



# Citrix Workspace app for HTML5

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## Citrix Workspace app for HTML5

January 16, 2024

Citrix Workspace app for HTML5 is hosted on servers for on-premises deployments, and Content Delivery Network (CDN) for cloud deployment. Citrix Workspace app enables users to access virtual desktops and hosted apps from a web browser.

Resources delivered by Citrix Virtual Apps and Desktops are aggregated in a store. It's then made available through a Citrix Receiver for Web site. With Citrix Workspace app for HTML5 enabled on the site, users can access desktops and apps within their web browsers.

For detailed information about the features, fixed issues, and known issues, see the [About this release](#) page.

Citrix recommends the following:

- For a secure connection, open Citrix Workspace app sessions from HTTPS-based stores. Some features might not function when using HTTP-based stores.

There's no need for the users to install Citrix Workspace app locally on their devices, as it's a zero install client.

You receive centrally managed app and desktop selection experience from when you use Citrix Workspace app with the centralized customization and branding capabilities of 3.0.

For information about the features available in Citrix Workspace app for HTML5, see [Citrix Workspace app feature matrix](#).

For information about deprecated items, see the [Deprecation](#) page.

### Language support

Citrix Workspace app for HTML5 is adapted for use in languages other than English. For a list of languages supported by Citrix Workspace app for HTML5, see [Language support](#).

### Legacy documentation

For product releases that have reached End of Life (EOL), see [Legacy documentation](#).

## About this release

April 18, 2024

### Note:

Looking for features in Technical Preview? We have curated a list so that you can find them in one place. Explore our [Features in Technical Preview](#) page and share your feedback using the attached Podio form link.

## What's new in 2404

This release addresses areas that improve overall performance and stability.

## Fixed issues in 2404

When you click **Multimonitor** from the session toolbar, the session might not extend automatically. The issue occurs when you use Citrix Workspace app for HTML5 version that is earlier than 2404, and the Google Chromium browser version is equal to or greater than v125.0.0. [RFHTMCRM-12454]

## Known issues in 2404

There are no new known issues in the release.

### Note:

For a complete list of issues in the earlier releases, see the [Known issues](#) section.

## Earlier releases

This section provides information on the new features and fixed issues in the previous releases that we support as per the [Lifecycle Milestones for Citrix Workspace app](#).

## 2402

### What's new

This release addresses areas that improve overall performance and stability.

## Fixed issues

- If you're on an optimized Microsoft Teams call and decide to stop sharing your screen, you might observe a blank rectangle in place of the video section. [RFHTMCRM-11689]
- During the session, when you scroll horizontally to access the input area on the right, the soft keyboard might appear on the upper left of the screen.

The issue occurs when you:

- set the display resolution to custom.
  - enable multi-touch mode. [CVADHELP-24460] [RFHTMCRM-12106]
- When using Citrix Workspace app for HTML5 on iOS devices, the **Delete** key deletes two characters at once. The issue occurs when you switch keyboard languages from Chinese Traditional to English. [CVADHELP-24216] [RFHTMCRM-11787]
  - When you attempt to disconnect a virtual app or desktop session through the toolbar > ... > **Disconnect** button on cloud stores, the session remains active in Citrix Studio. However, the session status changes to inactive after a couple of minutes. [RFHTMCRM-11642]
  - When Citrix Workspace app for HTML5 is set to be consumed from the content delivery network (CDN), the session might fail. The issue occurs when you use the HDX SDK using HTML5. [RFHTMCRM-11765]
  - When you start an app session, horizontal and vertical scroll bars appear even when you set the display resolution to autofit. [RFHTMCRM-11650]
  - When you start a Citrix Workspace app for HTML5 session and disconnect it from the session toolbar, the session remains active in Citrix Studio. The issue occurs when you are on the on-premises deployment. [RFHTMCRM-12017]
  - When you start a virtual desktop session using the Safari browser, the webcam might not work properly. [RFHTMCRM-12348]
  - When you start a virtual desktop session followed by an app session, both vertical and horizontal scroll bars appear in the app session. [RFHTMCRM-12245]
  - On cloud deployments, when you start the HTML5 session for the first time, a spinner appears indefinitely. [RFHTMCRM-11754]
  - When you start a Linux VDA session, the time reflected in the session might not match the local time zone of the end user's device. [RFHTMCRM-11602]

## 2312

### What's new

**Support for secondary ringer** You can use the secondary ringer feature to select a secondary device on which you want to get the incoming call notification when Microsoft Teams is optimized.

For example, consider that you have set a speaker as the Secondary ringer, and your endpoint is connected to the headphones. In this case, Microsoft Teams sends the incoming call ringer to both the headphones and the speaker. You can't set a secondary ringer in the following cases:

- When you aren't connected to more than one audio device
- When the peripheral isn't available (for example, a Bluetooth headset)

#### Note:

By default, this feature is disabled.

For more information, see [Support for secondary ringer](#).

**Simulcast implementation for optimized Microsoft Teams video conference calls** Starting with the 2312 release, by default, simulcast support is enabled for optimized Microsoft Teams video conference calls. With this support, the quality and experience of video conference calls across different endpoints are improved. We're adapting to the proper resolution for the best call experience for all callers.

With this improved experience, each user might deliver multiple video streams in different resolutions (for example, 720p, 360p, and so on). It depends on several factors including endpoint capability, network conditions, and so on. The receiving endpoint then requests the maximum quality resolution that it can handle by that giving all users the best video experience.

### Fixed issues

- On iOS devices, when you start a session, the clipboard data from the previous HTML5 session is pasted without your consent. The issue might occur when you use key combinations like **Ctrl+a** and **Ctrl+x** with an external keyboard or keep typing when you switch between two applications. [RFHTMCRM-10834] [CVADHELP-23753]
- When you use LongCommandLine arguments to start a session, the session might fail to start. The issue occurs when you use the Apple Safari browser on macOS and iOS devices. [CVADHELP-23753]

## 2311

### What's new

This release addresses areas that improve overall performance and stability.

### Fixed issues

- On an iPad, when you switch to the Zhuyin keyboard and enter single-digit numbers like 1 or 2, the input duplicates into two-digit numbers like 11 or 22.

The issue occurs when you access virtual apps or desktops based on the VDA 2203 LTSR version through Citrix Workspace app for HTML5 on an iPad running iPad OS 16. [CVADHELP-23639]

- When you have an old on-premises Citrix UI in the cloud deployment with the new launch improvements feature enabled, HTML5 sessions might fail to start. [CCVADHELP-3080]
- When you start a desktop session and check the `/en-us/citrix-workspace-app-for-html5/` console, the ICARTT value might appear zero. The ICARTT value might have a positive value when you immediately check after you start the session. However, after some time, it might later appear as zero. [CVADHELP-23905]

- When you're using on-premises deployment and start a desktop session, the Citrix Workspace app UI displays progressive launch status messages. However, within no time the UI displays the following error message:

“Can't start the Desktop”

The issue occurs when Citrix Workspace app for HTML5 tries to access a desktop that is in a power-off state. Now, Citrix Workspace app waits until the desktop is powered on instead of displaying the error dialog. [CVADHELP-23140]

## 2310

### What's new

This release addresses areas that improve overall performance and stability.

### Fixed issues

- When you use optimized Microsoft Teams in a desktop session, the participant's video might not appear correctly when you set the display resolution to the **Device Pixel Ratio Scaling** option. [RFHTMCRM-5271]

- In a session, the audio devices including both speakers and microphones don't appear. The issue appears if the local machine has no microphone devices, or if the user disables all the microphone devices. The issue occurs on all browsers. [RFHTMCRM-10900]
- In a session, key combinations like **Command** with a number, or a special key might not work as expected. This issue occurs when you start a Linux VDA session on Mac devices. [RFHTMCRM-5505]
- When you start a session and the **Launch failure** error message appears, and if you choose to close the session, the **Leave site?** notification appears instead of simply closing the tab. [RFHTMCRM-10299]
- On rare occasions, the log files might not include data. The issue occurs when you click **Download log** from the error dialog box. [RFHTMCRM-10732]

## 2309

### What's new

**Scancode input mode** Citrix Workspace app allows you to use external physical keyboards to collaborate with the server-side keyboard layout on the VDA. When administrators enable Scancode mode, the end user might find themselves using the keyboard layout of the server instead of the client.

This feature enhances the user experience particularly when using an East-Asian language physical keyboard.

#### Notes:

- By default, this feature policy is disabled.
- On touch devices, when Scancode is enabled, the on-screen software keyboard doesn't work from the Citrix Workspace app.

For more information on configuration, see [Scancode input mode](#)

### Fixed issues

- When you are in a virtual app session, the cursor moves, but the pointer icon does not change according to the specific application area. [CVADHELP-23499]
- When the WebAssembly (.wasm) files are blocked in your network, the Citrix Workspace app session might not start. [RFHTMCRM-10801]



## 2308

### What's new

This release addresses areas that improve overall performance and stability.

### Fixed issues in 2308

- When you use the French keyboard layout on the client device, some punctuation keys might appear incorrectly in the VDA session. The issue occurs when you start a session using the Mozilla Firefox browser on a macOS device. [RFHTMCRM-8708]
- On touch devices, when you use zoom-in and zoom-out gestures in a session, the in-session toolbar position might appear incorrectly. [RFHTMCRM-10264]
- When you launch a session on any browser on an iPad with a physical keyboard attached, the key combinations like **Command+a**, **Command+c**, and **Command+x** might not work as expected. The issue occurs when you start a Linux VDA session. [RFHTMCRM-5917]

## 2307

### What's new

**Enhancement to HDX session experience** With an enhanced compression technique, Citrix Workspace app for ChromeOS consumes low network resources and improves session responsiveness.

**Microsoft Teams enhancements** Microsoft Teams optimization supports real-time transcription of what the speaker is saying when Live Captions is enabled in Microsoft Teams.

### Fixed issues

- The session launch progress notification window that appears at the lower right of the screen might not close even after the session starts. The issue occurs when the VDA version is 7.15. [RFHTMCRM-10161]

## 2306

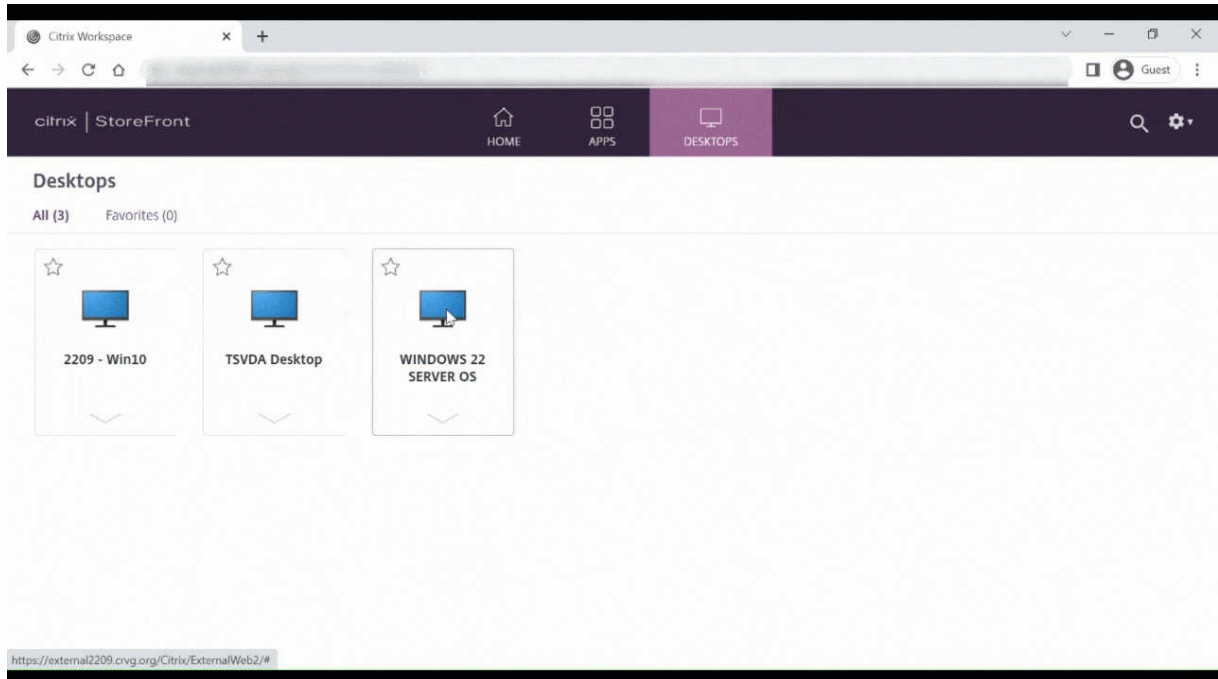
### What's new

**Improved virtual apps and desktops launch experience** Starting with the 2306 release, the improved app and desktop launch experience provide timely and relevant information about the launch

status.

**Note:**

Administrators must upgrade HDX SDK files to use Citrix Workspace app for HTML5 2306 version. The older HDX SDK files are incompatible with the 2306 version and later. To download the latest HDX SDK files, click [here](#). For more information, see the [Citrix Workspace app for HTML5 HDX SDK developer docs](#).



### Fixed issues

- When you are in an optimized Microsoft Teams meeting, the camera streaming fails. The video appears blurry and sometimes the video can become unresponsive. The issue occurs when the screen sharing feature is disabled, and the end user enables the camera in a Microsoft Teams meeting. [RFHTMCRM-9968]
- When sessions are in tablet mode, any touch device's stylus pen might not function. [RFHTMCRM-9951]
- On cloud deployments, the HTML5 session tab didn't wait for the VDI to power on. Instead, the session tab displayed error messages related to the ICA connection. The issue occurs when the session timed out before the VDI has powered on. [RFHTMCRM-9414]

## 2305

### What's new

**Enhancements to Virtual Channel SDK** Starting with the 2305 release, Citrix Workspace app for HTML5 supports Window Management APIs in the Virtual Channel SDK. Web APIs enable IT administrators to create interactive applications and customize them for their end users.

### Fixed issues

- When you use custom domain store URLs, the Citrix Workspace app session might fail to start. [RFHTMCRM-8482] [RFHTMCRM-9406]
- When you use Microsoft Teams, the incoming video or screen sharing might not appear with specific multi-monitor layouts. The issue occurs when the extended monitor is on the left or at the top. The video area can appear black or white. [RFHTMCRM-9159]
- In multi-monitor mode, if you resize the primary monitor window to full-screen, the incoming video or the screen sharing preview video might be invisible.

The issue occurs when the window is in extended mode, and the resolution of the primary screen is of a lower value than the secondary screen. [RFHTMCRM-9277]

- In a session, when two participants are in the optimized Microsoft Teams meeting, the screen sharing and audio might fail. The issue occurs when you enable and disable the camera several times during the call. [CVADHELP-22251]
- When you upgrade your device to ChromeOS version 108, text on the published desktop might appear blurred. The issue occurs on devices where the graphical processing unit (GPU) doesn't support medium precision. [CVADHELP-22362]

#### Note:

- Some devices' display settings don't support high precision, and the text on the published desktop might appear correctly. However, the display might appear abnormal because of this fix. To correct it, administrators can set the **webglHighPrecision** attribute to **false** in the **configuration.js** file.

The following is an example of JSON data:

```
1  "hardware" : {
2
3
4      "webglHighPrecision" : false
5  }
6  ,
7  <!--NeedCopy-->
```

## 2304

### What's new

**Gesture enhancements on touch devices** Starting with the 2304 release, Citrix Workspace app enhances the end user experience for:

- gestures, multi-touch, and soft keyboard functionality on mobile devices.
- soft keyboard functionality on Tablet mode.

In your Citrix Workspace app sessions, you can use all the familiar multi-touch gestures, including the tap, swipe, drag, pinch, and zoom.

The following is the gesture guide:

---

<b>To do this:</b>	<b>On Citrix Workspace app, do this:</b>
Single click	One-finger tap
Right-click	Touch-hold-release
Open the on-screen keyboard	Three-finger tap (or from the toolbar, tap <b>Keyboard</b> icon)
Zoom	Pinch in and out
Drag	Touch, hold, and slide
Enable cursor	Two-finger tap

---

### Fixed issues

- There are no fixed issues in this release.

## 2303

### What's new

**Plug and Play audio device support** Previously, only a single audio playback and recording device was supported and displayed as **Citrix HDX Audio** regardless of the real device name.

Starting with the 2303 version, you can connect multiple audio devices and redirect them to VDA. When you redirect USB audio devices, you can now view the real name of the audio device under the **Sound** settings > **Playback** and **Sound** settings > **Recording** on the VDA. The list of devices on the VDA is dynamically updated whenever an audio device is plugged in or removed.

**Note:**

- By default, this feature is enabled.

For more information, see [Plug and Play audio device support](#).

**Client Drive Mapping** Previously, you couldn't copy files from your local machine to the virtual environment. In a session, you couldn't access local drives directly from the file explorer.

Starting with the 2303 version, the Client Drive Mapping (CDM) feature supports folder mapping on the local machine so they're accessible from within a session. You can map any folder from the local machine, if the folder doesn't contain system files.

The end user can do the following operations:

- Copy files and folders from the local machine to the mapped drive in the session.
- View the list of files and folders in the mapped drive.
- Open and read the file contents in the mapped drive.
- View the file properties (modified time and file size only) in the mapped drive.

This feature provides the advantage of accessing both virtual desktop drives and local machine drives together in the file explorer within the HDX session. This feature is supported on desktop platforms, Google Chrome, and Microsoft Edge Chromium browsers only.

**Note:**

By default, this feature is enabled.

For more information, see [Client Drive Mapping](#).

**Background blurring and effects in Microsoft Teams optimization** Starting with the 2303 release, Citrix Workspace app for HTML5 supports background blurring and effects in Microsoft Teams optimization for video calls. You can either blur or replace the background effects provided by Microsoft Teams to avoid unexpected distractions by helping the conversation stay focused on the silhouette (body and face). This feature can be used with P2P and conference calls.

**Notes:**

- By default, this feature is disabled.
- This feature is now integrated with the Microsoft Teams UI. Multi-window support is a prerequisite that requires a VDA update to 2112 or higher. For more information, see [Multi-window meetings and chat](#).

For more information, see [Background blurring and effects in Microsoft Teams optimization](#).

**Combo box support on mobile platforms** Starting with the 2303 version, selecting UI elements within a combo box on small screens is smoother. An administrator can enable the policy **Remote the combo box** to make the user experience of selecting checkboxes, drop-down list options, radio buttons, and more a smooth experience on iOS and Android mobiles.

For more information, see [Remote the combo box](#) in the Citrix Virtual Apps and Desktops documentation.

**Note:**

This feature is enabled by default.

For more information, see [Combo box support on mobile platforms](#).

### Fixed issues

- In cloud deployments, the enhanced PDF printing fails. The print preview doesn't appear. [RFHTMCRM-8691]

## 2301.1

### What's new

This release addresses a few issues that help to improve overall performance and stability.

### Fixed issues

- The audio device redirection to the Citrix Virtual Apps and Desktops session isn't working. A red 'X' mark appears on the volume toggle icon in the system tray. The issue occurs after you update the Citrix Workspace app for HTML5 with the 2301 version. [RFHTMCRM-8799]

## 2301

### What's new

**Multi-window chat and meetings for Microsoft Teams** Starting with the 2301 version, you can use multiple windows for chat and meetings in Microsoft Teams. You can pop out the conversations or meetings in various ways.

For details about the pop-out window feature, see [Pop out a chat in Microsoft Teams](#).

For troubleshooting see, [CTX253754](#).

Microsoft will deprecate the single-window support in the future. If you're running an older version of Citrix Workspace app or Virtual Delivery Agent (VDA), you can upgrade to:

- Citrix Workspace app 2301 or later  
and
- VDA - 2203 or later

**Plug and Play audio device support** Previously, only a single audio playback and recording device was supported and displayed as **Citrix HDX Audio** regardless of the real device name.

Starting with the 2301 release, we support multiple audio devices and redirect them to VDA. Now, when you redirect audio devices, you can view the real name of the audio device under the **Sound** settings > **Playback** and **Sound** settings > **Recording** on the VDA. The list of devices on the VDA is dynamically updated whenever an audio device is plugged in or removed.

For more information, see the [Plug and Play audio device support](#) article.

### Fixed issues

- Webcam redirection isn't working when you use Citrix Virtual Apps and Desktops version 2206 and later. With the latest fix, the webcam redirection is successful from Citrix Workspace app for HTML5 version 2301 and later. [RFHTMCRM-8580]
- In the multi-monitor mode, a white patch is observed inside the session. The issue occurs when you block pop-ups for Citrix Workspace app for HTML5 sessions on Google Chrome and Microsoft Edge Chromium browsers. [RFHTMCRM-8476]
- When you use a Chromebook and attempt to call from optimized Microsoft Teams, the call doesn't work as expected. The following error message appears:  
"Sorry, it wasn't possible to connect". [CVADHELP-21670] [CVADHELP-21500]
- When you push Global App Configuration service settings, the changes might not apply occasionally. [RFHTMCRM-8710]

## 2212

### What's new

**Client Drive Mapping [Technical Preview]** Previously, copying files from your local machine to the virtual environment required you to upload the file to the virtual session and download the files from the virtual session. You weren't able to access local drives directly from the File Explorer in a session.

