Citrix Secure Private Access - On premises

Contents

What's new

December 1, 2023

October 2023

Citrix Secure Private Access for on-premises –Preview

Citrix Secure Private Access for on-premises is now in preview. The Secure Private Access on-premises solution includes a full service admin console UI with a similar look and feel as the Secure Private Access service. For details, see Secure Private Access for on-premises –Preview.

Known issues

February 14, 2024

The Citrix Secure Private Access for on-premises solution has the following known issues:

Domain Controller configurations

- The one-way trust between domains within the same forest or across different forests isn't supported. The Secure Private Access for on-premises solution does not work if both of the following conditions are met.
  - The machine's domain where Secure Private Access for on-premises is installed is different than the domain of the administrator logged in to Secure Private Access.
  - There's no trust configured from the machine's domain to the user's domain.
- If the sAMAccountName and UPN are different, then the enumeration fails.

NetScaler Gateway

The SSL virtual server with SSL profile configuration isn't supported in the following scenario.

- The customer is using NetScaler Gateway 13.1–48.47 and later or 14.1–4.42 and later.
- The `ns_vpn_enable_spa_onprem` toggle is enabled.

Workaround:

Bind the SSL parameters configured in the SSL profile directly to the SSL virtual server or disable the `ns_vpn_enable_spa_onprem` toggle.

For details on the toggle, see Support for smart access tags.

RfWeb / Workspace for web

RfWeb / Workspace for web isn't supported. Though the apps are enumerated, the app launch might fail.

Application icons

Only the ICO icon format is supported. The PNG, JPEG and other formats aren't supported.

Admin management

- Administrator's RBAC role changes are reflected only after the current session is invalidated (by sign out or token expiry).
- Admin users must not be part of the default "Domain Users"AD group because authentication fails for such users.

Upgrades

Build-to-build upgrade isn't supported. Secure Private Access for on-premises prompts you to remove the existing installation and reinstall in build-to-build upgrade.

StoreFront

- In **Stores > Configure Unified Experience**, the default receiver for Website must be configured to /Citrix/<`StoreName`>Web. In earlier versions of StoreFront, the default receiver for Website is set to a blank value and that does not work for Secure Private Access. Also, the earlier version of the Receiver UI is displayed on the client.
- If you are using the StoreFront versions 2308 or earlier, the **Stores > Manage Delivery Controllers** page displays the Secure Private Access plug-in type as **XenMobile**. This doesn't impact the functionality.

Logging

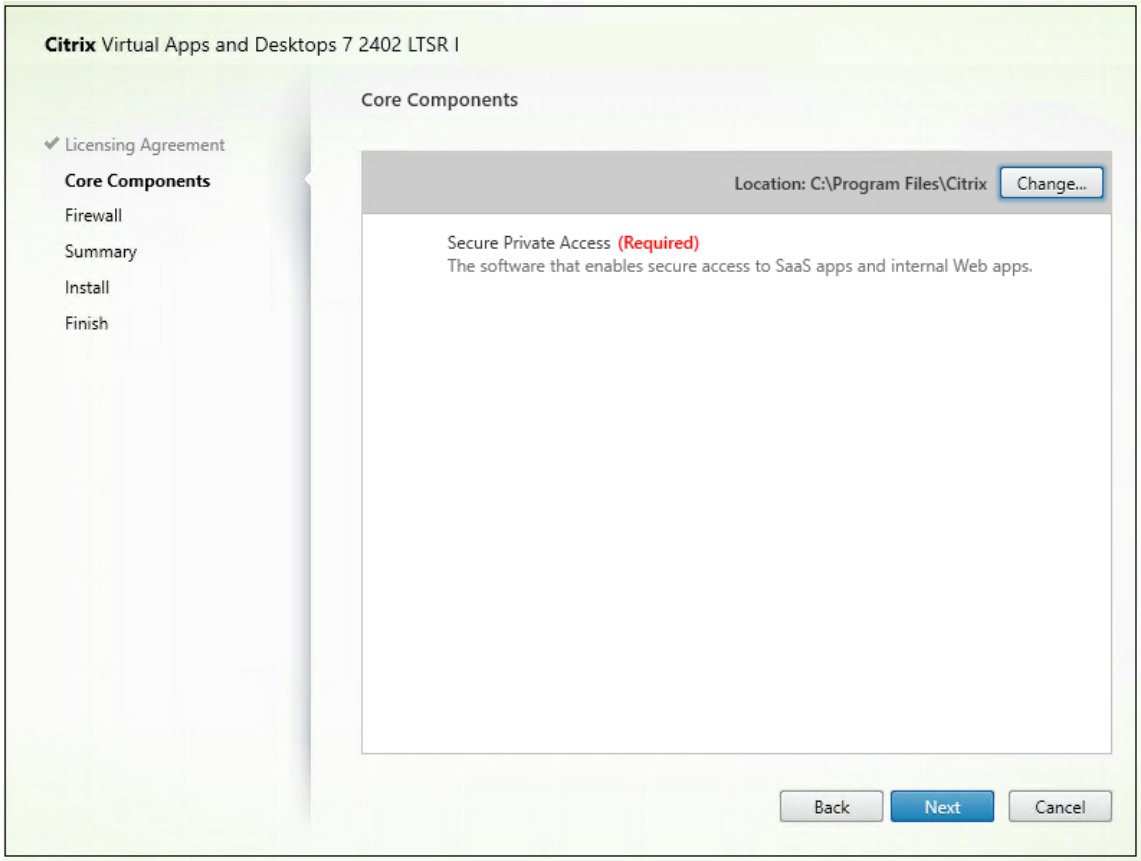
- Support bundle generation for the cluster isn't supported.
- The logs folders for admin and runtime services must not be deleted. Secure Private Access can't recreate if these folders are deleted.

Secure Private Access installer

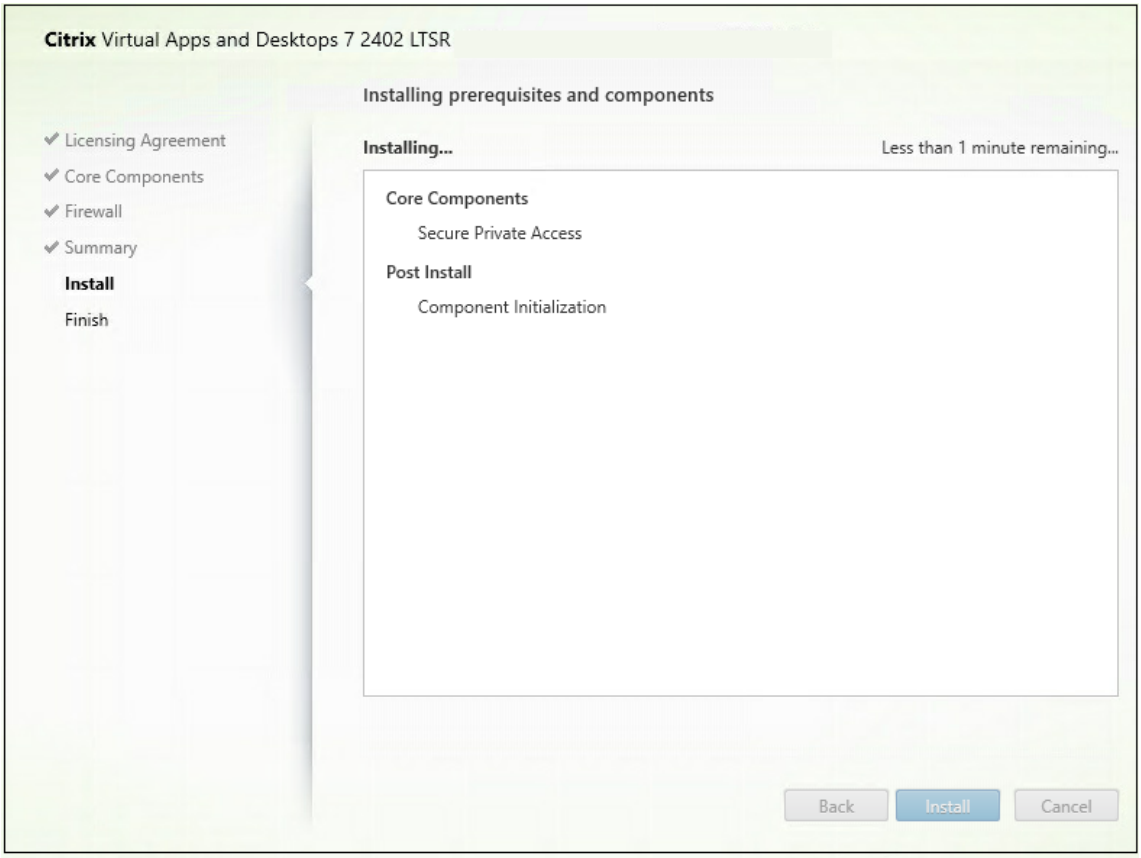
November 21, 2023

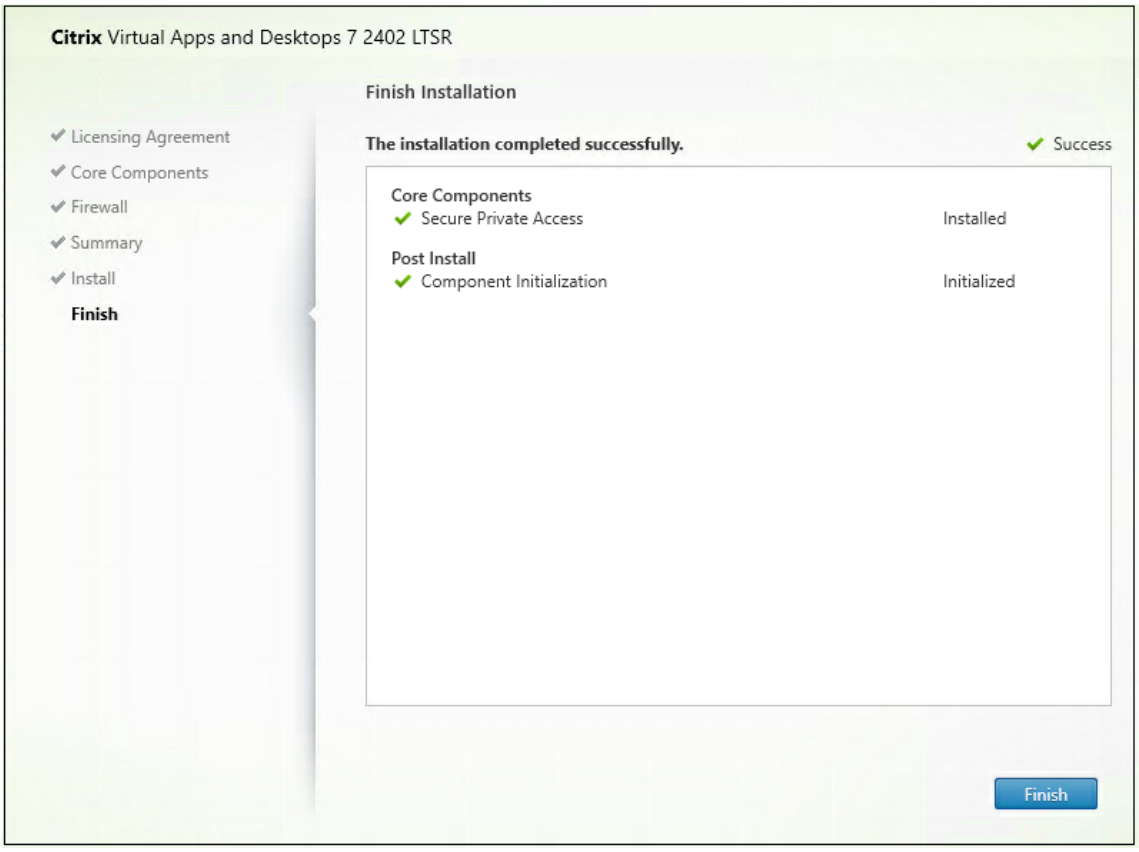
You can install Secure Private Access by using the SecurePrivateAccessSetup_2308.exe.

1. Download the Citrix Secure Private Access installer from https://www.citrix.com/downloads/citrix-early-access-release/.
2. Run the .exe as an administrator on a domain joined machine, preferably on the same machine where StoreFront is installed.

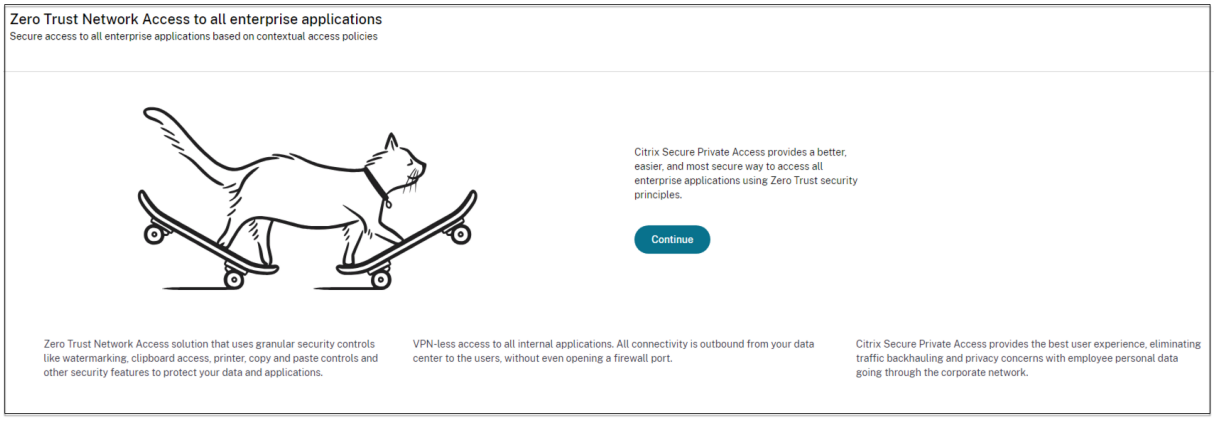


3. Follow the on-screen instructions to complete the installation.

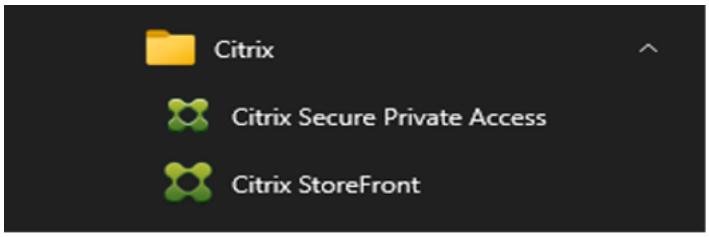




Once the installation is complete, the first-time setup admin console opens automatically in the default browser window. You can click **Continue** to set up Secure Private Access.



