Amazon WorkSpaces

User Guide

Amazon WorkSpaces: User Guide

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Getting Started with Your WorkSpace

After your administrator creates your WorkSpace, you receive an invitation email. Complete the following tasks to get started with your WorkSpace.

Tasks

Complete Your User Profile

After your administrator creates your WorkSpace, you must complete your user profile within seven days; otherwise, your invitation expires. If your invitation expires, ask your administrator for another invitation.

To complete your user profile

1. Open the link in the invitation email.
2. Enter your password. Passwords are case-sensitive and must be between 8 and 64 characters in length, inclusive. Passwords must contain at least one character from three of the following categories:

   - Lowercase characters (a-z)
   - Uppercase characters (A-Z)
   - Numbers (0-9)
   - Non-alphanumeric characters (~!@#$%^&*_-+=`|\(){}[]:;"'<>,.?/)
3. Choose **Update User**.

You can change your WorkSpaces password anytime. For more information, see Change Your Password (p. 4).

Choose a Client

You can connect to your WorkSpace using the client application for a supported device or a web browser. To run the Amazon WorkSpaces client application, you must have a Windows or Linux PC, Mac, iPad, Kindle, Chromebook, or Android tablet or phone. To run Amazon WorkSpaces Web Access, you must have a Windows PC or a Mac running a Chrome or Firefox web browser, or a Linux PC running a Firefox browser.

For information about connecting to your WorkSpace, see the following client documentation.

Determine Your Client Version

To see which version of the WorkSpaces client you have, choose **Amazon WorkSpaces**, **About Amazon WorkSpaces**, or click the gear icon in the upper-right corner and choose **About Amazon WorkSpaces**.

Verify Networking Requirements

To ensure a good experience with your WorkSpace, verify that your client device meets the networking requirements.

To verify networking requirements for 3.0+ clients

1. Open your Amazon WorkSpaces client. If this is the first time you have opened the client, you are prompted to enter the registration code that you received in the invitation email.
2. Depending on which client you're using, do one of the following.

If you're using...	Do this
Windows or Linux clients	In the upper-right corner of the client application, select the **Network** icon .
macOS client	Choose **Connections**, **Network**.

The client application tests the network connection, ports, and round-trip time, and reports the results of these tests.
3. Close the **Network** dialog box to return to the sign-in page.

To verify networking requirements for 1.0+ and 2.0+ clients

1. Open your Amazon WorkSpaces client. If this is the first time you have opened the client, you are prompted to enter the registration code that you received in the invitation email.
2. Choose **Network** in the lower-right corner of the client application. The client application tests the network connection, ports, and round-trip time, and reports the results of these tests.
3. Choose **Dismiss** to return to the sign-in page.

(Optional) Access the Applications Assigned to You

You use the Amazon WorkSpaces Application Manager client application on your Windows WorkSpace to install and access the applications that your Amazon WorkSpaces administrator has assigned to you.

To install and start assigned applications

1. To start the Amazon WorkSpaces Application Manager client application, choose the **Amazon WAM** shortcut on the desktop of your Windows WorkSpace.

    If the shortcut is not available, see Troubleshooting Amazon WAM Issues in the *Amazon WAM User Guide*.

2. To find applications that have been assigned to you but have not been installed, choose **DISCOVER**.

3. To install an application, choose the triangle (install).

4. You can start your Amazon WAM applications by using the Amazon WorkSpaces Application Manager client application or the Windows Start menu. For more information, see Getting Started in the *Amazon WAM User Guide*.

(Optional) Integrate with WorkDocs

If your Amazon WorkSpaces administrator has enabled it, you can integrate your WorkSpace with Amazon WorkDocs. Amazon WorkDocs Drive enables you to stream your Amazon WorkDocs files to your WorkSpace on demand. You can easily access any file on Amazon WorkDocs without needing to keep a local copy. For more information, see Amazon WorkDocs Drive in the *Amazon WorkDocs Administration Guide*.

Manage Your WorkSpace from Your Client

If you use the Windows client (p. 40), the macOS client (p. 29), or the Linux client (p. 25) for Amazon WorkSpaces, you can perform the following management tasks directly from your client.

> **Note**
> You can perform these tasks only if they are enabled by your Amazon WorkSpaces administrator.

Tasks

Save Your Credentials

You can choose whether to save your credentials (your user name and password) securely so that you can reconnect to your WorkSpace without re-entering your credentials while the client application remains running. Your credentials are securely cached in RAM only. You can disable this feature and enable it again at any time.

To save your credentials for 3.0+ clients

1. Open your Amazon WorkSpaces client.
2. On the client login screen, select or clear the **Keep me logged in** check box to enable or disable this option as required.

To save your credentials for 1.0+ and 2.0+ clients

1. Open your Amazon WorkSpaces client.
2. On the client login screen, choose the gear icon (Windows) or the **Option** menu (macOS), and choose **Advanced Settings**.
3. Select or clear the **Remember Me** check box to enable or disable this option as required.

Change Your Password

You can change your WorkSpaces login password at any time.

To change your password

1. Open your Amazon WorkSpaces client.
2. On the client login screen, choose **Forgot Password?** under the **Sign In** button.
3. Enter your user name, and then enter the characters you see in the image.
4. Choose **Recover Password**.
5. You will receive an email with a password-reset link. Follow the instructions in the email to change your password.

Restart Your WorkSpace

If you are experiencing issues with your WorkSpace, you can restart it. Restarting a WorkSpace disconnects you from your WorkSpace, so that it can be shut down and restarted. To avoid losing changes, save any open documents and other application files before you restart your WorkSpace. Your user data, operating system, and system settings are not affected.

To restart your WorkSpace

1. Open your Amazon WorkSpaces client and connect to your WorkSpace.
2. Choose **Amazon WorkSpaces**, **Restart WorkSpace**.
3. When prompted to restart your WorkSpace, choose **Restart**.
4. After you are disconnected from your WorkSpace, the client application login screen remains open. You can log back in to your WorkSpace, or close the screen.

Increase Your WorkSpace Disk Size

You can increase your WorkSpace disk size to add more storage capacity. You can increase the size of your C: drive (for Linux, this is /) up to 175 GB, and you can increase the size of your D: drive (for Linux, this is /home) up to 100 GB without contacting your administrator. If you need your drives increased beyond these limits, your administrator must increase the sizes of your drives for you.

If your administrator recently created your WorkSpace, you must wait 6 hours before you can increase your WorkSpace disk sizes. After that, you can increase your disk sizes once in a 6-hour period.

You cannot increase the size of the C: and D: drives at the same time. (The same is true of the / and /home volumes in Linux.) To increase the C: drive (or / in Linux), you must first increase the D: drive (or /home in Linux) to 100 GB. After the D: drive (or /home in Linux) has been increased, you can increase the C: drive (or / in Linux).

While your WorkSpace disk size increase is in progress, you can perform most tasks on your WorkSpace. However, you can't change your WorkSpace compute type, switch the WorkSpace running mode, rebuild your WorkSpace, or restart your WorkSpace. The disk size increase process might take up to an hour.

> **Note**
> You can only resize SSD volumes. Also, increasing your WorkSpace disk size will increase the amount that your organization pays for your WorkSpace.

To increase your WorkSpace disk size

1. Open your Amazon WorkSpaces client and connect to your WorkSpace.
2. Depending on which client you're using, do one of the following.

If you're using...	Do this
3.0+ client	Choose **Settings**, **Increase Disk Size**.
1.0+ or 2.0+ client	Choose **My WorkSpace**, **Increase disk size**.

3. The **Increase disk size** dialog box displays the current disk size of your C: drive and D: drive (or /
   and /home in Linux). If you proceed with the disk size increase, it also displays the amount by which
   your storage increases.

4. To proceed with the disk size increase, choose **Increase**.

5. A message displays information about the disk size increase process. Review the information, and
   choose **Close**.

Change Your WorkSpace Compute Type

You can change your WorkSpace compute type to choose a different bundle for your WorkSpace. If your
administrator recently created your WorkSpace, you must wait 6 hours before you can change your
WorkSpace compute type. After that, you can switch to a larger compute type once in a 6-hour period, or
to a smaller compute type once in a 30-day period.

When your WorkSpace compute type change is in progress, you are disconnected from the WorkSpace.
During this time, you can't use or make changes to the WorkSpace. To avoid losing changes, save any
open documents and other application files before you change your WorkSpace compute type. This
process may take up to an hour.

> **Note**
> Changing your WorkSpace compute type will change the amount that your organization pays
> for your WorkSpace.

To change your WorkSpace compute type

1. Open your Amazon WorkSpaces client and connect to your WorkSpace.

2. Depending on which client you're using, do one of the following.

If you're using...	Do this
3.0+ client	Choose **Settings**, **Change Compute Type**.
1.0+ or 2.0+ client	Choose **My WorkSpace**, **Change compute type**.

3. The **Change compute type** dialog box displays the current compute type for your WorkSpace.
   Choose a different compute type from the list, and then choose **Update**.

4. A message displays information about the compute type change process. Review the information,
   and choose **Update**.

Switch Your WorkSpace Running Mode

You can specify whether your WorkSpace is always running or whether it stops after a specified period of
inactivity. Amazon WorkSpaces provides the following two running modes that you can choose from.

- **AlwaysOn** — Keeps your WorkSpace always running.

- **AutoStop** — Your WorkSpace starts when you sign in and stops after a specified period of inactivity. After your WorkSpace stops, the state of your apps and data is saved.

  > **Note**
  > Switching your WorkSpace running mode will change the amount that your organization pays for your WorkSpace.

To switch your WorkSpace running mode for 3.0+ clients

1. Open your Amazon WorkSpaces client and connect to your WorkSpace.
2. Choose **Settings**, **Switch Running Mode**.
3. In the **Switch Running Mode** dialog box, choose a different running mode, and then choose **Switch**.
4. A message confirms your choice. Close the message box.

To switch your WorkSpace running mode for 1.0+ and 2.0+ clients

1. Open your Amazon WorkSpaces client and connect to your WorkSpace.
2. Choose **My WorkSpace**, **Switch running mode**.
3. In the **Switch running mode** dialog box, choose a different running mode, and then choose **Switch**.
4. A message confirms your choice. Choose **Close**.

