MSASS Virtual Lab
Setup, Configuration, and Usage Manual

Quick Start Guides

Configuring Citrix Workspace:

1) Download the Citrix Workspace: https://www.citrix.com/downloads/workspace-app/
2) Install using all default settings
3) Launch the Citrix Workspace.
4) Add an Account using Server Address: https://msassportal.cwru.edu
5) Login with your Case ID and Password

Mapping the H:\ Drive – Windows:

1) Connect to **CaseWireless** if <u>on-campus</u>, or sign into **VPN** if <u>off-campus</u>
2) Mapping the Drive:
   a. **Windows 10**
      i. Click **This PC**, Click the '**Computer**' tab, and then click '**Map Network Drive'**.
      ii. Select "H" as the drive letter
      iii. Then choose one of the following 4 options, If you are:
         1. **Faculty**:   The Folder Path is:
            \\ads.case.edu\Utech\VDI\H\Faculty\[YourCaseID], *Where [YourCaseID] is your Case ID*
         2. **Graduate Student:** The Folder Path is:
            \\ads.case.edu\Utech\VDI\H\Grad\[YourCaseID], *Where [YourCaseID] is your Case ID*
         3. **Undergraduate Student:** The Folder Path is:
            \\ads.case.edu\Utech\VDI\H\UGrad\[YourCaseID], *Where [YourCaseID] is your Case ID*
         4. **Staff**: The Folder Path is:
            \\ads.case.edu\Utech\VDI\H\Staff\[YourCaseID], *Where [YourCaseID] is your Case ID*
   b. **macOS**
      i. Go → Connect to Server
      ii. Choose one of the following 4 options. If you are:
         1. **Faculty**:   Then your folder path is:
            smb://ads.case.edu/Utech/VDI/H/Faculty/[YourCaseID], *Where [YourCaseID] is your Case ID*
         2. **Graduate Student:** Then your folder path is:
            smb://ads.case.edu/Utech/VDI/H/Grad/[YourCaseID], *Where [YourCaseID] is your Case ID*
         3. **Undergraduate Student:** Then your folder path is:
            smb://ads.case.edu/Utech/VDI/H/UGrad/[YourCaseID], *Where [YourCaseID] is your Case ID*

4. **Staff**: Then your folder path is:

smb://ads.case.edu/Utech/VDI/H/Staff/[YourCaseID], *Where [YourCaseID] is your Case ID*

iii. Click **Connect**

iv. Enter your login credentials as **ads\[YourCaseID]** and your Case password (e.g. ads\abc123)

Best Practices:

- Use the Citrix Workspace whenever possible.

- If you must use a web browser, use Google Chrome, Mozilla Firefox, Safari or Microsoft Edge – Do not use Internet Explorer

- Always use **CaseWireless** while on-campus

- Copy, Store, and Run files and datasets from your H:\ Drive for the best experience

- Map the H Drive to easily move data to and from the Virtual Lab *(VPN Required if off-campus)*

- When using Applications, click **File→ Exit** or click the red "x" to close the application on the application window instead of closing just the browser window. (*Closing the browser window without shutting down the application first leaves your session open.*)

- **Log off** the Virtual Desktop to end your session. Don't just close the browser window.

Introduction

The MSASS Virtual Lab contains several applications, that are made available online so you can work remotely from any device, anywhere.   Applications currently available for streaming are:

- Amos Graphics 24
- ATLASti
- GPower 31
- SPSS Statistics 24
- Mplus 7

Citrix Workspace is a piece of software that you install on your computer that provides access to this Virtual Lab.

2 ways to access the Virtual Lab:

1) Using the Citrix Workspace app (Recommended), or
2) Browsing to https://msassportal.cwru.edu from a web browser

*** Why would I install the Citrix Workspace if I could just use my web browser?**
*The Citrix Workspace is our **recommended** method of access because it gives the **best, most reliable and full featured user experience**.*

Access via a web browser should be considered as an alternative in the event that it is not possible to install the Citrix Workspace.

