeleted
- deliverygroupid
- deliverygroupmaintenancemodechanged
- deliverygroupname
- deliverygroupsync
- deliverytype
- deregistrationreason

- desktopgroupdeletedevent
- desktopgroupid
- desktopgroupname
- desktopkind
- disconnectcode
- disconnectreason
- disk
- diskindex
- dnsname
- domainname
- effectiveloadindex
- enddate
- errormessage
- establishmentdate
- eventreporteddate
- eventtime
- exitcode
- failurecategory
- failurecode
- failedata
- failedate
- failurereason
- failuretype
- faultstate
- functionallevel
- gpoenddate
- gpostartdate
- hdxenddate
- hdxstartdate

- host
- hostedmachineid
- hostedmachinename
- hostingservername
- hypervisorconnectionchangedevent
- hypervisorconnectioncreatedevent
- hypervisorid
- hypervisorname
- hypervisorsync
- icartt
- icarttms
- id
- idletime
- inputbandwidthavailable
- inputbandwidthused
- instancecount
- interactiveenddate
- interactivestartdate
- ipaddress
- isassigned
- isinmaintenancemode
- ismachinephysical
- ispendingupdate
- ispreparing
- isremotepc
- issecureica
- lastderegisteredcode
- launchedviahostname
- launchedviaipaddress

- lifecyclestate
- LinkSpeed
- logonduration
- logonenddate
- logonscriptsenddate
- logonscriptsstartdate
- logonstartdate
- long
- machineaddedtodesktopgroupevent
- machineassignedchanged
- machinecatalogchangedevent
- machinecreatedevent
- machinedeletedevent
- machinederegistrationevent
- machinednsname
- machinefaultstatechangeevent
- machinehardregistrationevent
- machineid
- machinemaintenancemodechangeevent
- machinename
- machinepvdstatechanged
- machineregistrationendedevent
- machineremovedfromdesktopgroupevent
- machinerole
- machinesid
- machineupdatedevent
- machinewindowsconnectionsettingchanged
- memory
- memoryindex

- modifieddate
- NGSCollector.ICACollector.Start
- NGSCollector.NGSSyntheticMetrics
- NGSCollector.NGSPassiveMetrics
- NGSCollector.NGSSystemMetrics
- network
- networkindex
- networklatency
- networkinfoperiodic
- NetworkInterfaceType
- ostype
- outputbandwidthavailable
- outputbandwidthused
- path
- percentcpu
- persistentuserchanges
- powerstate
- processname
- profileloadenddate
- profileloadstartdate
- protocol
- provisioningschemeid
- provisioningtype
- publishedname
- registrationstate
- serversessionvalidateddate
- sessioncount
- sessionend
- sessionfailure

- sessionid
- sessionidlesince
- sessionindex
- sessionkey
- sessionstart
- sessionstate
- sessionsupport
- sessiontermination
- sessiontype
- sid
- SignalStrength
- siteid
- sitename
- startdate
- totalmemory
- triggerinterval
- triggerlevel
- triggerperiod
- triggervalue
- usedmemory
- userid
- userinputdelay
- username
- usersid
- vdialogonduration
- vdaprocessdata
- vdaresourcedata
- version
- vmstartenddate

- vmstartstartdate
- windowsconnectionsetting
- xd.SessionStart

## System Requirements

November 30, 2023

Before you begin using Citrix Analytics for Security, review the following requirements.

### Citrix Analytics for Security subscription

This Analytics product is a subscription-based offering. You must have a valid subscription to use the Security Analytics. For more information, see the [product overview](#) page.

### Data sources requirements

Citrix Analytics for Security receives events from various data sources. For Analytics to function accurately, you must have a valid subscription to use at least one of the following products, which act as data sources for Analytics:

- [Citrix ADC \(on-premises\)](#) along with subscription for [Citrix Application Delivery Management](#)
- [Citrix Endpoint Management service](#)
- [Citrix Gateway \(on-premises\)](#)
- [Citrix Identity provider](#)
- [Citrix Remote Browser Isolation](#)
- [Citrix Secure Private Access service](#)
- [Citrix Virtual Apps and Desktops or Citrix DaaS \(formerly Citrix Virtual Apps and Desktops service\)](#)
- [Microsoft Active Directory](#)
- [Microsoft Graph Security](#)

## Supported browsers

To access Analytics, your workstation must have the following supported web browser:

- Latest version of Google Chrome
- Latest version of Mozilla Firefox
- Latest version of Microsoft Edge
- Latest version of Apple Safari

## Manage administrator roles for Security Analytics

November 30, 2023

As a Citrix Cloud administrator with full access permissions, you can invite other administrators to manage the Security Analytics offering and assign them one of the following custom roles:

- **Security Analytics- Full Administrator**
- **Security Analytics- Read Only Administrator**

You can add new administrators in two ways - individually as users or using Azure Active Directory groups. For more information on adding new administrators, see [Manage Administrator Roles](#).

### Note

If a user is granted access directly as a user and through an Azure Active Directory Group, the access granted individually to the user takes effect.

## Permissions for the custom roles

The administrators with the **Security Analytics- Full Administrator** role can access all the features and functionalities of the Security Analytics offering. They can use and modify the features according to their organizational requirements. For example, a full administrator can create custom risk indicators, enable geofence, and create policies.

The administrators with the **Security Analytics- Read Only Administrator** role can only access and view the Security dashboards- Users, User Access, App Access, Access Assurance, and Reports. They can monitor user behavior and view the user events on these dashboards. However, they are not allowed to perform any critical tasks such as:

- Turn on or off data processing for the data sources

- Create or remove policies and actions
- Apply actions manually on the risk indicators shown on the user risk timeline
- Create, modify, or delete custom risk indicators
- Create custom reports
- Add, modify, or delete another admin user
- Add or modify geo-fence for access assurance location

## Security alert notifications for the administrators

Like the Citrix Cloud administrators with full access permissions, the administrators with the custom roles (Full access and Read-only access) receive email notifications from Security Analytics.

The administrators receive two types of email notifications:

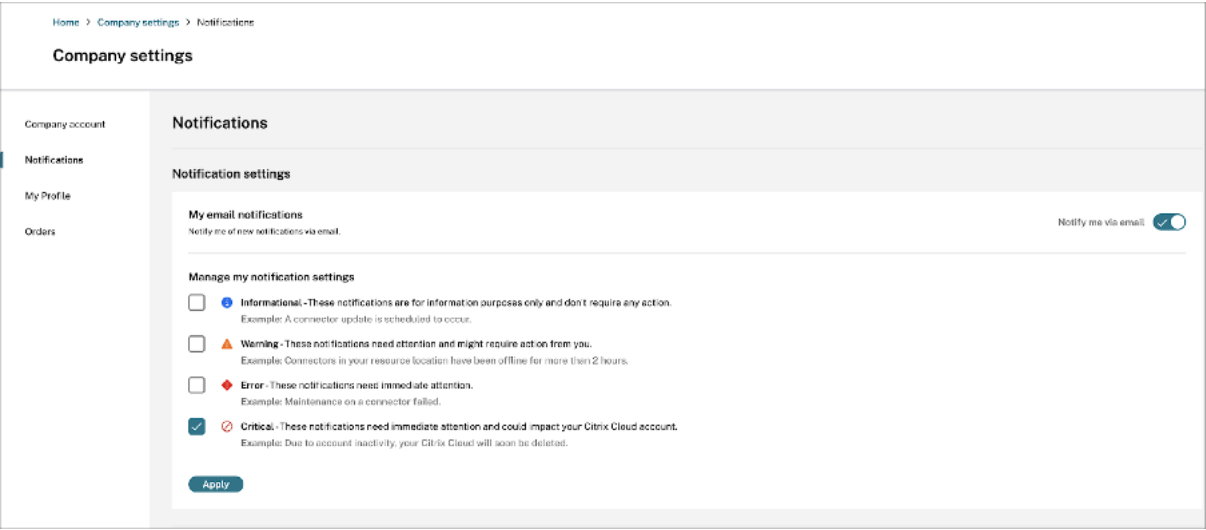
- Weekly notification about the security insights in their organization. For more information, see [Weekly email notification](#).
- Notifications based on the Notify administrators action. For more information, see [Policies and actions](#).

If you are a Citrix Cloud administrator with full or custom access permission, the email notifications are disabled by default in your Citrix Cloud account. To receive email notifications from any Citrix Cloud services such as Citrix Analytics, enable the notification option in your Citrix Cloud. For more information, see [Received email notifications](#). Notification preferences are not available for administrators who are added through Active Directory/Azure AD Groups.

The notification preference is leveraged while sending notifications such as weekly emails, Notify Administrators action emails, and alerts for data exports. For the email notifications, if you wish to stop receiving emails, an administrator with Full access to Security Analytics must remove you from the distribution list. For more information about the distribution list, see [Email distribution list](#).

### Note

Citrix Cloud Administrators (with full or custom access permission) do not receive any notifications from other Citrix Cloud services that leverage **Notification Preferences**.

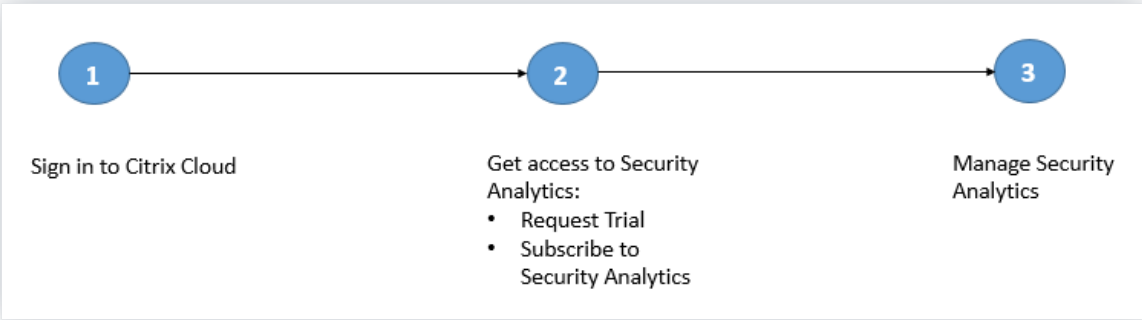


For more information, see [Manage administrators for Citrix Analytics](#).

## Getting started

November 30, 2023

This document describes how to get started with Citrix Analytics for Security for the first time.



### Step 1: Sign in to Citrix Cloud

To use Citrix Analytics for Security, you must have a Citrix Cloud account. Go to <https://citrix.cloud.com> and sign in with your existing Citrix Cloud account.

If you do not have a Citrix Cloud account, you must first create a Citrix Cloud account or join an existing account created by someone else in your organization. For detailed processes and instructions on how to proceed, see [Sign Up for Citrix Cloud](#).

## Step 2: Get access to Security Analytics

You can access Citrix Analytics for Security in one of the following ways:

- **Request a Citrix Analytics for Security trial.** After signing in to Citrix Cloud, do the following:
  1. In the **Available Services** section, click **Manage** on the **Analytics** tile. You are redirected to the Analytics overview page.
  2. On the **Security** tile, click **Request Trial** or directly get in touch with your Citrix Account or Citrix Partner.
- **Subscribe to Citrix Analytics for Security.** To purchase a Citrix Analytics for Security subscription, visit <https://www.citrix.com/en-in/products/citrix-analytics/form/inquiry/> and contact a Citrix Analytics expert who can help you.

### Note

- With effect from March 8, 2023, Citrix Analytics for Security will no longer be available for purchase as a standalone offering with ShareFile/Citrix Content Collaboration. We are announcing End of Sales (EOS) and End of Renewals (EOR) of Citrix Analytics Service standalone add-on for ShareFile/Citrix Content Collaboration. Customers' existing entitlements for Citrix Analytics for Security remains valid until their subscription expires. However, trials, renewals, and new purchases will not be supported for Sharefile/Citrix Content Collaboration integrations. Citrix Analytics Service integrations for other Citrix products continue to be offered as standalone or bundle offerings with existing Citrix DaaS plans, Citrix Virtual Apps and Desktops deployments and Citrix Workspace deployments.
- With effect from February 03, 2020, Citrix Analytics for Security is no longer included with the Workspace Premium and the Workspace Premium Plus subscriptions. Customers who have purchased the Workspace Premium or the Workspace Premium Plus subscription before February 03, 2020 can access Citrix Analytics for Security as a part of the Workspace subscription until their subscription expires. Citrix Analytics for Security is now offered as an add-on service with the Citrix Workspace packages- Workspace Standard, Workspace Premium, and Workspace Premium Plus. For more information, see [Citrix Cloud services](#).

## Step 3: Manage Security Analytics

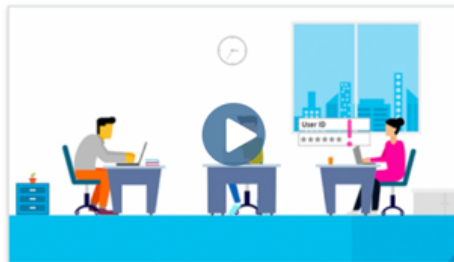
After you have the necessary subscription or are authorized to access the trial, on the Analytics overview page, the **Request Trial** button for the Security offering changes to **Manage**. Click **Manage** to view the user dashboard.

# Gain insights with Citrix Analytics!

Predictive and prescriptive insights into user behavior, application performance, network operations, and user productivity spanning the entire Citrix portfolio.

How to Buy

## Security



Proactively manage and mitigate threats based on user behavior.

Manage

[Learn More](#)

Trial: 25 days remaining

## Performance



Gain real-time visibility and improve apps and desktops performance.

Manage

[Learn More](#)

Trial: 25 days remaining

Analytics supports both [Citrix data sources](#) and [external data sources](#). It automatically discovers the Citrix data sources associated with your Citrix Cloud account. To receive data from external data sources, you need to integrate the external data sources with Analytics. To view your discovered data sources, click **Settings > Data Sources > Security**.

## What's next

- Data processing is turned on for the following cloud services when their Citrix Analytics for Security entitlement is approved:
  - Citrix data sources
    - ★ [Citrix Secure Private Access](#)
    - ★ [Citrix Virtual Apps and Desktops and Citrix DaaS](#)
- To verify the data processing status or know how to turn it on manually, see the following articles:

- Citrix data sources:
    - ★ [Citrix Endpoint Management](#)
    - ★ [Citrix Gateway](#)
  - External data sources:
    - ★ [Microsoft Graph Security](#)
    - ★ [Microsoft Active Directory](#)
  - Export processed data from Analytics to the following products:
    - [Splunk](#)
    - [Microsoft Azure Sentinel](#)
    - [Elasticsearch](#)
    - [Other SIEMs using Kafka or Logstash based data connector](#)
  - Use the [Users dashboard](#) to view the discovered users and their security risk profiles. The **Users** dashboard is the launching point for user behavior analysis and threat prevention.
- Note**

If you are using Analytics for the first time, the user risk profiles take some time to appear on the dashboard. Analytics uses machine learning to determine the risky pattern or anomalies in the user events and identifies the user profiles as high risk, medium risk, and low risk based on the severity of the risks.
- Use the [self-service search](#) feature to view and filter the user events (raw data) received from the data sources.

## Citrix Endpoint Management data source

October 1, 2021

The **Endpoint Management** data source represents the Citrix Endpoint Management service associated with your Citrix Cloud account. When users use this service, Citrix Analytics receives the user [events](#) related to users' endpoints and their activities in real time. The user events are processed to detect any security threats.

## Prerequisites

- Subscribe to Citrix Endpoint Management offered on Citrix Cloud. To learn how to set up your Endpoint Management service, see [Onboarding and resource setup](#).
- **Cloud Site and Enterprise Directory set up.** Ensure that you have two machines running Windows 2012 R2 or Windows 2016 server to install the Cloud Connector.
- **Cloud Connector installed.** Download and install the Cloud Connector on a virtual machine that is part of Active Directory.
- Review the [system requirements](#) and ensure that your environment met the requirements.

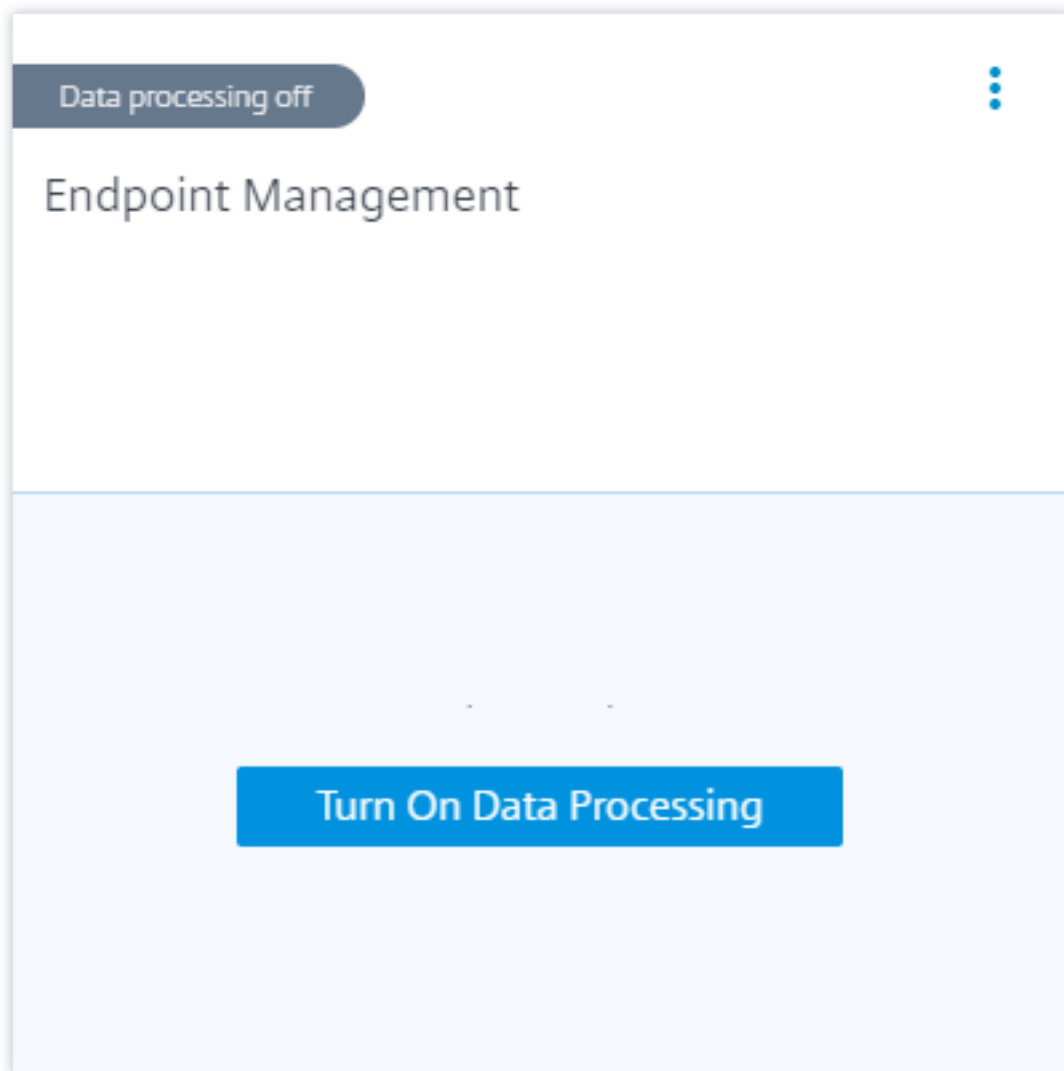
## View data source and turn on data processing

Citrix Analytics automatically discovers all Endpoint Management data sources associated with your Citrix Cloud account.

### To view the data source:

From the top bar, click **Settings > Data Sources > Security**.

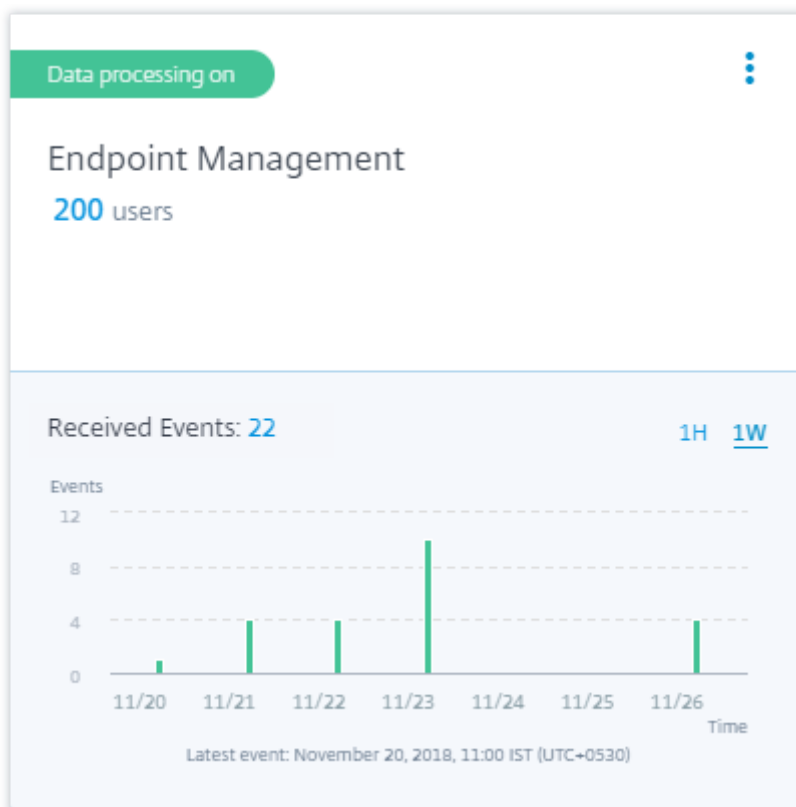
A site card for the Endpoint Management data source appears on the **Data Sources** page. Click **Turn On Data Processing** to allow Citrix Analytics to begin processing data for this data source.



### View users and received events

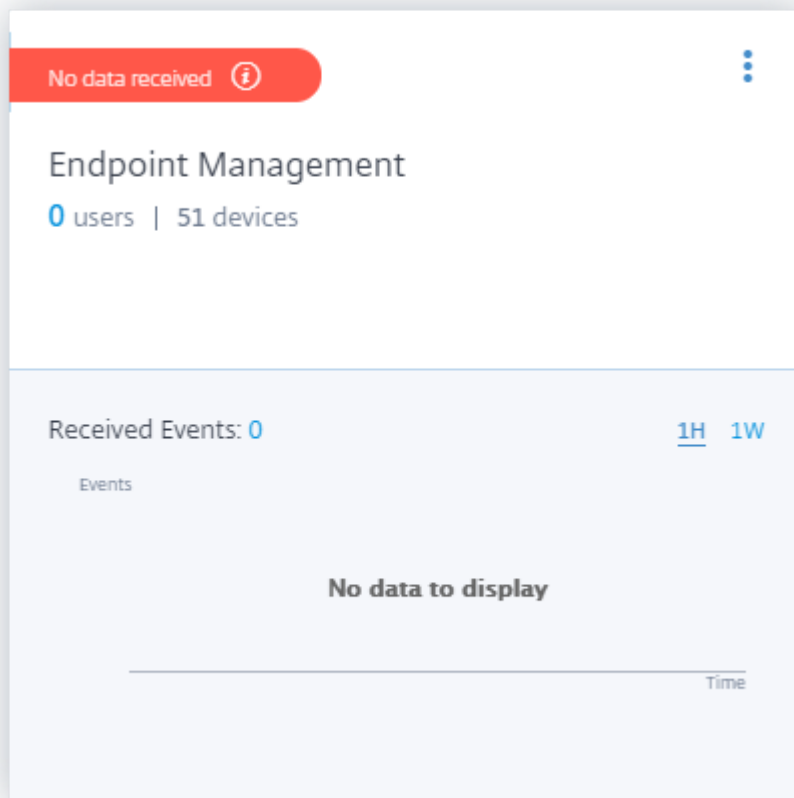
The site card displays the number of Endpoint Management users, devices, and the received events for the last one hour, which is the default time selection. You can also select 1 week (**1W**) and view the data.

Click the number of users to view the user details on the **Users** page.



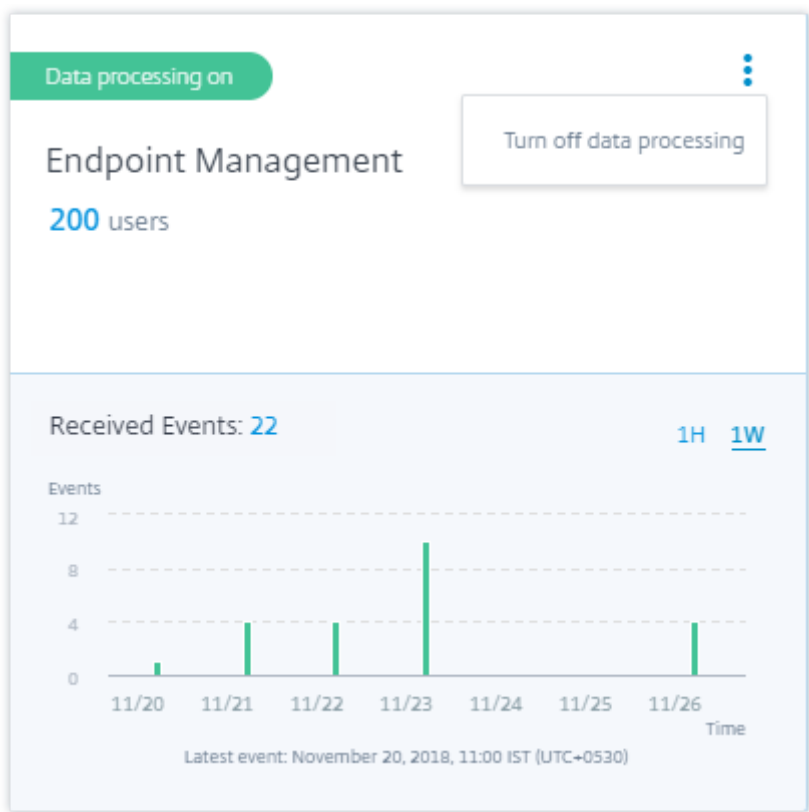
After you have enabled data processing, the site card might display the **No data received** status. This status appears for two reasons:

1. If you have turned on data processing for the first time, the events take some time to reach the event hub in Citrix Analytics. When Citrix Analytics receives the events, the status changes to **Data processing on**. If the status does not change after some time, refresh the **Data Sources** page.
2. Analytics has not received any events from the data source in the last one hour.

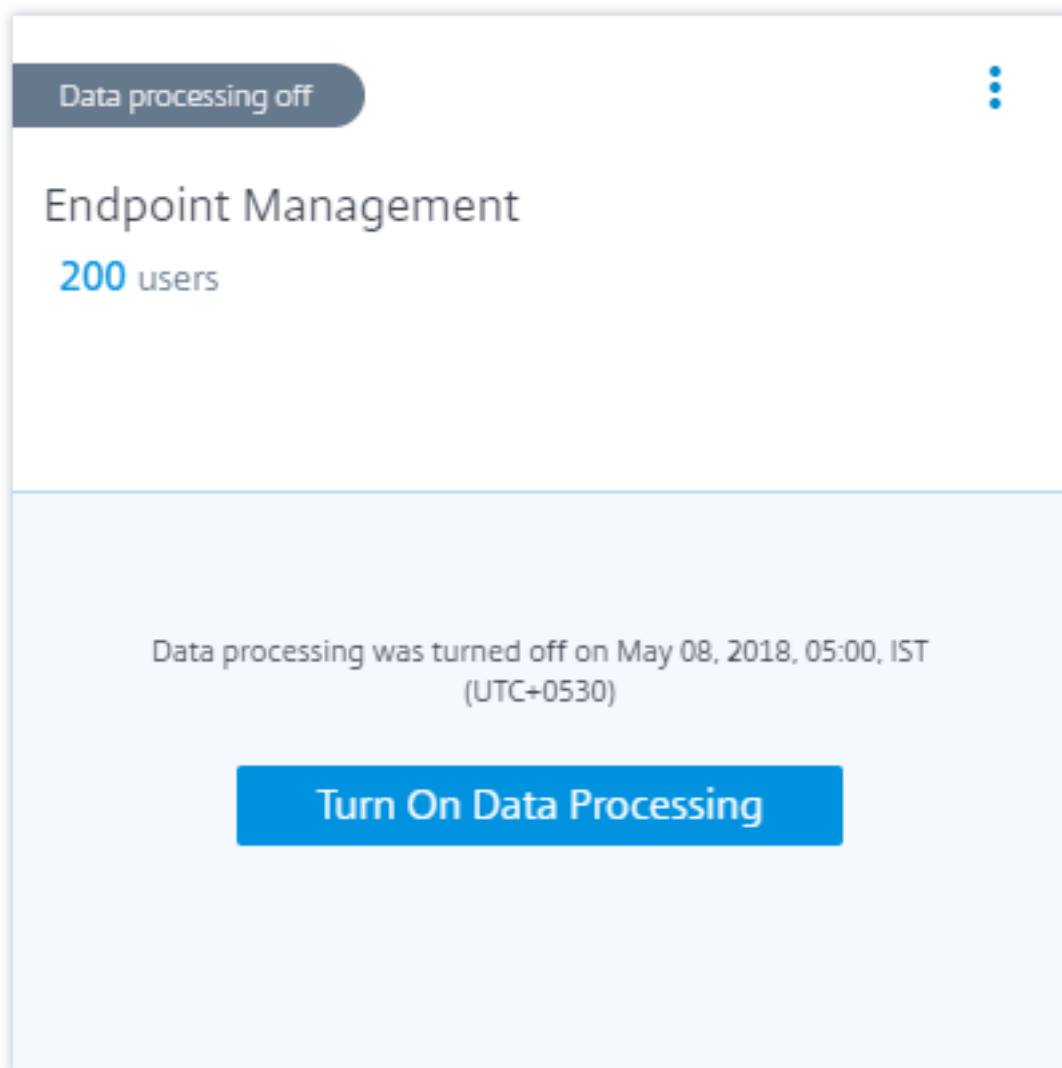


### Turn on or off data processing

To stop data processing, click the vertical ellipsis (⋮) on the site card and then click **Turn off data processing**. Citrix Analytics stops processing data for this data source.



To enable data processing again, click **Turn On Data Processing**.



## Citrix Gateway (on-premises) data source

February 1, 2022

The **Gateway** data source represents the on-premises Citrix Gateway instances in your environment. Citrix Analytics automatically discovers the Citrix Application Delivery Management (ADM) agents and the Gateway instances added to the Citrix ADM service.

When users access any services or applications through Gateway, Citrix Analytics receives the user access [events](#) in real time. The user events are processed to detect any security threats.

For information about the prerequisites and onboarding steps, see the [Citrix Gateway](#) data source article on Citrix Analytics platform documentation.

## Citrix Remote Browser Isolation data source

March 20, 2023

The [Citrix Remote Browser Isolation Service](#) isolates web browsing to protect the corporate network from browser-based attacks. It delivers consistent, secure remote access to internet hosted web applications, with no need for user device configuration.

In Citrix Analytics for Security, you can view the user events of a published Remote Browser Isolation session. For more information about the user events, see [Self-service search for Remote Browser Isolation](#).

To receive the user events from a published Remote Browser Isolation session, enable the **Hostname Tracking** policy in the Remote Browser Isolation. By default, the policy is disabled.

Enabling the **Hostname Tracking** policy allows Remote Browser Isolation to send host names used during the user session to Citrix Analytics for Security.

For more information, see [Manage published Remote Browser Isolations](#).

## Citrix Secure Private Access data source

April 4, 2022

The **Secure Private Access** data source represents the Citrix Secure Private Access service that is associated with your Citrix Cloud account. When users use this service, Citrix Analytics receives the user access [events](#) (logs) in real time. The user events are processed to detect any security threats.

### Prerequisites

- Subscribe to Citrix Secure Private Access service offered on Citrix Cloud. To learn how to get started, see [Secure Private Access service](#).
- Review the [system requirements](#) and ensure that your environment met the requirements.

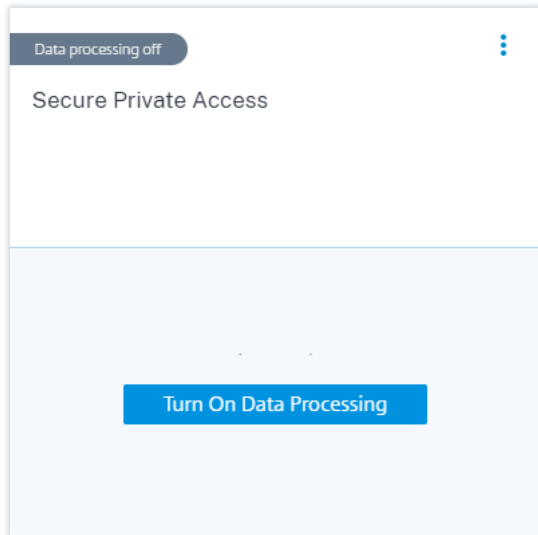
### View data source and turn on data processing

Citrix Analytics automatically discovers the Secure Private Access data source associated with your Citrix Cloud account.

**To view the data source:**

From the top bar, click **Settings > Data Sources > Security**.

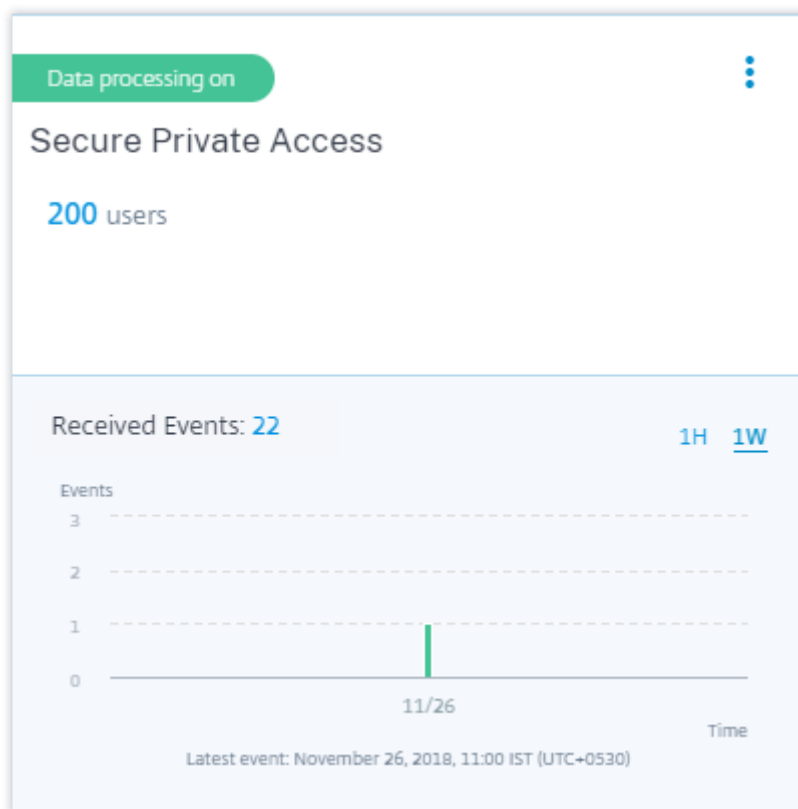
A site card for the **Secure Private Access** data source appears on the **Data Sources** page. Click **Turn On Data Processing** to allow Citrix Analytics to begin processing data for this data source.



## View users and received events

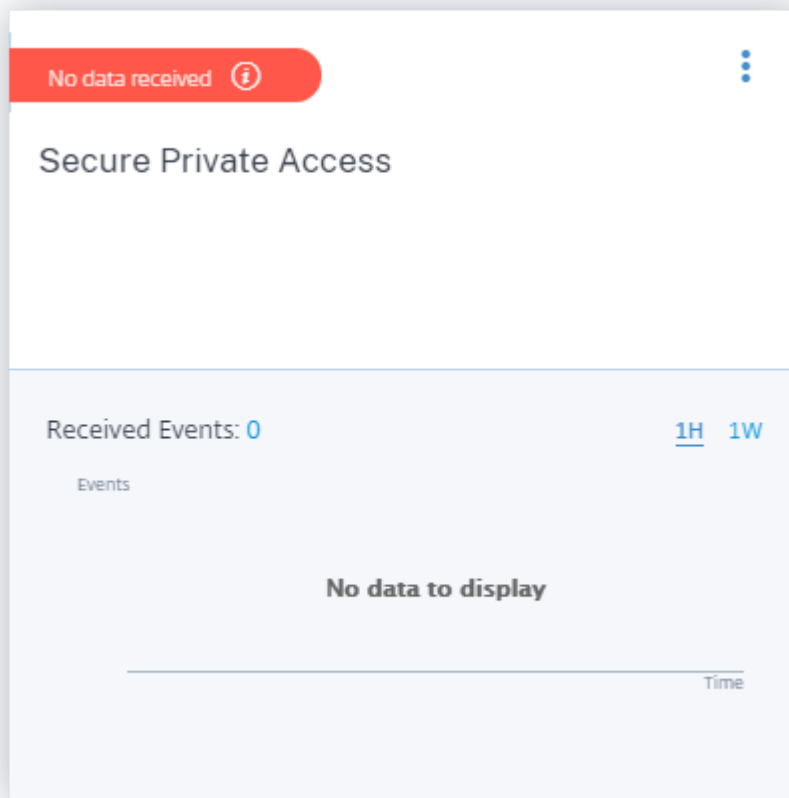
The site card displays the number of active users and the events received from the data source for the last one hour, which is the default time selection. You can also select 1 week (1 W) and view the data.

Click the number of users to view the user details on the **Users** page. Click the number of received events to view the event details on the [self-service search](#) page.



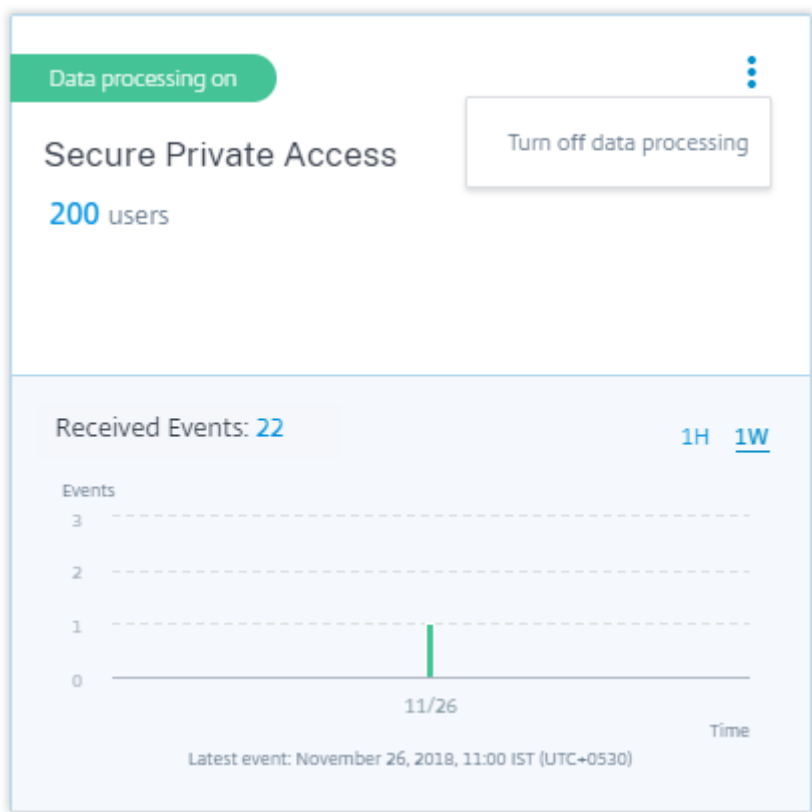
After you have enabled data processing, the site card might display the **No data received** status. This status appears for two reasons:

1. If you have turned on data processing for the first time, the events take some time to reach the event hub in Citrix Analytics. When Citrix Analytics receives the events, the status changes to **Data processing on**. If the status does not change after some time, refresh the **Data Sources** page.
2. Analytics has not received any events from the data source in the last one hour.

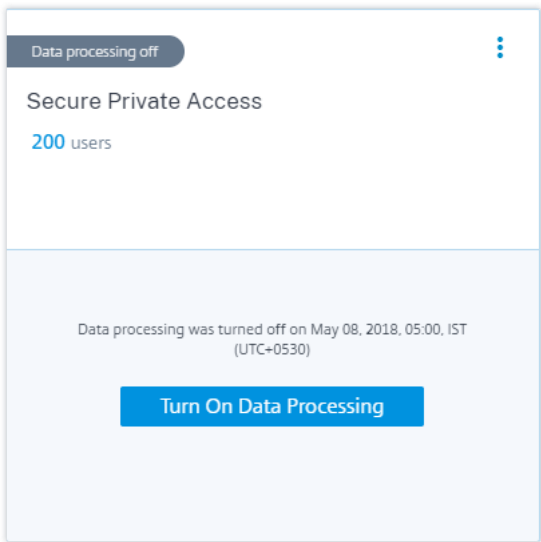


### Turn on or off data processing

To stop data processing, click the vertical ellipsis (⋮) on the site card and then click **Turn off data processing**. Citrix Analytics stops processing data for this data source.



To enable data processing again, click **Turn On Data Processing**.



**Citrix Virtual Apps and Desktops and Citrix DaaS data source**

October 4, 2023

The **Apps and Desktops** data source represents on-premises Citrix Virtual Apps and Desktops and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) in your organization.

Citrix Analytics for Security supports both the offerings and receives user events from the data source. This article walks you through the prerequisites and the procedures to enable Analytics on both the offerings.

Citrix Analytics for Security receives user events from the following components of the Citrix Virtual Apps and Desktops and Citrix DaaS data source:

- Citrix Workspace app installed on the user devices
- Citrix Director for on-premises deployment
- Citrix Monitor service
- Session recording servers

The user events are received in real time in Citrix Analytics for Security when users use virtual apps or virtual desktops.

## Supported client versions

Citrix Analytics receives user events when a supported client version is used on the user endpoints. If users are using any unsupported client versions, they must upgrade their clients to one of the following versions:

- Citrix Workspace app for Windows 1907 or later
- Citrix Workspace app for Mac 1910.2 or later
- Citrix Workspace app for HTML5 2007 or later
- Citrix Workspace app for Chrome-Latest version available in Chrome Web Store
- Citrix Workspace app for Android-Latest version available in Google Play
- Citrix Workspace app for iOS-Latest version available in Apple App Store
- Citrix Workspace app for Linux 2006 or later

## Enable Analytics on Citrix DaaS

### Prerequisites

- Subscribe to Citrix DaaS offered on Citrix Cloud. To learn how to get started with Citrix DaaS, see [Install and configure](#).
- Review the [System Requirements](#) section and ensure that you met the requirements.

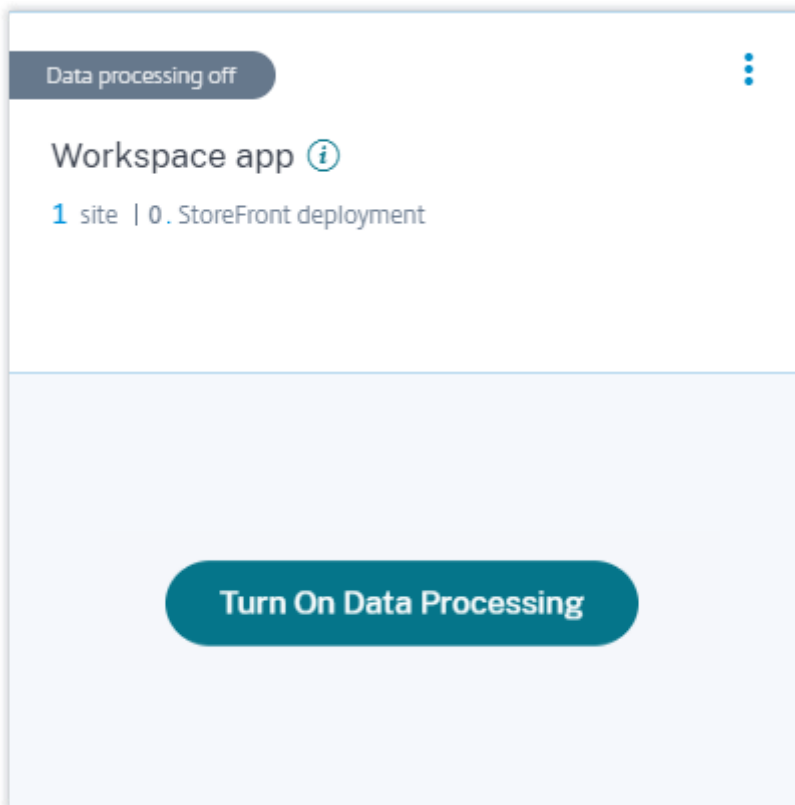
### View the data source and turn on data processing

Citrix Analytics automatically discovers Citrix DaaS associated with your Citrix Cloud account.

#### To view the data source:

From the top bar, click **Settings** > **Data Sources** > **Security**.

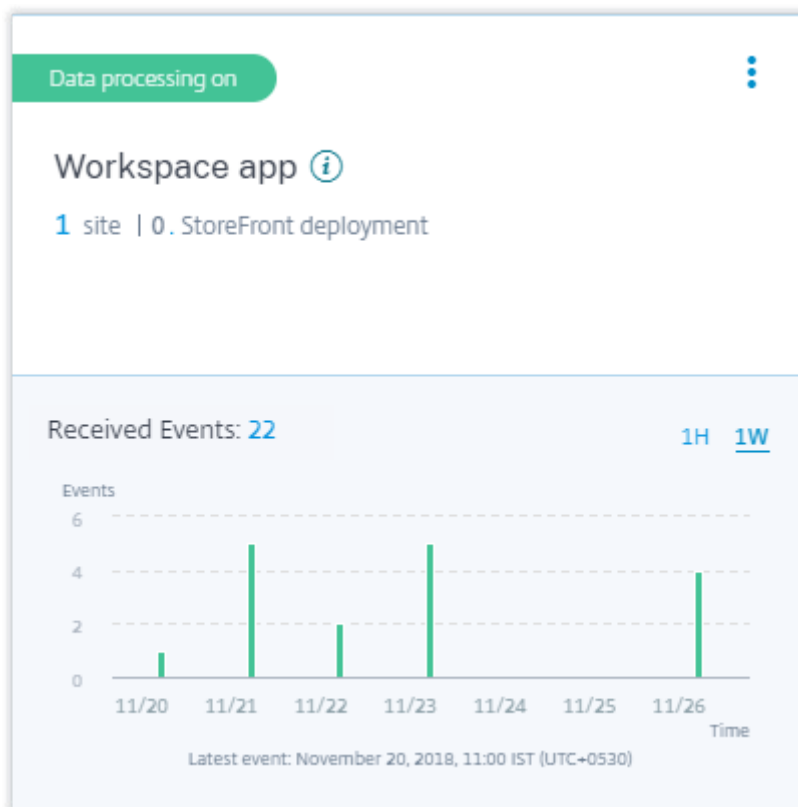
The **Apps and Desktops- Workspace app** site card appears on the **Data Sources** page. Click **Turn On Data Processing** to allow Citrix Analytics to begin processing data for this data source.



### View cloud site, users, and received events

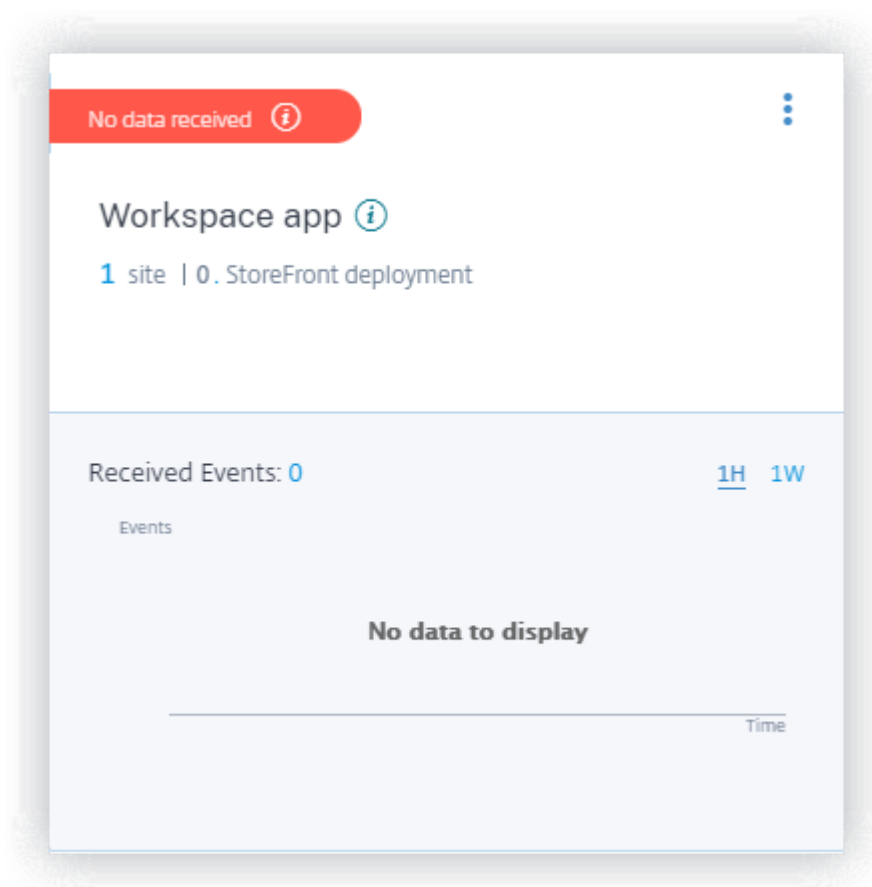
The site card displays the number of Apps and Desktops users, the discovered cloud site, and the received events for the last one hour, which is the default time selection. You can also select 1 week (1 W) and view the data.

Click the number of received events to view the events on the [self-service search](#) page.



After you have enabled data processing, the site card might display the **No data received** status. This status appears for two reasons:

1. If you have turned on data processing for the first time, the events take some time to reach the event hub in Citrix Analytics. When Citrix Analytics receives the events, the status changes to **Data processing on**. If the status does not change after some time, refresh the **Data Sources** page.
2. Analytics has not received any events from the data source in the last one hour.



## Enable Analytics on Citrix Virtual Apps and Desktops on-premises

Citrix Analytics receives user events from on-premises sites added to Workspace and sites accessed through StoreFront deployments.

If your organization is using on-premises sites, you must use one of the following methods to onboard your sites so that Analytics discovers the sites:

- [Onboard your on-premises sites using StoreFront](#)
- Onboard your on-premises sites using Workspace

### Prerequisites

- You must have a license to use the Citrix Virtual Apps and Desktops on-premises solution. To learn how to get started with Citrix Virtual Apps and Desktops on-premises, see [Install and configure](#).
- Review the [System Requirements](#) section and ensure that you met the requirements.

- Your Director is on version 1912 CU2 or later. For more information, see [Feature compatibility matrix](#).

- **Subscription to Citrix Workspace.** If you want to add your sites to Citrix Workspace, you must require a Workspace subscription.

To purchase a Citrix Workspace subscription, visit <https://www.citrix.com/products/citrix-workspace/get-started.html> and contact a Citrix Workspace expert who can help you.

- **Sites added to Workspace.** Citrix Analytics automatically discovers the sites added to Citrix Workspace. Add your sites to Citrix Workspace before proceeding with onboarding on Citrix Analytics. This process is known as **Site aggregation**.

Site aggregation requires you to install Cloud Connector, configure NetScaler Gateway STA servers for internal and external connectivity to Workspace resources, and then add the sites to Workspace. For detailed instructions on site aggregation, see [Aggregate on-premises virtual apps and desktops in workspaces](#).

- **StoreFront version.** If you are using a StoreFront deployment for your sites, ensure that the StoreFront version is 1906 or later.

## Onboard Citrix Virtual Apps and Desktops on-premises sites using StoreFront

For information about the prerequisites and the onboarding steps, see the [Citrix Virtual Apps and Desktops data source](#) article on the Citrix Analytics platform documentation.

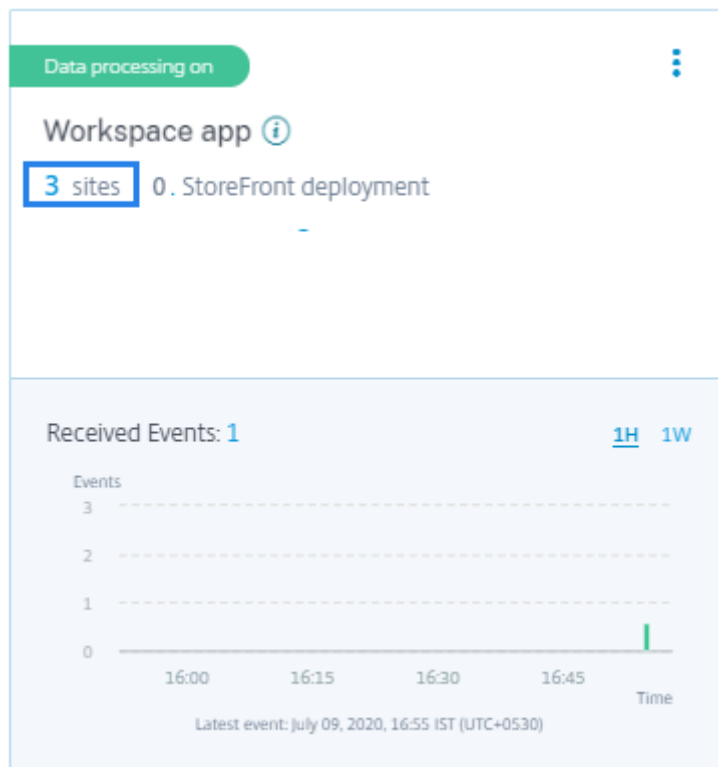
## Onboard Citrix Virtual Apps and Desktops on-premises sites using Workspace

**Sites already added to Citrix Workspace** Citrix Analytics automatically discovers the on-premises sites that are already added to Citrix Workspace and displays them on the data source site card.

### To view the data source:

From the top bar, click **Settings > Data Sources > Security**.

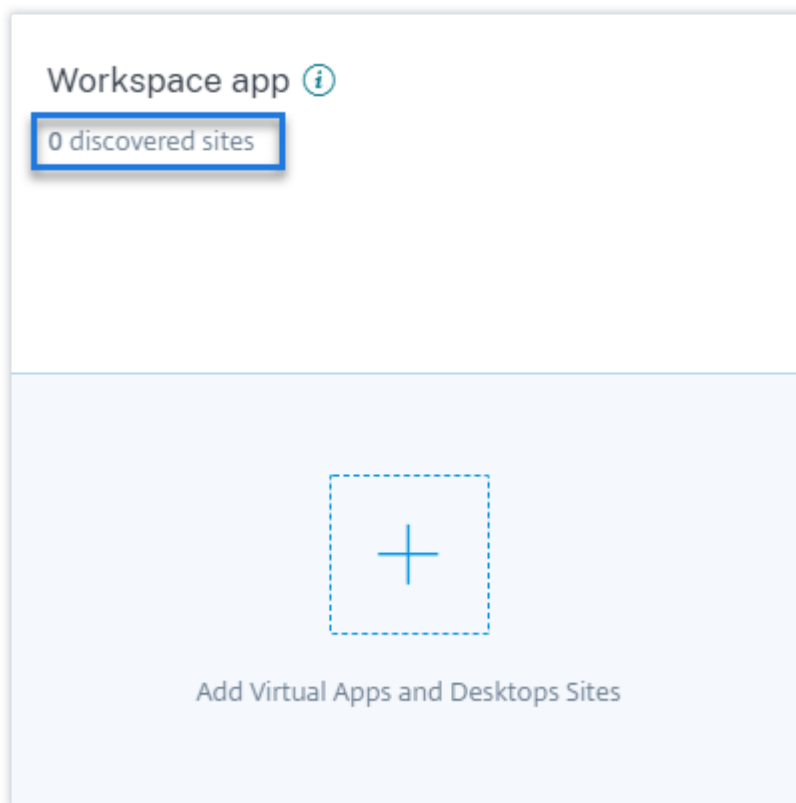
The **Apps and Desktops** site card displays the number of sites added to Workspace and the users connected to these sites. Click the site count to view the discovered sites. Click the user count to view the discovered users on the **Users** page.



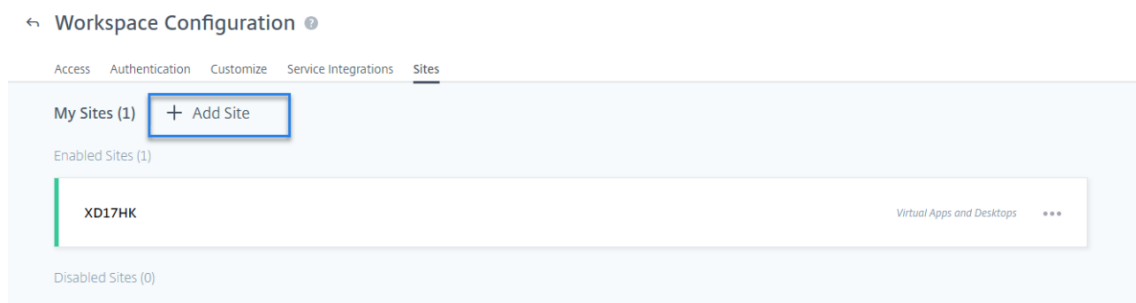
**Sites not added to Citrix Workspace** If you have not already added your on-premises sites to Workspace, Analytics cannot discover your sites. The site card displays **0 discovered sites**.

**To add a site to Workspace:**

1. Click + on the site card.



2. On the **Workspace Configuration** page, click **+Add Site**.

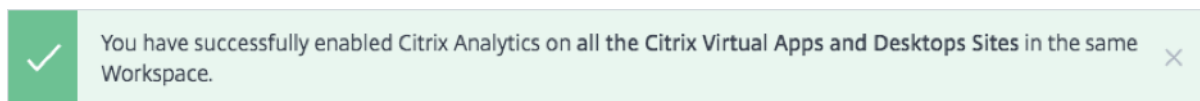


3. Follow the on-screen instructions to add a Site. For more information, see [Aggregate on-premises virtual apps and desktops in workspaces](#).
4. After adding the site, log back to Citrix Analytics and refresh the **Data Sources** page to view the recently added site on the site card.

**Turn on data processing and view received events** To allow Analytics to begin processing data for the discovered sites, click **Turn On Data Processing** on the site card and follow the prompts on the screen.

If you have multiple sites added to the same Workspace, Analytics processes and stores data for all the sites in the Workspace. You get a success message when Analytics is successfully enabled on all

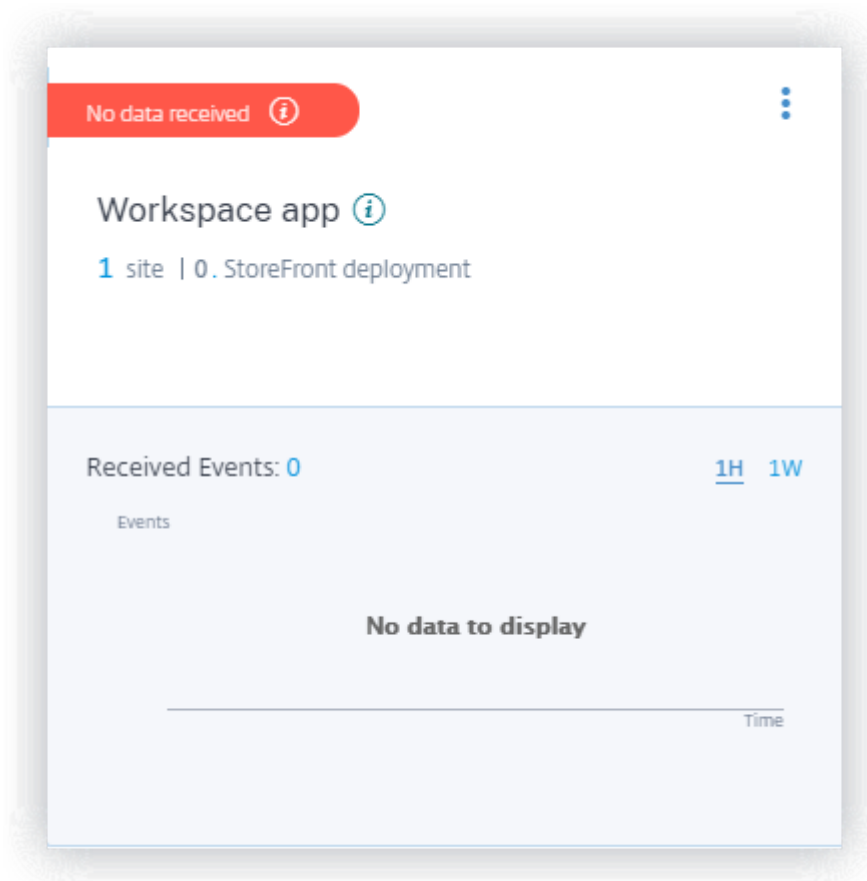
your sites.



The site card displays the received events for the last one hour, which is the default time selection. You can also select 1 week (1 W) and view the data. Click the number of received events to view the events on the corresponding [self-service search](#) page.

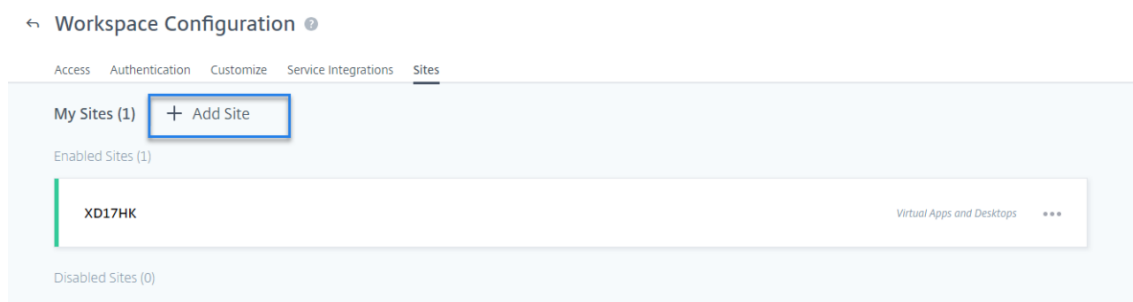
After you have enabled data processing, the site card might display the **No data received** status. This status appears for two reasons:

1. If you have turned on data processing for the first time, the events take some time to reach the event hub in Citrix Analytics. When Citrix Analytics receives the events, the status changes to **Data processing on**. If the status does not change after some time, refresh the **Data Sources** page.
2. Analytics has not received any events from the data source in the last one hour.



**Add a site** If you want to add another on-premises site to Workspace, you can add it from Analytics:

1. On the Workspace Configuration page, click **+Add Site**.



2. Follow the on-screen instructions to add a site. For more information, see [Aggregate on-premises virtual apps and desktops in workspaces](#).
3. After adding the site, go to Citrix Analytics and refresh the **Data Sources** page to view the recently added site on the site card.

## Connect to Citrix Director for on-premises sites

**Citrix Director** is a monitoring and troubleshooting console for Citrix Virtual Apps and Desktops. You can use Director to configure your on-premises sites for Citrix Analytics for Security (Security Analytics). After the sites are configured, Director sends monitoring events to Security Analytics.

If you are using Citrix DaaS, the Citrix Monitor service sends events from your cloud site to Security Analytics.

In a hybrid environment where you have both cloud and on-premises deployments, Security Analytics receives events from the Citrix Monitor service and the sites onboarded on Citrix Director.

## Prerequisite and configuration steps

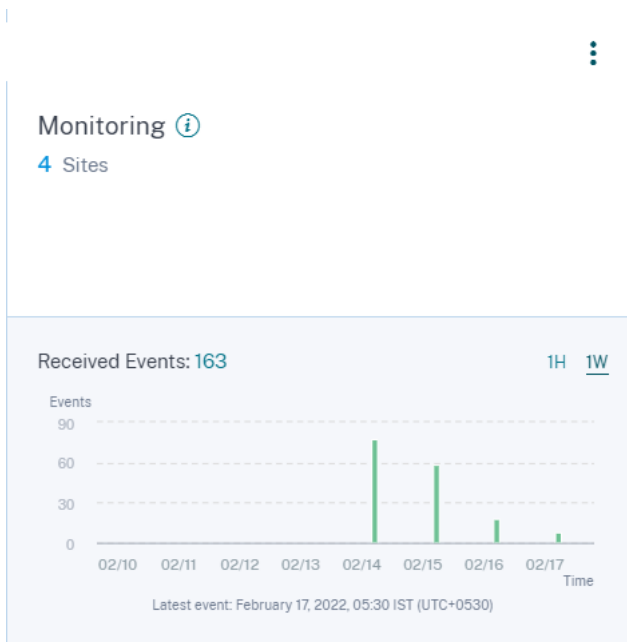
### Notes

- Currently, the Director user interface displays the configuration steps related to Citrix Analytics for Performance (Performance Analytics). These configuration steps are also applicable for Citrix Analytics for Security (Security Analytics). If you have an active Citrix Cloud entitlement for Security Analytics, you can connect to Citrix Director by following those steps.
- If your Citrix Cloud account has active entitlements for both Security Analytics and Performance Analytics and you have already configured your site for Performance Analytics, you do not need to configure Director again for Security Analytics.

For information on the prerequisites and configuration steps, see [Citrix Analytics for Performance documentation](#).

## View your connected sites and received events

1. In Citrix Analytics, go to the **Data Sources** page.
2. Click the **Security** tab.
3. On the **Apps and Desktops- Monitoring** site card, you can view your on-premises sites or the cloud site (which ever is applicable). You also view the events received from the sites.



### Notes

- The first time you configure an on-premises site on Director, events from the site might take some time (approximately an hour) to get processed; causing a delay in the display of the connected site on the **Apps and Desktops- Monitoring** site card.
- On the Monitoring site card, the data processing for the Monitor service or the Director data source is enabled by default. You can also turn off the data processing depending on your requirement. However, it is recommended to keep the data processing on to get maximum benefits from Security Analytics.

4. Click the site to view the details.

Discovered Sites for Apps and Desktops -Monitoring

Site-30
cloudxdsite
Site-57
Site-40

## Connect to Session Recording deployment

[Session Recording](#) allows you to record the on-screen activity of any user session in Citrix Virtual Apps and Desktops and Citrix DaaS. You can configure the Session Recording servers to send the user events to Citrix Analytics for Security. The user events are processed to provide actionable insights into the users' risky behaviors.

### Prerequisites

Before you begin, ensure the following:

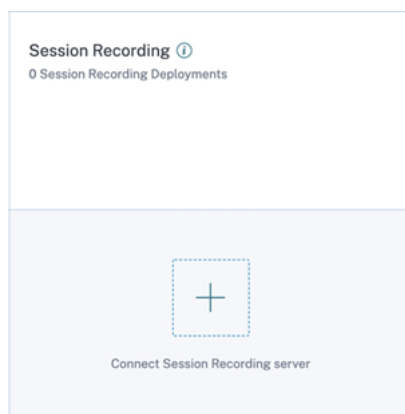
- Your Session Recording server and the VDA agent must be 2103 or later.
- The Session Recording server must be able to connect to the required addresses. For more information on the URLs, see [Network requirements](#).
- The Session Recording deployment must have port 443 open for outbound internet connections. Any proxy servers on the network must allow this communication with Citrix Analytics for Security.
- If you are using Citrix Virtual Apps and Desktops 7 1912 LTSR, the supported Session Recording version is 2103 or later.

#### Note

Ensure to verify the [additional connectivity requirements](#) while using the **Session Recording** service.

## Configure your Session Recording server

1. On the **Apps and Desktops- Session Recording** site card, click **Connect Session Recording server**.



2. On the **Connect Session Recording Server** page, review the checklist, and select all the mandatory requirements. If you do not select a mandatory requirement, the Download File option is disabled.

The screenshot shows a window titled "Connect Session Recording Server" with a close button. The main heading is "Configure and connect your Session Recording server to Citrix Analytics." Below this is a dashed box containing the "Prerequisites" section. It asks "What is your Session Recording version?" with a text input field and an information icon. Below that, it asks "Can your Session Recording server connect to the following addresses?" with a circled "1" next to it. There are three checkboxes: "Session recording server should meet [service connectivity requirements](#)", "Session recording server should have connectivity to <https://api.analytics.cloud.com>", and "Do you have any proxy servers in your network?". The last checkbox is followed by a sub-question: "Do the proxy servers allow communication with Citrix Analytics?".

3. If you have proxy servers in your network, enter the proxy address in the *SsRecStorageManager.exe.config* file in your Session Recording server.

The configuration file is located at <Session Recording Server installation path>\bin\SsRecStorageManager.exe.config

For example: C:\Program Files\Citrix\SessionRecording\Server\Bin\SsRecStorageManager.exe.config



- Click **Download File** to download the *SessionRecordingConfigurationFile.json* file.

#### Note

The file contains sensitive information. Keep the file in a safe and secure location.

- Copy the file to the Session Recording server that you want to connect to Citrix Analytics for Security.
- If you have multiple Session Recording servers in your deployment, you must copy the file in each server that you want to connect and follow the steps to configure each server.
- On the Session Recording server, run the following command to import the settings:

```
1 <Session Recording Server installation path>\bin\SsRecUtils.exe -
  Import_SRCasConfigurations <configuration file path>
```

For example:

```
C:\Program Files\Citrix\SessionRecording\Server\bin\ SsRecUtils.
exe -Import_SRCasConfigurations C:\Users\administrator \Downloads
\SessionRecordingConfigurationFile.json
```

- Restart the following services:
  - Citrix Session Recording Analytics Service
  - Citrix Session Recording Storage Manager
- After configuration is successful, go to Citrix Analytics for Security to view the connected Session Recording server. Click **Turn On Data Processing** to allow Citrix Analytics for Security to process the data.

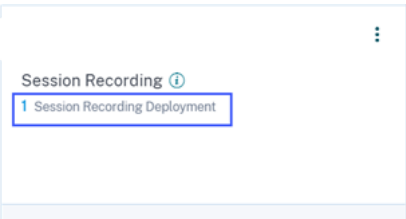
**Note**

If you are using Session Recording server version 2103 or 2104, you must first launch an Apps and Desktops session to view the connected Session Recording server on Citrix Analytics for Security. Otherwise the connected Session Recording server fails to get displayed. This requirement is not applicable for Session Recording server version 2106 and later.

**View the connected deployments**

The server deployments appear on the Session Recording site card only if the configuration is successful. The site card shows the number of configured servers that have established connections with Citrix Analytics for Security.

If you don't see your Session Recording servers even after the configuration was successful, refer to the [Troubleshooting article](#).



On the site card, click the number of deployments to view the connected server groups with Citrix Analytics for Security. For example, click **1 Session Recording Deployment** to view the connected server or server groups. Each Session Recording server is represented by a base URL and a ServerGroupID.

← Connected Session Recording Deployments

Session recording servers

Session Recording deployment			
The Session recording server is successfully configured and connected.			
BASE URL	SESSION RECORDING DEPLOYMENT	CONFIGURATION STATUS	LAST UPDATED
Site-2-v2103.smarttools.clm		Success	Sep 21 2021 11:26 AM
Showing 1-1 of 1 items   Page 1 of 1   5 rows			

**View received events**

The site card displays the connected Session Recording deployments and the events received from these deployments for the last one hour, which is the default time selection. You can also select 1 week (1 W) and view the data. Click the number of received events to view the events on the self-service search page.

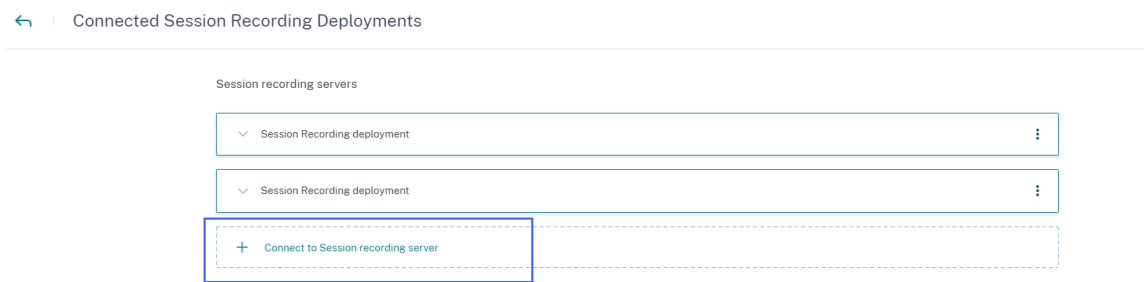
After you have enabled data processing, the site card might display the **No data received** status. This status appears for two reasons:

1. If you have turned on data processing for the first time, the events take some time to reach the event hub in Citrix Analytics. When Citrix Analytics receives the events, the status changes to **Data processing on**. If the status does not change after some time, refresh the Data Sources page.
2. Citrix Analytics has not received any events from the data source in the last one hour.

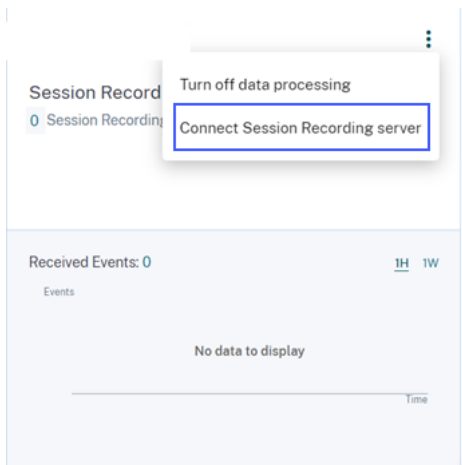
**Add Session Recording servers**

To add a Session Recording server, do one of the following:

- On the **Connected Session Recording Deployments** page, click **Connect to Session recording server**.



- On the **Apps and Desktops- Session Recording** site card, click the vertical ellipsis (⋮) and then select **Connect Session Recording server**.



Follow the steps to download the configuration file and configure a Session Recording server.

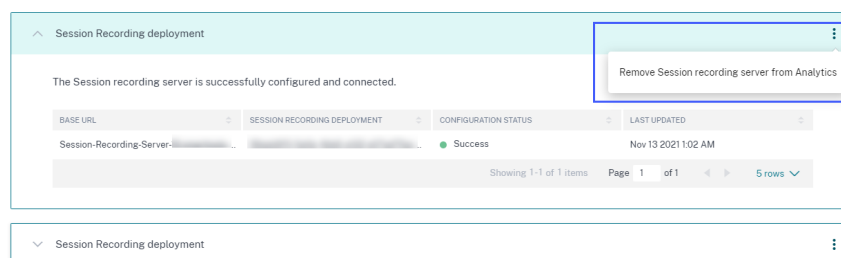
## Remove Session Recording servers

To remove a Session Recording server:

1. On Citrix Analytics for Security, go to the **Connected Session Recording Deployments** page and select the server deployment that you want to remove.
2. Click the vertical ellipses (⋮) and select **Remove Session Recording server from Analytics**.

← Connected Session Recording Deployments

Session recording servers



3. On the Session Recording server that you have removed from Citrix Analytics, run the following command:

```
1 <Session Recording Server installation path>\bin\SsRecUtils.exe - Remove_SRCasConfigurations
```

For example:

```
C:\Program Files\Citrix\SessionRecording\Server\bin\ SsRecUtils.exe -Remove_SRCasConfigurations
```

## Enabling print telemetry for Citrix DaaS

When users perform printing jobs in Citrix DaaS (formerly Citrix Virtual Apps and Desktops service), you can view the logs related to these printing jobs in Citrix Analytics for Security. These printing logs provide vital information about the printing activities such as printer names, print file names, and total printed copies.

### Note

This feature is only supported for Citrix DaaS.

In Citrix Analytics for Security, on the **Search** page, you can select the **Apps and Desktops** data source to view the printing logs. As a security administrator, you can use these logs for risk analysis and investigation of your users.

By default, the print telemetry feature, which is the collection and transmission of these printing logs, is disabled on the Virtual Delivery Agents (VDAs).

To enable the print telemetry and transmission of printing logs to Citrix Analytics for Security, you need to create registry keys and configure your VDA.

### **Important**

This configuration is only applicable for the Windows VDAs.

## **Prerequisites**

- Your VDA version must be the same as the baseline version for Citrix Virtual Apps and Desktops 7 2203 LTSR or later. For more information, see [Citrix Virtual Apps and Desktops 7 2203 baseline components](#).
- You must have full access permissions to perform the registry key updates.

## **Enable print telemetry in power managed machines**

The power-managed machines include virtual machines or blade PCs with the following scenarios:

- Existing master image
- New master image

## **Enable print telemetry for an existing master image where the VDA version is lower than Citrix Virtual Apps and Desktops 7 2203 LTSR**

1. Log in to the master VDA machine and create a snapshot of the current state.
2. Enable print service logs by adding the following registry keys:
  - Microsoft-Windows-PrintService/Operational
  - ShowJobTitleInEventLogs

For more information about the registry keys, see [Create registry keys](#).

3. Upgrade the VDA to a baseline version for Citrix Virtual Apps and Desktops 7 2203 LTSR or later. For more information, see [Citrix Virtual Apps and Desktops 7 2203 baseline components](#).
4. Power off the machine and take a snapshot of the latest state.
5. Log in to Citrix Cloud. Select the machine catalog, click **Update Machines**, and follow the on-screen instructions. For more information, see [Create machine catalogs](#).
6. Wait for 24 hours. The configuration is pushed automatically within 24 hours. If the configuration is already completed, you need not wait.

7. Start a desktop session using Citrix Workspace app. All the triggered print events using the client printer are visible on the **Search** page in Citrix Analytics for Security.

**Enable print telemetry for an existing master image where the VDA version is the same as Citrix Virtual Apps and Desktops 7 2203 LTSR or later** **Option 1:** Add the print registry keys in the master VDA and update virtual desktops.

1. Log in to the master VDA machine and create a snapshot of the current state.
2. Enable print service logs by adding the following registry keys:
  - Microsoft-Windows-PrintService/Operational
  - ShowJobTitleInEventLogs

For more information about the registry keys, see [Create registry keys](#).

3. Power off the VDA machine and take a snapshot of the latest state.
4. Log in to Citrix Cloud, select the machine catalog, click **Update Machines**, and follow the on-screen instructions.
5. Start a desktop session using Citrix Workspace app. All the triggered print events using the client printer are visible on the **Search** page in Citrix Analytics for Security.

**Option 2:** Move the virtual desktop to the organizational unit (OU) and create registry keys using GPO

#### Note

Option 2 method only works for static machines. For random machines, you must follow the option 1 method (as mentioned above).

1. Log in to the Domain Controller machine.
2. Enable print service logs by adding the following registry keys:
  - Microsoft-Windows-PrintService/Operational
  - ShowJobTitleInEventLogs

For more information about the registry keys, see [Create registry keys](#).

#### Note

In any domain controller, creating the registry keys is a one-time task.

1. Restart the VDA machine from Citrix Cloud.
2. Start a desktop session using Citrix Workspace app. All the triggered print events using the client printer are visible on the **Search** page in Citrix Analytics for Security.

### Enable print telemetry in a new master image

1. Create a virtual machine (VM) by using the hypervisor's management tool. This VM is treated as a master VDA.
2. Ensure that the master VDA is added to the required domain.
3. Log in to the master VDA and enable the print service logs by adding the following registry keys:
  - Microsoft-Windows-PrintService/Operational
  - ShowJobTitleInEventLogs

For more information, see [Create registry keys](#).

4. Install the VDA version for Citrix Virtual Apps and Desktops 7 2203 LTSR or later. While installing the VDA, select the **Master Image** option. For more information, see [Citrix Virtual Apps and Desktops 7 2203 baseline components](#).
5. Ensure that the hosting connection is added to Citrix Cloud. For more information, see [Create machine catalogs](#).
6. Create a machine catalog using the master image. For more information, see [Create machine catalogs](#).
7. Create a delivery group and add the machine catalog. For more information, see [Create delivery groups](#).
8. Wait for 24 hours. The configuration is pushed automatically within 24 hours by the group policy engine.
9. Start a desktop session using Citrix Workspace app. All the triggered print events using the client printer are visible on the **Search** page in Citrix Analytics for Security.

### Enable print telemetry in machines that are not power managed

The non-power managed machines include the physical computers with the following scenarios:

- Existing physical VDA
- New physical VDA

### Enable print telemetry for an existing physical VDA where the VDA version is lower than Citrix Virtual Apps and Desktops 7 2203 LTSR

1. Enable print service logs by adding the following registry keys:
  - Microsoft-Windows-PrintService/Operational
  - ShowJobTitleInEventLogs

For more information, see [Create registry keys](#).

2. Upgrade the VDA to a baseline version for Citrix Virtual Apps and Desktops 7 2203 LTSR or later. For more information, see [Citrix Virtual Apps and Desktops 7 2203 baseline components](#).
3. Wait for 24 hours. The configuration is pushed automatically within 24 hours. If the configuration is already completed, then you need not wait.
4. Start a desktop session using Citrix Workspace app. All the triggered print events using the client printer are visible on the **Search** page in Citrix Analytics for Security.

### Enable print telemetry for a new physical VDA

1. Create a physical VM and change the domain to the required domain name.
2. Log in to the VM and enable the print service logs by adding the following registry keys:
  - Microsoft-Windows-PrintService/Operational
  - ShowJobTitleInEventLogs

For more information, see [Create registry keys](#).

3. Install the VDA version for Citrix Virtual Apps and Desktops 7 2203 LTSR release or later. While installing VDA, select the Remote PC Access option.
4. Create a machine catalog. For more information, see [Create machine catalogs](#).

#### Note

Machine management must be selected as **Machines that are not power managed (for example, physical machines)**.

5. Create a delivery group and add the machine catalog. For more information, see [Create delivery groups](#).
6. Wait for 24 hours. The configuration is pushed automatically within 24 hours by the group policy engine.
7. Start a desktop session using Citrix Workspace app. All the triggered print events using the client printer are visible in the **Search** page in Citrix Analytics for Security.

### Create registry keys

In your VDA, do one of the following options:

- Create registry keys manually. Use this method for master VDAs and having a smaller number of physical VDAs in your deployment.

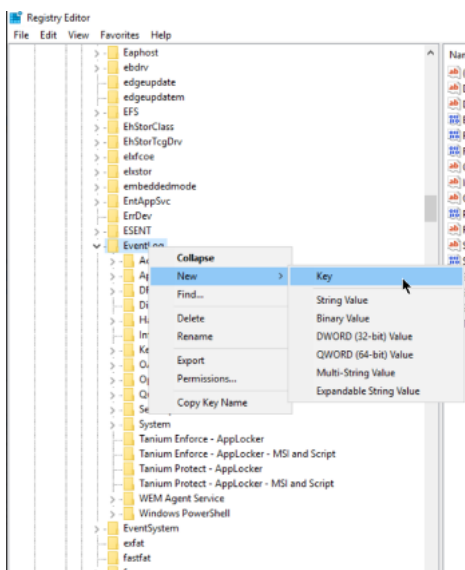
- Create registry keys by using group policy object (GPO). Use this method when your deployment has a greater number of physical VDA machines and must enable the print telemetry in all of them.

Registry keys details

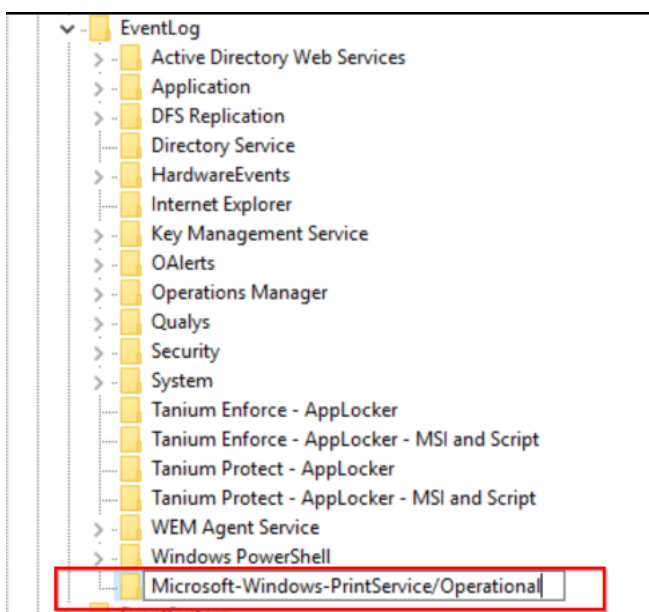
SL	Registry key name	Purpose of the key	Registry details
1	Microsoft-Windows-PrintService/Operational	Enables print service logs in the event viewer.	<b>Registry path:</b> HKLM:\SYSTEM\CurrentControlSet\
2	ShowJobTitleInEventLogs	Controls whether the print job name is included in print event logs, otherwise considers the generic job name “Print Document.	<b>Registry Hive:</b> HKEY_LOCAL_MACHINE  <b>Registry Path:</b> Software\Policies\Microsoft\Windows NT\Printers <b>Value Name:</b> ShowJobTitleInEvent-Logs <b>Value Type:</b> REG_DWORD <b>Value:</b> 1

**Create registry keys manually in a VDA machine** Use this approach to create the registry key in the VDA master image. Adding keys to the master image helps to keep the keys persistent for all types of VDAs that are created by using the master image.

1. Sign in to the VDA master machine.
2. Open Run and type Regedit to open the Windows registry.
3. Go to location HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\EventLog
4. Right-click **EventLog** and select **New > Key**.



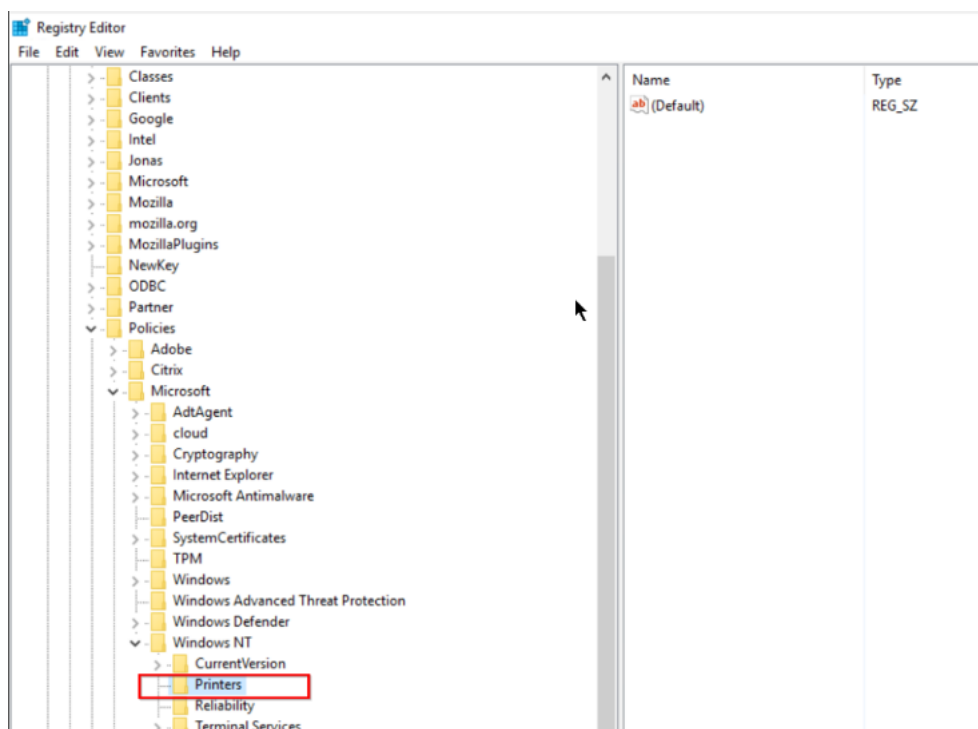
5. Create a key with the name **Microsoft-Windows-PrintService/Operational**. This key enables the print service logs.



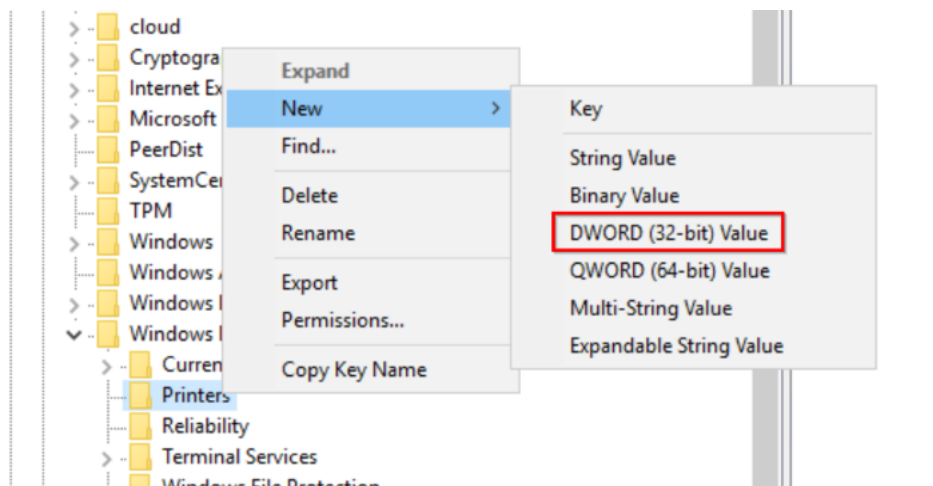
6. Go to the location **HKEY\_LOCAL\_MACHINE\Software\Policies\Microsoft\Windows NT\Printers**.

**Note**

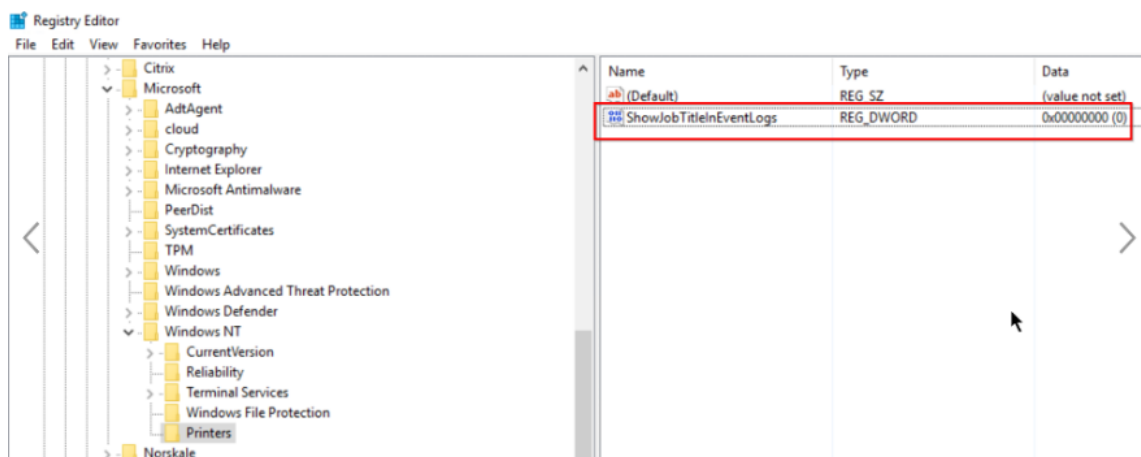
If the Printers folder is not available, then create a key with the name Printers in the Windows NT folder.



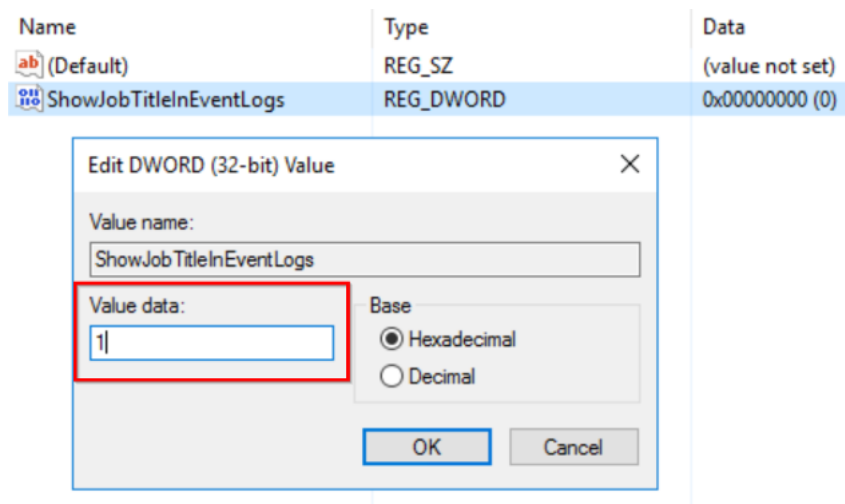
7. Right-click the **Printers** folder and select **New > DWORD (32-bit) Value**.



8. Create a value with the name **ShowJobTitleInEventLogs**.



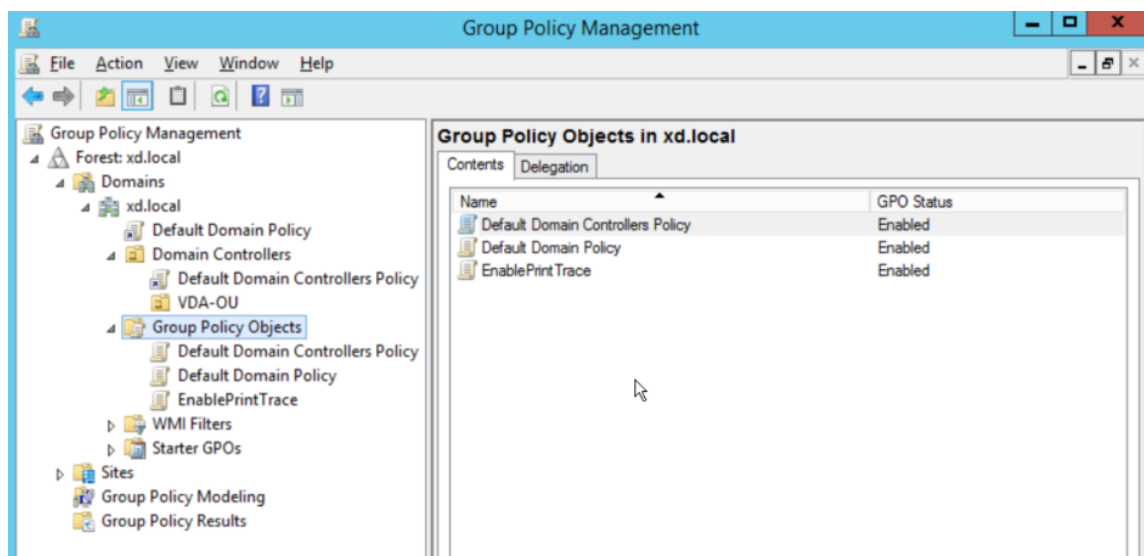
9. Right-click **ShowJobTitleInEventLogs** and select **Modify**. Enter the **Value data** as 1 and click **OK**.



**Create registry keys in multiple VDAs using GPO** This approach works only for the persistent VDAs and requires restart of the VDAs after creation of the registry keys. A persistent VDA is a machine that maintains its state after a restart. The users' data are not lost after the restart.

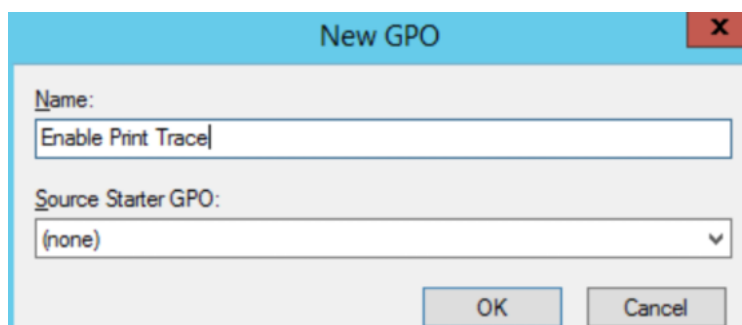
### Create registry GPO with the registry keys

1. Open Group Policy Management and right-click **Group Policy Objects**.



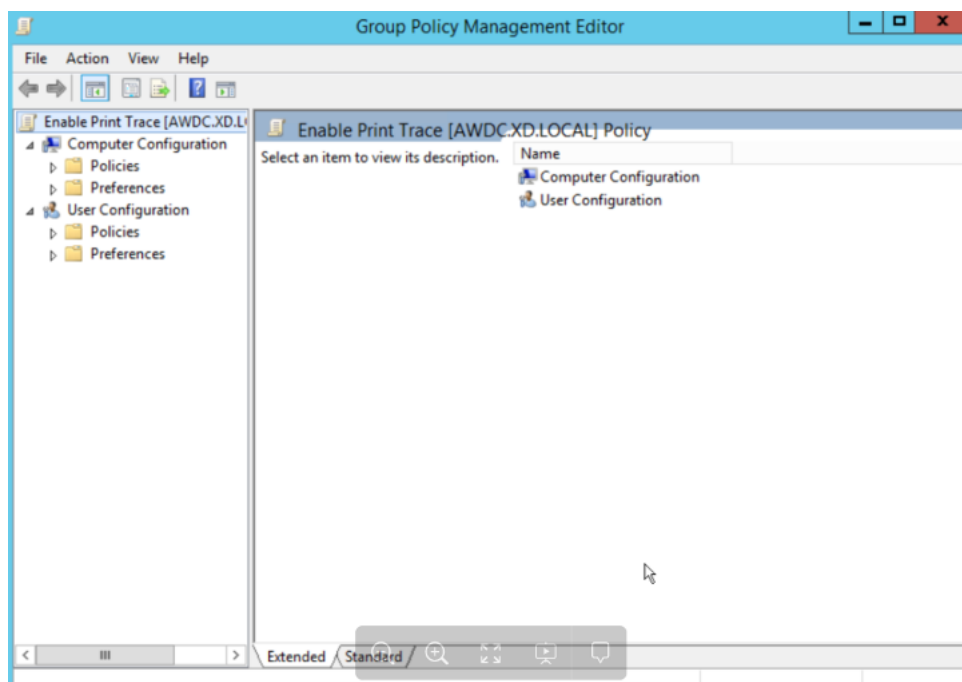
2. In the **New GPO** window, enter the values in the following fields:

- Name: Enable Print Trace
- Source Starter GPO: (none)

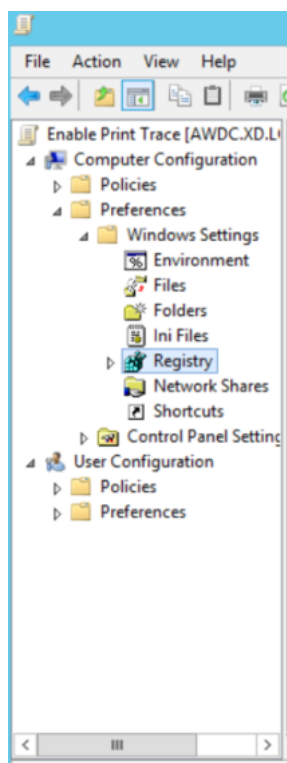


3. Select **OK**.

4. Right-click the **Enable Print Trace** object that you created and select **Edit**.



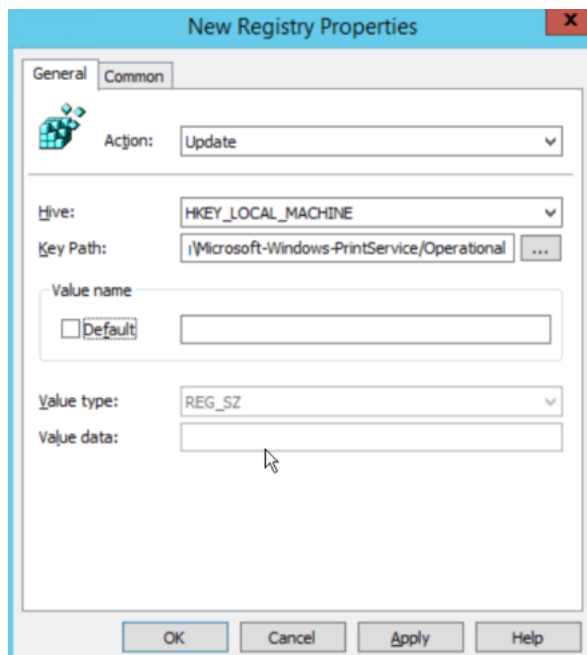
5. In the **Computer Configuration** list, select **Preferences > Windows Settings**.



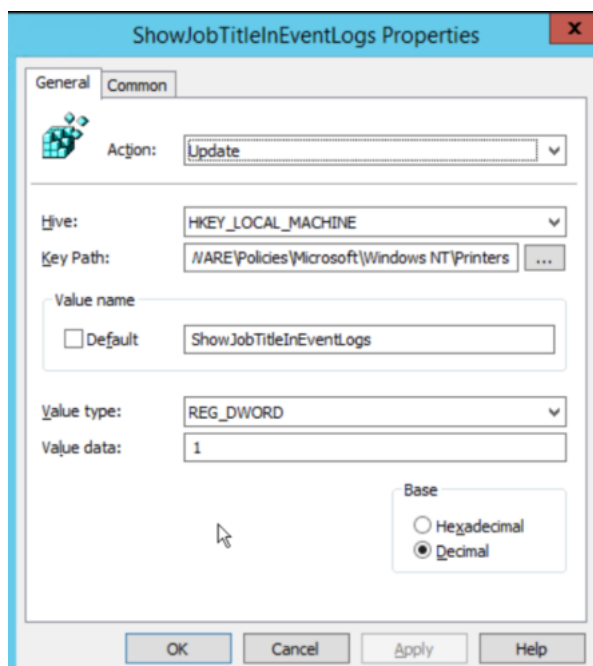
6. Right-click **Registry**, select **New > Registry Item**. Enter the following properties to enable print logs:

- Action: Update

- Hive: HKEY\_LOCAL\_MACHINE
- Key Path: SYSTEM\CurrentControlSet\Services\EventLog\Microsoft-Windows-PrintService\Operational

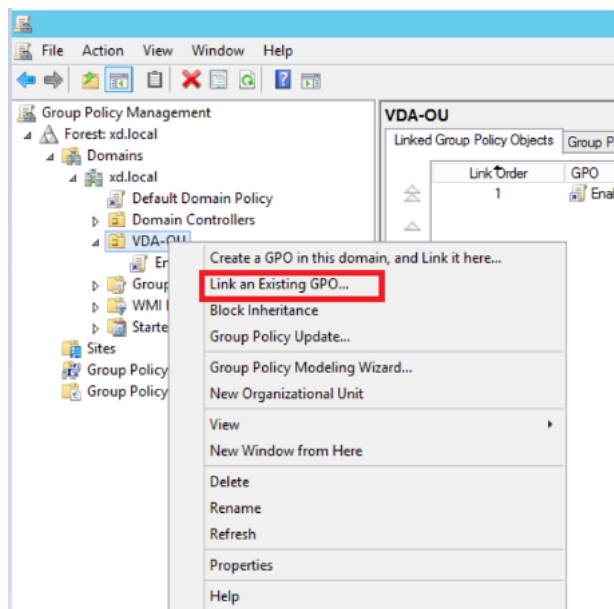


7. Select **Apply** and then select **OK**.
8. Again, right-click **Registry**, select **New > Registry** Item. Enter the following properties to enable print job names:
  - Action: Update
  - Hive: HKEY\_LOCAL\_MACHINE
  - Key Path: SOFTWARE\Policies\Microsoft\Windows NT\Printers
  - Value Name: ShowJobTitleInEventLogs
  - Value Type: REG\_DWORD
  - Value Data: 1
  - Base: Decimal

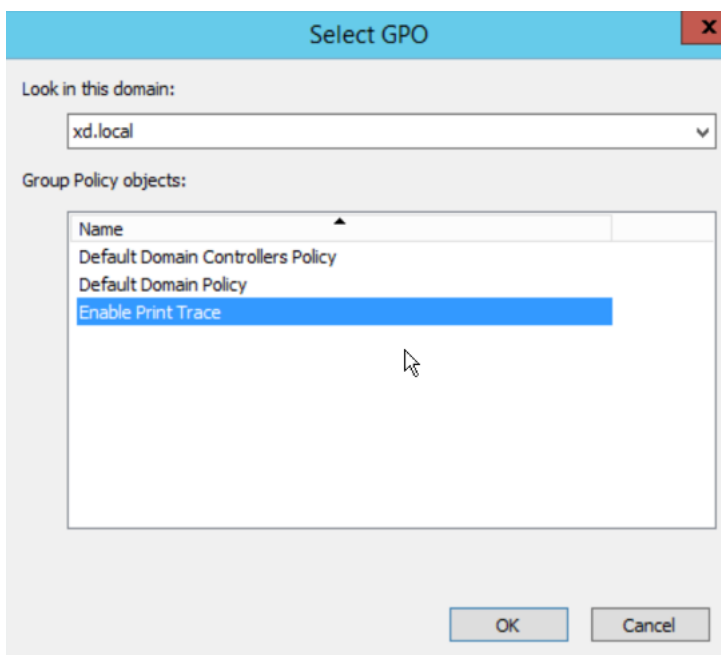


### Enable print trace for the organizational unit

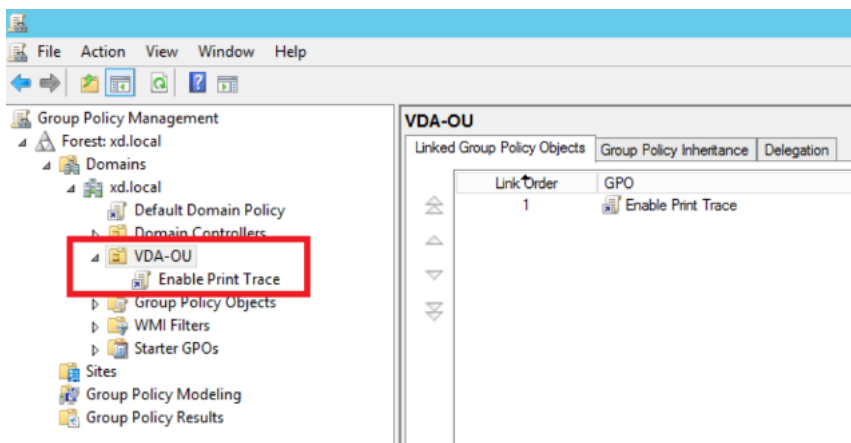
1. Open **Group Policy Management** and select the domain (for example - xd.local) or the OU if VDAs are part of it (for example - VDA-OU).
2. Right-click the domain (xd.local) or OU (VDA-OU) and select **Link an Existing GPO**.



3. In the **Select GPO** dialog box, select Enable Print Trace and select **OK**.



4. Verify that the **Enable Print Trace GPO** is linked to the OU.



#### Note

- When you do a VDA restart, any events in the queue are lost and will not be available in Citrix Analytics.
- This restart has a low impact on a single session VDA because only one session can be active at a given time, accordingly the number of events are less.
- This restart has a high impact on a multi-session VDA as all the active sessions are terminated during the restart and the events that are in the queue are lost.

## Enabling clipboard telemetry for Citrix DaaS

Citrix DaaS (formerly known as Citrix Virtual Apps and Desktops service) allows users to perform clipboard operations, and the related logs can be viewed in Citrix Analytics for Security. These clipboard logs provide valuable information such as the VDA name, clipboard size, clipboard format type, client IP, clipboard operation, clipboard operation direction, and whether the clipboard operation was permitted.

As a security administrator, you can use these logs for risk analysis and investigations by selecting the **Apps and Desktops** data source on the **Search** page in Citrix Analytics for Security.

### Note

- By default, the collection and transmission of these clipboard logs is enabled on the Virtual Delivery Agents (VDAs).
- This configuration is only applicable for the Windows VDAs.

### Prerequisites

- Your VDA version must be the same as the baseline version for Citrix Virtual Apps and Desktops 7 2305 or later. For more information, see [Citrix Virtual Apps and Desktops 7 2305](#).
- Ensure that the **Client Clipboard Redirection** setting on the **Web Studio Policies** page is not configured to a prohibited state. For more information, see [Client clipboard redirection](#).

You can use the **Clipboard place metadata collection for Security monitoring** policy to enable or disable the clipboard telemetry. By default, this policy is enabled. To disable, you must go to the **Policy** page > select **Security** under the **VDA Data Collection** > check the policy > click **Disable**.

Create Policy

1 Select Settings

2 Assign Policy To

3 Summary

Select Settings

View by category

All Settings

Connector for Configuration Manager 2012

> ICA

Load Management

> Profile Management

User Personalization Layer

> VDA Data Collection

Security

> Virtual Delivery Agent Settings

Virtual IP

Workspace Environment Management

Settings: 1 selected

☐ Include legacy settings

☐ View selected only

Search

Settings

Clipboard place metadata collection fo...

Enabled

Disable

Edit

For more information, see [Clipboard place metadata collection for Security monitoring](#).

## Turn on or off data processing on the data source

You can stop the data processing at any time for a particular data source- Director and Workspace app. On the data source site card, click the **vertical ellipsis (⋮) > Turn off data processing**. Citrix Analytics stops processing data for that data source. You can also stop the data processing from the Apps and Desktops site card. This option applies to both data sources- Director and Workspace app.

To enable data processing again, click **Turn On Data Processing**.

## Microsoft Active Directory and Azure Active Directory integration

January 20, 2022

Connect your Active Directory or your Azure Active Directory and import the user details and the user groups from your organization's domain to Citrix Analytics for Security.

This integration enhances the user profiles in Citrix Analytics for Security with user identity details such as job title, organization, office location, email, and contact details. On the [User profile](#) page, you can view these user details, which help you during risk investigation and analysis.

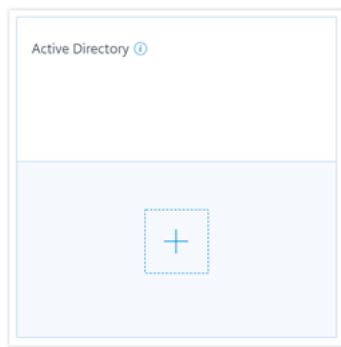
### Prerequisites

- If you want to connect Active Directory with Citrix Analytics for Security, ensure that your Active Directory is first connected to your Citrix Cloud account. For more information, see [Connect Active Directory to Citrix Cloud](#).
- If you want to connect Azure Active Directory with Citrix Analytics for Security, ensure that your Azure Active Directory is first connected to your Citrix Cloud account. For more information, see [Connect Azure Active Directory to Citrix Cloud](#).

### Connect Microsoft Active Directory

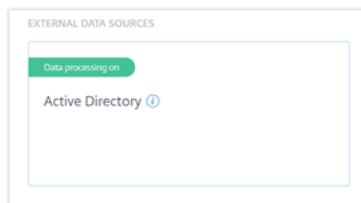
To connect your Active Directory to Citrix Analytics for Security, do the following:

1. Go to **Settings > Data Sources > Security** and then navigate to the **EXTERNAL DATA SOURCES** section.
2. On the **Active Directory** site card, click the plus + sign.



3. Citrix Analytics prompts you to connect Active Directory to your Citrix Cloud account. For more information, see Prerequisites.

After you have connected your Active Directory to your Citrix Cloud account, Citrix Analytics automatically discovers this new data source. On the **Data Sources** page, the Active Directory site card displays **Data processing on**.

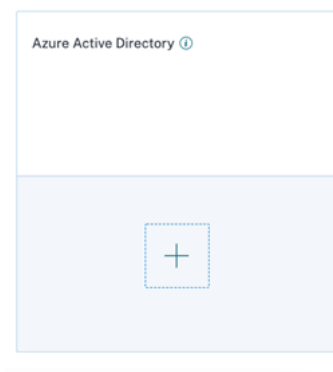


The **Data processing on** status indicates that the Active Directory is discovered and user information is being fetched from your Active Directory.

### Connect Microsoft Azure Active Directory

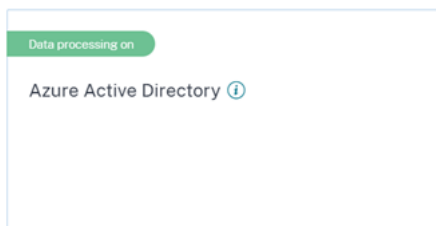
To connect your Azure Active Directory to Citrix Analytics, do the following:

1. Go to **Settings > Data Sources > Security** and then navigate to the **EXTERNAL DATA SOURCES** section.
2. On the **Azure Active Directory** site card, click the plus + sign.



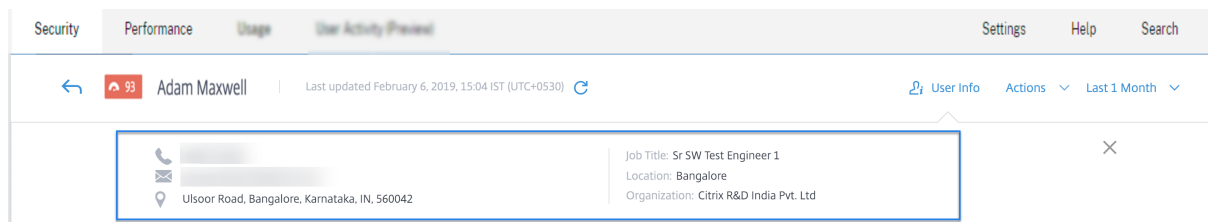
3. Citrix Analytics prompts you to connect Azure Active Directory to your Citrix Cloud account. For more information, see [Connect Azure Active Directory to Citrix Cloud](#).

After you have connected your Azure Active Directory to your Citrix Cloud account, Citrix Analytics automatically discovers this new data source. On the **Data Sources** page, the **Azure Active Directory** site card displays **Data processing on**. This status indicates that the Azure Active Directory is discovered and the user information is being fetched from your Azure Active Directory.



## View user information

From the **Security** tab, click a risky user to view the user profile page. If the user is available in Active Directory or Azure Active Directory, you can view their job title, organization, email, and contact number on the user profile page.



## Microsoft Graph Security integration

April 21, 2021

[Microsoft Graph Security](#) is an external data source that aggregates data from multiple security providers. It also provides access to the user inventory data.

Citrix Analytics currently supports the following security providers from Microsoft Graph Security:

- Azure AD identity protection
- Microsoft Defender for Endpoint

For more information on the security providers, see the following links:

- For **Azure AD Identity Protection**: <https://docs.microsoft.com/en-us/azure/active-directory/reports-monitoring/concept-risk-events>
- For **Microsoft Defender for Endpoint**: <https://docs.microsoft.com/en-us/mem/configmgr/policy-compliance/deploy-use/defender-advanced-threat-protection>

To onboard the Microsoft Graph Security data source, you need to obtain the required permissions on behalf of a tenant, from the Microsoft identity platform.

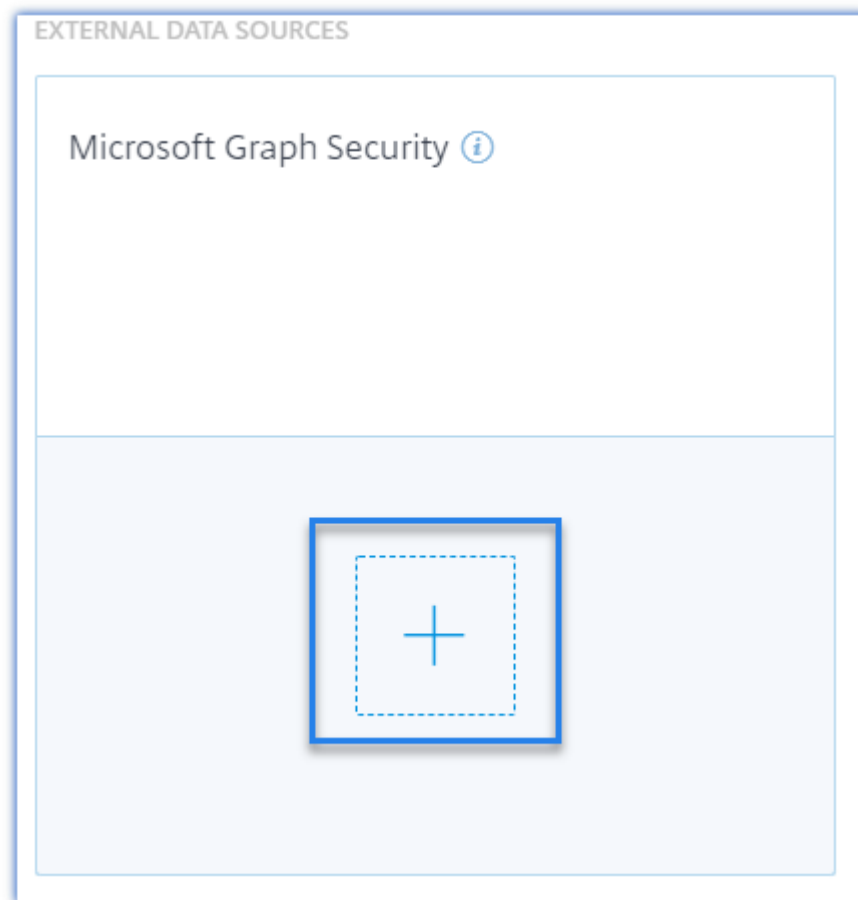
## Prerequisites

Before you begin onboarding the Microsoft Graph Security data source, ensure that:

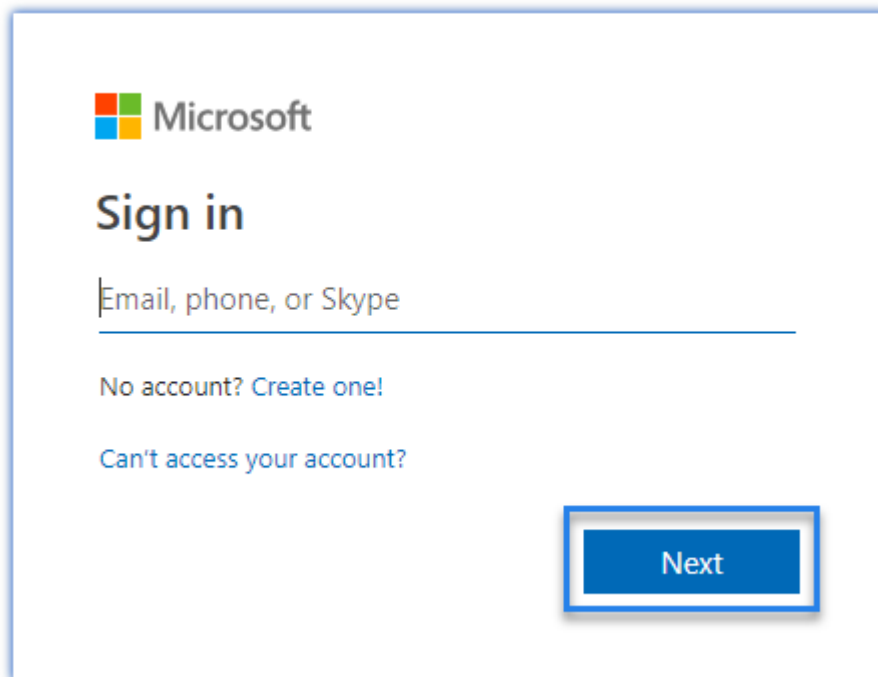
- The administrator is using the Azure AD Identity Protection (part of the Azure AD Premium P2) security provider.
- The end user is signed in to Microsoft Store with Work or School accounts.

## Onboarding Microsoft Graph Security instances

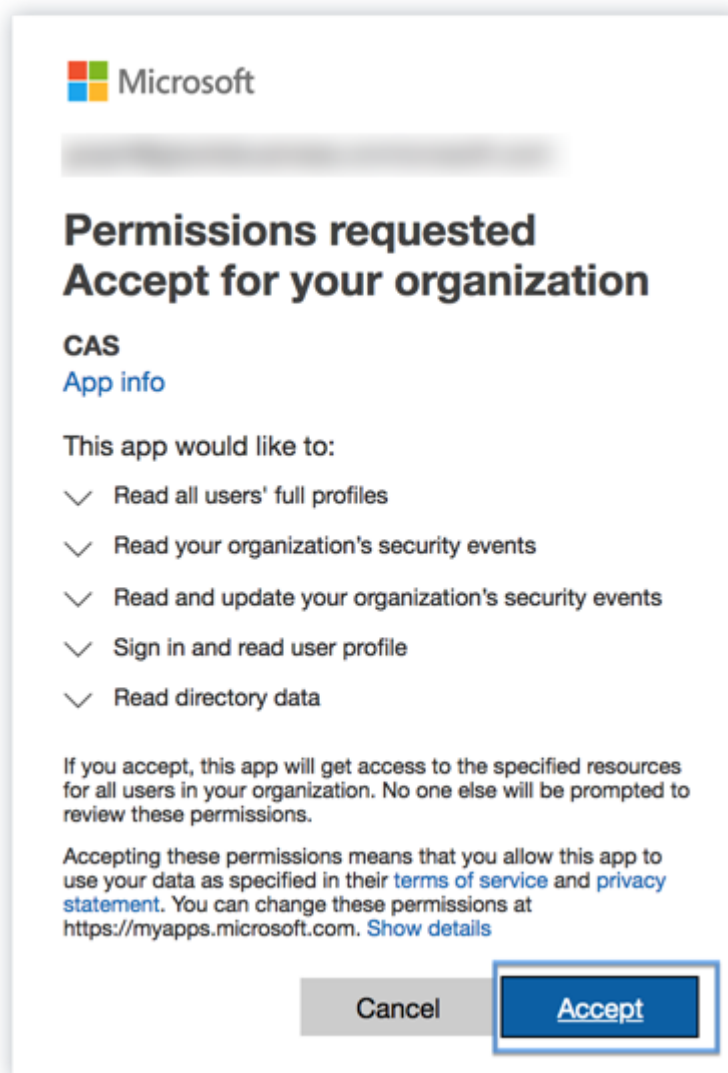
1. Go to **Settings > Data Sources > Security** and then navigate to the **EXTERNAL DATA SOURCES** section.
2. Click the plus (+) sign on the Microsoft Graph Security site card. You get redirected to the authorize endpoint.



3. On the **Microsoft** window, sign in using your Azure logon credentials to register an account. Or, select an existing account.
4. Click **Next**.



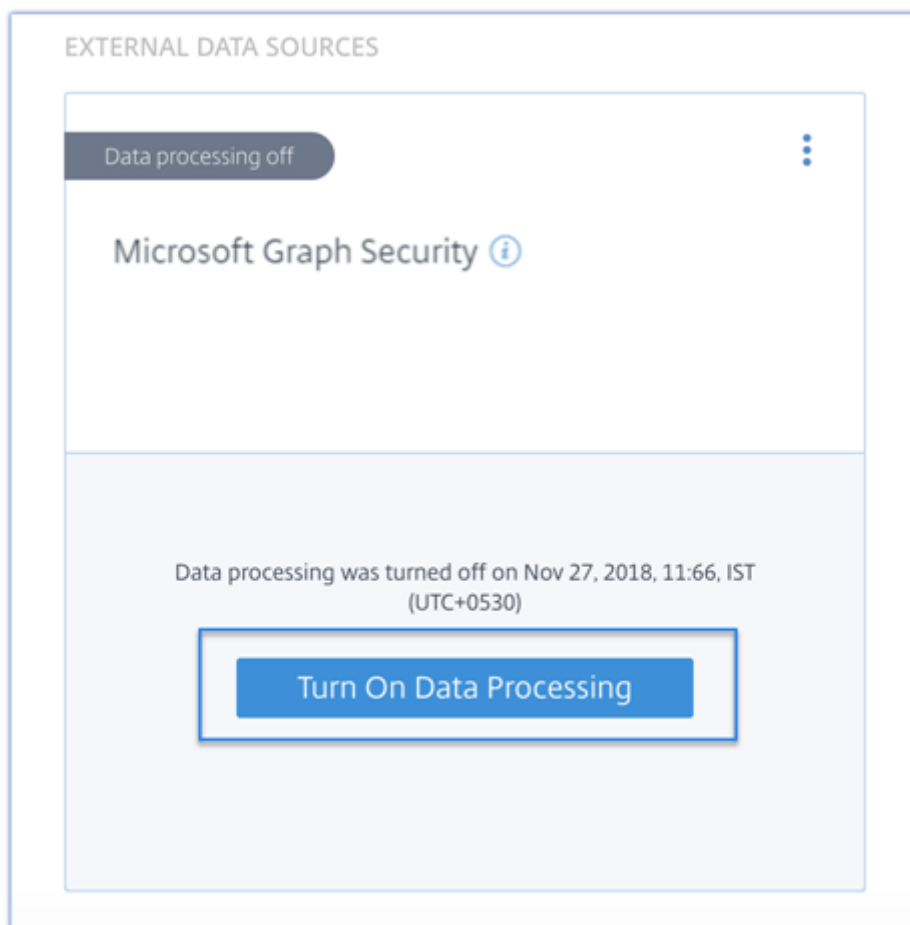
5. Click **Accept**. You get redirected to the Data Sources page. The Microsoft Graph Security data source is now linked to your Citrix Cloud account.



### Turn on or off data processing

To disable data processing, click the vertical ellipsis (⋮) on the site card and select **Turn off data processing**. It stops Citrix Analytics from processing data for this data source.

You can turn on data processing again by selecting **Turn On Data Processing** on the site card.



For information on Microsoft Graph Security risk indicators, see [Microsoft Graph Security risk indicators](#).

## Security Information and Event Management (SIEM) integration

November 30, 2023

### Note

Contact [CAS-PM-Ext@cloud.com](mailto:CAS-PM-Ext@cloud.com) to request assistance for the SIEM integration, exporting data to SIEM, and provide feedback.

Integrate Citrix Analytics for Security with your SIEM services and export the users' data from the Citrix IT environment to your SIEM. Correlate the exported data with the data available in your SIEM to get deeper insights into your organization's security posture.

This integration enhances the value of both your Citrix Analytics for Security and your SIEM.

## Benefits

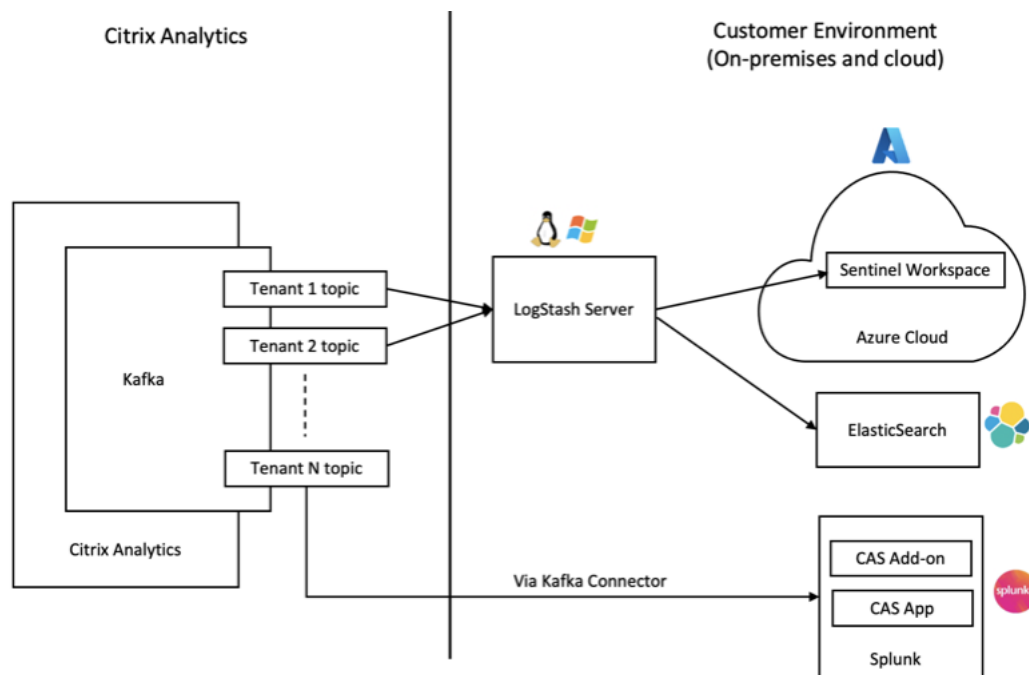
- Enables your Security Operations teams to correlate, analyze, and search data from disparate logs.
- Helps your Security Operations teams to identify and quickly remediate the security risks.
- Visibility of security alerts in a centralized place.
- Centralized approach to detect potential security threats for organizational risk analysis capabilities such as risk indicators, user profiles, and risk scores.
- Ability to combine and correlate the Citrix Analytics risk intelligence information of a user account with the external data sources connected within your SIEM.

## SIEM integration architecture

Your SIEM Integration connects with the north-bound Kafka deployed on Citrix Analytics for Security cloud. This can be achieved in the following two ways:

- **Kafka endpoints:** If your SIEM supports Kafka endpoints, use the parameters provided in the Logstash config file and the certificate details in the JKS file or the PEM file to integrate your SIEM with Citrix Analytics for Security. Using the Kafka endpoints, you can connect and pull the data to the SIEM of choice.
- **Logstash engine:** If your SIEM does not support Kafka endpoints, then you can use the Logstash data collection engine. You can send the risk insights data from Citrix Analytics for Security to one of the [output plug-ins](#) that are supported by Logstash.

Refer to the following SIEM solution architecture diagram to understand how data flows from Citrix Analytics for Security to your SIEM service:



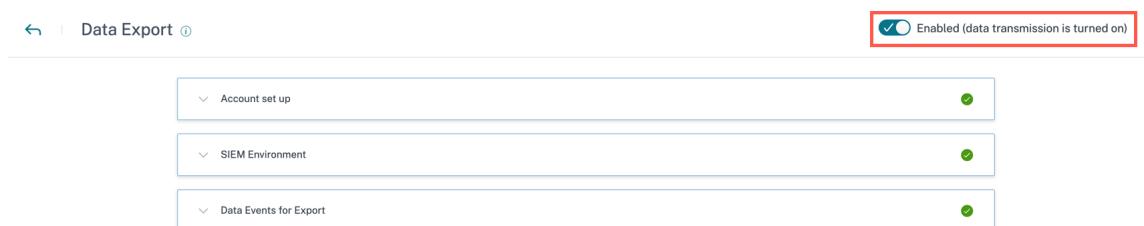
## Turn on or off data transmission

To stop transmitting data from Citrix Analytics for Security:

1. Go to **Settings > Data Exports**.
2. Turn off the toggle button to disable the **data transmission**.

### Note

By default, the data transmission is always turned on/enabled for SIEM.



To enable data transmission again, turn on the toggle button.

## Setting up SIEM environment

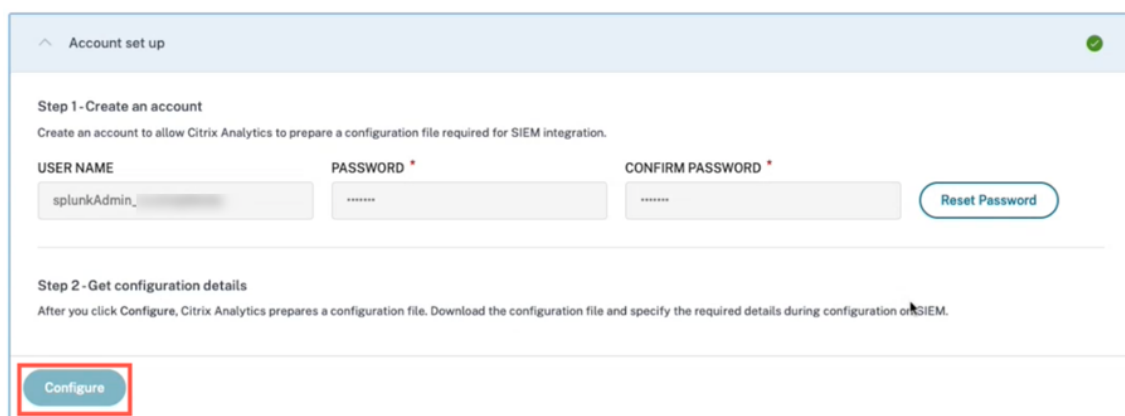
To export data to SIEM, you must perform the following actions:

- Set up your Kafka account and authentication credentials

- Download the pre-populated configuration and set up the SIEM environment
- Data Events for Export

## SIEM export account setup

1. For setting up your account, navigate to **Settings > Data Exports > expand Account set up**. Create an account by specifying the user name and password. Once you set up your account, your Kafka details are generated. These details are automatically embedded while generating the configuration file.