Rebuild Your WorkSpace

To restore the operating system that is running on your WorkSpace to its original state, you can rebuild the WorkSpace.

If you want to rebuild your WorkSpace to resolve an issue that you are experiencing with the WorkSpace, try restarting it first. If you rebuild your WorkSpace, any applications that you installed and system settings that you configured after the WorkSpace was created are lost. When a WorkSpace is rebuilt, the D: drive is re-created from the latest backup. Because backups are completed every 12 hours, your data may be up to 12 hours old. If your administrator recently created your WorkSpace, you must wait 12 hours before you can rebuild your WorkSpace.

While your WorkSpace rebuild is in progress, you are disconnected from the WorkSpace. During this time, you can't use or make changes to the WorkSpace. To avoid losing changes, save any open documents and other application files before you rebuild your WorkSpace, and then contact your WorkSpaces administrator to make sure your D: drive has been backed up. The rebuild process might take up to an hour.

To rebuild your WorkSpace

1. Open your Amazon WorkSpaces client and connect to your WorkSpace.
2. Depending on which client you're using, do one of the following.

If you're using...	Do this
3.0+ client	Choose **Settings**, **Rebuild WorkSpace**.
1.0+ or 2.0+ client	Choose **My WorkSpace**, **Rebuild WorkSpace**.

3. In the **Rebuild WorkSpace** dialog box, review the information. If you choose to proceed with the rebuild, choose **Rebuild**.

WorkSpaces Client Peripheral Device Support

The Amazon WorkSpaces client applications for Windows and macOS support USB and Bluetooth keyboards and mice, USB audio headsets, and USB printers. The WorkSpaces client application for Linux supports USB keyboards and mice.

If your WorkSpace is using the PCoIP protocol, the WorkSpaces clients do not support webcams or other video devices, or other locally attached peripherals such as storage devices.

If your WorkSpace is using the WorkSpaces Streaming Protocol (WSP) beta, the WorkSpaces client application for Windows supports webcams. To use your webcam, select the **Devices** icon in the upper-right corner, and then specify where you want to use the device (either locally or on your remote WorkSpace).

If you have an issue with a particular device, send a report to https://console.aws.amazon.com/support/home#/.

WorkSpaces High DPI Display Support

The Amazon WorkSpaces 3.0+ client applications for Windows, macOS, and Linux support high pixel density (high DPI) displays. Screen resolution is defined by the number of pixels per inch (PPI) or dots per inch (DPI) that the screen can display horizontally and vertically. Some common screen resolutions are:

- 1280x720 – High definition (HD), also known as 720p
- 1920x1080 – FHD (Full HD), also known as 1080p
- 2560x1440 – QHD/WQHD (Quad HD), also known as 1440p
- 3840x2160 – UHD (Ultra HD), also known as 4K 2160p
- 7680×4320 – FUHD (Full Ultra HD), also known as 8K 4320p

Although all of these resolutions are labeled "high definition (HD)," that doesn't mean that a monitor with one of these resolutions is a high DPI display.

High DPI (also known as HiDPI) displays are those that use twice as many physical pixels to represent images than the virtual pixels that make up an image. For example, if an image is 128 virtual pixels wide and 128 virtual pixels tall, on a high DPI display that image would be rendered using 256 physical pixels in both directions, making the image twice as crisp.

For better maximum resolution of your WorkSpaces on high DPI displays, you can enable high DPI mode in the WorkSpaces client applications for Windows, macOS, and Linux.

Enabling high DPI mode might affect the performance of your WorkSpace. To accommodate the bandwidth of your network, the streaming protocol upgrades or downgrades the number of pixels that you receive as needed to maintain performance. However, in high latency, high packet loss, or low bandwidth environments, the performance of your WorkSpace might be unacceptably affected by high DPI mode. We recommend that you turn off high DPI mode if it is affecting your WorkSpace performance.

For Windows WorkSpaces, high DPI mode supports multiple monitors.

The maximum display size supported for high DPI mode in the Amazon WorkSpaces client applications is 3840x2160.

To enable high DPI mode

1. In your Amazon WorkSpaces 3.0+ client application, go to **Settings**, **Display Settings**.
2. In the **Streaming Settings** dialog box, select **High DPI Mode**, then click **Save**.

   The screen resolution of your WorkSpace will change to match the high DPI resolution of your monitor.

If the images and text in your WorkSpace are smaller than you prefer, you will also need to adjust the display scale settings on your Windows or Linux WorkSpace.

Important

- **Be sure to adjust the display scale settings within the WorkSpace itself, not the display scale settings for the local Windows, Linux, or Mac machine that you are using to access the WorkSpace.**

- When you dock or undock a laptop, or switch to another client device, you might need to readjust the scaling settings in the WorkSpace to suit the new monitor.

To adjust the scaling settings on a Windows WorkSpace

1. In your Windows WorkSpace, go to the Windows **Start** menu and choose **Settings**.
2. In the **Windows Settings** dialog box, choose **System**.
3. Choose **Display**.
4. Under **Change the size of text, apps, and other items**, set the amount of scaling you prefer.
5. A message appears that says "Some apps won't respond to scaling changes until you sign out." To sign out, you can choose **Sign out now** below that message. Note that signing out disconnects your WorkSpace session, so save your work before signing out.
6. To restart your WorkSpace session, either choose **Reconnect** on the WorkSpaces client login page, or log in again.
7. If you are using multiple monitors, repeat these steps to set the scaling settings for each monitor.

To adjust the scaling settings on a Linux WorkSpace

Note

- These steps assume that you're using the default MATE environment for Amazon Linux WorkSpaces.
- For Linux WorkSpaces, high DPI mode isn't available for multiple monitors at this time.

1. In your Linux WorkSpace, go to **System** > **Preferences** > **Appearance**.
2. In the **Appearance Preferences** dialog box, choose the **Fonts** tab.
3. Choose **Details** in the lower-right corner.
4. In the **Font Rendering Details** dialog box, under **Resolution**, you will see a **Dots per inch (DPI)** setting. To manually adjust this setting, turn off **Automatic detection**.
5. Adjust the font size by using the **Dots per inch (DPI)** setting.
6. Close the dialog box.

Amazon WorkSpaces Clients

You can connect to your WorkSpace using the client application for a supported device or a web browser.

Clients

Amazon WorkSpaces Android Client Application

The following information will help you get started with the Amazon WorkSpaces Android client application.

Contents

Requirements

The Amazon WorkSpaces Android client application requires the following:

- Amazon Kindle Fire tablets released after 2012 with Fire OS 4.0 and later.
- Android tablets and phones with Android OS 4.4 and later. The client application works on most devices with Android version 4.4 or later, but some devices might not be compatible. If you have problems with a device, you can report the problem on the Amazon WorkSpaces forum.

    Note
    Versions of the Android client application after 2.4.15 require devices with Android OS 9 and later.

- Chromebooks that support installing Android applications. Chromebooks launched in 2019 or later support installing Android applications. However, some Chromebooks launched before 2019 might not support installing Android applications.

  We recommend using the Android client application if your Chromebook supports it. To determine whether your Chromebook is compatible with the Amazon WorkSpaces Android client application or whether it requires the Amazon WorkSpaces Chromebook client application, see the installation steps for Chromebooks launched before 2019 (p. 13).

  > **Note**
  > The WorkSpaces Android client application is not available for the WorkSpaces Streaming Protocol (WSP) beta.

Setup and Installation

To download and install the client application, complete the following procedure.

(For devices other than Chromebooks launched before 2019) To download and install the client application

1. On your device, open https://clients.amazonworkspaces.com/ and choose the link for your device (either **Android/Chromebook** or **Fire Tablet**).
2. Download and install the application.
3. Verify that the Amazon WorkSpaces client application icon appears on one of the device desktops.

(For Chromebooks launched before 2019) To download and install the client application

1. Determine whether your Chromebook supports Android applications by checking its status on the list of Chrome OS Systems Supporting Android Apps.
2. Depending on your Chromebook's status, do one of the following:

   - If your Chromebook's status is marked as **Stable Channel**, do the following:

     1. Follow the instructions in Install Android apps on your Chromebook to enable your Chromebook to install Android applications.

        > **Note**
        > In some cases, your WorkSpaces administrator might need to enable your Chromebook to install Android applications. If you are unable to install the Android client application on your Chromebook, contact your WorkSpaces administrator for assistance.

     2. On your Chromebook, open https://clients.amazonworkspaces.com/ and choose **Android/Chromebook**.
     3. Download and install the application.
     4. Verify that the Amazon WorkSpaces client application icon appears on one of the device desktops.

   - If your Chromebook's status is marked as **Planned** or if your Chromebook does not appear on the list, do the following:

     1. Determine whether your Chromebook meets the requirements of the Amazon WorkSpaces Chromebook client application:

        - The Amazon WorkSpaces Chromebook client application requires a Chromebook with Chrome OS version 45 or later. The client application works on most Chromebooks with version 45 or later, but some devices might not be compatible. If you have problems with a device, you can report the problem on the Amazon WorkSpaces forum.

- To check the version of Chrome OS on your Chromebook, go to the status area, where your account picture appears. Choose **Settings**, **About Chrome OS**.

2. If your Chromebook is running Chrome OS version 45 or later, open the link to the Amazon WorkSpaces Chromebook client application on the Chrome Web Store.

3. Download and install the application.

4. Verify that the Amazon WorkSpaces client application icon appears in your Chromebook search.

Connecting to Your WorkSpace

To connect to your WorkSpace, complete the following procedure.

To connect to your WorkSpace

1.   On your device, open the Amazon WorkSpaces client application.

2.   The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the client application later, the same registration code is used. You can enter a different registration code by launching the client application and tapping **Enter new registration code** on the login screen.

3.   Enter your user name and password and tap **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.

4.   If your Amazon WorkSpaces administrator has not disabled the "Remember Me" feature, you are prompted to save your credentials securely so that you can connect to your WorkSpace easily in the future. Your credentials will be securely cached up to the maximum lifetime of your Kerberos ticket.

After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

Gestures

The following gestures are supported for the Amazon WorkSpaces Android client application.

Single tap

Equivalent to a single click in Windows.