There are a few features that require the Citrix Workspace to be installed on your computer, these include: an enhanced multimedia experience, multiple monitor support, hardware acceleration, etc.

Citrix Workspace | Installation & Configuration - Windows

1) Download the Citrix Workspace from https://www.citrix.com/downloads/workspace-app/, Install using all default settings.
2) Open **Citrix Workspace** from the **Start Menu**
3) You will be prompted to enter a server address within the '**Add Account'** Window. Use: https://msassportal.cwru.edu
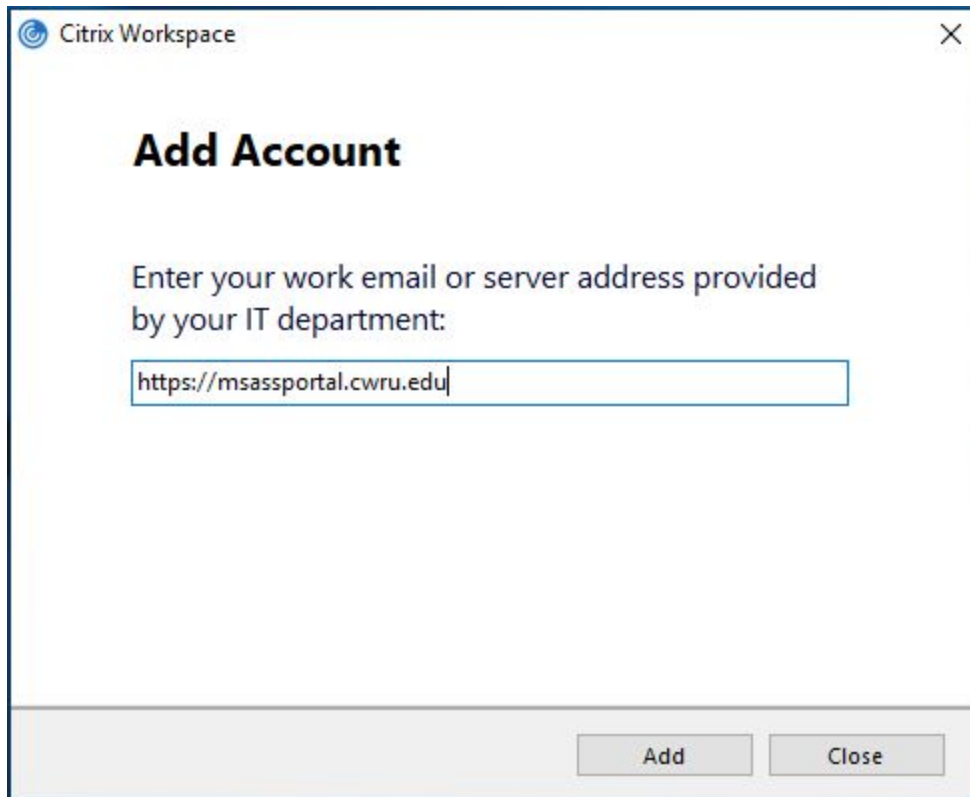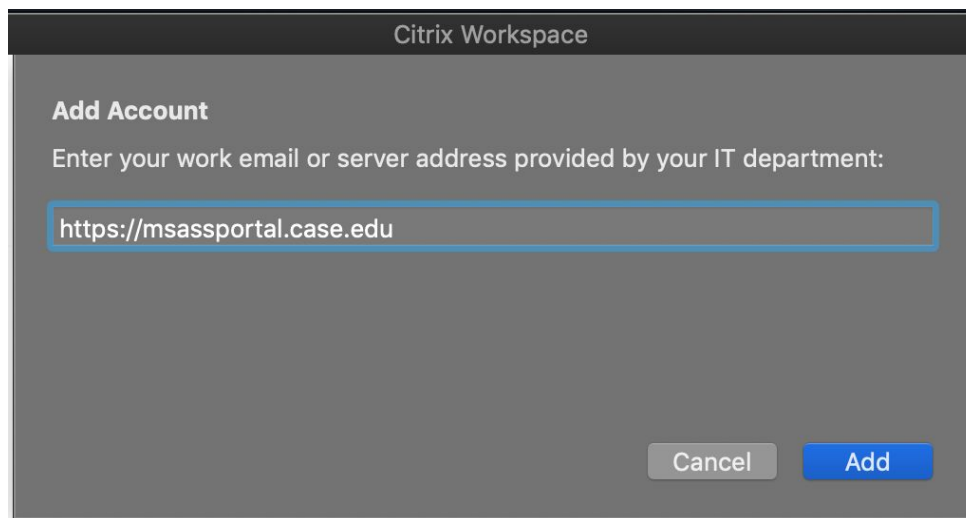