The screenshot shows a web interface titled 'Account set up' with a green checkmark in the top right corner. It is divided into two steps. Step 1, 'Create an account', includes a sub-header 'Create an account to allow Citrix Analytics to prepare a configuration file required for SIEM integration.' and three input fields: 'USER NAME' (containing 'splunkAdmin\_'), 'PASSWORD \*' (masked with dots), and 'CONFIRM PASSWORD \*' (masked with dots). A 'Reset Password' button is to the right of the password fields. Step 2, 'Get configuration details', includes a sub-header 'After you click Configure, Citrix Analytics prepares a configuration file. Download the configuration file and specify the required details during configuration of SIEM.' and a 'Configure' button at the bottom left, which is highlighted with a red rectangle.

2. Click **Configure** to generate the configuration file. The configuration file contains details such as Kafka endpoints, your specific subscription topics, and group IDs. Also, it pre-configures the Kafka and SSL attributes which are required for completing authentication and data flow.

## SIEM configuration and environment setup

Choose the SIEM environment as needed. You can integrate Citrix Analytics for Security with the following services. Refer the following links to get detailed information and SIEM specific configurations:

- [Splunk](#)
- [Microsoft Sentinel](#)
- [Elasticsearch](#)
- [Other SIEMs using Kafka or Logstash based data connector](#)

**SIEM Environment Setup**

**Step 3 - Choose one SIEM environment**

Configure one SIEM service at a time. If you configure multiple SIEM services simultaneously, you might face configuration issues.

Citrix Analytics Kafka topics retain events for a maximum of 7 days only. To avoid or prevent potential data loss, it is recommended to setup a data poll interval that does not exceed 7 days.

**Splunk** | Azure Sentinel (Preview) | Elastic Search | Others

**Step 4 - Copy Citrix Configuration Details**

Copy the configuration file and specify the required details during configuration on Splunk.

Username: splunkAdmin\_1xx3vbj69a9a  
 Host(s): casnb-0.citrix.com:9094,casnb-1.citrix.com:9094,casnb-2.citrix.com:9094,casnb-3.citrix.com:9094  
 Topic name: cas.siem.e7aba453-a488-4e5b-bfd7-e032856df2fa  
 Group name: splunkAdmin\_1xx3vbj69a9a-group

**Step 5 - Follow the steps described below:**

- Download and install the Splunk add-on in the Splunk environment.
- Configure Splunk add-on by providing the Citrix Analytics configuration file details on the Add Data page of the Splunk environment.

For detailed instructions, see the [Splunk integration documentation](#).

**Test SIEM Connection**

**Step 6 - Send test data to check successful SIEM integration (optional)**

Click the Send test data button for sending a test data to your SIEM environment. This test data helps to verify if the SIEM connection has been successfully set or not.

**Send test data**

## Data events exported from Citrix Analytics for Security to your SIEM service

As part of SIEM exports, there are two types of data sets:

- Risk insights events (Default exports)** –Once you have completed the account configuration and SIEM setup, default data (risk insights events) start flowing to your SIEM deployment. Risk insights data contains user risk score, user profile, and risk indicator alerts. These are generated by Citrix Analytics machine learning algorithm, user behavior analysis, and based on user events. For information on the event types, metadata, and schema available, see [Risk insights data for SIEM](#).
- Data Source events (Optional exports)** - Additionally, you can configure the Data exports feature to export user events from your Citrix Analytics for Security enabled products data sources. When you perform any activity in the Citrix environment, the data source events are generated. The exported events are unprocessed real time user and product usage data as available in self-service view. The meta data contained in these events can further be used for deeper threat analysis, creating new dashboards, and co related with other non-Citrix data source events across your security and IT infra.

Currently, Citrix Analytics for Security sends user events to your SIEM for the Citrix Virtual Apps and Desktops data source.

For information on the event types, metadata, and schema available, see [Data source events](#).

**Note**

Customers who are using a Logstash data broker, it is recommended that the latest configuration file is downloaded from [Citrix Analytics for Security](#) portal, and updated on the Logstash service deployment. This ensures that the correct data source event tables are created and the events are now available in SIEM indexes.

^ Data source events

DEFAULT EVENTS

Risk Insight

DATA EXPORT EVENTS (OPTIONAL)

Apps and Desktops

Data exports off

Content Collaboration

Data exports off

Risk insight events

As part of your SIEM environment, the risk insight event data source are available and turned on by default. To learn more about each processed data, refer to the [processed data for SIEM documentation](#).

i

Risk insight events are enabled by default.

☒ All event types

☒ Risk score change

☒ Risk indicator summary

☒ Risk indicator event details

☒ User risk score

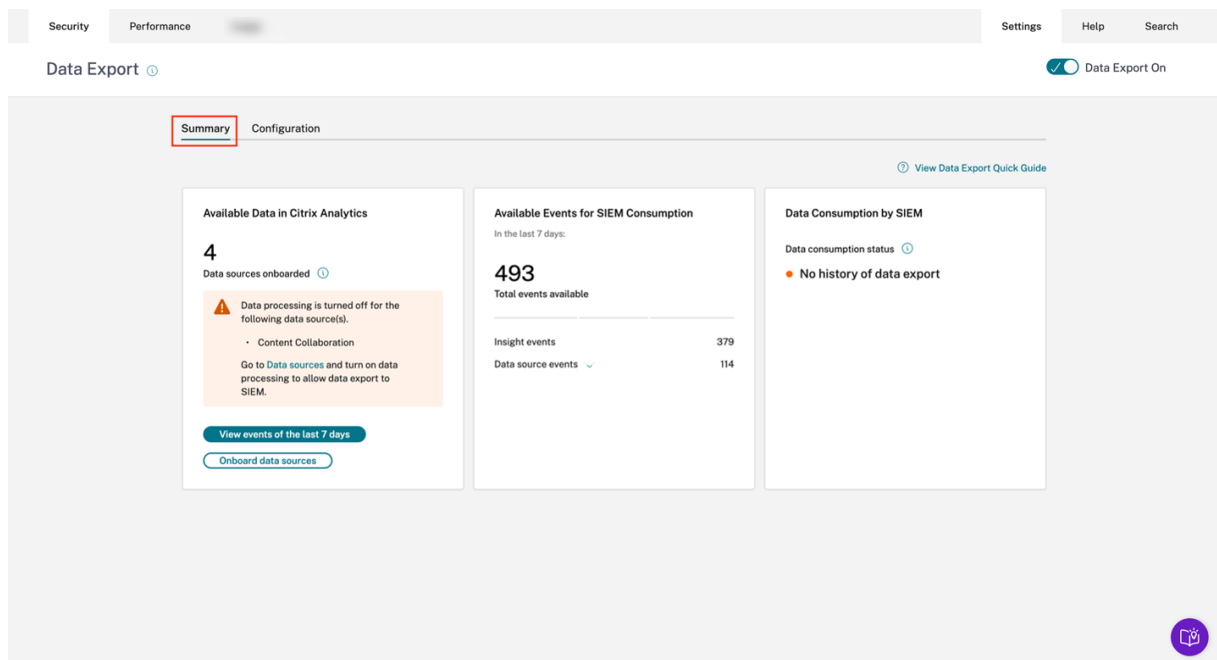
☒ User profile (user apps, data usage, device, location)

Cancel

Save Changes

**Troubleshooting SIEM Integration**

The Data Exports for Security view includes a **Summary** tab to help administrators troubleshoot their SIEM integration with Citrix Analytics. The **Summary** dashboard provides visibility into the health and flow of data by taking them through the checkpoints that aid the troubleshooting process.



To learn more about this capability, refer [Troubleshooting Data Exports](#).

## Splunk integration

November 3, 2023

Integrate Citrix Analytics for Security with Splunk to export and [correlate](#) the users' data from your Citrix IT environment to Splunk and get deeper insights into your organization's security posture.

For more information about the benefits of the integration and the type of processed data that is sent to your SIEM, see [Security Information and Event Management integration](#).

To develop a comprehensive understanding of the Splunk Deployment Methodology and adopt the strategies for effective planning, refer [Splunk architecture with Citrix Analytics applications hosted on Splunk](#) documentation.

## Integrate Citrix Analytics for Security with Splunk

Follow the guidelines mentioned to integrate Citrix Analytics for Security with Splunk:

- Data export. Citrix Analytics for Security creates a Kafka channel and exports Risk Insights and Data source events. Splunk retrieves this risk intelligence from the channel.

- Get configuration on Citrix Analytics. Create a password for your pre-defined account for authentication. Citrix Analytics for Security prepares a configuration file required for you to configure the Citrix Analytics add-on for Splunk.
- Download and install Citrix Analytics add-on for Splunk. Download the **Citrix Analytics Add-on for Splunk** either using Splunkbase or Splunk Cloud to complete the installation process.
- Configure Citrix Analytics add-on for Splunk. Set up a data input by using the configuration details provided by Citrix Analytics for Security and configure the Citrix Analytics add-on for Splunk.

After the Citrix Analytics configuration file is prepared, see:

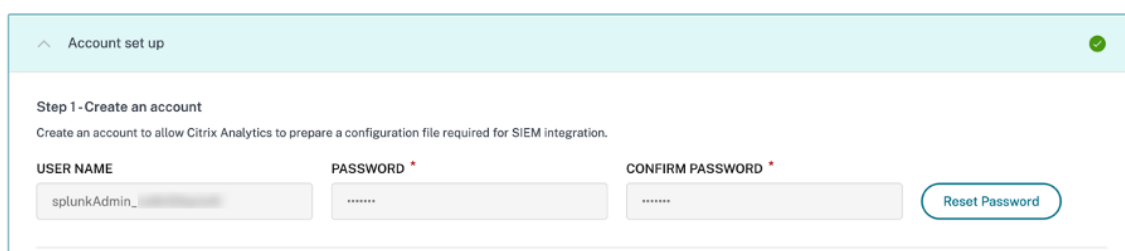
- Reset Password Capability
- Turn on or off data transmission

After the Citrix Analytics add-on for Splunk is configured, see:

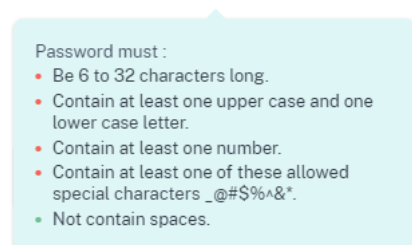
- How to consume events at Splunk Environment
- How to configure Citrix Analytics App for Splunk

### Data export

1. Go to **Settings > Data Exports**.
2. On the **Account set up** section, create an account by specifying the user name and a password. This account is used to prepare a configuration file, which is required for the integration.



3. Ensure that the password meets the following conditions:



4. Select **Configure**.

Citrix Analytics for Security prepares the configuration details required for Splunk integration.

### Step 2 - Get configuration details

After you click Configure, Citrix Analytics prepares a configuration file. Download the configuration file and specify the required details during configuration on SIEM.

Configure

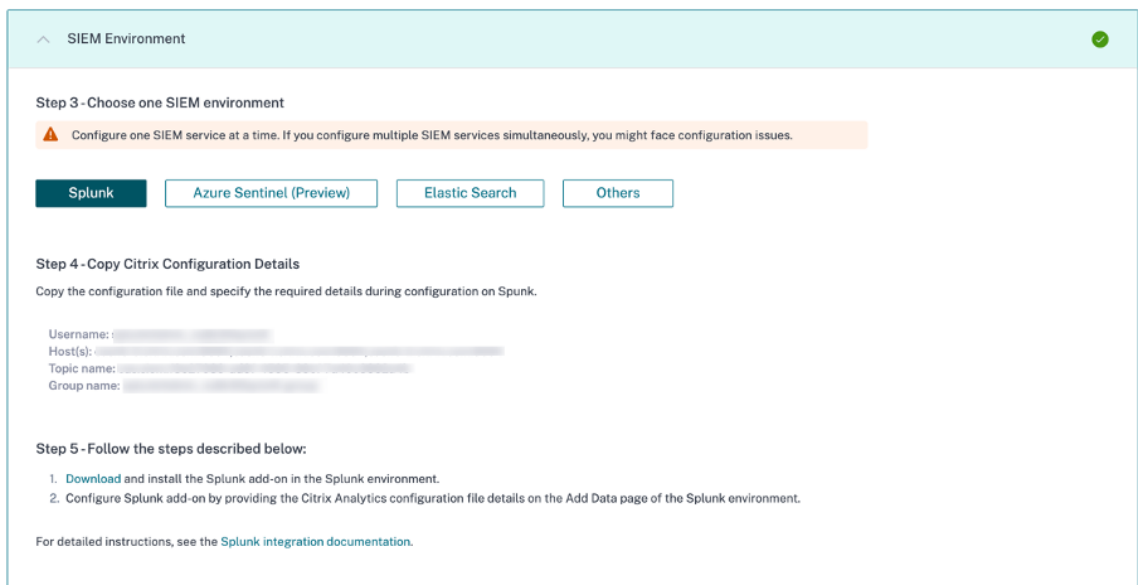
### 5. Select **Splunk**.

6. Copy the configuration details, which include the user name, hosts, Kafka topic name, and group name.

You require these details to configure Citrix Analytics Add-on for Splunk in the subsequent steps.

### IMPORTANT

These details are sensitive and you must store them in a secure location.



The screenshot shows the 'SIEM Environment' configuration page. At the top, there's a header 'SIEM Environment' with a green checkmark. Below it, 'Step 3 - Choose one SIEM environment' is displayed. A warning message states: 'Configure one SIEM service at a time. If you configure multiple SIEM services simultaneously, you might face configuration issues.' There are four buttons: 'Splunk' (selected), 'Azure Sentinel (Preview)', 'Elastic Search', and 'Others'. Below this, 'Step 4 - Copy Citrix Configuration Details' is shown, with instructions to copy the configuration file and specify details during configuration on Splunk. The details listed are: Username: [redacted], Host(s): [redacted], Topic name: [redacted], and Group name: [redacted]. 'Step 5 - Follow the steps described below:' follows, with two numbered steps: 1. Download and install the Splunk add-on in the Splunk environment. 2. Configure Splunk add-on by providing the Citrix Analytics configuration file details on the Add Data page of the Splunk environment. A link to 'Splunk integration documentation' is provided at the bottom.

To generate candidate data for Splunk Integration, either turn on data processing for at least one data source or use [test event generation capability](#). It helps Citrix Analytics for Security to begin the Splunk integration process.

## Reset Password Capability

If you want to reset your configuration password on Citrix Analytics for Security, do the following steps:

1. On the **Account set up** page, click **Reset Password**.

Account set up

Step 1 - Create an account

Create an account to allow Citrix Analytics to prepare a configuration file required for SIEM integration.

USER NAME: splunkAdmin\_...

PASSWORD: \*

CONFIRM PASSWORD: \*

Reset Password

2. On the **Reset Password** window, specify the updated password on the **NEW PASSWORD** and **CONFIRM NEW PASSWORD** fields. Follow the password rules that are displayed.

Password must :

- Be 6 to 32 characters long.
- Contain at least one upper case and one lower case letter.
- Contain at least one number.
- Contain at least one of these allowed special characters \_@\$%^&\*.
- Not contain spaces.

3. Click **Reset**. The configuration file preparation is initiated.

## Reset Password

NEW PASSWORD

CONFIRM NEW PASSWORD

⚠ Ensure you change the password on SIEM to continue receiving events from Citrix Analytics.

Cancel Reset

**Note**

After you reset the configuration password, ensure you update the new password when you set

up the data input on the **Add Data** page of your Splunk environment. It helps Citrix Analytics for Security to continue transmitting data to Splunk.

### Turn on or off data transmission

Data Transmission for Splunk data export from Citrix Analytics is turned on by default.

To stop transmitting data from Citrix Analytics for Security:

1. Go to **Settings > Data Exports**.
2. Turn off the toggle button to disable the **data transmission**.

☒ Enabled (data transmission is turned on)

The screenshot shows the 'SIEM Environment' configuration page. At the top, there is a section for 'Account set up' with a green checkmark. Below it, the 'SIEM Environment' section is expanded, showing 'Step 3 - Choose one SIEM environment'. A warning message states: 'Configure one SIEM service at a time. If you configure multiple SIEM services simultaneously, you might face configuration issues.' There are four buttons: 'Splunk' (selected), 'Azure Sentinel (Preview)', 'Elastic Search', and 'Others'. Below this, 'Step 4 - Copy Citrix Configuration Details' provides configuration details for Splunk, including Username, Host(s), Topic name, and Group name. 'Step 5 - Follow the steps described below:' lists two steps: 1. Download and install the Splunk add-on in the Splunk environment. 2. Configure Splunk add-on by providing the Citrix Analytics configuration file details on the Add Data page of the Splunk environment. A link to 'Splunk integration documentation' is provided at the bottom.

To enable data transmission again, turn on the toggle button.

### Citrix Analytics Add-On for Splunk

You can choose to install the add-on application on either of the following platforms:

- Splunk Enterprise (Heavy Forwarder)
- Splunk Cloud

### Citrix Analytics Add-On for Splunk (On-prem/Enterprise)

#### Supported versions

Citrix Analytics for Security supports Splunk integration on the following operating systems:

- CentOS Linux 7 and later
- Debian GNU/Linux 10.0 and later
- Red Hat Enterprise Linux Server 7.0 and later
- Ubuntu 18.04 LTS and later

**Note**

- Citrix recommends using the latest version of the preceding operating systems or the versions that are still under support from the respective vendors.
- For the Linux kernel (64-bit) operating systems, use a kernel version that is supported by Splunk. For more information, see [Splunk documentation](#).

You can configure our Splunk integration on the following Splunk version: Splunk 8.1 (64-bit) and later.

**Prerequisites**

- The **Citrix Analytics add-on for Splunk** connects to the following endpoints on Citrix Analytics for Security. Ensure that the endpoints are in the allow list in your network.

Endpoint	United States region	European Union region	Asia Pacific South region
Kafka brokers	<code>casnb-0.citrix.com:9094</code>	<code>casnb-eu-0.citrix.com:9094</code>	<code>casnb-aps-0.citrix.com:9094</code>
	<code>casnb-1.citrix.com:9094</code>	<code>casnb-eu-1.citrix.com:9094</code>	<code>casnb-aps-1.citrix.com:9094</code>
	<code>casnb-2.citrix.com:9094</code>	<code>casnb-eu-2.citrix.com:9094</code>	<code>casnb-aps-2.citrix.com:9094</code>
	<code>casnb-3.citrix.com:9094</code>		

**Note**

Try using the endpoint names not the IP addresses. The public IP addresses of the endpoints might change.

**Download and install Citrix Analytics add-on for Splunk**

You can choose to install the add-on using **Install app from file** or from within the Splunk environment.

### Install app from file

1. Go to [Splunkbase](#).
2. Download the Citrix Analytics Add-on for Splunk file.
3. On the Splunk Web home page, click the gear icon next to **Apps**.
4. Click **Install app from file**.
5. Locate the downloaded file and click **Upload**.

#### Notes

- If you have an older version of the add-on, select **Upgrade app** to overwrite it.
- If you are upgrading **Citrix Analytics Add-on for Splunk** from a version earlier than 2.0.0, you must delete the following files and folders located inside the `/bin` folder of the add-on installation folder and restart your Splunk Forwarder or Splunk Stand-alone environment:

```
- cd $SPLUNK_HOME$/etc/apps/TA_CTXS_AS/bin
- rm -rf splunklib
- rm -rf mac
- rm -rf linux_x64
- rm CARoot.pem
- rm certificate.pem
```

6. Verify that the app appears in the **Apps** list.

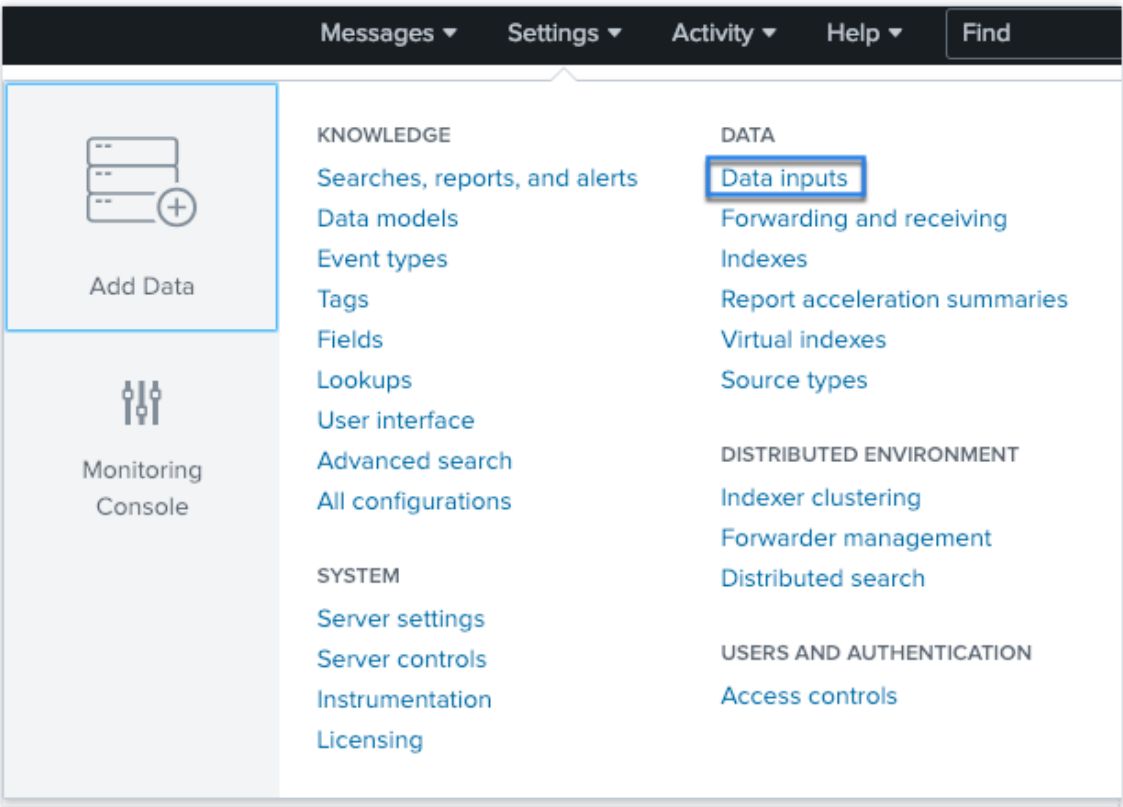
### Install app from within Splunk

1. From the Splunk Web home page, click **+Find More Apps**.
2. On the Browse More Apps page, search **Citrix Analytics Add-on for Splunk**.
3. Click **Install** next to the app.
4. Verify that the app appears in the **Apps** list.

### Configure Citrix Analytics add-on for Splunk

Configure the Citrix Analytics add-on for Splunk using the configuration details provided by Citrix Analytics for Security. After the add-on is successfully configured, Splunk starts consuming events from Citrix Analytics for Security.

1. On the Splunk home page, go to **Settings > Data inputs**.

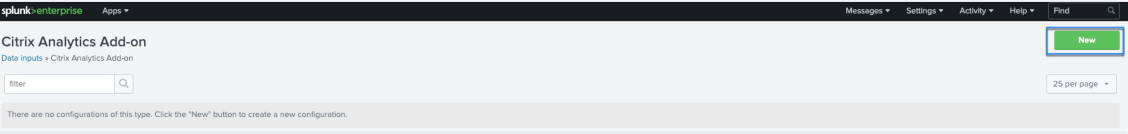


2. In the **Local inputs** section, click **Citrix Analytics Add-on**.

Local inputs

Type	Inputs	Actions
<b>Files &amp; Directories</b> Index a local file or monitor an entire directory.	6	+ Add new
<b>HTTP Event Collector</b> Receive data over HTTP or HTTPS.	0	+ Add new
<b>TCP</b> Listen on a TCP port for incoming data, e.g. syslog.	0	+ Add new
<b>UDP</b> Listen on a UDP port for incoming data, e.g. syslog.	0	+ Add new
<b>Scripts</b> Run custom scripts to collect or generate more data.	5	+ Add new
<b>Citrix Analytics Add-on</b> Enable data inputs for Citrix Analytics	0	+ Add new

3. Click **New**.



4. On the **Add Data** page, enter the details provided in the Citrix Analytics configuration file.

The screenshot shows the 'Add Data' page in the Splunk Enterprise interface. The left sidebar lists various data sources, with 'Citrix Analytics Add-on' selected. The main area contains a form with the following fields and descriptions:

- Name \***: Name for this Citrix Analytics input.
- User name \***: User name provided during Citrix Analytics configuration.
- Password \***: Password provided during Citrix Analytics configuration.
- Confirm password**: (no description)
- Host(s) \***: Combination of three host name ports (comma separated) provided in the Citrix Analytics configuration file.
- Topic name \***: Topic name provided in the Citrix Analytics configuration file.
- Group name \***: Group name provided in the Citrix Analytics configuration file.
- Debug mode**: ☐ Enable/Disable debug mode for modular input
- More settings**: ☐

5. To customize your default settings, click **More settings** and set up the data input. You can define your own Splunk index, host name, and source type.

This screenshot shows the 'Add Data' page with the 'More settings' link highlighted. The right pane displays the following configuration options:

- Interval**:  How often to run the script (in seconds). Defaults to 60 seconds.
- Source type**:
  - Tell Splunk what kind of data this is so you can group it with other data of the same type when you search. Splunk does this automatically, but you can specify what you want if Splunk gets it wrong.
  - Set the source type:
  - When this is set to automatic, Splunk classifies and assigns the sourcetype automatically, and gives unknown sourcetypes placeholder names.
- Host**:
  - Host field value:
- Index**:
  - Set the destination index for this source.
  - Index:

6. Click **Next**. Your Citrix Analytics data input is created and the Citrix Analytics add-on for Splunk

is configured successfully.

Citrix Analytics Add-On for Splunk (Cloud)

You can configure our Splunk integration on the following Splunk version: Splunk 8.1 and later.

Prerequisites

The Citrix Analytics add-on for Splunk connects to the following IPs and outbound ports to connect to Citrix Analytics for Security. Ensure that the following IPs and outbound ports (depending upon your Citrix Cloud region) are in the allow list in your network. To configure these IPs and outbound ports, refer **Add Citrix Analytics IPs and Outbound Ports to Splunk Cloud Allow List using Admin Configuration Service (ACS)** section.

United States			European Union			Asia Pacific		
region	IP	Outbound Port	region	IP	Outbound Port	region	IP	Outbound Port
casnb-0	20.242.21.89	9094	casnb-eu-0	20.229.150.90	9094	casnb-aps-0	20.211.0.219	9094
cit-rix.com			cit-rix.com			cit-rix.com		
casnb-1	20.98.232.69	9094	casnb-eu-1	20.107.97.59	9094	casnb-aps-1	20.211.38.190	9094
1.citrix.com			1.citrix.com			cit-rix.com		
casnb-2	20.242.21.108	9094	casnb-eu-2	51.124.223.96	9094	casnb-aps-2	20.211.36.190	9094
2.citrix.com			2.citrix.com			cit-rix.com		
casnb-3	20.242.57.19	9094						
3.citrix.com								

Note

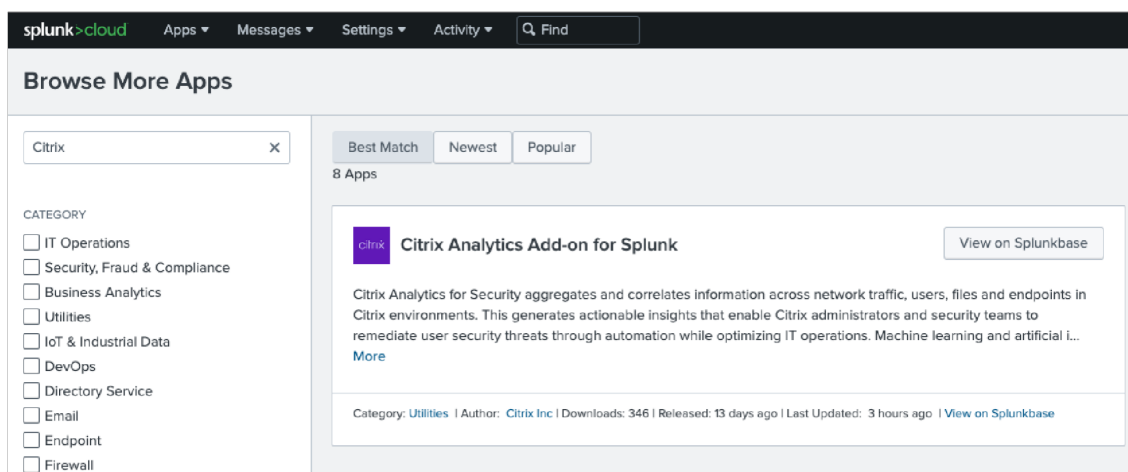
These IPs are subject to rotation. Make sure you keep your IP allow list updated with the most recent IPs as shown above.

## Add Citrix Analytics IPs and Outbound Ports to Splunk Cloud Allow List using Admin Configuration Service (ACS)

1. Depending upon your Citrix Cloud region, zero in on the IPs must be added in the allow list.
2. Enable Admin Configuration Service (ACS) on Splunk Cloud Platform.
3. Create token for the allow list using local account with admin privileges.
4. [Run cURL GET and POST commands](#) to add subnets to the allow list on respective ports and validate if they are successfully added.
5. [Run cURL GET and POST commands](#) to add outbound ports to the allow list and validate if they are successfully added.

## Download and install Citrix Analytics add-on for Splunk

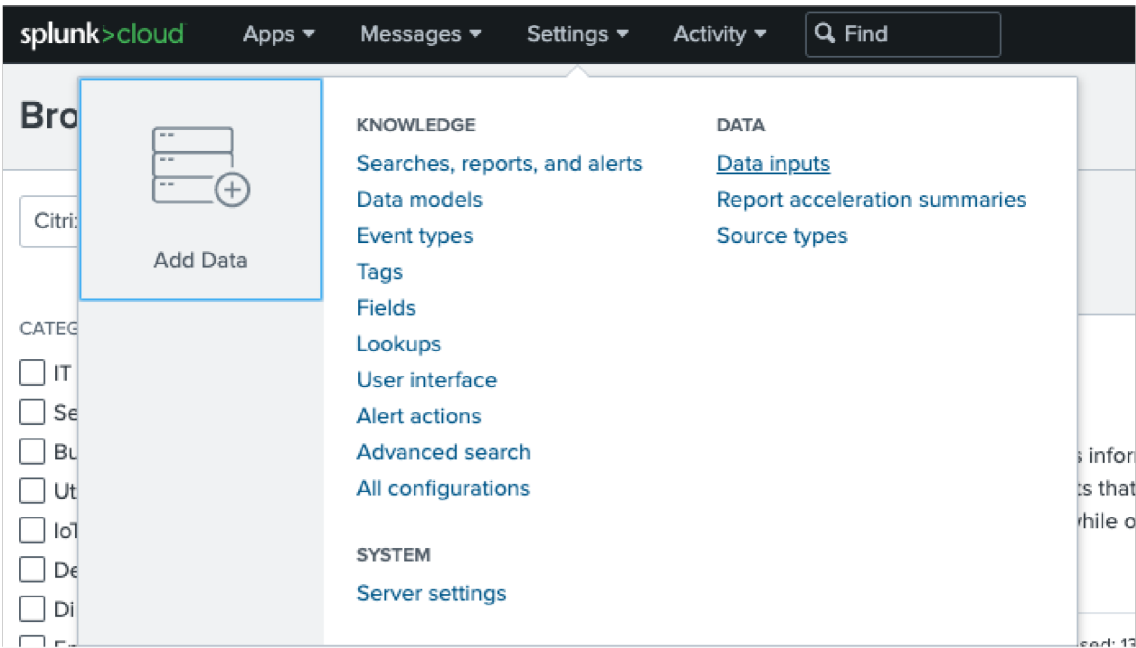
1. Go to **Apps > Find more Apps > Search for Citrix Analytics Add-on for Splunk**.



2. Install the app.
3. Verify that the app appears in the Apps list.

## Configure Citrix Analytics add-on for Splunk

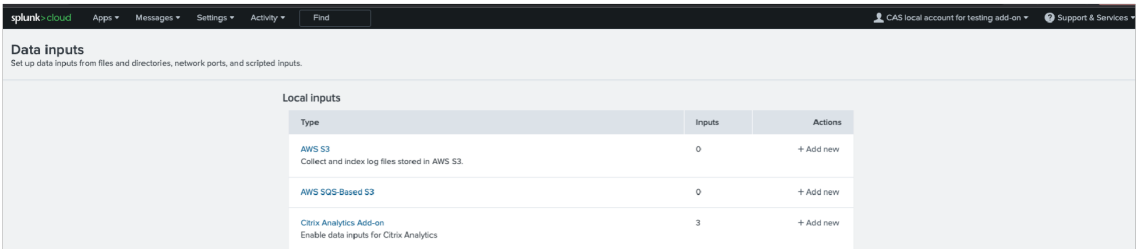
1. Go to **Settings > Data Inputs > Citrix Analytics Add-on**.



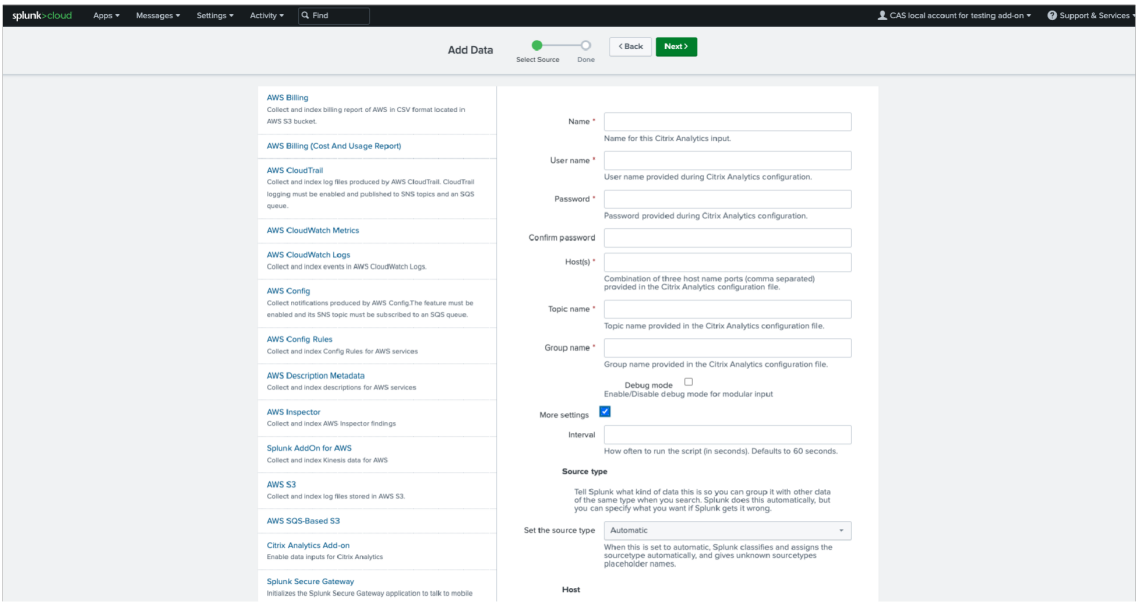
Add the input: Splunk integration

Citrix Analytics for Security. Click **Add New**.

2.



3. Configure Data Input by entering the details configured on **Citrix Analytics Data Exports** page.



#### 4. Verify if your data input has successfully been added.

Name	User name	Host(s)	Topic name	Group name	App	Status	Actions
toxperfe	splunkAdmin_performance_tox3vj6909a	casnb-0.citrix.com:9094,casnb-1.citrix.com:9094,casnb-2.citrix.com:9094,casnb-3.citrix.com:9094	wsa.dataexport.8d5f623a-afac-41ff-9d01-eaa69e809260	splunkAdmin_performance_tox3vj6909a-group	search	Enabled   Disable	Clone   Delete
perfaprotest	splunkAdmin_performance_e0b2k3stgtf1	casnb-0.citrix.com:9094,casnb-1.citrix.com:9094,casnb-2.citrix.com:9094,casnb-3.citrix.com:9094	wsa.dataexport.4bc74dd5-8fb1-4815-80d9-eb0f5abdaca9	splunkAdmin_performance_e0b2k3stgtf1-group	search	Enabled   Disable	Clone   Delete
prodtest	splunkAdmin_e0b2k3stgtf1	casnb-0.citrix.com:9094,casnb-1.citrix.com:9094,casnb-2.citrix.com:9094,casnb-3.citrix.com:9094	cas.siem.5fb0f08-af43-4c10-a6fc-36c427994e04	splunkAdmin_e0b2k3stgtf1-group	search	Enabled   Disable	Clone   Delete

### How to consume events in your Splunk Environment

After you configure the add-on, Splunk starts retrieving risk intelligence from Citrix Analytics for Security. You can start searching your organization's events on the Splunk search head based on the configured data input.

The search results are displayed in the following format:

```

sourcetype=tox3vj6909a
  
```

Time	Event
2017-11-16 23:59:59	<pre> {   "event_type": "indicatorSummary",   "indicator_category": "Access",   "indicator_id": 200,   "indicator_name": "Jailbroken / Rooted Device Detected",   "indicator_uuid": "1b97c3be-0000-000-0000-000000000000",   "risk_probability": 1.0,   "tenant_id": "notcloud",   "timestamp": "2017-11-16 23:59:59",   "user_id": "testuser00001" }           </pre>
2017-11-16 23:59:59	<pre> {   "event_type": "indicatorSummary",   "indicator_category": "Access",   "indicator_id": 200,   "indicator_name": "Jailbroken / Rooted Device Detected",   "indicator_uuid": "1b97c3be-0000-000-0000-000000000000",   "risk_probability": 1.0,   "tenant_id": "notcloud",   "timestamp": "2017-11-16 23:59:59",   "user_id": "testuser00001" }           </pre>

A sample output:

```

{"event_type": "indicatorSummary", "indicator_category": "Access",
"indicator_id": 200, "indicator_name": "Jailbroken / Rooted Device
Detected", "indicator_uuid": "1b97c3be-0000-000-0000-000000000000",
"risk_probability": 1.0, "tenant_id": "notcloud", "timestamp": "2017-11-16
23:59:59", "user_id": "testuser00001"}
  
```

To search and debug issues with the add-on, use the following search query:

```
index=_internal sourcetype=splunkd log_level=ERROR component=ExecProcessor
cas_siem_consumer
```



A screenshot of a terminal window with a dark background. The prompt is `root@kali:~#`. The command `cat /dev/urandom | tr -dc 'a-z' | fold -w 64 | xargs -n1 sha1sum` has been entered and is currently being executed, indicated by a vertical bar at the end of the line.

[illegible]

If you don't see any data in your Splunk dashboards or encountered issues while configuring Citrix Analytics add-on for Splunk, perform the debugging steps to fix the issue. For more information, see [Configuration issues with Citrix Analytics add-on for Splunk](#).

**Note**

Contact [CAS-PM-Ext@cloud.com](mailto:CAS-PM-Ext@cloud.com) to request assistance for the Splunk integration, exporting data to Splunk, or provide feedback.

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**Note**

This app is in preview.

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Citrix Analytics App for Splunk enables Splunk Enterprise administrators to view the user data collected from Citrix Analytics for Security in the form of insightful and actionable dashboards on Splunk

Using these dashboards, you get a detailed view of the users' risky behavior in your organization and taking timely actions to mitigate any insider threats. You can also correlate the data collected from Citrix Analytics for Security with other data sources configured on your Splunk. This correlation provides you with visibility into the users' risky activities from multiple sources and takes actions to protect your IT environment.

### Supported Splunk version

The Citrix Analytics App for Splunk runs on the following Splunk versions:

- Splunk 9.0 64-bit
- Splunk 8.2 64-bit
- Splunk 8.1 64-bit

### Prerequisites for Citrix Analytics App for Splunk

- Install the Citrix Analytics add-on for Splunk.
- Ensure the prerequisites mentioned for the Citrix Analytics add-on for Splunk are already met.
- Ensure that the data is flowing from Citrix Analytics for Security to Splunk.

### Installation and configuration

**Where to install the app?** Splunk search head

**How to install and configure the app?** You can install the Citrix Analytics App for Splunk by downloading it from [Splunkbase](#) or by installing it from within Splunk.

#### Install app from file

1. Go to [Splunkbase](#).
2. Download the Citrix Analytics App for Splunk file.
3. On the Splunk Web home page, click the gear icon next to **Apps**.
4. Click **Install app from file**.
5. Locate the downloaded file and click **Upload**.

**Note**

If you have an older version of the app, select **Upgrade app** to overwrite it.

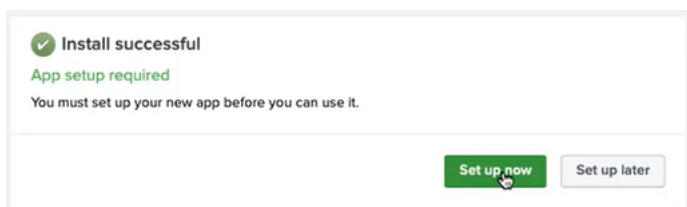
6. Verify that the app appears in the **Apps** list.

**Install app from within Splunk**

1. From the Splunk Web home page, click **+Find More Apps**.
2. On the Browse More Apps page, search **Citrix Analytics App for Splunk**.
3. Click **Install** next to the app.

**Configure your index and source type to correlate data**

1. After you install the app, click **Set up now**.



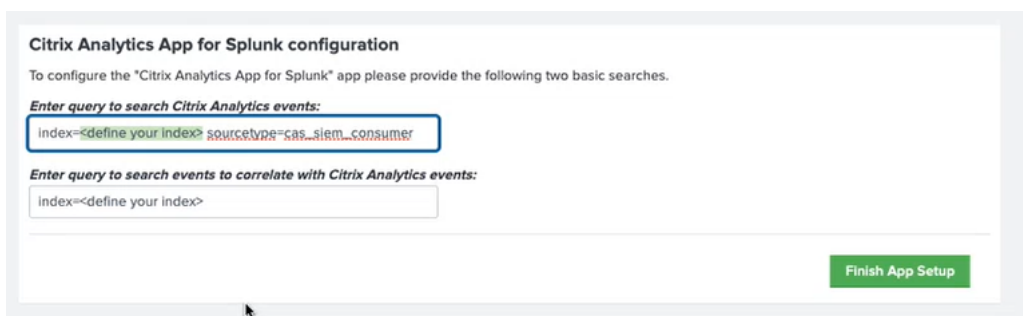
2. Enter the following queries:

- Index and source type where the data from Citrix Analytics for Security are stored.

**Note**

These query values must be the same as specified in the Citrix Analytics add-on for Splunk. For more information, see [Configure Citrix Analytics add-on for Splunk](#).

- Index from which you want to correlate your data with Citrix Analytics for Security.



3. Click **Finish App Setup** to complete the configuration.

After you have configured and set up the Citrix Analytics App for Splunk, use the [Citrix Analytics dashboards](#) to view the user events on your Splunk.

For more information about Splunk integration, refer the following links:

- [Citrix Analytics Integration with Splunk](#)
- [The Citrix Analytics app for Splunk, now in Splunkbase](#)

## **Splunk architecture with Citrix Analytics add-on application**

February 10, 2023

Splunk follows an architecture which contains the following three tiers:

- Collection
- Indexing
- Searching

Splunk supports a wide range of data collection mechanisms that helps ingest data into Splunk easily, such that it can be indexed and made available to search. This tier is nothing but your heavy forwarder or universal forwarder.

You must install the add-on application on the heavy forwarder layer instead of the universal forwarder layer. Because, with few exceptions for well-structured data (such as, json, csv, tsv), the universal forwarder does not parse log sources into events, so it cannot perform any action that requires understanding of the format of the logs.

It also ships with a stripped down version of Python, which makes it incompatible with any modular input applications that require a full Splunk stack to function. The heavy forwarder is nothing but your collection tier.

The key difference between a universal forwarder and a heavy forwarder is that the heavy forwarder contains the full parsing pipeline, performing the identical functions an indexer performs without actually writing and indexing events on disk. This enables the heavy forwarder to understand and act on individual events such as masking data, filtering, and routing based on event data. Since the add-on application has a full Splunk Enterprise installation, it can host modular inputs that require a full Python stack for proper data collection, or act as an endpoint for the Splunk HTTP Event Collector (HEC).

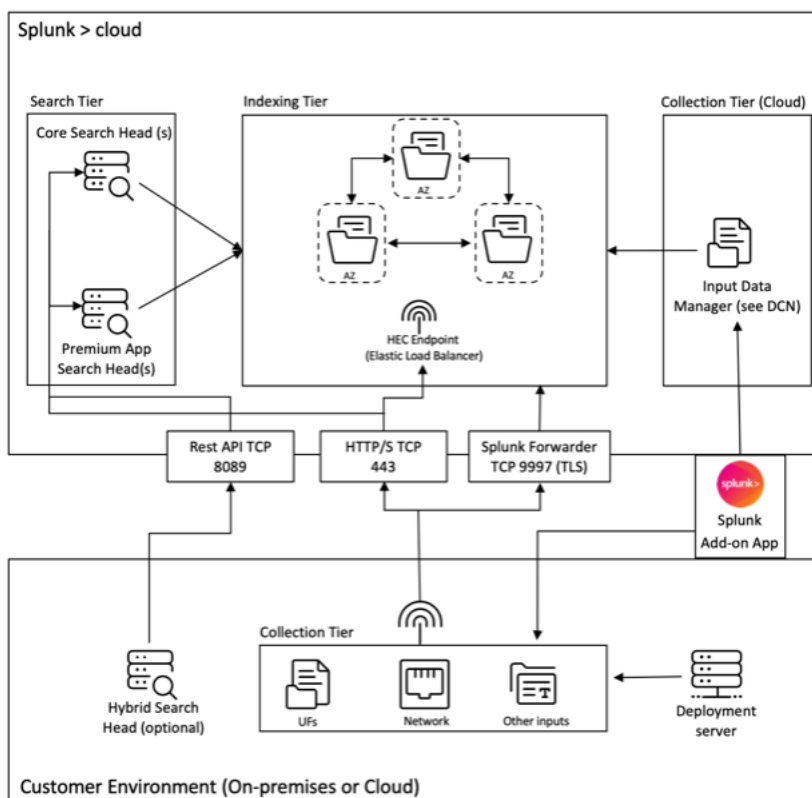
Once the data is collected, it is indexed or processed and stored in a way that makes it searchable.

The primary way for customers to explore their data is through search. A search can be saved as a report and used to power dashboard panels. Searches are the extract information from your data.

In general, the Splunk add-on application is deployed in the Collection tier (at Splunk enterprise level), whereas our dashboarding application is deployed on the search layer (at Splunk Cloud level). On a simple on-prem setup, you can have all these three tiers on a single Splunk host (known as single server deployment).

The collection tier is much better way to use the add-on application for Splunk. There are two ways to install the add-on application. Either you can install it at the collection tier under the customer environment or you can install it at the inputs data manager under the **Splunk Cloud instance**.

Refer the following diagram to understand the Splunk deployment architecture with our add-on application:



The Inputs Data Manager (IDM) shown in the aforementioned diagram is the Splunk Cloud-managed implementation of a Data Collection Node (DCN) that supports scripted and modular inputs only. For data collection needs beyond that, you can deploy and manage a DCN in your environment using a Splunk heavy forwarder.

Splunk allows to collect, index, and search data from various sources. One way to collect data is through APIs, which allows Splunk to access data stored in other systems or applications. These APIs can include REST, web services, JMS and/or JDBC as the query mechanism. Splunk and any third-party developers offer a range of applications that enable API interactions through the Splunk modular input framework. These applications typically require a full Splunk enterprise software installation to function properly.

To facilitate the collection of data through APIs, it is common to deploy a heavy forwarder as a DCN. Heavy forwarders are more powerful agents than universal forwarders, as they contain the full parsing pipeline and can understand and act on individual events. This enables them to collect data through APIs and process it before forwarding it to a Splunk instance for indexing.

To understand more about the high level architecture of a Splunk Cloud deployment, refer [Splunk Validated Architectures](#).

## Citrix Analytics dashboards for Splunk

November 30, 2023

### Note

**Attention:** Citrix Content Collaboration and ShareFile has reached its end of life and is no longer available to users.

This feature is in preview.

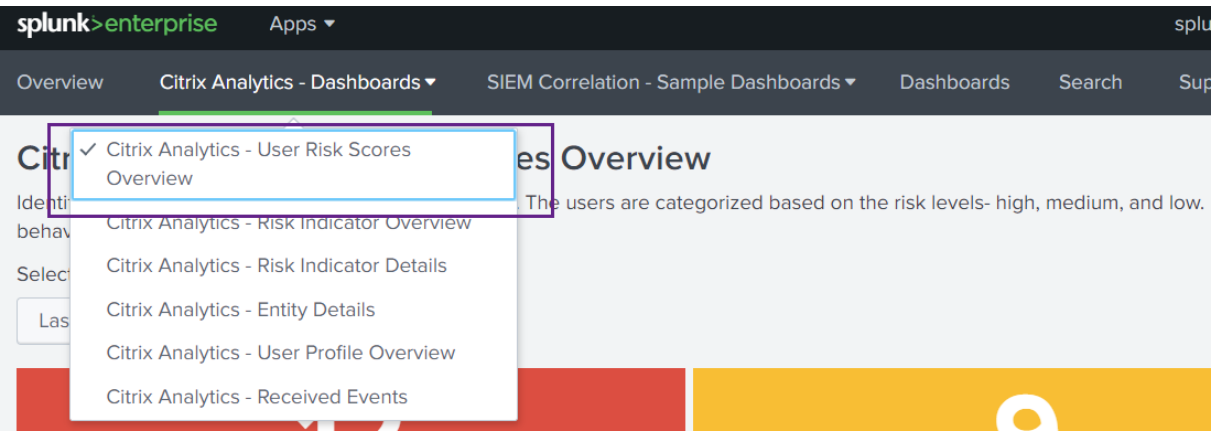
### Prerequisite

To use the following Citrix Analytics dashboards, ensure that you have already configured and set up [Citrix Analytics App for Splunk](#).

### User risk score overview

This dashboard provides a consolidated view of the risky users in your organization. The users are categorized by the risk levels- high, medium, and low. The risk levels are based on the anomalies in the user activities and accordingly a risk score is assigned. For more information about the types of risky users, see the [Users dashboard](#).

To view this dashboard, click **Citrix Analytics- Dashboards > Citrix Analytics- User Risk Scores Overview**.



Select a preset time range or a custom time range to view the timeline of the risky users and their details.



The Risky Users table provides the following information:

- **User:** Indicates the user name. Click a user name to view the details about the user’s risky behavior on the Citrix Analytics - Entity Details dashboard.
- **Compromised endpoints risks found:** Indicates the number of risk indicators triggered by the user that belongs to the compromised endpoints risk category.
- **Compromised users risks found:** Indicates the number of risk indicators triggered by the user that belongs to the compromised users risk category.
- **Data exfiltration risks found:** Indicates the number of risk indicators triggered by the user that belongs to the data exfiltration risk category.
- **Insider threats risks found:** Indicates the number of risk indicators triggered by the user that belongs to the insider threats risk category.
- **Risk Score:** Indicates the risk score of the user.

You can also search a user by the user name and get the required details.

For more information, see [risk categories](#).

Search for User:

\*

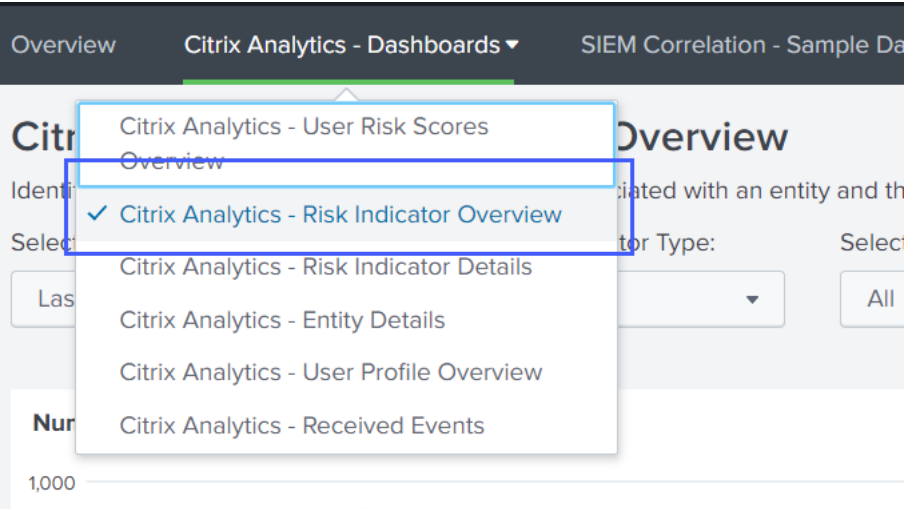
Risky Users

	User ↕	Compromised endpoints risks found ↕	Compromised users risks found ↕	Data exfiltration risks found ↕	Insider threats risks found ↕	Risk Score ↕
1		0	0	0	0	100
2		0	0	0	0	100
3		0	0	0	0	100
4		0	0	0	0	100
5		0	0	0	0	100
6		0	0	0	0	100
7		0	0	0	0	100
8		0	5	0	0	100

Risk indicator overview

The dashboard provides a consolidated view of the risk indicators triggered by the users in your organization.

To view the dashboard, click **Citrix Analytics- Dashboards > Citrix Analytics- Risk Indicator Overview**.



Select category to view report

Search the risk indicators by selecting one or more categories:

- **Time range:** Select a preset time range or a custom time range to view the triggered risk indicators for that period.
- **Risk indicator type:** Select the type of risk indicator: built-in or custom.

- **Entity type:** Select a user to view the associated risk indicators.
- **Group:** Select a criteria to group the user events by data source, indicator category, indicator name, indicator type, or entity type and view the associated risk indicators.

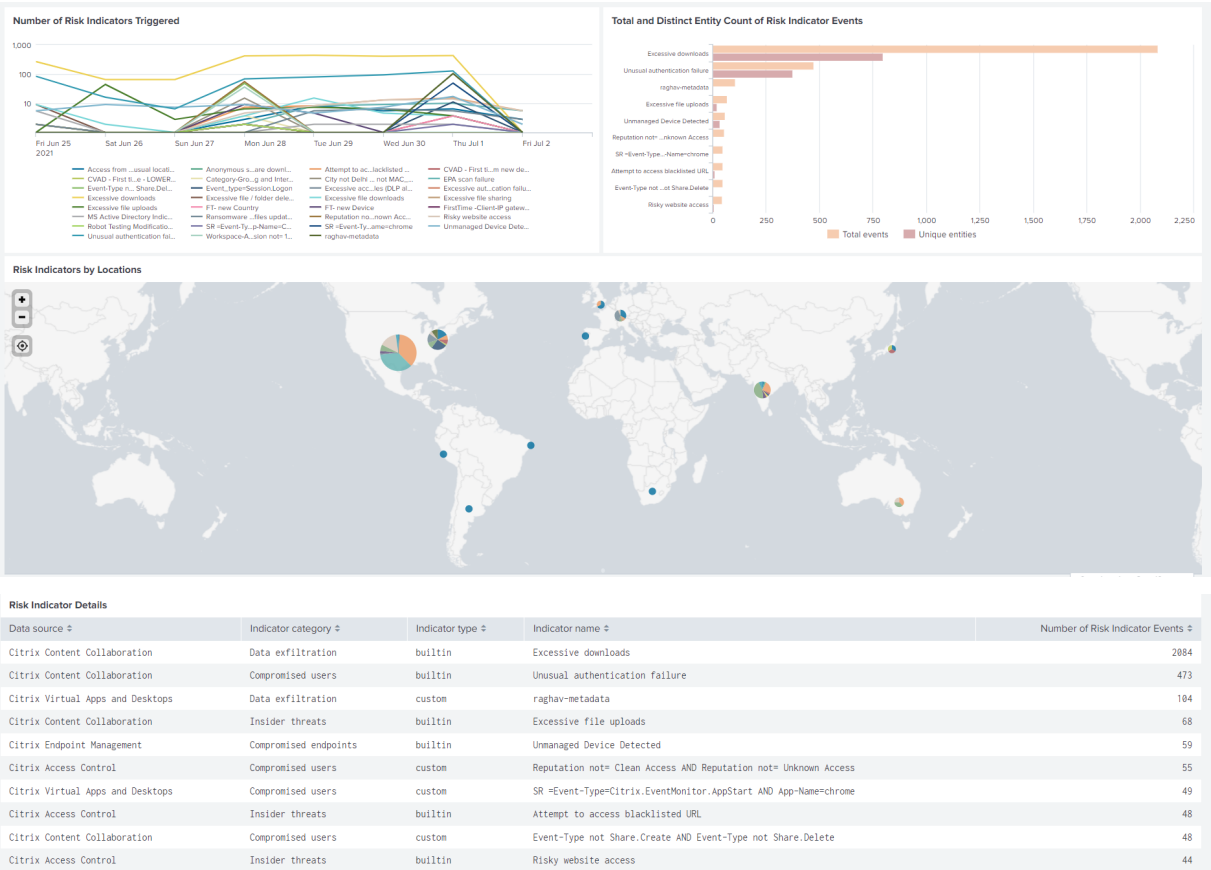
**Citrix Analytics - Risk Indicator Overview**  
Identify the built-in and the custom risk indicators associated with an entity and the types of risks faced by your organization

Select Time Range:	Select Risk Indicator Type:	Select Entity Type:	Select Group Criteria:		
Last 7 days ▾	All ▾	Share ▾ X	Entity type ▾ X	<b>Submit</b>	Hide Filters

## View report

Use the following reports to view details about the risk indicators by selecting one or more categories:

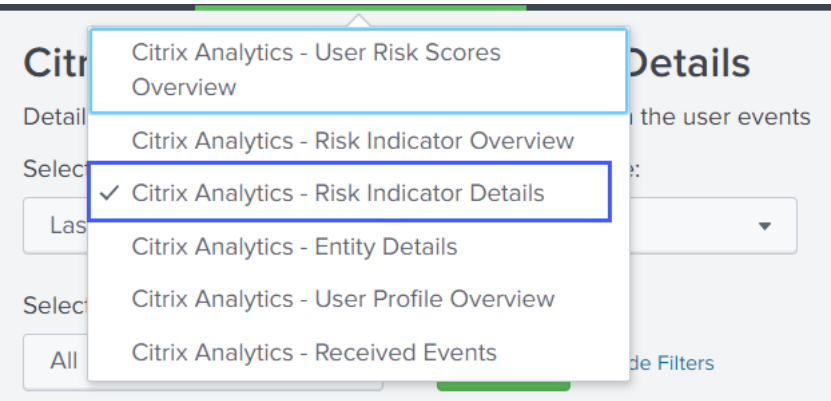
- **Number of risk indicators triggered:** Displays the number of risk indicators triggered for the selected period. Use this report to identify the pattern and areas of risky activities. Also, identify the top risky activities in your organization.
- **Total and distinct entity count of risk indicator events:** Displays the total events and the unique events corresponding to a risk indicator. Use this report to identify the occurrences of each risk indicator and the top risk indicators in your organization. You can also identify how many unique users triggered a particular risk indicator and check if the risk indicator is triggered by a larger or a smaller user group.
- **Risk indicators by locations:** Displays the number of risk indicators triggered by the users across locations. Use this report to identify the locations that show more risky activities and check if the locations are outside the area of operation of your organization.
- **Risk indicator details:** Displays the details about the risk indicator such as the associated data source, indicator category, indicator type, and number of occurrences.



Risk indicator details

The dashboard provides the detailed information about the built-in and custom risk indicators triggered by the users. For more information, see [Citrix user risk indicators](#) and [Custom risk indicators](#).

To view the dashboard, click **Citrix Analytics- Dashboards > Citrix Analytics- Risk Indicator Details**.



## Select category to view the reports

View the details of the risk indicators by selecting one or more categories:

- **Time range:** Select a preset time range or a custom time range to view the details of the triggered risk indicators for that period.
- **Entity type:** Select a user to view the details of the associated risk indicators.
- **Risk Indicator type-** Select the type of risk indicator-built-in or custom to view their details.
- **Data source-** Select the data source to view the details of the associated risk indicators.
- **Risk indicator category-** Select the risk category to view the details of the associated risk indicators.
- **Risk indicator-** Select the risk indicator to view its details.

## View the reports

For example, from the Select Risk Indicator list, select **Unusual authentication failure (Citrix Content Collaboration)**, click **Submit**, and view the following information:

- Top 10 users associated with the risk indicator
- Details about the risk indicator such as
  - Date and time of trigger
  - Associated data source
  - Associated risk category
  - Associated entity ID and user entity type
  - Risk severity-high, medium, or low
  - Risk probability of the user event
  - Unique identity of the risk indicator (UUID)



On **Top 10 Entities by Risk Indicators**, click an entity to view its details on the **Citrix Analytics- Entity Details** dashboard.

Risk Indicator Details								
Date and Time ↕	Data Source ↕	Risk Indicator Category ↕	Risk Indicator Name ↕	Entity ID ↕	Entity Type ↕	Severity ↕	Risk Probability ↕	Risk Indicator UUID ↕
2021-07-01T21:29:52	Citrix Content Collaboration	Compromised users	Unusual authentication failure	6e130e9b0e7e28bea778eef5e2b1809150bc76b05da0821fbcf7235b962796586	user	medium	1.0	babe4ada-34cd-5266-bc36-11442ae9278c
2021-07-01T21:29:52	Citrix Content Collaboration	Compromised users	Unusual authentication failure	102854bc92af241d303ab4c3cc52ec9690bc64c6998757032933728b1d10a848	user	medium	1.0	f594a2bf-8121-5231-ab32-a2e3735ee6d5
2021-07-01T21:29:52	Citrix Content Collaboration	Compromised users	Unusual authentication failure	dc61f00a9218cb5f1925778069c12a4236d40673fd081780e8eaabe717714	user	medium	1.0	6720f113-dc3e-5986-967e-26a748b0d00b

Click each row of the **Risk Indicator Details** table to view the event summary, event details, and raw events of the selected risk indicator.

On the **Risk Indicator Event Summary** section, click the **Citrix Analytics UI link** to go directly to the user timeline on Citrix Analytics for Security from your Splunk. On the user timeline, view the risk indicator, associated events, and any applied actions for the user.

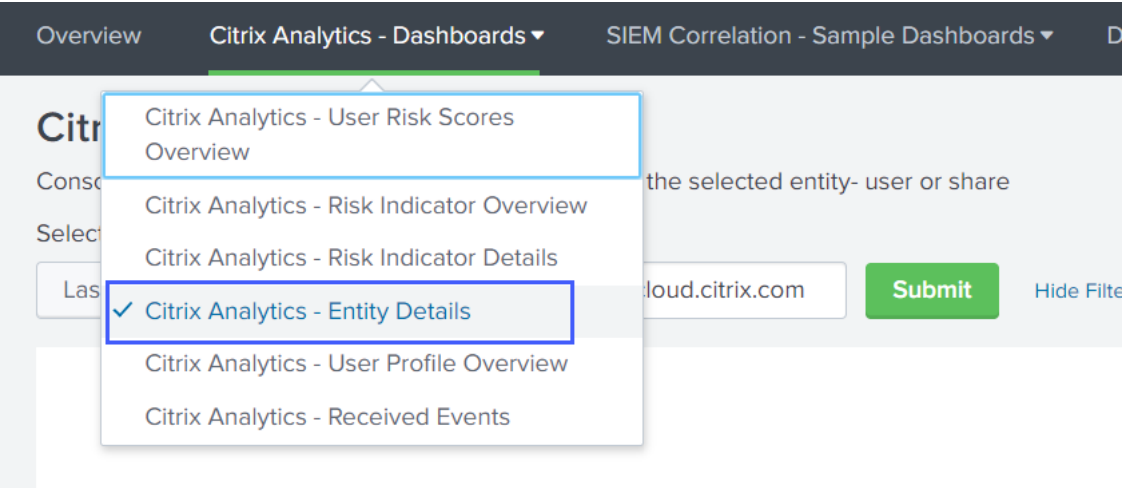
For more information about event summary and event details, see [Citrix Analytics data format for SIEM](#).

[illegible]

### Entity details

Use the dashboard to view the details about a user entity `user` and its risky behavior.

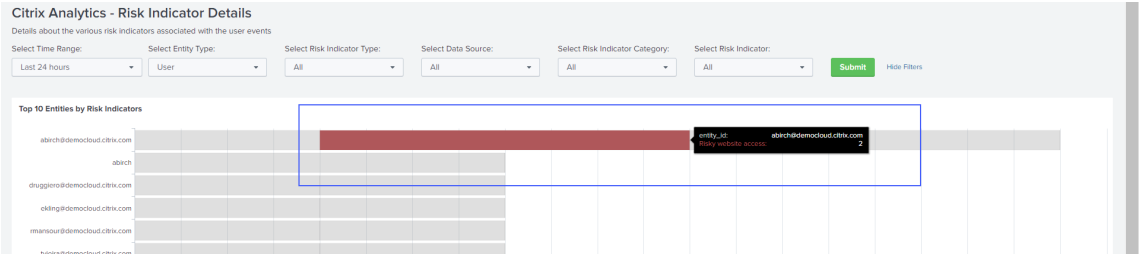
To view the dashboard, click **Citrix Analytics- Dashboards > Citrix Analytics- Entity Details**.



**View the report**

Enter a time range and the entity (user name) and click **Submit** to view the detailed information. Alternatively, you can also view the detailed information about an entity from the following dashboards:

- On **Citrix Analytics- Risk Indicator Details**, go to **Top 10 Entities by Risk Indicators**, and click an entity.



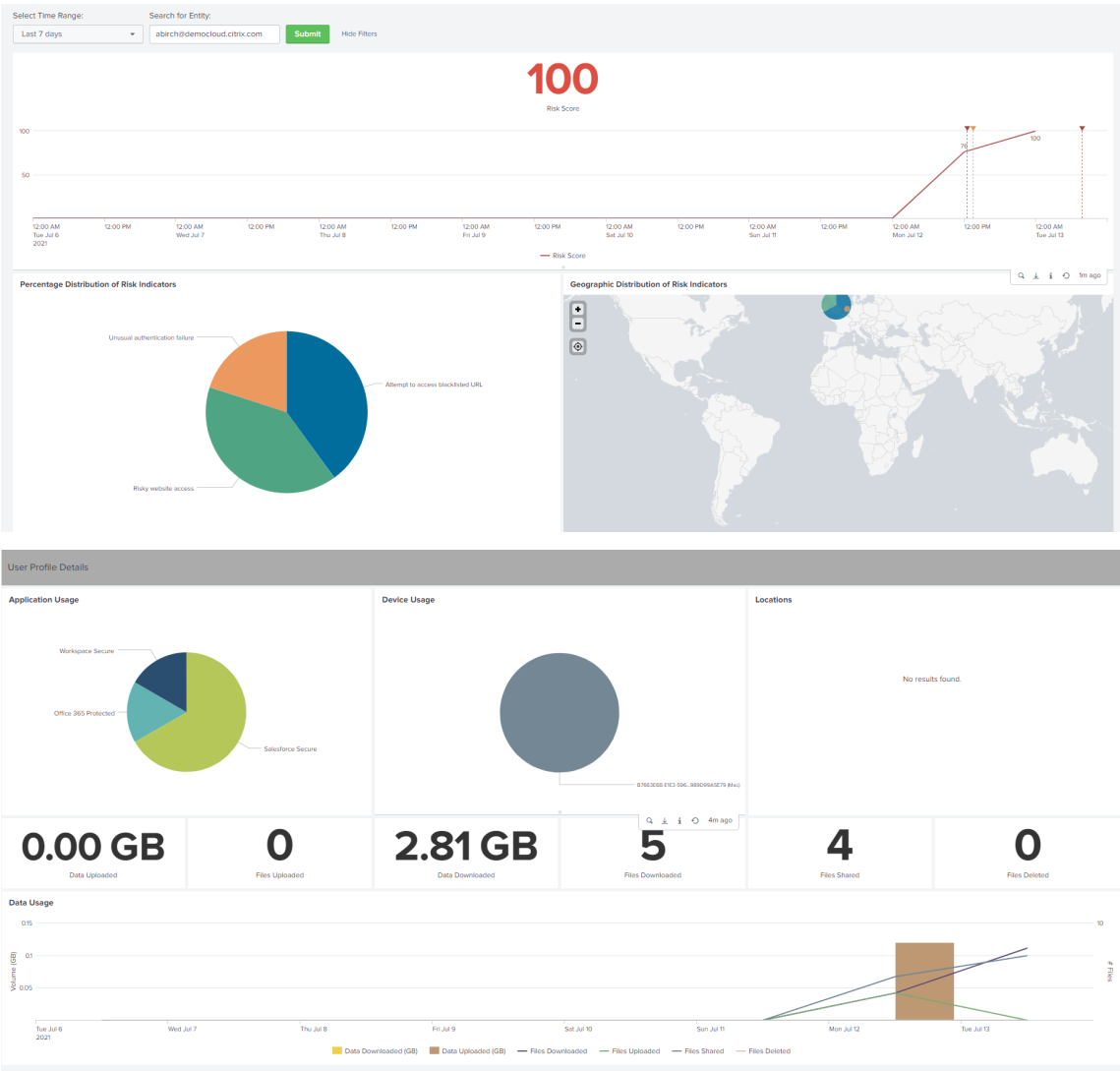
- On **Citrix Analytics- Risk Score Overview**, go to **Risky Users**, and click a user name.

Risky Users					
	User ↕	Compromised endpoints risks found ↕	Compromised users risks found ↕	Data exfiltration risks found ↕	Insider threats risks found ↕
1	abatch@democloud.citrix.com	0	1	0	0
2	abatch	0	2	0	0
3	divaggers@democloud.citrix.com	0	0	0	0
4	eking@democloud.citrix.com	0	2	0	0
5	mansour@democloud.citrix.com	0	0	0	0
6	administrator	0	0	0	0
7		0	0	0	0
8		0	0	0	0

The following detailed information is displayed:

- Current risk score and the risk score timeline for the selected time range.
- Percentage distribution of the risk indicators. Helps you to analyze the pattern of risky activities of the entity.

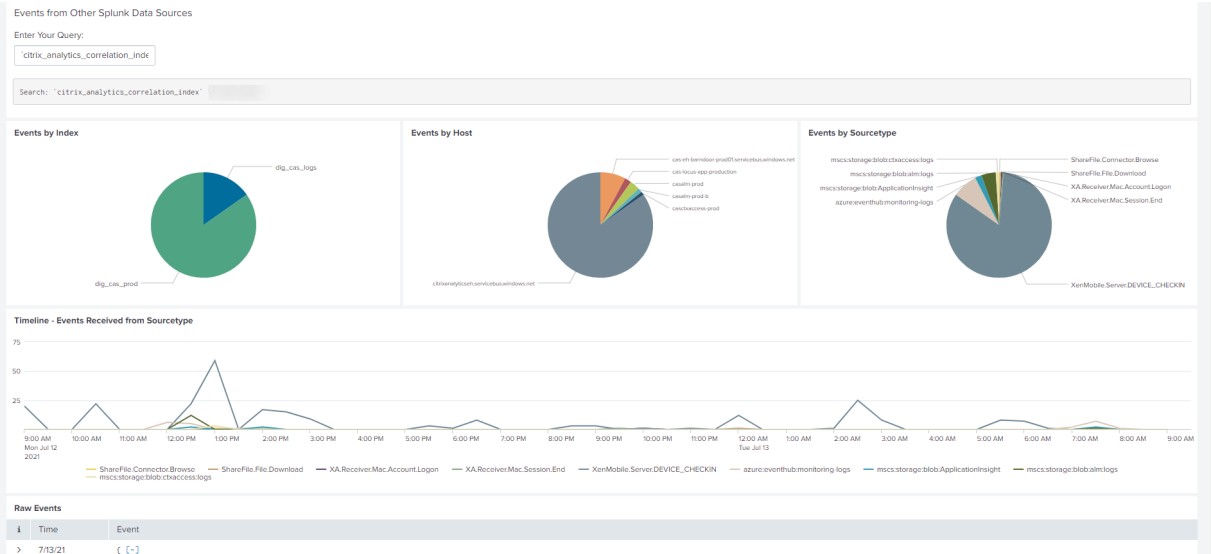
- Geographic distribution of the risk indicators. Helps you to identify the unusual and high-risk locations.
- Client IP details associated with the risky activities.
- User device details associated with the risky activities.
- Risk indicator details such as associated data source, risk category, risk severity and so on.



Correlate the client IPs and user devices associated with risky activities with the events collected from other security sources that are connected to your Splunk. For example, click a row on the **Client IP Details** table.

Client IP Details					
Data Source	Risk Indicator Category	Risk Indicator Name	Client IP	Number of Unique Risk Indicators	Number of Risky Events
Citrix Access Control	Insider threats	Attempt to access blacklisted URL		2	4
Citrix Access Control	Insider threats	Risky website access		2	2

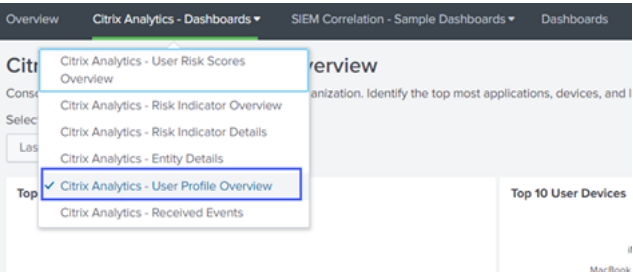
On the **Citrix Analytics Event Correlation** dashboard, you can view the events associated with the selected client IP that are correlated from your other security data sources (based on index and source type). These events provide deeper insights into the malicious activities associated with the client IP.



## User profile overview

Use the dashboard to view the event metrics associated with the users in your organization.

To view the dashboard, click **Citrix Analytics- Dashboards > Citrix Analytics- User Profile Overview**.



## View the events

Select a time range and view the following metrics:

- Top 10 applications used by the users
- Top 10 devices used by the users
- Top 10 locations used by the users
- Number of Web and SaaS applications used
- Number of devices used
- Number of users who have accessed across locations
- Data usage metrics such as files uploaded, downloaded, shared

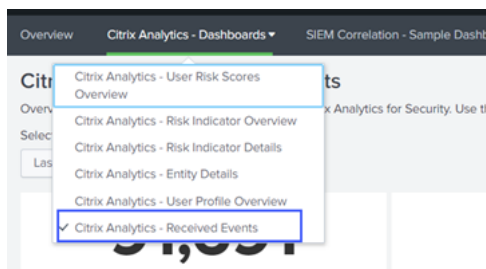
These metrics provide you insights into the user activities in your organization. You can identify the topmost applications and devices, usage patterns, non-compliant devices and applications, unusual locations, risky access, and unusual file activities.



## Received events

Use the dashboard to view the events received from Citrix Analytics for Security. An event indicates a type of user activity.

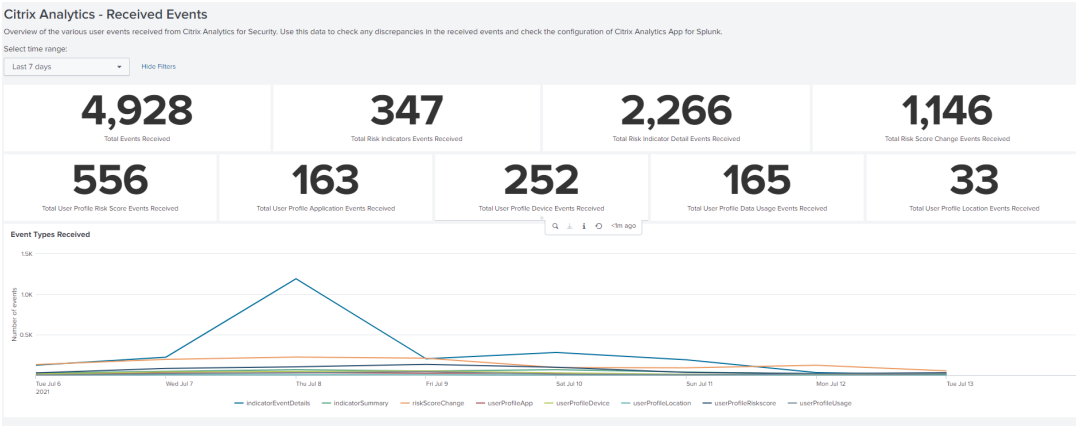
To view the dashboard, click **Citrix Analytics- Dashboards > Citrix Analytics- Received Events**.



### View the reports

Select a time range to view and compare the various types of events received. The dashboard provides the following information:

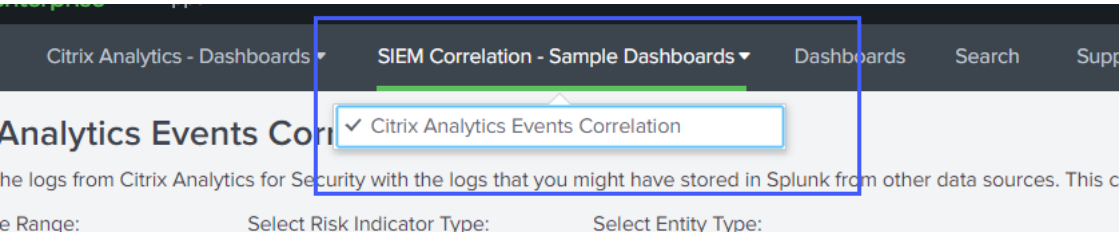
- Total events received: It is the aggregate of all the events received from Citrix Analytics for Security including the following:
  - Total risk indicator events: Indicates the events associated with the triggered risk indicators by the users.
  - Total risk indicator detail events: Indicates the events associated with the details of the triggered risk indicators.
  - Total risk score change events: Indicates the events associated with the user's risk score change.
  - Total user profile risk score events: Indicates the events associated with users' risk scores.
  - Total user profile application events: Indicates the events associated with the applications used by the users.
  - Total user profile device events: Indicates the events associated with the devices used by the users.
  - Total user profile data usage events: Indicates the events associated with the data usage of the users.
  - Total user profile location events: Indicates the events associated with the locations accessed by the users.



### Sample event correlation

Use the dashboard to correlate events received from Citrix Analytics for Security with the events collected from other security data sources configured in your Splunk. You get deeper insights into the user's risky activities collected from multiple data sources, find relations between the events, and identify any threats.

To view the dashboard, click **SIEM Correlation- Sample Dashboards > Citrix Analytics Event Correlation**.



### Prerequisites

To perform correlation, ensure the following:

- You must have events from your other security data sources to correlate. For example, events associated with users, devices, and client IP addresses received from other data sources configured in your Splunk.
- You must have a correlation index already defined during configuration.

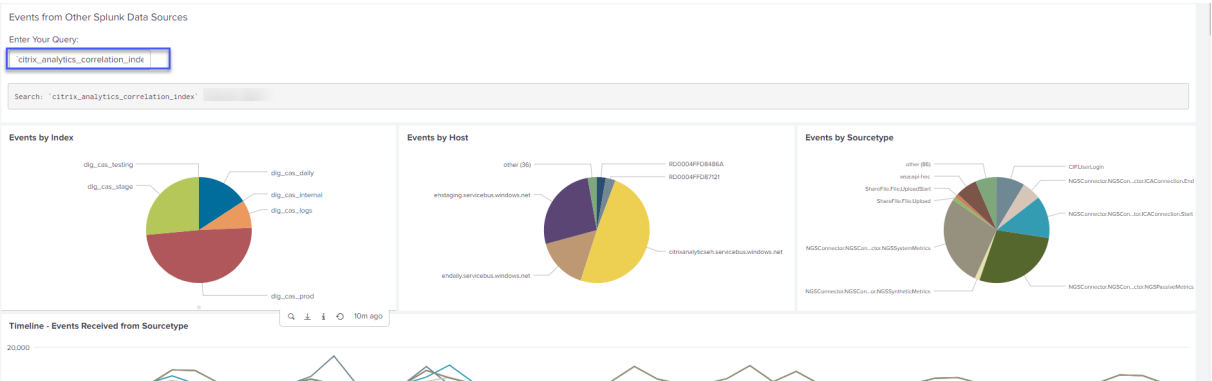
### Correlate the events

You can view the top risky entities and the top risky IP addresses detected by Citrix Analytics for Security. To correlate these events with other data sources (defined in the index and the source type),

click an entity or an IP address from the tables.

Top Risky Entities				Top Risky IP Addresses			
Entity ID	Entity Type	Total Risk Indicators	Unique Risk Indicators	Client IP	Total Risk Indicators	Unique Risk Indicators	Unique Entities
	user	5	3		4	2	1
	user	2	1		2	1	2
	user	2	2		2	1	2
	user	2	2		2	2	1
	user	2	2		2	2	1
	user	2	2		2	2	1

The index value shown in the query field is defined during the configuration of the app. You can change the index value to a different security data source based on your requirements.

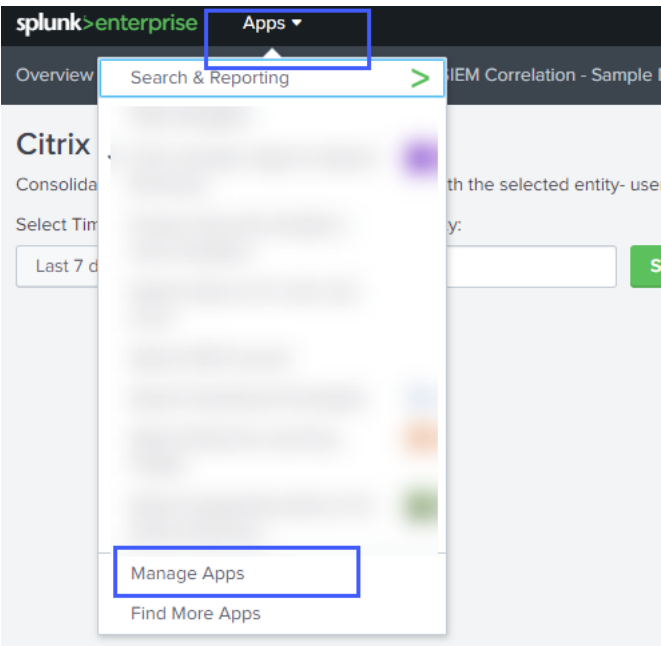


### Troubleshooting for no events

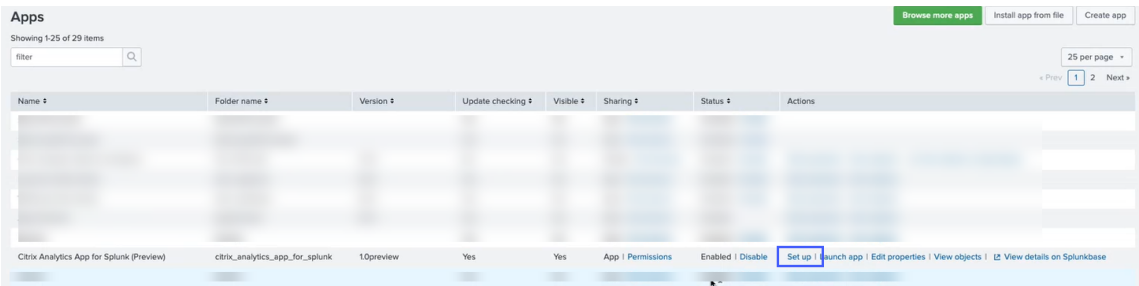
If you do not find any events on all the dashboards, it might be because of the configuration issues in Citrix Analytics App for Splunk and Citrix Analytics add-on for Splunk. In such scenario, verify the index value and the source type value. Ensure that the values of the index and source type are the same in both the app and the add-on.

To view the configuration settings of the Citrix Analytics App for Splunk:

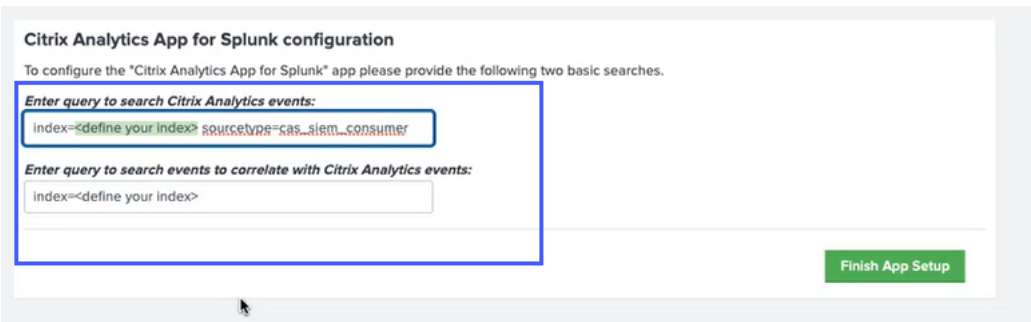
1. Click **Apps > Manage Apps**.



2. Locate Citrix Analytics App for Splunk from the list. Click **Set up**.

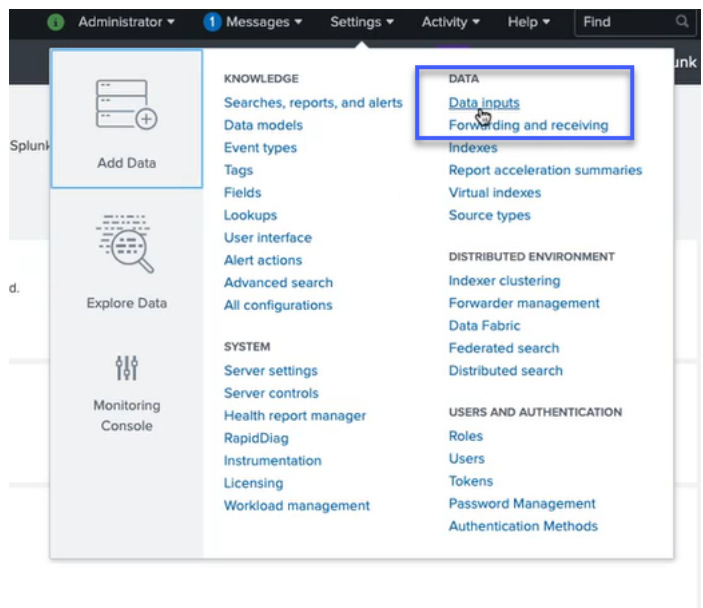


3. Check the source type and the index.



To view the configuration settings of the Citrix Analytics add-on for Splunk:

1. Click **Settings > Data inputs**.



2. Click **Citrix Analytics Add-on**.

Local inputs

Type	Inputs	Actions
<b>Files &amp; Directories</b> Index a local file or monitor an entire directory.	11	+ Add new
<b>HTTP Event Collector</b> Receive data over HTTP or HTTPS.	0	+ Add new
<b>TCP</b> Listen on a TCP port for incoming data, e.g. syslog.	0	+ Add new
<b>UDP</b> Listen on a UDP port for incoming data, e.g. syslog.	0	+ Add new
<b>Scripts</b> Run custom scripts to collect or generate more data.	6	+ Add new
<b>Citrix Analytics Add-on</b> Enable data inputs for Citrix Analytics	1	+ Add new
<b>Citrix System Log Records</b> Go to the add-on's configuration UI and configure modular inputs under the Inputs menu.	0	+ Add new

3. Click the tenant from which you get the events.

4. Select **More settings**.

Citrix Analytics Add-on

Data inputs • Citrix Analytics Add-on

Showing 1 of 1 item

filter

25 per page

Name	User name	Host(s)	Topic name	Group name	App	Status	Actions
PROD Test Tenant	splunk				search	Enabled   Disable	Clone   Delete

5. Check the source type and the index.

Host(s)

Combination of three host name ports (comma separated) provided in the Citrix Analytics configuration file.

Topic name \*

Topic name provided in the Citrix Analytics configuration file.

Group name \*

Group name provided in the Citrix Analytics configuration file.

☐ Debug mode  
Enable/Disable debug mode for modular input

☒ More settings

Interval

How often to run the script (in seconds). Defaults to 60 seconds.

**Source type**

Tell Splunk what kind of data this is so you can group it with other data of the same type when you search. Splunk does this automatically, but you can specify what you want if Splunk gets it wrong.

Set the source type

When this is set to automatic, Splunk classifies and assigns the sourcetype automatically, and gives unknown sourcetypes placeholder names.

**Host**

Host field value

**Index**

Set the destination index for this source.

Index

For more information about configuration, see [Configure Citrix Analytics add-on for Splunk](#).

## Configuration issues with Citrix Analytics add-on for Splunk

June 2, 2022

### Citrix Analytics add-on settings unavailable

After installing Citrix Analytics Add-on for Splunk on your Splunk Forwarder or Splunk Standalone environment, you don't see the **Citrix Analytics Add-on** settings under **Settings > Data inputs**.

#### Reason

This issue occurs when you install Citrix Analytics Add-on for Splunk in an unsupported Splunk environment.

#### Fixes

Install the Citrix Analytics Add-on for Splunk in a supported Splunk environment. For information on the supported versions, see [Splunk integration](#).

## No data available on Splunk dashboards

After installing and configuring Citrix Analytics Add-on for Splunk on your Splunk Forwarder or Splunk Standalone environment, you don't see any data from Citrix Analytics in your Splunk dashboards.

### Checks

To troubleshoot the issue, verify the following on your Splunk Forwarder or Splunk Standalone environment:

1. Ensure that the [prerequisites](#) for the Splunk integration are met.
2. Go to **Settings > Data inputs > Citrix Analytics Add-on**. Ensure that the Citrix Analytics [configuration details](#) are available.
3. If the configuration details are available, run the following query to check the logs for any errors related to Citrix Analytics add-on for Splunk:

```
1 index=_internal sourcetype=splunkd log_level=ERROR component=
   ExecProcessor cas_siem_consumer
```

4. If you don't find any errors, Citrix Analytics add-on for Splunk is working as expected. If you find any errors in the logs, it might be because of one of the following reasons:
  - Failed to establish connection between your Splunk environment and Citrix Analytics Kafka endpoints. This issue might be because of the firewall settings.  
**Fixes:** Check with your network administrator to resolve this issue.
  - Incorrect configuration details in **Settings > Data inputs > Citrix Analytics Add-on**.  
**Fixes:** Ensure that the Citrix Analytics configuration details such as user name, password, host endpoints, topic, and consumer group are correctly entered as per the Citrix Analytics configuration file. For more information, see [Configure Citrix Analytics add-on for Splunk](#).
5. If you are unable to find the cause of the issue from the preceding logs and want to investigate further:
  - a) Enable the **Debug mode** in **Settings > Data inputs > Citrix Analytics Add-on**.

#### Note

By default, the **Debug mode** is disabled. Enabling this mode generates too many logs. So, use this option only when required and disable it after completing your debugging task.

User name \*   
User name provided during Citrix Analytics configuration.

Password \*   
Password provided during Citrix Analytics configuration.

Confirm password

Host(s)   
Combination of three host name ports (comma separated) provided in the Citrix Analytics configuration file.

Topic name \*   
Topic name provided in the Citrix Analytics configuration file.

Group name \*   
Group name provided in the Citrix Analytics configuration file.

☒ Debug mode  
Enable/Disable debug mode for modular input

☐ More settings

- b) Locate the generated debug logs at the following location and check for any errors:

```
1 $SPLUNK_HOME$/var/log/splunk.Filename
   splunk_citrix_analytics_add_on_debug_connection.log
```

- c) (Optional) Use the debug script `splunk cmd python cas_siem_consumer_debug.py` that is available with Citrix Analytics add-on for Splunk. This script generates a log file that contains the details of your Splunk environment and the connectivity checks. You can use the details to debug the issue. Run the script using the following command:

```
1 cd $SPLUNK_HOME$/etc/apps/TA_CTXS_AS/bin/; /opt/splunk/bin/
   splunk cmd python cas_siem_consumer_debug.py
```

## Error message

In the logs related to Citrix Analytics add-on for Splunk, you might see the following error:

```
ERRORKafkaError{ code=_TRANSPORT,val=-195,str="Failed to get metadata
: Local: Broker transport failure"}
```

This error is because of either a network connectivity issue or an authentication issue.

To debug the issue:

1. On your Splunk Forwarder or Splunk Standalone environment, enable the **Debug mode** to get the debug logs. Refer to the preceding step 5.a.
2. Run the following query to find any authentication issues in the debug logs:

```
1 index=_internal source="*
   splunk_citrix_analytics_add_on_debug_connection.log*" "
   Authentication failure"
```

3. If you don't find any authentication issues in the debug logs, the error is because of a network connectivity issue.
4. Find and resolve the issue by using telnet or the debug script mentioned in the preceding step 5.c.

### Add-on upgrade fails from a version earlier than 2.0.0

On your Splunk Forwarder or Splunk Standalone environment, when you upgrade Citrix Analytics add-on for Splunk to the [latest version](#) from a version earlier than 2.0.0, the upgrade fails.

#### Fixes

1. Delete the following files and folders located within the `/bin` folder of the Citrix Analytics add-on for Splunk installation folder:
  - `cd $SPLUNK_HOME$/etc/apps/TA_CTXS_AS/bin`
  - `rm -rf splunklib`
  - `rm -rf mac`
  - `rm -rf linux_x64`
  - `rm CARoot.pem`
  - `rm certificate.pem`
2. Restart your Splunk Forwarder or Splunk Standalone environment.

## Microsoft Sentinel integration

November 3, 2023

#### Notes

- Contact [CAS-PM-Ext@cloud.com](mailto:CAS-PM-Ext@cloud.com) to request assistance for the Microsoft Sentinel integration, exporting data to Microsoft Sentinel, or provide feedback.
- Data export to Microsoft Sentinel by using the Logstash engine is in preview. This feature is provided without a service level agreement and it's not recommended for production workloads. For more information, see the [Microsoft Sentinel](#) documentation.

Integrate Citrix Analytics for Security with your Microsoft Sentinel by using the Logstash engine.

This integration enables you to export and correlate the users' data from your Citrix IT environment to Microsoft Sentinel and get deeper insights into your organization's security posture. View the insightful dashboards that are unique to Citrix Analytics for Security in your Splunk environment. You can also create custom views based on your security requirements.

For more information about the benefits of the integration and the type of processed data that is sent to your SIEM, see [Security Information and Event Management integration](#).

**Prerequisites**

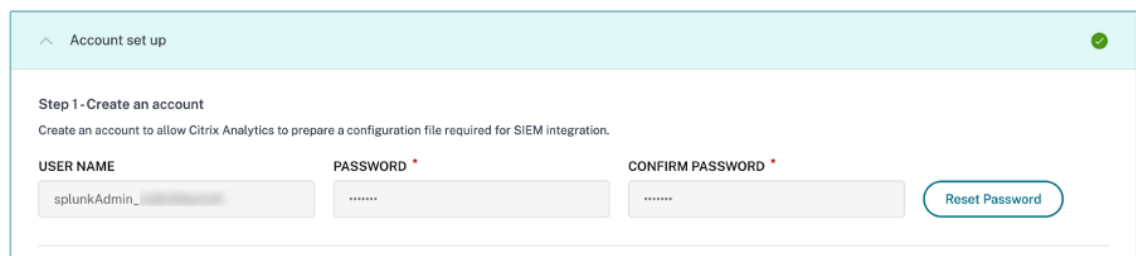
- Turn on data processing for at least one data source. It helps Citrix Analytics for Security to begin the Microsoft Sentinel integration process.
- Ensure that the following endpoint is in the allow list in your network.

Endpoint	United States region	European Union region	Asia Pacific South region
Kafka brokers	<code>casnb-0.citrix.com:9094</code>	<code>casnb-eu-0.citrix.com:9094</code>	<code>casnb-aps-0.citrix.com:9094</code>
	<code>casnb-1.citrix.com:9094</code>	<code>casnb-eu-1.citrix.com:9094</code>	<code>casnb-aps-1.citrix.com:9094</code>
	<code>casnb-2.citrix.com:9094</code>	<code>casnb-eu-2.citrix.com:9094</code>	<code>casnb-aps-2.citrix.com:9094</code>
	<code>casnb-3.citrix.com:9094</code>		

- Ensure that you use logstash versions 7.17.7 or later (tested versions for compatibility with Citrix Analytics for Security: v7.17.7 and v8.5.3) with the Microsoft Sentinel output plug-in for Logstash.

**Integrate with Microsoft Sentinel**

1. Go to **Settings > Data Exports**.
2. On the **Account set up** section, create an account by specifying the user name and a password. This account is used to prepare a configuration file, which is required for the integration.



3. Ensure that the password meets the following conditions:

Password must :

- Be 6 to 32 characters long.
- Contain at least one upper case and one lower case letter.
- Contain at least one number.
- Contain at least one of these allowed special characters \_@\$%^&\*.
- Not contain spaces.

4. Click **Configure** to generate the Logstash configuration file.

#### Step 2 - Get configuration details

After you click Configure, Citrix Analytics prepares a configuration file. Download the configuration file and specify the required details during configuration on SIEM.

Configure

5. Select the Azure Sentinel (Preview) tab to download the configuration files:

- **Logstash config file:** Contains the configuration data (input, filter, and output sections) for sending events from Citrix Analytics for Security to Microsoft Sentinel using the Logstash data collection engine.

For information on Logstash config file structure, see the [Logstash](#) documentation.

- **JKS file:** Contains the certificates required for SSL connection.

#### Note

These files contain sensitive information. Keep them in a safe and secure location.

### Step 3 - Choose one SIEM environment

⚠️ Configure one SIEM service at a time. If you configure multiple SIEM services simultaneously, you might face configuration issues.

Splunk

**Azure Sentinel (Preview)**

Elastic Search

Others

### Step 4 - Prepare for Azure Sentinel integration

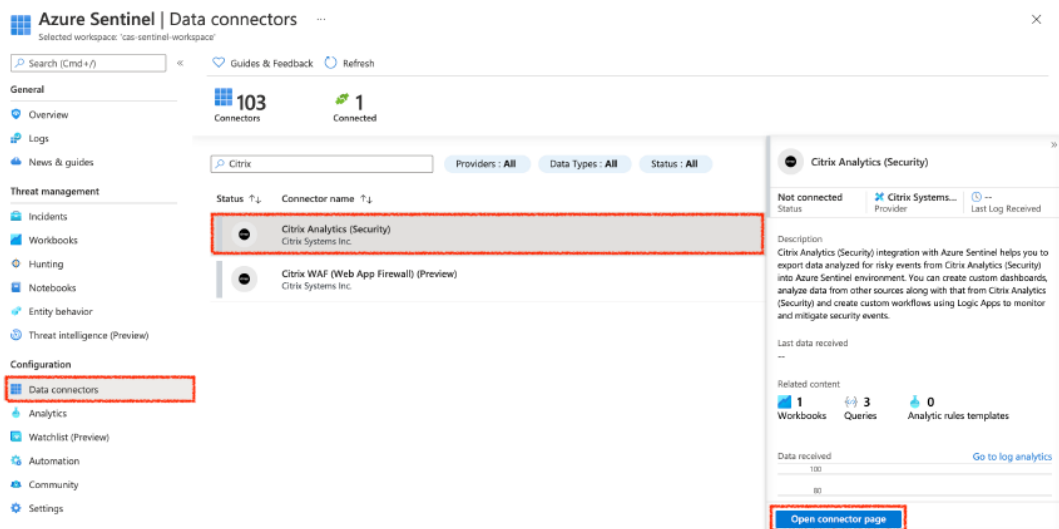
1. From Citrix Analytics, download the *Logstash* configuration file and *kafka.client.truststore.jks* file.
2. Go to your Azure portal and enable Azure Sentinel.
3. On the Data connectors page in Azure Sentinel, search for the *Citrix Analytics (Security)* connector and select *Open connector page*.
4. Copy the Workspace ID and Primary Key and enter these values in the corresponding fields in the downloaded Logstash configuration file.

⬇️ [Download Logstash Config File](#)

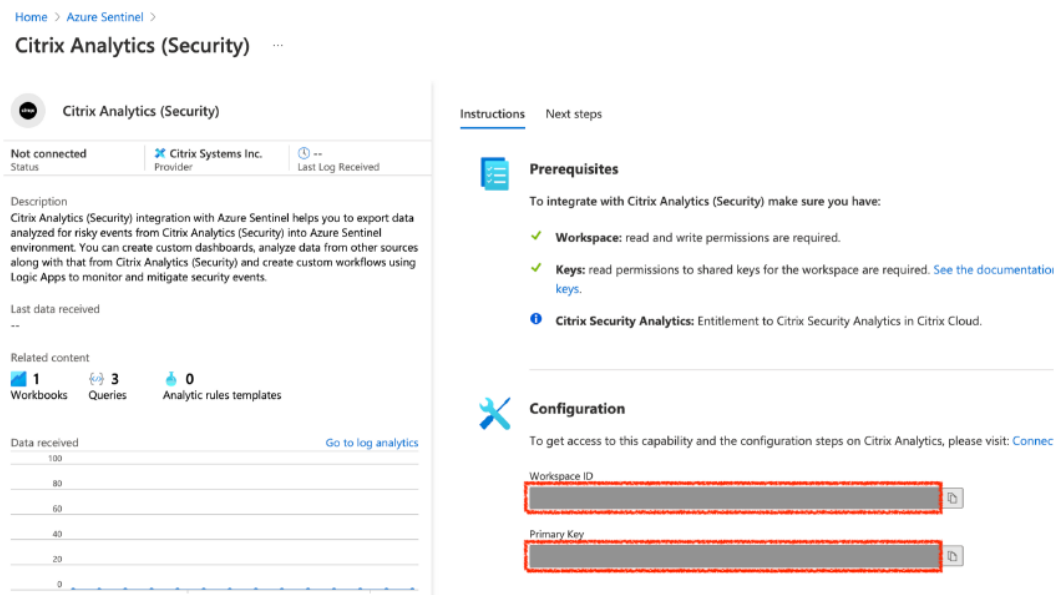
⬇️ [Download JKS File](#)

## 6. Prepare your Azure Sentinel integration:

- a) On your Azure portal, enable [Microsoft Sentinel](#). You can create a workspace or use your existing workspace to run Microsoft Sentinel.
- b) From the main menu, select **Data connectors** to open the data connectors gallery.
- c) Search for **Citrix Analytics (Security)**.
- d) Select **Citrix Analytics (Security)** and select **Open connector page**.



- e) From the **Citrix Analytics (Security)** page, copy the **Workspace ID** and **Primary Key**. You must enter this information in the Logstash config file in subsequent steps.



- f) Configure Logstash on your host machine:
- i. On your Linux or Windows host machine, install [Logstash](#) and [Microsoft Sentinel output plug-in for Logstash](#).
  - ii. On the host machine where you have installed Logstash, place the following files in the specified directory:

Host machine type	File name	Directory path
Linux	CAS_AzureSentinel_LogStash_Config	For .deb and RPM packages: /etc/logstash/conf.d/ For .zip and .tar.gz archives: { extract.path } / config
	kafka.client.truststore.jks	For Debian and RPM packages: /etc/logstash/ssl/ For .zip and .tar.gz archives: { extract.path } /ssl
Windows	CAS_AzureSentinel_LogStash_Config	logstash-7.xx.x\ config
	kafka.client.truststore.jks	

For information on the default directory structure of Logstash installation packages, see [Logstash documentation](#).

iii. Open the Logstash config file and do the following:

A. In the input section of the file, enter the following:

- **Password:** The password of the account that you have created in Citrix Analytics for Security to prepare the configuration file.
- **SSL truststore location:** The location of your SSL client certificate. This is the location of the `kafka.client.truststore.jks` file in your host machine.

```
input {
  kafka {
    bootstrap_servers => "localhost:9092,localhost:9092,localhost:9092"
    topics => ["CitrixAnalytics_indicatorSummary"]
    group_id => "CitrixAnalytics_indicatorSummary"
    session_timeout_ms => 60000
    auto_offset_reset => "earliest"
    security_protocol => "SASL_SSL"
    sasl_mechanism => "SCRAM-SHA-256"
    ssl_endpoint_identification_algorithm => ""
    sasl_jaas_config => "org.apache.kafka.common.security.scram.ScramLoginModule required username='CitrixAnalytics' password='<your password>';"
    ssl_truststore_location => "/etc/logstash/ssl/kafka.client.truststore.jks"
  }
}
```

B. In the output section of the file, enter the **Workspace ID** and **Primary key** (that you have copied from Microsoft Sentinel) in the output section of the file.

```
output {
  if [event_type] == "indicatorSummary" {
    microsoft-logstash-output-azure-loganalytics {
      workspace_id => "<your Azure Log analytics Workspace ID>"
      workspace_key => "<your Shared Key>"
      custom_log_table_name => "CitrixAnalytics_indicatorSummary"
      time_generated_field => "timestamp"
    }
  } else if [event_type] == "indicatorEventDetails" {
    microsoft-logstash-output-azure-loganalytics {
      workspace_id => "<your Azure Log analytics Workspace ID>"
      workspace_key => "<your Shared Key>"
      custom_log_table_name => "CitrixAnalytics_indicatorEventDetails"
      time_generated_field => "timestamp"
    }
  } else if [event_type] == "riskScoreChange" {
    microsoft-logstash-output-azure-loganalytics {
      workspace_id => "<your Azure Log analytics Workspace ID>"
      workspace_key => "<your Shared Key>"
      custom_log_table_name => "CitrixAnalytics_riskScoreChange"
      time_generated_field => "timestamp"
    }
  } else if [event_type] =~ "userProfile.+" {
    microsoft-logstash-output-azure-loganalytics {
      workspace_id => "<your Azure Log analytics Workspace ID>"
      workspace_key => "<your Shared Key>"
      custom_log_table_name => "CitrixAnalytics_userProfile"
      time_generated_field => "timestamp"
    }
  } else {
    microsoft-logstash-output-azure-loganalytics {
      workspace_id => "<your Azure Log analytics Workspace ID>"
      workspace_key => "<your Shared Key>"
      custom_log_table_name => "CitrixAnalytics_misc"
      time_generated_field => "timestamp"
    }
  }
}
```

iv. Restart the Logstash host machine to send the processed data from Citrix Analytics for Security to Microsoft Sentinel.

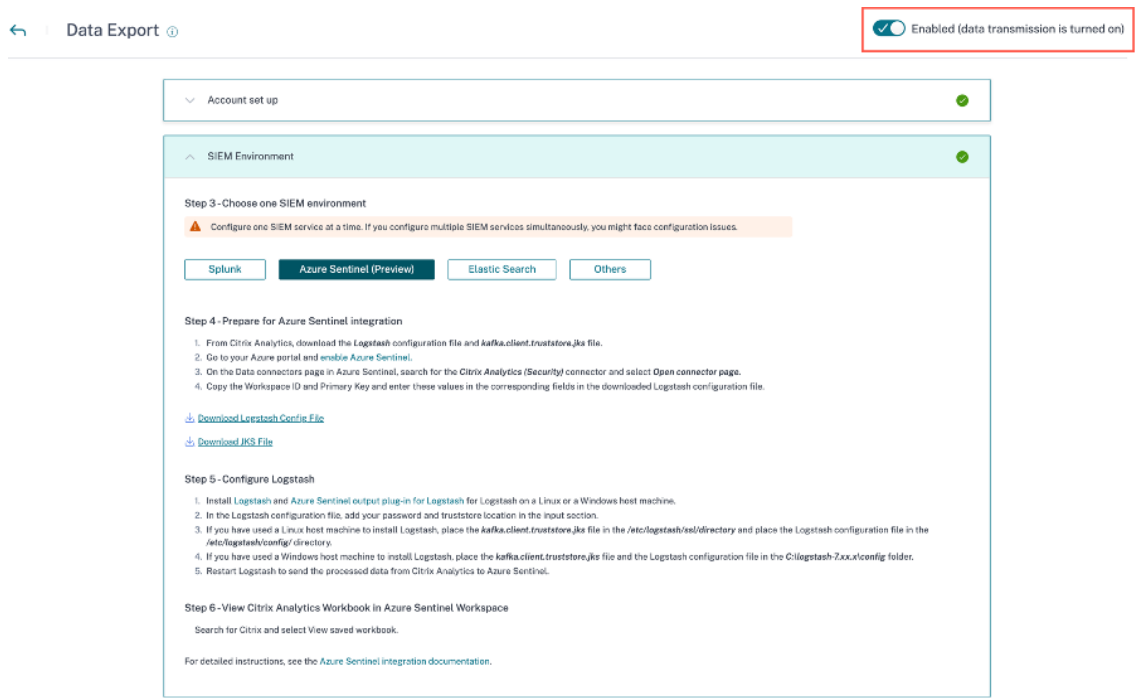
g) Go to your Microsoft Sentinel Workspace and view the data in the [Citrix Analytics workbook](#).

## Turn on or off data transmission

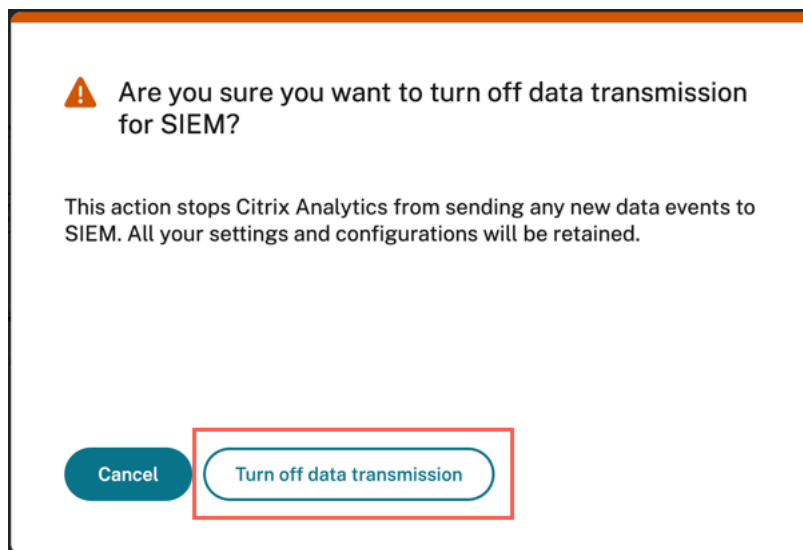
After Citrix Analytics for Security prepares the configuration file, data transmission is turned on for Microsoft Sentinel.

To stop transmitting data from Citrix Analytics for Security:

1. Go to **Settings > Data Exports**.
2. Turn off the toggle button to disable the **data transmission**. By default the data transmission always enabled..



A warning window appears for your confirmation. Click **Turn off data transmission** button to stop the transmission activity.



To enable data transmission again, turn on the toggle button.

For learn more about Microsoft Sentinel integration, refer the following links:

- [Citrix Analytics Integration with Microsoft Sentinel](#)
- [Raise your threat-hunting game with Citrix Analytics for Security and Microsoft Sentinel](#)

## Citrix Analytics workbook for Microsoft Sentinel

November 30, 2023

### Note

This feature is in preview.

This article describes the Citrix Analytics workbook that is available in your Microsoft Sentinel workspace.

### Prerequisite

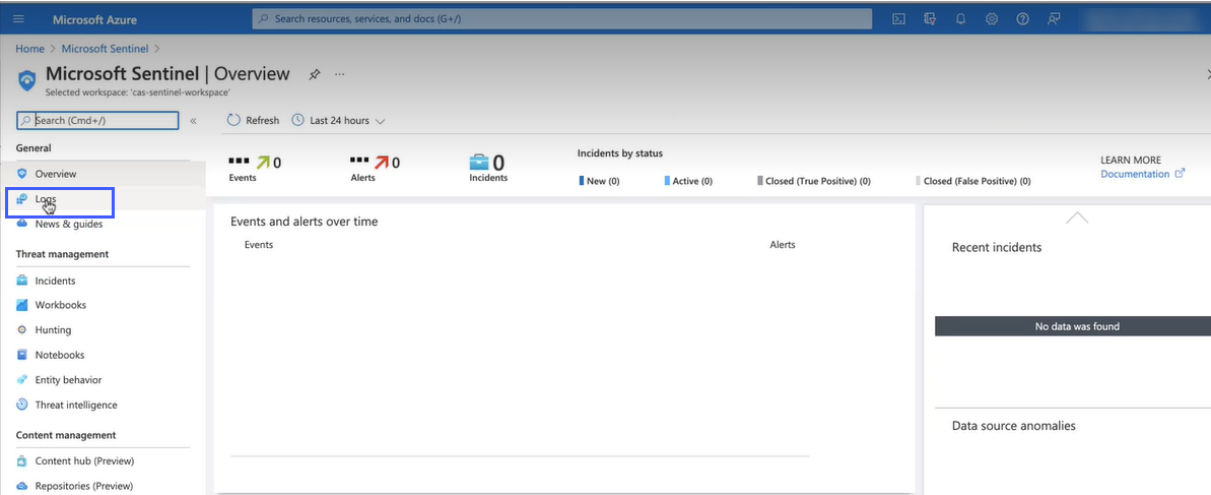
To use the Citrix Analytics workbook, ensure that you have already integrated Microsoft Sentinel with Citrix Analytics for Security. For more information, see [Microsoft Sentinel integration](#).

### View the Citrix Analytics events

After integrating Citrix Analytics for Security with Microsoft Sentinel, the Logstash connector starts pushing events from Citrix Analytics for Security to the Microsoft Sentinel workspace. On your **Azure**

**portal**, open the Microsoft Sentinel workspace that you have used for the integration.

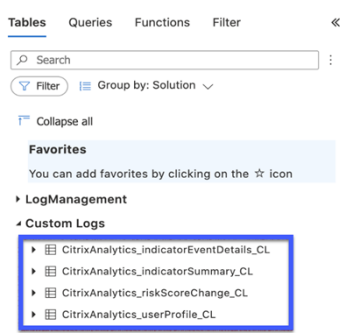
To verify that Microsoft Sentinel is receiving the events from Citrix Analytics for Security, select **Logs** > **Custom Logs**.



In the **Custom Logs** section, you can view the log tables that are created automatically to store the events received from Citrix Analytics for Security. These log tables serve as the source for the dashboards on the Citrix Analytics workbook.

**Note**

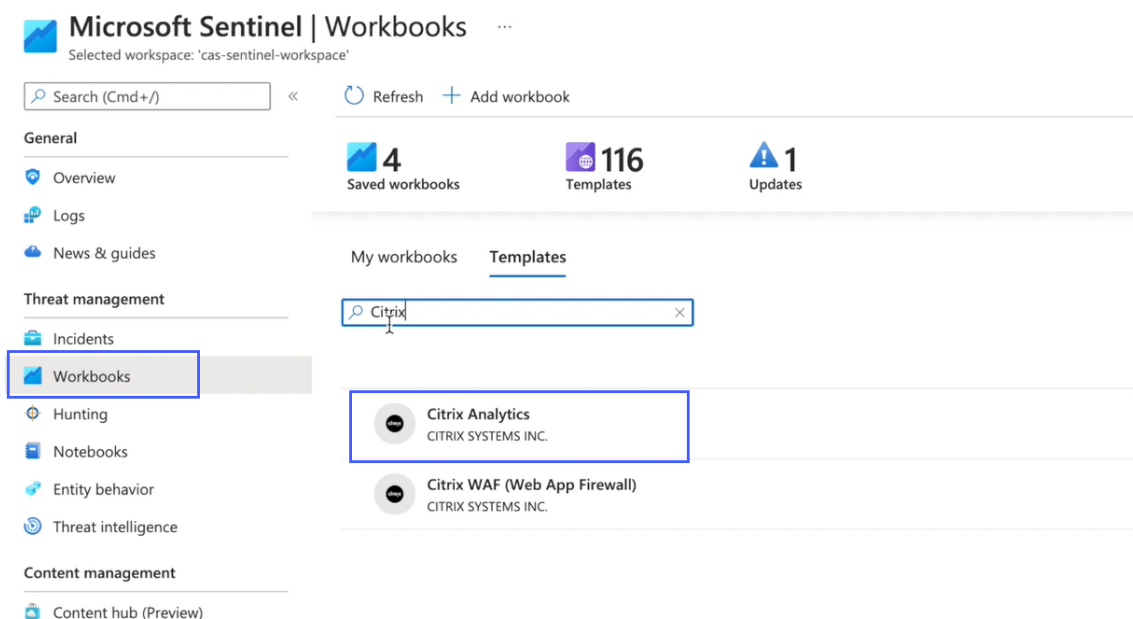
The events sent from Citrix Analytics for Security might take a few hours to appear in the Microsoft Sentinel workspace. So, you might see a delay in the creation of the log tables for the events.



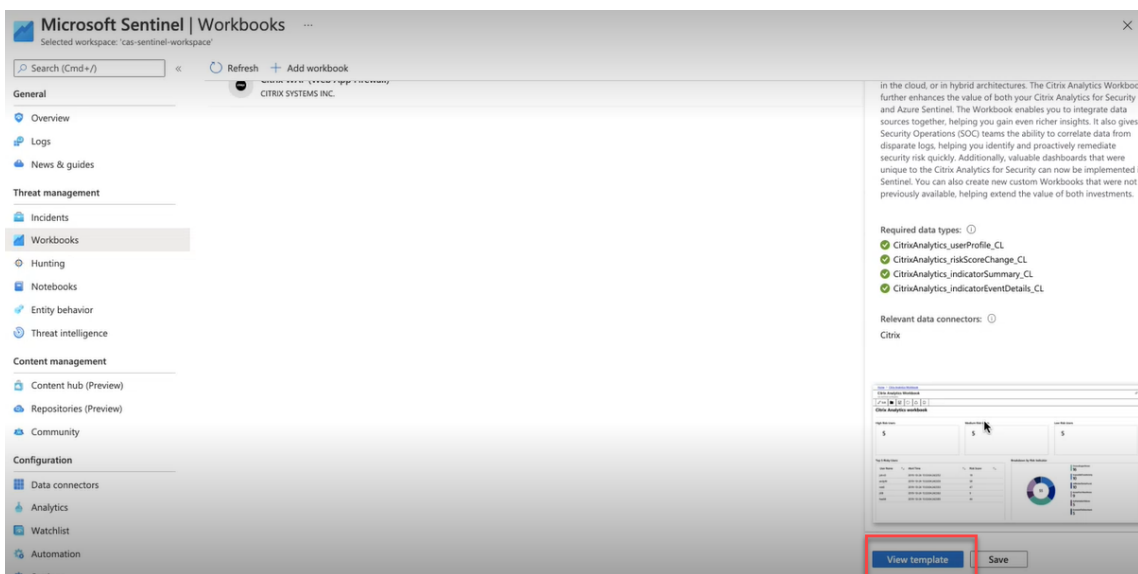
## View the Citrix Analytics workbook

When the log tables are successfully created, do the following:

1. Select **Workbooks** and search **Citrix Analytics**. Select **Citrix Analytics**.



2. Select **View Template** to open the Citrix Analytics workbook.



In the Citrix Analytics workbook, you can view the user events in the following dashboards:

- **User Risk Scores Overview:** Provides a consolidated view of the risky users in your organization.
- **User Details:** Provides details of the users and their risky behavior.
- **User Profile:** Provides the event metrics associated with the users.
- **Received Events:** Provides the events received from Citrix Analytics for Security.
- **Risk Indicator Details:** Provides details about the built-in and custom risk indicators triggered by the users.

- **Risk Indicator Overview:** Provides a consolidated view of the risk indicators triggered by the users.

Citrix Analytics  ...  
cas-sentinel-workspace

  Auto refresh: Off

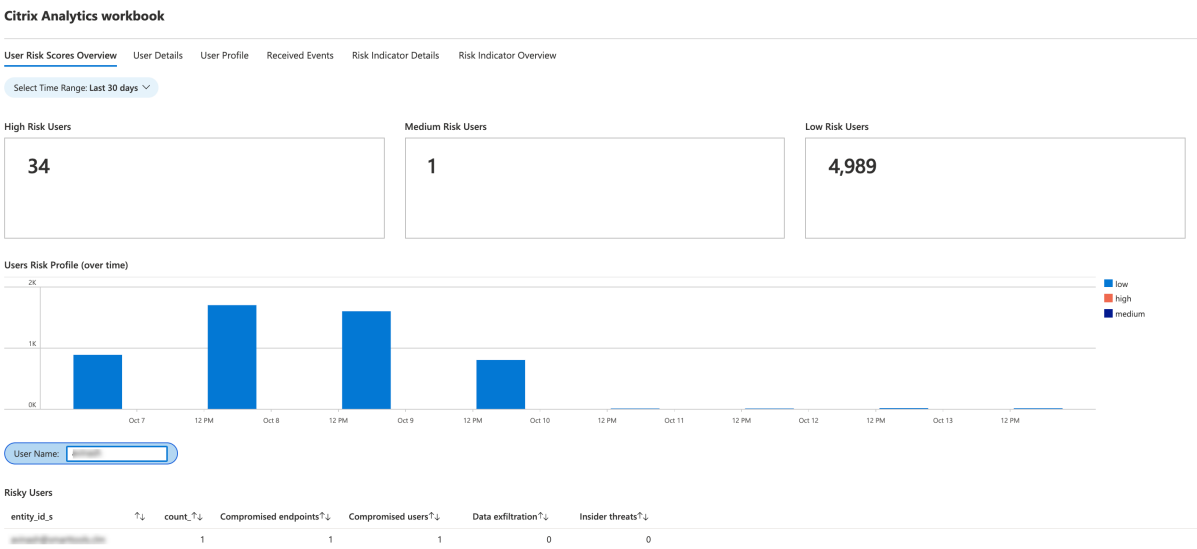
### Citrix Analytics workbook

User Risk Scores Overview   User Details   User Profile   Received Events   Risk Indicator Details   Risk Indicator Overview

### User risk score overview

This dashboard provides a consolidated view of the risky users in your organization. The users are categorized by the risk levels- high, medium, and low. The risk levels are based on the anomalies in the user activities and accordingly a risk score is assigned. For more information about the types of risky users, see the [Users dashboard](#).

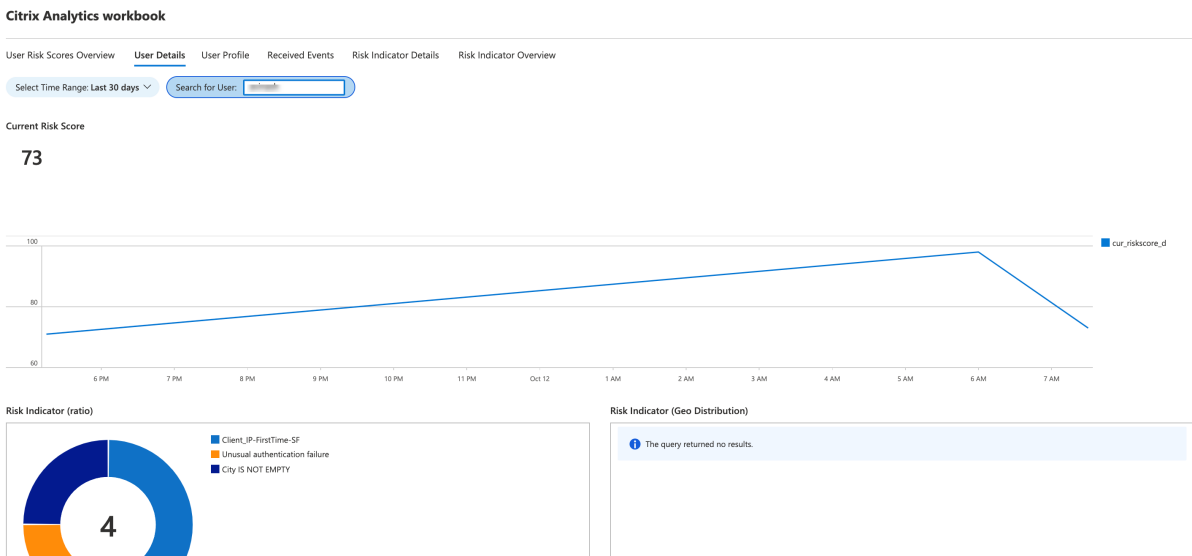
Select a time period to view the risky users in your organization.



### User details

This dashboard provides the risk score and the risk indicators associated with a user.

Search a user and view their risky activities that can pose a threat to your organization. To mitigate the threat, you can take appropriate actions on the user accounts based on their risk severity.



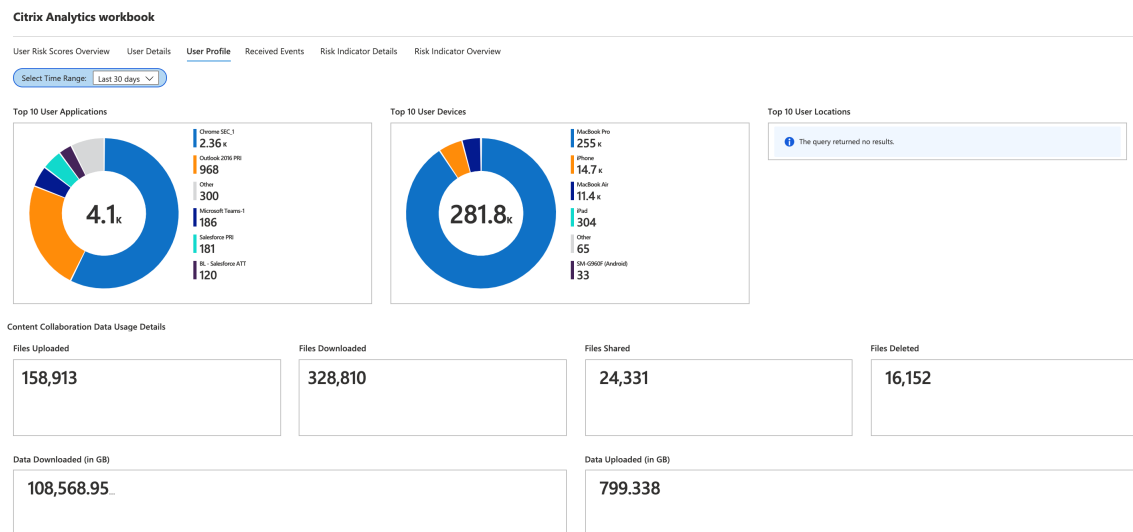
### User profile

This dashboard provides the details of the event metrics associated with your users for a selected time period. The metrics provide insights into the user activities such as:

- Top 10 applications used by the users
- Top 10 devices used by the users
- Top 10 locations from where the users have logged on

Using the reports, you can:

- Identify the usage trend of your users
- Discover the non-compliant devices that are used to access the resources
- Check for any potential risky accesses from your users



## Received events

For a selected time period, you can view the total number of events received from Citrix Analytics for Security. The total received events include the following:

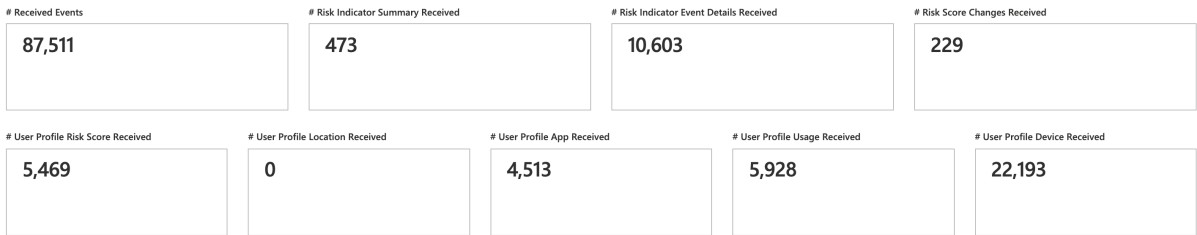
- **Risk indicator summary:** Indicates the events associated with the user risk indicators' summary. For information on various risk indicator summary events, see [Risk indicator schema](#).
- **Risk indicator event details:** Indicates the events associated with user risk indicators' details. For information on various risk indicator detail events, see [Risk indicator schema](#).
- **User profile risk score:** Indicates the events associated with users' risk score. For information, see [Users dashboard](#).
- **Risk score changes:** Indicates the events associated with users' risk score change. For information, see [Users dashboard](#).
- **User profile locations:** Indicates the events associated with the locations from where the users have logged on.
- **User profile app:** Indicates the events associated with the applications used by the users.
- **User profile usage:** Indicates the events associated with the data usage of the users.
- **User profile device:** Indicates the events associated with the devices used by the users.

By reviewing the dashboard at regular intervals, you can ensure if events are properly flowing to your Microsoft Sentinel workspace. Any discrepancy in the total received events might indicate integration issues with Citrix Analytics for Security. You can perform the necessary steps to debug the issues.

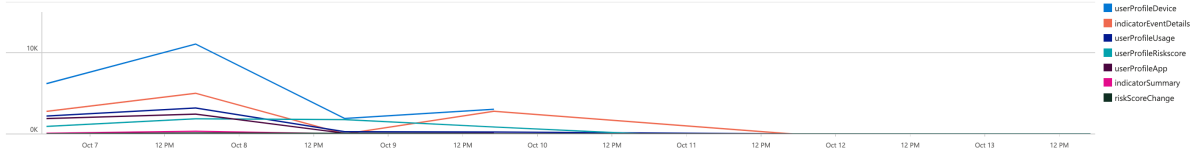
Citrix Analytics workbook

User Risk Scores Overview   User Details   User Profile   **Received Events**   Risk Indicator Details   Risk Indicator Overview

Select Time Range: Last 30 days ▾



Citrix Analytics Events Received (over time)



Risk indicator details

This dashboard provides the details of the risk indicators triggered by your users.

You can view the risk indicator details by selecting one or more categories:

- Time range: Select a time range to view the details of the risk indicators triggered during the period.
- Entity type: Select a user to view the details of the associated risk indicators.
- Risk indicator type: Select either **built-in** or **custom** risk indicators to view their details.
- Data source: Select a **data source** to view the associated risk indicators.
- Risk indicator category: Select the **risk category** to view the associated risk indicators.
- Risk indicator: Select a risk indicator by name and view its details.

Citrix Analytics workbook

User Risk Scores Overview   User Details   User Profile   Received Events   **Risk Indicator Details**   Risk Indicator Overview

Select Time Range: Last 30 days ▾   Select Entity Type: user ▾   Select Risk Indicator Type: builtin ▾   Select Data Source: Citrix Content Collaboration ▾   Select Risk Indicator Cat...: Compromised users ▾   Select Risk Indicator: Unusual authentication failure ▾

Risk Indicator (History)

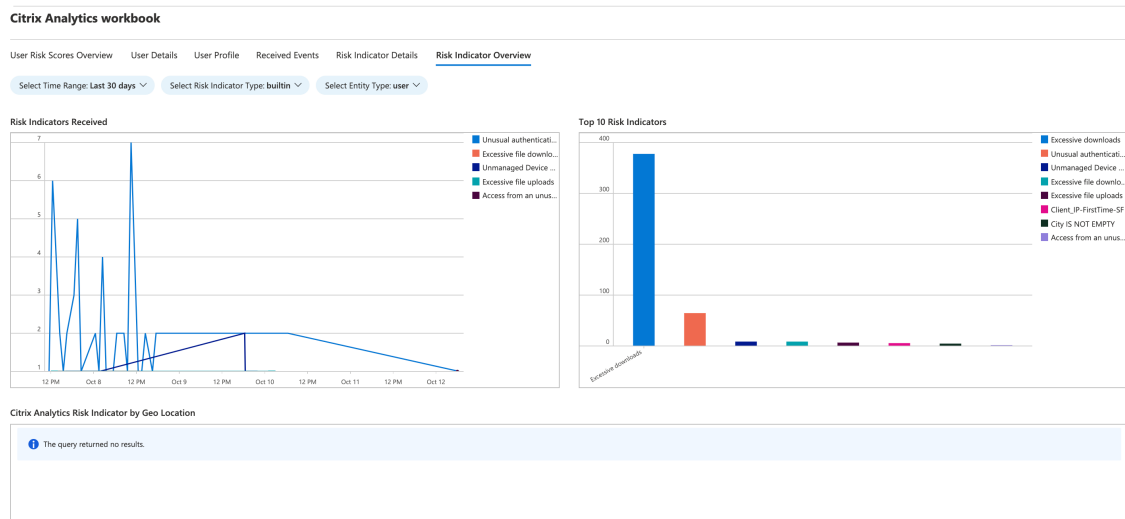
TimeGenerated	data_source_s	indicator_category_s	indicator_name_s	entity_id_s	entity_type_s	severity_s	risk_probability_s	indicator_uid_g
10/12/2021, 6:29:59 AM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	rttools.cim	user	medium	0.1e1	6aa03e6d-f4e7-509c-9f
10/8/2021, 4:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	16fa7fb79c42819dc67355ae7eabadi445301587e748c0d8...	user	medium	0.1e1	f79a2df5-e808-53b0-9f
10/8/2021, 5:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	743e3e41317a2e119725ba41d68b746e3e7d6739b14285...	user	medium	0.1e1	06966515-808f-5323-9
10/8/2021, 5:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	ba148f2e25d4d411f15b7b7874c121d847551752b728da5...	user	medium	0.1e1	bd2b5dd8f-6841-5371-t
10/9/2021, 8:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	aaf12fa841ad6b539968908d8ec0ae8aca0a4f0a19e9f12e...	user	medium	0.1e1	2b3d5159-dd41-50a2-i
10/9/2021, 8:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	82fba464df7063eb6fbc771d7277a5a5022a0c770968d053...	user	medium	0.1e1	b9538892-2396-53f6-8
10/10/2021, 6:29:59 AM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	263aa98cad39a40eed166460262c586b28252208ad0f2...	user	medium	0.1e1	0fbce39-a155-5adc-9f
10/10/2021, 6:29:59 AM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	538e610d1215e8e791334016c90f0502d59c6ac8d17a8a0...	user	medium	0.1e1	07e2cc74-74e4-5cee-b
10/7/2021, 11:29:59 AM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	d3498d8757406263535b62002c412c8948b0f443ab1841...	user	medium	0.1e1	2b51172f-0be9-5a0a-9
10/7/2021, 12:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	e9263766eca6e6a44b6477ed3d8a2570b260bf771949a68...	user	medium	0.1e1	a9779446-46b1-5258-a
10/7/2021, 12:29:59 PM	Citrix Content Collaboration	Compromised users	Unusual authentication failure	9c2c8b8aada463e8dc5ac3ae8b1e5e4eca0ef3dd5a0118...	user	medium	0.1e1	251ffa14-3a6f-5658-8a

## Risk indicator overview

This dashboard provides a consolidated view of all the risk indicators triggered by your users.