Double tap

Equivalent to a double-click in Windows.

Two finger single tap

Equivalent to a right-click in Windows.

Two finger double tap

Toggles the on-screen keyboard display. If a keyboard is attached to the device, a set of keyboard shortcuts is shown instead.

Swipe from left

Displays the sidebar menu. For more information, see Sidebar Menu (p. 15).

Two finger scroll

Scrolls vertically.

Two finger pinch

> Zooms display in or out.

Two finger pan

> Pans the desktop when zoomed in.

Sidebar Menu

The sidebar menu is displayed by swiping from the left side of the screen.

↖	Trackpad Mode	OFF
⌨	Show Keyboard	OFF
⚙	Settings	
◈	Connection Check	
⊞	Windows Menu	
⏻	Disconnect	
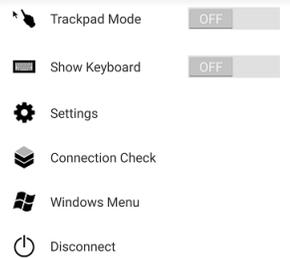
The sidebar menu provides quick access to the following features:

Trackpad Mode – Turns the trackpad on or off. For more information, see Trackpad Mode (p. 16).

Show Keyboard – Toggles the display of the on-screen keyboard. If a keyboard is already attached, only a row of keyboard shortcuts is displayed.

Settings – Displays controls to change the screen resolution or the scroll direction.

Connection Check – Displays the connection status.

Windows Menu – Displays the Windows Start Menu.

[power icon] **Disconnect** – Disconnects the client application without logging off.

Keyboard

To toggle the display of the on-screen keyboard, double-tap with two fingers anywhere on the screen. Special key combinations are displayed in the top row of the keyboard.

Trackpad Mode

The trackpad mode is set using the .

Trackpad Mode Off

When trackpad mode is off, the mouse cursor is placed wherever you tap your finger. In this mode, a single tap is equivalent to a left mouse button click and a two finger single tap is equivalent to a right mouse button click.

Trackpad Mode On

When trackpad mode is on, the mouse cursor tracks the movement of your finger on the screen. In this mode, simulate a left mouse button click by tapping the left mouse button icon.

[left mouse button icon]

Simulate a right mouse button click by tapping the right mouse button icon.

[right mouse button icon]

Disconnect

To disconnect the Android client, display the sidebar menu, tap the disconnect icon, and tap **Disconnect**. You can also log off of the WorkSpace, which disconnects the client.

Clipboard Redirection

The clipboard supports copy and paste of text and HTML content only.

Release Notes

Android Client Application Release Notes

The following table describes the changes to each release of the Android client application.

Release	Date	Changes
2.4.16	January 30, 2020	Adds 64-bit support for Android 9 and 10
2.4.15	June 24, 2019	Adds support for mouse cursor contextual shape changes
2.4.14		• Adds support for the Right alt key mapping with Japanese keyboard layouts • Resolves an occasional issue with blue overlay
2.4.13		Minor fixes
2.4.12		• Resolves an issue that makes the login page bounce on a few devices • Minor bug fixes
2.4.11		• Resolves an issue with content being selected with two-finger scrolling • Minor bug fixes
2.4.10		Improves support for Japanese keyboard layouts
2.4.9		Adds support for Samsung Galaxy Note 9
2.4.7		• Improves clipboard redirection • Improves DeX startup
2.4.6		Adds support for uniform resource identifiers (URIs), which enable login orchestration
2.4.5		• Adds support for time zone redirection for more Regions: America/Indianapolis America/Indiana/Marengo America/Indiana/Vevay America/Indiana/Indianapolis • Includes text changes to the Login page user interface
2.4.4		Minor improvements to session provision handling
2.4.2		• Minor fixes • Improves copy and paste
2.4.0		• New logo • Improves the user interface and stability
2.3.4		• Addresses a display overlay issue on Android Oreo when a mouse is connected to the device • Adds support for Samsung S8/S8+ screen configurations • Resolves minor issues
2.3.3		Localization enhancements
2.2.0		• Adds support for the German language • Improves the Japanese user interface • Improves stability

Release	Date	Changes
2.1.0		• Adds support for the following new WorkSpace states: STOPPING and STOPPED • Adds support for audio in, enabling you to make calls or attend web conferences • Resolves minor bugs and improves stability
2.0.0		• Adds support for saving registration codes, enabling you to switch WorkSpaces without re-entering the registration codes • Improves usability and stability
1.0.15		• Adds advanced connection health checks, enabling you to troubleshoot connection issues • Improves stability
1.0.11		• Improves the user interface and login experience • Adds support for choosing the screen resolution • Adds support for choosing the scrolling direction
1.0.10		• Improves the login experience • Adds time zone synchronization between the local device and the WorkSpace
1.0.9		Improves the login experience
1.0		Initial release

Chromebook Client Application Release Notes

The following table describes the changes to each release of the Chromebook client application.

Note
Version 2.4.13 is the final release of the Amazon WorkSpaces Chromebook client application. Because Google is phasing out support for Chrome Apps, there will be no further updates to the WorkSpaces Chromebook client application, and its use is unsupported.

Release	Date	Changes
2.4.13	April 24, 2019	Fixed an issue that causes the app not to restore to full-screen mode after a screen unlock
2.4.12		Minor bug fixes
2.4.11		Minor bug fixes
2.4.10		Improves support for Japanese keyboard layouts
2.4.8		Improves support for UK keyboards
2.4.7		• Improves clipboard redirection • Adds support for tap-to-click for trackpads • Improves device resolution

Release	Date	Changes
2.4.6		• Resolves an issue that causes screens to freeze • Resolves trackpad issues
2.4.5		• Adds support for time zone redirection for more Regions: America/Indianapolis America/Indiana/Marengo America/Indiana/Vevay America/Indiana/Indianapolis • Includes text changes to the Login page user interface
2.4.4		Minor improvements to session provision handling
2.4.2		Resolves a bug with Caps Lock
2.4.0		• New logo • Improves the user interface and stability
2.2.7		Resolves minor issues
2.2.4		Localization enhancements
2.2.1		• Adds support for the German language • Improves the Japanese user interface • Improves stability
2.1.3		• Adds support for the following new WorkSpace states: STOPPING and STOPPED • Adds support for audio in, enabling you to make calls or attend web conferences • Resolves minor bugs and improves stability
2.0.0		• Adds support for saving registration codes, enabling you to switch WorkSpaces without re-entering the registration codes • Improves usability and stability
1.0		Initial release

Amazon WorkSpaces iPad Client Application

The following information will help you get started with the Amazon WorkSpaces iPad client application.

Contents

Requirements

The Amazon WorkSpaces iPad client application requires the following:

- iPad 2 or later with iOS 8.0 or later
- iPad Retina with iOS 8.0 and later
- iPad Mini with iOS 8.0 and later
- iPad Pro with iOS 9.0 and later

> **Note**
> The WorkSpaces iPad client application is not available for the WorkSpaces Streaming Protocol (WSP) beta.

Setup and Installation

To download and install the client application, complete the following procedure.

To download and install the client application

1. On your iPad, search the App Store for the Amazon WorkSpaces client application.
2. Download and install the application.
3. Verify that the Amazon WorkSpaces client application icon appears on one of the iPad desktops.

Connecting to Your WorkSpace

To connect to your WorkSpace, complete the following procedure.

To connect to your WorkSpace

1. On your iPad, open the Amazon WorkSpaces client application.
2. The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the client application later, the same registration code is used. You can enter a different registration code by launching the client application and choosing **Enter new registration code** on the login screen.
3. Enter your user name and password and choose **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.
4. If your Amazon WorkSpaces administrator has not disabled the "Remember Me" feature, you are prompted to save your credentials securely so that you can connect to your WorkSpace easily in the future. Your credentials will be securely cached up to the maximum lifetime of your Kerberos ticket.

    After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

Gestures

The following gestures are supported for the Amazon WorkSpaces iPad client application.

Single tap

> Equivalent to a single click in Windows.

Double tap

> Equivalent to a double click in Windows.

Two finger single tap

> Equivalent to a right-click in Windows.

Two finger double tap

> Toggles the on-screen keyboard display.

Swipe from left

> Displays the radial menu. For more information, see Radial Menu (p. 21).

Two finger scroll

> Scrolls vertically.

Two finger pinch

> Zooms display in or out.

Two finger pan

> Pans the desktop when zoomed in.

Radial Menu

The radial menu is displayed by swiping from the left side of the screen.

The radial menu provides quick access to the following features:

Settings – Displays controls to change the screen resolution, change the scroll direction, or connect or disconnect the Swiftpoint GT Mouse (p. 23).

Connection Status – Displays the connection status of the WorkSpace.

Disconnect – Disconnects the client application without logging off.

Direct Mouse Mode – Sets the input to direct mouse mode. For more information, see
.

Help – Displays the command and gesture tutorial.

Keyboard – Toggles the display of the on-screen keyboard.

Windows Start Menu – Displays the Windows Start Menu.

Offset Mouse Mode – Sets the input to offset mouse mode. For more information, see
.

Keyboard

To toggle the display of the on-screen keyboard, double-tap with two fingers anywhere on the screen.
Special key combinations are displayed in the top row of the keyboard.

Mouse Modes

The mouse mode is set using the .

Direct Mode

In direct mouse mode, the mouse cursor is placed wherever you tap your finger. In this mode, a single
tap is equivalent to a left mouse button click and a two finger single tap is equivalent to a right mouse
button click.

Offset Mode

In offset mouse mode, the mouse cursor tracks the movement of your finger on the screen. In this mode, simulate a left mouse button click by tapping the left mouse button icon.

Simulate a right mouse button click by tapping the right mouse button icon.

Swiftpoint GT Mouse

You can use the Swiftpoint GT mouse on an iPad to interact with your WorkSpace. To do so, before you launch the Amazon WorkSpaces iPad client application, enable Bluetooth on your iPad and pair the GT mouse with your iPad (the GT mouse should pair automatically). To connect the GT mouse and your iPad client, display the radial menu, and tap **Settings**. For **SwiftPoint GT Mouse**, choose **Connect**.