You can also see the Secure Private Access shortcut on the desktop Start menu (**Citrix > Citrix Secure Private Access)**.



SSO to admin console

It is recommended that you configure Kerberos authentication for the browser that you use for the Secure Private Access admin console. This is because Secure Private Access uses Integrated Windows Authentication (IWA) for its admin authentication.

If Kerberos authentication isn't set, you're prompted by the browser to enter your credentials when accessing the Secure Private Access admin console.

- If you enter your credentials, you enable Integrated Windows Authentication (IWA) sign on.
- If you do not enter your credentials, you're presented with the Secure Private Access sign-on page.

You must sign into the admin console to continue with the Secure Private Access setup. You can set up Secure Private Access with any user who belongs to the same domain as the installation machine, provided that the user has local administrator privileges on the installation machine.

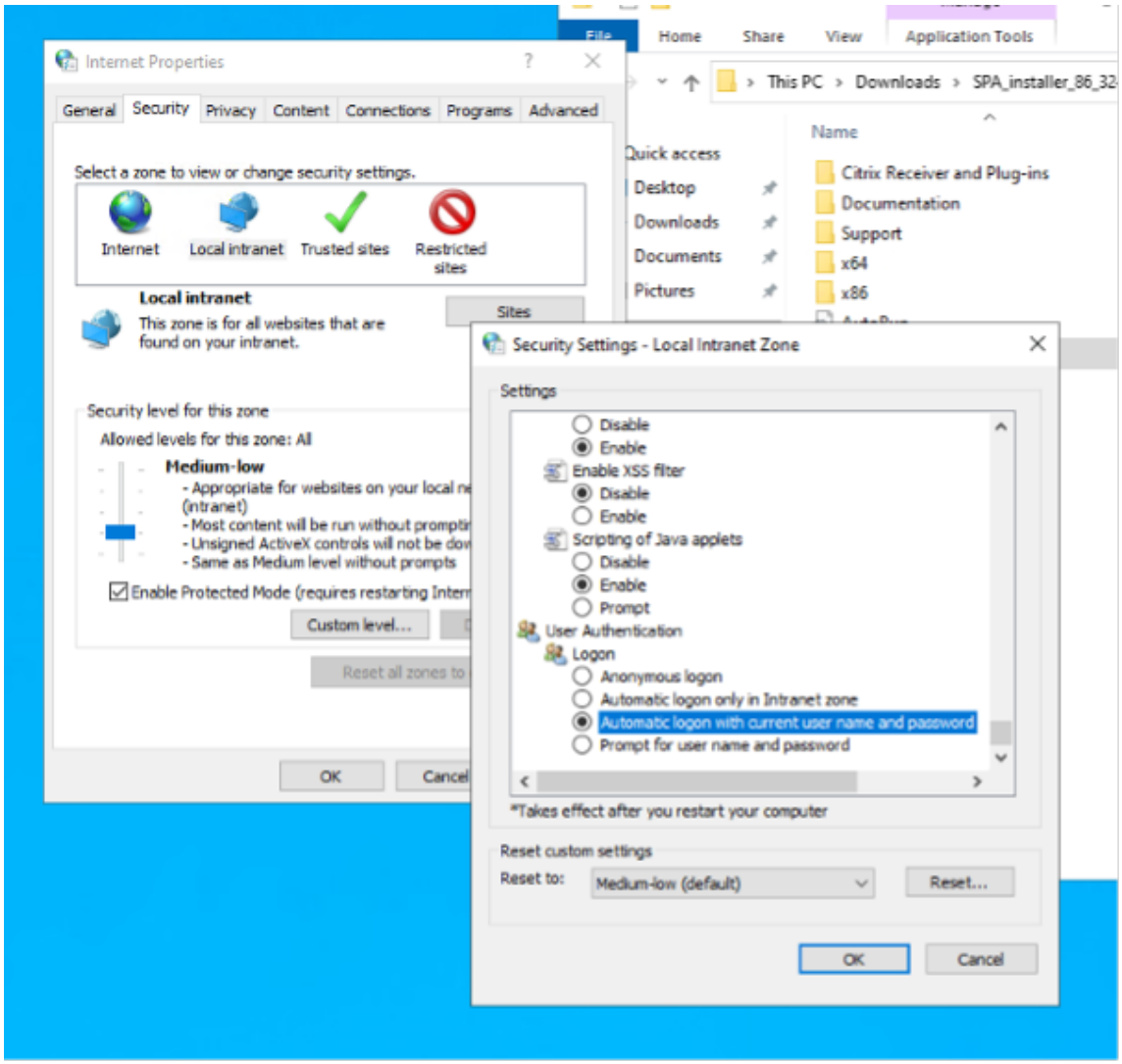
For Google Chrome and Microsoft Edge browsers, perform the following steps to enable Kerberos.

1. Open **Internet Options**.

2. Select the **Security** tab and click **Local Intranet Zone**.
3. Click **Sites** and add the Secure Private Access URL.

   You can also use a wildcard if planning to install Secure Private Access on multiple machines. For example, “https://*.fabrikam.local”.

4. Click **Custom Level** and in **User Authentication > Logon**, select **Automatic logon with current user name and password**.



Note:

- If using Chrome Incognito sessions, create a DWORD registry key Computer\HKEY_LOCAL_MACHINE\SOFTWA and set to value 1.
- You must restart all Chrome windows (including non-Incognito windows) before Kerberos gets enabled for the Incognito mode.
- For other browsers, check the specific browser’s documentation on Kerberos authentication.

Next steps

- Set up Secure Private Access
- Configure NetScaler Gateway
- Configure applications
- Configure access policies for the applications

Upgrade the database using scripts

November 21, 2023

You can use the admin config tool to download the database upgrade scripts for the Secure Private Access plug-in.

1. Open the PowerShell or the command prompt window with admin privileges.
2. Change the directory to the Admin\AdminConfigTool folder under the Secure Private Access installation folder (for example, cd "C:\Program Files\Citrix\Citrix Access Security\Admin\AdminConfigTool").
3. Run the following command:

   ```
   .\AdminConfigTool.exe /DOWNLOAD_UPGRADE_DB_SCRIPTS <output folder>
   ```

Set up Secure Private Access

November 21, 2023

You can set up Secure Private Access by creating a new site or by joining an existing site. In both scenarios, you can use the web admin console to set up the Secure Private Access environment.

- Set up Secure Private Access by creating a new site
- Set up Secure Private Access by joining an existing site

Prerequisites

The SQL database server must be installed before creating a site.

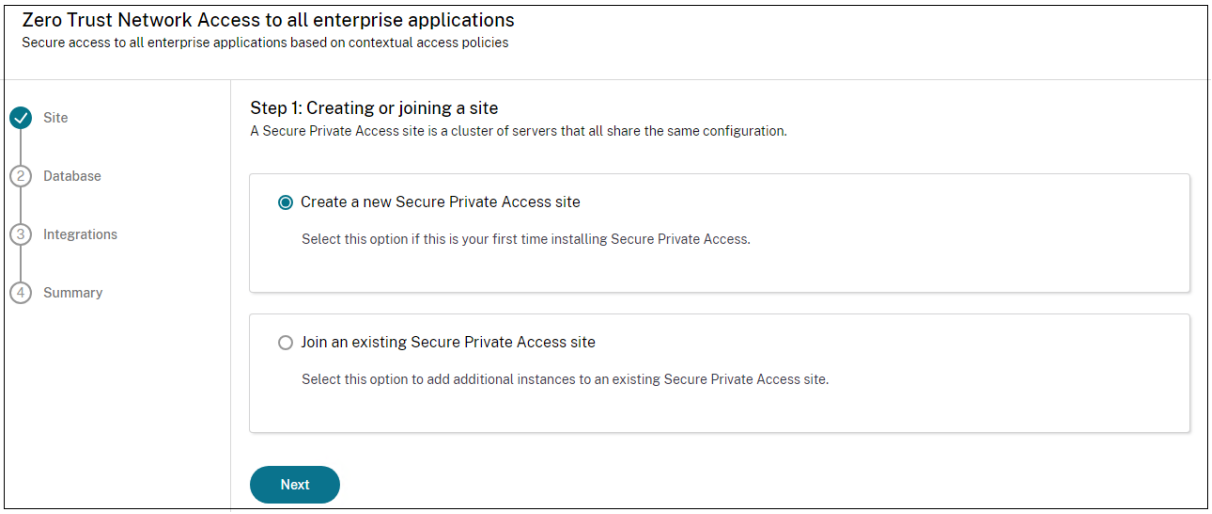
Set up Secure Private Access by creating a new site

Set up Secure Private Access by creating a new site

Step 1: Set up a Secure Private Access site

A site is the name of your Secure Private Access deployment. You can either create a site or join an existing site.

1. Launch the Secure private access web admin console.
2. On the **Creating or Joining a Site** page, **Create a new Secure Private Access site** is selected, by default.
3. Click **Next**.



When you choose to create a site, you must automatically or manually configure a database for the new site as the database corresponding to the site name might not be available in the setup.

Step 2: Configure databases

You must create a database for the new Secure Private Access site. This can be done manually or automatically.

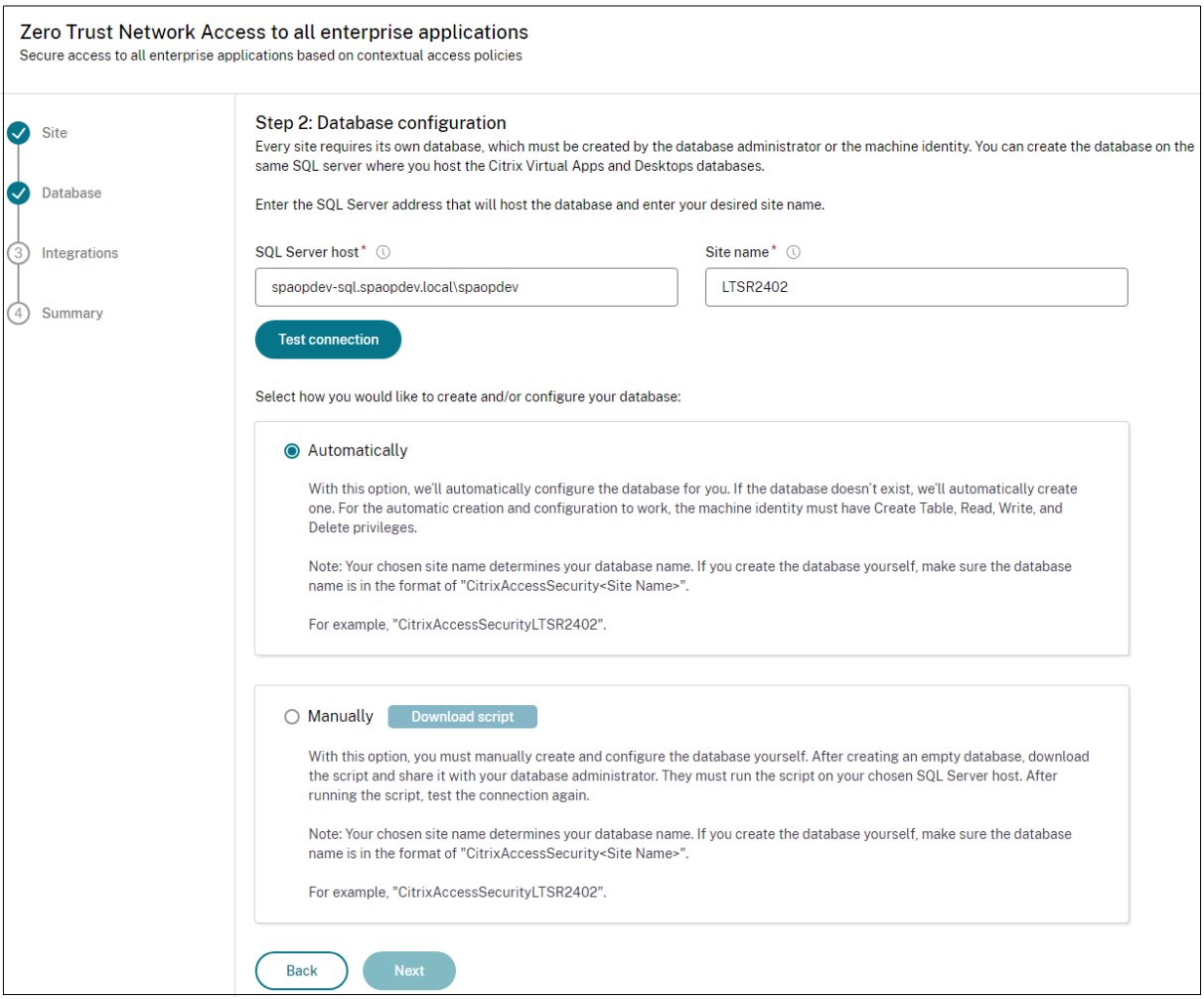
1. In **SQL Server Host**, enter the server host name. For example, `sql1.fabrikam.local\citrix`.