4) Click **Add**
5) You will next be prompted to login: Type in your **Case ID** (abc123), followed by your University password
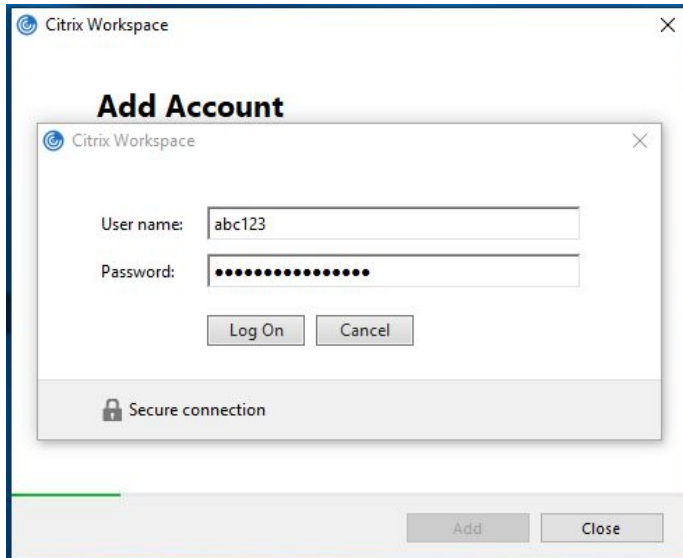
6) Click **Logon**
7) Citrix Workspace is now configured.

Citrix Workspace | Installation & Configuration - macOS

1) Download the Citrix Workspace from https://www.citrix.com/downloads/workspace-app/, Install using all default settings.
2) Open **Citrix Workspace** from the **Applications folder**
3) You will be prompted to enter a server address within the '**Add Account'** Window. Use: https://msassportal.cwru.edu

4) Click **Add**
5) Next, You will be prompted to login: Type in your **Case ID** (abc123), followed by your University password

6) Click **Log On**
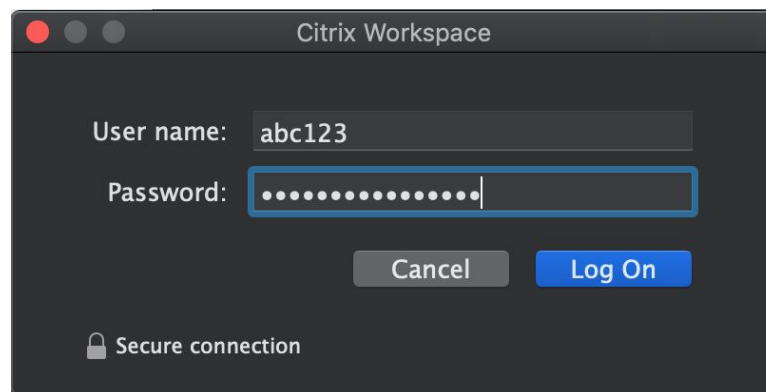
Network Storage – Home Drive (H:\ Drive)

Setup and Usage Documentation

Introduction

The H Drive (also referred to as a 'Home Directory') is network storage offered to Virtual Lab users to store files.   The H drive gets created automatically when a user first logs onto the virtual lab and appears in the **File Explorer** under the network drive letter, **"H:\"**. The Desktop folder, Documents folder, Music folder, etc all get redirected to a user's H drive.