Disconnect

To disconnect the iPad client, display the radial menu, tap the disconnect icon, and tap **Disconnect**. You can also log off of the WorkSpace, which disconnects the client.

Clipboard Redirection

The clipboard supports copy and paste of text and HTML content only.

Release Notes

The following table describes the changes to each release of the iPad client application.

Release	Date	Changes
2.4.14	April 17, 2020	• Running the client application on a jailbroken device is no longer supported • Minor bug fixes
2.4.13	February 28, 2020	Minor bug fixes
2.4.11	October 28, 2019	• Resolves an issue that can periodically result in repeated key presses with WorkSpaces running Amazon Linux 2 • Resolves an issue with reconnecting to WorkSpaces • Minor bug fixes
2.4.9		Minor bug fixes

Release	Date	Changes
2.4.7		Closing the WorkSpaces client app now expires the reconnect token. You can only reconnect to your WorkSpace when the client app is running.
2.4.6		Minor fixes to the on-screen keyboard
2.4.5		Adds support for uniform resource identifiers (URIs), which enable login orchestration
2.4.4		• Adds support for time zone redirection for more Regions: America/Indianapolis America/Indiana/Marengo America/Indiana/Vevay America/Indiana/Indianapolis • Includes text changes to the Login page user interface
2.4.3		• Adds support for the Swiftpoint GT mouse scroll wheel • Minor improvements to session provision handling
2.4.2		• Minor fixes • Improves copy and paste • Adds initial support for the Swiftpoint GT mouse (the scroll wheel is not supported)
2.4.0		• New logo • Improves the user interface and stability
2.2.4		Localization enhancements
2.2.3		• Enables ATS to support HTTPS TLS 1.2 • Adds a microphone privacy statement • Improves the default resolution for iPad Pro models • Improves localization in multiple languages • Resolves a black screen issue on 9.7-inch iPad Pro models • Resolves the app icon zooming issue on iOS 10 • Resolves an audio echo issue • Security fixes and various improvements
2.2.0		• Adds support for audio session management, enabling you to play music in the background while using WorkSpaces • Adds support for the German language • Adds support for local IPv6 networking
2.1.0		• Adds support for the following new WorkSpace states: STOPPING and STOPPED • Resolves minor bugs and improves stability

Release	Date	Changes
2.0.0		• Adds support for saving registration codes, enabling you to switch WorkSpaces without re-entering the registration codes • Resolves an issue with arrow key support on Bluetooth keyboards • Resolves an issue with Bluetooth keyboards inadvertently activating the on-screen shortcut bar • Improves usability and stability
1.1		• Adds advanced connection health checks, enabling you to troubleshoot connection issues • Improves stability
1.0.11		Improves stability on iOS 8
1.0.10		Improves stability
1.0.9		• Improves the user interface and login experience • Adds support for choosing the screen resolution • Adds support for choosing the scrolling direction
1.0.8		• Improves error messages • Improves the Bluetooth keyboard experience • Improves the scrolling experience
1.0.7		Improves the login experience
1.0.6		Improves the login experience
1.0.5		• Improves the login experience • Improves network connectivity
1.0.4		Improves the login experience
1.0.3		Improves the login experience
1.0.2		• Adds connection health checks • Resolves specific issues with the iPad Air and iPad mini
1.01		Improves radial functionality
1.0		Initial release

Amazon WorkSpaces Linux Client Application

The following information will help you get started with the Amazon WorkSpaces Linux client application.

Contents

Requirements

The Amazon WorkSpaces Linux client application requires 64-bit Ubuntu 18.04 (AMD64).

> **Note**
> By default, Linux client access is disabled. To use this client with your WorkSpace, your Amazon WorkSpaces administrator must enable Linux client access for your WorkSpaces directory.
> The WorkSpaces Linux client application is not available for the WorkSpaces Streaming Protocol (WSP) beta.

Setup and Installation

Download and install the Linux client application from Amazon WorkSpaces Client Downloads.

Connecting to Your WorkSpace

To connect to your WorkSpace, complete the following procedure.

To connect to your WorkSpace

1. The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the client application later, the same registration code is used. You can enter a different registration code by launching the client application and choosing **Settings**, **Manage Login Information** on the login screen menu.

2. Enter your user name and password in the login screen and choose **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.

3. If your Amazon WorkSpaces administrator has not disabled the **Keep me logged in** feature, you can select the **Keep me logged in** check box at the bottom of the login screen to save your credentials securely so that you can connect to your WorkSpace easily while the client application remains running. Your credentials are securely cached up to the maximum lifetime of your Kerberos ticket.

   After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

An interruption of network connectivity causes an active session to be disconnected. This can be caused by events such as closing the laptop lid, or the loss of your wireless network connection. The Amazon WorkSpaces client application for Linux attempts to reconnect the session automatically if network

connectivity is regained within a certain amount of time. The default session resume timeout is 20 minutes, but this timeout can be modified by your network administrator.

Managing Your Login Information (3.0+ Clients Only)

You can view your registration code and what Region your WorkSpace is in. You can specify whether you want the WorkSpaces client application to save your current registration code, and you can assign a name to your WorkSpace. You can also specify if you want Amazon WorkSpaces to keep you logged in to a WorkSpace until you quit or your login period expires.

To manage your login information for a WorkSpace

1. In the Amazon WorkSpaces client application, go to **Settings**, **Manage Login Information**.
2. In the **Manage Login Information** dialog box, you can see the registration code and Region information for your WorkSpace.
3. (Optional) If you want the WorkSpaces client to remember your current registration code, select the **Remember Registration Code** check box.
4. Under **Saved registration codes**, select the WorkSpace you want to name.
5. In the **WorkSpace name** box, enter a name for the WorkSpace.
6. (Optional) If you want WorkSpaces to keep you logged in until you quit or your login period expires, select the **Keep me logged in** check box.
7. Choose **Save**.

Client Views

You can switch to full screen mode by choosing **View**, **Enter Full Screen** in the client application menu.

While in full screen mode, you can switch back to window mode by moving the pointer to the top of the screen. The client application menu is displayed, and you can choose **View**, **Leave Full Screen** in the client application menu.

You can also toggle full screen mode by pressing Ctrl+Alt+Enter.

Client Language

You can select the language displayed by the client by performing the following steps.

> **Note**
> In the client, Japanese is available in all Regions. However, Japanese is only available in Tokyo for individual WorkSpaces.

To select the client language

1. In the Amazon WorkSpaces client application, go to **Settings**, **Change Language**.
2. Enter your desired language in the **Select a language** list and choose **Save**.
3. Restart the client.

Display Support

Amazon WorkSpaces Value, Standard, Performance, Power, PowerPro, and GraphicsPro bundles support a maximum of four displays and a maximum resolution of 3840x2160 (ultra-high definition, or UHD). The maximum supported resolution depends on the number of displays, as shown in the following table.

Displays	Resolution
2	3840x2160
4	1920x1200

Note
Graphics bundles support only a single monitor configuration with a maximum resolution of 2560x1600.

The Amazon WorkSpaces client application extracts the Extended Display Information Data (EDID) of all attached displays and determines the best compatibility match before starting the session. If you have a high pixel density (high DPI) display, the client application automatically scales the streaming window according to your local DPI settings. For better maximum resolution with high DPI displays, see WorkSpaces High DPI Display Support (p. 10).

Proxy Server

If your network requires you to use a proxy server to access the internet, you can enable the Amazon WorkSpaces client application to use a proxy for HTTPS (port 443) traffic. Proxy with authentication is not currently supported.

Note
The Amazon WorkSpaces client applications use the HTTPS port for updates, registration, and authentication. The desktop streaming connections to the WorkSpace require port 4172 to be enabled, and do not go through the proxy server.

To use a proxy server

1. In the Amazon WorkSpaces client application, go to **Settings**, **Manage Proxy Server**.
2. In the **Set Proxy** dialog box, select **Use proxy server**, enter the proxy server address and port, and choose **Save**.

Command Shortcuts

The Amazon WorkSpaces Linux client supports the following command shortcuts:

- Ctrl+Alt+Enter—Toggle full screen display

Clipboard Redirection

Clipboard redirection is not currently supported for the Linux client application.

Release Notes

The following table describes the changes to each release of the Linux client application.

Release	Date	Changes
3.0.6	April 28, 2020	• Adds support for toggling between high DPI and standard DPI displays

Release	Date	Changes
		• Minor bug fixes and enhancements
3.0.5	March 30, 2020	• Resolves an issue with the user interface displaying a login prompt if single sign-on (SSO) is enabled for Amazon WorkDocs • Resolves an issue where the Windows logo key did not map correctly into the WorkSpace
3.0.4	March 3, 2020	Minor bug fixes and enhancements
3.0.1	December 19, 2019	Bug fixes and UI enhancements
3.0.0	November 25, 2019	• Initial release of Linux client • Ubuntu Linux 18.04 support • Friendly registration code labels

Amazon WorkSpaces macOS Client Application

The following information will help you get started with the Amazon WorkSpaces macOS client application.

Contents

Requirements

The 3.0+ versions of the client application require macOS 10.12 or later.

The 1.0+ or 2.0+ versions of the client application require OS X 10.8.1 or later.

> **Important**
> If you use macOS 10.15 (Catalina), you must use version 2.5.11 or later of the macOS client application. Earlier versions of the client application have issues with keyboard input on Catalina.
> If you are using Catalina and are working with Linux WorkSpaces, we recommend using version 3.0.2 or later of the macOS client to avoid potential keyboard issues with some applications.

Setup and Installation

Download and install the Amazon WorkSpaces macOS client from Amazon WorkSpaces Client Downloads.

If you're having trouble updating your Amazon WorkSpaces macOS client application to a newer version, use the following procedure to update your client application.

To update the WorkSpaces macOS client application to a newer version

1. In the **Finder**, open your **Applications** folder, then open **Utilities**, and choose **Terminal**.
2. In the Terminal window, enter the following command, and then press the Return key.

   ```
   defaults delete com.amazon.workspaces
   ```

3. In the Terminal app, choose **Terminal**, **Quit Terminal**.
4. If you have not already entered a registration code in the WorkSpaces macOS client application, do so, and then choose **Amazon WorkSpaces**, **Quit Amazon WorkSpaces** to close the client application.
5. Restart the WorkSpaces macOS client application. You should be prompted to update the client. Accept the update.