   You can specify a database address in one of the following forms:

   - ServerName
   - ServerName\InstanceName
   - ServerName,PortNumber

   For more information, see Databases.

2. In **Site**, type a name for the Secure Private Access site.
3. Click **Test Connectivity** to check that the SQL server instance is valid and also to confirm that the specified database exists for the site.



> **Note:**

- If an SQL server is not available for the site, the connectivity check fails.
- If an SQL server is available but the database does not exist, the connectivity check passes. However, a warning message is displayed.
- Secure Private Access uses Windows authentication using machine Identity to authenticate to an SQL server.

Automatic configuration:

- You can use the **Automatic Configuration** option only if the machine identity has the required database privileges.
- If a database does not exist at the specified address, a database is automatically created.

- When you create a database, ensure that it is empty but has the required database privileges. For details about the privileges, see Permissions required to set up databases.

Manual configuration:

You can use the **Manual Configuration** option to set up the databases.

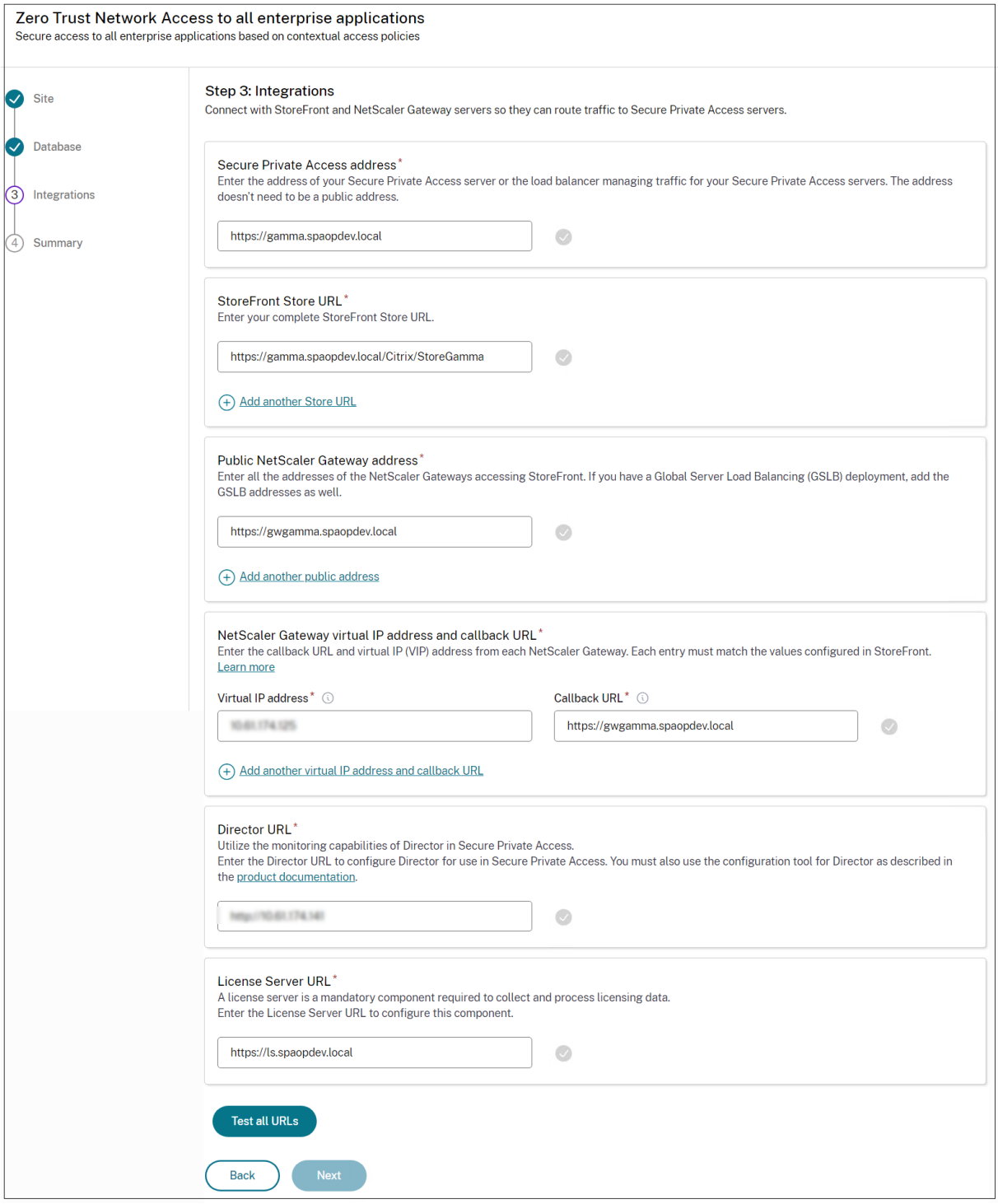
In manual configuration, you must first download the scripts and then run the scripts on the database server that you have specified in the **SQL Server Host** field.

> **Note:**
>
> The database creation might fail if the machine does not have the READ, WRITE, UPDATE permissions to create tables within the database on the SQL server. You must enable appropriate permissions on the machine. For details, see Permissions required to set up databases.

Step 3: Integrate StoreFront and NetScaler Gateway servers

You must specify StoreFront and NetScaler Gateway server details to connect Secure Private Access with StoreFront and NetScaler Gateway servers. This connection must be established to enable StoreFront and NetScaler Gateway to route traffic to Secure Private Access.

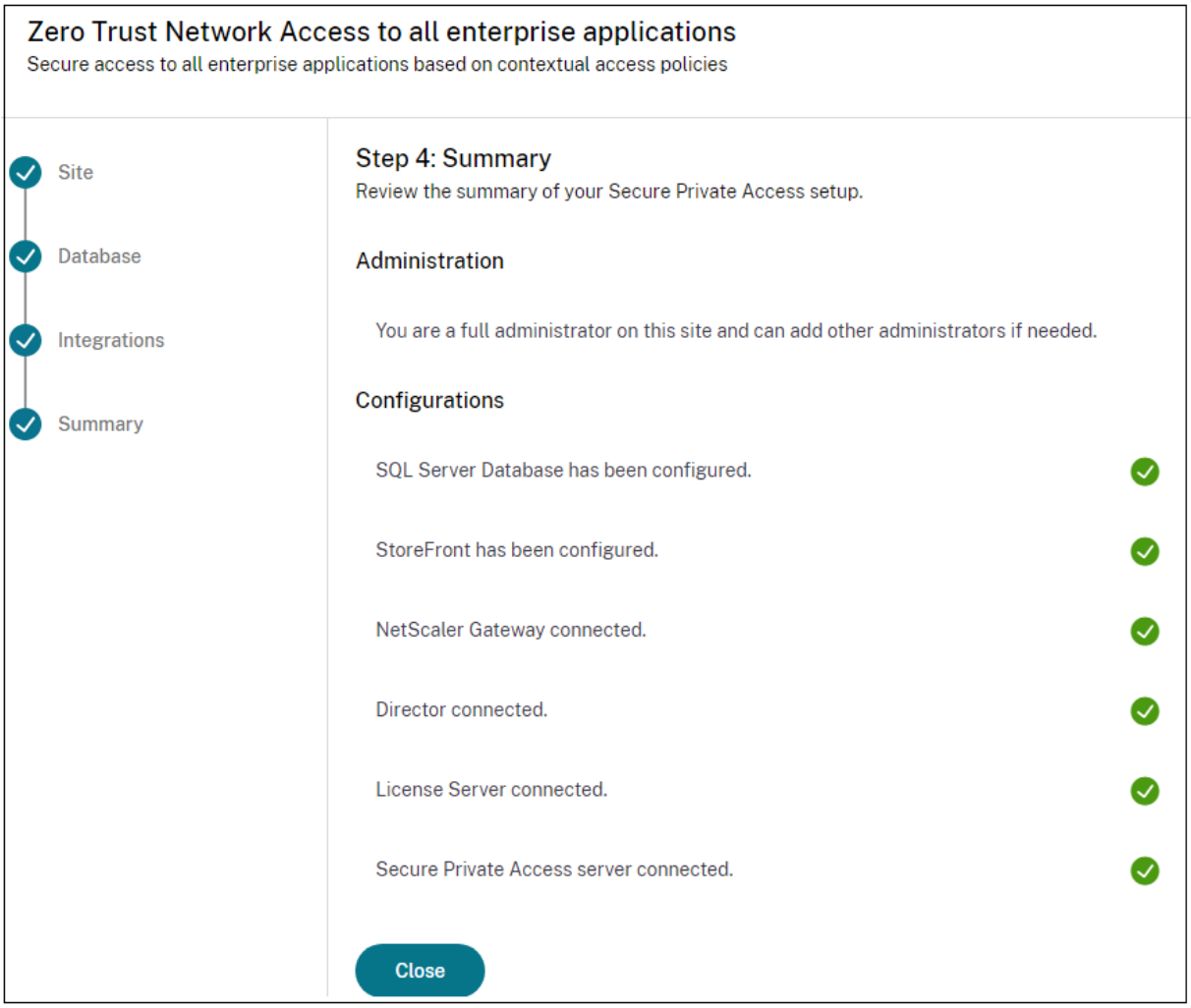
1. Enter the following details.
   - **Secure Private Access server address**. For example, `https://secureaccess.domain.com`.
   - **StoreFront Store URL**. For example, `https://storefront.domain.com/Citrix/StoreMain`.
   - **Public Gateway Address** –URL of the NetScaler Gateway. For example, `https://gateway.domain.com`.
   - **Gateway Callback Address** –This URL must be the same as the one configured in StoreFront. For example, `https://gateway.domain.com`.
   - **Gateway VIP** –This virtual IP address must be the same as the one configured in StoreFront for callbacks.
2. Click **Validate all URLs**.
3. Click **Next** and then click **Save**.



Step 4: Configuration summary

After the configuration is complete, validation is done to ensure that the servers that are configured are reachable. Also, a check is done to ensure that the Secure Private Access server is reachable.

If the configuration summary page displays any errors, see Troubleshooting errors for details. If this does not solve the issue, contact Citrix Support.



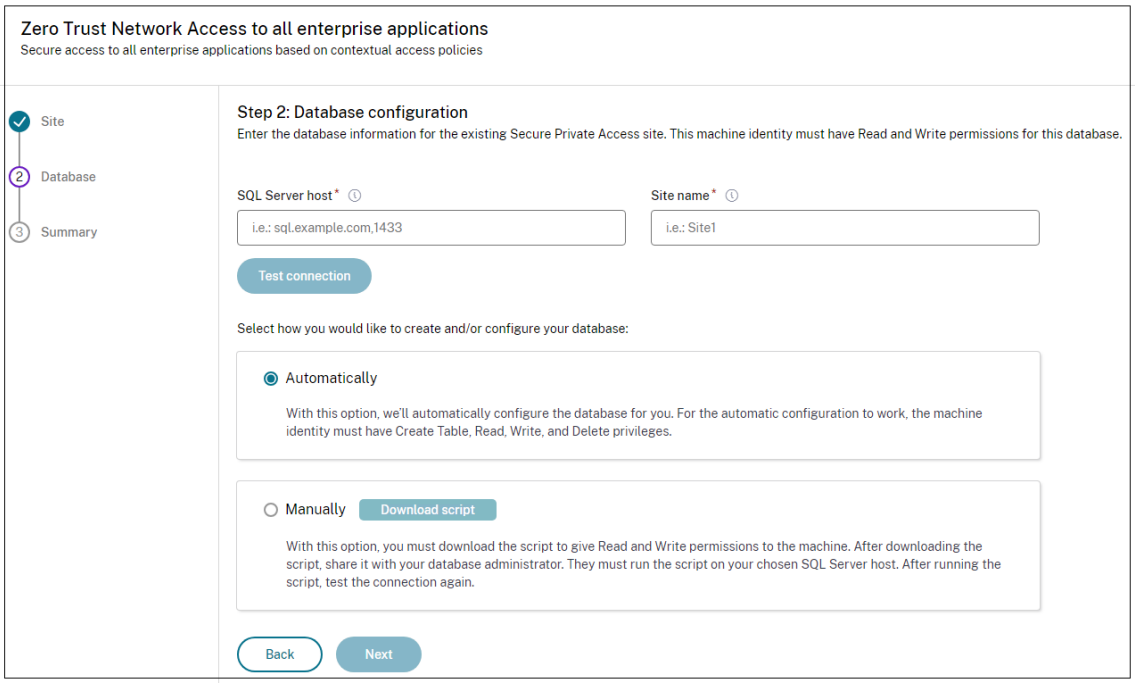
Note:

- After you have set up the environment, you can modify the settings from Settings > Integrations in the web admin console.
- The administrator that installs Secure Private Access the first time is granted full permission. This administrator can then add other administrators to the setup. You can view the list of administrators from **Settings > Administrators**.
- You can also add administrator groups so that access is enabled for all the administrators in that group.

For details, see Manage settings after installation.

