Welcome to XtremeLabs, a service of XtremeLabs, LLC. This document provides step-by-step instructions on how to:

- Create an account.
- Add course codes.
- Use your virtual labs through the self-service portal.
- Troubleshoot connectivity issues.
# Contents

System Requirements......................................................................................................................3

Create a Microsoft Official Courseware (MOC) Labs Online Account..............................................4

Add Access Codes..........................................................................................................................6

Take a Lab.......................................................................................................................................8

How to Navigate the Lab Environment............................................................................................10

Top Bar ..........................................................................................................................................11

Save Lab.........................................................................................................................................15

Virtual Machine Window.................................................................................................................17

Footer .............................................................................................................................................18

Lab Steps Overlay........................................................................................................................19

Account Settings............................................................................................................................20

Troubleshooting...............................................................................................................................21

Advanced Firewall Configuration..................................................................................................22

Checking Connectivity..................................................................................................................23

Support..........................................................................................................................................24
## System Requirements

To access the lab hosting system, your client system must meet the following requirements:

<table>
<thead>
<tr>
<th></th>
<th>ActiveX Requirements</th>
<th>HTML5 Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows XP SP3 or later (Windows RT is not supported)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>.NET Framework 3.5 or later</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Browser</td>
<td>Internet Explorer 7+</td>
<td>Microsoft Edge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internet Explorer 10+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Google Chrome 39+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safari 7+</td>
</tr>
<tr>
<td>Minimum KBps per user network bandwidth</td>
<td>128 KBps</td>
<td>256 KBps</td>
</tr>
<tr>
<td>Ideal screen resolution above 1280 x 1024</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Viewer Installation</td>
<td>Local Admin</td>
<td>N/A</td>
</tr>
<tr>
<td>TCP Port 80 and 443 open with inbound/outbound access to the Internet</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>For some corporate firewalls, a proxy client (such as Forefront TMG Client) may be required</td>
<td>x</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Create a Microsoft Official Courseware (MOC) Labs Online Account

The first step to accessing your virtual labs will be to create an account.

1. In your browser, navigate to https://labs.xtremelabs.io.

If you have an account, you can sign in. If you do not yet have an account, click Register.
2. To create your account, fill in the fields on the **Create an account** page.

   **Note** The email address used to create your account is also used for password reminders. It is important to use a valid email address.

3. Click **Sign Up**.

4. You will be redirected to the **View Labs** page. Before you have access to any labs, this is what the View Labs page will look like the following:

![View Labs Page](image)

Once you have added Course Codes to your account, the labs that you can access will be listed on the **View Labs** page:
The names of labs available to you are listed in the left column. When a lab is selected (in this case the 10265A MOC lab), the lab modules in that lab will be displayed as tiles on the center and right areas of the window. Each lab module tile will display the lab module’s Lab ID, its Lab Title, and the Duration of the lab module.

Add Access Codes

1. To get access to labs, you’ll need to add Access Codes to your account. Your Instructor will provide you with access codes.

   To add the codes to your account, on the View Labs page, click the Access Codes icon

   ![Access Codes Icon]

   to open the Access Codes page.
2. Enter your access code in the box and click Add code. Your course will be added to the My codes listing.
3. Note that your new lab will now be displayed in the View Labs page.

Note If you do not see the labs associated with your particular course on your course home page, you should inform your instructor.

Take a Lab

1. On the View Labs page, select an active course that is listed in the left column (see above). Then select the lab module that you want to launch by clicking on the lab module’s ‘Take Lab’ box on the lab module’s tile:

   Take Lab

This will open the lab module’s Lab Description box:

LAB DESCRIPTION

This module introduces students to Azure Databricks and how a Data Engineer works with it to enable an organization to perform Team Data Science projects. They will learn the fundamentals of Azure Databricks and Apache Spark notebooks; how to provision the service and workspaces and learn how to perform data preparation task that can contribute to the data science project.