Determining Your Client Version

To see which version of the WorkSpaces client you have, choose **Amazon WorkSpaces**, **About Amazon WorkSpaces**, or click the gear icon in the upper-right corner and choose **About Amazon WorkSpaces**.

Connecting to Your WorkSpace

To connect to your WorkSpace, complete the following procedure.

To connect to your WorkSpace for 3.0+ clients

1. The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the client application later, the same registration code is used. To enter a different registration code, launch the client application, and then on the menu bar, choose **Settings**, **Manage Login Information**.
2. Enter your user name and password in the login screen and choose **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.
3. If your Amazon WorkSpaces administrator has not disabled the **Keep me logged in** feature, you can select the **Keep me logged in** check box at the bottom of the login screen to save your credentials securely so that you can connect to your WorkSpace easily while the client application remains running. Your credentials are securely cached up to the maximum lifetime of your Kerberos ticket.

   After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

To connect to your WorkSpace for 1.0+ and 2.0+ clients

1. The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the

client application later, the same registration code is used. To enter a different registration code, launch the client application, and then on the menu bar, choose **Options**, **Manage Registrations**.

2. Enter your user name and password in the login screen and choose **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.

3. If your Amazon WorkSpaces administrator has not disabled the "Remember Me" feature, you are prompted to save your credentials securely so that you can connect to your WorkSpace easily while the client application remains running. Your credentials are securely cached up to the maximum lifetime of your Kerberos ticket.

    After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

An interruption of network connectivity causes an active session to be disconnected. This can be caused by events such as closing the laptop lid, or the loss of your wireless network connection. The Amazon WorkSpaces client application for macOS attempts to reconnect the session automatically if network connectivity is regained within a certain amount of time. The default session resume timeout is 20 minutes, but this timeout can be modified by your network administrator.

Managing Your Login Information (3.0+ Clients Only)

You can view your registration code and what Region your WorkSpace is in. You can specify whether you want the WorkSpaces client application to save your current registration code, and you can assign a name to your WorkSpace. You can also specify if you want Amazon WorkSpaces to keep you logged in to a WorkSpace until you quit or your login period expires.

To manage your login information for a WorkSpace

1. In the Amazon WorkSpaces client application, go to **Settings**, **Manage Login Information**.
2. In the **Manage Login Information** dialog box, you can see the registration code and Region information for your WorkSpace.
3. (Optional) If you want the WorkSpaces client to remember your current registration code, select the **Remember Registration Code** check box.
4. Under **Saved registration codes**, select the WorkSpace you want to name.
5. In the **WorkSpace name** box, enter a name for the WorkSpace.
6. (Optional) If you want WorkSpaces to keep you logged in until you quit or your login period expires, select the **Keep me logged in** check box.
7. Choose **Save**.

Client Views

You can switch to full screen mode by choosing **View**, **Enter Full Screen** (3.0+ clients) or **View**, **Show Fullscreen** (1.0+ and 2.0+ clients) in the client application menu.

While in full screen mode, you can switch back to window mode by moving the pointer to the top of the screen. The client application menu is displayed, and you can choose **View**, **Leave Full Screen** (3.0+ clients) or **View**, **Exit Fullscreen** (1.0+ and 2.0+ clients) in the client application menu.

You can also toggle full screen mode by pressing Control+Option+Return.

Client Language

You can select the language displayed by the client by performing the following steps.

Note
The WorkSpaces client applications support Japanese. However, Japanese WorkSpaces are available only in the Asia Pacific (Tokyo) Region.

To select the client language

1. Depending on which client you're using, do one of the following.

If you're using...	Do this
3.0+ client	In the Amazon WorkSpaces client application, go to **Settings**, **Change Language**.
1.0+ or 2.0+ client	In the Amazon WorkSpaces client application, open the **Advanced Settings** dialog box.

2. Enter your desired language in the **Select a language** list and choose **Save**.
3. Restart the client.

Display Support

Amazon WorkSpaces Value, Standard, Performance, Power, PowerPro, and GraphicsPro bundles support a maximum of four displays and a maximum resolution of 3840x2160 (ultra-high definition, or UHD). The maximum supported resolution depends on the number of displays, as shown in the following table.

Displays	Resolution
2	3840x2160
4	1920x1200

Note
Graphics bundles support only a single monitor configuration with a maximum resolution of 2560x1600.

The Amazon WorkSpaces client application extracts the Extended Display Information Data (EDID) of all attached displays and determines the best compatibility match before starting the session. If you have a high pixel density (high DPI) display, the client application automatically scales the streaming window according to your local DPI settings. For better maximum resolution with high DPI displays, see WorkSpaces High DPI Display Support (p. 10).

Proxy Server

If your network requires you to use a proxy server to access the internet, you can enable the Amazon WorkSpaces client application to use a proxy for HTTPS (port 443) traffic. Proxy with authentication is not currently supported.

Note
The Amazon WorkSpaces client applications use the HTTPS port for updates, registration, and authentication. The desktop streaming connections to the WorkSpace require port 4172 to be enabled, and do not go through the proxy server.

To use a proxy server for 3.0+ clients

1. In the Amazon WorkSpaces client application, go to **Settings**, **Manage Proxy Server**.

2. In the **Set Proxy** dialog box, select **Use proxy server**, enter the proxy server address and port, and choose **Save**.

To use a proxy server for 1.0+ and 2.0+ clients

1. In the Amazon WorkSpaces client application, open the **Advanced Settings** dialog box.

2. In the **Proxy Server Setting** area, select **Use Proxy Server**, enter the proxy server address and port, and choose **Save**.

Command Shortcuts

The Amazon WorkSpaces macOS client supports the following command shortcuts:

If you're using...	Use these shortcuts
3.0+ client	Command+Q—Quit Amazon WorkSpaces Control+Option+Return—Toggle full screen display Control+Option+F12—Disconnect session
1.0+ or 2.0+ client	Control+Option+Return—Toggle full screen display Control+Option+F12—Disconnect session

Remapping the Windows Logo Key or the Command Key

By default, the Windows logo key on a Windows keyboard and the Command key on an Apple keyboard are both mapped to the Ctrl key when you're using the Amazon WorkSpaces macOS client application. If you want to change this behavior so that these two keys are mapped to the Windows logo key for use with Windows WorkSpaces, use the following procedure.

To map the Windows logo key or the Command key to the Windows logo key

1. If you haven't already done so, to version 3.0.5 or later of the Amazon WorkSpaces macOS client application.

2. In the **Finder**, open your **Applications** folder, then open **Utilities**, and choose **Terminal**.

3. In the Terminal window, enter the following command, and then press the Return key.

```
defaults write "com.amazon.Amazon WorkSpaces Client" remap_cmd_to_ctrl 0
```

4. In the Terminal app, choose **Terminal**, **Quit Terminal**.

5. If your WorkSpaces macOS client application is running, choose **Amazon WorkSpaces**, **Quit Amazon WorkSpaces** in the client to close the client application.

6. Restart the WorkSpaces macOS client application and log in to your WorkSpace. The Windows logo key or the Command key should now be mapped to the Windows logo key.

Release Notes

The following table describes the changes to each release of the client application.

Release	Date	Changes
3.0.6	April 28, 2020	• Adds support for toggling between high DPI and standard DPI displays • Minor bug fixes and enhancements
3.0.5	March 30, 2020	• Resolves an issue with the user interface displaying a login prompt if single sign-on (SSO) is enabled for Amazon WorkDocs • Adds support to map the Command key to the Windows logo key
3.0.4	March 3, 2020	• Adds support for connecting to WorkSpaces Streaming Protocol (WSP) Beta WorkSpaces • Minor bug fixes and enhancements
3.0.3	February 24, 2020	Improves readability on high DPI devices
3.0.2	February 14, 2020	• Adds keyboard shortcut to toggle full screen display • Minor bug fixes and enhancements
3.0.0	November 25, 2019	• Improved user interface • Friendly registration code labels • Client-side GPU rendering • Minor bug fixes and enhancements
2.5.11	November 4, 2019	• Resolves issues with support for the macOS Catalina keyboard • Minor bug fixes
2.5.9		Minor bug fixes
2.5.8		• Resolves an intermittent crashing issue related to computer waking up when opening a laptop lid
2.5.7		• Adds support for German keyboard layouts with Linux WorkSpaces • Resolves an issue that results in a crash of Excel with clipboard direction
2.5.6		Minor fixes
2.5.5		• Resolves an issue with sub-optimal resolution with external displays in full-screen mode connected using USB-C • Minor bug fixes
2.5.2		• Resolves an issue that results in crashes when multiple monitors are used and clients are

Release	Date	Changes
		connected to WorkSpaces running Amazon Linux 2 • Resolves an intermittent issue with the Caps lock key becoming stuck • Minor bug fixes
2.5.1		• Resolves an issue that periodically results in repeated key presses with WorkSpaces running Amazon Linux 2 • Adds support for localized date and time formats in the user interface • Adds handling for URIs that end with an extra '/' • Minor user interface improvements
2.5.0		Adds support for user self-service WorkSpace management capabilities
2.4.10		Minor fixes
2.4.9		Minor fixes
2.4.8		• Adds support for uniform resource identifiers (URIs), which enable login orchestration • Improves the behavior of function (Fn) keys on macOS • Improves protocol handling • Minor fixes
2.4.7		• Adds support for time zone redirection for more Regions: America/Indianapolis America/Indiana/Marengo America/Indiana/Vevay America/Indiana/Indianapolis • Includes text changes to the Login page user interface
2.4.6		• Adds support for configuring the logging level to include advanced logging for debug scenarios • Minor improvements to session provision handling • Increases error handling for keyboard connections
2.4.4		• Minor fixes • Improves copy and paste
2.4.2		Minor fixes
2.4.0		• New logo • Improves the user interface and stability
2.3.7		• Addresses a gray screen issue that occurs when displays are in different orientations • Resolves a crashing issue on macOS