Set up Secure Private Access by joining an existing site

1. On the **Creating or Joining a Site** page, select **Join an existing site**, and then click **Next**.

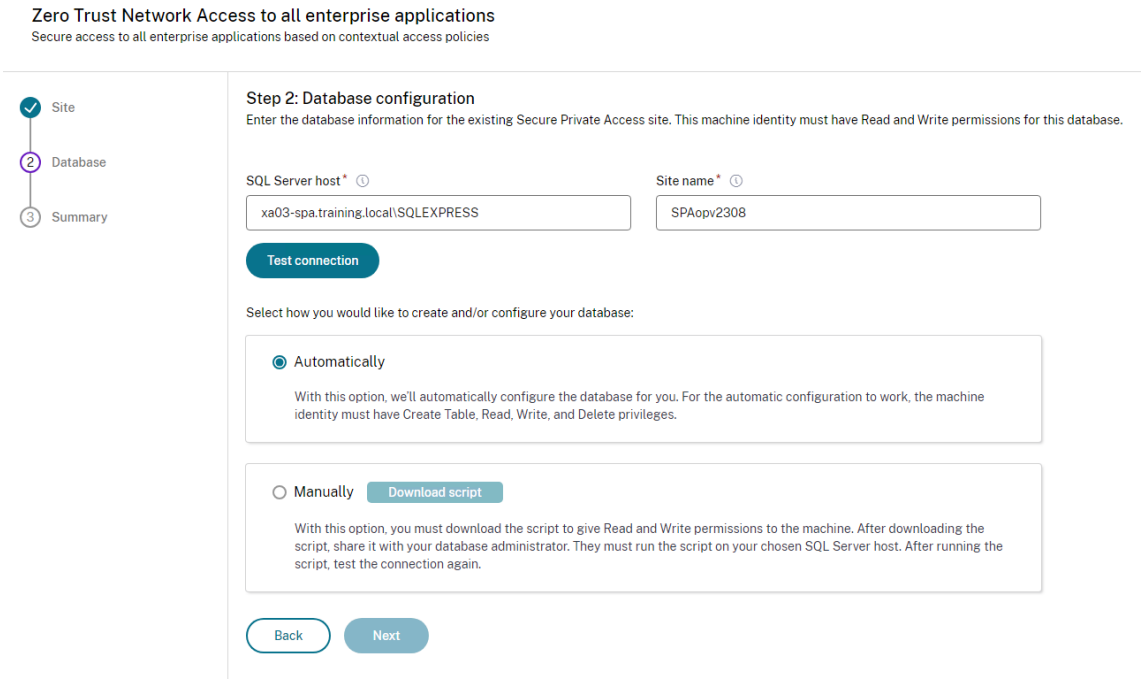


2. In **SQL Server Host**, enter the server host name. Ensure that a database corresponding to the site name that you enter is already present in the SQL server that you have selected. You can specify a database address in one of the following forms:

   - ServerName
   - ServerName\InstanceName
   - ServerName,PortNumber

   For more information, see Databases.

3. In **Site**, type a name for the Secure Private Access site.
4. Click **Test Connectivity** to check that the SQL server instance is valid and also to confirm that the specified site exists in the database.



If there is no corresponding database for the site, the connectivity check fails.

5. Click **Save**.

The configuration validation check happens to ensure that the SQL database server is configured and to check that the Secure Private Access server is reachable.

Next Steps

- Configure NetScaler Gateway
- Configure applications
- Configure access policies for the applications

Configure NetScaler Gateway

November 21, 2023

> **Important:**
>
> We recommend that you create NetScaler snapshots or save the NetScaler configuration before applying these changes.

1. Download the script from https://www.citrix.com/downloads/citrix-early-access-release/.

To create a new NetScaler Gateway, use *ns_gateway_secure_access.sh*.
To update an existing NetScaler Gateway, use *ns_gateway_secure_access_update.sh*.

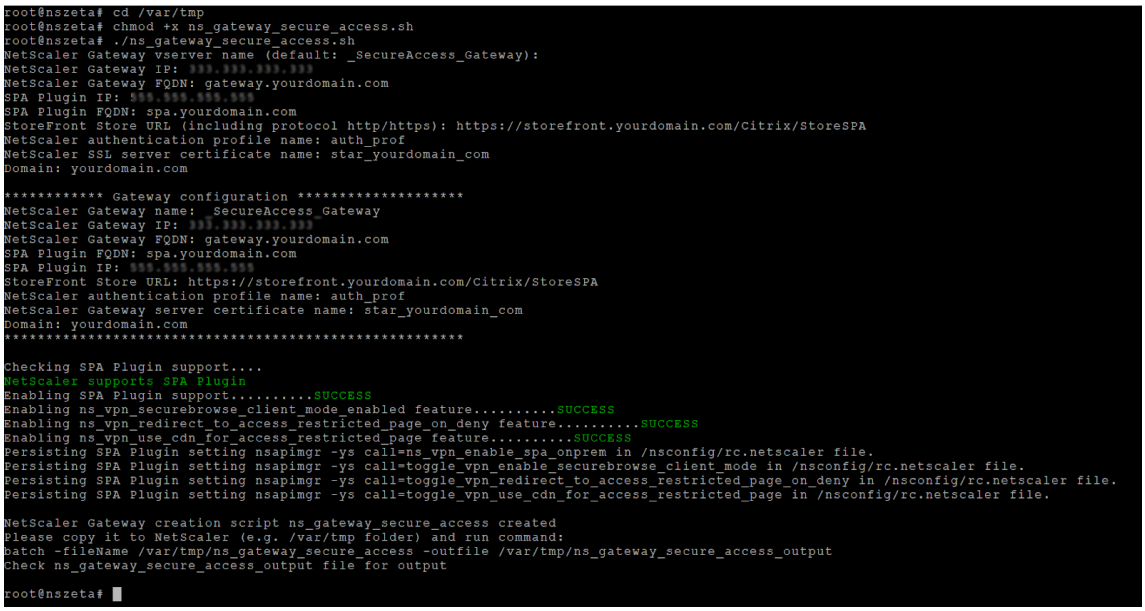
2. Upload these scripts to the NetScaler machine. You can use the WinSCP app or the SCP command. For example, *`scp ns_gateway_secure_access.sh nsroot@nsalfa.fabrikam.local:/var/tmp`*.

   > **Note:**
   >
   > - It's recommended to use NetScaler /var/tmp folder to store temp data.
   > - Make sure that the file is saved with LF line endings. FreeBSD does not support CRLF.
   > - If you see the error `-bash: /var/tmp/ns_gateway_secure_access.sh : /bin/sh^M: bad interpreter: No such file or directory`, it means that the line endings are incorrect. You can convert the script by using any rich text editor, such as Notepad++.

3. SSH to NetScaler and switch to shell (type 'shell' on NetScaler CLI).
4. Make the uploaded script executable. Use the chmod command to do so.

   ```
   chmod +x /var/tmp/ns_gateway_secure_access.sh
   ```

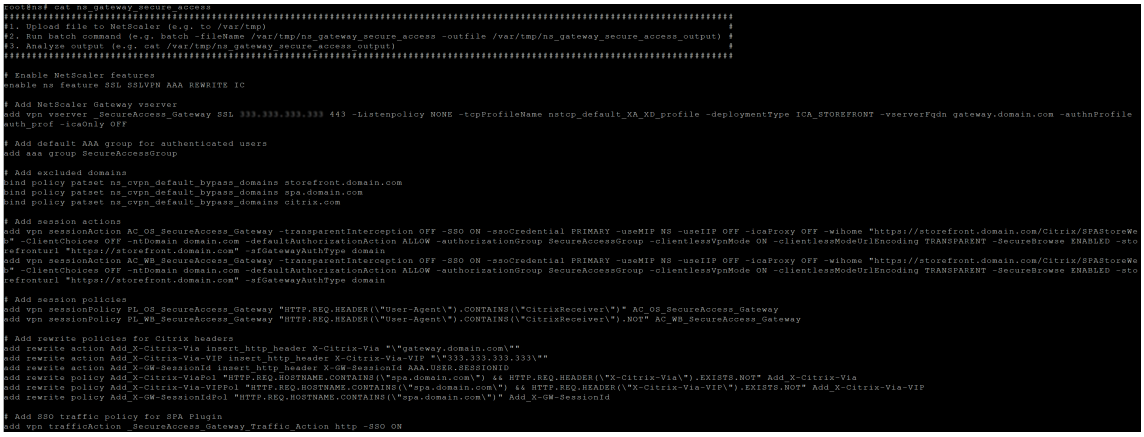
5. Run the uploaded script on the NetScaler shell.



6. Input the required parameters. For the list of parameters, see Prerequisites.

   For authentication profile and SSL certificate you have to provide names on NetScaler.

   A new file with multiple NetScaler commands (the default is var/tmp/ns_gateway_secure_access) is generated.



7. Switch to the NetScaler CLI and run the resultant NetScaler commands from the new file with the batch command. For example,
   `batch -fileName /var/tmp/ns_gateway_secure_access -outfile /var/tmp/ns_gateway_secure_access_output`

   NetScaler runs the commands from the file one by one. If a command fails, it continues with the next command.

   A command can fail if a resource exists or one of the parameters entered in step 6 is incorrect.
8. Ensure that all commands are successfully completed.

> **Note:**
>
> If there's an error, NetScaler still runs the remaining commands and partially creates/updates/binds resources. Therefore, if you see an unexpected error because of one of the parameters being incorrect, it's recommended to redo the configuration from the start.

Configure Secure Private Access on a NetScaler Gateway with existing configuration

You can also use the scripts on an existing NetScaler Gateway to support Secure Private Access. However, the script does not update the following:

- Existing NetScaler Gateway virtual server
- Existing session actions and session policies bound to NetScaler Gateway

Ensure that you review each command before execution and create backups of the gateway configuration.

Settings on NetScaler Gateway virtual server

When you add or update the existing NetScaler Gateway virtual server, ensure that the following parameters are set to the defined values.

tcpProfileName: nstcp_default_XA_XD_profile
deploymentType: ICA_STOREFRONT
icaOnly: OFF

Examples:

To add a virtual server:

```
`add vpn vserver _SecureAccess_Gateway SSL 333.333.333.333 443 -
   Listenpolicy NONE -tcpProfileName nstcp_default_XA_XD_profile -
   deploymentType ICA_STOREFRONT -vserverFqdn gateway.mydomain.com -
   authnProfile auth_prof_name -icaOnly OFF`
```

To update a virtual server:

```
`set vpn vserver  _SecureAccess_Gateway -icaOnly OFF`
```

For details on the virtual server parameters, see vpn-sessionAction.

NetScaler Gateway session actions

Session action is bound to a gateway virtual server with session policies. When you create a session action, ensure that the following parameters are set to the defined values.

- `transparentInterception`: OFF
- `SSO`: ON
- `ssoCredential`: PRIMARY
- `useMIP`: NS
- `useIIP`: OFF
- `icaProxy`: OFF
- `wihome`: `"https://storefront.mydomain.com/Citrix/MyStoreWeb"` - replace with real store URL
- `ClientChoices`: OFF
- `ntDomain`: mydomain.com - used for SSO
- `defaultAuthorizationAction`: ALLOW
- `authorizationGroup`: SecureAccessGroup (Make sure that this group is created, it's used to bind Secure Private Access specific authorization policies)
- `clientlessVpnMode`: ON
- `clientlessModeUrlEncoding`: TRANSPARENT
- `SecureBrowse`: ENABLED
- `Storefronturl`: `"https://storefront.mydomain.com"`
- `sfGatewayAuthType`: domain

Examples:

To add a session action:

```
add vpn sessionAction AC_OS_SecureAccess_Gateway -transparentInterception
 OFF -SSO ON -ssoCredential PRIMARY -useMIP NS -useIIP OFF -icaProxy
 OFF -wihome "https://storefront.mydomain.com/Citrix/MyStoreWeb"-
ClientChoices OFF -ntDomain mydomain.com -defaultAuthorizationAction
 ALLOW -authorizationGroup SecureAccessGroup -clientlessVpnMode
ON -clientlessModeUrlEncoding TRANSPARENT -SecureBrowse ENABLED -
storefronturl "https://storefront.mydomain.com"-sfGatewayAuthType
domain
```

To update a session action:

```
set vpn sessionAction AC_OS_SecureAccess_Gateway -transparentInterception
 OFF -SSO ON
```

For details on session action parameters, see https://developer-docs.netscaler.com/en-us/adc-command-reference-int/13-1/vpn/vpn-sessionaction.

Compatibility with the ICA apps

NetScaler Gateway created or updated to support the Secure Private Access plug-in can also be used to enumerate and launch ICA apps. In this case, you must configure Secure Ticket Authority (STA) and bind it to the NetScaler Gateway.
Note: STA server is usually a part of Citrix Virtual Apps and Desktops DDC deployment.

For details, see the following topics:

- Configuring the Secure Ticket Authority on NetScaler Gateway
- FAQ: Citrix Secure Gateway/ NetScaler Gateway Secure Ticket Authority

Support for smart access tags

In the following versions, NetScaler Gateway sends the tags automatically. You do not have to use the gateway callback address to retrieve the smart access tags.

- 13.1.48.47 and later
- 14.1–4.42 and later

Smart access tags are added as a header in the Secure Private Access plug-in request.

Use the toggle `ns_vpn_enable_spa_onprem` or `ns_vpn_disable_spa_onprem` to enable/disable this feature on these NetScaler versions.

- You can toggle with command (FreeBSD shell):

  ```
  nsapimgr_wr.sh -ys call=ns_vpn_enable_spa_onprem
  ```

- Enable SecureBrowse client mode for HTTP callout config by running the following command (FreeBSD shell).

  ```
  nsapimgr_wr.sh -ys call=toggle_vpn_enable_securebrowse_client_mode
  ```

- To disable, run the same command again.
- To verify whether the toggle is on or off run the `nsconmsg` command.
- To configure smart access tags on NetScaler Gateway, see Configuring Custom Tags (SmartAccess Tags) on NetScaler Gateway.

Known limitations

- Existing NetScaler Gateway can be updated with script but there can be an infinite number of possible NetScaler configurations that can't be covered by a single script.
- Do not use ICA Proxy on NetScaler Gateway. This feature is disabled when NetScaler Gateway is configured.
- If you use NetScaler deployed in the cloud, you must make some changes in the network. For example, allow communications between NetScaler and other components on certain ports.
- If you enable SSO on NetScaler Gateway, make sure that NetScaler communicates to StoreFront using a private IP address. You might have to add a new StoreFront DNS record to NetScaler with a StoreFront private IP address.

