



# Citrix Workspace app for Android

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## About this release

January 11, 2023

### What's new in 22.12.0

#### Inactivity timeout for Citrix Workspace app sessions

Administrators can specify the amount of idle time that is allowed. After the time-out value, an authentication prompt appears. The inactivity timeout value can be set starting from 1 minute to 24 hours. By default, the inactivity timeout isn't configured. Administrators can configure the **inactivityTimeoutInMinutesMobile** property by using a PowerShell module. Click [here](#) to download the PowerShell modules for Citrix Workspace app configuration.

When you've reached the specified time-out value, the end-user experience is as follows depending on the authentication type configured:

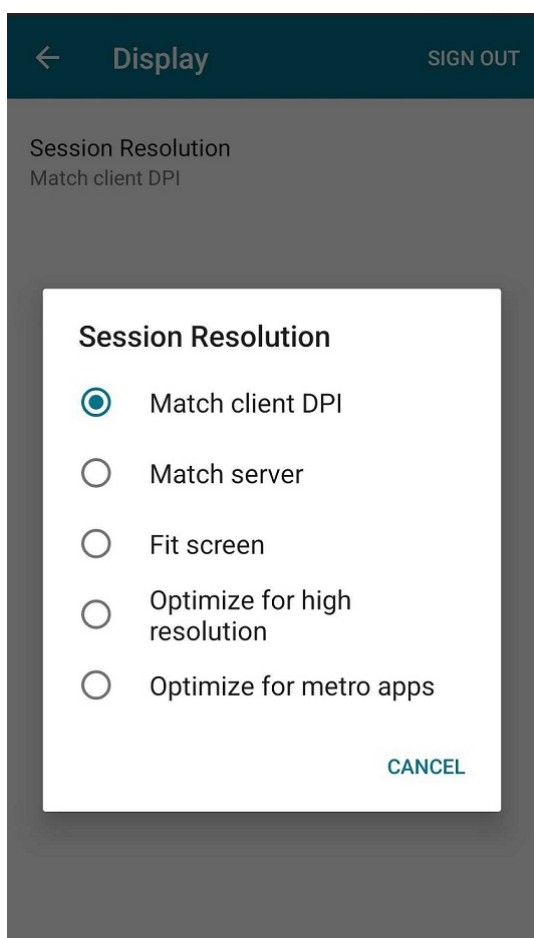
- After the inactivity timeout, you'll receive a prompt to provide biometric authentication to access the Citrix Workspace app again.
- If you can cancel the biometric authentication prompt, the following message appears: **Citrix Workspace app is locked**. You must authenticate to continue to use the Workspace app.
- If the passcode isn't configured on Android, you have to sign in with credentials after the inactivity timeout.

#### DPI Matching [Technical Preview]

The DPI matching feature ensures that the DPI scaling setting present in a remote desktop matches your device's DPI setting. In general, the display clarity depends not only on resolution but also on the density of the pixels (DPI).

Previously, the sessions were rendered by resolution settings and those sessions weren't clear even on high-DPI mobile phones or tablets.

Starting with the 2212 release, a new UI is introduced to achieve DPI matching. On your device, go to Citrix Workspace app for Android **Settings > General > Display > Session Resolution >** and select the **Match client DPI** option.



You can now connect an Android phone, or an Android tablet to an external monitor, or a TV and the session display scales according to the optimal DPI settings. You can use the Samsung DeX mode too. In other words, the Citrix Workspace app attempts to match the display resolution and DPI scale settings of the Android device to the Citrix session automatically.

This feature enhances the user experience by rendering the sessions according to the DPI of the phone or tablet. The session icons, text, and image clarity are now sharper and more comfortable to read. By default, the DPI matching 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 in 22.12.0**

There are no fixed issues in this release.

## Known issues in 22.12.0

There are no new known issues.

**Note:**

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

### 22.11.0

#### What's new

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

#### Fixed issues

There are no fixed issues in this release.

### 22.10.5

#### What's new

This release optimizes audio latency and audio quality, for example by addressing delays and speech issues in Microsoft Teams call.

#### Fixed issues

- The new audio toggle UI is not yet a part of the Global App Configuration service settings. [HDX-43398]

### 22.10.0

#### What's new

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

### Fixed issues

- When you switch the Citrix Workspace app UI between the Zebra device and an external monitor, the app refreshes and reauthenticates. You might also observe a gray screen when you switch. [HDX-43407]

## 22.9.0

### What's new

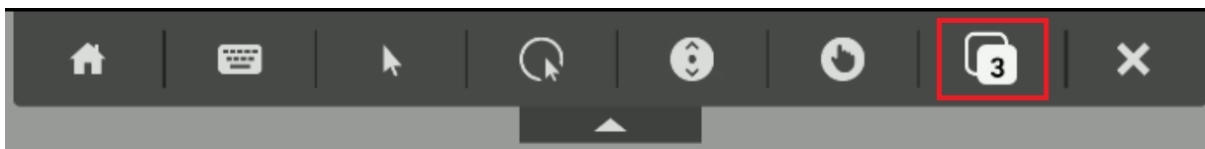
#### Support for Android 13

Citrix Workspace app for Android 22.9.0 supports Android 13. Upgrading to Citrix Workspace app version to 22.9.0 ensures continuous support for devices that are updated to Android 13.

#### App switch

This feature enables an end user to switch between many published apps that are in the same session. When you tap the **Switch** icon, you can scroll to select an app and the app that is in focus is highlighted. You can view the app title, preview image, and window title.

When you open or close an app, the app count updates accordingly. If some apps are opened in another session, the app count includes all the opened ones.



#### Multi-display support on Samsung DeX

Samsung DeX (Desktop eXperience) is available on some high-end Samsung handheld devices. The DeX feature enables users to extend their device into a desktop-like experience by connecting a keyboard, mouse, and monitor.

You can connect your DeX-enabled device and the external display to extend the desktop session onto the external display that supports the DeX protocol. You can either extend or display different content on the Samsung DeX screen and the external display.

For more information, see [Multi-display support on Samsung DeX](#)

#### Support for webcam redirection **Technical Preview**

You can now redirect the front camera of your device into the session. Both 32-bit and 64-bit applications are supported. By default, the auto-redirection of the webcam is disabled.

**Note:**

This feature is a request-only preview. To get it enabled in your environment, fill out the Podio form <https://podio.com/webforms/27883403/2183185>. In case you have a firewall or proxy blocking outbound traffic, you need to enable traffic to LaunchDarkly. For more information see, [Feature flag management](#).

**Fixed issues**

There are no fixed issues in this release.

**22.8.0**

**What's new**

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

**Fixed issues**

There are no fixed issues in this release.

**22.7.5**

**What's new**

**Enhancements to audio redirection**

Previously, audio redirection in a desktop session required multiple levels of microphone settings, and the steps to set the permissions weren't intuitive. With this release, microphone permission settings are simplified and are user-friendly. You can also enable the permissions while you are in a session.

For more information, see in [Enhancements to audio redirection](#) section.

**Fixed issues**

There are no fixed issues in this release.

**22.6.5**

**What's new**

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

## Fixed issues

There are no fixed issues in this release.

## 22.6.0

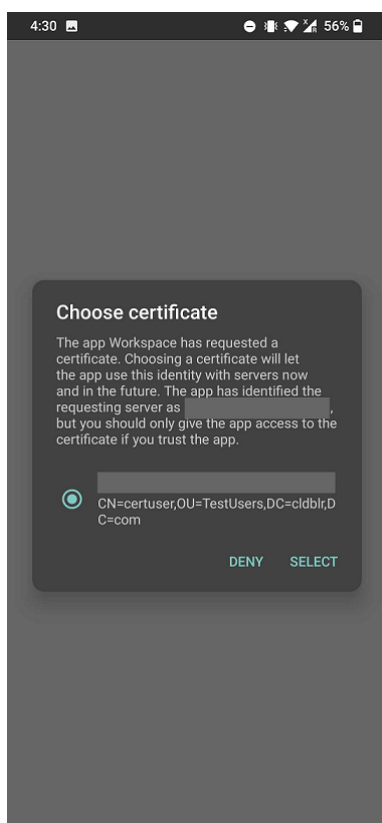
### What's new

#### Authentication using certificates

End users can now handle certificate-based authentication where the certificates are saved onto the device Keystore. While signing in, Citrix Workspace app detects the list of certificates on your device, and you can choose a certificate for authentication.

#### Important:

After you choose the certificate, the selection persists for the next Citrix Workspace app launch. To choose another certificate, you can either reset or reinstall Citrix Workspace app.



#### Note:

This feature supports on-premises deployments.

### App switch [Technical Preview](#)

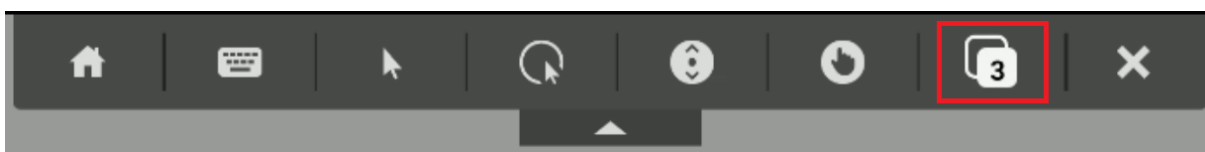


This feature enables the end user to switch between multiple published apps that are in the same session. When you tap the **Switch** icon, you can scroll to select an app and the app that is in focus is highlighted. You can view the app title, preview image, and window title.

When you open or close an app, the app count updates accordingly. If some apps are opened in another session, the app count includes all the opened ones.

**Note:**

This feature is a request-only preview. To get it enabled in your environment, fill out the Podio form <https://podio.com/webforms/27633081/2147175>.



### Fixed issues

- User settings fall back to the default value when you restart Citrix Workspace app and start a resource. The issue occurs in work profile mode, that is, Mobile Device Management (MDM) mode. [CVADHELP-19928]

## 22.5.0

### What's new

#### Multi-display support on Samsung DeX **Technical Preview**

Samsung DeX (Desktop eXperience) feature is available on some high-end Samsung handheld devices. The DeX feature enables you to extend your device into a desktop-like experience by connecting a keyboard, mouse, and monitor.

You can connect your DeX-enabled device and the external display to extend the desktop session onto the external display that supports the DeX protocol. You can either extend or display different content on the Samsung DeX screen and the external display.

For more information, see [Multi-display support on Samsung DeX](#)

### Recommendations and notes

- Citrix Workspace app for Android 22.4.0 supports Android 12.
- If you are on HTTP-based stores, for a secure context, we recommend that you transition to HTTPS-based stores. For more information, see [HTTPS](#).

## Fixed issues

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

## 22.4.0

### What's new

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

### Recommendations and notes

- Citrix Workspace app for Android 22.4.0 supports Android 12.
- If you are on HTTP-based stores, for a secure context, we recommend that you transition to HTTPS-based stores. For more information, see [HTTPS](#).

## Fixed issues

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

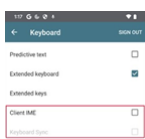
## 22.3.5

### What's new

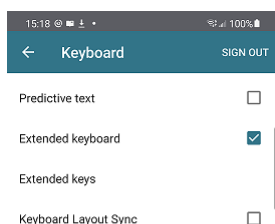
#### Change in the user interface

With this release, the **Keyboard sync** option is renamed to **Keyboard layout sync** and the **Client IME** option is removed from the UI as it is enabled by default.

#### Old interface



#### New interface



When the Keyboard layout sync is disabled, both the VDA-side (remote) IME and the client-side IME take effect depending on your device's current input method. For example, if the client-side IME is in English and the VDA-side IME is in Japanese, the VDA-side IME (remote) takes effect.

When the Keyboard layout sync is enabled, the client-side IME takes precedence. If you change the input language at the client-side IME, the VDA-side IME changes accordingly. For example, if you change the client-side IME to Japanese, the VDA-side IME is changed to Japanese too. At the same time, Japanese IME on your client device is used during the session.