Release	Date	Changes
2.3.6		Localization enhancements
2.3.5		Minor improvements
2.3.3		• Improves support for multiple monitors • Localization enhancements • Improves security and performance
2.3.1		Minor fixes
2.3.0		• Improves support for multiple monitors • Improves security and stability
2.2.3		Resolves minor bugs and improves stability
2.2.1		• Adds support for the German language • Resolves issues with time zone mapping for some Regions • Resolves a connection issue on Russian systems • Improves the Japanese user interface • Improves stability
2.1.4		Resolves a crash issue on macOS Sierra
2.1.3		Closing the client expires the reconnect token. You can easily reconnect to your WorkSpace as long as the client is running.
2.1.0		• Adds support for the following new WorkSpace states: STOPPING and STOPPED • Resolves minor bugs and improves stability
2.0.8		• Resolves an issue with out-of-app keyboard input passing to WorkSpaces • If Remember Me is disabled, the user name is not shown on restart • Adds a confirmation dialog box when deleting a registration code • Improves stability
2.0.4		• Adds support for audio in, enabling you to make calls or attend web conferences • Adds support for devices with high DPI screens • Adds support for saving registration codes, enabling you to switch WorkSpaces without re-entering the registration codes • Improves support for OS X El Capitan • Improves usability and stability

Release	Date	Changes
1.1.80		• Adds CloudWatch metrics for session latency, session launch time, and session disconnects • Improves auto session resume so that you are interrupted less frequently when network conditions are degraded • Resolves specific issues and improves stability
1.1.6		• Adds support for status notifications. The client application notifies you about the state of your WorkSpace when it cannot connect to the WorkSpace. • Improves the reconnect experience. The client automatically redirects to the login screen after 10 hours of inactivity. You can reconnect again if the client fails to launch a session using reconnect. • Adds support for auto session resume. The client application automatically attempts to resume your session if network connectivity is lost and then regained within the session resume timeout (default value is 20 minutes). • Improves network health checks so they are faster and more reliable • Adds client-side validation of registration codes • Improves the synchronization of Caps Lock and Num Lock status between the local device and the WorkSpace
1.1.4		• Adds support for saving your credentials, enabling you to easily reconnect to your WorkSpace • Improves advanced connection health checks • Improves stability
1.0.8		• Introduces a full-file installation package • Improves network connectivity checks • Adds version information to the **About** window
1.0		Initial release

PCoIP Zero Client

You can set up and use a PCoIP zero client device with Amazon WorkSpaces. For more information, see *Connecting to Amazon WorkSpaces Desktops* in the PCoIP Connection Manager User Guide.

Requirements

To use a PCoIP zero client with Amazon WorkSpaces, you need the following:

• PCoIP zero clients are compatible only with WorkSpaces bundles that are using the PCoIP protocol.

- If your Tera2 zero client device has firmware version 6.0.0 or later, you can connect to your WorkSpace directly without using PCoIP Connection Manager.
- If your Tera2 zero client device has a firmware version between 4.6.0 and 6.0.0, your Amazon WorkSpaces administrator must set up an EC2 instance with Teradici PCoIP Connection Manager for Amazon WorkSpaces. Your administrator also provides you with a server URI that you can use to connect to your WorkSpace.
- WorkSpaces multi-factor authentication requires a Tera2 zero client device with firmware version 6.0.0 or later.

Set Up the Zero Client Connection

Before you connect your zero client device to your WorkSpace for the first time, you might need to change some settings. Your Amazon WorkSpaces administrator can provide you with additional setup instructions that are needed for your particular environment.

Session Connection

To set the session connection

1. From the PCoIP zero client device, choose **Options**, **Configuration**, **Session**.
2. If the page is locked, choose **Unlock** and type your zero client password (if required).
3. For **Connection Type**, choose **PCoIP Connection Manager**.
4. For **Server URI**, copy the server URI provided by your administrator, and then choose **OK**.

Connect to Your WorkSpace

If your zero client device has firmware version 6.0.0 or later, you can connect directly. Otherwise, you connect through PCoIP Connection Manager.

To connect to your WorkSpace directly (recommended)

1. From the PCoIP zero client device, choose **Options**, **Configuration**, **Session**, and choose the **OSD: Amazon WorkSpaces Session Settings** connection type.
2. Type the registration code from your welcome email.
3. Type a name for this registered WorkSpace.
4. Choose **Connect**.

To connect to your WorkSpace using PCoIP Connection Manager

1. From the PCoIP zero client device, choose **PCoIP Connection Manager for Amazon WorkSpaces** for **Server**.
2. Choose **Connect**
3. On the login page, type your Amazon WorkSpaces user name and password, and then choose **Login**.

Disconnect from the Zero Client

To disconnect the zero client from your WorkSpace, you can press Ctrl+Alt+F12. Alternatively, you can log off of the WorkSpace, which disconnects the client.

Amazon WorkSpaces Web Access

Users can access their WorkSpaces from any location using a web browser. This is ideal for users who must use a locked-down device or restrictive network. Instead of using a traditional remote access solution and installing the appropriate client application, users can visit the website to access their work resources.

> **Note**
> Web Access is not available for the WorkSpaces Streaming Protocol (WSP) beta.

Website

Open Amazon WorkSpaces Web Access to log on to your WorkSpace through your web browser.

Requirements

You can access a WorkSpace running the Windows 10 desktop experience and one of the following bundles:

- Value
- Standard
- Performance
- Power

You must run one of the following web browsers on your Windows, macOS, or Linux computer:

- Chrome 53 and later
- Firefox 49 and later

You must have web connectivity.

Your administrator must enable Amazon WorkSpaces Web Access. For more information, see Enable and Configure Amazon WorkSpaces Web Access in the *Amazon WorkSpaces Administration Guide*.

Client Views

Amazon WorkSpaces Web Access supports multiple screen resolutions. The minimum supported resolution is 960x720 pixels, and the maximum supported resolution is 2560x1600 pixels.

Web Access does not support multiple monitors.

Proxy Servers

If you are required to use a proxy server to access the internet, you can configure your browser to use the proxy server. Amazon WorkSpaces Web Access respects the settings for all related traffic.

Limits

- Proxy with authentication is not currently supported.
- Proxy server support for Web Access can vary by browser. Chrome (versions 55 and later) supports Web Access traffic routed through a web proxy, while the current Firefox does not.

Amazon WorkSpaces Windows Client Application

The following information will help you get started with the Amazon WorkSpaces Windows client application.

Contents

Requirements

The Amazon WorkSpaces Windows client application requires Microsoft Windows 7, Windows 8, or Windows 10.

Setup and Installation

Download and install the Windows client application from Amazon WorkSpaces Client Downloads.

Determining Your Client Version

To see which version of the WorkSpaces client you have, choose **Amazon WorkSpaces**, **About Amazon WorkSpaces**, or click the gear icon in the upper-right corner and choose **About Amazon WorkSpaces**.

Connecting to Your WorkSpace

To connect to your WorkSpace, complete the following procedure.

To connect to your WorkSpace for 3.0+ clients

1. The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the client application later, the same registration code is used. To enter a different registration code, launch the client application, and then on the menu bar, choose **Settings**, **Manage Login Information**.
2. Enter your user name and password in the login screen and choose **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.
3. If your Amazon WorkSpaces administrator has not disabled the **Keep me logged in** feature, you can select the **Keep me logged in** check box at the bottom of the login screen to save your credentials

securely so that you can connect to your WorkSpace easily while the client application remains running. Your credentials are securely cached up to the maximum lifetime of your Kerberos ticket.

After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

To connect to your WorkSpace for 1.0+ and 2.0+ clients

1. The first time that you run the client application, you are prompted for your registration code, which is contained in your welcome email. The Amazon WorkSpaces client application uses the registration code and user name to identify which WorkSpace to connect to. When you launch the client application later, the same registration code is used. To enter a different registration code, launch the client application, and then on the menu bar, choose **Options**, **Manage Registrations**.

2. Enter your user name and password in the login screen and choose **Sign In**. If your Amazon WorkSpaces administrator has enabled multi-factor authentication for your organization's WorkSpaces, you are prompted for a passcode to complete your login. Your Amazon WorkSpaces administrator will provide more information about how to obtain your passcode.

3. If your Amazon WorkSpaces administrator has not disabled the "Remember Me" feature, you are prompted to save your credentials securely so that you can connect to your WorkSpace easily while the client application remains running. Your credentials are securely cached up to the maximum lifetime of your Kerberos ticket.

   After the client application connects to your WorkSpace, your WorkSpace desktop is displayed.

An interruption of network connectivity causes an active session to be disconnected. This can be caused by events such as closing the laptop lid, or the loss of your wireless network connection. The Amazon WorkSpaces client application for Windows attempts to reconnect the session automatically if network connectivity is regained within a certain amount of time. The default session resume timeout is 20 minutes, but this timeout can be modified by your network administrator.

Managing Your Login Information (3.0+ Clients Only)

You can view your registration code and what Region your WorkSpace is in. You can specify whether you want the WorkSpaces client application to save your current registration code, and you can assign a name to your WorkSpace. You can also specify if you want Amazon WorkSpaces to keep you logged in to a WorkSpace until you quit or your login period expires.

To manage your login information for a WorkSpace

1. In the Amazon WorkSpaces client application, go to **Settings**, **Manage Login Information**.

2. In the **Manage Login Information** dialog box, you can see the registration code and Region information for your WorkSpace.

3. (Optional) If you want the WorkSpaces client to remember your current registration code, select the **Remember Registration Code** check box.

4. Under **Saved registration codes**, select the WorkSpace that you want to name.

5. In the **WorkSpace name** box, enter a name for the WorkSpace.

6. (Optional) If you want WorkSpaces to keep you logged in until you quit or your login period expires, select the **Keep me logged in** check box.

7. Choose **Save**.

Client Views

You can switch to full screen mode by choosing **View**, **Enter Full Screen** (3.0+ clients) or **View**, **Show Fullscreen** (1.0+ and 2.0+ clients) in the client application menu.

While in full screen mode, you can switch back to window mode by moving the pointer to the top of the screen. The client application menu is displayed, and you can choose **View**, **Leave Full Screen** (3.0+ clients) or **View**, **Exit Fullscreen** (1.0+ and 2.0+ clients) in the client application menu.

You can also toggle full screen mode by pressing Ctrl+Alt+Enter.

Client Language

You can select the language displayed by the client by performing the following steps.