Upload public gateway certificate

To upload a public gateway certificate to the Secure Private Access database, perform the following steps:

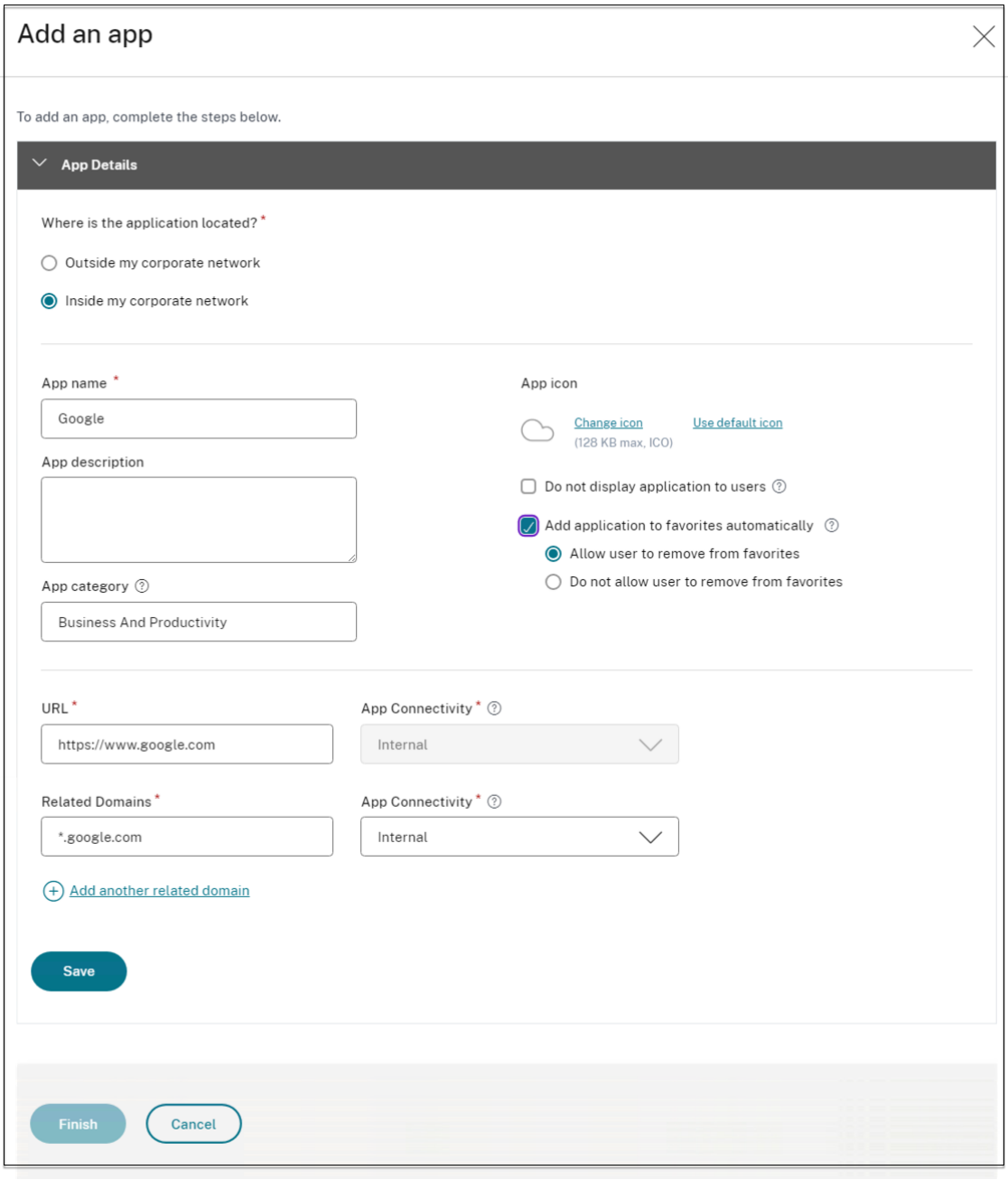
1. Open PowerShell or the command prompt window with the admin privileges.
2. Change the directory to the Admin\AdminConfigTool folder under the Secure Private Access installation folder (for example, cd "C:\Program Files\Citrix\Citrix Access Security\Admin\AdminConfigTool")
3. Run the following command:

   ```
   \AdminConfigTool.exe /UPLOAD_PUBLIC_GATEWAY_CERTIFICATE <PublicGatewayUrl
   > <PublicGatewayCertificatePath>
   ```


Configure applications

January 2, 2024

1. Select the location where the app resides.
    - **Outside my corporate network** for external applications.
    - **Inside my corporate network** for internal applications.
2. Enter the following details in the App Details section and click **Next**.



- **App name** –Name of the application.
- **App description** - A brief description of the app. This description is displayed to your users in the workspace. You can also enter keywords for the applications in the format `KEYWORDS: <keyword_name>`. You can use the keywords to filter the applications. For details, see Filter resources by included keywords.
- **App category** - Add the category and the subcategory name (if applicable) under which the app that you are publishing must appear in the Citrix Workspace UI. You can add a new category for each app or use existing categories from the Citrix Workspace UI. Once you

specify a category for a web or a SaaS app, the app shows up in the Workspace UI under the specific category.

- The category/subcategory are admin configurable and administrators can add a new category for every app.
- The category/subcategory names must be separated by a backslash. For example, Business And Productivity\Engineering. Also, this field is case sensitive. Administrators must ensure that they define the correct category. If there is a mismatch between the name in the Citrix Workspace UI and the category name entered in the App category field, the category gets listed as a new category.

  For example, if you enter the Business and Productivity category incorrectly as Business And productivity in the App category field, then a new category named Business and productivity gets listed in the Citrix Workspace UI in addition to the Business And Productivity category.

- **App icon** –Click **Change icon** to change the app icon. The icon file size must be 128x128 pixels and only the Ico format is supported. If you do not change the icon, the default icon is displayed.
- **Do not display application to users** - Select this option if you do not want to display the app to the users.
- **URL** –URL of the application.
- **Related Domains** –The related domain is auto-populated based on the application URL. Administrators can add more related internal or external domains.
  Add application to favorites automatically –Click this option to add this app as a favorite app in Citrix Workspace app.
- **Allow user to remove from favorites** –Click this option to allow app subscribers to remove the app from the favorites apps list in Citrix Workspace app.
  When you select this option, a yellow star icon appears at the top left-hand corner of the app in Citrix Workspace app.
- **Do not allow user to remove from favorites** –Click this option to prevent subscribers from removing the app from the favorites apps list in Citrix Workspace app.

When you select this option, a star icon with a padlock appears at the top left-hand corner of the app in Citrix Workspace app.

If you remove the apps marked as favorites from the Secure Private Access console, then these apps must be removed manually from the favorites list in Citrix Workspace. The apps are not automatically deleted from StoreFront if the apps are removed from the Secure Private Access console.
App Connectivity: Select Internal for Web apps and External for SaaS apps.

3. Click **Save**, and then click **Finish**.

You can view all the application domains that are configured in **Settings > Application Domain**. For more details, see Manage settings after installation.

Next Steps

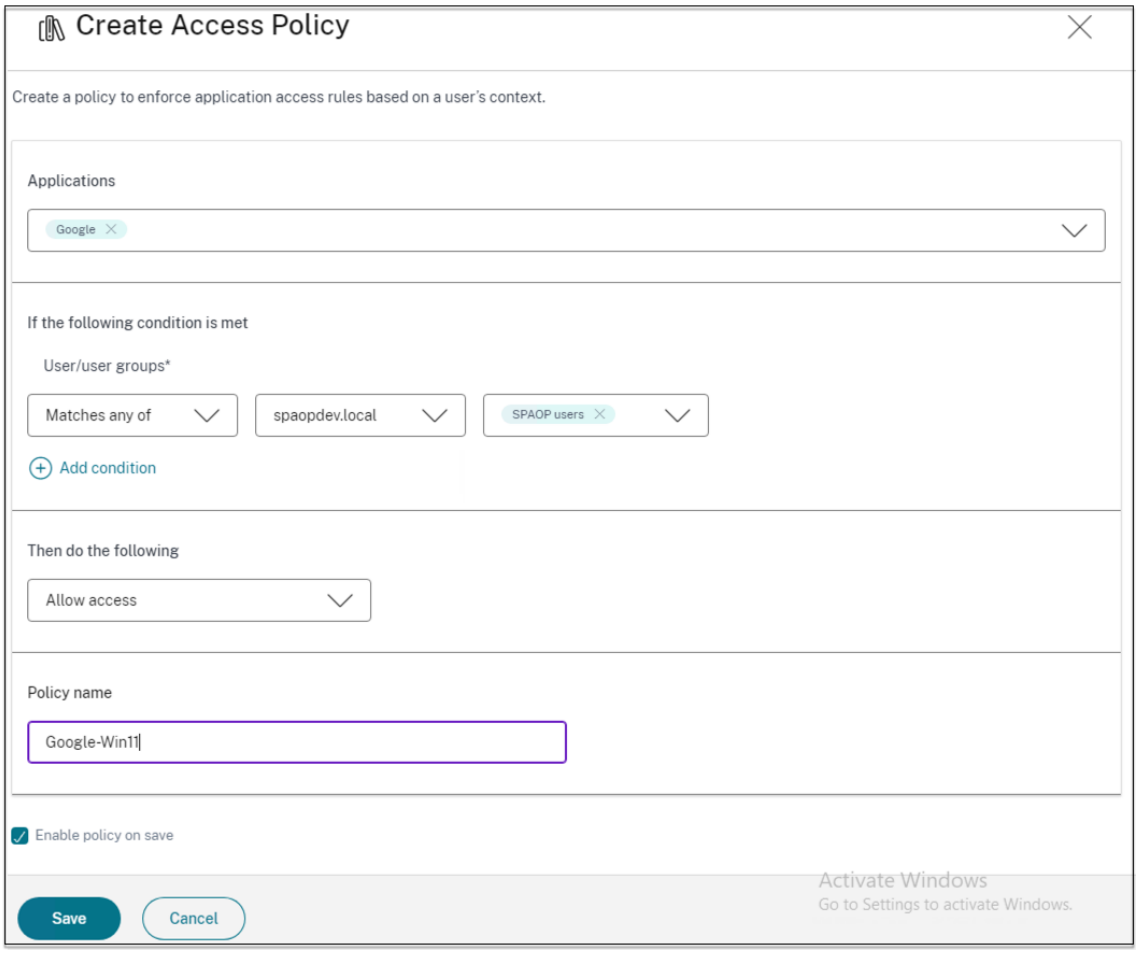
Configure access policies for the applications

Configure access policies for the applications

November 21, 2023

Access policies allow you to enable or disable access to the apps based on the user or user groups. In addition, you can enable restricted access to the apps by adding the security restrictions.

1. Click **Create Policy**.



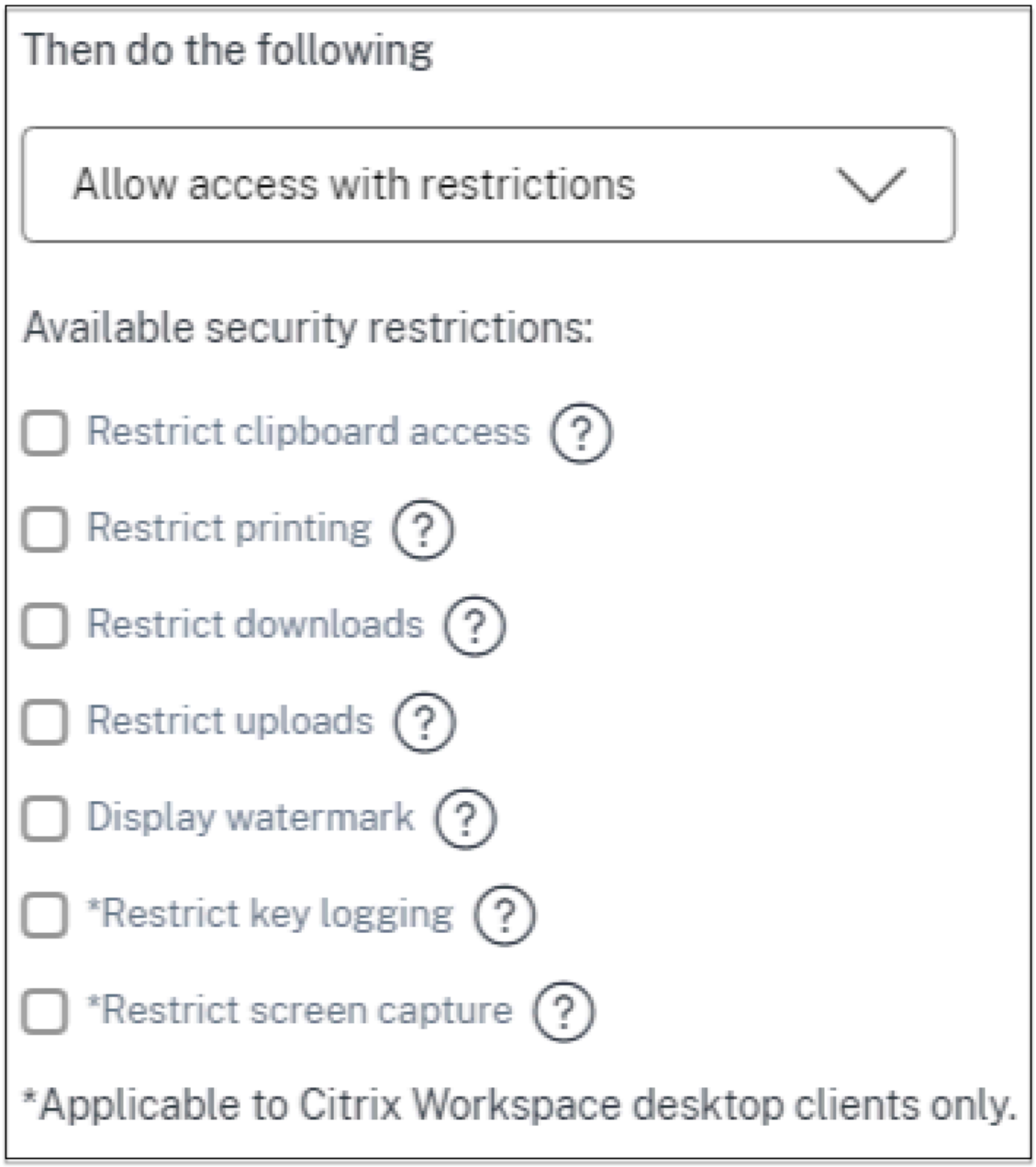
2. In **Applications**, select the apps for which you want to enforce the access policies.
3. In **Users/User groups** –Select the conditions and users or user groups based on which app access must be allowed or denied.