### **Support for an enhanced Single sign-on (SSO) experience for web and SaaS apps [Technical Preview](#)**

This feature simplifies the configuration of SSO for internal web apps and SaaS apps while using third-party identity providers (IdPs). The enhanced SSO experience reduces the entire process to a few commands. It eliminates the mandatory prerequisite to configure Citrix Secure Private Access in the IdP chain to set up SSO. It also improves the user experience, provided the same IdP is used for authentication to both the Workspace app and the particular web or SaaS app being launched.

You can register for this technical preview by using this [Podio form](#).

### **Recommendations and notes**

- Citrix Workspace app for Android 22.3.5 supports Android 12.
- If you are on HTTP-based stores, for a secure context, we recommend that you transition to HTTPS-based stores. For more information, see [HTTPS](#).

## **Fixed issues**

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

### **22.3.0**

#### **What's new**

##### **Google Assistant integration**

You can interact with the Google Assistant to launch resources like apps and desktops without launching Citrix Workspace app each time. All the recently accessed resources are listed under Google Assistant shortcuts. Select the ones that you prefer to add as a shortcut.

For more information, see [Google Assistant integration](#) section.

##### **Use the latest version**

This feature helps you to use the latest version of Citrix Workspace app. When you launch the Citrix Workspace app, the in-app prompt asks you to update to the latest version.

For more information, see [Use the latest version](#).

#### **Recommendations and notes**

- Citrix Workspace app for Android 22.3.0 supports Android 12.
- If you are on HTTP-based stores, for a secure context, we recommend that you transition to HTTPS-based stores. For more information, see [HTTPS](#).

## **Fixed issues**

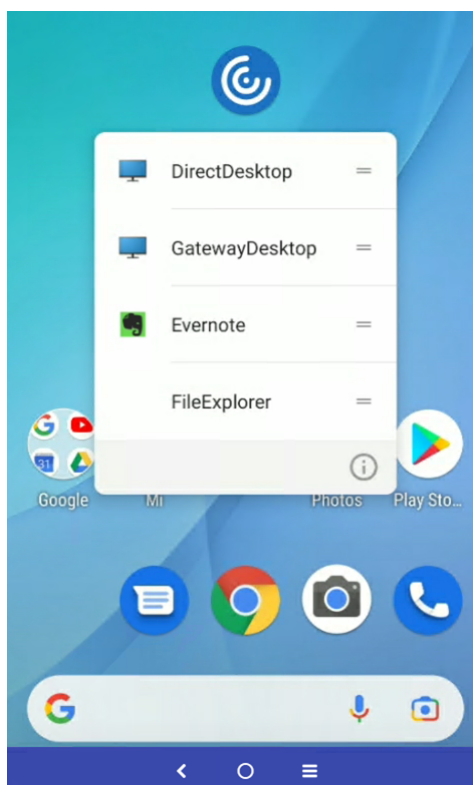
This release addresses issues that help to improve overall performance and stability.

### **22.2.0**

#### **What's new**

##### **Accessing recent apps by long-press gesture**

With this release, you can access a list of recently launched apps and desktops for quick access when you use the long-press gesture on the Citrix Workspace app icon.



### **Migration from on-premises to cloud account**

Administrators can seamlessly migrate the end users from an on-premises StoreFront store URL to a Workspace URL. Administrators can do the migration with minimum end user interaction using the [Global App Configuration Service](#).

For more information, see [Migration from on-premises to cloud account](#).

### **Service continuity**

Service continuity removes or minimizes the dependency on the availability of components that are involved in the connection process. Users can launch their virtual apps and desktops regardless of the health status of the cloud services.

For more information, see [Service continuity](#) section in the Citrix Workspace documentation.

### **Fixed issues**

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

## Known issues

### Known issues in 22.10.0

- The new audio toggle UI is not yet a part of the Global App Configuration service settings. [HDX-43398]

### Known issues in 22.6.5

- When you open a Web app or a SaaS app, the taskbar buttons and ellipsis do not work as expected. The issue occurs after you toggle on **Web Interface** in the **Add Account** screen. [RFANDROID-10266]

### Known issues in 21.4.0

No new known issues have been observed in this release.

#### Note:

When you are enrolled in Work profile in Citrix Workspace app, launching your sessions using the Chrome browser from an ICA file in Personal profile no longer works. However, the issue is not present with Citrix Secure Web on adding the ICA file URL in the exclusion list.

### Known issues in 20.3.0

- On a Samsung DeX device, you might not be able to cancel USB device redirection if you dismiss the permission prompt without clicking the **Cancel** button. [RFANDROID-5397]

### Known issues in 20.2.0

- Attempts to reconnect fail when you click **Connect** in the **Auto Client Reconnect** dialog. The issue occurs in sessions connected to Citrix XenApp and XenDesktop Version 7.6 CU 8. [RFANDROID-5151]

## Limitations

- While starting web and SaaS apps from within the Citrix Workspace app, if the app uses Google IdP and requires the user to sign in then the authentication will fail with the error message “Access Denied”.

## Technical preview

Technical previews are available for customers to use in their non-production or limited production environments, and to give them an opportunity to share [feedback](#). Citrix does not accept support cases for feature previews but welcomes feedback for improving them. Citrix may or may not act on feedback based on its severity, criticality, and importance.

## Third-party notices

Citrix products often include third-party code licensed to Citrix for use and redistribution under an open source license. To better inform its customers, Citrix publicizes open source code included within Citrix products in an open source licensed code list.

For information about Open Source Licensed Code, see [Open Source Licensed Code](#).

Citrix Workspace app might include third-party software licensed under the terms defined in the following document:

[Citrix Workspace app for Android Third-Party Notices](#)

## Prerequisites for installing

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## System requirements and compatibility

### Device requirements

Citrix Workspace app supports Android versions 7 and later.

For best results, update Android devices to the latest Android software.

Citrix Workspace app supports launching sessions from Workspace for Web, when the web browser is compatible with Workspace for Web. If launches do not occur, configure your account through Citrix Workspace app directly.

#### **Important:**

If a Technical Preview version of Citrix Workspace app for Android is installed, uninstall it before installing the new version.

### Server requirements

StoreFront:

- StoreFront 2.6 or later

Provides direct access to StoreFront stores. Citrix Workspace app for Android also supports prior versions of StoreFront.

- StoreFront configured with a Workspace for website

Provides access to StoreFront stores from a web browser. For limitations of this deployment, see the StoreFront documentation.

Enable the rewrite policies provided by Citrix Gateway.

Citrix Virtual Apps and Desktops (any of the following products):

- Citrix Virtual Apps 7.5 or later
- XenApp 6.5 for Windows Server 2008 R2
- Citrix Virtual Apps and Desktops 7.x or later

### **Connections, certificates, and authentication**

Citrix Workspace app supports HTTP, HTTPS, and ICA-over-TLS connections to a Citrix Virtual Apps server through any one of the following configurations.

For LAN connections:

- StoreFront 2.6 or later
- XenApp Services (formerly Program Neighborhood Agent) site.

For secure remote connections (any of the following products):

- Citrix Gateway 11 and later (including VPX, MPX, and SDX versions)

### **TLS Certificates**

When you secure remote connections using TLS, the mobile device does the following:

1. Authenticates the remote gateway's TLS certificate against a local store of trusted root certificate authorities.
2. Automatically recognizes commercially issued certificates (such as Verisign and Thawte) provided the root certificate for the certificate authority exists in the local keystore.

### **Private (Self-signed) Certificates**

When you install a private certificate on the remote gateway, make sure the root certificate of the organization's certificate authority is installed on the mobile device. This configuration helps you to access Citrix resources successfully using Citrix Workspace app for Android.



**Note:**

When you can't verify the gateway's certificate upon connection, because the root certificate isn't included in the local keystore, an untrusted certificate warning appears. If a user selects to continue through the warning, a list of applications is displayed. However, an application fails to launch.

### **Wildcard Certificates**

Wildcard certificates are used in place of individual server certificates for any server within the same domain. Citrix Workspace app for Android supports wildcard certificates.

### **Intermediate Certificates and Citrix Gateway**

If your certificate chain includes an intermediate certificate, the intermediate certificate must be appended to the Citrix Gateway server certificate. See the Knowledge Center article that matches your edition of the Citrix Gateway: [CTX114146](#) and [CTX124937](#)

### **Joint Server Certificate Validation Policy**

Citrix Workspace app for Android has a stricter validation policy for server certificates.

**Important:**

Before installing Citrix Workspace app for Android, confirm that the certificates at the server or Citrix Gateway are correctly configured as described here. Connections might fail if:

- the server or Citrix Gateway configuration includes a wrong root certificate.
- the server or Citrix Gateway configuration does not include all intermediate certificates.
- the server or Citrix Gateway configuration includes an expired or otherwise invalid intermediate certificate.
- the server or Citrix Gateway configuration includes a cross-signed intermediate certificate.

When validating a server certificate, Citrix Workspace app for Android uses **all** the certificates supplied by the server (or Citrix Gateway) when validating the server certificate. It then also checks that the certificates are trusted. If the certificates aren't all trusted, the connection fails.

This policy is stricter than the certificate policy in web browsers. Many web browsers include a large set of root certificates that they trust.

The server (or Citrix Gateway) must be configured with the correct set of certificates. An incorrect set of certificates might cause Citrix Workspace app for Android connection to fail.

Suppose that a Citrix Gateway is configured with these valid certificates. It's recommended for customers who require stricter validation. They can enforce stricter validation by determining exactly which root certificate is used by Citrix Workspace app for Android:

- "Example Server Certificate"
- "Example Intermediate Certificate"
- "Example Root Certificate"

Then, Citrix Workspace app for Android checks that all these certificates are valid. Citrix Workspace app for Android also checks that it already trusts "Example Root Certificate". If Citrix Workspace app for Android does not trust "Example Root Certificate," the connection fails.

### **Important**

Some certificate authorities have more than one root certificate. If you require this stricter validation, make sure that your configuration uses the appropriate root certificate. For example, there are currently two certificates ("DigiCert"/"GTE CyberTrust Global Root," and "DigiCert Baltimore Root"/"Baltimore CyberTrust Root") that can validate the same server certificates.

On some user devices, both root certificates are available. On other devices, only one is available ("DigiCert Baltimore Root"/"Baltimore CyberTrust Root"). If you configure "GTE CyberTrust Global Root" at the gateway, Citrix Workspace app for Android connections on those user devices fail. Consult the certificate authority's documentation to determine which root certificate can be used. Also note that root certificates eventually expire, as do all certificates.

### **Note:**

Some servers and Citrix Gateway never send the root certificate, even if configured. Stricter validation is then not possible.

Now suppose that a gateway is configured by using these valid certificates. This configuration, without the root certificate, is normally recommended:

- "Example Server Certificate"
- "Example Intermediate Certificate"

Citrix Workspace app for Android uses these two certificates. It then searches for a root certificate on the user device. If it finds one that validates correctly, and is also trusted, such as "Example Root Certificate", the connection succeeds. Otherwise, the connection fails. This configuration supplies the intermediate certificate that Citrix Workspace app for Android needs, but also allows Citrix Workspace app for Android to choose any valid, trusted, root certificate.

Now suppose that a Citrix Gateway is configured by using these certificates:

- "Example Server Certificate"
- "Example Intermediate Certificate"
- "Wrong Root Certificate"

Citrix Workspace app for Android reads the wrong root certificate, and the connection fails.

Some certificate authorities use more than one intermediate certificate. In this case, the Citrix Gateway is normally configured with all the intermediate certificates (but not the root certificate) such as:

- “Example Server Certificate”
- “Example Intermediate Certificate 1”
- “Example Intermediate Certificate 2”

Some certificate authorities use a cross-signed intermediate certificate. It is intended for situations when more than one root certificate is found, and

an earlier root certificate is still in use at the same time as a later root certificate. In this case, there will be at least two intermediate certificates. For example, the earlier root certificate “Class 3 Public Primary Certification Authority” has the corresponding cross-signed intermediate certificate “Verisign Class 3 Public Primary Certification Authority - G5.” However, a corresponding later root certificate “Verisign Class 3 Public Primary Certification Authority - G5” is also available, which replaces “Class 3 Public Primary Certification Authority.” The later root certificate does not use a cross-signed intermediate certificate.