Starting with this release, the early version of the client drive mapping (CDM) feature supports folder mapping on the local machine, making it accessible from within a session. You can map any folder from the local machine, provided the folder doesn't contain system files. After you map the folder, it appears as an **L:** drive inside the sessions.

The end user can do the following operations:

- Copy files and folders from the local machine to the mapped drive in the session.
- View the list of files and folders in the mapped **L:** drive.
- Open and read the file contents in the mapped **L:** drive.
- View the file properties (modified time and file size only) in the mapped **L:** drive.

This feature provides the advantage of accessing both virtual desktop drives and local machine drives together in the file explorer within the HDX session. This feature is supported on Google Chrome and Microsoft Edge Chromium browsers only. By default, this feature is disabled.

**Note:**

- This feature is a request-only preview. To get it enabled in your environment, fill out the [Podio form](#).

### Fixed issues

- When you enable multi-touch mode, some touch actions might not work within the Citrix Workspace app session. [RFHTMCRM-8445]

## 2211

### What's new

**Automatic display of virtual keyboard** Starting from this release, a virtual keyboard automatically appears when you place the cursor on an editable field. This feature enhances the user experience on touchscreen devices, unlike the previous behavior where you had to click the keyboard icon to view the virtual keyboard.

**Adaptive audio** With adaptive audio, you don't need to configure the audio quality policies on the VDA. Adaptive audio optimizes settings for your environment. It replaces legacy audio compression formats to provide an excellent user experience.

For more information, see [Adaptive Audio](#) in the Citrix Virtual Apps and Desktops documentation.

For information on how to configure, see [Adaptive audio](#) documentation.



### Fixed issues

- When you share your screen to present a Virtual Desktop Infrastructure (VDI) session with the administrator, you can see both the administrator's and your mouse pointers on the screen. [RFHTMCRM-7726]

## 2210

### What's new

**Adaptive audio [Technical Preview]** With Adaptive audio, you don't need to configure the audio quality policies on the VDA. Adaptive audio optimizes settings for your environment. It replaces legacy audio compression formats to provide an excellent user experience.

For more information, see [Adaptive Audio](#) in Citrix Virtual Apps and Desktops documentation.

For information on how to configure, see [Adaptive audio](#) documentation.

### Fixed issues

- When the Windows client keyboard layout is Korean, the last character that is in the composition window gets deleted after pressing the Enter Key. The issue occurs when you launch any Secure Browser Service (SBS) app session. [RFHTMCRM-7449]

## 2209

### What's new

**Microsoft Teams optimization screen sharing** In earlier versions, the screen sharing functionality was disabled by default. Starting with version 2209, by default, the screen sharing is enabled. The end users can now share apps and tabs that are opened through Citrix Workspace app.

For more information, see the [Screen sharing](#) section.

### Fixed issues

- In multi-monitor mode, when you click the **Close** button (X) to switch to normal mode, the action might not work as expected. As a workaround, use the **Restore** button from the session toolbar to switch from the multi-monitor mode to normal mode. [RFHTMCRM-7403]

- In a session, when three or more participants are in the optimized Microsoft Teams meeting, the screen sharing functionality might not work as expected. The issue happens intermittently. [RFHTMCRM-7409]
- When you join an external meeting from the optimized Microsoft Teams, the audio from the participant doesn't work as expected. The following error message appears: "Couldn't find a microphone". As a workaround, quit the Microsoft Teams app and rejoin. [CVADHELP-20625]

## 2208

### What's new

**Multi-monitor support** Previously, the multi-monitor display feature allowed you to open an extra browser tab of the desktop or app session that you were connected to. You could then drag the additional browser tab to the external monitor.

Now, Citrix Workspace app supports multiple monitors with one click without manual intervention.

For more information, see Multi-monitor support in the [Configure](#) section.

**Provision to disable LaunchDarkly service** Starting with this release, you can disable LaunchDarkly service on both on-premises and cloud stores.

For more information, see the [Feature flag management](#) section.

### Fixed issues

- In a session, when there are three or more participants in the optimized Microsoft Teams meeting, the video of the participants might freeze. The issue occurs intermittently. [RFHTMCRM-7251]
- When you use an HTML5 session in the Mozilla Firefox browser, the Quick Find bar appears when you press the backslash key in the external monitor window. The issue occurs when you are in multi-monitor mode. [CVADHELP-20396]
- When you use an HTML5 session in the Mozilla Firefox browser, the mouse-scrolling functionality might not work in the secondary window. The issue occurs when you are in multi-monitor mode. [CVADHELP-20306]
- In the optimized Microsoft Teams video call, when you add the third participant, the call drops. [CVADHELP-20586]

## 2207

### What's new

This release addresses issues that help to improve overall performance and stability.

### Fixed issues

This release addresses issues that help to improve overall performance and stability.

## 2206

### What's new

**Legacy browser support** Starting from the version 2206 and later, legacy browsers are no longer supported. This includes older versions of Microsoft Edge, all versions of Microsoft Internet Explorer, and any browser that does not support WebAssembly (Wasm).

**Microsoft Teams optimization** Microsoft Teams optimization supports audio call, video call, and screen sharing functionalities on the Google Chrome browser only. The minimum Google Chrome version required is m97 and later.

For more information see, [Microsoft Teams optimization](#) in the configure section.

**Logging enhancements** Previously, the client logs and console logs had to be collected separately. Starting with this release, the console logs are a part of the client logs.

**Clipboard supports HTML format** Starting with this release, you can use HTML format for clipboard operations between the virtual desktop and the endpoint device. When you copy the HTML data, the source content format is copied, and when you paste the data, the destination content carries the formatting. In addition, HTML format provides a better look and feel.

For more information on how to set the policies, see [Client clipboard write allowed formats](#) in the Citrix Virtual Apps and Desktops documentation.

**Virtual Channel SDK support** With this release, the Citrix VC SDK supports writing server-side applications and client-side drivers using the ICA protocol. The server-side virtual channel applications are on the Citrix Virtual Apps and Desktops server.

VC SDK supports writing new virtual channels and Citrix Workspace app for HTML5 can support up to 20 custom-virtual channels.

For more information see, [Virtual Channel SDK support](#) in the configure section.

**Multi-monitor support [Technical Preview]** Previously, the multi-monitor display feature allowed you to create an extra browser tab of the desktop or app session that you were connected to. You could then drag the additional browser tab to the external monitor.

With this release, Citrix Workspace app supports multiple monitors with one click without manual intervention. If there are no external monitors attached to the device, the multi-monitor icon on the in-session toolbar isn't visible. When you connect an external monitor with the required permissions, the multi-monitor icon is visible. After you click the icon, you can see the window span on all the connected monitors.

For more information see, [Multi-monitor support \[Technical Preview\]](#) in the configure section.

### Fixed issues

- After you update the Citrix Workspace app version to 2112 or later, a desktop session on the Internet Explorer browser fails. The following error message appears: 'Store' is undefined.

The issue occurs because of an internal code error. [CVADHELP-19883]

## 2205.6

### What's new

This release addresses issues that help to improve overall performance and stability.

### Fixed issues

- If the administrator has rolled out any settings through the Global App Configuration Service (GACS), Citrix Workspace app might not apply those settings. [RFHTMCRM-7198]

### Known issues

#### Known issues in 2402

- If you attempt to download files or modify files inside the mapped drive from VDA using apps that rely on temporary file, data might get corrupted. For example, browsers, Microsoft office apps such as Excel. [RFHTMCRM-12156] [CVADHELP-24459]

- When you attempt to disconnect a virtual app or desktop session through the toolbar > ... > **Disconnect** button, the session remains active in Citrix Studio. The issue occurs with the on-premises store that is configured with Citrix Gateway. [HDX-60157]

#### **Known issues in 2310**

- When you start a desktop session using Citrix Workspace app for HTML5 on the Google Chrome browser, green blocks are visible on the display screen that blocks the UI. The issue might occur when you move an application window inside the launched desktop. [CVADHELP-23377]

#### **Known issues in 2203**

- Webcam redirection might not work in some Citrix Virtual Apps and Desktops or XenDesktop. [HDX-39396]

#### **Known issues in 2202**

- When you use Microsoft Teams optimization and share the screen, a red border that indicates the screen sharing is unavailable. [RFHTMCRM-6360]

#### **Known issues in 2108.2**

When **Use Video Codec for Compression** is set to **For the Entire Screen** in Citrix Studio, a multi-monitor session might render incorrectly. We recommend changing the setting to **Use when preferred** in multi-monitor sessions. [RFHTMCRM-5523]

#### **Known issues in 2105.5**

- The input of the first character might not appear exactly at the location of the workspace session's cursor position. [RFHTMCRM-4909]
- When a CJK Generic Client IME user single-clicks a cell to type in Microsoft Excel, the Candidate and Composition Window UI might not appear at the focus position. As a workaround, double-click the cell. [RFHTMCRM-5185]

#### **Legacy documentation**

For product releases that have reached End of Life (EOL), see [Legacy documentation](#).

## Limitations

- Disconnecting from a session: When you disconnect from a session by closing a tab or closing the browser, the server might not get notified that the session was disconnected. As a result, the session on the server remains active for the default 180 seconds or the configured session reliability timeout.

Recommendation: We recommend that you disconnect the session through the toolbar option.

- When **Use Hardware Encoding for Video Codec** is set to **Enabled** in Citrix Studio, your screen might appear green during a session through an Intel vGPU VDA. [RFHTMCRM-5521]
- The server falls back to YUV420 even when configured to Graphics-Thinwire YUV444 setting. The graphics-rich applications are limited to the YUV420 range. [RFHTMCRM-5520]
- In a session, when you try to send **command + R** key combination prompts to disconnect the session instead of remoting to the session. The issue occurs when you use the Safari browser application. [RFHTMCRM-6415]
- When you use Microsoft Teams optimization and share the screen, a red border that indicates the screen sharing is unavailable. [RFHTMCRM-6360]
- External mouse and keyboard aren't supported with Citrix Workspace app for HTML5 in any browser on Android or iOS operating systems. [RFHTMCRM-6623]
- When you close the browser or the browser tab to disconnect the session, the session state might remain active on the server (Delivery Controller) for sometime. The issue occurs intermittently.

As a workaround, use the **Disconnect** option from the secondary menu in the session toolbar. [RFHTMCRM-5457]

- Horizontal scroll from a touchpad isn't supported.
- When you connect multiple audio devices in a session, you can hear audio from one device only. You might not be able to switch to the other audio device. [HDX-49312]
- In a session, you might not hear the audio from some applications when you disconnect and reconnect to your previous session through toolbar. [HDX-49313]
- Anonymous logins to Citrix Virtual Apps and Desktops from devices with different Device IDs across sessions can sometimes lead to an incorrect user or device license count.
- In a session, when you open Microsoft Excel and do a cut-and-paste operation using a keyboard, the text in the cell isn't cleared after the cut action. [RFHTMCRM-10426]
- When you transfer files using Client Drive Mapping functionality from your local device to the VDA and conversely, data might get corrupted. [RFHTMCRM-11474]

- When you start a desktop session using Citrix Workspace app, green blocks are visible on the display screen that blocks the UI. The issue might occur when you move an application window inside the launched desktop. [CVADHELP-23377]

## Deprecation

For information about deprecated items, see the [Deprecation](#) page.

## Legacy documentation

For product releases that have reached End of Life (EOL), see [Legacy documentation](#).

## Features in Technical Preview

September 8, 2023

Features in Technical Preview are available to use in non-production or limited production environments, and to give customers an opportunity to share feedback. Citrix does not accept support cases for features in technical preview but welcomes feedback for improving them. Citrix might act on feedback based on its severity, criticality, and importance.

### Note

There are no Technical Preview features for now.

## Citrix Workspace app for HTML5 - Preview

April 18, 2024

Citrix Workspace app for HTML5 2405 - Preview is coming soon. Look forward to the new features and resolved issues in the upcoming 2405 release.

The generally available version of Citrix Workspace app for HTML5 is 2404. For more information on the current release, see [About this release](#).

## Prerequisites for installing

March 21, 2024

### System requirements and compatibility

This topic lists the supported Citrix product versions for Citrix Workspace app and the requirements for users to access virtual desktops and applications.

We assume that all computers meet the minimum hardware requirements for the installed operating system.

### Requirements

Users require devices running the following web browsers and operating systems to access desktops and applications using Citrix Workspace app for HTML5. All browsers are supported only on their latest versions. For a secure connection, open Citrix Workspace app sessions from HTTPS-based stores. Some features might not function when using HTTP-based stores. Observe the padlock icon on the address bar. If it is locked, then the connection is secure. If not secure, update the certificate.

### Browsers

- Apple Safari
- Google Chrome
- Microsoft Edge Chromium
- Mozilla Firefox

#### Note:

Microsoft and Citrix Workspace app have removed the support for Internet Explorer.

### Operating systems

- Windows 11
- Windows 10
- Windows Phone 10
- Windows 8.1
- Windows 8 Pro and Enterprise (32-bit and 64-bit editions)
- Windows 7 Service Pack 1 (32-bit and 64-bit editions)
- Windows Server 2008 R2



- Windows Server 2012 R2
- Windows Server 2016
- macOS X 10.8 and later
- ChromeOS (latest version)
- iOS (latest version)
- Android (latest version)

### Microsoft Internet Information Services (IIS) hardening

To configure StoreFront with an IIS configuration, see:

- [Filename extensions](#).
- [Verbs](#).

**WebAssembly file** After you upgrade Citrix Workspace app to the latest version:

- you might see an older version 21.1.0.5 (2101) of the app in the **About** dialog.  
or
- you might experience session launch failure.

The issue occurs when the WebAssembly ( `.wasm` ) files are blocked in your network. To resolve, verify the `.wasm` file MIME type is `application/wasm`, and is allowed in the network.

### Supportability matrix

Citrix Workspace app for HTML5 supports access to desktops and applications through the following versions of StoreFront. Stores must be accessed through the Citrix Receiver for Web site. Citrix recommends the following:

- StoreFront 2.5 (or later)
- Citrix Workspace app for HTML5 allows you to upgrade from any version of StoreFront 2.5 or later.

When users connect through Citrix Gateway, Citrix Workspace app can be used to access desktops and applications that are delivered through:

- all the versions of Citrix Virtual Apps and Desktops and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service)
- StoreFront that supports desktops and applications.

For direct connections through StoreFront without Citrix Gateway, Citrix Workspace app can be used to access desktops and applications through the following product versions:

- XenDesktop 7.6 and later

**Note:**

Admins need to install Citrix Workspace app for HTML5 on the StoreFront server to make it accessible for the end users. Therefore, the build is in the form of the Windows binary. However, HTML5 doesn't require any installation on the client side.

### Connections

In a production environment, Citrix recommends:

- securing communications between Citrix Receiver for Web site and users' devices with Citrix Gateway and HTTPS. Also, you must have an SSL-enabled VDA.

For more information, see the Knowledge Center article [SSL configuration on VDA](#)

- using SSL certificates with a key size of at least 1024 bits throughout the environment where, Citrix Workspace app for HTML5 is deployed.

Citrix Workspace app enables users to access to desktops and applications from public networks with the following versions of Citrix Gateway.

- NetScaler Gateway 10.5 and later

Citrix Workspace app for HTML5 now supports CloudBridge disabling compression and printer compression and using HDX Insight analytics to display in the CloudBridge Insight Center.

- CloudBridge 7.4 and later

**Note:**

If there's an issue to connect the SSL-enabled VDA with Citrix Workspace app for HTML5, configure the cipher suites as specified in [TLS settings on VDAs](#).

### Install

March 21, 2024

### StoreFront

Enable Citrix Workspace app for HTML5 on the Citrix Receiver for Web site. The StoreFront store provides the desktops and applications for Citrix Workspace app for HTML5 users.

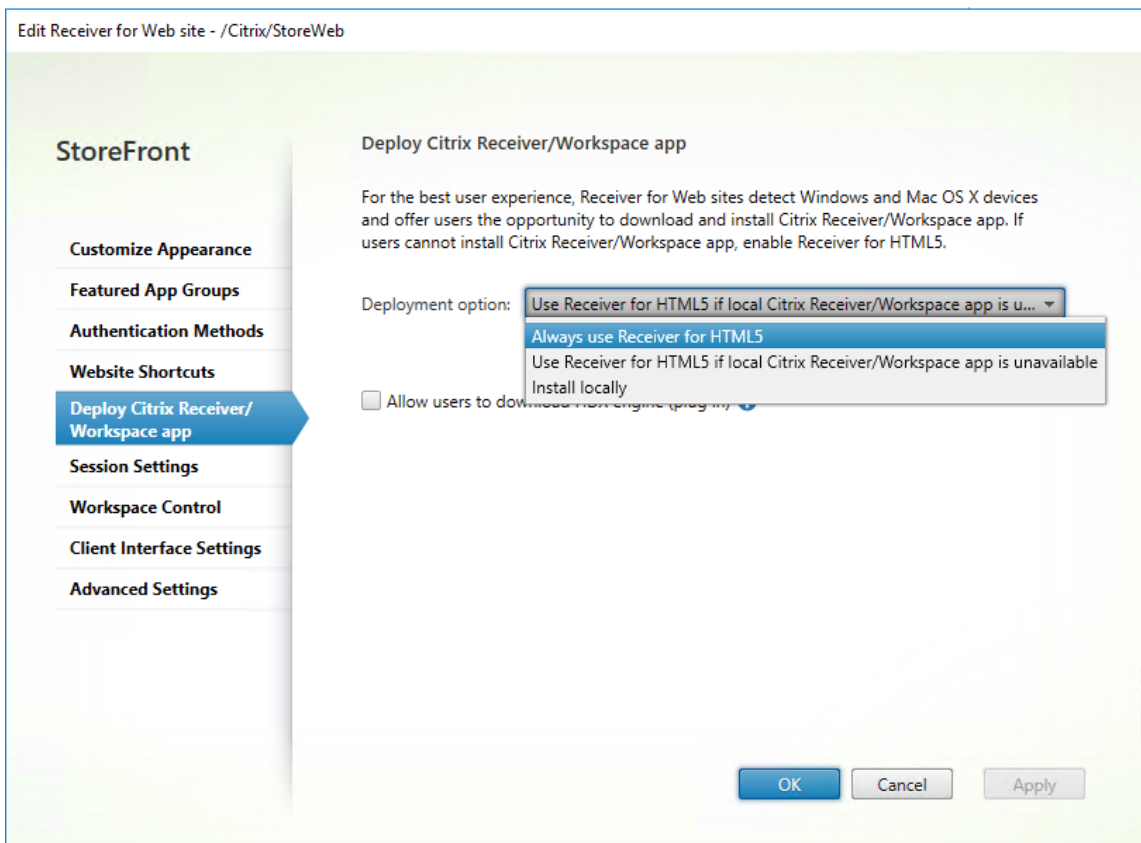
**Important:**

In multiple-server StoreFront deployments, use only one server at a time to change the configuration of the server group. Verify the Citrix StoreFront management console isn't running on any of the other servers in the deployment. Once complete, propagate your configuration changes to the server group so you update the other servers in the deployment.

1. Deploy StoreFront and create a store aggregating the desktops and applications you want to make available to Citrix Workspace app for HTML5 users.

A Citrix Receiver for Web site is created automatically for new stores. For more information about creating StoreFront stores, see [Create or remove a store](#).

2. In the Citrix StoreFront management console, do the following steps:
  - On the Windows **Start** screen or **Apps** screen, locate and click the **Citrix StoreFront** tile.
  - In the left pane, select **Stores** and in the **Action** pane, select **Manage Receiver for Web Sites**, and click **Configure**.
  - Select **Deploy Citrix Receiver/Citrix Workspace app**.
3. Enable Citrix Workspace app for HTML5 by selecting one of the options.



- Select **Use Receiver for HTML5 if local Citrix Receiver/Citrix Workspace app is unavailable** option, if you want to access desktops and applications from the site using the locally

installed Citrix Workspace app, example, Citrix Workspace app for Windows.

If you haven't installed any Citrix Workspace app, you can access desktops and applications from the site using Citrix Workspace app for HTML5.