You can view the risk indicators by selecting one or more categories:

- Time range: Select a time period to view the risk indicators that are triggered during that period.
- Risk indicator type: Select either **built-in** or **custom** to view the associated risk indicators.
- Entity type: Select either user to view the associated risk indicators.



## Troubleshooting guidance for Sentinel Integration via Logstash

April 19, 2023

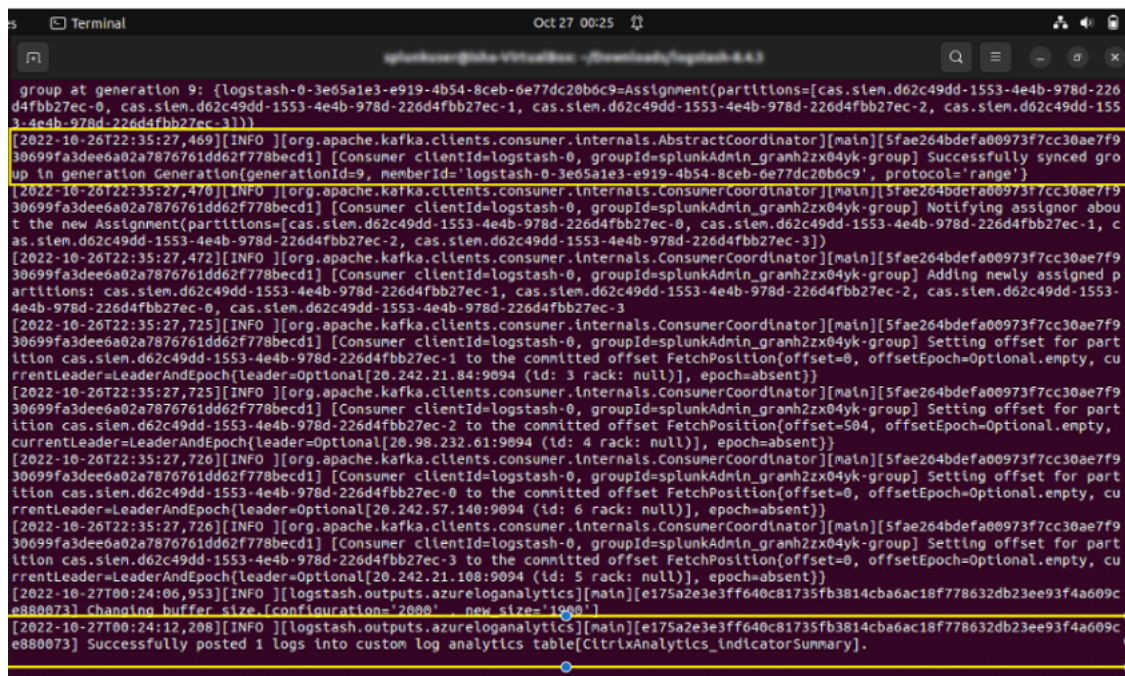
This article lists out pointers to spot in order to resolve an issue that you might encounter when you integrate Microsoft Sentinel with Citrix Analytics using Logstash. To know more about the same, refer [SIEM integration using Kafka or Logstash based data connector](#).

### Check Logstash Server Logs

You can check the Logstash server logs appearing on your terminal window to verify whether data has been correctly ingested into the custom log tables in your Sentinel workspace.

1. To view the log details, you must download the Logstash configuration file from **Settings > Data Exports > Configuration** tab > expand the **SIEM Environment**. Under the **Azure Sentinel (Pre-view)**, click **Download Logstash Config File**.

- Once you start the Logstash server using the configuration file, you can look out for the following logs in the same terminal window that indicate a successful connection with Log Analytics workspace hosted by Microsoft Azure.



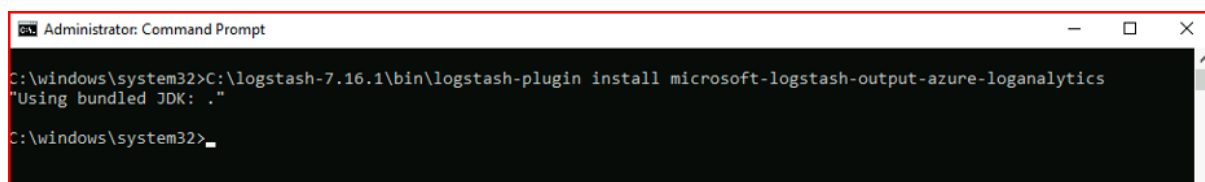
```

group at generation 9: {logstash-0-3e65a1e3-e919-4b54-8ceb-6e77dc20b6c9=Assignment(partitions=[cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-0, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-1, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-2, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-3])}
[2022-10-26T22:35:27.469][INFO ][org.apache.kafka.clients.consumer.internals.AbstractCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Successfully synced group in generation GenerationId=9, memberId='logstash-0-3e65a1e3-e919-4b54-8ceb-6e77dc20b6c9', protocol='range'
[2022-10-26T22:35:27.476][INFO ][org.apache.kafka.clients.consumer.internals.ConsumerCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Notifying assignor about the new Assignment(partitions=[cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-0, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-1, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-2, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-3])
[2022-10-26T22:35:27.472][INFO ][org.apache.kafka.clients.consumer.internals.ConsumerCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Adding newly assigned partitions: cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-1, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-2, cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-3
[2022-10-26T22:35:27.725][INFO ][org.apache.kafka.clients.consumer.internals.ConsumerCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Setting offset for partition cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-1 to the committed offset FetchPosition(offset=0, offsetEpoch=Optional.empty, currentLeader=LeaderAndEpoch{leader=Optional[20.242.21.84:9094 (id: 3 rack: null)], epoch=absent})
[2022-10-26T22:35:27.725][INFO ][org.apache.kafka.clients.consumer.internals.ConsumerCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Setting offset for partition cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-2 to the committed offset FetchPosition(offset=504, offsetEpoch=Optional.empty, currentLeader=LeaderAndEpoch{leader=Optional[20.98.232.61:9094 (id: 4 rack: null)], epoch=absent})
[2022-10-26T22:35:27.726][INFO ][org.apache.kafka.clients.consumer.internals.ConsumerCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Setting offset for partition cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-0 to the committed offset FetchPosition(offset=0, offsetEpoch=Optional.empty, currentLeader=LeaderAndEpoch{leader=Optional[20.242.57.140:9094 (id: 6 rack: null)], epoch=absent})
[2022-10-26T22:35:27.726][INFO ][org.apache.kafka.clients.consumer.internals.ConsumerCoordinator][main][5fae264bdefa00973f7cc30ae7f930699fa3dee6a02a7876761dd62f778becd1] [Consumer clientId=logstash-0, groupId=splunkAdmin_granh2zx04yk-group] Setting offset for partition cas.slem.d62c49dd-1553-4e4b-978d-226d4fbb27ec-3 to the committed offset FetchPosition(offset=0, offsetEpoch=Optional.empty, currentLeader=LeaderAndEpoch{leader=Optional[20.242.21.108:9094 (id: 5 rack: null)], epoch=absent})
[2022-10-27T00:24:06.953][INFO ][logstash.outputs.azureloganalytics][main][e175a2e3e3ff640c81735fb3814c8a6ac18f778632db23ee93f4a609ce888073] Changing buffer size {configuration='2000', new size='1900'}
[2022-10-27T00:24:12.208][INFO ][logstash.outputs.azureloganalytics][main][e175a2e3e3ff640c81735fb3814c8a6ac18f778632db23ee93f4a609ce888073] Successfully posted 1 logs into custom log analytics table [CitrixAnalytics_IndicatorSummary].

```

## Common Error: Using bundled JDK

When trying to install the Microsoft log analytics plug-in, a common error reported is the one shown below:

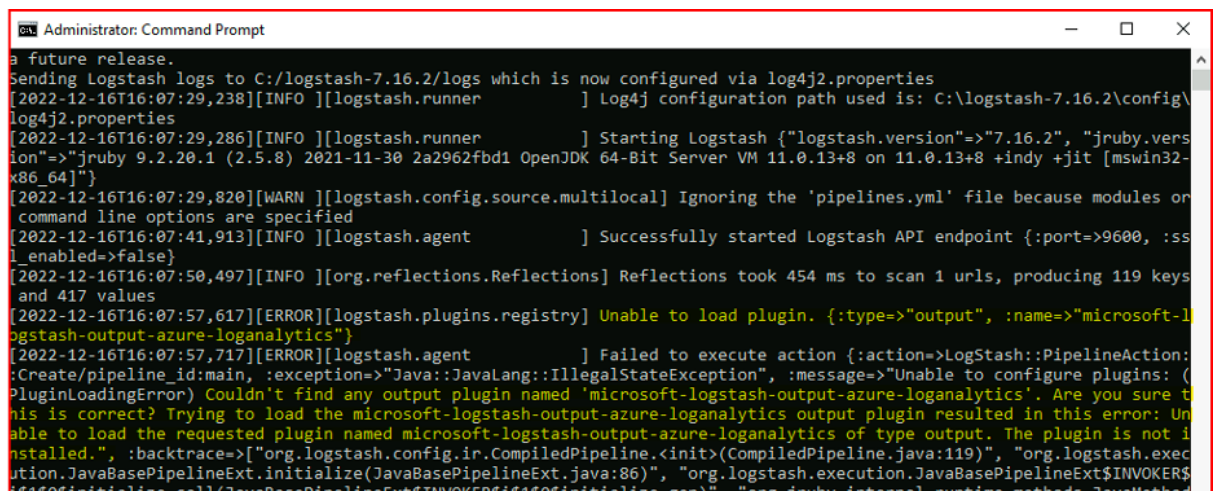


```

Administrator: Command Prompt
C:\windows\system32>C:\logstash-7.16.1\bin\logstash-plugin install microsoft-logstash-output-azure-loganalytics
Using bundled JDK: .
C:\windows\system32>

```

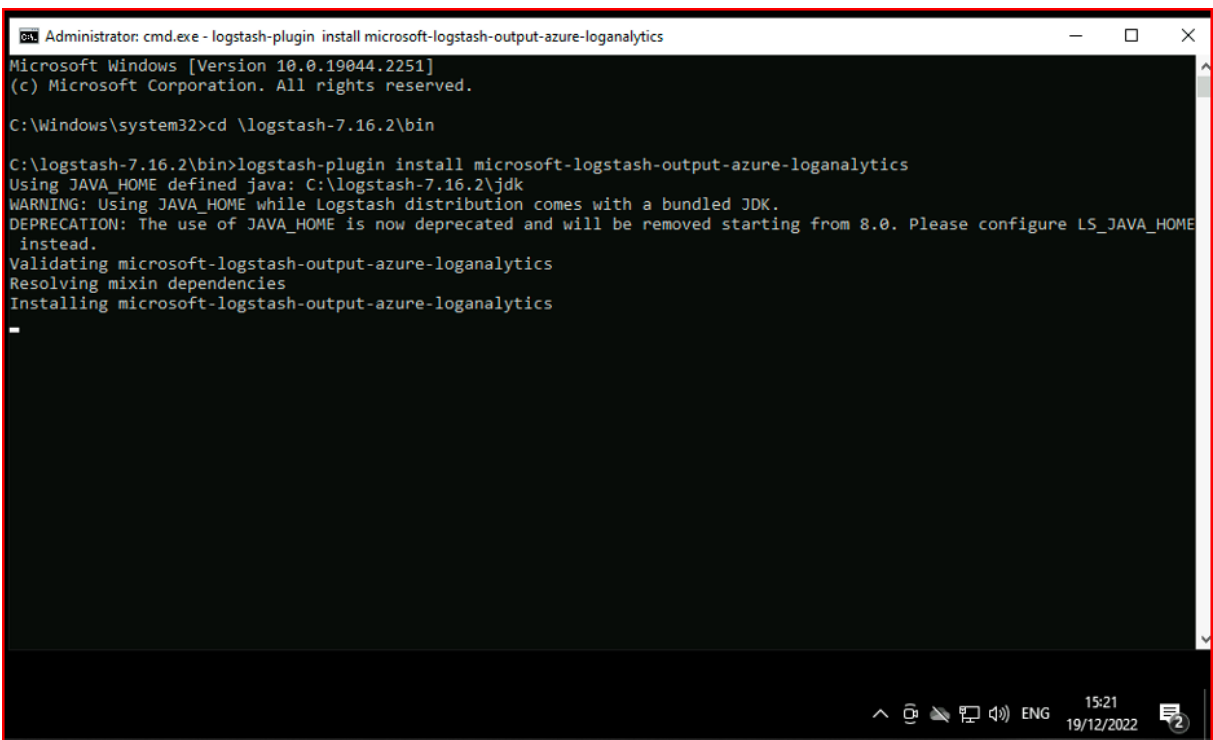
After this, upon trying to run Logstash server, you might see the following error:



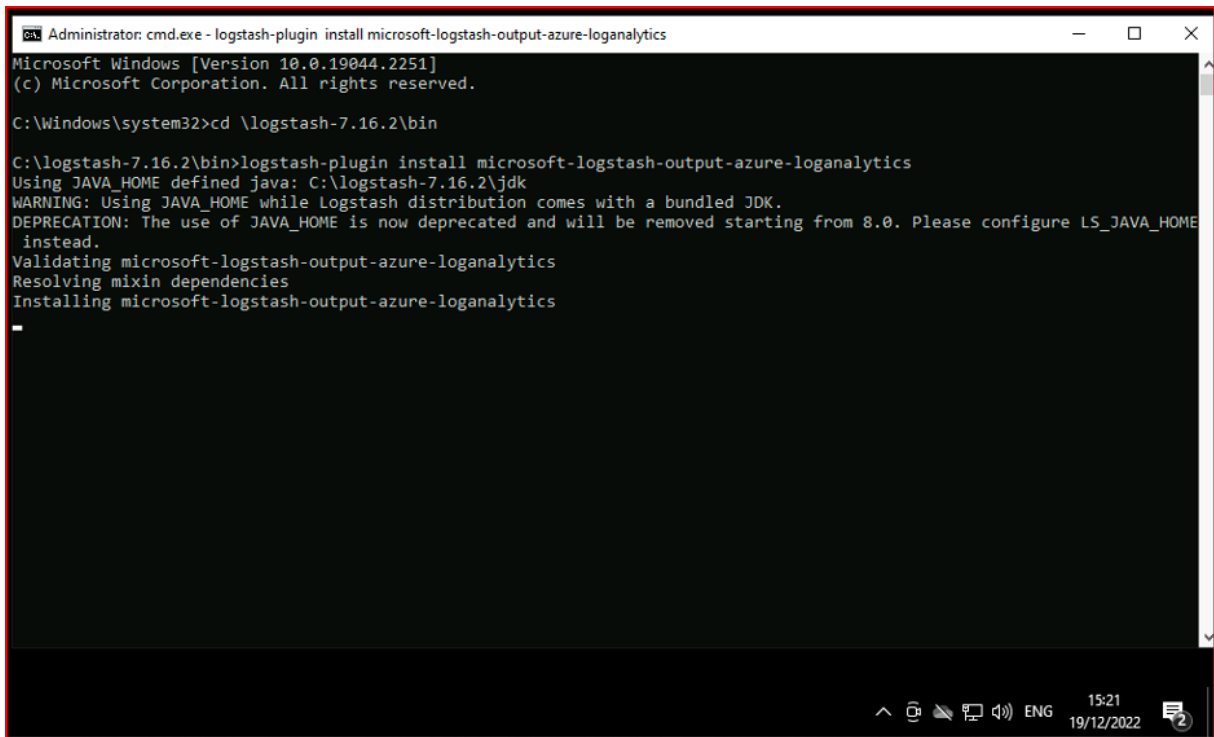
To resolve this, set `JAVA_HOME` to the bundled JDK:

1. Go to Windows Environment Variables
2. Create a new system variable with the name "JAVA\_HOME"
3. Add the path to the bundled Logstash JDK (<path\_to\_logstash>/logstash-X.X.X/jdk)

After going through the above steps, upon trying to install the plug-in again, the following screen appears:



If you use `LS_JAVA_HOME` (as `JAVA_HOME` is deprecated), you also have to specify the location of the bundled JDK in the system `PATH` variable, and this path must point to the **jdk\bin** folder (unlike the `LS_JAVA_HOME` variable) :

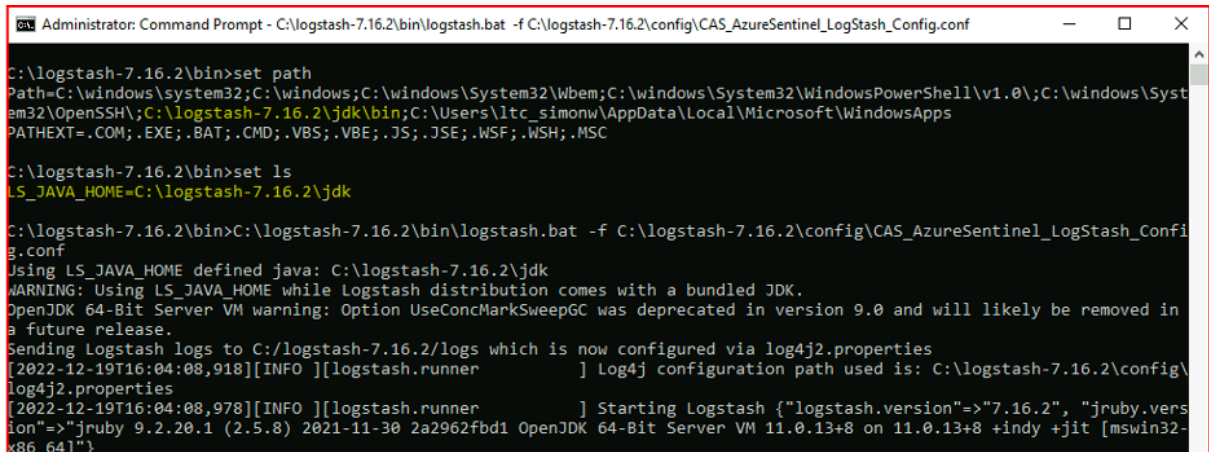


```
Administrator: cmd.exe - logstash-plugin install microsoft-logstash-output-azure-loganalytics
Microsoft Windows [Version 10.0.19044.2251]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd \logstash-7.16.2\bin

C:\logstash-7.16.2\bin>logstash-plugin install microsoft-logstash-output-azure-loganalytics
Using JAVA_HOME defined java: C:\logstash-7.16.2\jdk
WARNING: Using JAVA_HOME while Logstash distribution comes with a bundled JDK.
DEPRECATION: The use of JAVA_HOME is now deprecated and will be removed starting from 8.0. Please configure LS_JAVA_HOME
instead.
Validating microsoft-logstash-output-azure-loganalytics
Resolving mixin dependencies
Installing microsoft-logstash-output-azure-loganalytics
-
```

If you use LS\_JAVA\_HOME (as JAVA\_HOME is deprecated), you also have to specify the location of the bundled JDK in the system PATH variable, and this path must point to the **jdk\bin** folder (unlike the LS\_JAVA\_HOME variable):



```
Administrator: Command Prompt - C:\logstash-7.16.2\bin\logstash.bat -f C:\logstash-7.16.2\config\CAS_AzureSentinel_LogStash_Config.conf
C:\logstash-7.16.2\bin>set path
Path=C:\windows\system32;C:\windows;C:\windows\System32\Wbem;C:\windows\System32\WindowsPowerShell\v1.0\;C:\windows\Syst
em32\OpenSSH\;C:\logstash-7.16.2\jdk\bin;C:\Users\lrc_simonw\AppData\Local\Microsoft\WindowsApps
PATHEXT=.COM;.EXE;.BAT;.CMD;.VBS;.VBE;.JS;.JSE;.WSF;.WSH;.MSC

C:\logstash-7.16.2\bin>set ls
LS_JAVA_HOME=C:\logstash-7.16.2\jdk

C:\logstash-7.16.2\bin>C:\logstash-7.16.2\bin\logstash.bat -f C:\logstash-7.16.2\config\CAS_AzureSentinel_LogStash_Confi
g.conf
Using LS_JAVA_HOME defined java: C:\logstash-7.16.2\jdk
WARNING: Using LS_JAVA_HOME while Logstash distribution comes with a bundled JDK.
OpenJDK 64-Bit Server VM warning: Option UseConcMarkSweepGC was deprecated in version 9.0 and will likely be removed in
a future release.
Sending Logstash logs to C:\logstash-7.16.2\logs which is now configured via log4j2.properties
[2022-12-19T16:04:08,918][INFO ][logstash.runner] Log4j configuration path used is: C:\logstash-7.16.2\config\
log4j2.properties
[2022-12-19T16:04:08,978][INFO ][logstash.runner] Starting Logstash {"logstash.version"=>"7.16.2", "jruby.vers
ion"=>"jruby 9.2.20.1 (2.5.8) 2021-11-30 2a2962fbd1 OpenJDK 64-Bit Server VM 11.0.13+8 on 11.0.13+8 +indy +jit [mswin32-
x86_64]"}

```

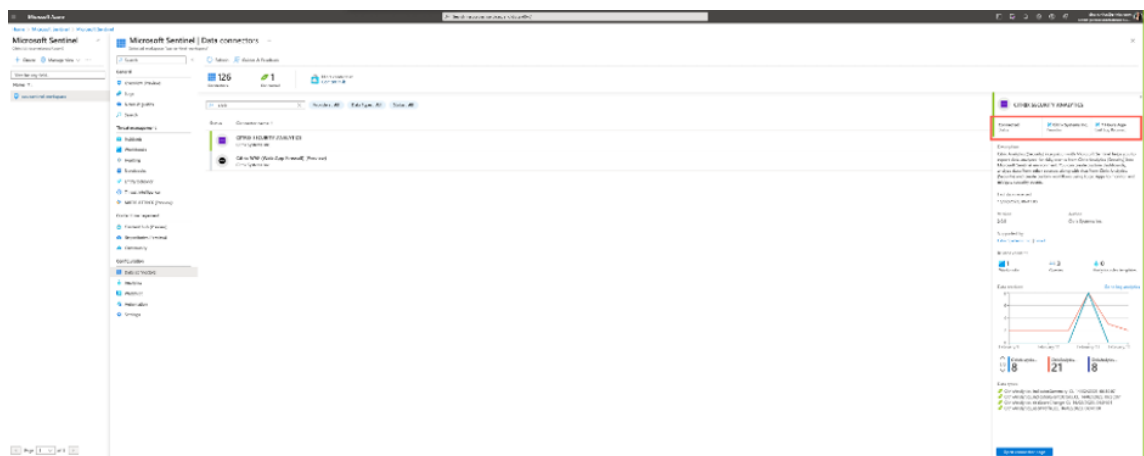
## Check Microsoft Sentinel Workbook

To confirm whether data sent by Citrix Analytics has been successfully entered into the appropriate custom log table in the Log Analytics Workspace (To know more about Microsoft Sentinel integration with Citrix Analytics, refer [Microsoft Sentinel integration](#)):

1. Navigate to **Azure portal > Microsoft Sentinel > Select appropriate\_workspace > Data con-**

**nectors** > select and click **Citrix Security Analytics**.

2. Check the top bar to verify the connectivity status.



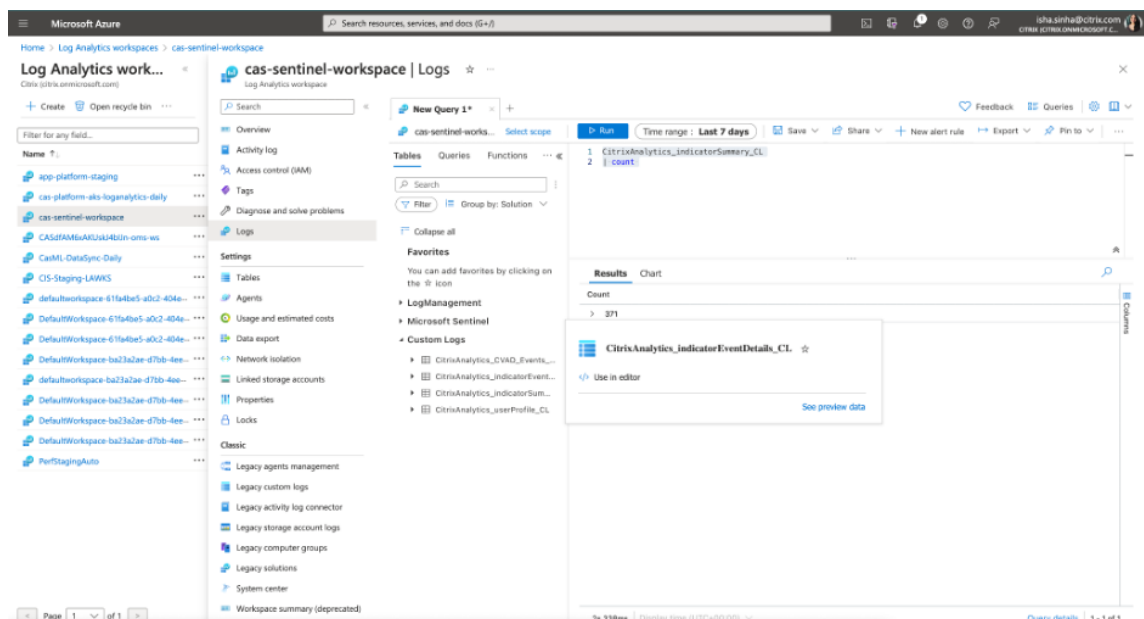
3. Under the Workbooks, you can use intuitive filters to further drill-down on the data to get the risk indicator information. To get the information, navigate to **Azure portal > Microsoft Sentinel > Data connectors > CITRIX SECURITY ANALYTICS > Workbooks**.



## Check Log Analytics workspace logs using KQL

You can also check if the correct data made its way to your LogAnalytics workspace by running KQL queries on the respective custom log tables.

1. Navigate to **Azure portal > Log Analytics workspaces** and search for the correct workspace.
2. Under the left panel, select **Logs** and search for the custom log analytics table under the **Tables** tab.
3. Select the custom log analytics table and click **Use in editor**. (For guidance on KQL queries on Log Analytics workspace, refer [Log Analytics tutorial](#)).

4. Click **Run**.

## Elasticsearch integration

November 3, 2023

### Note

Contact [CAS-PM-Ext@cloud.com](mailto:CAS-PM-Ext@cloud.com) to request assistance for the Elasticsearch integration, exporting data to Elasticsearch, or provide feedback.

Integrate Citrix Analytics for Security with Elasticsearch by using the Logstash engine. This integration enables you to export and correlate the users' data from your Citrix IT environment to Elasticsearch and get deeper insights into your organization's security posture. You can also use Elasticsearch with the visualization services and SIEMs like [Kibana](#) and [LogRhythm](#) respectively.

For more information about the benefits of the integration and the type of processed data that is sent to your SIEM, see [Security Information and Event Management integration](#).

### Prerequisites

- Turn on data processing for at least one data source. It helps Citrix Analytics for Security to begin the Elasticsearch integration process.
- Ensure that the following endpoint is in the allow list in your network.

Endpoint	United States region	European Union region	Asia Pacific South region
Kafka brokers	<code>casnb-0.citrix.com:9094</code>	<code>casnb-eu-0.citrix.com:9094</code>	<code>casnb-aps-0.citrix.com:9094</code>
	<code>casnb-1.citrix.com:9094</code>	<code>casnb-eu-1.citrix.com:9094</code>	<code>casnb-aps-1.citrix.com:9094</code>
	<code>casnb-2.citrix.com:9094</code>	<code>casnb-eu-2.citrix.com:9094</code>	<code>casnb-aps-2.citrix.com:9094</code>
	<code>casnb-3.citrix.com:9094</code>		

Integrate with Elasticsearch

1. Go to **Settings > Data Exports**.
2. On the **Account set up** section, create an account by specifying the user name and a password. This account is used to prepare a configuration file, which is required for integration.

Account set up

Step 1 - Create an account

Create an account to allow Citrix Analytics to prepare a configuration file required for SIEM integration.

USER NAME

splunkAdmin\_

PASSWORD \*

CONFIRM PASSWORD \*

Reset Password

3. Ensure that the password meets the following conditions:

Password must :

- Be 6 to 32 characters long.
- Contain at least one upper case and one lower case letter.
- Contain at least one number.
- Contain at least one of these allowed special characters `_@#$%^&*`.
- Not contain spaces.

4. Click **Configure** to generate the Logstash configuration file.

Step 2 - Get configuration details

After you click Configure, Citrix Analytics prepares a configuration file. Download the configuration file and specify the required details during configuration on SIEM.

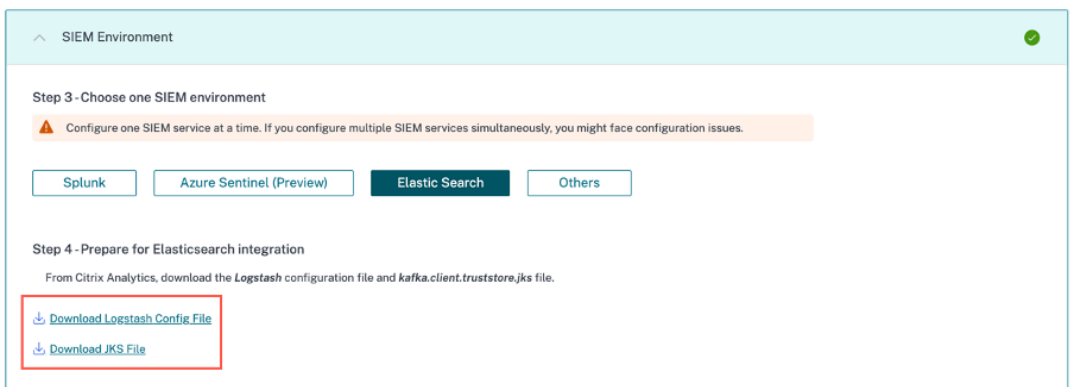
Configure

5. Select the **Elastic Search** tab from the SIEM Environment section to download the configuration files:

- **Logstash config file:** Contains the configuration data (input, filter, and output sections) for sending events from Citrix Analytics for Security to Elasticsearch using the Logstash data collection engine. For information on Logstash config file structure, see the [Logstash](#) documentation.
- **JKS file:** Contains the certificates required for SSL connection.

**Note**

These files contain sensitive information. Keep them in a safe and secure location.



6. Configure Logstash:

- a) On your Linux or Windows host machine, install [Logstash](#). You can also use your existing Logstash instance.
- b) On the host machine where you have installed Logstash, place the following files in the specified directory:

Host machine type	File name	Directory path
Linux	CAS_Elasticsearch_LogStash_Config.conf	For Debian and RPM packages: /etc/logstash/conf.d/ For .zip and .tar.gz archives: { extract.path } / config
	kafka.client.truststore.jks	For Debian and RPM packages: /etc/logstash/ssl/ For .zip and .tar.gz archives: { extract.path } /ssl

Host machine type	File name	Directory path
Windows	CAS_Elasticsearch_LogStash_Config\logstash-7.xx.x\config kafka.client.truststore.jks	

For information on the default directory structure of Logstash installation packages, see [Logstash](#) documentation.

- c) Open the Logstash config file and do the following:
- i. In the input section of the file, enter the following information:
    - **Password:** The password of the account that you have created in Citrix Analytics for Security to prepare the configuration file.
    - **SSL truststore location:** The location of your SSL client certificate. This is the location of the kafka.client.truststore.jks file in your host machine.

```
input {
  kafka {
    bootstrap_servers => "192.168.1.1:9092,192.168.1.2:9092,192.168.1.3:9092"
    topics => ["citrixanalytics-*"]
    group_id => "logstash"
    session_timeout_ms => 60000
    auto_offset_reset => "earliest"
    security_protocol => "SASL_SSL"
    sasl_mechanism => "SCRAM-SHA-256"
    ssl_endpoint_identification_algorithm => ""
    sasl_jaas_config => "org.apache.kafka.common.security.scram.ScramLoginModule required username='<your_username>' password='<your_password>';"
    ssl_truststore_location => "/etc/logstash/ssl/kafka.client.truststore.jks"
  }
}
```

- ii. In the output section of the file, enter the address of your host machine or the cluster where Elasticsearch is running.

```
}
}
output {
  elasticsearch {
    hosts => ["<your logstash host : port>"]
    index => "citrixanalytics-%{+YYYY.MM.dd}"
  }
}
```

- d) Restart your host machine to send processed data from Citrix Analytics for Security to Elasticsearch.

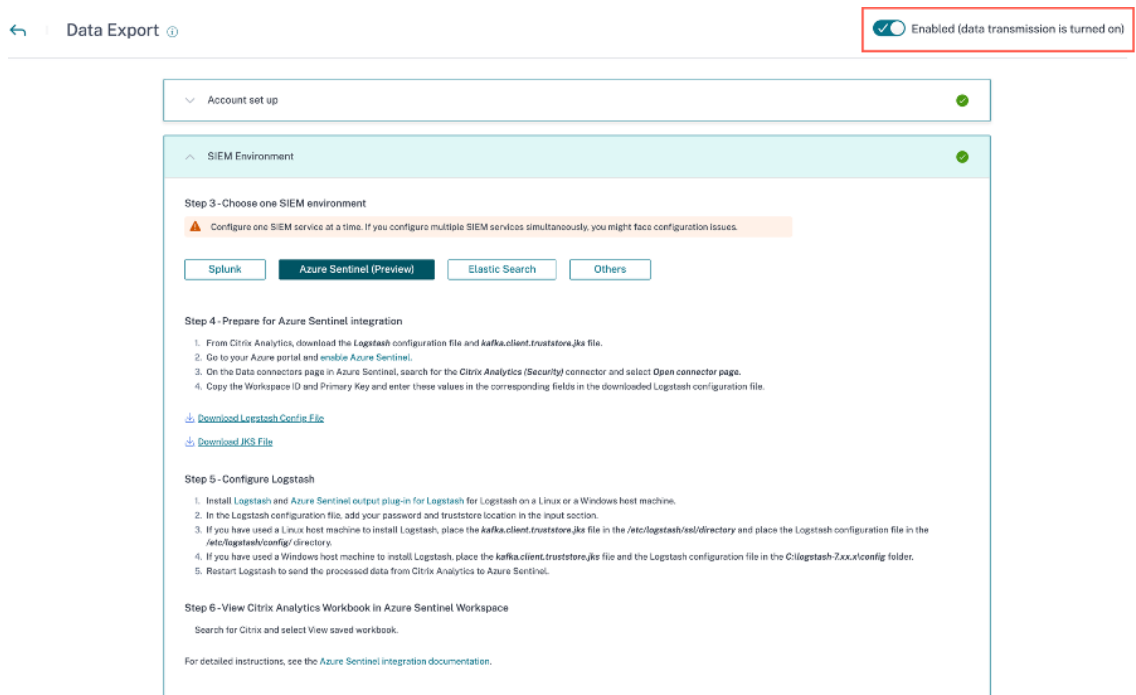
After configuration is complete, verify that you can view the Citrix Analytics data in your Elasticsearch.

## Turn on or off data transmission

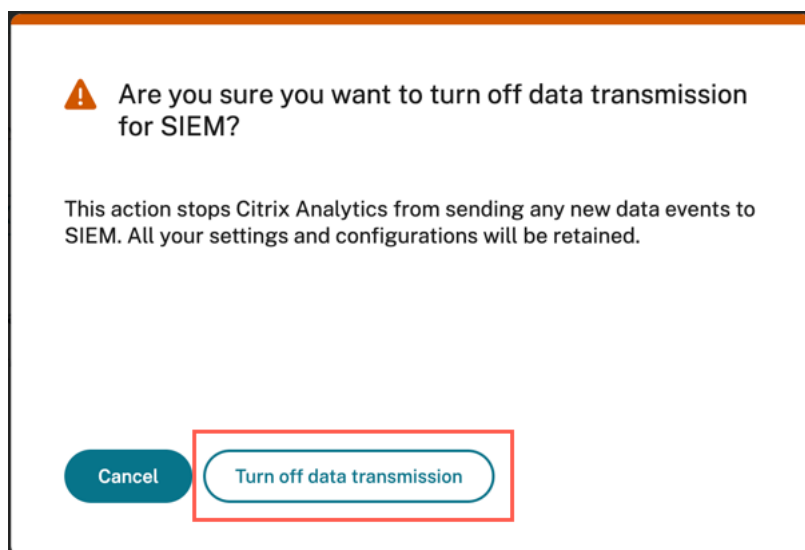
After Citrix Analytics for Security prepares the configuration file, data transmission is turned on for Elasticsearch.

To stop transmitting data from Citrix Analytics for Security:

1. Go to **Settings > Data Exports**.
2. Turn off the toggle button to disable the data transmission. By default the **data transmission** always enabled..



A warning window appears for your confirmation. Click **Turn off data transmission** button to stop the transmission activity.



To enable data transmission again, turn on the toggle button.

## SIEM integration using Kafka or Logstash based data connector

November 3, 2023

Citrix Analytics for Security SIEM integration enables you to export and correlate the users' data from the Citrix Analytics to your SIEM environment and get deeper insights into your organization's security posture.

For more information about the benefits of the integration and the type of data events (risk insights and data source events) that is sent to your SIEM, see [Security Information and Event Management integration](#).

You can integrate Citrix Analytics for Security with your SIEM solutions through the following two mechanisms (supported by your SIEM and IT deployment):

1. Connect via Kafka endpoints
2. Connect via Logstash data broker with Kafka-based ingestion

### Prerequisites

- Turn on data processing for at least one data source. It helps Citrix Analytics for Security to begin the integration with your SIEM tool.
- Ensure that the following endpoint is in the allow list in your network.

Endpoint	United States region	European Union region	Asia Pacific South region
Kafka brokers	<code>casnb-0.citrix.com:9094</code>	<code>casnb-eu-0.citrix.com:9094</code>	<code>casnb-aps-0.citrix.com:9094</code>
	<code>casnb-1.citrix.com:9094</code>	<code>casnb-eu-1.citrix.com:9094</code>	<code>casnb-aps-1.citrix.com:9094</code>
	<code>casnb-2.citrix.com:9094</code>	<code>casnb-eu-2.citrix.com:9094</code>	<code>casnb-aps-2.citrix.com:9094</code>
	<code>casnb-3.citrix.com:9094</code>		

## Integrate with a SIEM service using Kafka

Kafka is an open source software and used for real-time streaming of data. Using Kafka, you can analyze the real-time data to gain faster insights. Mostly, the large organizations who handle adequate data, use Kafka.

Northbound Kafka is an internal middle layer enabling Citrix Analytics to share real-time data feeds with the SIEM customers through Kafka endpoints. If your SIEM supports Kafka endpoints, use the parameters provided in the Logstash config file and the certificate details in the JKS file or the PEM file to integrate your SIEM with Citrix Analytics for Security.

The following parameters are required to integrate using Kafka:

Attribute name	Description	Configuration data sample
User name	User name provided by Kafka.	<code>'sasl.username': cas_siem_user_name,</code>
Host	Host name of the Kafka server to which you want to connect.	<code>'bootstrap.servers': cas_siem_host,</code>
Topic name/Client ID	Client ID assigned to each tenant.	<code>'client.id': cas_siem_topic,</code>
Group name/ID	Group name that you need to read the messages shared by the consumers.	<code>'group.id': cas_siem_group_id,</code>
Security protocol	Name of the security protocol.	<code>'security.protocol': 'SASL_SSL',</code>

Attribute name	Description	Configuration data sample
SASL mechanisms	Authentication mechanism that is typically used for encryption to implement secure authentication.	<code>'sasl.mechanisms': 'SCRAM-SHA-256',</code>
SSL truststore location	Location where you can store the certificate file. The client truststore password is optional and is expected to be left empty.	<code>'ssl.ca.location': ca_location</code>
Session timeout	The session timeout used to detect client failures while using Kafka.	<code>'session.timeout.ms': 60000,</code>
Auto offset reset	Defines the behavior while consuming data from a topic partition when there is no initial offset. You can set the values such as, latest, earliest, or none.	<code>'auto.offset.reset': 'earliest',</code>

The following is a sample configuration output:

```

1 {
2   'bootstrap.servers': cas_siem_host,
3     'client.id': cas_siem_topic,
4     'group.id': cas_siem_group_id,
5     'session.timeout.ms': 60000,
6     'auto.offset.reset': 'earliest',
7     'security.protocol': 'SASL_SSL',
8     'sasl.mechanisms': 'SCRAM-SHA-256',
9     'sasl.username': cas_siem_user_name,
10    'sasl.password': self.CLEAR_PASSWORD,
11    'ssl.ca.location': ca_location
12  }
13
14
15 <!--NeedCopy-->

```

Account set up

Step 1 - Create an account

Create an account to allow Citrix Analytics to prepare a configuration file required for SIEM integration.

USER NAME:

PASSWORD \*:

CONFIRM PASSWORD \*:

[Reset Password](#)

Step 2 - Get configuration details

After you click Configure, Citrix Analytics prepares a configuration file. Download the configuration file and specify the required details during configuration on SIEM.

[Configure](#)

The aforementioned parameters are available in the Logstash configuration file. To download the configuration file, navigate to **Settings > Data Exports > SIEM Environment** > select **Others** tab > click **Download Logstash Config File**.

SIEM Environment

Step 3 - Choose one SIEM environment

Configure one SIEM service at a time. If you configure multiple SIEM services simultaneously, you might face configuration issues.

[Splunk](#) [Azure Sentinel \(Preview\)](#) [Elastic Search](#) [Others](#)

Step 4 - Prepare to integrate with other solutions that use the Logstash event pipeline

From Citrix Analytics, download the *Logstash* configuration file and *kafka.client.truststore.jks* file.

[Download Logstash Config File](#)

[Download JKS File](#)

[Download PEM File](#)

Step 5 - Configure Logstash

1. Install [Logstash](#) on a Linux or a Windows host machine or use an existing Logstash instance.
2. On the Logstash configuration file, add your password and truststore location in the input section. And create the [output](#) section in the file based on your requirement.
3. If you have used a Linux host machine to install Logstash, place the *kafka.client.truststore.jks* file in the */etc/logstash/ssl/directory* and place the Logstash configuration file in the */etc/logstash/config/* directory.
4. If you have used a Windows host machine to install Logstash, place the *kafka.client.truststore.jks* file and the Logstash configuration file in the *C:\logstash-7.xx.x\config* folder.
5. Restart Logstash to send the processed data from Citrix Analytics to your configured output plug-ins.

For detailed instructions, see the [integrate Citrix Analytics with other solutions using the Logstash pipeline documentation](#).

To understand/know more about the configuration values, refer [Configuration](#).

### Data flow

The authentication data communication happens between the Kafka server side Brokers (Citrix Analytics for Security cloud) and Kafka clients. All brokers/external clients' communication uses the enabled SASL\_SSL security protocol and target 9094 port for public access.

Apache Kafka has a security component to encrypt the data in flight using SSL encryption.

The data transmission over the network is encrypted and secured when encryption is enabled and

SSL certificates are set. Only the first and the final machine possess the ability to decrypt the packets being sent through SSL.

## Authentications

There are two levels of authentication available as below:

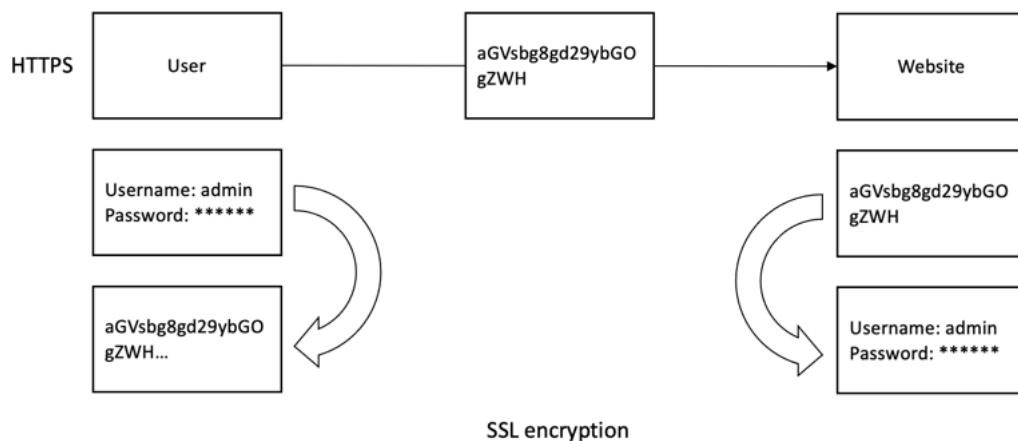
1. TLS/between client and server.
  - The server certificates (public keys) for TLS authentication exchange between client and server.
  - The client-based authentication or two way authentications are not supported (where client private key certificates is required).
2. Username/password for access control to TOPICS/endpoints
  - Ensures that specific client can read only from specific customer topic
  - SASL/SCRAM is used for username/password authentication mechanism along with TLS encryption to implement secure authentication.

## Encryption with SSL and Authentication with SASL/SSL&SASL/PLAINTEXT

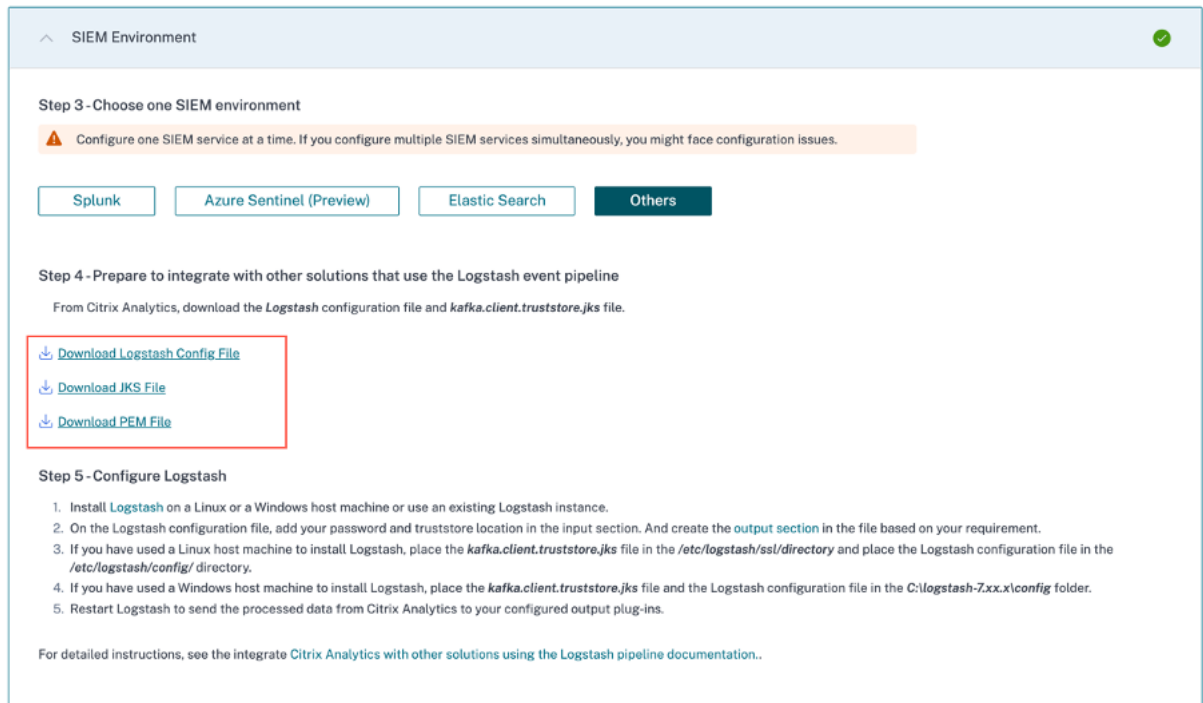
By default, Apache Kafka communicates in PLAINTEXT, where all data is sent in the clear and any of the routers can read the data content. Apache Kafka has a security component to encrypt the data in flight using SSL encryption. With encryption enabled and carefully setup SSL certificates, the data is now encrypted and securely transmitted over the network. With SSL encryption, only the first and the final machine possesses the ability to decrypt the packet being sent.

Since the two-way SSL encryption is used, user name/password login is safe for external communications.

The encryption is only in-flight and the data still sits unencrypted on broker's disk.



In the client configuration, the client truststore JKS file and PEM file (converted from truststore jks file) are required. You can download these files from Citrix Analytics for Security GUI as shown in the following screenshot:



## SIEM integration using Logstash

If your SIEM does not support Kafka endpoints, then you can use the **Logstash data** collection engine. You can send the data events from Citrix Analytics for Security to one of the **output plug-ins** that are supported by Logstash.

The following section describes the steps that you must follow to integrate your SIEM with Citrix Analytics for Security by using Logstash.

### Integrate with a SIEM service using Logstash

1. Go to **Settings > Data Exports**.
2. On the **Account set up** page, create an account by specifying the user name and a password. This account is used to prepare a configuration file, which is required for integration.

3. Ensure that the password meets the following conditions:

Password must :

- Be 6 to 32 characters long.
- Contain at least one upper case and one lower case letter.
- Contain at least one number.
- Contain at least one of these allowed special characters \_@\$%^&\*.
- Not contain spaces.

4. Select **Configure** to generate the Logstash configuration file.

Step 2 - Get configuration details

After you click Configure, Citrix Analytics prepares a configuration file. Download the configuration file and specify the required details during configuration on SIEM.

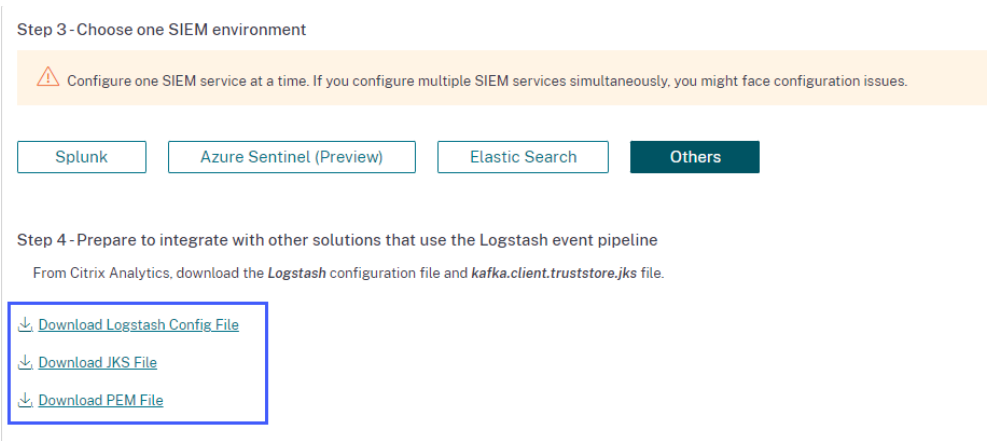
Configure

5. Select the **Others** tab to download the configuration files.

- **Logstash config file:** This file contains the configuration data (input, filter, and output sections) for sending events from Citrix Analytics for Security using the Logstash data collection engine. For information on Logstash config file structure, see the [Logstash](#) documentation.
- **JKS file:** This file contains the certificates required for SSL connection. This file is required when you integrate your SIEM using Logstash.
- **PEM file:** This file contains the certificates required for SSL connection. This file is required when you integrate your SIEM using Kafka.

**Note**

These files contain sensitive information. Keep them in a safe and secure location.



6. Configure Logstash:

- a) On your Linux or Windows host machine, install [Logstash](#) (tested versions for compatibility with Citrix Analytics for Security: v7.17.7 and v8.5.3). You can also use your existing Logstash instance.
- b) On the host machine where you have installed Logstash, place the following files in the specified directory:

Host machine type	File name	Directory path
Linux	CAS_Others_LogStash_Config.config	For Debian and RPM packages: <code>/etc/logstash/conf.d/</code> For .zip and .tar.gz archives: <code>{ extract.path } / config</code>
	kafka.client.truststore.jks	For Debian and RPM packages: <code>/etc/logstash/ssl/</code> For .zip and .tar.gz archives: <code>{ extract.path } /ssl</code>
Windows	CAS_Others_LogStash_Config.config	<code>fig\logstash-7.xx.x\ config</code>
	kafka.client.truststore.jks	<code>C:\logstash-7.xx.x\ config</code>

- c) Logstash configuration file contains sensitive information such as Kafka credentials, Log-Analytics Workspace IDs, Primary Keys. It is recommended that these sensitive credentials are not stored as a plaintext. To secure the integration, a Logstash keystore can be used to add keys with their respective values which can in turn be referenced using key names

in the configuration file. For additional information on the Logstash keystore and how it enhances the security of your settings, see [Secrets keystore for secure settings](#).

- d) Open the Logstash config file and do the following:

In the input section of the file, enter the following information:

- **Password:** The password of the account that you have created in Citrix Analytics for Security to prepare the configuration file.
- **SSL truststore location:** The location of your SSL client certificate. This is the location of the `kafka.client.truststore.jks` file in your host machine.

```
input {
  kafka {
    bootstrap_servers => "localhost:9092"
    topics => ["citrix_analytics_security"]
    group_id => "citrix_analytics_security"
    session_timeout_ms => 60000
    auto_offset_reset => "earliest"
    security_protocol => "SASL_SSL"
    sasl_mechanism => "SCRAM-SHA-256"
    ssl_endpoint_identification_algorithm => ""
    sasl_jaas_config => "org.apache.kafka.common.security.scram.ScramLoginModule required username='citrix_analytics_security' password='<your password>';"
    ssl_truststore_location => "/etc/logstash/ssl/kafka.client.truststore.jks"
  }
}
```

In the output section of the file, enter the destination path or details where you want to send the data. For information on the output plug-ins, see the [Logstash](#) documentation.

The following snippet shows that the output is written to a local log file.

```
output {
  file {
    path => "./citrixanalytics-%{+YYYY.MM.dd}.log"
  }
}
```

- e) Restart your host machine to send processed data from Citrix Analytics for Security to your SIEM service.

After configuration is complete, log in to your SIEM service and verify the Citrix Analytics data in your SIEM.

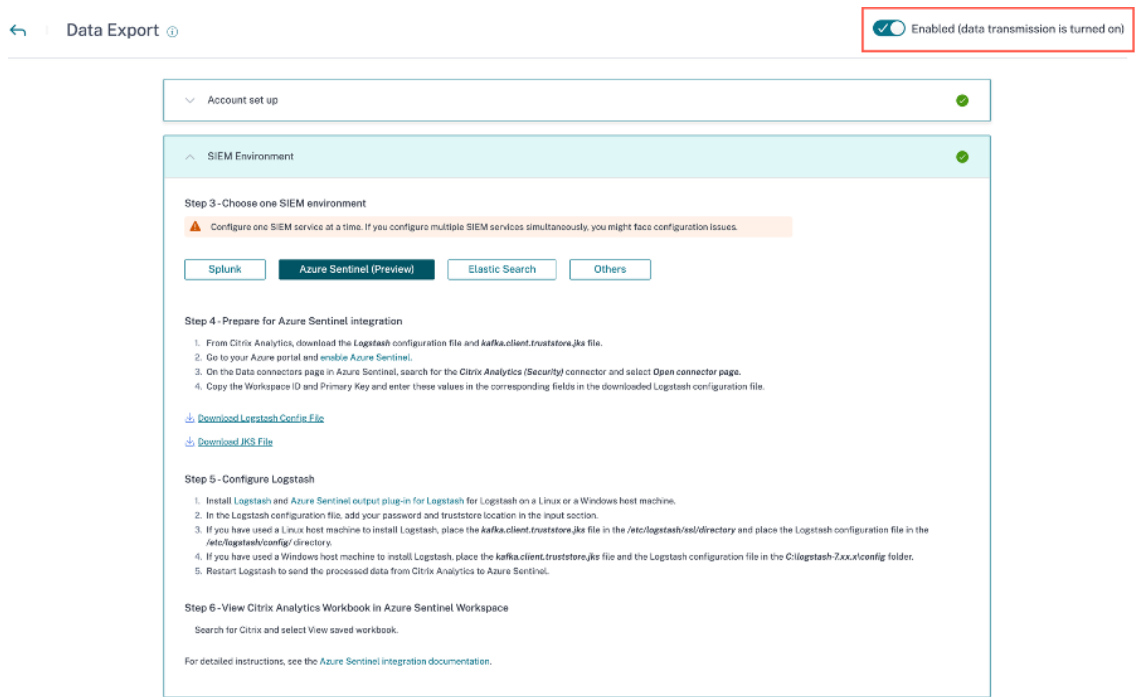
## Turn on or off data transmission

After Citrix Analytics for Security prepares the configuration file, data transmission is turned on for your SIEM.

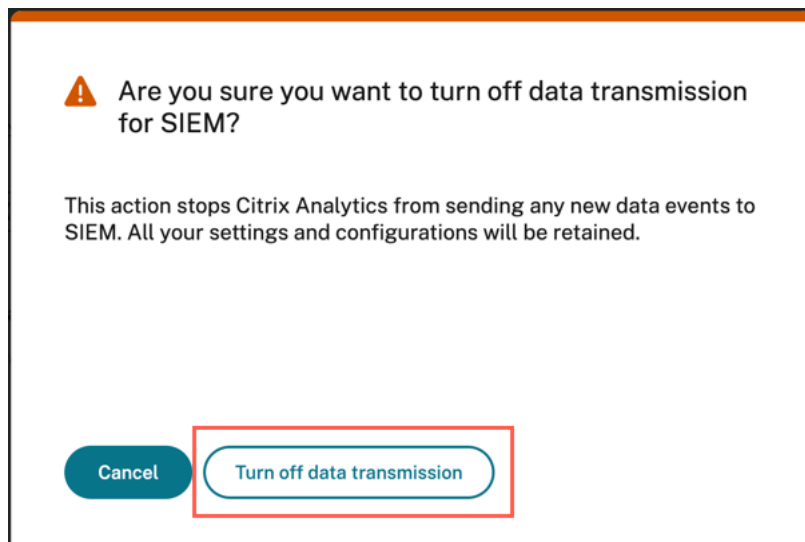
To stop transmitting data from Citrix Analytics for Security:

1. Go to **Settings > Data Exports**.

2. Turn off the toggle button to disable the **data transmission**. By default the data transmission always enabled.



A warning window appears for your confirmation. Click the **Turn off data transmission** button to stop the transmission activity.



To enable data transmission again, turn on the toggle button.

#### Note

Contact [CAS-PM-Ext@cloud.com](mailto:CAS-PM-Ext@cloud.com) to request assistance for your SIEM integration, exporting data to your SIEM, or provide feedback.

## Citrix Analytics data exports format for SIEM

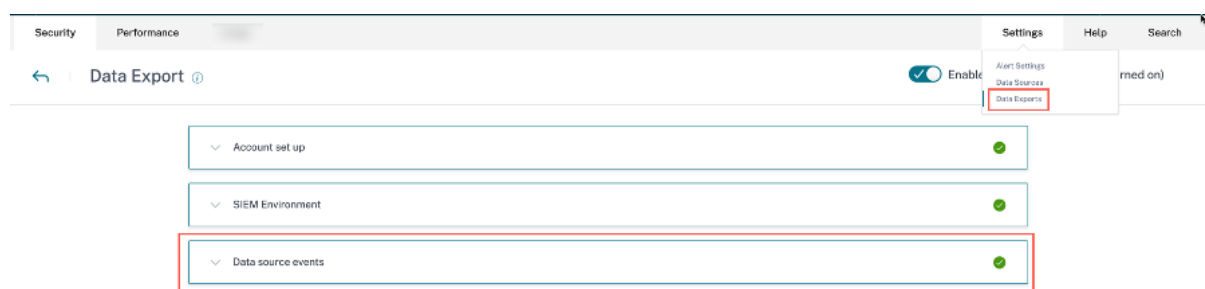
January 8, 2024

Citrix Analytics for Security allows you to integrate with your Security Information and Event Management (SIEM) services. This integration enables Citrix Analytics for Security to send data to your SIEM services and helps you gain insight into your organization's security risk posture.

Currently, you can integrate Citrix Analytics for Security with the following SIEM services:

- [Splunk](#)
- [Microsoft Azure Sentinel](#)
- [Elasticsearch](#)
- [Other SIEMs using Kafka or Logstash based data connector](#)

The **Data Exports** option is now globally available under **Settings**. To view the Data source events, navigate to **Settings > Data Exports > Data source events**.



The risk insights data sent by Citrix Analytics for Security to your SIEM service are of two types:

- Risk insights events (Default exports)
- Data Source events (Optional exports)

^ Data source events

DEFAULT EVENTS

Risk Insight ✓

DATA EXPORT EVENTS (OPTIONAL)

Apps and Desktops  
Data exports off

Content Collaboration  
Data exports off

Risk insight events

As part of your SIEM environment, the risk insight event data source are available and turned on by default. To learn more about each processed data, refer to the [processed data for SIEM documentation](#).

**i** Risk insight events are enabled by default.

- ☒ All event types
- ☒ Risk score change
- ☒ Risk indicator summary
- ☒ Risk indicator event details
- ☒ User risk score
- ☒ User profile (user apps, data usage, device, location)

Cancel Save Changes

## Risk insights data for SIEM

Once you have completed the account configuration and SIEM setup, default datasets (risk insights events) start flowing into your SIEM deployment. Risk insights datasets include user risk score events, user profile events, and risk indicator alerts. These are generated by Citrix Analytics machine learning algorithms and user behavior analysis, by leveraging user events.

The risk insights datasets of a user include the following:

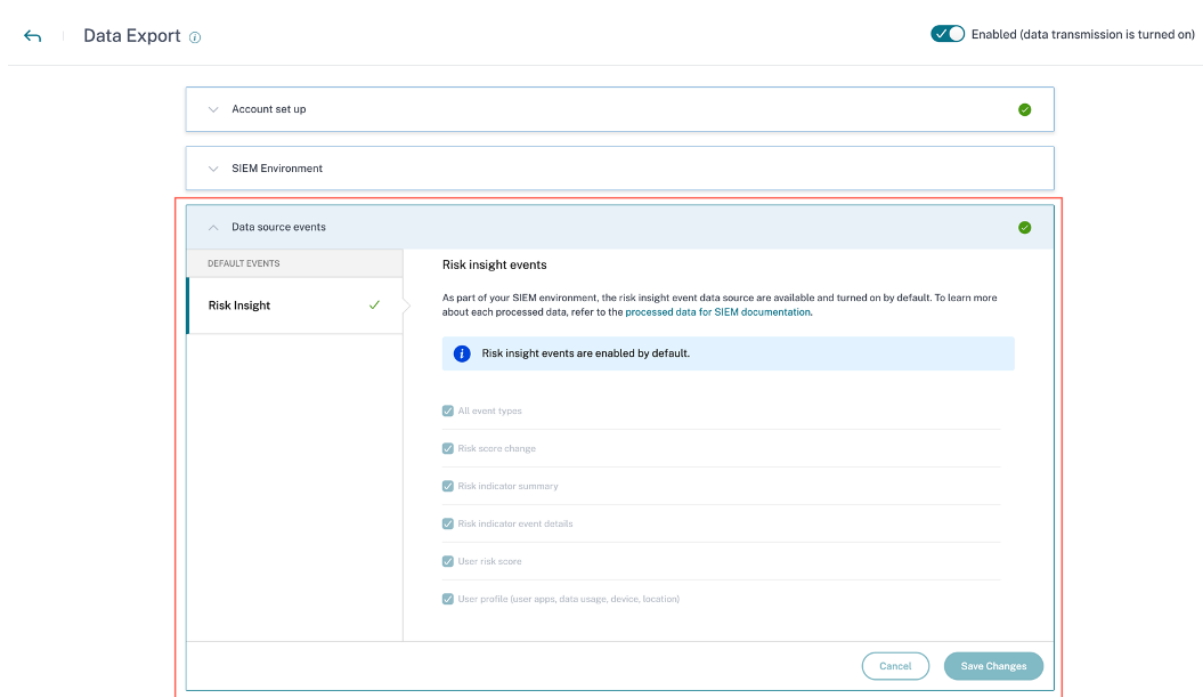
- **Risk score change:** Indicates a change in the user's risk score. When a user's risk score change is equal to or more than 3 and this change increases at any rate or drops by more than 10%, the data is sent to the SIEM service.
- **Risk indicator summary:** The details of the risk indicator triggered for a user.
- **Risk indicator event details:** The user events associated with a risk indicator. Citrix Analytics sends a maximum of 1000 event details for each risk indicator occurrence to your SIEM service. These events are sent in chronological order of occurrence.
- **User risk score event:** The current risk score of a user. Citrix Analytics for Security sends this data to the SIEM service every 12 hours.
- **User profile:** The user profile data can be categorized into:
  - **User apps:** The applications that a user has launched and used. Citrix Analytics for Security retrieves this data from Citrix Virtual Apps and sends it to the SIEM service every 12 hours.

- **User device:** The devices associated with a user. Citrix Analytics for Security retrieves this data from Citrix Virtual Apps and Citrix Endpoint Management and sends it to SIEM service every 12 hours.
- **User location:** The city that a user was last detected in. Citrix Analytics for Security retrieves this data from Citrix Virtual Apps and Desktops and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service). Citrix Analytics for Security sends this information to your SIEM service every 12 hours.
- **User client IP:** The client IP address of the user device. Citrix Analytics for Security retrieves this data from Citrix Virtual Apps and Desktops and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service), and sends this information to your SIEM service every 12 hours.

If you are only able to view but unable to configure data source event preferences, then you do not have the necessary administrator permissions.

To learn more, see [Manage Administrator roles for Security Analytics](#).

In the following example, the **Save Changes** button is disabled. The risk insight events are enabled by default.



## Schema details of the risk insights events

The following section describes the schema of the processed data generated by Citrix Analytics for Security.

**Note**

The field values shown in the following schema samples are only for representational purposes. The actual field values vary based on the user profile, user events, and the risk indicator.

The following table describes the field names that are common across the schema for all user profile data, user risk score, and risk score change.

Field name	Description
<code>entity_id</code>	The identity associated with the entity. In this case, the entity is the user.
<code>entity_type</code>	The entity at risk. In this case, the entity is the user.
<code>event_type</code>	The type of data sent to your SIEM service. For example: user's location, user's data usage, or user's device access information.
<code>tenant_id</code>	The unique identity of the customer.
<code>timestamp</code>	The date and time of the recent user activity.
<code>version</code>	The schema version of the processed data. The current schema version is 2.

**User profile data schema**

**User location schema**

```
1 {
2
3   "tenant_id": "demo_tenant", "entity_id": "demo_user", "entity_type":
     "user", "timestamp": "2021-02-10T15:00:00Z", "event_type": "
     userProfileLocation", "country": "India", "city": "Bengaluru", "
     cnt": 4, "version": 2
4 }
5
6
7 <!--NeedCopy-->
```

**Field description for user location**

Field name	Description
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the user's location.
<code>country</code>	The country from where the user has logged in.

Field name	Description
city	The city from where the user has logged in.
cnt	The number of times the location was accessed in the last 12 hours.

User client IP schema

```
1 {
2
3   "client_ip": "149.147.136.10",
4   "cnt": 3,
5   "entity_id": "r2_up_user_1",
6   "entity_type": "user",
7   "event_type": "userProfileClientIps",
8   "tenant_id": "xaxddaily1",
9   "timestamp": "2023-09-18T10:45:00Z",
10  "version": 2
11 }
12
13
14
15 <!--NeedCopy-->
```

Field description for client IP

Field name	Description
client_ip	The IP address of the user device.
cnt	The number of times the user has accessed the device in the last 12 hours.
entity_id	The identity associated with the entity. In this case, the entity is the user.
entity_type	The entity at risk. In this case, the event type is the user’s client IP.
event_type	The type of data sent to your SIEM service. For example: the user’s location, the user’s data usage, or the user’s device access information.
tenant_id	The unique identity of the customer.
timestamp	The date and time of the recent user activity..
version	The schema version of the processed data. The current schema version is 2.

User data usage schema

```
1 {
2
3   "data_usage_bytes": 87555255, "deleted_file_cnt": 0, "
      downloaded_bytes": 87555255, "downloaded_file_cnt": 5, "entity_id"
      : "demo@demo.com", "entity_type": "user", "event_type": "
      userProfileUsage", "shared_file_cnt": 0, "tenant_id": "demo_tenant
      ", "timestamp": "2021-02-10T21:00:00Z", "uploaded_bytes": 0, "
      uploaded_file_cnt": 0, "version": 2
4   }
5
6
7 <!--NeedCopy-->
```

Field description for user data usage

Field name	Description
data_usage_bytes	The amount of data (in bytes) used by the user. It is the aggregate of the downloaded and uploaded volume for a user.
deleted_file_cnt	The number of files deleted by the user.
downloaded_bytes	The amount of data downloaded by the user.
downloaded_file_count	The number of files downloaded by the user.
event_type	The type of data sent to the SIEM service. In this case, the event type is the user's usage profile.
shared_file_count	The number of files shared by the user.
uploaded_bytes	The amount of data uploaded by the user.
uploaded_file_cnt	The number of files uploaded by the user.

**User device schema**

```
1 {
2
3   "cnt": 2, "device": "user1612978536 (Windows)", "entity_id": "demo",
      "entity_type": "user", "event_type": "userProfileDevice", "
      tenant_id": "demo_tenant", "timestamp": "2021-02-10T21:00:00Z", "
      version": 2
4   }
5
6
7 <!--NeedCopy-->
```

Field description for user device.

Field name	Description
<code>cnt</code>	The number of times the device is accessed in the last 12 hours.
<code>device</code>	The name of the device.
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the user's device access information.

**User app schema**

```

1 {
2
3   "tenant_id": "demo_tenant", "entity_id": "demo", "entity_type": "user
    ", "timestamp": "2021-02-10T21:00:00Z", "event_type": "
    userProfileApp", "version": 2, "session_domain": "99
    e38d488136f62f828d4823edd120b4f32d724396a7410e6dd1b0", "
    user_samaccountname": "testnameeikragz779", "app": "
    Chromeeikragz779", "cnt": 189
4   }
5
6
7 <!--NeedCopy-->

```

Field description for user app.

Field name	Description
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the user's device access information.
<code>session_domain</code>	The ID of the session that the user has logged on.
<code>user_samaccountname</code>	The logon name for clients and servers from a previous version of Windows such as Windows NT 4.0, Windows 95, Windows 98, and LAN Manager. This name is used to log on to Citrix StoreFront and also logon to a remote Windows machine.
<code>app</code>	The name of the application accessed by the user.
<code>cnt</code>	The number of times the application is accessed in the last 12 hours.

**User risk score schema**

```

1 {
2
3   "cur_riskscore": 7, "entity_id": "demo", "entity_type": "user", "
     event_type": "userProfileRiskscore", "last_update_timestamp": "
       2021-01-21T16:14:29Z", "tenant_id": "demo_tenant", "timestamp": "
       2021-02-10T20:45:00Z", "version": 2
4   }
5
6
7 <!--NeedCopy-->

```

Field description for user risk score.

Field name	Description
<code>cur_riskscore</code>	The current risk score assigned to the user. The risk score varies from 0 to 100 depending on the threat severity associated with the user's activity.
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the user's risk score.
<code>last_update_timestamp</code>	The time when the risk score was last updated for a user.
<code>timestamp</code>	The time when the user risk score event is collected and sent to your SIEM service. This event is sent to your SIEM service after every 12 hours.

**Risk score change schema****Sample 1:**

```

1 {
2
3   "alert_message": "Large risk score drop percent since last check", "
     alert_type": "riskscore_large_drop_pct", "alert_value": -21.73913,
     "cur_riskscore": 18, "entity_id": "demo_user", "entity_type": "
     user", "event_type": "riskScoreChange", "tenant_id": "demo_tenant"
     , "timestamp": "2021-02-11T05:45:00Z", "version": 2
4   }
5
6
7 <!--NeedCopy-->

```

Sample 2:

```
1 {
2
3   "alert_message": "Risk score increase since last check", "alert_type"
      : "riskscore_increase", "alert_value": 39.0, "cur_riskscore": 76,
      "entity_id": "demo_user", "entity_type": "user", "event_type": "
      riskScoreChange", "tenant_id": "demo_tenant", "timestamp": "
      2021-02-11T03:45:00Z", "version": 2
4   }
5
6
7 <!--NeedCopy-->
```

Field description for risk score change.

Field name	Description
alert_message	The message displayed for the risk score change.
alert_type	Indicates whether the alert is for increase in risk score or significant drop in risk score percentage. When a user's risk score change is equal to or more than three and this change increases at any rate or drops by more than 10%, the data is sent to the SIEM service.
alert_value	A numerical value assigned for the risk score change. The risk score change is the difference between the current risk score and the previous risk score for a user. The alert value varies from -100 to 100.
cur_riskscore	The current risk score assigned to the user. The risk score varies from 0 to 100 depending on the threat severity associated with the user's activity.
event_type	The type of data sent to the SIEM service. In this case, the event type is the change in the user's risk score.
timestamp	The date and time when the latest change in the risk score is detected for the user.

## Risk indicator schema

The risk indicator schema consists of two parts: indicator summary schema and indicator event details schema. Based on the risk indicator, the fields and their values in the schema change accordingly.

The following table describes the field names common across all indicator summary schema.

Field name	Description
<code>data_source</code>	The products that send data to Citrix Analytics for Security. For example: Citrix Secure Private Access, Citrix Gateway, and Citrix Apps and Desktops.
<code>data_source_id</code>	The ID associated with a data source. ID 1 = Citrix Gateway, ID 2 = Citrix Endpoint Management, ID 3 = Citrix Apps and Desktops, ID 4 = Citrix Secure Private Access
<code>entity_type</code>	The entity at risk. It can be a user.
<code>entity_id</code>	The ID associated with the entity at risk.
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the summary of the risk indicator.
<code>indicator_category</code>	Indicates the categories of risk indicators. The risk indicators are grouped into one of the risk categories- compromised endpoint, compromised users, data exfiltration, or insider threats.
<code>indicator_id</code>	The unique ID associated with the risk indicator.
<code>indicator_category_id</code>	The ID associated with a risk indicator category. ID 1 = Data exfiltration, ID 2 = Insider threats, ID 3 = Compromised users, ID 4 = Compromised endpoint
<code>indicator_name</code>	The name of the risk indicator. For a custom risk indicator, this name is defined while creating the indicator.
<code>indicator_type</code>	Indicates whether the risk indicator is default (built-in) or custom.
<code>indicator_uuid</code>	The unique ID associated with the risk indicator instance.

Field name	Description
<code>indicator_vector_name</code>	Indicates the risk vector associated with a risk indicator. The risk vectors are Device-based Risk Indicators, Location-based Risk Indicators, Logon-failure-based Risk Indicators, IP-based Risk Indicators, Data-based Risk Indicators, File-based Risk Indicators, and Other Risk Indicators.
<code>indicator_vector_id</code>	The ID associated with a risk vector. ID 1 = Device-based Risk Indicators, ID 2 = Location-based Risk Indicators, ID 3 = Logon-failure-based Risk Indicators, ID 4 = IP-based Risk Indicators, ID 5 = Data-based Risk Indicators, ID 6 = File-based Risk Indicators, ID 7 = Other Risk Indicators, and ID 999 = Not available
<code>occurrence_details</code>	The details about the risk indicator triggering condition.
<code>risk_probability</code>	Indicates the chances of risk associated with the user event. The value varies from 0 to 1.0. For a custom risk indicator, the risk_probability is always 1.0 because it is a policy-based indicator.
<code>severity</code>	Indicates the severity of the risk. It can be low, medium, or high.
<code>tenant_id</code>	The unique identity of the customer.
<code>timestamp</code>	The date and the time when the risk indicator is triggered.
<code>ui_link</code>	The link to the user timeline view on the Citrix Analytics user interface.
<code>observation_start_time</code>	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.

The following table describes the field names common across all the indicator event details schema.

Field name	Description
<code>data_source_id</code>	The ID associated with a data source. ID 1 = Citrix Gateway, ID 2 = Citrix Endpoint Management, ID 3 = Citrix Apps and Desktops, ID 4 = Citrix Secure Private Access
<code>indicator_category_id</code>	The ID associated with a risk indicator category. ID 1 = Data exfiltration, ID 2 = Insider threats, ID 3 = Compromised users, ID 4 = Compromised endpoint
<code>entity_id</code>	The ID associated with the entity at risk.
<code>entity_type</code>	The entity that is at risk. It can be user.
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the details of the risk indicator event.
<code>indicator_id</code>	The unique ID associated with the risk indicator.
<code>indicator_uuid</code>	The unique ID associated with the risk indicator instance.
<code>indicator_vector_name</code>	Indicates the risk vector associated with a risk indicator. The risk vectors are Device-based Risk Indicators, Location-based Risk Indicators, Logon-failure-based Risk Indicators, IP-based Risk Indicators, Data-based Risk Indicators, File-based Risk Indicators, and Other Risk Indicators.
<code>indicator_vector_id</code>	The ID associated with a risk vector. ID 1 = Device-based Risk Indicators, ID 2 = Location-based Risk Indicators, ID 3 = Logon-failure-based Risk Indicators, ID 4 = IP-based Risk Indicators, ID 5 = Data-based Risk Indicators, ID 6 = File-based Risk Indicators, ID 7 = Other Risk Indicators, and ID 999 = Not available
<code>tenant_id</code>	The unique identity of the customer.
<code>timestamp</code>	The date and the time when the risk indicator is triggered.
<code>version</code>	The schema version of the processed data. The current schema version is 2.

Field name	Description
<code>client_ip</code>	The IP address of the user's device.

**Note**

- If an integer data type field value is unavailable, the value assigned is -999. For example, `"latitude": -999, "longitude": -999`.
- If a string data type field value is unavailable, the value assigned is NA. For example, `"city": "NA", "region": "NA"`.

**Citrix Secure Private Access risk indicators schema****Attempt to access blacklisted URL risk indicator schema****Indicator summary schema**

```

1  {
2
3    "tenant_id": "demo_tenant",
4    "indicator_id": 401,
5    "indicator_uuid": "8f2a39bd-c7c2-5555-a86a-5cfe5b64dfef",
6    "indicator_category_id": 2,
7    "indicator_vector": {
8
9      "name": "Other Risk Indicators",
10     "id": 7  }
11  ,
12  "data_source_id": 4,
13  "timestamp": "2018-03-15T10:59:58Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "risk_probability": 1,
19  "indicator_category": "Insider threats",
20  "indicator_name": "Attempt to access blacklisted URL",
21  "severity": "low",
22  "data_source": "Citrix Secure Private Access",
23  "ui_link": "https://analytics.cloud.com/user/",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27    "observation_start_time": "2018-03-15T10:44:59Z",
28    "relevant_event_type": "Blacklisted External Resource Access"
29  }
30
31  }

```

```
32
33
34 <!--NeedCopy-->
```

Indicator event details schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 401,
5   "indicator_uuid": "c421f3f8-33d8-59b9-ad47-715b9d4f65f4",
6   "indicator_category_id": 2,
7   "indicator_vector": {
8
9     "name": "Other Risk Indicators",
10    "id": 7  }
11  ,
12  "data_source_id": 4,
13  "timestamp": "2018-03-15T10:57:21Z",
14  "event_type": "indicatorEventDetails",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "domain_name": "googleads.g.doubleclick.net",
19  "executed_action": "blocked",
20  "reason_for_action": "URL Category match",
21  "client_ip": "157.xx.xxx.xxx"
22 }
23
24
25 <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Attempt to access the blacklisted URL.

Field name	Description
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
executed_action	The action applied on the blacklisted URL. The action includes Allow and Block.
reason_for_action	The reason for the applying the action for the URL.

Excessive data downloads risk indicator schema

**Indicator summary schema**

```

1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 403,
5   "indicator_uuid": "67d21b81-a89a-531e-af0b-c5688c2e9d40",
6   "indicator_category_id": 2,
7   "indicator_vector": {
8
9     "name": "Other Risk Indicators",
10    "id": 7  }
11  ,
12  "data_source_id": 4,
13  "timestamp": "2018-03-16T10:59:59Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "risk_probability": 1,
19  "indicator_category": "Insider threats",
20  "indicator_name": "Excessive data download",
21  "severity": "low",
22  "data_source": "Citrix Secure Private Access",
23  "ui_link": "https://analytics.cloud.com/user/",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27    "observation_start_time": "2018-03-16T10:00:00Z",
28    "data_volume_in_bytes": 24000,
29    "relevant_event_type": "External Resource Access"
30  }
31 }
32 }
33
34
35 <!--NeedCopy-->

```

**Indicator event details schema**

```

1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 403,
5   "indicator_uuid": "67d21b81-a89a-531e-af0b-c5688c2e9d40",
6   "indicator_category_id": 2,
7   "indicator_vector": {
8
9     "name": "Other Risk Indicators",
10    "id": 7  }
11  ,
12  "data_source_id": 4,
13  "timestamp": "2018-03-16T10:30:00Z",
14  "event_type": "indicatorEventDetails",
15  "entity_type": "user",

```

```
16  "entity_id": "demo_user",
17  "version": 2,
18  "domain_name": "www.facebook.com",
19  "client_ip": "157.xx.xxx.xxx",
20  "downloaded_bytes": 24000
21  }
22
23
24  <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Excessive data downloads.

Field name	Description
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
data_volume_in_bytes	The amount of data in bytes that is downloaded.
relevant_event_type	Indicates the type of the user event.
domain_name	The name of the domain from which data is downloaded.
downloaded_bytes	The amount of data in bytes that is downloaded.

Unusual upload volume risk indicator schema

**Indicator summary schema**

```
1  {
2
3    "tenant_id": "demo_tenant",
4    "indicator_id": 402,
5    "indicator_uuid": "4f2a249c-9d05-5409-9c5f-f4c764f50e67",
6    "indicator_category_id": 2,
7    "indicator_vector": {
8
9      "name": "Other Risk Indicators",
10     "id": 7  }
11  ,
12  "data_source_id": 4,
13  "timestamp": "2018-03-16T10:59:59Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "risk_probability": 1,
```

```

19  "indicator_category": "Insider threats",
20  "indicator_name": "Unusual upload volume",
21  "severity": "low",
22  "data_source": "Citrix Secure Private Access",
23  "ui_link": "https://analytics.cloud.com/user/",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27      "observation_start_time": "2018-03-16T10:00:00Z",
28      "data_volume_in_bytes": 24000,
29      "relevant_event_type": "External Resource Access"
30  }
31
32  }
33
34
35  <!--NeedCopy-->

```

#### Indicator event details schema

```

1  {
2
3      "tenant_id": "demo_tenant",
4      "indicator_id": 402,
5      "indicator_uuid": "c6abf40c-9b62-5db4-84bc-5b2cd2c0ca5f",
6      "indicator_category_id": 2,
7      "indicator_vector": {
8
9          "name": "Other Risk Indicators",
10         "id": 7  }
11
12     ,
13     "data_source_id": 4,
14     "timestamp": "2018-03-16T10:30:00Z",
15     "event_type": "indicatorEventDetails",
16     "entity_type": "user",
17     "entity_id": "demo_user",
18     "version": 2,
19     "domain_name": "www.facebook.com",
20     "client_ip": "157.xx.xxx.xxx",
21     "uploaded_bytes": 24000
22  }
23
24  <!--NeedCopy-->

```

The following table describes the field names specific to the summary schema and the event details schema for Unusual upload volume.

Field names	Description
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
data_volume_in_bytes	The amount of data in bytes that is uploaded.
relevant_event_type	Indicates the type of the user event.
domain_name	The name of the domain in which the data is uploaded.
uploaded_bytes	The amount of data in bytes that is uploaded.

Citrix Endpoint Management risk indicators schema

Jailbroken or rooted device detected indicators schema

Indicator summary schema

```
1 {
2
3   "data_source": "Citrix Endpoint Management",
4   "data_source_id": 2,
5   "indicator_id": 200,
6   "indicator_name": "Jailbroken / Rooted Device Detected",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "event_type": "indicatorSummary",
10  "indicator_category": "Compromised endpoints",
11  "indicator_category_id": 4,
12  "indicator_vector": {
13
14    "name": "Other Risk Indicators",
15    "id": 7  }
16  ,
17  "indicator_type": "builtin",
18  "indicator_uuid": "aa872f86-a991-4219-ad01-2a070b6e633d",
19  "occurrence_details": {
20  }
21  ,
22  "risk_probability": 1.0,
23  "severity": "low",
24  "tenant_id": "demo_tenant",
25  "timestamp": "2021-04-13T17:49:05Z",
26  "ui_link": "https://analytics.cloud.com/user/",
27  "version": 2
28  }
29
```

```

30
31 <!--NeedCopy-->

```

#### Indicator event details schema

```

1 {
2
3   "indicator_id": 200,
4   "client_ip": "122.xx.xx.xxx",
5   "data_source_id": 2,
6   "entity_id": "demo_user",
7   "entity_type": "user",
8   "event_type": "indicatorEventDetails",
9   "indicator_category_id": 4,
10  "indicator_vector": {
11
12    "name": "Other Risk Indicators",
13    "id": 7  }
14  ,
15  "indicator_uuid": "9aaaa9e1-39ad-4daf-ae8b-2fa2caa60732",
16  "tenant_id": "demo_tenant",
17  "timestamp": "2021-04-09T17:50:35Z",
18  "version": 2
19 }
20
21
22 <!--NeedCopy-->

```

#### Device with blacklisted apps detected

#### Indicator summary schema

```

1 {
2
3   "data_source": "Citrix Endpoint Management",
4   "data_source_id": 2,
5   "indicator_id": 201,
6   "indicator_name": "Device with Blacklisted Apps Detected",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "event_type": "indicatorSummary",
10  "indicator_category": "Compromised endpoints",
11  "indicator_category_id": 4,
12  "indicator_vector": {
13
14    "name": "Other Risk Indicators",
15    "id": 7  }
16  ,
17  "indicator_type": "builtin",
18  "indicator_uuid": "3ff7bd54-4319-46b6-8b98-58a9a50ae9a7",
19  "occurrence_details": {
20  }
21  ,

```

```

22   "risk_probability": 1.0,
23   "severity": "low",
24   "tenant_id": "demo_tenant",
25   "timestamp": "2021-04-13T17:49:23Z",
26   "ui_link": "https://analytics.cloud.com/user/",
27   "version": 2
28 }
29
30
31 <!--NeedCopy-->

```

#### Indicator event details schema

```

1 {
2
3   "indicator_id": 201,
4   "client_ip": "122.xx.xx.xxx",
5   "data_source_id": 2,
6   "entity_id": "demo_user",
7   "entity_type": "user",
8   "event_type": "indicatorEventDetails",
9   "indicator_category_id": 4,
10  "indicator_vector": {
11
12    "name": "Other Risk Indicators",
13    "id": 7  }
14  ,
15  "indicator_uuid": "743cd13a-2596-4323-8da9-1ac279232894",
16  "tenant_id": "demo_tenant",
17  "timestamp": "2021-04-09T17:50:39Z",
18  "version": 2
19 }
20
21
22 <!--NeedCopy-->

```

### Unmanaged Device Detected

#### Indicator summary schema

```

1 {
2
3   "data_source": "Citrix Endpoint Management",
4   "data_source_id": 2,
5   "indicator_id": 203,
6   "indicator_name": "Unmanaged Device Detected",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "event_type": "indicatorSummary",
10  "indicator_category": "Compromised endpoints",
11  "indicator_category_id": 4,
12  "indicator_vector": {
13

```

```

14     "name": "Other Risk Indicators",
15     "id": 7  }
16   ,
17   "indicator_type": "builtin",
18   "indicator_uuid": "e28b8186-496b-44ff-9ddc-ae50e87bd757",
19   "occurrence_details": {
20   }
21   ,
22   "risk_probability": 1.0,
23   "severity": "low",
24   "tenant_id": "demo_tenant",
25   "timestamp": "2021-04-13T12:56:30Z",
26   "ui_link": "https://analytics.cloud.com/user/",
27   "version": 2
28   }
29
30
31 <!--NeedCopy-->

```

**Indicator event details schema**

```

1  {
2
3     "indicator_id": 203,
4     "client_ip": "127.xx.xx.xxx",
5     "data_source_id": 2,
6     "entity_id": "demo_user",
7     "entity_type": "user",
8     "event_type": "indicatorEventDetails",
9     "indicator_category_id": 4,
10    "indicator_vector": {
11
12        "name": "Other Risk Indicators",
13        "id": 7  }
14    ,
15    "indicator_uuid": "dd280122-04f2-42b4-b9fc-92a715c907a0",
16    "tenant_id": "demo_tenant",
17    "timestamp": "2021-04-09T18:41:30Z",
18    "version": 2
19  }
20
21
22 <!--NeedCopy-->

```

**Citrix Gateway risk indicators schema****EPA scan failure risk indicator schema****Indicator summary schema**

```

1  {
2

```

```

3   "tenant_id": "demo_tenant",
4   "indicator_id": 100,
5   "indicator_uuid": "3c17454c-86f5-588a-a4ac-0342693d8a70",
6   "indicator_category_id": 3,
7   "indicator_vector": {
8
9       "name": "Other Risk Indicators",
10      "id": 7   }
11  ,
12  "data_source_id": 1,
13  "timestamp": "2017-12-21T07:14:59Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "risk_probability": 1,
19  "indicator_category": "Compromised users",
20  "indicator_name": "EPA scan failure",
21  "severity": "low",
22  "data_source": "Citrix Gateway",
23  "ui_link": "https://analytics.cloud.com/user/",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27      "event_description": "Post auth failed, no quarantine",
28      "observation_start_time": "2017-12-21T07:00:00Z",
29      "relevant_event_type": "EPA Scan Failure at Logon"
30  }
31  }
32  }
33
34
35  <!--NeedCopy-->

```

#### Indicator event details schema

```

1  {
2
3      "tenant_id": "demo_tenant",
4      "indicator_id": 100,
5      "indicator_uuid": "3c17454c-86f5-588a-a4ac-0342693d8a70",
6      "indicator_category_id": 3,
7      "indicator_vector": {
8
9          "name": "Other Risk Indicators",
10         "id": 7   }
11  ,
12  "data_source_id": 1,
13  "timestamp": "2017-12-21T07:12:00Z",
14  "event_type": "indicatorEventDetails",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "event_description": "Post auth failed, no quarantine",

```

```
19  "gateway_domain_name": "10.102.xx.xx",
20  "gateway_ip": "56.xx.xxx.xx",
21  "policy_name": "postauth_act_1",
22  "client_ip": "210.91.xx.xxx",
23  "country": "United States",
24  "city": "San Jose",
25  "region": "California",
26  "cs_vserver_name": "demo_vserver",
27  "device_os": "Windows OS",
28  "security_expression": "CLIENT.OS(Win12) EXISTS",
29  "vpn_vserver_name": "demo_vpn_vserver",
30  "vserver_fqdn": "10.xxx.xx.xx"
31  }
32
33  <!--NeedCopy-->
```

The table describes the field names specific to the summary schema and the event details schema for the EPA scan failure risk indicator.

Field names	Description
event_description	Describes the reasons for EPA scan failure such as post authentication failed and no quarantine group.
relevant_event_type	Indicates the type of the EPA scan failure event.
gateway_domain_name	The domain name of Citrix Gateway.
gateway_ip	The IP address of Citrix Gateway.
policy_name	The EPA scan policy name configured on the Citrix Gateway.
country	The country from which the user activity has been detected.
city	The city from which the user activity has been detected.
region	The region from which the user activity has been detected.
cs_vserver_name	The name of the content switch virtual server.
device_os	The operating system of the user’s device.
security_expression	The security expression configured on the Citrix Gateway.
vpn_vserver_name	The name of the Citrix Gateway virtual server.
vserver_fqdn	The FQDN of the Citrix Gateway virtual server.

**Excessive authentication failure risk indicator schema****Indicator summary schema**

```

1  {
2
3      "tenant_id": "demo_tenant",
4      "indicator_id": 101,
5      "indicator_uuid": "4bc0f759-93e0-5eea-9967-ed69de9dd09a",
6      "indicator_category_id": 3,
7      "indicator_vector": {
8
9          "name": "Logon-Failure-Based Risk Indicators",
10         "id": 3  }
11  ,
12     "data_source_id": 1,
13     "timestamp": "2017-12-21T07:14:59Z",
14     "event_type": "indicatorSummary",
15     "entity_type": "user",
16     "entity_id": "demo_user",
17     "version": 2,
18     "risk_probability": 1,
19     "indicator_category": "Compromised users",
20     "indicator_name": "Excessive authentication failures",
21     "severity": "medium",
22     "data_source": "Citrix Gateway",
23     "ui_link": "https://analytics.cloud.com/user/ ",
24     "indicator_type": "builtin",
25     "occurrence_details": {
26
27         "observation_start_time": "2017-12-21T07:00:00Z",
28         "relevant_event_type": "Logon Failure"
29     }
30
31  }
32
33  <!--NeedCopy-->

```

**Indicator event details schema**

```

1  {
2
3      "tenant_id": "demo_tenant",
4      "indicator_id": 101,
5      "indicator_uuid": "a391cd1a-d298-57c3-a17b-01f159b26b99",
6      "indicator_category_id": 3,
7      "indicator_vector": {
8
9          "name": "Logon-Failure-Based Risk Indicators",
10         "id": 3  }
11  ,
12     "data_source_id": 1,
13     "timestamp": "2017-12-21T07:10:00Z",
14     "event_type": "indicatorEventDetails",

```

```

15  "entity_type": "user",
16  "entity_id": "demo-user",
17  "version": 2,
18  "event_description": "Bad (format) password passed to nsaaad",
19  "authentication_stage": "Secondary",
20  "authentication_type": "LDAP",
21  "auth_server_ip": "10.xxx.x.xx",
22  "client_ip": "24.xxx.xxx.xx",
23  "gateway_ip": "24.xxx.xxx.xx",
24  "vserver_fqdn": "demo-fqdn.citrix.com",
25  "vpn_vserver_name": "demo_vpn_vserver",
26  "cs_vserver_name": "demo_cs_vserver",
27  "gateway_domain_name": "xyz",
28  "country": "United States",
29  "region": "California",
30  "city": "San Jose",
31  "nth_failure": 5
32  }
33
34
35  <!--NeedCopy-->

```

The following table describes the field names specific to the summary schema and the event details schema for Excessive authentication failure.

Field names	Description
<code>relevant_event_type</code>	Indicates the type of event such as logon failure.
<code>event_description</code>	Describes the reason for the excessive authentication failure event such as an incorrect password.
<code>authentication_stage</code>	Indicates whether the authentication stage is primary, secondary, or tertiary.
<code>authentication_type</code>	Indicates the types of authentication such as LDAP, Local, or OAuth.
<code>auth_server_ip</code>	The IP address of the authentication server.
<code>gateway_domain_name</code>	The domain name of Citrix Gateway.
<code>gateway_ip</code>	The IP address of Citrix Gateway.
<code>cs_vserver_name</code>	The name of the content switch virtual server.
<code>vpn_vserver_name</code>	The name of the Citrix Gateway virtual server.
<code>vserver_fqdn</code>	The FQDN of the Citrix Gateway virtual server.
<code>nth_failure</code>	The number of times the user authentication has failed.

Field names	Description
country	The country from which the user activity has been detected.
city	The city from which the user activity has been detected.
region	The region from which the user activity has been detected.

### Impossible travel risk indicator

#### Indicator summary schema

```

1  {
2
3    "tenant_id": "demo_tenant",
4    "indicator_id": "111",
5    "indicator_uuid": "83d68a6d-6588-5b77-9118-8a9e6a5b462b",
6    "indicator_category_id": 3,
7    "indicator_vector": {
8
9      "name": "Location-Based Risk Indicators",
10     "id": 2
11   }
12 ,
13   "data_source_id": 1,
14   "timestamp": "2020-06-06T12:14:59Z",
15   "event_type": "indicatorSummary",
16   "entity_type": "user",
17   "entity_id": "demo_user",
18   "version": 2,
19   "risk_probability": 1,
20   "indicator_category": "Compromised users",
21   "indicator_name": "Impossible travel",
22   "severity": "medium",
23   "data_source": "Citrix Gateway",
24   "ui_link": "https://analytics.cloud.com/user/",
25   "indicator_type": "builtin",
26   "occurrence_details": {
27
28     "relevant_event_type": "Impossible travel",
29     "distance": 7480.44718,
30     "observation_start_time": "2020-06-06T12:00:00Z",
31     "historical_logon_locations": "[{
32   \"country\": \"United States\", \"region\": \"Florida\", \"city\": \"Miami
33   \", \"latitude\": 25.7617, \"longitude\": -80.191, \"count\": 28 }
34   , {
35   \"country\": \"United States\", \"latitude\": 37.0902, \"longitude
36   \": -95.7129, \"count\": 2 }
37   ]",

```

```
36     "historical_observation_period_in_days": 30
37   }
38
39 }
40
41
42 <!--NeedCopy-->
```

Indicator event details schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": "111",
5   "indicator_uuid": "83d68a6d-6588-5b77-9118-8a9e6a5b462b",
6   "pair_id": 2,
7   "indicator_category_id": 3,
8   "indicator_vector": {
9
10    "name": "Location-Based Risk Indicators",
11    "id": 2
12  }
13 ,
14  "data_source_id": 1,
15  "timestamp": "2020-06-06T05:05:00Z",
16  "event_type": "indicatorEventDetails",
17  "entity_type": "user",
18  "entity_id": "demo_user",
19  "version": 2,
20  "client_ip": "95.xxx.xx.xx",
21  "ip_organization": "global telecom ltd",
22  "ip_routing_type": "mobile gateway",
23  "country": "Norway",
24  "region": "Oslo",
25  "city": "Oslo",
26  "latitude": 59.9139,
27  "longitude": 10.7522,
28  "device_os": "Linux OS",
29  "device_browser": "Chrome 62.0.3202.94"
30 }
31
32
33 <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Impossible travel.

Field name	Description
distance	The distance (km) between the events associated with impossible travel.

Field name	Description
historical_logon_locations	The locations accessed by the user and the number of times each location has been accessed during the observation period.
historical_observation_period_in_days	Each location is monitored for 30 days.
relevant_event_type	Indicates the type of event such as logon.
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
country	The country from which the user has logged on.
city	The city from which the user has logged on.
region	Indicates the region from which the user has logged on.
latitude	Indicates the latitude of the location from which the user has logged on.
longitude	Indicates the longitude of the location from which the user has logged on.
device_browser	The web browser used by the user.
device_os	The operating system of the user's device.
ip_organization	Registering organization of the client IP address
ip_routing_type	Client IP routing type

Logon from suspicious IP risk indicator schema

Indicator summary schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 102,
5   "indicator_uuid": "0100e910-561a-5ff3-b2a8-fc556d199ba5",
6   "indicator_category_id": 3,
7   "indicator_vector": {
8
9     "name": "IP-Based Risk Indicators",
10    "id": 4  }
11  ,
```

```

12  "data_source_id": 1,
13  "timestamp": "2019-10-10T10:14:59Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "risk_probability": 0.91,
19  "indicator_category": "Compromised users",
20  "indicator_name": "Logon from suspicious IP",
21  "severity": "medium",
22  "data_source": "Citrix Gateway",
23  "ui_link": "https://analytics.cloud.com/user/",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27    "relevant_event_type": "Logon",
28    "client_ip": "1.0.xxx.xx",
29    "observation_start_time": "2019-10-10T10:00:00Z",
30    "suspicion_reasons": "brute_force|external_threat"
31  }
32
33  }
34
35  <!--NeedCopy-->

```

#### Indicator event details schema

```

1  {
2
3    "tenant_id": "demo_tenant",
4    "indicator_id": 102,
5    "indicator_uuid": "4ba77b6c-bac0-5ad0-9b4a-c459a3e2ec33",
6    "indicator_category_id": 3,
7    "indicator_vector": {
8
9      "name": "IP-Based Risk Indicators",
10     "id": 4  }
11  ,
12  "data_source_id": 1,
13  "timestamp": "2019-10-10T10:11:00Z",
14  "event_type": "indicatorEventDetails",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "suspicion_reasons": "external_threat",
19  "gateway_ip": "gIP1",
20  "client_ip": "128.0.xxx.xxx",
21  "country": "Sweden",
22  "city": "Stockholm",
23  "region": "Stockholm",
24  "webroot_reputation": 14,
25  "webroot_threat_categories": "Windows Exploits|Botnets|Proxy",
26  "device_os": "Windows OS",
27  "device_browser": "Chrome"

```

```
28   }
29
30
31 <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Login from a suspicious IP.

Field name	Description
suspicious_reasons	The reason for the IP address to be identified as suspicious.
webroot_reputation	The IP reputation index provided by the threat intelligence provider- Webroot.
webroot_threat_categories	The threat category identified for the suspicious IP by the threat intelligence provider- Webroot.
device_os	The operating system of the user device.
device_browser	The web browser used.
country	The country from which the user activity has been detected.
city	The city from which the user activity has been detected.
region	The region from which the user activity has been detected.

Unusual authentication failure risk indicator schema

Indicator summary schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 109,
5   "indicator_uuid": "dc0174c9-247a-5e48-a2ab-d5f92cd83d0f",
6   "indicator_category_id": 3,
7   "indicator_vector": {
8
9     "name": "Logon-Failure-Based Risk Indicators",
10    "id": 3  }
11 ,
12  "data_source_id": 1,
13  "timestamp": "2020-04-01T06:44:59Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
```

```

17  "version": 2,
18  "risk_probability": 1,
19  "indicator_category": "Compromised users",
20  "indicator_name": "Unusual authentication failure",
21  "severity": "medium",
22  "data_source": "Citrix Gateway",
23  "ui_link": "https://analytics.cloud.com/user/",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27    "relevant_event_type": "Logon Failure",
28    "observation_start_time": "2020-04-01T05:45:00Z"
29  }
30
31 }
32
33
34 <!--NeedCopy-->

```

#### Indicator event details schema

```

1  {
2
3    "tenant_id": "demo_tenant",
4    "indicator_id": 109,
5    "indicator_uuid": "ef4b9830-39d6-5b41-bdf3-84873a77ea9a",
6    "indicator_category_id": 3,
7    "indicator_vector": {
8
9      "name": "Logon-Failure-Based Risk Indicators",
10     "id": 3  }
11  ,
12  "data_source_id": 1,
13  "timestamp": "2020-04-01T06:42:00Z",
14  "event_type": "indicatorEventDetails",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "event_description": "Success",
19  "authentication_stage": "Secondary",
20  "authentication_type": "LDAP",
21  "client_ip": "99.xxx.xx.xx",
22  "country": "United States",
23  "city": "San Jose",
24  "region": "California",
25  "device_os": "Windows OS ",
26  "device_browser": "Chrome",
27  "is_risky": "false"
28  }
29
30
31 <!--NeedCopy-->

```

The following table describes the field names specific to the summary schema and the event details

schema for Unusual authentication failure.

Field names	Description
relevant_event_type	Indicates the type of event such as logon failure.
event_description	Indicates whether the logon is successful or unsuccessful
authentication_stage	Indicates whether the authentication stage is primary, secondary, or tertiary.
authentication_type	Indicates the types of authentication such as LDAP, Local, or OAuth.
is_risky	For a successful logon, the is_risky value is false. For an unsuccessful logon, the is_risky value is true.
device_os	The operating system of the user device.
device_browser	The web browser used by the user.
country	The country from which the user activity has been detected.
city	The city from which the user activity has been detected.
region	The region from which the user activity has been detected.

Suspicious logon risk indicator

Indicator summary schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": "110",
5   "indicator_uuid": "67fd935-a6a3-5397-b596-636aa1588c",
6   "indicator_category_id": 3,
7   "indicator_vector": [
8     {
9
10      "name": "Location-Based Risk Indicators",
11      "id": 2
12    },
13    ,
14    {
15
16      "name": "IP-Based Risk Indicators",
17      "id": 4
18    }
19  ]
20 }
```

```
19   ,
20   {
21
22       "name": "Other Risk Indicators",
23       "id": 7
24   }
25
26   ],
27   "data_source_id": 1,
28   "timestamp": "2020-06-06T12:14:59Z",
29   "event_type": "indicatorSummary",
30   "entity_type": "user",
31   "entity_id": "demo_user",
32   "version": 2,
33   "risk_probability": 0.71,
34   "indicator_category": "Compromised users",
35   "indicator_name": "Suspicious logon",
36   "severity": "medium",
37   "data_source": "Citrix Gateway",
38   "ui_link": "https://analytics.cloud.com/user/",
39   "indicator_type": "builtin",
40   "occurrence_details": {
41
42       "observation_start_time": "2020-06-06T12:00:00Z",
43       "relevant_event_type": "Logon",
44       "event_count": 1,
45       "historical_observation_period_in_days": 30,
46       "country": "United States",
47       "region": "Florida",
48       "city": "Miami",
49       "historical_logon_locations": "[{
50   \"country\": \"United States\", \"region\": \"New York\", \"city\": \"New
    York City\", \"latitude\": 40.7128, \"longitude\": -74.0060, \"count\": 9
51   }]",
52       "user_location_risk": 75,
53       "device_id": "",
54       "device_os": "Windows OS",
55       "device_browser": "Chrome",
56       "user_device_risk": 0,
57       "client_ip": "99.xxx.xx.xx",
58       "user_network_risk": 75,
59       "webroot_threat_categories": "Phishing",
60       "suspicious_network_risk": 89
61   }
62
63   }
64
65
66
67   <!--NeedCopy-->
```

Indicator event details schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": "110",
5   "indicator_uuid": "67fd6935-a6a3-5397-b596-63856aa1588c",
6   "indicator_category_id": 3,
7   "indicator_vector": [
8     {
9
10      "name": "Location-Based Risk Indicators",
11      "id": 2
12    },
13    ,
14    {
15
16      "name": "IP-Based Risk Indicators",
17      "id": 4
18    },
19    ,
20    {
21
22      "name": "Other Risk Indicators",
23      "id": 7
24    }
25  ],
26  "data_source_id": 1,
27  "timestamp": "2020-06-06T12:08:40Z",
28  "event_type": "indicatorEventDetails",
29  "entity_type": "user",
30  "entity_id": "demo_user",
31  "version": 2,
32  "country": "United States",
33  "region": "Florida",
34  "city": "Miami",
35  "latitude": 25.7617,
36  "longitude": -80.1918,
37  "device_browser": "Chrome",
38  "device_os": "Windows OS",
39  "device_id": "NA",
40  "client_ip": "99.xxx.xx.xx"
41 }
42
43
44
45 <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Suspicious logon.

Field name	Description
<code>historical_logon_locations</code>	The locations accessed by the user and the number of times each location has been accessed during the observation period.
<code>historical_observation_period_in_days</code>	Each location is monitored for 30 days.
<code>relevant_event_type</code>	Indicates the type of event such as logon.
<code>observation_start_time</code>	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
<code>occurrence_event_type</code>	Indicates the user event type such as account logon.
<code>country</code>	The country from which the user has logged on.
<code>city</code>	The city from which the user has logged on.
<code>region</code>	Indicates the region from which the user has logged on.
<code>latitude</code>	Indicates the latitude of the location from which the user has logged on.
<code>longitude</code>	Indicates the longitude of the location from which the user has logged on.
<code>device_browser</code>	The web browser used by the user.
<code>device_os</code>	The operating system of the user's device.
<code>device_id</code>	The name of the device used by the user.
<code>user_location_risk</code>	Indicates the suspicion level of the location from which the user has logged on. Low suspicion level: 0–69, Medium suspicion level: 70–89, and High suspicion level: 90–100
<code>user_device_risk</code>	Indicates the suspicion level of the device from which the user has logged on. Low suspicion level: 0–69, Medium suspicion level: 70–89, and High suspicion level: 90–100
<code>user_network_risk</code>	Indicates the suspicion level of the network or the subnet from which the user has logged on. Low suspicion level: 0–69, Medium suspicion level: 70–89, and High suspicion level: 90–100

Field name	Description
suspicious_network_risk	Indicates the IP threat level based on the Webroot IP threat intelligence feed. Low threat level: 0–69, Medium threat level: 70–89, and High threat level: 90–100
webroot_threat_categories	Indicates the types of threat detected from the IP address based on the Webroot IP threat intelligence feed. The threat categories can be Spam Sources, Windows Exploits, Web Attacks, Botnets, Scanners, Denial of Service, Reputation, Phishing, Proxy, Unspecified, Mobile Threats, and Tor Proxy

Citrix DaaS and Citrix Virtual Apps and Desktops risk indicators schema

Impossible travel risk indicator

Indicator summary schema

```
1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": "313",
5   "indicator_uuid": "c78d1dd4-5e70-5642-ba6f-1cdf31bc6ab2",
6   "indicator_category_id": 3,
7   "indicator_vector": {
8
9     "name": "Location-Based Risk Indicators",
10    "id": 2
11  }
12 ,
13  "data_source_id": 3,
14  "timestamp": "2020-06-06T12:14:59Z",
15  "event_type": "indicatorSummary",
16  "entity_type": "user",
17  "entity_id": "demo_user",
18  "version": 2,
19  "risk_probability": 1,
20  "indicator_category": "Compromised users",
21  "indicator_name": "Impossible travel",
22  "severity": "medium",
23  "data_source": "Apps and Desktops",
24  "ui_link": "https://analytics.cloud.com/user/",
25  "indicator_type": "builtin",
26  "occurrence_details": {
27
```

```

28     "relevant_event_type": "Impossible travel",
29     "distance": 7480.44718,
30     "observation_start_time": "2020-06-06T12:00:00Z",
31     "historical_logon_locations": "[{
32   \"country\": \"United States\", \"region\": \"Florida\", \"city\": \"Miami
33   \", \"latitude\": 25.7617, \"longitude\": -80.191, \"count\": 28 }
34   , {
35   \"country\": \"United States\", \"latitude\": 37.0902, \"longitude
36   \": -95.7129, \"count\": 2 }
37   ]",
38     "historical_observation_period_in_days": 30
39   }
40
41
42 <!--NeedCopy-->

```

#### Indicator event details schema

```

1  {
2
3    "tenant_id": "demo_tenant",
4    "indicator_id": "313",
5    "indicator_uuid": "c78d1dd4-5e70-5642-ba6f-1cdf31bc6ab2",
6    "pair_id": 2,
7    "indicator_category_id": 3,
8    "indicator_vector": {
9
10     "name": "Location-Based Risk Indicators",
11     "id": 2
12   }
13 ,
14   "data_source_id": 3,
15   "timestamp": "2020-06-06T05:05:00Z",
16   "event_type": "indicatorEventDetails",
17   "entity_type": "user",
18   "entity_id": "demo_user",
19   "version": 2,
20   "occurrence_event_type": "Account.Logon",
21   "client_ip": "95.xxx.xx.xx",
22   "ip_organization": "global telecom ltd",
23   "ip_routing_type": "mobile gateway",
24   "country": "Norway",
25   "region": "Oslo",
26   "city": "Oslo",
27   "latitude": 59.9139,
28   "longitude": 10.7522,
29   "device_id": "device1",
30   "receiver_type": "XA.Receiver.Linux",
31   "os": "Linux OS",
32   "browser": "Chrome 62.0.3202.94"
33 }
34

```

```
35
36 <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Impossible travel.

Field name	Description
distance	The distance (km) between the events associated with impossible travel.
historical_logon_locations	The locations accessed by the user and the number of times each location has been accessed during the observation period.
historical_observation_period_in_days	Each location is monitored for 30 days.
relevant_event_type	Indicates the type of event such as logon.
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
country	The country from which the user has logged on.
city	The city from which the user has logged on.
region	Indicates the region from which the user has logged on.
latitude	Indicates the latitude of the location from which the user has logged on.
longitude	Indicates the longitude of the location from which the user has logged on.
browser	The web browser used by the user.
os	The operating system of the user’s device.
device_id	The name of the device used by the user.
receiver_type	The type of the Citrix Workspace app or Citrix Receiver installed on the user’s device.
ip_organization	Registering organization of the client IP address
ip_routing_type	Client IP routing type

Potential data exfiltration risk indicator

**Indicator summary schema**

```

1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 303,
5   "indicator_uuid": "fb649ff7-5b09-5f48-8a04-12836b9eed85",
6   "indicator_category_id": 1,
7   "indicator_vector": {
8
9     "name": "Data-Based Risk Indicators",
10    "id": 5  }
11  ,
12  "data_source_id": 3,
13  "timestamp": "2018-04-02T10:59:59Z",
14  "event_type": "indicatorSummary",
15  "entity_type": "user",
16  "entity_id": "demo_user",
17  "version": 2,
18  "risk_probability": 1,
19  "indicator_category": "Data exfiltration",
20  "indicator_name": "Potential data exfiltration",
21  "severity": "low",
22  "data_source": "Citrix Apps and Desktops",
23  "ui_link": "https://analytics.cloud.com/user/ ",
24  "indicator_type": "builtin",
25  "occurrence_details": {
26
27    "relevant_event_type": "Download/Print/Copy",
28    "observation_start_time": "2018-04-02T10:00:00Z",
29    "exfil_data_volume_in_bytes": 1172000
30  }
31
32 }
33
34
35 <!--NeedCopy-->

```

**Indicator event details schema**

```

1 {
2
3   "tenant_id": "demo_tenant",
4   "indicator_id": 303,
5   "indicator_uuid": "fb649ff7-5b09-5f48-8a04-12836b9eed85",
6   "indicator_category_id": 1,
7   "indicator_vector": {
8
9     "name": "Data-Based Risk Indicators",
10    "id": 5  }
11  ,
12  "data_source_id": 3,
13  "timestamp": "2018-04-02T10:57:36Z",
14  "event_type": "indicatorEventDetails",
15  "entity_type": "user",

```

```
16  "entity_id": "demo_user",
17  "version": 2,
18  "occurrence_event_type": "App.SaaS.Clipboard",
19  "file_size_in_bytes": 98000,
20  "file_type": "text",
21  "device_id": "dvc5",
22  "receiver_type": "XA.Receiver.Windows",
23  "app_url": "https://www.citrix.com",
24  "client_ip": "10.xxx.xx.xxx",
25  "entity_time_zone": "Pacific Standard Time"
26  }
27
28
29  <!--NeedCopy-->
```

The following table describes the fields specific to the summary schema and the event details schema for Potential data exfiltration.

Field name	Description
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
relevant_event_type	Indicates the user activity such as download, print, or copy the data.
exfil_data_volume_in_bytes	The amount of data exfiltration.
occurrence_event_type	Indicates how the data exfiltration has happened such as the clipboard operation in a SaaS app.
file_size_in_bytes	The size of the file.
file_type	The type of the file.
device_id	The ID of the user device.
receiver_type	The Citrix Workspace app or Citrix Receiver installed on the user device.
app_url	The URL of the application that is accessed by the user.
entity_time_zone	The time zone of the user.

Suspicious logon risk indicator schema

```
Indicator summary schema
1 {
```

```
2
3   "tenant_id": "tenant_1",
4   "indicator_id": "312",
5   "indicator_uuid": "1b97c3be-abcd-efgh-ijkl-1234567890",
6   "indicator_category_id": 3,
7   "indicator_vector":
8   [
9     {
10
11       "name": "Other Risk Indicators",
12       "id": 7
13     }
14   ,
15     {
16
17       "name": "Location-Based Risk Indicators",
18       "id": 2
19     }
20   ,
21     {
22
23       "name": "IP-Based Risk Indicators",
24       "id": 4
25     }
26   ,
27     {
28
29       "name": "Device-Based Risk Indicators",
30       "id": 1
31     }
32   ,
33   ],
34   "data_source_id": 3,
35   "timestamp": "2020-06-06T12:14:59Z",
36   "event_type": "indicatorSummary",
37   "entity_type": "user",
38   "entity_id": "user2",
39   "version": 2,
40   "risk_probability": 0.78,
41   "indicator_category": "Compromised users",
42   "indicator_name": "Suspicious logon",
43   "severity": "medium",
44   "data_source": "Citrix Apps and Desktops",
45   "ui_link": "https://analytics.cloud.com/user/ ",
46   "indicator_type": "builtin",
47   "occurrence_details":
48   {
49
50     "user_location_risk": 0,
51     "city": "Some_city",
52     "observation_start_time": "2020-06-06T12:00:00Z",
53     "event_count": 1,
54     "user_device_risk": 75,
```

```

55     "country": "United States",
56     "device_id": "device2",
57     "region": "Some_Region",
58     "client_ip": "99.xx.xx.xx",
59     "webroot_threat_categories": "'Spam Sources', 'Windows Exploits', '
      Web Attacks', 'Botnets', 'Scanners', 'Denial of Service'",
60     "historical_logon_locations": "[{
61   \"country\": \"United States\", \"latitude\": 45.0, \"longitude\": 45.0, \"
      count\": 12 }
62   , {
63   \"country\": \"United States\", \"region\": \"Some_Region_A\", \"city\": \"
      Some_City_A\", \"latitude\": 0.0, \"longitude\": 0.0, \"count\": 8 }
64   ]",
65     "relevant_event_type": "Logon",
66     "user_network_risk": 100,
67     "historical_observation_period_in_days": 30,
68     "suspicious_network_risk": 0
69   }
70
71 }
72
73
74 <!--NeedCopy-->

```

#### Indicator event details schema

```

1  {
2
3     "tenant_id": "tenant_1",
4     "indicator_id": "312",
5     "indicator_uuid": "1b97c3be-abcd-efgh-ijkl-1234567890",
6     "indicator_category_id": 3,
7     "indicator_vector":
8     [
9       {
10
11         "name": "Other Risk Indicators",
12         "id": 7
13       }
14     ,
15       {
16
17         "name": "Location-Based Risk Indicators",
18         "id": 2
19       }
20     ,
21       {
22
23         "name": "IP-Based Risk Indicators",
24         "id": 4
25       }
26     ,
27       {
28

```

```
29     "name": "Device-Based Risk Indicators",
30     "id": 1
31   }
32 ,
33 ],
34 "data_source_id": 3,
35 "timestamp": "2020-06-06 12:02:30",
36 "event_type": "indicatorEventDetails",
37 "entity_type": "user",
38 "entity_id": "user2",
39 "version": 2,
40 "occurrence_event_type": "Account.Logon",
41 "city": "Some_city",
42 "country": "United States",
43 "region": "Some_Region",
44 "latitude": 37.751,
45 "longitude": -97.822,
46 "browser": "Firefox 1.3",
47 "os": "Windows OS",
48 "device_id": "device2",
49 "receiver_type": "XA.Receiver.Chrome",
50 "client_ip": "99.xxx.xx.xx"
51 }
52
53
54 <!--NeedCopy-->
```

The following table describes the field names specific to the summary schema and the event details schema for Suspicious logon.

Field name	Description
historical_logon_locations	The locations accessed by the user and the number of times each location has been accessed during the observation period.
historical_observation_period_in_days	Each location is monitored for 30 days.
relevant_event_type	Indicates the type of event such as logon.
observation_start_time	The time from which Citrix Analytics starts monitoring the user activity until the time stamp. If any anomalous behavior is detected in this time period, a risk indicator is triggered.
occurrence_event_type	Indicates the user event type such as account logon.
country	The country from which the user has logged on.
city	The city from which the user has logged on.

Field name	Description
<code>region</code>	Indicates the region from which the user has logged on.
<code>latitude</code>	Indicates the latitude of the location from which the user has logged on.
<code>longitude</code>	Indicates the longitude of the location from which the user has logged on.
<code>browser</code>	The web browser used by the user.
<code>os</code>	The operating system of the user's device.
<code>device_id</code>	The name of the device used by the user.
<code>receiver_type</code>	The type of the Citrix Workspace app or Citrix Receiver installed on the user's device.
<code>user_location_risk</code>	Indicates the suspicion level of the location from which the user has logged on. Low suspicion level: 0–69, Medium suspicion level: 70–89, and High suspicion level: 90–100
<code>user_device_risk</code>	Indicates the suspicion level of the device from which the user has logged on. Low suspicion level: 0–69, Medium suspicion level: 70–89, and High suspicion level: 90–100
<code>user_network_risk</code>	Indicates the suspicion level of the network or the subnet from which the user has logged on. Low suspicion level: 0–69, Medium suspicion level: 70–89, and High suspicion level: 90–100
<code>suspicious_network_risk</code>	Indicates the IP threat level based on the Webroot IP threat intelligence feed. Low threat level: 0–69, Medium threat level: 70–89, and High threat level: 90–100
<code>webroot_threat_categories</code>	Indicates the types of threat detected from the IP address based on the Webroot IP threat intelligence feed. The threat categories can be Spam Sources, Windows Exploits, Web Attacks, Botnets, Scanners, Denial of Service, Reputation, Phishing, Proxy, Unspecified, Mobile Threats, and Tor Proxy

**Microsoft Active Directory Indicator****Indicator summary schema**

```
1 {
2
3   "data_source": "Microsoft Graph Security",
4   "entity_id": "demo_user",
5   "entity_type": "user",
6   "event_type": "indicatorSummary",
7   "indicator_category": "Compromised users",
8   "indicator_id": 1000,
9   "indicator_name": "MS Active Directory Indicator",
10  "indicator_vector": {
11
12    "name": "IP-Based Risk Indicators",
13    "id": 4  }
14  ,
15  "indicator_type": "builtin",
16  "indicator_uuid": "9880f479-9fbe-4ab0-8348-a613f9de5eba",
17  "occurrence_details": {
18  }
19  ,
20  "risk_probability": 1.0,
21  "severity": "low",
22  "tenant_id": "demo_tenant",
23  "timestamp": "2021-01-27T16:03:46Z",
24  "ui_link": "https://analytics-daily.cloud.com/user/",
25  "version": 2
26  }
27
28
29 <!--NeedCopy-->
```

**Indicator event details schema**

```
1 {
2
3   "entity_id": "demo_user",
4   "entity_type": "user",
5   "event_type": "indicatorEventDetails",
6   "indicator_id": 1000,
7   "indicator_vector": {
8
9     "name": "IP-Based Risk Indicators",
10    "id": 4  }
11  ,
12  "indicator_uuid": "9880f479-9fbe-4ab0-8348-a613f9de5eba",
13  "tenant_id": "demo_tenant",
14  "timestamp": "2021-01-27T16:03:46Z",
15  "version": 2
16  }
17
18
19 <!--NeedCopy-->
```

## Custom risk indicator schema

The following section describes the schema for the custom risk indicator.

### Note

Currently, Citrix Analytics sends the data related to the custom risk indicators of Citrix DaaS and Citrix Virtual Apps and Desktops to your SIEM service.

The following table describes the field names for the custom risk indicator summary schema.

Field name	Description
<code>data_source</code>	The products that send data to Citrix Analytics for Security. For example: Citrix Secure Private Access, Citrix Gateway, and Citrix Apps and Desktops.
<code>data_source_id</code>	The ID associated with a data source. ID 1 = Citrix Gateway, ID 2 = Citrix Endpoint Management, ID 3 = Citrix Apps and Desktops, ID 4 = Citrix Secure Private Access
<code>entity_id</code>	The ID associated with the entity at risk.
<code>entity_type</code>	The entity at risk. In this case, the entity is a user.
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the summary of the risk indicator.
<code>indicator_category</code>	Indicates the categories of risk indicators. The risk indicators are grouped into one of the risk categories- compromised endpoint, compromised users, data exfiltration, or insider threats.
<code>indicator_id</code>	The unique ID associated with the risk indicator.
<code>indicator_category_id</code>	The ID associated with the risk indicator category. ID 1 = Data exfiltration, ID 2 = Insider threats, ID 3 = Compromised users, ID 4 = Compromised endpoints
<code>indicator_name</code>	The name of the risk indicator. For a custom risk indicator, this name is defined while creating the indicator.
<code>indicator_type</code>	Indicates whether the risk indicator is default (built-in) or custom.

Field name	Description
<code>indicator_uuid</code>	The unique ID associated with the risk indicator instance.
<code>occurrence_details</code>	The details about the risk indicator triggering condition.
<code>pre_configured</code>	Indicates whether the custom risk indicator is preconfigured.
<code>risk_probability</code>	Indicates the chances of risk associated with the user event. The value varies from 0 to 1.0. For a custom risk indicator, the <code>risk_probability</code> is always 1.0 because it is a policy-based indicator.
<code>severity</code>	Indicates the severity of the risk. It can be low, medium, or high.
<code>tenant_id</code>	The unique identity of the customer.
<code>timestamp</code>	The date and the time when the risk indicator is triggered.
<code>ui_link</code>	The link to the user timeline view on the Citrix Analytics user interface.
<code>version</code>	The schema version of the processed data. The current schema version is 2.

The following table describes the field names common across the custom risk indicator event details schema.

Field name	Description
<code>data_source_id</code>	The ID associated with a data source. ID 1 = Citrix Gateway, ID 2 = Citrix Endpoint Management, ID 3 = Citrix Apps and Desktops, ID 4 = Citrix Secure Private Access
<code>indicator_category_id</code>	The ID associated with the risk indicator category. ID 1 = Data exfiltration, ID 2 = Insider threats, ID 3 = Compromised users, ID 4 = Compromised endpoints
<code>event_type</code>	The type of data sent to the SIEM service. In this case, the event type is the details of the risk indicator event.
<code>tenant_id</code>	The unique identity of the customer.

Field name	Description
entity_id	The ID associated with the entity at risk.
entity_type	The entity that is at risk. In this case, it is the user.
indicator_id	The unique ID associated with the risk indicator.
indicator_uuid	The unique ID associated with the risk indicator instance.
timestamp	The date and the time when the risk indicator is triggered.
version	The schema version of the processed data. The current schema version is 2.
event_id	The ID associated with the user event.
occurrence_event_type	Indicates the type of user event such as session logon, session launch, and account logon.
product	Indicates the type of Citrix Workspace app such as Citrix Workspace app for Windows.
client_ip	The IP address of the user's device.
session_user_name	The user name associated with the Citrix Apps and Desktops session.
city	The name of the city from which the user activity is detected.
country	The name of the country from which the user activity is detected.
device_id	The name of the device used by the user.
os_name	The operating system that is installed on the user's device. For more information, see <a href="#">Self-service search for Apps and Desktops</a> .
os_version	The version of the operating system that is installed on the user's device. For more information, see <a href="#">Self-service search for Apps and Desktops</a> .
os_extra_info	The extra details associated with the operating system that is installed on the user's device. For more information, see <a href="#">Self-service search for Apps and Desktops</a> .

**Custom risk indicator for Citrix DaaS and Citrix Virtual Apps and Desktops****Indicator summary schema**

```

1 {
2
3   "data_source": " Citrix Apps and Desktops",
4   "data_source_id": 3,
5   "entity_id": "demo_user",
6   "entity_type": "user",
7   "event_type": "indicatorSummary",
8   "indicator_category": "Compromised users",
9   "indicator_category_id": 3,
10  "indicator_id": "ca97a656ab0442b78f3514052d595936",
11  "indicator_name": "Demo_user_usage",
12  "indicator_type": "custom",
13  "indicator_uuid": "8e680e29-d742-4e09-9a40-78d1d9730ea5",
14  "occurrence_details": {
15
16    "condition": "User-Name ~ demo_user", "happen": 0, "new_entities":
17      "", "repeat": 0, "time_quantity": 0, "time_unit": "", "type": "
18      everyTime" }
19  ,
20  "pre_configured": "N",
21  "risk_probability": 1.0,
22  "severity": "low",
23  "tenant_id": "demo_tenant",
24  "timestamp": "2021-02-10T14:47:25Z",
25  "ui_link": "https://analytics.cloud.com/user/ ",
26  "version": 2
27  }
28  <!--NeedCopy-->

```

**Indicator event details schema for the session logon event**

```

1 {
2
3   "event_type": "indicatorEventDetails",
4   "data_source_id": 3,
5   "indicator_category_id": 3,
6   "tenant_id": "demo_tenant",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10  "timestamp": "2021-03-19T10:08:05Z",
11  "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12  "version": 2,
13  "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14  "occurrence_event_type": "Session.Logon",
15  "product": "XA.Receiver.Windows",
16  "client_ip": "103.xx.xxx.xxx",
17  "session_user_name": "user01",

```

```
18  "city": "Mumbai",
19  "country": "India",
20  "device_id": "5-Synthetic_device",
21  "os_name": "Windows NT 6.1",
22  "os_version": "7601",
23  "os_extra_info": "Service Pack 1",
24  "app_name": "notepad",
25  "launch_type": "Application",
26  "domain": "test_domain",
27  "server_name": "SYD04-MS1-S102",
28  "session_guid": "f466e318-9065-440c-84a2-eec49d978a96",
29  }
30
31
32  <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the session logon event.

Field name	Description
app_name	Name of an application or desktop launched.
launch_type	Indicates either application or desktop.
domain	The domain name of the server that sent the request.
server_name	Name of the server.
session_guid	The GUID of the active session.

**Indicator event details schema for the session launch event**

```
1  {
2
3    "event_type": "indicatorEventDetails",
4    "data_source_id": 3,
5    "indicator_category_id": 3,
6    "tenant_id": "demo_tenant",
7    "entity_id": "demo_user",
8    "entity_type": "user",
9    "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10   "timestamp": "2021-03-19T10:08:05Z",
11   "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12   "version": 2,
13   "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14   "occurrence_event_type": "Session.Launch",
15   "product": "XA.Receiver.Windows",
16   "client_ip": "103.xx.xxx.xxx",
17   "session_user_name": "user01",
18   "city": "Mumbai",
19   "country": "India",
```

```
20  "device_id": "5-Synthetic_device",
21  "os_name": "Windows NT 6.1",
22  "os_version": "7601",
23  "os_extra_info": "Service Pack 1",
24  "app_name": "notepad",
25  "launch_type": "Application",
26  }
27
28
29  <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the session launch event.

Field name	Description
app_name	Name of an application or desktop launched.
launch_type	Indicates either application or desktop.

**Indicator event details schema for the account logon event**

```
1  {
2
3    "event_type": "indicatorEventDetails",
4    "data_source_id": 3,
5    "indicator_category_id": 3,
6    "tenant_id": "demo_tenant",
7    "entity_id": "demo_user",
8    "entity_type": "user",
9    "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10   "timestamp": "2021-03-19T10:08:05Z",
11   "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12   "version": 2,
13   "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14   "occurrence_event_type": "Account.Logon",
15   "product": "XA.Receiver.Windows",
16   "client_ip": "103.xx.xxx.xxx",
17   "session_user_name": "user01",
18   "city": "Mumbai",
19   "country": "India",
20   "device_id": "5-Synthetic_device",
21   "os_name": "Windows NT 6.1",
22   "os_version": "7601",
23   "os_extra_info": "Service Pack 1",
24   "app_name": "notepad",
25  }
26
27
28  <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the account

logon event.

Field name	Description
app_name	Name of an application or desktop launched.

Indicator event details schema for the session end event

```
1 {
2
3   "event_type": "indicatorEventDetails",
4   "data_source_id": 3,
5   "indicator_category_id": 3,
6   "tenant_id": "demo_tenant",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10  "timestamp": "2021-03-19T10:08:05Z",
11  "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12  "version": 2,
13  "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14  "occurrence_event_type": "Session.End",
15  "product": "XA.Receiver.Windows",
16  "client_ip": "103.xx.xxx.xxx",
17  "session_user_name": "user01",
18  "city": "Mumbai",
19  "country": "India",
20  "device_id": "5-Synthetic_device",
21  "os_name": "Windows NT 6.1",
22  "os_version": "7601",
23  "os_extra_info": "Service Pack 1",
24  "app_name": "notepad",
25  "launch_type": "Application",
26  "domain": "test_domain",
27  "server_name": "test_server",
28  "session_guid": "f466e318-9065-440c-84a2-eec49d978a96",
29 }
30
31
32 <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the session end event.