> **Note**
> The WorkSpaces client applications support Japanese. However, Japanese WorkSpaces are available only in the Asia Pacific (Tokyo) Region.

To select the client language

1. Depending on which client you're using, do one of the following.

If you're using...	Do this
3.0+ client	In the Amazon WorkSpaces client application, go to **Settings**, **Change Language**.
1.0+ or 2.0+ client	In the Amazon WorkSpaces client application, open the **Advanced Settings** dialog box.

2. Enter your desired language in the **Select a language** list and choose **Save**.

3. Restart the client.

Display Support

Amazon WorkSpaces Value, Standard, Performance, Power, PowerPro, and GraphicsPro bundles support a maximum of four displays and a maximum resolution of 3840x2160 (ultra-high definition, or UHD). The maximum supported resolution depends on the number of displays, as shown in the following table.

Displays	Resolution
2	3840x2160
4	1920x1200

> **Note**
> Graphics bundles support only a single monitor configuration with a maximum resolution of 2560x1600.

The Amazon WorkSpaces client application extracts the Extended Display Information Data (EDID) of all attached displays and determines the best compatibility match before starting the session. If you have a high pixel density (high DPI) display, the client application automatically scales the streaming window according to your local DPI settings. For better maximum resolution with high DPI displays, see WorkSpaces High DPI Display Support .

Proxy Server

If your network requires you to use a proxy server to access the internet, you can enable the Amazon WorkSpaces client application to use a proxy for HTTPS (port 443) traffic. Proxy with authentication is not currently supported.

> **Note**
> The Amazon WorkSpaces client applications use the HTTPS port for updates, registration, and authentication. The desktop streaming connections to the WorkSpace require port 4172 to be enabled, and do not go through the proxy server.

To use a proxy server for 3.0+ clients

1. In the Amazon WorkSpaces client application, go to **Settings**, **Manage Proxy Server**.
2. In the **Set Proxy** dialog box, select **Use proxy server**, enter the proxy server address and port, and choose **Save**.

To use a proxy server for 1.0+ and 2.0+ clients

1. In the Amazon WorkSpaces client application, open the **Advanced Settings** dialog box.
2. In the **Proxy Server Setting** area, select **Use Proxy Server**, enter the proxy server address and port, and choose **Save**.

Command Shortcuts

The Amazon WorkSpaces Windows client supports the following command shortcuts:

- Ctrl+Alt+Enter—Toggle full screen display
- Ctrl+Alt+F12—Disconnect session

Release Notes

The following table describes the changes to each release of the Windows client application.

Release	Date	Changes
3.0.6	April 28, 2020	- Adds support for toggling between high DPI and standard DPI displays - Minor bug fixes and enhancements
3.0.5	March 30, 2020	Resolves an issue with the user interface displaying a login prompt if single sign-on (SSO) is enabled for Amazon WorkDocs
3.0.4	March 3, 2020	Minor bug fixes and enhancements
3.0.2	February 14, 2020	- Adds keyboard shortcut to toggle full screen display - Adds support for connecting to WorkSpaces Streaming Protocol (WSP) Beta WorkSpaces - Minor bug fixes and enhancements
3.0.0	November 25, 2019	Improved user interface

Release	Date	Changes
		• Friendly registration code labels • Minor bug fixes and enhancements
2.5.11	November 4, 2019	Minor bug fixes
2.5.10		• Resolves an intermittent issue related to invalid keystrokes sent when closing a laptop lid • Minor fixes
2.5.9		• Resolves the issue of displaying a blank app icon image on the Windows 10 taskbar after WorkSpace client upgrades • Minor bug fixes
2.5.8		Resolves an intermittent crashing issue related to computer waking up when opening a laptop lid
2.5.7		• Adds support for German keyboard layouts with Linux WorkSpaces • Resolves an issue that results in a crash of Excel with clipboard direction
2.5.6		Minor fixes
2.5.5		Minor fixes
2.5.2		• Resolves an intermittent issue with the Caps Lock key becoming stuck • Minor bug fixes
2.5.1		• Resolves an issue that periodically results in repeated key presses with WorkSpaces running Amazon Linux 2 • Adds support for localized date and time formats in the user interface • Minor user interface improvements
2.5.0		Adds support for user self-service WorkSpace management capabilities
2.4.10		Minor fixes
2.4.9		Minor fixes
2.4.8		• Adds support for uniform resource identifiers (URIs), which enable login orchestration • Minor fixes

Release	Date	Changes
2.4.7		• Resolves an issue with the user interface text not displaying correctly on Microsoft Surface Pro 4 models (Windows only) • Adds support for time zone redirection for more Regions: America/Indianapolis America/Indiana/Marengo America/Indiana/Vevay America/Indiana/Indianapolis • Includes user interface text changes for the Login page
2.4.6		• Adds support for configuring the logging level to include advanced logging for debug scenarios • Minor improvements to session provision handling
2.4.5		Adds a check to ensure that certificates issued by Amazon Trust Services are trusted by Windows during installation. By default, an up-to-date Windows local Root CA list includes Starfield Service Root Certificate Authority - G2, and therefore trusts Amazon Trust Services certificates. If the local Root CA list is outdated, the client installer installs the Starfield Service Root Certificate Authority - G2 certificate to the system. If you do not have administrator access to the client device, you'll be prompted to confirm the installation of the Root CA certificate.
2.4.4		• Minor fixes • Improves copy and paste
2.4.2		Minor fixes
2.4.0		• New logo • Improves the user interface and stability
2.3.7		Addresses a gray screen issue that occurs when displays are in different orientations
2.3.6		Localization enhancements
2.3.5		Minor improvements
2.3.3		• Improves the support for multiple monitors • Localization enhancements • Improves security and performance
2.3.2		Installer fixes
2.3.1		Minor fixes
2.3.0		• Improves support for multiple monitors • Improves security and stability

Release	Date	Changes
2.2.3		Resolves minor bugs and improves stability
2.2.1		• Adds support for the German language • Resolves time zone mapping issues for some Regions • Resolves a connection issue on Russian systems • Improves the Japanese user interface • Improves stability
2.1.3		Closing the client expires the reconnect token. You can easily reconnect to your WorkSpace as long as the client is running.
2.1.1		Minor improvement to protocol handling
2.1.0		• Adds support for the following new WorkSpace states: STOPPING and STOPPED • Resolves minor bugs and improves stability
2.0.8		• Resolves a conflict with running iTunes or Garmin processes during installation • Adds support for a password-free installation experience if installing only for the current user • Resolves an issue with Excel formatting when copying and pasting data in BIFF5 format • If Remember Me is disabled, the user name is not shown on restart • Adds a confirmation dialog box when deleting a registration code • Improves stability
2.0.6		Resolves bugs and includes other improvements
2.0.4		• Adds support for audio in, enabling you to make calls or attend web conferences • Adds support for devices with high DPI screens • Adds support for saving registration codes, enabling you to switch WorkSpaces without re-entering the registration codes • Improves support for Windows 10 • Improves usability and stability
1.1.80		• Adds CloudWatch metrics for session latency, session launch time, and session disconnects • Improves auto-session resume so that you are interrupted less frequently when network conditions are degraded • Resolves specific issues and improves stability

Release	Date	Changes
1.1.6		• Adds support for status notifications. The client application notifies you about the state of your WorkSpace when it cannot connect to the WorkSpace.
		• Improves the reconnect experience. The client automatically redirects to the login screen after 10 hours of inactivity. You can reconnect again if the client fails to launch a session using reconnect.
		• Adds support for auto-session resume. The client application automatically attempts to resume your session if network connectivity is lost and then regained within the session-resume timeout (default value is 20 minutes).
		• Improves network health checks so they are faster and more reliable
		• Adds client-side validation of registration codes
		• Improves the synchronization of Caps Lock and Num Lock status between the local device and the WorkSpace
1.1.4		• Adds support for saving your credentials, enabling you to easily reconnect to your WorkSpace
		• Improves advanced connection-health checks
		• Improves stability
1.0.8		• Introduces a full-file installation package
		• Improves network connectivity checks
		• Adds version information to the **About** window
1.0		Initial release

Printing from a WorkSpace

The following printing methods are supported by Amazon WorkSpaces.

> **Note**
> The Amazon WorkSpaces clients for iPad, Android, Chromebook, and Linux support cloud printing services. Local and network printing are not currently supported for the iPad, Android, Chromebook, and Linux clients.
> Amazon Linux WorkSpaces support network printers and cloud printing services. Local printer redirection is not available for Linux WorkSpaces or the Linux client.

Printing Methods

Local Printers

Amazon WorkSpaces supports local printer redirection. When you print from an application in your WorkSpace, the local printers are contained in your list of available printers. The local printers have "(Local – `workspace username`.`directory name`.`client computer name`)" appended to the printer's display name. Select one of the local printers and your documents are printed on that printer.

In some cases, you need to download and install the driver for your local printer manually on the WorkSpace. When you install a printer driver on your WorkSpace, there are different types of drivers that you might encounter:

- Add Printer wizard driver. This driver includes only the printer drivers, and is for users who are familiar with installation using the Add Printer wizard in Windows.
- Printer model-specific drivers that do not require communication with the printer. In these cases, you can install the printer driver directly.
- Printer model-specific drivers that require communication with the printer. In these cases, you can use the printer driver files to add a local printer using an existing port (LPT1:). After selecting the port, you can choose **Have Disk** and select the `.INF` file for the printer driver.

After installing the printer driver, you must restart the WorkSpace for the new printer to be recognized.

If you cannot print to your local printer from your WorkSpace, make sure that you can print to your local printer from your client computer. If you cannot print from your client computer, refer to the printer documentation and support to resolve the issue. If you can print from your client computer, contact AWS Support for further assistance.

Other Printing Methods

You can also use one of the following methods to print from a WorkSpace:

- In a connected directory, you can attach your WorkSpace to network printers that are exposed through Active Directory.
- Use a cloud printing service, such as HP Mobile Printing.

- Print to a file, transfer the file to your local desktop (such as by emailing the file or by using Amazon WorkDocs), and print the file locally to an attached printer.