The H Drive gets mapped automatically within the virtual environment.

To help facilitate transferring files from your local computer to the virtual environment, mapping the H drive locally might be useful.

Below are instructions on how to map the H drive for both PC and Mac users.

Mapping the H Drive - Windows

1) If on-campus, connect to **CaseWireless**; If off-campus, connect to **VPN**
2) Click on **This PC**
3) Click the '**Computer'** tab, the Click **Map Network Drive** in the ribbon.
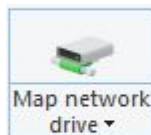
4) Choose "**H**" from the drop down list.

5) Type in the network path:
   a. Then choose one of the following 4 options, If you are:
      i. **Faculty**:   The Folder Path is:

         \\ads.case.edu\Utech\VDI\H\Faculty\[YourCaseID]
         Where [YourCaseID] is your Case ID
      ii. **Graduate Student:** The Folder Path is:

         \\ads.case.edu\Utech\VDI\H\Grad\[YourCaseID]
         Where [YourCaseID] is your Case ID
      iii. **Undergraduate Student:** The Folder Path is:

         \\ads.case.edu\Utech\VDI\H\UGrad\[YourCaseID]
         Where [YourCaseID] is your Case ID
      iv. **Staff**: The Folder Path is:

         \\ads.case.edu\Utech\VDI\H\Staff\[YourCaseID]
         Where [YourCaseID] is your Case ID

6) Check **Connect using different credentials** checkbox and click **Finish**

7) When prompted, enter **ads\[YourCaseID]** and your Case password. Click **OK**.
8) You should be connected and ready to go!
    a. If you receive an error here, such as "network path not found", ensure you are:
        i. Securely connected to Case's network (CaseWireless if on campus, or VPN if off campus)
        ii. You have launched an application within the virtual lab at least once (remember, H drives get created once you log into the virtual lab for the first time - if you never logged into the lab before - your H drive never would have been created - and thus mapping to a nonexistent network location won't work).
        iii. Finally, If you are unable to authenticate - make sure your password is synced with Active Directory:
            1. To check if it is or not, Visit https://its-services.case.edu/my-case-identity/password/check/ and log in,
            2. Verify that the first checkbox "**Password Verification**" is **green** and says "Active Directory password **IS** synced"

Mapping the H Drive – macOS

1) If on-campus, connect to **CaseWireless**; If off-campus, connect to **VPN**
2) From the **Finder**, Click **Go → Connect to Server…**
3) In the dialog box, enter a server path in the **Server Address** field:
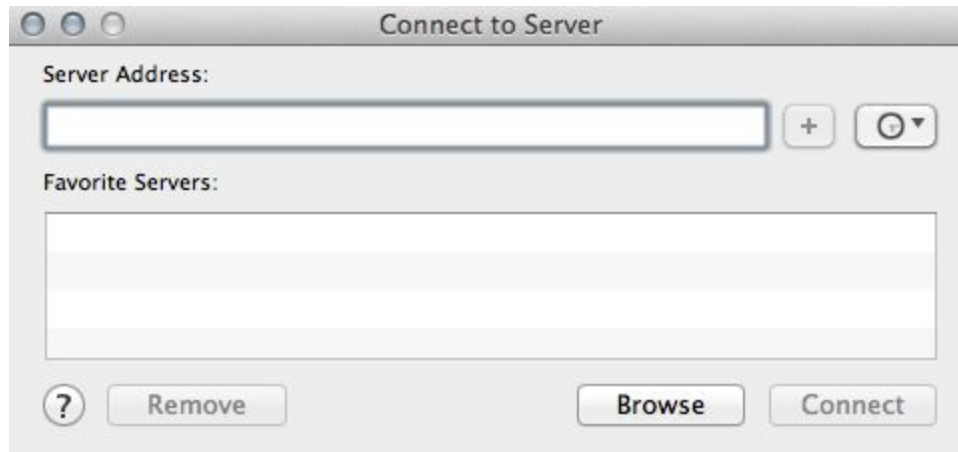
   a. Choose one of the following 4 options. If you are:
      i. **Faculty**: Then your folder path is:

   smb://ads.case.edu/Utech/VDI/H/Faculty/[YourCaseID],
   Where [YourCaseID] is your Case ID

      ii. **Graduate Student:** Then your folder path is:

   smb://ads.case.edu/Utech/VDI/H/Grad/[YourCaseID], *Where [YourCaseID] is your Case ID*

      iii. **Undergraduate Student:** Then your folder path is:

   smb://ads.case.edu/Utech/VDI/H/UGrad/[YourCaseID],
   Where [YourCaseID] is your Case ID

      iv. **Staff**: Then your folder path is:

   smb://ads.case.edu/Utech/VDI/H/Staff/[YourCaseID], *Where [YourCaseID] is your Case ID*

4) Click **Connect**

5) In the window that appears, Under **"Connect as:",** choose "**Registered User**"

6) Enter your login credentials as username **ads\[*YourCaseID*]** and your Case password.
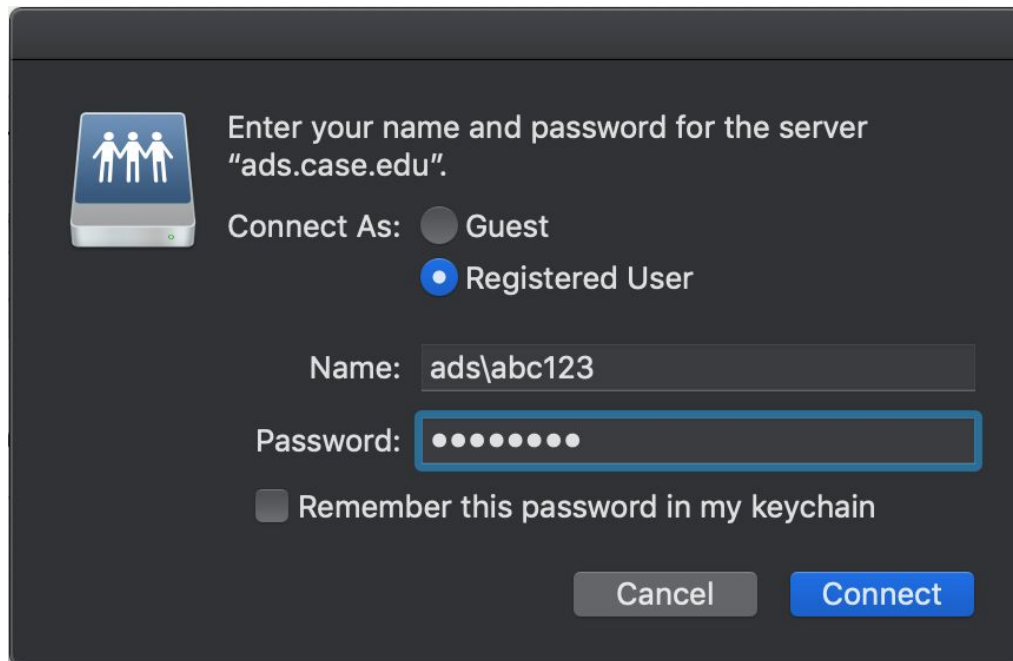
7) Click **Connect**.
8) **You should be connected and ready to go!**
   a. If you receive an error here, such as "network path not found", ensure you are:
      i. Securely connected to Case's network (CaseWireless if on campus, or VPN if off campus)
      ii. You have launched an application within the virtual lab at least once (H drives get created once you log into the virtual lab for the first time - if you never logged into the lab before - your H drive never would have been created - and thus mapping to a nonexistent network location won't work).
      iii. Finally, If you are unable to authenticate - make sure your password is synced with Active Directory:
         1. Visit https://its-services.case.edu/my-case-identity/password/check/ and log in,
         2. Verify that the first checkbox "Password Verification" is green and says "Active Directory password IS synced"

Network Storage – Home Directory H:\
Accessing Your Local Drives within the Virtual Environment

When it pertains to storage, the virtual environment can become confusing since the application is running remotely. Opening, transferring to-and-from, and saving files within the virtual environment may not be intuitive at first - especially when trying to use local or removable storage such as a flash drive. But let's try to break it down:

When logging into the virtual lab, local drives are automatically mapped at the beginning of your session. It's important to note that these local drives (such as the C:\ or your flash drive connected on your local device) will **not be the exact same letter within the virtual environment.** In fact, your local drives will show up as "Network Drives" within the virtual environment...