Field name	Description
app_name	Name of an application or desktop launched.
launch_type	Indicates either application or desktop.

Field name	Description
<code>domain</code>	The domain name of the server that sent the request.
<code>server_name</code>	Name of the server.
<code>session_guid</code>	The GUID of the active session.

#### Indicator event details schema for the app start event

```

1 {
2
3   "event_type": "indicatorEventDetails",
4   "data_source_id": 3,
5   "indicator_category_id": 3,
6   "tenant_id": "demo_tenant",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10  "timestamp": "2021-03-19T10:08:05Z",
11  "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12  "version": 2,
13  "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14  "occurrence_event_type": "App.Start",
15  "product": "XA.Receiver.Windows",
16  "client_ip": "103.xx.xxx.xxx",
17  "session_user_name": "user01",
18  "city": "Mumbai",
19  "country": "India",
20  "device_id": "5-Synthetic_device",
21  "os_name": "Windows NT 6.1",
22  "os_version": "7601",
23  "os_extra_info": "Service Pack 1",
24  "app_name": "notepad",
25  "launch_type": "Application",
26  "domain": "test_domain",
27  "server_name": "test_server",
28  "session_guid": "f466e318-9065-440c-84a2-eec49d978a96",
29  "module_file_path": "/root/folder1/folder2/folder3"
30 }
31
32
33 <!--NeedCopy-->

```

The following table describes the field names specific to the event details schema for the app start event.

Field name	Description
<code>app_name</code>	Name of an application or desktop launched.

Field name	Description
launch_type	Indicates either application or desktop.
domain	The domain name of the server that sent the request.
server_name	Name of the server.
session_guid	The GUID of the active session.
module_file_path	The path of the application that is being used.

#### Indicator event details schema for the app end event

```

1  {
2
3    "event_type": "indicatorEventDetails",
4    "data_source_id": 3,
5    "indicator_category_id": 3,
6    "tenant_id": "demo_tenant",
7    "entity_id": "demo_user",
8    "entity_type": "user",
9    "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10   "timestamp": "2021-03-19T10:08:05Z",
11   "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12   "version": 2,
13   "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14   "occurrence_event_type": "App.End",
15   "product": "XA.Receiver.Windows",
16   "client_ip": "103.xx.xxx.xxx",
17   "session_user_name": "user01",
18   "city": "Mumbai",
19   "country": "India",
20   "device_id": "5-Synthetic_device",
21   "os_name": "Windows NT 6.1",
22   "os_version": "7601",
23   "os_extra_info": "Service Pack 1",
24   "app_name": "notepad",
25   "launch_type": "Application",
26   "domain": "test_domain",
27   "server_name": "test_server",
28   "session_guid": "f466e318-9065-440c-84a2-eec49d978a96",
29   "module_file_path": "/root/folder1/folder2/folder3"
30 }
31
32
33 <!--NeedCopy-->

```

The following table describes the field names specific to the event details schema for the app end event.

Field name	Description
app_name	Name of an application or desktop launched.
launch_type	Indicates either application or desktop.
domain	The domain name of the server that sent the request.
server_name	Name of the server.
session_guid	The GUID of the active session.
module_file_path	The path of the application that is being used.

**Indicator event details schema for the file download event**

```
1 {
2
3   "event_type": "indicatorEventDetails",
4   "data_source_id": 3,
5   "indicator_category_id": 3,
6   "tenant_id": "demo_tenant",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10  "timestamp": "2021-03-19T10:08:05Z",
11  "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12  "version": 2,
13  "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14  "occurrence_event_type": "File.Download",
15  "product": "XA.Receiver.Windows",
16  "client_ip": "103.xx.xxx.xxx",
17  "session_user_name": "user01",
18  "city": "Mumbai",
19  "country": "India",
20  "device_id": "5-Synthetic_device",
21  "os_name": "Windows NT 6.1",
22  "os_version": "7601",
23  "os_extra_info": "Service Pack 1",
24  "file_download_file_name": "File5.txt",
25  "file_download_file_path": "/root/folder1/folder2/folder3",
26  "file_size_in_bytes": 278,
27  "launch_type": "Desktop",
28  "domain": "test_domain",
29  "server_name": "test_server",
30  "session_guid": "f466e318-9065-440c-84a2-eec49d978a96",
31  "device_type": "USB"
32 }
33
34
35 <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the file download event.

Field name	Description
file_download_file_name	Name of the download file.
file_download_file_path	The destination path where the file is downloaded.
launch_type	Indicates either application or desktop.
domain	The domain name of the server that sent the request.
server_name	Name of the server.
session_guid	The GUID of the active session.
device_type	Indicates the type of the device where the file is downloaded.

**Indicator event details schema for the printing event**

```
1 {
2
3   "event_type": "indicatorEventDetails",
4   "data_source_id": 3,
5   "indicator_category_id": 3,
6   "tenant_id": "demo_tenant",
7   "entity_id": "demo_user",
8   "entity_type": "user",
9   "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10  "timestamp": "2021-03-19T10:08:05Z",
11  "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12  "version": 2,
13  "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14  "occurrence_event_type": "Printing",
15  "product": "XA.Receiver.Windows",
16  "client_ip": "103.xx.xxx.xxx",
17  "session_user_name": "user01",
18  "city": "Mumbai",
19  "country": "India",
20  "device_id": "5-Synthetic_device",
21  "os_name": "Windows NT 6.1",
22  "os_version": "7601",
23  "os_extra_info": "Service Pack 1",
24  "printer_name": "Test-printer",
25  "launch_type": "Desktop",
26  "domain": "test_domain",
27  "server_name": "test_server",
28  "session_guid": "f466e318-9065-440c-84a2-eec49d978a96",
29  "job_details_size_in_bytes": 454,
30  "job_details_filename": "file1.pdf",
```

```

31  "job_details_format": "PDF"
32  }
33
34
35  <!--NeedCopy-->

```

The following table describes the field names specific to the event details schema for the printing event.

Field name	Description
printer_name	Name of the printer used for the printing job.
launch_type	Indicates either application or desktop.
domain	The domain name of the server that sent the request.
server_name	Name of the server.
session_guid	The GUID of the active session.
job_details_size_in_bytes	The size of the printed job such as file or folder.
job_details_filename	Name of the printed file.
job_details_format	The format of the printed job.

#### Indicator event details schema for the app SaaS launch event

```

1  {
2
3    "event_type": "indicatorEventDetails",
4    "data_source_id": 3,
5    "indicator_category_id": 3,
6    "tenant_id": "demo_tenant",
7    "entity_id": "demo_user",
8    "entity_type": "user",
9    "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10   "timestamp": "2021-03-19T10:08:05Z",
11   "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12   "version": 2,
13   "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14   "occurrence_event_type": "App.SaaS.Launch",
15   "product": "XA.Receiver.Windows",
16   "client_ip": "103.xx.xxx.xxx",
17   "session_user_name": "user01",
18   "city": "Mumbai",
19   "country": "India",
20   "device_id": "5-Synthetic_device",
21   "os_name": "Windows NT 6.1",
22   "os_version": "7601",
23   "os_extra_info": "Service Pack 1",
24   "launch_type": "Desktop",

```

```
25  }
26
27
28  <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the app SaaS launch event.

Field name	Description
launch_type	Indicates either application or desktop.

**Indicator event details schema for the app SaaS end event**

```
1  {
2
3    "event_type": "indicatorEventDetails",
4    "data_source_id": 3,
5    "indicator_category_id": 3,
6    "tenant_id": "demo_tenant",
7    "entity_id": "demo_user",
8    "entity_type": "user",
9    "indicator_id": "9033b2f6a8914a9282937b35ce497bcf",
10   "timestamp": "2021-03-19T10:08:05Z",
11   "indicator_uuid": "e0abfcb4-fd41-4612-ad59-ef7567508ac0",
12   "version": 2,
13   "event_id": "8fc3dd5e-d049-448a-ab70-0fc4d554e41e",
14   "occurrence_event_type": "App.SaaS.End",
15   "product": "XA.Receiver.Windows",
16   "client_ip": "103.xx.xxx.xxx",
17   "session_user_name": "user01",
18   "city": "Mumbai",
19   "country": "India",
20   "device_id": "5-Synthetic_device",
21   "os_name": "Windows NT 6.1",
22   "os_version": "7601",
23   "os_extra_info": "Service Pack 1",
24   "launch_type": "Desktop",
25  }
26
27
28  <!--NeedCopy-->
```

The following table describes the field names specific to the event details schema for the app SaaS end event.

Field name	Description
launch_type	Indicates either application or desktop.

## Data source events

Additionally, you can configure the Data exports feature to export user events from your Citrix Analytics for Security enabled product data sources. When you perform any activity in the Citrix environment, the data source events are generated. The exported events are unprocessed real-time user and product usage data as available in the self-service view. The metadata contained in these events can further be used for deeper threat analysis, creating new dashboards, and co-related with other non-Citrix data source events across your security and IT infra.

Currently, Citrix Analytics for Security sends user events to your SIEM for the Citrix Virtual Apps and Desktops data source.

## Schema details of the data source events

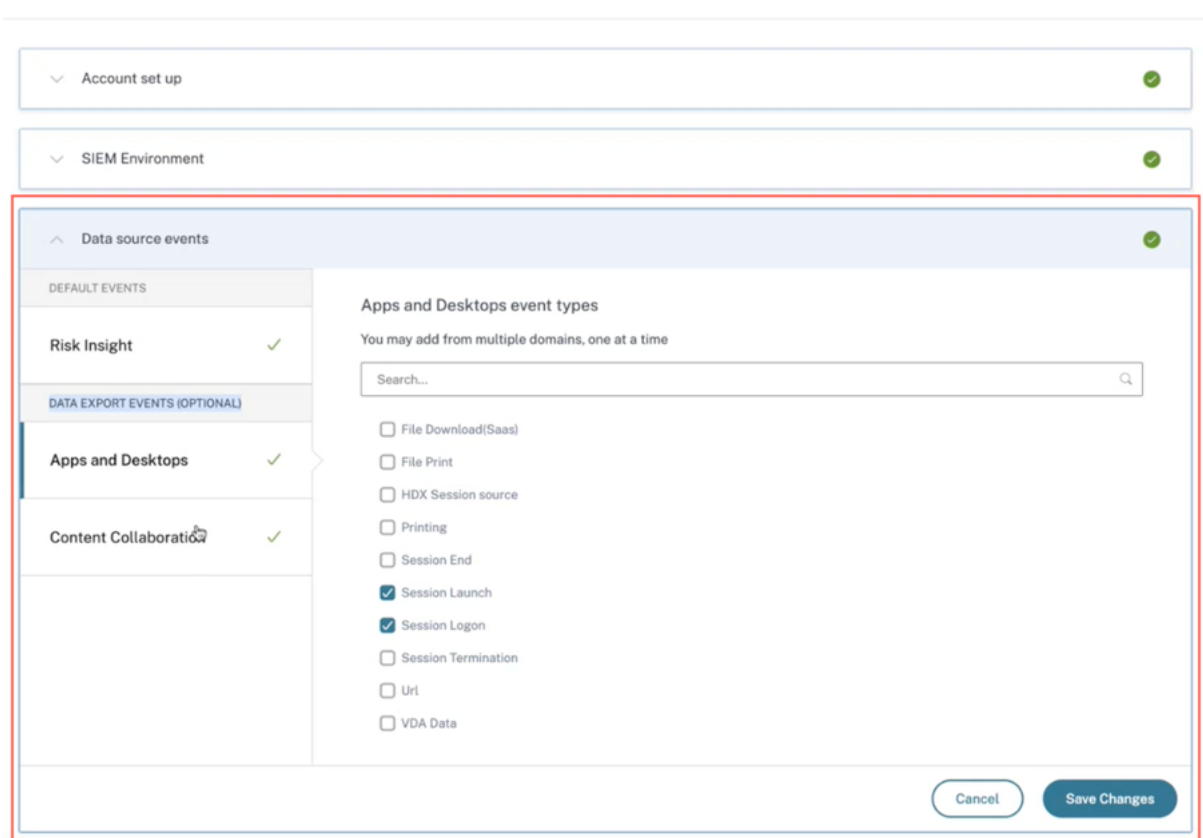
### Citrix Virtual Apps and Desktops events

The user events are received in real-time in Citrix Analytics for Security when users use virtual apps or virtual desktops. For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#). You can view the following user events associated with Citrix Virtual Apps and Desktops in your SIEM:

- All event types
- Account logon
- App (start, launch, end)
- Clipboard
- File (print, download)
- File download (SaaS)
- HDX session source
- Printing
- Session (logon, launch, end, termination)
- Url
- VDA data
- VDA process creation

For more information about the events and their attributes, see [Self-service search for Virtual Apps and Desktops](#).

You can review what event types are enabled and flowing to SIEM. You can configure or remove the event type that is applicable for a tenant and click the **Save Changes** button to save your settings.



## Leveraging Citrix Analytics SIEM Data Model for Threat Analysis and Data Correlation

May 4, 2023

This article explains the entity data relationship that's exhibited by the events sent to a customer's SIEM environment. To elucidate this, let's take an example of a threat hunting scenario where the attributes - client IP and OS are the focal points. The following ways to correlate the said attributes to the user will be discussed:

- Using custom risk indicator insights
- Using data source events

Splunk is the SIEM environment chosen to be showcased in the following example. Similar data correlation can also be performed on Sentinel using workbook template by Citrix Analytics. To explore this further, refer [Citrix Analytics workbook for Microsoft Sentinel](#).

## Custom Risk Indicator Insights

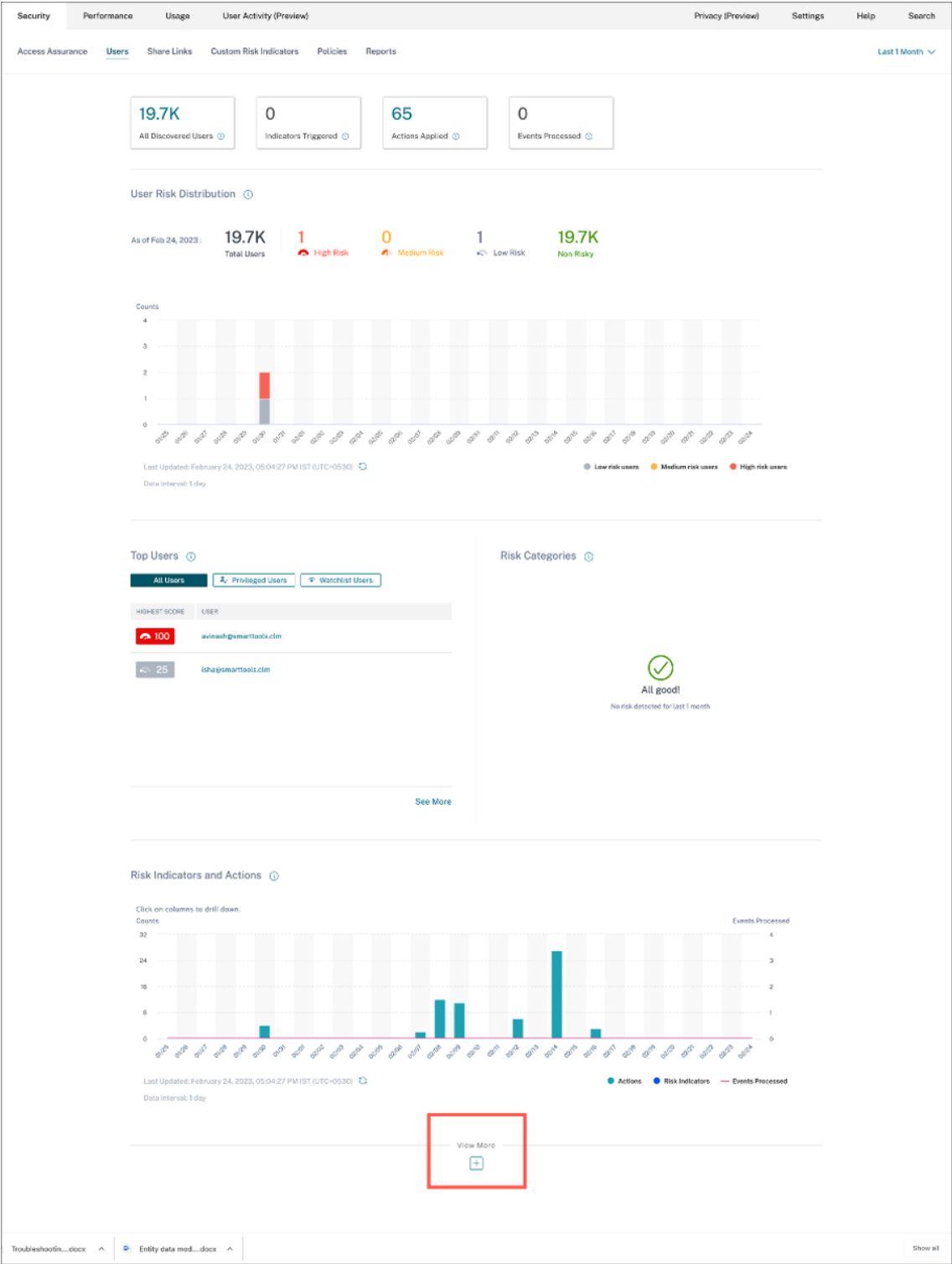
As mentioned in [Citrix Analytics data exports format for SIEM](#), indicator summary and event details insights are part of the default risk insights data set. For Citrix Virtual Apps and Desktops indicator dataset, client IP and OS get exported by default. Hence, if an administrator sets up a custom indicator with or without the condition including these fields, the said data points would flow into your Splunk environment.

### Setting Custom Risk Indicator In Citrix Analytics

1. Navigate to **Citrix Analytics for Security dashboard > Custom Risk Indicators > Create Indicator**. You can create a custom risk indicator with any condition that assists you in monitoring the user's behavior. After you have set up the custom indicator, all the users who trigger the associated condition are visible in your Splunk environment.

The screenshot shows the 'Modify Risk Indicator' configuration page. At the top, there are tabs for 'Security', 'Performance', 'Compliance', 'Settings', 'Help', and 'Search'. Below the tabs, the page title is 'Modify Risk Indicator'. A progress bar indicates three steps: 1. Select template (completed), 2. Configure indicator (current step), and 3. Name and description. The main configuration area includes a dropdown menu for 'Apps and Desktops' and a text box containing the condition 'User-Name IS NOT EMPTY AND Event-Type = Session.Login'. Below this, there is an 'Advanced Options' section with four radio button options: 'Every time: Generate the risk indicator every time the event(s) occur.' (selected), 'First time: Generate the risk indicator when the event(s) occur for the first time.', 'Excessive: Generate the risk indicator when the event(s) occur [time(s) in [day(s)]', and 'Frequent: Generate the risk indicator when the event(s) occur [time(s) in [day(s)] and it repeats [time(s)]'.

2. To view the created risk indicator occurrences on the Citrix Analytics for Security, navigate to **Security > Users**. **Navigate to the bottom of the page and click the plus (+) icon.**








The Risk Indicators card appears. You can view the details of Risk Indicator, severity, and occurrence.

Risk Indicators ⓘ

Severity

Total Occurrences

SEVERITY	OCCURRENC...	TYPE	NAME
 High	200	Custom	Category-Group Not Compu...
 High	107	Custom	Action IS NOT EMPTY
 High	7	Custom	Client_IP-FirstTime-SF
 High	6	Custom	Event-Type = Share.Create
 High	5	Custom	Event-Type = File.Download

See More


3. Click **See More**. The Risk Indicator **Overview** page appears.


Security Performance Compliance Settings Help Search


← Risk Indicator Overview

Last 1 Month ▾











219  
Total Occurrences

127  
 High Risk Occurrences

60  
 Medium Risk Occurrences

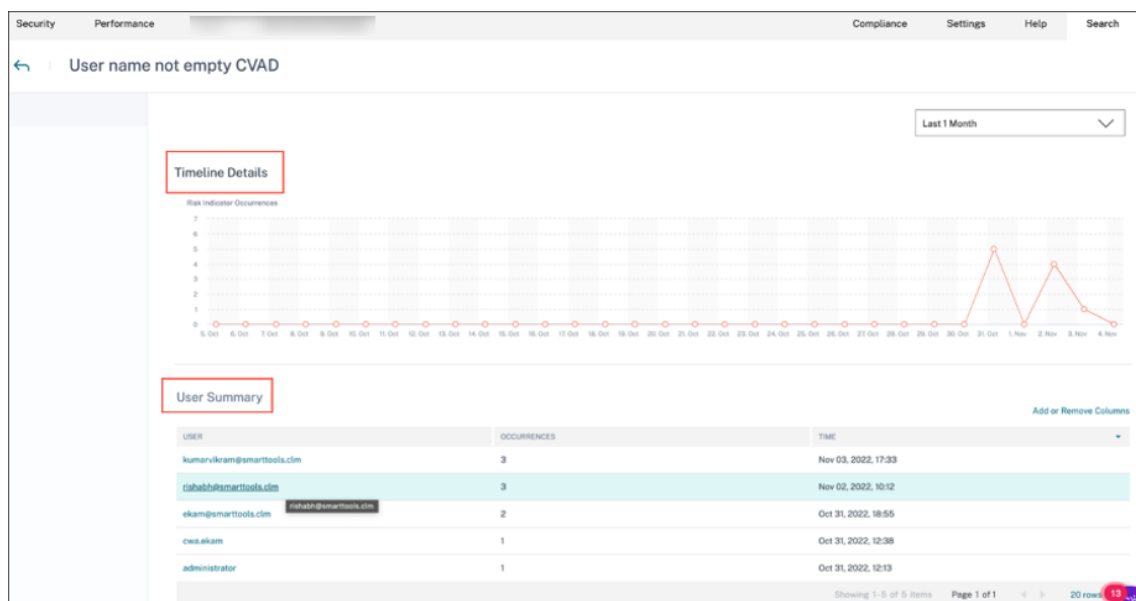
32  
 Low Risk Occurrences

27 Risk Indicators

NAME	SEVERITY	DATA SOURCE	TYPE	OCCURRENCES	LAST OCCURRENCE
ekam@smarttools.com CVAID CI	 High	Apps and Desktops	Custom	33	Oct 31, 2022, 18:55
Event-Type = Share.Create	 High	Content Collaboration	Custom	31	Oct 27, 2022, 10:46
Reputation not= Clean Access AND Reputation not= Unknown Access	 High	Secure Private Access	Custom	28	Oct 26, 2022, 17:25
CVAID - First time access from new device	 Medium	Apps and Desktops	Custom	13	Nov 02, 2022, 11:35
CVAID - Session started outside of geofence	 Medium	Apps and Desktops	Custom	13	Nov 02, 2022, 10:12
Attempt to access blacklisted URL	 Low	Secure Private Access	Default	13	Oct 27, 2022, 10:29
Username not empty	 High	Gateway	Custom	10	Oct 27, 2022, 17:20
User name not empty CVAID	 Low	Apps and Desktops	Custom	10	Nov 03, 2022, 17:33
CVAID - Session started inside of geofence	 Medium	Apps and Desktops	Custom	8	Nov 02, 2022, 10:12
ows.akam CVAID CI	 High	Apps and Desktops	Custom	7	Oct 31, 2022, 12:38

Showing 1 - 10 of 27 items Page 1 of 3 10 rows ▾

In the Risk Indicator Overview page, you can view the user’s details who have triggered the indicator with a detailed timeline view and user summary. To understand more about the timeline, see [User risk timeline and profile](#).



### Risk Indicator Occurrences on Splunk - Raw Queries

You can also get the client IP and OS information by using the index and source type that was used by the Splunk infrastructure administrator while setting up the data input on Splunk Enterprise for Citrix Analytics for Security Add-on.

1. Navigate to **Splunk > New Search**. In the search query, enter and run the following query:

```
1 index=<index configured by you> sourcetype=<sourcetype configured
  by you> AND "<tenant_id>" AND "<indicator name configured by
  you on CAS>" AND "<user you are interested in>"
2
3 <!--NeedCopy-->
```

The screenshot shows the Splunk Cloud interface with a search query: `index=dig_cas_testing sourcetype=cas_siem_consumer "pbxfuetyj9k" AND "User name not empty CVD" AND "rishabh@martools.cle"`. The results show 4 events. The first event is expanded, showing fields like `data_source_id`, `entity_id`, `event_type`, `indicator_category`, `indicator_id`, `indicator_name`, `indicator_type`, `indicator_uuid`, `occurrence_details`, `pre_configured`, `risk_probability`, `severity`, `tenant_id`, `tenant_ip`, `timestamp`, `url`, `version`, and `host`.

2. Pick up the `indicator_uuid` and run the following query:

```
1 index=<index configured by you> sourcetype=<sourcetype configured by you> "<tenant_id>" AND "<indicator_uuid>"
2
3 <!--NeedCopy-->
```

The screenshot shows the Splunk Cloud interface with a search query: `index=dig_cas_testing sourcetype=cas_siem_consumer "pbxfuetyj9k" AND "87ad67c8-46c4-4af4-a876-d3695a28781"`. The results show 2 events. The first event is expanded, showing fields like `app_name`, `cas_consumer_debug_details`, `city`, `client_ip`, `country`, `data_source_id`, `device_id`, `domain`, `entity_id`, `entity_type`, `event_id`, `event_type`, `indicator_category_id`, `indicator_id`, `indicator_uuid`, `launch_type`, `occurrence_event_type`, `os_extra_info`, `os_name`, `os_version`, `product`, `product_version`, `server_name`, `tenant_id`, `tenant_ip`, `timestamp`, and `version`. The `indicator_uuid` field is highlighted in red.

The event result contains the **Indicator Event Summary** and **Indicator Event Details** (the activity that is triggered by your indicator). The event detail contains the **Client IP** and **OS information** (name, version, extra information).


To understand more about the data format, refer [Citrix Analytics data exports format for SIEM](#).

## Risk Indicator Occurrences on Splunk - Dashboarding App

Refer the following articles for guidance on how to install Citrix Analytics App for Splunk:

- [Citrix Analytics App for Splunk](#)
- [Citrix Analytics dashboards for Splunk](#)

1. Click **Citrix Analytics –Dashboard** tab and select the **Risk Indicator Details** option from the drop-down list.

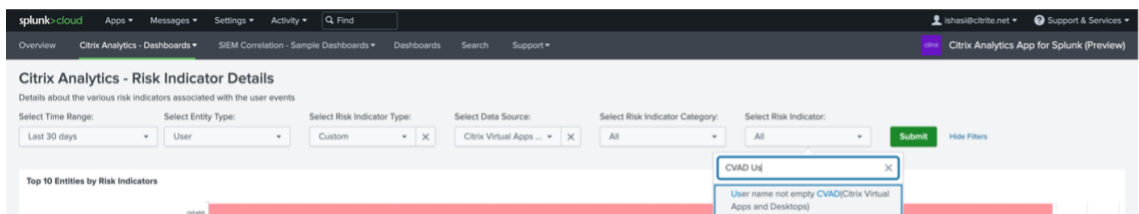


### Citrix Analytics - Risk Indicator Details

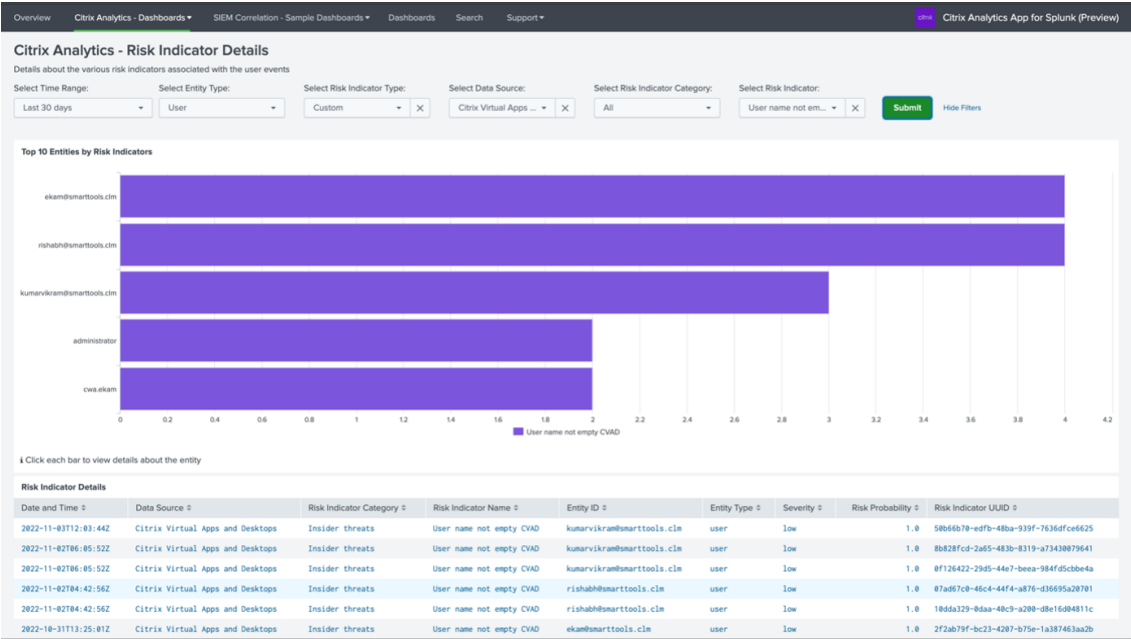
The Risk Indicator Details Dashboard provides deep insights into potentially risky behavior. Citrix Analytics for Security captures events like device use with blacklisted apps, excessive file downloads, ransomware activity, and more. With this dashboard you will be able to

- Identify and filter risks by:
  - **data source:** Citrix Workspace services feeding data into Citrix Analytics for Security
  - **risk category:** Citrix Analytics for Security classifies risk into categories like insider threats, compromised users, and data exfiltration
  - **indicator name:** see the specific events creating risk
- Review the top 10 entities with the highest risk levels and associated entity details dashboard
- Review all risk indicators in chronological order and associated event details e.g. from where an unusual location access is coming
- Search for similar occurrences e.g. device/ip/users within other Splunk logs of the customer (e.g. network logs, exchange logs, ...)

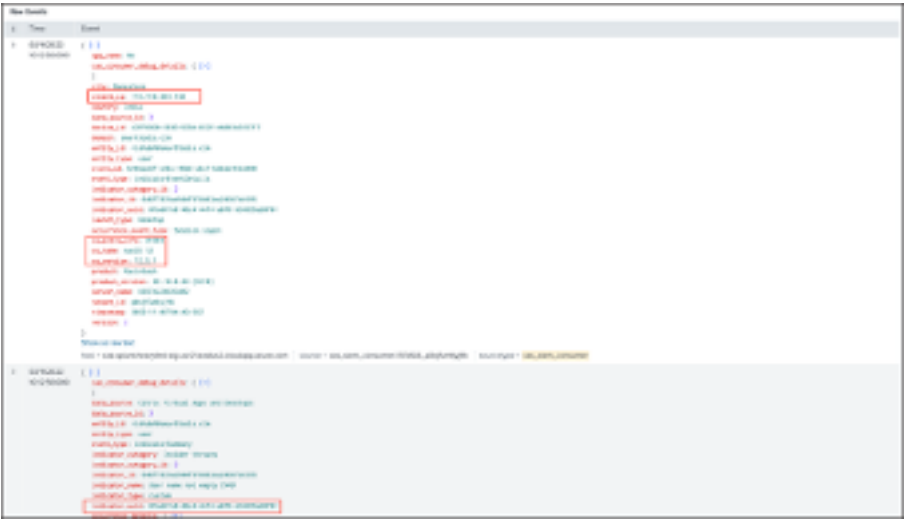
2. Filter the content appropriately from the drop-down list and click **Submit**.



3. Click the user instance to get the details.



4. You can view the **Client IP** and **OS information** (name, version, extra information) at the bottom of this page:

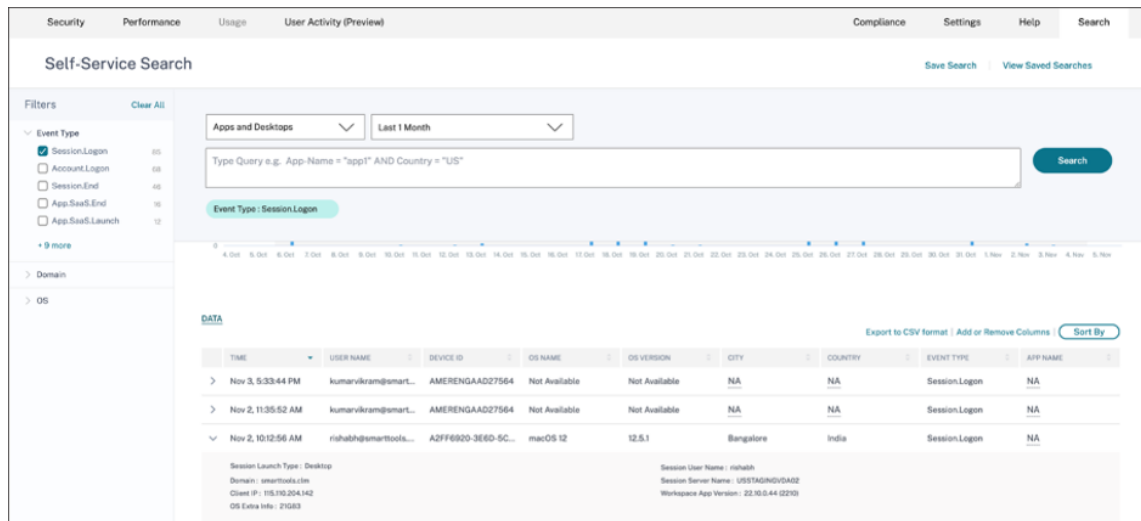


### Data source events

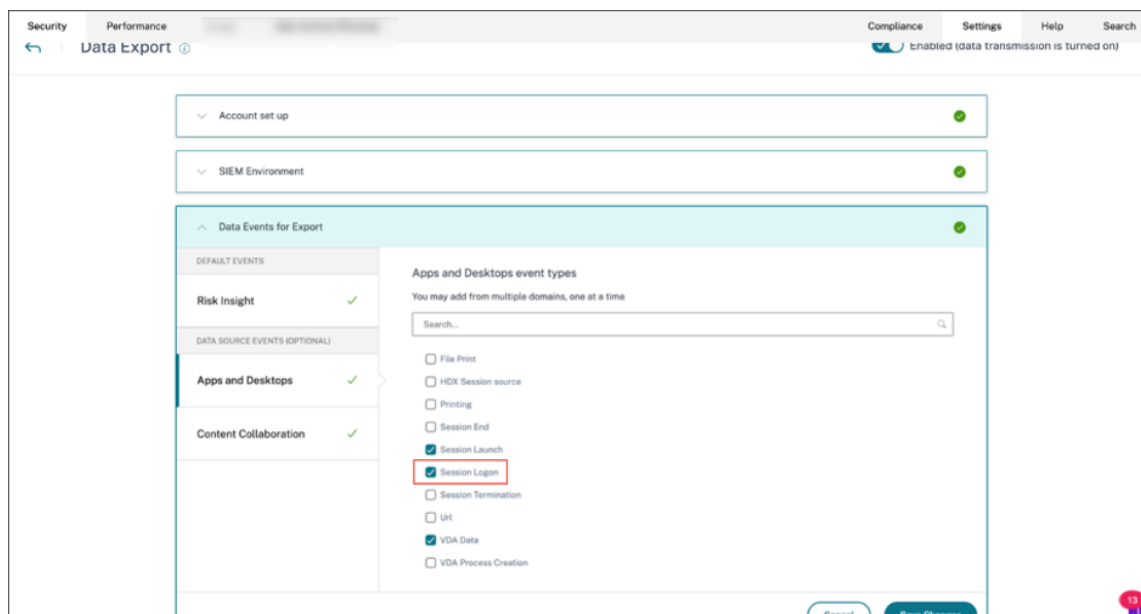
Another method to get the Client IP and OS details in your Splunk environment is by configuring Data source events for export. This capability lets events present in the Self-Service Search view flow directly into your Splunk environment. For more information on how to configure event types for Virtual Apps and Desktops to be exported to SIEM, refer the following articles:

- [Data events exported from Citrix Analytics for Security to your SIEM service.](#)
- [Data source events](#)

1. Navigate to **Citrix Analytic for Security dashboard > Search**. In this Self-Service Search page, all the event types and its related information are available. You can see the **Session.Logon** event type as an example in the following screenshot:



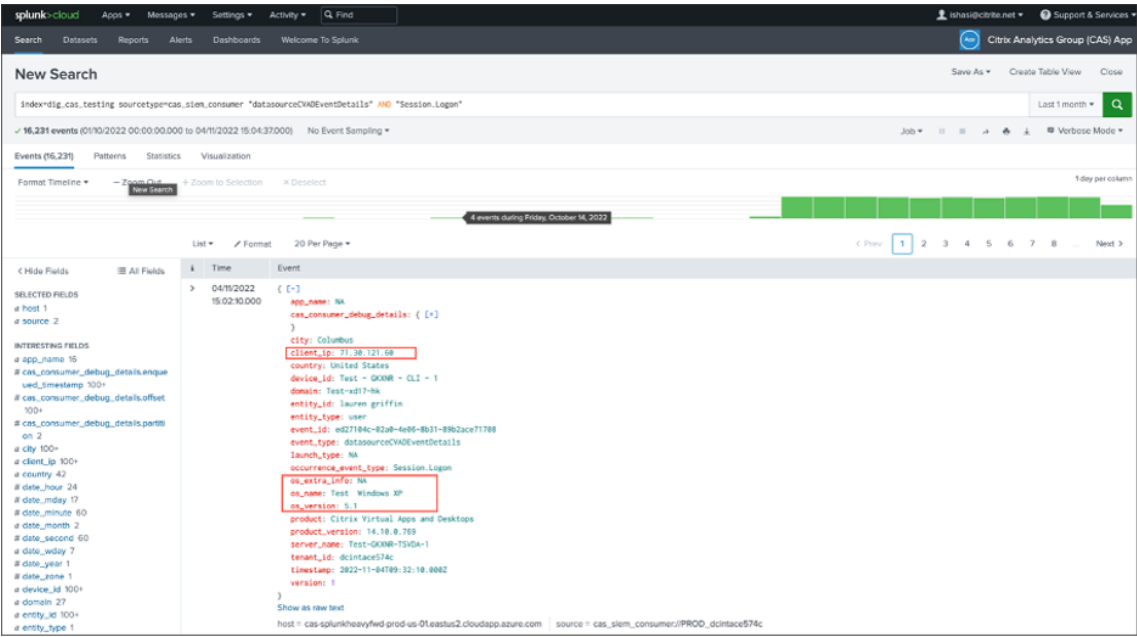
2. Configure **Session.Logon** in Data source events for Export and hit **Save** to let it flow into your Splunk environment.



3. Go to Splunk then enter and run the following query:

```
1 index="<index you configured>" sourcetype="<sourcetype you configured>" "<tenant_id>" AND "datasourceCVADEventDetails" AND
2 "Session.Logon" AND "<user you 're interested in>"
3 <!--NeedCopy-->
```

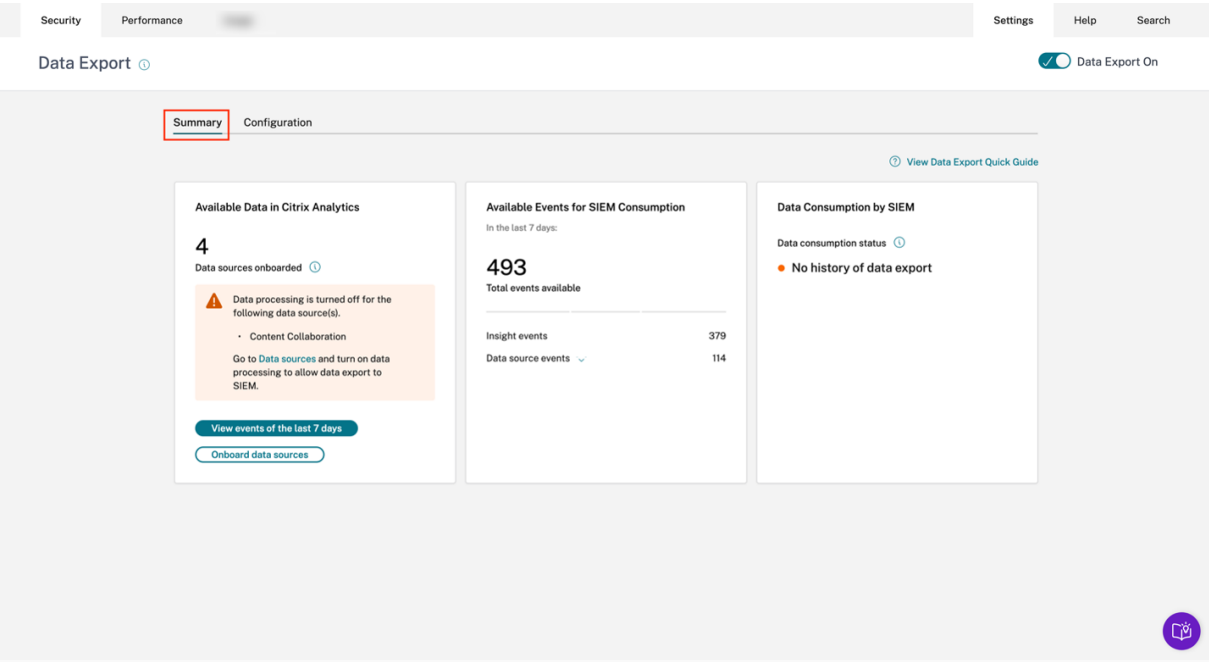
The fields pertaining to Client IP and OS are highlighted.



## Troubleshooting Data Exports

December 1, 2023

The Data Exports for Security view includes a **Summary** tab to help administrators troubleshoot their SIEM integration with Citrix Analytics. The **Summary** dashboard provides visibility into the health and flow of data by taking them through the checkpoints that aid the troubleshooting process.

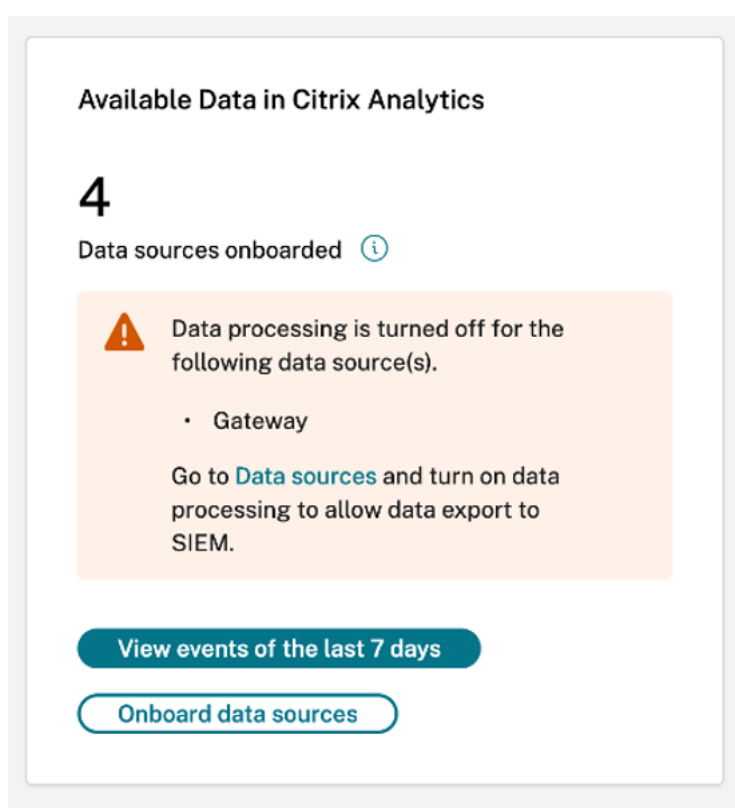


## Summary tab

The **Summary** tab forms the foundation of the self-service troubleshooting workflow in the Data Exports view. It describes your SIEM setup by using these three cards:

- **Available Data in Citrix Analytics:** This card shows the state of your data source configurations.
- **Available Events for SIEM Consumption:** This card displays the number of events that are ready to be consumed by your SIEM environment.
- **Data Consumption by SIEM:** This card displays the state of data flow in your SIEM environment.

### Available data in Citrix Analytics

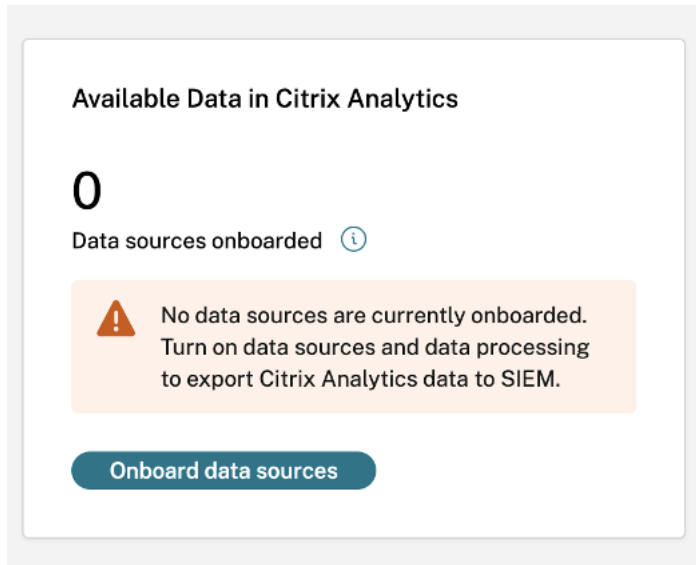


The **Available Data in Citrix Analytics** card shows the number of data sources that can eventually contribute to SIEM insights that have been onboarded to Citrix Analytics for Security. Three data sources are supported for data exports currently –Apps and Desktops, Gateway, and Secure Private Access. Even if these data sources have been onboarded, data export will not function for the data sources that have their data processing turned off. An appropriate warning message such as the one depicted in the image above is shown when such data sources are detected.

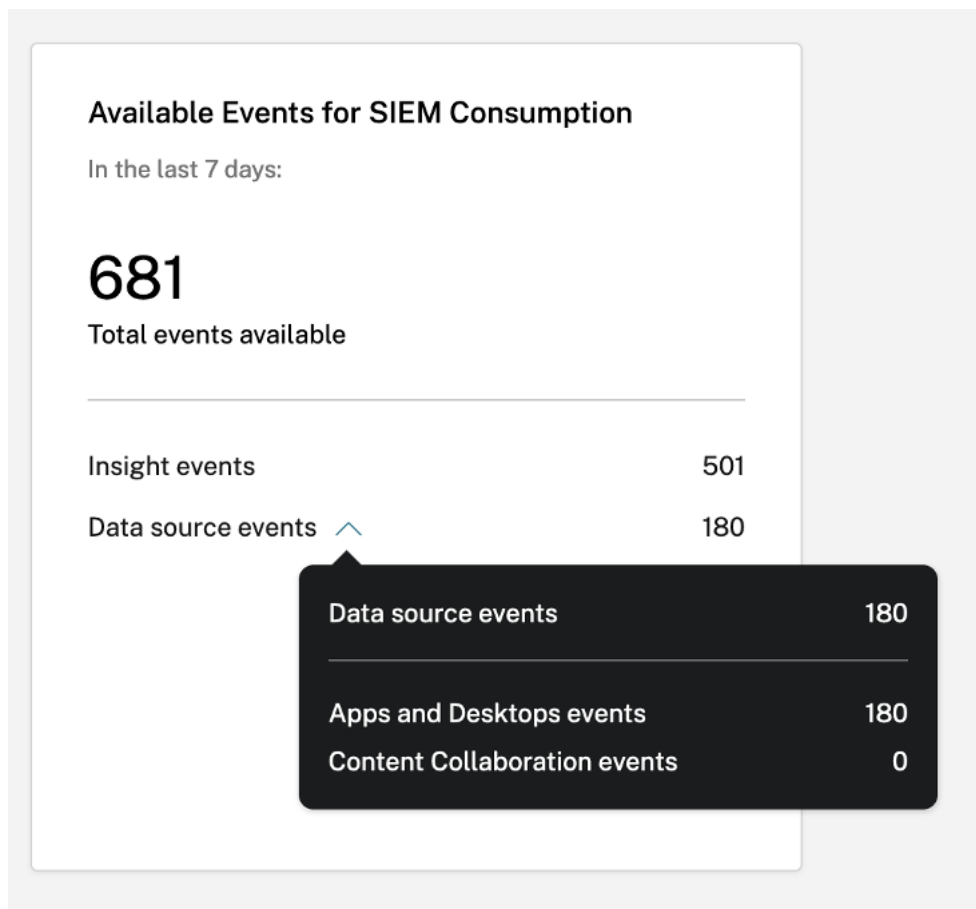
The **View events of the last 7 days** button redirects the administrator to the Self-Service Search view, through which administrators can verify that events have flowed into Citrix Analytics for Security. The

**Onboard data sources** button redirects to the Data Sources view where you can be walked through the onboarding process in depth.

If there are no onboarded data sources, an appropriate warning message is displayed as shown in the following screenshot:



## Available events for SIEM consumption



The **Available Events for SIEM Consumption** card displays the number of Insight and Data source events along with their breakdown that are expected to flow into your SIEM environment. Upon expanding, a further breakdown of each type of data event for export is also available.

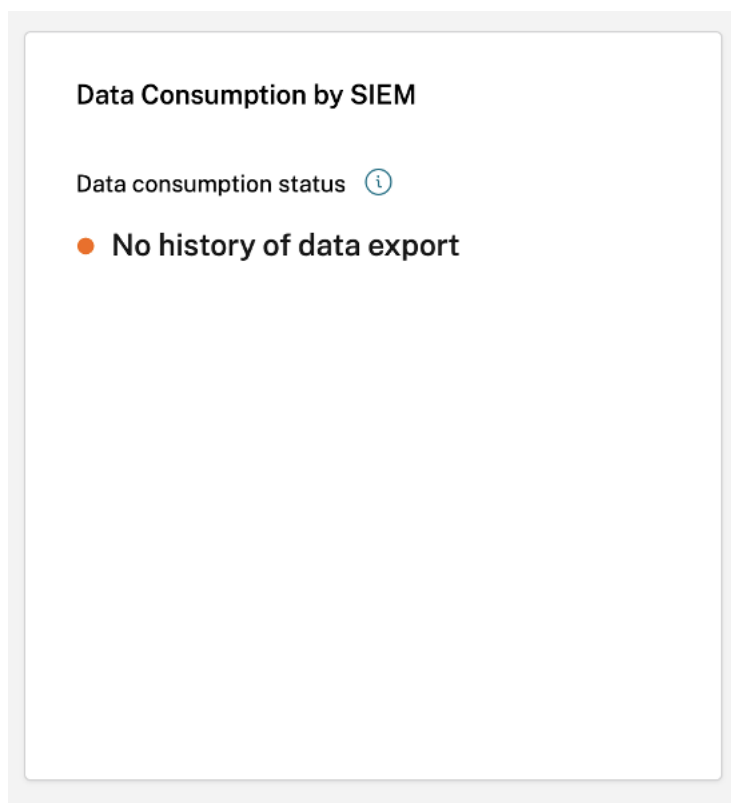
## Data consumption by SIEM

The **Data Consumption by SIEM** card depicts the health of the flow of data prepared by Citrix Analytics into your SIEM environment. The data consumption status is based on the offset movement within your **Kafka** topic. When available, the card also shows the timestamp of when successful data consumption was last detected. Both the data consumption status and the timestamp are refreshed every 10 minutes. Click [here](#) to learn more about Kafka consumer group/offset management.

The data consumption status can take on the following states:

### 1. Inactive Consumption

- **No history of data export:** This state is represented by an orange dot to indicate that no data prepared by Citrix Analytics has ever flown successfully into your SIEM environment.



This can be due to -

- Incorrect/Incomplete data source configuration. The **Available Data in Citrix Analytics** card can be used to verify if there are enough data sources, and if they have their data processing turned on to allow for export.
- Lack of user activity. The **View events in the last 7 days** button in the **Available Data in Citrix Analytics** card can be used to verify the absence of user activity. Further, the **Available Events for SIEM Consumption** card can be used to verify if there are any Insight or Data source events readied by Citrix Analytics to flow into your SIEM.
- Incorrect/Incomplete SIEM setup. Verify that the Account Setup stage in the **Configuration** tab has been completed successfully. A green tick mark is visible in the Account Setup stage if the setup is complete.

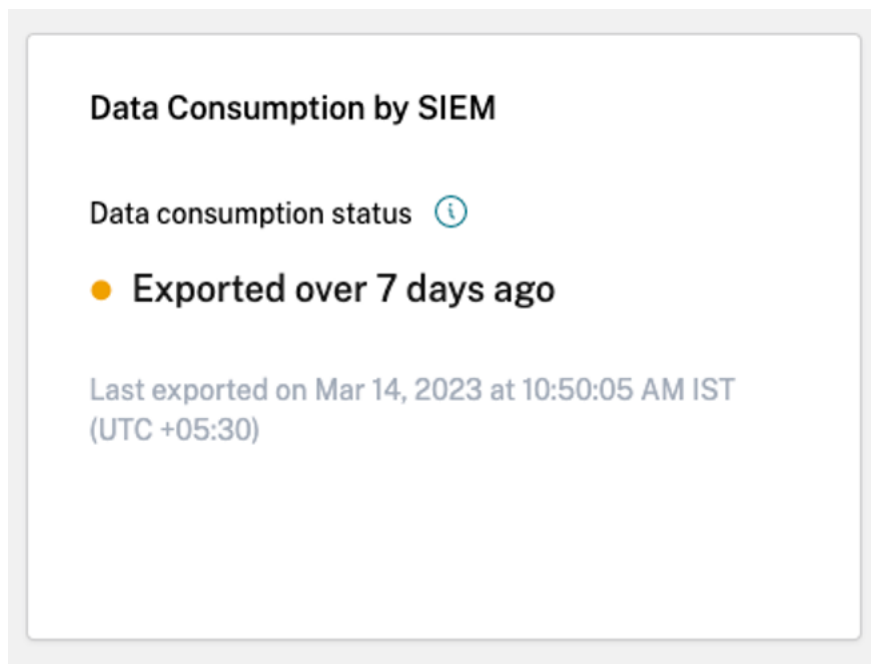
If the state does not change even after a successful account setup, troubleshoot further by checking for:

- ★ Firewall issues or misconfigured SIEM settings –refer [Setting up SIEM environment](#).
  - ★ Credential issues with Kafka account setup or your SIEM environment –refer [SIEM integration using Kafka](#).
- **No active consumption detected:** This state indicates that at least in the past 10 minutes,

data has not flown successfully into your SIEM environment. The card will also display the timestamp of the last successful movement of data. As with **No history of data export**, you can troubleshoot this by using the **Available Data in Citrix Analytics** and **Available Events for SIEM Consumption** cards. If there is sufficient user activity along with the available events count increasing, it would be a good idea to focus on the last successful timestamp to check if any firewall changes or password rotations happened after the said timestamp.



- **Exported over 7 days ago:** This state indicates that active consumption on your SIEM was last detected over a week ago. Similar to the above two states, use the **Available Data in Citrix Analytics** and **Available Events for SIEM Consumption** cards to troubleshoot your SIEM setup if this is the detected data consumption state.

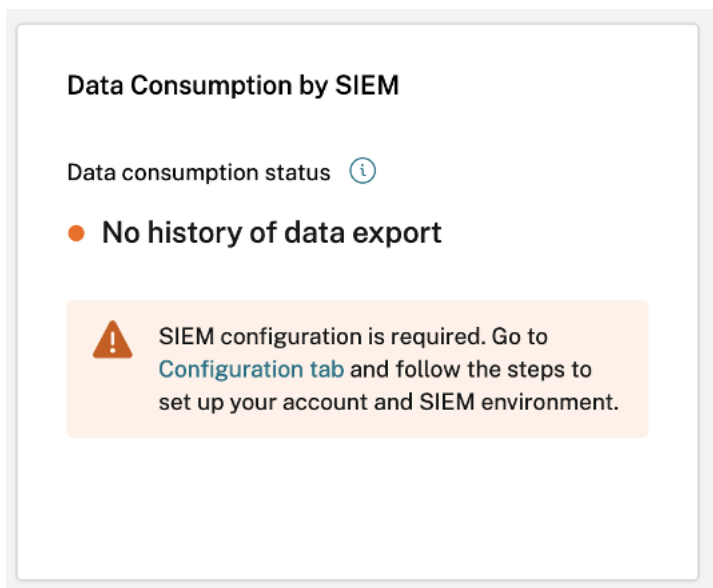


**Note**

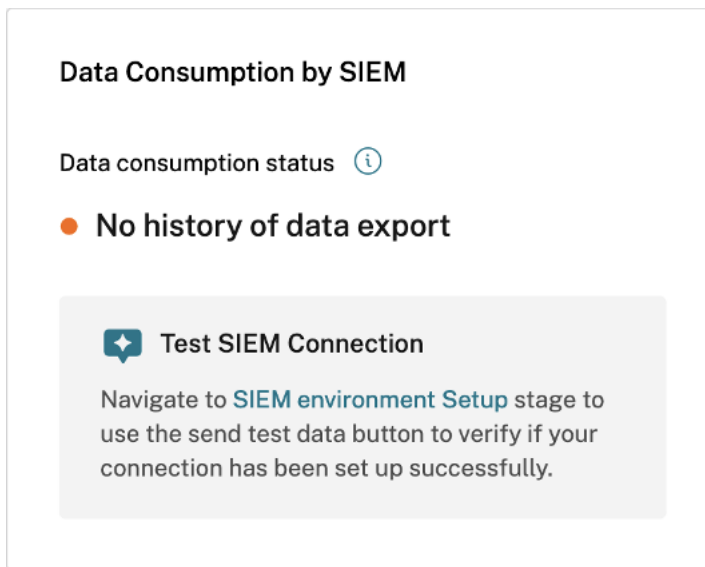
**Kafka Retention Policy:** Citrix Analytics Kafka topics retain events for a maximum of 7 days only. To avoid or prevent potential data loss, it is recommended to set up a data poll interval that does not exceed 7 days.

In inactive consumption, you can view the following warning messages to help you navigate through the troubleshooting process.

As highlighted in the **No history of Data Export** case, if the SIEM setup is not completed, no data ever flows into the SIEM Environment. Hence, the user is redirected to the **Configuration** tab to complete the account setup, as shown in the following screenshot:



If the SIEM setup is completed, it can still be the case that data is not actively flowing as depicted in the **No Active Consumption Detected** or **Exported over 7 days ago** state. Hence, the user is urged to go to the **Test Event Generation** section to test the SIEM connection as highlighted in the following warning message.



## 2. Active Consumption

- **Active consumption detected:** This state indicates that active consumption has been detected on your SIEM.

### Data Consumption by SIEM

Data consumption status ⓘ

Active consumption detected

Last exported on Mar 14, 2023 at 10:50:05 AM IST (UTC +05:30)

Data Export Quick Guide

The **Summary** tab is supplemented with the **Data Export Quick Guide** blade to ease the deployment, management, and troubleshooting of your SIEM setups. In addition to providing a comprehensive guide to the Data Export for Security view, the Quick Guide also includes useful tips on how to set up and manage your SIEM environment by providing links to pertinent documentation.

SecurityPerformance

SettingsHelpSearch

Data Export ⓘData Export On

SummaryConfiguration

Available Data in Citrix Analytics

4

Data sources onboarded ⓘ

⚠ Data processing is turned off for the following data source(s).

Content Collaboration

Go to Data sources and turn on data processing to allow data export to SIEM.

View events of the last 7 days

Onboard data sources

Available Events for SIEM Consumption

In the last 7 days:

493

Total events available

Insight events379

Data source events ✓114

Data Consumption by SIEM

Data consumption status ⓘ

No history of data export

View Data Export Quick Guide ⓘ

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360

SecurityPerformance

SettingsHelpSearch

Data Export

SummaryConfiguration

Available Data in Citrix Analytics

4

Data sources onboarded

Data processing is turned off for the following data source(s).

Content Collaboration

Go to [Data sources](#) and turn on data processing to allow data export to SIEM.

View events of the last 7 days

Onboard data sources

Available Events for SIEM Consumption

In the last 7 days:

493

Total events available

Insight events

Data source events

Data Export Quick Guide

Configuration

Setting up your Security Information and Event Management (SIEM) integration

Perform the following steps to complete the SIEM environment set up:

SIEM configurations:

1. Set up your [SIEM export account](#)

2. Set up your [SIEM configuration and environment](#)

Manage data:

1. Onboard your [data sources](#) and ensure that the data processing is turned on

2. Configure the [data events for export](#)

To learn more about data exports, see [SIEM integration](#).

SIEM - Understanding and Troubleshooting

Available Data in Citrix Analytics

This section provides the number of data sources that are onboarded and reflects the sources enabled for all events. It is recommended to turn on the Apps and Desktops data sources along with the data processing enabled at minimum. The more data sources are turned on (recommend to have two or more), the richer your data set.

Once the data sources are onboarded, click "View events of last 7 days" to view all the events associated with the specified data sources over the last 7 days.

Available Events for SIEM Consumption

This section provides the total number of events available to be consumed for SIEM export. This contains the total number of events and breakdown between the number of insight events vs data source events available. Once you perform the following steps, you can view the available events that are ready for consumption.

Data consumption by SIEM

## Data Export Quick Guide



### Configuration

#### Setting up your Security Information and Event Management (SIEM) integration

Perform the following steps to complete the SIEM environment set up:

SIEM configurations:

1. Set up your [SIEM export account](#)
2. Set up your [SIEM configuration and environment](#)

Manage data:

1. Onboard your [data sources](#) and ensure that the data processing is turned on
2. Configure the [data events for export](#)

To learn more about data exports, see [SIEM integration](#) .

### SIEM - Understanding and Troubleshooting

#### Available Data in Citrix Analytics

This section provides the number of data sources that are onboarded and reflects the sources enabled for all events. It is recommended to turn on the Apps and Desktops data sources along with the data processing enabled at minimum. The more data sources are turned on (recommend to have two or more), the richer your data set.

Once the data sources are onboarded, click "View events of last 7 days" to view all the events associated with the specified data sources over the last 7 days.

#### Available Events for SIEM Consumption

This section provides the total number of events available to be consumed for SIEM export. This contains the total number of events and breakdown between the number of insight events vs data source events available. Once you perform the following steps, you can view the available events that are ready for consumption.

#### Data consumption by SIEM



There is also a **Test SIEM Connection** section in the Quick Guide Blade that redirects the user to the Test SIEM Connection stage within the SIEM Environment setup stage. This enables the user to investigate if the SIEM Integration is itself broken, thereby ruling out the possibility of problems with Citrix Analytics for Security processing the events. The user can then fix the SIEM connection to enable data flow.

## Data Export Quick Guide



potential data loss, it is recommended to setup a data poll interval that does not exceed 7 days.

### ● Active consumption detected

The active status reflects there is data actively being exported from Citrix Analytics to your SIEM environment within the last 7 days.

### ● No active consumption detected

When the status reflects this color indication, it means there has been no active consumption detected for any of the following reasons:

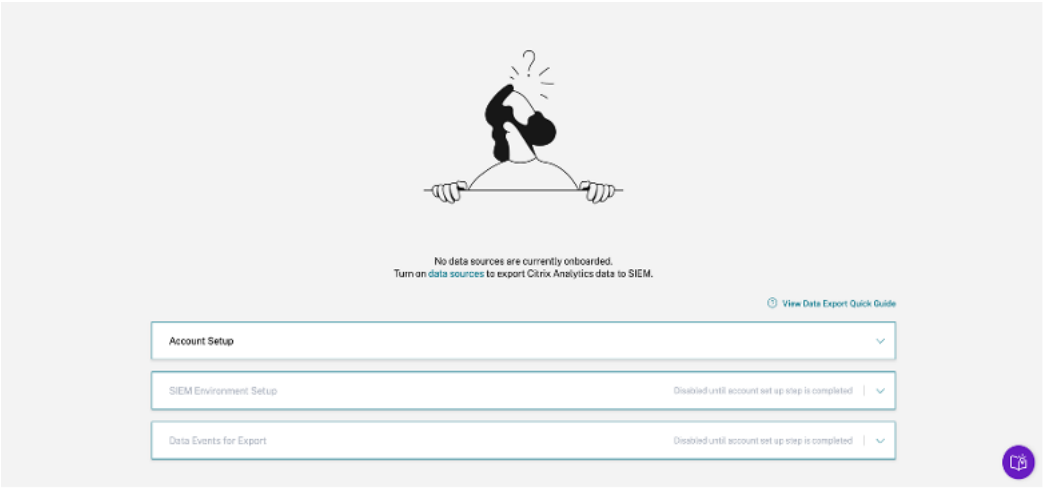
- **No active consumption detected:** Active consumption of events has stopped. This may be due to a drop in user activity, or changes in SIEM configuration or setup.
- **Exported over 7 days ago:** No data actively exported from Citrix Analytics to your SIEM in the past 7 days.
- **No history of data export:** Active consumption of events from Kafka topics has not occurred yet. This may be due to a lack of user activity, an incorrect SIEM configuration, or an incomplete setup.

### Test SIEM Connection

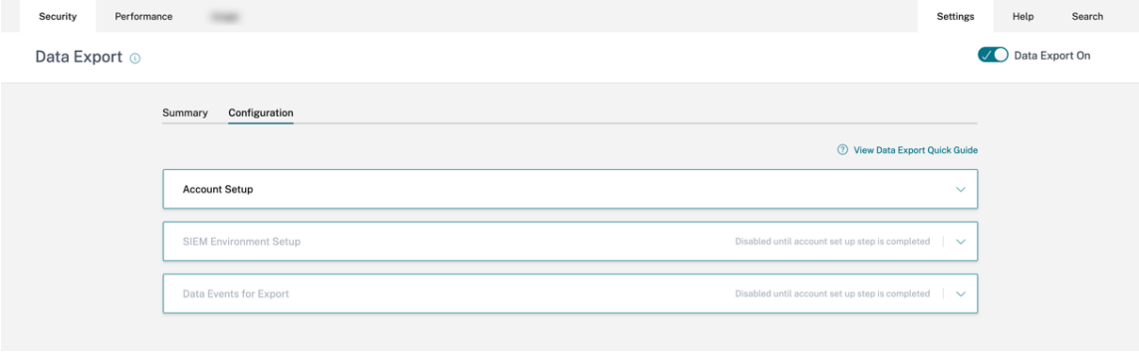
Navigate to SIEM environment setup stage and click Send test data button. This will send a dummy event from Citrix Analytics to verify if the connection is successful.

The **Configuration** tab, while guiding through deployment setup, also helps administrators with useful tips, warning messages, and common pitfalls while they set up their SIEM. Appropriate warnings are shown when:

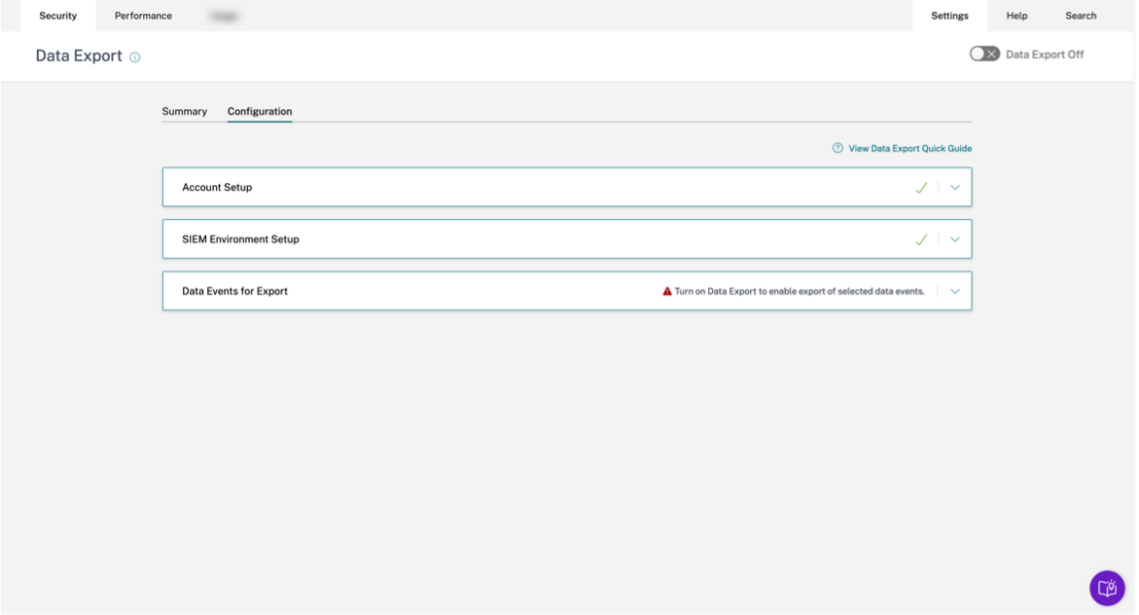
- Citrix Analytics detects that no data sources have been onboarded. It is recommended that Apps and Desktops is onboarded to collect telemetry based on user activity. In the absence of the onboarded data source, no data flow is observed, even though your SIEM setup might have been done successfully.



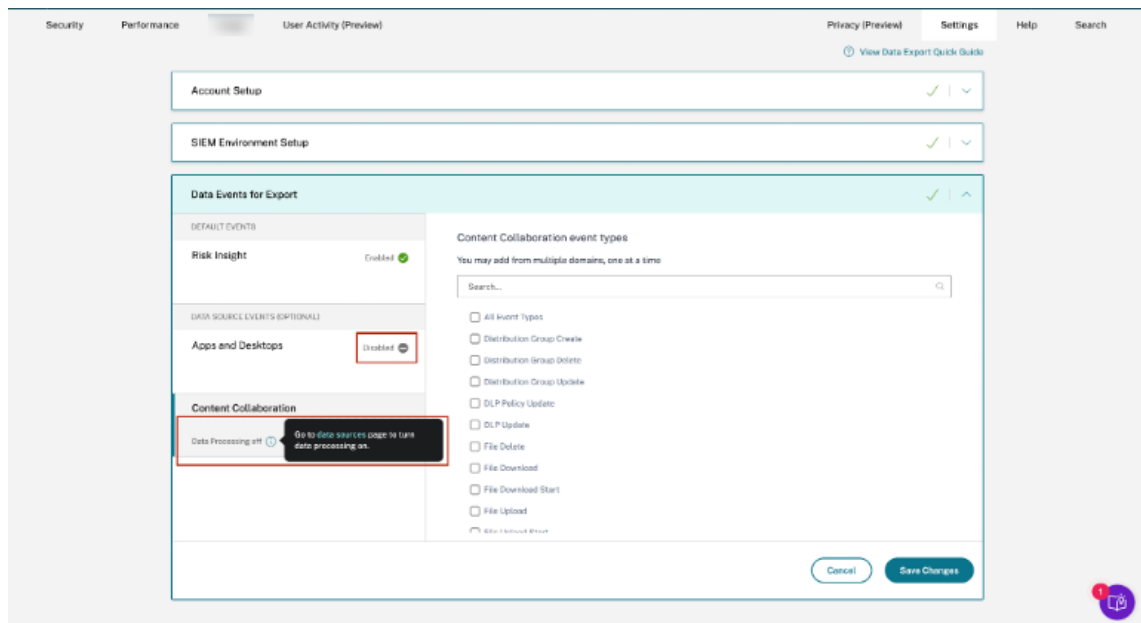
- As illustrated by the following image, the SIEM Environment Setup and Data Events for Export stages are disabled until the account setup is completed successfully.



- Data Exports have been turned off. The warning on the Data Events for Export stage serves as a reminder to enable Data Exports to effectuate any changes.



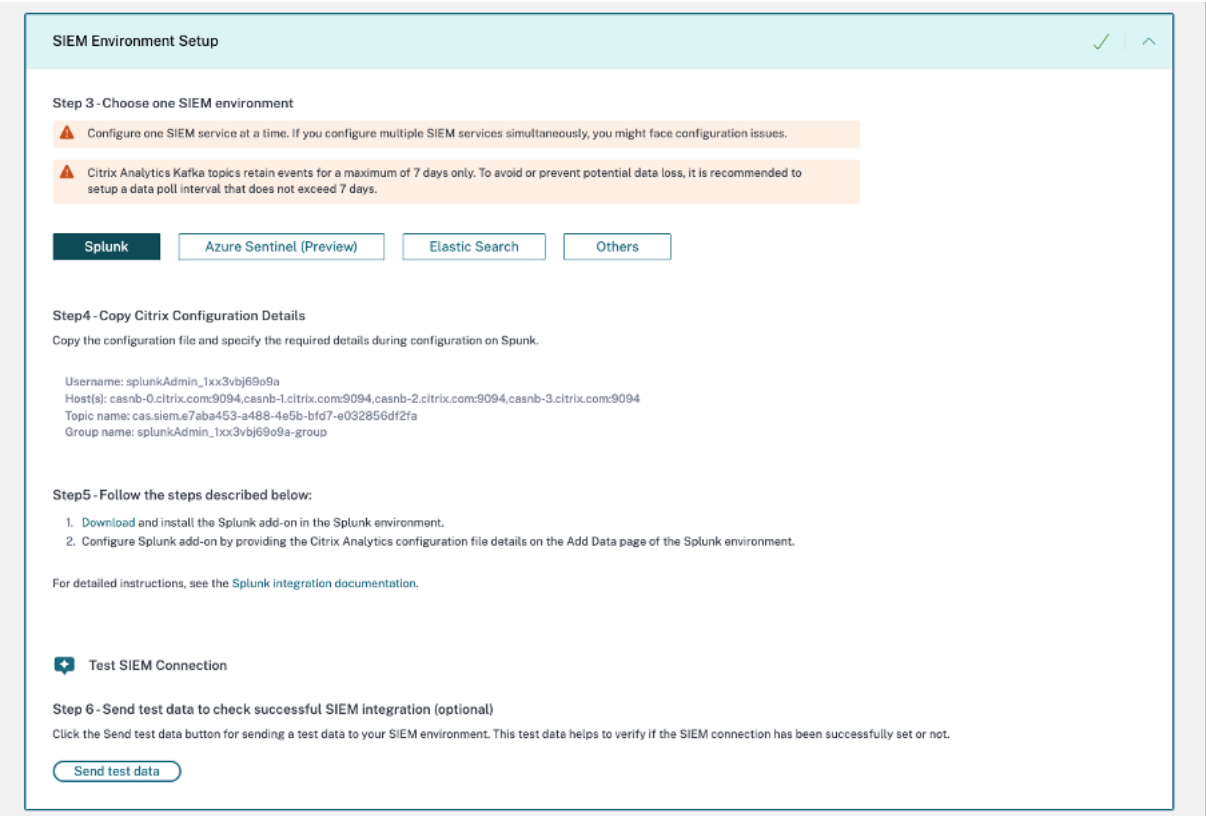
- On the Data Events for Export stage, if data export for a particular data source is disabled, then no Data source events flow to SIEM. You must enable this by configuring and selecting the desired Data source events' types. Furthermore, make sure that Data processing for the respective data source is enabled to make sure data reaches Citrix Analytics.



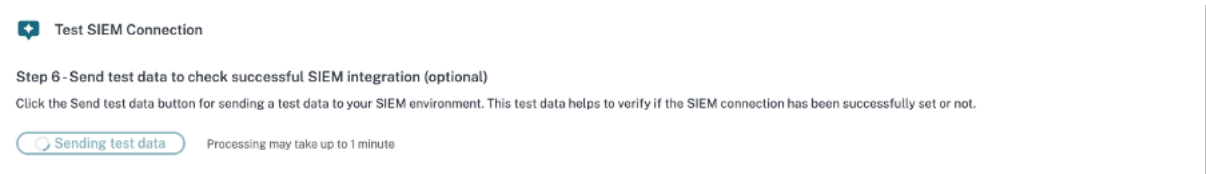
## Test Event Generation

Test Event Generation is provided as a part of the **SIEM Environment Setup** stage to enhance the troubleshooting experience. Once a user completes the SIEM setup, Test Event generation provides a way to quickly test the SIEM connection by sending a test event directly into the customer's SIEM data export Kafka topic.

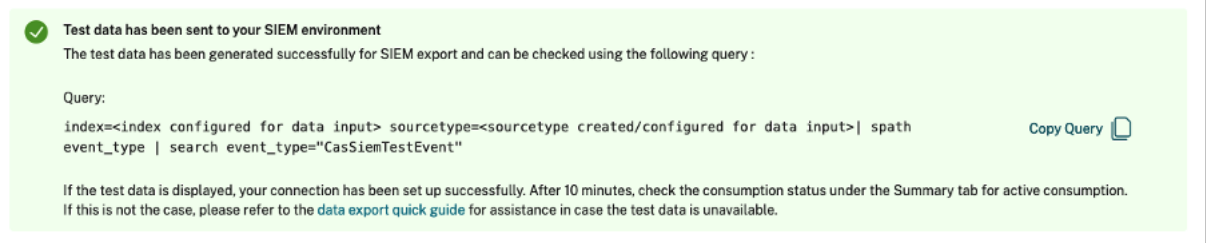
It also enables new users to quickly test their SIEM Integration with Citrix Analytics without having to explicitly onboard a new data source and subsequently generate user activity.




To test this functionality, the user needs to click the **Send Test Data** button. This generates a dummy test event and sends it to the customer’s SIEM data export Kafka topic. This test event generation process might take up to 1 minute as shown in the following screenshot:



If the test event data is successfully written in the customer Kafka topic, a success message is displayed, indicating that the SIEM Connection is successful. Depending on your chosen environment (Splunk and Sentinel), admins can copy the query and check their SIEM environments for the test event.






Test data has been sent to your SIEM environment

The test data has been generated successfully for SIEM export and can be checked using the following query :


Query:

CitrixAnalytics\_misc\_CL | where event\_type\_s contains "CasSiemTestEvent"

[Copy Query](#) 

If the test data is displayed, your connection has been set up successfully. After 10 minutes, check the consumption status under the Summary tab for active consumption. If this is not the case, please refer to the [data export quick guide](#) for assistance in case the test data is unavailable.

For Elasticsearch and other environments, the following success message is displayed.




Test data has been sent to your SIEM environment

The test data has been generated successfully for SIEM export. Check your SIEM export queue for this specific event type = "CasSiemTestEvent"

If the test data is displayed, your connection has been set up successfully. After 10 minutes, check the consumption status under the Summary tab for active consumption. If this is not the case, please refer to the [data export quick guide](#) for assistance in case the test data is unavailable.

**Note**

Once a test event is generated, the **Send test data** button is disabled for the next 24 hours, and the users see the following popup on hovering over the button. After 24 hours from the latest success timestamp, the button is enabled for the users to test the functionality again.



Test SIEM Connection


Step 6 - Send test data to check successful SIEM integration (optional)

Click the Send test data button for sending a test data to your SIEM environment. This test data helps to verify if the SIEM connection has been successfully set or not.

[Send test data](#)

Test data has been generated successfully. You can retry after 24 hours.

If the test event data is not successfully written in the customer Kafka topic, a failure message is shown as depicted in the following screenshot. The user can send the data again to test the connection.




Test SIEM Connection

Step 6 - Send test data to check successful SIEM integration (optional)

Click the Send test data button for sending a test data to your SIEM environment. This test data helps to verify if the SIEM connection has been successfully set or not.

[Send test data](#)



An error has occurred

Please try sending the test data again.

### SIEM Email Alert

Citrix Analytics sends email alerts to notify the administrators about scenarios that might lead to disruption of data flow to their SIEM environment. It contains situational information about activities that might lead to temporary/permanent security postured data loss. It also helps in navigating through the self-service troubleshooting journey for SIEM data export.

Some important properties of this set of email alerts to help locate the same in your inbox:

- The email gets distributed among Citrix Cloud admins, Security full admins, Security read-only admins, and Security and Performance read-only admins.
- The sender is Citrix Cloud [donotreplynotifications@citrix.com](mailto:donotreplynotifications@citrix.com).
- The subject line is:
  - **SIEM Data Export Alert - Password was reset** for Password reset email alerts.
  - **SIEM Data Export Alert - Data Flow Stopped** for Data Flow disruption email alerts.

### How to enable email notifications?

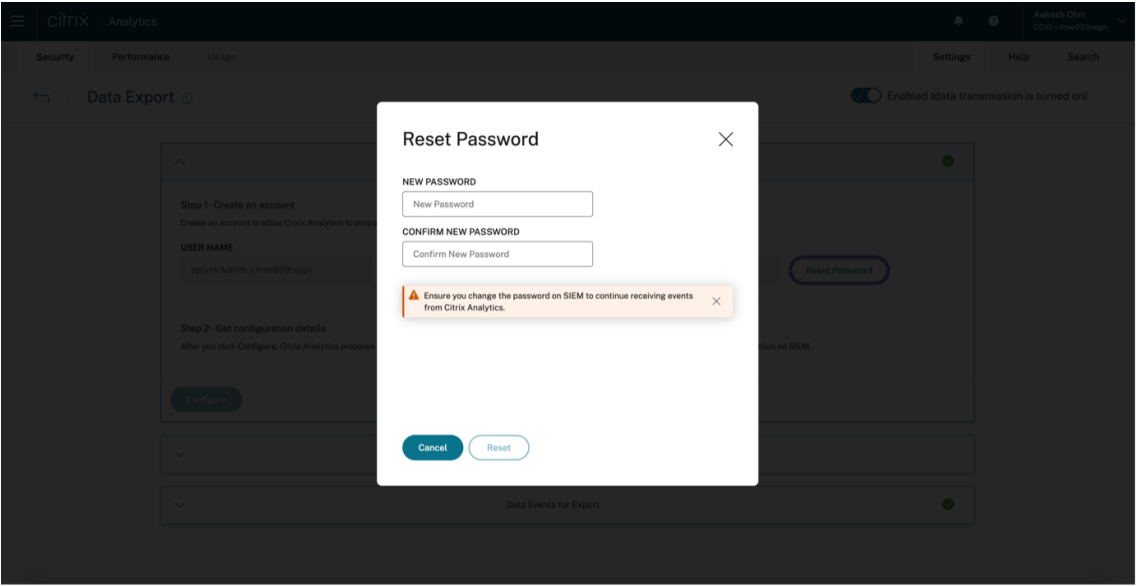
If you are a Citrix Cloud administrator with custom access permissions (Security Full Admin, Security Read Only Admin, Security, and Performance Read Only) to manage Security Analytics, the email notifications are always enabled for your Citrix Cloud account. By default, the weekly email notifications are sent to the Citrix Security Administrators - default list. You can also modify the distribution list that receives this alert. For more information, see .

If you are a Citrix Cloud administrator with custom access permissions (Security Full Admin, Security Read Only Admin, Security and Performance Read Only) to manage Security Analytics, the email notifications are always enabled for your Citrix Cloud account.


### Types of SIEM Email Alert

#### 1. SIEM Password Reset Email Alert

The SIEM password reset alert email is received when the account password is reset via the Data Exports page. Resetting the SIEM password on Citrix Analytics UI alone can lead to a password mismatch with the one configured on your SIEM. This leads to data flow disruption. This email alert contains the time at which the password was reset. If data flow stops, you can go to the **Summary** tab, check if the “last exported at” timestamp lies close to the password reset timestamp, and hence relay the necessary password changes. This shortens the debugging process and helps you get back to successful data flow into your SIEM environment in no time.



# Password reset was detected

 **What you need to know:**  
A password reset was detected for the SIEM export account. Please update your SIEM environment with new password to avoid losing critical VDI in-session events and security insights.

Customer name: freshsiem  
Organization ID: int40b94891

What happened?  
Password reset/change has been detected for the SIEM export account on 04 Apr, 2023 at 04:08 UTC.

- What do you need to do?
- 1. Reach out to your SIEM administrator to update your SIEM environment with the new password.
  - 2. Check the consumption status to ensure that the password reset has not caused any disruptions to active data flow.

[Check the Data Flow Status](#)

For more in product guidance on SIEM integration troubleshooting, please leverage Citrix Analytics for Security [Data Export Quick Guide](#) workflow.

Regards,  
Citrix Analytics for Security team



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**2. Data Flow Disruption for 24 hours Email Alert**

This email alert is sent when data flow from the Citrix Analytics service into your SIEM environment is disrupted for more than 24 hours. The email includes the time at which the last event was exported along with helpful troubleshooting quick tips that can be performed to bring back the data flow. This would be the correct time to quickly reinstate the data flow to not lose out on any security postured data.

**3. Data Flow Disruption for 7 days Email Alert**

This email alert is sent when data flow from the Citrix Analytics service into your SIEM environment is disrupted for more than 7 days. Since the retention period of the customer's Kafka topic is 7 days, it is critical to follow troubleshooting tips and take the help of the quick guide available on the **Data Exports** page to not lose any further data as this email warns of a situation of permanent loss of security postured information.

**4. Data Flow Disruption for 30 days Email Alert**

This email alert is sent when data flow from the Citrix Analytics service into your SIEM environment is disrupted for more than 30 days. By now, the customer has lost security postured data and it's imperative to use the troubleshooting capabilities to reinstate the flow as soon as possible.

## Data Flow Stopped 24 hours ago



**Impact:**

We have detected that data flow has stopped from Citrix Analytics service into your SIEM environment in the last 24 hours. Further disruption will lead to **loss of critical VDI in-session events and security insights**.

Customer name: CAS-SIEM-TEST

Organization ID: int511e492f

**What happened?**

In the last 24 hours, no Risk insight or Data source events have been exported to your SIEM. Last event export reported at: 04 Apr, 2023 at 04:20 UTC.

**What do you need to do?**

- Check SIEM environment for any firewall issues
- Check for credential mismatch issues between Kafka account setup and your SIEM environment
- Ensure you have turned on data processing for requisite data sources
- Ensure you have adequate user activity for your Citrix deployment

[Troubleshoot Data Flow Issues](#)

For more in product guidance on SIEM integration troubleshooting, please leverage Citrix Analytics for Security [Data Export Quick Guide](#) workflow.

Regards,  
Citrix Analytics for Security team



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Citrix | Analytics for Security

Data Flow Stopped 7 days ago

Impact:

We have detected that data flow has stopped from Citrix Analytics service into your SIEM environment in past 7 days. Further disruption will lead to loss of critical VDI in-session events and security insights.

Customer name:

CAS-SIEM-TEST

Organization ID:

int511e492f

What happened?

In the last 7 days, no Risk insight or Data source events have been exported to your SIEM. Last event export reported at: 29 Mar, 2023 at 04:20 UTC.

What do you need to do?

Check SIEM environment for any firewall issues

Check for credential mismatch issues between Kafka account setup and your SIEM environment

Ensure you have turned on data processing for requisite data sources

Ensure you have adequate user activity for your Citrix deployment

Troubleshoot Data Flow Issues

For more in product guidance on SIEM integration troubleshooting, please leverage Citrix Analytics for Security [Data Export Quick Guide](#) workflow.

How can you benefit from the SIEM integration?

You can enhance the value of your SIEM by integrating it with Citrix Analytics for Security. This integration enables you to correlate your users' data with the data available in your SIEM environment along with deeper insights into your organization's security posture.


Explore SIEM integration

Regards,


Citrix Analytics for Security team

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## Data Flow Stopped 30 days ago

**Impact:**

We have detected that data flow has stopped from Citrix Analytics service into your SIEM environment in past 30 days. Further disruption will lead to loss of critical VDI in-session events and security insights.

Customer name: CAS-SIEM-TEST

Organization ID: int511e492f

What happened?

In the last 30 days, no Risk insight or Data source events have been exported to your SIEM. Last event export reported at: 06 Mar, 2023 at 04:20 UTC.

What do you need to do?

- Check SIEM environment for any firewall issues
- Check for credential mismatch issues between Kafka account setup and your SIEM environment
- Ensure you have turned on data processing for requisite data sources
- Ensure you have adequate user activity for your Citrix deployment

Troubleshoot Data Flow Issues

For more in product guidance on SIEM integration troubleshooting, please leverage Citrix Analytics for Security [Data Export Quick Guide](#) workflow.

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How can you benefit from the SIEM integration?






You can enhance the value of your SIEM by integrating it with Citrix Analytics for Security. This integration enables you to correlate your users' data with the data available in your SIEM environment along with deeper insights into your organization's security posture.

Explore SIEM integration

Regards,  
Citrix Analytics for Security team


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**We want to hear your thoughts about your SIEM integration**  
Share your feedback about your SIEM integration to help us improve at [CAS-PM-Ext@citrix.com](mailto:CAS-PM-Ext@citrix.com) or if you need any assistance.



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## Example Sigma Signatures for Security Insights

October 31, 2023

This page contains example queries to help administrators achieve meaningful outcomes using Citrix Security Analytics.

These examples cover risks under the following categories:

- Compromised endpoints
- Insider threats
- Data exfiltration

### How to use these examples

#### View the data source and turn on the data processing

To view the data source, click **Settings > Data Sources > Security** in the Citrix Analytics GUI. The **Apps and Desktops- Workspace app** site card appears on the **Data Sources** page. Click **Turn On Data Processing** to allow Citrix Analytics to begin processing data for this data source.

Citrix Analytics for Security sends the following two types of risk insights data to your SIEM service:

- Risk insights events (Default exports)
- Data Source events (Optional exports)

As part of your SIEM environment, the risk insight event data sources are available and always turned on by default. For more information, see [Data events exported from Citrix Analytics for Security to your SIEM service](#).

You can use either CAS or Sigma signatures to verify any particular user events within your data sources. CAS queries are accessible through the Self-Service Search page on your Citrix Analytics GUI. The Sigma signatures are written in a simple or user-friendly format, making them compatible with various SIEM environments.

#### Using CAS queries

You can use the CAS query under the **Self-Service Search** page to find and filter user events received from various data sources. Click **Search** from your Citrix Analytics GUI and enter the query in the search box. For more details, see [How to use self-service search](#).

You can also create custom risk indicators with the existing templates. To create a custom risk indicator, navigate to **Security > Custom Risk Indicators > Create Indicator**. For more details, see [Creating a Custom Risk Indicator](#).

## Using Sigma signatures

Sigma is a user-friendly, open signature format for creating text-based queries that analysts can use to describe log events, making detections easier to write. There are a few different ways to convert a Sigma signature to your SIEM tool's query language.

- You can use the CLI tools and Python SDKs offered by Sigma. For more information on Sigma signature, see [Rule Usage](#).
- You can use public tools such as [uncoder.io](#)'s Sigma Translation Engine which offers a free tier.

Refer to the following different Custom Indicator use cases for the different risk insights:

- [Unsanctioned browser](#)
- [Unsanctioned operating system](#)
- [Unsanctioned Workspace App Versions](#)
- [Unauthorized operating systems outside allow list](#)
- [Unauthorized IP address or subnets](#)
- [Unauthorized virtual apps](#)
- [Unusual desktop names](#)
- [Monitor specific application](#)
- [Printing from SaaS apps](#)
- [Clipboard usage on SaaS apps](#)

## Compromised endpoints

October 31, 2023

### Unsanctioned browser

This occurs when a user attempts to access content from a browser type or version that is not allowed by the organization's IT policy or because of security vulnerabilities.

#### Details

**Data Source:** Apps and Desktops (Workspace App)

### CAS query

```
1 Event-Type = "Session.Logon" AND Browser-Name !~ "<Browser-Name>"
2 <!--NeedCopy-->
```

The Session.Logon event triggers when a user enters their credentials and logs on to their app or desktop session.

### Sigma signature

```
1 author: Citrix
2 date: 2023/01/31
3 description: This occurs when a user accesses content from an
               authorized browser which might cause an undesirable event or action
               through the internet.
4 detection:
5   condition: index_selection and selection and not filter
6   filter:
7     - browser_name|contains: '<Browser-Name>'
8   index_selection:
9     source: cas_siem_consumer://<env>_<tenant_identifier>
10  selection:
11    - occurrence_event_type: Session.logon
12  logsource:
13    product: citrixanalytics
14    service: security
15  title: Access from unauthorized browser
16 <!--NeedCopy-->
```

### Unsanctioned operating systems

This occurs when a user attempts to access a device with an operating system type or version that is not allowed by your organization's IT policy or because of security vulnerabilities.

#### Details

**Data Source:** Apps and Desktops (Workspace App)

### CAS query

```
1 Event-Type = "Session.Logon" AND OS-Name ~ "<OS-Name>" AND OS-Version =
  "<OS-Version>" AND OS-Extra-Info = "<OS-Extra-Info>"
2 <!--NeedCopy-->
```

**Sigma signature**

```
1 author: Citrix
2 date: 2023/01/31
3 description: This occurs when a user attempts to access apps from
  servers with blocked listed operating systems.
4 detection:
5   condition: index_selection and selection
6   filter_null: []
7   index_selection:
8     source: cas_siem_consumer://<env>_<tenant_identifier>
9   selection:
10    occurrence_event_type: Session.logon
11    os_name|contains: '<OS-Name>'
12    os_version: '<OS-Version>'
13    os_extra_info: '<OS-Extra-Info>'
14 logsource:
15   product: citrixanalytics
16   service: security
17 title: Unauthorized operating systems in block list
18 <!--NeedCopy-->
```

**Unauthorized IP address or subnets**

This occurs when a user attempts to access from an IP address or range which is marked as unauthorized by your organization's IT policy.

**Details**

**Data Source:** Apps and Desktops (Workspace App)

**CAS query**

```
1 Event-Type = "Session.Logon" AND Client-IP = "<XX.YY.ZZ.*>"
2 <!--NeedCopy-->
```

**Sigma signature**

```
1 author: Citrix
2 date: 2023/01/31
3 description: This occurs when a user accessing content from an
  unauthorized IPs which might cause an undesirable event or action
  through the internet.
4 detection:
5   condition: selection and not filter_null and filter
```

```
6   filter:
7   - client_ip: '<IP>'
8   filter_null:
9   - client_ip: null
10  selection:
11  - occurrence_event_type: Session.Logon
12  logsource:
13    product: citrixanalytics
14    service: security
15  title: Access from unauthorized IP
16  <!--NeedCopy-->
```

## Unauthorized operating systems outside allow list

This occurs when a user attempts to access applications from servers that host operating systems outside the allow list.

### Details

**Data Source:** Apps and Desktops (Workspace App)

### CAS query

```
1  Event-Type = "Session.Logon" AND OS-Name !~ "<OS-Name>" AND OS-Version
   != "<OS-Version>" AND OS-Extra-Info != "<OS-Extra-Info>"
2  <!--NeedCopy-->
```

### Sigma signature

```
1  author: Citrix
2  date: 2023/01/31
3  description: Unauthorized operating systems outside allow list
4  detection:
5    condition: selection and not filter_null and not filter_os and not
               filter_os_version and not filter_os_extra
6    filter_os:
7    - os_name|contains: '<OS INFO>'
8    filter_os_version:
9    - os_version: '<OS Version>'
10   filter_os_extra:
11   - os_extra_info: '<OS Extra Info>'
12   filter_null:
13   - os_name: null
14   - os_version: null
15   - os_extra_info: null
```

```
16   selection:
17   - occurrence_event_type: Session.Logon
18   logsource:
19     product: citrixanalytics
20     service: security
21   title: Unauthorized operating systems outside allow list
22   <!--NeedCopy-->
```

## Unsanctioned Workspace app versions

This occurs when a user attempts to access a Workspace app version that is not a supported client version. In such cases, users must upgrade their client to a supported version. For more information, see [Support client versions](#).

### Details

**Data Source:** Apps and Desktops (Workspace App)

### CAS query

```
1  Event-Type = "Session.Logon" AND Client-Type IN ("Windows", "Macintosh"
    , "Unix/Linux") AND Workspace-App-Version != "20*" AND Workspace-App
    -Version != "21*"
2  <!--NeedCopy-->
```

### Sigma signature

```
1  author: Citrix
2  date: 2023/01/31
3  description: Unsupported Workspace app versions
4  detection:
5    condition: selection and not filter_null and filter_product and not
        filter_product_version
6    filter_product:
7      - product: ['Windows', 'Mac', '<Other type>']
8    filter_product_version:
9      - product_version|contains: ['<Product Version1>', '<Product Version2
        >']
10   filter_null:
11     - product: null
12     - product_version: null
13   selection:
14     - occurrence_event_type: Session.Logon
15   logsource:
16     product: citrixanalytics
```

```
17   service: security
18   title: Unsupported Workspace app versions
19   <!--NeedCopy-->
```

## Insider threats

October 31, 2023

### Unusual desktop names

This occurs when the user attempts to launch a desktop that is not considered usual.

#### Details

**Data Source:** Apps and Desktops (Workspace App)

#### CAS query

```
1  Event-Type = "Session.Logon" AND Session-Launch-Type = "desktop" AND
   App-Name ~ "<Desktop Name>"
2  <!--NeedCopy-->
```

#### Sigma signature

```
1  author: Citrix
2  date: 2023/01/31
3  description: Unusual desktop names
4  detection:
5    condition: selection1 and selection2 and not filter_null and
               filter_app_name
6    filter_app_name:
7      - app_name|contains: '<App Name>'
8    filter_null:
9      - app_name: null
10   selection1:
11     - occurrence_event_type: Citrix.EventMonitor.AppStart
12   selection2:
13     - launch_type: 'desktop'
14   logsource:
15     product: citrixanalytics
16     service: security
```

```
17 title: Unusual desktop names
18 <!--NeedCopy-->
```

## Monitor specific process

This occurs when the user launches a published application that is in the watch list. The purpose could be to monitor the usage of specific published applications.

### Details

**Data Source:** Apps and Desktops (Session Recording)

### CAS query

```
1 Event-Type = "Citrix.EventMonitor.AppStart" AND App-Name IN ("<App-Name-1>", "<App-Name-2>")
2 <!--NeedCopy-->
```

### Sigma signature

```
1 author: Citrix
2 date: 2023/01/31
3 description: Monitor specific process
4 detection:
5   condition: selection and not filter_null and filter_app_name
6   filter_app_name:
7     - app_name: ['<App-Name1>', '<App-Name2>']
8   filter_null:
9     - app_name: null
10  selection:
11    - occurrence_event_type: Citrix.EventMonitor.AppStart
12 logsource:
13   product: citrixanalytics
14   service: security
15 title: Monitor specific process
16 <!--NeedCopy-->
```

## Unauthorized virtual apps

This occurs when the user accesses unauthorized virtual apps.

## Details

**Data Source:** Apps and Desktops (Workspace App)

## CAS query

```
1 Event-Type = "App.Start" AND App-Name IN ("<App-Name1>", "<App-Name2>")
2 <!--NeedCopy-->
```

## Sigma signature

```
1 date: 2023/01/31
2 description: Unauthorized virtual apps
3 detection:
4   condition: selection and not filter_null and filter_app_name
5   filter_app_name:
6     - app_name: ['<App-Name1>', '<App-Name2>']
7   filter_null:
8     - app_name: null
9   selection:
10    - occurrence_event_type: App.Start
11 logsource:
12   product: citrixanalytics
13   service: security
14 title: Unauthorized virtual apps
15 <!--NeedCopy-->
```

## Data Exfiltration

October 31, 2023

### Printing from SaaS apps

This occurs when a file is printed from a SaaS application from which printing is not allowed. It detects potential data exfiltration by printing operations in SaaS applications.

## Details

**Data Source:** Apps and Desktops (Citrix Enterprise Browser)

### CAS query

```
1 Event-Type = "App.SaaS.File.Print" AND SaaS-App-Name = "<App-Name>"
2 <!--NeedCopy-->
```

### Sigma signature

```
1 author: Citrix
2 date: 2023/01/31
3 description: Printing from SaaS apps
4 detection:
5   condition: selection and not filter_null and filter_saas_app_name
6   filter_saas_app_name:
7     - saas_app_name: '<App-Name>'
8   filter_null:
9     - saas_app_name: null
10  selection:
11    - occurrence_event_type: App.SaaS.File.Print
12  logsource:
13    product: citrixanalytics
14    service: security
15  title: Printing from SaaS apps
16  <!--NeedCopy-->
```

### Clipboard usage on SaaS apps

This occurs when a cut, copy, or paste activity is done from any SaaS application. It detects potential data exfiltration from SaaS applications in your organization by monitoring the clipboard operations.

#### Details

**Data Source:** Apps and Desktops (Citrix Enterprise Browser)

### CAS query

```
1 Event-Type = "App.SaaS.Clipboard" AND Clipboard-Result = "success" AND
  Clipboard-Operation IN ( "copy" , "cut" )
2 <!--NeedCopy-->
```

### Sigma signature

```
1 author: Citrix
2 date: 2023/01/31
3 description: Clipboard usage on SaaS apps
4 detection:
5   condition: selection and not filter_null and
6     filter_clipboard_details_result and filter_clipboard_operation
7   filter_clipboard_details_result:
8     - clipboard_details_result: 'success'
9   filter_clipboard_operation:
10    - clipboard_operation: ['cut', 'copy', '<Other Operation>']
11   filter_null:
12     - clipboard_operation: null
13     - clipboard_details_result: null
14   selection:
15     - occurrence_event_type: App.SaaS.Clipboard
16 logsource:
17   product: citrixanalytics
18   service: security
19 title: Clipboard usage on SaaS apps
20 <!--NeedCopy-->
```

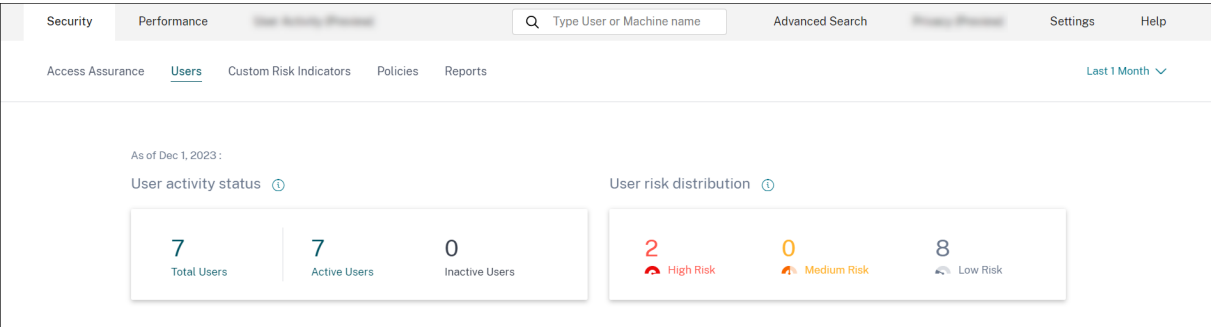
Users dashboard

January 29, 2024

Overview

The **Users** dashboard is the launching point for user behavior analysis and threat prevention. This dashboard provides visibility into user behavior patterns across an organization. Using this data, you can proactively monitor, detect, and flag behavior that falls outside the norm, such as phishing or ransomware attacks.

To view the Users dashboard, go to **Security > Users**. The Users dashboard contains the following sections:



- **User active status:** Distribution of total, active, and inactive users.
- **User risk distribution:** Distribution of active, inactive, total users, and distribution of risk users in high, medium, and low profiles based on their highest computed risk score in the selected time period.
- **Top Users:** Top Users are sorted by their risk score and segmented by All Users, Privileged Users, and Watchlist Users.
- **Risk Categories:** Displays the risk categories that Citrix Analytics supports. Risk indicators with similar behavioral patterns are grouped into categories.
- **Risk Indicators and Actions:** Distribution of risk indicators and actions plotted over a selected duration across all users in your organization.
- **Access Summary:** Summarizes the total number of attempts that users have made to access the resources within your organization.
- **Policies and Actions:** Displays the top five policies and actions applied on user profiles.
- **Risk Indicators:** Displays the top five risk indicators in your organization.

### User activity status

Total number of users in your organization using the data sources for which you have enabled Analytics. They might or might not have a risk score associated with their account. This tile shows the number of active users. Active users are the users with events detected within the selected time period. You can click the user activity status drop-down menu to view the distribution of total users into active and inactive users.

- Total users: Total number of users in the selected time frame.
- Active users: Users with events detected in the selected time frame.
- Inactive users: Users with no events detected in the selected time frame.

The total number of users on the **Users** dashboard might be more than the number of risky users since all users are not expected to be risky.

#### Note

On the **Users** page, the total number of users is displayed for the last 30 days irrespective of the selected time period.

### Facets

Filter the user events based on the following categories:

- **Risk Score:** User events based on high-risk, medium-risk, low-risk, and zero-risk scores.
- **User:** User events based on admin privilege, executive privilege, and watchlist users.
- **Discovered Data Sources:** User events based on the data source that you have onboarded.

## Search box

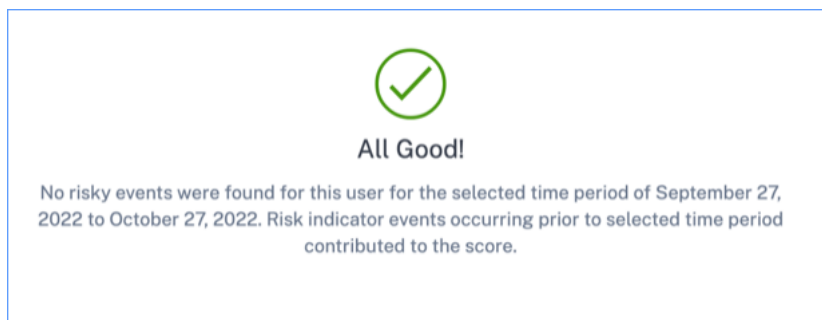
Use the search box to search events for the users. You can use operators in your query to narrow down the focus of your search. For information on the valid operators that you can use in your query, see [Self-service search](#).

## Latest score

The risk score determines the level of risk a user poses to an organization for a specific time period. The risk score value is dynamic and varies based on user behavior analytics. Based on the latest risk score, a user can fall under one of the categories: high-risk user, medium-risk user, low-risk user, and user with zero risk score.

## User

List of all users discovered by Analytics. Select a user name to view the user information and risk timeline for the user. The user might or might not have triggered any risk indicator. If there are no risky events associated with this user, you see the following message.



If there are risky events associated with a user, you see the risk indicators on their risk timeline. Select the user to view their [risk timeline](#).

A user can be marked as [privileged](#) and added to the watchlist.

## Discovered data source

The data source associated with a user. When a user is actively using the data source, Analytics receives the user events from that data source. To receive user events, you must turn on data processing

on the data source site card, which is available on the **Data Sources** page.

Indicators triggered

Indicates the number of risk indicators triggered across users for the selected duration. Click the **Indicators triggered** tile to view the risk indicators details. The risk indicator table provides the following details:

- **Name:** The risk indicator name.
- **Severity:** The severity of the risk associated with the event. The risk can be high, medium, or low.
- **Data source:** The data source on which the risk indicator template applies.
- **Type:** Type of risk indicator. A risk indicator can be default or custom.
- **Occurrences:** The number of times a risk indicator is triggered for a user. When you select the time period, the risk indicator occurrences change based on the time selection.
- **Last occurrence:** Shows the last occurrence date and time.

← | Risk Indicator Overview

184  
Total Occurrences

118  
High Risk Occurrences

44  
Medium Risk Occurrences

22  
Low Risk Occurrences

25 Risk Indicators

NAME	SEVERITY	DATA SOURCE	TYPE	OCCURRENCES	LAST OCCURRENCE
ekam@smarttools.cim CVAD CI	High	Apps and Desktops	Custom	31	Oct 25, 2022, 17:08
Reputation not= Clean Access AND Reputation not= Unknown Access	High	Secure Private Access	Custom	28	Oct 26, 2022, 17:25
Attempt to access blacklisted URL	Low	Secure Private Access	Default	13	Oct 27, 2022, 10:29
CVAD - First time access from new device	Medium	Apps and Desktops	Custom	11	Oct 25, 2022, 13:35
CVAD-Session started outside of geofence	Medium	Apps and Desktops	Custom	10	Oct 27, 2022, 11:33
cwa.ekam CVAD CI	High	Apps and Desktops	Custom	6	Oct 19, 2022, 17:40
Impossible travel	Medium	Apps and Desktops	Default	5	Oct 27, 2022, 03:59

Showing 1-10 of 25 items    Page 1 of 3    10 rows

Actions applied

Indicates the number of actions applied across users for the selected duration. This includes the actions applied manually by the administrators and the policy-driven actions. Click the **Action applied** tile to view the action details. This section does not display the actions that you have applied manually on the user profiles.

← | Actions

Search Actions 🔍 Last 1 Month ▾

10 Actions

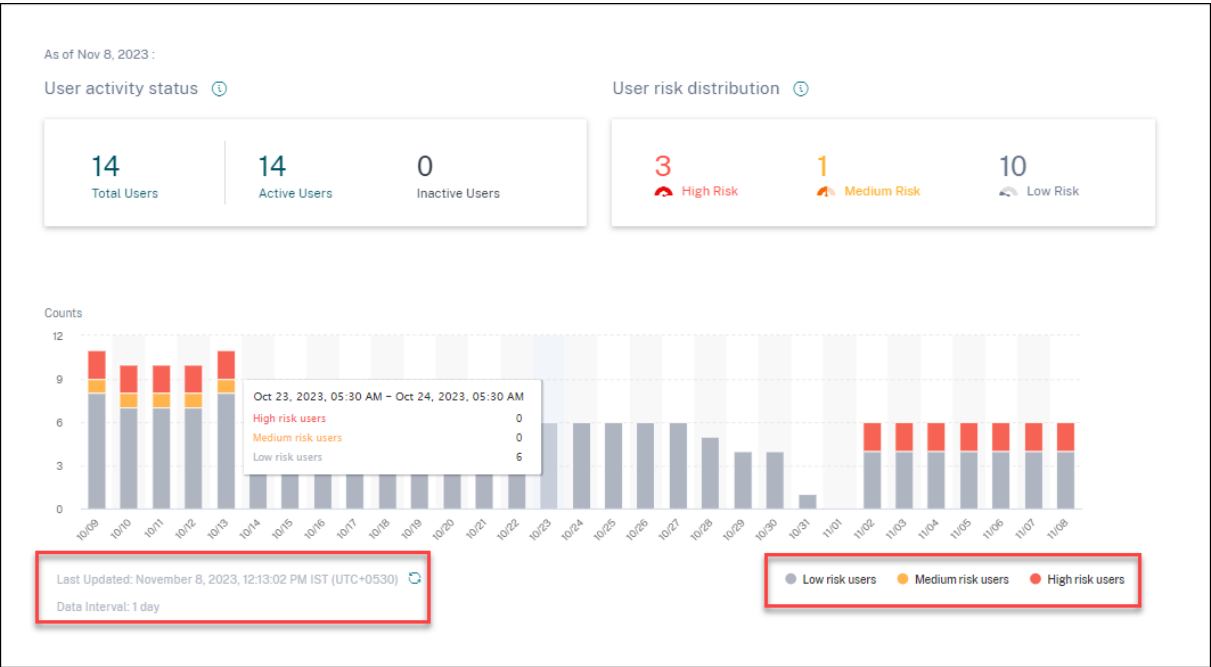
ACTION	USERS	OCCURRENCES	POLICIES	DATE AND TIME
Expire All Links	1	336	1	Jan 3 12:29 AM
Notify admins	5	18	3	Jan 3 3:24 AM
Request End User Response	6	15	3	Jan 3 4:03 PM
Add to watchlist	6	14	3	Jan 2 4:25 PM
Log off user	3	8	2	Jan 2 6:51 PM
Log off user	2	6	2	Jan 2 12:10 PM
Unlock user	1	5	1	Dec 30 5:17 PM
Lock user	1	5	1	Dec 30 5:16 PM

The **Action** table provides the following information:

- **Action:** Name of the action applied as per the policy.
- **Users:** Number of users to which the action has been applied.
- **Occurrences:** Number of occurrences of the action.
- **Date and Time:** Date and time of the applied action.

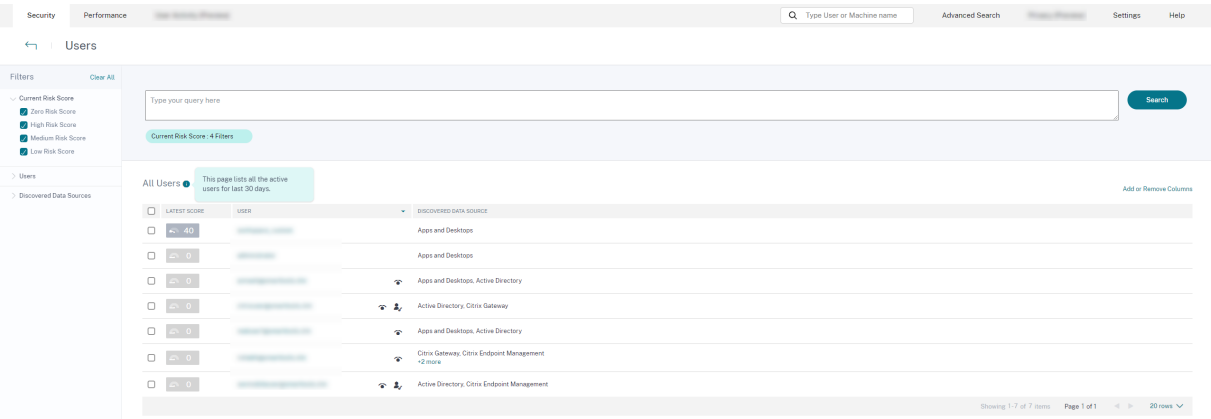
Events processed

Total number of user events received from your connected data sources and processed by Analytics.



User risk distribution

You can view the number of users in high, medium, and low profiles based on their highest computed risk score in the selected time period. Below the overall counts, a bar chart shows changes over time in the distribution of low, medium, and high-risk users.



The level of risk is categorized into three color codes.

- **Red** - Represents high-risk users.
- **Orange** –Represents medium-risk users.
- **Grey** –Represents low-risk users.

You can view the numbers of risky users (high, medium, and low) while hovering your mouse on the color bars based on a specific time period. You can view the last updated details (date and time) with the data interval information. Click any color bar to see the risk users in that duration. Click the refresh option to get the updated data.

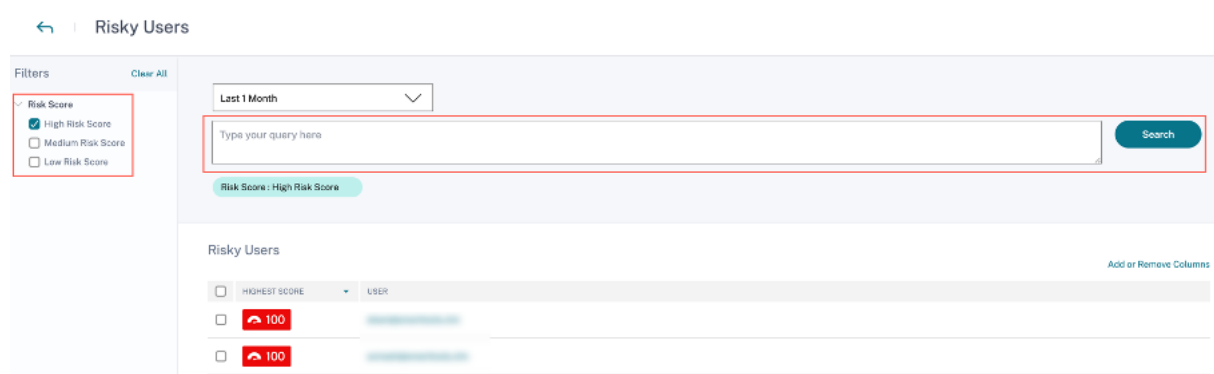
Risky users

Risky users are users who have risky events associated and have triggered at least one risk indicator. The level of risk a user poses to the network for a specific time period is determined by the risk score associated with the user. The risk score value is dynamic and is based on user behavior analytics.

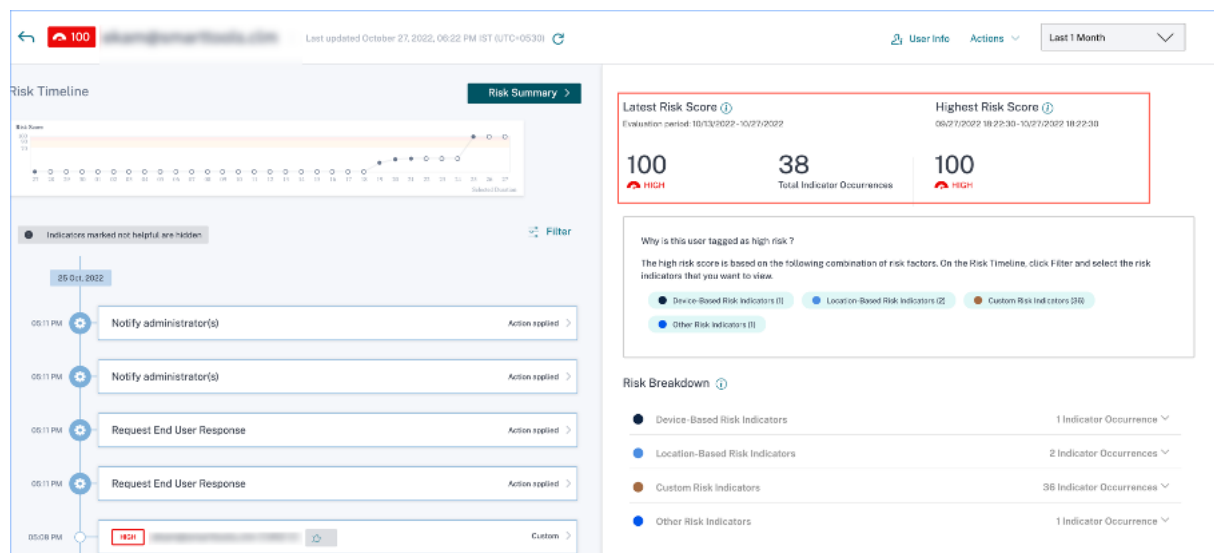
Each user’s risk is regularly updated over time based on user activity. Therefore a user might be medium or high risk at one point in time, but drop to a lower risk level later. Based on the risk score, a risky user can fall into one of the following categories:

- High risk
- Medium risk
- Low risk

On the **Risky Users** page, you can use the facets to filter based on risk levels associated with the selected time period, and the search bar to query for a specific user or users.



Click the user's email ID to view the **Risk timeline** page for that particular selected user. This page displays the risk indicators along with **Latest** and **Highest risk score** details based on the selected time period.



## High risk

Users with risk scores between 90 and 100. These users have exhibited multiple behaviors consistent with moderate to severe risk factors and might represent immediate threats to the organization.

On the **Users** dashboard, you can view the number of high-risk users based on the highest computed risk score in the selected time period.

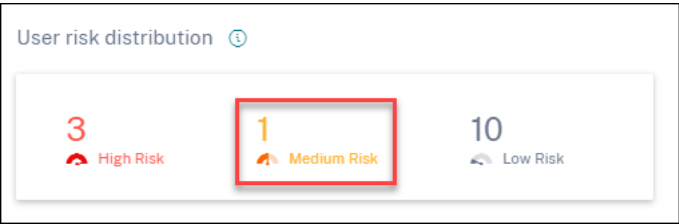
### User risk distribution ⓘ



Click the **High Risk** option to view the **Risky users** page. The page displays the details about the high-risk users.

**Medium risk**

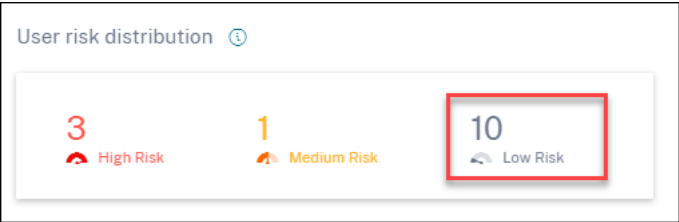
Users with risk scores between 70 and 89. These users have typically one or more activities that appear potentially suspicious and/or anomalous and might be worth monitoring closely.



Click the **Medium Risk** option to view the **Risky users** page. The page displays the details about the medium-risk users.

**Low risk**

Users with risk scores between 1 and 69. These users have at least one risk indicator reflecting some unusual or unexpected behavior, but not enough to merit a more serious risk classification.



Click the **Low Risk** option to view the **Risky users** page. The page displays the details about the low risk users.



Top users

You can view the top users in various user categories sorted by highest risk scores for the selected time period. The following **Top users** table shows the top five highest risk users (all, privileged, and watchlist users) based on their risk score calculated over the selected time period, rather than the latest risk score.

Top Users ⓘ

All Users

Privileged Users

Watchlist Users

HIGHEST SC...	USER
<div><div>100</div></div>	
<div><div>100</div></div>	
<div><div>89</div></div>	
<div><div>74</div></div>	
<div><div>40</div></div>	

See More

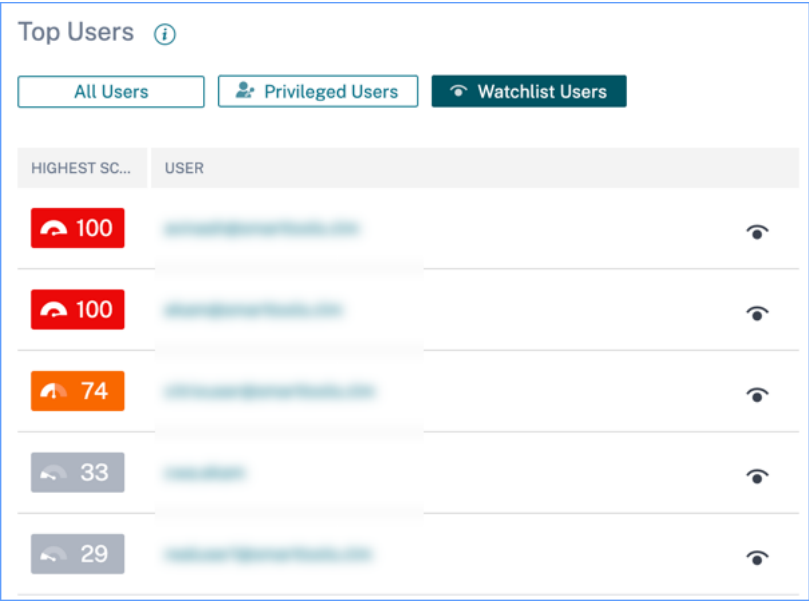
**Note**

In earlier versions, the Top Users table always displayed the latest risk score, regardless of the time period selected.

Watchlist users

List of users monitored closely for potential threats. For example, you can monitor users who are not full-time employees within your organization by adding those users to the watchlist. You can also monitor users who trigger a specific risk indicator frequently. You either add a user to the watchlist manually or define [policies](#) to add users to the watchlist.

If you have added users to the watchlist, you can view the top five users in the watchlist based on the highest score.



Click the **See More** link on the **All Users** pane to view the **Users page**. The page displays the list of all users in the watchlist.

**Note**

On the **Users** dashboard and the **Users** page, the number of users in the watchlist are displayed for the last 13 months irrespective of the selected time period. When you select a time period, the risk indicator occurrences change based on the time selection.

Learn More: [Watchlist](#)

### Risk Categories

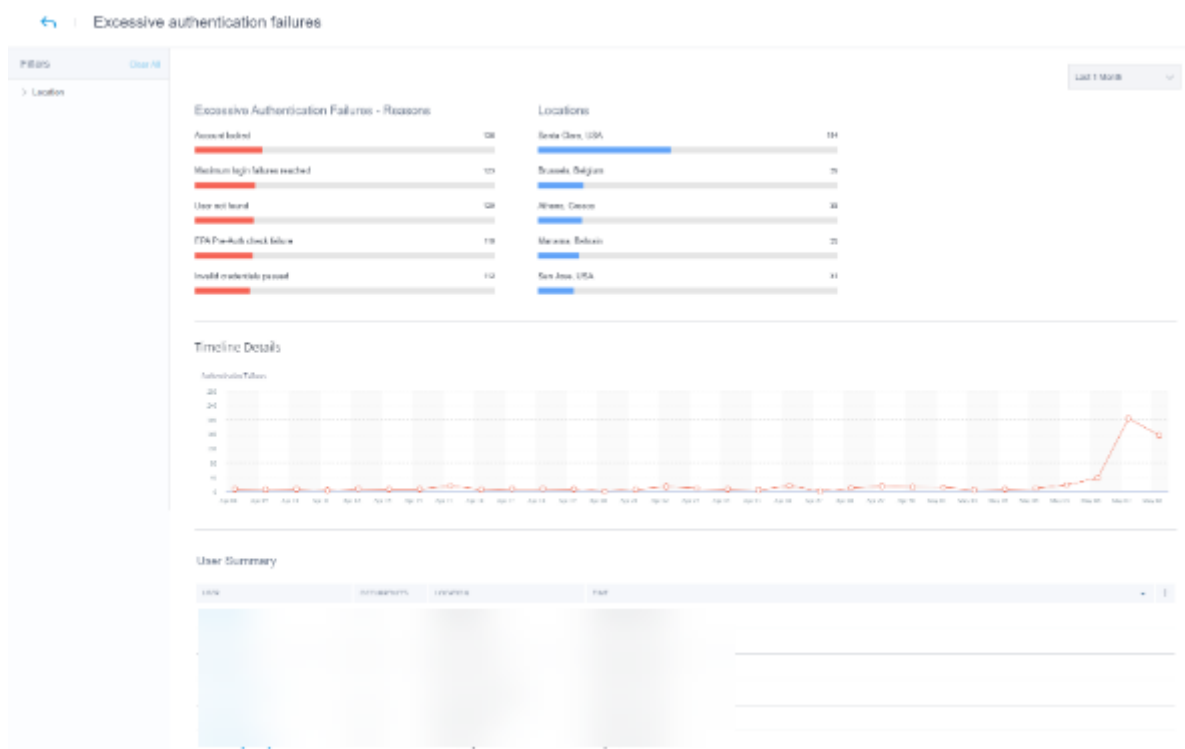
The **Risk Categories** donut chart summarizes the number of indicator occurrences by risk category during the selected time period. Unique user counts are displayed on the hover over each chart segment, which in turn links to the corresponding **Risk Indicator Category** overview page. Risk categorization is supported by default and custom risk indicators.



The purpose of the **Risk Categories** dashboard is to enable Citrix Virtual Apps and Desktops and Citrix DaaS administrators manage user risks and have simplified discussions with their security counterparts without the need to have an expert-level security knowledge. It allows security enforcement to take effect at an organizational level and is not limited to security administrators alone.

### Use case

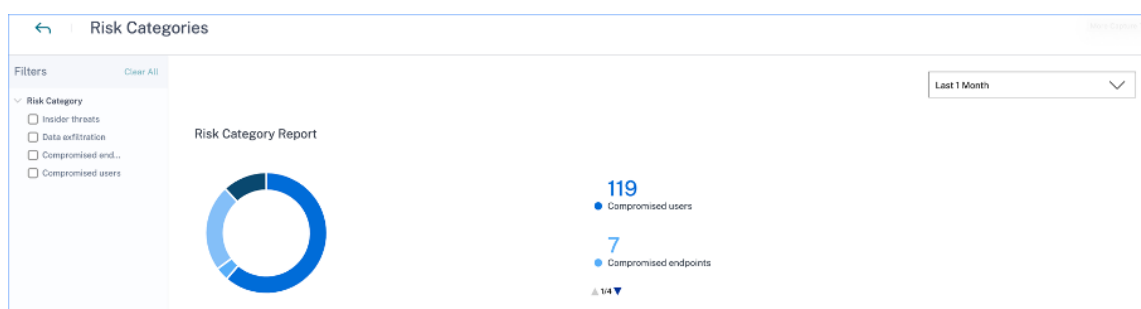
Consider that you are a Citrix Virtual Apps and Desktops administrator and you manage the application access rights of employees in your organization. If you go to the **Risk Categories > Compromised users > Excessive authentication failures - Citrix Gateway** risk indicator section, you can assess whether the employees to whom you had granted access have been compromised. If you navigate further, you can get more accurate insights into this risk indicator such as the failure reasons, sign-in locations, timeline details, and user summary. If you notice any discrepancies between the users that were granted access and the users that were compromised, you can notify the security administrator about it. This timely notification to the security administrator contributes towards enforcement of security at an organizational level.



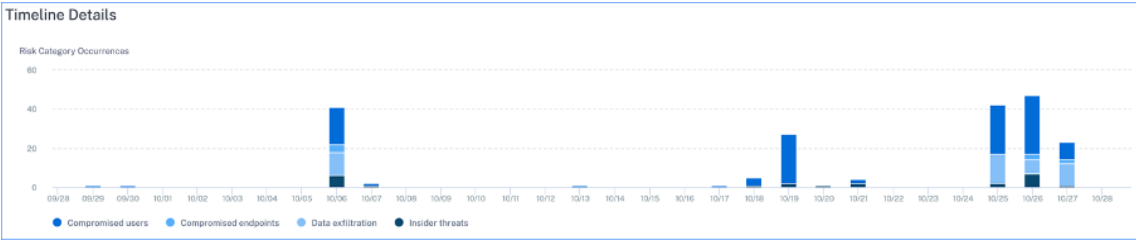
## How to analyze the Risk Categories dashboard?

When you select **See More** on the **Risk Categories** dashboard, you are redirected to the page that summarizes details about the risk categories. This page contains the following details:

- **Risk category report:** Represents the total risk indicator occurrences of each category for a selected time period.



- **Timeline details:** Provides a graphical representation of the total risk indicator occurrences of every risk category for a selected time period. If you navigate to the bottom of this section, you can sort based on risk categories for more accurate insights about the risk indicators.



- **Risk category summary:** This section provides details such as the impact, occurrences, and severity of the risk indicators associated with each category. Select any risk category to view details about the risk indicators associated with that category. For example, when you select the **Compromised users** category, you are redirected to the **Compromised users** page.

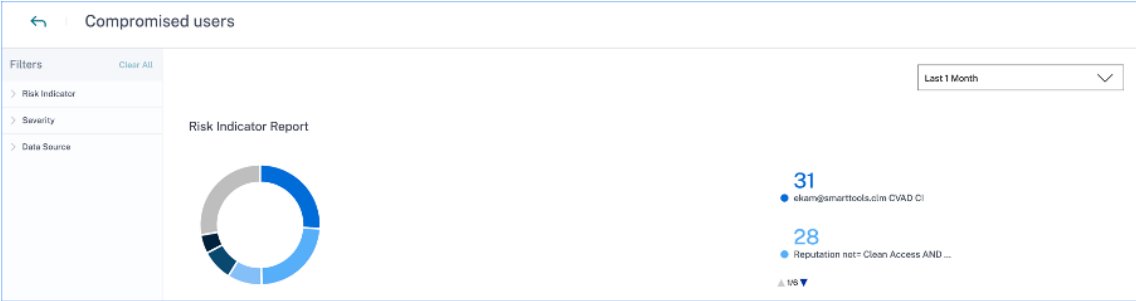
Risk Category Summary

Add or Remove Columns Sort By

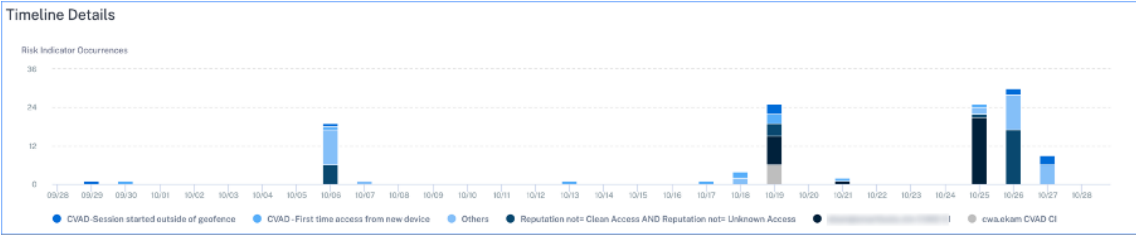
RISK CATEGORY	IMPACT	OCCURRENCES	HIGH	MEDIUM	LOW
Compromised users	61%	119	73	46	0
Data exfiltration	23%	45	45	0	0
Insider threats	12%	23	6	0	17
Compromised endpoints	4%	7	0	2	5

The **Compromised users** page displays the following details:

- **Risk Indicator Report:** Displays the risk indicators that belong to the Compromised users category for a selected time period. It also displays the total occurrences of the risk indicators that were triggered during the selected time period.



- **Timeline Details:** Provides a graphical representation of the risk indicator occurrences for a selected time period.