The cross-signed intermediate certificate and the root certificate have the same Subject name (Issued To). But, the cross-signed intermediate certificate has a different Issuer name (Issued By). It differentiates the cross-signed intermediate certificate from an ordinary intermediate certificate (such as “Example Intermediate Certificate 2”).

This configuration, without the root certificate and the cross-signed intermediate certificate, is normally recommended:

- “Example Server Certificate”
- “Example Intermediate Certificate”

Avoid configuring the Citrix Gateway to use the cross-signed intermediate certificate, because it selects the earlier root certificate:

- “Example Server Certificate”
- “Example Intermediate Certificate”
- “Example Cross-signed Intermediate Certificate” [not recommended]

It isn’t recommended to configure the Citrix Gateway by using only the server certificate:

- “Example Server Certificate”

When Citrix Workspace app for Android can’t locate all the intermediate certificates, the connection fails.

## **Authentication**

**Note:**

RSA SecurID authentication isn't supported for Citrix Secure Web Gateway configurations. To use RSA SecurID, use Citrix Gateway.

Citrix Workspace app for Android supports authentication through Citrix Gateway using the following methods, depending on your edition:

- No authentication (Standard and Enterprise versions only)
- Domain authentication
- RSA SecurID, including software tokens for Wi-Fi and non-Wi-Fi devices
- Domain authentication paired with RSA SecurID
- SMS Passcode (one-time PIN) authentication
- Smartcard authentication

Citrix Workspace app for Android now supports the following products and configurations.

Smart card readers:

- BaiMobile 3000MP USB Smart Card Reader

Smart cards:

- PIV cards
- Common Access Cards

Configurations:

- Smart card authentication to Citrix Gateway with StoreFront 2 or 3 and Citrix Virtual Apps and Desktops 7.x and later or XenApp 6.5 and later.

**Note:**

Other token-based authentication solutions can be configured using RADIUS. For SafeWord token authentication, see [Configuring SafeWord Authentication](#).

## Install, Upgrade

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### Upgrade

To upgrade to the latest Citrix Workspace app, do any of the following steps:

- Download the Citrix Workspace app from the [Citrix Download](#) page and install the app to upgrade from Citrix Receiver to Citrix Workspace app.

- Upgrade your Citrix Workspace app using Google Play.

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

For the documentation of Citrix Receiver for Android, see [Citrix Receiver](#).

### HDX RealTime Media Engine

Citrix HDX RealTime Media Engine (RTME) plug-in is embedded with the Citrix Workspace app installer.

The HDX RTME is a plug-in to the Citrix Workspace app to support clear, crisp high-definition audio-video calls. You can seamlessly participate in audio-video or audio-only calls to and from HDX RealTime Media Engine users.

HDX RTME integrates Citrix Workspace app on the endpoint device and does:

- media processing on the user device
- offloads the server for maximum scalability
- minimizes network bandwidth consumption
- ensures optimal audio-video quality

#### Note:

- HDX RTME for Citrix Workspace app for Android is supported only on Chromebooks with Intel Core Processor.
- Uninstall the existing version of HDX RTME to install the latest version available with the Citrix Workspace app.

Citrix Workspace app for Android does not support the following HDX RTME features:

- Camera encoding USB Video Class (UVC) 1.1.
- Device enumeration and switching from Skype for Business settings. Only default devices are used.
- G722.1C, RTAudio, and RTVideo codecs.
- Human interface devices, auto gain control, and Call Admission Control.
- In **Fallback** mode, webcam and audio devices are not available because of limitations in Citrix Workspace app for Android.

### How to enable HDX RTME from Citrix Workspace app

To enable the HDX RTME from Citrix Workspace app, go to **Settings > Advanced** and select **Enable RealTime Media Engine**.

By default, this setting is set to **Off**.

For more information about the HDX RealTime Media Engine, see [HDX RealTime Optimization Pack](#) documentation.

### **Installing Citrix Workspace app on an SD card**

Citrix Workspace app for Android is optimized for local installation on user devices. However, if devices have insufficient storage, users can:

1. Install Citrix Workspace app for Android on an external SD card.
2. Mount it on the device to launch published apps on their mobile devices.

This support is provided by default and no additional configuration is required.

To launch an app using the SD card, select the app from the list of Citrix Workspace app on the user device, and then select **Move** to SD card.

If users opt to install Citrix Workspace app for Android on an external SD card to launch apps, the following issues exist:

- Mounting a USB storage device while the SD card is mounted on the mobile device causes the SD card to become unavailable. If apps were running, they stop running when the USB device is mounted.
- Some AppWidgets (such as the home screen widgets) aren't available when an app is running from the SD card. After unmounting the SD card, users must restart the AppWidgets.

If users install Citrix Workspace app for Android locally on their user devices, they can move Citrix Workspace app for Android to the SD card when needed.

### **ProGuard enabled for security**

We've ProGuard enabled to make Citrix Workspace for Android secure through obfuscation. ProGuard renames different parts of the code to prevent inspection of stack traces and makes the Workspace app secure. ProGuard also reduces the app size by shortening the names of app classes, methods, and fields.

## **Get started**

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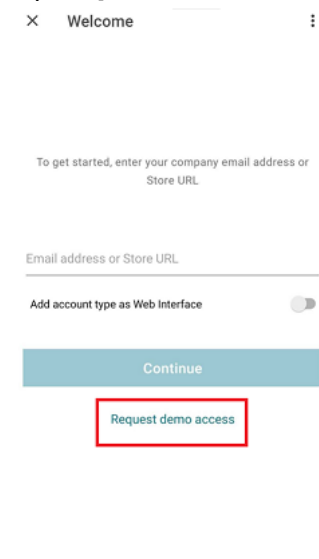
### **Free demo access**

Trying out the Citrix Workspace experience on mobile devices just got easier. Potential users and anyone interested now have free demo access of the Citrix Workspace app for Android.

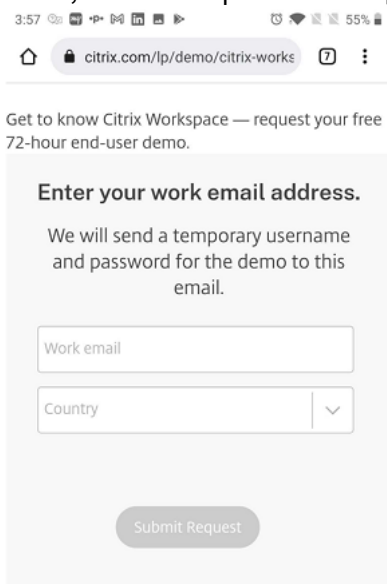
You can get to know about Citrix Workspace app by requesting a free 72-hour trial.

To request free demo access:

1. Tap **Request demo access** on the **Citrix Workspace app Sign in** screen.



2. The Citrix request demo access webpage appears.
3. Enter your required details like name, company, address, phone number, city, work email address, and then tap **Submit Request**.



4. You receive a temporary user name and password on your work email address. Enter the temporary user name and password on the **Sign in** screen.

You now have free demo access to Citrix Workspace app for 72 hours.

## Account

To create an account do the following:

1. Enter the matching URL of your store in the **Address** field. For example, storefront.organization.com. Fill the other fields with necessary details.
2. Select the Citrix Gateway authentication method, such as enabling the security token.
3. Select the type of authentication, and then save the settings.
4. When you use automatic configuration, do any of the following:
  - enter the FQDN of a StoreFront server or Citrix Gateway.
  - use an email address to create an account.
5. Enter the user credentials when the pop-up appears.

## Access to StoreFront through Citrix Gateway

For information about configuring access to StoreFront through Citrix Gateway, see:

- [Configure and manage stores](#)
- [Integrating StoreFront with Citrix Gateway](#)

## Google policy

Starting with Citrix Workspace app Version 1909 for Android, you can configure Citrix Workspace app from the Google Admin Console using the Google policy. This feature is supported on Chromebook devices only.

Using the Google policy, you can add one or more stores by adding the store URL.

### Known issues:

- This feature is not supported on Android Version 5.0 and earlier.
- When you download the ICA file from a web browser and launch the session, the store added using the Google policy is not applied. Instead, Citrix Workspace app launches the downloaded ICA file.

### Sample file of Google policy:

```
1 {
2
3   "v1": {
4
5     "stores": [
6       {
```



```
7
8     "url": <"https://xyz.example.com">
9     "is_web_interface_enabled":false
10    }
11  ,
12  {
13
14    "url": <https://xyz.example.com>
15    "is_web_interface_enabled":false
16    }
17
18  ]
19  }
20
21 }
22
23 <!--NeedCopy-->
```

**Note:**

Provide the complete store URL and not only the name of the domain.

### Email-based account discovery

You can configure Citrix Workspace app to use email-based account discovery. When configured, users enter their email address rather than a server URL during initial Citrix Workspace app for Android installation and configuration.

Citrix Workspace app for Android determines the Citrix Gateway or StoreFront server associated with the email address based on Domain Name System (DNS) Service (SRV) records. It then prompts the user to sign in, to access their hosted applications, desktops, and data.

### Provision file

You can use StoreFront to create provisioning files that have connection details for accounts. You can make these files available to your users to enable them to configure Citrix Workspace app for Android automatically.

After installing Citrix Workspace app for Android, users simply open the **.cr** file on the device to configure Citrix Workspace app for Android. If you configure Workspace for websites, users can also get Citrix Workspace app for Android provisioning files from those sites.

For more information, see the [StoreFront](#) documentation.

## **Provide users with account information to enter manually**

When you provide users with account details that they need to enter manually, make sure that you distribute the following information to enable them to connect to their hosted desktops successfully:

- The StoreFront URL or XenApp and XenDesktop Site hosting resources; for example: server-name.company.com.
- To access using Citrix Gateway, provide the Citrix Gateway address and required authentication method.

See the [Citrix Gateway](#) documentation for more information.

When a user enters the details for a new account, Citrix Workspace app attempts to verify the connection. If successful, Citrix Workspace app prompts the user to log on to the account.

## **Provide access to Citrix Virtual Apps and Desktops and Citrix DaaS**

Citrix Workspace app requires configuration of StoreFront to deliver apps, desktops, and files from your Citrix Virtual Apps and Desktops or Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) deployment.

### **StoreFront**

You can configure StoreFront to provide authentication and resource delivery services for Citrix Workspace app, which enables you to create centralized enterprise stores to deliver:

- Desktops and applications through Citrix Virtual Apps and Desktops or Citrix DaaS.
- XenMobile Apps and mobile apps you have prepared for your organization through XenMobile.

Authentication between Citrix Workspace app and a StoreFront store can be handled using various solutions:

- Users inside your firewall can connect directly to StoreFront.
- Users outside your firewall can connect to StoreFront through Citrix Gateway.
- Users outside your firewall can connect through Citrix Gateway to StoreFront.

### **Connecting to StoreFront**

Citrix Workspace app for Android supports launching sessions from Workspace for Web, if the web browser works with Workspace for Web. If launches do not occur, configure your account through Citrix Workspace app for Android directly.

#### **Tip**

When Workspace for Web is used from a browser, sessions are not launched automatically when

downloading an **.ICA** file. The **.ICA** file must be opened manually, right after it's downloaded for the session to be launched.

With StoreFront, the stores you create consist of services that provide authentication and resource delivery infrastructure for Citrix Workspace app. Create stores that count and aggregate desktops and applications from XenDesktop sites and XenApp, making these resources available to users.

For administrators who need more control, Citrix provides a template you can use to create a download site for Citrix Workspace app for Android.

Configure stores for StoreFront just as you would Citrix Virtual Apps and Desktops and Citrix DaaS. No special configuration is needed for mobile devices.

