



## User Guide for XtremeLabs Online Labs in edX Courses

### Accessing XtremeLabs Online Labs

This document describes how to access and use online labs hoisted by XtremeLabs in edX and Open edX online courses.

### System Requirements

To access XtremeLabs from the client computer, the system must meet the following requirements:

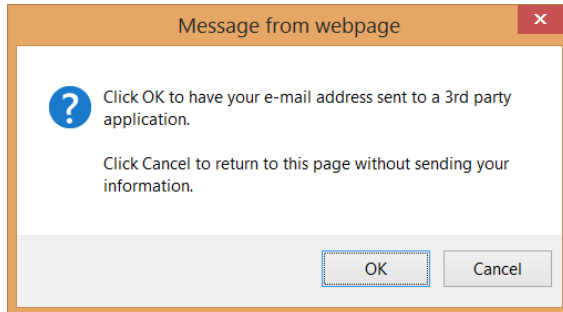
|   | ActiveX Requirements | HTML5 Requirements  |
|---|----------------------|---|
| Windows XP SP3 or later (Windows RT is not supported)                                       | x                    | x   |
| .NET Framework 3.5 or later   | x                    | x   |
| Browser   | Internet Explorer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

## How to Launch a Lab from the edX Course Page

1. To launch the lab environment for a module, click the Launch Lab button.



A pop-up may ask for your permission to send your e-mail address to the 3<sup>rd</sup> party application that hosts the lab.



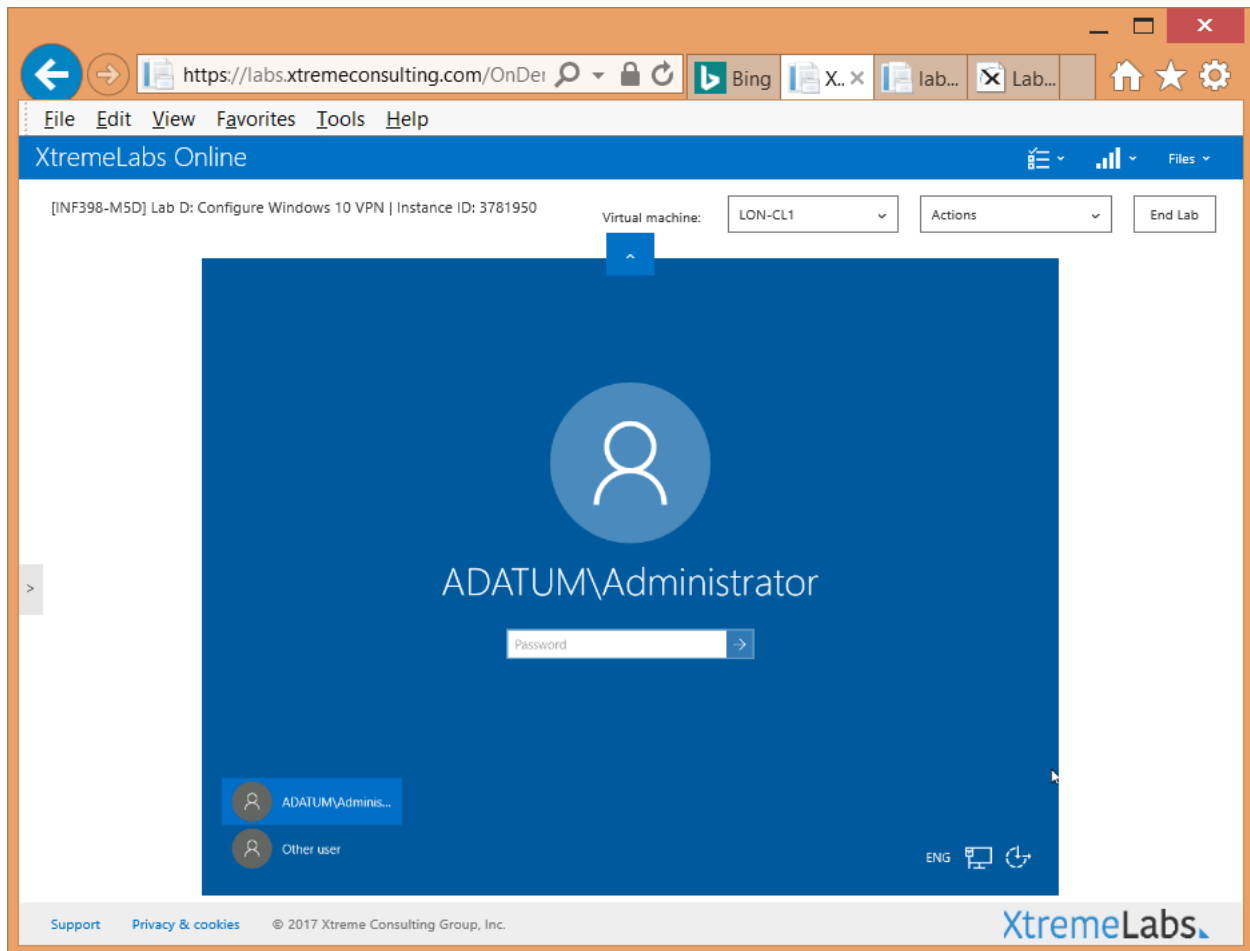
Click on **OK**. This will launch the lab in a new browser tab.