    - **Matches any of**: Only the users or groups that match any of the names listed in the field are allowed access.
    - **Does not match any**: All users or groups except those listed in the field are allowed access.

4. Click **Add condition** to add another condition based on contextual tags. These tags are derived from the NetScaler Gateway.
5. Select **Conditional Tags** and then select the conditions based on which app access must be allowed or denied.
6. In **Then do the following**, select one of the following actions that must be enforced on the app based on the condition evaluation.

    - **Allow access**
    - **Allow access with restriction**
    - **Deny access**

    When you select **Allow access with restrictions**, you can select the following restrictions.



- **Restrict clipboard access**: Disables cut/copy/paste operations between the app and the system clipboard.
- **Restrict printing**: Disables the ability to print from within the Citrix Enterprise Browser.
- **Restrict downloads**: Disables the user's ability to download from within the app.
- **Restrict uploads**: Disables the user's ability to upload within the app.
- **Display watermark**: Displays a watermark on the user's screen displaying the user name and IP address of the user's machine.
- **Restrict key logging**: Protects against key loggers. When a user tries to log on to the app using the user name and password, all the keys are encrypted on the key loggers. Also, all

activities that the user performs on the app are protected against key logging.
For example, if app protection policies are enabled for Office 365 and the user edit an Office 365 word document, all key strokes are encrypted on key loggers.

- **Restrict screen capture**: Disables the ability to capture the screens using any of the screen capture programs or apps. If a user tries to capture the screen, a blank screen is captured.

> **Note:**
>
> Key logging and screen capture restrictions are applicable only to Citrix Workspace desktop clients.

7. In **Policy name**, enter a name for the policy.
8. Select **Enable policy on save**. If you do not select this option, the policy is only created and not enforced on the applications. Alternatively, you can also enable the policy from the Access Policies page by using the toggle switch.

Access policy priority

After an access policy is created, a priority number is assigned to the access policy, by default. You can view the priority on the Access Policies home page.

A priority with a lower value has the highest preference and is evaluated first. If this policy does not match the conditions defined, the next policy with the lower priority number is evaluated and so on.

You can change the priority order by moving the policies up or down by using the up-down icon in the **Priority** column.

Next steps

Validate your configuration from the client machines (Windows and macOS).

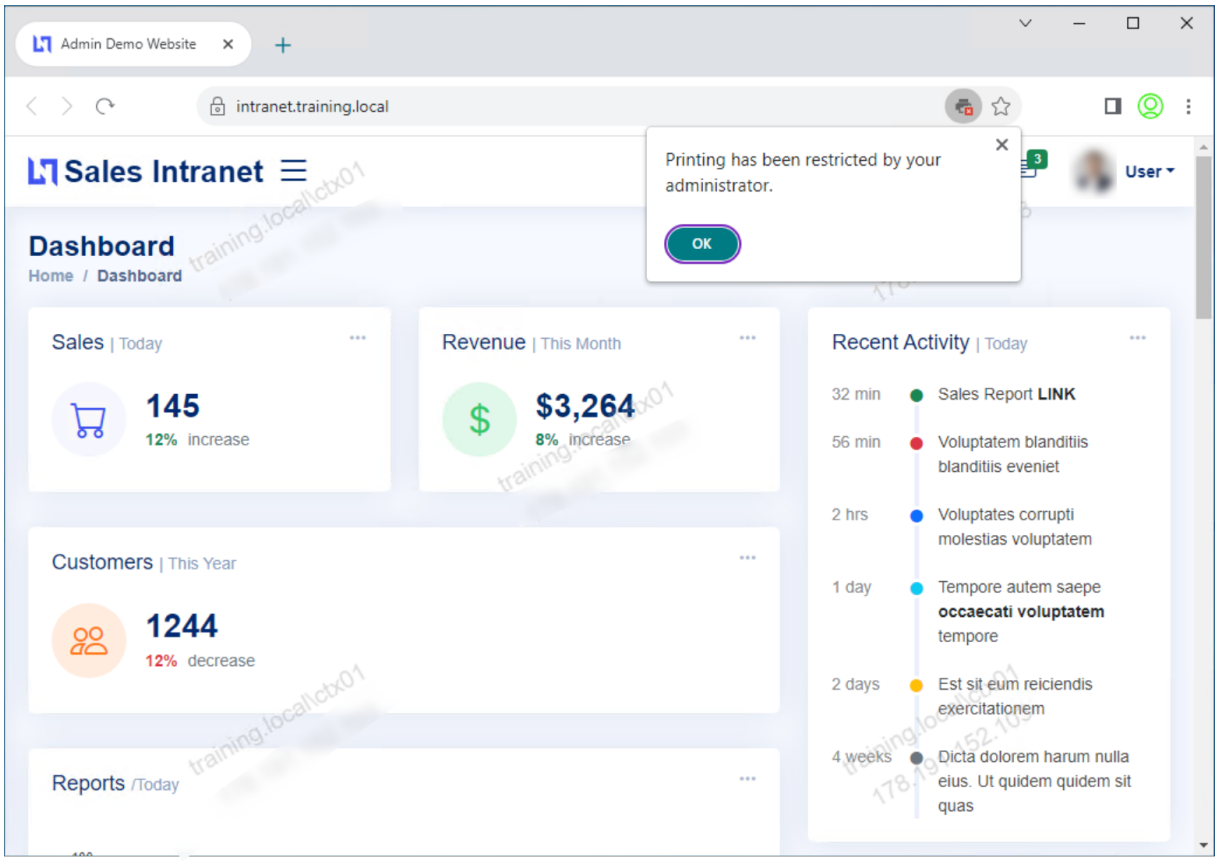
Example

End user flow

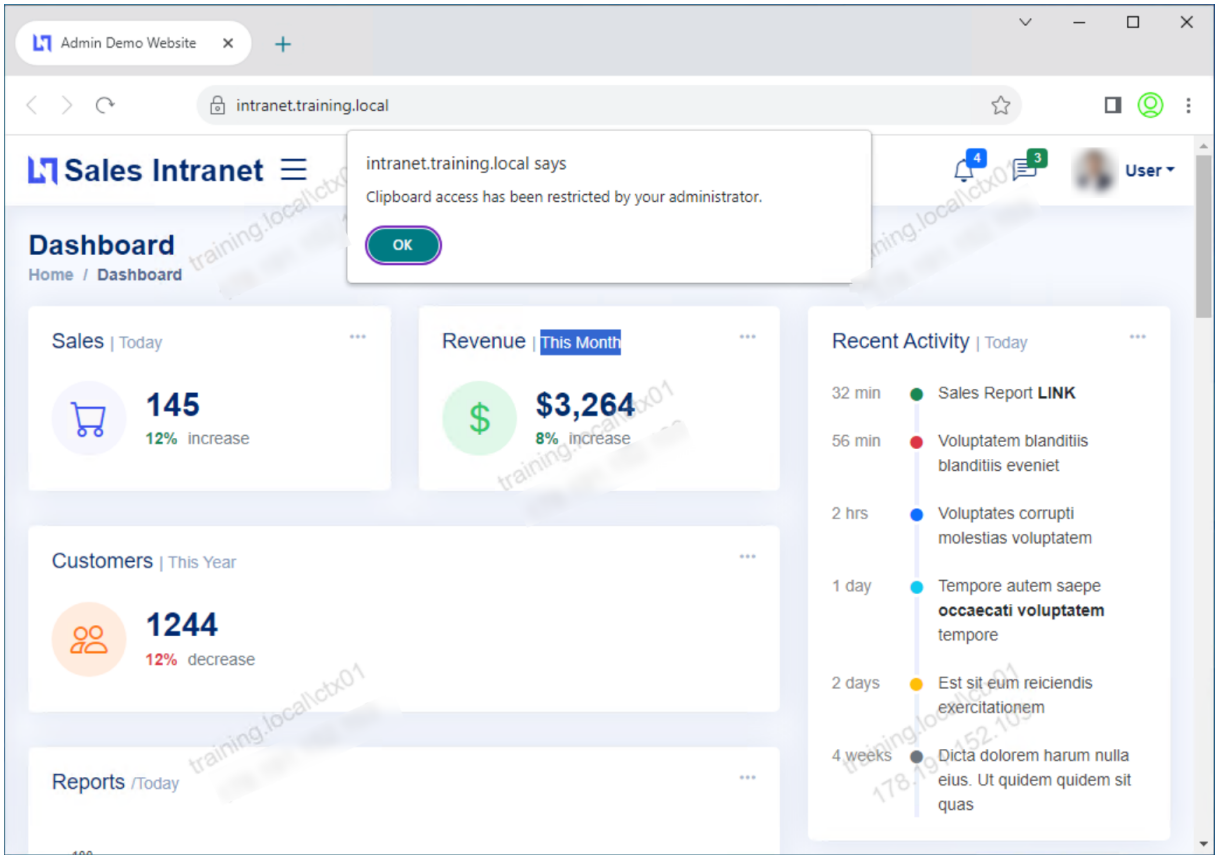
November 21, 2023

Assume that you have created an access policy for an app with clipboard access and print restrictions. Now, when the end user accesses the app from StoreFront, the app opens in the Citrix Enterprise

Browser and the user can use the app. However, if the user tries to print from the app, the following message appears.



Similarly, if the user tries to access the clipboard, the following message appears.



> **Note:**
>
> Administrators must provide users with the account information that they need to access virtual desktops and applications. For details, see Adding store URL to Citrix Workspace app.

Secure Private Access integration with Web Studio integration

November 21, 2023

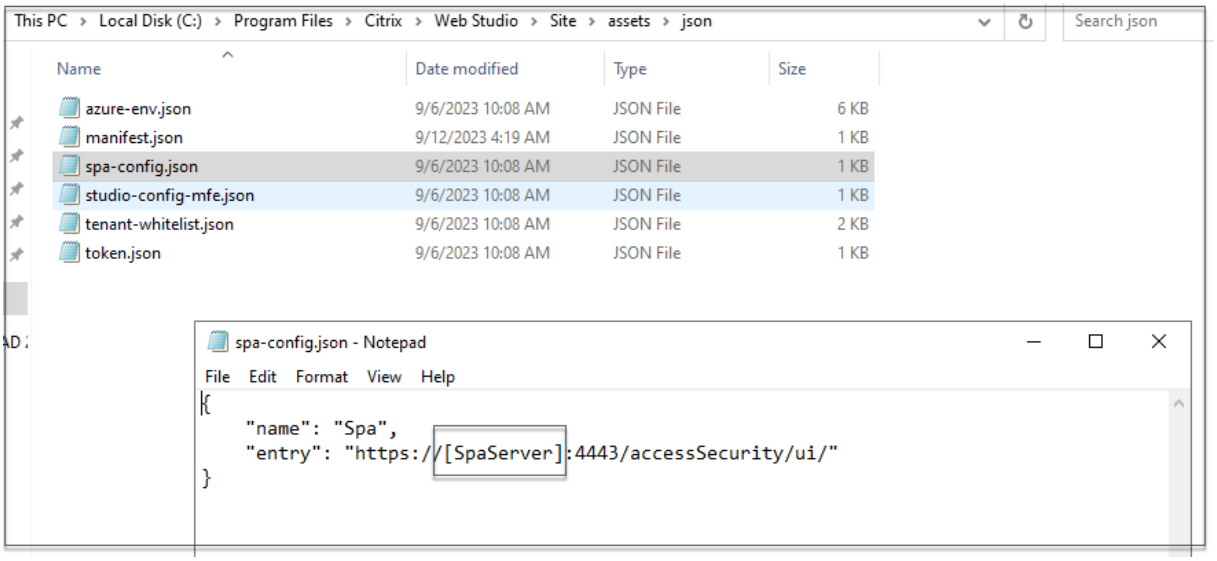
Citrix Secure Private Access is also integrated into the Web Studio console to enable users seamlessly access the service through Web Studio.

You must install Web Studio version 2308 or later.

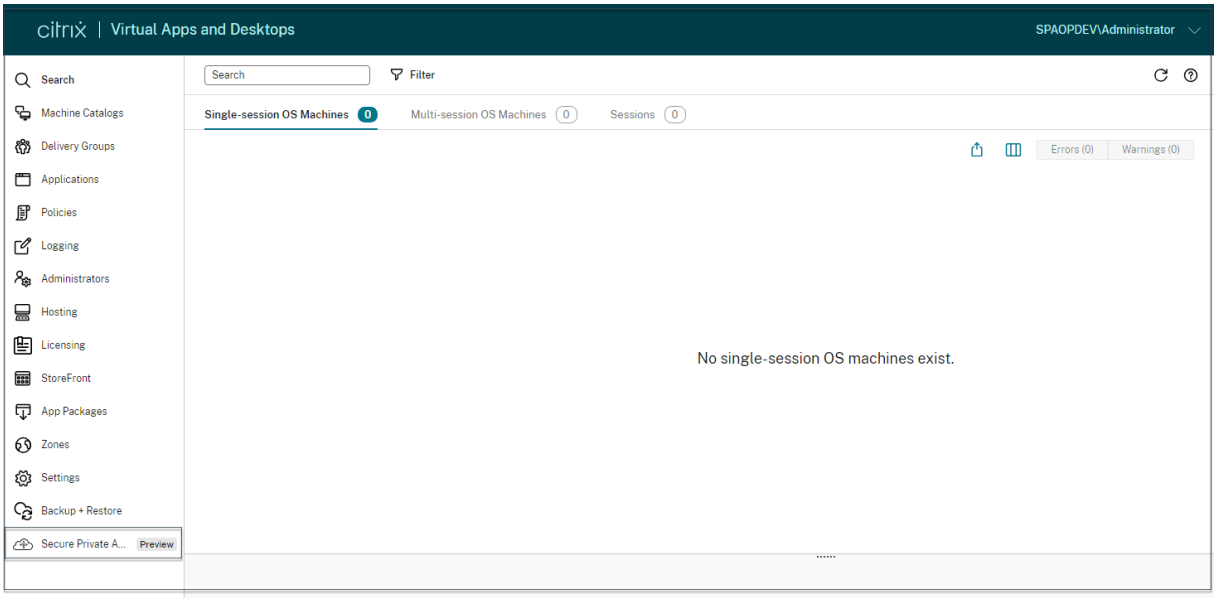
Perform the following steps to enable Web Studio integration:

1. Install Citrix Web Studio by using the Citrix Virtual Apps and Desktops installer or integrated DDC installer.
2. Follow the onscreen instructions and complete the installation. When prompted for a controller address, enter the DDC FQDN as the controller address.