### **Connect through Citrix Gateway**

Citrix Workspace app for Android supports Citrix Gateway 11 and later with access to:

- XenApp and XenDesktop Sites
- StoreFront 2.6, 3.0, 3.5, 3.6, 3.7, 3.8, 3.9 and 3.11 stores

You can create multiple session policies on the same virtual server depending on the following:

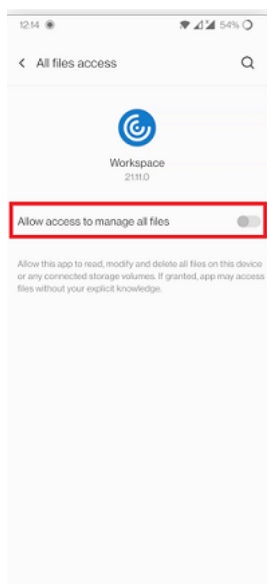
- the type of connection (such as ICA, clientless VPN, or VPN)
- the type of Workspace deployment (Workspace for Web or locally installed Citrix Workspace app).

The policies can be achieved from a single virtual server.

When your users create accounts on Citrix Workspace app, they need to enter their email address or the matching FQDN of your Citrix Gateway server. For example, if the connection fails when using the default path, enter the full path to the Citrix Gateway server.

### **Allow access to manage all files**

We have introduced the permission option – **Allow access to manage all files**. We recommend that you enable this permission for optimal performance. Your files remain secure.



## Configure

January 11, 2023

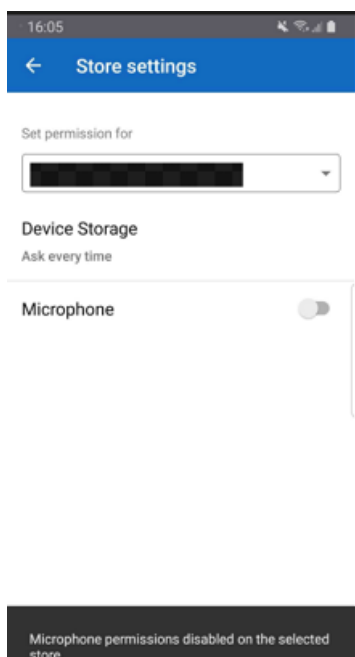
### Per-store microphone access

The client-selective trust feature allows Citrix Workspace app to trust access from a VDA session. You can grant access to local client drives and hardware devices like microphones and webcams.

Previously, your setting for microphone access was applied on all configured stores.

Starting with this release, Citrix Workspace app requires the user's permission to access the microphone. The selected setting for microphone access is applied on a per-store basis.

You can configure the access levels from **Settings > Store Settings**.



Under the **Set permissions for** option, select the store from the drop-down menu. Enable **Microphone**.

### Per-store location access

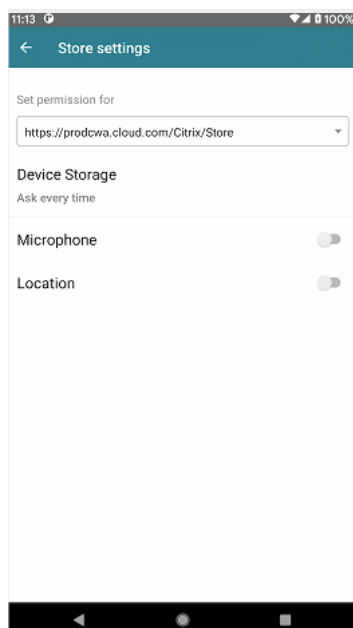
The client-selective trust feature allows Citrix Workspace app to trust access from a VDA session.

Previously, your setting for location access was applied on all configured stores.

Starting with 21.3.0 release, Citrix Workspace app requires the user's permission to access the location. The selected setting for location access is applied on a per-store basis.

Configure the access levels as follows:

1. Select **Settings > Store settings**.
2. Under the **Set permissions for** option, select a store from the drop-down menu.
3. Enable **Location**.



### **VPN functionality**

You can access the internal Web, Software-as-a-Service (SaaS) apps, and websites hosted by your company - regardless of your access location. You can access these resources, hosted by your company, without a VPN connection. This feature is available only for customers on cloud stores.

### **Feature flag management**

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 do not 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.

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

#### **Enable traffic to the following URLs**

- events.launchdarkly.com
- stream.launchdarkly.com
- clientstream.launchdarkly.com
- Firehose.launchdarkly.com
- mobile.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 ensure 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.

### LaunchDarkly system requirements

Ensure that the apps can communicate with the following services if you have split tunneling on Citrix ADC set to OFF for the following services:

- LaunchDarkly service.
- APNs listener service

### 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.

```
1  ```
2  {
3
4      "assignedTo": [
5          "AllUsersNoAuthentication"
6      ],
7      "category": "Third Party Services",
8      "settings": [
9          {
10
11              "name": "Enable Launch Darkly",
12              "value": "true"
13          }
14      ],
15      "userOverride": false
16  }
17  }
18
19
20 <!--NeedCopy--> ```
```

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

On the on-premises deployment, do the following:

1. Use a text editor to open the web.config file, which is typically at `C:\inetpub\wwwroot\Citrix\Roaming` directory.
2. Locate the user account element in the file (Store is the account name of your deployment).

For example, `<account id=... name="Store">`

```
1 Before the </account> tag, navigate to the properties of that user
   account:
```

```
1 <properties>
2 <clear/>
3 </properties>
4
5 <!--NeedCopy-->
```

3. Add the `enableLaunchDarkly` tag and value as false.

```
<property name="enableLaunchDarkly" value="false"/>
```

**Note:**

Most of the features are behind a feature flag controlled by LaunchDarkly. In the environments where it is disabled, you have to wait for a minimum of 90 days to avail the feature.

### Inactivity timeout for Citrix Workspace app sessions

The administrator can specify the amount of idle time that is allowed. After the time-out value, an authentication prompt appears.

The inactivity timeout value can be set starting from 1 minute to 24 hours. By default, the inactivity timeout isn't configured. Admins can configure the `inactivityTimeoutInMinutesMobile` property by using a PowerShell module. Click [here](#) to download the PowerShell modules for Citrix Workspace app configuration.

When you have reached the specified time-out value, the end-user experience is as follows depending on the authentication type configured:

- After the inactivity timeout, you will receive a prompt to provide biometric authentication to access the Citrix Workspace app again.
- If you can cancel the biometric authentication prompt, the following message appears:

**Citrix Workspace app is locked.**

You must authenticate to continue to use the Workspace app.



- If the passcode is not configured on the Android, you have to sign in with credentials after the inactivity timeout.

**Note:**

This feature is applicable for customers on Workspace (Cloud) only.

### Auto-launch of ICA file

You can launch your published apps and desktops by clicking the resource. This feature requires Store-Front (on-premises) Version 1912 or later.

**Note:**

- Auto-launch of ICA file is supported only on Chromebook devices and only for HTTPS store URLs.
- Don't select the **Remember my choice** option when you launch a resource.

### Enhanced session launch

Published apps and desktops are launched in separate windows. This enhancement helps you to use and interact with the store enumeration window without having to disconnect or log off from the session.

**Note:**

- This feature is supported only on Chromebook devices.
- This feature is not supported on tablets, phones, and Samsung DeX.

### Limitations:

- After changing any user settings, you must relaunch the session for the changes to take effect.
- Apps and desktop are named 'Workspace' in the taskbar - not after the session.
- Only one session can be used at a time.

### Workspace with intelligence

Citrix Workspace app for Android is optimized to take advantage of the upcoming intelligent features when they are released. For more information, see [Workspace Intelligence Features - Microapps](#).

### Mobile Workspace Experience

The Mobile Workspace Experience uses the Citrix Workspace app to enroll devices through Citrix Endpoint Management.

The Mobile Workspace Experience provides a great end user experience as follows:

- **Enrollment:** You can complete the entire enrollment in the Citrix Workspace app itself without using Citrix Secure Hub. In just a few taps, your device gets enrolled in Android Enterprise through Citrix Endpoint Management.
- **Security:** The Mobile Workspace Experience provides mVPN (mobile virtual private network) connectivity for native apps. Citrix Secure Mail and Secure Web both run on the Mobile App Management (MAM) SDK.

### Note:

After enrollment, you'll be on Work profile mode, which enables complete separation of personal apps and work apps. Your privacy is maintained as IT only controls the Work profile. So, when you're working on your BYOD (bring-your-own-device), you have complete privacy.

As an administrator, configure as follows:

### Enable Workspace for Citrix Endpoint Management in Citrix Cloud

1. Sign in to Citrix Cloud.
2. In the upper-left menu, select **Workspace Configuration > Service Integration**.
3. Tap the three dots to the right of Endpoint Management and select **Enable** to enable integration with Citrix Workspace.

---

Endpoint Management

Enabled

...

---

### Enable Android for Workspace in Settings

1. In Citrix Cloud, select **Settings > Android for Workspace >** and then tap **Connect** to sign in to Google Play with your corporate Google ID.
2. Once registration is complete, you can publish the apps under Android for Workspace.

Settings > Android for Workspace

#### Android for Workspace

To set up Android for Workspace for your company, bind Citrix Endpoint Management as your enterprise mobile management (EMM) provider through Google Play.

We are taking you out to Google Play to register Citrix as your EMM provider

When you click Connect, a window opens. If a window doesn't open, check your pop-up settings.

Sign in to Google Play with your corporate Google ID. Enter your organization name and confirm that Citrix is your EMM provider.

Connect

## Enhanced Enrollment profile

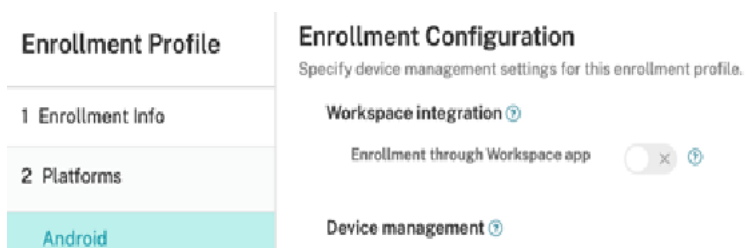
Citrix Endpoint Management supports a feature called Enrollment profile. The feature lets administrators configure different enrollment modes, such as EP2, Work profile, and Personal profile. Administrators configure different enrollment modes, based on delivery groups, on a single server. The feature then assigns these modes to users based on their requirements.

To date, the feature let you configure different Android Enterprise and Device Administrator Legacy modes.

Starting with 21.6.0 release, the Enrollment profile supports additional modes for the Workspace mobile experience. We've modified Citrix Workspace app to consume this API to determine which modes a user requires.

## Enable Enrollment profile

In Citrix Cloud, enable Workspace Integration by turning ON **Enrollment through Workspace app** for the appropriate delivery group.



## Battery status indicator

The battery status of the device is now displayed in the notification area of a Citrix Desktop session.

**Note:**

Battery status indicator is not displayed for server VDA.

## Client drive mapping

Citrix Workspace app informs the server of the available client drives. By default, client drives are mapped to server drive letters so they appear to be directly connected to the session. These mappings are available only for the current user during the current session.

**Note:**

This feature is supported only on versions of Android running SDK version 24 and later.

Client drive mapping (CDM) allows plug-and-play storage devices in a session. So, you can use mass storage devices (For example, pen drives), to copy and paste documents between the pen drive and the user device.

### **Feature limitations:**

- Android APIs are observed to be slow, which delays certain operations.
- CDM for external storage is not supported on Pixel devices.
- File type association is not supported on external storage devices.

### **Known issue in the feature:**

- The Workspace app screen might shift between foreground and background when you plug in an external storage device.

### **Client Drive Mapping enhancement**

Earlier, a selected choice of device storage was applied on all configured stores.

Starting with the release 20.8.0, Citrix Workspace app allows you to select dedicated device storage for every configured store.

You get a prompt to select the type of device storage along with the store details at session launch. You can do one of the following:

- Select one of the device storage options and click **OK** - The choice is applied only to the current session. A prompt appears to select the type of device storage at every launch.
- Select one of the device storage options, select **Do not ask again** and click **OK** - The choice is applied for all session launches for that store. No further prompts appear.
- Select **Cancel** - You are prompted to select a type of device storage at every launch and within a session as well. The session does not have access to the device storage.

#### **Note:**

This feature applies only on direct ICA launches and Citrix Gateway configured stores. Stores without end-to-end SSL setup are not supported.

### **Embedded Citrix HDX RealTime Media Engine**

Starting with 20.3.0, the Citrix Workspace app consumes Version 2.9 of the Citrix HDX RealTime Media Engine (RTME).