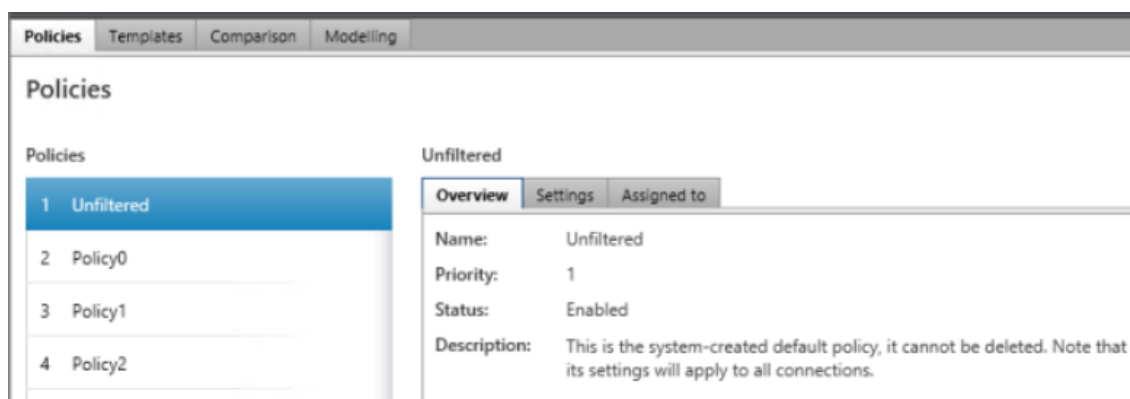
Windows and macOS users without Citrix Workspace app for HTML5 are prompted to install it every time they sign in to the site. They can use Citrix Workspace app for HTML5 if they're unable to install Citrix Workspace app.

When you select **Use Receiver for HTML5 if local Citrix Receiver/Citrix Workspace app is unavailable**, the **Change Citrix Receiver** option appears. This option allows you to switch to the light version or the local Citrix Workspace app dynamically based on the application or the desktop that you want to launch. Also, you can view the **Change Citrix Receiver** option under the Profile option.

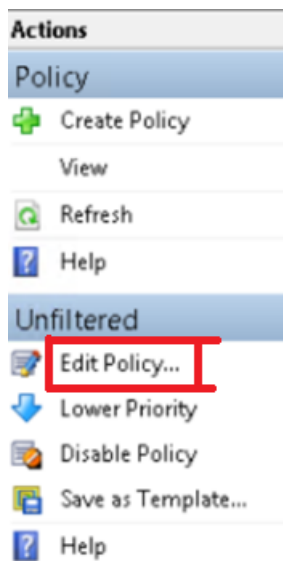
- If you want to use Citrix Workspace app for HTML5 to access applications or desktops from Citrix Virtual Apps and Desktops, select **Always use Receiver for HTML5**.

### WebSocket

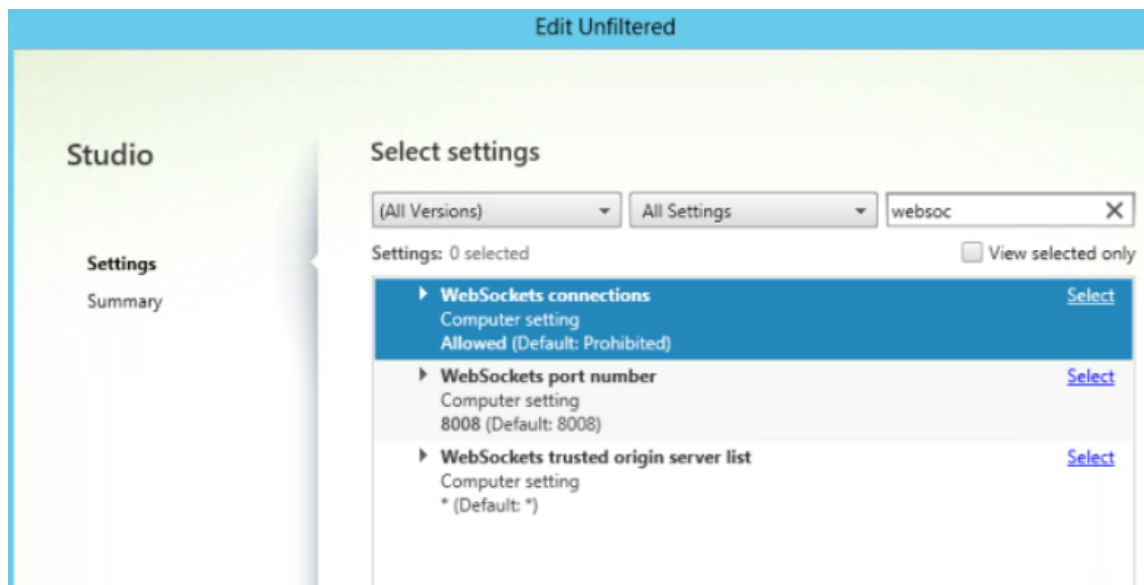
1. Go to the Group Policy Management Console or Citrix Studio and select **Policy** to configure the policies.
2. In the middle pane, under **Policies**, either modify an existing policy or create a policy.



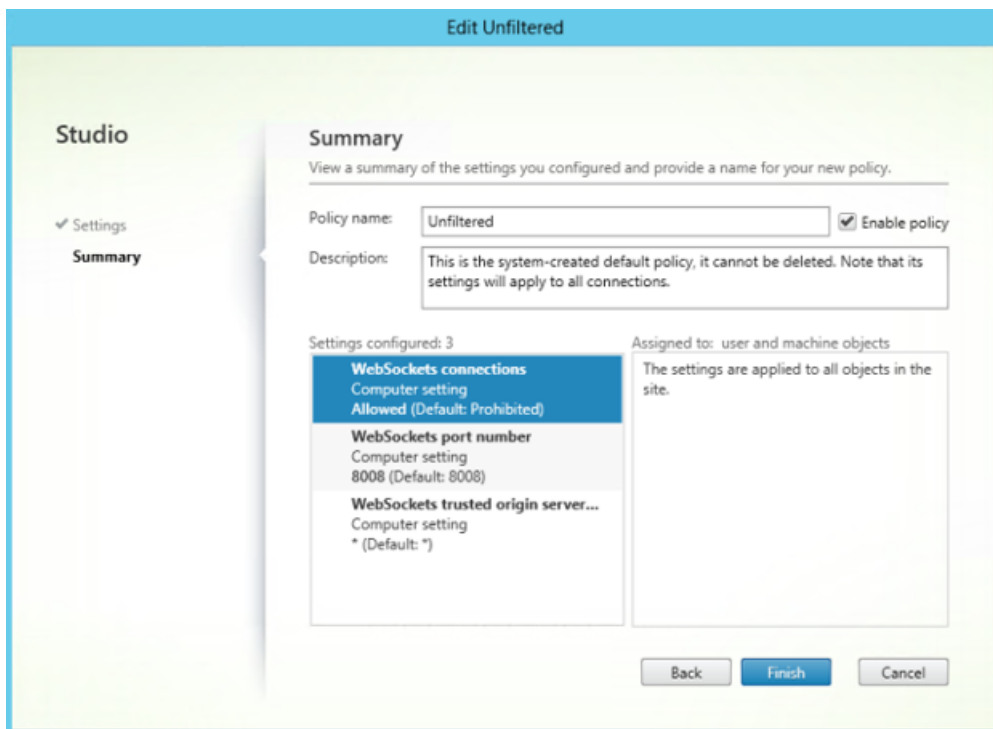
3. To edit an existing policy, in the right pane, under **Actions**, select **Edit Policy....**



4. The **Edit Unfiltered** window appears. Type **websoc** and select **Enter**. The three WebSockets related policy settings are filtered.



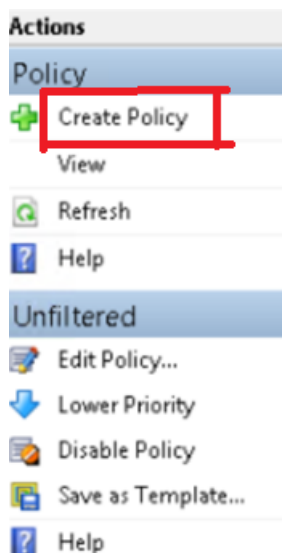
5. Click **Select** for each policy, select **Allowed**, and then click **OK**.
6. Leave the default value, select **OK**, and then click **Next**.
7. Enter a policy name or leave the default value. Verify that you select **Enable policy** and then click **Finish**.



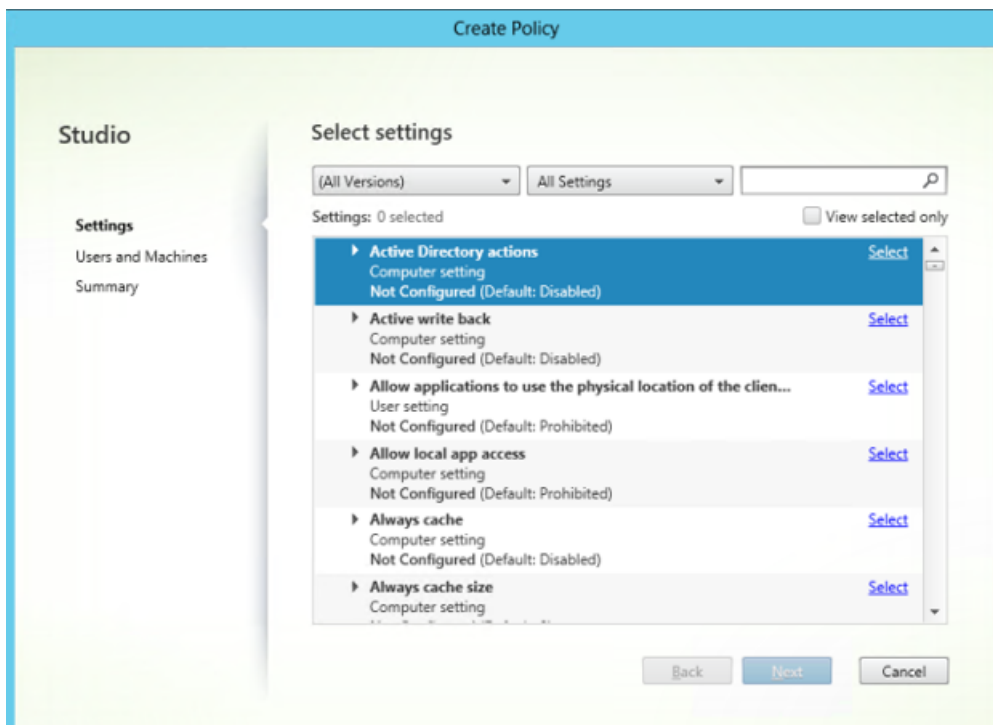
**Note:**

If you modify an existing default (unfiltered) policy, the option Assign policy to user and machine objects isn't available. So, we recommend you either modify an existing (not default) policy or create a policy.

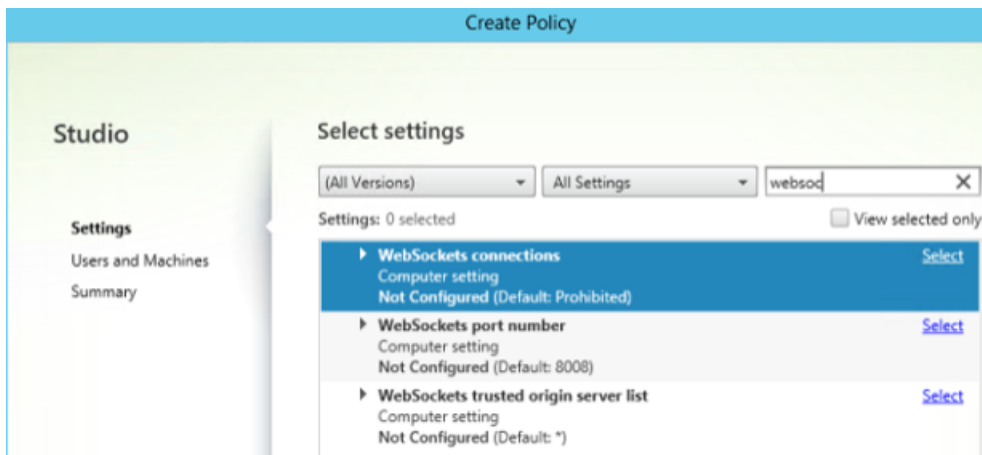
8. To create a policy in Citrix Studio, under **Actions**, select **Policy** and then click **Create Policy**. The **Create Policy** window opens.



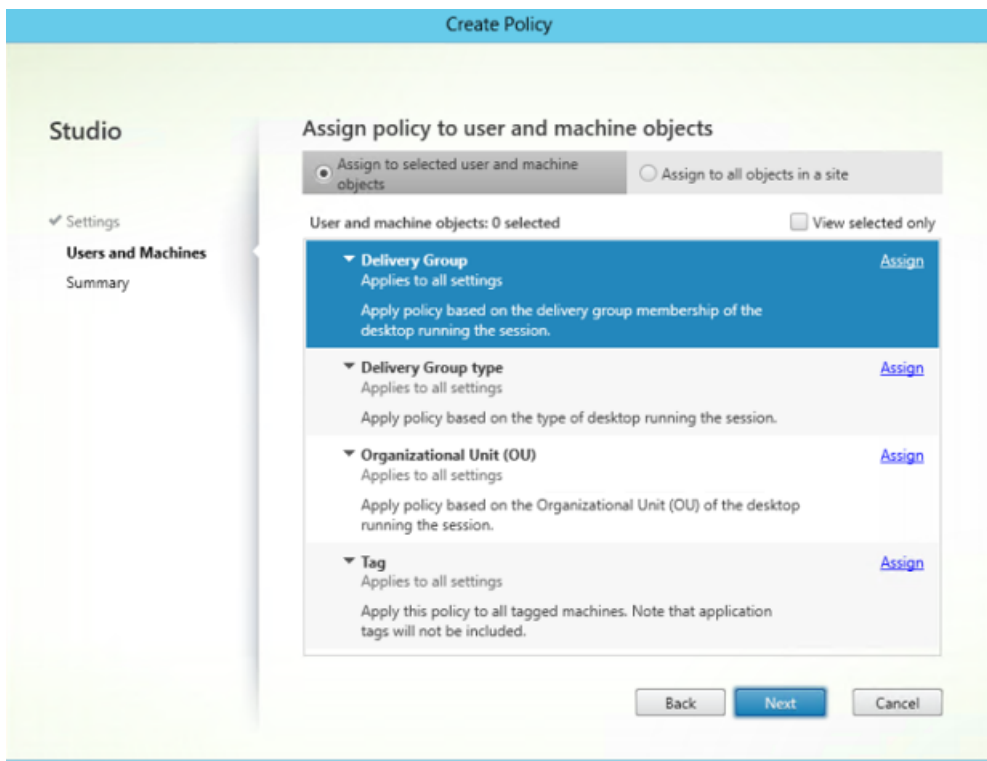
9. In the search field, type **websoc** and select **Enter**. The search filters all three WebSockets related policy settings.



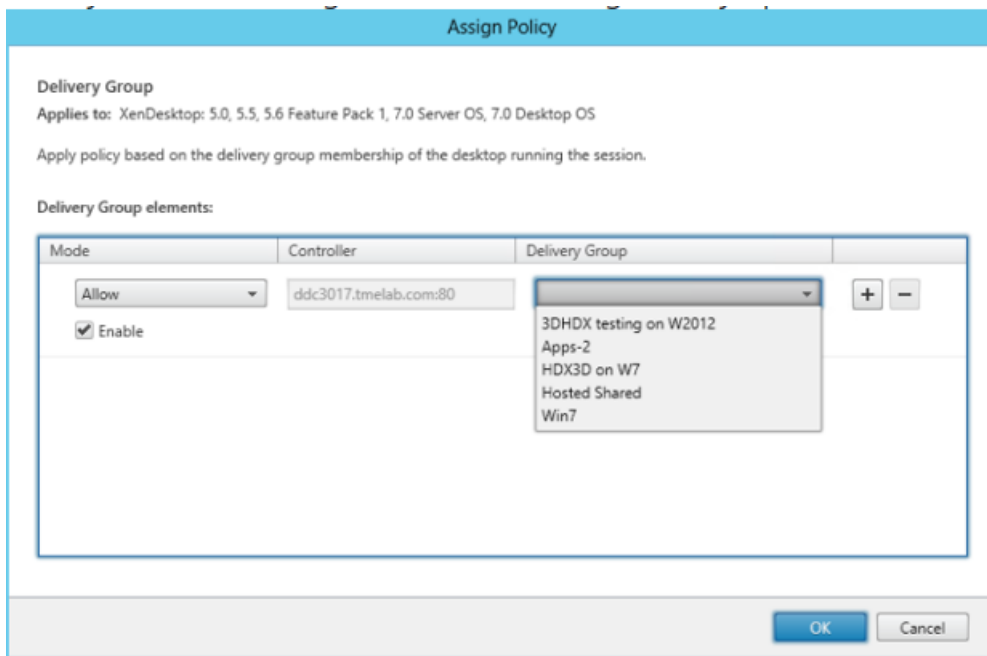
10. Click **Select** for each policy, and then select **Next**.



11. Assign the permission based on the Delivery Group. Select **Delivery Group** and click **Assign**.

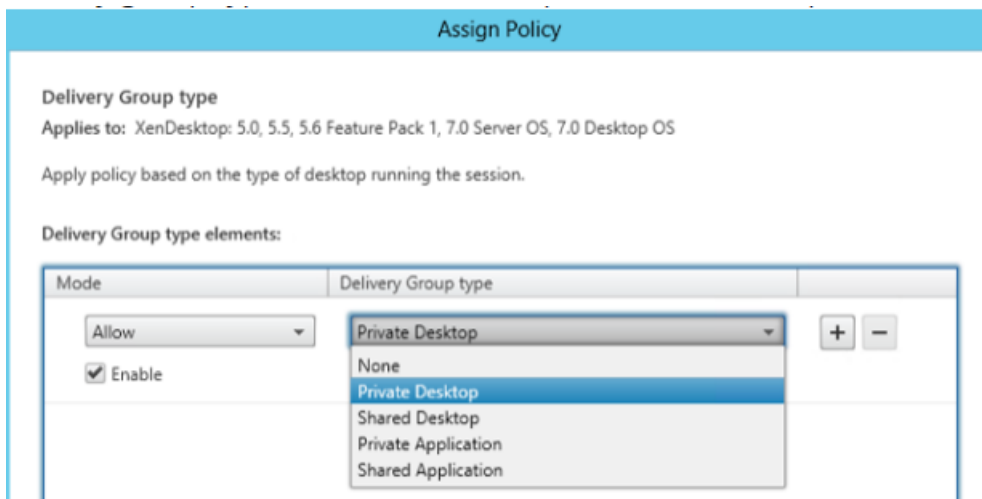


12. The **Assign Policy** window appears. Select the appropriate Delivery Group from the list and click **OK**.

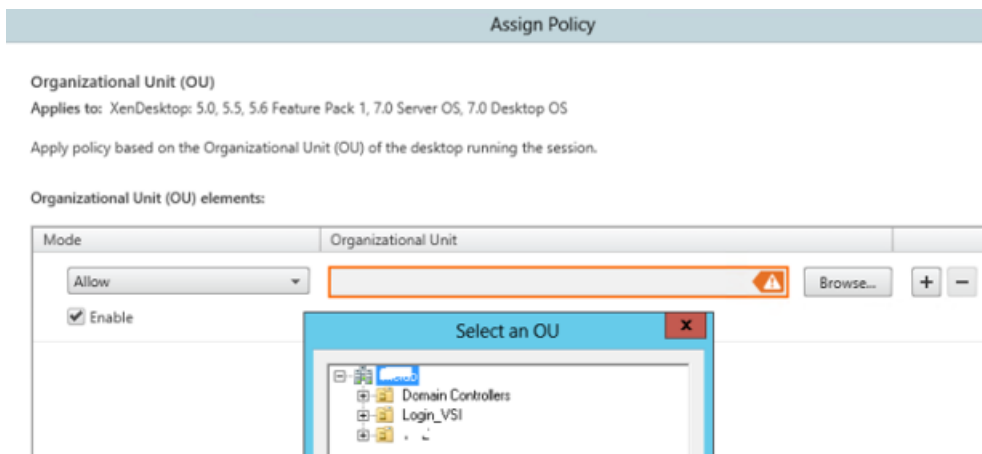


13. Select the **Delivery Group type** and click **Assign**. You can select the Delivery Group from the list.

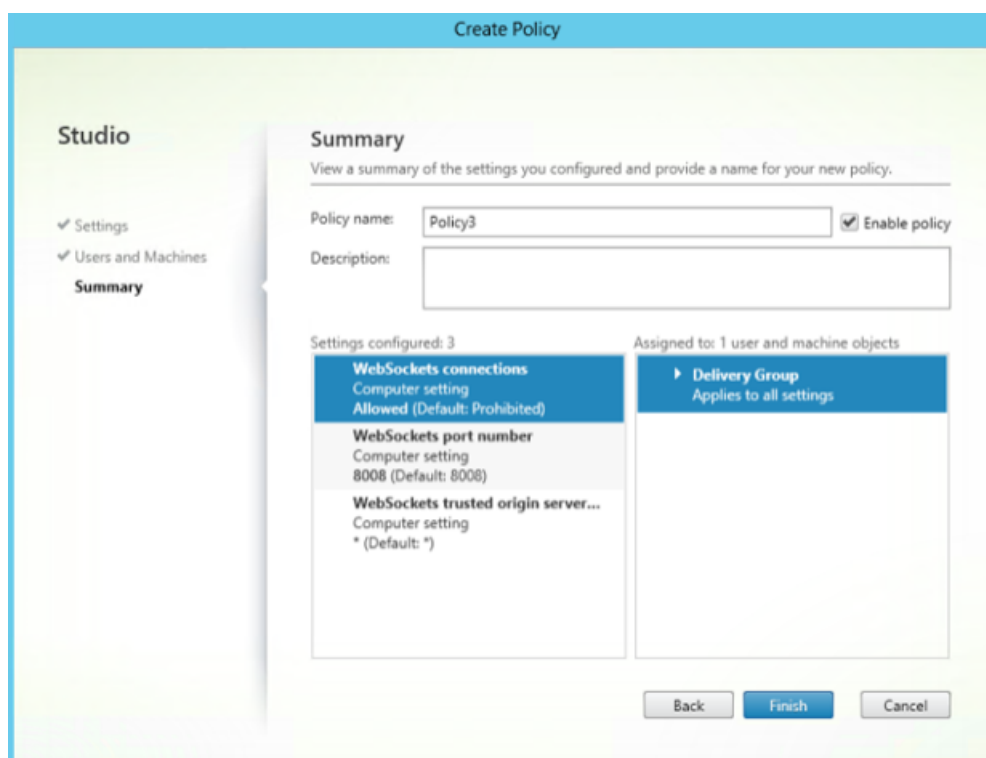




14. If you select **Organizational Unit (OU)**, you can select a specific OU from your Active Directory environment.



15. On the **Summary** window, review your policy settings, and click **Finish**.



16. If you changed the port used when you allowed WebSocket connections on Citrix Virtual Apps or Citrix Virtual Apps and Desktops, complete the following steps.