<u>**This is an important concept to grasp.**</u>

It becomes especially relevant when writing code for assignments that uses hard-coded, absolute drive paths containing drive letters or when referencing other files. What *may* work running on a localized version of an application on a personal computer, may not run correctly if running in a virtualized application **since the file paths may be different**.

Why Use the H Drive?:
Using the H drive have several benefits. Some may not be as obvious:
Secure:
- The H drive is backed up **<u>Daily</u>**. This makes storing data here much safer than storing on a flash drive, for example.
- The H Drive is only accessible by you
Convenience:
- The H drive is mapped each time you use a remote application
- The H drive is mapped each time you sign into a physical computer in a lab or classroom
Consistency:
- Referencing Drive paths in code is consistent no matter where you log in (physical or virtual) since both automatically get the H drive mapped.
Low Latency:
- When your files are stored on the H drive, they reside on a file server that is stored on the same computing cluster as the virtual applications. This will allow saving and accessing files to be **faster**. Conversely, If you have a large dataset residing on a flash drive, while an application is trying to process the data - the data has to transverse the network to the server - slowing down performance and reliability.
Simple

How large is the H Drive?

The H Drive has a **5GB quota**. This is adequate for most students. Occasionally, quotas need to be increased - quota increase requests can be facilitated by creating a help desk ticket with the University Help Desk.

Working with Files in the Virtual Environment:

Opening Files:

Consider once again the architecture of the virtual environment. The application you are trying to run is running on a remote server.

> **IMPORTANT:** Many file type extensions associated with the virtualized application versions. Double-Clicking a file, for example, will automatically launch the virtualized version of an application - **even if the same application is installed locally**. These applications include: SPSS, AMOS, Mplus, etc.

To ensure you're using a virtual version of an app, rather than a locally installed version - it might be to your advantage to launch the virtual application FIRST, then using the File menu, browse to the file you wish to open.

Saving Files:

Do **NOT** save files to the Server: Files saved on the server will be deleted

DO save files:
- To your H drive: The H drive gets backed up daily.
- To Google Drive
- To a flash drive (Use a flash drive as a last resort)

Referencing Storage in Virtual Applications

Syntax by Application on Windows:

Application	Local Drive C	H Drive	Removable USB Drive (E:\)
Mplus	\\client\c$	H:\	\\client\e$
SPSS	\\client\c$	H:\	\\client\e$

Syntax by Application on macOS:

Application	Local Drive C	H Drive	Removable USB Drive (E:\)
Mplus	\\client\c$	H:\	\\client\e$
SPSS	\\client\c$	H:\	\\client\e$

Troubleshooting | Resetting the Citrix Workspace – Windows

Most issues can be resolved by resetting the Citrix Workspace. Ensure you have the latest version of Citrix Workspace installed. You can download the latest version from https://www.citrix.com/downloads/workspace-app/

1) Right-click the Citrix Workspace icon in the system tray, and select **Advanced Preferences**.
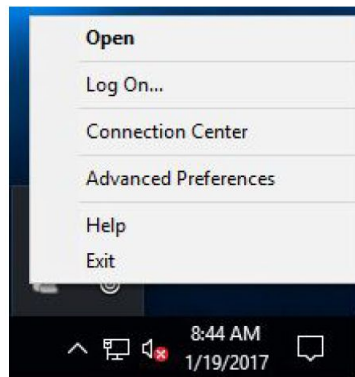
2) In the Advanced Preferences dialog, click the **Reset Citrix Workspace** link.

3) Answer **"Yes, reset Citrix Workspace"**.