#### **Note:**

You do not need to install HDX RTME to use Skype for Business, you only need the Citrix Workspace app. If HDX RTME is already installed on the Chromebook device, you must uninstall

it.

### **To enable HDX RTME from the Citrix Workspace app:**

By default, this setting is set to **Off**.

To enable the HDX RTME from the Citrix Workspace app, go to **Settings > Advanced** and select **Enable RealTime Media Engine**.

This feature is supported on:

- Chromebooks running on x86 processors.
- Devices running on Android 6.0 or later.

#### **Note:**

Only Citrix Workspace app is needed to use Skype for Business. You do not need to install HDX RTME. If HDX RTME is already installed on the Chromebook device, you must uninstall it.

For more information, see the [HDX RealTime Optimization Pack 2.9](#) documentation.

## **Unauthenticated users**

Citrix Workspace app supports unauthenticated (anonymous) users. Anonymous users can launch Citrix Virtual Apps and Desktops and Citrix DaaS (formerly Citrix Virtual Apps and Desktops service) sessions successfully.

## **USB device redirection**

Starting with Version 20.9.0, the USB redirection feature is fully functional and ready for general availability. By default, the USB redirection feature is disabled.

This feature allows the redirection of arbitrary USB devices from client machines to Citrix Virtual Apps and Desktops and Citrix DaaS. It allows you to interact with a wide selection of generic USB devices in a session, as if they were physically plugged into it.

As a prerequisite to manage this feature using the Citrix Global App Config Service, set the USB redirection feature to **Enabled** on the Delivery Controller. For more information on how to configure USB redirection on the Delivery Controller, see the [Generic USB devices](#) section in the Citrix Virtual Apps and Desktops documentation.

The Citrix Global App Configuration Service gives Citrix administrators the ability to deliver Citrix Workspace service URLs and Citrix Workspace app settings through a centrally managed service.

The USB redirection feature is integrated with and configurable through the Citrix Global App Config Service. You can manage the feature using the Citrix Global App Config Service for non-domain joined networks.

For information on configuring the feature using this method, see [Global App Configuration Service](#) in the developer's documentation.

**Note:**

This feature is ready for general availability starting with Version 20.9.0. In Versions 20.8.1 and earlier, it is available on-demand only.

The USB redirection policy must be set to **Allowed** on the Delivery Controller. For information about configuring USB redirection in Citrix Studio, see [Configure generic USB redirection](#) in the Citrix Virtual Apps and Desktops documentation.

**For printers and scanners:**

Install the vendor-specific drivers on the device. When the installation is complete, the vendor software might ask you to reconnect the USB device. Reconnect the USB device to redirect it.

**For Chromebooks:**

By default, the Chrome operating system blocks the USB devices (for example, pen drives). Allow the list of devices using the Google admin console for managed Chromebooks.

For information on how to allow the list of USB devices in a Chromebook, see Knowledge Center article [CTX200825](#).

**Note:**

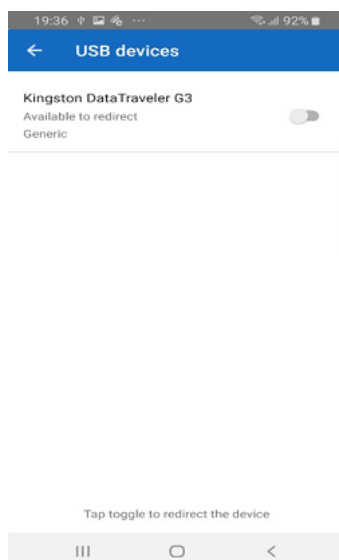
Depending on the redirected USB device and the network latency, it might take some time for the device to be visible in the Windows Explorer.

**Configuring USB redirection on mobiles phones, tablets, and Samsung DeX**

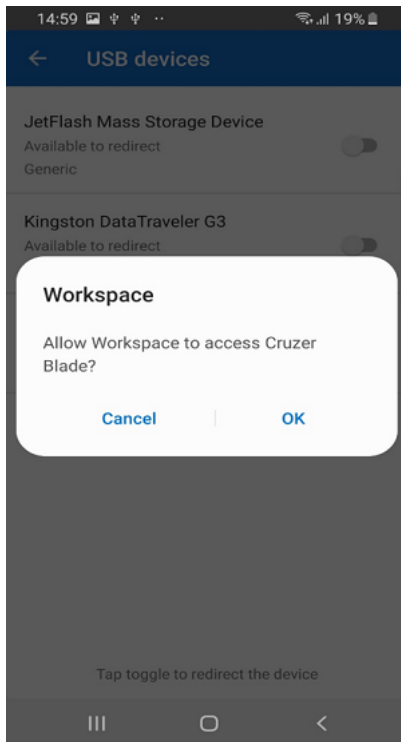
1. Add a USB redirection policy-enabled store and launch a session.
2. Click the session toolbar icon as displayed in the dialog below:



3. Click the **USB Icon** in the session toolbar.
4. Connected USB devices are listed in the USB devices window as shown below:



5. To redirect a particular USB device, click the Toggle option against the device.  
A Workspace permission dialog appears.

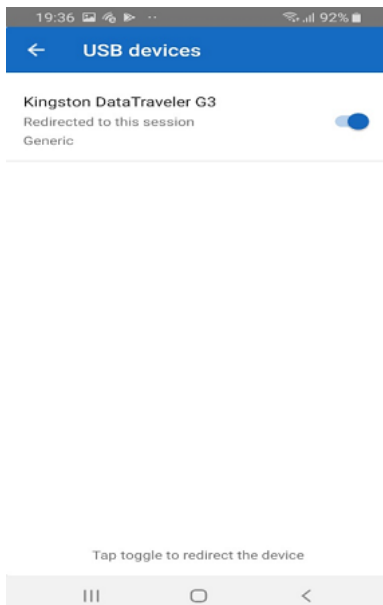


6. Click **OK** to grant permission for the Citrix Workspace app to redirect the device.

**Note:**

This step is mandatory to redirect the USB device.

The USB device is redirected and the status is displayed as shown below:



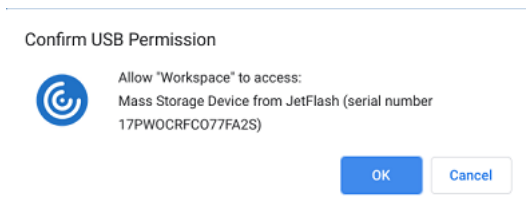


### Configuring the USB redirection feature on Chromebooks

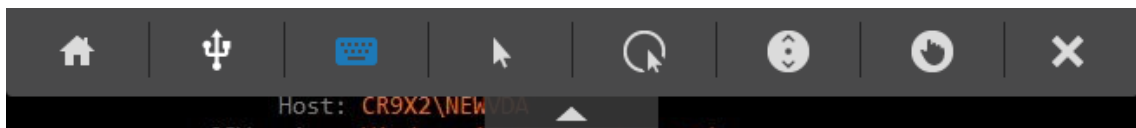
1. Add a USB redirection policy-enabled store and launch a session.
2. Click **OK** to grant permission for the Citrix Workspace app to redirect the device.

**Note:**

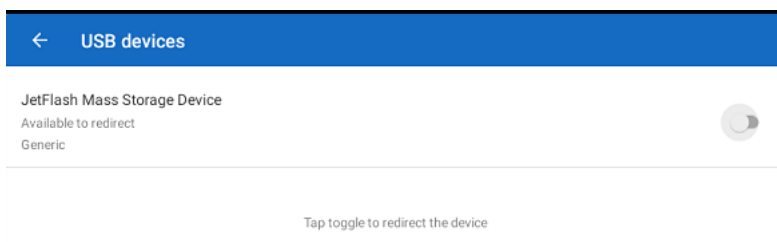
Granting permission is a mandatory step and the prompt appears only on a fresh install.



3. Connect the USB device.
4. Click the toolbar icon and then the USB icon on the session toolbar.



Connected USB devices are listed as shown below:

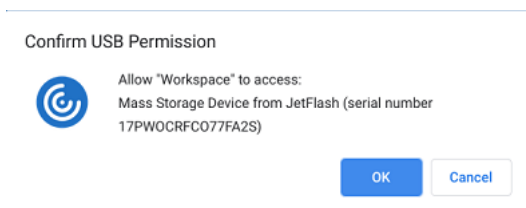


**Note:**

If a USB device isn't listed, ensure that you have whitelisted it.

For information on how to allow list of USB devices on a Chromebook, see Knowledge Center article [CTX200825](#).

5. To redirect the USB device, click the **Toggle** option against the device to be redirected.
6. Click **OK** to grant permission for the Citrix Workspace app to redirect the device.



The USB device is redirected and the status is updated. Dismiss the dialog to continue using the redirected USB device.

**Note:**

- If a pen drive is redirected, it appears as listed in a session.
- If a printer or scanner is redirected, it is displayed in the **Devices** section in the control panel.

### Tested USB devices

---

Device	Manufacturer	Model
Printer	HP	LaserJet P2014
Scanner	HP	Scanjet G3010
Scanner	Canon	CanoScan LiDE 700F
Space Navigator	3Dconnexion	
Printer	Brother	QL-580N
Scanner	HP	Scanjet 200

---

**Known issues:**

- Only one USB device is supported at a time.
- Audio and video USB devices are not currently supported.

### Auto-redirection of USB devices

Citrix Workspace app lets you redirect USB devices automatically when you connect them. When you connect a USB device, a prompt appears, asking you for permission. After you grant the permission, the USB device is redirected automatically.

**Note:**

This feature is available on-demand only and supports only if the USB device redirection feature is enabled.

### Enhancements to audio redirection

Previously, audio redirection in a desktop session required multiple levels of microphone settings, and the steps to set the permissions weren't intuitive. Now, microphone permission settings are simplified and are user friendly. You can also enable the permissions while you are in a session.

By default, the audio toggle under **Citrix Workspace app > Settings > Audio** is enabled. The session can now detect the speaker that is already connected. Administrators can enable or disable audio redirection using the [Global App Configuration Service](#).

**Note:**

By default, the microphone permission is disabled on both Citrix Workspace app setting and on store setting page.

You might come across one of the following scenarios when either the Citrix Workspace app or the store disables the microphone:

- When both Citrix Workspace app and Store settings disable the microphone permission, the **Allow Workspace to record audio** pop-up message appears as you start the desktop session and use the microphone. Tap **While using the app**.
- When Citrix Workspace app enables, but Store settings disable the microphone permission, the **Allow access to microphone** pop-up message appears as you start the desktop session and use the microphone. Tap **Allow**.

### Citrix Casting

Citrix Casting combines digital and physical environments to deliver apps and data within a secure smart space. The complete system connects devices (or things), like mobile apps and sensors, to create an intelligent and responsive environment.

Citrix Ready workspace hub is built on the Raspberry Pi 3 platform. The device running Citrix Workspace app connects to the Citrix Ready workspace hub and casts the apps or desktops on a larger display.

Using Citrix Casting, you can:

- Roam your session without launching a VDA session on the mobile devices.
- View the list of available workspace hubs by tapping **View hub list** from the **Workspace hub** dialog.

### Configure Citrix Casting

Citrix Casting is enabled when all the following system requirements are met:

- Citrix Workspace app 1809 for Android or later installed
- Bluetooth enabled
- Location enabled
- Mobile device and workspace hub using the same Wi-Fi network

To turn on the Citrix Casting feature, tap **Settings** and **Citrix Casting** on your device.

For more information about the Citrix Ready workspace hub in Citrix Workspace app, see [Configure the Citrix Ready workspace hub](#).

For information about the Citrix Ready workspace hub, see [Citrix Ready workspace hub](#) documentation.

### **Content Collaboration Service integration**

Citrix Content Collaboration (formerly ShareFile) enables you to easily and securely exchange documents, send large documents by email, and securely handle document transfers to third parties. There are many ways to work using Citrix Content Collaboration, including:

- web-based interface
- mobile clients
- desktop apps
- integration with Microsoft Outlook and Gmail

You can access Citrix Content Collaboration using the **Files** tab in the Citrix Workspace app. You can view the **Files** tab only if the Content Collaboration Service is enabled in the Citrix Cloud console. For information, see [Create or link a Content Collaboration \(ShareFile\) account to Citrix Cloud](#).