To change the WebSocket port for the Citrix Workspace app for a Web site:

- Use a text editor to open the web.config file for the Citrix Receiver for Web site. It is in the C:\inetpub\wwwroot\Citrix\storenameWeb directory. The **storename** is the name specified for the store when it was created.
- Locate the following elements in the file.
 

```
<html5 ... preferences="" ... />
```
- Set the value of the preferences attribute to **wsPort:portnumber;**, where **portnumber** is the port that you configured in the policy.

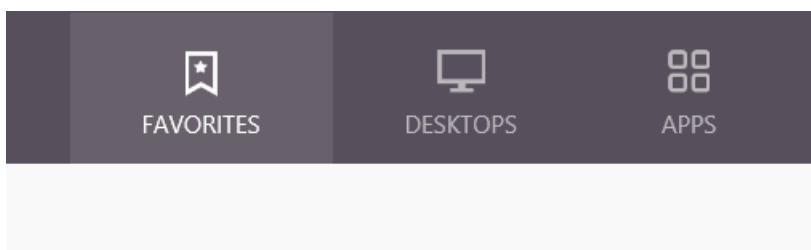
### To verify HTML5 by accessing the desktop and applications using a web browser

- Log on to the StoreFront using the URL, `http://<XDControllerIPaddressorFQDN>/Citrix/StoreWeb` using domain credentials based on the permission (users/groups) in the Delivery Group. When you select **Use Receiver for HTML5 if local Citrix Receiver/Citrix Workspace app is unavailable**, a page appears. Use the light version to access HTML5.

You have the following two options:

- Citrix Receiver Plug-in

- Receiver for HTML5
2. Click **Log On**.
  3. Enter the correct User name and Password.
  4. The page displays all the apps and desktops that you have access to. You can launch desktops and applications using an HTML5 browser. The desktops and applications are launched in a new tab.



### To view Citrix Receiver for HTML5 logs by navigating to the log page

1. Log on to the Citrix Receiver for Web site.
  - For Citrix Workspace app 1908 for HTML5 and later, open a new tab and navigate to **siteurl/Clients/HTML5Client/src/SessionWindow.html#engineType=log**, where **siteurl** is the URL of the Citrix Receiver for Web site (<http://server.domain/Citrix/StoreWeb>).
  - For Citrix Workspace app 1907 and earlier, open a new tab and navigate to **siteurl/-Clients/HTML5Client/src/ViewLog.html**, where **siteurl** is the URL of the Citrix Receiver for Web site (<http://server.domain/Citrix/StoreWeb>).

### Direct connections to Citrix Virtual Apps and Desktops and Citrix DaaS

Citrix Workspace app for HTML5 uses the WebSocket protocol to access virtual desktops and hosted applications. By default, WebSocket connections are prohibited on Citrix Virtual Apps and Desktops and Citrix DaaS (formerly the Citrix Virtual Apps and Desktops service).

If you enable users to access resources from the local network without connecting through Citrix Gateway, allow WebSocket connections on Citrix Virtual Apps and Desktops and Citrix DaaS.

For more information about creating HTTP profiles, see HTTP Configurations.

#### **Warning:**

Editing the registry incorrectly can cause serious problems that might require you to reinstall your operating system. Citrix can't guarantee that problems resulting from the incorrect use of

the Registry Editor can be solved. Use Registry Editor at your own risk. Be sure to back up the registry before you edit it.

**Note:**

If you're using SecureICA to encrypt communications between users' devices and your Citrix Virtual Apps and Desktops and Citrix DaaS or Citrix Virtual Apps servers, Citrix Workspace app for HTML5 supports **Basic** encryption only. If you use other encryption levels, sessions don't start.

### Citrix Provisioning Services

To deploy provisioned (non-persistent) machines using Citrix Provisioning Services, create the machine catalog and delivery group on which you want to enable Citrix Workspace app for HTML5 connections. Verify that the configured WebSocket policies apply to your machine catalog.

Restart the machine to apply the WebSocket policies. For Citrix Provisioning Services-based machines that are configured to use persistent write cache files and machines deployed using MCS (that have separate identity disks), the policies are persisted when the machines restart. However, for Citrix Provisioning Services-based machine catalogs that use temporary write cache files, these policies must be applied to the *vDisk*. Otherwise, the policies aren't implemented successfully on target devices.

Complete the following steps to ensure that the policies are correctly applied to the *vDisk*.

1. Using the Citrix Provisioning Console, shut down a target device that is part of the machine catalog and delivery group. Change the access type of the target device from Production to Maintenance.

For details, see [Target Devices](#). You must use a target device that is a part of the machine catalog and delivery group. Otherwise, the policies aren't applied.

2. Create a version of your *vDisk* and set the Access to Maintenance. For details, see [Manually updating a vDisk image](#).
3. Start the maintenance target device, selecting the maintenance *vDisk* version from the boot menu. Verify that the following keys are added to the registry.
  - a) HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Citrix\ICAPolicies\AcceptWebSocketsConnections
  - b) HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Citrix\WebSocketsPort
  - c) HKEY\_LOCAL\_MACHINE\SOFTWARE\Policies\Citrix\WSTrustedOriginServerList
4. Shut down the target device, change the target device access type back to Production, and promote the new *vDisk* version to production. Then, start the target device and restart any other target devices currently running from the existing *vDisk*.

If you don't use *vDisk* versioning, you can apply the policies to your base *vDisk* image. You can apply the policy by shutting down all the target devices that use the *vDisk*. Place the *vDisk* in Private Image

mode, and then start the target device to update the image.

## **To Upgrade Citrix Workspace app for HTML5 on StoreFront**

To upgrade to the new Citrix Workspace app, do the following steps:

- Verify the current version of Citrix Workspace app for HTML5.
- Download CitrixHTML5Client-x64.exe.
- Copy CitrixHTML5Client-x64.exe to the StoreFront machine.
- Install CitrixHTML5Client-x64.exe as an administrator to update Citrix Workspace app for HTML5.
- Refresh the StoreFront console.

## **Get Started**

January 4, 2024

### **Set up**

Citrix Workspace app for HTML5 integrates with Citrix Receiver for Website. To access their virtual desktops and hosted applications, users navigate to a Citrix Receiver for Website using a compatible browser that run on a supported operating system.

The user experience with Citrix Workspace app for HTML5 is as follows:

- If you did not configure the site to always use Citrix Workspace app, the site tries to determine whether Citrix Workspace app is installed locally. Installation can be on devices that run Windows and macOS. When Citrix Workspace app isn't detected, users are prompted to download and install the appropriate Citrix Workspace app for their platform. For users who are unable to install Citrix Workspace app, the issue happens every time they log on to the Citrix Receiver for Website. Users who already have Citrix Workspace app installed locally must use the same version to access resources from the site. The users aren't given the option to use Citrix Workspace app for HTML5.

When you configure the Citrix Receiver for Website to always use Citrix Workspace app, all users must access resources from the site through Citrix Workspace app. This action is regardless of whether the user has a locally installed version of Citrix Workspace app or not.

- When users access a desktop or an application through Citrix Workspace app, the resource starts in a new browser tab or window. The action depends on the user's browser settings. You can configure Citrix Workspace app so that resources are always started in the same tab as the Citrix Receiver for Website.
- When a user starts an extra application, Citrix Workspace app for HTML5 checks whether the application can be started within an existing session before creating a session. This check enables users to access many applications over a single connection so that the available resources are used more efficiently.
- Citrix Workspace app for HTML5 supports displaying titles of the applications and desktops in parentheses (for example, VDA(1) and VDA(2)) in the browser tab. To enable this feature, select **Launch applications in the same tab as Receiver for Web** in StoreFront. For more information, see [Configure](#).

## Configure

April 4, 2024

### Feature flag management

#### Note:

- Once we've applied feature flags, you'll see the feature flag updates after the next launch of your Citrix Workspace app. When you're in the Incognito mode also, you'll see the updates after the next launch.

If an issue occurs with Citrix Workspace app in production, we can disable an affected feature dynamically in Citrix Workspace app even after the feature is shipped. To do so, we use feature flags and a third-party service called LaunchDarkly.

You don't need to make any configurations to enable traffic to LaunchDarkly, except when you have a firewall or proxy blocking outbound traffic. In that case, you enable traffic to LaunchDarkly through specific URLs or IP addresses, depending on your policy requirements.

To date, for cloud customers, there's no access to StoreFront to customize Citrix Workspace app for HTML5. In the interim, LaunchDarkly can be used to turn on or off a feature for a specific customer based on their store URLs.

You can enable traffic and communication to LaunchDarkly in the following ways:

### Enable traffic to the following URLs

- events.launchdarkly.com
- app.launchdarkly.com

### List IP addresses in an allow list

If you must list IP addresses in an allow list, for a list of all current IP address ranges, see [LaunchDarkly public IP list](#). You can use this list to verify that your firewall configurations are updated automatically in keeping with the infrastructure updates. For details about the status of the infrastructure changes, see the [LaunchDarkly Status](#) page.

### Provision to disable LaunchDarkly service

You can disable LaunchDarkly service on both on-premises and cloud stores.

On the cloud setup, administrators can disable the LaunchDarkly service by setting the **enableLaunchDarkly** attribute to **false** in the Global App Configuration Service.

For more information, see the [Global App Configuration Service](#) documentation.

On the on-premises deployment, to disable the LaunchDarkly service, do the following:

1. Navigate to the **configuration.js** file in the HTML5Client folder.
2. Add the **enableLaunchDarkly** attribute and set the attribute to **false**.

```
1 'thirdPartyServices' : {  
2  
3 'enableLaunchDarkly' : false  
4 }  
5 ,  
6 <!--NeedCopy-->
```

3. Click Save.

#### Notes:

- The option to disable the LaunchDarkly service is applicable for Citrix Workspace app for HTML5 version 2208 and later.
- By default, the LaunchDarkly service is enabled if the **enableLaunchDarkly** attribute isn't present.

## Global App Configuration Service

Administrators can customize user settings for sessions that are launched in Citrix Workspace app by using the Global App Configuration Service. Administrators can customize user settings for on-premises and Workspace (Cloud) deployments.

Previously, administrators could only use the **configuration.js** for this purpose, and it was applicable only for StoreFront users.

### Limitation in the feature

- Global App Config service settings might not work as expected if you've installed the Adblock extension on the browser. [CVADHELP-23003]

### Configure

The Global App Configuration Service for Citrix Workspace allows a Citrix administrator to deliver Workspace service URLs and Workspace App settings through a centrally managed service.

For more information, see the [Global App Configuration Service](#) documentation.

#### Notes:

- This feature is available for workspace and HTTPS-based stores only.
- For the Global App Configuration Service to work, verify that your users can access the URL

### Clipboard

Before introducing this feature, Citrix Workspace app did not support copying and pasting HTML-formatted text from a local application to another application using the Paste Special feature. As a result, the targeted app (in this case, Microsoft Excel) wouldn't keep its HTML formatting characteristics.

Citrix Workspace app for HTML5 supports HTML format in addition to plain text between the client and a session. This support is useful for Office apps and browsers. Enhanced clipboard support is available on Chrome and Safari browsers only. You can copy HTML content and keep formatting. When copying a link in Chrome, a `<img>` tag is added in HTML format, which effectively allows you to copy images and text. This HTML formatting feature is richer than plain text but doesn't work in all applications.

For more information, see [Client clipboard redirection](#) in the Citrix Virtual Apps and Desktops documentation.



## Enhanced clipboard experience

You can copy and paste text between the session and the end user's device. You can do it when you launch multiple Virtual Desktops hosted applications or desktops on Windows, Mac, or Chrome operating systems using the browser based Citrix Workspace app for HTML5.

With this feature, you can use the **Ctrl C** and **Ctrl V** hotkeys (for Windows or Chrome operating systems) and **CMD C** and **CMD V** hotkeys (for Mac operating system) to copy and paste.

This feature is enabled by default.

On Firefox and Edge browsers, to copy the text from a remote session to a local device, press **Ctrl C** and then click **Confirm**.

Disable the copy confirmation dialog by selecting the **Disable Copy Confirmation** checkbox in **Preferences** on the toolbar. Clear the checkbox to enable the option again.

### To disable the enhanced clipboard experience

To disable this feature, edit the **configuration.js** file located inside the HTML5Client folder (`C:\Program Files\Citrix\Receiver StoreFront\HTML5Client`) and set the value of **directClipboard** to **false**.

#### Limitations:

- You can copy and paste only plain text, images, but not files.
- doesn't support large data.
- The **Ctrl** key might remain stuck in the down position. This issue occurs when you press the right **Ctrl** key for a long time and then press **C** to copy the text. As a workaround, click the right **Ctrl** key multiple times.
- Occasionally, copying text requires an extra click through the **Copy** confirmation dialog when you use Google Chrome, Safari, Edge, and Firefox browsers.
- Use the **Ctrl c** or **CMD C** and **Ctrl V** or **CMD V** keys to copy and paste. Occasionally, using the **Edit** menu or right-click option to copy the text might require an extra click using the **Confirm** dialog.

**Support for copying image clips** Using the standard keyboard shortcuts, you can now copy and paste image clips between your local device and your virtual desktop and app sessions. You can use the standard keyboard shortcuts for copying and pasting while using apps such as:

- Microsoft Word
- Microsoft Paint
- Adobe Photoshop

Previously, this functionality was available only for text for the Google Chrome browser and the Microsoft Edge (Chromium) browser with HTTPS stores. This functionality is now available for text and images. It's applicable on the Google Chrome browser and the Microsoft Edge (Chromium) browser with HTTPS stores.

---

<b>Supported clipboard actions</b>	
Google Chrome browser and Microsoft Edge (Chromium) browser with HTTPS stores	Image clip copy and paste support. Text copy and paste support
Mozilla Firefox, Internet Explorer, HTTP stores	Text copy and paste support

---

**Notes:**

- In general, for security reasons, we recommend you use only HTTPS-based stores.
- Due to network bandwidth constraints, sessions might become unresponsive when you try to copy and paste an image clip larger than 2 MB.
- In Microsoft Windows OS and chromeOS devices, use Ctrl + C and Ctrl + V for copy and paste. In Apple Mac devices, use Command + C and Command + V for copy and paste.
- The right-click functionality works only when you copy and paste from your virtual desktop and app sessions to your local device. It doesn't work when you copy and paste from the local device to your virtual desktop and app sessions.
- We've tested this feature with BMP, PNG, JPEG, and GIF formats.

**Clipboard supports HTML format** Starting with this release, you can use HTML format for clipboard operations between the virtual desktop and the endpoint device. When you copy the HTML data, the source content format is copied, and when you paste the data, the destination content carries the formatting. In addition, HTML format provides a better look and feel.

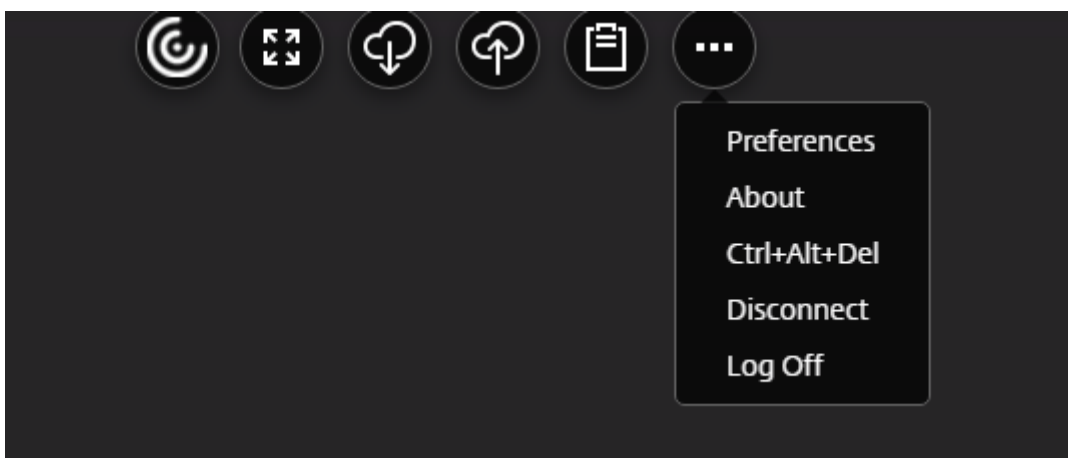
For more information on how to set the policies, see [Client clipboard write allowed formats](#) in the Citrix Virtual Apps and Desktops documentation.

## Session sharing

For session sharing to occur, the applications must be hosted on the same machine and must be configured in seamless window mode. Use the same settings for parameters such as window size, color depth, and encryption. Session sharing is enabled by default when a hosted application is made available.

If App Switcher is installed on the machine providing the applications, a taskbar appears at the bottom of the window. The taskbar displays all the applications currently running in the session, enabling users to switch between those applications. Users can configure the taskbar to auto-hide and switch to small icons to minimize the amount of space taken up by the taskbar.

A floating toolbar containing controls for Citrix Workspace app for HTML5 is displayed in the browser tab, as shown in the following figure. The clipboard button enables users to copy and paste plain unicode text between the local clipboard on the device and the resources that run in the browser. Users can use standard Windows shortcuts to copy data. It includes text, tables, and images. You can copy between hosted applications, within the same session and between different sessions. Users can also send the CTRL+ALT+DELETE key combination to their desktops and applications using a button on the toolbar.



When printing a document opened with a hosted application or an application that run on a virtual desktop, the user is given the option to print the document to PDF. The PDF is then transferred to the local device for viewing and printing from a locally attached printer. The file is removed from the device when the user closes the PDF.

A user who clicks a link in a document opened using a hosted application is given the choice of whether to open the **URL** in a hosted browser application within the session or to use the browser on the local device.

### **Enhanced app switcher support**

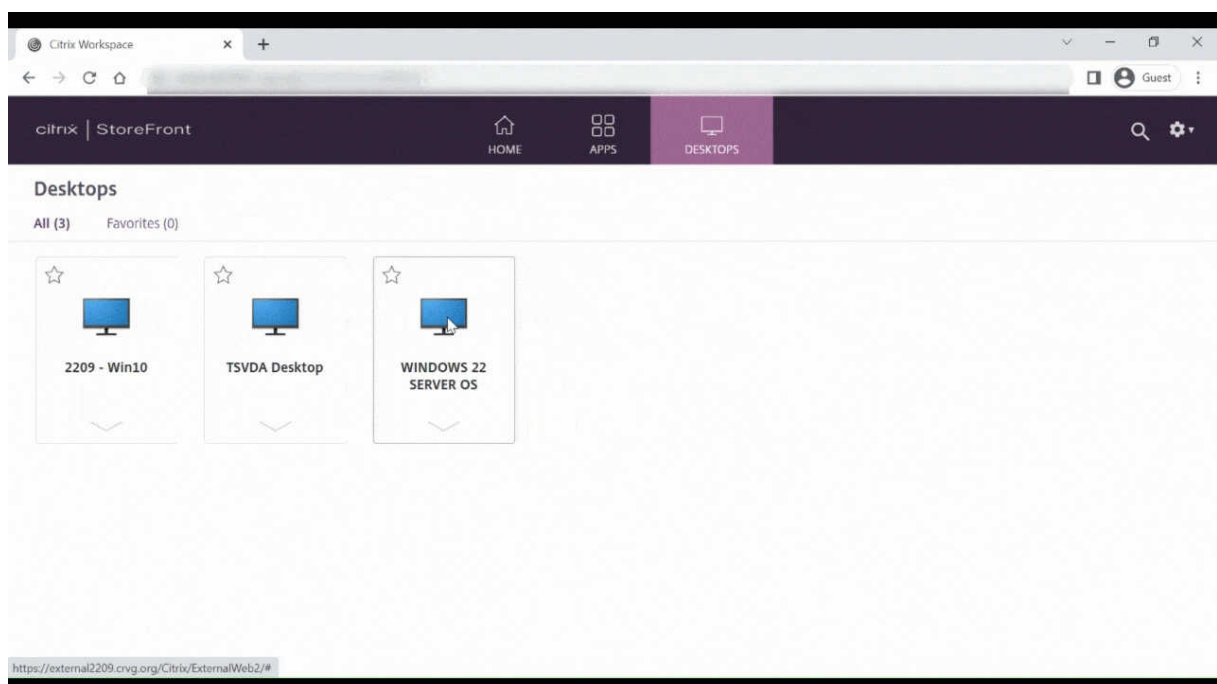
When you launch a published application session in full-screen or kiosk mode, the session doesn't overlap with the desktop taskbar. The app switcher no longer hides the session. This enhancement is supported only in single-monitor mode.