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The Amazon WorkSpaces Application
Manager client application isn't appearing
on my Windows WorkSpace desktop

Troubleshooting Amazon WorkSpaces Client Issues

The following are common issues that you might have with your WorkSpaces client.

Issues

The Amazon WorkSpaces Application Manager client application isn't appearing on my Windows WorkSpace desktop

The **Amazon WAM** shortcut should be installed on the Windows WorkSpaces client desktop. If the shortcut isn't on the client desktop, see Troubleshooting Amazon WAM Issues in the *Amazon WAM User Guide.*

Amazon WorkSpaces User Guide
I don't see any applications listed in the Amazon
WorkSpaces Application Manager client application

I don't see any applications listed in the Amazon WorkSpaces Application Manager client application

Choose **MY APPS** to see the applications that your admin has specified to install by default on your WorkSpace. Choose **DISCOVER** to see the applications that your admin has made available for you to install.

After logging in, the Windows client application displays only a white page and I cannot connect to my WorkSpace

This problem can be caused by expired Verisign/Symantec certificates on your client computer (not your WorkSpace). Remove the expired certificate and launch the client application again.

To find and remove expired Verisign/Symantec certificates

1. In the Windows **Control Panel** on your client computer (not your WorkSpace), choose **Network and Internet**.
2. Choose **Internet Options**.
3. In the **Internet Properties** dialog box, choose **Content**, **Certificates**.
4. In the **Certificates** dialog box, choose the **Intermediate Certificate Authorities** tab. In the list of certificates, select all certificates that were issued by Verisign or Symantec that are also expired, and choose **Remove**. Do not remove any certificates that are not expired.
5. On the **Trusted Root Certificate Authorities** tab, select all certificates that were issued by Verisign or Symantec that are also expired, and choose **Remove**. Do not remove any certificates that are not expired.
6. Close the **Certificates** dialog box and the **Internet Properties** dialog box.

My WorkSpaces client gives me a network error, but I am able to use other network-enabled apps on my device

The WorkSpaces client applications rely on access to resources in the AWS Cloud, and require a connection that provides at least 1 Mbps download bandwidth. If your device has an intermittent connection to the network, the WorkSpaces client application might report an issue with the network.

Amazon WorkSpaces enforces the use of digital certificates issued by Amazon Trust Services, as of May 2018. Amazon Trust Services is already a trusted Root certificate authority (CA) on the operating systems that are supported by Amazon WorkSpaces. If the Root CA list for your operating system is not up to date, your device cannot connect to WorkSpaces and the client gives a network error.

To recognize connection issues due to certificate failures

- PCoIP zero clients — The following error message is displayed:

Amazon WorkSpaces User Guide
It sometimes takes several minutes
to log in to my Windows WorkSpace

```
Failed to connect. The server provided a certificate that is invalid. See below for
 details:
- The supplied certificate is invalid due to timestamp
- The supplied certificate is not rooted in the devices local certificate store
```

- Other clients — The health checks fail with a red warning triangle for **Internet**.

To resolve certificate failures

Use one of the following solutions for certificate failures.

- For the Windows client, download and install the latest Windows client application from Amazon WorkSpaces Client Downloads. During installation, the client application ensures that your operating system trusts certificates issued by Amazon Trust Services. If updating your client does not resolve the issue, contact your Amazon WorkSpaces administrator.
- For all other clients, contact your Amazon WorkSpaces administrator.

It sometimes takes several minutes to log in to my Windows WorkSpace

Group Policy settings that are set by your system administrator can cause a delay on login after your Windows WorkSpace has been launched or rebooted. This delay occurs while the Group Policy settings are being applied to the WorkSpace, and is normal.

When I try to log in, the Amazon WorkSpaces Windows client gets stuck on the "Preparing your login page" screen

When starting versions 3.0.4 and 3.0.5 of the WorkSpaces Windows client application on a Windows 10 machine, the client might get stuck on the "Preparing your login page" screen. To avoid this issue, either upgrade to version 3.0.6 of the Windows client application or do not run the Windows client application with administrator (elevated) privileges.

The Amazon WorkSpaces Windows client application login page is very tiny

Running the WorkSpaces Windows client with administrator (elevated) privileges might result in viewing issues in high DPI environments. To avoid these issues, run the client in user mode instead.

Amazon WorkSpaces User Guide
Sometimes I am logged off of my Windows WorkSpace,
even though I closed the session, but did not log off

Sometimes I am logged off of my Windows WorkSpace, even though I closed the session, but did not log off

Your system administrator applied a new or updated Group Policy setting to your Windows WorkSpace that requires a logoff of a disconnected session.

I forgot my password and tried to reset it, but I didn't receive an email with a reset link

Contact your Amazon WorkSpaces administrator for assistance.

I can't connect to the internet from my WorkSpace

WorkSpaces cannot communicate with the internet by default. Your Amazon WorkSpaces administrator must explicitly provide internet access.

I installed a third-party security software package and now I can't connect to my WorkSpace

You can install any type of security or firewall software on your WorkSpace, but Amazon WorkSpaces requires that certain inbound and outbound ports are open on the WorkSpace. If the security or firewall software that you install blocks these ports, the WorkSpace might not function correctly or might become unreachable. For more information, see Port Requirements for Amazon WorkSpaces in the *Amazon WorkSpaces Administration Guide*.

To restore your WorkSpace, rebuild your WorkSpace (p. 7) if you still have access to it, or ask your Amazon WorkSpaces administrator to rebuild your WorkSpace. You then have to reinstall the software and properly configure port access for your WorkSpace.

I am getting a "network connection is slow" warning when connected to my WorkSpace

If the round-trip time from your client to your WorkSpace is longer than 100ms, you can still use your WorkSpace, but this might result in a poor experience. A slow round-trip time can be caused by many factors, but the following are the most common causes:

- You are too far from the AWS Region that your WorkSpace resides in. For the best WorkSpace experience, you should be within 2,000 miles of the AWS Region that your WorkSpace is in.
- Your network connection is inconsistent or slow. For the best experience, your network connection should provide at least 300 kbps, with capability to provide over 1 Mbps when viewing video or using graphics-intensive applications on your WorkSpace.

Amazon WorkSpaces User Guide
I got an "invalid certificate" error on the
client application. What does that mean?

I got an "invalid certificate" error on the client application. What does that mean?

The WorkSpaces client application validates the identity of the WorkSpaces service through an SSL/TLS certificate. If the root certificate authority of the Amazon WorkSpaces service cannot be verified, the client application displays an error and prevents any connection to the service. The most common cause is a proxy server that is removing the root certificate authority and returning an incomplete certificate to the client application. Contact your network administrator for assistance.

I'm having trouble when I try to connect to my Windows WorkSpace using Web Access

Windows WorkSpaces rely on a specific login screen configuration to enable you to log in from your Web Access client. Your Amazon WorkSpaces administrator might need to configure Group Policy and Security Policy settings to enable you to log in to your WorkSpace from your Web Access client. If these settings are not correctly configured, you might experience long login times or black screens when you try to log in to your WorkSpace. Contact your Amazon WorkSpaces administrator for assistance.

I see the following error message: "Device can't connect to the registration service. Check your network settings."

When a registration service failure occurs, you might see the following error message on the **Connection Health Check** page: "Your device is not able to connect to the WorkSpaces Registration service. You will not be able to register your device with WorkSpaces. Please check your network settings."

This error occurs when the WorkSpaces client application can't reach the registration service. Contact your Amazon WorkSpaces administrator for assistance.

I am unable to install the Android client application on my Chromebook

Version 2.4.13 is the final release of the Amazon WorkSpaces Chromebook client application. Because Google is phasing out support for Chrome Apps, there will be no further updates to the WorkSpaces Chromebook client application, and its use is unsupported.

For Chromebooks that support installing Android applications, we recommend using the Amazon WorkSpaces Android Client Application (p. 12) instead.

If you are using a Chromebook launched before 2019, see the installation steps for Chromebooks launched before 2019 (p. 13) before attempting to install the Amazon WorkSpaces Android client application.

In some cases, your WorkSpaces administrator might need to enable your Chromebook to install Android applications. If you are unable to install the Android client application on your Chromebook, contact your WorkSpaces administrator for assistance.

Amazon WorkSpaces User Guide
I'm getting the wrong characters when I type; for example,
I get \ and | when I try to type quotation marks (' and ")

I'm getting the wrong characters when I type; for example, I get \ and | when I try to type quotation marks (' and ")

This behavior might occur if your device is not set to the same language as your WorkSpace, or if you are using a language-specific keyboard, such as a French keyboard.

There are several ways to solve this issue:

- Install the appropriate language or keyboard settings on your WorkSpace. For a Windows WorkSpace, use the following steps:

  1. Log in to the WorkSpace.
  2. On the Windows **Start** menu, choose **Settings**.
  3. Choose **Time & Language**, and then choose **Language**.
  4. Under **Preferred languages**, choose **Add a language**.
  5. In the **Choose a language to install** dialog box, select the language to add, and then choose **Next**.
  6. In the **Install language features** dialog box, select the language features you want, and then choose **Install**. For example, if you only want to add support for a language-specific keyboard, select **Basic typing** to install keyboard support for that language.

- If you are in an AWS Region that supports more than one language, have your WorkSpaces administrator create a WorkSpace for you in your preferred language. Windows WorkSpaces are currently available in all Regions in English (US). In certain Regions, other languages are available. In the Canada (Central) Region, Windows WorkSpaces are also available in French (Canadian); in the Asia Pacific (Seoul) Region, Korean is also available; in the Asia Pacific (Tokyo) Region, Japanese is also available; and in the China (Ningxia) Region, Chinese (Simplified) is also available. To see which Region your WorkSpace is in, log in to the WorkSpaces client application, and then choose **Support**, **About My WorkSpace**.

- Change the keyboard and language settings on your device so that they match the language of your WorkSpace.

I'm having trouble using the Windows logo key in Windows WorkSpaces when working on a Mac

By default, the Windows logo key on a Windows keyboard and the Command key on an Apple keyboard are both mapped to the Ctrl key when you're using the Amazon WorkSpaces macOS client application. If you want to change this behavior so that these two keys are mapped to the Windows logo key, see Remapping the Windows Logo Key or the Command Key (p. 33) for instructions on how to remap these keys.