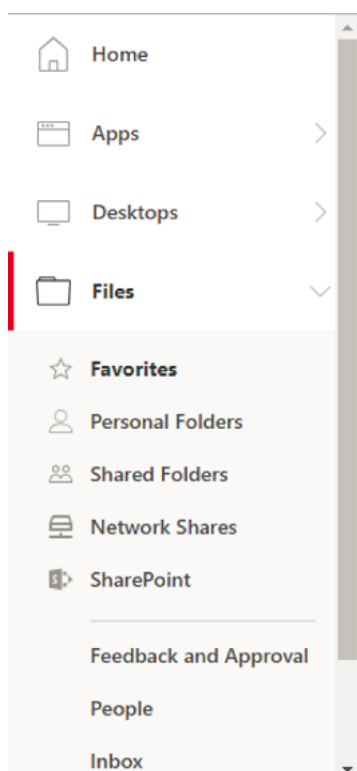
#### **Note:**

Citrix Content Collaboration integration isn't supported on Windows Server 2012 and 2016 due to a security option set in the operating system.

#### **Feature limitations:**

- Resetting Citrix Workspace app does not cause Citrix Content Collaboration to log off.
- Switching stores in Citrix Workspace app does not cause Citrix Content Collaboration to log off.

The following image displays example contents of the **Files** tab of the Citrix Workspace app:



## Keyboard layout synchronization

Citrix Workspace app offers separate options to enable the client IME and keyboard layout synchronization under **Settings**.

The **Enable client IME** option allows you to type the double-byte characters (such as Chinese, Japanese, and Korean characters) directly at the insertion point in a session.

The **Sync Keyboard** option allows automatic keyboard layout synchronization between the VDA and the client device.

On a fresh install and by default, the **Enable client IME** option is set to **On** for Japanese, Chinese, and Korean languages and the **Sync Keyboard** option is set to **Off**.

To enable dynamic keyboard layout synchronization, set both the **Enable client IME** and **Sync Keyboard** options to **On**.

### Note:

- The VDA must be version 7.16 or later.
- Administrators must enable the enhanced support for Asian languages feature on the VDA. By default, the feature is enabled. However, on the Windows Server 2016 VDA, you must add a new key called **DisableKeyboardSync** and set the value to 0 in `HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\ICA\IcaIme` to enable the feature.

- Administrators must enable the unicode keyboard layout-mapping feature on the VDA. By default, the feature is disabled. To enable it, create the **CtxKlMap** key under `HKEY_LOCAL_MACHINE\SOFTWARE\Citrix` and set the DWORD value `EnableKlMap = 1` under `HKEY_LOCAL_MACHINE\SOFTWARE\Citrix\CtxKlMap`.

### Feature Limitations:

- This feature works only on soft keyboards on the devices, not on external keyboards.
- Certain mobile devices might not fully support keyboard layout synchronization, such as the Nexus 5x
- The keyboard layout can only be synced from the client to the server. When changing the server-side keyboard layout, the client keyboard layout cannot be changed.
- When you change the client keyboard layout to a non-compatible layout, the layout might be synced on the VDA side, but functionality cannot be confirmed.
- Remote applications that run with elevated privileges (for example, applications you run as an administrator) can't be synchronized with the client keyboard layout. To work around this issue, manually change the keyboard layout on the VDA or disable UAC.

### USB smart card

Citrix Workspace app supports USB smart card readers with StoreFront. You can use USB smart cards for the following purposes when enabled:

- Smart card logon - Authenticates users to Citrix Workspace app.
- Smart card application support - Enables smart card-aware published applications to access local smart card devices.

Citrix Workspace app supports this feature on all Android devices listed by [Biometric Associates](#).

Citrix Workspace app supports the following types of USB smart cards:

- Personal Identity Verification (PIV) cards
- Common Access Cards (CAC) cards

USB smart card is supported on Android operating system from version 7.x through 11.x.

You can also enable USB smart card authentication from **Settings > Manage Accounts**.

### Configuring USB smart card

#### Prerequisite:

- Download and install the Android PC/SC-Lite service from the Google Play Store.
1. Connect the USB smart card reader to the mobile device. For information about connecting smart card readers, refer to the smart card reader specifications provided by the manufacturer.

2. Add a smart card enabled StoreFront account.
3. On the Citrix Workspace app logon page, tap **Add Account**. Tap the **Use Smartcard** option.
4. To edit an existing account to use the USB smart card authentication, tap **Accounts > Edit** and tap the **Use Smartcard** option.

## File type association

As a prerequisite for this feature to work, go to the Citrix Workspace app settings and set the **Use device storage** option to **Full Access**. An additional option, **Ask every time** is also available so that you are prompted for permission before accessing your device storage in a session.

### Note:

**Ask every time** option is a per-session setting. It does not carry forward to the next session.

When you select **Ask every time**, any system-generated access to your device storage might cause the **Use device storage** prompt to appear (for example, at logoff), which is an expected behavior.

Citrix Workspace app reads and applies the settings configured by administrators in Citrix Studio.

To apply FTA in a session, ensure that users connect to the Store server where the FTA is configured.

On the user device, select the file you want to launch File Explorer and click Open. The Android operating system provides an option to launch the file using Citrix Workspace app (applying the FTA configured by the administrator) or a different application. Depending on your earlier selection, a default application might or might not be set. You can change the default application using the Change default option.

### Note:

This feature is available only on StoreFront and requires Citrix Virtual Apps and Desktops Version 7 or later.

## File type association (FTA) with Google Drive

When using a Chromebook, you can access files residing on Google Drive from Citrix Workspace app using the file type association (FTA) feature. You can seamlessly use Android applications available on Chromebooks to access these files. For example, if you save a .doc file to Google Drive, you can open the file using an Android application (in this case, Microsoft Word) on the Chromebook from within Citrix Workspace app.

### Note:

Only Chromebook devices support FTA with Google Drive.

## Enabling access to files on Google Drive:

1. Download the Citrix File Access component (FileAccess.exe) from the [Citrix Workspace app for Chrome download page](#) and install it on the VDA.
2. Using Citrix Studio, configure the appropriate file type associations (FTAs) for published applications. FTAs can be configured from the respective application properties or settings. For more information about how to set FTA, see Knowledge Center article [CTX218743](#).
3. In a Citrix Virtual Apps and Desktops session, open the default browser, and then add the following URL to the trusted sites: <https://accounts.google.com> and <https://ssl.gstatic.com>.
4. On the Chromebook device, select the file you want to launch. Tap **Open** and select Citrix Workspace app from the list.

### **Known issues and limitations in the feature**

1. Smart card authentication might be slower than password authentication. For example, after disconnecting from a session, wait for approximately 30 seconds before attempting to reconnect. Reconnecting to a disconnected session too quickly might cause Citrix Workspace app to turn unresponsive.
2. Smart card authentication is not supported on farms.
3. Some users might have a global PIN number for smart cards. However, when users sign in using a smart card account, they must enter the PIV PIN and not the global smart card PIN, which is a third-party limitation.
4. Citrix recommends that you exit and restart the Citrix Workspace app session after you log off from the smart card account.
5. Multiple USB smart cards are not supported.
6. You can access only MIME file formats supported by Microsoft Office, Adobe Acrobat reader and Notepad applications using the file type association feature.

### **Customer Experience Improvement Program (CEIP)**



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 and automatically sends the data to Google Analytics for Firebase.	This data helps Citrix improve the quality, reliability, and performance of Citrix Workspace app.

### Additional Information

Citrix will handle your data in accordance with the terms of your contract with Citrix. Your data is protected as specified in the [Citrix Services Security Exhibit](#). This exhibit is available on the [Citrix Trust Center](#).

You can disable sending CEIP data to Citrix and Google Analytics for Firebase (except for the two data elements collected for Google Analytics for Firebase indicated by an \* in the following table) by:

1. Launch the Citrix Workspace app and select **Settings**.
2. Select **Advanced Preferences**.  
The **Advanced Preferences** dialog appears.
3. Clear the option **Send Usage statistics**.

**Note:**

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

The specific CEIP data elements collected by Google Analytics for Firebase are:

Operating system version*	Workspace app version*	Authentication configuration	Device information
Session launch method	Citrix store type	Client drive-mapping configuration	
Session information	<a href="#">Receiverconfig.txt</a> usage	USB redirection configuration	HDX RTME user info

HTTP and HTTPS connection configuration	ICA connections protocol info	Workspace app review action	Disable Firebase Configuration
Number of stores added	Screen capture action	RSA feature user actions	StoreFront Vs Workspace app user count
App update action	Operating system update	Screen view action	App remove
Web view connections	App clear data	App execution	App session start

## Security settings

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

Perform 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**.

## User experience

### Option to disable display of error messages

You can now disable the display of the following error message related to network monitoring:

“Connection might be temporarily slow.”

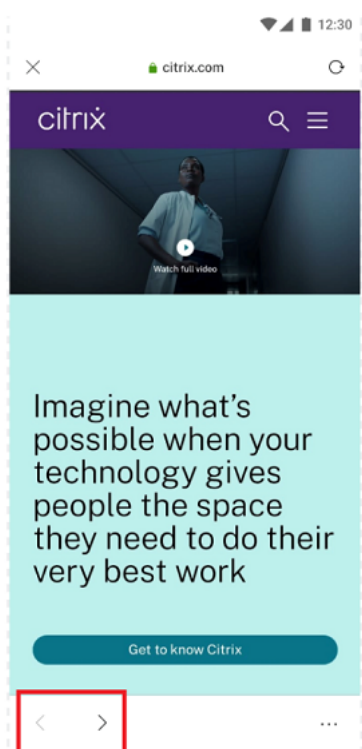
To disable the error message relating to network issues in a session, go to **Advanced** and select the **Disable network monitoring messages** option.

### User interface enhancement

- Starting with 20.7.0 release, you can remove the store account details from the **Edit** option. Click **Remove account** to remove the account details.

- Starting with 20.7.5 release, the **Recent** tab displays the native mobile apps along with the published apps and desktops.
- Starting with 20.10.0 release, Citrix Workspace app supports Google Play's current target API requirements for Android 10.
- Starting with 20.10.0 release, you receive a notification about a non-secure connection when you try to add an HTTP store.
- Starting with 21.3.5 release, you can navigate back and forth within web and Software-as-a-Service (SaaS) apps, as well as from the microapp view.

The navigation buttons appear at the bottom left of your workspace web and SaaS app session of your mobile phone.

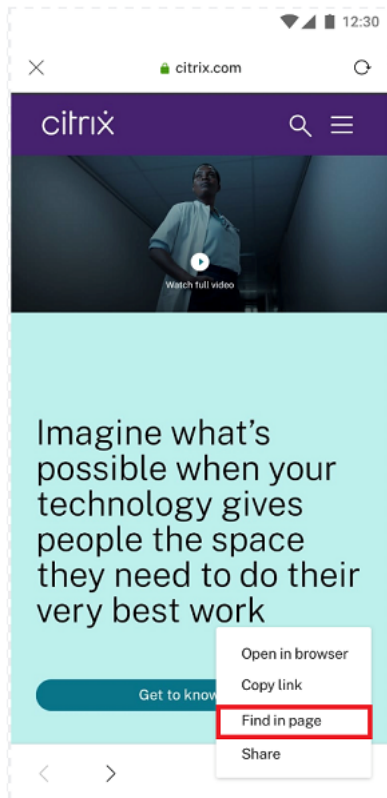


The navigation buttons appear at the top left of your SaaS app session of your tablet.