You may also get a EULA pop-up window. Please read the EULA and click the OK checkbox.

2. While your lab environment is being prepared, a "spinner" will be displayed showing the estimated progress of the lab launch. Typically, it takes fewer than 30 seconds to create your unique lab environment. A large lab environment might take up to 2 minutes.



Once the lab environment is ready, your lab view will be displayed.

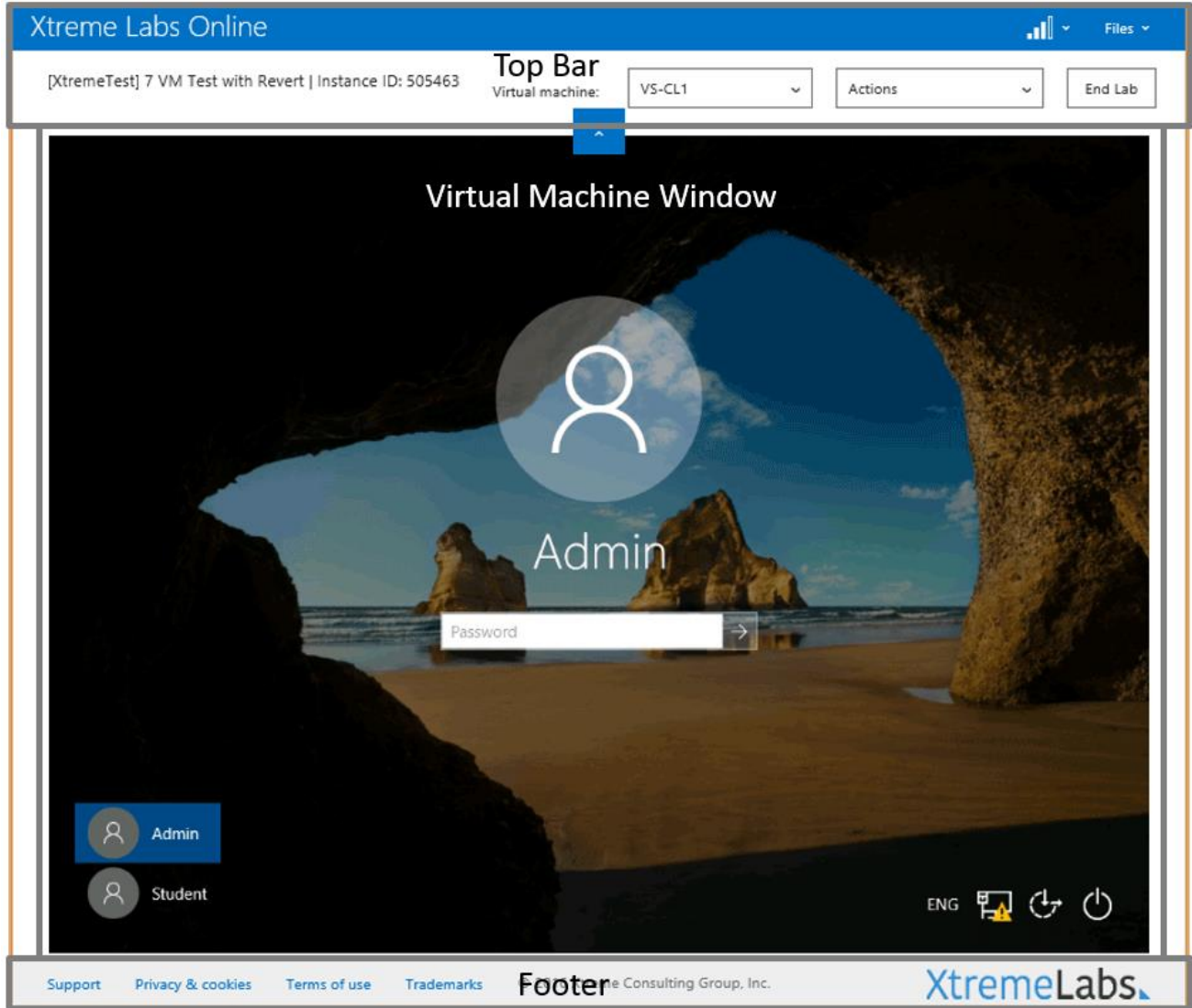


## How to Navigate the Lab Environment

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.

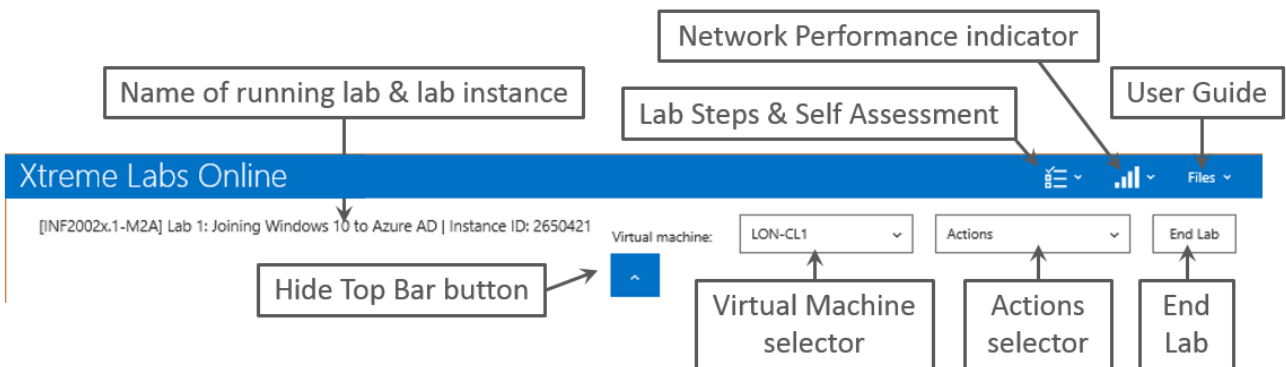
The lab view page has three parts:

- Top bar
- Virtual machine window
- Footer



## 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.

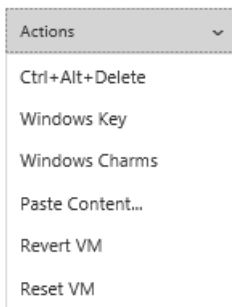
**Hide Top Bar button** – Click this button to hide or reveal the top bar.



**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.



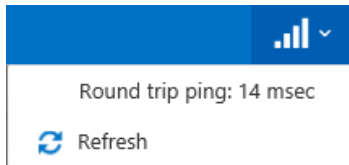
**Actions selector** – This is a drop-down menu that displays the special actions you may need to perform in the virtual machine that would normally be performed by the client machine’s operating system.



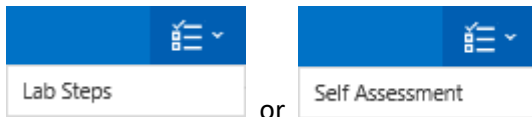
The action choices are:

- **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.