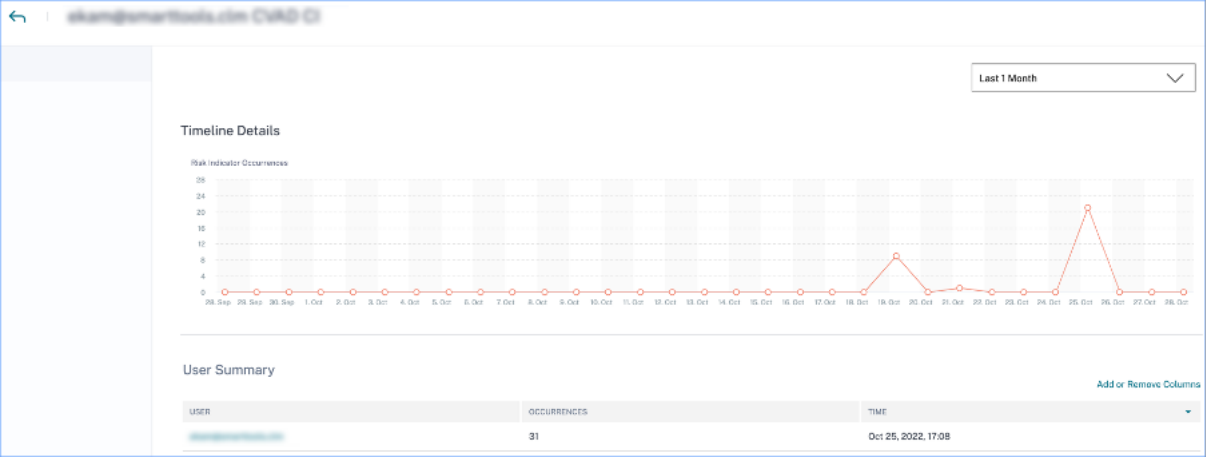
- **Risk Indicator Summary:** Displays a summary of the risk indicators generated under the compromised users category. This section also displays the severity, data source, risk indicator type, occurrences, and the last occurrence.

Risk Indicator Summary

Add or Remove Columns

RISK INDICATOR	SEVERITY	DATA SOURCE	TYPE	OCCURRENCES	LAST OCCURRENCE
ekam@smarttools.clin CVAD CI	High	Apps and Desktops	Custom	31	Oct 25, 2022, 17:08
Reputation not= Clean Access AND Reputation not= Unknown Access	High	Secure Private Access	Custom	28	Oct 26, 2022, 17:25
CVAD -First time access from new device	Medium	Apps and Desktops	Custom	11	Oct 25, 2022, 13:35
CVAD-Session started outside of geofence	Medium	Apps and Desktops	Custom	10	Oct 27, 2022, 11:33

When you select a risk indicator, you are redirected to the page that summarizes the details of that indicator. For example, if you select the **First time access from new device** risk indicator, you are redirected to the page that summarizes details about this indicator. The summary includes timeline details about the occurrences of this event and a user summary that lists the users that triggered this risk indicator, risk indicator occurrences, and the time of the event. When you select a user, you are redirected to the user’s risk timeline.



Note

Citrix Analytics groups default risk indicators under the appropriate risk category. For custom risk indicators, you must select a risk category on the **Create Indicator** page. For more information, see [Custom risk indicators](#).

Types of risk categories

**Data exfiltration** This category groups risk indicators triggered by malware or by employees who perform unauthorized data transfers or data thefts to or from a device in an organization. You can get insights into all the data exfiltration activities that have taken place during a specified time period, and mitigate the risks associated with this category by proactively applying actions on user profiles.

The Data exfiltration risk category groups the following risk indicator:

**Data Sources****User Risk Indicators**

Citrix Virtual Apps and Desktops and Citrix DaaS	Potential data exfiltration
--	-----------------------------

**Insider threats** This category groups risk indicators triggered by employees within an organization. Since employees have higher levels of access to company-specific applications, organizations are at a higher chance of security risks. Risky activities might be intentionally caused by a malicious insider or might be a result of a human error. In either of the scenarios, the security impact on the organization is damaging. This category provides insights into all the insider threat activities that have taken place during a specified time period. With the help of these insights, you can mitigate the risks associated with this category by proactively applying actions on user profiles.

The Insider threats risk category groups the following risk indicators together:

**Data Sources****User Risk Indicators**

Citrix Secure Private Access	Attempt to access the blacklisted URL
Citrix Secure Private Access	Excessive data download
Citrix Secure Private Access	Risky website access
Citrix Secure Private Access	Unusual upload volume

**Compromised users** This category groups risk indicators in which users display unusual behavioral patterns such as suspicious sign-ins, and sign-in failures. Alternatively, the unusual patterns might be a result of the user accounts being compromised. You can get insights into all the compromised user events that have taken place during a specified time period, and mitigate risks associated with this category by proactively applying actions on user profiles.

The Compromised users' risk category groups the following risk indicators together:

**Data Sources****User Risk Indicators**

Citrix Gateway	End point analysis scan failure
Citrix Gateway	Excessive authentication failures
Citrix Gateway	Impossible travel
Citrix Gateway	Logon from suspicious IP
Citrix Gateway	Unusual authentication failure
Citrix Virtual Apps and Desktops and Citrix DaaS	Suspicious Logon

Data Sources	User Risk Indicators
Citrix Virtual Apps and Desktops and Citrix DaaS	Impossible travel
Microsoft Graph Security	Azure AD Identity Protection risk indicators
Microsoft Graph Security	Microsoft Defender for Endpoint risk indicators

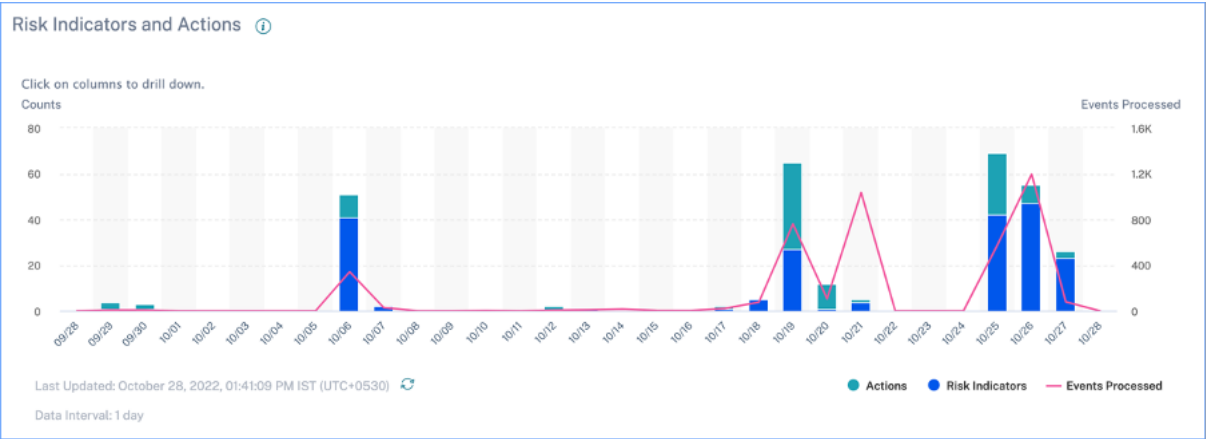
**Compromised endpoints** This category groups risk indicators that are triggered when devices exhibit unsecure behavior that might indicate a compromise.

The Compromised endpoints risk category groups the following risk indicators together:

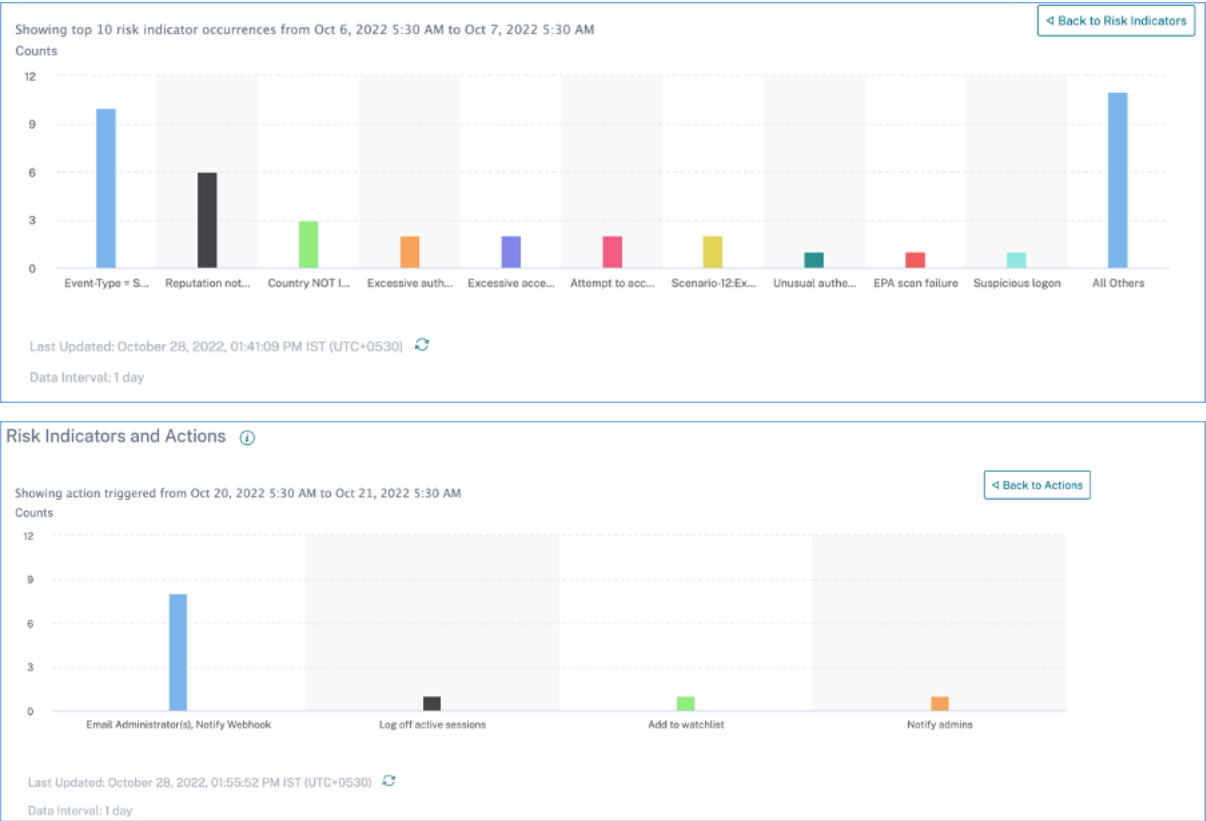
Data Sources	User Risk Indicators
Citrix Endpoint Management	Unmanaged device detected
Citrix Endpoint Management	Jailbroken or rooted device detected
Citrix Endpoint Management	Device with blacklisted apps detected

Risk indicators and actions

You can view the triggered risk indicators and the applied actions for your users for the selected time period. The new **Risk Indicators and Actions** bar chart provides the counts of indicators, actions, and events detail over time, with the overall time range and bar interval derived from the selected time period.



Clicking a bar segment for either indicators or actions yields a drill-down visualization of the counts per indicator or action, respectively.



In the indicator drill-down, clicking an individual indicator bar goes to the corresponding risk indicator page, for the selected time period.

### Access Summary

This dashboard summarizes all the Gateway access events for a selected time period. It shows the number of total access, successful access, and failed access through Citrix Gateway.

Click the pointers on the graph to view the [Self-service search for Gateway](#) page. For successful sign-in scenarios, Gateway access events are sorted by the status code on the page.



Policies and Actions

Displays the top five policies and actions applied on user profiles for a selected time period. Click the **See More** link on the **Policies and Actions** pane to get detailed information about the policies and actions.

Policies and Actions ⓘ

Top Policies

Top Actions

POLICY	USERS	OCCURRENCES
Request End User Response if ekam@smarttools.clm ...	1	40
Session-start-outside-geofence	3	9
push notification policy	1	6
Request End User Response if Unusual authentication...	1	1
Notify administrator(s) if Jailbroken / rooted device de...	1	1

See More

Top Policies

The top five configured policies are determined based on the number of occurrences. When you are in the **Top Policies** section of the dashboard and select **See More**, you are redirected to the **All Policies** page.

All Policies

Search Policies

Last 1 Month

Filters

Clear All

Actions Taken

☐ Request End User ...

☐ Log off active sess...

☐ Remove from watc...

☐ Notify admin

☐ Add to watchlist

8 Policies

POLICY	USERS	OCCURRENCES	DATE AND TIME
Request End User Response if ekamgsmarttools.com CVD C	1	40	Oct 25 5:11 PM
Session-start-outside-geo/once	3	9	Oct 27 11:34 AM
push notification policy	1	6	Oct 19 5:47 PM
Request End User Response if Unusual authentication failure-check manual actions menu	1	1	Oct 27 3:51 AM
Notify administrator(s) if Jailbroken / rooted device detected	1	1	Oct 27 2:07 AM

**All policies** This page provides detailed information about all the configured policies. When you select any policy, you are redirected to the [Self-service search for Policies](#) page. On the left pane, you can filter based on the actions applied.

When you select a user name, you are redirected to the risk timeline. The policy-based action is added to the user’s risk timeline. When you select the action, its details are displayed on the right pane of the risk timeline.

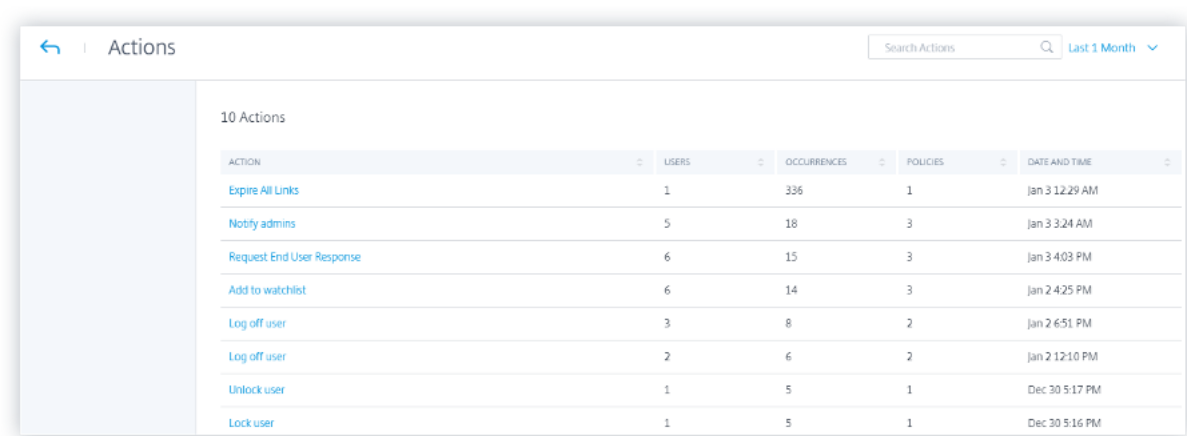
Top Actions

The top five actions associated with the policies that were applied to the user profiles. This section does not display the actions that you have applied manually on the user profiles. The top actions are determined by the number of occurrences.

Click **See More** to view all the policies-based actions on the **Actions** page.

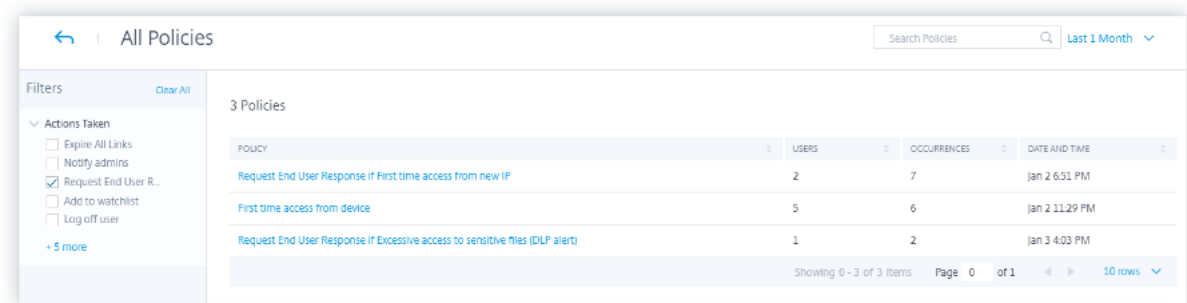
**Actions** The page provides the list of all policies-based actions that have been applied to your users for the selected time period. You view the following information:

- Name of the action applied as per the policy
- Number of users on which the action has been applied
- Number of occurrences of the action
- Number of policies associated with the action
- Date and time of the applied action



ACTION	USERS	OCCURRENCES	POLICIES	DATE AND TIME
<a href="#">Expire All Links</a>	1	336	1	Jan 3 12:29 AM
<a href="#">Notify admins</a>	5	18	3	Jan 3 3:24 AM
<a href="#">Request End User Response</a>	6	15	3	Jan 3 4:03 PM
<a href="#">Add to watchlist</a>	6	14	3	Jan 2 4:25 PM
<a href="#">Log off user</a>	3	8	2	Jan 2 6:51 PM
<a href="#">Log off user</a>	2	6	2	Jan 2 12:10 PM
<a href="#">Unlock user</a>	1	5	1	Dec 30 5:17 PM
<a href="#">Lock user</a>	1	5	1	Dec 30 5:16 PM

Click an action to view all the associated policies. These policies are sorted based on the number of occurrences. For example, click **Request end user response** on the **Actions** page. The **All Policies** page displays all the policies associated with the **Request end user response** action.



POLICY	USERS	OCCURRENCES	DATE AND TIME
<a href="#">Request End User Response if First time access from new IP</a>	2	7	Jan 2 6:51 PM
<a href="#">First time access from device</a>	5	6	Jan 2 11:29 PM
<a href="#">Request End User Response if Excessive access to sensitive files (DLP alert)</a>	1	2	Jan 3 4:03 PM

On the **All Policies** page, click a policy to view the user events on which the action has been applied.

### Risk Indicators

Summarizes the top five risk indicators for a selected time period. The risk indicators can be default or custom. For default risk indicators, Citrix Analytics collects data from the discovered data sources and on which the data processing is enabled.

For custom risk indicators, Citrix Analytics collects data from the following data sources based on the risky events generated:






- Citrix Gateway
- Citrix Secure Private Access
- Citrix Virtual Apps and Desktops
- Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)

On the **Risk Indicators** pane, you can view the top five risk indicators and sort them based on total occurrences or severity.

Risk Indicators ⓘ

Severity

Total Occurrences

SEVERITY	OCCURRENCES	TYPE	NAME
 High	3	Default	<a href="#">Excessive access to sensitive ...</a>
 Medium...	26	Default	<a href="#">Unmanaged device detected</a>
 Medium...	2	Default	<a href="#">First time access from new d...</a>
 Medium...	1	Default	<a href="#">First time access from new IP</a>
 Medium...	1	Default	<a href="#">Excessive downloads</a>


See More


Click **See More** on the **Risk Indicators** pane to view the **Risk Indicator Overview** page.


← | Risk Indicator Overview

Last 1 Month ▾








Total Occurrences  
280

 High Risk Occurrences  
134

 Medium Risk Occurrences  
143

 Low Risk Occurrences  
3

19 Risk Indicators

NAME	SEVERITY	DATA SOURCE	TYPE	OCCURRENCES	LAST OCCURRENCE
<a href="#">Excessive access to sensitive files (DLP alert)</a>	 High	Content Collaboration	Default	71	Jul 07, 2020, 17:05
<a href="#">Device-ID = Nativedesk-1</a>	 High	Virtual Apps and Desktops	Custom	47	Jun 29, 2020, 22:22
<a href="#">Unmanaged device detected</a>	 Medium	Endpoint Management	Default	28	Jun 30, 2020, 16:38
<a href="#">Attempt to Access Blacklisted URL</a>	 Medium	Secure Private Access	Default	27	Jul 07, 2020, 11:14
<a href="#">First time access from new device</a>	 Medium	Virtual Apps and Desktops	Default	18	Jul 07, 2020, 10:18
<a href="#">Jailbroken / rooted device detected</a>	 High	Endpoint Management	Default	14	Jun 30, 2020, 16:38
<a href="#">Device with blacklisted apps detected</a>	 Medium	Endpoint Management	Default	14	Jun 30, 2020, 16:38

## Access assurance dashboard

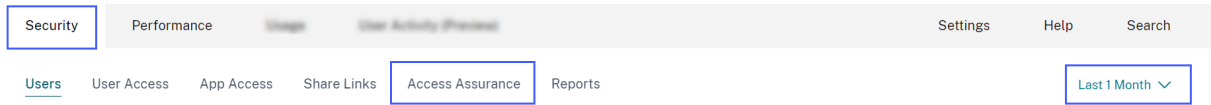
November 23, 2022

With an increase in remote working, as a Citrix IT administrator, you might want to get an assurance that your users are accessing Citrix Virtual Apps and Desktops or Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) from their usual and safe locations. If any users have logged on from unknown locations or new locations, you can validate their logon details and take necessary actions to mitigate any threats to your Citrix IT environment.

The Access Assurance dashboard provides an overview of the locations and networks from where your users are accessing virtual apps or virtual desktops. Citrix Analytics for Security receives these user logon events from Citrix Workspace app installed on the users' devices. For more details on supported versions, refer [Citrix Workspace app version matrix](#).

### View the dashboard

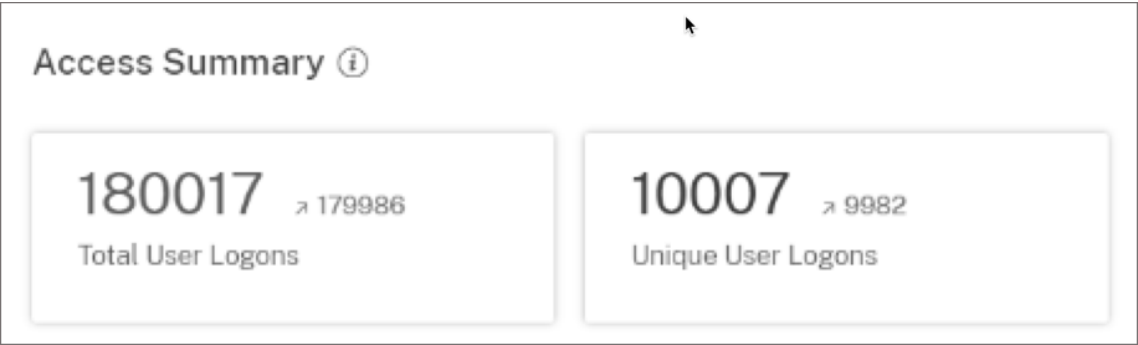
To view the dashboard, click **Security > Access Assurance**. Select the time period for which you want to view the logon details.



### Access summary

The summary section of the dashboard provides the following information for a selected period:

1. Total number of user logons across the locations (worldwide).
2. Total number of unique user logons across the locations (worldwide).



Logon location

The **Logon Locations** section provides the following information for a selected period:

- Total number of countries from where the users have logged on.
- Total number of cities from where the users have logged on.
- Total number of countries and the unique user logons in the geofencing areas. To view the logon details from the geofencing areas, enable geofencing.
- Top 10 locations with unique user logons. Sometimes the top unique user logons are also from unknown cities and countries and these are listed under the **Unknown Locations** tab. The list of unknown locations is also a subset of the top 10 locations. To find the reasons why some locations are unidentified, see Locations identified as not available.

You can also view the upward or downward trend of the total user logons worldwide and the total unique user logons worldwide. For the top 10 locations, the **DEVIATION** column shows the change (positive (+) or negative (-)) in the user logons for each location. This comparison is based on the selected time period and the previous time period of equal length. For example, if you select the time period **Last 1 Month**, the user logon trend and the deviation are compared between the last 1 month and the previous to last 1 month.

Note

The location information is provided at the city and the country level and does not represent a precise geolocation. For more details on Access assurance, Geolocation, refer [FAQ](#).

Access Summary ⓘ

180017 ↗ 179986

Total User Logons

10007 ↗ 9982

Unique User Logons

Logon Locations ⓘ

18 ↗ 1

Countries have User logons

2 ↘ 1

Cities have User logons

Logons outside of geofence ⚠

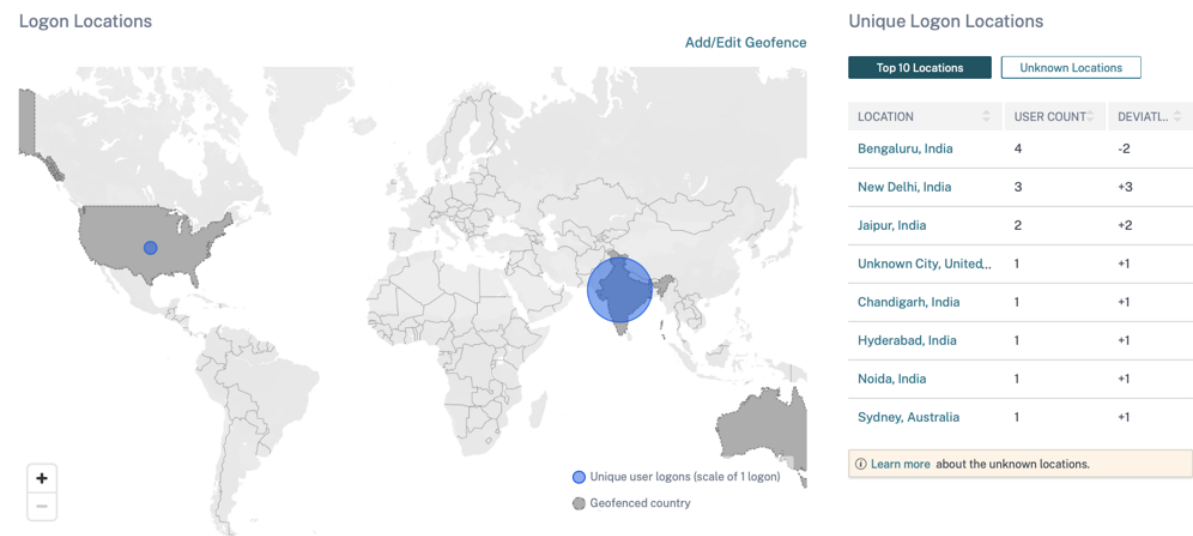
Countries3

Unique User Logons7

On the **Top 10 Unique Logon Locations** table, select a location to view the users and their access profiles and logon details.

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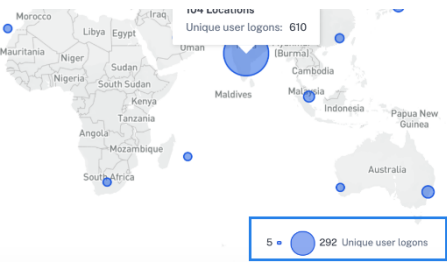
407



The map displays the number of unique users from various locations for a selected period. Hover over the blue bubble or zoom in to a location to view the total number of unique user logons from the location. Click the blue bubble to view the access details for a location.



On the bottom right corner of the map, you can view the range of the unique user logons. For a selected period, the small bubble indicates the minimum number of the unique user logons across the locations. The large bubble indicates the maximum number of the unique user logons across the locations.



Locations identified as not available

On the **Top 10 Unique Logon Locations** table, you might see that some locations are unknown or unavailable. Click an unknown location to view the corresponding user logon details on the **User Logons** page.

On the **User Logons** page, the **DATA** table displays the **NA** label if any country or city information is unavailable.

Hover over the **NA** label to view the reason why the location information is unavailable.

DATA

Export to CSV format | Add or Remove Columns | Sort By

	TIME	USER NAME	CLIENT IP	CITY	COUNTRY	OS NAME
>	Oct 27, 11:51 AM			NA	United States	Windows 10 Server
>	Oct 27, 11:39 AM			NA	United States	Windows 10 Server
>	Oct 11, 5:21 PM			NA	United States	Windows 10

You might see one of the following scenarios for the unavailability of a location:

Scenario	Reasons
----------	---------

The city name and the country name are not available.

One of the following

1. The users are using an unsupported version of Citrix Workspace app. To view the location information, update the client to a [supported version](#).

Locations with private IPs

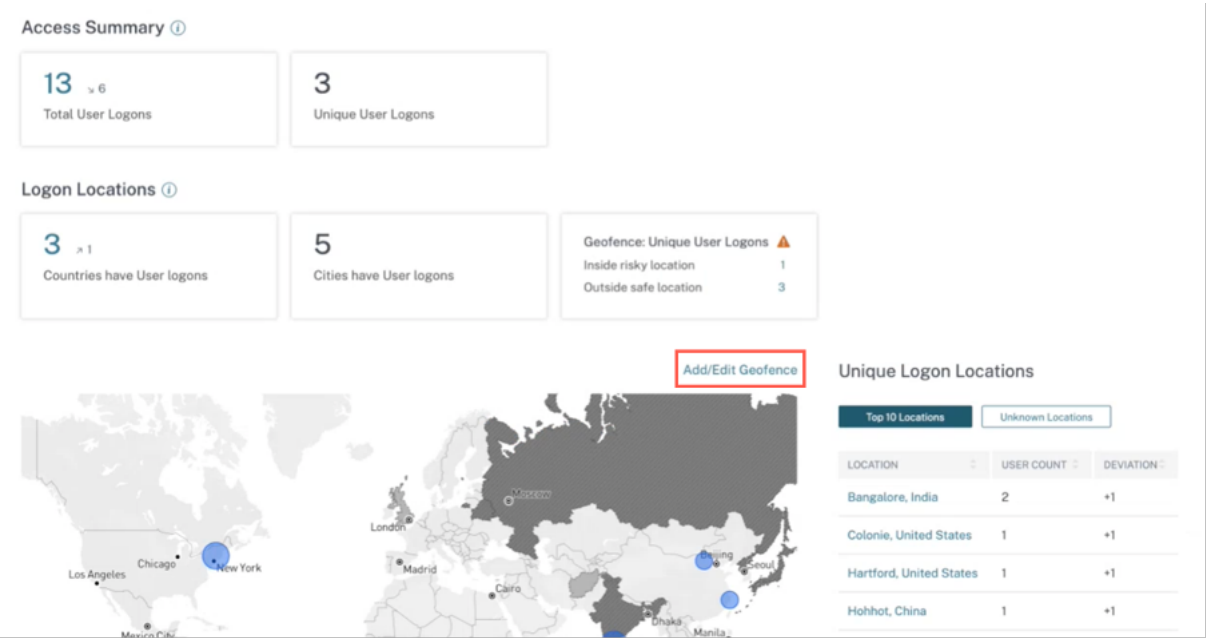
The user’s device is within a private network. In this case, the location information is unavailable to Citrix Analytics.

Scenario	Reasons
The country name is available but the city name is not available.	The user's device might be using a corporate IP. The corporate IP ranges are obfuscated in the external geo-location service. Therefore, the location information is unavailable to Citrix Analytics.

Enable geofencing

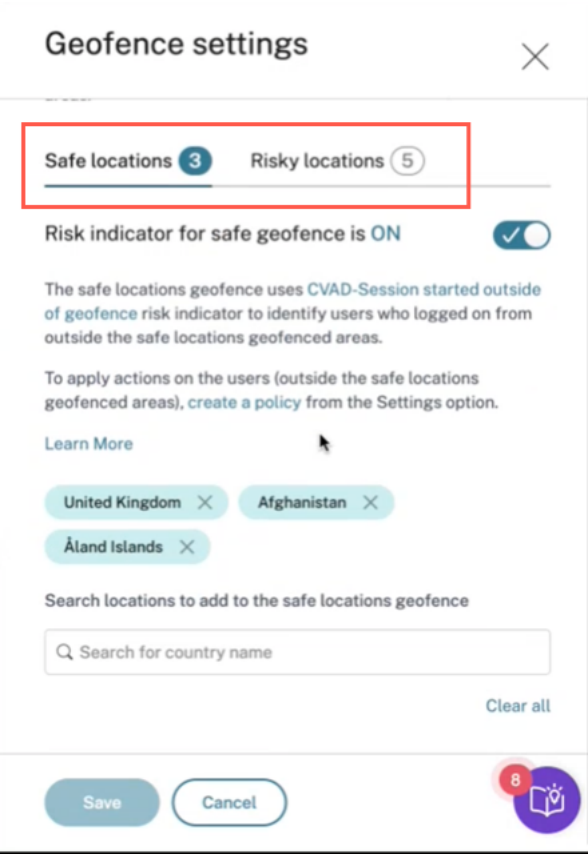
Geofencing helps you to identify the users who access virtual apps or virtual desktops from outside safe geofence and inside risky geofence areas. To view the **Access Summary** page, navigate to **Security > Access Assurance**.

By default, the **Geofence Settings** is always turned on. To configure your geofence, click **Add/Edit Geofence**.

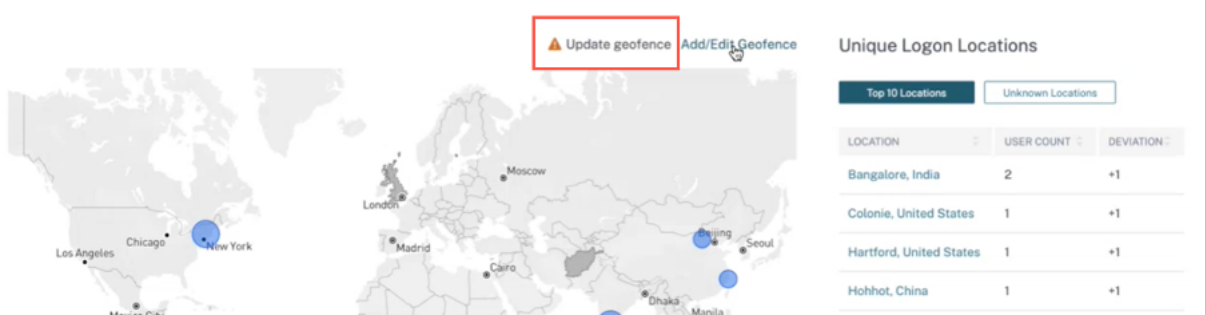


The **Geofence Settings** window appears with two tabs:

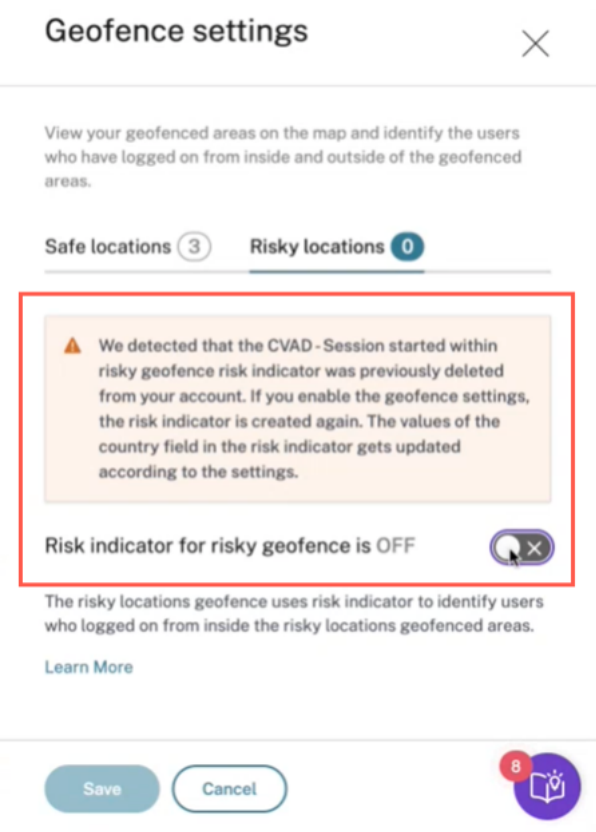
- **Safe locations:** You can configure or remove the countries that fall under safe location.
  - **Risky locations:** You can configure or remove the countries that fall under risky location.
- You can also view the total number of safe and risky locations configured on each tab. To delete or remove a country from a Safe location geofence or Risk location geofence, click the close (X) sign next to the country. Click **Save** to save the Geofence settings.



You can configure the countries that fall under Risky locations geofence. If there are no risk indicators added for Risky Locations geofence or the risk indicators are deleted, you can see a **Update geofence** warning message next to **Add/Edit Geofence**.



To recreate the indicator, navigate to **Risky locations** tab and turn on the **Risk indicator for risky geofence** toggle.



The indicator is created with the default list of risky locations.

The **Access Summary** page also displays the Geofenced safe and risky countries.

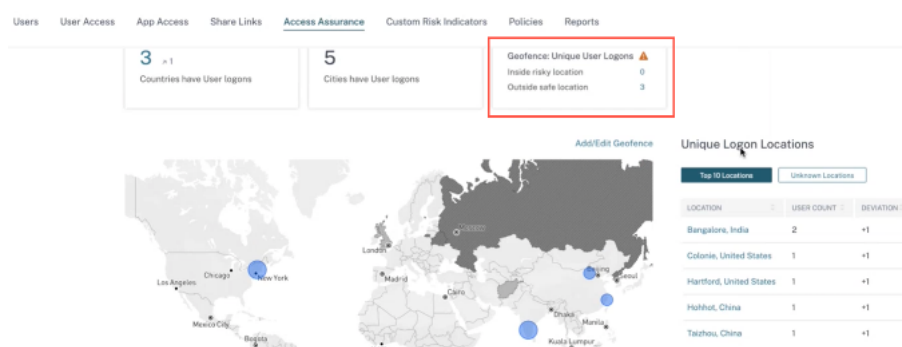
- Geofenced Safe countries are marked with the light gray circle.
- Geofenced Risky countries are marked with the dark gray circle.



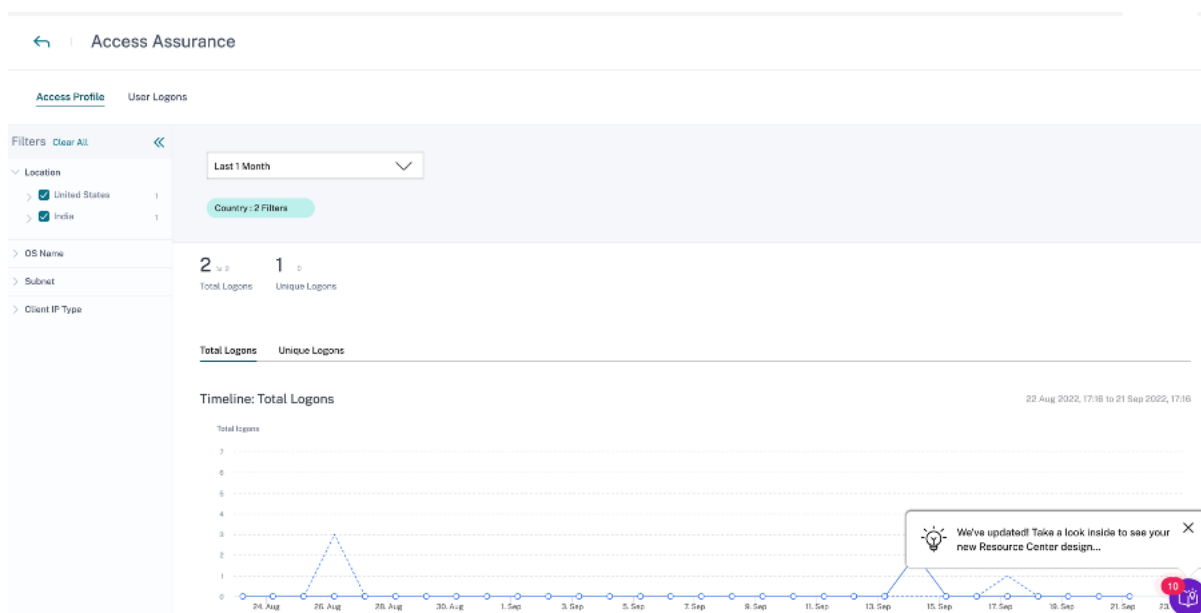
## Geofence: Unique User Logons

Navigate to Access Summary page to view Geofence: Unique User Logons. The card shows the number of Inside risky locations and Outside safe locations.

- **Inside risky location:** Identify users who logged on from inside the risky locations geofenced areas.
- **Outside safe location** Identify users who logged on from outside the safe locations geofenced areas.



For a detailed summary of the total and the unique user logons, click the number next to Inside risky location or Outside safe location.



This feature uses the following preconfigure custom risk indicator:

- **CVAD-Session started outside of geofence:** To monitor user logons outside safe geofence.
- **CVAD-Session started inside risky geofence:** To monitor user logons inside the risky geofence.

If any user logons are detected outside the geofence, the risk indicator is triggered and the Session started outside of geofence policy is applied on those users. The policy triggers the *Request End User*

Response action and based on the user's response, you can take appropriate action to prevent threats from any suspicious logons. For more information, see [preconfigured custom risk indicators](#).

#### Notes

- In the **Geofence Settings**, when you modify the countries, the *CVAD-Session started outside of geofence* risk indicator also gets updated.
- For example, if you select and save the countries Australia and India as the new geofenced countries, the preconfigured condition of the risk indicator gets updated with the new countries, in addition to the United States (which is the default geofence). You can also remove the default geofenced country United States.

Preconfigured condition of the risk indicator:

```
Event-Type = \"Session.logon\" AND Country != \"\" AND Country ~ \"\" AND Country != \"United States\"
```

After updating the **Geofenced Settings**, the condition of the risk indicator:

```
Event-Type = \"Session.logon\" AND Country != \"\" AND Country ~ \"\" AND Country NOT IN (\"Australia\", \"United States\", \"India\")
```

- If the *CVAD-Session started outside of geofence* risk indicator is previously deleted from your account, enabling the **Geofence Settings** creates the risk indicator again. The geofenced countries of the risk indicator are controlled from the **Geofence Settings**.

After enabling the **Geofence Settings**, the map displays the geofenced areas and the unique user logons from these areas.

## Logon network

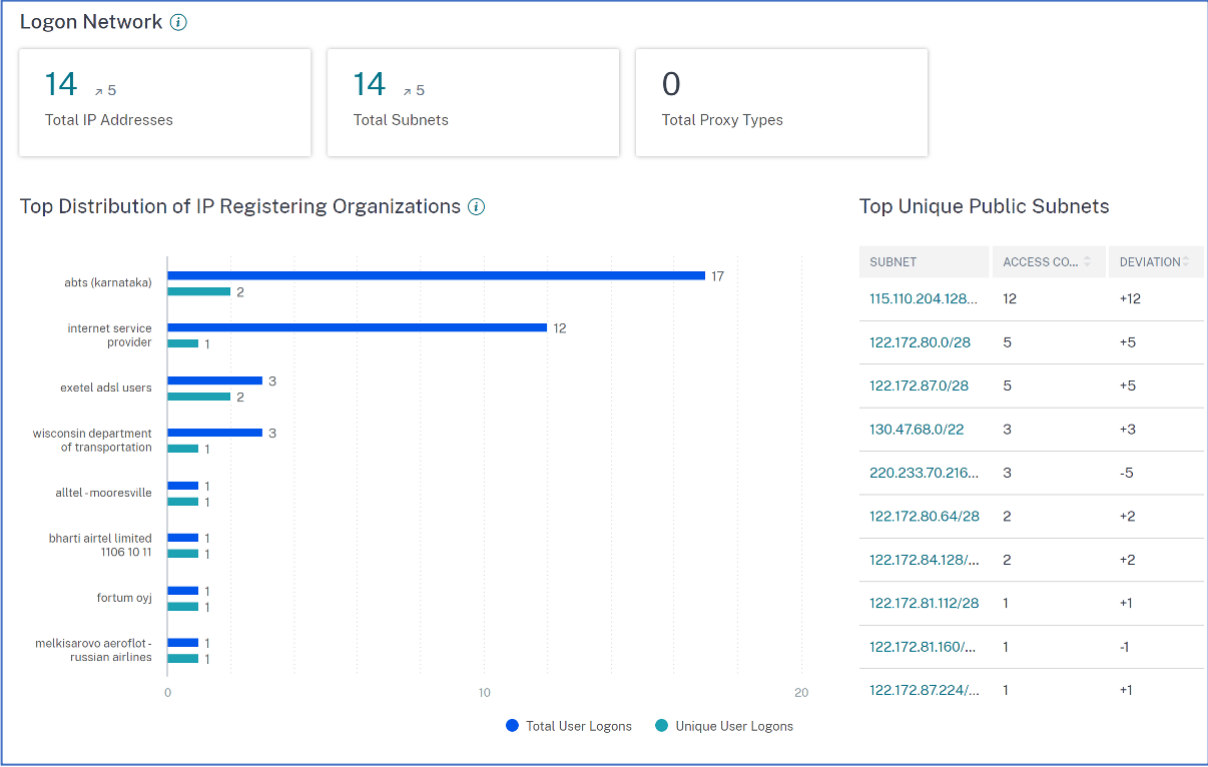
In Access Assurance dashboard, you can now view the following additional user details:

- The organizations associated with the IP addresses from which the users have logged on. These organizations include the entities such as corporate, government, educational entities, and internet service providers.
- The total unique public subnet and private subnet from where the users have logged on.
- The details that the user has logged on using proxies and private VPN services.

Using these additional details, as an administrator, you can validate the user logon details and ensure if the user logon is within the security expectation of the organization.

View user network details

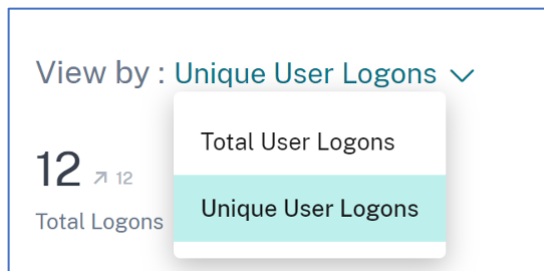
Navigate to **Security > Access Assurance** and scroll down to view details under **Logon Network**.



- **Total IP Addresses:** Indicates the total number of unique IP addresses used to log on to virtual sessions.
- **Total Subnets:** Indicates the total number of subnets used to log on to virtual sessions.
- **Total Proxy Types:** Indicates the total types of network or protocol utilized by the server to proxy the user connection.
- Under **Top Distribution of IP Registering Organizations**, you can visualize an overview of total user logons and unique logon details from each organization (ISP). You can click the chart to drill-down to view details of the users, and their access profiles and logon details associated with the selected organization.
- Under **Total Unique Public Subnets**, you can visualize an overview of the subnets, total user logons from each subnet, and the deviation trend in each subnet. You can click each subnet to drill-down to view details of the users, and their access profiles and logon details associated with the selected subnet.

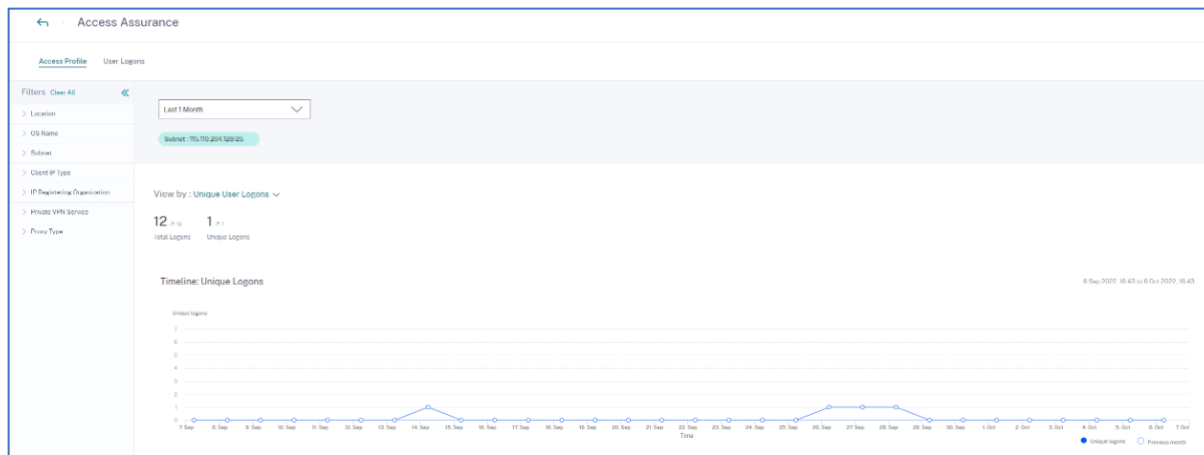
## View access profiles of the users

When you drill-down any metric (location, organization, or subnet), the **Access Profile** page provides the summary of your users' accesses to virtual apps or virtual desktops from the selected locations. You can select the unique logon or total logon option to view the trend analysis for the selected period.



You can view the top access events for the selected metric (location, organization, or subnet). This information helps you to review the access patterns and the details for threat investigation and analysis.

The upward or downward trend for the total user logons and the unique user logons is compared based on the selected time period and previous time period of equal length. For example, if you select the time period as **Last 1 Month**, the trend is compared between last 1 month and previous to last 1 month.



## Facets

You can use the following facets for the access events:

- **Location**- Filter the access events by countries and their cities.
- **OS**- Filter the access events by the operating systems and their versions.
- **Subnet**- Filter the access events by the subnets.

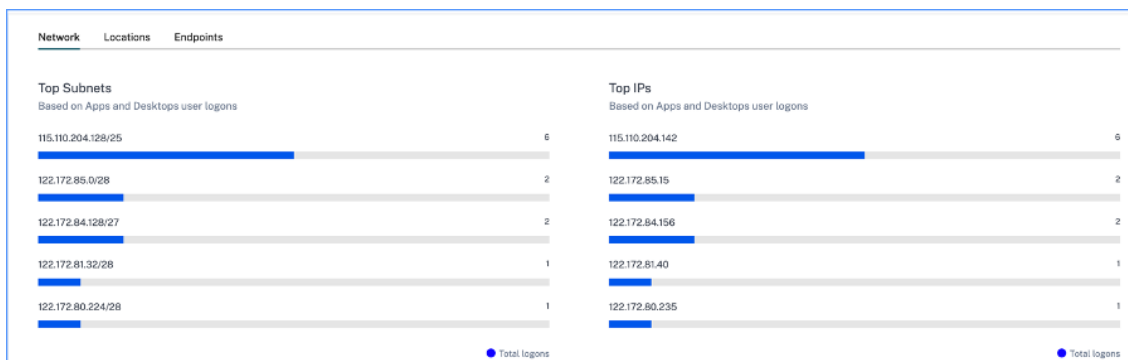
- **Client IP Type**- Filter the access events by public or private.
- **IP Registering Organization**- Filter the organization associated to the public IP address.
- **Private VPN Service**- Filter the access events by the private VPN network names.
- **Proxy Type**- Filter the access events by the proxy type classifications such as HTTP, web, Tor, and SOCKS.

#### Note

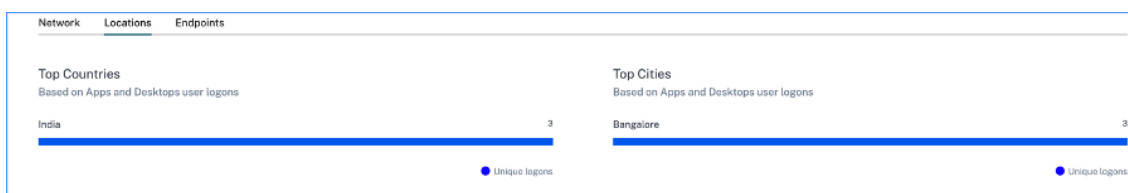
You might also see the not available label if data is either unavailable or unidentified.

Based on the applied filters, view the following information for total user logons and unique user logons:

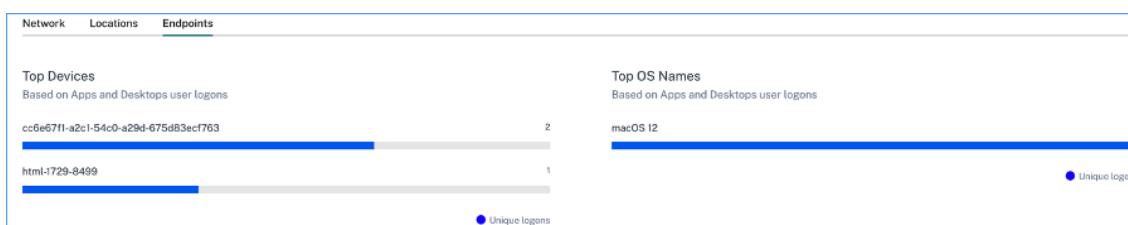
- **Network**- The top subnets and the IP addresses from which the users have logged on to virtual apps or virtual desktops.



- **Locations**- The top countries and cities from which the users have logged on to virtual apps or virtual desktops.

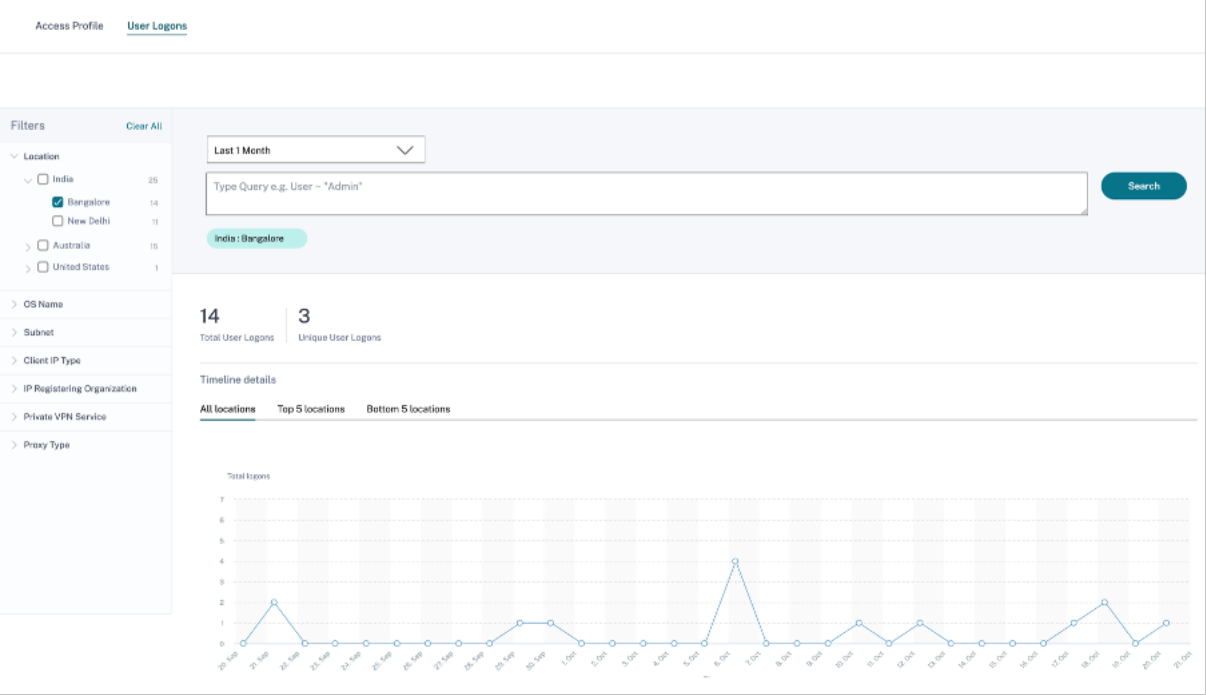


- **Endpoints**- The top device and OS names based on apps and desktops user logons.



View logons details of users

The **User Logons** page provides the details of the user logons to virtual apps or virtual desktops from the selected locations. This information helps you during threat investigation and analysis.



The **DATA** table displays the following logon details for the selected locations and the time period:

- **Time.** The date and time when the user logged on.
- **User name.** The identity of the user.
- **Client IP.** The IP address of the user device.
- **Client IP Type.** The type of IP address of the user such as public or private.
- **City and country.** The locations from where the user has logged on to virtual apps or virtual desktops.
- **Device ID.** The identity code of the user device.
- **OS name.** The operating system on the user device. For more information, see [Self-service search for Apps and Desktops](#).

DATA							Export to CSV format   Add or Remove Columns   Sort By
	TIME	USER NAME	CLIENT IP	CITY	COUNTRY	OS NAME	
>	Oct 27, 11:51 AM	[REDACTED]	[REDACTED]	NA	United States	Windows 10 Server	
>	Oct 27, 11:39 AM	[REDACTED]	[REDACTED]	NA	United States	Windows 10 Server	
>	Oct 27, 11:24 AM	[REDACTED]	[REDACTED]	Indore	India	macOS 10	
>	Oct 27, 11:20 AM	[REDACTED]	[REDACTED]	Indore	India	macOS 10	
>	Oct 26, 10:33 PM	[REDACTED]	[REDACTED]	Bengaluru	India	macOS 11	
>	Oct 26, 7:46 PM	[REDACTED]	[REDACTED]	NA	Argentina	Windows NT 6.1	

If you expand each event, you can see the following details:

- **OS version.** The version of the operating system on the user device. For more information, see [Self-service search for Apps and Desktops](#).
- **OS extra information-** Any additional information of the operating system such as build numbers, service packs, and patches. For more information, see [Self-service search for Apps and Desktops](#).
- **Workspace app version.** The build version of Citrix Workspace app or Citrix Receiver.

DATA

Export to CSV format | Add or Remove Columns | Sort By

TIME	USER NAME	CLIENT IP	CITY	COUNTRY	OS NAME
Oct 20, 4:49 PM	avinash@smarttools.cim	122.172.80.235	Bangalore	India	macOS 12
<div><div>Device Id : <div></div></div><div>OS Version : 12.5.1</div><div>Client IP Type : public</div><div>Proxy Type : NA</div><div>Subnet : macOS 12</div></div> <div><div>Workspace app version : 22.09.0.9 (2209)</div><div>OS Extra Info : 21G83</div><div>IP Registering Organization : abts (karnataka)</div><div>Private VPN Service : NA</div></div>					

On the **DATA** table, you can do the following operations:

- Click **Add or Remove Columns** to update the table columns based on how you want to view the data.
- Click **Sort By** and select the data elements to perform a multi-column sort. For more information, see [Multi-column sorting](#).
- Click **Export to CSV format** to download the data shown on the DATA table to a CSV file and use it for your analysis.

## Search bar

You can also use the search bar to define your query using the dimensions associated with a logon event.

For example:

```
User = "test user" AND Client-IP = "10.xx.xx.xx AND Client-IP-Type = public"
```

```
User = "demo_user@citrix.com" AND OS-Major-Version = "macOS 10.13" AND OS-Minor-Version = 6
```

City

Client-IP

Client-IP-Type

Country

Device-ID

IP-Registering-Organization

OS-Extra-Info

OS-Name

OS-Version

[Need help?](#)

## Facets

You can use the following facets for the logon events:

- **Locations**- Filter the logon events by countries and their cities.
- **OS**- Filter the logon events by operating system and their versions.
- **Subnet**- Filter the access events by the subnets.
- **Client IP type**- Filter the access events by the public and the private IP types.
- **IP Registering Organization**- Filter the access events by user availed ISP.
- **Private VPN Service**- Filter the access events by the private VPN network names.
- **Proxy Type**- Filter the access events by the proxy type classifications such as HTTP, web, Tor, and SOCKS.

### Note

You might also see the not available label if data is either unavailable or unidentified.

## User risk timeline and profile

November 30, 2023

### Note

**Attention:** Citrix Content Collaboration and ShareFile has reached its end of life and is no longer

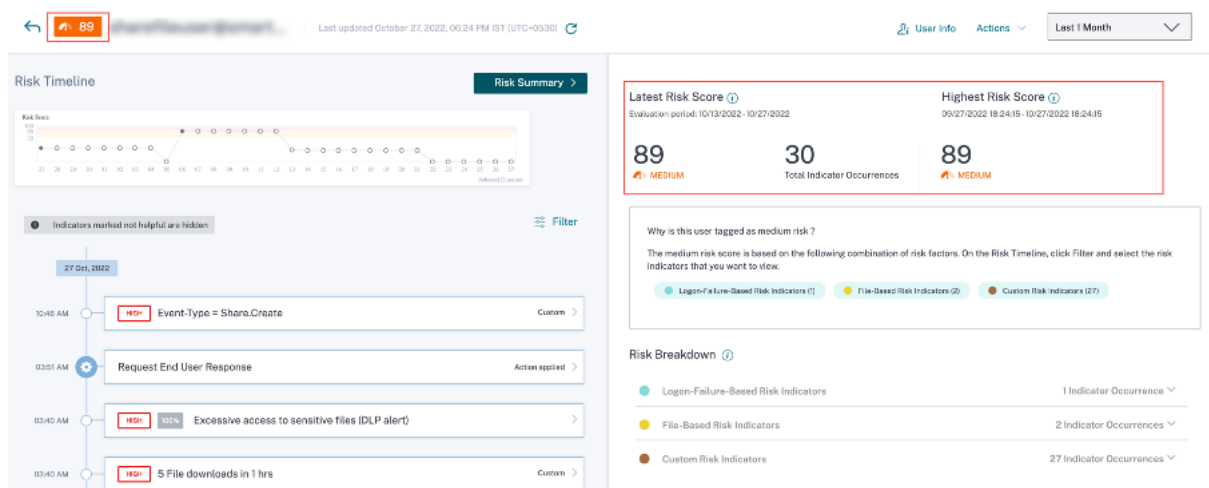
available to users.

The User risk timeline on a user's profile enables you, as a Citrix Analytics administrator, to gain deeper insights into a user's risky behavior. By default, the user risk timeline is displayed for the last one month. You can also see the corresponding actions taken on their account for a selected time period. From the User risk timeline, you can delve deeper into a user's profile to understand the following:

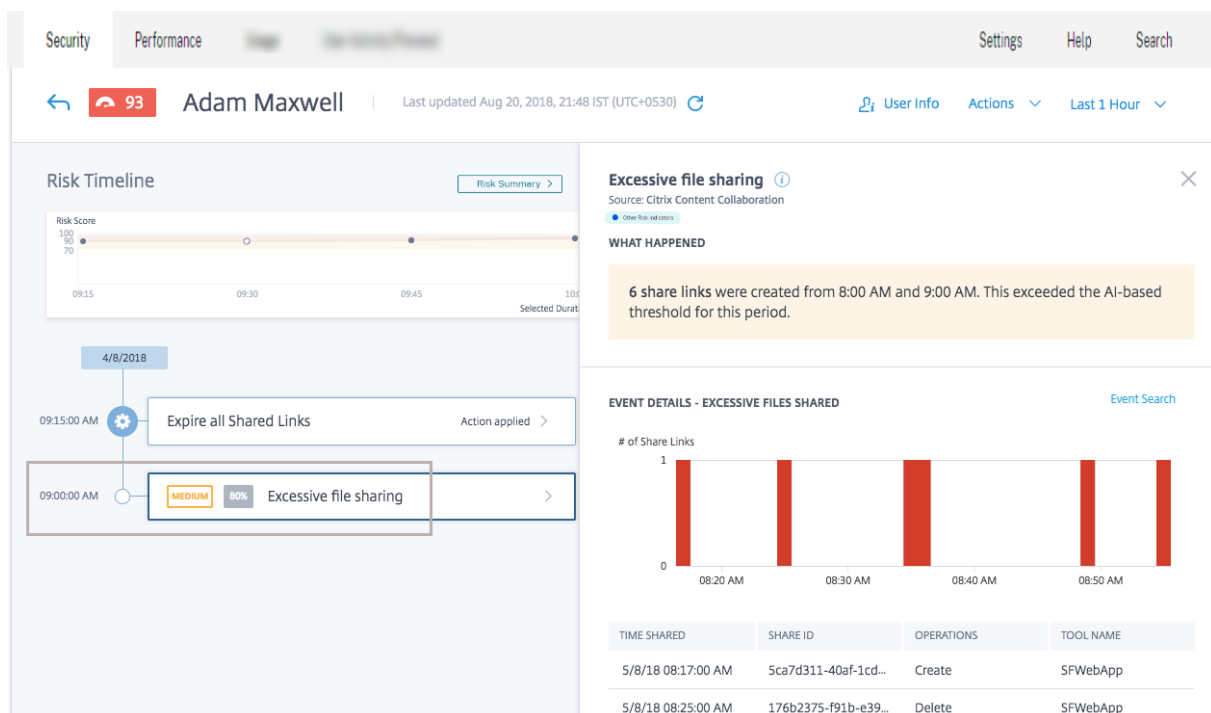
- Application Usage
- Data Usage
- Devices Usage
- Locations Usage

Also, you can view the risk score and risk indicator trends for the user and determine if the user is a high-risk user or not.

You can view the latest risk score of the user in the upper left corner of the User risk timeline page. The **Risk Summary** view reports show both the latest and historical maximum scores.



When you go to a user's risk timeline, you can select either a risk indicator or an action that has been applied to their account. If you choose one of the above, the right pane displays the risk indicator section or the action section.

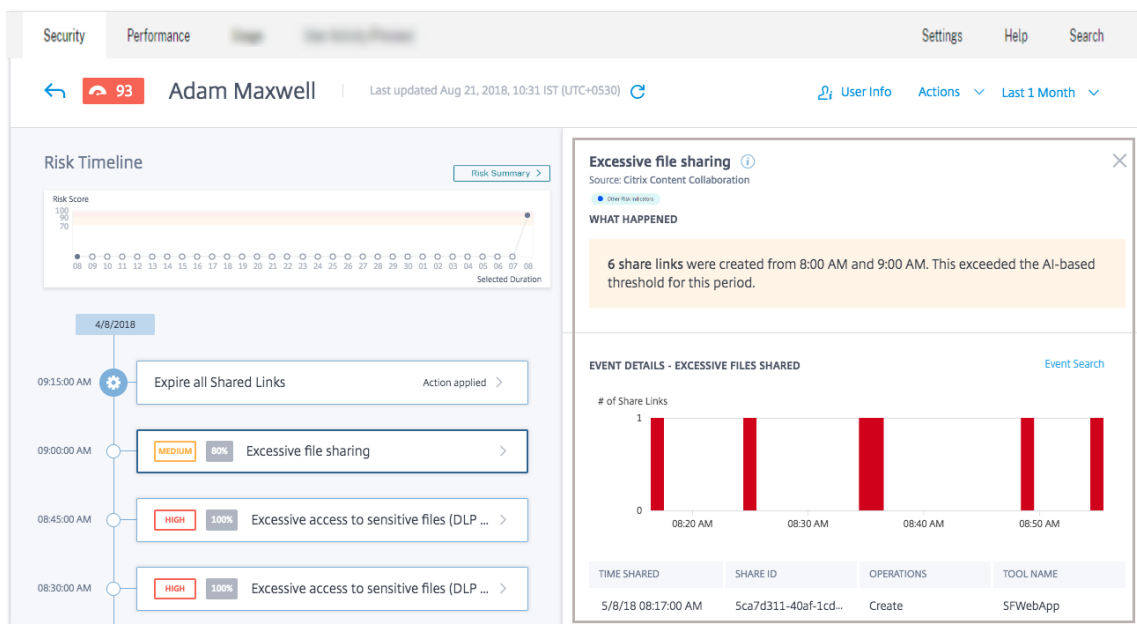


## Risk timeline

The Risk Timeline displays the following information:

- **Risk indicators.** Risk Indicators are user activities that are suspicious or can pose a security threat to your organization. The indicators are triggered when the user's behavior deviates from their normal behavior. The risk indicators can be for the following data sources:
  - Citrix Content Collaboration
  - Citrix Gateway
  - Citrix Endpoint Management
  - Citrix Virtual Apps and Desktops or Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)
  - Citrix Secure Private Access

When you select a risk indicator from the user's timeline, the risk indicator information section is displayed in the right pane. You can view the reason for the risk indicator along with details of the event. They are broadly categorized into the following sections:



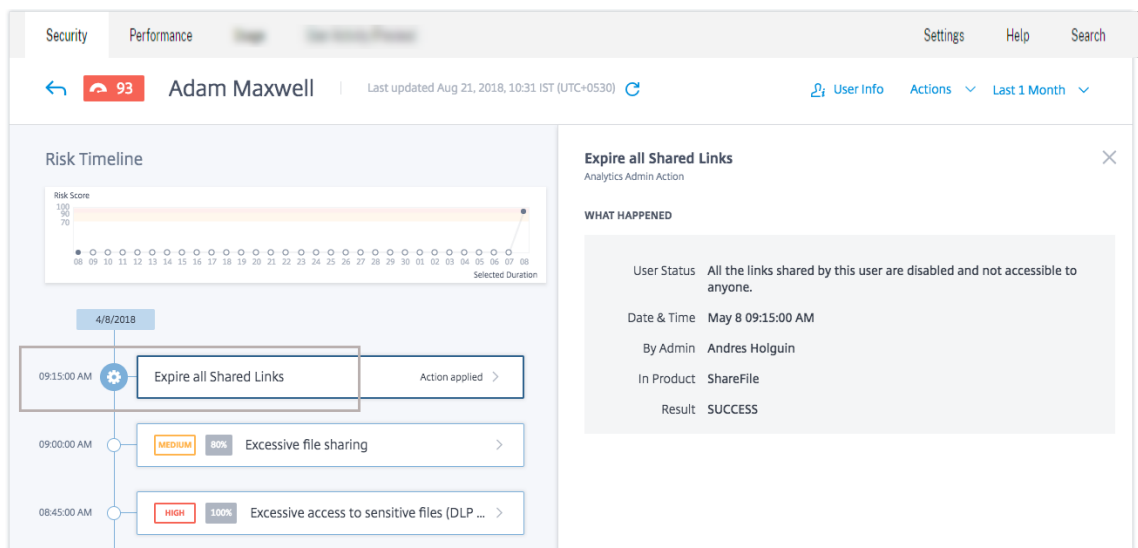
- **What happened.** You can view a summary of the risk indicator here. For example, if you have selected the **Excessive file sharing** risk indicator. In the What happened section, you can view the number of share links sent to recipients and when the sharing event occurred.
- **Event details.** You can view individual event entries in graphical and tabular format along with details of the event. Click **Event Search** to access the self-service search page and view the events corresponding to the user's risk indicator. For more information, see [Self-service search](#).
- **Additional contextual information.** You can view data shared, if any, during an event's occurrence in this section.

You can manually mark risk indicators as helpful or not helpful. For more information, see [Provide feedback for User Risk indicators](#).

Learn more: [Risk indicators](#)

- **Actions.** Actions help you respond to suspicious events and prevent future anomalous events from occurring. Actions that have been applied to a user's profile are displayed on the risk timeline. These actions are either automatically applied to a user's account through configured policies or you can apply a specific action manually.

Learn more: [Policies and actions](#).



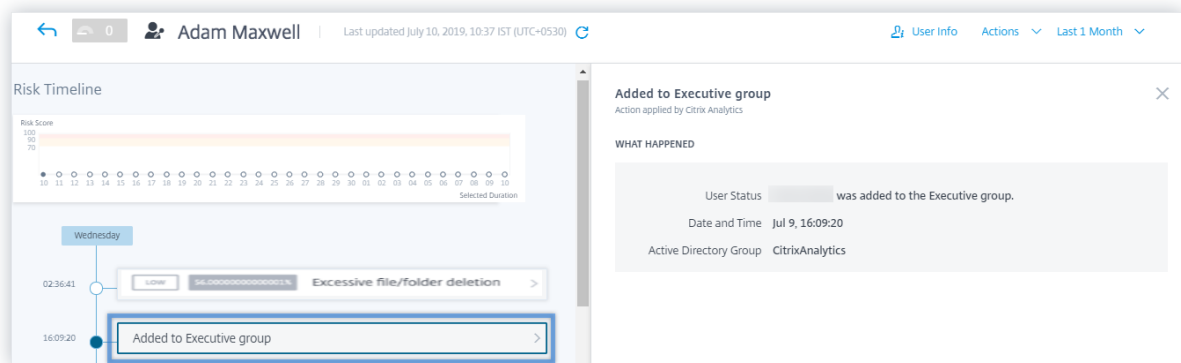
- **Privileged user events.** Privileged user events are triggered every time there is a change in the Admin or Executive privilege status of a user. When a risk indicator is triggered for a user, you can co-relate it with the specified privilege status change event. If necessary, you can apply the appropriate action on the user profile. The Admin or Executive privilege events displayed on the user risk timeline are as follows:

- Added to Executive group
- Removed from Executive group
- Privilege elevated to Admin
- Admin privilege removed

Consider the user Adam Maxwell who was added to the Executive privileged group **CitrixAnalytics**. The **Added to Executive group** event is added to the user's risk timeline. Now, Adam starts excessively deleting files and folders and triggers the machine learning algorithm that detects unusual behavior. The **Excessive file or folder deletion** risk indicator is added to the user's risk timeline. You can compare the event and the risk indicator on the risk timeline. After the comparison, you can determine if the risk indicator was triggered as a consequence of the event. If so, you can apply appropriate actions to Adam's profile. For more information on privileged users, see [Privileged users](#).

When you select an event from the user's timeline, the event information section is displayed in the right pane.

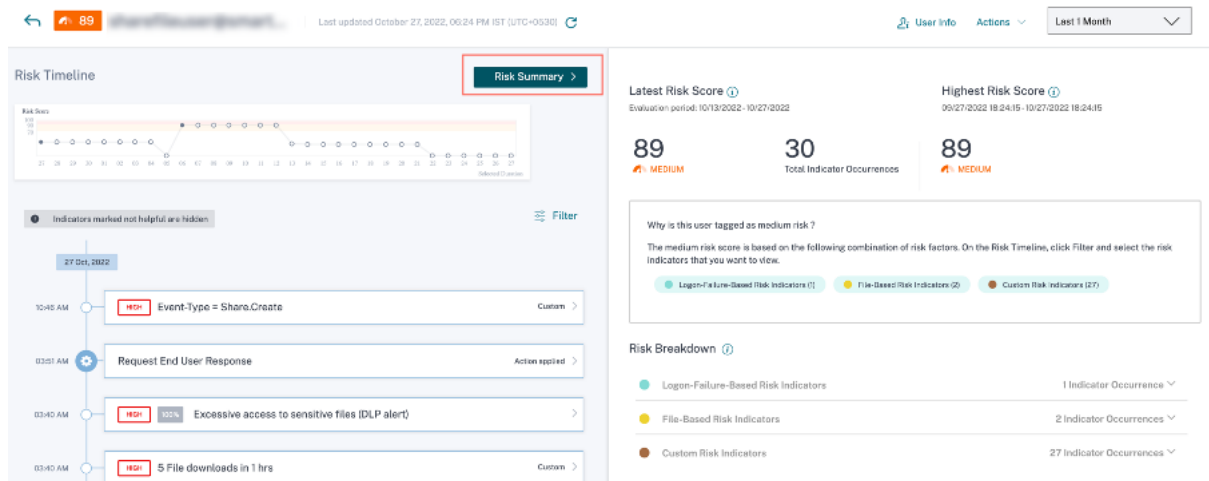
For an Executive, the right pane displays information such as **User status**, **Date and time**, and **Active Directory group**.



For an Admin privilege event, the right pane displays information such as **User status**, **Date and time**, and **In product**.

## Risk summary

View the risk factors associated with the user that contributed to their risk score. You can see the risk score details taken as the maximum over the selected time period, along with the latest score and corresponding risk indicator count. Upon navigation to the User Timeline from either the main landing page or the Risky Users page, the time selection is preserved from the source page. For more information about the risk factors, see [Citrix user risk indicators](#).

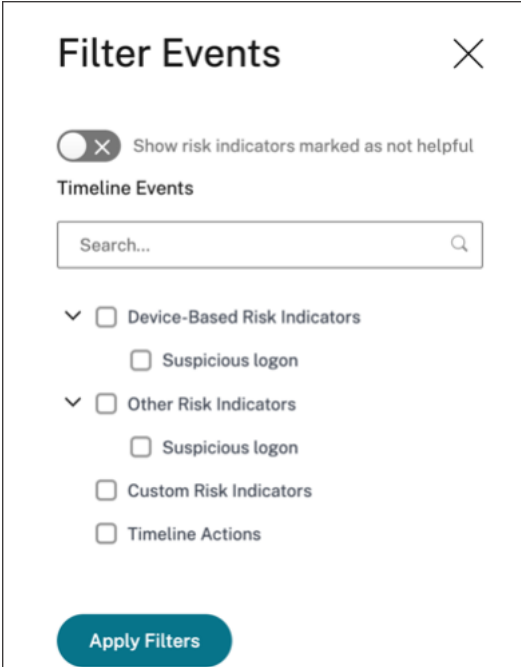


Click **Risk Summary** to view the following information:

- Latest risk score:** The latest risk score indicates the current risk of the user based on recent behavior. The risk score determines the level of risk a user poses to an organization over a trailing 2-week period. The risk score value is dynamic and varies based on user behavior analytics. Based on the score, a user can fall under one of the following categories: high-risk user, medium-risk user, low-risk user, and user with zero risk score. For more information about the user categories, see [Users dashboard](#).

- **Total indicator occurrences:** Indicates the total number of risk indicators triggered by the user in the last two weeks. These triggered risk indicators determine the user's risk score.
- **Highest Risk score:** The highest risk score indicates the maximum value of the risk scores calculated for this user within the selected time duration. It is representative of the aggregate risk for the user and may not always be equal to the latest risk score.
- **Risk factors:** Indicates one or more combinations of the risk factors associated with the user activities that contributed to the risk score.
- **Risk breakdown:** Indicates the number of risk indicators triggered by the user for each risk factor. Expand the row to view the details.

On the user timeline, click **Filter** and select the risk factors, the applied actions, or the privileged user status associated with the user and view the corresponding events.

A screenshot of the 'Filter Events' dialog box. At the top, there is a title 'Filter Events' and a close button (X). Below the title, there is a toggle switch labeled 'Show risk indicators marked as not helpful'. Underneath, the text 'Timeline Events' is displayed. A search bar with the placeholder 'Search...' and a magnifying glass icon is present. Below the search bar, there are several expandable sections with checkboxes. The first section is 'Device-Based Risk Indicators' with a checkbox for 'Suspicious logon'. The second section is 'Other Risk Indicators' with a checkbox for 'Suspicious logon'. Below these are two more checkboxes: 'Custom Risk Indicators' and 'Timeline Actions'. At the bottom of the dialog, there is a blue button labeled 'Apply Filters'.

## User profile

The **User Profile** page displays the following user information that comes from the user's active directory:

- Job Title
- Address
- Email
- Phone
- Location

- Organization



## Citrix user risk indicators

February 28, 2024

### Note

**Attention:** Citrix Content Collaboration and ShareFile have reached its end of life and is no longer available to users.

User risk indicators are user activities that look suspicious or can pose a security threat to your organization. These risk indicators span across all Citrix products used in your deployment. The risk indicators are triggered when the user's behavior deviates from the normal. Each risk indicator can have one or more risk factors associated with it. These risk factors help you to determine the type of anomalies in the user events. The risk indicators and their associated risk factors determine the risk score of a user.

The following are the risk factors associated with the risk indicators:

- **Device-based risk indicators:** Triggers when a user signs in from a device that is considered unusual based on the user's device history.
- **Location-based risk indicators:** Triggers when a user signs in from an IP address associated with a location that is considered unusual based on the user's location history.
- **IP-based risk indicators:** Triggers when a user attempts to access resources from an IP address that has been identified as suspicious, regardless of whether the IP address is unusual for the user.
- **Logon-failure-based risk indicators:** Triggers when a user has a pattern of excessive or unusual logon failures.
- **Data-based risk indicators:** Triggers when a user tries to exfiltrate data out of a Workspace session. The user behaviors under observation include copy or paste events, download patterns, and so on.
- **File-based risk indicators:** Triggers when a user's behavior regarding file access on Content Collaboration is considered unusual based on their historical access pattern. The user behaviors

under observation include download patterns, access to sensitive content, activities indicative of ransomware, and so on.

- **Custom risk indicators:** Triggers when a pre-configured condition or a user-defined condition is met. For more information, see the following articles:
  - [Custom risk indicators](#)
  - [Preconfigured custom risk indicators and policies](#)
- **Other risk indicators-** The risk indicators that do not belong to any one of the predefined risk factors such as Device-based, Location-based, and Logon failure-based.

The risk indicators are also grouped into risk categories based on the risks that are similar. For more information, see [Risk Categories](#).

The following table shows the correlation between the risk indicators, risk factors, and the risk categories.

Products	User Risk Indicator	Risk Factor	Risk Category
Citrix Endpoint Management	<a href="#">Device with blacklisted apps detected</a>	Other risk indicators	Compromised endpoints
	<a href="#">Jailbroken or rooted device detected</a>	Other risk indicators	Compromised endpoints
	<a href="#">Unmanaged device detected</a>	Other risk indicators	Compromised endpoints
Citrix Gateway	<a href="#">End point analysis (EPA) scan failure</a>	Other risk indicators	Compromised users
	<a href="#">Excessive authentication failures</a>	Logon-failure-based risk indicators	Compromised users
	<a href="#">Impossible travel</a>	Location-based risk indicators	Compromised users
	<a href="#">Logon from suspicious IP</a>	IP-based risk indicators	Compromised users
	<a href="#">Suspicious logon</a>	Device-based risk indicators, IP-based risk indicators, Location-based risk indicators, and Other risk indicators	Compromised users

Products	User Risk Indicator	Risk Factor	Risk Category
Citrix Secure Private Access	Unusual authentication failure	Logon-failure-based risk indicators	Compromised users
	Attempt to access blacklisted URL	Other risk indicators	Insider threats
	Excessive data download	Other risk indicators	Insider threats
	Risky website access	Other risk indicators	Insider threats
	Unusual upload volume	Other risk indicators	Insider threats
Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) and on-premises Citrix Virtual Apps and Desktops	Impossible travel	Location-based risk indicators	Compromised users
	Potential data exfiltration	Data-based risk indicators	Data exfiltration
	Suspicious Logon	Device-based risk indicators, IP-based risk indicators, Location-based risk indicators, and Other risk indicators	Compromised users

You can manually mark risk indicators as helpful or not helpful. For more information, see [Provide feedback for User Risk indicators](#).

## Citrix Endpoint Management risk indicators

January 7, 2022

## Device with blacklisted apps detected

Citrix Analytics detects access threats based on activity in a device with blacklisted apps and triggers the corresponding risk indicator.

The **Device with blacklisted apps detected** risk indicator is triggered when Endpoint Management service detects a blacklisted app during software inventory. The alert ensures that only authorized apps are run on devices that are on your organization's network.

The risk factor associated with the Device with blacklisted apps detected risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the device with blacklisted apps detected risk indicator triggered?

The **Device with blacklisted apps detected** risk indicator is reported when blacklisted apps are detected on a user's device. When Endpoint Management service detects one or more blacklisted apps on a device during software inventory, an event is sent to Citrix Analytics.

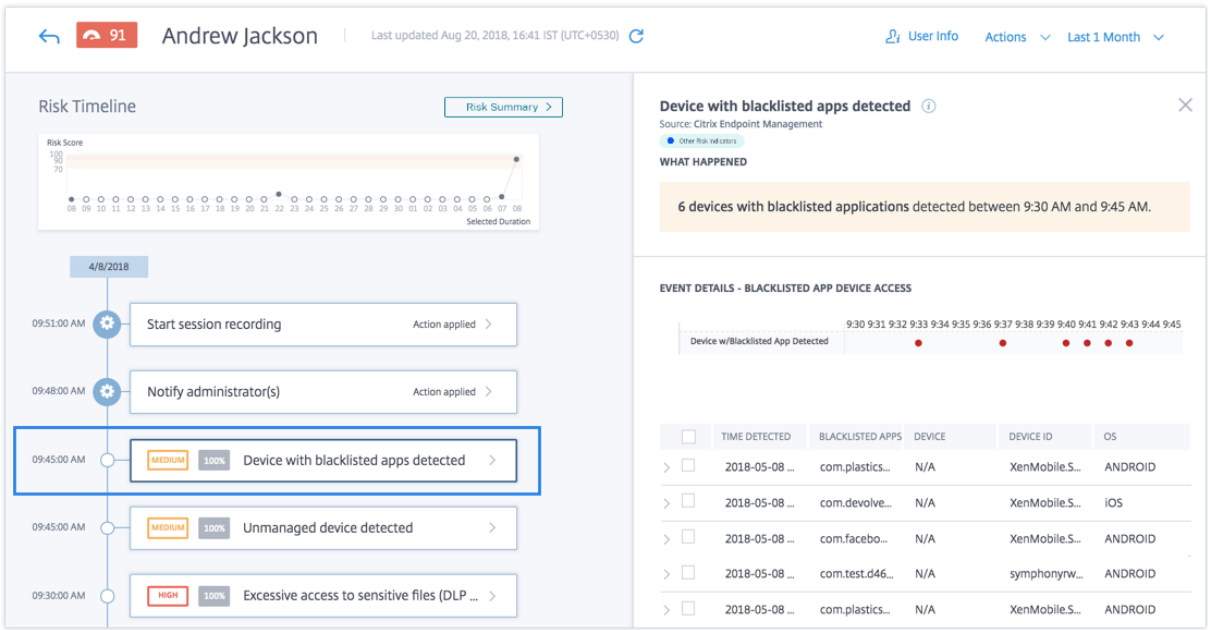
Citrix Analytics monitors these events and updates the user's risk score. Also, it adds a **Device with blacklisted apps detected** risk indicator entry to the user's risk timeline.

### How to analyze the device with blacklisted apps detected risk indicator?

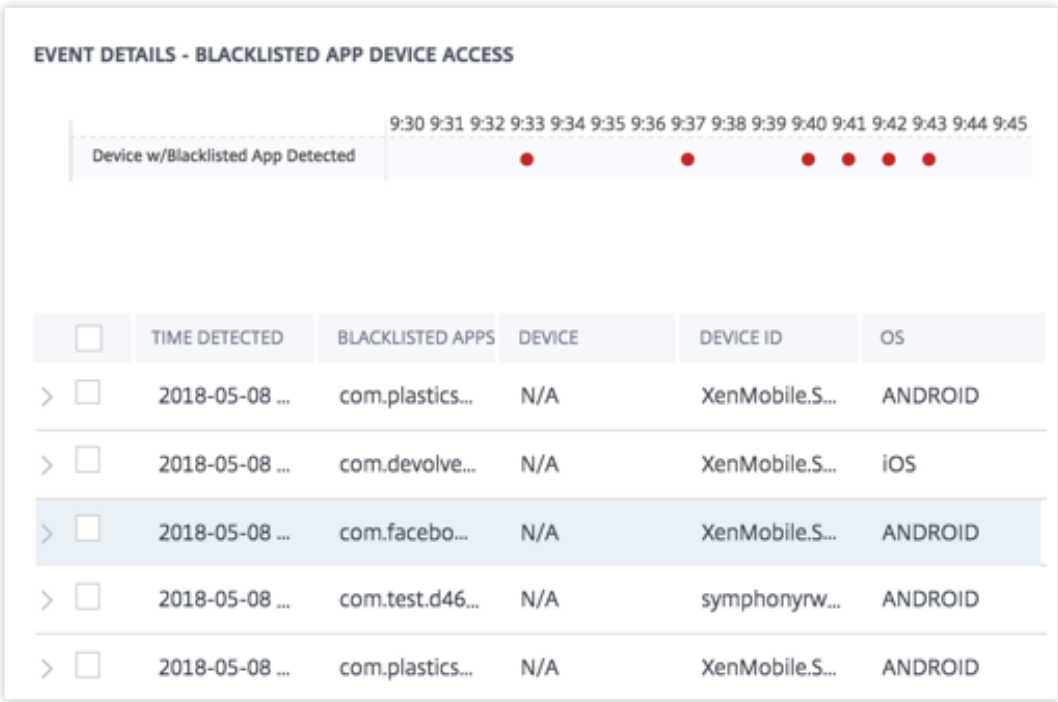
Consider the user Andrew Jackson, who used a device that had blacklisted apps recently installed. Endpoint Management reports this condition to Citrix Analytics, which assigns an updated risk score to Andrew Jackson.

From Andrew Jackson's risk timeline, you can select the reported **Device with blacklisted apps detected** risk indicator. The reason for the event is displayed along with details such as the list of blacklisted apps, time Endpoint Management detected the blacklisted app, and so on.

To view the **Device with blacklisted apps detected** risk indicator for a user, navigate to **Security > Users**, and select the user.



- In the **WHAT HAPPENED** section, you can view the summary of the event. You can view the number of devices with blacklisted applications detected by the Endpoint Management service and the time the events occurred.
- This zoomed-in view shows the 'Device with blacklisted apps detected' event. The 'WHAT HAPPENED' section contains a summary: '6 devices with blacklisted applications detected between 9:30 AM and 9:45 AM.'
- The **EVENT DETAILS –BLACKLISTED APP DEVICE ACCESS** section, the events are displayed in graphical and tabular format. The events are also displayed as individual entries in the graph, and the table provides the following key information:
    - **Time detected**- When the presence of blacklisted apps reported by Endpoint Management.
    - **Blacklisted apps**- The blacklisted apps on the device.
    - **Device**- The mobile device used.
    - **Device ID**- Information about the ID of the device that is used to log on to the session.
    - **OS**- The operating system of the mobile device.



**Note**

In addition to viewing the details in a tabular format, you can click the arrow against an alert’s instance to see more details.

What actions you can apply to the user?

You can perform the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user’s profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Jailbroken or rooted device detected

Citrix Analytics detects access threats based on jailbroken or rooted device activity and triggers the corresponding risk indicator.

The **Jailbroken or rooted device** risk indicator is triggered when a user uses a jailbroken or rooted device to connect to the network. Secure Hub detects the device and reports the incident to Endpoint Management service. The alert ensures that only authorized users and devices are on your organization's network.

The risk factor associated with the Jailbroken or rooted device risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the jailbroken or rooted device detected risk indicator triggered?

It is important for security officers to be able to ensure that users connect using network-compliant devices. The **Jailbroken or rooted device detected** risk indicator alerts you to users with iOS devices that are jailbroken or Android devices that are rooted.

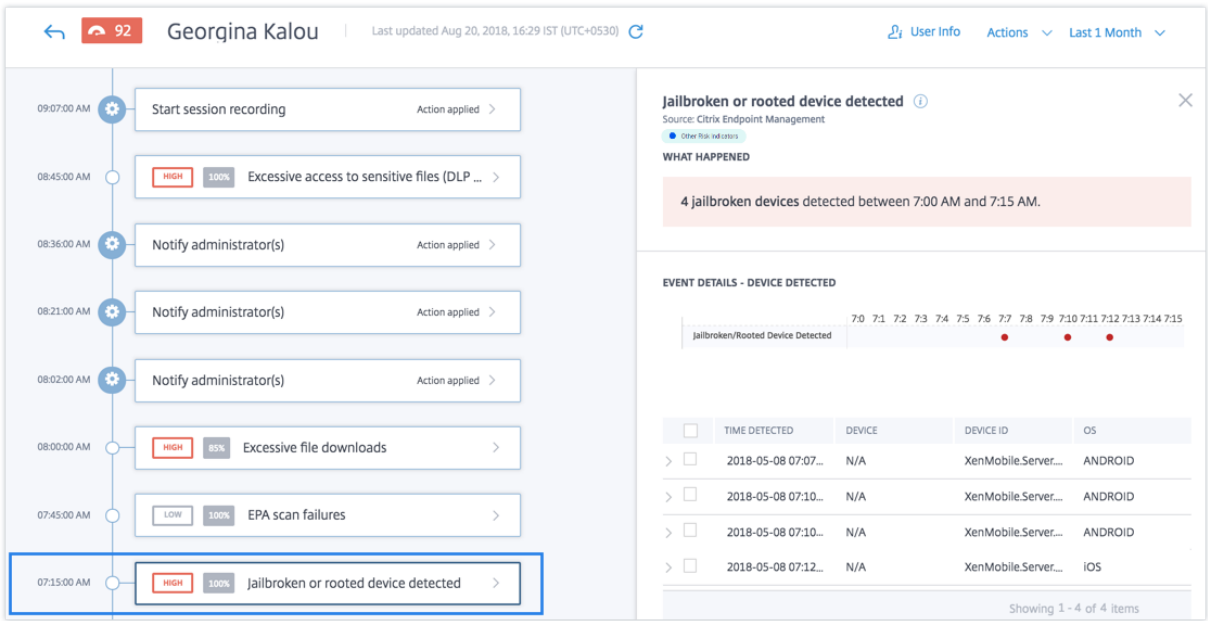
The **Jailbroken or rooted device** risk indicator is triggered when an enrolled device becomes jailbroken or rooted. Secure Hub detects the event on the device and reports it to the Endpoint Management service.

### How to analyze the jailbroken or rooted device detected risk indicator?

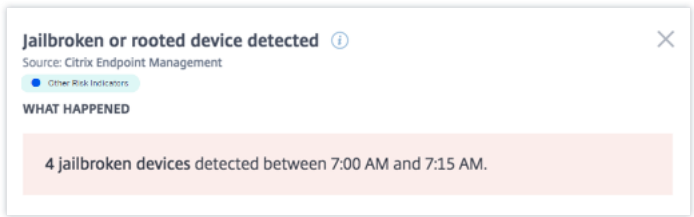
Consider the user Georgina Kalou, whose enrolled iOS device recently became jailbroken. This suspicious behavior is detected by Citrix Analytics and a risk score is assigned to Georgina Kalou.

From Georgina Kalou's risk timeline, you can select the reported **Jailbroken or rooted device detected** risk indicator. The reason for the event is displayed along with the details such as time the risk indicator was triggered, description of the event, and so on.

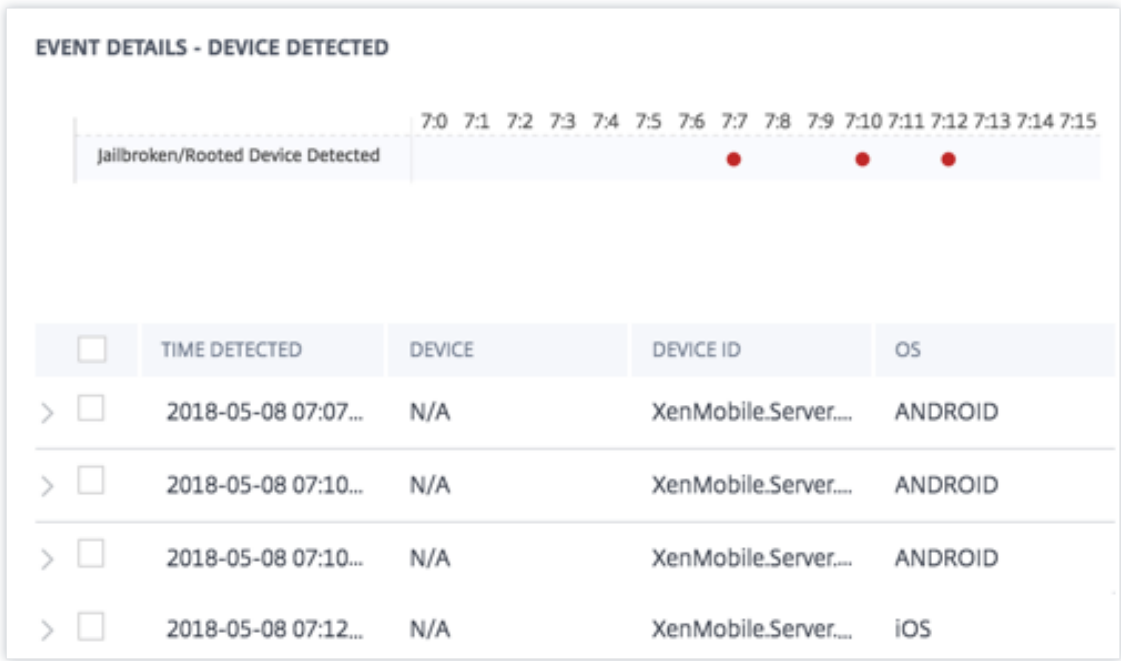
To view the **Jailbroken or rooted device detected** risk indicator for a user, navigate to **Security > Users**, and select the user.



- The **WHAT HAPPENED** section, you can view the summary of the event. You can view the number of jailbroken or rooted devices detected and the time the events occurred.



- The **EVENT DETAILS –DEVICE DETECTED** section, the events are displayed in graphical and tabular format. The events are also displayed as individual entries in the graph, and the table provides the following key information:
  - **Time detected.** The time the jailbroken or rooted device is detected.
  - **Device.** The mobile device used.
  - **Device ID.** Information about the ID of the device that is used to log on to the session.
  - **OS.** The operating system of the mobile device.



**Note**

In addition to viewing the details in tabular format, click the arrow against an alert’s instance to see more details.

**What actions you can apply to the user?**

You can perform the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user’s profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Unmanaged device detected

Citrix Analytics detects access threats based on unmanaged device activity and triggers the corresponding risk indicator.

The **Unmanaged device detected** risk indicator is triggered when a device is:

- Remotely wiped due to an automated action.
- Manually wiped by the administrator.
- Unenrolled by the user.

The risk factor associated with the Unmanaged device detected risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the unmanaged device detected risk indicator triggered?

The **Unmanaged device detected** risk indicator is reported when a user's device has become unmanaged. A device changes to an unmanaged state due to:

- An action performed by the user.
- An action performed by the Endpoint Management administrator or the server.

In your organization, using Endpoint Management service you can manage the devices and apps that access the network. For more information, see [Management Modes](#).

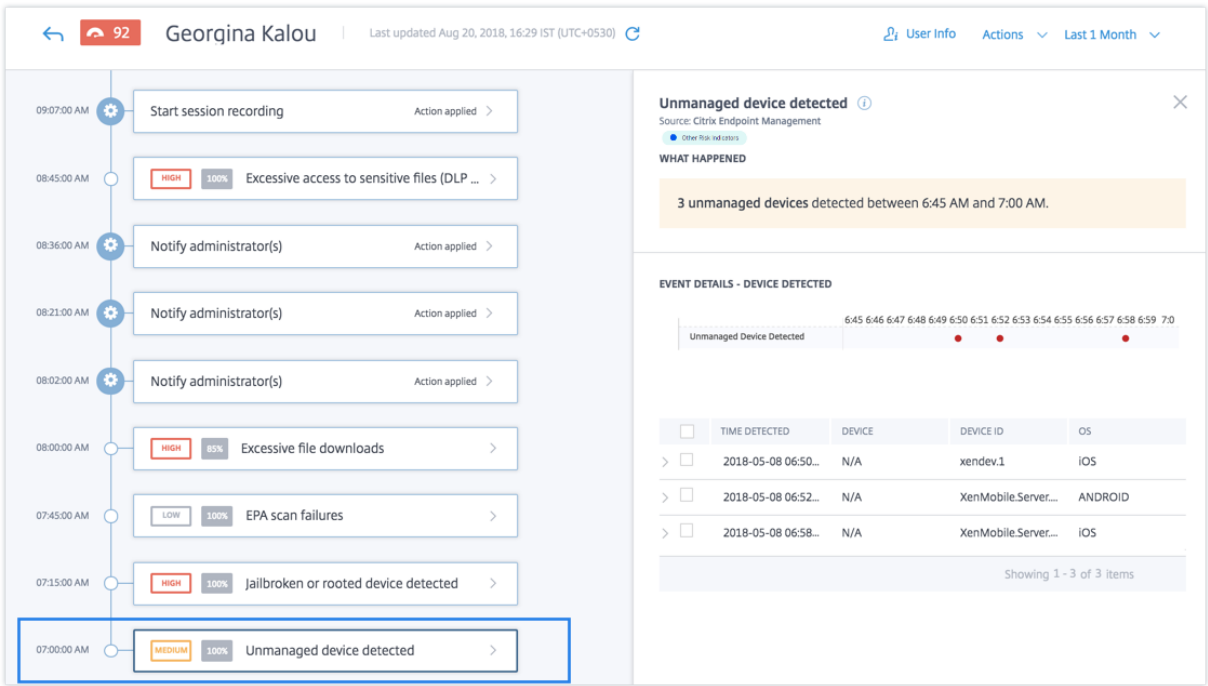
When a user's device changes to an unmanaged state, Endpoint Management service detects this event and reports it to Citrix Analytics. The user's risk score is updated. The **Unmanaged device detected** risk indicator is added to user's risk timeline.

### How to analyze unmanaged device detected risk indicator?

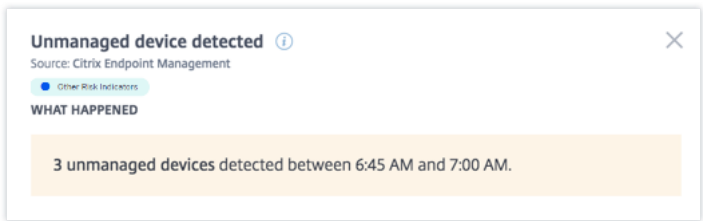
Consider the user Georgina Kalou, whose device is remotely wiped by an automated action on the server. Endpoint Management reports this event to Citrix Analytics, which assigns an updated risk score to Georgina Kalou.

From Georgina Kalou's risk timeline, you can select the reported Unmanaged device detected risk indicator. The reason for the event is displayed along with details such as, time the risk indicator was triggered, description of the event, and so on.

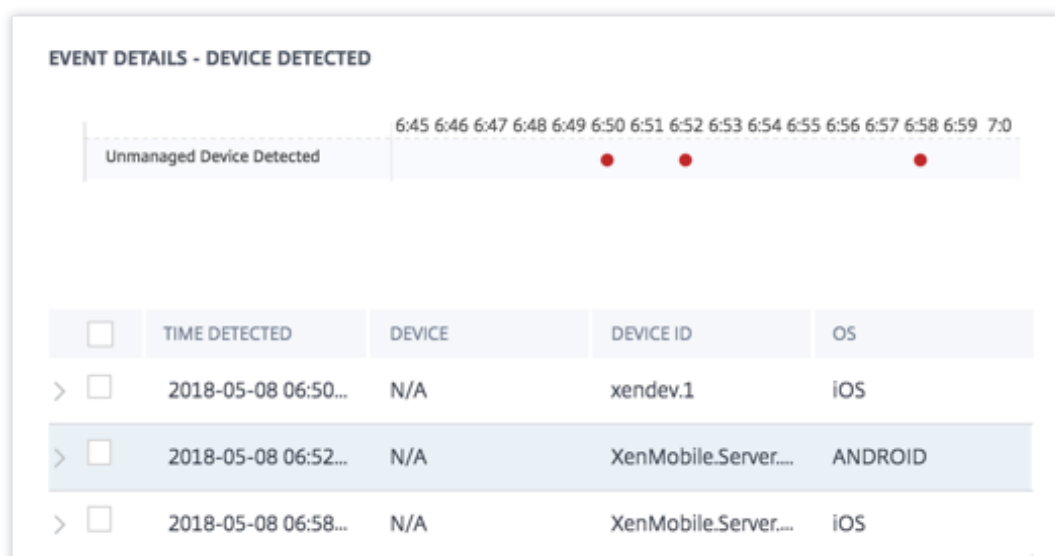
To view the **Unmanaged device detected** risk indicator for a user, navigate to **Security > Users**, and select the user.



- The **WHAT HAPPENED** section, you can view a summary of the event. You can view the number of unmanaged devices detected and the time the events occurred.



- The **EVENT DETAILS –DEVICE DETECTED** section, the events are displayed in graphical and tabular format. The events are also displayed as individual entries in the graph, and the table provides the following key information:
  - **Time detected.** The time the event was detected.
  - **Device.** The mobile device used.
  - **Device ID.** The device ID of the mobile device.
  - **OS.** The operating system of the mobile device.



### What actions you can apply to the user?

You can perform the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

#### Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Citrix Gateway risk indicators

May 20, 2022

## End Point Analysis (EPA) scan failures

Citrix Analytics detects user access-based threats based on EPA scan failures activity and triggers the corresponding risk indicator.

The risk factor associated with the End Point Analysis scan failure risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the EPA scan failures risk indicator triggered?

The EPA scan failure risk indicator is reported when a user tries to access the network using a device that has failed Citrix Gateway's End Point Analysis (EPA) Scan policies for pre-authentication or post authentication.

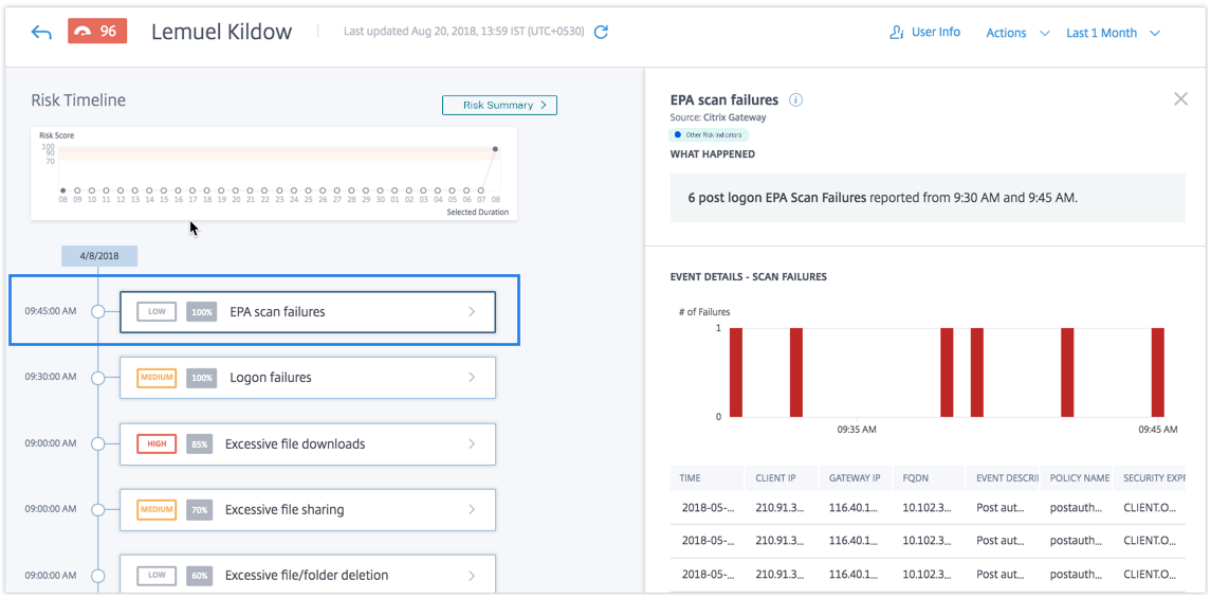
Citrix Gateway detects these events and reports them to Citrix Analytics. Citrix Analytics monitors all these events to detect whether the user has had too many EPA scan failures. When Citrix Analytics determines excessive EPA scan failures for a user, it updates the user's risk score and adds an EPA scan Failure risk indicator entry to the user's risk timeline.

### How to analyze the EPA scan failures risk indicator?

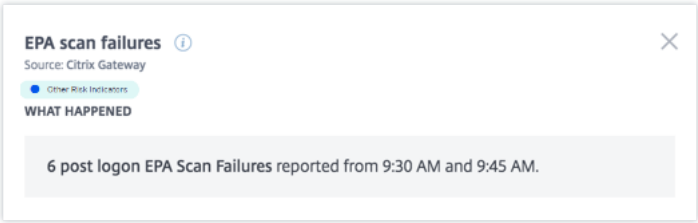
Consider the user Lemuel, who recently tried multiple times to access the network using a device that has failed Citrix Gateway's EPA scan. Citrix Gateway reports this failure to Citrix Analytics, which assigns an updated risk score to Lemuel. The EPA scan failure risk indicator is added to Lemuel Kildow's risk timeline.

To view the **EPA scan failure** entry for a user, navigate to **Security > Users**, and select the user.

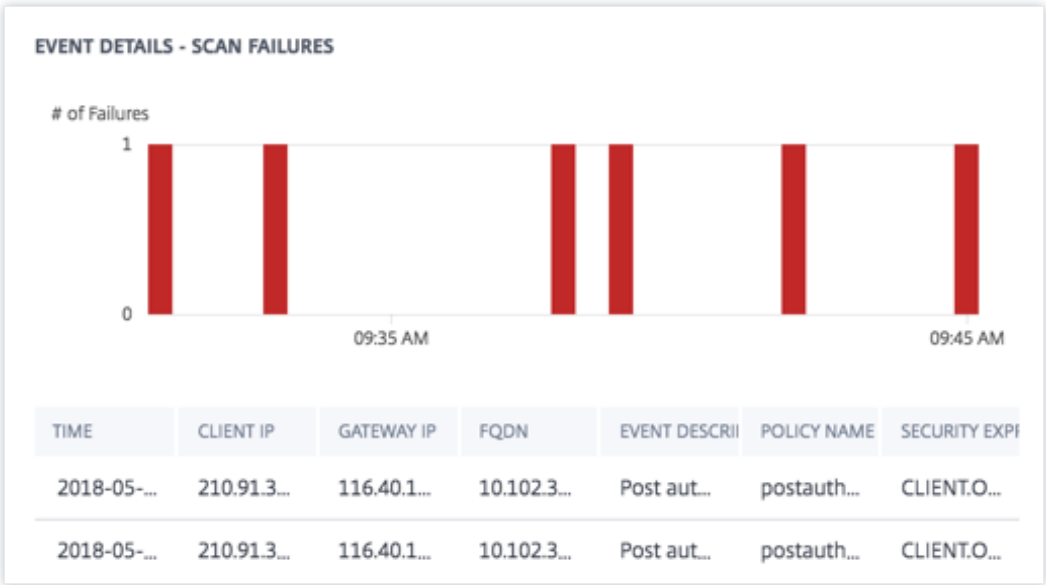
From Lemuel Kildow's risk timeline, you can select the latest **EPA scan failures** risk indicator reported for the user. When you select an EPA scan failure risk indicator entry from the timeline, a corresponding detailed information panel appears in the right pane.



- The **WHAT HAPPENED** section provides a brief summary of the EPA scan failure risk indicator. And, includes the number of post login EPA scan failures reported during the selected period.



- The **EVENT DETAILS –SCAN FAILURES** section, includes a timeline visualization of the individual EPA scan failure events that occurred during the selected time period. Also, it includes a table that provides the following key information about each event:
  - **Time.** The time the EPA scan failure occurred.
  - **Client IP.** The IP address of the client that causes the EPA scan failure.
  - **Gateway IP.** The IP address of Citrix Gateway that reported the EPA scan failure.
  - **FQDN.** The FQDN of Citrix Gateway.
  - **Event description.** Brief description of the reason for EPA scan failure.
  - **Policy name.** The EPA scan policy name configured on the Citrix Gateway.
  - **Security expression.** The security expression configured on the Citrix Gateway.



**What actions you can apply to the user?**

You can perform the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access any resource through Citrix Gateway until the Citrix Gateway administrator clears the Log Off User action.
- **Lock user:** When a user’s account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user’s profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Excessive authentication failures

Citrix Analytics detects user access-based threats based on Excessive authentication failures and triggers the corresponding risk indicator.

The risk factor associated with the Excessive authentication failures risk indicator is the Logon-failure-based risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the Excessive authentication failures risk indicator triggered?

The Logon failure risk indicator is reported when the user encounters multiple Citrix Gateway authentication failures within a given period. The Citrix Gateway authentication failures can be primary, secondary, or tertiary authentication failures, depending on whether multifactor authentication is configured for the user.

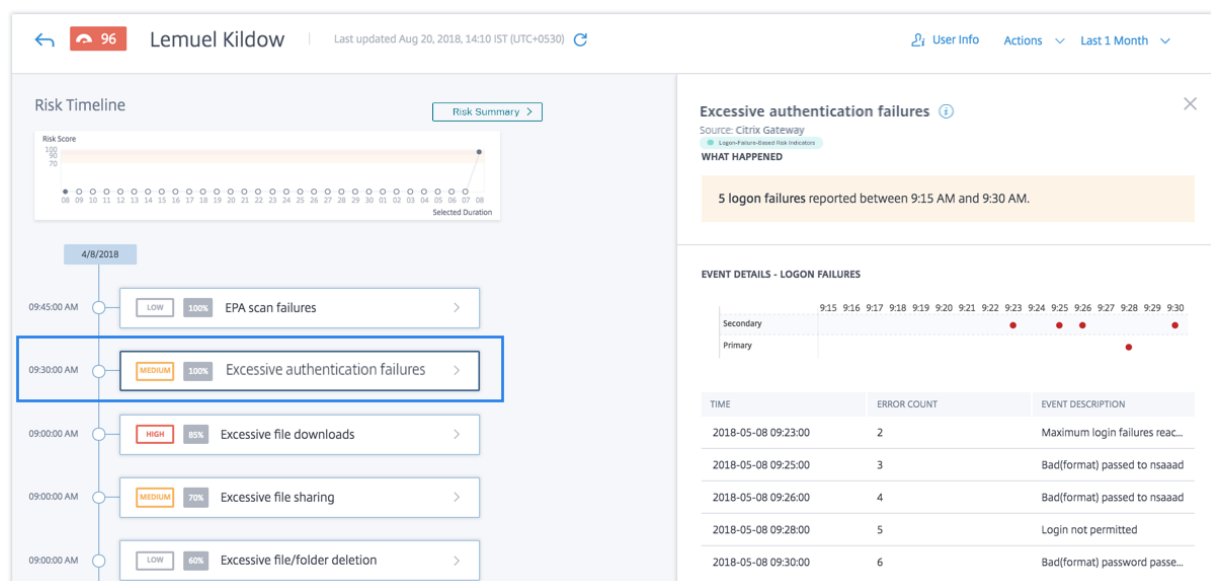
Citrix Gateway detects all the user authentication failures and reports these events to Citrix Analytics. Citrix Analytics monitors all these events to detect whether the user has had too many authentication failures. When Citrix Analytics determines excessive authentication failures, it updates the user's risk score. The Excessive authentication failures risk indicator is added to the user's risk timeline.

### How to analyze the Excessive authentication failures risk indicator?

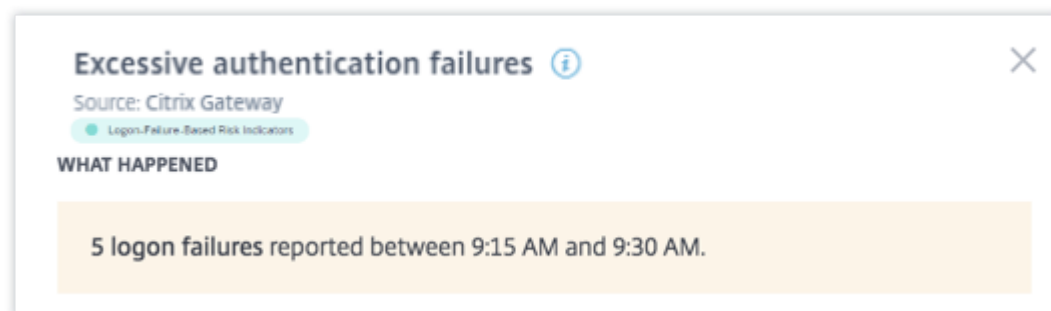
Consider the user Lemuel, who recently failed multiple attempts to authenticate the network. Citrix Gateway reports these failures to Citrix Analytics, and an updated risk score is assigned to Lemuel. The **Excessive authentication failures** risk indicator is added to Lemuel Kildow's risk timeline.

To view the **Excessive authentication failures** risk indicator entry for a user, navigate to **Security > Users**, and select the user.

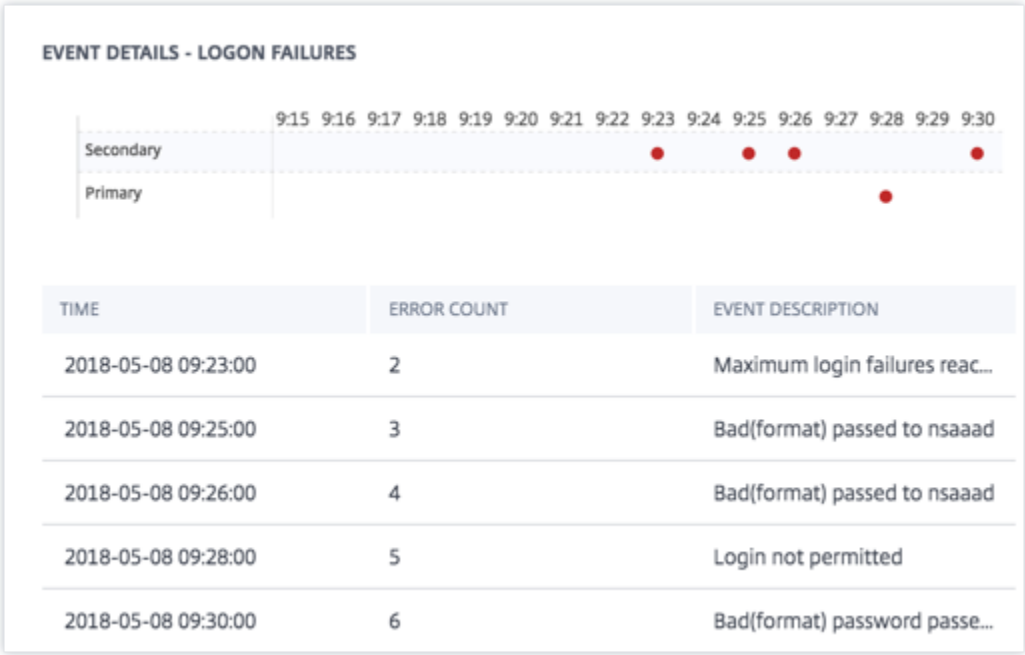
From Lemuel Kildow's risk timeline, you can select the latest **Excessive authentication failures** risk indicator reported for the user. When you select the **Excessive authentication failures** risk indicator entry from the risk timeline, a corresponding detailed information panel appears in the right pane.



- The **WHAT HAPPENED** section provides a brief summary of the risk indicator, including the number of authentication failures that occurred during the selected period.



- The **EVENT DETAILS** section, includes a timeline visualization of the individual Excessive authentication failure events that occurred during the selected time period. Also, you can view the following key information about each event:
  - **Time.** The time the logon failure occurred.
  - **Error count.** The number of authentication failures detected for the user at the time of the event and for the previous 48 hours.
  - **Event description.** Brief description of the reason for the logon failure.



**What actions you can apply to the user?**

You can perform the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access any resource through Citrix Gateway until the Citrix Gateway administrator clears the Log Off User action.
- **Lock user:** When a user’s account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user’s profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Impossible travel

Citrix Analytics detects a user's logons as risky when the consecutive logons are from two different countries within a time period that is less than the expected travel time between the countries.

The impossible travel time scenario indicates the following risks:

- **Compromised credentials:** A remote attacker steals a legitimate user's credentials.
- **Shared credentials:** Different users are using the same user credentials.

### When is the Impossible travel risk indicator triggered?

The **Impossible travel** risk indicator evaluates the time and estimated distance between each pair of consecutive user logons, and triggers when the distance is greater than an individual person can possibly travel in that amount of time.

#### Note

This risk indicator also contains logic to reduce false positive alerts for the following scenarios that do not reflect the users' actual locations:

- When users log on through Citrix Gateway from proxy connections.
- When users log on through Citrix Gateway from hosted clients.

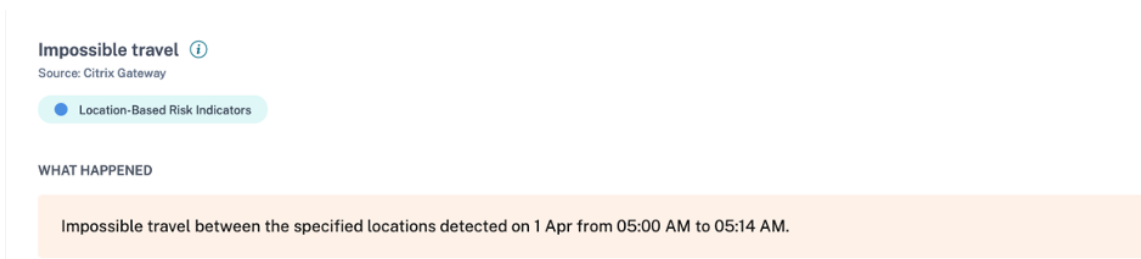
### How to analyze the Impossible risk indicator

Consider the user Adam Maxwell, who logs on from two locations- Bengaluru, India and Oslo, Norway within a time duration of one minute. Citrix Analytics detects this login event as an impossible travel scenario and triggers the **Impossible travel** risk indicator. The risk indicator is added to Adam Maxwell's risk timeline and a risk score is assigned to him.

To view Adam Maxwell's risk timeline, select **Security > Users**. From the **Risky Users** pane, select the user Adam Maxwell.

From Adam Maxwell's risk timeline, select the **Impossible travel** risk indicator. You can view the following information:

- The **WHAT HAPPENED** section provides a brief summary of the impossible travel event.



- The **INDICATOR DETAILS** section provides the locations from which the user has logged on, the time duration between the consecutive logons, and the distance between the two locations.

INDICATOR DETAILS

Event 1:	Logon on 1 Apr, 22 05:01:00 AM Location: Bengaluru, Karnataka, India
Event 2:	Logon on 1 Apr, 22 05:02:00 AM Location: Oslo, Oslo, Norway
Time Interval:	1 min
Distance:	7480 km(s)

- The **LOGON LOCATION- LAST 30 DAYS** section displays a geographical map view of the impossible travel locations and known locations of the user. The location data is shown for the last 30 days. You can hover over the pointers on the map to view the total logons from each location.

LOGON LOCATION - LAST 30 DAYS



- The **IMPOSSIBLE TRAVEL- EVENT DETAILS** section provides the following information about the impossible travel event:
  - **Time:** Indicates the date and the time of the logons.
  - **Device OS:** Indicates the operating system of the user device.
  - **Client IP:** Indicates the IP address of the user device.
  - **Location:** Indicates the location from where the user has logged on.

## IMPOSSIBLE TRAVEL - EVENT DETAILS

[Add or Remove Columns](#)

TIME	DEVICE OS	CLIENT IP	LOCATION
1 Apr, 22 05:02:00 AM	Mac OS	95.34.6.6	Oslo, Oslo, Norway
1 Apr, 22 05:01:00 AM	Windows OS	49.207.220.220	Bengaluru, Karnataka, India

Showing 1-2 of 2 items

Page 1 of 1

2

## What actions you can apply to the user?

You can do the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access any resource through Citrix Gateway until the Citrix Gateway administrator clears the Log Off User action.
- **Lock user:** When a user's account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

### Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Logon from suspicious IP

Citrix Analytics detects user access threats based on the sign-in activity from a suspicious IP and triggers this risk indicator.

The risk factor associated with the Logon from suspicious IP risk indicator is the IP-based risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

## When is the Logon from suspicious IP risk indicator triggered?

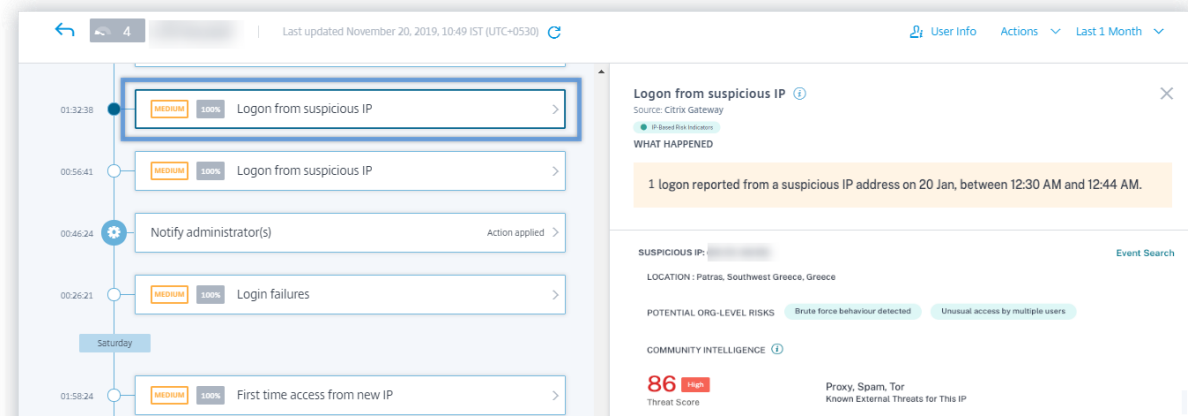
The **Logon from suspicious IP** risk indicator is triggered when a user attempts to access the network from an IP address that Citrix Analytics identifies as suspicious. The IP address is considered suspicious based on one of the following conditions:

- Is listed on the external IP threat intelligence feed
- Has multiple user sign-in records from an unusual location
- Has excessive failed sign-in attempts that might indicate a brute-force attack

Citrix Analytics monitors the sign-in events received from Citrix Gateway and detects whether a user has signed in from any suspicious IP. When Citrix Analytics detects a sign-in attempt from a suspicious IP, it updates the user's risk score and adds a **Logon from suspicious IP** risk indicator entry to the user's risk timeline.

## How to analyze the Logon from suspicious IP risk Indicator?

Consider the user Lemuel, who attempted to access the network from an IP address that Citrix Analytics identifies as suspicious. Citrix Gateway reports the sign-in event to Citrix Analytics, which assigns an updated risk score to Lemuel. The **Logon from suspicious IP** risk indicator is added to Lemuel Kildow's risk timeline.



To view the Logon from suspicious IP risk indicator reported for a user, navigate to **Security > Users**, and select the user. From Lemuel Kildow's risk timeline, you can select the latest **Logon from suspicious IP** risk indicator reported for the user. When you select the **Logon from suspicious IP** risk indicator entry from the timeline, a corresponding detailed information panel appears in the right pane.

- The **WHAT HAPPENED** section provides a brief summary of the Logon from suspicious IP risk indicator. And, includes the number of sign-ins from a suspicious IP address reported during the selected period.

WHAT HAPPENED

1 logon reported from a suspicious IP address on 20 Jan, between 12:30 AM and 12:44 AM.

- The **Suspicious IP** section provides the following information:

SUSPICIOUS IP: [REDACTED]

LOCATION : Patras, Southwest Greece, Greece

POTENTIAL ORG-LEVEL RISKS Brute force behaviour detected Unusual access by multiple users

COMMUNITY INTELLIGENCE ⓘ

86 High

Threat Score

Proxy, Spam, Tor  
Known External Threats for This IP

Event Search

- **Suspicious IP.** The IP address associated with a suspicious sign-in activity.
- **Location.** The city, region, and country of the user. These locations are displayed based on the availability of data.
- **Potential organization level risk.** Indicates any patterns of suspicious IP activity that Citrix Analytics has recently detected in your organization. The risky patterns include excessive login failures consistent with potential brute force attempts and unusual access by multiple users.

If no risky pattern is detected for an IP address in your organization, you see the following message.

SUSPICIOUS IP: [REDACTED]

LOCATION : Patras, Southwest Greece, Greece

POTENTIAL ORG-LEVEL RISKS None Detected

COMMUNITY INTELLIGENCE ⓘ

No malicious activity reported for this IP address in external threat feeds

Event Search

- **Community intelligence.** Provides the threat score and the threat categories of an IP address that is identified as high risk in the external IP threat intelligence feed. Citrix Analytics assigns a risk score to the high risk IP address. The risk score starts from 80.

If an IP address does not have any threat intelligence available on the external IP threat intelligence feed, you see the following message.

SUSPICIOUS IP: [REDACTED]

LOCATION : Patras, Southwest Greece, Greece

POTENTIAL ORG-LEVEL RISKS  
Brute force behaviour detected  
Unusual access by multiple users

COMMUNITY INTELLIGENCE ⓘ  
No malicious activity reported for this IP address in external threat feeds

Event Search

- The **EVENT DETAILS** section provides the following information about the suspicious sign-in activity:

LOGIN FROM SUSPICIOUS IP - EVENT DETAILS			
TIME	CLIENT IP	DEVICE OS	DEVICE BROWSER
1 Apr, 19 05:05:00 AM	[REDACTED]	Android	Chrome
1 Apr, 19 05:13:00 AM	[REDACTED]	Android	Chrome

- **Time.** The time of the suspicious sign-in activity.
- **Client IP.** The IP address of the user’s device that was used for the suspicious sign-in activity.
- **Device OS.** The operating system of the browser.
- **Device Browser.** The web browser used for the suspicious sign-in activity.

What actions you can apply to the user?

You can do the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access any resource through Citrix Gateway until the Citrix Gateway administrator clears the Log Off User action.
- **Lock user:** When a user’s account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user’s profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

**Suspicious logon**

**Notes**

- This risk indicator replaces the Access from an unusual location risk indicator.
- Any policies based on the Access from an unusual location risk indicator are automatically linked to the Suspicious logon risk indicator.

Citrix Analytics detects the user’s logons that appear unusual or risky based on multiple contextual factors, which are defined jointly by the device, location, and network used by the user.

**When is the Suspicious logon risk indicator triggered?**

The risk indicator is triggered by the combination of the following factors, where each factor is regarded as potentially suspicious based on one or more conditions.

Factor	Conditions
Unusual device	The user logs on from a device with a signature that is different from the devices used in the last 30 days. The device signature is based on the operating system of the device and the browser used.
Unusual location	Log on from a city or a country that the user has not logged on in the last 30 days. The city or country is geographically far from the recent (last 30 days) logon locations. Zero or minimum users have logged on from the city or the country in the last 30 days.
Unusual network	Log on from an IP address that the user has not used in the last 30 days.

Factor	Conditions
IP threat	<p>Log on from an IP subnet that the user has not used in the last 30 days.</p> <p>Zero or minimum users have logged on from the IP subnet in the last 30 days.</p> <p>The IP address is identified as high risk by the community threat intelligence feed- Webroot.</p> <p>Citrix Analytics recently detected highly suspicious logon activities from the IP address from other users.</p>

How to analyze the Suspicious logon risk indicator

Consider the user Adam Maxwell, who signs in from the Andhra Pradesh, India for the first time. He uses a device with a known signature to access the organization’s resources. But he connects from a network, which he has not used in the last 30 days.

Citrix Analytics detects this logon event as suspicious because the factors- location and network deviate from his usual behavior and triggers the Suspicious logon risk indicator. The risk indicator is added to Adam Maxwell’s risk timeline and a risk score is assigned to him.

To view Adam Maxwell’s risk time, select **Security > Users**. From the **Risky Users** pane, select the user Adam Maxwell.

From Adam Maxwell’s risk timeline, select the **Suspicious logon** risk indicator. You view the following information:

- The **WHAT HAPPENED** section provides a brief summary of the suspicious activities that include the risk factors and the time of the event.

Suspicious logon ⓘ

Source: Citrix Gateway

● IP-Based Risk Indicators

● Other Risk Indicators

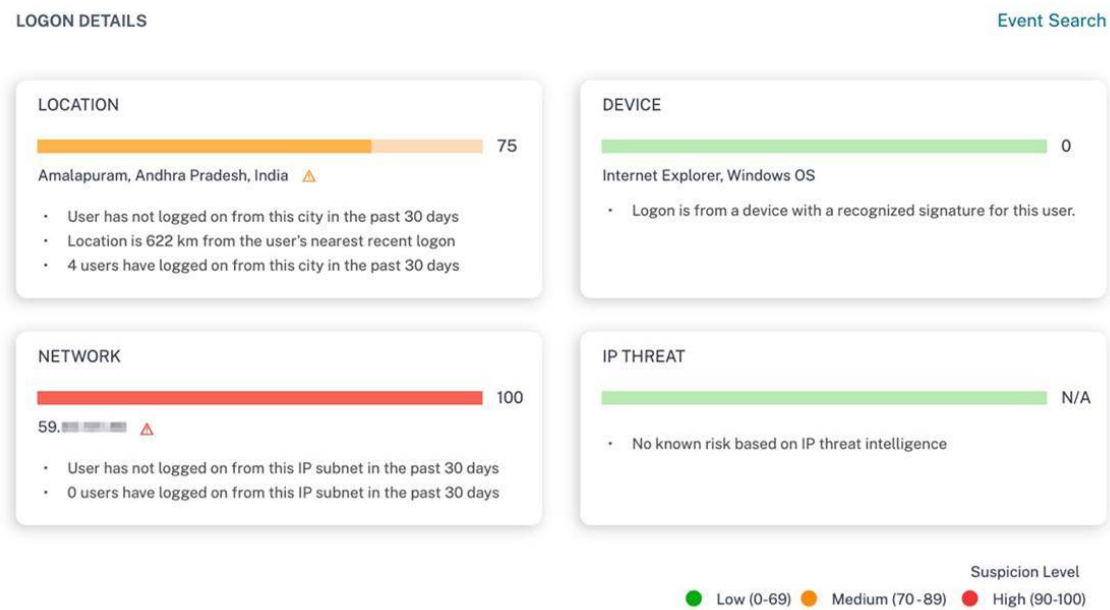
● Device-Based Risk Indicators

WHAT HAPPENED

Suspicious logon activity detected on 24 Jan from 05:33 PM to 05:47 PM.

- The **LOGON DETAILS** section provides detailed summary of the suspicious activities corresponding to each risk factor. Each risk factor is assigned a score that indicates the suspicion level. Any single risk factor does not indicate high risk from a user. The overall risk is based on the correlation of the multiple risk factors.