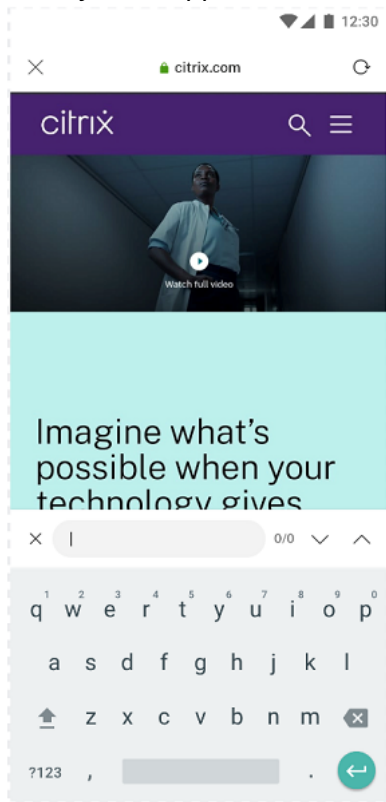
- Starting with 21.4.0 release, you can search for words or phrases within your web and Software-as-a-Service (SaaS) apps.

To search, follow these steps.

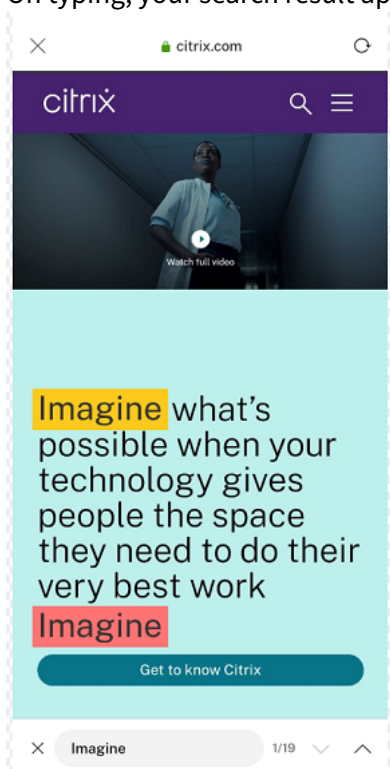
1. Tap the ellipsis button on the bottom right and select **Find in page**.



2. The keyboard appears.



3. On typing, your search result appears (for example, the word “imagine”).



- Starting with 21.6.0 release, you can download text, audio, and video files (with and without direct links). For text, audio, and video files with direct links, download directly by tapping the link. You can preview the audio and video files before downloading them.

To download files without direct links, tap the ellipsis button on the bottom right and select **Download**.

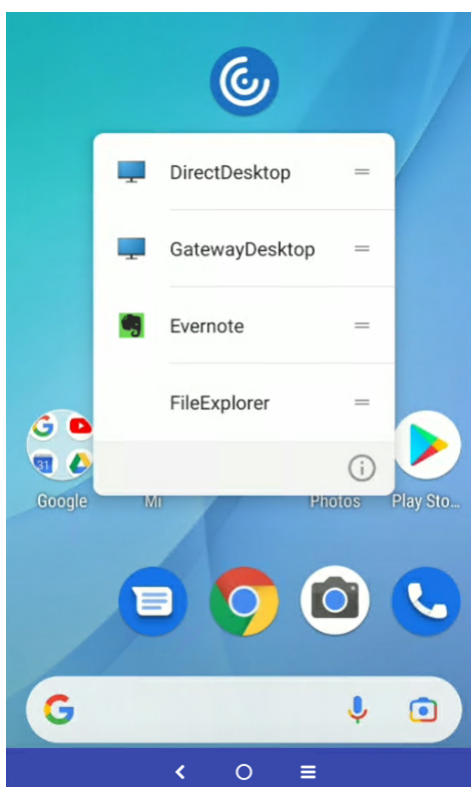
# Citrix Workspace app for Android



After the download completes, a notification indicates that the file is saved in your downloads folder.



- Starting with 21.8.5 release, we now support Android 12 Beta 4 in Citrix Workspace app for Android. Upgrading to Citrix Workspace app version 21.8.5 ensures uninterrupted support for devices that are updated to Android 12 Beta 4.
- Starting with 21.9.0 release, Citrix Workspace app supports Android 12 Beta 4. If you are on HTTP-based stores, for a secure context, we recommend that you transition to HTTPS-based stores. For more information, see [HTTPS](#).
- Starting with 22.2.0 release, you can access a list of recently launched apps for quick access when you use the long-press gesture on the Citrix Workspace app icon.



### **Cryptography**

This feature is an important change to the secure communication protocol. Cipher suites with the prefix `TLS_RSA_` doesn't offer forward secrecy and are considered weak.

The `TLS_RSA_` cipher suites have been removed. The releases 20.6.5 and later supports advanced `TLS_ECDHE_RSA_` cipher suites. If your environment isn't configured with the `TLS_ECDHE_RSA_` cipher suites, you cannot launch the client because of weak ciphers.

The following advanced cipher suites are supported:

- `TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 (0xc030)`
- `TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384 (0xc028)`

- TLS\_ECDHE\_RSA\_WITH\_AES\_128\_CBC\_SHA (0xc013)

TLS v1.0 supports the following cipher suites:

- TLS\_ECDHE\_RSA\_WITH\_AES\_128\_CBC\_SHA

TLS v1.2 supports the following cipher suites:

- TLS\_ECDHE\_RSA\_WITH\_AES\_256\_GCM\_SHA384
- TLS\_ECDHE\_RSA\_WITH\_AES\_256\_CBC\_SHA384
- TLS\_ECDHE\_RSA\_WITH\_AES\_128\_CBC\_SHA

## Support for Android Enterprise

Starting with 20.12.0 release, Citrix Workspace app supports Android Enterprise.

For more information, see the [Android Enterprise](#) in the Citrix Endpoint Management documentation.

## Enlightened Data Transport (EDT)

In earlier releases, session launches were unsuccessful when Enlightened Data Transport (EDT) connections can't be established between Citrix Gateway and the VDA. Starting with 21.5.0 release, unsuccessful EDT connections fall back to TCP.

### EDT stack parameters enabled by default

Starting with 21.7.0 release, the EDT stack parameters are enabled by default. As a result, we've removed the *EDT Stack Parameters* option from **Settings > Advanced**.

To date, the option to disable EDT stack parameters was available to users. With this option available, not all clients were following custom EDT Maximum Segment Size (MSS) requirements consistently. As a result, fragmentation occurred with degradation in HDX performance and issues in establishing sessions for these clients. With EDT stack parameters newly enabled by default, the overall user experience and satisfaction is now enhanced.

### Parallel connection

Starting with 21.7.0 release, we've introduced the EDT and TCP parallel connection feature. The feature results in decreased connection times.

Earlier, when establishing a connection, the Workspace app would try to connect using EDT. Unsuccessful EDT connection attempts would fall back to TCP.

This caused the following issues that are now addressed:

- Increased connection time in fallback scenarios.



- Session reliability and Auto client reconnect tended to favor TCP.
- Required a connection break to try TCP again.

### **MTU Discovery capabilities added to EDT**

We've added Maximum Transmission Unit Discovery capabilities to Enlightened Data Transport (EDT). As a result, you can now enjoy a consistently stable HDX experience, delivered by EDT.

Earlier, EDT could fail in several scenarios such as VPN, Wi-Fi, 4G or 3G connections, and on Microsoft Azure, caused by packet loss because of packet size.

When you tried to launch a session, packet fragmentation could cause sessions to drop. As a workaround, it was necessary to adjust the EDT MSS (Maximum Segment Size) in the StoreFront file, which meant extra configuration. The addition of *MTU Discovery capabilities* added to EDT resolves and addresses these issues.

MTU Discovery capabilities added to EDT work in sessions hosted on 1912 VDA and later.

### **Service continuity [Technical Preview](#)**

Service continuity removes or minimizes the dependency on the availability of components that are involved in the connection process. Users can launch their virtual apps and desktops regardless of the health status of the cloud services. For more information, see [Service continuity](#) section in the Citrix Workspace documentation.

### **Migration from on-premises to cloud account**

Administrators can seamlessly migrate the end users from an on-premises StoreFront store URL to a Workspace URL. Administrators can do the migration with minimum end user interaction using the [Global App Configuration Service](#).

To configure:

1. Navigate to the [Global App Configuration Store Settings API](#) URL and enter the cloud Store URL. For example, `https://discovery.cem.cloud.us/ads/root/url/<hash coded store URL>/product/workspace/os/ios`.
2. Navigate to **API Exploration** > **SettingsController** > **postDiscoveryApiUsingPOST** > click **POST**.
3. Click **INVOKE API**.
4. Enter and upload the payload details. Enter the StoreFront store expiry date in the epoch timestamp in milliseconds format.

For example,

```
1  "migrationUrl": [  
2  {  
3  
4  
5  "url": "<cloud store url>"  
6  "storeFrontValidUntil": "<epoch timestamp in milliseconds>",  
7  }  
8  
9  ] ,  
10 <!--NeedCopy-->
```

5. Click **EXECUTE** to push the service.

### End user Experience

As an end user, if you're using the Citrix Workspace app for the first time, after successful authentication, the **Introducing the new Citrix Workspace** migration screen appears (if eligible). After you tap the **Try new Citrix Workspace now** option, migration begins. Upon successful migration, you can access the Workspace store (cloud store).

#### Note:

You can skip the migration for three times. Later, the migration is forced without an option to skip.

After you migrate to the Workspace (cloud) store, you can view both the StoreFront and the Workspace store under **Settings**. When you switch from a cloud store to the on-premises StoreFront store, a feedback screen appears to gather your response.

#### Note:

The StoreFront store has an expiry date. Post the expiry date, the store gets deleted.

### Google Assistant integration

You can interact with the Google Assistant to launch resources like apps and desktops without launching Citrix Workspace app each time. All the recently accessed resources are listed under Google Assistant shortcuts. Select the ones you prefer to add as a shortcut.

To configure:

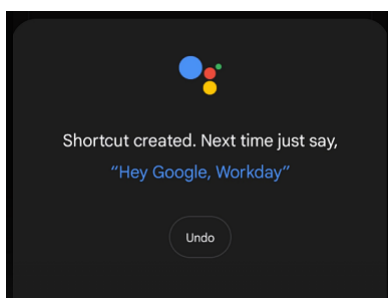
1. Launch Citrix Workspace app and open a resource you want to add as the shortcut.
2. Open Google Assistant settings from your device.

**Note:**

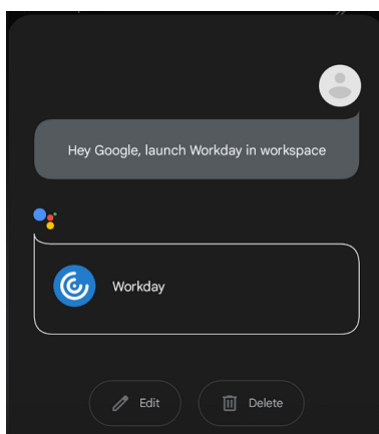
Accessing Google Assistant settings can vary depending upon the Android version and the Android device you use.

As a tip, use the voice command to open the Google Assistant settings.

3. Scroll and tap **Shortcuts**.
4. Tap **Citrix Workspace app** and select the resource you want to add as a shortcut. You can now use voice commands to launch the resource.



5. (Optional) You can edit and update the voice command.



### Use the latest version

This feature helps you to use the latest version of Citrix Workspace app. When you launch the Citrix Workspace app, the in-app prompt asks you to update to the latest version.

When you tap **Update**, the update happens in the background, and you can continue using the app. You can view the progress on the Snackbar. After the download is complete the following dialog box appears:

Tap **Relaunch now** to use the latest version. If you tap **Do it later**, the prompt to restart the app appears in the next app launch.

## Support for Zebra workstation connect

With this release, we introduce compatibility with Zebra tablet features - desktop launcher and experience in desktop mode. The user experience of the Android tablet is mirrored on the client monitor with Zebra Workspace Connector.

Citrix Workspace app supports the following Zebra devices:

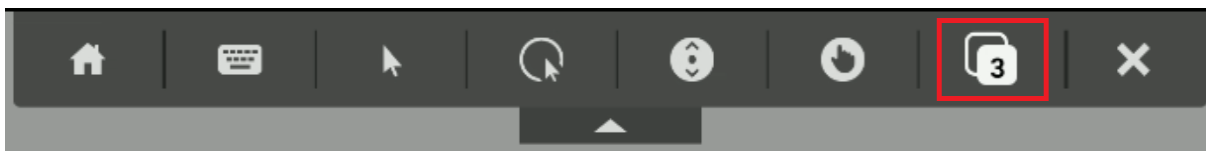
- EC50, EC55, ET56 Mobile Computers
- TC52x,
- TC57x,
- TC52ax,
- TC52x-HC
- TC52ax-HC

For more information on managing the zebra device, see [Manage Zebra Android devices](#) in the Citrix Endpoint Management documentation.