4) Press **OK** to continue.

5) If needed, Re-configure the Citrix Workspace using the documentation

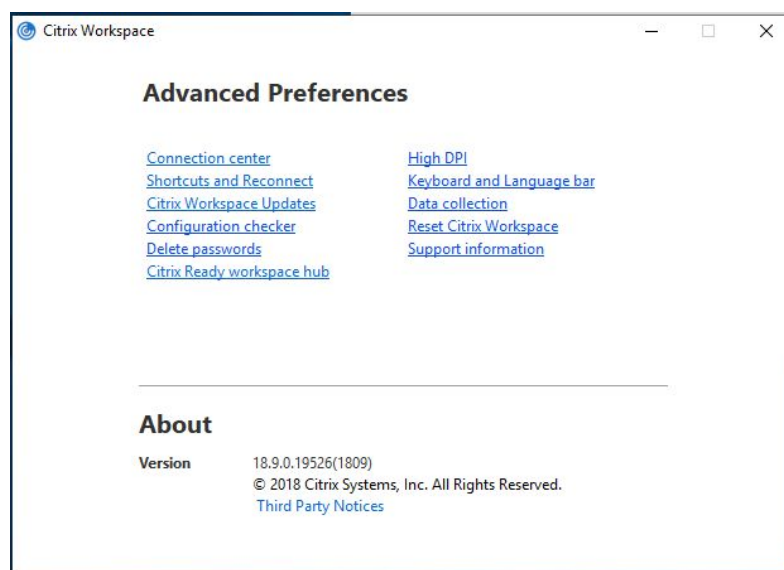## Troubleshooting | Resetting the Citrix Workspace – macOS

Most issues can be resolved by resetting the Citrix Workspace. Ensure you have the latest version of Citrix Workspace installed. You can download the latest version from https://www.citrix.com/downloads/workspace-app/

1) If you were previously connected to the virtual lab, you will need to remove previous accounts.
2) Click the **Citrix Workspace icon** in the top bar and select **Preferences** from the drop-down.
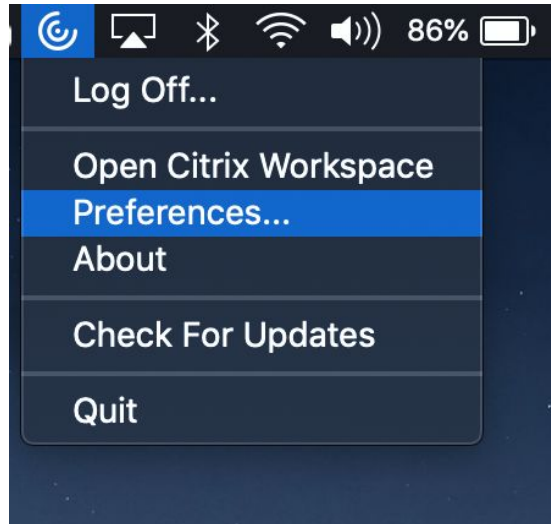
3) Select the **Accounts** tab, Select the **"(Primary) AWSPortal"** account, then click the **minus sign** at the bottom.
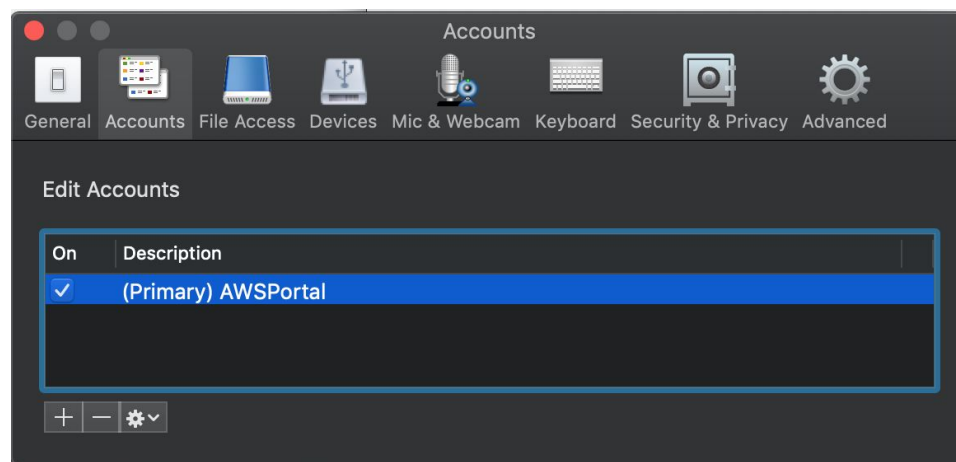
4) Click **OK** to confirm the account removal. Continue until all accounts are removed.
5) Follow the instructions in this document to re-setup your Citrix Workspace.