Continue

2. To launch the lab module, click on the ‘Continue’ button.
3. While your lab environment is being prepared, a “spinner” will be displayed. Typically, it takes fewer than 30 seconds to create your unique lab environment. A large lab environment might take up to 2 minutes.

Note If your lab takes longer than five minutes to load, refresh your browser page by pressing the F5 key. If you still cannot access your lab, please alert your instructor.

Note Some labs have been modified from the on-premises version to operate correctly in an online environment. If a lab has been altered, a “Lab Notice” message will appear after the lab loads. Clicking the Notes tile will launch a Lab Notes document that contains additional information regarding the changes made to the lab steps.

4. Once the lab loads and the environment is ready, your lab view will be displayed.
How to Navigate the Lab Environment

Once your lab view is displayed, a number of options are available to allow you to interact with the virtual machines provided for each lab scenario. Please note that some parts of the user interface, such as the Lab Steps Overlay, will not be available in all labs.

The lab view page has four parts:

- Top bar
- Virtual machine window
- Footer
- Lab Steps Overlay
Top Bar

The elements in the top bar are called out and described here:

**Name of running lab & lab instance** – This displays the name of the open lab module along with the instance of this lab. If requesting support, this information will be important.

**Hide Top Bar button** – Click this button to hide or reveal the top bar.

**Virtual Machine selector** – This is a drop-down list that displays all of the virtual machines in the running lab module. Click a specific virtual machine to open it in the virtual machine window. The name of the virtual machine currently in the virtual machine window is listed in the text box.
**Actions selector** – This is a drop-down menu that displays the special actions you may need to perform in the virtual machine that would normally be performed by the client machine’s operating system. Please note that some of these options will not be available in every lab.

The action choices are:

- **Ctrl+Alt+Delete** – Sends this command to the virtual machine.
- **Windows Key** – Replicates the Windows logo key in the virtual machine.
- **Windows Charms** – Opens the charms within the virtual machine (if the virtual machine’s operating system includes charms).
- **Paste Content** – Inserts the content of the client machine’s clipboard into the virtual machine.
- **Revert VM** – Reverts the VM to its original state. Should be used only when the lab steps direct you to revert the VM.
- **Reset VM** – Resets the VM. Should be used only when the lab steps direct you to reset the VM.

**Network performance indicator** – The bars in this indicator show the response speed between the user’s browser and the virtual machine server. The fuller the bars, the better the network performance. A drop-down arrow displays the last ping’s round-trip in milliseconds and includes a Refresh text link that initiates a new ping. The round-trip timing of the new ping is then displayed in the drop-down box and is shown in the indicator.

**Lab Steps and Self-Assessment** – If the lab module being viewed includes a lab steps overlay or a self-assessment test, this icon will appear in the top bar. Clicking on the lab steps icon will open
a drop-down that indicates whether the lab module has either a lab steps overlay or self-assessment test (which includes a lab steps overlay). If the lab steps overlay is closed, clicking on the 'Lab Steps' or 'Self Assessment' text will open the lab steps overlay.

Note that if there is a lab steps overlay in the lab module, the overlay will open by default when the lab module is launched.

**Files** – The Files drop-down menu displays up to five different links.

- **Save lab** – See the **Save lab** section below.
- **User Guide** – Clicking on the **User Guide** link opens a separate window where the XtremeLabs Student User Guide (this document) can be displayed and downloaded from within XtremeLabs.
- **Lab Manual** – When the launched lab includes a downloadable lab manual, this link will appear. Clicking on the **Lab Manual** link enables the downloading of the subject lab manual.
- **Azure Credentials** – When the launched lab is to be run in an Azure Resource Group, this link will appear. Clicking on the **Azure Credentials** link will open a pop-up window that displays the Username and Password that you will need to sign-in to the Azure Resource Group (ARG) that has been created for your instance of this lab:

  ![Azure Credentials Pop-Up Window]

  XtremeLabs assigns these credentials to you for the duration of your lab session. When you end your lab session, your ARG will be torn down and deleted.
**Note:** Any work that you have performed in your ARG during your lab session will then be lost when you click **End Lab**. It is recommended that you use the **Save Lab** feature.