## Improved virtual apps and desktops launch experience

Starting with the 2306 release, the improved app and desktop launch experience provide timely and relevant information about the launch status.

### Note:

Administrators must upgrade HDX SDK files to use Citrix Workspace app for HTML5 2306 version. The older HDX SDK files are incompatible with the 2306 version and later. To download the latest HDX SDK files, click [here](#). For more information, see the [Citrix Workspace app for HTML5 HDX SDK developer docs](#).



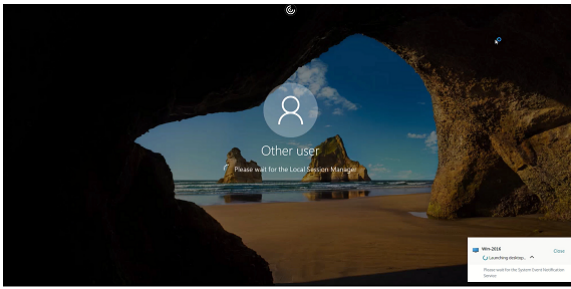
## Configure session launch notification display

Starting with 2307, administrators can enable or disable the display of launch progress notifications using the following configuration. If this configuration is enabled, you see the session launch progress notifications on the lower right of the screen. If this configuration is disabled, you can't see the session launch progress notifications.

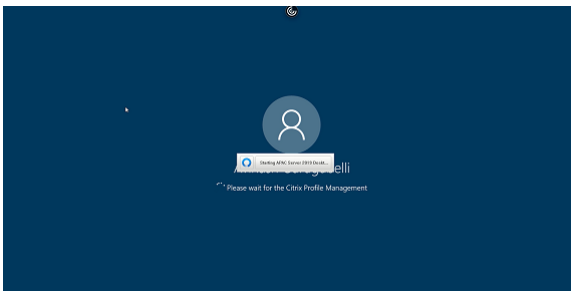
### Note:

- By default, this configuration is enabled.

The following screenshot appears when notifications are enabled.



The following screenshot appears when notifications are disabled.



**Configuration** You can configure this feature in the following way:

In Citrix Workspace app for HTML5, the **configuration.js** file is in the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder. Edit this file to configure the feature.

### Notes:

- Citrix recommends that you back up the **configuration.js** file before modifying it.
- Administrator-level credentials are required to edit the **configuration.js** file.

To disable the feature, do the following:

1. Navigate to the **configuration.js** file in the **HTML5Client** folder.
2. Add the **CTXTUI** attribute and set the attribute to **false**.

The following is an example of JSON data:

```
1 {
2
3   "vc_channel": {
4
5     "CTXTUI": false
6   }
7
8 }
9
10 <!--NeedCopy-->
```

3. Save the changes.

## Customer Experience Improvement Program (CEIP)

November 30, 2023

---

Data Collected	Description	What we Use it for
Configuration and usage data	The Citrix Customer Experience Improvement Program (CEIP) gathers configuration and usage data from Citrix Workspace app for HTML5 and automatically sends the data to Citrix and Google Analytics.	This data helps Citrix improve the quality, reliability, and performance of Citrix Workspace app.

---

### Additional Information

Citrix handles your data following the terms of your contract with Citrix, and protects it as specified in the [Citrix Services Security Exhibit](#) available on [Citrix Trust Center](#).

Citrix also uses Google Analytics to collect certain data from Citrix Workspace app as part of CEIP. See how Google handles [data collected for Google Analytics](#).

**Note:**

No data is collected for the users in the European Union (EU), European Economic Area (EEA), Switzerland, and the United Kingdom (UK).

For other region users, you can disable sending CEIP data to Citrix and Google Analytics. To do that, use one of the following methods:

- Disable CEIP using `configuration.js`
- Disable using Global App Configuration Service

**Note:**

- If you disable CEIP for version 2006 and earlier, minimal information about the installed Citrix Workspace app version is uploaded. This minimal information is valuable to Citrix because it provides the distribution of different versions used by customers.

### To disable CEIP using GUI

**Note:**

You can modify the CEIP settings using the GUI only when the administrator has enabled it using configuration.js.

1. Launch Citrix Workspace app for HTML5.
2. From the toolbar, select **Preferences**.
3. Clear **Send anonymous usage statistics to improve Citrix Workspace app**.

**Note:**

Relaunch the session for the changes to take effect.

### To disable CEIP using configuration.js

In Citrix Workspace app for HTML5, the configuration.js file is in the HTML5Client folder. Edit this file to configure Citrix Workspace app for HTML5.

**Note:**

- Citrix recommends that you back up the configuration.js file before modifying it.
- Administrator-level credentials are required to edit the configuration.js file.

For Version 1905 and earlier, set the enabled attribute under **ceip** to **false** in the configuration.js file.

```
1 'ceip':{  
2  
3   'enabled':false,  
4 }  
5  
6  
7 <!--NeedCopy-->
```

For Version 1906 and later, set the enabled attribute under **analytics** to **false** in the configuration.js file.

```
1 'analytics':{  
2  
3   'enabled':false,  
4 }  
5  
6  
7 <!--NeedCopy-->
```

### Blocking CEIP

For Version 2007 and later, administrators are allowed to block CEIP through the following:

- Block CEIP using GUI
- configuration.js file

### To block CEIP using GUI

**Note:**

You can modify the CEIP settings using the GUI only when the administrator has enabled it using configuration.js.

1. Launch Citrix Workspace app for HTML5.
2. From the toolbar, select **Preferences**.
3. Clear **Send anonymous usage statistics to improve Citrix Workspace app**.

**Note:**

Relaunch the session for the changes to take effect.

This configuration takes precedence over the configuration made through the GUI and CEIP data isn't sent to Citrix.

- Open the configuration.js file, add the **connectionEnabled** attribute, and set the attribute to **false**:

```
1  'analytics':{
2
3  'connectionEnabled':false,
4      }
5
6
7  <!--NeedCopy-->
```

### Specific CEIP data

The specific CEIP data elements collected by Google Analytics are:

---

Citrix Workspace app version	Session mode (Kiosk, Public/General)	Session type (desktop/application)	XenDesktop information (Delivery Controller and VDA versions)
Launch type (SDK/I-CAFile/FTA/Store and so on)	Time zone of the session	Language of the session	Client keyboard layout



Network socket type (HTTPS/HTTP)	Feature usage (clipboard, file transfer, app switcher, printing, USB, smart card, and so on)	Device pixel ratio	Secure ICA (used / not used)
Reconnection timeout (if!= 180)	Multi-Monitor	Global App Configuration Service	

---

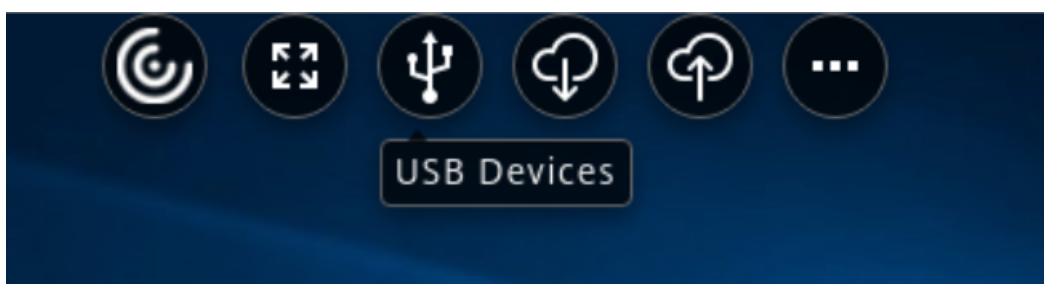
## Peripherals

January 18, 2024

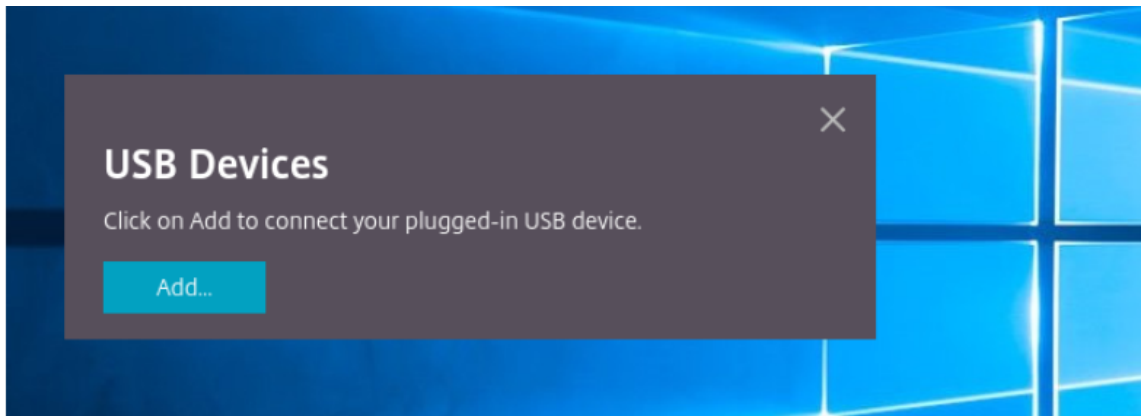
### USB device redirection

Generic USB device redirection is supported on Chrome browsers (Version 61 and later) running on Chrome, Mac, and Linux operating systems. This feature is supported on sessions launched over secure HTTPS connections. This feature supports redirection of two USB devices simultaneously.

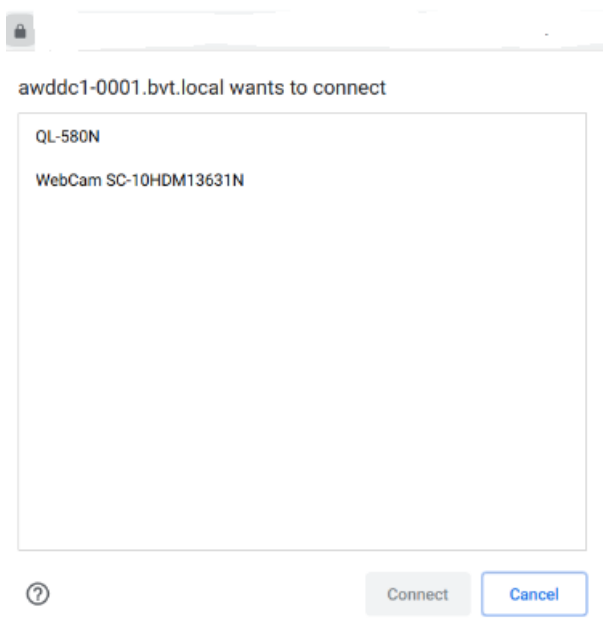
1. **Redirecting a USB device** As a prerequisite, enable the USB redirection policy on the server. For more information, see [Enabling USB redirection on the server](#).
2. Connect the USB device to the machine.
3. Click the **USB Devices** icon available on the in-session toolbar.



4. In the **USB Devices** dialog box, click **Add**.



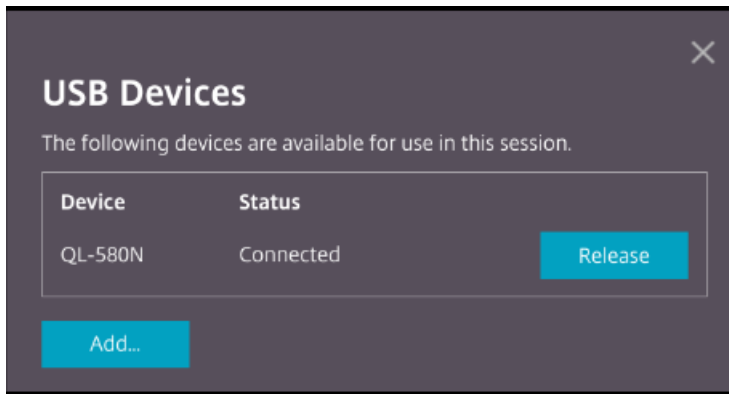
This action opens a Chrome dialog box that displays a list of devices.



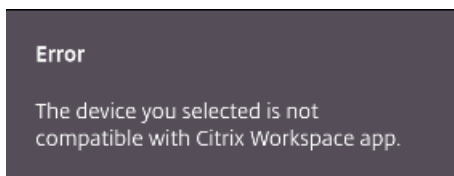
**Note:**

The Chrome dialog box displays USB devices that might not always be redirected through Citrix Workspace app for HTML5. The USB devices that can be redirected through Citrix Workspace app for HTML5 are displayed in the USB devices dialog box within the app.

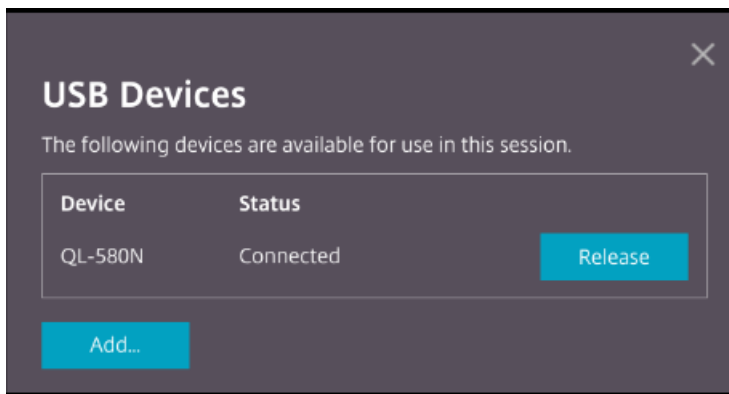
5. Select devices to be redirected and then click **Connect**. After successful redirection, you're returned to the **USB Devices** dialog box, and the device appears as **Connected**.



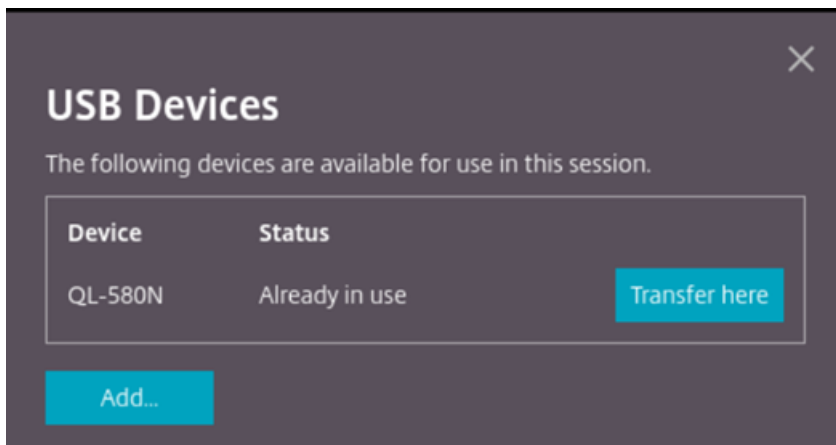
6. When you try to redirect a USB device that is not supported by Citrix Workspace app, the following error message appears.



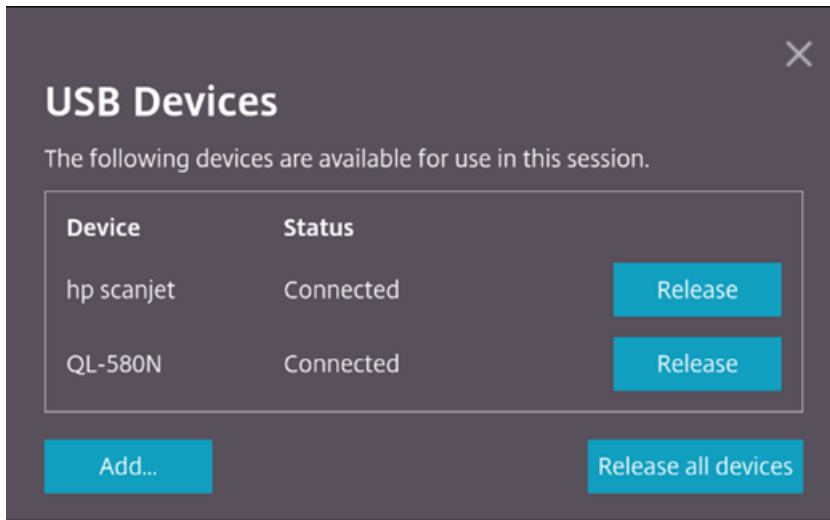
7. Click **Release** to release a device from the remote session.



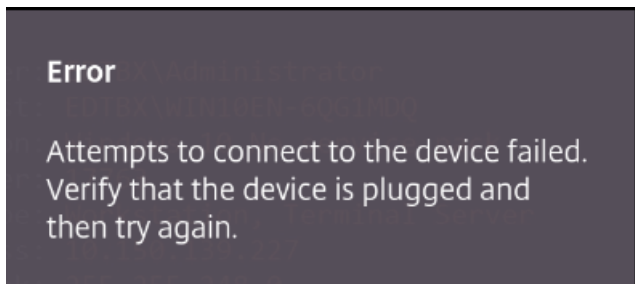
8. If you launch more than one session, USB devices that are connected inside a different session show as **Already in use**. Click **Transfer here** to transfer the devices to the current session.



9. When you redirect more than one USB device to a session, click **Release all devices** to remove the devices from the session.



10. When you disconnect a redirected USB device from the machine without clicking **Release**, the following error message appears.



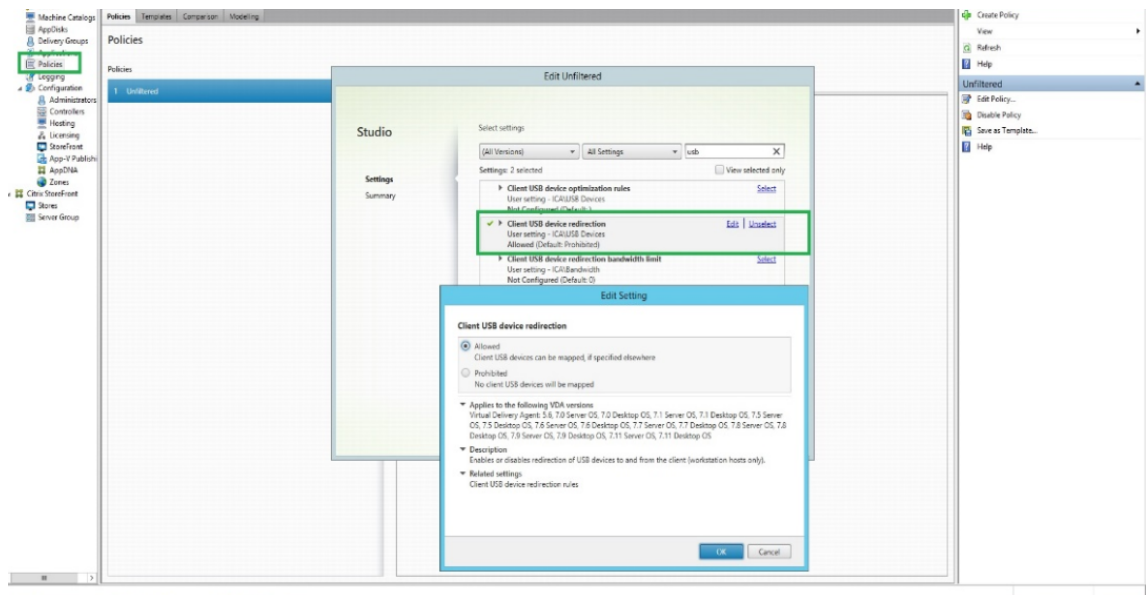
The USB device redirection feature is applicable only to USB devices, where the client operating systems such as, macOS and Chrome don't load the device drivers by default. For example, the feature is relevant to the Brother QL-580N Label Printer.

In case you're unable to redirect USB devices on a Linux operating system, try setting up the user accounts and provide permissions to open the USB devices. For more information, see [Google developers' document](#).

### Enabling USB redirection on the server

Do the following to enable the USB device redirection on the server:

- Enable the policy for USB device redirection on the **Domain Controller**.



## Configuring USB redirection for Citrix HTML5 client

By default, the USB device redirection feature is enabled on the client if the USB device redirection policy is enabled on the server.