3. After successful installation, navigate to the folder C:\Program Files\Citrix\Web Studio\Site\assets\json and modify the content of the spa-config.json file.
   If a non-default location was used for the Web Studio installation, replace the default installation location in C:\Program Files\Citrix with the correct location.



1. Replace “SpaServer”with the FQDN of your Secure Private Access plug-in.
2. Log in to Web Studio.



1. On the left navigation menu, click **Secure Private Access <Preview>** to access the Secure Private Access admin console from Web Studio.

Manage settings after installation

November 21, 2023

After you have installed Secure Private Access, you cam modify the settings from the Settings page.

Manage routing of application domains

You can view a list of application domains added in your Secure Private Access setup. The application domains table lists all the related domains and how the app traffic is routed (externally or internally).

1. Click **Settings > Application Domain**.
2. You can click the edit icon and change the routing type, if required.

Manage administrators for Secure Private Access

You can view the list of administrators and also add administrators from the **Settings > Administrators** page. The administrator who installs the Secure Private Access the first time is granted full permission. This admin can then add other administrators to the setup.

You can also add admin groups so that access is enabled for all the admins in that group.

1. In **Administrators** page, click **Add**.
2. In **Domain**, select the domain to which this administrator must be added.
3. In **Users or user group**, select the user or groups to which this user belongs.
4. In **Admin Type**, select the permission type that must be assigned to this user.

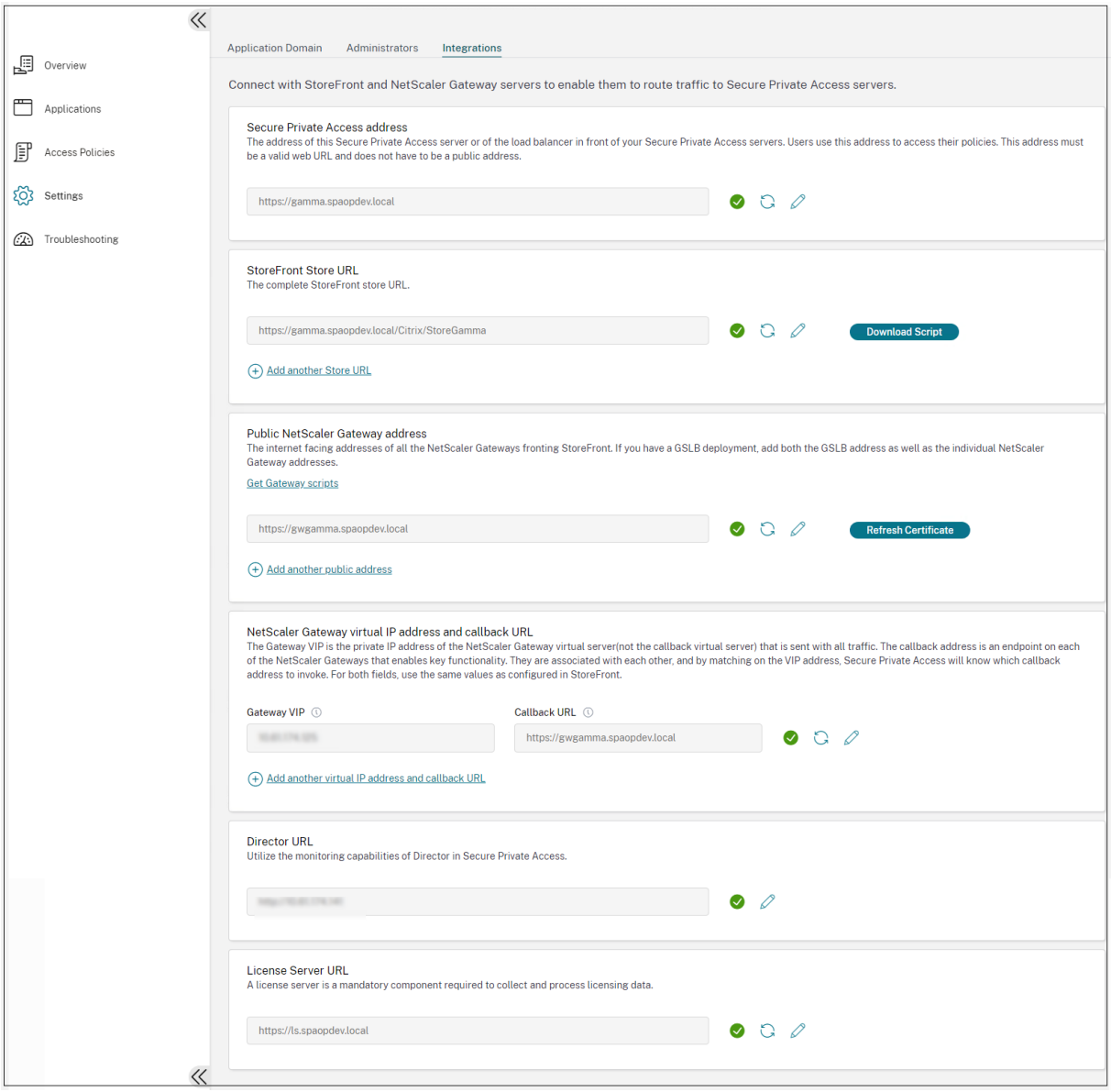
Update StoreFront or the NetScaler Gateway server details after the setup

After you have set up Secure Private Access, you can modify or update the StoreFront and NetScaler Gateway entries from the **Integrations** tab.

1. Click **Settings > Integrations**.
2. Click the edit icon in line with the setting that you want to modify and update the entry.
3. Click the refresh icon to ensure that the settings are valid.

> **Note:**

> If Secure Private Access is installed on a machine different that StoreFront, then download the StoreFront script and run it on the StoreFront.



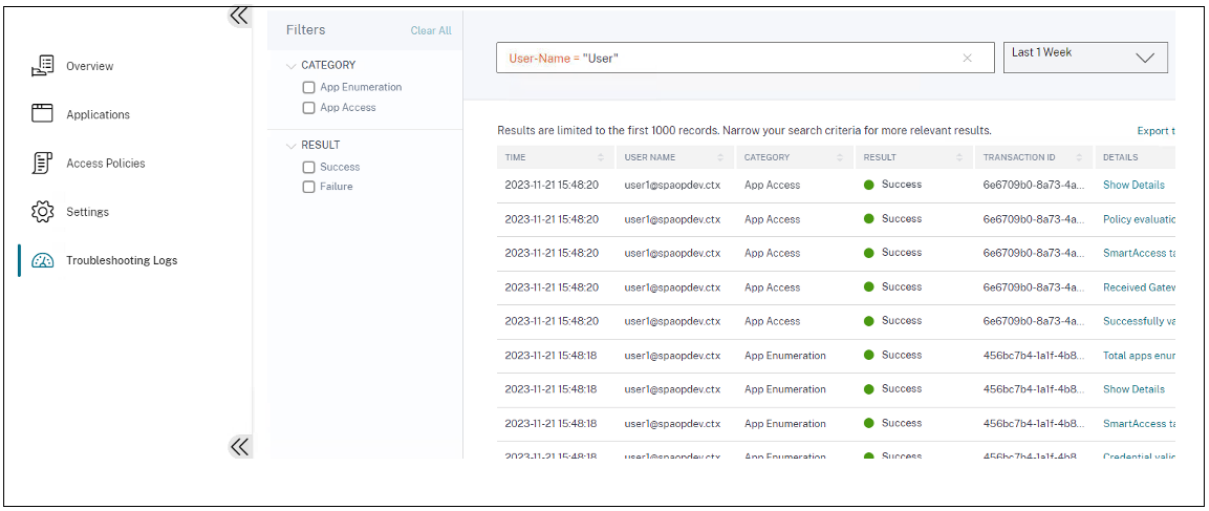
Dashboard overview

November 21, 2023

The Secure Private Access troubleshooting logs dashboard displays the logs related to application launch, app enumeration, and their statuses.

You can view the logs for the pre-set time or for a custom timeline. You can add columns to the chart by clicking the + sign depending on what information you want to see in the dashboard. You can export the user logs into CSV format.

You can use the filters (CATEGORY and RESULT) to refine your search results.



You can also refine your search based on the following parameters along with the operators in the search field.

- User-Name
- Category
- Event-Type
- Result
- Transaction-ID
- Details

The following are the search operators that you can use to refine your search in the User logs and Top access policies by enforcement charts.

- =: To search for the logs/policies that exactly match the search criteria.
- !=: To search for the logs/policies that do not contain the specified criteria.
- ~: To search for the logs/policies that match the search criteria partially.
- !~: To search for the logs/policies that do not contain some of the specified criteria.

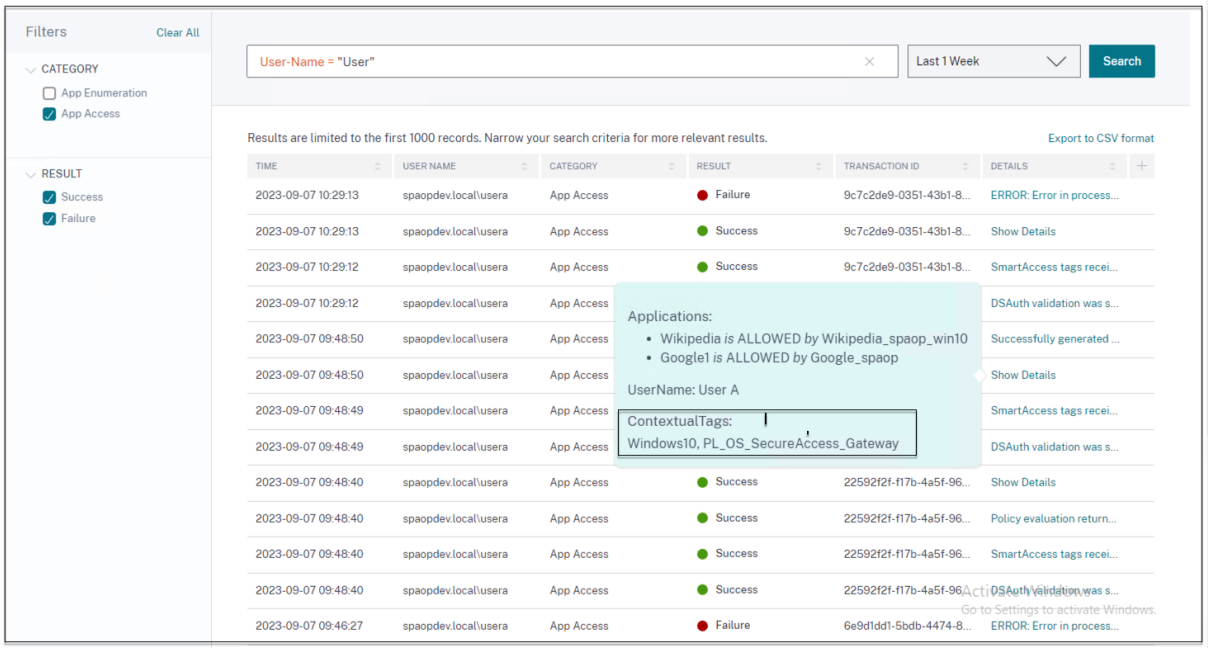
For example, you can search for an event type “DSAuth”by using the string **Event-Type = DSAuth** in the search field.

Similarly, to search for users that partially contain the term “operator”, use the string **User-Name ~ operator**. This search lists all the user names that contain the term “operator”. For example, “local operator”, “admin operator”

You can search for all logs related to a single event by using the transaction ID. The transaction ID correlates all Secure Private Access logs for an access request. One app access request can have multiple logs generated, starting from authentication, then app enumeration and then app access itself. All these events generate their own logs. Transaction ID is used to correlate all of these logs. You can filter the troubleshooting logs using the transaction ID to find all logs related to a particular app access request.

View contextual tags from logs

The **Show Details** link in the **Details** column displays the list of applications associated with the specific access policy and also the contextual tags associated with the policy.



Troubleshooting errors

November 22, 2023

This topic list some of the errors that you might come across while setting up Secure Private Access.

Certificate errors
Database creation errors
StoreFront failures
Public gateway/callback gateway failures
Secure Private Access Server not reachable

Certificate errors

Error message: Unable to get the certificates automatically from one or more Gateway servers.
Workaround: Update the Gateway Certificate the same way in which you would for Citrix Virtual Apps and Desktops.

Database creation errors

- **Error message**: Failed to create database

  Resolution: For Automatic case - The machine must have READ, WRITE, UPDATE permissions to create tables within the database on the SQL server.

- **Error message**: Failed to create database: A database already exists.

  This error message might occur in any of the following scenarios.