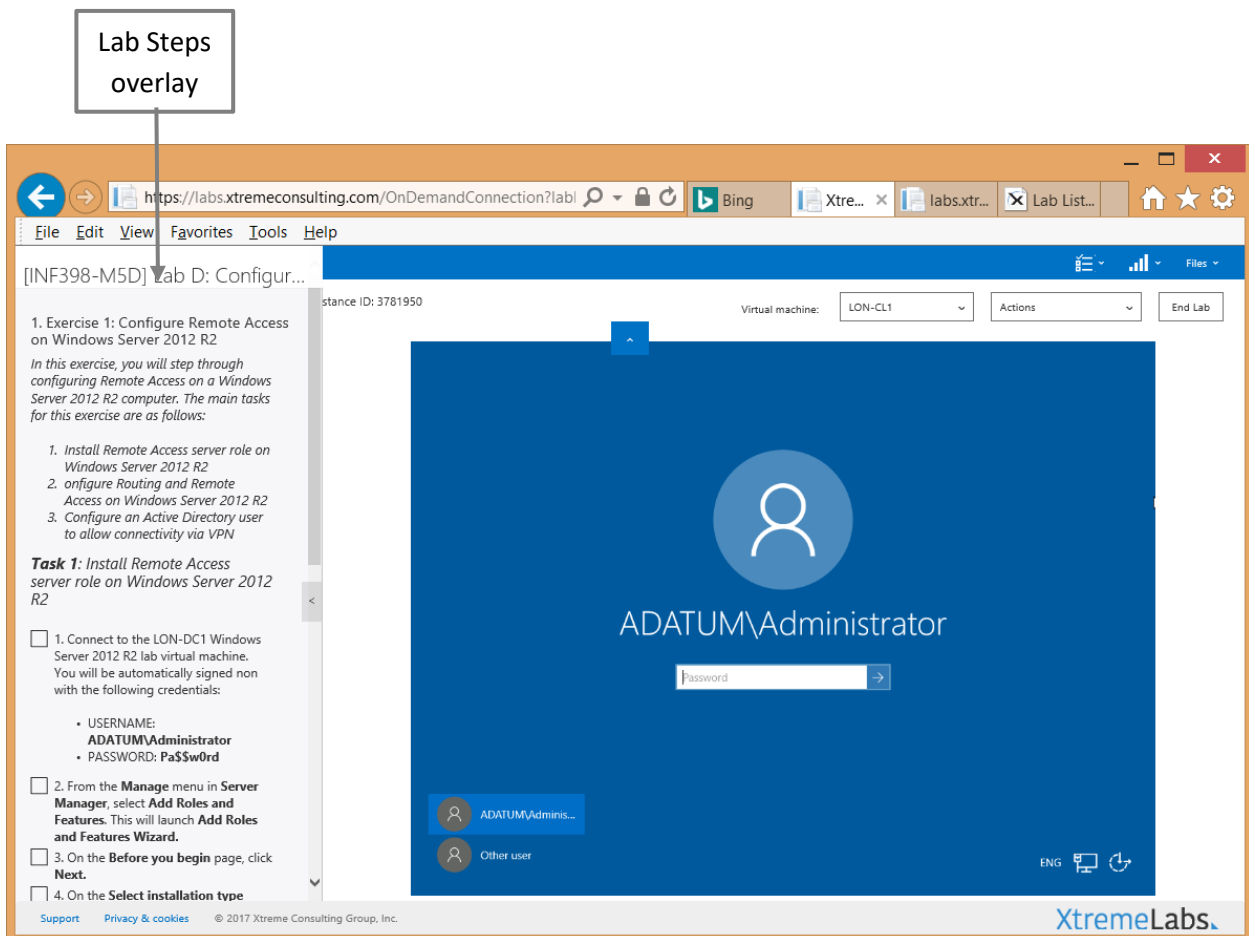


**Lab Steps and Self-Assessment** – If the lab module being viewed includes a lab steps overlay or a self-assessment test, this icon will appear in the top bar. Clicking on the lab steps icon will open a drop-down that indicates whether the lab module has either a lab steps overlay or self-assessment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



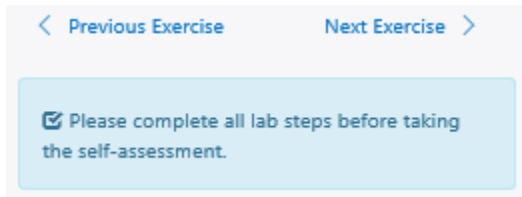
Note that if there is a lab steps overlay in the lab module, the overlay will open by default when the lab module is launched.


Clicking on the **Lab Steps** link opens the Lab Steps overlay as pictured below.



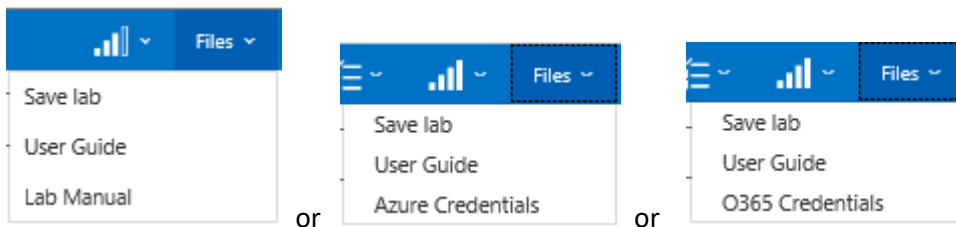
These are the same exercise task steps that are contained in the course’s lab manual documentation. The overlay is scrollable. Each lab step has a checkbox to the left of it. Click on the checkbox when you have completed the step.