To disable it, edit the configuration.js file and set the value of **usb** under **toolbar** to **false**. This setting is applicable to the StoreFront. The configuration.js file is in C:\program Files\Citrix **actual path**\HTML5Client.

```



1      'ui' : {
2
3          'toolbar' : {
4
5              'usb' : false
6          }
7      },
8  }
9
10 <!--NeedCopy-->

```

## Behavior of Chrome browser

- When you click the padlock icon, the browser tab shows the Secure Connection dialog box. You can see the USB devices for which the browser tab has received user permission. Although there are multiple USB devices, only the devices that the Citrix HTML5 client can redirect appear in the Citrix **USB Devices** dialog box. Those devices can be used inside a remote session.
- If you want to revoke access permissions granted to the browser tab, click the **x** icon next to

the USB device. As a result, the **Reload** button appears. If you click **Reload**, the session closes. Relaunch the session for the changes to take effect.

 To apply your updated settings to this site, reload this page 

×

### Limitations:

- The USB device redirection feature isn't applicable to some USB devices for which the client operating system such as, Windows, loads the device drivers by default.
- Only USB Type A devices can be redirected to the session. But, you can connect Type A devices through a Type C connector.
- Releasing a **USB hub** device might not result in releasing connected **USB Type A** devices.
- HID devices, Mass Storage devices, and Web camera redirection might not work.
- This feature has been tested and is supported on VDAs running on Windows 10.
- This feature has been tested for up to two USB devices simultaneously.

## File handling

March 21, 2024

### File Transfer

By default, users can:

- Upload files from a local download folder or attached peripheral and seamlessly access the data from a Citrix Virtual Apps and Desktops or Citrix DaaS sessions.
- Download files from a Citrix Virtual Apps and Desktops or Citrix DaaS session to a folder or peripheral on their user device.

Administrators can selectively enable or disable file transfer, uploads, or downloads through policies in Citrix Studio.

Citrix Workspace app for HTML5 supports downloading files on a MacBook using the Safari browser.

### Requirements

- XenApp and XenDesktop 7.6 or later, with:
  - Hotfix ICATS760WX64022.msp on server OS VDAs (Windows 2008 R2 or Windows 2012 R2)

- Hotfix ICAWS760WX86022.msp or ICAWS760WX64022.msp on client OS VDAs (Windows 7 or Windows 8.1)
- To change file transfer policies: Group Policy Management (GPM) hotfix GPMx240WX64002.msi or GPMx240WX86002.msi on machines running Citrix Studio

### Limitations:

- A user can upload or download a maximum of 10 files at a time.
- Maximum file size:
  - For uploads: 2147483647 bytes (2 GB)
  - For downloads: 262144000 bytes (250 MB)

### File Transfer policies

By default, file transfer is enabled. Use Citrix Studio to change these policies, located under **User Setting > ICA\File Redirection**. Consider the following when using file transfer policies:

- **File transfer for Citrix Workspace app for ChromeOS/HTML5:** Allows or prevents end users to transfer files between *Citrix Virtual Apps and Desktops* session and the end user's device.  
Allows or prevents end users to transfer files between *Citrix DaaS* session and end user's device.
- **Upload file for Citrix Workspace app for ChromeOS/HTML5:** Allows or prevents users from uploading files. It can be from the user's device to a *Citrix Virtual Apps and Desktops* session or *Citrix DaaS* session.
- **Download file for Citrix Workspace app for ChromeOS/HTML5:** Allows or prevents users from downloading files. It can be from a *Citrix Virtual Apps and Desktops* session or *Citrix DaaS* session to the user's device.

### Client Drive Mapping

Starting with the 2303 version, the Client Drive Mapping (CDM) feature supports folder mapping on the local machine so they're accessible from within a session. You can map any folder from the local machine, if the folder doesn't contain system files.

The end user can do the following operations:

- Copy files and folders from the local machine to the mapped drive in the session.
- View the list of files and folders in the mapped drive.
- Open and read file contents in the mapped drive.
- View the file properties (modified time and file size only) in the mapped drive.

This feature provides the advantage of accessing both virtual desktop drives and local machine drives together in the file explorer within the HDX session. This feature is supported on desktop platforms, Google Chrome, and Microsoft Edge Chromium browsers only.

**Note:**

- By default, this feature is enabled.
- Cloud based drives, for example, OneDrive and GDrive can be mapped provided it's supported by the cloud provider.

**Known limitations**

- You can't rename files and folders inside the mapped drive.
- Mappings will only have the name of the folder and not the full path.
- If your local folder has hidden files, and you mapped the same folder, the hidden files are visible inside the session in the mapped drive.
- You can't change the file property to read-only access in the mapped drive.
- When you map a folder from the removable device and if you remove the device during an active session, you can't use the mapped drive inside the session. You must remove the mapping manually.

**Known issues in the feature**

- When you use the CDM feature on mobile platforms, the dialog box gets truncated from the top.

**Configuration**

You can configure the CDM feature in the following way:

- Configuration.js

**Note:**

As a prerequisite, an administrator must enable the **Client drive redirection** policy on the Delivery Controller (DDC). For more information, see [Client Drive Redirection](#) in the Citrix Virtual Apps and Desktops documentation.

**Configuration.js** The **configuration.js** file is located in the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder. Edit this file to configure the CDM feature.



**Notes:**

- Citrix recommends that you back up the **configuration.js** file before modifying it.
- Administrator-level credentials are required to edit the **configuration.js** file.

To disable the feature:

1. Locate and edit the **configuration.js** file in the **HTML5Client** folder.
2. Add the **clientDriveMapping** attribute and set the attribute **enabled** to **false**. For example,

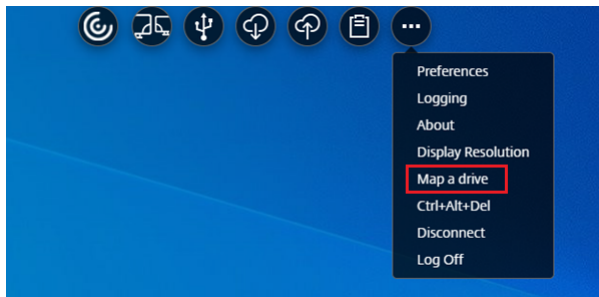
```
1  `features':
2    {
3
4    'clientDriveMapping' :
5      {
6
7        'enabled' : false,
8        'availableAccessLevels': [1, 2, 3],
9        // 1 - Read-Write Access, 2 - Read-Only Access, 3 -
10       No-Access
11       //drop-down options
12       'accessLevel': 1
13       // 1 - Read-Write Access, 2 - Read-Only Access, 3 - No
14       -Access
15       //admin sets these values
16     }
17   }
18 <!--NeedCopy-->
```

3. Save the changes.

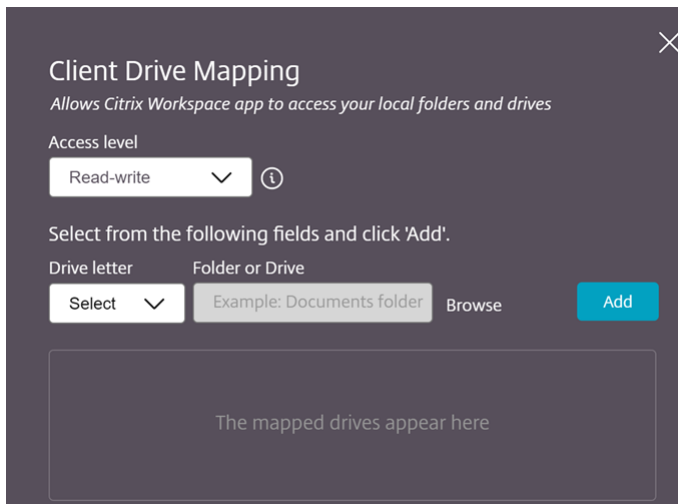
**Access level** When you enable the feature, you can set the folder or drive access levels. For example, if an administrator sets **availableAccessLevels** as **[2, 3]**, the end user can view the **Read-Only Access** and **No-Access** options in the drop-down list.

**How to use the feature**

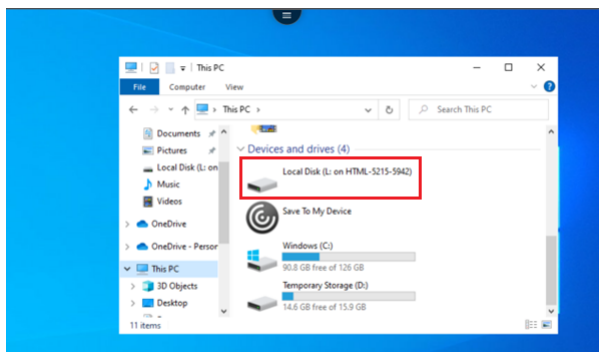
1. Navigate to the **Toolbar > more (...)** > **Map a drive**.



2. Select the **Access level** for the folder or the drive. The drop-down list option that you see depends upon on the access level set by your organization's IT administrator for your profile.



3. Select a **Drive letter** and click **Browse** to navigate to your folder or drive in your local machine.



4. Click **Add**.
5. Disconnect and reconnect the session.

The session displays the drive letter that is mapped inside the session.

## Keyboard

March 21, 2024

### Generic client IME for East Asian languages

The Generic Client Input Method Editor (IME) feature enhances the input and display experience with Chinese, Japanese, and Korean (CJK) language characters. This feature allows you to compose CJK characters at the cursor position when you are in a session. The feature is available for the Windows VDA and Linux VDA environments.

Generally, IME displays user interface (UI) components such as a candidate window and a composition window. The composition window includes the composition characters and composition UI elements. For example, underline and background color. The candidate window displays the candidate list.

The composition window enables you to choose between the confirmed characters and the composed characters. The composition window and the candidate window move with the input cursor. As a result, the feature gives an enhanced input of characters at the cursor location in the composition window. Also, it gives an improved display in the composition and the candidate window.

#### Prerequisites:

- For Linux VDA, enable **Client keyboard layout sync and IME improvement** policy.
- For Windows VDA, enable **Unicode Keyboard Layout Mapping, Client Keyboard Layout Sync, and IME Improvement policies**.
- Use Citrix Linux VDA version 2012 and later. For Citrix Windows VDA, all the currently available Windows VDA versions support the generic client IME feature.
- The browser language must be Japanese, Chinese (Simplified), Chinese (Traditional), or Korean.
- Use Google Chrome, Mozilla Firefox, Apple Safari 13 or later, or Microsoft Edge.

#### Note:

- For macOS, iOS, and Android platforms, modify the system language of the devices to either of the CJK languages. The browser language gets updated automatically.
- For Windows, Linux, and ChromeOS platforms, modify the browser language to either of the CJK languages.

#### Configuration:

Starting with version 2105, the Generic Client IME feature is enabled by default. As an administrator, you can enable or disable the feature using the **configuration.js** file on the StoreFront server (C:\ProgramFiles\Citrix\Receiver StoreFront\HTML5Client).

To disable this feature for a browser language, edit the **configuration.js** file and set `features.ime.mode.<languageID>` to `seamlessIme`. If **seamlessIme** is set, the Generic Client IME feature is disabled.

**configuration.js:**

```
1   var HTML5_CONFIG = {
2
3     'features': {
4
5       ime: {
6
7         mode: {
8
9           "ja": "seamlessIme",
10          "zh": "seamlessIme",
11          "ko": "seamlessIme"
12        }
13      }
14    }
15  }
16 }
17
18 }
19
20
21 <!--NeedCopy-->
```

To **enable** this feature for a browser language, edit the **configuration.js** file and set `features.ime.mode.<languageID>` to `ctxIme`, or leave the **mode** property empty (`{}`), which is the **default** behavior.

**configuration.js:**

```
1   var HTML5_CONFIG = {
2
3     'features': {
4
5       ime: {
6
7         mode: {
8
9           "ja": "ctxIme",
10          "zh": "ctxIme",
11          "ko": "ctxIme"
12        }
13      }
14    }
15  }
16 }
17
18 }
19
```

```
20  
21 <!--NeedCopy-->
```

### Feature Limitation:

Generic client IME is now supported when you use an extended screen with Citrix Workspace app for HTML5 on Windows, Mac, Linux, ChromeOS, iOS, and Android client platforms. However, for multi-monitor sessions that are not yet supported, you can use **Server IME** instead.

To enable the **Server IME**:

1. Change the VDA or the server keyboard language to Chinese, Japanese or Korean (CJK) as required.
2. Change the client device keyboard language to English.

### Keyboard shortcuts

The default settings for Microsoft Windows logo key and other keyboard shortcuts are as follows:

**HTML5\_CONFIG > features > keyboard > captureAllKeys**

The default value of **captureAllKeys** is set to **true**. To change the default settings, open the **configuration.js** file and set the attribute to **false**.

### Support for Microsoft Windows logo key and other keyboard shortcuts

The following adds support for the key combinations with the Microsoft Windows logo key in your sessions that runs on Microsoft Windows.

- Windows + R
- Windows + D
- Windows + E
- Windows + M
- Windows + S
- Windows + CTRL + S
- Windows + T
- Windows + U
- Windows + Number
- Windows + X
- Windows + K

Also, we're now supporting the following keyboard shortcuts in your sessions that run on Microsoft Windows:

- Alt + Tab

- Esc key
- Ctrl + N
- Ctrl + T
- Ctrl + W

For the sessions that run on macOS, we now support the following extra keyboard shortcuts:

- Esc Key
- Command + N
- Command + T
- Command + W
- Ctrl + N
- Ctrl + T
- Ctrl + W

**Note:**

- The shortcut keys work only in full-screen mode that is selected through the toolbar.

## Scancode input mode

Citrix Workspace app allows you to use external physical keyboards to collaborate with the server-side keyboard layout on the VDA. When administrators enable Scancode mode, the end user might find themselves using the keyboard layout of the server instead of the client.

This feature enhances the user experience particularly when using an East-Asian language physical keyboard.

**Notes:**

- By default, this feature policy is disabled.
- On touch devices, when Scancode is enabled, the on-screen software keyboard doesn't work from the Citrix Workspace app.

## Configuration

You can configure the Scancode input method in the following way:

- Configuration.js

### Configuration.js

**Notes:**

- Citrix recommends you back up the **configuration.js** file before making changes.
- Administrator-level credentials are required to edit the **configuration.js** file.
- The **configuration.js** file is located under the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder.

To enable the Scancode support feature, do the following:

1. Navigate to the **configuration.js** file.
2. Edit the file and set the **scancode** attribute to **true**.

The following is an example of JSON data:

```
1  "features" : {  
2  
3      "ime": {  
4  
5          "scancode": true,  
6      }  
7  }  
8  }  
9  
10 <!--NeedCopy-->
```

3. Save the changes.

## Session experience

March 21, 2024

### DPI scaling

Citrix Workspace app for HTML5 supports DPI scaling for app and desktop sessions on a single monitor.

Citrix Workspace app for HTML5 lets you set the VDA resolution on the monitors that have a high pixel ratio. The DPI scaling feature is disabled by default for app and desktop sessions.

For Citrix Workspace app 1908 for HTML5 and earlier, go to the session toolbar and then select **Toolbar > More > Preferences > Display Resolution** to set the resolution for app and desktop sessions. The correct resolution is set on the VDA.

For Citrix Workspace app 1909 for HTML5 and later, go to the session toolbar and then select **Toolbar > More > Display Resolution > Device Pixel Ratio Scaling** to set the resolution for app and desktop sessions. The correct resolution is set on the VDA.

When you set the resolution correctly on the VDA, the blurry text becomes crisper.

**Limitations:**

- The High DPI scaling feature is disabled on touch-screen devices.

**Session reliability**

With session reliability, the session remains active on the server. To indicate that connectivity is lost, the user's display becomes unresponsive until connectivity resumes on the other side of the tunnel. The user can continue to access the display during the interruption. However, after the network connection is restored, the user can resume interacting with the application. Session reliability reconnects users without reauthentication prompts.

**Note:**

Citrix Workspace app for HTML5 users can't override the server setting.

You can use session reliability with Transport Layer Security (TLS).

**Note:**

TLS encrypts only the data sent between the user device and Citrix Gateway.

For more information on configuring session reliability, see [Session reliability policy settings](#) in the Citrix Virtual Apps and Desktops documentation.

**Toolbar**

By default, the enhanced toolbar feature is enabled.

To hide the toolbar:

1. While logged in as an administrator, access the **configuration.js** file in **C:\ProgramFiles\Citrix<actual path>\HTML5Client**.
2. Search the configuration.js file to locate 'menubar key.'
3. In the configuration.js file, set "**menubar**":false.

You can also hide an individual icon to prevent it from showing up in the toolbar. For example, to hide the **ctrl+alt+del** button in the toolbar:



1. While logged in as an administrator, access the **configuration.js** file in **C:\ProgramFiles\Citrix<actual path>\HTML5Client**.
2. Search the configuration.js file to locate 'lock.'
3. In the configuration.js file, set **lock:false**.

## URL redirection

URL redirection allows you to control whether users access the URL by using:

- browser published on servers  
or
- browser that run on user devices

URL (Host to client) redirection is one type of content redirection. It's supported only on Server OS VDAs (not Desktop OS VDAs).

When the URL redirection is enabled, the URLs are intercepted on the server VDA and sent to the user device. Citrix Workspace app for HTML5 displays a dialog prompting the user to select whether to open the URL within the session or on the local device. The dialog appears for every URL.

When the URL redirection is disabled, users open the URLs with web browsers or multimedia players on the server VDA. When the URL redirection is enabled, users can't disable it.

URL redirection was previously known as server to client redirection or host to client redirection.

For more information, see [General content redirection](#).

## Battery status indicator

The battery status of the device now appears in the notification area within the virtual desktop session. Previously, the battery status indicator wasn't visible in the session. This setting sometimes led to a loss of productivity when the laptop shuts down after the battery runs out.

The newly available battery status indicator feature is supported on Google Chrome and Microsoft Edge (Chromium) browsers. It's supported only on VDA versions 7.18 and later.

### Note:

With Microsoft Windows 10 VDA, the battery status indicator might take about 1 or 2 minutes to appear.

## Multi-monitor

January 18, 2024

### Multi-monitor support

Previously, the multi-monitor display feature allowed you to open an extra browser tab of the desktop or app session that you were connected to. You were able to drag the additional browser tab to the external monitor.

Now, Citrix Workspace app supports multiple monitors with one click without manual intervention. If there are no external monitors attached to the device, the multi-monitor icon on the in-session toolbar is hidden. When you connect an external monitor with the required permissions, the multi-monitor icon is visible. After you click the icon, you can see the window span across all the connected monitors.

This feature is enabled by default.

To disable the feature, edit the **configuration.js** file. The **configuration.js** file is in the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder. Edit **configuration.js** file and set the value of the **trueMMSupportForHTML5** property to **false**.

For example,

```
1  `` `
2  var HTML5_CONFIG =
3  {
4
5  'features': {
6
7  'graphics': {
8
9  'multiMonitor': true,
10 'trueMMSupportForHTML5': false
11 }
12 }
13 }
14
15 }
16 ;
17 <!--NeedCopy--> `` `
```

#### Note:

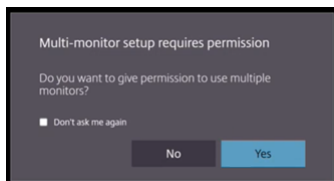
- When you disable the feature, you continue to see the old behavior. You can see an extra browser tab of the desktop or the app session when you click the multi-monitor icon.

The multi-monitor feature supports the following:

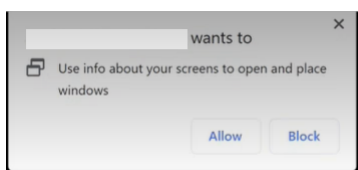
- You can use up to two external monitors.
- You can use different display layouts of the multi-monitor.
- This feature is only supported on Google Chrome and Microsoft Edge Chromium browsers on Windows.
- The macOS devices support the older behavior. That is, when you click the **Multimonitor** icon on the toolbar, a secondary window of the desktop or application session appears to which you're connected. You can then drag the secondary window to the secondary monitor.
- You can use your virtual desktop in full-screen mode across a subset of available monitors. You can drag your virtual desktop to span to two monitors (out of more than two) and then select multi-monitor mode. A typical use case for this scenario is:
  - when you run a video conferencing app on your native device monitor and want to view your virtual desktop contents in full-screen across your other two monitors during the call.

### To use the feature

1. As a first-time user, when you start a session, the following pop-up appears seeking your permission to use the multi-monitor setup.

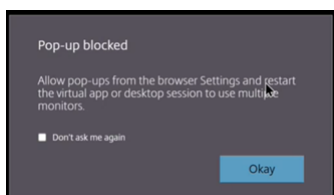


2. Click **Yes**.



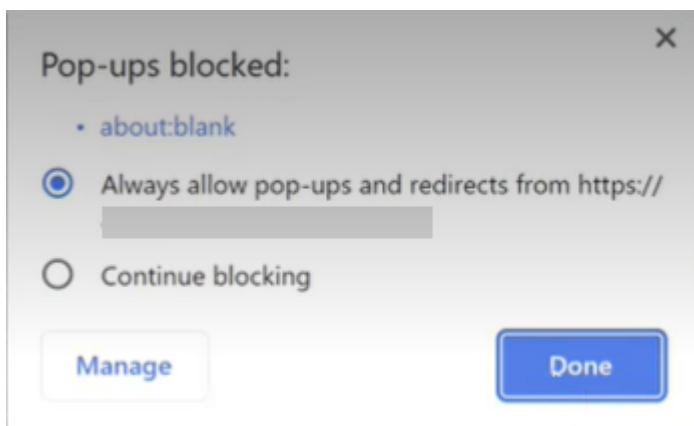
The pop-up appears from the browser to seek permission to use multiple monitors. If you click **Block**, you can't use multiple monitors.