Suspicion level	Indication
0–69	The factor appears normal and is not considered suspicious.
70–89	The factor appears slightly unusual and is considered moderately suspicious with other factors.
90–100	The factor is entirely new or unusual and is considered highly suspicious with other factors.



- The **LOGON LOCATION- LAST 30 DAYS** displays a geographical map view of the last known locations and the current location of the user. The location data is shown for the last 30 days. You can hover over the pointers on the map to view the total logons from each location.

LOGON LOCATION - LAST 30 DAYS



- The **SUSPICIOUS LOGON- EVENT DETAILS** section provides the following information about the suspicious logon event:
  - **Time:** Indicates the date and time of the suspicious logon.
  - **Device OS:** Indicates the operating system of the user device.
  - **Device browser:** Indicates the web browser used to sign in to Citrix Gateway.

SUSPICIOUS LOGON - EVENT DETAILS

TIME	DEVICE OS	DEVICE BROWSER
24 Jan, 22 05:43:55 PM	Windows OS	Internet Explorer

**What actions you can apply to the user?**

You can do the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.

- **Log off user.** When a user is logged off from their account, they cannot access any resource through Citrix Gateway until the Citrix Gateway administrator clears the Log Off User action.
- **Lock user:** When a user's account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

#### Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Unusual authentication failure

Citrix Analytics detects access-based threats when a user has logon failures from an unusual IP address and triggers the corresponding risk indicator.

The risk factor associated with the Unusual authentication risk indicator is the Logon-failure-based risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the unusual authentication failure indicator triggered?

You can be notified when a user in your organization has logon failures from an unusual IP address that is contrary to their usual behavior.

Citrix Gateway detects these events and reports them to Citrix Analytics. Citrix Analytics receives the events and increases the user's risk score. The **Unusual Authentication Failure** risk indicator is added to the user's risk timeline.

### How to analyze the unusual authentication failure indicator?

Consider the user Georgina Kalou, who routinely signs into Citrix Gateway from her usual home and office networks. A remote attacker attempts to authenticate Georgina's account by guessing different passwords, resulting in authentication failures from an unfamiliar network.

In this scenario, Citrix Gateway reports these events to Citrix Analytics, which assigns an updated risk score to Georgina Kalou. The Unusual Authentication Failure risk indicator is added to Georgina Kalou's risk timeline.

From Georgina Kalou's risk timeline, you can select the reported Unusual Authentication Failure risk indicator. The reason for the event is displayed along with details such as the time of the event, and location.

#### Unusual authentication failure ⓘ

Source: Citrix Gateway

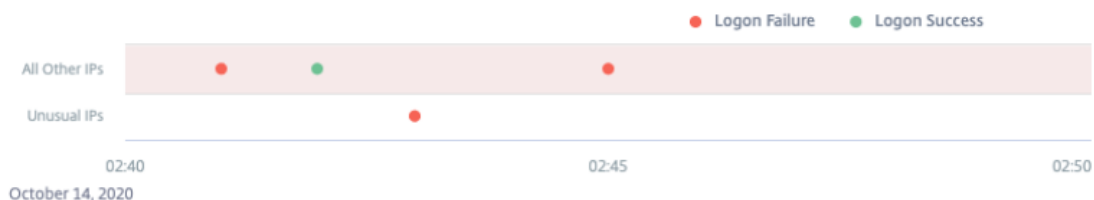
Logon-Failure-Based Risk Indicators

##### WHAT HAPPENED

1 logon failure from 1 IP address without any historic login success from this subnet.

##### EVENT DETAILS - LOGON SUCCESS AND FAILURES

[Event Search](#)



- In the **WHAT HAPPENED** section, you can view the brief summary that includes the total number of authentication failures and the time of the event.
- In the **RECOMMENDED ACTION** section, you find the suggested actions that can be applied on the risk indicator. Citrix Analytics for Security recommends the actions depending on the severity of the risk posed by the user. The recommendation can be one or combination of the following actions:
  - Notify administrator(s)
  - Add to watchlist
  - Create a policy

You can select an action based on the recommendation. Or you can select an action that you want to apply depending on your choice from the **Actions** menu. For more information, see [Apply an action manually](#).

RECOMMENDED ACTION

You can apply one of the actions below in order to improve your security posture.

 **Notify administrator(s)**

Citrix Analytics sends an email notification to all Citrix Cloud administrators. You can also select the administrators to whom you want to notify.

 **Add to watchlist**

When you want to monitor a user for future potential threats, you can add them to a watchlist.

For additional actions please refer to the Actions menu at the top.

- In the **EVENT DETAILS –LOGON SUCCESS and FAILURES** section, you can view a graph indicating the unusual authentication failures, along with any other logon activity detected during the same duration.
- In the **UNUSUAL AUTHENTICATION DETAILS** section, the table provides the following information about the unusual authentication failures:
  - **Logon time** –The date and time of the event
  - **Client IP** –IP address of the user device
  - **Location** –The location from where the event has occurred
  - **Failure reason** –The reason for authentication failure

UNUSUAL AUTHENTICATION FAILURE DETAILS

EVENT TIME	CLIENT IP	LOCATION	FAILURE REASON
10/14/20 02:43:00	99.155.88.64	San Jose, California, United ...	Bad(format) password pass...
Showing 1 - 1 of 1 items			

- In the **USER AUTHENTICATION ACTIVITY –PREVIOUS 30 DAYS** section, the table provides the following information about the previous 30-days of authentication activity for the user:
  - Subnet –The IP address from the user network.
  - Success –The total number of successful authentication events and the time of the most recent success event for the user.
  - Failure –The total number of failed authentication events and the time of the most recent failed event for the user.
  - Location –The location from where the authentication event has occurred.

## AUTHENTICATION ACTIVITY - PREVIOUS 30 DAYS

SUBNET	SUCCESS	Most Recent	FAILURE	Most Recent	LOCATION
[REDACTED]	29	03/25/20 00:35:56	0	--	Nairobi, Kenya
[REDACTED]	1	03/21/20 10:44:22	0	--	FL, Florida, USA
[REDACTED]	1004	03/21/20 08:34:56	0	--	Moscow, RS, Russia
[REDACTED]	0	--	29	03/22/20 23:35:56	Munich, some_state, Germ...
[REDACTED]	0	--	29	03/07/20 19:35:56	Location not available

Showing 1 - 5 of 5 items

### What actions you can apply to the user?

You can perform the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access any resource through Citrix Gateway until the Citrix Gateway administrator clears the Log Off User action.
- **Lock user:** When a user's account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Citrix Secure Private Access risk indicators

January 11, 2023

## Risky website access

### Note

The following capabilities on Citrix Analytics for Security are impacted due to the deprecation of Category-based web filtering by Secure Private Access:

1. Data fields such as Category-Group, Category and Reputation of URLs are not available anymore on the Citrix Analytics for security dashboard.
2. The Risky website access indicator which relies on the same data is also deprecated and is not triggered for customers.
3. Any existing custom risk indicators using the data fields (Category-Group, Category and Reputation of URLs) and its associated policies are not triggered anymore.

For details on the deprecation from Secure Private Access, refer to [Feature deprecations](#).

## Attempt to access blacklisted URL

Citrix Analytics detects data access threats based on the blacklisted URLs accessed by the user and triggers the corresponding risk indicator.

The **Attempt to access blacklisted URL** risk indicator is reported in Citrix Analytics when a user attempts to access a blacklisted URL configured in Secure Private Access.

The risk factor associated with the **Attempt to access blacklisted URL** risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the Attempt to access blacklisted URL risk indicator is triggered?

Secure Private Access includes a URL categorization feature that provides policy-based control to restrict access to blacklisted URLs. When a user attempts to access a blacklisted URL, Secure Private Access reports this event to Citrix Analytics. Citrix Analytics updates the user's risk score and adds an **Attempt to access blacklisted URL** risk indicator entry to the user's risk timeline.

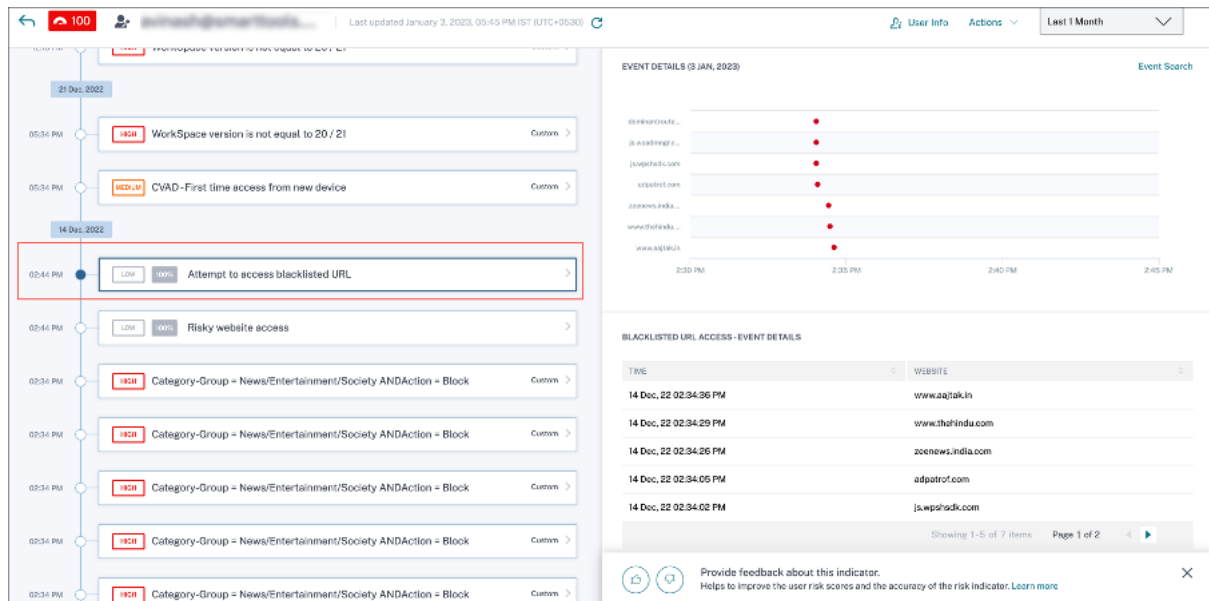
### How to analyze the Attempt to access blacklisted URL risk indicator?

Consider a user Georgina Kalou, accessed a blacklisted URL configured in Secure Private Access. Secure Private Access reports this event to Citrix Analytics, which assigns an updated risk score to Georgina Kalou. The **Attempt to access blacklisted URL** risk indicator is added to Georgina Kalou's risk timeline.

From Georgina Kalou's risk timeline, you can select the reported **Attempt to access blacklisted URL** risk indicator. The reason for the event is displayed along with the details about the events, such as, time of the event, website details.

To view the **Attempt to access blacklisted URL** entry for a user, navigate to **Security > Users**, and select the user.

When you select the **Attempt to access blacklisted URL** risk indicator entry from the timeline, a corresponding detailed information panel appears in the right pane.



- The **WHAT HAPPENED** section provides a brief summary of the risk indicator. It includes the details of the blacklisted URL accessed by the user during the selected period.

Attempt to access blacklisted URL ⓘ

Source: Citrix **Secure Private** Access

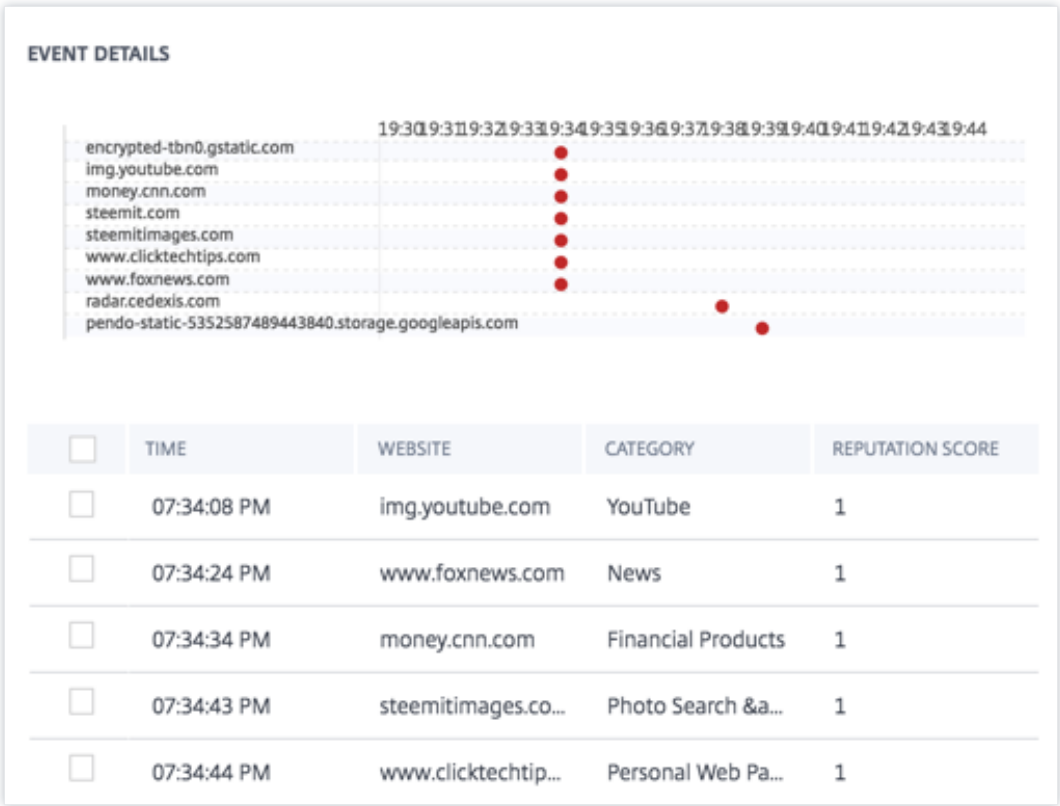
Other Risk Indicators

WHAT HAPPENED

Access to 7 blacklisted URLs blocked on 14 Dec, between 02:30 PM and 02:44 PM.

- The **EVENT DETAILS** section, includes a timeline visualization of the individual events that occurred during the selected time period. Also, you can view the following key information about each event:
  - **Time.** The time the event occurred.
  - **Website.** The risky website accessed by the user.
  - **Category.** The category specified by Secure Private Access for the blacklisted URL.

- **Reputation rating.** The reputation rating returned by Secure Private Access for the black-listed URL. For more information, see [URL reputation score](#).



**What actions you can apply to the user?**

You can perform the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user’s profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Unusual upload volume

Citrix Analytics detects data access threats based on Unusual upload volume activity and triggers the corresponding risk indicator.

The **Unusual upload volume** risk indicator is reported when a user uploads excess volume of data to an application or website.

The risk factor associated with the Unusual upload volume risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

### When is the Unusual upload volume risk indicator triggered?

You can configure Secure Private Access to monitor user activities, such as malicious, dangerous, or unknown websites visited and the bandwidth consumed, and risky downloads and uploads. When a user in your organization uploads data to an application or website, Secure Private Access reports these events to Citrix Analytics.

Citrix Analytics monitors all these events and if it determines that this user activity is contrary to the user's usual behavior, it updates the user's risk score. The **Unusual upload volume** risk indicator is added to the user's risk timeline.

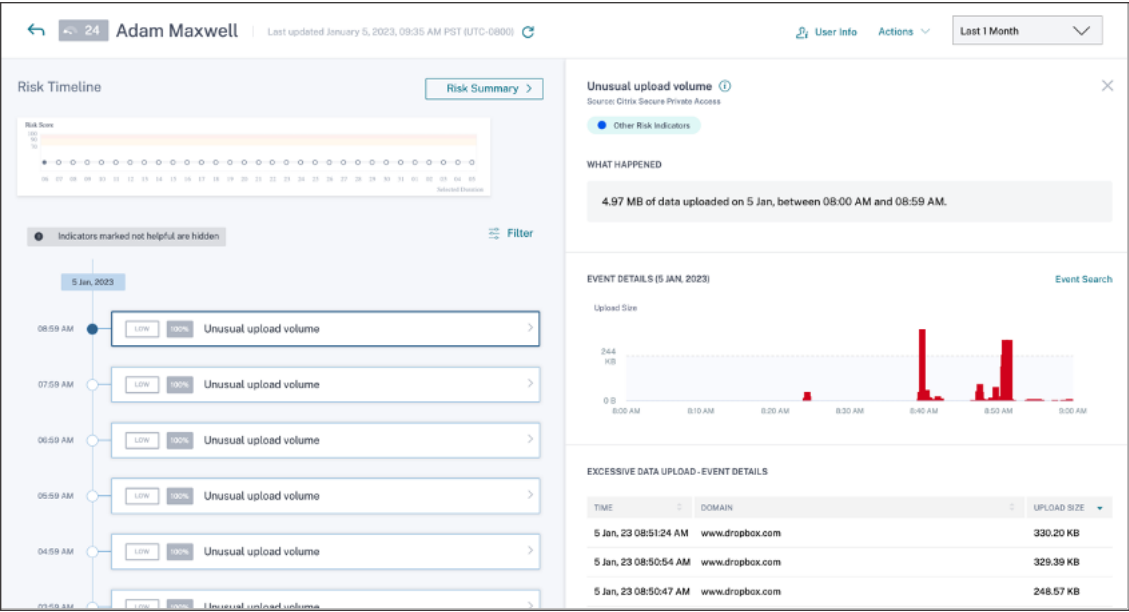
### How to analyze the unusual upload volume risk indicator?

Consider a user Adam Maxwell, who uploaded excess volume of data to an application or website. Secure Private Access reports these events to Citrix Analytics, which assigns an updated risk score to Adam Maxwell. The **Unusual upload volume** risk indicator is added to the Adam Maxwell's risk timeline.

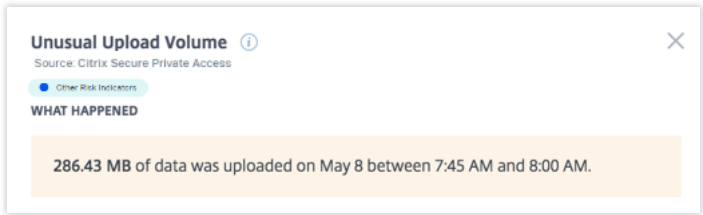
From Adam Maxwell's risk timeline, you can select the reported **Unusual upload volume** risk indicator. The reason for the event is displayed along with the details about the events, such as, time of the event and domain.

To view the **Unusual upload volume** risk indicator, navigate to **Security > Users**, and select the user.

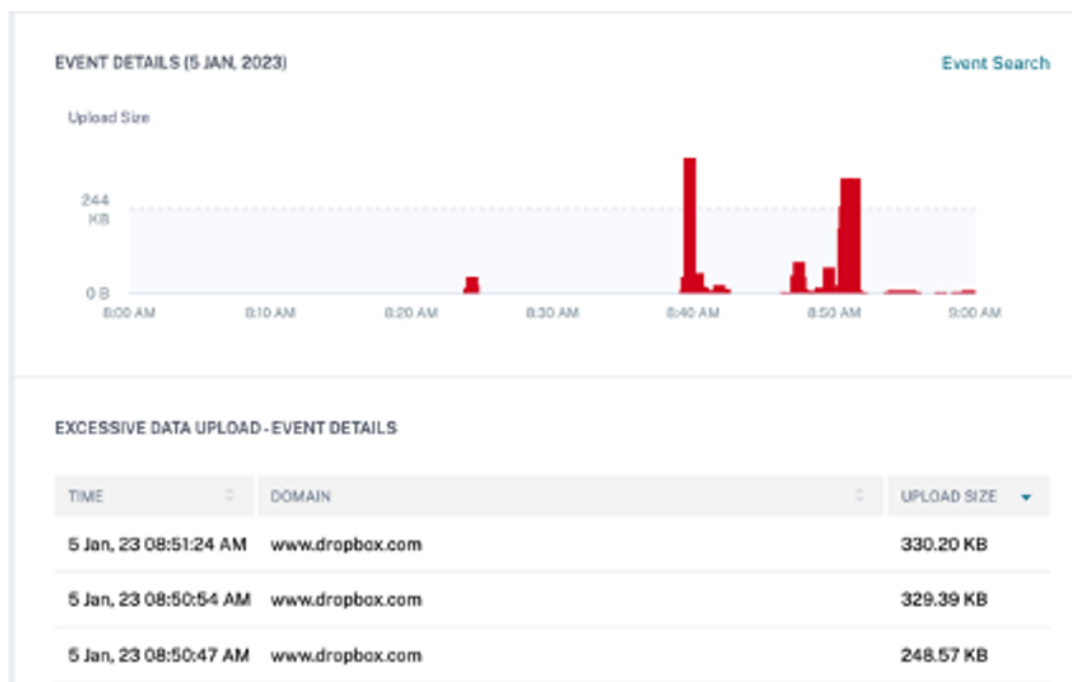
When you select an **Unusual upload volume** risk indicator entry from the timeline, a corresponding detailed information panel appears in the right pane.



- The **WHAT HAPPENED** section provides a brief summary of the risk indicator, including the volume of data uploaded during the selected period.



- The **EVENT DETAILS** section, includes a timeline visualization of the individual data upload events that occurred during the selected time period. Also, you can view the following key information about each event:
  - **Time.** The time the excessive data was uploaded to an application or a website.
  - **Domain.** The domain to which the user uploaded the data.
  - **Upload size.** Volume of data uploaded to the domain.



### What actions you can apply to the user?

You can do the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

#### Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

### Excessive data download

Citrix Analytics detects data access threats based on the excessive data downloaded by users in your network and triggers the corresponding risk indicator.

The risk indicator is reported when a user in your organization downloads excess volume of data from an application or website.

### **When is the Excessive data download risk indicator triggered?**

You can configure Secure Private Access to monitor user activities, such as malicious, dangerous, or unknown websites visited and the bandwidth consumed, and risky downloads and uploads. When a user in your organization downloads data from an application or website, Secure Private Access reports these events to Citrix Analytics.

Citrix Analytics monitors all these events and if it determines that the user activity is contrary to the user's usual behavior, it updates the user's risk score. The Excessive data download risk indicator is added to the user's risk timeline.

The risk factor associated with the Excessive data download risk indicator is the Other risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

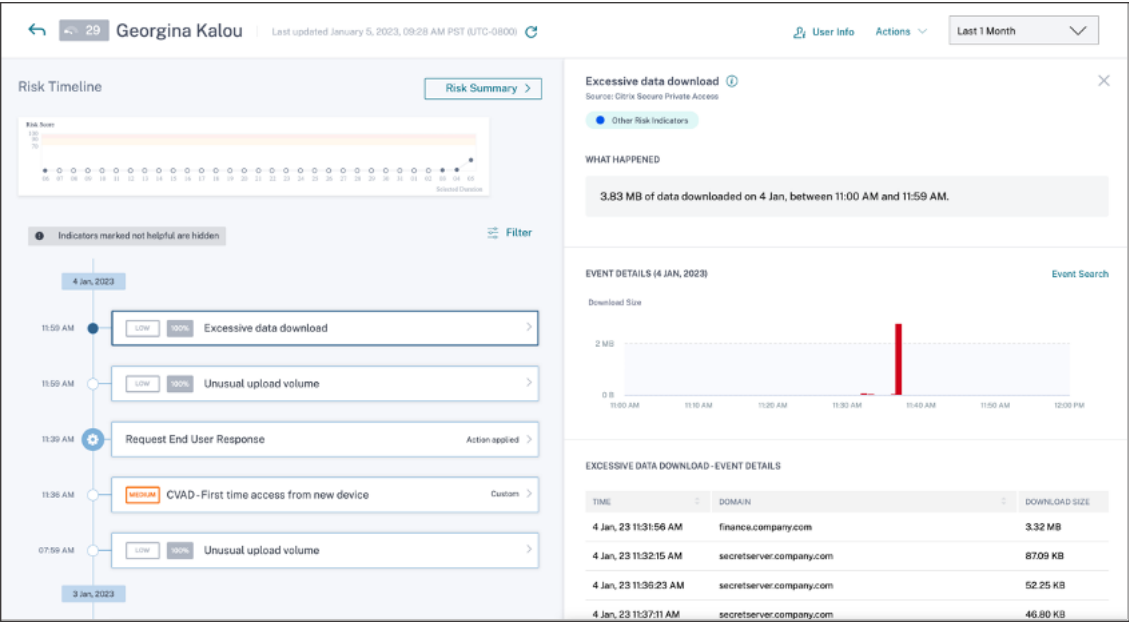
### **How to analyze the Excessive data download risk indicator?**

Consider a user Georgina Kalou, downloaded excess volume of data from an application or website. Secure Private Access reports these events to Citrix Analytics, which assigns an updated risk score to Georgina Kalou and adds the **Excessive data download** risk indicator entry to the user's risk timeline.

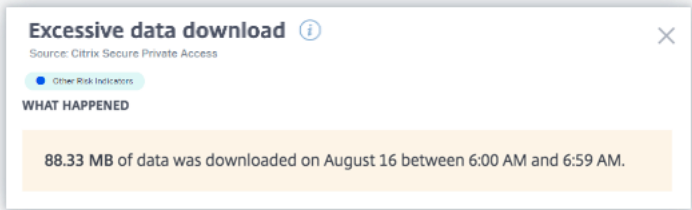
From Georgina Kalou's risk timeline, you can select the reported **Excessive data download** risk indicator. The reason for the event is displayed along with the details about the events, such as, time and domain details.

To view the **Excessive data download** risk indicator, navigate to **Security > Users**, and select the user.

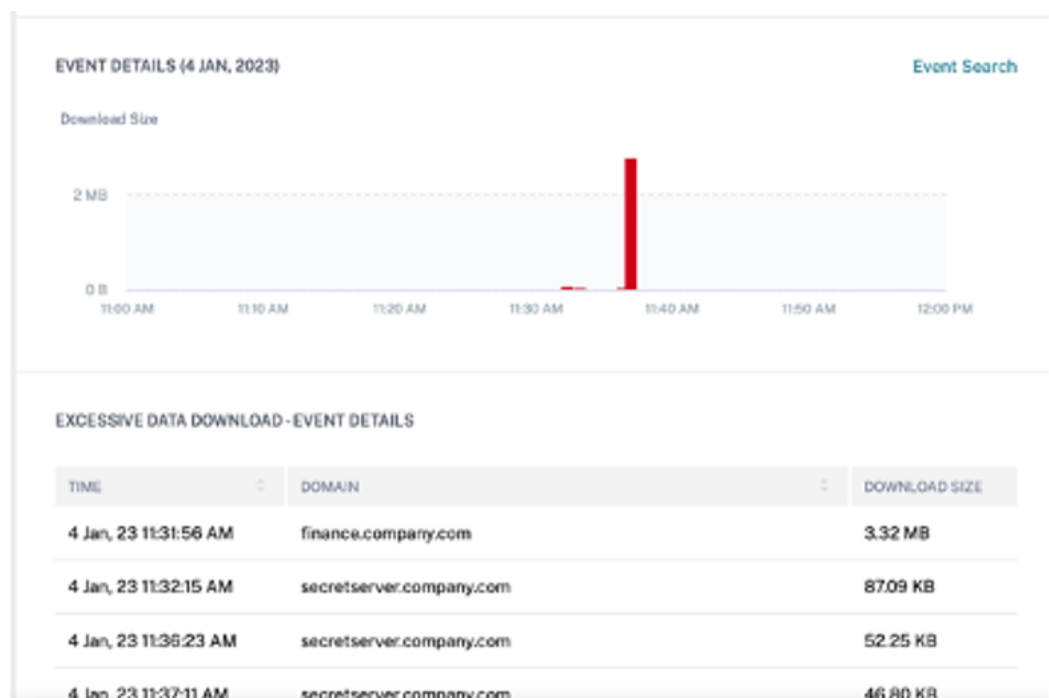
When you select the **Excessive data download** risk indicator entry from the timeline, a corresponding detailed information panel appears in the right pane.



- The **WHAT HAPPENED** section provides a brief summary of the risk indicator, including the volume of data uploaded downloaded during the selected period.



- The **EVENT DETAILS** section, includes a timeline visualization of the individual data download events that occurred during the selected time period. Also, you can view the following key information about each event:
  - **Time.** The time the excessive data was downloaded to an application or a website.
  - **Domain.** The domain to which the user downloaded data.
  - **Download size.** Volume of data downloaded to the domain.



### What actions you can apply to the user?

You can perform the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Actions** menu, select an action and click **Apply**.

#### Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Citrix Virtual Apps and Desktops and Citrix DaaS risk indicators

May 20, 2022

## Impossible travel

Citrix Analytics detects a user's logons as risky when the consecutive logons are from two different countries within a time period that is less than the expected travel time between the countries.

The impossible travel time scenario indicates the following risks:

- **Compromised credentials:** A remote attacker steals a legitimate user's credentials.
- **Shared credentials:** Different users are using the same user credentials.

### When is the Impossible travel risk indicator triggered?

The **Impossible travel** risk indicator evaluates the time and estimated distance between each pair of consecutive user logons, and triggers when the distance is greater than an individual person can possibly travel in that amount of time.

#### Note

This risk indicator also contains logic to reduce false positive alerts for the following scenarios that do not reflect the users' actual locations:

- When users log on to virtual apps and desktops from proxy connections.
- When users log on to virtual apps and desktops from hosted clients.

### How to analyze the Impossible risk indicator

Consider the user Adam Maxwell, who logs on from two locations- Moskva, Russia and Hohhot, China within a time duration of one minute. Citrix Analytics detects this logon event as an impossible travel scenario and triggers the **Impossible travel** risk indicator. The risk indicator is added to Adam Maxwell's risk timeline and a risk score is assigned to him.

To view Adam Maxwell's risk timeline, select **Security > Users**. From the **Risky Users** pane, select the user Adam Maxwell.

From Adam Maxwell's risk timeline, select the **Impossible travel** risk indicator. You can view the following information:

- The **WHAT HAPPENED** section provides a brief summary of the impossible travel event.

Impossible travel ⓘ

Source: Citrix Virtual Apps and Desktops

● Location-Based Risk Indicators

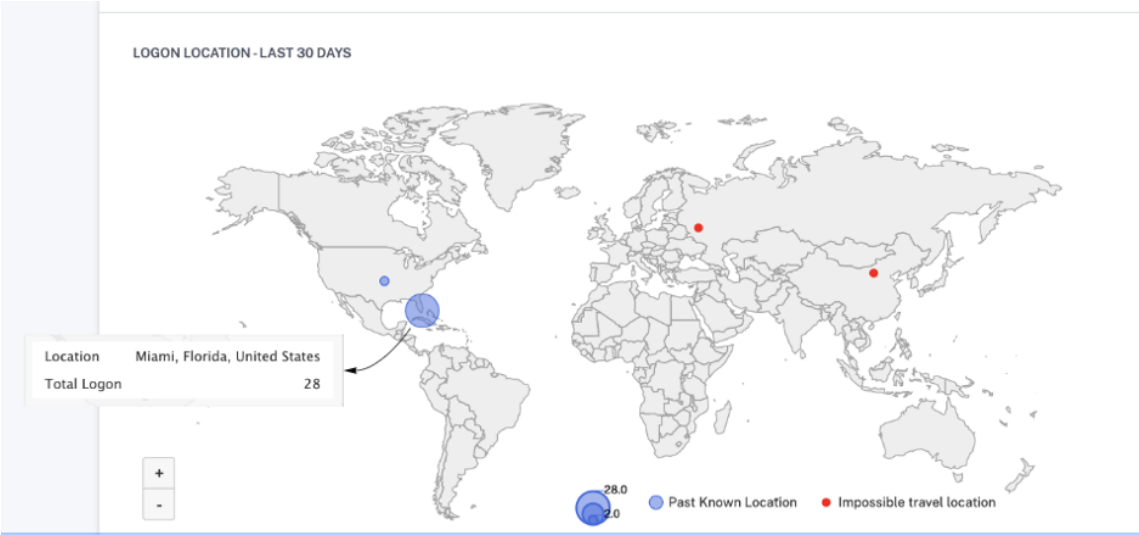
WHAT HAPPENED

Impossible travel between the specified locations detected on 29 Mar from 05:00 AM to 05:14 AM.

- The **INDICATOR DETAILS** section provides the locations from which the user has logged on, the time duration between the consecutive logons, and the distance between the two locations.

INDICATOR DETAILS	
Event 1:	Account logon on 29 Mar, 22 05:03:00 AM Location: Moskva, Moskva, Russian Federation
Event 2:	Account logon on 29 Mar, 22 05:04:00 AM Location: Hohhot, Nei Mongol, China
Time Interval:	1 min
Distance:	5440 km(s)

- The **LOGON LOCATION- LAST 30 DAYS** section displays a geographical map view of the impossible travel locations and known locations of the user. The location data is shown for the last 30 days. You can hover over the pointers on the map to view the total logons from each location.



- The **IMPOSSIBLE TRAVEL- EVENT DETAILS** section provides the following information about the impossible travel event:
  - **Date and time:** Indicates the date and the time of the logons.
  - **Client IP:** Indicates the IP address of the user device.

- **Location:** Indicates the location from where the user has logged on.
- **Device:** Indicates the device name of the user.
- **Logon type:** Indicates whether the user activity is session logon or account logon. The account logon event is triggered when a user's authentication to their account is successful. Whereas the session logon event is triggered when a user enters their credential and logs on to their app or desktop session.
- **OS:** Indicates the operating system of the user device.
- **Browser:** Indicates the web browser that is used to access the application.

IMPOSSIBLE TRAVEL - EVENT DETAILS

[Add or Remove Columns](#)

DATE AND TIME	CLIENT IP	LOCATION	DEVICE
29 Mar, 22 05:04:00 AM	1.180.11.24	Hohhot, Nei Mongol, China	device4
29 Mar, 22 05:03:00 AM	2.16.103.12	Moskva, Moskva, Russian Federation	device3

Showing 1-2 of 2 items    Page 1 of 1

## What actions you can apply to the users?

You can perform the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access the resource through Virtual Desktops.
- **Start session recording.** If there is an unusual event on the user's Virtual Desktops account, the administrator can begin recording the user's activities of future logon sessions. However, if the user is on Citrix Virtual Apps and Desktops 7.18 or later, the administrator can dynamically start and stop recording the user's current logon session.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Action** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

**Potential data exfiltration**

Citrix Analytics detects data threats based on excessive attempts to exfiltrate data and triggers the corresponding risk indicator.

The risk factor associated with the Potential data exfiltration risk indicator is the Data-based risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

The **Potential data exfiltration** risk indicator is triggered when a Citrix Receiver user attempts to download or transfer files to a drive or printer. This data might be a file-download event such as downloading a file to a local drive, mapped drives, or an external storage device. The data can also be exfiltrated using the clipboard or by the copy-paste action.

**Note**

The clipboard operations are supported only by the SaaS applications.

**When is the Potential data exfiltration risk indicator triggered?**

You can be notified when a user has transferred an excessive number of files to a drive or printer in a certain time period. This risk indicator is also triggered when the user uses the copy-paste action on their local computer.

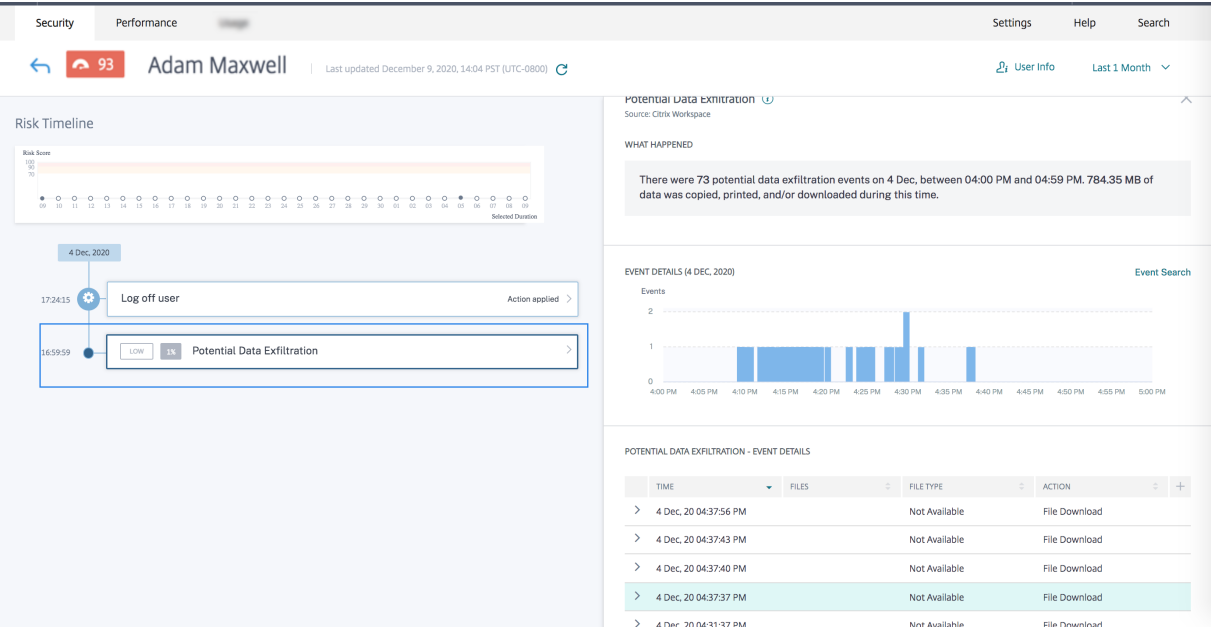
When Citrix Receiver detects this behavior, Citrix Analytics receives this event and assigns a risk score to the respective user. The **Potential data exfiltration** risk indicator is added to the user's risk timeline.

**How to analyze the Potential data exfiltration risk Indicator?**

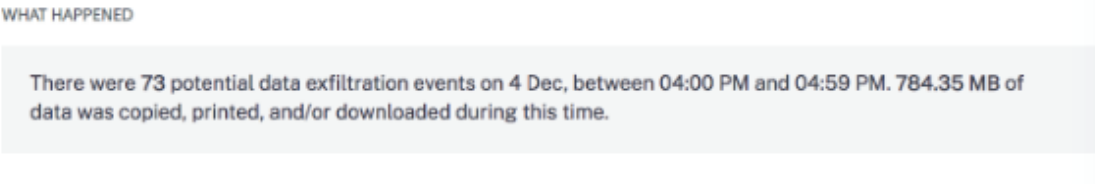
Consider the user Adam Maxwell, who is logged on to a session and attempts to print files that exceed the predefined limit. By this action, Adam Maxwell had exceeded his normal file transfer behavior based on machine learning algorithms.

From Adam Maxwell's timeline, you can select the **Potential data exfiltration** risk indicator. The reason for the event is displayed along with the details such as the files transferred and the device used to transfer the file.

To view the **Potential data exfiltration** risk indicator reported for a user, navigate to **Security > Users**, and select the user.



- The **WHAT HAPPENED** section, you can view the summary of the potential data exfiltration event. You can view the number of data exfiltration events during a specific time period.

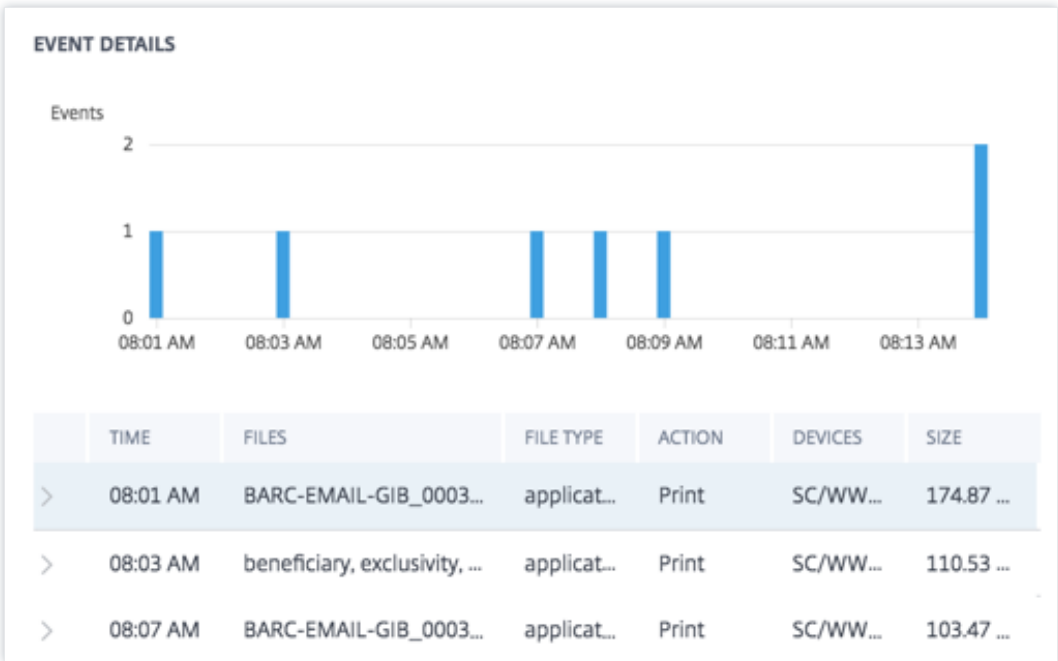


- The **EVENT DETAILS** section, the data exfiltration attempts appear in a graphical and tabular format. The events appear as individual entries in the graph and the table provides the following key information:
  - **Time.** The time the data exfiltration event occurred.
  - **Files.** The file that was either downloaded, printed, or copied.
  - **File type.** The file type that was either downloaded, printed, or copied.

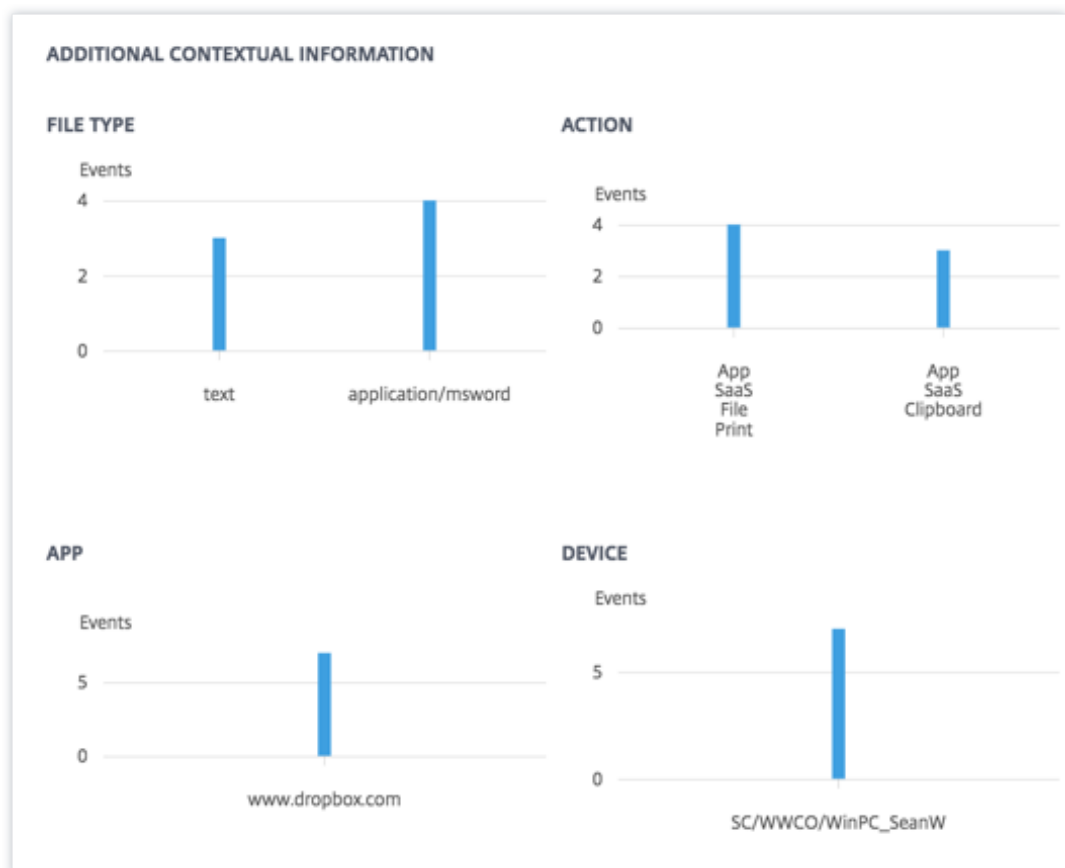
**Note**

The printed file name is available only from the SaaS apps printing event.

- **Action.** The kinds of data exfiltration event that was performed –print, download, or copy.
- **Devices.** The device used.
- **Size.** The size of the file that is exfiltrated.
- **Location.** The city from where the user is trying to exfiltrate data.



- The **ADDITIONAL CONTEXTUAL INFORMATION** section, during the event’s occurrence, you can view the following:
  - The number of files that have been exfiltrated.
  - The actions performed.
  - The applications used.
  - Device used by the user.



### What actions you can apply to the user?

You can perform the following actions on the user's account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user's account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access the resource through Virtual Desktops.
- **Start session recording.** If there is an unusual event on the user's Virtual Desktops account, the administrator can begin recording the user's activities of future logon sessions. However, if the user is on Citrix Virtual Apps and Desktops 7.18 or later, the administrator can dynamically start and stop recording the user's current logon session.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Action** menu, select an action and click **Apply**.

**Note**

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

**Suspicious logon**

Citrix Analytics detects the user’s logons that appear unusual or risky based on multiple contextual factors, which are defined jointly by the device, location, and network used by the user.

**When is the Suspicious logon risk indicator triggered?**

The risk indicator is triggered by the combination of the following factors, where each factor is regarded as potentially suspicious based on one or more conditions.

Factor	Conditions
Unusual device	The user logs on from a device that has not been used in the last 30 days.
Unusual location	<p>The user logs on from an HTML5 client or a Chrome client where the device signature is inconsistent with the user’s history.</p> <p>Log on from a city or a country that the user has not logged on in the last 30 days.</p> <p>The city or country is geographically far from the recent (last 30 days) logon locations.</p> <p>Zero or minimum users have logged on from the city or the country in the last 30 days.</p>
Unusual network	<p>Log on from an IP address that the user has not used in the last 30 days.</p> <p>Log on from an IP subnet that the user has not used in the last 30 days.</p> <p>Zero or minimum users have logged on from the IP subnet in the last 30 days.</p>
IP threat	The IP address is identified as high risk by the community threat intelligence feed- Webroot.

Factor	Conditions
	Citrix Analytics recently detected highly suspicious logon activities from the IP address from other users.

How to analyze the Suspicious logon risk indicator

Consider the user Adam Maxwell, who logs on from Mumbai, India for the first time. He uses a new device or a device that was not used for the last 30 days to log on to Citrix Virtual Apps and Desktops and connected to a new network. Citrix Analytics detects this logon event as suspicious because the factors- location, device, and network deviate from his usual behavior and triggers the **Suspicious logon** risk indicator. The risk indicator is added to Adam Maxwell’s risk timeline and a risk score is assigned to him.

To view Adam Maxwell’s risk time, select **Security > Users**. From the **Risky Users** pane, select the user Adam Maxwell.

From Adam Maxwell’s risk timeline, select the Suspicious logon risk indicator. You can view the following information:

- The **WHAT HAPPENED** section provides a brief summary of the suspicious activities that include the risk factors and the time of the event.

Suspicious logon ⓘ  
Source: Citrix Virtual Apps and Desktops

Other Risk Indicators

Device-Based Risk Indicators


Location-Based Risk Indicators

WHAT HAPPENED


Suspicious logon activity detected on 2 Aug from 12:15 PM to 12:29 PM.


- In the **RECOMMENDED ACTION** section, you find the suggested actions that can be applied on the risk indicator. Citrix Analytics for Security recommends the actions depending on the severity of the risk posed by the user. The recommendation can be one or combination of the following actions:
  - Notify administrator(s)
  - Add to watchlist
  - Create a policy

You can select an action based on the recommendation. Or you can select an action that you want to apply depending on your choice from the **Actions** menu. For more information, see [Apply an action manually](#).

RECOMMENDED ACTION 

You can apply one of the actions below in order to improve your security posture.

 **Notify administrator(s)**  
Citrix Analytics sends an email notification to all Citrix Cloud administrators. You can also select the administrators to whom you want to notify.

 **Add to watchlist**  
When you want to monitor a user for future potential threats, you can add them to a watchlist.

For additional actions please refer to the Actions menu at the top.

- The **LOGON DETAILS** section provides detailed summary of the suspicious activities corresponding to each risk factor. Each risk factor is assigned a score that indicates the suspicion level. Any single risk factor does not indicate high risk from a user. The overall risk is based on the correlation of the multiple risk factors.

Suspicion level	Indication
0–69	The factor appears normal and is not considered suspicious.
70–89	The factor appears slightly unusual and is considered moderately suspicious with other factors.
90–100	The factor is entirely new or unusual and is considered highly suspicious with other factors.

## LOGON DETAILS

Event Search

## LOCATION

 100

Mumbai, Maharashtra, India ▲

- User has not logged on from this city in the past 30 days
- Location is 844.8713 km from the user's nearest recent logon
- 0 users have logged on from this city in the past 30 days
- 0 users have logged on from this IP subnet in the past 30 days

## DEVICE

 100

BANLARUNKUM ▲

- User has not logged on from this device ID in the past 30 days
- Logon is from a Windows client

## NETWORK

 100

103 ▲

- User has not logged on from this IP subnet in the past 30 days
- 0 users have logged on from this IP subnet in the past 30 days

## IP THREAT

 N/A

- No known risk based on IP threat intelligence

Suspicion Level

● Low (0-69) ● Medium (70-89) ● High (90-100)

- The **LOGON LOCATION- LAST 30 DAYS** section displays a geographical map view of the last known locations and the current location of the user. The location data is shown for the last 30 days. You can hover over the pointers on the map to view the total logons from each location.

## LOGON LOCATION - LAST 30 DAYS



- The **SUSPICIOUS LOGON- EVENT DETAILS** section provides the following information about the suspicious logon event:
  - **Time:** Indicates the date and time of the suspicious logon.
  - **Logon type:** Indicates whether the user activity is session logon or account logon. The account logon event is triggered when a user's authentication to their account is successful. Whereas the session logon event is triggered when a user enters their credential and logs

on to their app or desktop session.

- **Client type:** Indicates the type of Citrix Workspace app installed on the user device. Depending on the operating system of the user device, the client type can be Android, iOS, Windows, Linux, Mac, and so on.
- **OS:** Indicates the operating system of the user device.
- **Browser:** Indicates the web browser that is used to access the application.
- **Location:** Indicates the location from where the user has logged on.
- **Client IP:** Indicates the IP address of the user device.
- **Device:** Indicates the device name of the user.

SUSPICIOUS LOGON - EVENT DETAILS

Add or Remove Columns

TIME	LOGON TYPE	CLIENT TYPE	OS	BROWSER	LOCATION	CLIENT IP	DEVICE
2 Aug, 21 12:19:3	Account	Windows	Windows 10	Unavailable	Mumbai, Mahara		BANI

What actions you can apply to the users?

You can perform the following actions on the user’s account:

- **Add to watchlist.** When you want to monitor a user for future potential threats, you can add them to a watchlist.
- **Notify administrator(s).** When there is any unusual or suspicious activity on the user’s account, an email notification is sent to all or selected administrators.
- **Log off user.** When a user is logged off from their account, they cannot access the resource through Virtual Desktops.
- **Start session recording.** If there is an unusual event on the user’s Virtual Desktops account, the administrator can begin recording the user’s activities of future logon sessions. However, if the user is on Citrix Virtual Apps and Desktops 7.18 or later, the administrator can dynamically start and stop recording the user’s current logon session.

To learn more about actions and how to configure them manually, see [Policies and Actions](#).

To apply the actions to the user manually, navigate to the user's profile and select the appropriate risk indicator. From the **Action** menu, select an action and click **Apply**.

### Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

## Provide feedback for User Risk indicators

October 4, 2022

Risk indicators are designed to detect and report potentially suspicious or anomalous user activity, while automatically increasing the user's risk score. In practice, although some occurrences of a risk indicator correspond to a legitimate underlying security threat, others turn out to be benign.

The indicator feedback feature allows you to explicitly flag risk indicator occurrences:

- As helpful when you believe there is true underlying user risk
- As not helpful if you have determined that there is no security threat. In this case, the indicator occurrence is hidden from the user timeline by default, and the user's risk score is automatically adjusted to exclude this indicator occurrence in subsequent calculations.

In addition, your collective feedback is used to drive future improvements in the risk indicator algorithms.

The screenshot displays the Citrix Analytics for Security interface for a user profile. The top navigation bar includes 'Security', 'Performance', 'Settings', 'Help', and 'Search'. The user profile is for 'safe\_user5\_841630\_...' with a last update on August 29, 2022. The 'Risk Timeline' section shows a 'Risk Score' graph and a list of indicators. Two 'Impossible travel' indicators are visible, both marked 'MEDIUM' and '100%'. A feedback prompt is shown at the bottom right, asking the user to provide feedback about the indicator to help improve risk scores and accuracy.

**Risk Timeline**

Risk Score

Indicators marked not helpful are hidden

28 Aug, 2022

11:59 PM

MEDIUM 100% Impossible travel

11:59 PM

MEDIUM 100% Impossible travel

**Impossible travel**

Source: Citrix Content Collaboration

Location-Based Risk Indicators

**WHAT HAPPENED**

Impossible travel between the specified locations detected on 28 Aug from 11:45 PM to 11:59 PM.

**INDICATOR DETAILS**

Event 1: Logon on 28 Aug, 22 11:46:00 PM  
Location: Bengaluru, Karnataka, India

Event 2: Logon on 28 Aug, 22 11:47:00 PM  
Location: Oslo, Oslo, Norway

Time

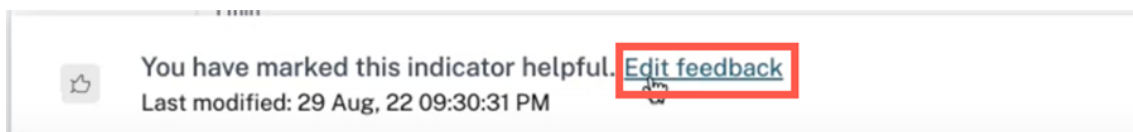
1 min

Provide feedback about this indicator.  
Helps to improve the user risk scores and the accuracy of the risk indicator. [Learn more](#)

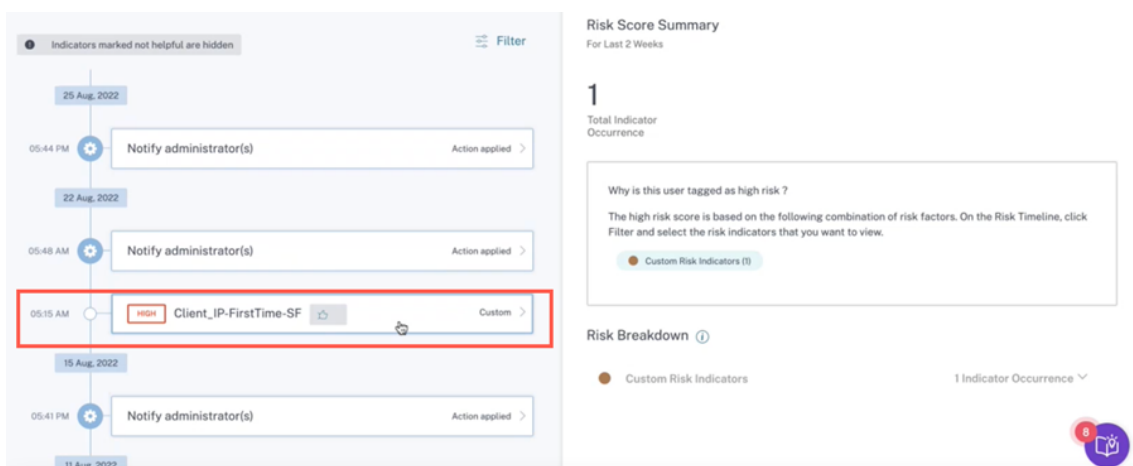
A feedback banner (with a thumbs-up and down icon) is displayed for each default risk indicator entry in the user timeline.

- **Thumbs-up** icon - Indicator is helpful and has correctly identified risky activity. You can click the thumbs up icon and provide additional comments on how the indicator is helpful and its benefit.

You can save your feedback and mark the indicator as helpful. You can also edit your comment by clicking Edit Feedback. The feedback banner provides the timeline of the last submitted feedback.



When a risk indicator is marked helpful, this feedback is displayed in the corresponding user timeline entry, and reported to Citrix Analytics. The user risk score is not impacted.




- **Thumbs-down** icon - Indicator is not helpful or incorrectly triggered. You can mark the indicator as not helpful and categorize it as **Noisy**, **False positive**, or **Inconclusive**. This occurrence of the risk indicator will be excluded from all subsequent updates to the user's risk score. You can also provide additional comments, if necessary.
  - **Noisy** –Triggered indicator is suspicious or is an anomaly, but not risky.
  - **False positive** –Triggered indicator is not risky, because of incorrect event data or logic.
  - **Inconclusive** –Can't determine if the events are risky and needs investigation.

#### Note

It takes up to 15 minutes time to recalibrate the risk score.

### Was this risk indicator not helpful?

 A risk indicator marked as Not helpful will be excluded from risk scoring in subsequent cycle. Additionally, it will be filtered out from the User Risk Timeline by default.

This Risk Indicator will be marked as Not helpful. Please specify a reason:

☐ Noisy  
Triggered indicator is suspicious or is an anomaly, but not risky

☐ False positive  
Triggered indicator is not risky, due to incorrect event data or logic

☐ Inconclusive  
Can't determine if the events are risky and needs investigation.

Provide additional comments (optional)

Save

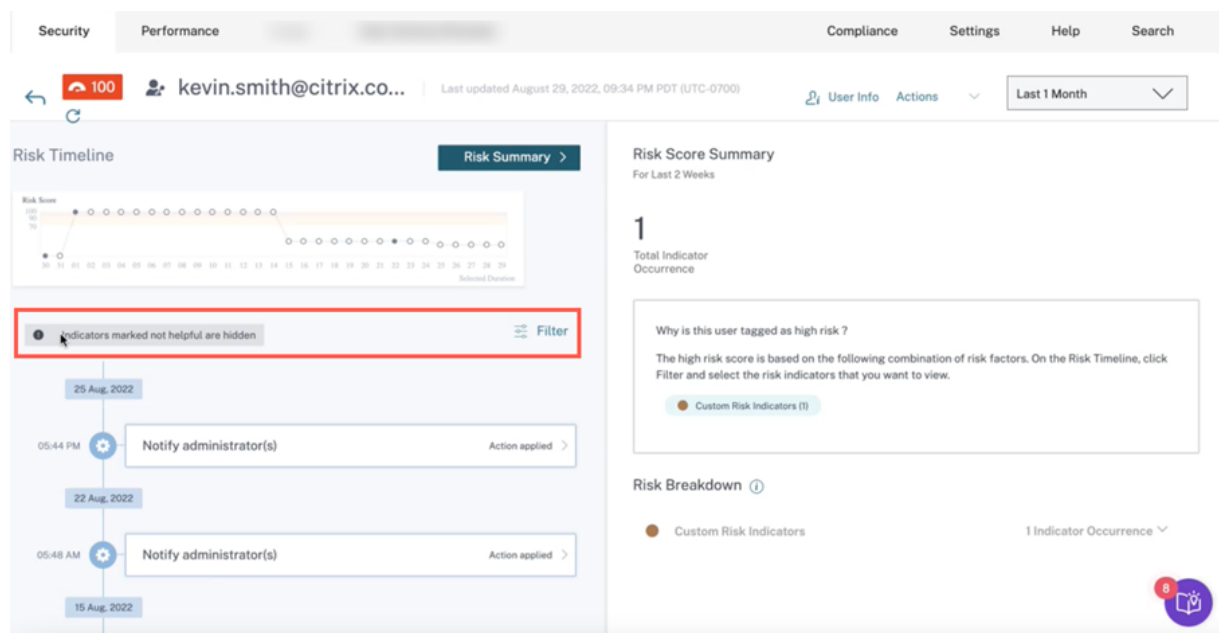
Cancel

You can view the following results if an indicator is marked as not helpful:

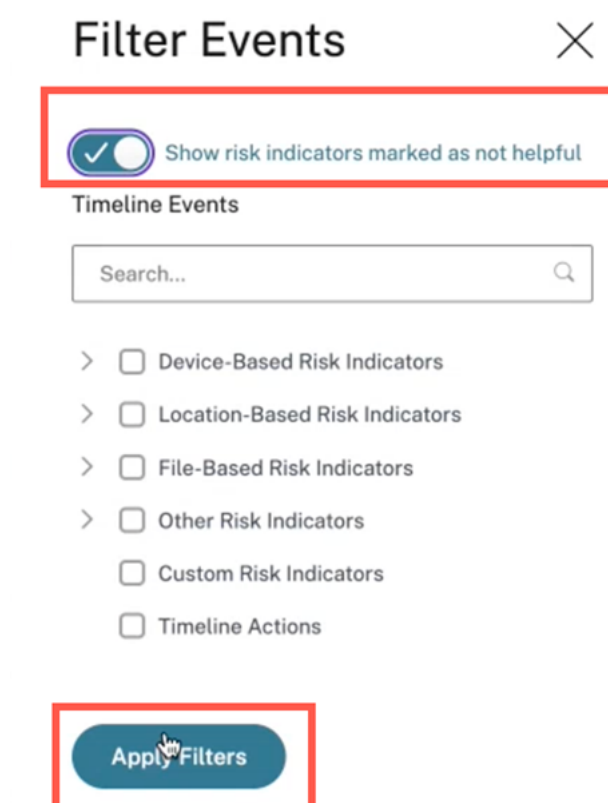
- That particular indicator is hidden from timeline.
- The Risk score is recalibrated as a result of excluding this indicator occurrence from the risk score calculation in subsequent updates.
- Any additional information given as textual feedback is persisted for later reference.

## View filters

Indicators that are marked as not helpful are hidden by default.

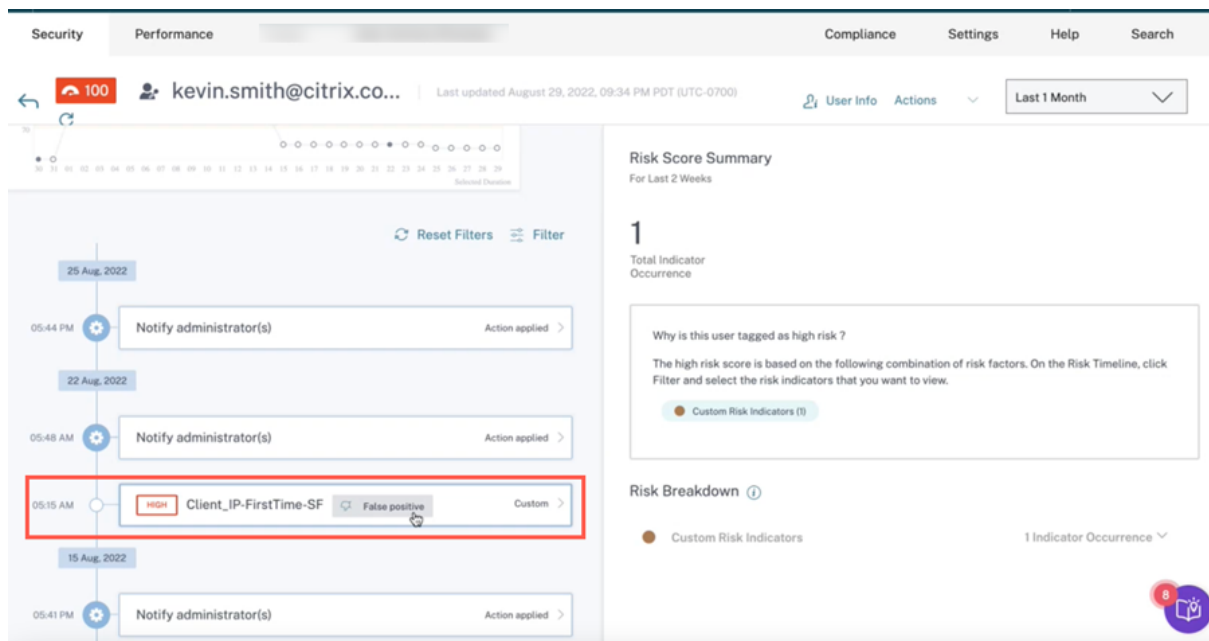


To view the hidden indicators, click **Filter**. In the **Filter Events** window that appears, turn on the **Show risk indicators marked as not helpful**.



You can search the indicators based on categories. For example, to view the location-based hidden risk

indicators, select the category and click **Apply Filters**. You can view all the location-based indicators that are not helpful with the feedback details.



As an administrator, you can also perform the following actions as needed:

- Change the feedback
- Review previous feedback and the associated metadata
- Review the feedback provided by other administrator and the associated metadata

#### Note

- You can provide the feedback per user level not tenant level. The feedback for one risk indicator doesn't apply to all instances of that particular risk indicator.
- The feedback for one user doesn't apply to other users.

## Microsoft Graph Security risk indicators

August 19, 2021

Microsoft Graph Security receives data from the **Azure AD Identity Protection** or **Microsoft Defender for Endpoint** security providers, and sends the information to Citrix Analytics.

Azure AD Identity Protection triggers the following risk indicators and sends the information to Microsoft Graph Security:

- Anonymous IP address
- Impossible travel to atypical locations
- Users with leaked credentials
- Sign-ins from infected devices
- Sign-ins from IP addresses with suspicious activity
- Sign-ins from unfamiliar locations

For information about Defender for Endpoint, see [Microsoft Defender for Endpoint](#).

The risk factor associated with the risk indicators is the IP-based risk indicators. For more information about the risk factors, see [Citrix user risk indicators](#).

## How to analyze Microsoft Graph Security risk indicators

Consider a user Maria Brown who exhibits one of the risky behaviors mentioned previously. Microsoft detects the incident and generates an alert. Citrix Analytics retrieves this alert and assigns an updated risk score to Maria Brown. Also, the appropriate risk indicator is added to Maria Brown's risk timeline.

To view the Microsoft Graph Security risk indicator entry for a user, navigate to **Security > Users**, and select the user.

From Maria's timeline, you can select the latest risk indicator entry from the risk timeline. Its corresponding detailed information panel appears in the right pane. The **WHAT HAPPENED** section provides a brief summary of the risk indicator.

## How to get more information about the risk indicators

For more information, see [Azure Active Directory risk events](#).

## What actions you can apply to the user

Currently, the ability to take appropriate actions on the user's account through the Microsoft Graph Security data source is not available.

For information on Microsoft Graph Security onboarding, see [Microsoft Graph Security](#).

## Custom risk indicators

November 30, 2023

There are two types of risk indicators that you see in Citrix Analytics for Security:

- **Default risk indicators:** These risk indicators are based on the machine learning algorithm. For more information, see [Citrix user risk indicators](#).
- **Custom risk indicators:** These risk indicators are created manually by the administrators.

When you create a custom risk indicator, you can define the triggering conditions and the parameters based on your use cases. If the user events match your defined criteria, Citrix Analytics triggers the custom risk indicator and displays it on the user's risk timeline.

Create custom risk indicators for the following data sources:

- Citrix Gateway
- Citrix Secure Private Access
- Citrix Virtual Apps and Desktops on-premises
- Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)
- Citrix Secure Browser

### Preconfigured custom risk indicators

Citrix also provides a few custom risk indicators with preconfigured conditions to help you monitor the security of your Citrix infrastructure. You can modify the preconfigured conditions based on your use cases. For more information, see [Preconfigured custom risk indicators](#).

### Custom risk indicators page

The **Custom Risk Indicators** page provides insights into all the custom risk indicators generated for a user, severity, data source, number of policies, risk category, status, and the last modified date and time of the indicator. To create a custom risk indicator, see [Creating a custom risk indicator](#).

NAME	SEVERITY	DATA SOURCE	POLICIES	RISK CATEGORY	STATUS	MODIFIED
<input type="checkbox"/> Demo - 3 times Invalid Credentials for 10.62.136.135 GW in 1 day	High	Gateway	0		<input checked="" type="checkbox"/>	Feb 14, 2020, 10:58
<input type="checkbox"/> Action Block Access Control	High	Access Control	0	Data exfiltration	<input checked="" type="checkbox"/>	Feb 17, 2020, 13:29
<input type="checkbox"/> Event-Type = Account.Logon	High	Virtual Apps and Desktops	0		<input checked="" type="checkbox"/>	Feb 17, 2020, 19:35
<input type="checkbox"/> App Launch	High	Virtual Apps and Desktops	0	Compromised endp...	<input checked="" type="checkbox"/>	Feb 18, 2020, 16:37
<input type="checkbox"/> Access Control blocked access	High	Access Control	0		<input checked="" type="checkbox"/>	Feb 19, 2020, 19:54

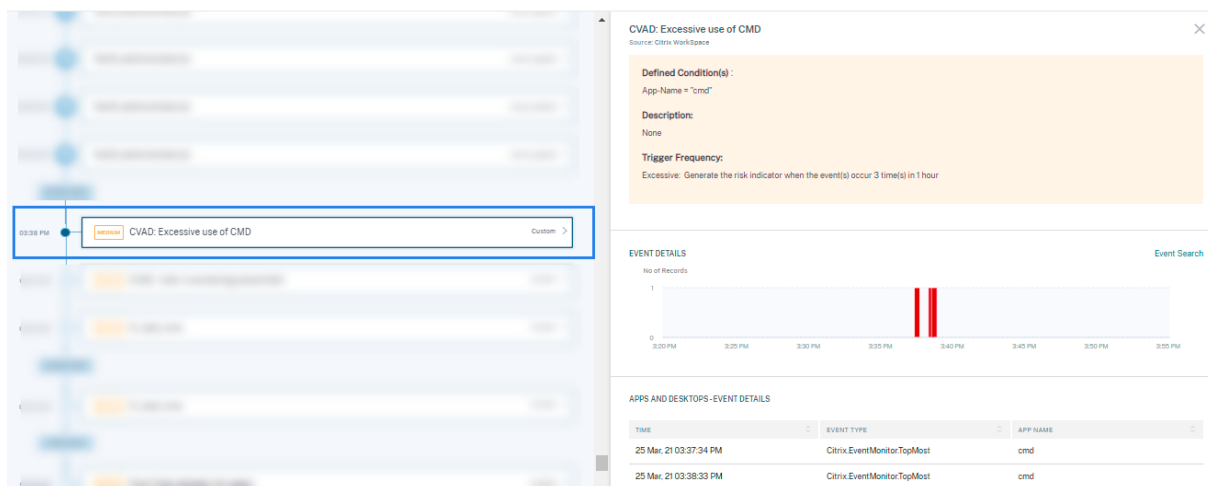
When you select the risk indicator, you are redirected to the **Modify Risk Indicator** page. For more information, see [Modifying a custom risk indicator](#).

## Analyzing a custom risk indicator

Consider a user whose action triggered a custom risk indicator that you have defined. Citrix Analytics displays the custom risk indicator on the user's risk timeline.

When you select the custom risk indicator on the user's risk timeline, the right pane displays the following information:

- **Defined Condition(s):** Shows a summary of the conditions that you define while creating a custom risk indicator.
- **Description:** Provides a summary of the description you provide while creating the custom risk indicator. If no description is provided while creating the custom risk indicator, this section reflects **None**.
- **Trigger Frequency:** Displays the option that you select in the **Advanced options** section while creating the custom risk indicator.
- **Event Details:** Displays the timeline and the details of the user events that triggered the custom risk indicator. You can click **Event Search** to view the user events on the self-service search page. The self-service search page displays the events associated with the user and the custom risk indicator. The search query shows the conditions defined for the custom risk indicator.



### Note

Custom risk indicators are represented with a label on the user risk timeline.

## Actions you can apply to the user

When a custom risk indicator is triggered for a user, you can apply an action manually or create a policy to apply an action automatically. For more information, see [Policies and actions](#).

## Custom risk indicator templates

You can create a custom risk indicator by using one of the predefined templates or proceed without using a template.

The templates act as a starting point for creating a custom risk indicator. It guides you to create a custom risk indicator by providing predefined queries and parameters that you can select based on your use cases.

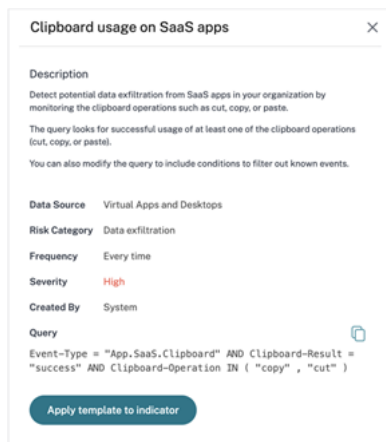
You can use a template as is or modify it to meet your requirements. Using the templates, administrators can create risk indicators of interest with no additional training.

A template consists of the following information:

- **Description:** Indicates the purpose of the query defined in the template.
- **Data source:** Indicates the data source on which the template applies.
- **Risk category:** Indicates the risk category associated with the events searched by the query. There are four categories of risky events- Data exfiltration, Insider threats, Compromised users, and Compromise end points. For information, see [risk categories](#).
- **Frequency:** Indicates the frequency at which the query triggers.

- **Severity:** Indicates the severity of the risk associated with the event. The risk can be high, medium, or low.
- **Created by:** Indicates the creator of the template. The templates are always system defined.
- **Query:** Indicates the conditions defined in the template. The query retrieves the user events that satisfy the conditions.

The following image shows the template for the use case-clipboard usage on SaaS apps.

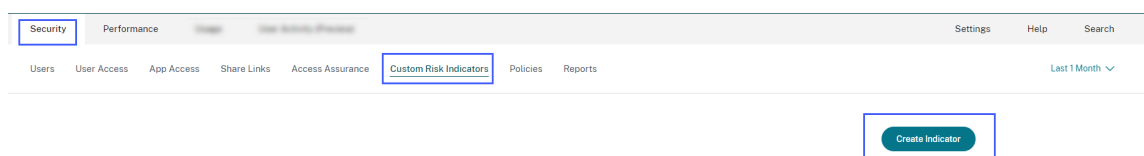


If you don't find a template for your use case or you want to define your own query, you can proceed without a template.

## Creating a custom risk indicator

To create a custom risk indicator:

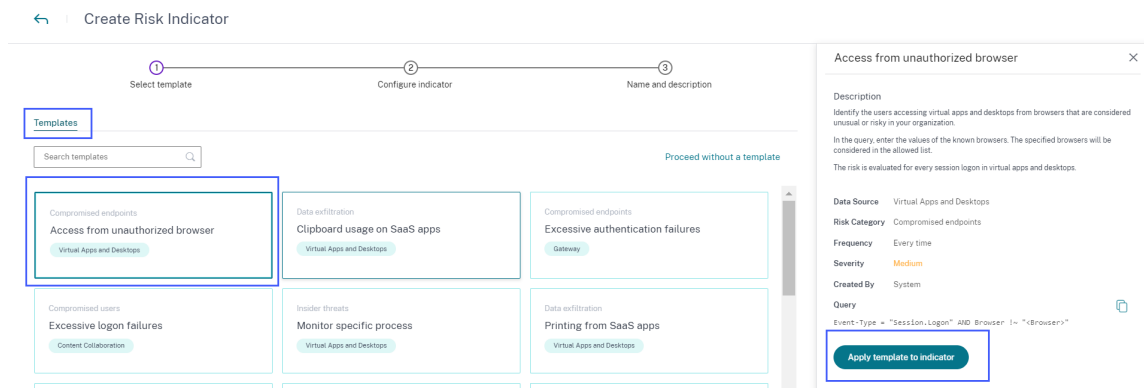
1. Navigate to **Security > Custom Risk Indicators > Create Indicator**.



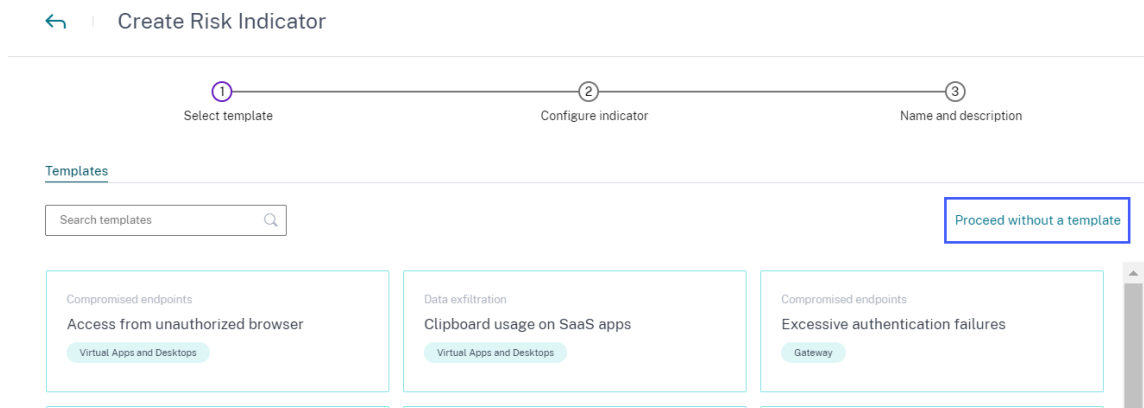
2. Select a template to view the use case. If it meets your requirement, select **Apply template to indicator**.

### Note

You can also modify the predefined conditions and the parameters of a template.



3. If you don't find a desired template or want to create your own condition, select **Proceed without a template**.



4. Follow the onscreen instructions to create an indicator.

### Notes

- You can create custom risk indicators up to a maximum limit of 50. If you reach this maximum limit, you must either delete or edit any existing custom risk indicator to create a custom risk indicator.
- When a custom risk indicator is triggered, it gets displayed on the [user timeline](#) immediately. However, the risk summary and the risk score of the user get updated after a few minutes (approximately 15- 20 minutes).

### Defining a condition for a custom risk indicator

Use the query box to define your conditions for the custom risk indicator. Depending on the selected data source, you get the corresponding [dimensions](#) and the valid operators for defining your conditions.

When selecting certain dimensions like [Event-Type](#) and [Clipboard-Operation](#) along with a

valid operator, the values of the dimension are shown automatically. You can choose a value from the suggested options or enter a new value depending on your requirements.

The following image shows the suggested values of the dimension **Event-Type**.

If you use a template, the condition is predefined. However, you can append or modify the predefined condition based on your use case.

Below the query box, you see the **Estimated Triggers** link. Click the link to predict the approximate instances of the custom risk indicator that would be triggered for the defined conditions. These instances are calculated based on the historical data that Citrix Analytics maintains and meets the defined conditions.

Ensure to click **Estimated Triggers** to predict the number of custom risk indicator occurrences for the last defined condition.

### Using the advanced options

On the **Advanced options** section, select the frequency of the event to trigger the custom risk indicator. When you do not select any option, Citrix Analytics considers **Every time: Generate the risk indicator every time the event(s) occur** as the default option and generates the custom risk indicator. You can select one of the following options:

- **Every time:** The risk indicator is triggered whenever the events meet the defined conditions.
- **First time:** The risk indicator is triggered when the events meet the defined conditions for the first time.

- **First time for a new:** Enable this option to detect events received from a new entity for the first time. Some examples of the entities are Client IP, Country, City, and Device-ID. You can select only one entity based on the data source. This option allows you to create a risk indicator without specifying an explicit value for the entities. For example, when you select the entity as “City”, you need not specify the city name. The risk indicator is triggered when events are received from a new city for the first time.

The following table lists the entities corresponding to each data source and describes the trigger conditions.

Data source	Entity	Trigger condition
Secure Private Access	City	When a user logs on from a new city for the first time.
	Client-IP	When a user logs on from a new IP address for the first time.
	Country	When a user logs on from a new country for the first time.
Apps and Desktops	App-Name	When a user opens a new virtual application or a SaaS application for the first time.
	App-URL	When a user enters a new app URL on a browser in their Virtual desktop for the first time.
	City	When a user launches apps or desktops from a new city for the first time.
	Client-IP	When a user logs on from a new IP address for the first time.
	Country	When a user launches apps or desktops from a new country for the first time.
	Device-ID	When a user launches virtual apps or virtual desktops from a new device such as a mobile, laptop, or desktop machine for the first time.
	Download-Device-Type	When a user uses a new storage media such as a USB drive for the first time.

Data source	Entity	Trigger condition
	Print-File-Format	Format of the printed file.
	Print-File-Size	Size of the printed file in bytes.
	Print-File-Name	Name of the printed file.
	Printer-Name	Name of the printer used.
	Total-Copies-Printed	Total number of copies printed by the user.
	Total-Pages-Printed	Total number of the document pages printed by the user.
Gateway	Client-IP	When a user logs on from a new IP address for the first time.
Secure Browser	User-Name	The name of the user who initiated the event.
	Access-Allowed	Whether the user is allowed or denied access to the host service.
	Client-IP	The IP address of the user device.
	Host-Name-Accessed	The host service accessed by the user over the network.
	Session-ID	The unique number assigned to the user session.

The following example shows a custom risk indicator created for the Apps and Desktops data source. The risk indicator is triggered when a user launches a virtual desktop or a virtual app from a new device for the first time.

When the following event(s) occur, Citrix Analytics generates custom risk indicators on the user risk timeline and on the Alerts panel.

Apps and Desktops

Estimated Triggers

Advanced Options

☐ Every time: Generate the risk indicator every time the event(s) occur.

☒ First time: Generate the risk indicator when the event(s) occur for the first time.

☒ First time for a new

Device-ID

You have selected to monitor this entity for every first time (new) usage.

You can also add a condition along with the **First time for a new** option. In this case, the risk indicator is triggered when it detects the events from the new entity for the first time and when the events meet the defined condition.

The following example shows a condition defined for the custom risk indicator and the **First time for a new Device-ID** option enabled. The risk indicator is triggered when a user located in India launches a virtual desktop session from a new device for the first time.

When the following event(s) occur, Citrix Analytics generates custom risk indicators on the user risk timeline and on the Alerts panel.

Apps and Desktops

Event-Type = "Session.Launch" AND Country = India

Estimated Triggers

Advanced Options

☐ Every time: Generate the risk indicator every time the event(s) occur.

☒ First time: Generate the risk indicator when the event(s) occur for the first time.

☒ First time for a new Device-ID

You have selected to monitor this entity for every first time (new) usage.

- **Excessive:** The risk indicator is triggered after the following conditions are met:
  - Events meet the defined conditions.
  - Events occur for a specified number of times during the specified period.
- **Frequent:** The risk indicator is triggered after the following conditions are met:
  - The events meet the defined conditions.
  - The events occur for the specified number of times during the specified period.
  - The event pattern repeats for the specified number of times.

### Selecting the risk category

Select the risk category for your custom risk indicator.

Risk indicators are grouped based on the type of risk exposure of the custom risk indicator. For assistance on the risk category selection, see [Risk Categories](#).

### Selecting the severity

Severity indicates the level of seriousness of a risky event, which is detected by the risk indicator. When you create a custom risk indicator, select a severity-high, medium, or low.

If you apply a template, the severity option is preselected. You can modify this preselection depending on your use case.

## Supported operators for defining a condition

You can use the following operators while defining a condition.

Operator	Description	Example	Output
	Assign a value to the search query.	User-Name : John	Displays events for the user John.
=	Assign a value to the search query.	User-Name = John	Displays events for the user John.
~	Search similar values.	User-Name ~ test	Displays events having similar user names.
""	Enclose values separated by spaces.	User-Name = "John Smith"	Displays events for the user John Smith.
<, >	Search for relational value.	Data Volume > 100	Displays events where data volume is greater than 100 GB.
AND	Search values where both conditions are true.	User-Name : John AND Data Volume > 100	Displays events of user John where data volume is greater than 100 GB.
*	Search values that match the character zero or more times.	User-Name = John*	Displays events for all user names that begin with John.
		User-Name = <i>John</i>	Displays events for all user names that contain John.
		User-Name = *Smith	Displays events for all user names that end with Smith.
!~	Checks the user events for the matching pattern that you specify. This NOT LIKE operator returns the events that do not contain the matching pattern anywhere in the event string.	User-Name !~ John	Displays events for the users except John, John Smith, or any such users that contain the matching name "John".

Operator	Description	Example	Output
!=	Checks the user events for the exact string that you specify. This NOT EQUAL operator returns the events that do not contain the exact string anywhere in the event string.	Country != USA	Displays events for the countries except USA.
IN	Assign multiple values to a dimension to get the events related to one or more values.	User-Name IN (John, Kevin)	Find all events related to John or Kevin.
NOT IN	Assign multiple values to a dimension and find the events that do not contain the specified values.	User-Name NOT IN (John, Kevin)	Find the events for all users except John and Kevin.
IS EMPTY	Checks for null value or empty value for a dimension. This operator works for only string type dimensions such as <a href="#">App-Name</a> , <a href="#">Browser</a> , and <a href="#">Country</a> . It does not work for non-string (number) type dimensions such as <a href="#">Upload-File-Size</a> , <a href="#">Download-File-Size</a> , and <a href="#">Client-IP</a> .	Country IS EMPTY	Find events where the country name is not available or empty (not specified).

Operator	Description	Example	Output
IS NOT EMPTY	Checks for not null value or a specific value for a dimension. This operator works for only string type dimensions such as <a href="#">App-Name</a> , <a href="#">Browser</a> , and <a href="#">Country</a> . It does not work for non-string (number) type dimensions such as <a href="#">Upload-File-Size</a> , <a href="#">Download-File-Size</a> , and <a href="#">Client-IP</a> .	Country IS NOT EMPTY	Find events where the country name is available or specified.
OR	Searches for values where either or both conditions are true.	(User-Name = <a href="#">John</a> * OR User-Name = * <a href="#">Smith</a> ) AND Event-Type = "Session.Logon"	Displays <a href="#">Session.Logon</a> events for all user names that begin with John or end with Smith.

**Note**

For the **NOT EQUAL** operator, while entering the values for the dimensions in your condition, use the exact values available on the [self-service search](#) page for a data source. The dimension values are case-sensitive.

**Modifying a custom risk indicator**

1. Navigate to **Security > Custom Risk Indicators**.
2. Select the custom risk indicator that you want to modify.
3. On the **Modify Indicator** page, modify the information as required.
4. Click **Save Changes**.

**Note**

If you modify the attributes such as condition, risk category, severity, and name of an existing custom risk indicator, on the user timeline, you can still view the previous occurrences of the custom risk indicator (with the old attributes) that were triggered for the user.

For example, you have created a custom risk indicator with the condition *Country != India*. So, this custom risk indicator is triggered when a user logs on from outside the country India. Now, you modify the condition of the custom risk indicator to *Country != "United States"*. In this case, you can still view the previous occurrences of the custom risk indicator with the condition *Country != India* on the user timelines who triggered the risk indicator.

**Deleting a custom risk indicator**

1. Navigate to **Security > Custom Risk Indicators**.
2. Select the custom risk indicator that you want to delete.
3. Click **Delete**.
4. In the dialog, confirm your request to delete the custom risk indicator.

**Note**

If you delete a custom risk indicator, on the user timeline, you can still view the previous occurrences of the custom risk indicator that were triggered for the user.

For example, you delete an existing custom risk indicator with the condition *Country != India*. In this case, you can still view the previous occurrences of the custom risk indicator with the condition *Country != India* on the user timelines who triggered the risk indicator.

**Continuous risk assessment**

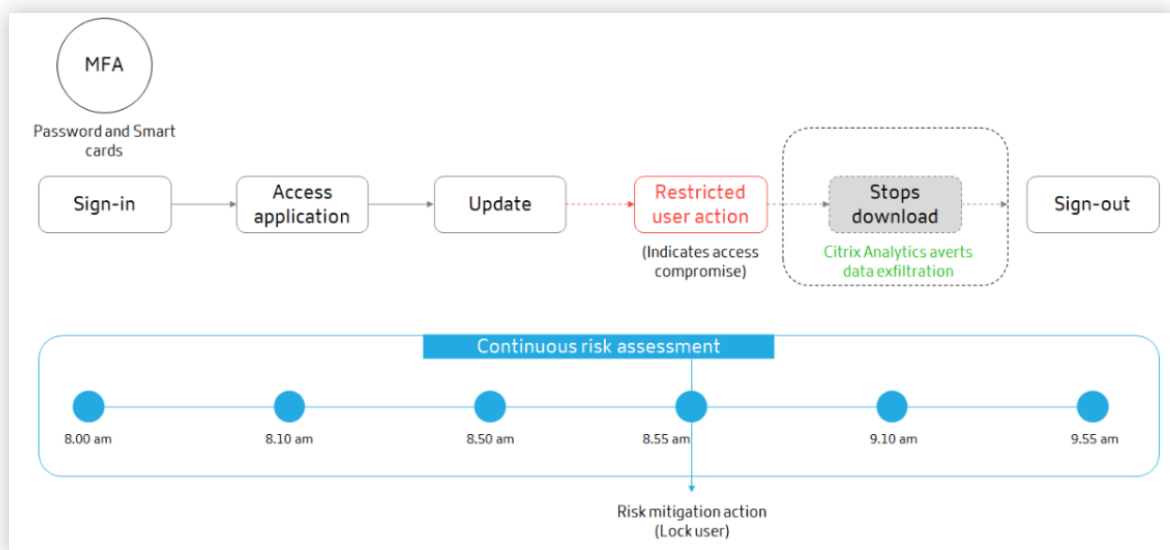
November 30, 2023

An increased use of portable computing devices and the internet allows Citrix Workspace users to work from almost any location and on any device. The challenge with this flexibility is that, remote access exposes sensitive data to security risks through cyber-criminal activities like data exfiltration, theft, vandalism, and service disruptions. Employees within organizations are also likely to contribute to this damage.

Some conventional ways of addressing such risks are to implement multifactor authentication, short sign-in sessions, and so on. Although these risk assessment methods ensure a higher level of secu-

rity, they do not provide complete security after the initial validation of users. If a malicious user is successful in gaining access to the network, they misuse sensitive data that is harmful to an organization.

To enhance the security aspect and to ensure a better user experience, Citrix Analytics introduces the solution of continuous risk assessment. This solution protects your data from both external cyber criminals and malicious insiders by ensuring that the risk exposure of the users who are using Citrix Virtual Apps and Desktops or Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) remains the same as it was when verified during the initial stage, without requiring the user to prove it every time. This solution is achieved by continuously assessing a risky event during a session and by automatically applying actions to prevent the organization's resources from further misuse.



## Use cases

Consider a user Adam Maxwell, who was able to access a network for the first time after multiple failed sign-in attempts from an unusual location that is contrary to their usual behavior. Also, the location has a track record of cyber attacks. In this scenario, you are required to take immediate action to avoid Adam's account from further misuse. You can lock Adam's account and notify him about the action taken. This action might temporarily create service disruptions to the user's account. The user can contact the administrator for assistance to restore the account.

Consider another scenario where Adam has accessed a network from a new device and from a new IP for the first time. You can contact Adam asking to confirm if he identifies this activity. If so, it might be that Adam has changed his working device and is working from his home network. This activity does not cause any harm to your organization's security, and can be ignored. However, if the user did not perform this activity, it is likely that the account has been compromised. In this scenario, you can lock the user's account to prevent any further damage.

## Key features

Continuous risk assessment automates some of the functionalities associated with policies and visibility dashboards:

### Support multiple conditions

When you create or modify a policy, you can add up to four conditions. The conditions can contain combinations of default risk indicators and custom risk indicators, user risk scores, or both.

For more information, see [What are policies](#).

### Notify users before applying actions

Before applying an appropriate action on a user's account, you can notify the user and assess the nature of an unusual activity that has been detected.

For more information, see [Request end user response](#).

### Notify users after applying actions

For some activities, awaiting user response before applying an action can put the user's account and your organization's security at risk. In such scenarios, you can apply a disruptive action when you detect an unusual activity, and notify the user about the same.

For more information, see [Notify user after applying disruptive action](#).

### Enforcement and monitor modes

You can set policies to enforcement or monitor modes based on your requirements. Policies in enforcement mode have a direct impact on users' accounts. However, if you want to assess the impact or the outcome of your policies before implementing them, you can set your policies to monitor mode.

For more information, see [Supported modes](#).

### Visibility into access and policy dashboards

Using the **Access Summary** dashboard, you can gain insights into the number of access attempts made by users. For more information, see [Access Summary](#).

Using the **Policies and Actions** dashboard, you can gain insights into the policies and actions applied on user accounts. For more information, see [Policies and Actions](#).

## Default policies

Citrix Analytics introduces pre-defined policies that are enabled on the **Policies** dashboard by default. These policies are created by using risk indicators and user risk scores as the pre-defined conditions. A global action is assigned to every default policy.

### Note

The policies listed in your environment might vary depending on when you first started using Citrix Analytics, and whether you have made any local changes.

For more information, see [What are policies](#).

You can use the following default policies or modify them based on your requirements:

Policy name	Condition	Data source	Action
Successful credential exploit	When the <a href="#">Excessive authentication failures</a> and <a href="#">Suspicious logon</a> risk indicators are triggered	Citrix Gateway	Lock user
Potential data exfiltration	When the <a href="#">Potential data exfiltration</a> risk indicator is triggered	Citrix Virtual Apps and Desktops and Citrix DaaS	Log off user
Unusual access from a suspicious IP	When the <a href="#">Suspicious logon</a> and <a href="#">Logon from suspicious IP</a> risk indicators are triggered	Citrix Gateway	Lock user
First time access from device	When the <a href="#">CVAD- First time access from new device</a> risk indicator is triggered	Citrix Virtual Apps and Desktops and Citrix DaaS	Request end user response
Impossible travel on access	When the <a href="#">Impossible Travel</a> risk indicator is triggered.	Citrix Virtual Apps and Desktops and Citrix DaaS	Request end user response
Impossible travel on authentication	When the <a href="#">Impossible Travel</a> risk indicator is triggered.	Citrix Gateway	Request end user response

## Policies and actions

November 30, 2023

### Note

**Attention:** Citrix Content Collaboration and ShareFile has reached its end of life and is no longer available to users.

You can create policies on Citrix Analytics to help you perform actions on user accounts when unusual or suspicious activities occur. Policies let you automate the process of applying actions such as disabling a user and adding users to a watchlist. When you enable policies, a corresponding action is applied immediately after an anomalous event occurs and the policy condition is met. You can also manually apply actions on user accounts with anomalous activities.

### What are the policies?

A policy is a set of conditions that must be met to apply an action. A policy contains one or more conditions and a single action. You can create a policy with multiple conditions and one action that can be applied to a user's account.

**Risk score** is a global condition. Global conditions can be applied to a specific user for a specific data source. You can keep a watch on user accounts that show any unusual activities. Other conditions are specific to data sources and their risk indicators. The conditions contain combinations of risk scores, default risk indicators, and custom risk indicators. You can add up to 4 conditions when creating a policy.

The screenshot shows the 'Create Policy' dialog box. At the top, there is a back arrow and the title 'Create Policy'. Below the title, the instruction 'Create a policy to take actions based on a user's activity' is displayed. The main form is divided into three sections: 1. 'IF THE FOLLOWING CONDITION IS MET' with a dropdown menu labeled 'Select a condition' and an 'Add Condition' button with a plus icon. 2. 'THEN DO THE FOLLOWING' with a dropdown menu labeled 'Select an action'. 3. 'POLICY NAME' with a text input field labeled 'Policy Name'. At the bottom left, there is a toggle switch labeled 'Disabled' and a 'Creator' field. At the bottom right, there are 'Cancel' and 'Create Policy' buttons.

For example, if your organization uses sensitive data, you might want to restrict the amount of data shared or accessed by users internally. But if you have a large organization, it wouldn't be feasible for a single administrator to manage and monitor many users. You can create a policy wherein, anyone who shares sensitive data excessively can be added to a watchlist or have their account disabled immediately.

## Default policies

Default policies are predefined and enabled on the **Policies** dashboard. They are created based on pre-defined conditions and a corresponding action is assigned to every default policy. You can either use a default policy or modify it based on your requirements.

Citrix Analytics supports the following default policies:



- Successful credentials exploit
- Potential data exfiltration
- Unusual access from a suspicious IP
- First time access from device
- Virtual Apps and Desktops and Citrix DaaS- Impossible travel on access
- Gateway - Impossible travel on authentication

For information about the preset conditions and actions regarding the preceding default policies, see [Continuous risk assessment](#).

6 Policies

Create Policy

Delete

<input type="checkbox"/>	NAME	STATUS	DAYS ACTIVE	OCCURRENCES	MODIFIED
<input type="checkbox"/>	Successful credential exploit	<input checked="" type="checkbox"/>	1w	0	12/24/2019
<input type="checkbox"/>	Potential data exfiltration	<input checked="" type="checkbox"/>	1w	0	12/24/2019
<input type="checkbox"/>	Unusual access from a suspicious IP	<input checked="" type="checkbox"/>	1w	0	12/24/2019
<input type="checkbox"/>	Unusual app access from an unusual location	<input checked="" type="checkbox"/>	1w	0	12/24/2019
<input type="checkbox"/>	Low risk user - first time access from new IP 	<input checked="" type="checkbox"/>	1w	0	12/24/2019
<input type="checkbox"/>	First time access from device 	<input checked="" type="checkbox"/>	1w	0	12/24/2019

For information about the pre-defined policy for the geofencing use case, see [Preconfigured policy](#).

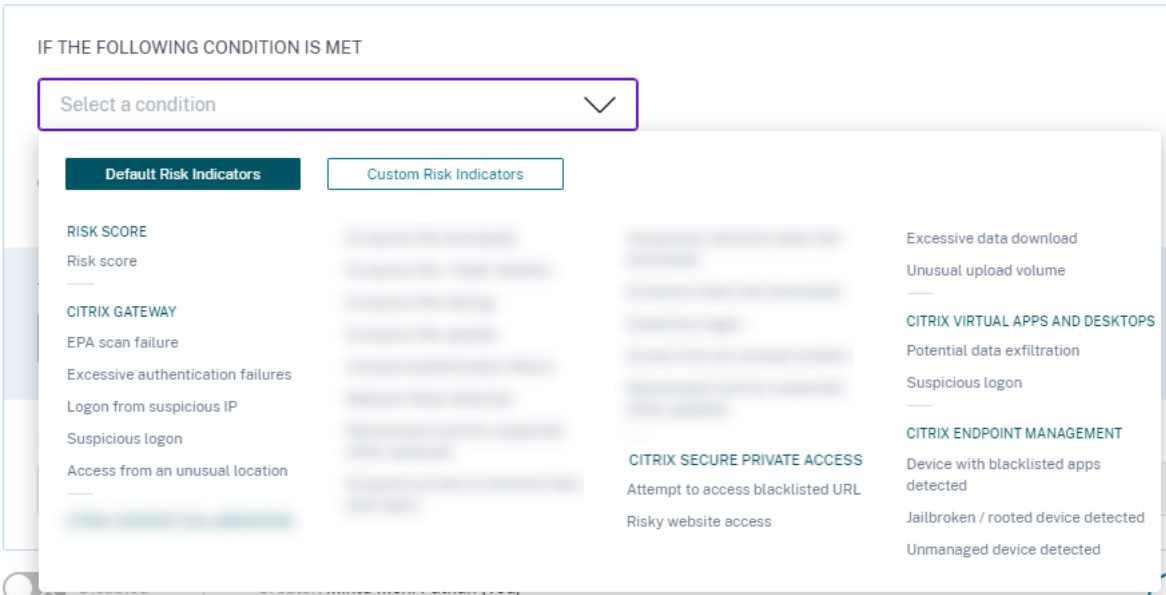
## How to add or remove conditions?

To add more conditions, select **Add condition** in the **IF THE FOLLOWING CONDITION IS MET** section of the **Create Policy** page. To remove a condition, select the - icon that is displayed next to the condition.



Default and custom risk indicators

The conditions menu is segregated based on **Default Risk Indicators** and **Custom Risk Indicators** tabs on the **Create Policy** page. Using these tabs, you can easily identify the type of risk indicator that you want to choose when selecting a condition for policy configuration.



What are the actions?

Actions are responses to suspicious events that prevent future anomalous events from occurring. You can apply actions on user accounts that display unusual or suspicious behavior. You can either configure policies to apply action on the user’s account automatically or apply a specific action manually from the user’s risk timeline.

You can view global actions or actions for each Citrix data source. You can also disable previously applied actions for a user at any time.

Note

Irrespective of the data source that triggers a risk indicator, actions pertaining to other data sources can be applied.

The following table describes the actions that you can take.

Action name	Description	Applicable data sources
Global actions		
Add to watchlist	<p>When you want to monitor a user for future potential threats, you can add them to a watchlist.</p> <p>The <b>Users in Watchlist</b> pane displays all the users that you want to monitor for potential threats based on the unusual activity on their account. Based on your organization’s policy, you can add a user to the watchlist using the Add to watchlist action.</p> <p>To add a user to the watchlist, navigate to the user’s profile, from the <b>Actions</b> menu, select <b>Add to watchlist</b>. Click <b>Apply</b> to enforce the action.</p>	All data sources

Action name	Description	Applicable data sources
<b>Notify administrator(s)</b>	<p>When a risk indicator is triggered for a user, you can manually notify to the administrators or create a policy for automatic notification. You can select the administrators from the Citrix Cloud domain and other non-Citrix Cloud domains in your organization. If you are a Citrix Cloud administrator with full access permissions, by default, the email notifications are disabled for your Citrix Cloud account. To receive email notifications, enable it on your Citrix Cloud account. For more information, see <a href="#">Receive emailed notifications</a>. If you are a Citrix Cloud administrator with custom access permissions (read-only and full access) to manage Security Analytics, the email notifications are enabled for your Citrix Cloud account. To stop receiving email notifications from Citrix Analytics, request your Citrix Cloud full access administrator to remove your name from the notify administrators distribution list. For information about, see <a href="#">Email distribution list</a>.</p>	

Action name	Description	Applicable data sources
<b>Request end user response</b>	When there is any unusual or suspicious activity on the user's account, you can notify the user to confirm if the user identifies the activity. Based on the activity, you can determine the next course of action to be taken on the user's account. For more information, see Request end user response.	
<b>Notify End User</b>	When any unusual or suspicious activity occurs on the user's account, you can notify the end user via an email notification. For more information, see Notify End User.	
<b>Citrix Gateway actions</b>		
<b>Log off active sessions</b>	When the action is applied, it logs off the user session that is currently active. It does not block any future user sessions.	Citrix Gateway on-premises and Citrix Application Delivery Management
<b>Lock user account</b>	When a user's account is locked due to anomalous behavior, they cannot access any resource through Citrix Gateway until the Gateway administrator unlocks the account.	Citrix Gateway on-premises
<b>Unlock user account</b>	When a user's account is accidentally locked although anomalous behavior was not detected, you can apply this action to unlock it and restore access to the account.	Citrix Gateway on-premises

Action name	Description	Applicable data sources
<b>Citrix Virtual Apps and Desktops and Citrix DaaS actions</b>		
<b>Log off active sessions</b>	When the action is applied, it logs off the user session that is currently active. It does not block any future user sessions.	Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)
<b>Start session recording</b>	If there is an unusual event on the user's Virtual Desktops account, the administrator can begin recording the user's current active sessions. If the user is on Citrix Virtual Apps and Desktops 7.18 or a later version, and logged in to the virtual session, an administrator can dynamically trigger start session recording action from Citrix Analytics for Security that starts the recording of the user's current active session.	Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)

### Notes

- You can apply any action to a risk indicator irrespective of the data sources.
- Administrators can now run dynamic session recording actions on Citrix DaaS sites and dynamically record users' virtual sessions.
- The **Request End User Response** and **Notify End User** actions cannot be applied to anonymous users since they don't have email addresses in **Active Directory**. Therefore, ensure that either the email addresses of your users are available in the **Active Directory** with a [connection established between your Active Directory and Citrix Cloud](#).

### View-only sharing

Before applying the **Change links to view-only sharing** action on a user's account, ensure that the following conditions are met:

### Prerequisites

- The administrator must have an Enterprise account in Content Collaboration to use the **Change links to view-only sharing** action.
- The View-Only Sharing is a feature available on a request in the Enterprise accounts of Citrix Content Collaboration. Before applying the **Change links to view-only sharing** action in Citrix Analytics, ensure that the View-Only Sharing feature is already enabled in the Content Collaboration Enterprise accounts of the user and the administrator. For more information, see the Citrix support article- [CTX208601](#).

**Supported file types** The view-only sharing action applies only on the following file types:

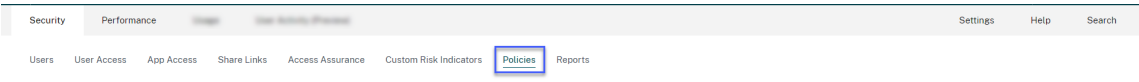
- Microsoft Office files
- PDF
- Image files (requires SZC v3.4.1 or later):
  - BMP
  - GIF
  - JPG
  - JPEG
  - PNG
  - TIF
  - TIFF
- Audio and video files stored on a Citrix-managed Storage Zone.

### Configure policies and actions

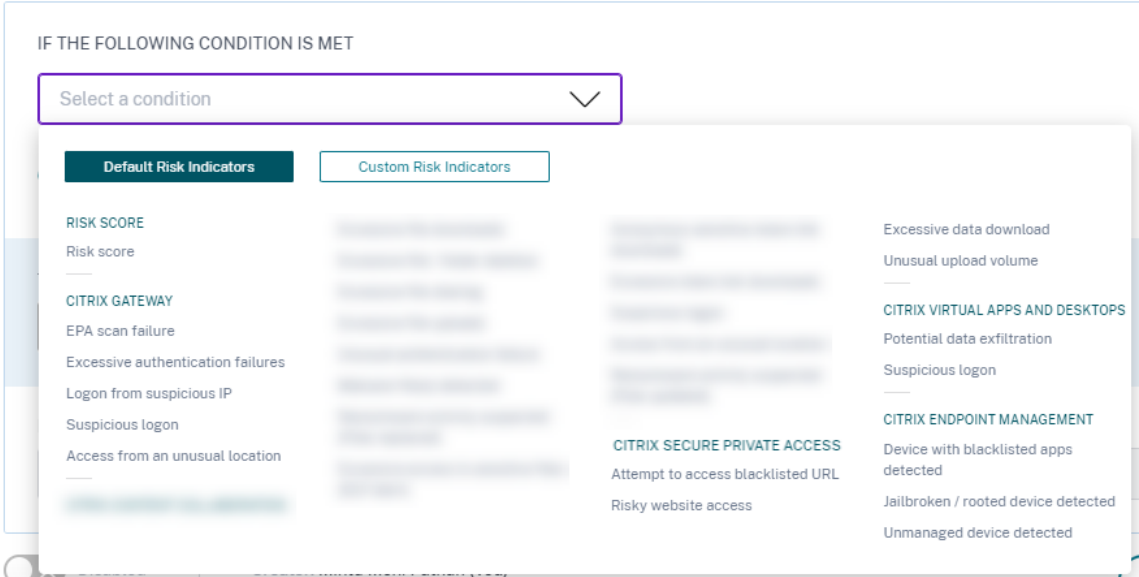
For example, following the steps below, you can create an Excessive file-sharing policy. Using this policy, when a user in your organization shares an unusually large amount of data, the share links are automatically expired. You are notified when a user shares data that exceeds that user's normal behavior. By applying the Excessive file sharing policy, and taking immediate action, you can prevent data exfiltration from any user's account.

To create a policy, do the following:

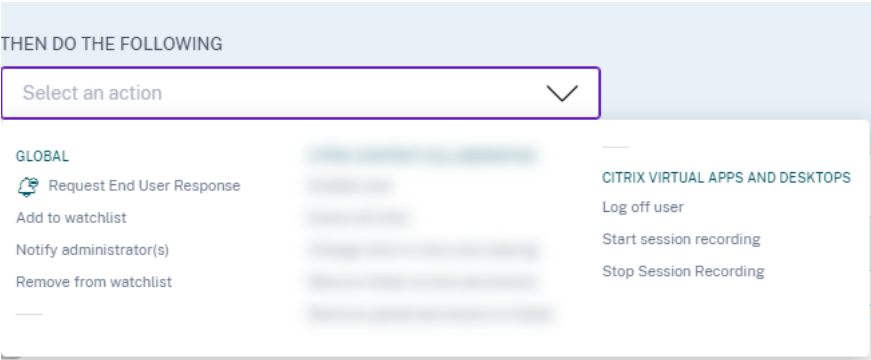
1. After signing in to Citrix Analytics, go to **Security > Policies > Create Policy**.



2. From the **IF THE FOLLOWING CONDITION IS MET** list box, select the default or the custom risk indicator conditions upon which you want an action applied.



3. From the **THEN DO THE FOLLOWING** list, select an action.



4. In the **Policy Name** text box, provide a name and enable the policy using the toggle button provided.

← | Create Policy

Create a policy to take actions based on a user's activity

IF THE FOLLOWING CONDITION IS MET

Select a condition

+ Add Condition

THEN DO THE FOLLOWING

Select an action

POLICY NAME

Policy Name

Disabled | Creator:

Cancel Create Policy

5. Click **Create Policy**.

After creating a policy, the policy appears on the **Policies** dashboard.

The **Policies** dashboard displays the policies associated with the data sources that are successfully discovered and connected to Citrix Analytics. The dashboard does not display the policies that have conditions defined for the undiscovered data sources.

However, turning off data processing for an already connected data source does not affect the existing policies on the **Policies** dashboard.

## Request end user response

**Request End User Response** is a global action using which you can alert a user immediately after you detect an unusual activity in their Citrix account. When you apply the action, an email notification is sent to the user. The user needs to respond through email about the legitimacy of their activity.

### Determine what action you want to apply for your users:

Based on the user's response, you can determine the next course of action that you want to take. You can apply a global action such as Add to watchlist, Notify administrators. Or you can apply a data source specific action such as Citrix Gateway- Lock user.

If you receive a response that the user performed the reported activity, then the activity is not suspicious and you need not take action on the user's account. The daily limit to send security alerts to the user is three emails.

Consider a Citrix Content Collaboration user whose risk score has exceeded 80 in a duration of 80 minutes. You can alert the user about this unusual behavior by applying the **Request End User Response** action. A security alert is sent to the user from the email ID [security-analytics@cloud.com](mailto:security-analytics@cloud.com).

The email contains the following information:

- User's activity that triggered the risk indicator
- User's device
- Date and time of the user activity
- Locations (cities and countries) from where products or services are successfully accessed. If the city or country is unavailable, the corresponding value is shown as "Unknown"

The **Request End User Response** action is added to the user's risk timeline.

If the user does not recognize the activity detected in their Citrix account, Citrix Analytics applies the action that you have defined.

If the user fails to send their response within one hour of receiving the email, Citrix Analytics adds the user to the watchlist. You can monitor the user and their account for any suspicious activities and take action accordingly.

THEN DO THE FOLLOWING

Global: Request End User Response

Configure the next course of action to be taken on the user's account.

If the user does not recognize the activity, then:

Select an action

If the user does not respond within 60 minutes, then add the user to the watchlist.

To change the user response time, from the top bar, click **Settings > Alert Settings > End User Email Settings**.

EMAIL PREVIEW

Security alert for your <User ID> account

Hi <User ID>,

We have identified the following event(s) on your account. If it wasn't you, your account is at risk.

Activity: <Policy name> as defined by your administrator.  
Device: <MacBook Air 2020>  
Date and Time: <30 Nov 2021, 10:02 am IST>

Do you recognize this activity?

Yes, It was me

No, protect my account

Successfully accessed locations:

LOCATION	PRODUCT	DATE
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat

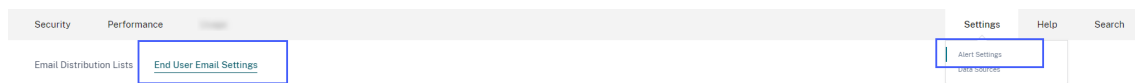
If you do not respond to this email in the next 60 minutes, services to your account might be interrupted. Contact us for further assistance.

Regards,

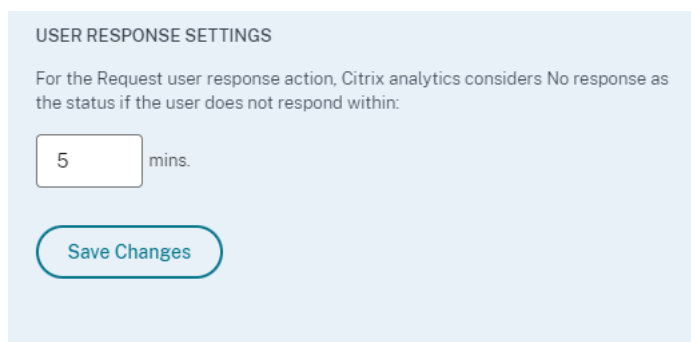
**How to set the user response time?** You can configure the user's response time to your security alert email. If the user does not respond to the reported activity within the specified time period, the user is added to the watchlist for monitoring.

Follow the steps to configure the user's response time:

1. Click **Settings > Alert Settings > End User Email Settings**.



2. On the **End User Email Settings** page, enter the number of minutes on the text box.

A screenshot of the 'USER RESPONSE SETTINGS' page. The page has a light blue background. At the top, it says 'USER RESPONSE SETTINGS'. Below that, it says 'For the Request user response action, Citrix analytics considers No response as the status if the user does not respond within:'. There is a text box containing the number '5' followed by 'mins.'. Below the text box is a rounded button labeled 'Save Changes'.

3. Click **Save Changes**.

You can also add a banner, header text, and footer text in the security alert email to make it look legitimate, attract users' attention, and increase the response time. For more information, see [End user email settings](#).

**Notify End User** **Notify End User** is a global action using which you can send email notifications to end users when unusual or suspicious behavior is detected on their Citrix accounts. The email subject line and message body are customizable. When the action is applied after a policy is triggered, an email notification is sent to the user. No response is requested from the end user and no disruptive actions are performed on the user's account.

Modify Policy Delete Policy

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IF THE FOLLOWING CONDITION IS MET

Apps and Desktops: Unsanctioned Workspace App Version ①

[+ Add Condition](#)

THEN DO THE FOLLOWING

Notify End User ▼

Customize the email notification (optional)

Subject Line [Reset to default](#)

Important Security Notification for your Citrix Account

Message Body [Reset to default](#)

Please upgrade to the latest *sanctioned* version of the Citrix Workspace App by EOD 10th April, 2023. You can download the application from the following link -

[Citrix Workspace App](#)

**B** *I* U | | |

182/1000

EMAIL PREVIEW

This e-mail message and all documents that accompany it may contain privileged or confidential information, and are intended only for the use of the individual or entity to which addressed.

Important Security Notification for your Citrix Account

Hi <User ID>,

We have identified the following event(s) on your account:

**Policy Name:** <Policy name >  
**Device:** <MacBook Air 2020 >  
**Date and Time:** <08 May 2023, 02:52 pm IST >

Please upgrade to the latest *sanctioned* version of the Citrix Workspace App by EOD 10th April, 2023. You can download the application from the following link -

[Citrix Workspace App](#)

Regards,

POLICY NAME

Unsanctioned Workspace App Version

☒ Enabled | Creator:

[Cancel](#) [Save Changes](#)

This action can help serve various compliance use cases based on a Built-In or Custom Risk Indicator Trigger(s). With the customizable email subject line and message body, it is also flexible enough to serve many generic end-user notification use cases, which do not require a response or disruptive action performed on the user's account.

The email contains the following information:

- Policy Name associated with the action.
- User's device (if available)
- Date and time of the user activity

The end user email notification is sent from the email ID [security-analytics@cloud.com](mailto:security-analytics@cloud.com).

**Note**

The daily limit across policies is **three** emails per user. Once this threshold is crossed, the action is not applied, and no email notification is sent out to the end user. The action is visible on the user's timeline view with the message **Daily email limit reached for the user**.

The action is added to the user's risk timeline. However, it is not a manual action and cannot be applied to a user from the timeline view.

**Customization of end-user email content** Previously, Citrix Analytics administrators manually reached out to end-users to provide remediation instructions on the detection of suspected activity, which was a time-consuming process to close an incident.

The **customization of end-user email content** feature is introduced for request end-user response, notify end users and informational emails. The end-user response email seeks user validation/response, however, an informational email shows the kind of suspicious activity and what kind of remediation action has already been taken. The notify end user email informs the end user about compliance violations / suspicious activity on their Citrix account without requesting a response from them.

With the **Customization of end-user email content** feature, Citrix Analytics administrators can add a custom message in the request end-user response/notify end user/informational email body template. Using the rich text box editor, an administrator can alter the content per policy using various editing tools such as bold, italic, hyperlink, and so on.

**Note**

The Customization of end-user email content feature is only available for [policy based actions](#) and not for manual actions.

You can customize the content for three types of emails:

- Request End User Response email.
- Notify End User email
- Email sent when any of the following end-user actions is performed:
  - Log off action under **Citrix Apps and Desktop**
  - Log off and lock user under **Citrix Gateway**

You can view the list of policies at **Security > Policies** tab.

Security

Performance

Settings

Help

Search

Users

User Access

App Access

Share Links

Access Assurance

Custom Risk Indicators

Policies

Reports

Create Policy

80 Policies

Delete

Last updated June 16, 2022, 13:38 IST (UTC+0530)

Search...

<input type="checkbox"/>	NAME	STATUS	DAYS ACTIVE	OCCURRENCES	MODIFIED
<input type="checkbox"/>	Lock user if evinashns		3d	7	6/13/2022
<input type="checkbox"/>	Log off user if Anonymous sensitive share link downloads		1w	0	6/9/2022
<input type="checkbox"/>	Session-start-outside-geofence		NA	0	5/17/2022
<input type="checkbox"/>	Request End User Response if Ahmed -Unsupported Citrix Workspace App Version		2M	114	4/13/2022
<input type="checkbox"/>	Lock user if testing gateway		4M	100	3/8/2022

Showing 1-5 of 80 Items

Page 1 of 16

5 rows

One can view the customized email body by clicking the existing policy or while creating a new policy. On the right-hand pane, you can get a preview of the updated email content.

If the user does not recognize the activity, then:

Add to watchlist

On the email template, you can customize the message body.

Message Body

Reset to default

You have **logged in** from a suspicious location.

What this means:

- The account might be compromised
- Malicious activity

Remediation steps:

- If not you, hit the negative response button
- Contact your system admin
- Visit [link](#) for more information

B

I

U

239/1000

If the user does not respond within 5 minutes, then add the user to the watchlist.

Edit user response time

<City, country>

<Name of the product>

<Date>

You have **logged in** from a suspicious location.

What this means:

- The account might be compromised
- Malicious activity

Remediation steps:

- If not you, hit the negative response button
- Contact your system admin
- Visit [link](#) for more information

Regards,

© Citrix

POLICY NAME

Request End User Response if Suspicious login

Disabled

Creator:

Cancel

Save Changes

**Note**

- The administrator can set the content to the default template by clicking the **Reset to default** link. The character limit for the custom body is 1000.
- For the **Notify End User** action, the **Subject Line** field is also customizable by the administrator. It can be reset to default by clicking the **Reset to default** link. The character limit for the custom email subject is 500.

Click **Save Changes** to create/update the policy. When the policy is triggered, the following email notification is sent to the end-user:

- **Request End User Response email:** A policy action that sends an email requesting for user response.
- **Notify End User email:** An email notification sent to end users informing them of compliance issues, suspicious activity, and so on. on their Citrix account.
- **Informational email:** An informational email that is sent after an end-user action.

The end-user can read the email and complete the remediation actions as requested by the administrator.

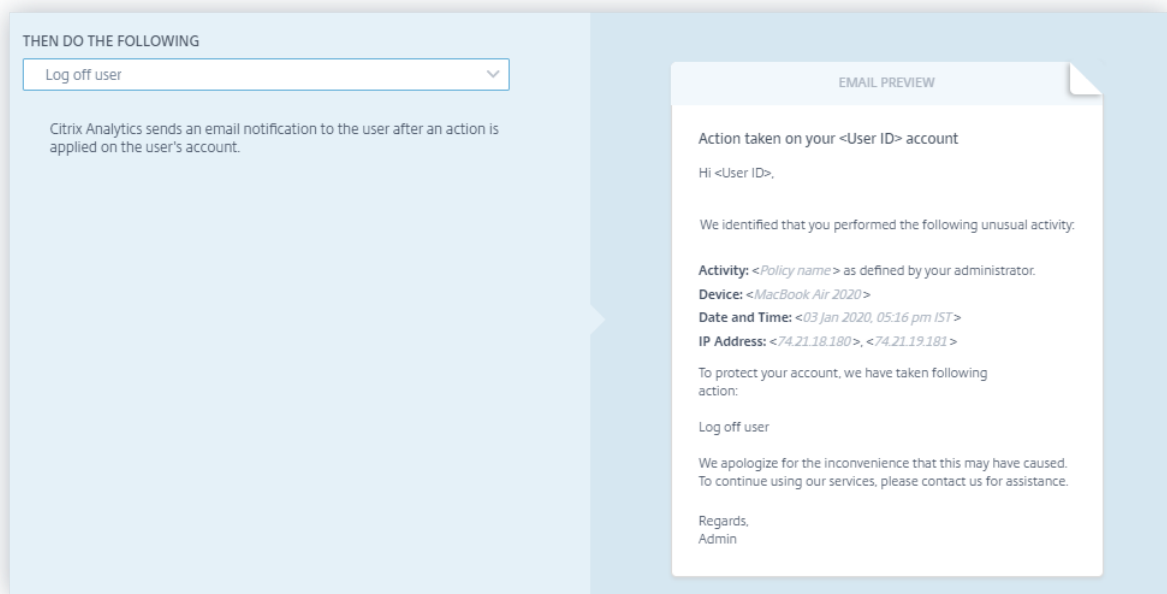
**Note**

The administrator with read only access cannot edit/add the email body.

**Notify user after applying disruptive action**

In this action type, you can apply a disruptive action such as **Log off user** and **Lock user** on the user's account when an unusual activity is detected. When an action is applied to the user's account, services to their account might be interrupted. In such instances, the user must contact the administrator to be able to access their account like before.

Consider a Citrix Content Collaboration user whose risk score has exceeded 80 in a duration of 80 minutes. You can log the user off. Once this task is performed, the user cannot access their account and an email notification is sent to the user from the email ID [security-analytics@cloud.com](mailto:security-analytics@cloud.com). The email contains details of the event such as the activity, device, date and time, and the IP address. The user must contact the administrator to access their account as before.

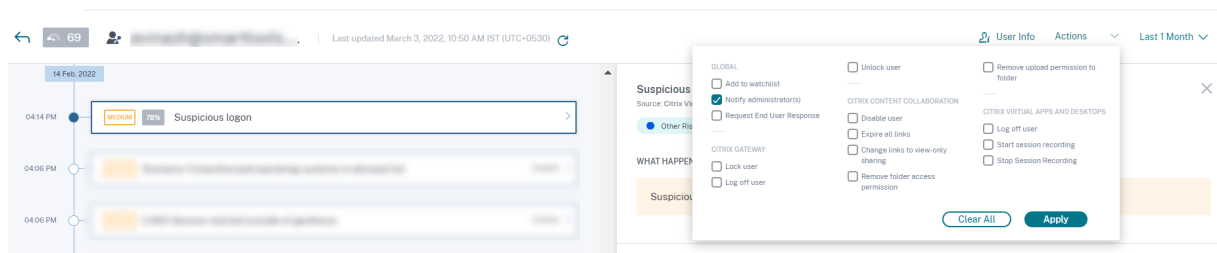


## Apply an action manually

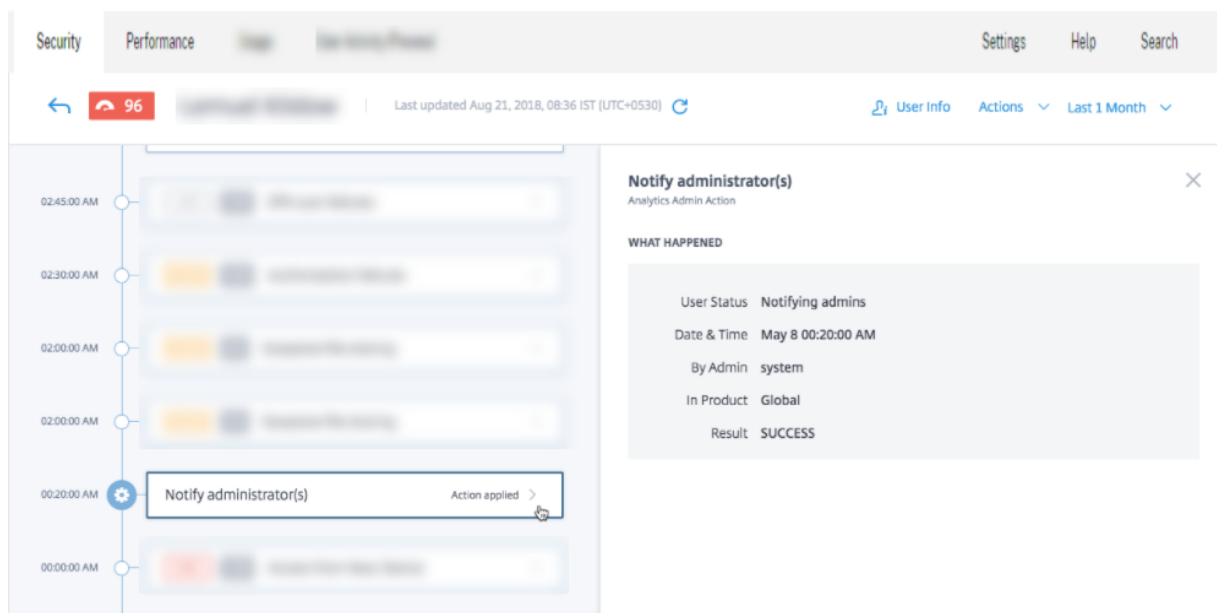
Consider a user, Lemuel who signs in to a network by using a new device for the first time. To monitor her account since her behavior is unusual, you can use the **Notify administrator(s)** action.

To manually apply the action to the user, you must:

Navigate to a user's profile and select the appropriate risk indicator. From the **Actions** menu, select the **Notify administrator(s)** action and click **Apply**.



An email notification is sent to all or selected administrators to monitor her account. The action applied is added to her risk timeline, and the action details are displayed on the right pane of the risk timeline page.



## Notes

- If you are a Citrix Cloud administrator with full access permissions, by default, the email notifications are disabled for your Citrix Cloud account. To receive email notifications, enable it on your Citrix Cloud account. For more information, see [Receive emailed notifications](#).
- If you are a Citrix Cloud administrator with custom access permissions (read-only and full access) to manage Security Analytics, the email notifications are enabled for your Citrix Cloud account. To stop receiving email notifications from Citrix Analytics, request your Citrix Cloud full access administrator to remove your name from the notify administrators distribution list. For information about, see [Email distribution list](#).

## Manage policies

You can view the Policies dashboard to manage all the policies created on Citrix Analytics to monitor and identify inconsistencies on your network. On the Policies dashboard, you can:

1. View the list of policies
2. Details of the policy
  - Name of the policy
  - Status –Enabled or disabled.
  - Duration of the policy –Number of days the policy has been active or inactive.
  - Occurrences –The number of times the policy is triggered.
  - Modified –Timestamp, only if the policy has been modified.

3. Delete the policy

- To delete a policy, you can select the policy you want to delete and click **Delete**.
- Or you can click the policy's name to be directed to the Modify Policy page. Click **Delete Policy**. In the dialog, confirm your request to delete the policy.

4. Create a policy

5. Click a policy's name to view more details. You can also modify the policy when you click its name. Other modifications that can be done are as follows:

- Change the name of the policy.
- Conditions of the policy.
- The actions to be applied.
- Enable or disable the policy.
- Delete the policy.

**Note**

- If you don't want to delete your policy, you can choose to disable the policy.
- To re-enable the policy on the Policies dashboard, do the following:
  - On the Policies dashboard, click the **Status** slider button and refresh the page. The **Status** slider button turns green.
  - On the Modify Policy page, click the **Enabled** slider button on the bottom of the page.

## Supported modes

Citrix Analytics supports the following modes of policies:

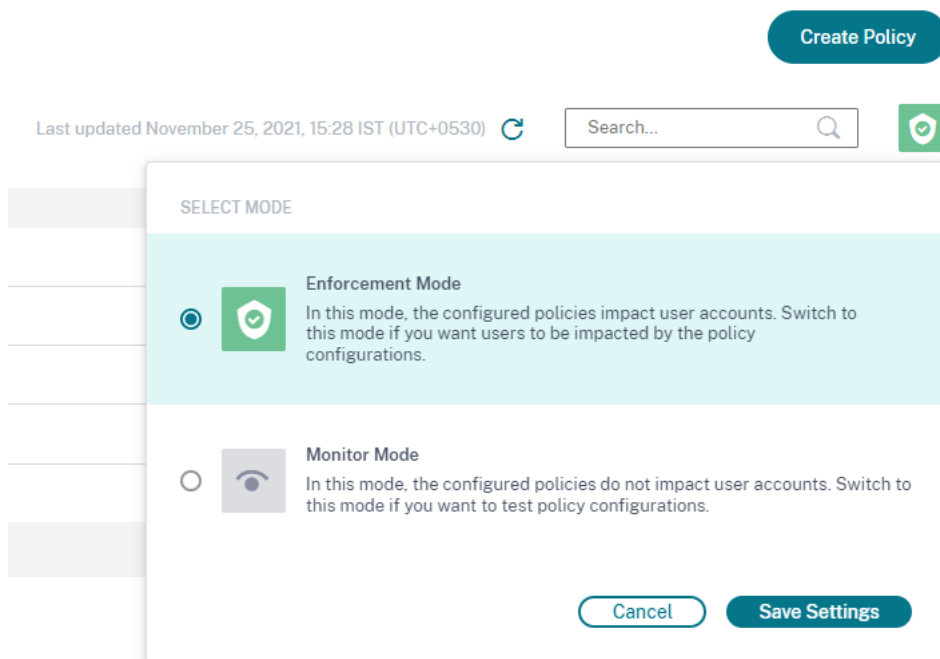
- **Enforcement mode** - In this mode, the configured policies impact user accounts.
- **Monitor mode** - In this mode, the configured policies do not impact user accounts. You can set policies to this mode if you want to test any policy configurations.

Use the following instructions to configure modes on policies:

1. Navigate to **Security > Policies**.
2. On the **Policies** page, select the icon at the top right corner that is displayed next to the **Search** bar. The **SELECT MODE** window is displayed.
3. Select the mode of your choice and click **Save Settings**.

**Note**

The default policies created by Analytics are set to monitor mode. As a result, the existing policies also inherit this mode. You can assess the impact of all the policies together and then, change them to enforcement mode.

**Self-service search for Policies**

On the [self-service search](#) page, you can view the user events that have satisfied the conditions defined in the policies. The page also displays the actions applied to these user events. Filter the user events based on the applied actions.

**Preconfigured custom risk indicators and policies**

November 30, 2023

Citrix Analytics for Security provides a list of preconfigured [custom risk indicators](#) and a [policy](#) to help you monitor the security of your Citrix infrastructure. The conditions of these preconfigured custom risk indicators and the policy are already defined according to specific security risk scenarios such as compromised users, insider threats, and data exfiltration. You can also modify these preconfigured conditions or add your own conditions according to your security requirements and use the custom risk indicators to mitigate the risks.

Currently, the preconfigured custom risk indicators are available for the following scenarios:

- Geofencing
- First time access

**Preconfigured custom risk indicators for the geofencing scenario**

Use the following pre-configured custom risk indicators to detect user events from outside the geofenced areas.

- CVAD-Session started outside of geofence
- GW-Geofence crossing

The preconfigured custom risk indicators are triggered whenever users access the Citrix products from outside their usual country of operation or the geofence. By default, the geofence is set to “United States”. You can set your required country as a geofence.

**Note**

The *CVAD-Session started outside of geofence* risk indicator is linked to the **Geofence Settings** of the Access Assurance Location feature. So, you cannot directly modify the geofenced countries in the condition of the risk indicator. To update the geofenced countries in the risk indicator, select the countries in the **Geofence Settings** of the Access Assurance Location dashboard. For more information, see the [Access assurance location dashboard](#).

To view the preconfigured custom risk indicators, select **Security > Custom Risk Indicators**.

By default, the preconfigured custom risk indicators are disabled. Use the **STATUS** button to enable them.