This pop-up also enables you to change your password. Click on the **I forgot my password** button.

- **O365 & D365 Credentials** – When the launched lab includes an Office 365 Tenant or a Dynamics 365 Tenant, this link will appear. Clicking on the **O365 Credentials** link will open a pop-up window that displays the Tenant’s Email and Password that you will need to use this O365 Tenant that has been assigned to you for use in this lab:

![Tenant Email](https://example.com)

Tenant Email
admin@x00000000000.com/microsoft.com

Tenant Password
Xe3m3L@bs

These O365 or D365 Tenants will expire in about 20 to 25 days from the date it is assigned to you.

**End Lab** – Click **End Lab** to close the lab and terminate the virtual machines in the lab module.

End Lab

You will be prompted to confirm that you want the lab to end. Clicking on the **OK** button will end the lab.

Your lab has ended

Thank you for using Microsoft Labs Online

Click **Close** to close the lab’s browser tab and return to the course player.
**Save Lab**

If you want to save your work and complete a lab at a later time, open the **Files** drop-down menu on the top bar of the screen and click **Save lab**. This will save your progress and your work will be stored for up to 24 hours.

**Note:** The **Save lab** function is not available on some labs. The Save lab link will only appear in the **Files** drop-down menu if this feature is available for your launched lab module.

Saving the lab will take you to the **View Labs** page where a tile of your saved lab module is displayed.

During the saving process, the Lab Description pop-up will state that "**Your session is currently being saved. Please refresh the page in a few minutes to resume your lab.**"

Once the save has been completed, the Lab Description pop-up will state the date and time that your saved lab will be available until.

You can resume the lab at any time until then. After that stated date your saved lab will be deleted.

You can resume the lab from the **View Labs** page. At the very top of the column of labs will be a link to the Saved labs. Select that link and the tile of the saved lab module will be displayed.
When you click the **Resume Lab** button in the lab module tile, the Lab Description pop-up will appear. Clicking the **Resume Lab** button in the Lab Description pop-up will restart the lab at the place where you left off.

If you have saved a lab and sign out of [http://labs.xtremelabs.io](http://labs.xtremelabs.io) and then sign back in to the site within the lab save timeline, the **View Labs** page will open with the **Saved Labs** entry pre-selected to remind you that you have a saved lab waiting for you:
Note: Only one lab can be saved at a time. If you already have a saved lab and you then save another, it will overwrite the first saved lab.

Virtual Machine Window
This is the large window that fills most of the lab view. This window allows interaction with the virtual machines that form the virtual labs.

Only one virtual machine can be active in this window at a time. Use the virtual machine selector (identified earlier in this guide) to switch between virtual machines in a lab module.

As long as the focus is within this window, the keyboard and pointing device will control the virtual machine.

NOTE: Instructions for logging into and interacting with the VMs should be in the lab manual documentation. However, the most commonly used Administrator passwords used for Lab VMs are Pa$$w0rd and Pa55w.rd.

Once launched, labs will run for 90, 120, 180, or 240 minutes or more, depending upon the scope of the lab and the steps to be performed. At the end of this period the lab will be disconnected and a message will be displayed. This message informs you that the lab is about to expire and it gives you an opportunity to either end the lab or extend the lab for an additional 30 minutes:

Extend your lab
Your lab is about to expire. Would you like to extend your lab by 30 minutes?
Time until expiration: 00:04:18

When this message is displayed, you will have 5 minutes to click on the Extend Lab button before the lab is automatically ended.

You can end the lab at any time while this message is displayed by clicking on the End Lab button.