Definitions:

Citrix XenApp - is application virtualization software that delivers centrally-hosted Windows applications to local devices without the necessity of installing them. It is the flagship product for Citrix and was formerly known under the names WinFrame, MetaFrame, and Presentation Server.

Virtual Application - is an application that has been optimized to run on virtual infrastructure.

Virtual Desktop -virtualization technology that hosts a desktop operating system on a centralized server in a data center

Citrix Receiver - "Receiver" is the former name of the "Workspace" application. The app was renamed to 'Citrix Workspace' in 2018. See *Citrix Workspace* for a definition.

Citrix Workspace - Previously known as "Citrix Receiver", Citrix Workspace is a client software that is required to access applications and full desktops hosted on Citrix servers from a remote client device. This tool provides access to XenApp/XenDesktop installations from different types of client devices including iPhone, BlackBerry, Mac OS X, iPad, Windows, Linux, Windows Mobile, Android, Google Chromebook, thin clients, and embedded operating systems.

H Drive - a 5GB network storage drive given to each faculty, staff and student.

Home Drive - same as H Drive.

Folder Redirection - In computing, and specifically in the context of Microsoft Windows operating systems, Microsoft refers to **Folder Redirection** when automatically rerouting I/O to/from standard **folders** (directories) to use storage elsewhere on a network.

CaseWireless - is only available to active members of the CWRU community. You must authenticate with your CWRU username and password when connecting to CaseWireless, so your communication will be secured. When connected to this network, you will be considered "on campus" and will be able to access the same resources as the wired network. You will also access the Internet with full campus bandwidth.
We recommend that students use CaseWireless whenever possible. CaseWireless has wide availability and works with all laptops, tablets, and most mobile phones.

CaseGuest - The CaseGuest network is available to anyone on campus, including visitors with no connection to the university. Since no authentication is required to connect, this is the easiest network to access, but that also means it is the least secure! When connected to this network,

you will be considered "off campus" and may not be able to access some campus resources. CaseGuest is also throttled, so all users share a limited amount of bandwidth.

Roaming Profile - is a concept in the Windows NT family of operating systems that allows users with a computer joined to a Windows Server domain to log on to any computer on the same network and access their documents and have a consistent desktop experience

Quota - are applied to specific users and limit the amount of disk space that user can use on a particular volume.

Quick Links

MSASS Virtual Lab   https://msassportal.case.edu

Citrix Workspace Download: https://www.citrix.com/downloads/workspace-app/

Off-Campus Connectivity:

VPN:

Download and Install the VPN Client   https://vpnsetup.case.edu
Setup VPN for Windows   https://case.edu/utech/kba/kba-23419-windows-vpn/
Setup VPN for MAC   https://case.edu/utech/kba/kba-23433-macintosh-vpn/

Duo Two Factor Authentication (Required for VPN):   https://case.edu/utech/information-security/duo/

On-Campus Connectivity:

CaseWireless Setup: https://case.edu/utech/services/wireless-networks
                                                  https://wireless-setup.case.edu

Getting Additional Help:

University Technology - [U]Tech Help Site: https://case.edu/utech/help

Authentication Troubleshooting

Check Password is Synced w/ ADS: https://its-services.case.edu/my-case-identity/password/check/
Change Password: https://its-services.case.edu/my-case-identity/password/change/