11 Custom Risk Indicators

Create Indicator

Delete

<input type="checkbox"/>	NAME	SEVERITY	DATA SOURCE	RISK CATEGORY	STATUS	MODIFIED
<input type="checkbox"/>	CVAD-Session started outside of geo-fence	Medium	Virtual Apps and Deskto...	Compromised users	<input type="checkbox"/>	Dec 15, 2020, 14:54
<input type="checkbox"/>	GW-Geofence crossing	Medium	Gateway	Compromised users	<input type="checkbox"/>	Nov 30, 2020, 11:27
<input type="checkbox"/>	CCC-Geofence crossing	Medium	Content Collaboration	Compromised users	<input type="checkbox"/>	Nov 30, 2020, 11:27

List of preconfigured custom risk indicators

By default, the Status is in "Disable" state

The following table describes the various preconfigured custom risk indicators for geofencing.

Custom risk indicator name	Scenario	Custom indicator conditions	Data source	Risk category
CVAD-Session started outside of geofence	User has started a virtual session outside their country of operation	Event-Type = Session.logon Country != "United States"	Citrix Workspace app	<a href="#">Compromised users</a>
GW-Geofence crossing	User has successful authentication from outside their country of operation	Event-Type = "VPN_AI"AND Country != "United States"	Citrix Gateway (on-premises)	<a href="#">Compromised users</a>

### Preconfigured policy for the geofencing scenario

Citrix provides a preconfigured policy that applies the **Request End User Response** action to a user account whenever the user starts a virtual session from outside their country of operation. The user receives an email and based on the user's response, an appropriate action is taken such as adding the user to the watchlist or notifying the administrator for further action. For more information, see [Request end user response](#).

To view the preconfigured policy, select **Security > Policies**.

NAME	STATUS	DAYS ACTIVE	OCCURRENCES	MODIFIED
Session-start-outside-geofence	ON	NA	4	12/9/2020
Request End User Response if CVAD_End_User_Response_Test	ON	NA	16	12/9/2020
Add to watchlist if test_Greece1	ON	NA	3	12/7/2020
Request End User Response if End_User_Response_Test_Karan	ON	NA	0	12/8/2020
test_123	ON	NA	0	12/8/2020

The following table describes the preconfigured policy for geofencing.

Policy name	Scenario	Policy condition	Applied action
Session start outside of geofence	Ability for an administrator to validate the user's legitimacy through the 'Request End-user Response' action when the user starts the virtual session outside their country of operation	Use with preconfigured custom risk indicator- "CVAD-Session started outside of geofence"	<div>Request End-User Response</div> <div>Based on the following user's response, the corresponding action is applied</div> <div>If the user does not recognize the activity: <b>Add to watchlist</b></div> <div>If the user recognizes the activity: <b>No action required</b></div> <div>If the user does not respond within 60 minutes of receiving the email: <b>Add the user to the watchlist</b></div>

**Note**

The **Request End User Response** action is supported only in the United States region. So, if your organization is onboarded to the European Union region in Citrix Cloud, the preconfigured policy does not get applied to your account. To use the preconfigured policy, modify the policy and select another action of your choice.

**Create your own policy with preconfigured custom risk indicators for geofencing**

You can also create your own policies with these preconfigured custom risk indicators and apply actions such as locking users or logging off users whenever the indicators are triggered. For information on how to create policies, see [Configure policies and actions](#).

The following example shows a policy that locks users who try to access Citrix services from outside the United States. The user access is locked if the user does not recognize their access activity.

**Condition:** GW-Geofence crossing

**Action:** Request end user response

**Next action:** Lock the user if the user does not recognize the activity

← | Create Policy

Create a policy to take actions based on a user's activity

IF THE FOLLOWING CONDITION IS MET

Citrix Gateway: GW-Geofence crossing (test-1)

⊕ Add Condition

THEN DO THE FOLLOWING

Global: Request End User Response

Configure the next course of action to be taken on the user's account.

If the user does not recognize the activity, then:

Lock user

If the user does not respond within 1 minutes, then add the user to the watchlist.

To change the user response time, select ⚙ on the Policies page.

EMAIL PREVIEW

Security alert for your <User ID> account

Hi <User ID>.

We have identified the following event(s) on your account. If it wasn't you, your account is at risk.

Activity: <Policy name> as defined by your administrator.  
Device: <MacBook Air 2020>  
Date and Time: <07 Dec 2020, 02:21 pm IST>

Do you recognize this activity?

Yes, it was me

No, protect my account

Successfully accessed locations:

LOCATION	PRODUCT	DATE
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat

If you do not respond to this email in the next 1 minutes, services to your account might be interrupted. Contact us for further assistance.

Regards,

### Note

The **Request End User Response** action is supported only in the United States region. So, if your organization is onboarded to the European Union region, select another action of your choice instead of the **Request End User Response** action.

## Preconfigured custom risk indicators for the first time access scenario

Use the following custom risk indicators to detect the user events for the first-time access scenarios:

- CVAD-First time access from new device
- Gateway-First time access from new IP

By default, these preconfigured custom risk indicators are in the enabled state. Use the **STATUS** button if you want to disable them.

48 Custom Risk Indicators (Maximum limit is 50)

[Delete](#) [Clear Filter](#) [Create Indicator](#)

<input type="checkbox"/>	Gateway - First time access from new IP	Medium	Gateway	Compromised users		May 05, 2021, 17:00
<input type="checkbox"/>	CVAD - First time access from new device	Medium	Virtual Apps and Desktops	Compromised users		May 05, 2021, 15:17
	IP - First time access from new device	High	Virtual Apps and Desktops	Compromised users		May 05, 2021, 15:00
	IP - First time access from new device	High	Virtual Apps and Desktops	Compromised users		May 05, 2021, 15:00
	IP - First time access from new device	High	Virtual Apps and Desktops	Compromised users		May 05, 2021, 15:00

Showing 1-5 of 48 items Page 1 of 10 5 rows

The following table describes the preconfigured custom risk indicators for first-time access.

Custom indicator name	Scenario	Preconfigured conditions	Data source	Risk category
CVAD-First time access from new device	When a Citrix Workspace app user signs in from one of the following	The following conditions are enabled by default	Citrix Virtual Apps and Desktops on-premises and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)	Compromised users
	A new device	The First time for a new Device-ID.		

Custom indicator name	Scenario	Preconfigured conditions	Data source	Risk category
	An existing device that has not been used for the last 90 days.	<pre> Event-Type = "Session. Logon"AND Client-Type IN ("XA. Receiver. Windows", " XA.Receiver. Mac", "XA. Receiver. Chrome", "XA .Receiver. Android", " XA.Receiver. Linux", "XA. Receiver.iOS ") </pre>		
Gateway-First time access from new IP	<p>When a Citrix Gateway user successfully signs from one of the following</p> <p>A new public IP address</p>	<p>The following conditions are enabled by default</p> <p>The First time for a new Client-IP</p>	Citrix Gateway	<a href="#">Compromised users</a>

Custom indicator name	Scenario	Preconfigured conditions	Data source	Risk category
	An existing public IP address that has not been used for the last 90 days.	<pre> Event-Type = " Authentication "AND Status- Code = " Successful login"AND Client-IP- Type != " private"AND Access- Insight- Flags = 1 </pre>		

On the condition bar, you can also add your own conditions in addition to the preconfigured conditions to identify threats as per your requirements.

For example, if you want to identify the user events from a particular country, you can add the country dimension along with the preconfigured condition:

- `Event-Type = "Session.Logon"AND Client-Type IN ("XA.Receiver.Windows", "XA.Receiver.Mac", "XA.Receiver.Chrome", "XA.Receiver.Android", "XA.Receiver.Linux", "XA.Receiver.iOS")AND Country = "United States"`
- `Event-Type = "Authentication"AND Status-Code = "Successful login"AND Client-IP-Type != "private"AND Access-Insight-Flags = 1 AND Country = "United States"`

## End user email settings

November 3, 2023

The end user email settings control the email template associated with the global action [Request End User Response](#). You apply this action to get a response from the users for any unusual activity detected in their account. The users respond through the emails they receive from Citrix Analytics for Security.

You can use the email settings to:

- Add an appropriate banner, header text, and footer text to attract the user's attention and get their response. It also makes your email look more legitimate.
- Add time duration (in minutes) within which the user must respond to your email. If the user does not respond within the response time, Citrix Analytics applies the specified action to the user.

## Modify email settings

To modify the email settings:

1. On the top bar, click **Settings > Alert Settings > End User Email Settings**.



2. Click Edit to upload or browse a banner image. When uploading an image file, ensure that the image meets the following requirements:
  - Supported formats: JPEG or PNG
  - Maximum dimensions: 400\* 100 pixels
  - Maximum file size: 5 MB
3. Enter your texts in the **HEADER** and the **FOOTER** fields. These fields are optional.
4. Enter the time in the user response settings.
5. Preview the email and click **Save Changes**.

Email Settings

BANNER IMAGE

Upload

HEADER

Type the text you want in header

FOOTER

Type the text you want in footer

USER RESPONSE SETTINGS

For the Request user response action, Citrix analytics considers No response as the status if the user does not respond within:

60 mins.

Save Changes

EMAIL PREVIEW

Type the text you want in header

Security alert for your <User ID> account

Hi <User ID>,

We have identified the following event(s) on your account. If it wasn't you, your account is at risk.

Activity: <Policy name> as defined by your administrator.

Device: <MacBook Air 2020>

Date and Time: <30 Nov 2021, 09:54 am IST>

Do you recognize this activity?

Yes, it was me

No, protect my account

Successfully accessed locations:

LOCATION	PRODUCT	DATE
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat
<City, country>	<Name of the product>	<Dat

If you do not respond to this email in the next 60 minutes, services to your account might be interrupted. Contact us for further assistance.

Regards,  
Admin

Type the text you want in footer

Admin email settings

December 1, 2023

The **Admin Email Settings** page enables you to configure custom distribution list recipients for system alerts. This ensures that administrators receive system alerts useful for them.

The **Admin Email Settings** feature offers the following functionalities:

View the system alerts, the email distribution lists that receive the alert, the last user that modified the alert settings, and the last date the alert was modified.

Modify alert settings. Change the target distribution list for various system alerts.

## Modify alert settings

To modify the alert settings:

1. On the top bar, click **Settings > Alert Settings > Admin Email Settings**.



2. Click the alert whose email distribution list you want to modify.
3. Select the distribution lists that must receive the alert from the **Choose the email distribution list** drop-down list.  
You can also create your own distribution list by clicking **Create email distribution list**. For more information, see [Create email distribution list](#).
4. Click **Save Changes**.

## Watchlist

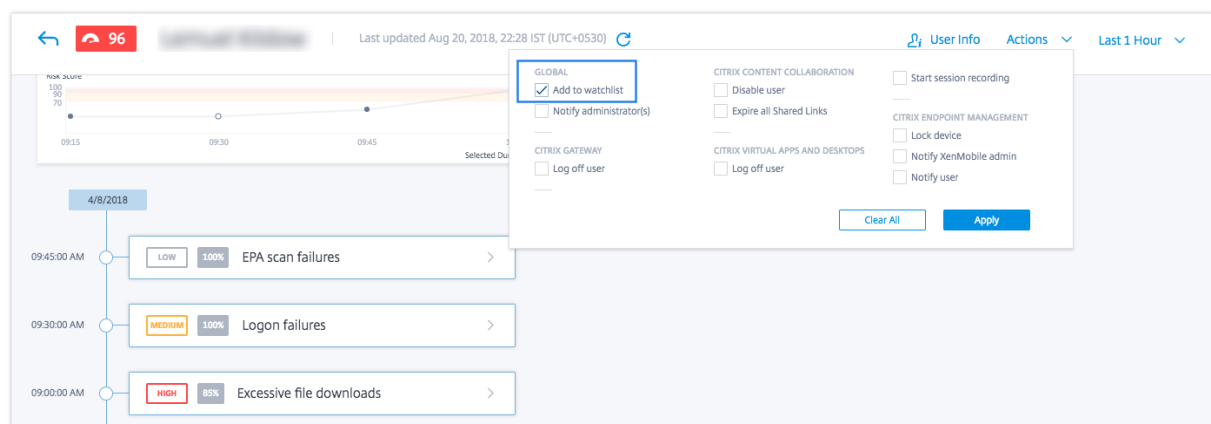
February 10, 2023

Use watchlists to monitor the activity of specific users for potential threats. For example, you can monitor users who are not full-time employees in your organization or users who trigger a specific risk indicator frequently.

### How to add a user to the watchlist

You can either add a user to the watchlist manually, or you can define policies that when triggered adds a user to the watchlist.

To add a user to the watchlist manually, navigate to the user's profile on the risk timeline. Then, from the **Actions** menu, select **Add to watchlist**. Click **Apply** and follow the prompts to enforce the action.



To add a user to the watchlist using policies, create a policy with a set of conditions that must be met. Select the **Add to watchlist** action. When the conditions are met, the user is added to the watchlist. For example, you might want to add a user to the watchlist if the user's risk score change is greater than 70 in 30 minutes.

For more information about creating policies, see [Configure policies and actions](#).

The screenshot shows the 'Create a policy to take actions based on a user's activity' dialog. The 'IF THE FOLLOWING CONDITION IS MET' section has 'Risk score change' selected, with 'is Greater than 70 in a duration of 30 mins'. The 'THEN DO THE FOLLOWING' section has 'Select an action' dropdown. An 'Actions' menu is open, showing various options. The 'GLOBAL' section has 'Add to watchlist' checked. Other sections include 'CITRIX CONTENT COLLABORATION' (Disable user, Expire All Links), 'CITRIX ENDPOINT MANAGEMENT' (Start session recording, Stop Session Recording, Lock device, Notify Admin, Notify user), and 'CITRIX VIRTUAL APPS AND DESKTOPS' (Log off user).

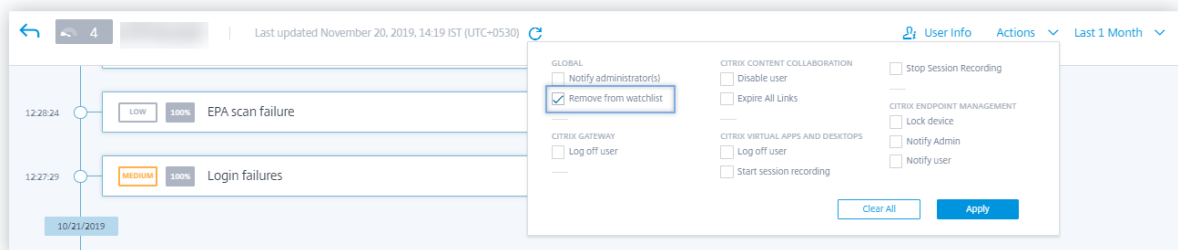
## How to remove a user from the watchlist

You can either remove a user from the watchlist manually, or you can define policies that when triggered removes a user from the watchlist.

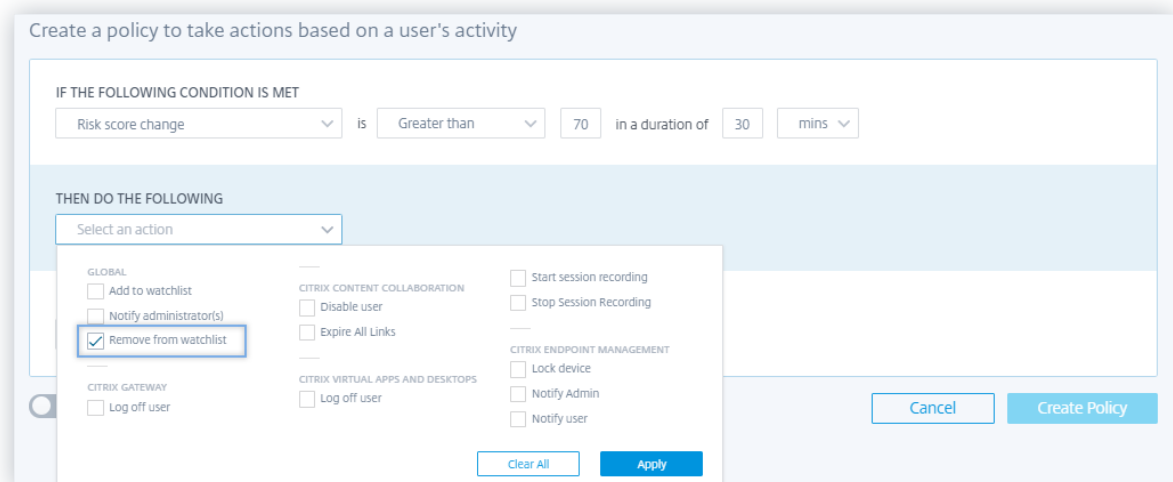
To remove a user from the watchlist manually, navigate to the user's profile on the risk timeline. Then, from the **Actions** menu, select **Remove from watchlist**. Click **Apply** and follow the prompts to enforce the action.

**Note**

When a user is on the watchlist, and you want to remove them, you see the **Remove from watchlist** option in the **Actions** menu.



To remove a user to the watchlist using policies, create a policy with a set of conditions that must be met. Select the **Remove from watchlist** action. When the conditions are met, the user is removed from the watchlist. For example, you might want to remove a user from the watchlist if the user's risk score change is lesser than 70 in 60 minutes. To learn more about creating policies, see [Configure policies and actions](#).

**How to monitor users in a watchlist**

On the **Security > Users** dashboard, view the following:

- Summary of the number of users in the watchlist for the last 13 months. Click the box to view the list of all users in the watchlist on the **Users in Watchlist** pane.
- Top five users in the watchlist listed based on the risk score. In the **Users in Watchlist** pane, view the risk score, and risk indicator occurrences along with the name of the user. Click **See More** to view the list of all users in the watchlist on the **Users** page.

- Top risky users who are in the watchlist. In the **Risky Users** pane, the “eye” icon next to a user indicates that the user is in the watchlist.

On the **Users** page, view the list of all users in the watchlist. View details such as the [risk score](#), number of [risk indicators](#) triggered, and associated data sources for a user.

Use the search box to find users and their event details. Select the time period to view the risk indicator occurrences for the specific period.

← | Users

Filters [Clear All](#)

- > Risk Score
- Users
    - ☐ Admins
    - ☐ Executives
    - ☒ Users in watchlist
  - > Discovered Data Sources

Last 1 Month [Search](#)

All Users

<input type="checkbox"/>	SCORE	USER		RISK INDICATOR OCCURRENCE	DISCOVERED DATA SOURCE	+
<input type="checkbox"/>	0			707	Citrix Virtual Apps and Desktops, Active Directory	
<input type="checkbox"/>	0	citrixuser		6	Citrix Gateway, Active Directory	
<input type="checkbox"/>	0			56	Citrix Endpoint Management	
<input type="checkbox"/>	0			0	Citrix Virtual Apps and Desktops, Active Directory	
<input type="checkbox"/>	0			387	Citrix Virtual Apps and Desktops, Active Directory	

Showing 1 - 5 of 5 items    Page 1 of 1    20 rows

## Weekly email notification

December 1, 2023

Citrix Analytics sends weekly email notifications summarizing the security risk exposures in your organization's IT infrastructure. The weekly notification keeps you aware and informed about the risky events and their occurrences in the previous week. You can find out if any events require your attention or actions without signing in to Citrix Analytics. This information keeps you informed about what is happening in your IT security domain.

### Enable email notifications

- If you are a Citrix Cloud administrator with full or custom access permission, the email notifications are disabled by default in your Citrix Cloud account. To receive email notifications from any Citrix Cloud services such as Citrix Analytics, enable the notification option in your Citrix Cloud. For more information, see [Receive emailed notifications](#). Notification preferences are not available for administrators who are added through Active Directory/Azure AD Groups.

- By default, the email notifications are sent to the Citrix Security Administrators - default list. You can change this by configuring custom distribution list recipients for weekly alerts. For more information, see [Admin email settings](#).

### **When do you get an email from Citrix Analytics?**

Every Tuesday, an email notification is sent to you from Citrix Cloud [donotreplynotifications@citrix.com](mailto:donotreplynotifications@citrix.com).

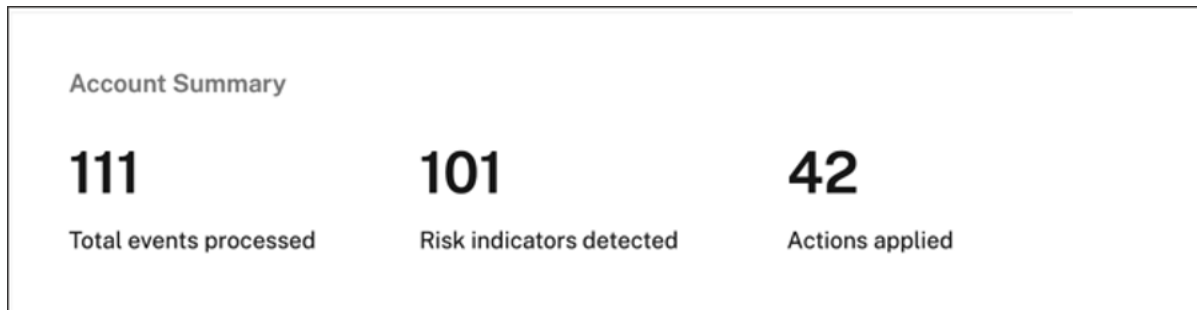
The email notification provides the following information:

- Summary of the total number of events processed, risk indicators detected, and the actions applied
- Summary of the total number of active data sources and the data export consumption status
- Top three risk indicators
- Top three actions taken on the risk indicators
- Total number of active users and total number of risky users
- Any events or actions that require your attention



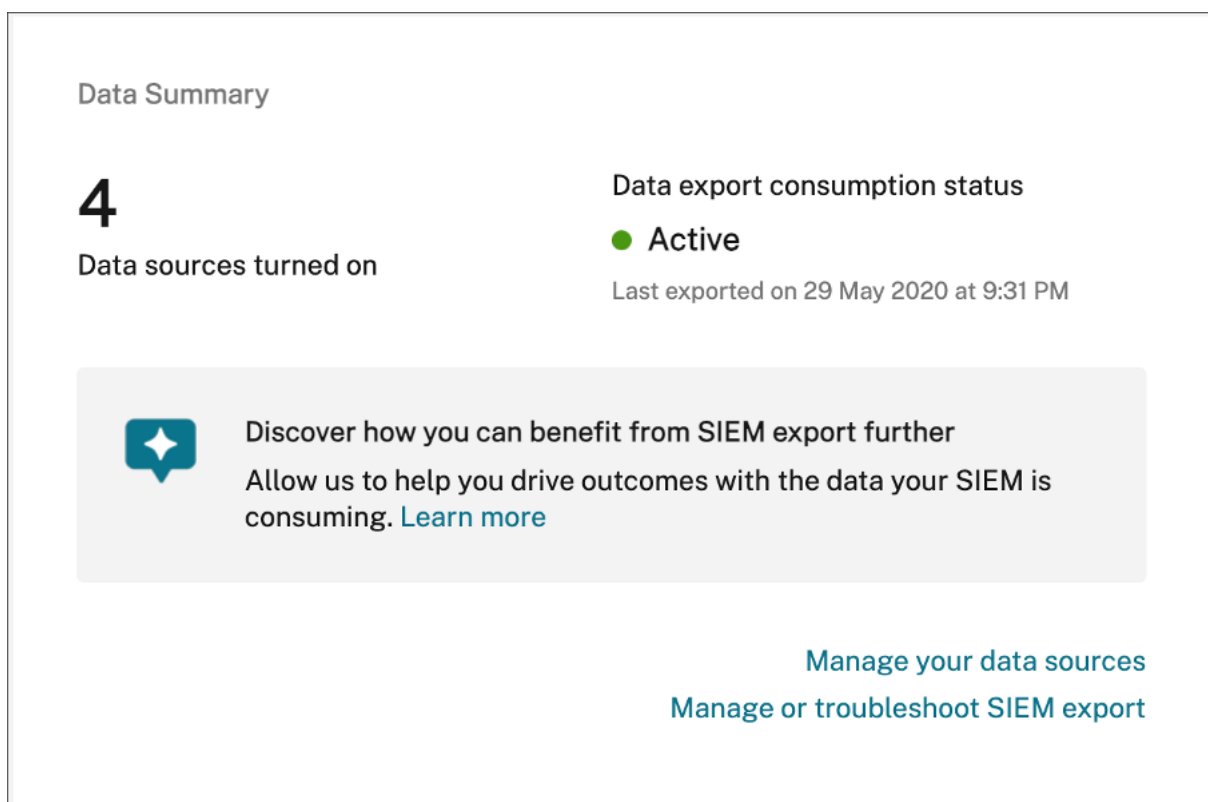
## Account Summary

The weekly email provides a summary of the total number of events processed, risk indicators detected, and the actions applied.



## Data Summary

The weekly email also provides insights on the data sources that have been turned on along with the data export consumption status.



Click **Manage your data sources** on the email to view the **Data Sources** page in Citrix Analytics. You can onboard the data source and turn on data processing to enable Citrix Analytics to allow the processing of data. For more information on enabling analytics, see [Enable Analytics](#) on data sources.

Click **Manage or troubleshoot SIEM export** to view the Data Exports page in Citrix Analytics to troubleshoot your environment and manage your data export settings.

## Users information

The weekly email provides insights into the total number of users and users who have acted in a risky manner.

- **Number of High risk users** –Identified in red. They represent an immediate threat to the organization.
- **Number of Medium risk** –Identified in orange. They have multiple serious violations on their account for the selected week and they must be monitored closely.
- **Number of Low risk users** –Identified in yellow. They have a few serious violations on their account, but potentially they are not considered a threat.

### User risk distribution ⓘ



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For more information, see [risky users](#).

Click **Learn more about your users** to view the **Risky Users** page in Citrix Analytics. You can get deeper insights into the active users and the risk categorization.

## Top Risk Indicators

The weekly email provides insights on the top three risk indicators and the number of occurrences for the selected week. Depending on the number of occurrences, both the default and custom risk indicators for the selected week are displayed.

Top risk indicators

RISK INDICATORS	OCCURRENCES
Unusual authentication failure	1
EPA scan failures	1
Excessive authentication failures	1

Learn more about your risk indicators

For more information, see [risk indicators](#).

Click **Learn more about your risk indicators** on the email to view the **Risk Indicator Overview** page in Citrix Analytics.

Top Actions

The weekly email provides insights on the top three actions taken in response to the suspicious and anomalous threats that occurred in the last week. Depending on the number of occurrences, both Global actions and Citrix Gateway actions for the selected week are displayed.

Top actions

ACTION	OCCURRENCES
Notify administrator(s)	5
Log off active sessions	1
Expire all links	1


Learn more about your actions

For more information on actions, and configuring an action, see [policies and actions](#).  
Click **Learn more about your actions** on the email to view the **Top Actions** page in Citrix Analytics.

What action do you need to take after receiving the email?

Weekly emails enable you to find out if any events or actions require your attention.

- If there are no risk indicators detected for the week, you get the following message which prompts you to create more custom risk indicators.



Learn more about your users

Create [custom risk indicators](#) and [policies](#) to gain deeper insight on your users' activities.

You can log in to Citrix Analytics to create more custom risk indicators.

- If none of the data sources are turned on in Security Analytics you get the following message which prompts you to turn on data processing for the data sources.

Things to consider



**Action required: Turn on data sources**

Enabling your data source allows you to discover events around your users and unlock new features. Onboard and turn on [data sources](#).

- If none of Policies are in monitor mode, you get the following message which prompts you to move the policies to enforcement mode.



**Your policies are in monitor mode**

Move your [policies](#) to enforcement mode to proactively mitigate risks.

- If there is no policy set up for any of the top 3 risk indicators for the week, you get the following message which prompts you to create a policy.



**Your top risk indicator has no policy set up**

One or more of your top indicators do not have a policy set up. Do you want to create a [policy](#)?

- If you have not enabled **Data Exports** for your Citrix Analytics tenant, the following recommendations point you to more details about our **Data Exports** options which allow you to export your Citrix data to a SIEM environment.



**Enable SIEM data export**

Export user data from the Citrix IT environment to correlate with data available in your SIEM to get deeper insight into your organization's security posture. [Learn more](#)

- If the data export consumption status is inactive, you get the following message which prompts you to activate your service.



**Your SIEM data export is currently inactive**

Refer to our [quick set up guide](#) to activate your service to gain insights into your organization's security posture.

**Note**

The data transmission is enabled only when the data processing is turned on at least for one data source. If the data processing is turned off for all the data sources, you get the following warning message to enable your data source.



**Action required: Turn on data sources**

Enabling your data source allows you to discover events around your users and unlock new features. Onboard and turn on [data sources](#).

## Audit logs

February 3, 2020

An audit log describes audit information for events generated on Citrix Analytics. They can be system events such as errors, or an audit trail of configuration actions performed by the Citrix Analytics administrator.

Whenever a configuration is added, deleted, or updated, the event information is written to the audit log. This information is about what was modified, the time when it was modified, and who modified it.

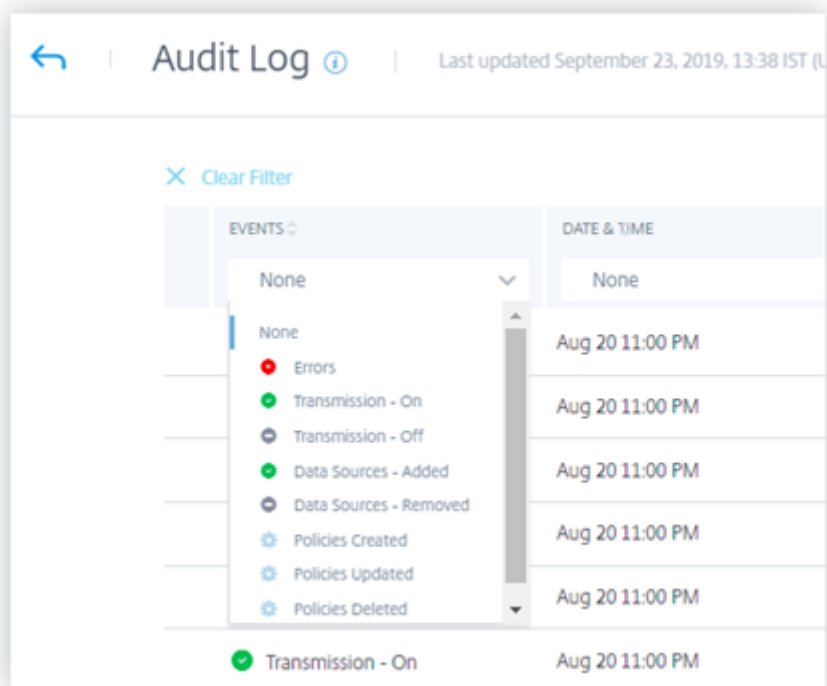
You can view audit log information for the last three months.

### Activities that generate audit events

The following events are registered on Citrix Analytics:

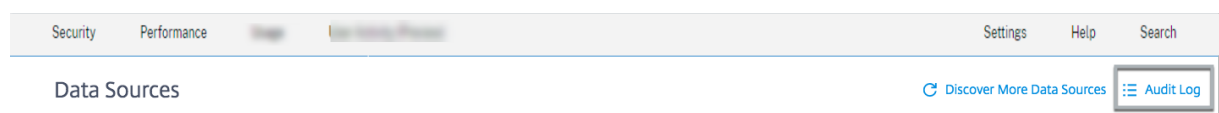
- Errors generated
- Transmission turned on

- Transmission turned off
- Data sources added
- Data sources removed
- Policies created
- Policies updated
- Policies deleted



## How to view the audit log

To view audit logs, log on to Citrix Analytics. Navigate to **Settings > Data Sources**. On the **Data Sources** page, click **Audit Log** on the top right corner.



## How to use the audit log

You can use the audit log to review and be aware of any event on Citrix Analytics. Refresh the **Audit Log** page to fetch the latest audit data. The page displays the date and time when the audit data was last updated.

You can view the following audit information on the **Audit Log** page. You can also filter the audit data based on these fields.

- **Events.** Events can be system generated or configurations applied by the administrator on Citrix Analytics. Events can also represent errors such as the failure to apply actions or a data source. By default, logs for all events are displayed. You can filter based on the type of event you want to view.
- **Date and Time.** The data and time when the event occurred. You can filter based on the period for which you want to view the log. You can view events for the current day, last seven days, last 15 days, last month, and last three months.
- **Product.** The product for which the event was generated. The events are generated on the product and aggregated on Citrix Analytics where they are displayed. You can filter the log based on one or more products.
- **Data Source.** The name of the product instance associated with the audit entry. You can search for any specific data source to view its audit data.
- **By Admin.** The Citrix Analytics administrator who performed the admin activities. You can search for activities performed by any specific administrator.

EVENTS	DATE & TIME	PRODUCT	DATASOURCE	BY ADMIN
Transmission - On	November 28 08:25 AM	Citrix Content Collaboration	Siteld :A871EAA8-9946-DB1B-C18D-F700...	
Transmission - Off	November 28 08:25 AM	Citrix Content Collaboration	Siteld :A871EAA8-9946-DB1B-C18D-F700...	
Policy Created	September 24 05:50 AM	NA	NA	
Transmission - On	September 18 11:19 AM	Citrix Access Control	Siteld :CCDDFE9C-86B5-4D80-9F17-0460...	
Transmission - Off	September 18 11:06 AM	Citrix Access Control	Siteld :CCDDFE9C-86B5-4D80-9F17-0460...	
Transmission - Off	September 18 11:05 AM	Citrix Virtual Apps and Desktops	Siteld :E77A0A34-DF7B-43B4-ADD6-2A3F...	
Transmission - On	September 18 11:03 AM	Citrix Content Collaboration	Siteld :A871EAA8-9946-DB1B-C18D-F700...	

If your registered event was based on a policy, you can click the arrow icon to view more details such as:

- Policy name
- The specified condition
- The resulting action

EVENTS	DATE & TIME	PRODUCT	DATASOURCE	BY ADMIN
Policy Created	September 24 05:50 AM	NA	NA	

Policy Name : Log off user if Logon failures -test

Condition : eg\_login\_failure

Action : NSGW:LogOff

## Custom reports

April 17, 2024

You can create and schedule custom reports using the events and insights available in Citrix Analytics for Security. Custom reports help you to extract information of specific interest and organize the data graphically. It helps analyze the security of the data source of your choice over time.

Custom reports support the following data sources:

- Apps and Desktops
- Gateway
- Secure Private Access
- Secure Browser
- Policies
- Risk Indicators
- Risk Score

### Supported Fields in Custom Reports

Some data sources are also available in self-service search. To view these event types and supported fields, click the following data sources.

- [Apps and Desktops](#)
- [Gateway](#)
- [Secure Private Access](#)
- [Secure Browser](#)
- [Policies](#)

The following data sources are only available in Custom Reports. The following table lists the supported fields in the Custom reports for the following data sources:

- Risk Indicators
- Risk Score

Data source	Dimension	Description
Risk Indicators	Category	Indicates the category of risk indicators. The risk indicators are grouped into one of four categories - compromised endpoints, compromised users, data exfiltration, or insider threats.
	Risk-Indicator-Name	The name of the risk indicator. For a custom risk indicator, the name is defined by the admin while creating the indicator.
	Severity	Indicates the severity of the risk. It can be low, medium, or high.
	User-Name	The user name or domain\username that is used for logging in.
Risk Score	Risk-Score	The risk score assigned to the user. The risk score varies from 0 to 100 depending on the threat severity associated with the user's activity.
	User-Name	The user name or domain\username that is used for logging in.
	Risk-Score-Category	Based on the risk score, a risky user can fall into one of the following categories: high risk, medium risk, and low risk.

## Reports

You can perform the following actions on reports using this view:

- Click **Create Report** to create a custom report.
- Expand a row to see the preview of an existing custom report.
- Click the report name to see the detailed report visualization.

- Click the export icon to export an existing custom report in PDF format.
- Click the edit icon to edit the reports you've created.
- Click the delete icon to delete the reports you've created.

REPORT NAME	TYPE	DATA SOURCE	CREATED BY	DATE	ACTIONS
Multiple-Chart sum...	Multiple data sour...	System		Sep 14 2023, 1:08 PM IST	[Export] [Edit]
Table	Table	Apps and Desktops		Oct 20 2023, 1:15 PM IST	[Export]
Table	Table	Apps and Desktops		Oct 20 2023, 12:13 PM IST	[Export]
Bar Chart	Bar Chart	Apps and Desktops		Oct 19 2023, 1:55 PM IST	[Export]
Bar Chart	Bar Chart	Risk Indicators		Oct 17 2023, 11:35 AM IST	[Export]
Table	Table	Risk Score		Oct 10 2023, 2:41 PM IST	[Export]
Table	Table	Gateway		Oct 10 2023, 2:38 PM IST	[Export]
Table	Table	Policies		Oct 10 2023, 2:36 PM IST	[Export]
Bar Chart	Bar Chart	Risk Score		Oct 10 2023, 1:36 PM IST	[Export]
Table	Table	Policies		Oct 10 2023, 11:33 AM IST	[Export]

## Create a custom report

To create a custom report, click **Create Reports**. On the **Create Report** page, you can choose to create a custom report with or without templates.

## Creating a custom report with templates

To create a custom report with a template:

1. **Select a template:** Once you click a template, the template details are listed on the right. Click **Apply Template to Report** to enable the report to use the selected template.
2. **Refine Filters:** The **Refine Filters** page shows the filters that were predefined for the template you selected. Make the required changes and then click **Next**.

Security Performance *View Activity Overview*

Q Type User or Machine name Advanced Search Settings Help

Create Report

1 Select Template 2 Refine Filters 3 Apply Visualization

Filters Clear All

Event Type

- ☒ Session Logon 682
- ☐ File Download 35
- ☐ VDA Clipboard 7
- ☐ Citrix Event Monito... 2
- ☐ App Start 1

Apps and Desktops Last 1 Month

Type Query e.g. App-Name = "app1" AND Country = "US"

Search

Event Type: Session Logon

Domain

OS

DATA

Add or Remove Columns Sort By

TIME	USER NAME	DEVICE ID	OS NAME	OS VERSION	CITY	COUNTRY	EVENT TYPE	WORKSPACE APP VERSI...
> Oct 25, 4:30:54 PM			Windows NT 6.1	6.1	Mountain View	United States	Session Logon	18.10.0.44
> Oct 20, 12:09:39 PM			Chrome OS 15359	Not Available	West Island	Cocos (Keeling) Islands	Session Logon	Not Available
> Oct 20, 12:00:23 PM			Chrome OS 15359	Not Available	West Island	Cocos (Keeling) Islands	Session Logon	Not Available
> Oct 19, 11:25:12 AM			Windows XP	5.1	Wollongong	Australia	Session Logon	23.07.0.64
> Oct 18, 11:54:32 AM			Windows XP	5.1	Wollongong	Australia	Session Logon	23.07.0.64
> Oct 17, 2:20:50 PM			Windows XP	5.1	Wollongong	Australia	Session Logon	23.07.0.64
> Oct 17, 2:16:38 PM			Windows XP	5.1	Wollongong	Australia	Session Logon	23.07.0.64

Discard Back Next

1. **Apply Visualization:** Select one of the available visualizations for displaying the report.

Security Performance

### Create Report

Recommended Visualization

Configure Visualization

Select dimensions and metrics to create your report.

X Axis

Dimension

CITY

Group by

Select Group by

Y Axis

Metric 1

Metric

USER NAME

Summarization

DISTINCT COUNT

+Add Metric 2

Sort and Order Results

Provide options for sorting and ordering upto 2 options

Sort by

CITY

Order

Ascending

+Then sort by

Set Limit(Optional)

Provide the maximum number of records to display on your report. For example: top 5, top 10, or top 20 data.

Enter Limit

5

Discard

- **Bar chart:** Presents data with vertical rectangular bars with height proportional to the values. Used for comparing events.
- **Stacked-column chart:** Presents data in the form of bars stacked one over the other. Used to visualize the total sum of data over multiple sub-categories.
- **Pie chart:** Presents data in the form of a pie. Used to visualize the relative size of the data or percentages.
- **Donut chart:** Presents data in the form of a donut. Used to visualize the relative size of the data or percentages.
- **Table:** Presents data in the form of a table. Used to visualize as many dimensions as needed.
- **Line chart:** Presents data with dots connected by straight line segments. Used to visualize data trends over a time period.

1. Now configure the visualization with the following parameters:

- Dimension for the x-axis
- Metrics to be plotted in the y-axis
- Summarization or aggregations, such as average or count, to be applied to the metric
- Options for sorting and ordering
- An optional limit for the maximum number of records to be displayed on the report.

## Creating a custom report without templates

You can also create a custom report without a predefined template. Click **Create Custom Report without Template**. Select a data source from the dropdown list. Follow the steps to define the filters, apply visualization, save, and schedule the report.

The screenshot shows the 'Create Report' interface. At the top, there are tabs for 'Security' and 'Performance'. Below the tabs, there is a search bar and links for 'Advanced Search', 'Settings', and 'Help'. The main area is titled 'Create Report' and features a progress bar with three steps: 1. Select template, 2. Filter Data, and 3. Apply Visualization. Below the progress bar, there are dropdown menus for 'Report category' (set to 'All') and 'Data Source' (set to 'All'), along with a 'Search templates' input field. A red box highlights the 'Proceed without a template' button. Below these are six report templates: 'Access Assurance' (Aggregator, Apps and Desktops), 'Unsanctioned Workspace App Versions' (Aggregator, Apps and Desktops), 'Gateway Access Summary' (Time Series, Gateway), 'Top 5 Users For Printing Events' (Aggregator, Apps and Desktops), 'Top 5 Users For Clipboard Events' (Aggregator, Apps and Desktops), and 'Top 5 Users For File Download Events' (Aggregator, Apps and Desktops). At the bottom, there is a 'Discard' button and a 'Next' button.

## Save a report

1. To save the report, click **Save**. Specify a title for your report.
2. You can schedule to email the report to the specified email IDs and distribution lists on a specific date and time or a recurring schedule.

Save Report

Name your report

Schedule email report

Send to

Type Or Paste space separated emails

Set up schedule

Date

Thursday, September 14

Time

11:00 AM

Asia/Calcutta

Repeats

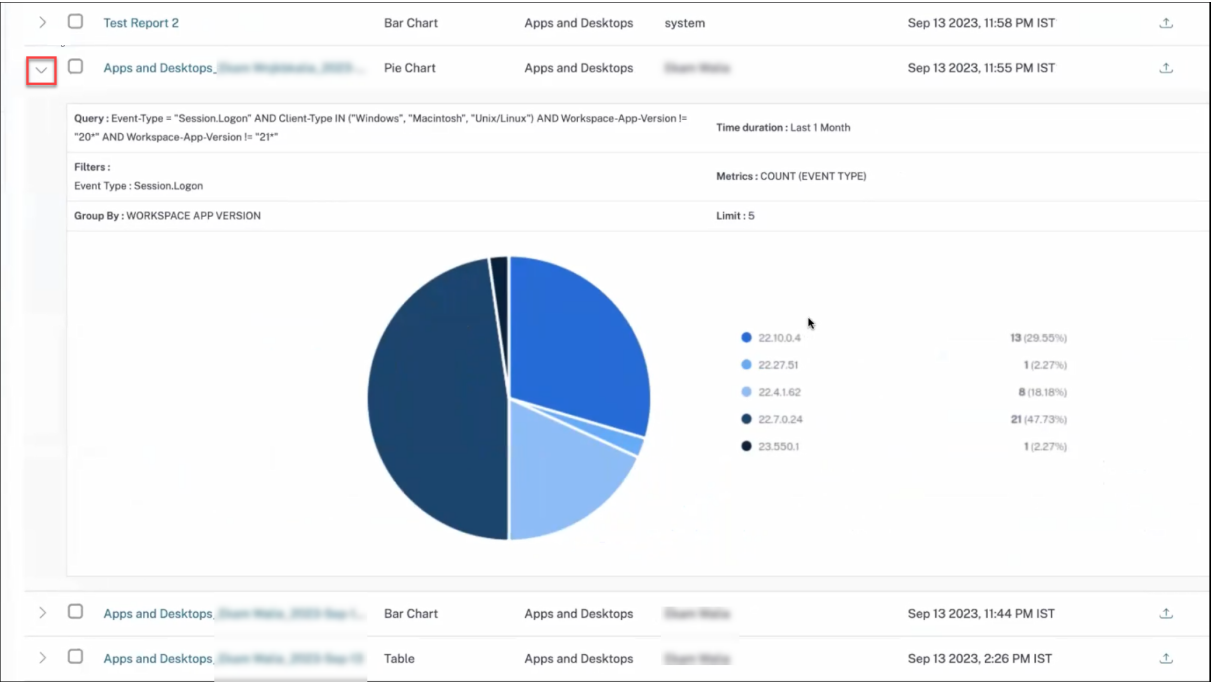
Weekly

Cancel

Save

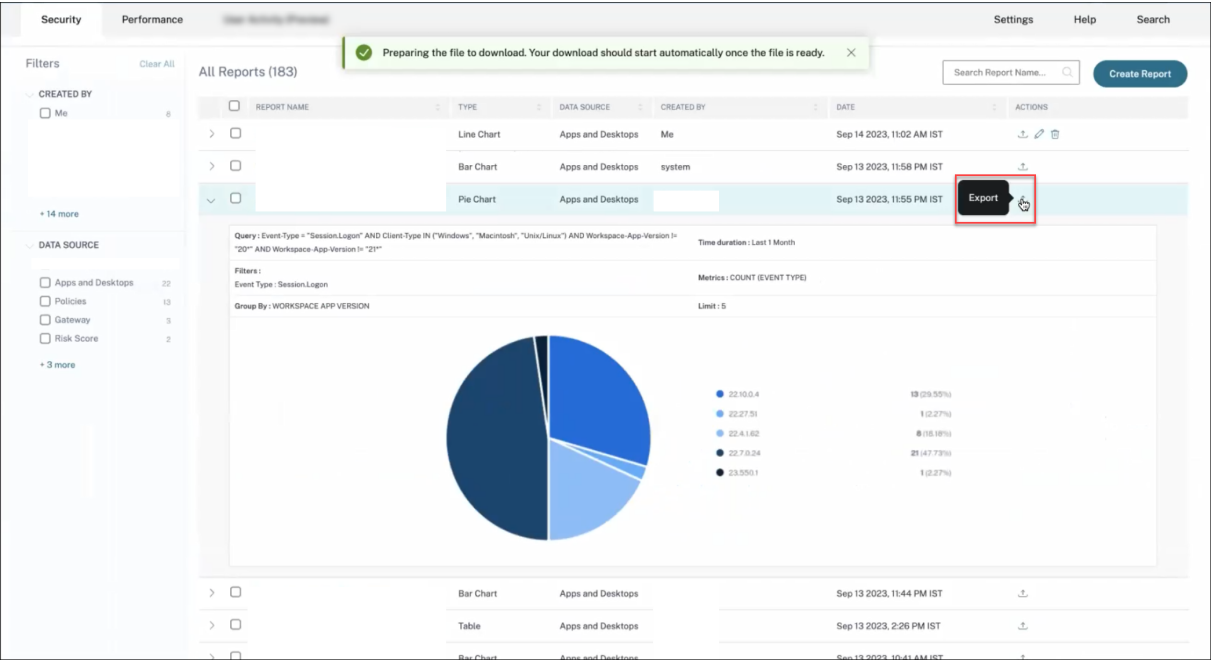
View a report

1. After you’ve created and saved a report, you can view the report on the **Reports** page. You can also modify or delete a saved report.
2. Click the dropdown button to preview the report.



Export a report

Click the export icon to export the report.

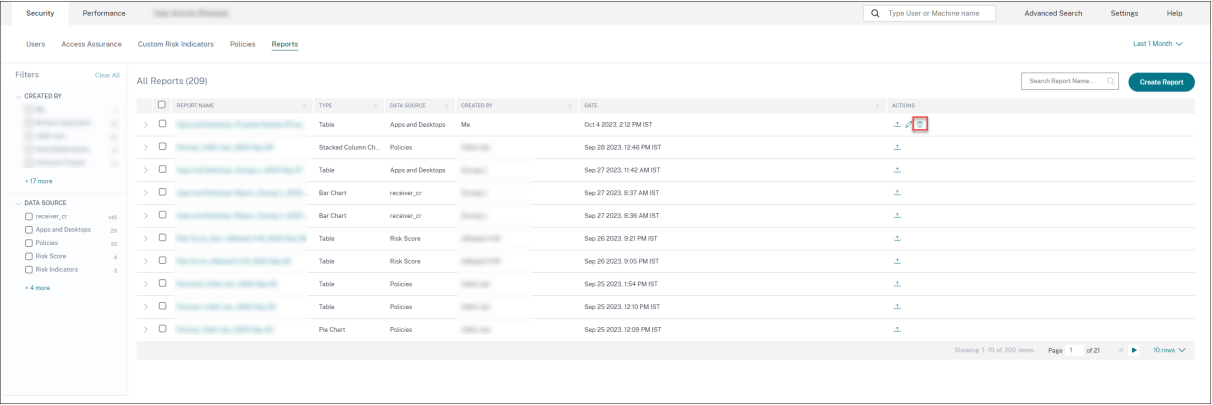


Delete a report

Click the delete icon to delete the report.

**Note:**

Only the user who creates the report can delete it.

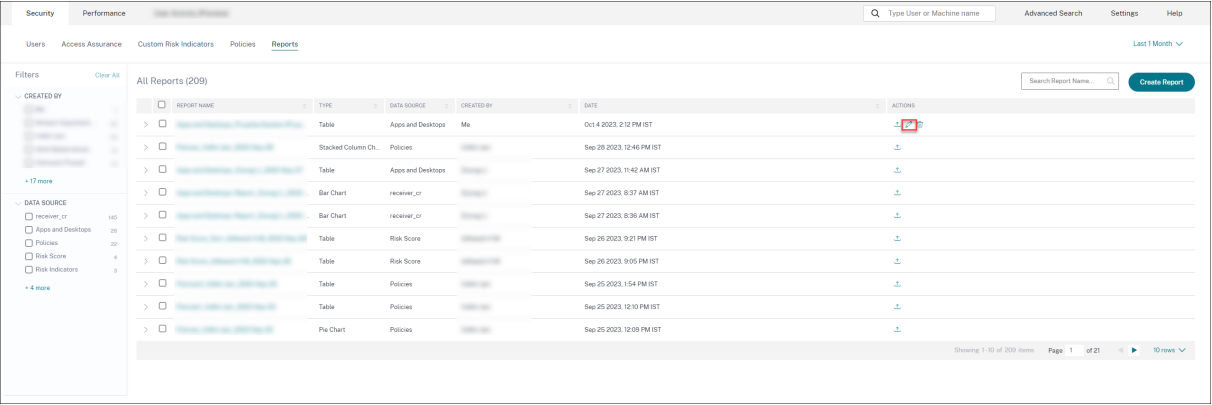


**Edit a report**

Click the edit icon to edit the report.

**Note:**

Only the user who creates the report can edit it.



**Executive Summary report**

You can schedule an automated export through email which contains a PDF of a pre-created executive summary report. The executive summary report is a collection of reports depicting your enterprise’s security posture at one single glance for the selected time period to the audience of your choice.

You can create the report for data for the following time durations:

- Last 1 Hour

- Last 12 Hour
- Last 1 Day
- Last 1 Week
- Last 1 Month

REPORT NAME	TYPE	DATA SOURCE	CREATED BY	DATE	ACTIONS
Executive Summary_Monthly	Multiple-Chart sum...	Multiple data sourc...	System	Nov 20 2024 10:00 AM	<a href="#">Download</a> <a href="#">Edit</a>
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions
Report Name	Report Type	Report Data Source	Report Created By	Report Date	Report Actions

## What reports does it contain?

The Executive Summary report contains the following reports:

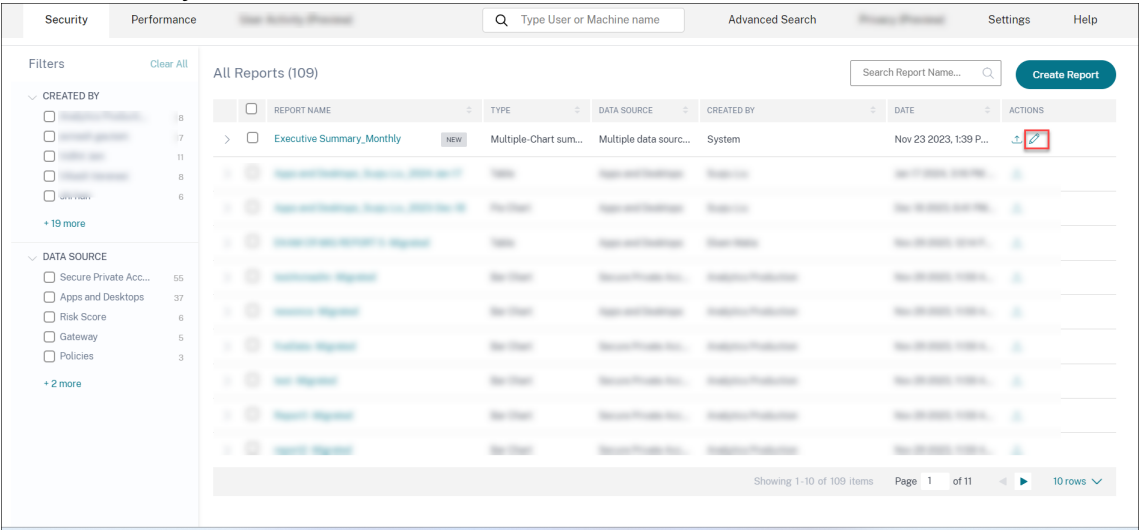
- **User Risk Distribution:** The distribution of high, medium, and low risky profiles based on their highest computed risk score in the selected time period.
- **Top Risky Users:** The top risky users among all users sorted by highest risk scores for the selected time period.
- **Risk Occurrences by Categories:** The comprehensive view of the types of risk exposures and critical risks provided by risk categories that require immediate action. The risk indicators are grouped under the following categories:
  - Compromised users
  - Compromised endpoints
  - Data exfiltration
  - Insider threats
- **Risk Indicators:** The triggered risk indicators for the users for the selected time period.
- **Actions:** The applied actions to the risk indicators triggered for the users for the selected time period.
- **Top policies:** The top five policies that got triggered the most in the selected time period.
- **Top Actions:** The top five actions that got triggered the most in the selected time period.
- **Risk Indicators by Severity:** Default and custom risk indicators triggered by the users sorted based on the severity.

- **Risk Indicators by Total Occurrences:** Default and custom risk indicators triggered by the users sorted based on the occurrences.

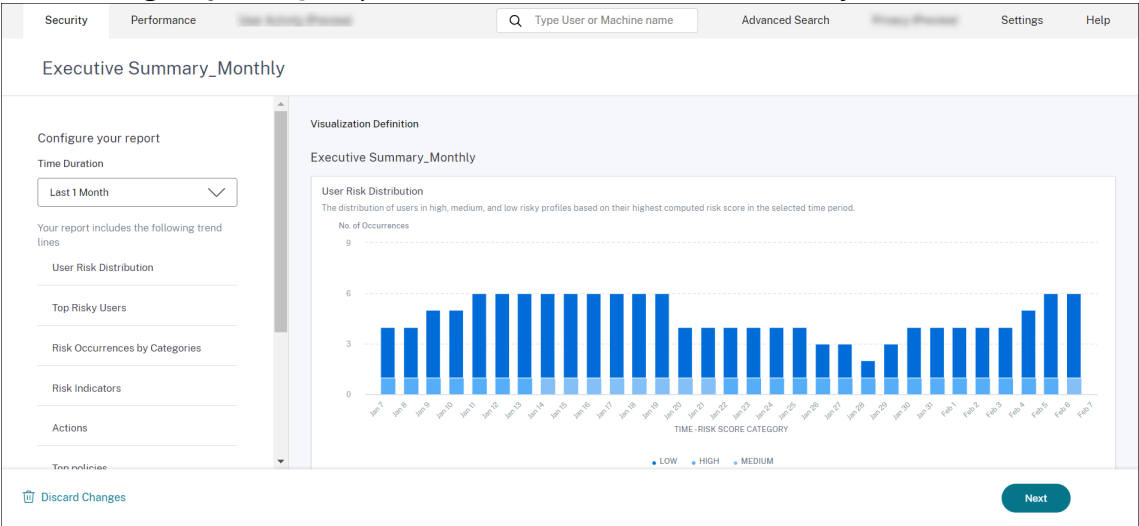
**Edit an Executive Report**

To edit an Executive Report, complete the following steps:

1. Click the **Edit** symbol.



2. In the **Configure your report** pane, select the time duration for which you want to see the data.



3. Click **Next**. The **Save Report** pane appears.

**Note:**

To discard the changes, click **Discard Changes**.

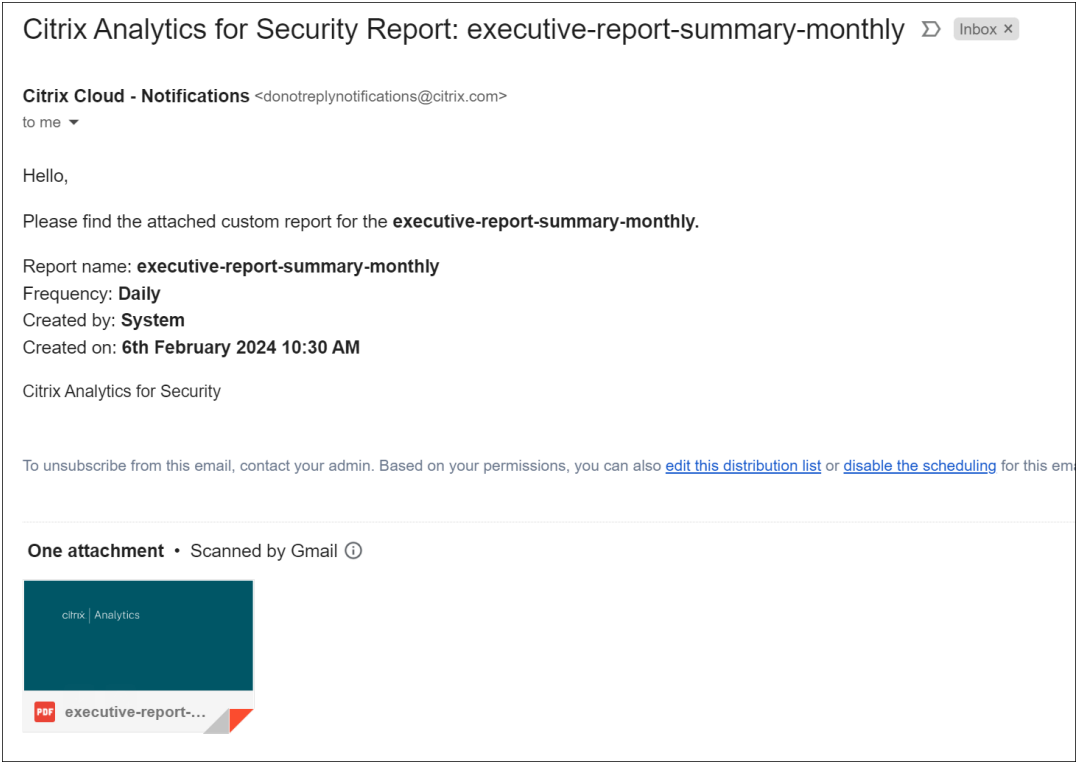
4. In the **Save Report** pane, enter the following details:

- a) **Name your report:** The name of the executive report.
- b) **Schedule email report:** Toggle on to schedule the report. The toggle is off by default.
- c) **Send to:** Select a distribution list from the dropdown. You can also add a combination of distribution lists and individual email addresses. To create a customized distribution list, see [Admin Email Settings](#).
- d) **Set up schedule:** Select the desired time at which the report is first sent to the selected audience and the time it repeats.

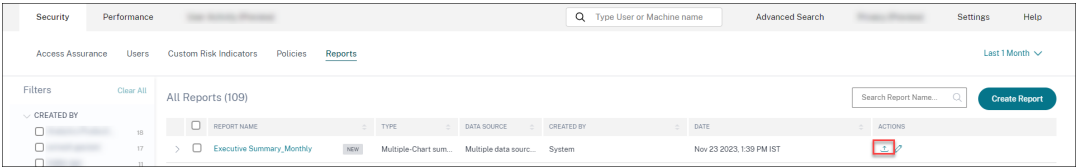
The screenshot shows a 'Save Report' dialog box with a close button (X) in the top right corner. The dialog is divided into several sections:

- Name your report:** A text input field containing 'Executive Summary\_Monthly' with a clear button (X) on the right.
- Schedule email report:** A toggle switch that is currently turned off.
- Send to:** A dropdown menu showing 'Type Or Paste space separated emails' with a downward arrow.
- Set up schedule:** This section contains three rows of controls:
  - Date:** A text field showing 'Tuesday, February 06'.
  - Time:** Two controls: a text field showing '1:00 PM' and a dropdown menu showing 'Asia/Calcutta' with a downward arrow.
  - Repeats:** A dropdown menu showing 'Weekly' with a downward arrow.
- Summary:** A small blue icon followed by the text: 'Report is scheduled to send weekly on Tuesday at 01:00 PM Asia/Calcutta starting on February 06, 2024'.
- Buttons:** At the bottom, there are two buttons: 'Cancel' (outlined) and 'Save report' (solid teal).

- e) Click **Save report**. The report is then sent as an email to the listed recipients.



Alternatively, you can export the executive report as a PDF using the **Export** symbol.



The following screenshot depicts a sample PDF output:

citrux | Analytics

Custom Report

executive-report-summary-monthly

From September 19, 2023 to October 19, 2023

Created by: System

Created on: Oct 19, 2023 at 11:15 PM Asia/Singapore

The custom report is generated for executive-report-summary-monthly for the period 19th Sep 2023 11:15 PM - 19th Oct 2023 11:15 PM

User Risk Distribution

The distribution of users in high, medium, and low risk profiles based on their highest computed risk score in the selected time period.

No. of Occurrences

TIME - RISK SCORE CATEGORY	No. of Occurrences
<= -30	0
<= -25	3
<= -20	4
<= -15	4
<= -10	4
<= -5	4
<= 0	0
<= 5	0
<= 10	0
<= 15	0
<= 20	0

TIME - RISK SCORE CATEGORY  
▲ LOW

Top Risky Users

The top risky users among all users sorted by highest risk scores for the selected time period.

USER	MAX [RISK SCORE]
[REDACTED]	56
[REDACTED]	36
[REDACTED]	33
[REDACTED]	28

Showing 1 - 4 of 4 items Page 1 of 1

Page 2 of 6

## Self-service search

November 30, 2023

### What is self-service search?

The self-service search feature enables you to find and filter user events received from your data sources. You can explore the underlying user events and their attributes. These events help you to identify any data issues and troubleshoot them. The search page displays various facets (dimensions) and metrics for a data source. You can define your search query and apply filters to view the events that match your defined criteria. By default, the self-service search page displays user events for the last one day.

Currently, the self-service search feature is available for the following data sources:

- [Authentication](#)
- [Gateway](#)
- [Secure Browser](#)
- [Secure Private Access](#)
- [Apps and Desktops](#)
- [Performance Users, Machines, and Sessions](#)

Also, you can perform self-service search on the events that met your defined policies. For more information, see [Self-service search for Policies](#).

### How to access self-service search

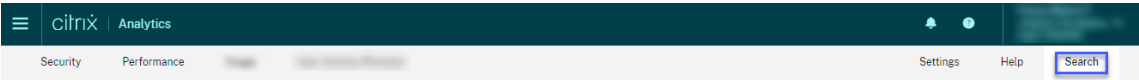
You can access the self-service search by using the following options:

- **Top bar:** Click **Search** from the top bar to view all user events for the selected data source.
- **Risk timeline on a user profile page:** Click **Event Search** to view the events for the respective user.

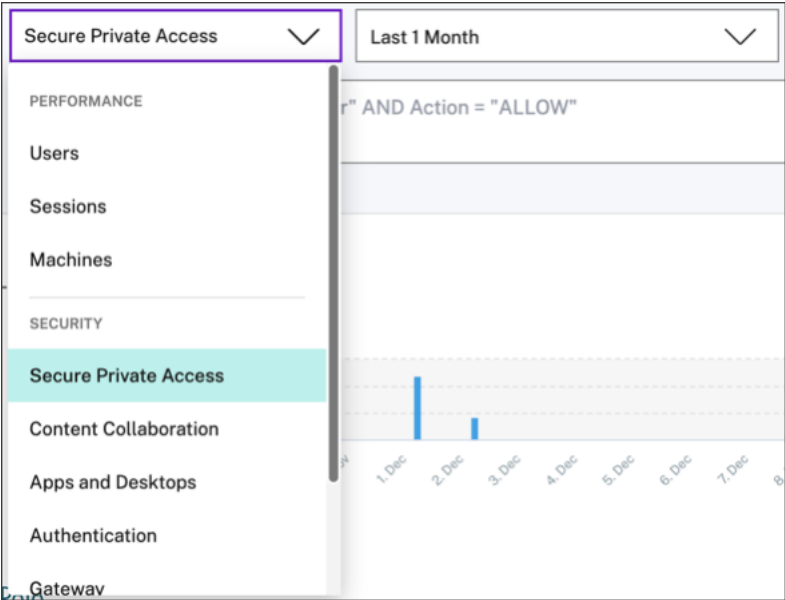
### Self-service search from the top bar

Use this option to go to the self-service search page from any place in the user interface.

1. Click **Search** to view the self-service page.



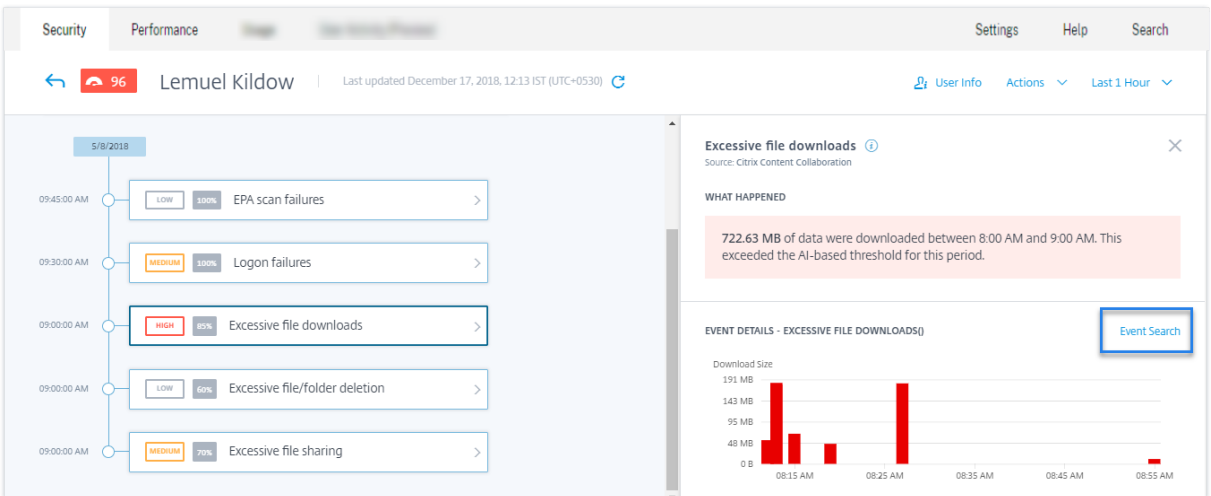
2. Select the data source and the time period to view the corresponding events.



### Self-service search from user's risk timeline

Use this option if you want to view the user events associated with a risk indicator.

When you select a risk indicator from a user's timeline, the risk indicator information section is displayed on the right pane. Click **Event Search** to explore the events associated to the user and the data source (for which the risk indicator is triggered) on the self-service search page.



For more information on the user risk timeline, see [Risk timeline](#).

## How to use self-service search

Use the following features on the self-service search page:

- Facets to filter your events.
- Search box to enter your query and filter events.
- Time selector to select the time period.
- Timeline details to view the event graphs.
- Event data to view the events.
- Export to CSV format to download your search events as a CSV file.
- Export visual summary to download the visual summary report of your search query.
- Multicolumn sorting to sort the events by multiple columns.

### Use facets to filter events

Facets are the summary of data points that constitute an event. Facets vary depending on the data source. For example, the facets for the Secure Private Access data source are reputation, actions, location, and category group. Whereas the facets for Apps and Desktops are event type, domain, and platform.

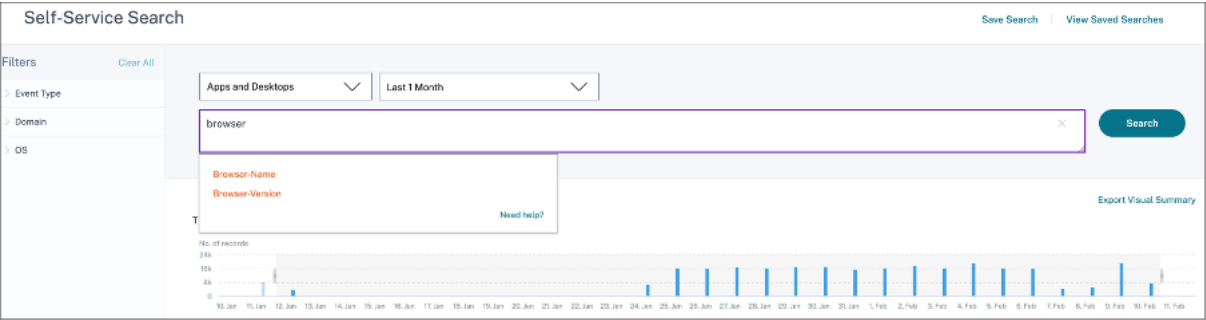
Select the facets to filter your search results. The selected facets are displayed as chips.

For more information on the facets corresponding to each data source, see the self-service search article for the data source mentioned earlier in this article.

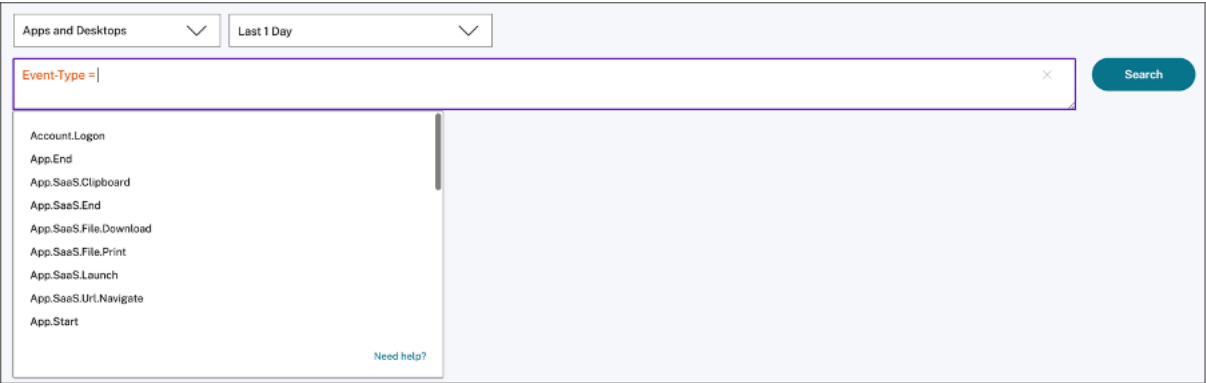
### Use search query in the search box to filter events

When you place your cursor in the search box, the search box displays a list of dimensions based on the user events. These dimensions vary according to the data source. Use the dimensions and the valid operators to define your search criteria and search for the required events.

For example, in the self-service search for Apps and Desktops, you get the following values for the dimension [Browser](#). Use the dimension to type your query, select the time period, and then click **Search**.



When selecting certain dimensions like **Event-Type** and **Clipboard-Operation** along with a valid operator, the values of the dimension are shown automatically. You can choose a value from the suggested options or enter a new value depending on your requirements.



**Supported operators in search query** Use the following operators in your search queries to refine your search results.

Operator	Description	Example	Output
=	Assign a value to a search dimension.	User-Name : John	Displays events for the user John.
~	Assign a value to a search dimension.	User-Name = John	Displays events for the user John.
" "	Search events with similar values.	User-Name ~ test	Displays events having similar user names.
" "	Enclose values separated by spaces.	User-Name = "John Smith"	Displays events for the user John Smith.
< >	Search for relational value.	Data Volume > 100	Displays events where data volume is greater than 100 GB.

Operator	Description	Example	Output
AND	Search events where the specified conditions are true.	User-Name : John AND Data Volume > 100	Displays events of user John where data volume is greater than 100 GB.
! ~	Checks events for the matching pattern that you specify. This NOT LIKE operator returns the events that do not contain the matching pattern anywhere in the event string.	User-Name !~ John	Displays events for the users except John, John Smith, or any such users that contain the matching name “John”.
!=	Checks events for the exact string that you specify. This NOT EQUAL operator returns the events that do not contain the exact string anywhere in the event string.	Country != USA	Displays events for the countries except USA.
*	Search events that match the specified strings. Currently, the * operator is supported only with the following operators :, =, and !=. The search results are case-sensitive.	User-Name = John*	Displays events for all user names that begin with John.
		User-Name = <i>John</i>	Displays events for all user names that contain John.
		User-Name = *Smith	Displays events for all user names that end with Smith.
		User-Name : John*	Displays events for all user names that begin with John.

Operator	Description	Example	Output
IN	Assign multiple values to a search dimension to get the events related to one or more values. <b>Note:</b> Currently, you can use this operator with the following dimensions of Apps and Desktops- <a href="#">Device ID</a> , <a href="#">Domain</a> , <a href="#">Event-Type</a> , and <a href="#">User-Name</a> . This operator is applicable only for the string values.	User-Name : <i>John</i>	Displays events for all user names that contain John.
		User-Name : *Smith	Displays events for all user names that end with Smith.
		User-Name != John*	Displays events for all user names that do not begin with John.
		User-Name != *Smith	Displays events for all user names that do not end with Smith.
		User-Name IN (John, Kevin)	Find all events related to John or Kevin.

Operator	Description	Example	Output
NOT IN	Assign multiple values to a search dimension and find the events that do not contain the specified values. <b>Note:</b> Currently, you can use this operator with the following dimensions of Apps and Desktops- <a href="#">Device ID</a> , <a href="#">Domain</a> , <a href="#">Event-Type</a> , and <a href="#">User-Name</a> . This operator is applicable only for the string values.	User-Name NOT IN (John, Kevin)	Find the events for all users except John and Kevin.
IS EMPTY	Checks for null value or empty value for a dimension. This operator works for only string type dimensions such as <a href="#">App-Name</a> , <a href="#">Browser</a> , and <a href="#">Country</a> . It does not work for non-string (number) type dimensions such as <a href="#">Upload-File-Size</a> , <a href="#">Download-File-Size</a> , and <a href="#">Client-IP</a> .	Country IS EMPTY	Find events where the country name is not available or empty (not specified).

Operator	Description	Example	Output
IS NOT EMPTY	Checks for not null value or a specific value for a dimension. This operator works for only string type dimensions such as <a href="#">App-Name</a> , <a href="#">Browser</a> , and <a href="#">Country</a> . It does not work for non-string (number) type dimensions such as <a href="#">Upload-File-Size</a> , <a href="#">Download-File-Size</a> , and <a href="#">Client-IP</a> .	Country IS NOT EMPTY	Find events where the country name is available or specified.
OR	Searches for values where either or both conditions are true.	(User-Name = <a href="#">John</a> * OR User-Name = * <a href="#">Smith</a> ) AND Event-Type = "Session.Logon"	Displays <a href="#">Session.Logon</a> events for all user names that begin with John or end with Smith.

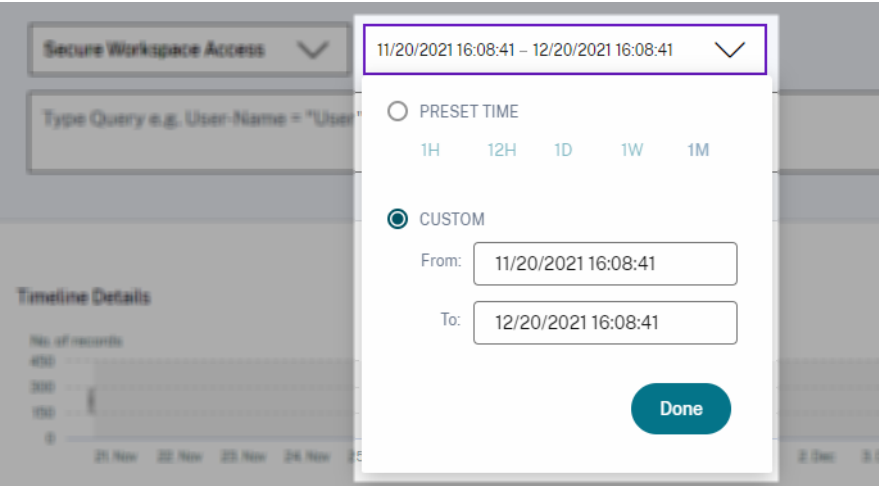
**Note**

For the **NOT EQUAL** operator, while entering the values for the dimensions in your query, use the exact values available on the self-service search page for a data source. The dimension values are case-sensitive.

For more information on how to specify your search query for the data source, see the self-service search article for the data source mentioned earlier in this article.

**Select time to view event**

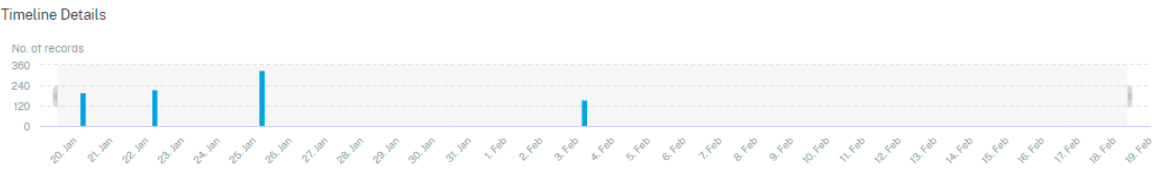
Select a preset time or enter a custom time range and click **Search** to view the events.



**View the timeline details**

The timeline provides a graphical representation of user events for the selected time period. Move the selector bars to choose the time range and view the events corresponding to the selected time range.

The figure shows timeline details for access data.



**View the event**

You can view the detailed information about the user event. On the **DATA** table, click the arrow for each column to view the user event details.

The figure shows the details about the user’s access data.

DATA

Export to CSV format | Add or Remove Columns | Sort By

	TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
>	Jan 20, 7:38:49 PM	avinash@smarttools.com	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
>	Jan 20, 7:38:49 PM	avinash@smarttools.com	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
✓	Jan 20, 7:38:49 PM	avinash@smarttools.com	www.gstatic.com	Computing and Internet	Clean Access	BLOCK

Client IP: 138.205.185

City: Amsterdam

User Agent: Mozilla/5.0 (X11; Linux x86\_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/85.0.4183.102 Safari/537.36 CWABrowser

Operating System: Linux

Response: 0

Content Category: Not Available

Domain: Not Available

Upload: 664

Client Port: 261

Country: Netherlands

Browser: Chrome

Device: Other

Request: GET

Response Len: 0

Content Type: Not Available

Category: Content Delivery Networks and Infrastructure

Download: 0

**Add or remove columns** You can either add or remove columns from the event table to display or hide the corresponding data points. Do the following:

1. Click **Add or Remove Columns**.

DATA

Export to CSV format | Add or Remove Columns | Sort By

	TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
>	Feb 3, 7:53:10 PM	avinash@smarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:09 PM	avinash@smarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:08 PM	avinash@smarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:07 PM	avinash@smarttools.com	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
>	Feb 3, 7:53:07 PM	avinash@smarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:06 PM	avinash@smarttools.com	depositfiles.com	Business and Industry	Malicious Access	ALLOW

2. Select or deselect the data elements from the list and then click **Update**.

Add/Remove Columns

×

Current Columns

☒ TIME

☒ USER NAME

☒ URL

☒ CATEGORY GROUP

☒ REPUTATION

☒ ACTION

Add Columns

☐ DOMAIN

☐ CATEGORY

☐ UPLOAD

☐ DOWNLOAD

Update

If you deselect a data point from the list, the corresponding column is removed from the event table. However, you can view that data point by expanding the event row for a user. For example, when you deselect the **TIME** data point from the list, the **TIME** column is removed from the event table. To view the time record, expand the event row for a user.

DATA

USER NAME	URL	CATEGORY GROUP	REPUTATION
S	/Control/Ping	Computing & Internet	Clean Access

Client IP : Not Available

Client Port : Not Available

City : Malvern

Country : United States

User Agent : Not Available

Browser : Other

Device : Other

Operating System : Other

Request : GET

Response : Not Available

Response Len : Not Available

Content Category : Not Available

Content Type : Not Available

Time : Jun 24 11:56 AM

Domain : Not Available

Category : Computing & Internet

Upload : 597 B

Download : 202 B

Export the events to a CSV file

Export the search results to a CSV file and save it for your reference. Click **Export to CSV format** to export the events and download the CSV file that is generated. You can export 100K rows using the **Export to CSV format** feature.

DATA

Export to CSV format | Add or Remove Columns | Sort By

	TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
>	Feb 3, 7:53:10 PM	avinashgsmarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:09 PM	avinashgsmarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:08 PM	avinashgsmarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:07 PM	avinashgsmarttools.com	www.gstatic.com	Computing and Internet	Clean Access	BLOCK
>	Feb 3, 7:53:07 PM	avinashgsmarttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:06 PM	avinashgsmarttools.com	depositfiles.com	Business and Industry	Malicious Access	ALLOW

Export visual summary

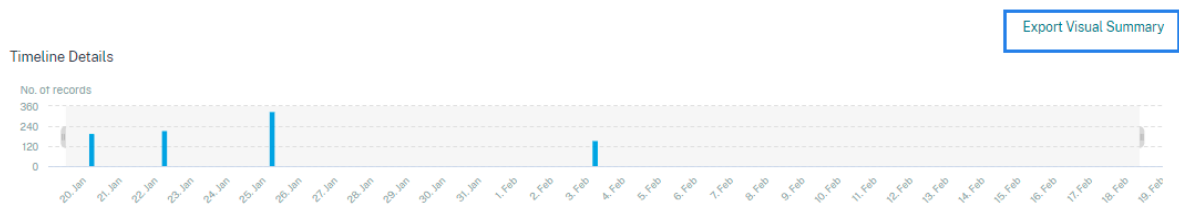
You can download the visual summary report of your search query and share a copy with other users, administrators, or your executive team.

Click **Export Visual Summary** to download the visual summary report as a PDF. The report contains the following information:

- The search query that you have specified for the events for the selected time period.
- The facets (filters) that you have applied on the events for the selected time period.

- The visual summary such as the timeline charts, bar charts, or graphs of the search events for the selected time period.

For a data source, you can download the visual summary report only if the data is displayed in visual formats such as bar charts, timeline details. Otherwise, this option is not available. For example, you can download the visual summary report of the data sources such as Apps and Desktops, Sessions, where you see data as timeline details and bar charts. For the data sources such as Users and Machines, you see data only in tabular format. Therefore, you cannot download any visual summary report.



### Multi-column sorting

Sorting helps to organize your data and provides better visibility. On the self-service search page, you can sort the user events by one or more columns. The columns represent the values of various data elements such as user name, date and time, and URL. These data elements vary based on the selected data sources.

To perform a multi-column sorting, do the following:

1. Click **Sort By**.

DATA

Export to CSV format | Add or Remove Columns | **Sort By**

	TIME	USER NAME	URL	CATEGORY GROUP	REPUTATION	ACTION
>	Feb 3, 7:53:10 PM	awmash@marttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW
>	Feb 3, 7:53:09 PM	awmash@marttools.com	adsbb.depositfiles.com	Business and Industry	Malicious Access	ALLOW

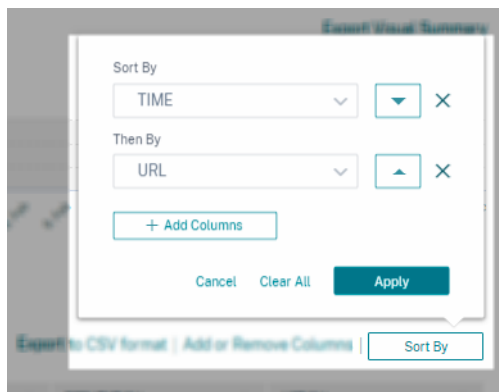
2. Select a column from the **Sort By** list.
3. Select the sorting order- ascending (up arrow) or descending (down arrow) to sort the events in the column.
4. Click **+ Add Columns**.
5. Select another column from the **Then By** list.
6. Select the sorting order- ascending (up arrow) or descending (down error) to sort the events in the column.

**Note**

You can add up to six columns to perform the sorting.

7. Click **Apply**.
8. If you do not want to apply the preceding settings, click **Cancel**. To remove the values of the selected columns, click **Clear All**.

The following example shows a multi-column sort on the Secure Private Access events. The events are sorted by time (in latest to oldest order) and then by URL (in alphabetical order).



Alternatively, you can perform multi-column sorting by using the **Shift** key. Press the **Shift** key and click the column headers to sort the user events.

## How to save the self-service search

As an administrator, you can save a self-service query. This feature saves the time and effort of rewriting the query that you use often for analysis or troubleshooting. The following options are saved with the query:

- Applied search filters
- Selected data source and duration

Do the following to save a self-service query:

1. Select the required data source and duration.
2. Type a query in the search bar.
3. Apply the required filters.
4. Click **Save Search**.
5. Specify the name to save the custom query.

**Note**

Ensure that the query name is unique. Otherwise, the query does not save.

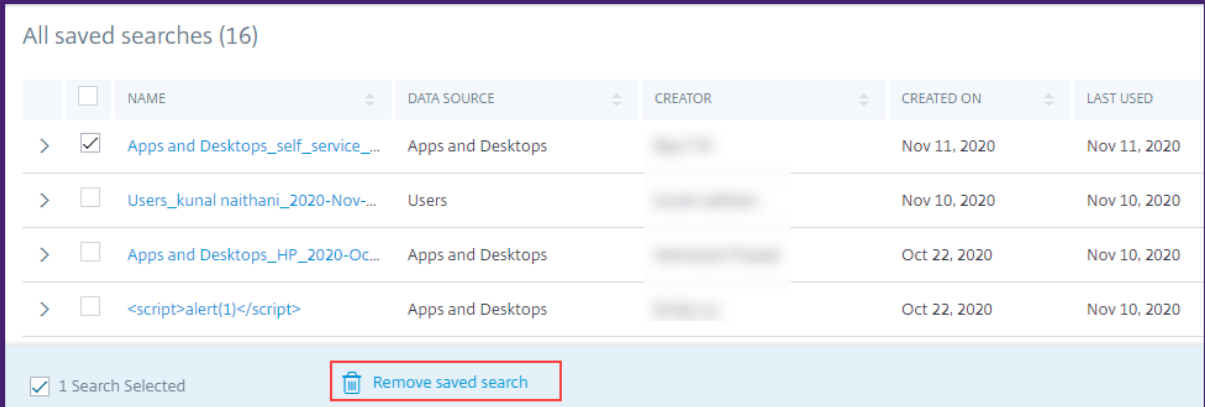
6. Enable the **Schedule email report** button if you want to send a copy of the search query report to yourself and other users at a regular interval. For more information, see [Schedule an email for a search query](#).
7. Click **Save**.

**To view the saved searches:**

1. Click **View Saved Searches**.
2. Click the name of the search query.

**To remove a saved search:**

1. Click **View Saved Searches**.
2. Select the search query that you have saved.
3. Click **Remove saved search**.



	NAME	DATA SOURCE	CREATOR	CREATED ON	LAST USED
> <input checked="" type="checkbox"/>	Apps and Desktops_self_service_...	Apps and Desktops		Nov 11, 2020	Nov 11, 2020
> <input type="checkbox"/>	Users_kunal naithani_2020-Nov-...	Users		Nov 10, 2020	Nov 10, 2020
> <input type="checkbox"/>	Apps and Desktops_HP_2020-Oc...	Apps and Desktops		Oct 22, 2020	Nov 10, 2020
> <input type="checkbox"/>	<script>alert(1)</script>	Apps and Desktops		Oct 22, 2020	Nov 10, 2020

☒ 1 Search Selected Remove saved search

**To modify a saved search:**

1. Click **View Saved Searches**.
2. Click the name of the search query that you have saved.
3. Modify the search query or the facet selection based on your requirement.
4. Click **Update Search > Save** to update and save the modified search with the same search query name.
5. If you want to save the modified search with a new name, click the down arrow and click **Save as new search > Save As**.

If you replace the search with a new name, the search is saved as a new entry. If you retain the existing search name while replacing, then the modified search data overrides the existing search data.

**Note**

- Only a query owner can modify or remove their saved searches.
- You can copy the saved search link address to share with another user.

## **Schedule an email for a search query**

You can send a copy of the search query report to yourself and other users on regular intervals by setting up an email delivery schedule.

This option is available only if your search query report contains data in visual formats such as bar charts, timeline details. Otherwise, you cannot schedule an email delivery. For example, you can schedule an email for the data sources such as Apps and Desktops, Sessions, where you see data as timeline details and bar charts. For the data sources such as Users and Machines, you see data only in tabular format. Therefore, you cannot schedule an email.

## **Schedule an email while saving a search query**

While saving a search query, set up an email delivery schedule as follows:

1. On the **Save Search** dialog box, enable the **Schedule email report** button.

[Save Search](#) | [View Saved Searches](#)

Save Search

Name your Search

test-search-query

Schedule email report

☒

Send to

abc@citrix.com xyz@citrix.com

Set up schedule

Date

Monday, May 17

Time

1:30 PM

Asia/Calcutta

Repeats

Weekly

Cancel

Save

2. Enter or paste the email addresses of the recipients.

**Note**

Email groups are not supported.

3. Set the date and time for the email delivery.
4. Select the delivery frequency- daily, weekly, or monthly.
5. Click **Save**.

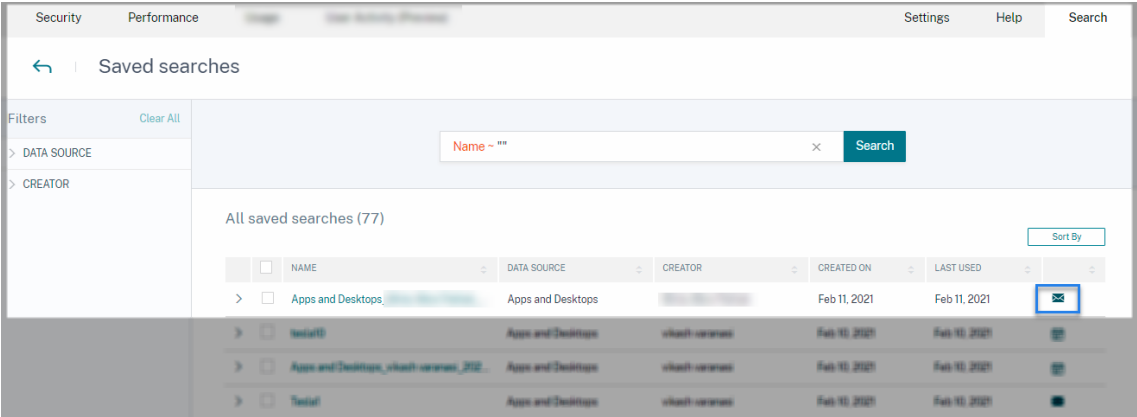
**Schedule an email for an already saved search query**

If you want to set up an email delivery schedule for a search query that you previously saved, do the following:

1. Click **View Saved Searches**.
2. Go to the search query that you have created. Click the **Email this query** icon.

**Note**

Only a query owner can schedule email delivery of their saved search query.



3. Enable the **Schedule email report** button.
4. Enter or paste the email addresses of the recipients.

**Note**

Email groups are not supported.

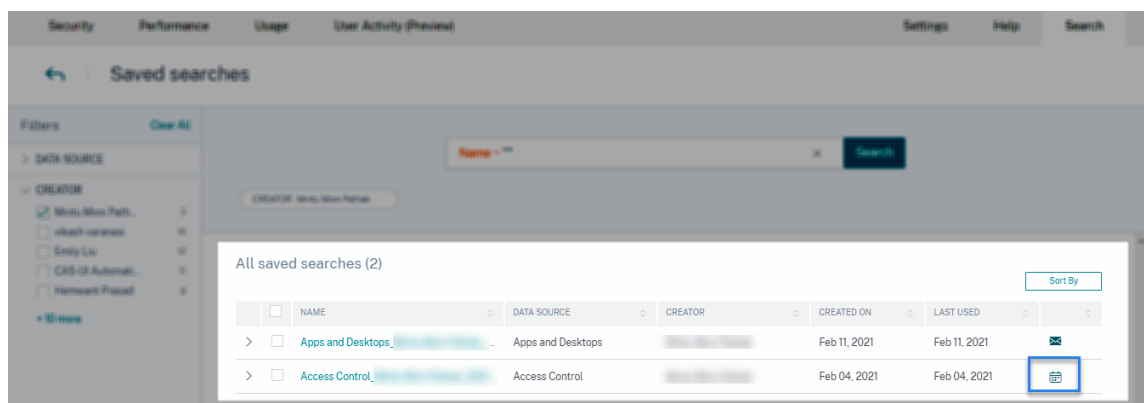
5. Set the date and time for the email delivery.
6. Select the delivery frequency- daily, weekly, or monthly.
7. Click **Save**.

**Stop an email delivery schedule for a search query**

1. Click **View Saved Searches**.
2. Go to the search query that you have created. Click the **View email delivery schedule** icon.

**Note**

Only a query owner can stop the email schedule of their saved search query.



3. Disable the **Schedule email report** button.
4. Click **Save**.

### Email content

The recipients receive an email from “Citrix Cloud - Notifications [donotreplynotifications@citrix.com](mailto:donotreplynotifications@citrix.com)” about the search query report. The report is attached as a PDF document. The email is sent at a regular interval defined by you in the **Schedule email report** settings.

The search query report contains the following information:

- The search query that you have specified for the events for the selected period.
- The facets (filters) that you have applied on the events.
- The visual summary such as the timeline charts, bar charts, or graphs of the search events.

### Permissions for full access and read-only access administrators

- If you are a Citrix Cloud administrator with full access, you can use all the features available on the **Search** page.
- If you are a Citrix Cloud administrator with read-only access, you can only do the following activities on the **Search** page:
  - View the search results by selecting a data source and the time period.
  - Enter a search query and view the search results.
  - View the saved search results of other administrators.
  - Export the visual summary and download the search results as a CSV file.

For information about the administrator roles, see [Manage administrator roles for Citrix Analytics](#).

## Self-service search for Authentication

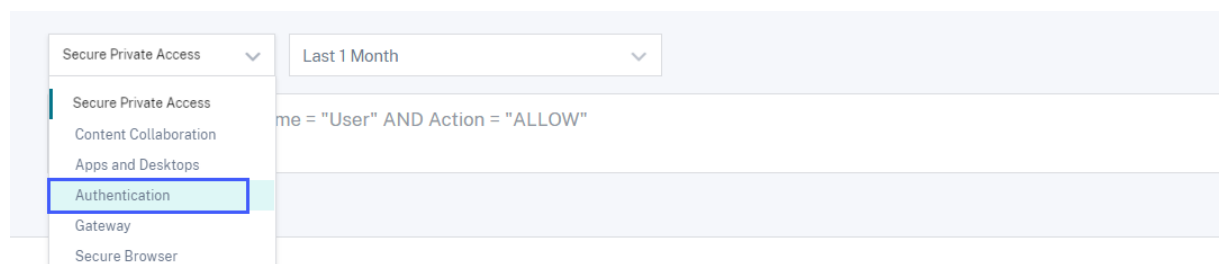
June 29, 2021

Use the self-service search to get insights into the user authentication details of the Citrix Cloud users in your enterprise. Citrix Analytics for Security receives the user authentication events from the Identity and Access Management service of Citrix Cloud. Authentication events such as user login, user logoff, and client update are displayed on the self-service search page.

For more information on the search functionalities, see [Self-service search](#).

### Select the Authentication data source

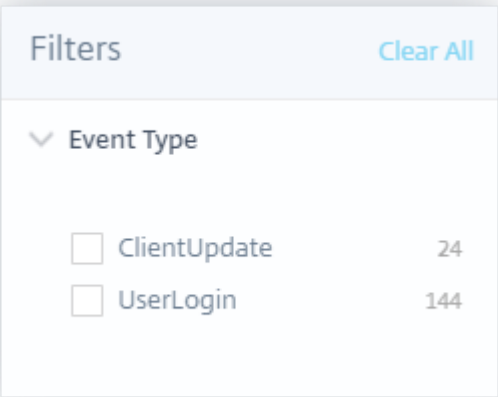
To view the authentication events, select **Authentication** from the list. By default, the self-service page displays the events for the last one day. You can also select the time period for which you want to view the events.



### Select the facets to filter events

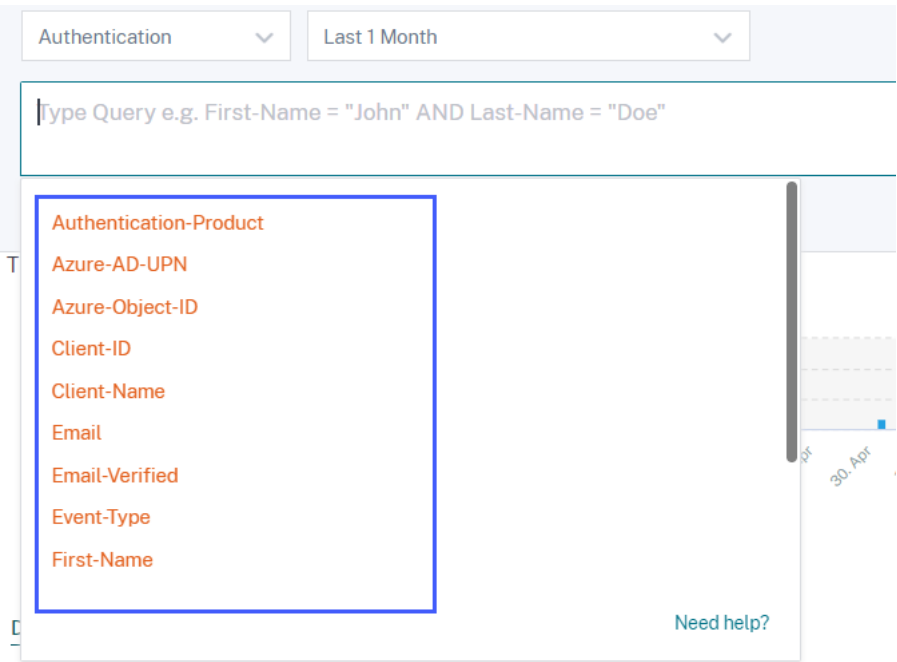
Use the following filter for the authentication events:

- **Event Type**- Search events based on the user event types such as user login, user logoff, and client update.



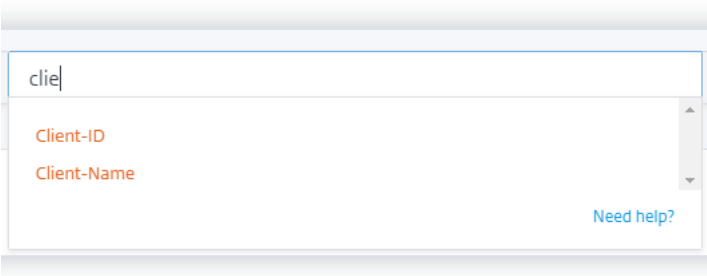
**Specify search query to filter events**

Place your cursor in the search box to view the list of dimensions for the authentication events. Use the dimensions and the [operators](#) to specify your query and search for the required events.

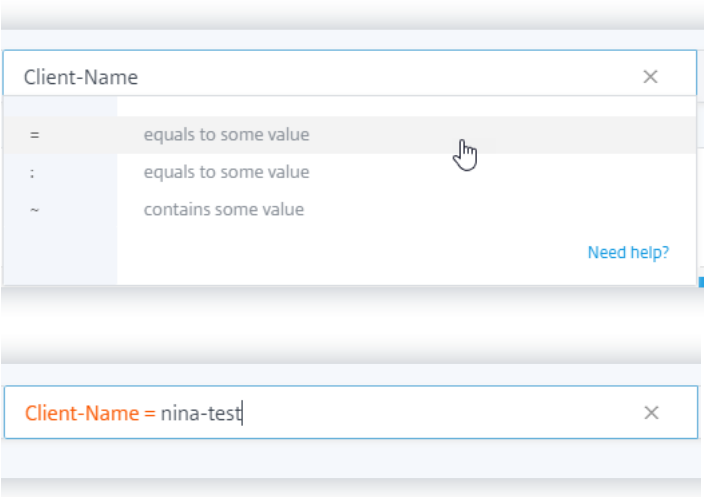


For example, you want to view the authentication events for a client “nina-test”with the email status verified.

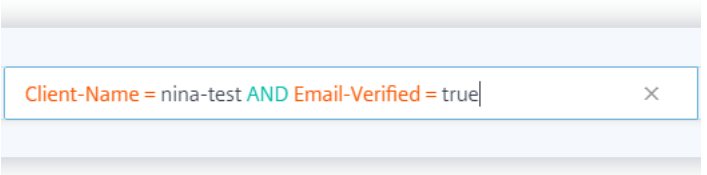
1. Enter “client”in the search box to get the related dimensions.



2. Select **Client-Name** and then specify the value “nina-test”using the equal operator.



3. Select the **AND** operator and then select the **Email-Verified** dimension. Assign the value “true” to **Email-Verified** using the equal operator. The “true”value indicates that the user’s email is verified.



4. Select the time period and click **Search** to view the events on the **DATA** table.

## Self-service search for Gateway

June 29, 2021

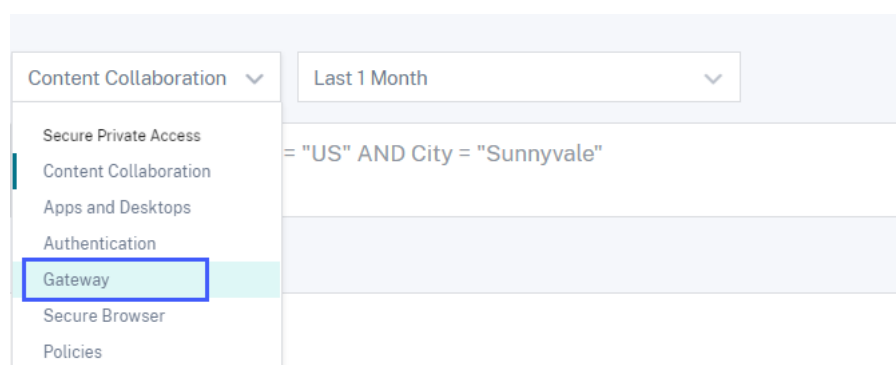
Use the self-service search feature to get insights into the user events received from the Citrix Gateway data source. When users access their network resources such as file servers, applications, websites through Citrix Gateway, events are generated for each user connection. Some examples of user events

are such as authentication stage, authorization type, and VPN session code. Citrix Analytics for Security receives these events and displays them on the self-service search page. You can view the users and their access details.

For more information on the search functionalities, see [Self-service search](#).

## Select the Gateway data source

To view the Gateway events, select **Gateway** from the list. By default, the self-service page displays the events for the last one day. You can also select the time period for which you want to view the events.



### Note

Alternatively, you can access the Self-service search for Gateway page from the **Security > Users > Access Summary** dashboard. In successful login scenarios, you can access the data by the status code. For more information, see the [Access Summary](#) dashboard.

## Use the facets to filter events

The facets are categorized based on the events received from your data source. Use the following facets to filter your events:

Filters	Clear All
> Authentication Stage	
> Authentication Type	
> Status Code	
> Session State	
> Record Type	
> Device Agent	
> Browser	
> OS	
> Session Mode	
> SSO Authentication method	
> Logout Mode	

- **Authentication Stage**- Search events based on different stages of client authentication such as primary, secondary, and tertiary.
- **Authentication Type**- Search events based on the client authentication types such as Local, RADIUS, LDAP, TACACS, client certificate authentication including smart card authentication.
- **Device Agent**- Search events based on the client devices such as iPhone, iPad, Windows Mobile.
- **Record Type**- Search events based on the types of VPN records. Following VPN record types are available:

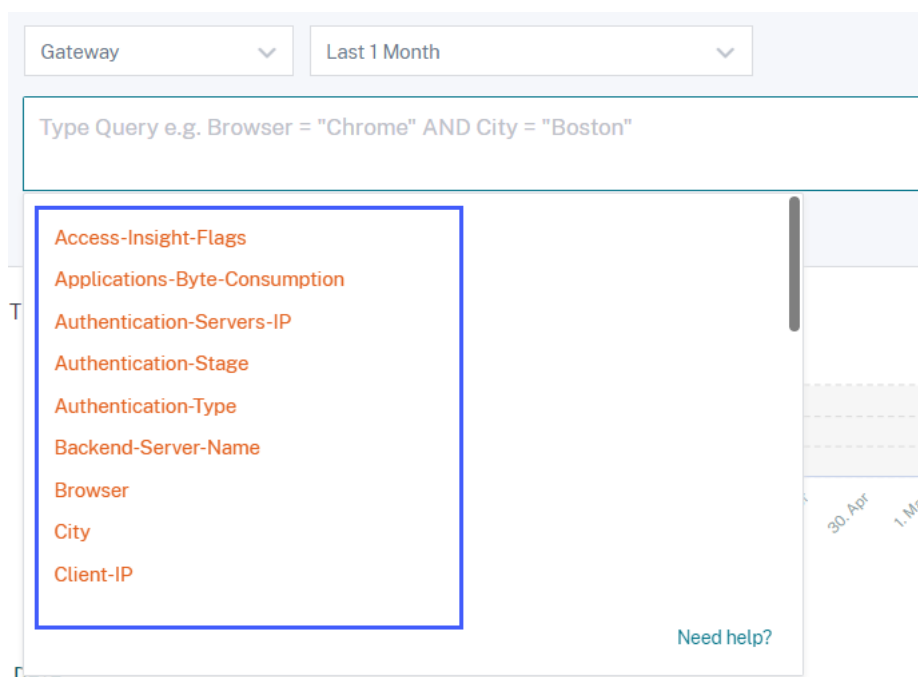
Record type	Description
VPN_AI	Filters user events related to authentication.
VPN_IF	Filters user events related to ICA file.
VPN_ST	Filters user events related to session logout.

- **Browser**- Search events based on the browsers such as Internet Explorer, Chrome, Firefox, Safari.

- **OS**- Search events based on the client operating systems such as Windows, Mac, Linux, Android, iOS.
- **Status Code**- Search events based on the VPN status codes such as SSL redirect response failure, authorization failure, single sign-on failed.
- **Session State**- Search events based on the VPN session states such as client state, authorization state, SSO state, application bandwidth update.
- **Session Mode**- Search events based on the VPN session modes such as Full tunnel, ICA Proxy, Clientless.
- **SSO Authentication Method**- Search events based on different methods of single sign-on authentication such as basic, digest, NTLM, Kerberos, AG basic, form-based SSO.
- **Logout Mode**- Search events based on the VPN logout modes such as internal error logout, session time-out logout, user-initiated logout, administrator terminated session.

## Specify search query to filter events

Place your cursor in the search box to view the list of dimensions for the Gateway events. Use the dimensions and the [operators](#) to specify your query and search for the required events.



Gateway Last 1 Month

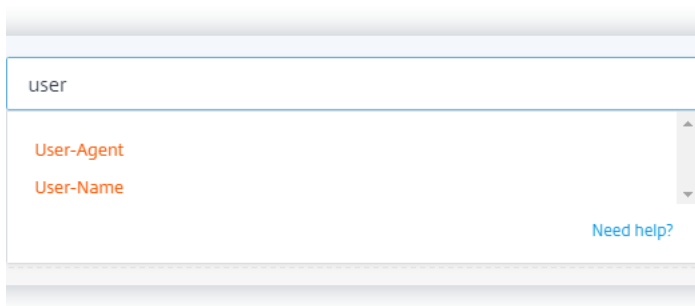
Type Query e.g. Browser = "Chrome" AND City = "Boston"

- Access-Insight-Flags
- Applications-Byte-Consumption
- Authentication-Servers-IP
- Authentication-Stage
- Authentication-Type
- Backend-Server-Name
- Browser
- City
- Client-IP

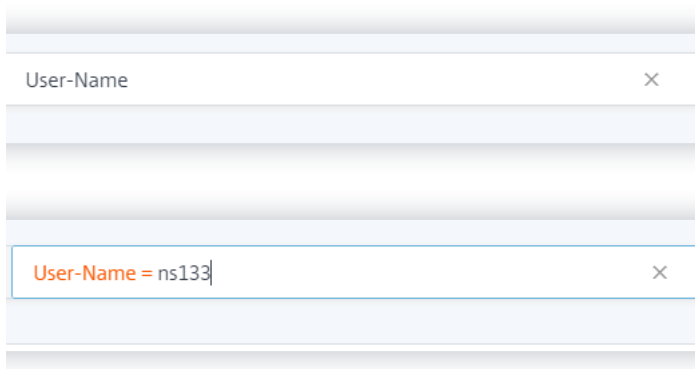
Need help?

For example, you want to view the events for a user “ns133” where the VPN status code is “successful login”.

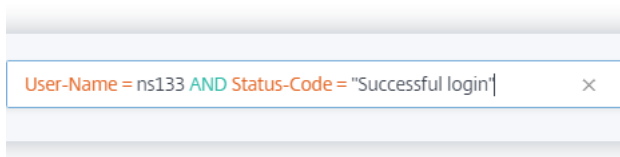
1. Enter “user” in the search box to choose the related dimension.



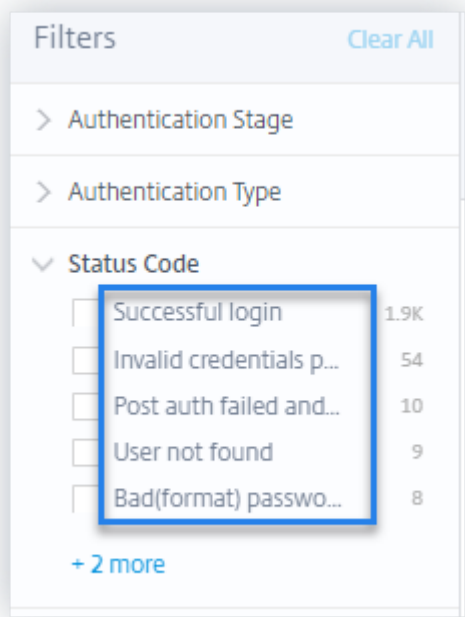
2. Select **User-Name** and enter the value “ns133” using the equal operator.



3. Select the **AND** operator and then select the **Status Code** dimension. Enter the string “Successful login” for **Status Code** using the equal operator.



To identify the possible string values for **Status Code**, expand the **Status Code** filter list and use the filter name as the string in your search query.



4. Select the time period and click **Search** to view the events on the **DATA** table.

**Supported values for your search query**

Enter the following values for the dimensions to define your search query.

**Access-Insight-Flags**

Indicates the VPN session states. Enter one of the following flag values:

VPN session state	Flag value
Pre-authentication	2
Last or final state of nFactor (multi-factor authentication)	1
Post authentication	4

**Note**

This flag is applicable only for the preceding VPN session states for the authentication events. For all other events, the flag value is zero.

**Applications-Byte-Consumption**

For the [Applications-Byte-Consumption](#) dimension, enter the following value:

Value	Type	Description
Examples: 40, 100	Number	Data (in Bytes) consumed by the application that you are using.

**Authentication-Servers-IP**

For the [Authentication-Servers-IP](#) dimension, enter the following value:

Value	Type	Description
Example: 10.xxx.xx.xx	String	IP address of the authentication server.

**Authentication-Stage**

For the [Authentication-Stage](#) dimension, enter the following value:

Value	Type	Description
Primary, Secondary, or Tertiary	String	Different stages of client authentication.

**Authentication-Type**

For the [Authentication-Type](#) dimension, enter the following value:

Value	Type	Description
LDAP, SAML, Local, Radius, TACACS, SAMLIDP, or OTP.	String	Authenticate your users through one of the available methods.

**Backend-Server-Name**

For the **Backend-Server-Name** dimension, enter the following value:

Value	Type	Description
Example: 10.xxx.xxx.xx	String	IP address of the back end server.

**Browser**

For the **Browser** dimension, enter the following value:

Value	Type	Description
PN Agent, Edge, Firefox, Chrome, or Safari.	String	Browser used.

**City**

For the **City** dimension, enter the following value:

Value	Type	Description
Examples: Boston, Beijing	String	City from where the user has logged on.

**Client-IP**

For the **Client-IP** dimension, enter the following value:

Value	Type	Description
Example: 10.xxx.xxx.xx	String	IP address of the user device.

**Client-IP-Type**

For the **Client-IP-Type** dimension, enter the following value:

Value	Type	Description
public, private	String	Indicates whether the user IP address is public or private.

**Note**

The values are case-sensitive. Enter the values in lower case.

**Client-Port**

For the **Client-Port** dimension, enter the following value:

Value	Type	Description
Example: 45334	Number	Port number of the user device.

**Country**

For the **Country** dimension, enter the following value:

Value	Type	Description
Examples: <b>United States</b> , <b>India</b>	String	Country from where the user has logged on.

**Note**

Enclose the value within “” if the value contains spaces. **Example:** Country = “Unites States”.

**Event-Type**

For the **Event-Type** dimension, enter the following value:

Value	Type	Description
Authentication, ICA file, Session logout	String	Type of user events.

**Gateway-FQDN**

For the [Gateway-FQDN](#) dimension, enter the following value:

Value	Type	Description
Example: <a href="#">Gateway-test</a>	String	Domain name of your Citrix Gateway.

**Gateway-IP**

For the [Gateway-IP](#) dimension, enter the following value:

Value	Type	Description
Example: <a href="#">10.xxx.xxx.xx</a>	String	IP address of your Citrix Gateway.

**Gateway-Port**

For the [Gateway-Port](#) dimension, enter the following value:

Value	Type	Description
Example: 443	String	Port number of your Citrix Gateway.

**Logout-Mode**

For the [Logout-Mode](#) dimension, enter the following value:

Value	Type	Description
"Internal error", "Inactive time out", "User initiated logout", or "Administrator killed session".	String	Reason for timeout or termination of VPN session.

**Note**

Enclose the value within "" if the value contains spaces. **Example:** Logout-Mode = "Internal error".

**NetScaler-IP**

For the **NetScaler-IP** dimension, enter the following value:

Value	Type	Description
Example: 10.xxx.xx.xx	String	IP address of your Citrix ADC appliance.

**OS**

For the **OS** dimension, enter the following value:

Value	Type	Description
Examples: MAC_OS, WINDOWS	String	Operating system of the user device.

**Record Type**

For the **Record Type** dimension, enter the following value:

Value	Type	Description
VPN_AI	String	Indicates user events related to authentication.
VPN_IF	String	Indicates user events related to ICA file.
VPN_ST	String	Indicates user events related to session logout.

### SSO-Authentication-Method

For the [SSO-Authentication-Method](#) dimension, enter the following value:

Value	Type	Description
NSAUTH_BEARER, NSAUTH_FORM, NSAUTH_CITRIXAGBASIC, NSAUTH_NEGOTIATE, NSAUTH_NTLM, or NSAUTH_BASIC.	String	Different methods of single sign-on authentication.

### Server-IP

For the [Server-IP](#) dimension, enter the following value:

Value	Type	Description
Example: 10.xx.xxx.xx	String	IP address of the back end server.

### Server-Port

For the [Server-Port](#) dimension, enter the following value:

Value	Type	Description
Example: 47054	Number	Port number of the back end server.

### Session-State

For the **Session-State** dimension, enter the following value:

Value	Type	Description
"Set Client State", "Authorization State", "SSO State", and "Application Bandwidth Update"	String	The VPN session state.

#### Note

Enclose the value within "" if the value contains spaces. **Example:** Session-State = "Set Client State".

### Status-Code

For the **Status-Code** dimension, enter the following value:

Value	Type	Description
"Successful login", "Invalid credentials passed", "Post auth failed and connection quarantined", "Login not permitted", "Maximum login failures reached"	String	The VPN status code.

**Note**

Enclose the value within “”if the value contains spaces. **Example:** Session-Code = "Successful login".

**User-Agent**

For the **User-Agent** dimension, enter the following value:

Value	Type	Description
IPHONE, IPAD, or WINPHONE	String	The agent or the device used to access the VPN.

**VPN-Session-ID**

For the **VPN-Session-ID** dimension, enter the following value:

Value	Type	Description
c2c290c61dfe4e07247bde1e52a12	String	Session ID assigned by the server for a user’s VPN session.

**VPN-Session-Mode**

For the **VPN-Session-Mode** dimension, enter the following value:

Value	Type	Description
"Full Tunnel", "ICA Proxy", or Clientless	String	Different modes of a user’s VPN session.

**Note**

Enclose the value within “”if the value contains spaces. **Example:** Session-Code = "Full Tunnel".

## Self-service search for Policies

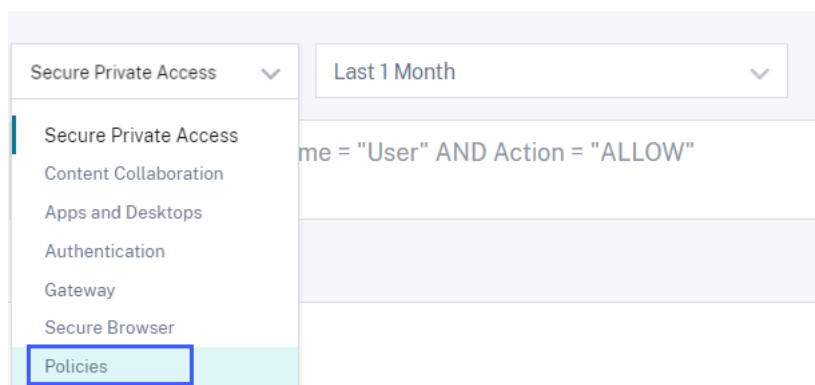
December 2, 2021

Citrix Analytics for Security allows you to create [policies](#) and apply [actions](#) on unusual or suspicious events on user accounts. When the user events meet your defined policies, the actions are automatically applied on the user accounts to isolate the threat and prevent future anomalous events from occurring. Using the self-service search, you can view the user events that have met your defined policies and view the actions applied on these anomalous events.

For more information on the search functionalities, see [Self-service search](#).

### Select the Policies data set

To view the events related to the defined policies, select **Policies** from the list. By default, the self-service page displays the events for the last one day. You can also select the time period for which you want to view the events.

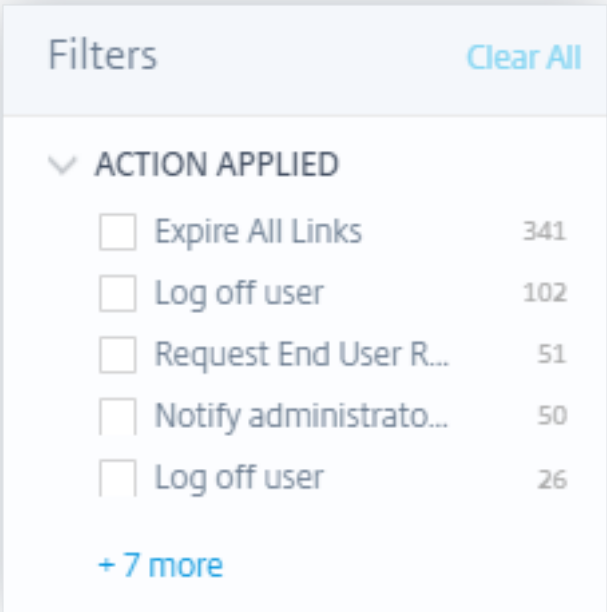


#### Note

You can also access the Self-service search for Policies page from the **Security > Users > Policies and Actions** dashboard. Select a policy on the dashboard to view the user events related to the policy. For more information, see the [Policies and Actions](#) dashboard.

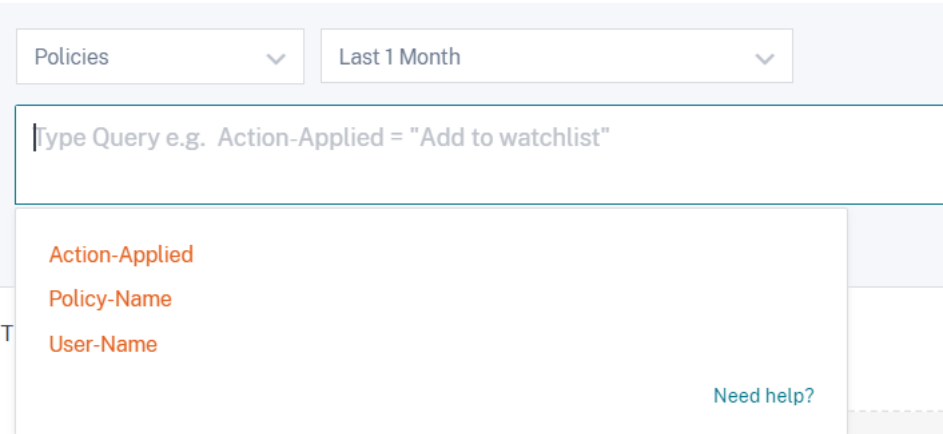
### Select the facets to filter events

The facet list displays the applied actions on the user events. Select the applied actions from the facet list and view the events based on the applied actions. For more information on the actions that you can apply while configuring policies, see [What are actions?](#)



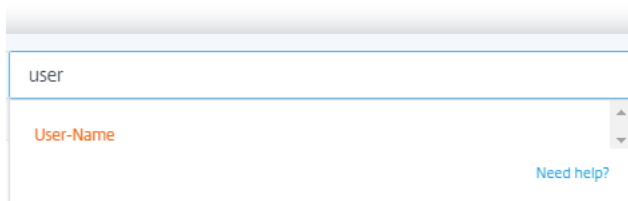
**Specify search query to filter events**

Place your cursor in the search box to view the list of dimensions for the events related to policies. Use the dimensions and the [operators](#) to specify your query and search for the required events.



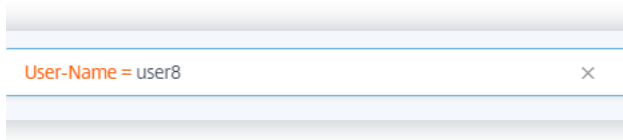
For example, you want to view the anomalous events of a user “user8” where the action applied for those events is “Disable user.”

1. Enter “user” in the search box to get the related dimensions.



A search bar containing the text 'user'. Below the search bar, a dropdown menu is open, showing 'User-Name' as the selected option. A 'Need help?' link is visible in the bottom right corner of the dropdown.

2. Select **User-Name** and enter the value “user8” using the equal operator.

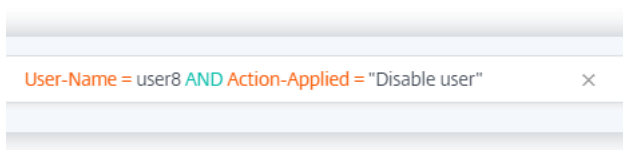


A search bar showing the query 'User-Name = user8'. A close button (X) is located on the right side of the search bar.

3. Select the **AND** operator and then select the **Action-Applied** dimension. Enter the string “Disable user” for **Action-Applied** using the equal operator.

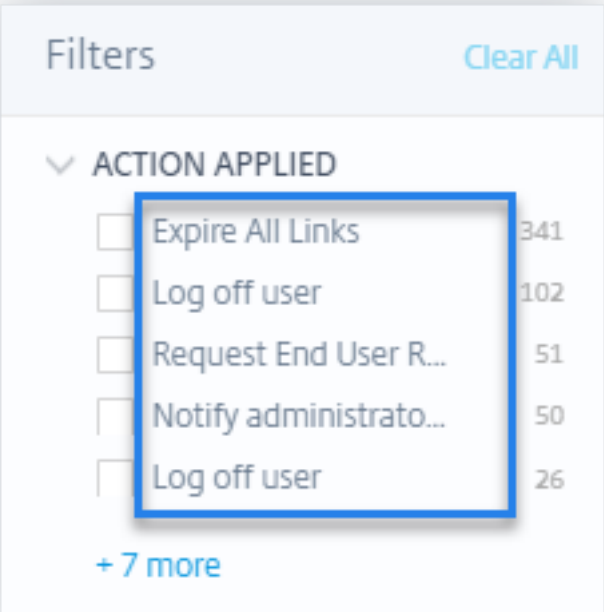
**Note**

If the string value contains two or more words, it must be enclosed with the operator “” <!--NeedCopy-->. For example, “Disable user”<!--NeedCopy-->, “Stop Session Recording”.



A search bar showing the query 'User-Name = user8 AND Action-Applied = "Disable user"'. A close button (X) is located on the right side of the search bar.

To identify the possible string values for **Action-Applied**, expand the facet list and use the filter name as the string in your search query.



4. Select the time period and click **Search** to view the events on the **DATA** table.

## Self-service search for Remote Browser Isolation (Secure Browser)

December 1, 2023

Use the self-service search to get insights into the browsing sessions of the Citrix Workspace users who are using the Citrix Remote Browser Isolation Service. Citrix Remote Browser Isolation is a cloud service that provides a safe internet browsing experience without compromising your corporate network security. When users access web applications using the Remote Browser Isolation, events such as session connect, session launch, published applications, and deleted applications are generated for each user connection. Citrix Analytics for Security receives these events and displays them on the self-service page. You can track the users and their browsing sessions.

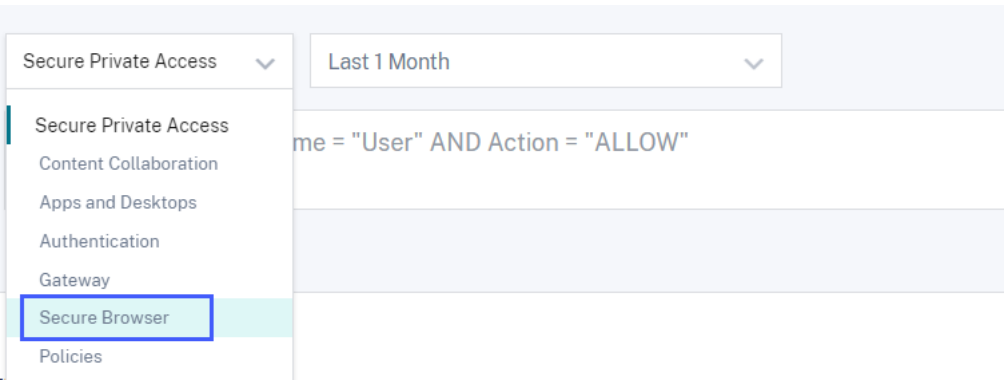
For more information on the search functionalities, see [Self-service search](#).

### Prerequisite

To receive events from a Remote Browser Isolation, enable **Hostname tracking** in the Remote Browser Isolation to log host names for the user sessions. This information is sent to Citrix Analytics for Security. For more information, see [Manage published Remote Browser Isolations](#).

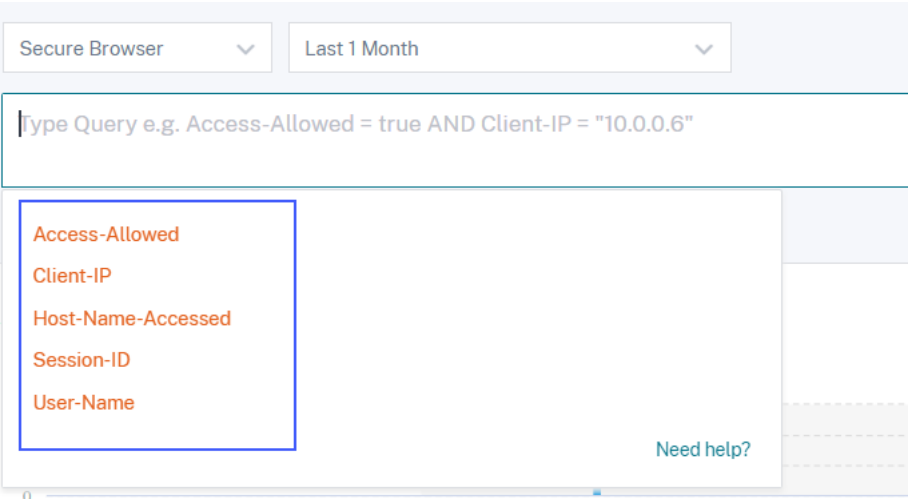
Select the Remote Browser Isolation data source

To view the Remote Browser Isolation events, select **Remote Browser Isolation** from the list. By default, the self-service page displays the events for the last one day. You can also select the time period for which you want to view the events.



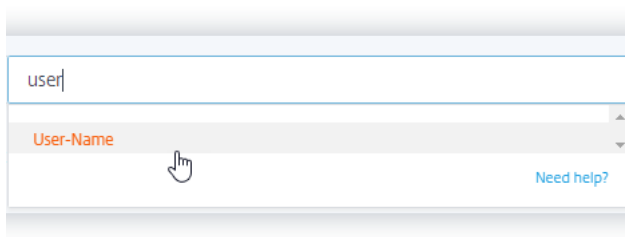
Specify search query to filter events

Place your cursor in the search box to view the list of dimensions for the Remote Browser Isolation events. Use the dimensions and the [operators](#) to specify your query and search for the required events.



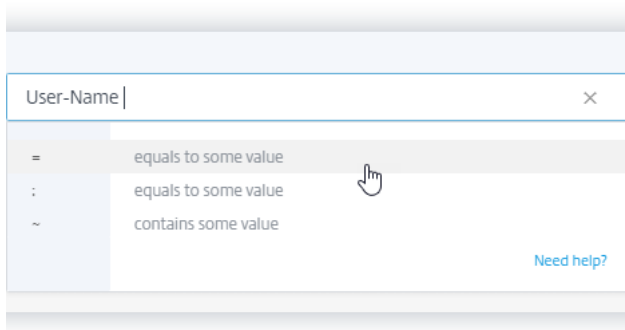
For example, you want to view the browsing event details for a user “aa” who has permission to access various host services such as google.com, amazon.com.

1. Enter “user” in the search box to view the related dimensions.



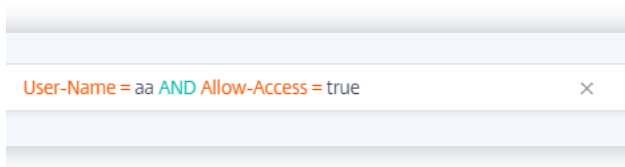
A search bar with the text 'user' entered. Below the search bar, a dropdown menu is open, showing 'User-Name' as the selected option. A hand cursor is pointing at 'User-Name'. To the right of the dropdown is a 'Need help?' link.

2. Click **User-Name** and enter the value “aa” using the equal operator.



The search bar now contains 'User-Name'. Below it, a dropdown menu is open showing three options: '=', ':', and '~'. The '=' option is selected, and a hand cursor is pointing at it. To the right of the dropdown is a 'Need help?' link.

3. Select the **AND** operator and the **Allow-Access** dimension. Assign the value “true” to **Allow-Access** using the equal operator. The “true” value indicates that the user can access the host services.



The search bar now contains the query 'User-Name = aa AND Allow-Access = true'. A hand cursor is pointing at the 'AND' operator. To the right of the search bar is a close button (X).

4. Select the time period and click **Search** to view the events on the **DATA** table.

## View user event details

You can view the following data received from the Remote Browser Isolation service:

- **Time**- Date and time when the user event occurred.
- **User name**- The user who initiated the event.
- **Session ID**- The unique number assigned to the user session.
- **Client IP**- IP address of the user device.
- **Host name**- The host service accessed by the user over the network.
- **Allow access**- The user is allowed or denied access to the host service.

## Self-service search for Secure Private Access

November 2, 2023

Use the self-service search to get insights into the access events of the Citrix Cloud users in your organization. Examples of access events are url category, content category, browsers, and devices. Citrix Analytics for Security receives these events from the Secure Private Access service and displays them on the self-service search. You can track the users and their access details.

For more information on the search functionalities, see [Self-service search](#).