NOTE: The RDP (Remote Desktop Protocol) connection between the client machine and the virtual machine may be interrupted occasionally due to networking events, but the connection
will be automatically restored. If the connection is lost, the screen will turn dark and a “Connection lost. Reconnecting…” pop-up message will appear.

The desktop session will resume upon reconnection.

Footer

There are three elements in the Footer: the Support link, the Privacy & Cookies link, and the XtremeLabs link.

Support - Click Support to open a menu with two text links: General FAQs and Contact us.

Click General FAQs to view a .pdf file of the Frequently Asked Questions.

Click Contact us to open a pop-up form for sending email to the XtremeLabs support team. This form also provides the toll-free number to contact the XtremeLabs support team and a Chat now button to initiate a chat session with a team member.
To send email to the XtremeLabs support team, fill in the text input boxes with the appropriate information and click **Submit**. Note that the text input boxes denoted with a red asterisk (*) cannot be left blank.

After you click Submit, you will see an acknowledgment that the email has been sent. The XtremeLabs support team will contact you shortly.

If an issue is urgent, call the XtremeLabs support team using the toll-free number provided on the form or click **Chat now** during the listed support hours. (The listed support hours are in the Pacific Time zone.)

**Privacy & Cookies** – This links to the Microsoft Privacy Statement web page.

**XtremeLabs** – This links to the home page of XtremeLabs, LLC, the fine people who bring you XtremeLabs – and much more.

**Lab Steps Overlay**

Most labs hosted by XtremeLabs include an overlay that contains the official lab steps and other information provided by the course authors. Most lab steps are organized into Tasks and Tasks are organized into Exercises. Each Task is presented on a single panel and the navigation links at the bottom of each panel move you sequentially through all of the panels in the lab. Checkboxes are provided to mark your position in the sequence of lab steps.
Account Settings

To make changes to your account settings, click on the Account Settings icon:

- **Change Your Password** – This allows you to change the password that you use to log-in to the XtremeLabs platform.

  ![](account_settings.png)

- **Update Your RDP Preferences** - By default, all connections to lab virtual machines are made via HTML5. However, there are some networking issues that can be resolved by switching to the ActiveX RDP (Remote Desktop Protocol) control.

  ![](update_rdp_preferences.png)

**Note** If ActiveX is selected as your RDP preference, a different user interface will be presented. You will then want to download the Student User Guide written for that UI. Go to [https://labs.xtremelabs.io/LabManuals/Guides/Self-ServiceStudentGuidetoMLO_ActiveX.pdf](https://labs.xtremelabs.io/LabManuals/Guides/Self-ServiceStudentGuidetoMLO_ActiveX.pdf) to download this version of the Student User Guide.

**Note** If you select HTML5 as your preference, but the machine on which you have signed in does not support it (for example, the browser version is not recent enough), then the UI will revert to ActiveX automatically.
• **Update Your Theme** – The default user interface of the XtremeLabs platform is called Gemini. Hopefully you like it. If you’d like something a bit retro and nostalgic, you can switch to the Classic theme.

![Update Theme](image)

To switch between themes, make your selection using the radio buttons and then log-off and log back on to the Xtremelabs platform.

• **Update Your Name** – This allows you to change the name that the XtremeLabs platform knows you as.

![Update Name](image)

• **Delete Account** – If you are done using the XtremeLabs platform and are concerned about your privacy rights, you can have all of your records deleted from the XtremeLabs platform by clicking the Delete Account button found here.

![Delete Account](image)

**Troubleshooting**

If you have trouble connecting to the lab images once they have launched, the information in this section may help identify the issue.
Advanced Firewall Configuration

By default, the lab hosting system offers connections to lab virtual machine console sessions from an end user’s web browser via the embedded HTML5 protocol. If you should select the ActiveX RDP connectivity feature, there may be some configuration changes that need to be made to the firewall that your network is using. This section discusses the firewall configuration required by ActiveX.