At the bottom of the overlay are links to the previous and next exercises in the lab:

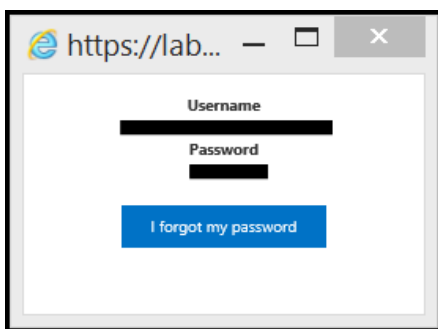


To close the Lab Steps overlay, click on the  link at the right side of the overlay.

**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:

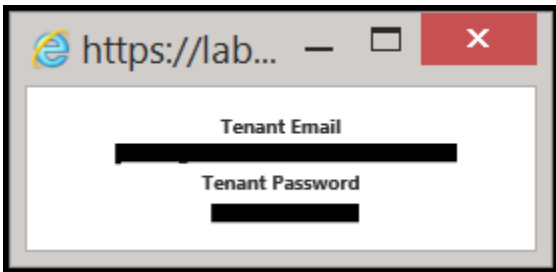


XtremeLabs assigns these credentials to you for the duration of your lab session. When you end your lab session, your ARG will be torn down and deleted.

**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.

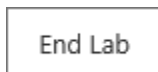
This pop-up also enables you to change your password. Click on the **I forgot my password** button.

- **O365 Credentials** – When the launched lab includes an Office 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:



This O365 Tenant will expire in no less than 45 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.



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

Close

Click **Close** to close the lab's browser tab and return to the course player.

### Taking a Self-Assessment

If the lab module includes a Self-Assessment, the following notice will appear at the very bottom of the overlay:

Please complete all lab steps before taking the self-assessment.

To take the Self-Assessment, first complete all tasks and exercises – making sure to check all of the lab step checkboxes. When all lab step checkboxes have been checked in all of the exercises, the above "Please complete all ...." message will be replaced by the following button:

Take Self-Assessment

Clicking on this button will open a message banner requesting confirmation:

Self-Assessment Confirmation

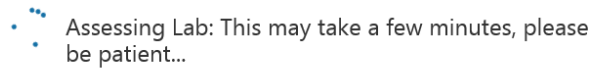
This will grade and end this session. Are you sure you want to proceed?

Yes

No

Clicking on **No** will return you to the Lab Steps overlay. Clicking on **Yes** will initiate the self-assessment script. This script will end the lab and will examine the state of the virtual machine

that you have been working with. This assessment will take about 2 minutes and will display the following message banner and spinner while making the assessment:



At the end of the assessment, the Self-Assessment results page will be displayed:

### "[INF2002x1-M5B] Lab 2: Configuring UE-V on Windows 10" Assessment Results

|  |  |
|--|--|
| <b>Lab Task</b> INF2002x1-M05L02: Exercise 1 Task 1<br><b>Result</b> Task successfully completed   | <b>Lab Task</b> INF2002x1-M05L02: Exercise 2 Task 2<br><b>Result</b> Incorrect – See reason below<br><b>Reason</b> Exception caught during scoring of scenario 'INF2002x1-M05L02: Exercise 2 Task 2'. Error reported: [Access is denied] |
| <b>Lab Task</b> INF2002x1-M05L02: Exercise 1 Task 2<br><b>Result</b> Incorrect – See reason below<br><b>Reason</b> The UE-VTemplateCatalog share has misconfigured share-level permissions | <b>Lab Task</b> INF2002x1-M05L02: Exercise 2 Task 3A<br><b>Result</b> Incorrect – See reason below<br><b>Reason</b> Windows PowerShell ISE template is not registered on "LON-DC1"   |
| <b>Lab Task</b> INF2002x1-M05L02: Exercise 1 Task 3A<br><b>Result</b> Task successfully completed  | <b>Lab Task</b> INF2002x1-M05L02: Exercise 2 Task 3B<br><b>Result</b> Incorrect – See reason below<br><b>Reason</b> Windows PowerShell ISE template is not registered on "LON-CL1"   |
| <b>Lab Task</b> INF2002x1-M05L02: Exercise 1 Task 3B<br><b>Result</b> Task successfully completed  |  |

[Close](#)

If the Lab Tasks are completed correctly, the results will be displayed on a green background. A red background indicates that the Lab Task was either not completed or was completed incorrectly. If applicable, a short reason why a Lab Task was unsuccessful is displayed.