### Note

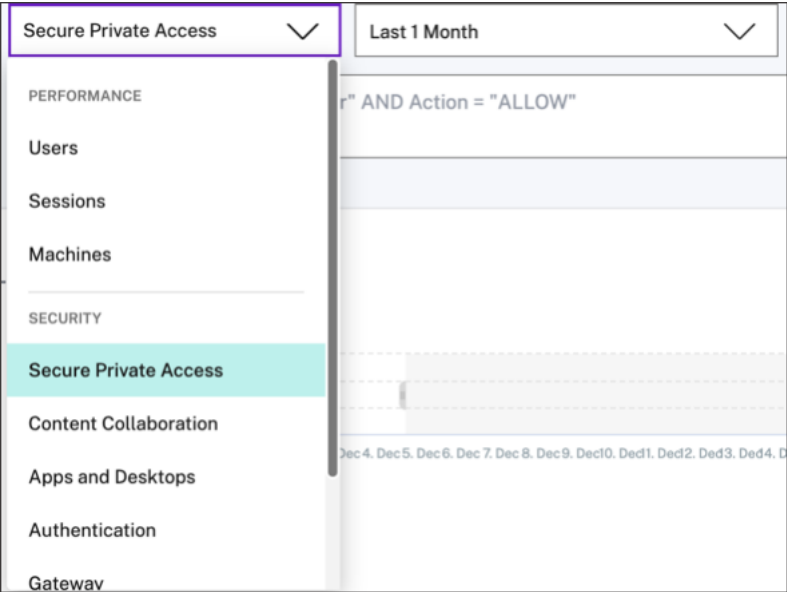
The following capabilities on Citrix Analytics for Security are impacted due to the deprecation of Category-based web filtering by Secure Private Access:

1. Data fields such as Category-Group, Category and Reputation of URLs are not available anymore on the Citrix Analytics for security dashboard.
2. The Risky website access indicator which relies on the same data is also deprecated and is not triggered for customers.
3. Any existing custom risk indicators using the data fields (Category-Group, Category and Reputation of URLs) and its associated policies are not triggered anymore.

For details on the deprecation from Secure Private Access, refer to [Feature deprecations](#).

### Select the Secure Private Access data source

To view the Secure Private Access events, select **Secure Private Access** from the list. By default, the self-service page displays the events for the last one day. You can also select the time period for which you want to view the events.



Select the facets to filter events

Use the following facets that are associated to the Secure Private Access events.

Filters	Clear All
> Action	
> Country	
> Content Category	
> Request	
> Response	
> Browser	
> Device	
> Operating System	

- **Action**- Search events based on the actions taken on users' applications such as allow, block, and redirect.
- **Country**- Search events based on the users' access locations.
- **Content Category**- Search events based on the categories of contents accessed such as application, image, and text.
- **Request**- Search events based on the HTTP methods such as GET, POST, PUT, DELETE.
- **Response**- Search events based on the HTTP response.
- **Browser**- Search events based on the browsers used by the users.
- **Device**- Search events based on the devices used such as Android phones, iPhones, MacBook.
- **Operating System**- Search events based on the operating systems installed on the devices.

### Specify search query to filter events

Place your cursor in the search box to view the list of dimensions for the Secure Private Access events. Use the dimensions and the [operators](#) to specify your query and search for the required events.

Secure Private Access ▼ Last 1 Month ▼

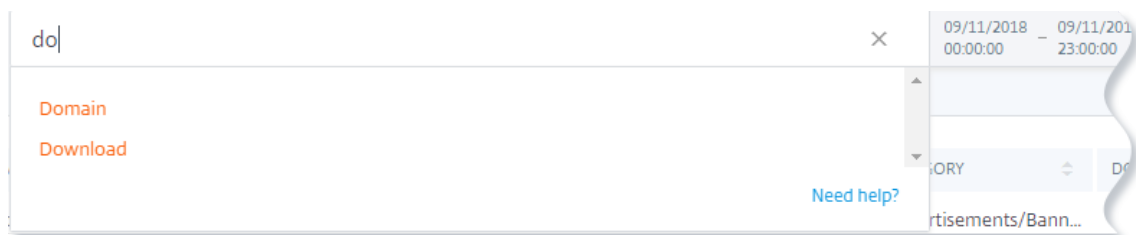
Type Query e.g. User-Name = "User" AND Action = "ALLOW"

- Action
- Browser
- City
- Client-IP
- Client-Port
- Content-Category
- Content-Type
- Country
- Device

Need help?

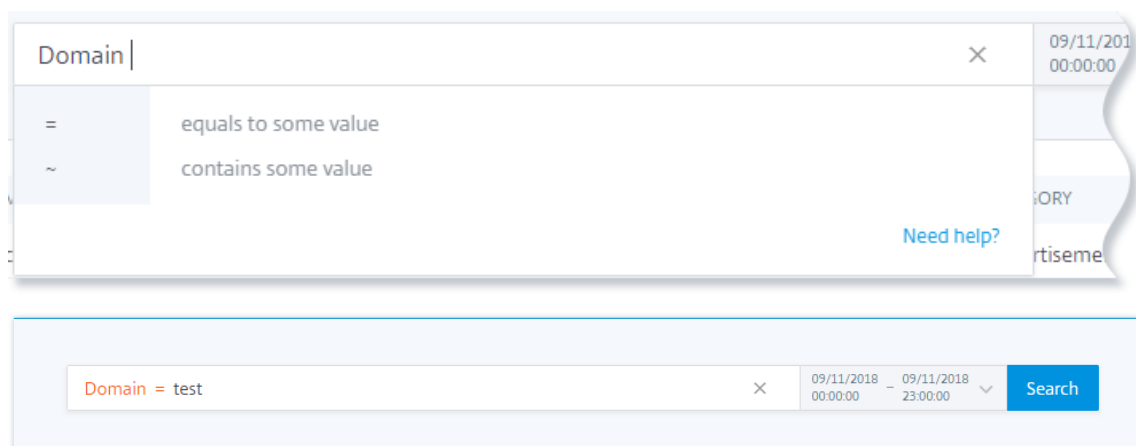
For example, you want to view the test domains where the data download volume is more than 2,000 Bytes. Specify your search query as the following:

1. Enter “do” in the search box to get the related suggestions.



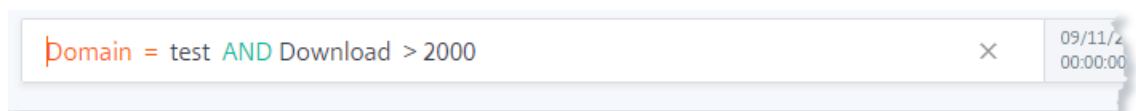
The screenshot shows a search box with the text "do" entered. Below the search box, a dropdown menu displays suggestions: "Domain" and "Download". To the right of the search box, there is a date range selector showing "09/11/2018 00:00:00" to "09/11/2018 23:00:00". A "Need help?" link is visible at the bottom right of the suggestions dropdown.

2. Click **Domain** and then specify the value “test” using the equal operator.



The screenshot shows the search box with "Domain" selected. Below the search box, a dropdown menu displays operators: "=" (equals to some value) and "~" (contains some value). The "=" operator is selected. Below this, the search box shows the query "Domain = test". To the right of the search box, there is a date range selector showing "09/11/2018 00:00:00" to "09/11/2018 23:00:00". A "Need help?" link is visible at the bottom right of the suggestions dropdown.

3. Use the **AND** operator and then select the **Download** dimension. Select the **>** operator and enter the download volume in bytes.



The screenshot shows the search box with the query "Domain = test AND Download > 2000". To the right of the search box, there is a date range selector showing "09/11/2018 00:00:00" to "09/11/2018 23:00:00". A "Search" button is visible at the bottom right of the search box.

4. Select the time period and click **Search** to view the events on the **DATA** table.

## Self-service search for Apps and Desktops

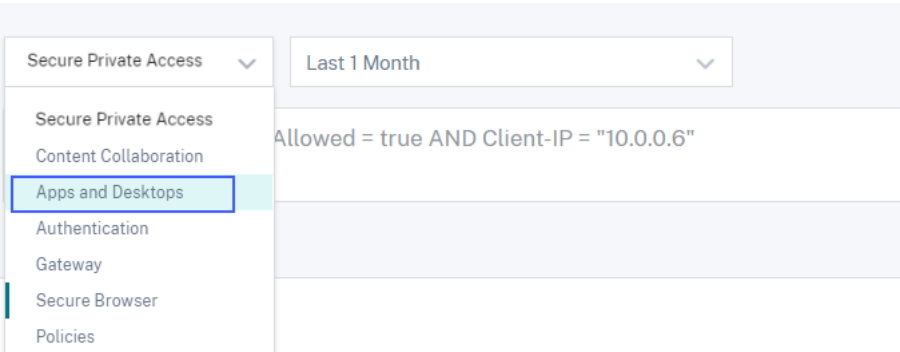
January 29, 2024

Use the self-service search to get insights into the user events received from the Citrix Virtual Apps and Desktops data source and the Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) data source. When users use virtual apps or virtual desktops, events corresponding to their activities and actions are generated. Examples of user events are file download, account login, and app start. Citrix Analytics for Security receives these user events and displays them on the self-service page. You can track the users and their activities.

For more information on the search functionalities, see [Self-service search](#).

### Select the Apps and Desktops data source

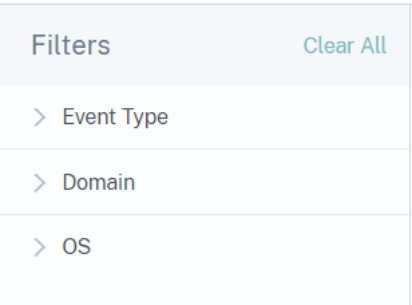
To view the events from Citrix Virtual Apps and Desktops or Citrix DaaS, select **Apps and Desktops** from the list. By default, the self-service page displays the events for the last one day. You can also select the time period for which you want to view the events.



By default, the self-service page displays the events for the last one month. The page also provides you with several facets and a search box to filter and focus on the required events.

### Select the facets to filter events

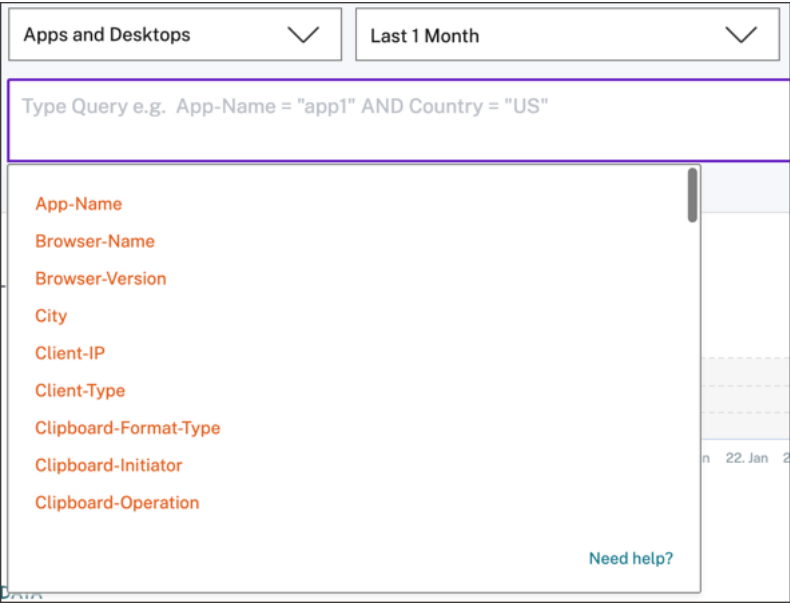
Use the following facets that are associated to the Apps and Desktops events.



- **Event Type**- Search events based on the event type such as account logon, app end, and session end.
- **Domain**- Search events based on the domains such as citrate.net.
- **OS**- Search events based on the operating systems such as Chrome, iOS, and Windows used in the user's device. Select the operating system name and versions to filter the events. For more information on the operating system versions, see Supported values for your search query.

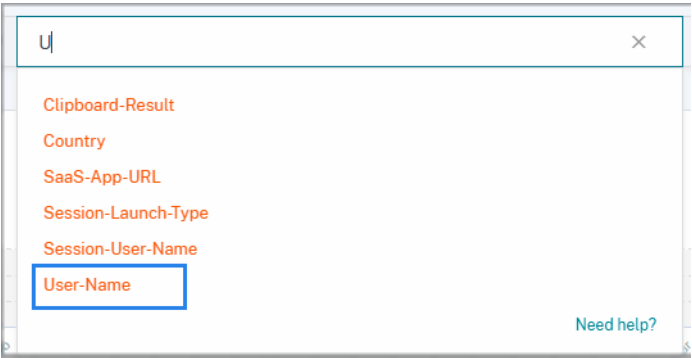
### Specify search query to filter events

Place your cursor in the search box to view the list of dimensions for the Apps and Desktops events. Use the dimensions and the [operators](#) to specify your query and search for the required events.

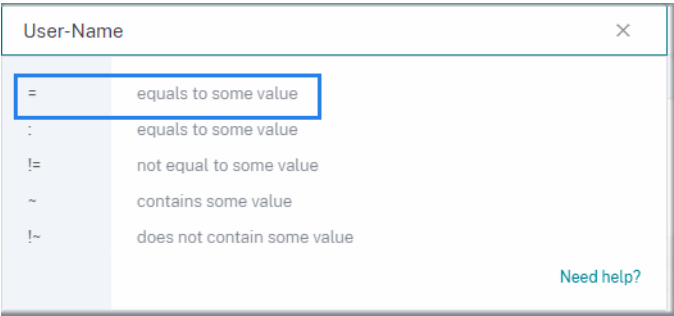


For example, you want to search events for the user “John Doe”who is using the Windows operating system.

1. Enter “U”in the search box to get the related suggestions.



2. Click **User-Name** and enter the value “John”using the equal operator.



3. Select the **AND** operator and the **OS-Name** dimension. Assign the value “Windows 7”using the equal operator.

```
User-Name = "John" AND OS-Name = "Windows 7"
```

4. Select the time period and click **Search** to view the events based on the **DATA** table.

### Event types and supported fields

The following fields are available for all the event types except VDA.Print:

- City
- Client IP
- Country
- Device ID
- OS Name
- OS Version
- OS Extra Info
- Time
- User Name
- Workspace App Version
- Workspace App Status

The following table describes the event types available for the Apps and Desktops data source and fields specific to each event type.

Value	Description	Fields
<a href="#">Account.Logon</a>	Triggers when you log on to Store through Citrix Workspace app. <b>Note:</b> Account.Logon is not available for the HTML5 client.	Check common fields as described above.
<a href="#">Session.Logon</a>	Triggers when you log on to your virtual session.	App Protection Policies, Domain, Session Launch Type, Session Server Name, Session User Name

Value	Description	Fields
<a href="#">Session.End</a>	Triggers when you terminate your virtual session.	Domain, Session Launch Type, Session Server Name, Session User Name
<a href="#">App.Start</a>	Triggers when you start a virtual app session. <b>Note:</b> This event type is not applicable when the application is launched within the desktop session.	App Name, Domain, Session Launch Type, Session Server Name, Session User Name
<a href="#">App.End</a>	Triggers when you terminate a virtual app session. <b>Note:</b> This event type is not applicable when the application is launched within the desktop session.	App Name, Domain, Session Launch Type, Session Server Name, Session User Name
<a href="#">File.Download</a>	Triggers when a user copies a file from remote virtual session to client device. It doesn't get triggered for file transfers happening within the virtual sessions. <b>Note:</b> This event type is sent only when the server allows file redirection (check <a href="#">File Redirection Settings</a> for more details) and client workspace <b>File Access</b> preference is set to <b>Read and Write</b> .	Domain, Download Device Type, Download File Name, Download File Path, Download File Size, Session Server Name, Session User Name

Value	Description	Fields
<a href="#">Printing</a>	Triggers when you print a file with the Citrix Workspace app launched session through a client printer. <b>Note:</b> There are two technical limitations with Citrix Workspace app that affect printing events. First, the Printed Document Name telemetry is not included in the printing event due to a known issue across all platform variants. Second, the Printed File Size telemetry is not included in the printing event for Windows because of another known technical limitation. To collect these data sets (file name/file size) use VDA.Print event. For more information, see <a href="#">Enabling print telemetry for Citrix DaaS</a> .	Browser Name, Browser Version, Domain, Printer Name, Print File Format, Print File Size, Session Server Name, Session User Name
<a href="#">AppProtection.ScreenCapture</a>	Triggers when a user tries to capture a screenshot while in a protected session. <b>Note:</b> For more information, see <a href="#">App Protection</a> .	Protected App Titles, Screen Capture Tool Name, Screen Capture Tool Path
<a href="#">App.SaaS.Launch</a>	Triggers when Citrix Workspace app launches a SaaS app in Citrix Enterprise Browser.	Browser Name, Browser Version, SaaS App Name, SaaS App URL
<a href="#">App.SaaS.End</a>	Triggers when Citrix Workspace app closes a SaaS app in Citrix Enterprise Browser.	Browser Name, Browser Version, SaaS App URL

Value	Description	Fields
<code>App.SaaS.Clipboard</code>	Triggers when a clipboard operation is performed in Citrix Enterprise Browser.	Browser Name, Browser Version, Clipboard Details Format Size, Clipboard Details Format Type, Clipboard Details Initiator, Clipboard Details Result, Clipboard Operation, SaaS App URL
<code>App.SaaS.File.Download</code>	Triggers when a file is downloaded in Citrix Enterprise Browser.	Browser Name, Browser Version, Download Device Type, Download File Path, Download File Size
<code>App.SaaS.File.Print</code>	Triggers when print is initiated in Citrix Enterprise Browser.	Browser Name, Browser Version, Print File Name, SaaS App Name, SaaS App URL
<code>App.SaaS.Url.Navigate</code>	Triggers when Citrix Enterprise Browser navigates a URL.	Browser Name, Browser Version, SaaS App Name, SaaS App URL
<code>Citrix.EventMonitor.AppStart</code>	Triggers when an application added into the Session recording server's <a href="#">app monitoring list</a> is started within a virtual desktop session.	App Name
<code>Citrix.EventMonitor.AppEnd</code>	Triggers when an application added into the Session recording server's <a href="#">app monitoring list</a> is stopped within a virtual desktop session.	App Name
<code>Citrix.EventMonitor.Clipboard</code>	Triggers when a clipboard action has been performed within a session recording.	Clipboard Data Format Type, Process Name, Window Title
<code>Citrix.EventMonitor.FileTransfer</code>	Triggers when a user transfers a file between a virtual desktop session and the user's machine.	File Size, Operation Direction (Host to Client, Client to Host), Source Path, Destination Path

Value	Description	Fields
<code>Citrix.EventMonitor.RegistryChange</code>	Triggers when a registry operation is performed. The possible registry operations are create, delete, rename, set value, and delete value.	Registry Operation, Registry Name, Registry Path, Process ID, Process File Path
<code>Citrix.EventMonitor.SessionEnd</code>	Triggers when a session recording ends.	Description
<code>Citrix.EventMonitor.SessionLaunch</code>	Triggers when a session recording has started.	Session Recording Type
<code>Citrix.EventMonitor.TopMost</code>	Triggers when topmost window changes.	App Name
<code>Citrix.EventMonitor.IdleStart</code>	Triggers when session becomes idle.	Check common fields as described above.
<code>Citrix.EventMonitor.IdleEnd</code>	Triggers when idle session ends.	Check common fields as described above.
<code>Citrix.EventMonitor.WebBrowsing</code>	Triggers when user interacts with webpages on browsers within a virtual desktop session.	App Name, URL
<code>Citrix.EventMonitor.FileCreate</code>	Triggers when a file or a folder is created in virtual desktop session inside the monitored file system path.	File Name, File Path, File Size
<code>Citrix.EventMonitor.FileRename</code>	Triggers when a file or a folder is renamed in a virtual desktop session inside the monitored file system path.	Check common fields as described above.
<code>Citrix.EventMonitor.FileMove</code>	Triggers when a file or a folder from the monitored file system path is moved in a virtual desktop session or between session hosts (VDAs) and client devices.	Check common fields as described above.

Value	Description	Fields
<code>Citrix.EventMonitor.FileDelete</code>	Triggers when a file or a folder inside the monitored file system path is deleted in a virtual desktop session.	File Name, File Path, File Size
<code>Citrix.EventMonitor.CDMUSBDriveAttach</code>	Triggers when a Client Drive Mapping (CDM) mapped USB mass storage device is inserted in a client from which the virtual Apps and Desktop Session is connected.	Check common fields as described above.
<code>Citrix.EventMonitor.GenericUSBDriveAttach</code>	Triggers when a Generic redirected USB mass storage device is inserted in a client from which the virtual Apps and Desktop Session is connected.	Check common fields as described above.
<code>Citrix.EventMonitor.RDPConnection</code>	Triggers when a user creates a remote desktop connection within a VDA machine.	Destination IP, Process ID
<code>Citrix.EventMonitor.UserAccountModification</code>	Triggers for all type of user account operations that are - account creation, enablement, disablement, deletion, name changes, and password modification.	Description, Target User Name
<code>VDA.Print</code>	Triggers when a print job is initiated in Apps and Desktops. <b>Note:</b> This event is only applicable for Citrix DaaS data source. For more information, see <a href="#">Enabling print telemetry for Citrix DaaS</a> .	Document User Name, Machine Name, Print File Name, Print File Size, Printer Name, Time, Total Copies Printed, Total Pages Printed

Value	Description	Fields
VDA.Clipboard	Triggers when a clipboard operation is performed in Apps and Desktops. <b>Note:</b> This event is only applicable for Citrix DaaS data source. For more information, see <a href="#">Enabling clipboard telemetry for Citrix DaaS</a> .	Clipboard Format Type, Clipboard Operation, Clipboard Operation Direction, Clipboard Operation Permitted, Clipboard Size, Machine Name

**Note**

All the session recording events require the policy for logging their events to be enabled on Session Recording server. For more information, see [Create a custom event detection policy](#).

**Supported values for your search query**

Enter the following values for the dimensions to define your search query.

Dimension	Value	Type	Description
App-Name	Application or desktop sessions.  Example application sessions: A session without farm name: #Cloud - Excel 2016 And a session with the farm name: XA65PROD#Concur	String	Name of an application or desktop launched.

Dimension	Value	Type	Description
	Example desktop sessions: A session without farm name: #SINXIAP0616 \$S1-1 And a session with the farm name: XA65PROD# SINXIAP0616 \$S1-1		
App-Protection-Policies	Example: AntiScreenCaptureEnabled	String	Active application protection policies for the session.
Browser-Name	Example: Google Chrome, Citrix Enterprise Browser, Microsoft Edge, FIREFOX, SAFARI	String	Browser name
Browser-Version	Example: 80.0.3987.122, 101.0.9999.0	String	Browser version
City	Examples: Santa Clara, Houston, Chicago	String	The city name of a user.
Client-IP	An IP address. Example: 10.10.10.10	String	IP address of the user endpoint.
Client-Type	Android, Windows, Macintosh, Chrome, HTML5, Unix/Linux, iOS, SessionRecording, Monitor	String	Indicates different types of Citrix Workspace app based on the operating systems or original data-source.
Clipboard-Format-Type	Examples: text, html, CF_UNICODETEXT	String	The data format copied to the clipboard.

Dimension	Value	Type	Description
Clipboard-Initiator	Examples: Keyboard, context menu, javascript	String	Indicates how the clipboard operation was initiated. <b>Note:</b> Supported only by the SaaS applications.
Clipboard-Operation	Copy, cut, paste, or place	String	Indicates which clipboard operation is performed. <b>Note:</b> The <b>place</b> operation indicates data being placed on the clipboard. This does not guarantee if the data in the clipboard was pasted or used by the client. This operation is supported only for VDA.Clipboard Event.
Clipboard-Operation-Direction	Client To Host, Host To Client	String	Indicates the direction of clipboard operation. <b>Note:</b> Supported only by Apps and Desktop (Citrix DaaS) Clipboard Operation.
Clipboard-Operation-Permitted	Allowed or Denied	String	Indicates whether the clipboard operation is permitted in Apps and Desktop Session. <b>Note:</b> Supported only by Apps and Desktop (Citrix DaaS) Clipboard Operation.

Dimension	Value	Type	Description
Clipboard-Result	Success or Blocked	String	Indicates the result of the clipboard operation. <b>Note:</b> Supported only by the SaaS applications.
Clipboard-Size	Examples: 10, 20	Number	Size of the data (in bytes) that is currently stored in the clipboard.
Country	Examples: USA, India	String	The country name of a user.
Description	<p><b>For Citrix. EventMonitor. UserAccountModification events:</b> A user account was created, a user account was enabled, an attempt was made to reset an account's password.</p> <p><b>For Citrix. EventMonitor. SessionEnd events:</b> Unknown, Logoff, Rollover, Trigger, and Incomplete</p>	String	<p>Describes about user account modification status such as, the account was created, deleted, renamed, or an attempt was made to reset the password.</p> <p>Describes the reason for end of the session recording.</p>
Destination-IP	Example: 10.60.110.xxx	String	IP address of the remote desktop.
Destination-Path	Example: \\H\$\Desktop\Folder\example.txt	String	The final path of the file after the transfer is completed.
Device-ID	Example: cb781185-18ad-4f45-b75f	String	Device ID used for licensing, client name, or operating system hardware ID.

Dimension	Value	Type	Description
Domain	Example: example.com	Structure	The domain name of a server that sent a request.
Download-Device- -Type	Examples: USB, Hard Disk Drive, RemoteDrive, cdrom, or browser downloads.	String	The device type where the file is downloaded or transferred.
Download-File- Format	Example: txt, PDF, xlsx, docx	String	The format of the file downloaded.
Download-File- Name	Example: example-file.txt	String	Name of the downloaded file.
Download-File- Path	Example: C:\Users\admin\Desktop	String	The path of the downloaded file.
Download-File- Size	Example: 8.05	Number	The size of the downloaded file in kilobytes.

Dimension	Value	Type	Description
Event-Type	Account.Logon, Session.Logon, Session.End, App.Start, App.End, File.Download, Printing, AppProtection.ScreenCapture, App.SaaS.Launch, App.SaaS.End, App.SaaS.Clipboard, App.SaaS.File.Download, App.SaaS.File.Print, App.SaaS.Url.Navigate, Citrix.EventMonitor.AppStart, Citrix.EventMonitor.AppEnd, Citrix.EventMonitor.TopMost, Citrix.EventMonitor.WebBrowsing, Citrix.EventMonitor.FileCreate, Citrix.EventMonitor.FileRename, Citrix.EventMonitor.FileMove, Citrix.EventMonitor.FileDelete, Citrix.EventMonitor.CDMUSBDriveAttach, Citrix.EventMonitor.GenericUSBDriveAttach, Citrix.EventMonitor.RDPConnection, Citrix.EventMonitor.UserAccountModification, VDA.Print, VDA.Clipboard, Citrix.EventMonitor.RegistryChange,	String	For more details, see Event types and supported fields.

Dimension	Value	Type	Description
<a href="#">Jail-Broken</a>	Yes or No	String	Indicates if the device is rooted or not. <b>Note:</b> If this dimension is absent, the device is not rooted. This key applies to Citrix Workspace app for iOS and Android devices.
<a href="#">Operation-Direction</a>	Host to Client/ Client to Host	String	Indicates the direction of the file transfer.
<a href="#">OS-Extra-Info</a>	Example: 20G80, Service Pack 1, 19043	String	Indicates the additional information of the operating system such as build numbers, service packs, and patches.
<a href="#">OS-Name</a>	Example: macOS 11, Windows 7, Android 8.1, Windows 10 Enterprise	String	Indicates the name of the operating system.
<a href="#">OS-Version</a>	Example: 11.5.1, 14.7.1, 2009	String	Indicates the version of the operating system
<a href="#">Print-File-Format</a>	Examples: PDF, PS, DOCX	String	Format of the printed file.
<a href="#">Print-File-Name</a>	Example: example-file.pdf	String	Name of the printed file.
<a href="#">Print-File-Size</a>	Examples: 10, 20	String	Size of the printed file in bytes.
<a href="#">Printer-Name</a>	Example: testprinter-1	String	Name of the printer used.

Dimension	Value	Type	Description
Process-ID	Example: 11248	String	Refers to the process ID that is used to identify the specific process that performs two actions: <b>Creating a new process</b> and <b>Making a remote desktop connection</b> . Process-ID is currently associated only with Citrix.EventMonitor.RDPConnection event.
Protected-App-Titles	Example: Admin Desktop - Citrix Workspace	String	Name of the application running in the protected session.
Registry-Name	Name of the modified registry	String	The name of the registry that was modified.
Registry-Operation	Rename, Create, Delete, SetValue, DeleteValue	String	Indicates which registry operation was performed.
Registry-Path	Path of the modified registry	String	The path of the registry that was modified.
SaaS-App-Name	Example: Workday	String	Name of the SaaS application.
SaaS-App-URL	Example: <a href="https://xyz.com">https://xyz.com</a>  String	String	URL of the SaaS application or gateway/proxy URL. <b>Note:</b> The gateway/proxy URL appears in the App.SaaS.Launch Event when the SaaS application is launched initially.

Dimension	Value	Type	Description
Screen-Capture-Tool-Name	Example: ScreenShotTool.exe	String	Name of the screen capture tool.
Screen-Capture-Tool-Path	Example: c:\Program files (x86)\ScreenContent Client	String	Path of the screen capture tool.
Session-Launch-Type	Application or Desktop	String	Indicates if the launched session is an application or desktop type.
Session-Recording-Type	Traditional recording/ Event only recording	String	Indicates the type of the launched session recording.
Session-Server-Name	Examples: Hosted Desktop, Cloud-VDA-1	String	Name of the application or desktop connected to as received from a server.
Session-User-Name	Examples: demo-user, test-user	String	User name received from the server.
Source-Path	Example: C:\Users\admin\Desktop\example.txt	String	The initial path of the file before it was transferred.
Target-User-Name	Examples: user01	String	Currently, the Target-User-Name is only used for the Citrix.EventMonitor.UserAccountModified event, in which it's the user account which was modified.
Total-Copies-Printed	Examples: 1, 2	Number	Total number of copies printed by the user.
Total-Pages-Printed	Examples: 1,2	Number	Total number of the document pages printed by the user.

Dimension	Value	Type	Description
User-Name	user name or Domain\username	String	The user name or domain\username. Used for StoreFront login. If the StoreFront logon is not through Citrix Workspace app for HTML5 or Chrome, then this value is same as the one received from server.
VDA-Name	Example: TSVDA-19-01.xd.local	String	Indicates the name of the VDA machine.
Window-Title	Example: Administrator - 01 Command Prompt	String	Indicates the title of the window in which the clipboard operation was performed.
Workspace-App-Version	Example: 20.8.0.3 (2008)	String	Citrix Workspace app or Citrix Receiver version installed on the user's device and used to launch remote virtual Apps and Desktop Sessions.

Dimension	Value	Type	Description
<a href="#">Workspace-App-Status</a>	Supported or Unsupported	String	Indicates whether the installed version of Citrix Workspace app or Citrix Receiver on the user's device is supported or not supported by Citrix Analytics for Security. Hover over <b>Unsupported</b> when the Workspace App is not supported. A pop-up window appears with a link to view the list of supported versions. When a Workspace App version is approaching its unsupported status, a banner is displayed on the self-service search page, listing the available supported versions to which you can initiate an upgrade.

### Operating system naming format

Citrix Analytics receives the operating system (OS) details of a user device and translates them into OS Name, OS Version, and OS Extra Info.

- **OS Name** indicates the name of the operating system.
- **OS Version** indicates the release ID or the release version of the operating system.
- **OS Extra Info** indicates the additional information of the operating system such as build numbers, service packs, and patches.

The following table provides a few examples of the version numbering format of operating systems.

OS Name	OS Version	OS Extra Info
macOS 11	11.5.1	20G80
iOS 14	14.7.1	Not Available
Windows 10 Enterprise	2009	19043
Windows 7	6.1	Service Pack 1
Android 8.1	8.1.0	Not Available

**Notes**

- To get the OS details for Mac version 11.x or later, the recommended client version is Citrix Workspace app for Mac 2108 or later.
- The OS details for Windows 10 are currently not available.

**Troubleshoot Citrix Analytics for Security and Performance**

November 30, 2023

This section explains how to resolve the following issues that you might encounter when you use Citrix Analytics for Security.

- [Verify anonymous users as legitimate users.](#)
- [Troubleshoot event transmission issues from a data source.](#)
- [Trigger Virtual Apps and Desktops events, SaaS events, and verifying event transmission to Citrix Analytics for Security.](#)
- [Session recording server fails to connect.](#)
- [Configuration issues with Citrix Analytics add-on for Splunk](#)

**Verify the anonymous users as legitimate users**

June 2, 2022

As an administrator, you might notice that some Citrix Virtual Apps and Desktops users and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) users are shown as anonymous on Citrix Analytics for Security. These users are identified as discovered users. But their user names appear as **anonXYZ** (where “XYZ” represents a three digit number) on the following pages:

- Users
- User’s timeline
- Risky users
- Self-service search for the Apps and Desktops data source

The screenshot displays the Citrix Analytics for Security interface. At the top, a search bar shows 'anon000' with a refresh icon and a timestamp 'Last updated February 24, 2021, 11:06 AM IST (UTC+0530)'. Below this, the 'Risk Timeline' section shows a timeline for February 23, 2021, with events like 'Add to watchlist' and 'CVAD-Geofencing'. To the right, a 'CVAD-Geofencing' panel shows the defined condition: 'where Event-Type = "Session.logon" AND Country != "" AND Country != "United States"'. Below these, the 'Event Search' section shows a table of events for the user 'anon000'.

TIME	USER NAME	CITY	COUNTRY	APP NAME (VIRTUAL)	APP URL (SAAS)	EVENT TYPE	DEVICE ID	PLATFORM
Feb 23, 3:07:10 PM	anon000	Bengaluru	India	NA	NA	Session.End	XXXXXXXXXX	version 10.16 (build 20b...
Feb 23, 3:04:14 PM	anon000	Bengaluru	India	NA	NA	Session.Logon	XXXXXXXXXX	version 10.16 (build 20b...
Feb 22, 5:17:30 PM	anon000	Bengaluru	India	NA	NA	Session.End	XXXXXXXXXX	version 10.16 (build 20b...
Feb 22, 5:17:30 PM	anon000	Bengaluru	India	paint	NA	App.End	XXXXXXXXXX	version 10.16 (build 20b...
Feb 22, 5:07:31 PM	anon000	Bengaluru	India	paint	NA	App.Start	XXXXXXXXXX	version 10.16 (build 20b...
Feb 22, 5:07:29 PM	anon000	Bengaluru	India	NA	NA	Session.Logon	XXXXXXXXXX	version 10.16 (build 20b...

When you see such users, you might want to know:

- Who are these users?
- Are these users legitimate or malicious in nature?
- How to verify them?
- What actions I must apply for these users?

You see anonymous users in your Citrix IT environment in the following scenarios:

- When a user is using a published secure browser app
- When a user is using an unauthenticated store

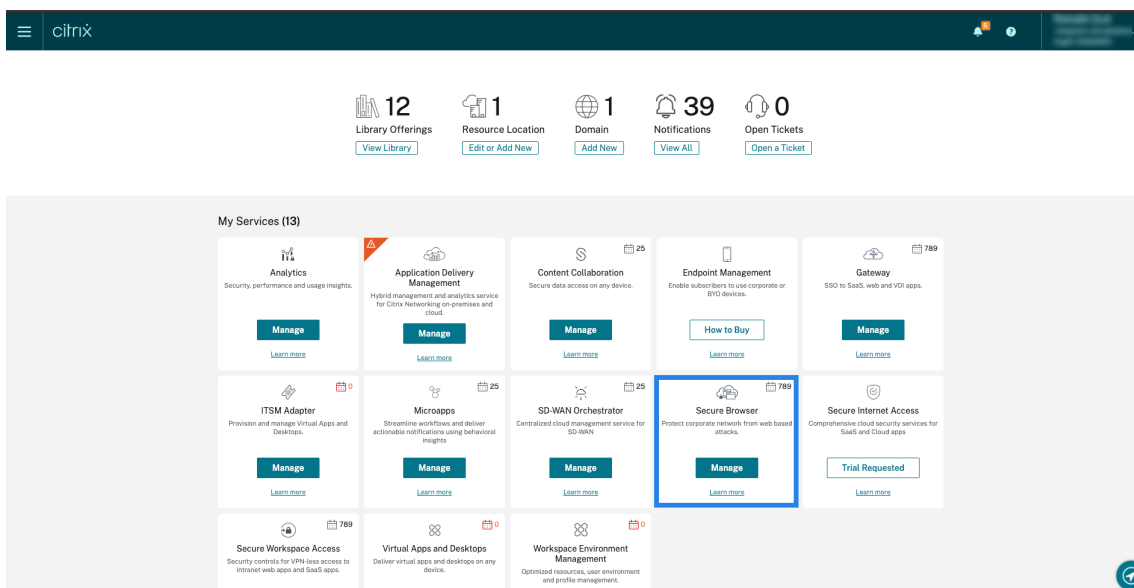
## User using published secure browser apps

The secure browser apps are web apps that are published using the Citrix Secure Browser Service. These apps isolate your web browsing events and protect your corporate network from browser-based attacks. For more information, see [Secure Browser Service](#).

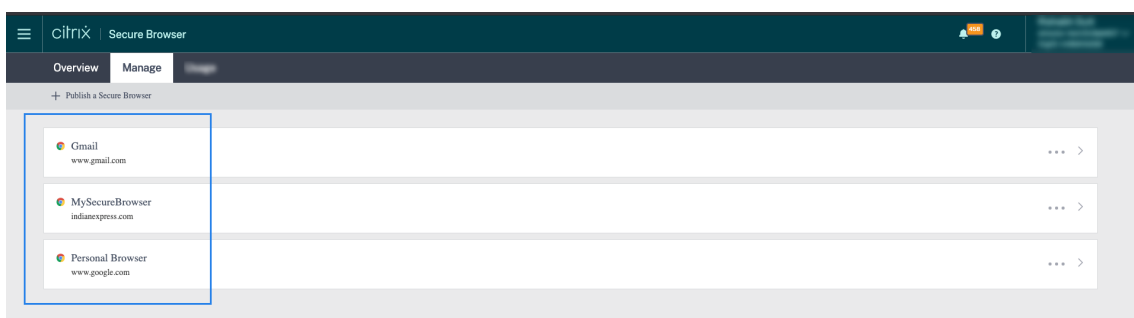
The secure browser apps use the anonymous session capability of Citrix DaaS.

To verify if Secure Browser is configured in your Citrix Cloud account:

1. Sign in to Citrix Cloud.
2. On the **Secure Browser** card, click **Manage**.



3. On the **Manage** page, check for published secure browser apps.



If a user accesses a StoreFront store through Citrix Receiver for Web sites by using a web browser and uses the published secure browser apps, the user's identity is hidden. Therefore, Citrix Analytics displays the user as anonymous.

If a user accesses a StoreFront store through a Citrix Receiver or Citrix Workspace app that is installed on their device and uses the published secure browser apps, Citrix Analytics displays the user as the user name specified in the StoreFront.

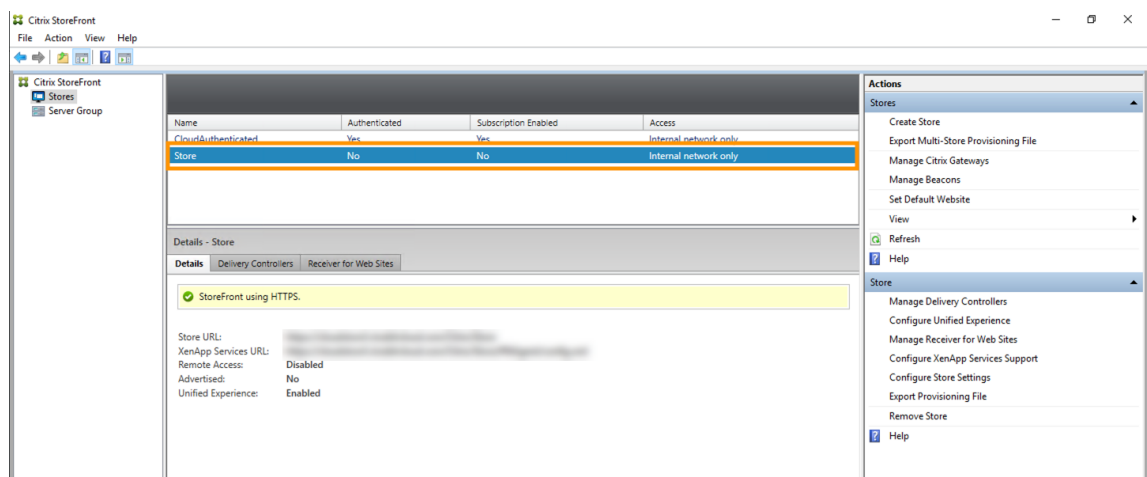
So, you can consider the user as a legitimate user of your organization. You need not apply any action if no risky behavior is associated with the user.

User using an unauthenticated store

The unauthenticated store is a feature of Citrix StoreFront and applies to the stores that are customer managed. This feature support access for unauthenticated (anonymous) users.

To verify if your organization has an unauthenticated store:

- 1. Launch Citrix Studio.
- 2. Click **Stores**.
- 3. For your stores, check the authentication status in the Authenticated column.



If a store is not authenticated and the user is accessing that unauthenticated store, the user identity remains anonymous. Therefore, Citrix Analytics displays the user as anonymous. You can consider this user as a legitimate user of your organization. You need not apply any action if no risky behavior is associated with the user.

Troubleshoot event transmission issues from a data source

November 30, 2023

This section helps you troubleshoot data transmission issues in Citrix Analytics for Security. When a data source fails to transmit user events accurately, you can encounter issues such as non-discovery of users and risk indicators.

**Checklist**

Sequence	Checks
1	Do you have the correct entitlement to use Security Analytics?
2	Is the data source supported in your home region?
3	Does your environment meet all the system requirements?
4	Are all the data sources discovered and data processing enabled on Analytics?
5	Are the user activities on the data source transmitting events accurately to Analytics?
6	Are the virtual apps and desktops events transmitted to Analytics?
7	Are the user events appearing on the self-service search page in Analytics?
8	Are the users discovered by Analytics?

**Check 1- Do you have the correct entitlement to use Security Analytics?**

Citrix Analytics for Security is a subscription-based offering. For more information, see [Getting started](#).

**Check 2- Is the data source supported in your home region?**

Citrix Analytics for Security is supported in the following home regions:

- United States (US)
- European Union (EU)
- Asia Pacific South (APS)

Depending on the location of your organization, you can onboard to Citrix Cloud in one of the home regions.

However, certain data sources are not supported in all home regions. The [data sources](#) are the products from which Citrix Analytics for Security receives user events.

If your organization is onboarded to Citrix Cloud in a home region where a data source is not supported, you don't get user events from the data source.

Use the following table to view the data sources and the regions in which they are supported.

Data source	Supported in US Region	Supported in EU Region	Supported in APS Region
Citrix Endpoint Management	Yes	Yes	Yes
Citrix Gateway (on-premises)	Yes	Yes	Yes
Citrix Identity provider	Yes	Yes	Yes
Citrix Secure Browser	Yes	Yes	Yes
Citrix Secure Private Access	Yes	No	No
Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)	Yes	Yes	Yes
Citrix Virtual Apps and Desktops on-premises	Yes	Yes	Yes
Microsoft Active Directory	Yes	Yes	Yes
Microsoft Graph Security	Yes	Yes	Yes

### Check 3- Does your environment meet all the system requirements?

Citrix Analytics can take a few minutes to receive the user events from the data sources. If you do not see any user events on the data source site cards, ensure that your environment meets the prerequisites and the [system requirements](#).

#### Prerequisites

1. All your Citrix Cloud subscriptions must be active. On the Citrix Cloud page, ensure that all the Citrix Cloud services are active.
2. If you are using on-premises Citrix Virtual Apps and Desktops, you must add your sites to Citrix Workspace and configure site aggregation. Citrix Analytics automatically discovers the Sites

added to Citrix Workspace. For more information, see [Aggregate on-premises virtual apps and desktops in workspaces](#).

3. If you are using a StoreFront deployment for your sites, configure your StoreFront servers to enable Citrix Workspace app to send user events to Citrix Analytics. Ensure that the StoreFront version is 1906 or later. If you do not configure the StoreFront server, Citrix Analytics fails to receive user events from on-premises Citrix Virtual Apps and Desktops. To configure StoreFront deployment, see the [Citrix Analytics service](#) article in the StoreFront documentation.
4. The Citrix Virtual Apps and Desktops users and Citrix DaaS users must use the specified version of Citrix Workspace apps or Citrix Receiver on their end points. Otherwise, Analytics does not receive the user events from the user end points. The list of supported versions of Citrix Workspace app or Citrix Receiver is available in [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).
5. To receive the users' events from a published Secure Browser session, enable the **Hostname Tracking** setting in the Secure Browser. By default, this setting is disabled. For more information, see [Manage published secure browsers](#).
6. Onboard your data sources as mentioned in the following articles:
  - [Citrix Endpoint Management data source](#)
  - [Citrix Gateway data source](#)
  - [Citrix Secure Private Access data source](#)
  - [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#)
  - [Microsoft Active Directory integration](#)
  - [Microsoft Graph Security integration](#)

#### Check 4- Are all data sources discovered and data processing enabled on Analytics?

Ensure that all your data sources are discovered and you have enabled data processing for them. If you do not enable data processing for a data source, the users using the data source are not discovered. This situation might create a potential security risk.

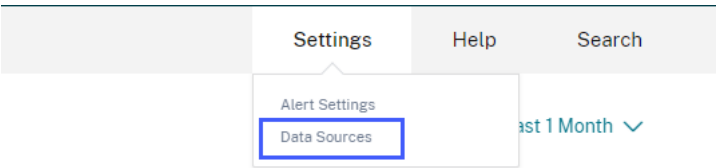
Enabling data processing ensures that Citrix Analytics is processing your user events. Events are sent to Citrix Analytics only when the users are actively using the data source.

##### Note

Citrix Analytics does not actively pull data from your environment.

**To discover your data sources and enable analytics, do the following:**

1. Click **Settings > Data Sources > Security** to view your discovered data sources. Citrix Analytics automatically discovers the data sources that you have subscribed to your Citrix Cloud account.

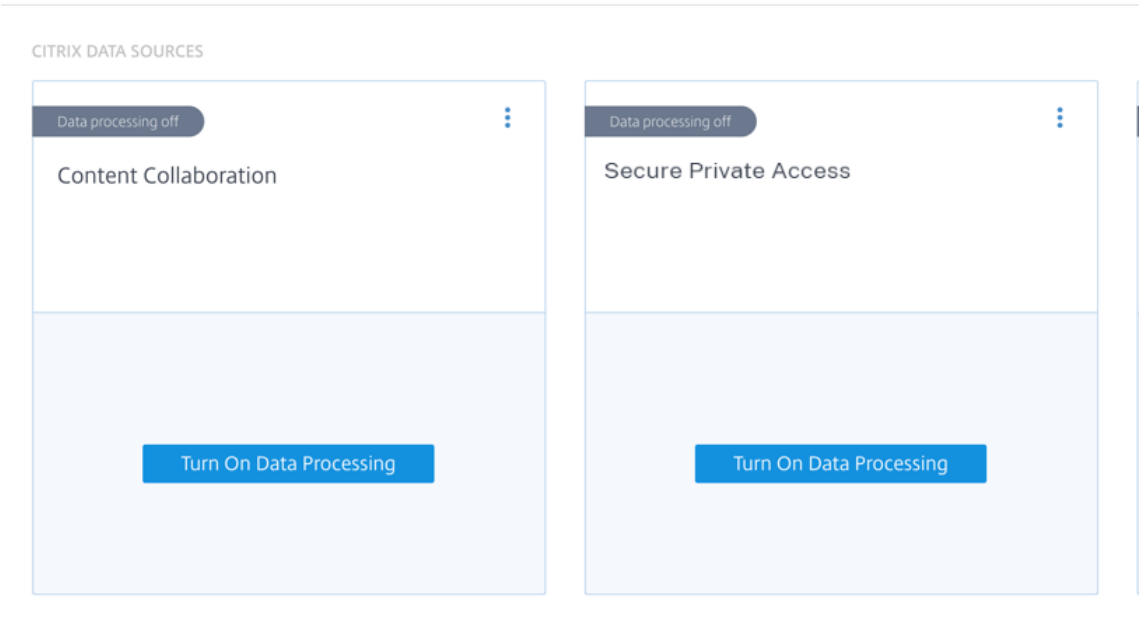


2. On the **Data Sources** page, the discovered data sources appear as site cards. By default, the data processing is off.

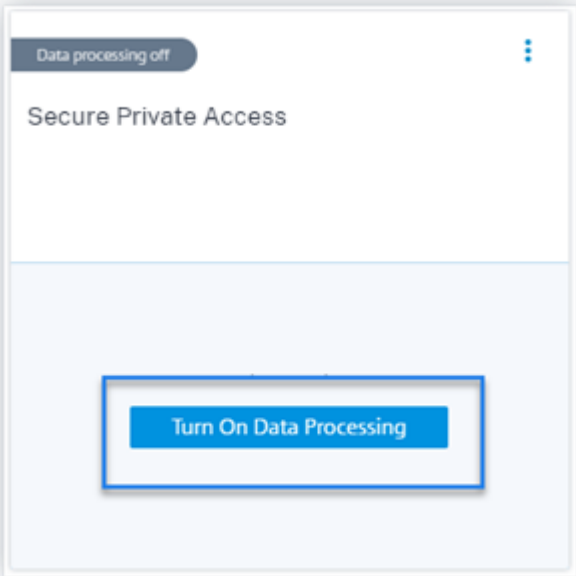
**Important**

Citrix Analytics processes your data after you have given your consent.

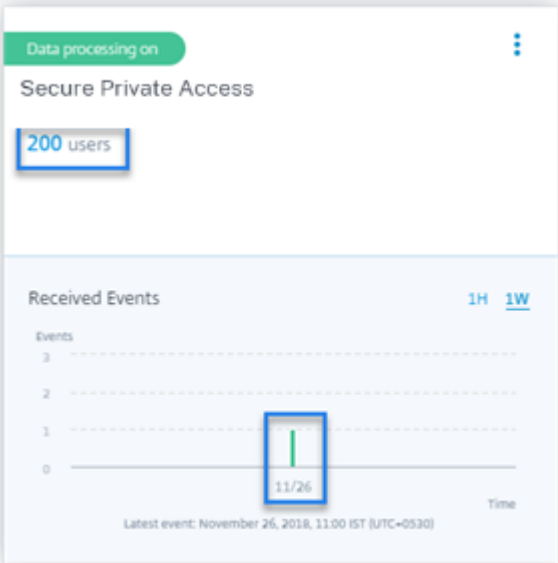
Data Sources ⓘ



3. Click **Turn On Data Processing** on the site card for which you want Citrix Analytics to process events. For example, on the Citrix Secure Private Access site card, click **Turn On Data Processing**.



4. After you have turned on data processing, Citrix Analytics processes the events for the data source. The status of the site card changes to Data processing. You can view the number of users and the received events based on the selected time period.



5. For all discovered data sources, follow the steps specified in [Getting started](#) to enable analytics.

## Check 5- Are the user activities on the data source transmitting events accurately to Analytics?

Citrix Analytics receives user events from the data sources when the users are actively using the data sources. The users must perform some activities on the data source to generate events. For example, to receive events from the Apps and Desktops data source, the Apps and Desktops users must share, upload, or download some files.

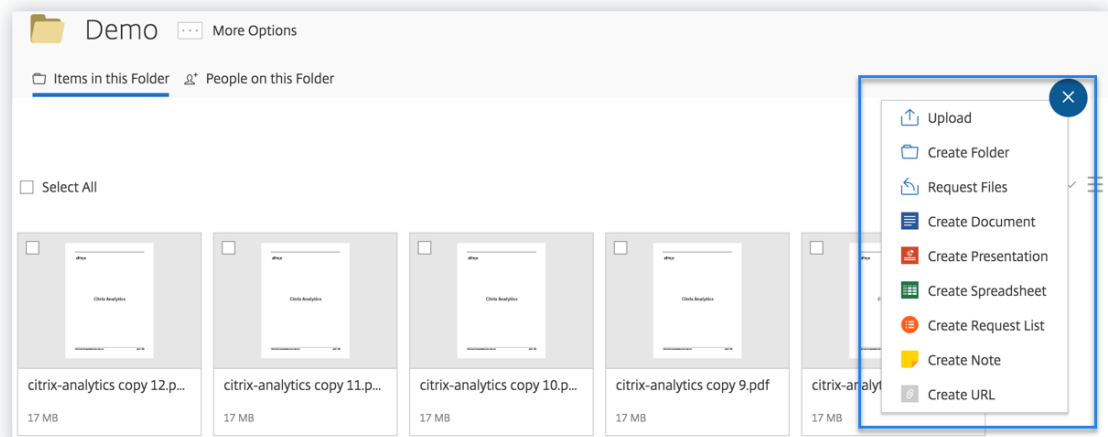
### Note

Citrix Analytics does not actively pull data from your environment.

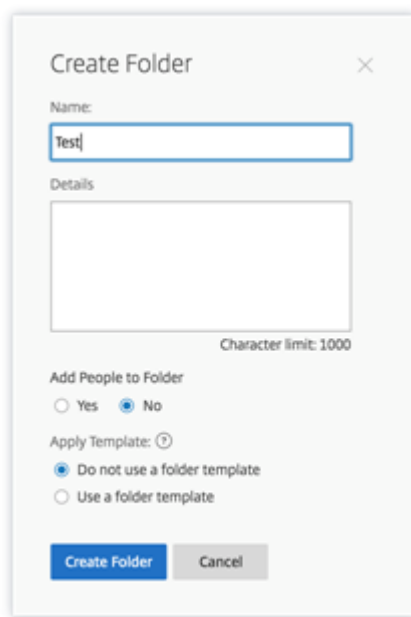
If you do not see any user events in Citrix Analytics for your data source, there is a high probability that the users are not active at that moment.

To verify that Citrix Analytics accurately receives the user events, perform the following activity. This activity uses the Citrix Apps and Desktops data source. You can perform a similar activity using other Citrix products (data sources) based on your subscription.

1. Log on to the Citrix Apps and Desktops service.
2. Perform some usual user activities such as create folder, download files, upload files, or delete files.

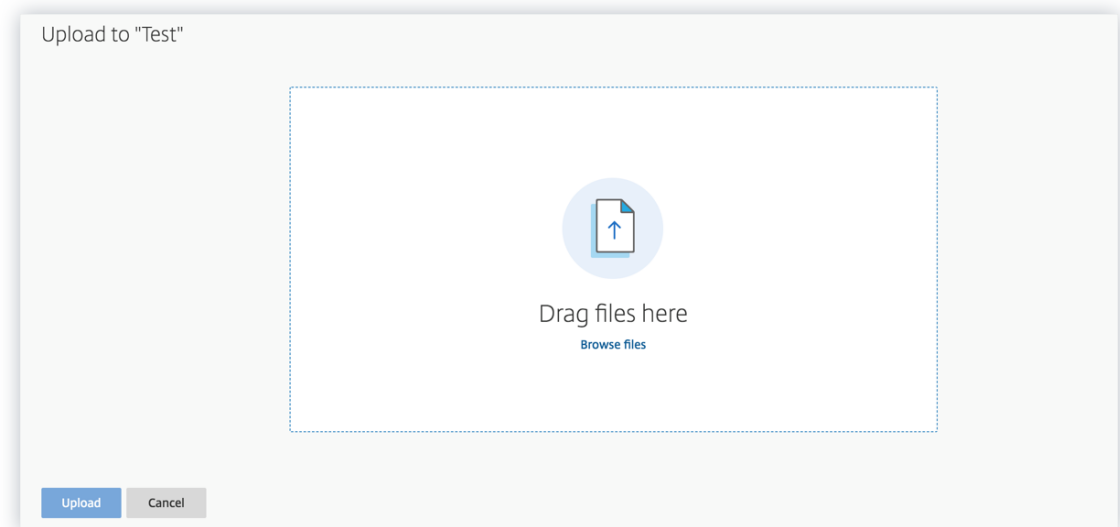


3. For example, create a Test folder.



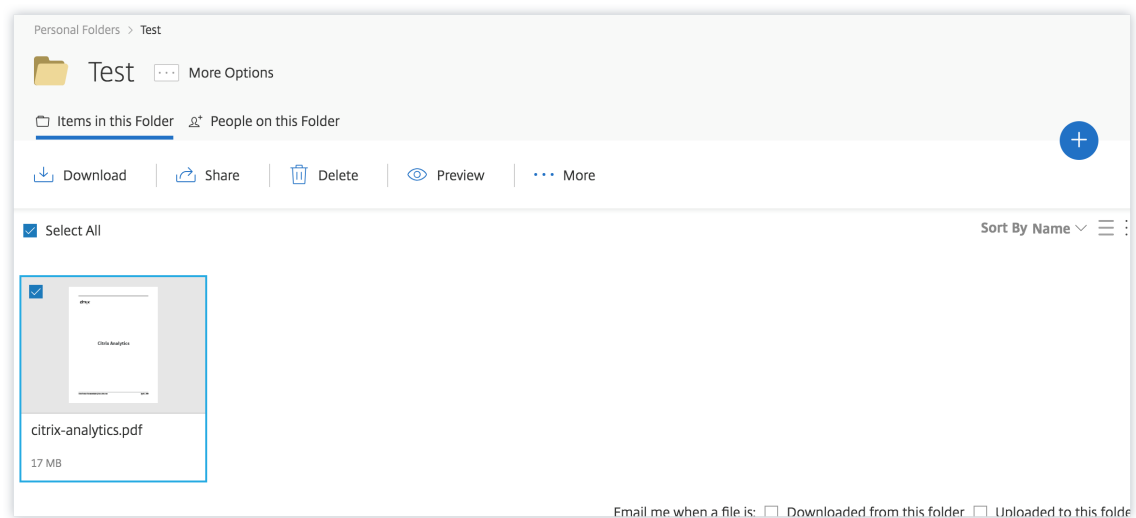
A dialog box titled "Create Folder" with a close button (X) in the top right corner. It contains a "Name:" label followed by a text input field containing the word "Test". Below this is a "Details" section with a large empty rectangular box. To the right of this box is the text "Character limit: 1000". Further down, there is a section "Add People to Folder" with two radio buttons: "Yes" and "No", where "No" is selected. Below that is "Apply Template:" with a help icon and two radio buttons: "Do not use a folder template" (selected) and "Use a folder template". At the bottom are two buttons: "Create Folder" (blue) and "Cancel" (gray).

4. Upload some local files.

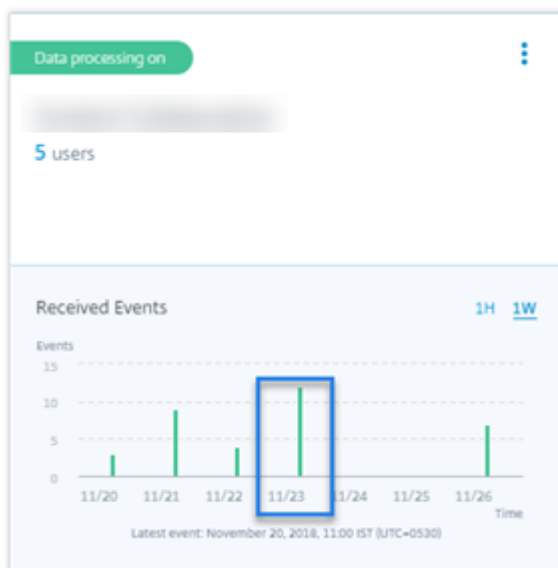


A dialog box titled "Upload to 'Test'" with a large dashed rectangular area in the center. Inside this area is a circular icon containing a document with an upward arrow. Below the icon is the text "Drag files here" and a link "Browse files". At the bottom left are two buttons: "Upload" (blue) and "Cancel" (gray).

5. Delete some files in the folder.



- Go back to Citrix Analytics and view the **Apps and Desktops** side card on the Data Source page. Citrix Analytics receives the user events from the Apps and Desktops data source and displays them on the site card.



### Check 6: Are the virtual apps and desktops events transmitted to Analytics?

Some versions of the Citrix Workspace app or Citrix Receiver client fail to send user events to Citrix Analytics. When users launch virtual apps and desktops through these clients, Citrix Analytics fails to discover the users until they perform the supported events.

For example, the Citrix Workspace app for Linux 2006 or later does not send the **SaaS App Launch** and **SaaS App End** events to Citrix Analytics. A user who launches a SaaS app using the Citrix Workspace app for Linux is not discovered on Citrix Analytics.

## Supported events

Refer to the following table to check the user events supported by each client version.

- **Yes**- The event is sent by the client to Citrix Analytics.
- **No**- The event is not sent by the client to Citrix Analytics.
- **NA**- The event is not applicable to the client.

Event	Workspace app for Windows 1907 or later	Workspace app for Mac 1910.2 or later	Workspace app for Linux 2006 or later	Workspace app for Android- Latest	Workspace app for iOS- Latest	Workspace app for Chrome- Latest	Workspace app for HTML5 2007 or later
				Latest version available in Google Play	Latest version available in Apple App Store	version available in Chrome Web Store	
Account Logon	Yes	Yes	Yes	Yes	Yes	No	No
Session Logon	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Session Launch	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Session End	Yes	Yes	Yes	Yes	Yes	Yes	Yes
App Start	Yes	Yes	Yes	No	Yes	Yes	Yes
App End	Yes	Yes	Yes	No	Yes	Yes	Yes
File Down-load	Yes	Yes	Yes	No	No	Yes	Yes
Printing	No	Yes	Yes	No	No	Yes	Yes
SaaS App Launch	Yes	Yes	No	No	No	No	No
SaaS App End	Yes	Yes	No	No	No	No	No
SaaS App URL Navigation	Yes	Yes	No	No	No	No	No

Event	Workspace app for Windows 1907 or later	Workspace app for Mac 1910.2 or later	Workspace app for Linux 2006 or later	Workspace app for Android- Latest version available in Google Play	Workspace app for iOS- Latest version available in Apple App Store	Workspace app for Chrome- Latest version available in Chrome Web Store	Workspace app for HTML5 2007 or later
SaaS App Clipboard Access	Yes	Yes	No	No	No	No	No
SaaS App File Down- load	Yes	Yes	No	No	No	No	No
SaaS App File Print	Yes	Yes	No	No	No	No	No

Based on the event transmission state, you might encounter the following issues:

- When users connect to their Citrix Virtual Apps and Desktops or Citrix DaaS using the clients, the users might not get discovered in Citrix Analytics until they perform an event (activity) that is supported. For example, consider two user events - App Start and SaaS App Launch. A user who is using the Citrix Workspace app for iOS, Citrix Analytics receives the App Start event but not the SaaS App Launch event. So, when the user launches any virtual apps, the App Start event is transmitted to Citrix Analytics and the user is discovered. But if the user launches a SaaS app, Citrix Analytics does not receive the SaaS App Launch event and the user is not discovered. For information on discovered users, see [Discovered users](#).
- Events marked as **No** on the table do not appear on the self-service search page. For information on how to use the self-service page, see [About self-service search](#).

## Recommendation

To get the maximum benefits of Analytics, Citrix recommends the following:

- **Windows user:** Connect to your Citrix Virtual Apps and Desktops and Citrix DaaS using Citrix Workspace app for Windows 1907 or later.

- **Mac user:** Connect to your Citrix Virtual Apps and Desktops and Citrix DaaS using the Citrix Workspace app for Mac 1910.2 or later.

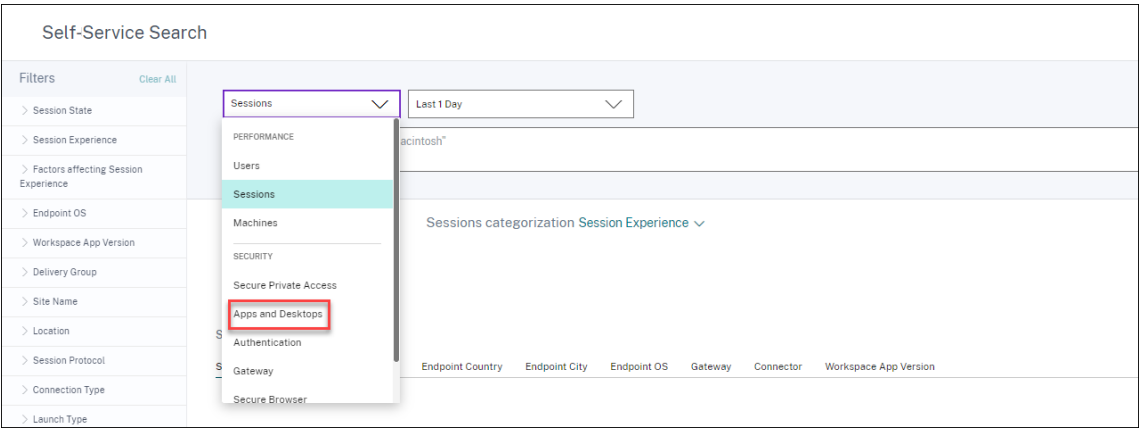
**Check 7- Are the user events appearing on the self-service search page in Analytics?**

Perform this final check to ensure that the events are being transmitted accurately to Citrix Analytics.

1. On the top bar, click **Advanced Search** to go to the self-service search page.



2. Select the data source to view the corresponding search page and the events.



3. To view the data associated with the Apps and Desktops events, select **Apps and Desktops** from the list, select the time period, and then click **Search**.

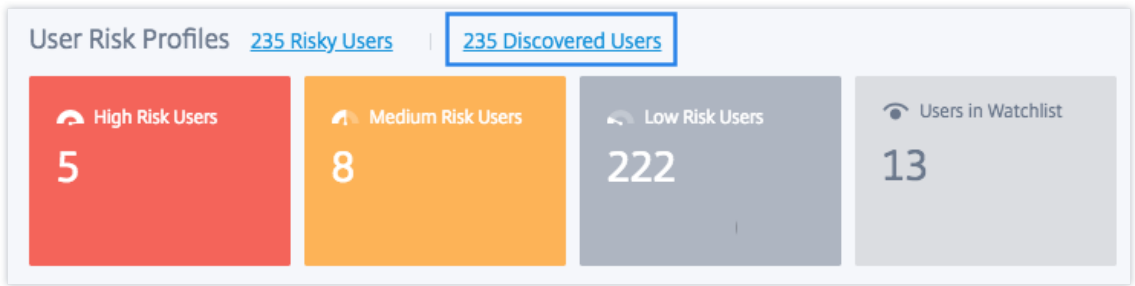
>	May 9 12:23 AM	34.192.163.240	Create	0 B	0 B
>	May 9 12:23 AM	34.192.163.240	Set	0 B	0 B
>	May 9 12:23 AM	34.192.163.240	Update	0 B	0 B
>	May 9 12:22 AM	34.192.163.240	Create	0 B	0 B
>	May 9 12:22 AM	34.192.163.240	Set	0 B	0 B
>	May 9 12:22 AM	34.192.163.240	Update	0 B	0 B
>	May 9 12:21 AM	34.192.163.240	Create	0 B	0 B
>	May 9 12:21 AM	34.192.163.240	Set	0 B	0 B
>	May 9 12:21 AM	34.192.163.240	Update	0 B	0 B
>	May 9 12:21 AM	34.192.163.240	Create	0 B	0 B

For more information, see [Self-service search](#).

Check 8- Are the users discovered by Analytics?

When events start flowing to Citrix Analytics, the users generating the events are discovered and shown on the **Users** dashboard. This process usually takes approximately a few minutes before you can view them on the dashboard.

- 1. Click the **Discovered Users** link on the **Users** dashboard to view the complete list of users discovered by Citrix Analytics.



- 2. The **Users** page displays the list of all users discovered for the last 31 days. Select the time period to view the risk indicator occurrences.

Note

If you try to set a value higher than 31 days, the system displays an error message stating - **Invalid date range. The maximum allowed range between the start and the end date is 31 days.**

The screenshot shows the 'Users' page in Citrix Analytics. It includes a sidebar with filters for Current Risk Score, Users, Discovered Data Sources, and Workspace App Status. The main area displays a table of users with columns for Latest Score, User, Discovered Data Source, and Workspace App Status. The table lists several users with their respective risk scores and data sources.

LATEST SCORE	USER	DISCOVERED DATA SOURCE	WORKSPACE APP STATUS
100	[Redacted]	Citrix Endpoint Management	Supported
100	[Redacted]	Active Directory, Apps and Desktops	Supported
88	[Redacted]	[Redacted]	NA
69	[Redacted]	Active Directory, Citrix Gateway	NA
33	[Redacted]	Apps and Desktops	Inactive
30	[Redacted]	Citrix Gateway, Active Directory	NA
29	[Redacted]	Active Directory, Apps and Desktops	Inactive
27	[Redacted]	Active Directory, Apps and Desktops	Inactive

If events are being transmitted successfully, your Citrix Analytics environment is performing as expected. Risk indicators are generated when anomalies are detected.

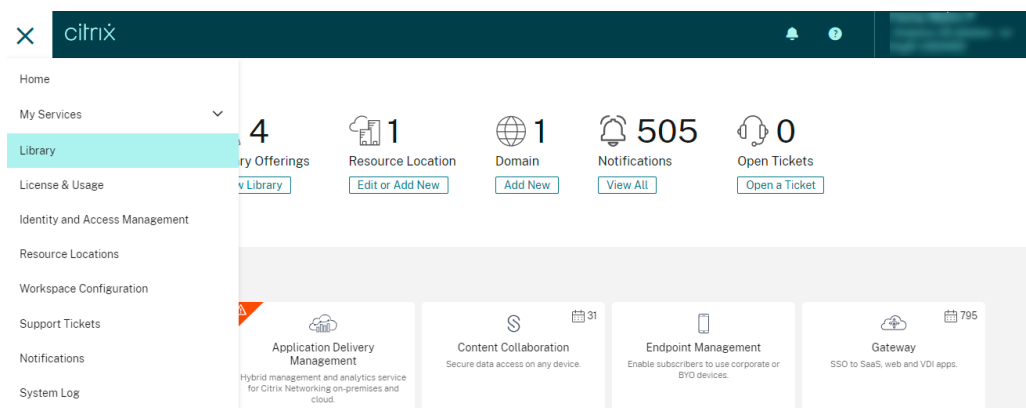
## Trigger Virtual Apps and Desktops events, SaaS events, and verifying event transmission

February 21, 2023

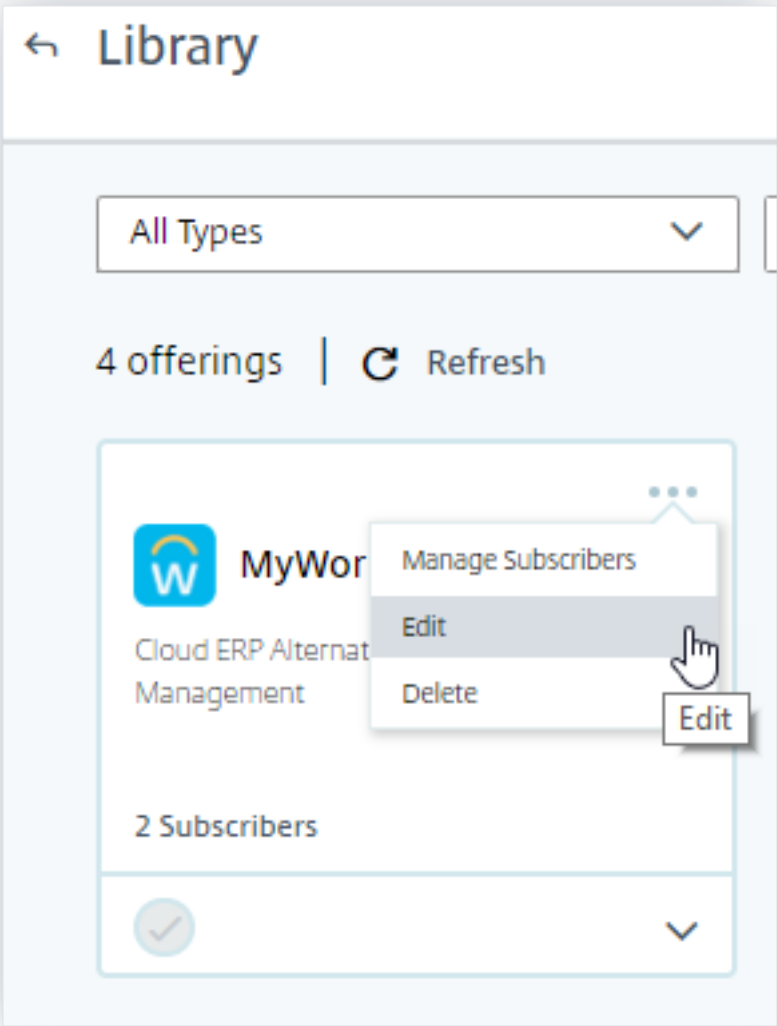
This section describes the procedures to trigger Apps and Desktops events, SaaS events, and verify that Citrix Analytics for Security is actively receiving these user events.

### Prerequisites

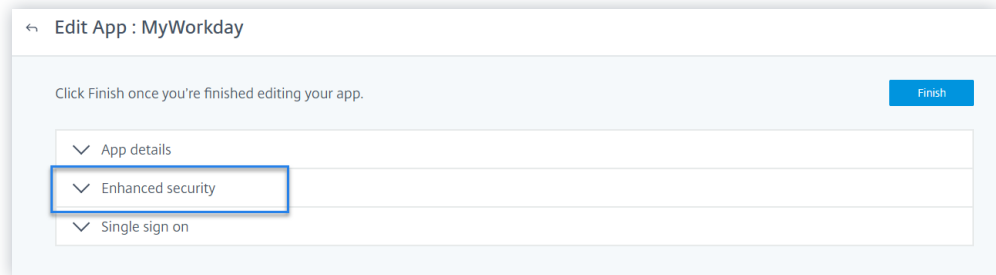
- If you are using on-premises Citrix Virtual Apps and Desktops, then onboard your on-premises sites to Citrix Analytics, and enable data processing from the site card. If you are using Citrix DaaS (formerly Citrix Virtual Apps and Desktops service), then enable data processing directly from the site card. For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).
- Use the correct versions of Citrix Workspace app or Citrix Receiver in the users' endpoint devices so that the events are accurately sent to Citrix Analytics. For more information, see [Citrix Virtual Apps and Desktops and Citrix DaaS data source](#).
- Before triggering the printing event from your virtual desktop, ensure that a printer is configured and provisioned in your Apps and Desktops environment. For more information on managing a printer, see [Print](#).
- For triggering the SaaS events such as SaaS App Launch, SaaS App URL Navigation, SaaS App File Download, you must use a configured SaaS app from Workspace. Commonly used SaaS apps include Salesforce, Workday, Concur, GoTo Meeting.
  - If there are no configured SaaS apps, you must configure and publish a SaaS app. For more information, see [Support for Software as a Service apps](#). When configuring a SaaS app, ensure that the following security options are disabled:
    - ★ Restrict clipboard access
    - ★ Restrict printing
    - ★ Restrict navigation
    - ★ Restrict download
  - If you want to use an already configured SaaS app from your Workspace to trigger the events, ensure that the specified enhanced security options are disabled for the SaaS app:
    1. Go to your Citrix Cloud account and select **Library**.



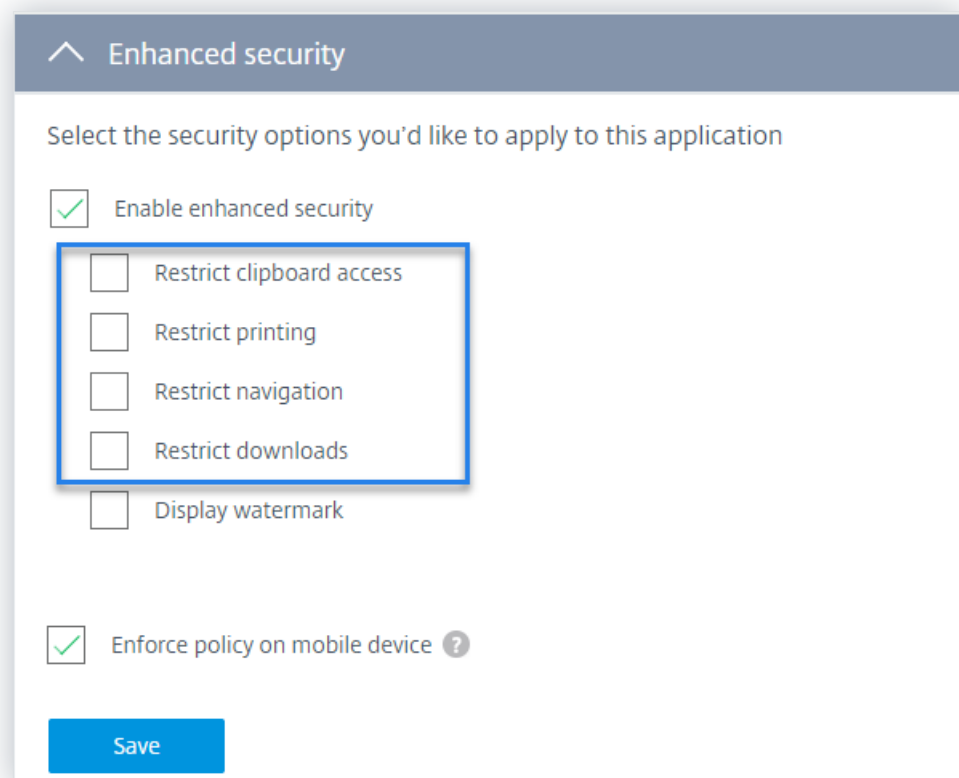
- 2. On the **Library** page, identify the SaaS app that you want to use for verifying the events. For example, Workday.
- 3. Click the ellipses, and select **Edit**.



4. On the **Edit App** page, click the down arrow for Enhanced security.



5. Ensure that the following security options are not selected.



### Known issue

Few versions of Citrix Workspace app and Citrix Receiver fail to send some events to Citrix Analytics. Therefore, Citrix Analytics cannot provide insights and generate risk indicators for these events. For more information about the issue and its workaround, see the known issue- [CAS-16151](#).

## Procedure

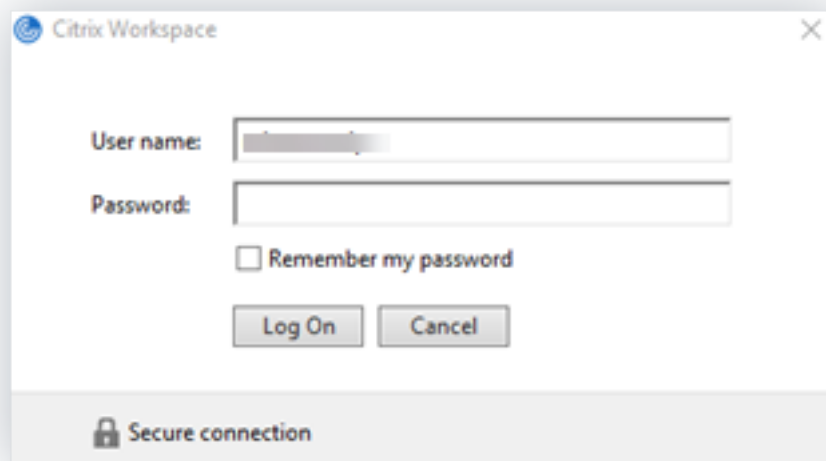
Perform the following steps in sequence to trigger the events in your Apps and Desktops environment and verify that Citrix Analytics for Security is actively receiving these events.

### Note

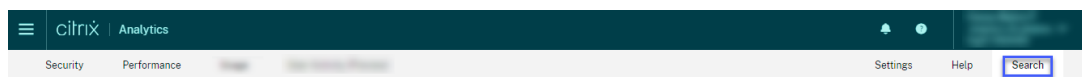
- The events might take some time to reach Citrix Analytics. Refresh the Citrix Analytics page if you do not see the triggered events.
- For triggering the SaaS events, this procedure uses the Workday app as an example. You can use any configured SaaS apps from your Workspace to trigger the SaaS events.

### • Account Logon

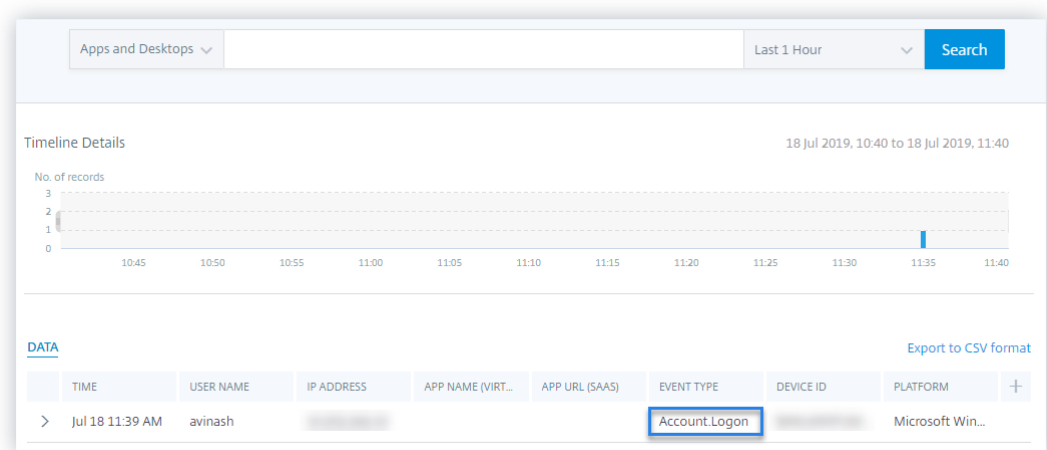
1. Launch Citrix Workspace app or Citrix Receiver to access your Workspace or StoreFront.
2. Enter your credentials to log on to the Citrix Workspace app or Citrix Receiver.



3. Go to Citrix Analytics.
4. Click **Search** and select **Apps and Desktops** from the list.



5. In the search page, view the data for the **Account.Logon** event. Expand the row to view the event details.



• **App Start**

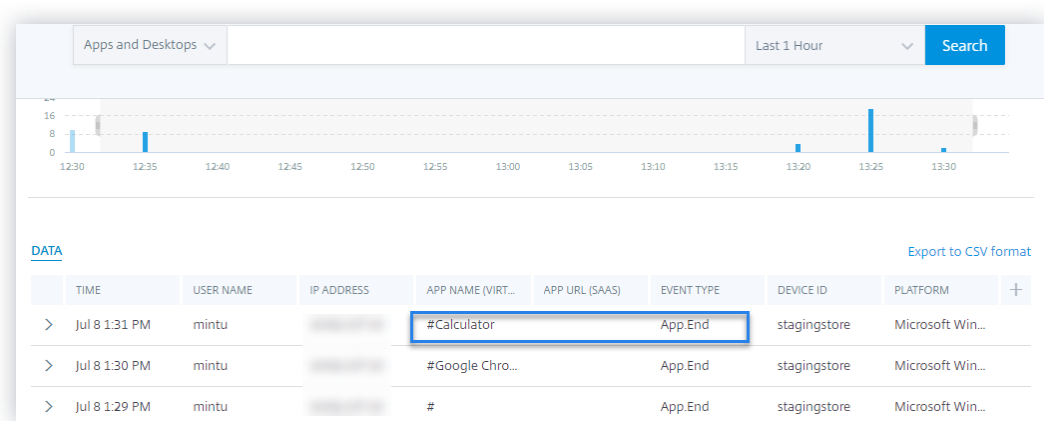
1. Launch Citrix Workspace app or Citrix Receiver to access your Workspace or StoreFront.
2. Launch an application such as the calculator.
3. Go to Citrix Analytics.
4. Click **Search** and select **Apps and Desktops**.
5. In the search page, view the data for the **App.Start** event data. Expand the row to view the event details.

The screenshot shows a table of 'App.Start' events. The table has columns: TIME, USER NAME, IP ADDRESS, APP NAME (VIRT...), APP URL (SAAS), EVENT TYPE, DEVICE ID, and PLATFORM. Three rows are visible, all for 'Jul 8 1:27 PM' by user 'mintu'. The third row, for '#Calculator', is highlighted with a blue box.

TIME	USER NAME	IP ADDRESS	APP NAME (VIRT...)	APP URL (SAAS)	EVENT TYPE	DEVICE ID	PLATFORM
> Jul 8 1:27 PM	mintu	[REDACTED]	#	[REDACTED]	App.Start	stagingstore	Microsoft Win...
> Jul 8 1:27 PM	mintu	[REDACTED]	#Google Chro...	[REDACTED]	App.Start	stagingstore	Microsoft Win...
> Jul 8 1:22 PM	mintu	[REDACTED]	#Calculator	[REDACTED]	App.Start	stagingstore	Microsoft Win...

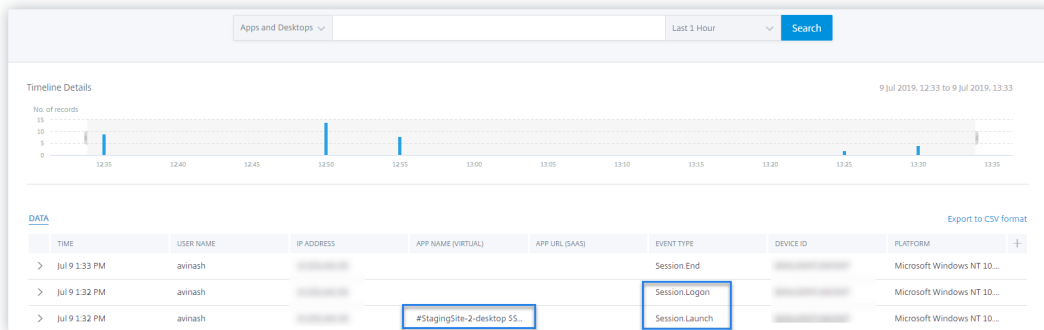
• **App End**

1. Close the calculator that you have already launched in your Workspace or StoreFront.
2. Go to Citrix Analytics.
3. Click **Search** and select **Apps and Desktops**.
4. In the search page, view the data for the **App.End** event data. Expand the row to view the event details.



• **Session Logon and Session Launch**

1. Launch Citrix Workspace app or Citrix Receiver to access your Workspace or StoreFront.
2. Launch your virtual desktop.
3. Go to Citrix Analytics.
4. Click **Search** and select **Apps and Desktops**.
5. In the search page, view the data for the **Session.Logon** and **Session.Launch** events. Expand the row to view the event details.



• **File Download**

1. Launch Citrix Workspace app or Citrix Receiver to access your Workspace or StoreFront.
2. Launch your virtual desktop.
3. Copy a file from your virtual desktop to your local computer.
4. Go to Citrix Analytics.
5. Click **Search** and select **Apps and Desktops**.
6. In the search page, view the data for the **File.Download** event. Expand the row to view the event details.

Apps and Desktops

Last 1 Week

Search

DATA

Export to CSV format

	TIME	USER NAME	IP ADDRESS	APP NAME (VIRT...	APP URL (SAAS)	EVENT TYPE	DEVICE ID	PLATFORM	+
>	Jul 9 2:24 AM	avinash				File.Download	IE-VM-6	Microsoft Win...	
>	Jul 9 2:24 AM	avinash				File.Download	IE-VM-6	Microsoft Win...	
>	Jul 9 2:24 AM	avinash				File.Download	IE-VM-6	Microsoft Win...	

• **Printing**

1. Launch Citrix Workspace app or Citrix Receiver to access Workspace.
2. Launch your virtual desktop.
3. Print a document using a printer that is configured with your virtual desktop.
4. Go to Citrix Analytics.
5. Click **Search** and select **Apps and Desktops**.
6. In the Search page, view the data for the **Printing** event. Expand the row to view the event details.

Apps and Desktops

Last 1 Hour

Search

Timeline Details

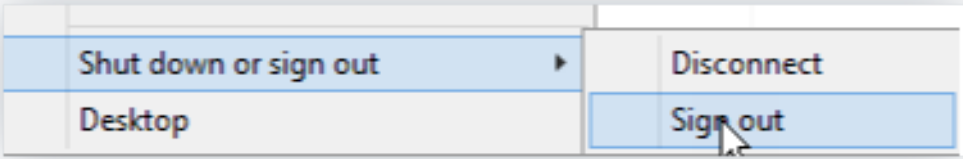
13 Aug 2019, 14:00 to 13 Aug 2019, 15:00

No. of records

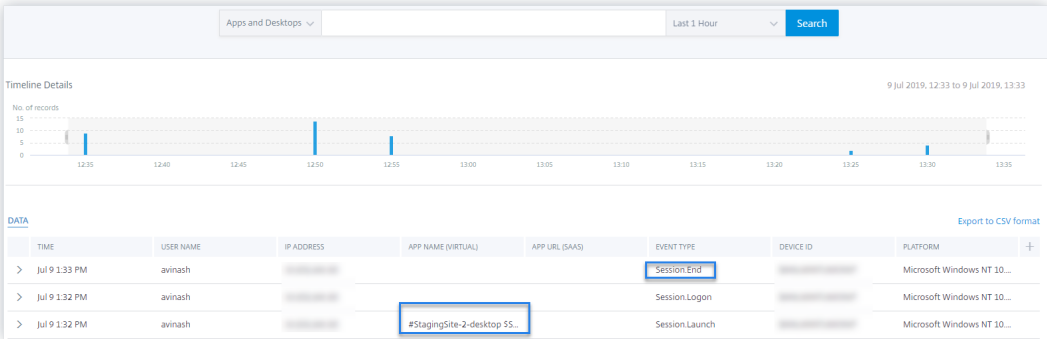
<

• **Session End**

1. Sign out from your virtual desktop. For example, if you are using a Windows virtual desktop, select the **Sign out** option.



- 2. Go to Citrix Analytics.
- 3. Click **Search** and select **Apps and Desktops**.
- 4. In the search page, view the data for the **Session.End** event. Expand the row to view the event details.



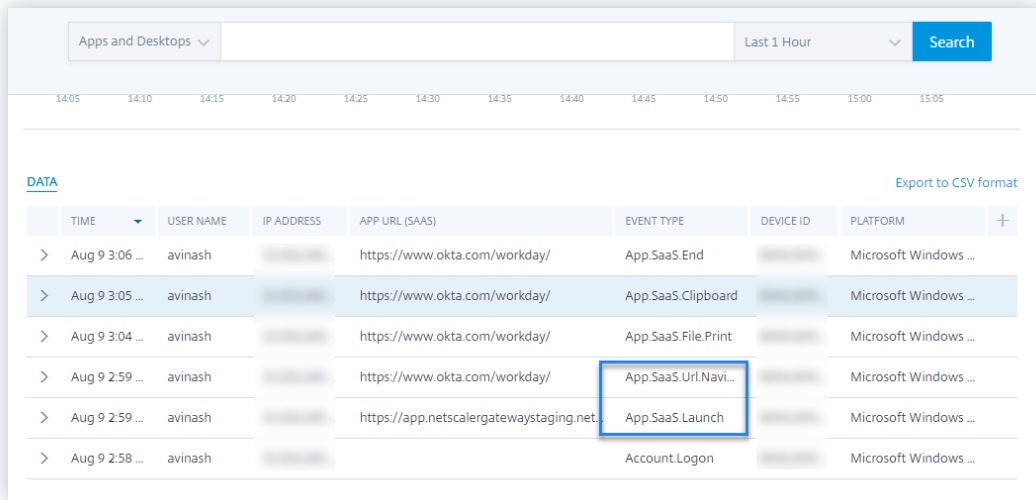
• **SaaS App Launch and SaaS App URL Navigation**

- 1. Launch Citrix Workspace app or Citrix Receiver to access your Workspace or StoreFront.
- 2. Launch a SaaS application such as Workday and wait until the Workday page has loaded. Navigate around the webpages in Workday.

**Note**

Ensure that the **Restrict navigate** option is disabled in the Enhanced security section. For more information, see **Prerequisites**.

- 3. Go to Citrix Analytics.
- 4. Click **Search** and select **Apps and Desktops**.
- 5. In the **search** page, view the data for the **App.SaaS.Launch** and **App.SaaS.URL.Navigation** events. Expand the row to view the event details.



Apps and Desktops ▾

Last 1 Hour ▾ **Search**

14:05 14:10 14:15 14:20 14:25 14:30 14:35 14:40 14:45 14:50 14:55 15:00 15:05

[DATA](#) [Export to CSV format](#)

	TIME ▾	USER NAME	IP ADDRESS	APP URL (SaaS)	EVENT TYPE	DEVICE ID	PLATFORM	+
>	Aug 9 3:06 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.End	[REDACTED]	Microsoft Windows ...	
>	Aug 9 3:05 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.Clipboard	[REDACTED]	Microsoft Windows ...	
>	Aug 9 3:04 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.File.Print	[REDACTED]	Microsoft Windows ...	
>	Aug 9 2:59 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.Url.Navi...	[REDACTED]	Microsoft Windows ...	
>	Aug 9 2:59 ...	avinash	[REDACTED]	https://app.netscalergatewaystaging.net...	App.SaaS.Launch	[REDACTED]	Microsoft Windows ...	
>	Aug 9 2:58 ...	avinash	[REDACTED]		Account.Logon	[REDACTED]	Microsoft Windows ...	

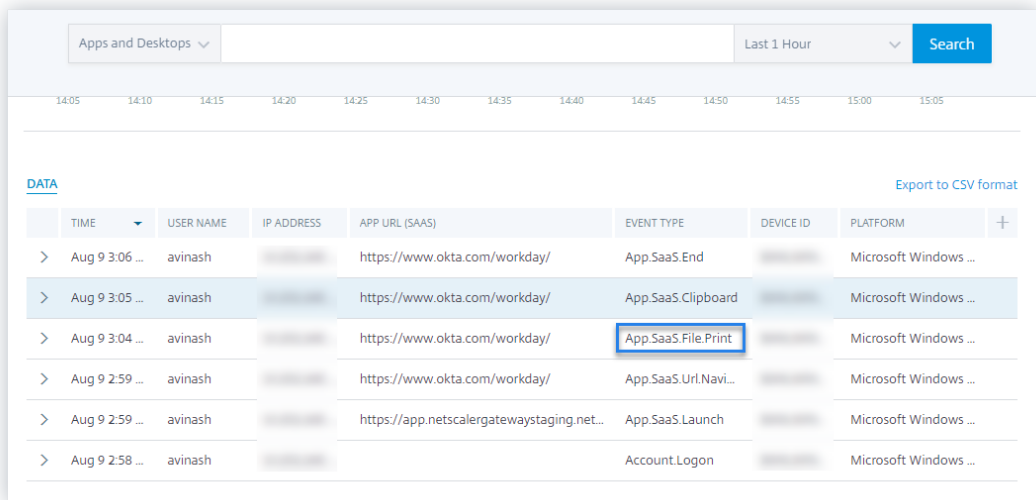
• **SaaS App File Print**

1. Print the Workday page that you are currently viewing.

**Note**

Ensure that the **Restrict printing** option is disabled in the Enhanced security section. For more information, see the **Prerequisites**.

2. Go to Citrix Analytics.
3. Click **Search** and select **Apps and Desktops**.
4. In the search page, view the data for the **App.SaaS.File.Print** event. Expand the row to view the event details.



Apps and Desktops ▾

Last 1 Hour ▾ **Search**

14:05 14:10 14:15 14:20 14:25 14:30 14:35 14:40 14:45 14:50 14:55 15:00 15:05

[DATA](#) [Export to CSV format](#)

	TIME ▾	USER NAME	IP ADDRESS	APP URL (SaaS)	EVENT TYPE	DEVICE ID	PLATFORM	+
>	Aug 9 3:06 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.End	[REDACTED]	Microsoft Windows ...	
>	Aug 9 3:05 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.Clipboard	[REDACTED]	Microsoft Windows ...	
>	Aug 9 3:04 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.File.Print	[REDACTED]	Microsoft Windows ...	
>	Aug 9 2:59 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.Url.Navi...	[REDACTED]	Microsoft Windows ...	
>	Aug 9 2:59 ...	avinash	[REDACTED]	https://app.netscalergatewaystaging.net...	App.SaaS.Launch	[REDACTED]	Microsoft Windows ...	
>	Aug 9 2:58 ...	avinash	[REDACTED]		Account.Logon	[REDACTED]	Microsoft Windows ...	

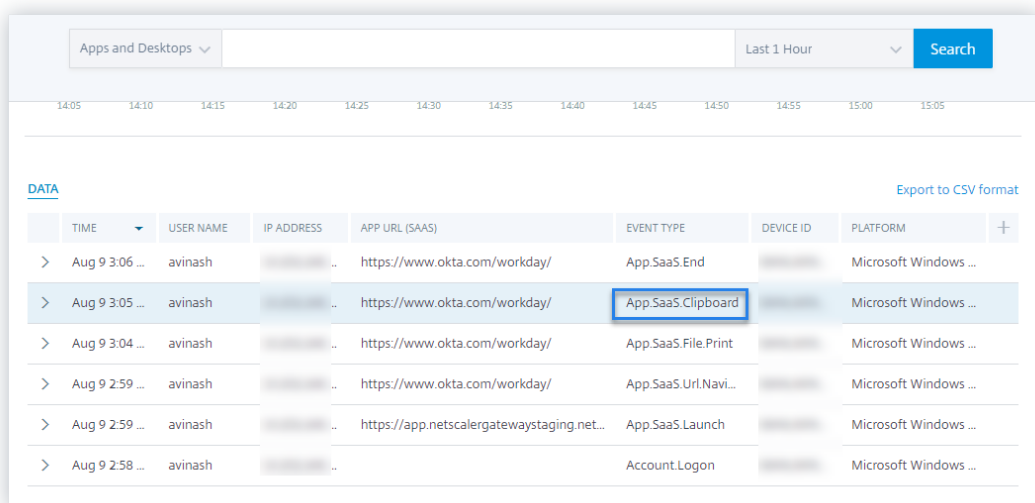
• **SaaS App Clipboard Access**

1. From the Workday page, copy some text to your system clipboard.

#### Note

Ensure that the **Restrict clipboard access** option is disabled in the Enhanced security section. For more information, see the **Prerequisites**.

2. Go to Citrix Analytics.
3. Click **Search** and select **Apps and Desktops**.
4. In the search page, view the data for the **App.SaaS.Clipboard** event. Expand the row to view the event details.



The screenshot shows the Citrix Analytics search interface. At the top, there's a filter dropdown set to 'Apps and Desktops', a time range selector set to 'Last 1 Hour', and a 'Search' button. Below this is a timeline view showing a range from 14:05 to 15:05. The main section is a table of search results. The table has columns for TIME, USER NAME, IP ADDRESS, APP URL (SaaS), EVENT TYPE, DEVICE ID, and PLATFORM. One row is highlighted with a blue box around the 'App.SaaS.Clipboard' event type. To the right of the table is a link to 'Export to CSV format'.

TIME	USER NAME	IP ADDRESS	APP URL (SaaS)	EVENT TYPE	DEVICE ID	PLATFORM
> Aug 9 3:06 ...	avinash	...	https://www.okta.com/workday/	App.SaaS.End	...	Microsoft Windows ...
> Aug 9 3:05 ...	avinash	...	https://www.okta.com/workday/	App.SaaS.Clipboard	...	Microsoft Windows ...
> Aug 9 3:04 ...	avinash	...	https://www.okta.com/workday/	App.SaaS.File.Print	...	Microsoft Windows ...
> Aug 9 2:59 ...	avinash	...	https://www.okta.com/workday/	App.SaaS.Url.Navi...	...	Microsoft Windows ...
> Aug 9 2:59 ...	avinash	...	https://app.netscalergatewaystaging.net...	App.SaaS.Launch	...	Microsoft Windows ...
> Aug 9 2:58 ...	avinash	...		Account.Logon	...	Microsoft Windows ...

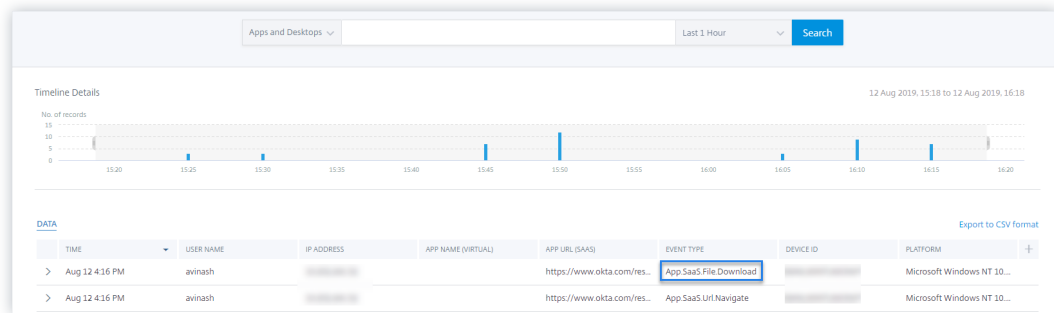
#### • SaaS App File Download

1. On the Workday page, search for a public document such as whitepaper and download the document.

#### Note

Ensure that the **Restrict downloads** option is disabled in the Enhanced security section. For more information, see the **Prerequisites**.

2. Go to Citrix Analytics.
3. Click Search and select **Apps and Desktops**.
4. In the Search page, view the data for the **App.SaaS.File.Download** event. Expand the row to view the event details.



## • SaaS App End

1. Close the Workday page.
2. Go to Citrix Analytics.
3. Click **Search** and select **Apps and Desktops**.
4. In the search page, view the data for the **App.SaaS.End** event. Expand the row to view the event details.

The screenshot shows the 'Apps and Desktops' search results for the 'Last 1 Hour' period. The data table lists several events, with 'App.SaaS.End' highlighted in the 'EVENT TYPE' column.

TIME	USER NAME	IP ADDRESS	APP URL (SaaS)	EVENT TYPE	DEVICE ID	PLATFORM
Aug 9 3:06 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.End	[REDACTED]	Microsoft Windows ...
Aug 9 3:05 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.Clipboard	[REDACTED]	Microsoft Windows ...
Aug 9 3:04 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.File.Print	[REDACTED]	Microsoft Windows ...
Aug 9 2:59 ...	avinash	[REDACTED]	https://www.okta.com/workday/	App.SaaS.Url.Navi...	[REDACTED]	Microsoft Windows ...
Aug 9 2:59 ...	avinash	[REDACTED]	https://app.netscalergatewaystaging.net...	App.SaaS.Launch	[REDACTED]	Microsoft Windows ...
Aug 9 2:58 ...	avinash	[REDACTED]		Account Logon	[REDACTED]	Microsoft Windows ...

## • VDA.Print

### Prerequisites

Before triggering the print event, see [Enabling print telemetry for Citrix DaaS](#).

To trigger a print event, perform the following actions:

1. Open a text document with notepad or any other app where print is allowed.
2. Click **File > Print** or press **Ctrl + P**.
3. In Select printer, choose your printer, then click **Apply**, and then print.

## • VDA.Clipboard

### Prerequisites

Before triggering the print event, see [Enabling clipboard telemetry for Citrix DaaS](#).

To trigger a clipboard event, perform the following actions:

1. Open a text document with notepad or any text editor.
2. Select the content to copy.
3. Right click copy or press Ctrl+c.

## No user events received from supported Citrix Workspace app version

June 2, 2022

If you do not see any events from a user who is using a Citrix Workspace app version that is supported by Citrix Analytics, then the issue might be in one of the following:

- StoreFront configuration
- Web launch requirement

### StoreFront configuration

If a StoreFront deployment is connected to Citrix Analytics, check the **Last updated time stamp**. The time must get updated at least once in a week if users are actively accessing to StoreFront. Frequent time updates indicate a healthy connection between StoreFront deployment and Citrix Analytics. Otherwise, there are some connectivity issues.

Check the following connectivity requirements:

- StoreFront server must meet the [system and connectivity requirements](#).
- StoreFront server must be able to connect to <https://api.analytics.cloud.com>
- Workspace app users must be able to connect to <https://citrixanalyticseh-alias.servicebus.windows.net>
- Your proxy server must allow the connection to Citrix Analytics event hub:
  - **United States region:** <https://citrixanalyticseh-alias.servicebus.windows.net/>
  - **European Union region:** <https://citrixanalyticseheu-alias.servicebus.windows.net/>

- **Asia Pacific South region:** <https://citrixanalyticsehps-alias.servicebus.windows.net/>

Connect StoreFront Deployment ✕

Configure and connect your StoreFront deployment to Citrix Analytics.

Prerequisites

What is your StoreFront version?

Can your StoreFront deployment connect to the following addresses?

☐ StoreFront server should meet [service connectivity requirements](#)  
☐ StoreFront server should have connectivity to <https://api.analytics.cloud.com>  
☐ WorkSpace app users should have connectivity to <https://citrixanalyticseh-alias.servicebus.windows.net>  
☐ Do you have any proxy servers in your network?  
☐ Do the proxy servers allow communication with Citrix Analytics?

To check the last updated time:

1. Click **Settings > Data sources**.
2. On the Workspace app site card, click the number of StoreFront servers that are connected.

Workspace app ⓘ

4 Sites **5 StoreFront deployments**

3. On the StoreFront deployment, check the last updated time.

Discovered Sites for Workspace app

StoreFront deployments			
StoreFront deployment			
The StoreFront deployment is successfully configured and connected.			
BASE URL	STOREFRONT DEPLOYMENT	CONFIGURATION STATUS	LAST UPDATED
	b020e0e0-afb2-450f-8afc-a8ae5b1fef92	Success	Apr 15 2020 3:13 PM
Showing 1-1 of 1 items			
Page 1 of 1		5 rows	

If the last updated time stamp does not update frequently even after meeting the connectivity requirements, then reconfigure your StoreFront. For more information, see [Onboard Virtual Apps and Desktops Sites using StoreFront](#).

Web launch requirement

A user can launch virtual apps and desktops in one of the following ways:

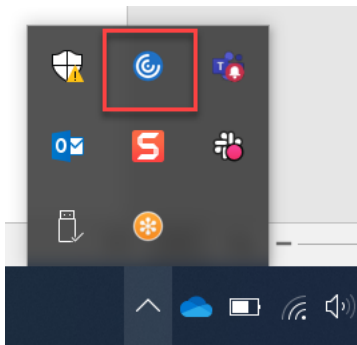
- Access Citrix Store or Citrix Workspace through the Citrix Workspace app. This approach is called native launch.
- Open the Citrix Store URL or the Citrix Workspace URL in a web browser. Click an application or a virtual desktop to download the corresponding ICA file. Then open the ICA file using a web browser to launch the application or the virtual desktop. This approach is called web launch.

For web launch, ensure that the user device must have one of the following clients based on the device operating system.

Client	Version	Build
Citrix Workspace app for Windows	2006.1 or later	20.6.0.38 or later
Citrix Workspace app for Mac	2006 or later	20.06.0.7 or later

To check the Citrix Workspace app version:

1. On the user’s local machine, right-click the Citrix Workspace app icon.



2. Click **Advanced Preferences** and check the **About** section to view the version.

## Advanced Preferences

[Connection center](#) [NetScaler Gateway Settings](#)  
[High DPI](#) [Shortcuts and Reconnect](#)  
[Keyboard and Language bar](#) [Citrix Workspace Updates](#)  
[Data collection](#) [Configuration checker](#)  
[Reset Citrix Workspace](#) [Delete passwords](#)  
[Support information](#) [Citrix Casting](#)  
[Citrix Files](#)

Citrix Gateway

(Default) ▼

OK

### About

Version

20.8.0.46(2008)

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[Third Party Notices](#)

## Configured Session Recording server fails to connect

June 2, 2022

Your Session Recording server fails to connect to Citrix Analytics after [configuration](#). Therefore, you don't see the configured server on the **Session Recording** site card.

To troubleshoot this issue, do the following:

1. On your configured Session Recording server, run the following PowerShell command to check the Client Machine Identification (CMID).

```
1 Get-WmiObject -class SoftwareLicensingService | select Clientmachineid
```

2. If CMID is empty, add the following registry files in the specified paths.

Registry name	Registry path	Key type	Value
AuditorUniqueID	Computer\ HKEY_LOCAL_MACHINE \SOFTWARE\ Citrix\ SmartAuditor\ Server\ Computer\	String	Enter your UUID.
EnableCASUseAuditorCMID	Computer\ HKEY_LOCAL_MACHINE /SOFTWARE/ Citrix/ SmartAuditor/ Server/	REG_DWORD	1

3. Restart the following services:

- Citrix Session Recording Analytics Service
- Citrix Session Recording Storage Manager

## Unable to connect StoreFront server with Citrix Analytics

December 20, 2022

After importing the configuration settings from Citrix Analytics to your StoreFront server, the StoreFront server fails to connect to Citrix Analytics.

For information on how to import configuration settings to a StoreFront server, see [Onboard Virtual Apps and Desktops sites using StoreFront](#).

The CAS Onboarding Assistant helps check and troubleshoot the issues described in this article. For more information, see [Citrix Analytics Service \(CAS\) Onboarding Assistant](#).

To troubleshoot the issue, do the following:

1. On the StoreFront server, ping the [region-specific endpoints](#) of Citrix Analytics to test connectivity between the StoreFront server and the Citrix Analytics server. Also, ensure that the [pre-requisites](#) are met.

**Note**

On your StoreFront server, you can test the connectivity by directly pinging the region-specific endpoints or by opening a web browser and accessing the region-specific endpoints.

2. Enable verbose logging in the StoreFront server to trace the logs. For more information on verbose logging, see the article- [CTX139592](#).
3. Open the Internet Information Services (IIS) Manager and check the following:
  - If the StoreFront site is under IIS default site, then IIS restarts the StoreFront site.
  - If the StoreFront site is in other drivers or not under default site, then open the command window and type `iisreset`.

4. Run the following command to import the Citrix Analytics settings:

```
1 Import-STFCasConfiguration -Path "configuration file path"
```

5. Run the following command to verify the imported settings:

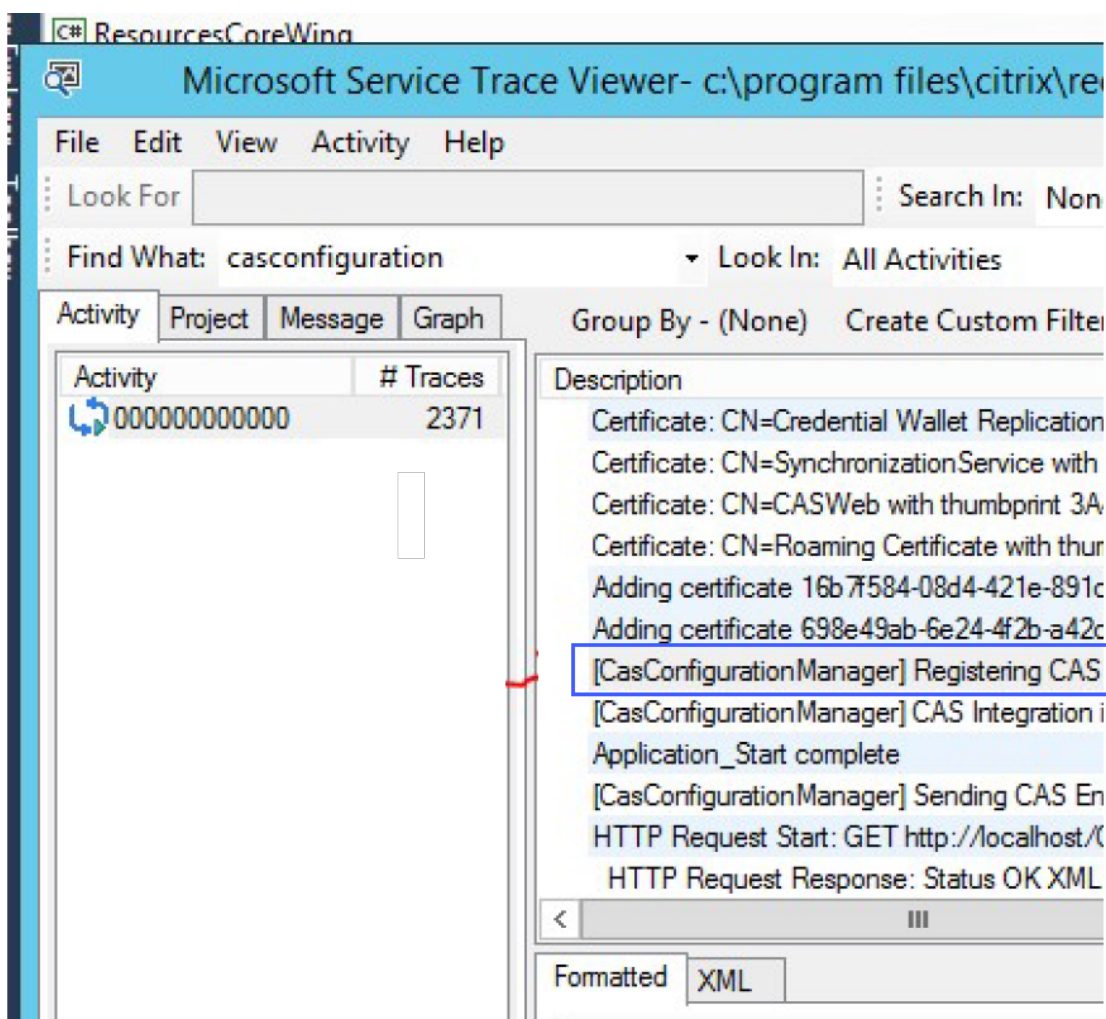
```
1 Get-STFCasConfiguration
```

6. If the StoreFront site is in other drivers or not under the default site, open the command window. Type `iisreset` to let StoreFront site read Citrix Analytics settings.
7. Get the StoreFront verbose log files from the following location:

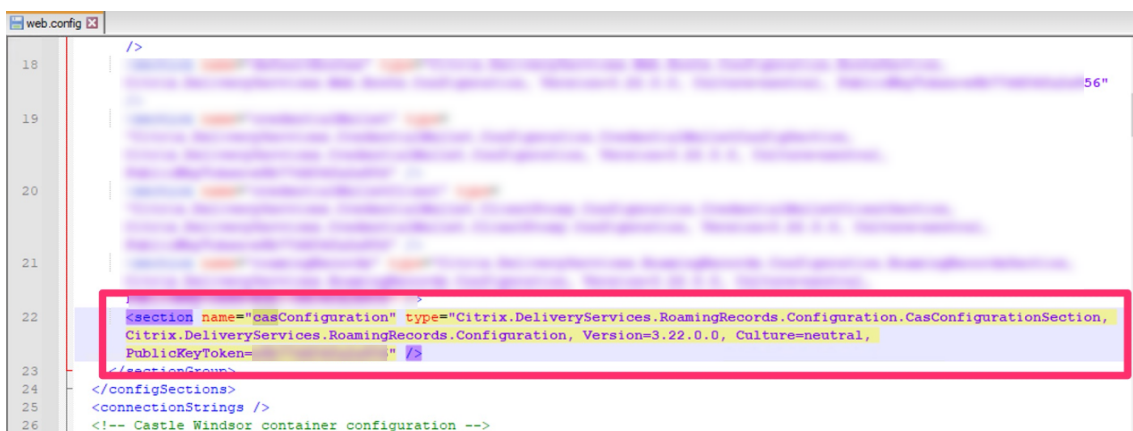
```
1 C:\Program Files\Citrix\Receiver StoreFront\Admin\trace
```

Under the above mentioned location, you can find multiple svclog files which can be opened in Event Viewer.

8. Use the Microsoft Service Trace Viewer to open the following logs:
  - StoreFront logs
  - Roaming site verbose logs
9. In the logs, ensure that the **CasConfigurationManager** sections and Citrix Analytics server information are available.



10. If the CasConfigurationManager sections are unavailable, open the web.config file for the roaming site found in the `roaming site\folder`.
11. In the `web.config` file, locate the **casConfiguration** section and ensure that the Citrix Analytics server information is available.



12. On the Windows Server machines where the StoreFront server is installed, ensure the following:

- TLS 1.2 Client is enabled.
- At least one of the following cipher suites is enabled:
  - TLS\_ECDHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384
  - TLS\_ECDHE\_RSA\_WITH\_AES\_128\_GCM\_SHA256
  - TLS\_DHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384
  - TLS\_DHE\_RSA\_WITH\_AES\_128\_GCM\_SHA256

For information on how to configure the TLS cipher suite order, see the [Microsoft documentation](#).

13. If you are using Windows Server 2012 machines, ensure that the Diffie-Hellman Exchange (ECDHE/DHE) is enabled.
14. Ensure that the Windows Server machines where the StoreFront server is installed must contain the registry settings mentioned in the [Microsoft documentation](#).

#### IMPORTANT

Update the TLS/SSL cipher suites by using group policy. Do not manually modify the TLS/SSL cipher suites. For more information on how to use group policy, see the [Microsoft documentation](#).

For example, the following registry settings must be available in your Windows Server machine:

#### TLS 1.2 Client:

```
1 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
   SecurityProviders\SCHANNEL\Protocols\TLS 1.2\Client]
2 "Enabled"=dword:00000001
3 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
   SecurityProviders\SCHANNEL\Protocols\TLS 1.2\Client]
4 "DisabledByDefault"=dword:00000000
5
6 <!--NeedCopy-->
```

#### Diffie-Hellman KEAs:

```
1 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
   SecurityProviders\SCHANNEL\KeyExchangeAlgorithms\Diffie-Hellman
   ]
2 "Enabled"=dword:ffffffff
3 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
   SecurityProviders\SCHANNEL\KeyExchangeAlgorithms\ECDH]
4 "Enabled"=dword:ffffffff
5
6 <!--NeedCopy-->
```

#### AES-128/AES-256 ciphers:

```
1 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
  SecurityProviders\SCHANNEL\Ciphers\AES 128/128]
2 "Enabled"=dword:ffffffff
3 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
  SecurityProviders\SCHANNEL\Ciphers\AES 256/256]
4 "Enabled"=dword:ffffffff
5
6 <!--NeedCopy-->
```

**SHA256/SHA384 hashes:**

```
1 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
  SecurityProviders\SCHANNEL\Hashes\SHA256]
2 "Enabled"=dword:ffffffff
3 [HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\
  SecurityProviders\SCHANNEL\Hashes\SHA384]
4 "Enabled"=dword:ffffffff
5
6 <!--NeedCopy-->
```

## FAQs

October 4, 2023

### Data source

#### What is a data source?

Data sources are Citrix services and products that send data to Citrix Analytics.

Learn more: [Data Source](#)

#### How do I add a data source?

After you log on to Citrix Analytics, on the **Welcome** screen, select **Get Started** to add a data source to Citrix Analytics. Alternatively, you can also add a data source by navigating to **Settings > Data Sources**.

## **Citrix ADM agent**

### **What are the minimum resource requirements to install an agent on a hypervisor on-premises?**

8 GB RAM, 4 Virtual CPU, 120 GB Storage, 1 Virtual Network Interfaces, 1 Gbps Throughput

### **Do I need to assign an additional disk to Citrix ADM agent while provisioning?**

No, you do not have to add an additional disk. The agent is used only as an intermediary between Citrix Analytics and the instances in your enterprise data center. It does not store inventory or analytics data that would require an additional disk.

### **What are the default credentials to log on to an agent?**

The default credentials to log on to the agent is `nsrecover/nsroot`. This logs you on to the shell prompt of the agent.

### **How do I change the network settings of an agent if I have entered an incorrect value?**

Log on to the agent console on your hypervisor and access the shell prompt by using the credentials `nsrecover/nsroot`, and then run the command `networkconfig`.

### **Why do I need a service URL and an activation code?**

The agent uses the service URL to locate the service and the activation code to register the agent with the service.

### **How can I reenter service URL if I have typed it incorrectly in the agent console?**

Log on to the shell prompt of the agent by using the credentials `nsrecover/nsroot`, and then type: `deployment_type.py`. This script lets you reenter the Service URL and activation code.

### **How do I get a new activation code?**

You can get a new activation code from Citrix ADM service. Log on to Citrix ADM service and navigate to **Networks > Agents**. On the **Agents** page, from the **Select Action** list, select **Generate Activation Code**.

### **Can I reuse my activation code with multiple agents?**

No, you cannot.

### **How many Citrix ADM agents do I need to install?**

The number of agents depends on the number of managed instances in a data center and the total throughput. Citrix recommends that you install at least one agent for every data center.

### **How do I install multiple Citrix ADM agents?**

On the Data Sources page, click the plus (+) sign next to Citrix Gateway and follow the instructions to install another agent.

Alternatively, you can access the Citrix ADM GUI and navigate to Networks > Agents and click **Set Up Agent** to install multiple agents.

### **Can I install two agents in a high availability setup?**

No, you cannot.

### **What do I do if my agent registration fails?**

- Make sure that your agent has access to the Internet (configure DNS).
- Make sure you have copied the activation code correctly.
- Make sure you have entered the service URL correctly.
- Make sure you have the required ports open.

### **Registration is successful, but how do I know if the agent is running fine?**

You can do the following to check if the agent is running fine:

- After the agent is successfully registered, access Citrix ADM and navigate to **Networks > Agents**. You can view the discovered agents on this page. If the agent is running fine, the status is indicated by a green icon. If it is not running, the state is indicated by a red icon.
- Log on to the agent's shell prompt and run the following commands: `ps -ax | grep mas` and `ps -ax | grep ulfd`. Ensure that the following processes are running.

```

> shell
bash-3.2# ps -ax | grep mas
550  ??  I    0:00.55 /usr/local/bin/python /mps/mas_hb_monit.py (python2.7)
3027  ??  Is   0:04.65 ./mas_control --daemon --pidfile=/var/run/control.pid.s
3167  ??  I    0:00.90 ./mas_sysop CONTROL_IPC_SOCKET=/tmp/mps/ipc_sockets/mps_control_sock
3172  ??  I    5:48.09 ./mas_event CONTROL_IPC_SOCKET=/tmp/mps/ipc_sockets/mps_control_sock
3184  ??  I    0:52.81 ./mas_service CONTROL_IPC_SOCKET=/tmp/mps/ipc_sockets/mps_control_sock
3210  ??  I    17:01.36 ./mas_afdecoder CONTROL_IPC_SOCKET=/tmp/mps/ipc_sockets/mps_control_sock
3221  ??  I    0:49.17 ./mas_cloudagent CONTROL_IPC_SOCKET=/tmp/mps/ipc_sockets/mps_control_sock
81383 0  Is   0:00.46 mas_cli
81580 0  S+   0:00.00 grep mas
bash-3.2# ps -ax | grep ulfd
2834  ??  S    0:25.49 /var/mps/telemetry/ulfd/bin/nsulfd
2835  ??  I    0:00.00 logger -i -t nsulfd -p local7.info
2975  ??  S    0:01.41 /usr/local/bin/python -u /var/mps/telemetry/ulfd/bin/nsaad.py (python2.7)
81657 0  S+   0:00.00 grep ulfd
bash-3.2#

```

- If any of the processes is not running, run the command **masd restart**. This might take some time to start all the daemons (1 minute or so).
- Make sure **agent.conf** is created in **/mpsconfig** after successful registration of agent.

## Onboarding Citrix Gateway instances

### Citrix Gateway Instances are added to Citrix Analytics, but how do I know if Analytics is enabled on the Agent?

You can verify if analytics is enabled on the agent using the agent's shell prompt. If analytics is successfully enabled on the agent, the **turnOnEvent** parameter would be set to **Y** in the **/mpsconfig/telemetry\_cloud.conf** file.

Log on to the agent's shell prompt and run the following command: **cat /mpsconfig/telemetry\_cloud.conf** and verify the value of the **turnOnEvent** parameter.

```

bash-3.2# cat /mpsconfig/telemetry_cloud.conf
{
  "storage_account" : "casstoragebulkstaging",
  "blobname" : "ns-mas-nwfaq2pzeena5pv2oi5mrhhlmmmyrf7n",
  "blob_token" : "se=2018-03-29T06:03:21Z&sv=2015-12-11&si=_default&sr=c&sig=eAyPO4516PPVr8Z6eVOOE4FvQ0HIvu7jVSW6NHBCtxE=",
  "eventhub_sas" : "SharedAccessSignature sr=https://ehstaging.servicebus.windows.net/ehgeneral/publishers/citrix691796.ns.mas.70380659-3fc3-462e-ba5b-cbc5d62f4575/messages?api-version=2014-01&sig=WjUQcpqwX3eETMWrx1a9sSbxeY8gP08SktgTmguerw&se=1522303402&skn=dirsvc_send",
  "expires" : 0,
  "eventhub_endpoint" : "https://ehstaging.servicebus.windows.net/ehgeneral/publishers/citrix691796.ns.mas.70380659-3FC3-462E-BA5B-CBC5D62F4575/messages?api-version=2014-01",
  "turnOnEvent" : "Y",
  "tenant" : "citrix691796",
  "agent_id" : "dbb2b943-3b18-46c9-8c7e-70e206f5b3a0"
}
bash-3.2#

```

**I accidentally closed the Citrix Gateway onboarding wizard. Do I have to start my configuration from the beginning?**

No. Citrix Analytics saves the progress and displays the incomplete configuration as a tile in the **Data Sources > Settings** page. Click **Continue setup** to complete the configuration.

**Onboarding Virtual Apps and Desktops Site**

**How do I turn data processing off?**

If you want to temporarily disable data processing from your Site to Citrix Analytics, simply click the **Site** card and then click **Turn off data processing**.

**When I add my Site to Workspace and click “Test STA,” the test fails. What do I do?**

There might be a connectivity issue between your Citrix Gateway and Cloud Connectors. To troubleshoot, see [CTX232517](#) in the Citrix Support Knowledge Center.

**Where can I get help with Citrix Analytics?**

You can ask questions and connect with Citrix Analytics experts in the Citrix Analytics Discussion Forum at <https://discussions.citrix.com/forum/1710-citrix-analytics/>.

To participate in the forum, you must sign in with your Citrix ID.

**Access assurance –Geolocation**

**How are geolocation details derived by Analytics?**

Citrix Analytics uses the IP address of the device from where the workspace client is launched. Citrix Analytics leverages a third party IP geolocation data provider to derive a user’s location from their IP address. When you perform a session logon, it resolves your location (IPv4 address) to a country or city, and the mapping is updated periodically. Organizations can use these locations defined by countries to monitor access patterns from where they don’t do business.

**What is the accuracy level of deriving a user’s location?**

Citrix Analytics leverages a third party IP geolocation data provider to derive a user’s location from their IP address. GeoIP services are able to resolve to the right city or location most of the time, but

GeoIP look-ups are never completely accurate. Sometimes the location shown for a user might be different from their precise location of access.

Based on [IP GeoPoint documentation](#), the coverage level is about 99.99% of allocated IP addresses worldwide (IPv4 routable IP addresses). In terms of location accuracy, it accompanies each of the essential location fields (country, state, city, postal code) with a Confidence Factor.

### **In which cases are the determination of location inaccurate?**

The accuracy of geolocation data depends on how the device connects to the internet. A device can connect to the internet through:

- Mobile gateways
- VPN or hosting facility
- Regional or international proxies/anonymizer server

In such cases, geolocation data is not accurate regardless of using the IP geolocation provider software.

### **What is the supported Citrix Workspace app versions?**

There are minimum versions of Citrix Workspace app required for the operating system to send the **IP address** attribute to Citrix Analytics for Security. Refer the [matrix table](#) or [Locations identified as not available](#) for more details.

### **In which cases do we not receive the geological details?**

To view the geolocation details, refer [Locations identified as not available](#) section for details.

### **What Geolocation service does Citrix Analytics use to report a user's location? How to report a wrong location for an IP?**

Citrix Analytics uses [Neustar file-based geolocation services](#) to provide geolocation data for incoming accesses. It has a public facing IP correction page which can be used to self-submit a correction request. Once a correction request is submitted, the request is reviewed by Neustar for accuracy and processed.

The GeoIP provider helps to show as accurate information as possible. Unfortunately, there might be cases where the GeoIP data is inaccurate due to the innate nature of GeoIP.

## Glossary of terms

September 28, 2023

- **Actions:** Closed loop responses to suspicious events. Actions are applied to prevent future anomalous events from occurring. [Learn more.](#)
- **Cloud Access Security Broker (CASB):** On-premises or cloud-based security policy enforcement point placed between cloud service consumers and cloud service providers. CASBs combine and interject enterprise security policies as cloud-based resources are accessed. They also help organizations to extend security controls of their on-premises infrastructure to cloud.
- **Citrix ADC (Application Delivery Controller):** Network device that lives in a data center, located strategically between the firewall, and one or more application servers. Handles load balancing between servers and optimizes end-user performance and security for enterprise applications. [Learn more.](#)
- **Citrix ADM (Application Delivery Management):** Centralized network management, analytics, and orchestration solution. From a single platform, administrators can view, automate, and manage network services for scale-out application architectures. [Learn more.](#)
- **Citrix ADM agent:** Proxy that enables communication between Citrix ADM and the managed instances in a data center. [Learn more.](#)
- **Citrix Analytics:** Cloud service that collects data across services and products (on-premises and cloud), and generates actionable insights, enabling administrators to proactively handle user and application security threats, improve app performance, and support continuous operations. [Learn more.](#)
- **Citrix Cloud:** Platform that connects to resources through the Citrix Cloud Connector on any cloud or infrastructure (on-premises, public cloud, private cloud, or hybrid cloud). [Learn more.](#)
- **Citrix Gateway:** Consolidated remote access solution that consolidates remote access infrastructure to provide single sign-on across all applications whether in a data center, in the cloud, or delivered as SaaS. [Learn more.](#)
- **Citrix Hypervisor:** Virtualization management platform optimized for application, desktop, and server virtualization infrastructures. [Learn more.](#)
- **Citrix Workspace App** (formerly known as Citrix Receiver): Client software that provides seamless, secure access to applications, desktops and data from any device, including smartphones, tablets, PCs, and Macs. [Learn more.](#)
- **DLP (Data Loss Prevention):** Solution that describes a set of technologies and inspection techniques to classify information contained in an object such as file, email, packet, application, or

a data store. Also, the object can also be in storage, in use, or across a network. DLP tools can dynamically apply policies such as log, report, classify, relocate, tag, and encrypt. DLP tools can also apply enterprise data rights management protections. [Learn more.](#)

- **DNS (Domain Name System):** Network service that is used to locate internet domain names and translate them to internet protocol (IP) addresses. DNS maps website names that users provide, to their corresponding IP-addresses that machines provide, to locate a website regardless of the physical location of the entities.
- **Data processing:** Method of processing data from a data source to Citrix Analytics. [Learn more.](#)
- **Data source:** Product or service that sends data to Citrix Analytics. A data source can be internal or external. [[Learn more](#)]/en-us/citrix-analytics/data-sources.html).
- **Data export:** Product or service that receives data from Citrix Analytics and provides insights. [Learn more.](#)
- **Discovered users:** Total number of users in an organization that use data sources. [Learn more.](#)
- **FQDN (Fully Qualified Domain Name):** Complete domain name for internal (StoreFront) and external (Citrix ADC) access.
- **Machine learning:** Type of data analysis technology that extracts knowledge without being explicitly programmed to do so. Data from a wide variety of potential sources such as applications, sensors, networks, devices, and appliances are fed into a machine learning system. The system uses the data and applies algorithms to build its own logic to solve a problem, derive insight, or make a prediction.
- **Microsoft Graph Security:** Gateway that connects customer security and organizational data. Provides easy-to-review alerts and remediation options when an action must be taken. [Learn more.](#)
- **Performance Analytics:** Service that provides visibility into user session details across an organization. [Learn more.](#)
- **Policy:** Set of conditions to be met for an action to be applied on a user's risk profile. [Learn more.](#)
- **Risk indicator:** Metric that provides information about the level of exposure to a business risk that the organization has at a given time. [Learn more.](#)
- **Risk score:** Dynamic value that indicates the aggregate level of risk a user or an entity poses to an IT infrastructure over a pre-determined monitoring period. [Learn more.](#)
- **Risk timeline:** Record of a user's or an entity's risky behavior that allows administrators to probe into a risk profile and understand the data usage, device usage, application usage, and location usage. [Learn more.](#)
- **Risky user:** User that has acted in a risky manner or presented risky behavior. [Learn more.](#)

- **Security Analytics:** Advanced analysis of data that is used to achieve compelling security outcomes such as security monitoring and threat hunting. [Learn more.](#)
- **Secure Private Access:** Service that provides integration of single sign-on, remote access, and content inspection into a single solution for end-to-end access control. [Learn more.](#)
- **Splunk:** SIEM (Security Information and Event Management) software that receives intelligent data from Citrix Analytics and provides insights about the potential business risks. [Learn more.](#)
- **UBA (User Behavior Analytics):** Process of baselining user activity and behavior combined with peer group analysis, to detect potential intrusions, and malicious activity.
- **Watchlist:** List of users or entities whom administrators want to monitor for suspicious activities. [Learn more.](#)



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