All ActiveX controls make their network connections outside of the scope of Internet Explorer. In other words, their traffic is not managed through the Internet Explorer proxy settings. Changing proxy settings on the browser will not enable the traffic. Instead, all ActiveX controls open network ports directly through the Windows TCP/IP protocol stack. This is generally seen as a key benefit of the ActiveX architecture.

The network traffic between the ActiveX control and the lab portal is running over TCP port 443. That port is typically used to transfer HTTPS traffic. However, in this case, the network protocol being transferred over port 443 is RDP. In most cases, proxy/firewall configurations are not sensitive to the protocol being transmitted over the port and this traffic flows without a problem. However, in more secure environments (and this may include your network boundary), packet inspection of traffic over port 443 may block the RDP traffic since it does not conform to the HTTPS protocol.

To enable the lab session traffic from the ActiveX control to reach the Internet via a proxy server (such as Microsoft Forefront TMG), follow the instructions in the Internet proxy/firewall client step, described next. If that does not resolve the issue, try the Firewall configuration step that follows.

• **Internet proxy/firewall client**
  First, install a client proxy agent on your machine and then configure that client to connect to the Internet via the proxy/firewall server. If your network is protected by Forefront TMG, for example, you will need to install the Forefront TMG client on your machine and configure it to connect to the Internet via the gateway. The TMG client can be downloaded from the Microsoft Download Center. Other firewall/proxy products typically have an equivalent client agent.

• **Firewall configuration**
  If the firewall has been configured for packet inspection (that is, the rules are sensitive to the protocols running over certain ports), then the outbound rules on the firewall need to be altered to allow the RDP protocol to run over port 443 to the specific addresses used by the lab portal. Namely:

  Destination IP address ranges:

  67.21.174.1 through 67.21.174.25
67.21.175.69 through 67.21.175.88
67.21.173.141 through 67.21.173.150

Destination port:
TCP 443

Protocol:
RDP

**Note** Configuration of access to port 443 for RDP traffic is beyond the scope of Internet Explorer proxy settings.

**Checking Connectivity**
If you have trouble accessing your labs, use the NetTest tool to check your connectivity and then provide the results to the XtremeLabs Support team for analysis. The tool is available at [http://xvnettest.westus.cloudapp.azure.com/NetTestXL.exe](http://xvnettest.westus.cloudapp.azure.com/NetTestXL.exe).

After installing the tool on the computer used to access XtremeLabs, launch it with elevated rights as Administrator.

As soon as it launches, enter your name, ticket number, or active lab instance ID number and select ‘Start Network Test’.

![Network Test Tool XL](image)

After collecting some general information, the tool will run for 1 hour gathering network data. Once the test is complete, the ‘Test Progress’ section will change to read ‘All Tests now complete’ and a folder will open with 2 files. Copy these files and send them to the support team as attachments.
**Note** This tool is focused on issues around using the RDP ActiveX control for session connectivity (although it also measures general network settings/connectivity). It checks the ActiveX installation and the RDP CredSSP settings, as well as firewall checks specific to running RDP through the firewall.

If there are any issues with running the RDP ActiveX control, the simplest solution may be to switch your user profile to use the HTML5 viewer. HTML5 is a per-user choice (not per machine) and currently defaults to ActiveX. The [Connectivity Preference](#) section in this document describes how to switch to HTML5.

**Support**

If you have technical issues with the online labs, you can contact the XtremeLabs support team. Examples of technical issues include:

- The virtual desktop does not display.
- The online lab runs slowly or is non-responsive.

If an issue is urgent, call the XtremeLabs support team using the toll-free number provided on the form or click the link to initiate a chat session with a team member during the listed support hours. (The support hours are in the Pacific Time Zone.)

<table>
<thead>
<tr>
<th>XtremeLabs - Support Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phone</strong></td>
</tr>
<tr>
<td><strong>Email</strong></td>
</tr>
<tr>
<td><strong>Hours</strong></td>
</tr>
</tbody>
</table>