  - If the **Automatic configuration** option is selected while configuring the databases.
  - If the admin is creating a database, it must be an empty database. This error message can appear if the database is a non-empty database.

    Resolution: You must create an empty database.
  - You uninstall Secure Private Access and retry the setup with the same site name. In this case, the database from the previous installation would not have been deleted.

    Resolution: You must manually delete the database.
  - You choose to set up the database manually (by selecting Manual Configuration in the Configuring Databases page) by using the script, and then change to the Automatic Configuration option but use the same site name. In this case, a database with the same name is already created while running the script.

    Resolution: You must rename the site and then run the script again.
  - The machine does not have the READ, WRITE, UPDATE permissions to create tables within the database on the SQL server.

    Resolution: Enable appropriate permissions on the machine. For details, see Permissions required to set up databases.

- **Error message**: Failed to create database: Connection failed

  Resolution:

  - Check database network connectivity from your machine. Ensure that the SQL server port is open on the firewall.

- If using a remote SQL server, check if the SQL server has login created with the Secure Private Access machine identity, Domain\hostname$.
- If using a remote SQL server, confirm that the machine identity has the correct role assigned, system administrator role.
- If using a Local SQL server (not from the installer), check if the NT AUTHORITY\SYSTEM user must have a login created.

StoreFront failures

- **Error message**: Failed to create StoreFront entry for: <`Store URL`>

  Update the StoreFront entries from the **Settings** tab if it is not visible. After you have set up Secure Private Access using the wizard, you can edit StoreFront entries from the **Settings** tab. Note down the StoreFront Store URL for which this error occurred.

  Resolution:

  1. Click **Settings** and then click the **Integrations** tab.
  2. In **StoreFront Store URL**, add the StoreFront entry if it is not visible.

- **Error message**: Failed to configure StoreFront entry for: <`Store URL`>

  Resolution:

  1. There might be a PowerShell execution policy restriction in place. Run the PowerShell script command `Get-ExecutionPolicy` for details.
  2. If it is restricted, you must bypass this and run a StoreFront configuration script manually.
  3. Click **Settings** and then click the **Integrations** tab.
  4. In **StoreFront Store URL**, identify the StoreFront URL entry for which the error occurred.
  5. Click the **Download Script** button next to this Store URL and run this PowerShell script with admin privileges on the machine on which the corresponding StoreFront installation is present.

  > **Note:**
  >
  > If you are retrying the installation after uninstalling, ensure that you don't have an entry with the name "Secure Private Access"in the StoreFront configuration (**StoreFront > store> Delivery Controller -> Secure Private Access**). If Secure Private Access is present, delete this entry. Manually download and run the script from the Settings > Integrations page.

- **Error message**: StoreFront configuration is not local for: <`Store URL`>

After you have set up Secure Private Access using the wizard, you can edit gateway entries from the Settings tab. Note down the StoreFront Store URL for which this error occurred.

Resolution:

This issue occurs if StoreFront is not installed on the same machine as Secure Private Access. You must manually run the StoreFront configuration on the machine where you have installed StoreFront.

1. Click **Settings** and then click the **Integrations** tab.
2. In **StoreFront Store URL**, identify the StoreFront URL entry for which the error occurred.
3. Click the Download Script button next to this Store URL and run this PowerShell script with admin privileges on the machine on which the corresponding StoreFront installation is present.

> **Note:**
>
> To run the StoreFront PowerShell script, open the Windows x64 compatible PowerShell window with admin privileges and then run ConfigureStorefront.ps1. StoreFront script is not compatible with Windows PowerShell (x86).

Public gateway/callback gateway failures

Error message: Failed to create Gateway entry for: <`Gateway URL`> OR Failed to create Callback Gateway entry for: <`Callback Gateway URL`>

Resolution:

Note the Public Gateway or Callback Gateway URL for which the failure occurred. After you have set up Secure Private Access using the wizard, you can edit gateway entries from the **Settings** tab.

1. Click **Settings** and then click the **Integrations** tab.
2. Update the public gateway address or the callback gateway address and the virtual IP address for which the failure occurred.

Secure Private Access Server not reachable

Error message: Failed to update IIS pool. Failed to restart IIS pool

Resolution:

1. Go to Application pools in Internet Information Services (IIS) and check that the following application pools have started and are running:

- Secure Private Access Runtime Pool

- Secure Private Access Admin Pool

Also check that the default IIS site `"Default Web Site"` is up and running.

Database connectivity check failures

Error Message: Connectivity check failed

Database connectivity check can fail due the multiple reasons:

- The database server is not reachable from the Secure Private Access plug-in host machine due to a firewall.

  Resolution: Check if the database port (default port 1433) is open on the firewall.

- The Secure Private Access plug-in host machine does not have the permission to connect to the database.

  Resolution: See SQL database permissions for Secure Private Access.

Gateway connectivity check failed. Unable to fetch public certificate

Error Message: Post installation configuration fails with the error "Gateway connectivity check failed. Unable to fetch a public certificate…."

Resolution:

- Upload the gateway public certificate to the Secure Private Access database manually using the config tool.
- Open the PowerShell or the command prompt window with admin privileges.
- Change the directory to the Admin\AdminConfigTool folder under the Secure Private Access installation folder (for example, cd "C:\Program Files\Citrix\Citrix Access Security\Admin\AdminConfigTool")
- Run the following command:

```
.\AdminConfigTool.exe /UPLOAD_PUBLIC_GATEWAY_CERTIFICATE <PublicGatewayUrl
> <PublicGatewayCertificatePath>
```

Authentication issues

The Secure Private Access runtime service IIS authentication configuration might not work as the Integrated Windows Authentication (IWA) is not supported.

Miscellaneous

Create Secure Private Access diagnostics support bundle

Perform the following steps to create a Secure Private Access diagnostics support bundle:

- Open the PowerShell or the command prompt window with admin privileges.
- Change the directory to the Admin\AdminConfigTool folder under the Secure Private Access installation folder (for example, cd "C:\Program Files\Citrix\Citrix Access Security\Admin\AdminConfigTool").
- Run the following command:

  ```
  .\AdminConfigTool.exe /SUPPORTBUNDLE <output folder>
  ```

SQL database permissions for Secure Private Access

For automatic database creation, the Secure Private Access plug-in host machine must have the permissions to connect to the database and create database schema.

Remote database:

Perform the following steps to set up the permissions for a remote database.

1. Create an empty database with the name syntax `CitrixAccessSecurity<Site Name>`. Here `<Site Name>` is the Secure Private Access site name. (for example. CitrixAccessSecuritySPA).

   ```
   CREATE DATABASE CitrixAccessSecurity<SiteName>
   ```

2. Create an SQL server login for the machine identity for the Secure Private Access virtual machine. For example, if your Secure Private Access broker machine name is HOST1 and the machine domain is DOMAIN1, then the machine identity is "DOMAIN1\HOST1$". If the login is already created, then you can ignore this step.

   ```
   USE CitrixAccessSecurity<SiteName>
   ```

   ```
   CREATE LOGIN [DOMAIN1\HOST1$] FROM WINDOWS
   ```

   Domain name can be found using the following query:

   ```
   SELECT DEFAULT_DOMAIN()[DomainName]
   ```

3. Assign the db_owner role to the machine identity.

   ```
   USE CitrixAccessSecurity<SiteName>
   ```

   ```
   EXEC sys.sp_addrolemember [db_owner], 'DOMAIN1\HOST1$'
   ```

   ```
   ALTER USER [DOMAIN1\HOST1$] WITH DEFAULT_SCHEMA = dbo;
   ```


Local database:

Perform the following steps to set up the permissions for a local database.

1. Create an empty database with the name syntax `CitrixAccessSecurity<Site Name>`. Here `<Site Name>` is the Secure Private Access site name. (for example, CitrixAccessSecuritySPA).

   ```
   CREATE DATABASE CitrixAccessSecurity<SiteName>
   ```

2. Create an SQL server login for `NT AUTHORITY\SYSTEM` user. If the login is already created then you can ignore this step.

   ```
   USE CitrixAccessSecurity<SiteName>

   CREATE LOGIN [NT AUTHORITY\SYSTEM] FROM WINDOWS
   ```

3. Assign the db_owner role to the "NT AUTHORITY\SYSTEM"user.

   ```
   USE CitrixAccessSecurity<SiteName>

   EXEC sys.sp_addrolemember [db_owner], 'NT AUTHORITY\SYSTEM'

   ALTER USER [NT AUTHORITY\SYSTEM] WITH DEFAULT_SCHEMA = dbo;
   ```

When you manually create the database, the downloaded database script adds the permissions to the machine identity.

Uninstall Secure Private Access

November 21, 2023

You can uninstall Secure Private Access from **Control Panel > Programs > Programs and Features**.

1. Select **Citrix Virtual Apps and Desktops 7 2308 –Secure Private Access**.
2. Click **Uninstall**.
3. Follow the on-screen instructions and complete the uninstallation.

> **Note:**
>
> If the Secure Private Access post installation setup is completed, then before uninstalling Secure Private Access, download the StoreFrontScripts.zip file from the admin console to remove the Secure Private Access plug-in from the StoreFront store configuration.

To download StoreFrontScripts zip file, follow these steps:

1. Log in to the Secure Private Access admin console.

2. Click **Settings** and then click the **Integrations** tab.
3. Click **Download Script** in the StoreFront Store URL section.

Remove the Secure Private Access plug-in from the StoreFront store configuration

After you uninstall Secure Private Access, you must remove the Secure Private Access plug-in from the StoreFront store configuration.

1. Log in to the StoreFront machine.
2. Download the StoreFrontScripts.zip file.
3. Unzip StoreFrontScripts.zip to a folder.
4. Open a PowerShell window with the admin privileges.
5. Run the following command:

```
cd <unzipped folder>
.\RemoveStorefrontConfiguration.ps1
```

Secure Private Access 2308 compatibility with legacy versions

December 21, 2023

Secure Private Access 2308 is incompatible with the legacy versions (Secure Private Access for on-premises V1.0 and V1.5). NetScaler Gateway must be configured using the new script as described earlier in Configure NetScaler Gateway. No configuration is required in the Citrix Virtual Apps and Desktops delivery controller for Secure Private Access 2308.

The best way to migrate from Secure Private Access on-premises legacy versions (1.0 and 1.5) to 2308 is to clean up the following:

- Citrix Virtual Apps and Desktops Delivery controller from Web/SaaS apps
- Update Citrix StoreFront to default configuration or create a new store on StoreFront
- NetScaler Gateway

Citrix Virtual Apps and Desktops Delivery Controller cleanup

The Secure Private Access applications created on Citrix Virtual Apps and Desktops Delivery Controller can be removed manually or using the PowerShell script.

Manual:

1. Open Citrix Studio or Citrix WebStudio.
2. Click **Applications**.
3. Select the app, right click, and then select **Delete**.

Using a script:

1. Fetch the current Secure Private Access apps by running the following command:

   ```
   Get-BrokerApplication -Description "KEYWORDS:SPAENABLED"
   ```

   For details, see Remove-BrokerApplication.

2. After verifying the apps, run the following command to remove them:

   ```
   Get-BrokerApplication -Description "KEYWORDS:SPAENABLED"| Remove-BrokerApplication
   ```

Citrix StoreFront cleanup

You can either create a new StoreFront store or clean up the existing store.

- Create a new StoreFront store: You must create a new StoreFront store for Secure Private Access 2308 as the existing StoreFront stores created for the legacy versions aren't compatible with 2308. This is the recommended option to avoid configuration related issues.
- Clean up existing StoreFront store: The existing Store on StoreFront can be cleaned manually or using the script. However, the best option for migrating Secure Private Access on-premises to 2308 is to create a new Store on StoreFront.

Manual:

1. Find and remove policy.json (e.g C:\inetpub\wwwroot\Citrix\Store\Resources\SecureBrowser\policy.json)
2. Find and remove folders SecureBrowser (for example C:\inetpub\wwwroot\Citrix\Store\Resources\SecureBr and Resources (for example C:\inetpub\wwwroot\Citrix\Store\Resources)
3. Remove the "route"node from web.config (you can find it in C:\inetpub\wwwroot\Citrix\Store) with the name "webSecurePolicy"routing to the URL "Resources\SecureBrowser\policy.json"
4. Restart the **Default Web Site on Internet Information Service (IIS) Manager** console to apply changes.

Using a script:

1. Download the script from the https://www.citrix.com/downloads/citrix-secure-private-access/.
2. Upload the script to a StoreFront machine.
3. Run the script as administrator on PowerShell.

4. Enter the Store name.

   The Script removes the C:\inetpub\wwwroot\Citrix\Store\Resources folder, subfolder and files, and updates the web.config file.

5. Restart the **Default Web Site on Internet Information Service (IIS) Manager** console to apply changes.

NetScaler Gateway cleanup

NetScaler Gateway virtual server

The NetScaler Gateway virtual server created for legacy versions (1.0 and 1.5) can be reused for Secure Private Access 2308.

- To update an existing NetScaler Gateway, see [Update an existing NetScaler Gateway].
- To configure a new NetScaler Gateway, see [Configure NetScaler Gateway].

Session policies and actions

Session policies and actions created for legacy versions (1.0 and 1.5) can be reused by Secure Private Access 2308.

- To update an existing NetScaler Gateway session policies/actions, see NetScaler Gateway session actions.
- To configure a new NetScaler Gateway, see Configure NetScaler Gateway

The script also creates fully configured session policies/actions.

Authorization policies

Authorization policies created on NetScaler Gateway for legacy versions (1.0 and 1.5) can interfere with Secure Private Access 2308 policies and break the flow.

You can do the following to clean up the authorization policies.

- Manually unbind the authorization policies from authentication and authorization groups that are used as default groups on NetScaler Gateway. In this case, the policies can be reused.
- Remove the authorization policies.

Third-party notifications

November 21, 2023

Citrix Secure Private Access for on-premises