3. Click **Allow**.



The pop-up appears to let you know about the pop-up blockers.


4. Click **Okay**. Navigate to the browser settings and select **Always allow pop-ups**.



5. Click **Done**.

**Note:**

Make sure to restart the session for the changes to take effect.

6. On your primary monitor, click the multi-monitor icon .

You can see the window span across all the connected monitors.

**Important:**

If you deny multi-monitor permissions, the multi-monitor icon doesn't appear. Instead, the full-screen icon appears on the toolbar, which takes you to the older behavior. To manually re-enable the multi-monitor permissions, go to the browser **Settings > Privacy and security > Site Settings > Permissions > Additional permissions**, and allow **Window placement**.

**Notes**

- On the external monitor, resource windows aren't in full-screen mode. Instead, it is in windowed mode with a size equal to the external monitor size. We recommend manually switching to full-screen for a better user experience on each of the external monitor windows. Use the F11 key on Windows. On your Mac, move the pointer to the green button in the top-left corner of the window, then choose **Enter Full Screen** from the menu.
- Multi-monitor state isn't remembered across sessions on different devices. So, you must manually click the multi-monitor icon on the toolbar for every session.

**Feature Limitations**

- In a multi-monitor setup, the session gets restored to the single monitor mode when:

- you use Microsoft Teams to share the screen on the primary monitor.
  - you select the **Logging** or the **Upload** option on the toolbar.
- Click the multi-monitor icon to continue using multiple monitors.

## Multi-monitor support through the session toolbar

This feature is an old behavior that lets you create a secondary window of the desktop or application session to which you're connected. You can then drag the secondary window to the secondary monitor. The multi-monitor display feature is available for both desktop and application sessions.

To use the multi-monitor display feature, do the following:

1. Click the **Multimonitor** icon on the session toolbar.



A secondary window with a 1024x768 resolution appears. It also updates the server with the dual monitor information.

2. You can now drag and resize the secondary window and even go to full-screen mode on one or both monitors.

Every time you resize the window, the secondary window resolution is updated on the server.

To exit multi-monitor mode, close the secondary window.

Even though the resolution details of the secondary monitor are unknown to Citrix Workspace app, multi-monitor mode gives you the flexibility of resizing to adjust to the resolution.

For the session to take focus, click the **Multimonitor** icon on the toolbar.

This feature is enabled by default.

To disable the feature, edit the **configuration.js** file and set the value of the **multiMonitor** property to **false**.

```
1     'ui' : {
2
3         'toolbar' : {
4
5             'multiMonitor' : false
6         }
7     }
8
9     ,
10 <!--NeedCopy-->
```

### Using Citrix Virtual Desktops on dual monitors:

1. Click **Multimonitor** in the toolbar.
2. An extended window is created. Drag the window to the extended monitor.

The screen is now extended to both the monitors.

### Limitations:

- On a macOS device, the secondary window opens as a new tab in Chrome.

## Multimedia

March 21, 2024

### Audio

- For audio to work in VDA versions 2008 and earlier, configure as follows for a temporary workaround:

Add the following to the end of the chrome.exe launch parameters:

`--disable-features=AudioServiceSandbox`

- You can't play an audio file within a session on Safari macOS.

### Adaptive audio

With Adaptive audio, you don't need to configure the audio quality policies on the VDA. Adaptive audio optimizes settings for your environment. It replaces legacy audio compression formats to provide an excellent user experience.

For more information, see [Adaptive Audio](#).

### Feature attributes

There are two feature attributes:

- **EnableAdaptiveAudio:** Set the value to true to enable the adaptive audio feature. Set the value to false to disable the feature.

- **EnableStereoRecording:** Stereo recording is an optional feature. By default, this feature is disabled. Set the value to true to enable stereo recording for the Google Chrome browser or set the value to false to disable the feature. This feature can be supported only when the adaptive audio feature is enabled. When the **EnableStereoRecording** attribute is set to true, the stereo recording is supported with the Google Chrome browser with echo cancellation disabled. The Apple Safari and Mozilla Firefox browsers can't support stereo recording.

## How to Configure

You can configure the adaptive audio feature as follows:

**Configuration.js** In Citrix Workspace app for HTML5, the **configuration.js** file is located under the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder. Edit this file to configure adaptive audio.

### Notes:

- Citrix recommends that you back up the **configuration.js** file before modifying it.
- Administrator-level credentials are required to edit the configuration.js file.

To configure adaptive audio:

1. Navigate to the **configuration.js** file in the **HTML5Client** folder.
2. Add the **EnableAdaptiveAudio** attribute and set the attribute to **true**. Add the **EnableStereoRecording** and set the attribute to **false**. For example,

```
1   'features' : {
2
3     'audio' : {
4
5       'EnableAdaptiveAudio': true
6     }
7
8   }
9
10
11  'features' : {
12
13    'audio' : {
14
15      'EnableStereoRecording': false
16    }
17
18  }
19
20 <!--NeedCopy-->
```

1. Click Save.

**Note:**

- To disable the feature, set the **EnableAdaptiveAudio** attribute to **false**.

### Known Limitations

- The Mozilla Firefox browser doesn't support resampling for recording. In some abnormal cases, recording on Mozilla Firefox might fail.

The adaptive audio support for recording is disabled when the Mozilla Firefox browser is used.

- The Apple Safari and Mozilla Firefox browsers don't support stereo recording because of a limitation in the browser.

### Plug and Play audio device support

Previously, only a single audio playback and recording device was supported and displayed as **Citrix HDX Audio** regardless of the real device name.

We support many audio devices and redirect them to VDA. Now, when you redirect audio devices, you can view the real name of the audio device under the **Sound** settings > **Playback** and **Sound** settings > **Recording** on the VDA. The list of devices on the VDA is dynamically updated whenever an audio device is plugged in or removed.

**Note:**

- By default, this feature is enabled.

### Configuration

You can use **configuration.js** to configure this feature as follows:

**Notes:**

- Citrix recommends that you back up the **configuration.js** file before making changes.
- Administrator-level credentials are required to edit the **configuration.js** file.

To disable the feature:

1. Navigate to the **configuration.js** file.



**Note:**

The **configuration.js** file is located under the `C:\Program Files\Citrix\HTMLClient` folder.

2. Edit the file and locate the **AudioRedirectionV4** attribute. Set the attribute to **false**.

For example,

```
1   'features' : {  
2  
3       'audio' : {  
4  
5           AudioRedirectionV4: false  
6           }  
7  
8       }  
9  
10  <!--NeedCopy-->
```

3. Save the changes.

### Known Limitations

- On the VDA, the name of the built-in audio device is in English only. The issue occurs when you use ChromeOS-based devices. [RFHTMCRM-8667]
- This feature is supported on Microsoft Chromium Edge and Google Chrome browsers only.

### Webcam

Citrix Workspace app supports webcam optimizations for both 32-bit and 64-bit applications with built-in webcams.

### Webcam redirection

To configure webcam redirection:

1. Open the **configuration.js** file.
2. Navigate to **HTML5\_CONFIG > features > video > config > codecType**.

**Note:**

- The Google Chrome and Microsoft Edge Chromium browsers use both hardware and

software codecs. The Mozilla Firefox and Apple Safari browsers use only software codec.

3. Select the **codecType** value:

- 1 - HARDWARE\_CODEC with SOFTWARE\_CODEC fallback (default)
- 2 - Only SOFTWARE\_CODEC
- 3 - Only HARDWARE\_CODEC

### Enhanced support for webcam redirection

Webcam redirection support is available not just for Google Chrome and Microsoft Edge (Chromium) browsers, but it also available on Mozilla Firefox and Apple Safari browsers.

### Microsoft Teams optimization

Microsoft Teams optimization supports audio call, video call, and screen sharing functionalities on the Google Chrome browser only. The minimum Google Chrome version required is m97 and later.

**Note:**

- The Microsoft Teams optimization applies to the Microsoft Teams desktop version and not the web version on the VDA.
- The screen sharing functionality is enabled by default.

### Feature limitation:

- When you use Microsoft Teams optimization and share the screen, a red border that indicates the screen sharing is unavailable. [RFHTMCRM-6360]
- When you use Microsoft Teams optimization, the screen sharing functionality is disabled by default. After you enable it, you can share the local device contents. [RFHTMCRM-6156]

### Known issues in the feature:

- Microsoft Teams optimization is supported on the Google Chrome browser only. [RFHTMCRM-6194] [RFHTMCRM-4724]

For troubleshooting on the shim library version, see the [Microsoft Teams optimization logs](#) section.

### Screen sharing

Starting with version 2209, by default, the screen sharing is enabled. The end users can now share apps and tabs that are opened through Citrix Workspace app. During screen sharing, the blue border appears around the shared window.

To share the entire screen, administrators can edit the **configuration.js** file located under the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder and change the **shareAllContent** attribute to **true**. When this feature is on, the end users can share the entire screen including the resources that aren't opened from Citrix Workspace app.

For example,

```
1      'msTeamsOptimization':{
2
3          'screenSharing' : true,
4          'shareAllContent' : true
5          'seamlessApps' : true,
6          'webcamSupportInMM' : true,
7          'originTrialToken' : {
8
9              'chrome': "",
10         }
11     },
12     }
13
14 <!--NeedCopy-->
```

### Support for dynamic e911

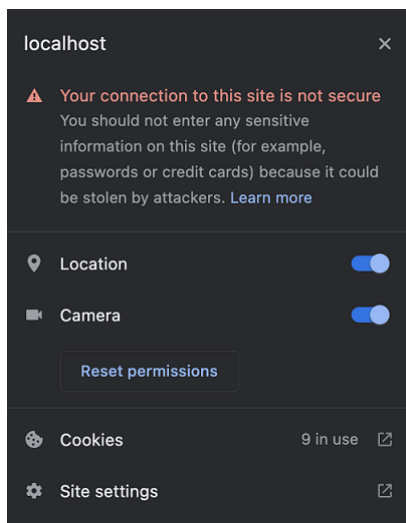
Citrix Workspace app supports dynamic emergency calling. When used in Microsoft Calling Plans, Operator Connect, and Direct Routing, it provides the capability to:

- configure and route emergency calls
- notify security personnel

The notification is provided based on the current location of the Citrix Workspace app that runs on the endpoint, instead of the Microsoft Teams client that runs on the VDA.

Ray Baum's law requires the 911 caller's dispatchable location to be transmitted to the appropriate Public Safety Answering Point (PSAP). Starting from Citrix Workspace app 2202 for HTML5, Microsoft Teams Optimization with HDX is compliant with Ray Baum's law.

For Microsoft Teams optimization e911 calling, enable **Location** access as shown:



### Background blurring and effects in Microsoft Teams optimization

Starting with the 2303 release, Citrix Workspace app for HTML5 supports background blurring and effects in Microsoft Teams optimization for video calls. You can either blur or replace the background effects provided by Microsoft Teams to avoid unexpected distractions by helping the conversation stay focused on the silhouette (body and face). This feature can be used with P2P and conference calls.

#### Notes:

- By default, this feature is disabled.
- This feature is now integrated with the Microsoft Teams UI. Multi-window support is a prerequisite that requires a VDA update to 2112 or higher. For more information, see [Multi-window meetings and chat](#).

### Limitations

- Administrator and user-defined background replacement aren't supported.
- When you enable this feature, you might observe performance issues.
- After the ICA session is reconnected, the effect is off. However, the Microsoft Teams UI shows that the previous effect is still On by a tick mark. Citrix and Microsoft are working together to resolve this issue.

**How to configure** You can configure the background effect feature in one of the following ways:

- Configuration.js
- Global App Configuration service

**Configuration.js** In Citrix Workspace app for HTML5, the **configuration.js** file is located under the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder. Edit this file to configure the background effect feature.

**NOTES:**

- Citrix recommends that you back up the **configuration.js** file before modifying it.
- Administrator-level credentials are required to edit the **configuration.js** file.

To enable background effect:

1. Navigate to the **configuration.js** file in the **HTML5Client** folder.
2. Add the **backgroundEffects** attribute and set the attribute to **true**. For example,

```
1  'features' : {  
2  
3      'msTeamsOptimization' :  
4      {  
5  
6          'backgroundEffects' : true  
7      }  
8  
9  }  
10  
11 <!--NeedCopy-->
```

3. Save the changes.

**Global App Configuration service** On the cloud setup, administrators can enable the background effect feature by setting the **backgroundEffects** attribute to **False** in the Global App Configuration service.

For more information, see the [Global App Configuration service](#) documentation.

### Multi-window chat and meetings for Microsoft Teams

Starting with the 2301 version, you can use multiple windows for chat and meetings in Microsoft Teams. You can pop out the conversations or meetings in various ways.

For details about the pop-out window feature, see [Pop out a chat in Microsoft Teams](#). For troubleshooting see, [CTX253754](#).

Microsoft will deprecate the single-window support in the future. If you're running an older version of Citrix Workspace app or Virtual Delivery Agent (VDA), you can upgrade to:

- Citrix Workspace app 2301 or later  
and

- VDA - 2203 or later

## Live Captions in Microsoft Teams

Microsoft Teams optimization supports real-time transcription of what the speaker is saying when Live Captions is enabled in Microsoft Teams.

## Support for secondary ringer

You can use the secondary ringer feature to select a secondary device on which you want to get the incoming call notification when Microsoft Teams is optimized.

For example, consider that you have set a speaker as the Secondary ringer, and your endpoint is connected to the headphones. In this case, Microsoft Teams sends the incoming call ringer to both the headphones and the speaker. You can't set a secondary ringer in the following cases:

- When you aren't connected to more than one audio device
- When the peripheral isn't available (for example, a Bluetooth headset)

### Note:

By default, this feature is disabled.

**Configuration** You can enable the secondary ringer feature in the following way:

## Configuration.js

### Notes:

- Citrix recommends that you back up the **configuration.js** file before making changes.
- Administrator-level credentials are required to edit the **configuration.js** file.

To enable the feature using the **configuration.js** file, do the following:

1. Navigate to the **configuration.js** file.

### Note:

The **configuration.js** file is located under the `C:\Program Files\Citrix\HTMLClient` folder.

2. Edit the file and set the value of **secondaryRingtone** to **true**.

The following is an example of JSON data:

```
1 {
2
3     "features":{
4
5         "msTeamsOptimization":{
6
7             "secondaryRingtone" : true
8         }
9
10    }
11
12 }
13
14
15 <!--NeedCopy-->
```

3. Save the changes.

### **Simulcast implementation for optimized Microsoft Teams video conference calls**

Starting with the 2312 release, by default, simulcast support is enabled for optimized Microsoft Teams video conference calls. With this support, the quality and experience of video conference calls across different endpoints are improved. We're adapting to the proper resolution for the best call experience for all callers.

With this improved experience, each user might deliver multiple video streams in different resolutions (for example, 720p, 360p, and so on). It depends on several factors including endpoint capability, network conditions, and so on. The receiving endpoint then requests the maximum quality resolution that it can handle by that giving all users the best video experience.

## **Touch and mobility support**

March 21, 2024

### **Mobility support**

#### **To enable the auto-soft keyboard popup**

To enable this feature, configure the automatic keyboard policy to display the soft keyboard when clicking any editable area:

1. Open Citrix Studio on DDC.

2. Select **Policies**.
3. Click **Create Policy**.
4. Search for **Automatic Keyboard Display** and select **Allowed**.

## Combo box support on mobile platforms

Starting with the 2303 version, selecting UI elements within a combo box on small screens is smoother. An administrator can enable the policy **Remote the combo box** to make the user experience of selecting checkboxes, drop-down list options, radio buttons, and more a smooth experience on iOS and Android mobiles.

For more information, see the [Remote the combo box](#) section in the Citrix Virtual Apps and Desktops documentation.

### Note:

This feature is enabled by default.

## Configuration

You can configure the enhanced touch experience in one of the following ways:

- Configuration.js
- Global App Configuration service

**Configuration.js** In Citrix Workspace app for HTML5, the **configuration.js** file is in the `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client` folder. Edit this file to configure the enhanced touch experience feature.

### Notes:

- Citrix recommends that you back up the **configuration.js** file before modifying it.
- Administrator-level credentials are required to edit the **configuration.js** file.

To disable the enhanced touch experience feature:

1. Navigate to the **configuration.js** file in the **HTML5Client** folder.
2. Add the **enablePointerForTouchEvents** attribute and set the attribute to **false**.

For example,

```
1  'ui':  
2     {  
3
```



```

4         'touch':
5             {
6
7                 'enableMobileComboBoxRedirection': false
8             }
9
10        }
11
12 <!--NeedCopy-->

```

3. Save the changes.

**Global App Configuration service** On the cloud setup, administrators can disable the feature by setting the **enablePointerForTouchEvents** attribute to **False** in the Global App Configuration service.

For more information, see the [Global App Configuration service](#) documentation.

### Gesture enhancements on touch devices

Starting with the 2304 version, Citrix Workspace app enhances the end user experience for:

- gestures, multi-touch, and soft keyboard functionality on mobile devices.
- soft keyboard functionality on Tablet mode.

In your Citrix Workspace app sessions, you can use all the familiar multi-touch gestures, including the tap, swipe, drag, pinch, and zoom.

The following is the gesture guide:

To do this:	On Citrix Workspace app, do this:
Single click	One-finger tap
Right-click	Touch-hold-release
Open the on-screen keyboard	Three-finger tap (or from the toolbar, tap <b>Keyboard</b> icon)
Zoom	Pinch in and out
Drag	Touch, hold, and slide
Enable cursor	Two-finger tap

## Automatic display of virtual keyboard

Starting with the 2211 version, a virtual keyboard automatically appears when you place the cursor on an editable field. This feature enhances the user experience on touchscreen devices, unlike the previous behavior where you had to click the keyboard icon to view the virtual keyboard.

## Printing

March 21, 2024

### PDF printing

#### To configure PDF printing

The Citrix PDF Universal Printer driver enables users to print documents that are opened with hosted applications. Many a times it can be applications that run on virtual desktops delivered by Citrix Virtual Apps and Desktops. When a user selects the Citrix PDF Printer option, the driver converts the file to PDF and transfers the PDF to the local device. You can now open the PDF in a new browser tab to view and print from a locally attached printer.

If you want to enable users to print documents that are opened with hosted applications or applications that run on virtual desktops delivered by Citrix Virtual Apps and Desktops, do the following:

1. In Citrix Studio, select the Policy node in the left pane and either create a policy or edit an existing policy. For more information about configuring Citrix Virtual Apps and Desktops policies, see [Policies](#).
2. Set the **Auto-create PDF Universal Printer** policy setting to **Enabled**.

#### Note:

When you use a Citrix PDF printer in a session launched from Citrix Workspace app for HTML5, set the **Client printer names** setting as default or select **Standard printer names**. Select **Legacy printer names** to use old-style client printer names and to preserve backward compatibility with legacy printer names as present in the Citrix Virtual Apps and Desktops of the product. You can use this option with the current Citrix Virtual Apps and Desktops and Citrix DaaS versions of the product.

#### To configure with the CSP header added

PDF printing works, unless a Content-Security-Policy (CSP) header is added for users.

The CSP response header is a combination of policies that a browser uses to avoid Cross-site scripting attacks.

If the CSP *header* is added to Citrix Gateway *Rewrite Policies*, PDF printing doesn't work.

Configure as follows:

```
img-src \'self\' data: blob:
```

(**blob**: This parameter allows print preview to load and continue with printing functionality)

### Enhanced PDF printing experience

In earlier versions, when you try to print a PDF, a **Continue** print dialog appeared, prompting your confirmation to print.

Now, the **Print** window appears within your Citrix Workspace app session. You can directly print the document from the **Print** window.

This enhancement is fully supported and enabled by default in Chrome and Firefox. To disable it in Chrome and Firefox, set the value of **supportedBrowsers** to **false** in the **configuration.js** file. The **configuration.js** file is located under C:\program Files\Citrix<actual path>\HTML5Client.

This enhancement is partially supported in Internet Explorer 11 with some known limitations, and disabled by default. To enable this feature in Internet Explorer, set the value of **IE** to **true** in the **configuraton.js** file. The **configuration.js** file is located under C:\program Files\Citrix<actual path>\HTML5Client.

```
1     'pdfPrinting' : {
2
3         'directPrint' : {
4
5
6
7         'supportedBrowsers':true,
8
9
10        'IE':false
11        }
12    }
13    }
14
15 <!--NeedCopy-->
```

**Optimized resolution** In earlier versions, content in a document appeared blurry when you attempted to print the document using the Citrix PDF printer.