To close the Self-Assessment click on the **Close** button in the lower right corner. You will be returned to the Open edX course page.

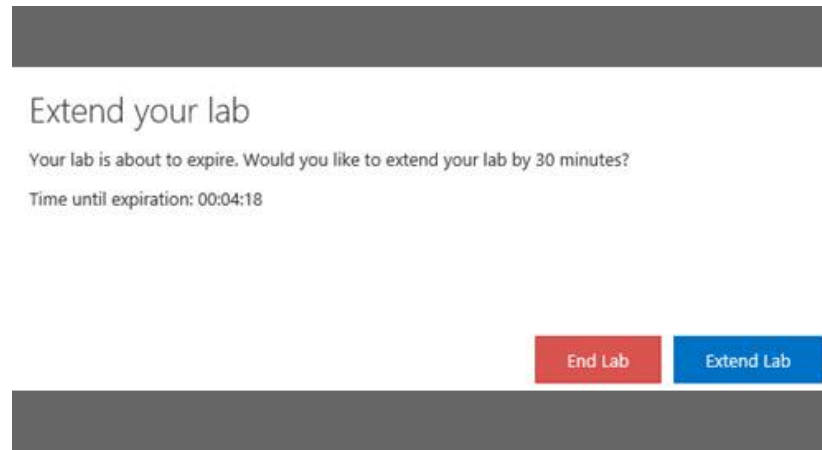
## Virtual Machine Window

This is the main 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.

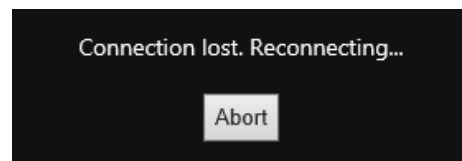
Once launched, labs will run for 90, 120, 180, or 240 minutes, depending upon the scope of the lab and the steps to be performed. At the end of this period the lab will be disconnected, and a message will be displayed. This message informs you that the lab is about to expire, and it gives you an opportunity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



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

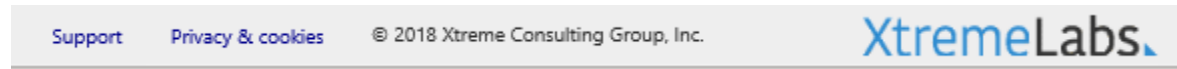
You can end the lab at any time while this message is displayed by clicking on the **End Lab** button.

**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.



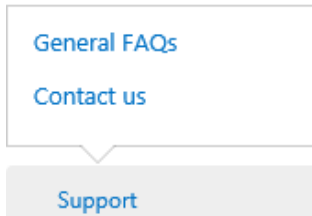
The desktop session will resume upon reconnection.

## 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.

### Contact us

#### What is the problem you're having?

\* Subject

\* Step-by-step details

#### How may we contact you?

\* Email address

Phone number

Share this message with:

#### Microsoft Labs Online Support

xlabsupport@xtremeconsulting.com

(800)-239-7051

#### Hours

Monday-Friday 12:00 AM – 6:00 PM PST

#### Observed Holidays

- 1/2/2017 - New Year's Day
- 5/29/2017 - U.S. Memorial Day
- 7/4/2017 - U.S. Independence Day
- 9/4/2017 - U.S. Labor Day
- 11/23/2017 – 11/24/2017 - U.S. Thanksgiving Holiday
- 12/25/2017 – 12/26/2017 - U.S. Christmas Holiday

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.