## App switch

This feature enables an end user to switch between many published apps that are in the same session. When you tap the **Switch** icon, you can scroll to select an app and the app that is in focus is highlighted. You can view the app title, preview image, and window title.

When you open or close an app, the app count updates accordingly. If some apps are opened in another session, the app count includes all the opened ones.



## Multi-display support on Samsung DeX

Samsung DeX (Desktop eXperience) is available on some high-end Samsung handheld devices. The DeX feature enables you to extend your device into a desktop-like experience by connecting a keyboard, mouse, and monitor.

You can connect your DeX-enabled device and the external display to extend the desktop session onto the external display that supports the DeX protocol. You can either extend or display different content on the Samsung DeX screen and the external display.

### Important:

- This feature applies only to the Samsung DeX platform and not for ChromeOS or other An-

droid devices.

- This feature is only for Citrix desktop sessions and not for app sessions.
- The **Extend** icon is available only on the DeX screen. Start the desktop session from the DeX screen.
- The external display resolution depends on the Samsung DeX device, the external display, and the other hardware used.

### Configure Extend mode

To enable the Extend mode:

1. Connect the device that has the Samsung DeX protocol to the external monitor using the cable. You can also connect the Samsung DeX capable device to the Samsung monitor. The Samsung monitor must support the DeX protocol in the wireless mode.

#### Note:

The setup works best with USB type-c HDMI and USB-C Dock adapters.

2. Open Citrix Workspace app and start a desktop session from the Samsung DeX screen.
3. Navigate to the toolbar and tap the **Extend** icon.



#### Tip:

To remove the screen extension, tap the **Extend** icon again.



4. Use the drag-and-drop feature to move the application window to the external monitor.

#### Limitation:

Release the mouse pointer at the screen edge when you drag a window to another display. Continue the drag-and-drop action using a mouse from the target display to move the window.

#### Note:

- You can rotate the device screen to suit your needs.
- Adjust the font size for readability in session display settings under the **Scale and layout** section.

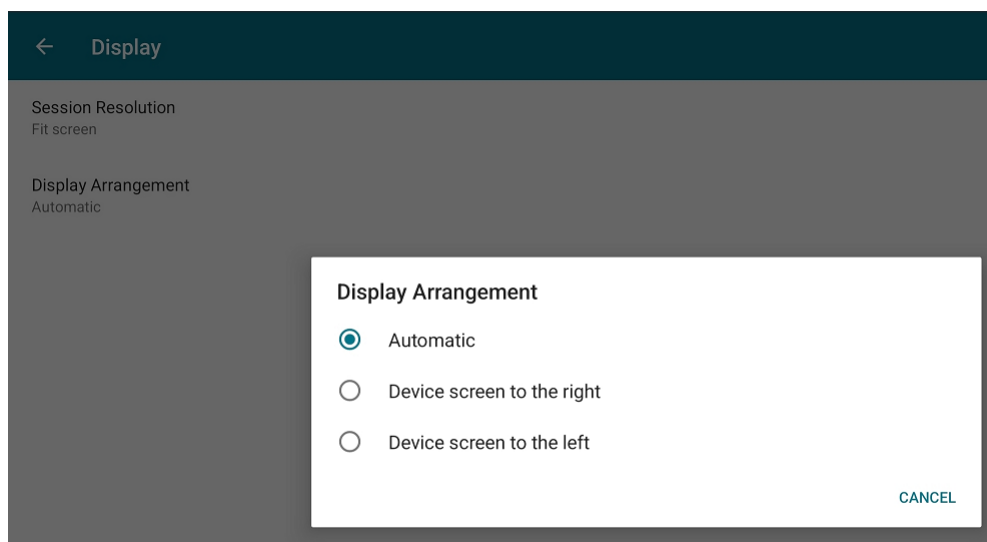
### Configure display arrangement

To configure the display arrangement:

### Prerequisite:

Configure the display arrangement before you start the session.

1. Open Citrix Workspace app and navigate to **Settings** icon > **Settings** > **General** > **Display** > **Display Arrangement**.



2. Select a suitable option.  
The device display appears either on the right or on the left.

### Important:

- The Samsung DeX screen is the primary display.
- Only one screen can display Citrix Workspace app UI.
- You can plug in only one external display.
- Citrix Workspace app closes when you start a session.

## Support for webcam redirection **Technical Preview**

You can now redirect the front camera of your device into the session. Both 32-bit and 64-bit applications are supported. By default, the auto-redirection of the webcam is disabled.

### Note:

This feature is a request-only preview. To get it enabled in your environment, fill out the Podio form <https://podio.com/webforms/27883403/2183185>. In case you have a firewall or proxy blocking outbound traffic, you need to enable traffic to LaunchDarkly. For more information see, [Feature flag management](#).

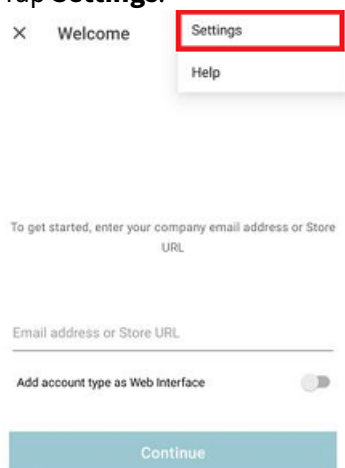
## Troubleshoot

January 11, 2023

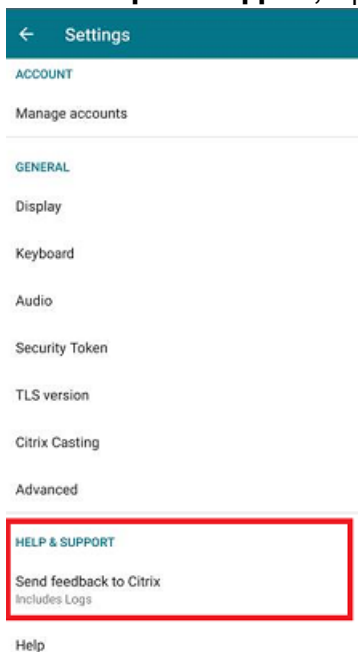
### How to collect logs

To collect logs, follow these steps.

1. Tap **Settings**.



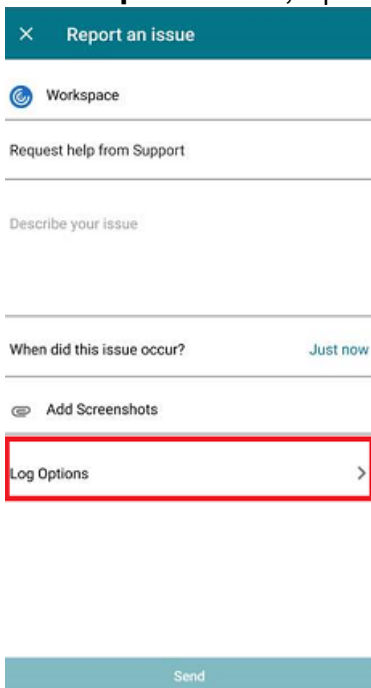
2. Under **Help and Support**, tap **Send feedback to Citrix** (Includes logs).



3. Tap **Workspace**.

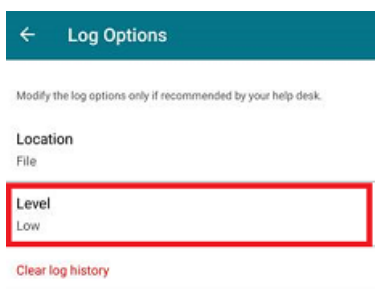


4. Under **Report an issue**, tap **Log Options**.

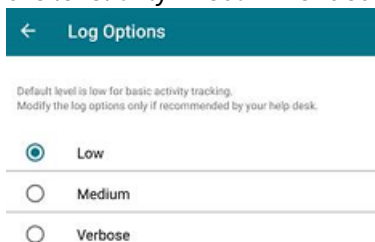


5. Then, tap **Level**.





6. Select **Low**, **Medium**, or **Verbose** level. (Default level is low for basic activity tracking. Modify the level only if recommended by your help desk).

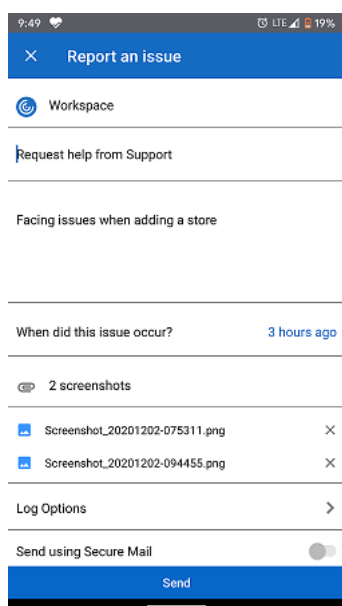


## How to provide feedback

You can send us feedback about Citrix Workspace app for Android and report issues using the same interface. To send feedback:

1. Click **Settings > Send feedback to Citrix**.

The **Report an issue** dialog appears.



2. Using the **Report an issue** dialog, you can:

- Request help from Support
- Report an issue
- Send issue logs

## Authenticate

January 11, 2023

### RSA SecurID

#### Note:

Citrix Workspace app has deferred support for **Next Token Mode** because of a third-party dependency. More information about the supportability can be expected as it gets available.

With this feature enabled,

- If you enter three incorrect passwords, the Citrix Gateway plug-in prompts you to wait until the next token is active before sign-in.
- If you have sign-in too many times with an incorrect password, the RSA server can disable your account.

For more information, see the [Authentication and Authorization](#) section in the Citrix Gateway documentation.

**Tip:**

Citrix Secure Web Gateway configurations do not support RSA SecurID authentication. To use RSA SecurID, use Citrix Gateway.

### **Installing RSA SecurID Software Tokens**

An RSA SecurID Software Authenticator file has an `.sdtid` file name extension. Use the RSA SecurID Software Token Converter to convert the `.sdtid` file to an XML-format 81-digit numeric string. Get the latest software and information from the RSA website.

Follow these general steps:

1. On a computer (not mobile device), download the converter tool [here](#). Follow the instructions on the website and the readme included with the converter tool.
2. Paste the converted numeric string into an email and send it to user devices.
3. On the mobile device, make sure that the date and time are correct, which are required for authentication.
4. On the device, open the email and click the string to start the software token import process.

After the software token is installed on the device, a new option appears in the **Settings** list to manage the token.

**Note:**

On mobile devices that do not associate the `.sdtid` file with Citrix Workspace app, you need to change the file name extension to `.xml` and then import it.

## **SDK and API**

January 11, 2023

### **Citrix Virtual Channel Software Development Kit (SDK)**

The Citrix Virtual Channel SDK supports writing server-side applications and client-side drivers for other virtual channels using the ICA protocol. The server-side virtual channel applications are on Citrix Virtual Apps and Desktops servers.

This version of the SDK supports writing new virtual channels for Citrix Workspace app for Android. If you want to write virtual drivers for other client platforms, contact Citrix Technical support.

The Virtual Channel SDK provides:

- The Citrix Android Virtual Driver AIDL interfaces: **IVCService.aidl** and **IVCallback.aidl**, used with virtual channel functions in Citrix Server API SDK (WFAPI SDK) to create new virtual channels.
- A helper class **Marshall.java** designed to make writing your own virtual channels easier.
- Working source code for three virtual channel sample programs that demonstrate programming techniques.

The Virtual Channel SDK requires the WFAPI SDK to write the server-side of the virtual channel. For more information on SDK, see [Citrix Virtual Channel SDK for Citrix Workspace app for Android](#).



**Locations**

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Silicon Valley | 4988 Great America Parkway Santa Clara, CA 95054, United States

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