We now introduce optimizations to improve the user experience. The `printResolution` value defaults to 150. Also, for crisper content, you can change the value in the `configuration.js` file to 300 or 600 depending on your requirement:

```
1 'pdfPrinting' : {
2
3     'directPrint' :
4         {
5     'printResolution' :150  }
6
7
8 <!--NeedCopy-->
```

### Limitations:

- In Internet Explorer, the content of a printed PDF is scaled down and doesn't fit the page.
- In Internet Explorer, when you print a large file or a file with many pages, the browser might stop responding or the print operation might fail intermittently.
- This enhancement isn't supported for sessions that are launched through the HTML5 HDX SDK.

**To suppress the Continue print dialog** When the enhanced printing experience feature is disabled, you can print a PDF by suppressing the appearance of the **Continue** print dialog.

By default, the `printDialog` property of the `hide` object is set to **false**.

The `configuration.js` file is located under `C:\program Files\Citrix<actual path>\HTML5Client`.

To print, set the `printDialog` property of the `hide` object to **true**.

#### Note:

- Citrix recommends that you back up the `configuration.js` file before modifying it.
- Citrix recommends using this method only if Citrix Workspace app for HTML5 is repackaged for users.
- Administrator-level credentials are required to edit the `configuration.js` file; after editing the file, repackage the app for the changes to take effect.

```
1     {
2
3
4
5     'ui' : {
6
7
8
9     "hide":{
10
11
```

```
12
13     'printDialog': true
14
15     }
16
17
18
19
20     }
21
22
23
24     }
25
26 <!--NeedCopy-->
```

## Blocking PDF printing

As an administrator, you can now block PDF printing on the following browsers across platforms: Internet Explorer, Google Chrome, Firefox, Safari, and Microsoft Edge (including Microsoft Edge Chromium).

By default, PDF printing is allowed across all browsers. To prohibit PDF printing, follow these steps:

1. Navigate to the **configuration.js** file, available at `C:\Program Files\Citrix\Receiver StoreFront\HTML5Client`.
2. Edit that file and set the value of `disableForBrowsers` to **'ALL'**.
  - To disable PDF printing on specific browsers, set the value of **disableForBrowsers** to **'MSIE'**, **'Chrome'**, **'FIREFOX'**, **'SAFARI'**, **'CHROMIUMEDGE'**, or **'MSEDGE'**.

```
1     'pdfPrinting' : {
2
3         'disableForBrowsers' : ['All']
4
5     or
6
7         'disableForBrowsers' : ['MSIE', 'Chrome', 'CHROMIUMEDGE', '
8             MSEDGE']
9
10    }
11
12 <!--NeedCopy-->
```

The following describes each of the values in detail:

- **'MSIE'**: All the versions of Internet Explorer

- ‘MSEDGE’: All the versions of Microsoft Edge
- ‘CHROMIUMEDGE’: All the versions of Microsoft Edge Chromium
- ‘Chrome’: All the versions of Google Chrome
- ‘FIREFOX’: All the versions of Firefox
- ‘SAFARI’: All the versions of Safari

## Troubleshoot

January 4, 2024

### HTML5 logs

Citrix Workspace app for HTML5 provides timestamps for the logs generated by the user device.

**Note:**

- To assist with troubleshooting issues, you can view Citrix Workspace app for HTML5 session logs.

The log page allows users to:

- **Enable Logging:** Enable logging to view the HTML5 logs.
- **Disable Logging:** Disable logging to stop logging in a session.
- **View logs:** View the logs generated for a session.
- **Clear logs:** Delete the log file generated in a session.
- **Download log file:** Download the log file to a desired location.

Citrix Workspace app supports log collection for ongoing virtual desktop and app sessions. Previously, you collected logs only for sessions launched after selecting **Start Logging** during an ongoing session. Now, the logs are collected for the ongoing and next sessions until you select **Stop Logging**.

### Troubleshooting enhancement for mobile devices

You can get quick access to the session log file by tapping the **Get Logs** option. The logging option is renamed from **Logging** to **Get Logs**. When you select **Get Logs** from the secondary menu, the log file downloads on your device, unlike on a new browser tab.

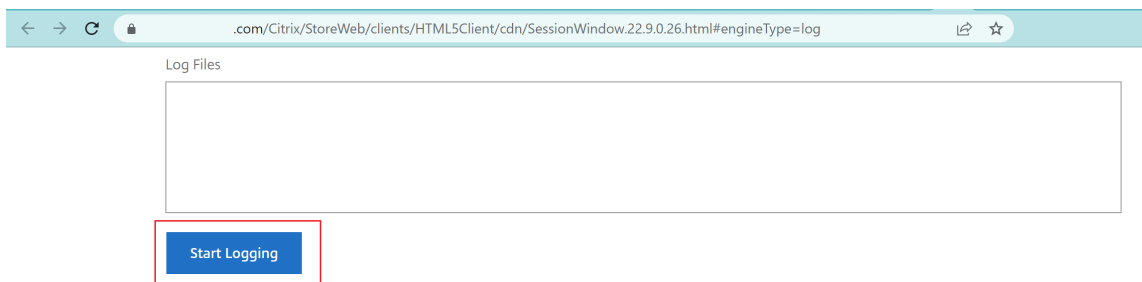
**Note:**

You can collect logs for the ongoing session and a maximum of the previous five sessions.

### How to collect logs

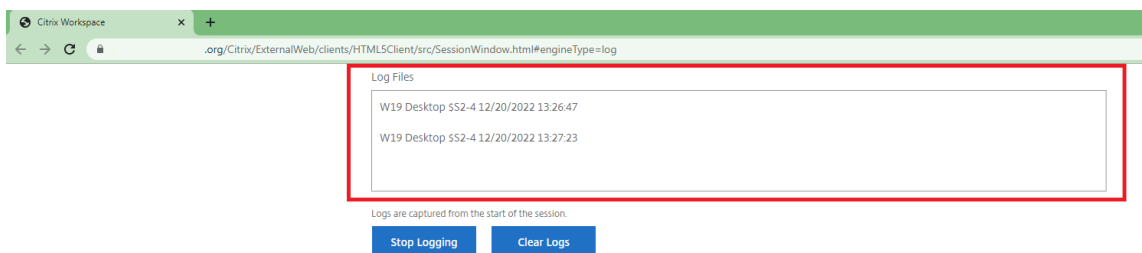
To collect Citrix Workspace app for HTML5 client logs, do the following:

1. Sign in to Citrix Workspace app for HTML5.
2. Access the Log files page as follows:
  - For Citrix Workspace app versions 1908 and later, open a new tab and navigate to `siteurl/-Clients/HTML5Client/src/SessionWindow.html#engineType=log`, where **siteurl** is the URL of the Workspace for Web site, for example, <https://server.domain/Citrix/StoreWeb>.
  - For Citrix Workspace app versions 1907 and earlier, open a new tab and navigate to `siteurl/-Clients/HTML5Client/src/ViewLog.html`, where **siteurl** is the URL of the Citrix Workspace for Web site, for example, <https://server.domain/Citrix/StoreWeb>.
3. On the **Log files** page, click **Start Logging**.

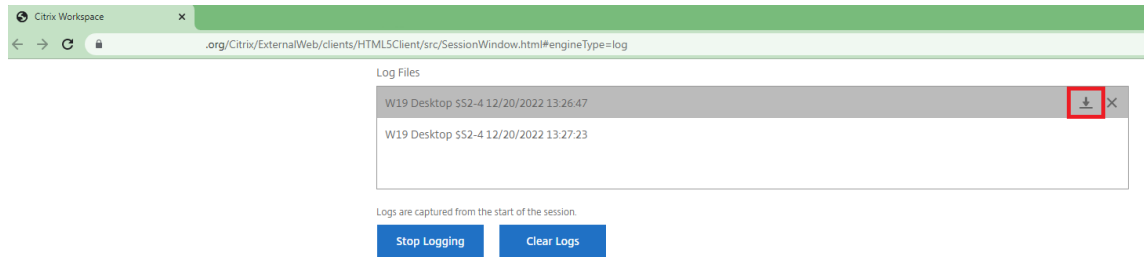


Logging is enabled for the next session launch, and not for the current active session (if any).

4. Sign in to the Citrix Workspace app and start your virtual app session and reproduce the issue to collect logs. Continue to work on the session to reproduce the issue.
5. Close the session once the problem is reproduced.
6. The log files generated for the Citrix Workspace app for HTML5 session are shown in the logging page.



### 7. Click the arrow button to download and save the Log file.



#### Note:

- To enable and view Citrix Workspace app for HTML5 logs, you can use the option **Logging** from the session toolbar menu.



## Console logs

#### Note:

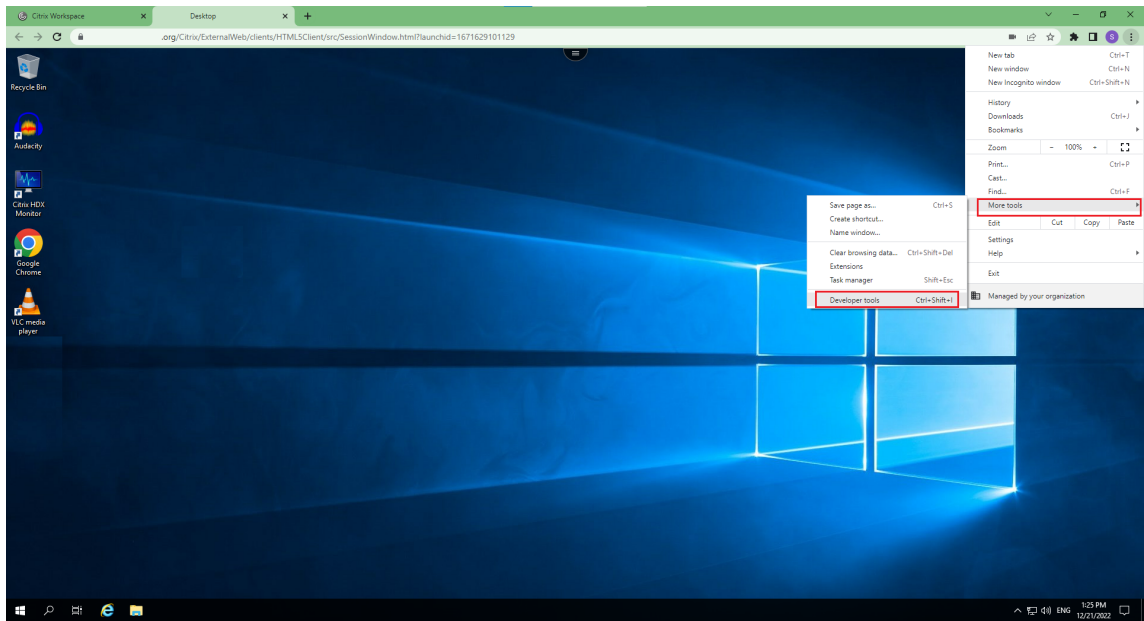
- Starting with the 2206 release, the console logs are a part of the client logs.

To collect Citrix Workspace app for HTML5 console logs, do the following:

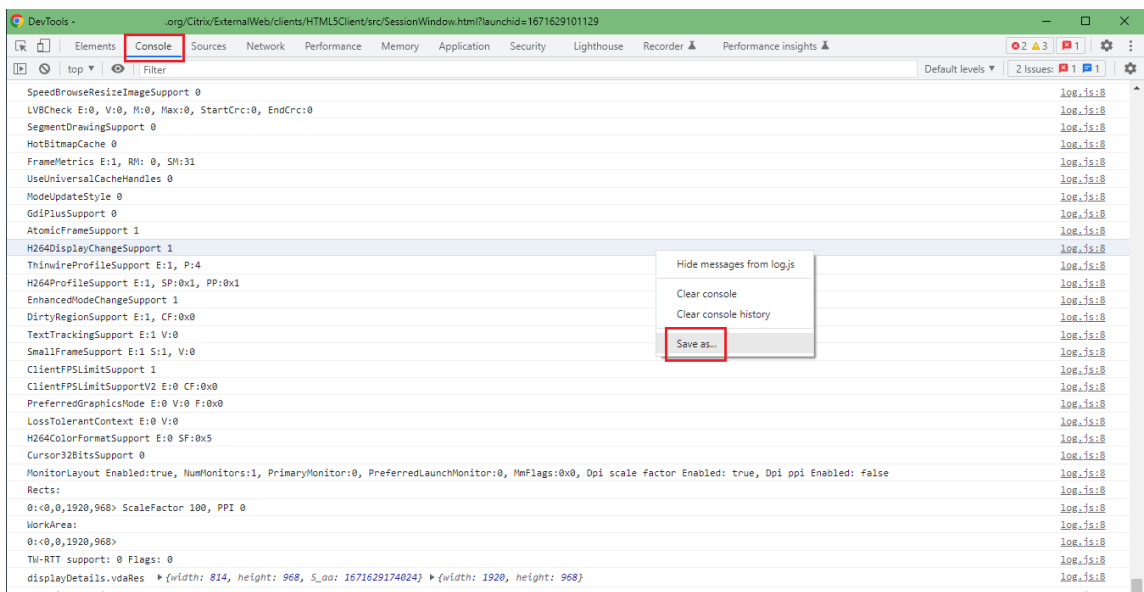
1. Open the Developer tools on the browser tab where the session is running. For example, on the Google Chrome browser, Developer tools can be found under the **More Tools** option.



## Citrix Workspace app for HTML5



2. Click **Console** in the opened developer tool.
3. Right-click and select the **Save as** option to save all the logs.



## USB redirection logs

To enable logging and to collect logs for USB redirection-related issues, do the following:

### Enable logs

1. Edit the `configuration.js` file and navigate to the HTML5\_CONFIG section.

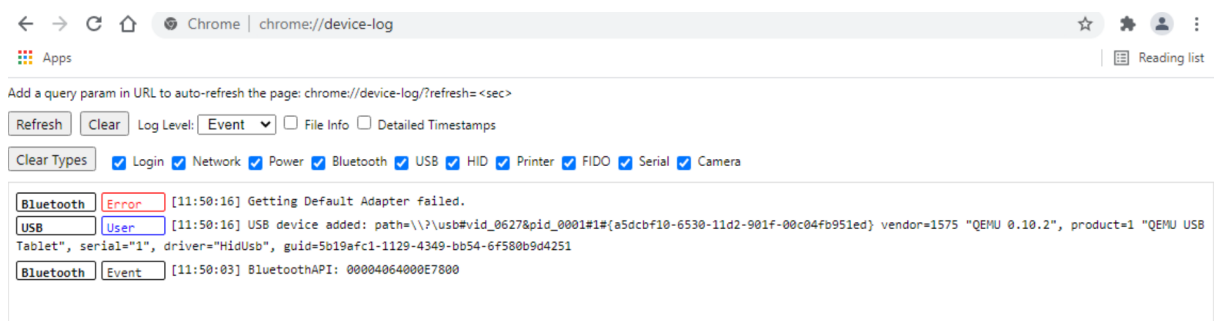
2. Add the value **moreLogs{usb': true}**. This setting is relevant to the StoreFront. The `configuration.js` file is at `C:\program Files\Citrix <actual path>\HTML5Client`.

### Collect logs

To collect logs, see [How to collect logs](#).

### Device logs

To collect device logs, open a new tab in the Google Chrome browser and enter **chrome://device-log** and share the logs.



### Microsoft Teams optimization logs

Microsoft Teams optimization supports the latest shim library version 1.10.0.0.

To know the current shim version that you use:

1. Open the Microsoft Teams application and start a call with one of the users.
2. Maximize the Microsoft Teams window after the call is established.
3. Open the **On-screen keyboard** inside the session and click the **Ctrl + Alt + Shift + 1** keys.

You can now view the log files under the downloads folder in the VDA.

4. Open the **MSTeams\_Diagnostics Log <date><time>.txt** file and search for the shim version under **type\_script**. For example, “version”:{“type\_script”:"1.10.0.0"}.

### Secure

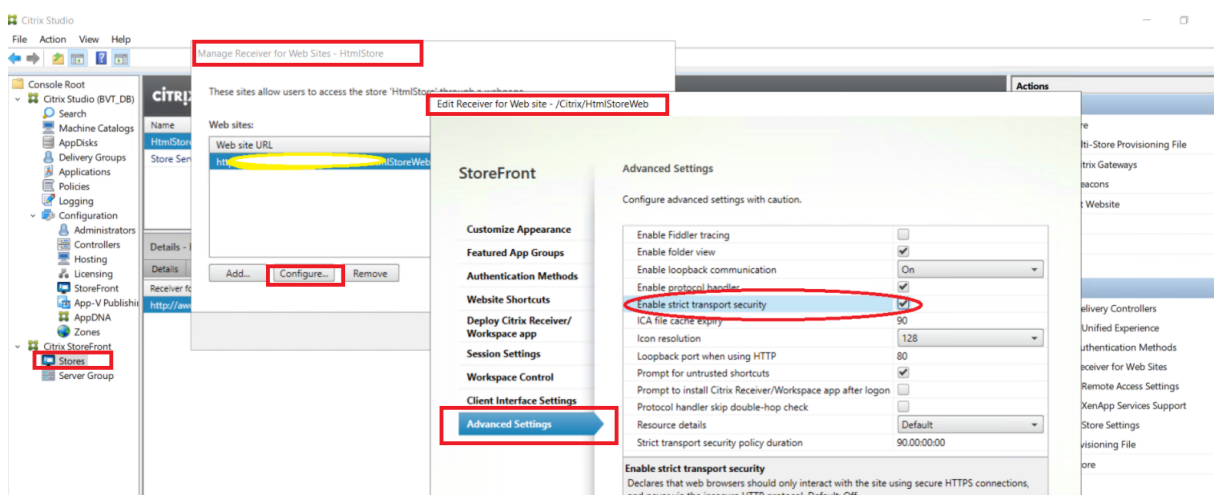
September 15, 2023

## Security settings

Citrix recommends using stores that are secure. Besides, it's a good practice to have HTTP strict transport security (HSTS) setting enabled for secure stores.

Do the following steps to enable the **HSTS** setting:

1. In **Citrix StoreFront**, under **Stores**, click the link of the particular store to enable the security settings.
2. The **Manage Receiver for Web Sites** dialog box appears.
3. Click **Configure**.
4. The **Edit Receiver for Web site** dialog box appears.
5. Click the **Advanced Settings** tab and select **Enable strict transport security**.



## SDK

March 21, 2024

## HDX SDK

Citrix Workspace app enhances support for HDX and SDK sessions by enabling you to customize your delivery model for Citrix hosted apps and desktops through your website.

This feature is useful for building a rich app experience in your Enterprise portals, and for users as a service. You can provide the experience when you host Citrix Workspace app for HTML5 on your web server while launching Citrix hosted apps and desktops from your website.

For the HDX SDK for Citrix Workspace app for HTML5 documentation, see [HDX SDK for HTML5](#).

For HDX SDK examples, refer to the Citrix [download](#) page.

### **Autoupdate support for Citrix Workspace app for HTML5 using HDX SDK for HTML5**

Citrix HDX SDK for HTML5 enhances the `setPath` API to consume the latest build of Citrix Workspace app for HTML5 from the CDN. This enhancement allows Citrix Workspace app for HTML5 to run on the latest version seamlessly. For existing HDX SDK for HTML5 users, change `citrix.receiver.setPath` in the customer code to use the latest from the CDN. For new users, the `setPath` API provides the option by default.

CDN is provided as the default. If there are any issues with the CDN, the hosted location provides the fallback path. For more information, see [HDX SDK for HTML5](#).

### **Latest version of Citrix HDX SDK for HTML5**

Verify that you use the latest version of the Citrix HDX SDK for HTML5 to start the sessions. Else, the session might fail to start.

For more information, see [Citrix Workspace app for HTML5 HDX SDK](#).

### **Virtual Channel SDK support**

The Citrix Virtual Channel (VC) SDK supports writing server-side applications and client-side drivers using the ICA protocol. The server-side virtual channel applications are on the Citrix Virtual Apps and Desktops server.

VC SDK supports writing new virtual channels and Citrix Workspace app for HTML5 can support up to 20 custom-virtual channels.

### **Feature limitations**

- If the configuration of the virtual channels is incorrect, you can observe a lag of 30 seconds.
- When you create a custom VC, start the 'streamName' with anything other than 'CTX'.

For more information, see [Citrix Virtual Channel SDK for Citrix Workspace app for HTML5](#).

## **Deprecation**

March 28, 2024

The announcements in this article give you advanced notice of platforms, Citrix products, and features that are being phased out. Using these announcements, you can make timely business decisions.

Citrix monitors customer use and feedback to determine when they're withdrawn. Announcements can change in subsequent releases and might not include every deprecated feature or functionality.

Deprecated items aren't removed immediately. Citrix continues to support them in this release but they'll be removed in the future.

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Item	Deprecation announced in	Removed in	Alternative
Internet Explorer 11	-	2206	Use the other supported web browsers
Legacy browsers	-	2206	Use the latest version of the browsers

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