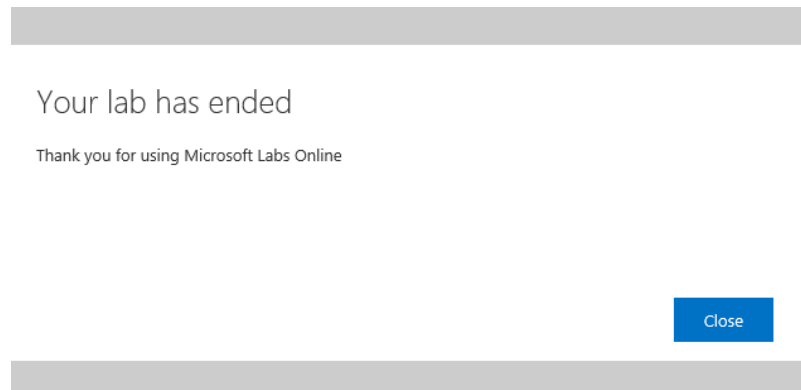
If an issue is urgent, call the XtremeLabs support team using the toll-free number provided on the form or click **Chat now** during the listed support hours. (The listed support hours are in the Pacific Time zone.)

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

**XtremeLabs** – This links to the home page of Xtreme Consulting, a division of DISYS, the fine people who bring you XtremeLabs – and much more.

## Ending a lab

To end your lab, click on the **End Lab** button in the right side of the Top Bar. You will be prompted to confirm that you want the lab to end. Clicking on the **OK** button will end the lab.



Click **Close** to close the lab's browser tab and return to the course player.

## Reconnecting to a lab

If the lab's browser tab is closed or becomes disconnected, your lab will keep running for up to 24 hours. You can reconnect to the running lab by returning to the Open edX course page and clicking on the Launch lab button.



This will open a new browser tab and reconnect with your lab.

If you already have a lab instance running and you attempt to launch another lab, the first lab instance will be ended before the new lab can be launched.

## 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 an ActiveX control embedded in the web page. That ActiveX control makes one or more connections to a Hyper-V server in order to display the virtual machine console windows within the browser window.

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

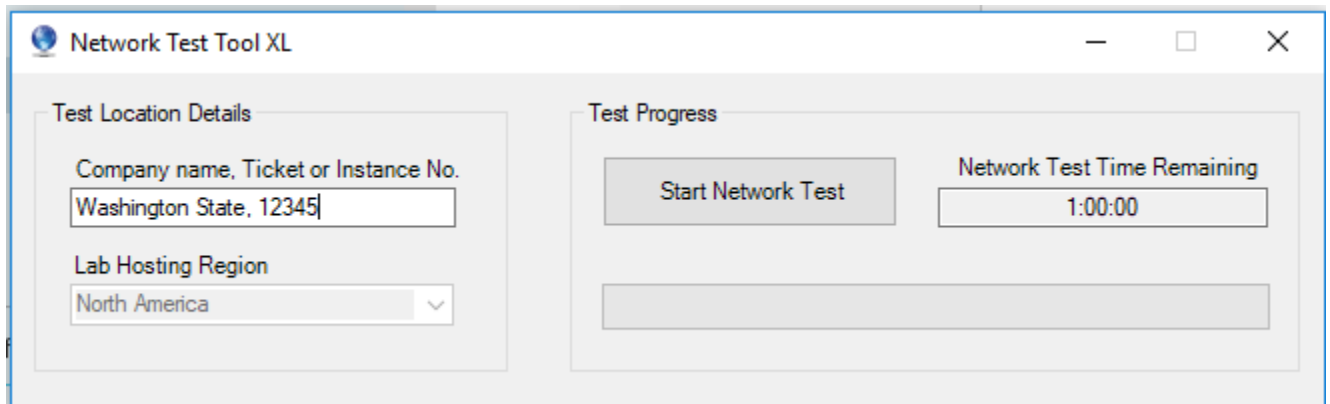
**Note** Configuration of access to port 443 for RDP traffic is beyond the scope of Internet Explorer proxy settings.

### 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>.

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'.



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.

| Name   | Date modified     | Type          | Size  |
|--|-------------------|---------------|-------|
|  NetTest.txt    | 6/15/2018 1:58 AM | Text Document | 12 KB |
|  NetTestRTT.txt | 6/15/2018 1:58 AM | Text Document | 1 KB  |

**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.)

| XtremeLabs Support Contacts |  |
|-----------------------------|--|
| Phone                       | (1) 800-239-7051   |
| Email                       | <a href="mailto:xlabsupport@xtremeconsulting.com">xlabsupport@xtremeconsulting.com</a> |
| Hours                       | Monday-Friday 12:00 AM – 6:00 PM PST (Pacific Time Zone)                               |