Assisted Lab: Exploring the Lab Environment

53 Minutes Remaining

Instructions Resources Help 90%

Assisted Lab: Exploring the Lab Environment

Scenario

In this lab, you will familiarize yourself with the lab interface you will use in this lab series.

Using the Lab Interface

To complete most of the labs in this course, you will use one or more Virtual Machines (VMs) hosted on a cloud platform. Each VM works like a physical computer, but you access them via your browser. The main thing to remember is that your keyboard's **WINDOWS/START** key will work only *on your local computer* not the VM.

Take a few moments to familiarize yourself with some other features of the lab browser controls.

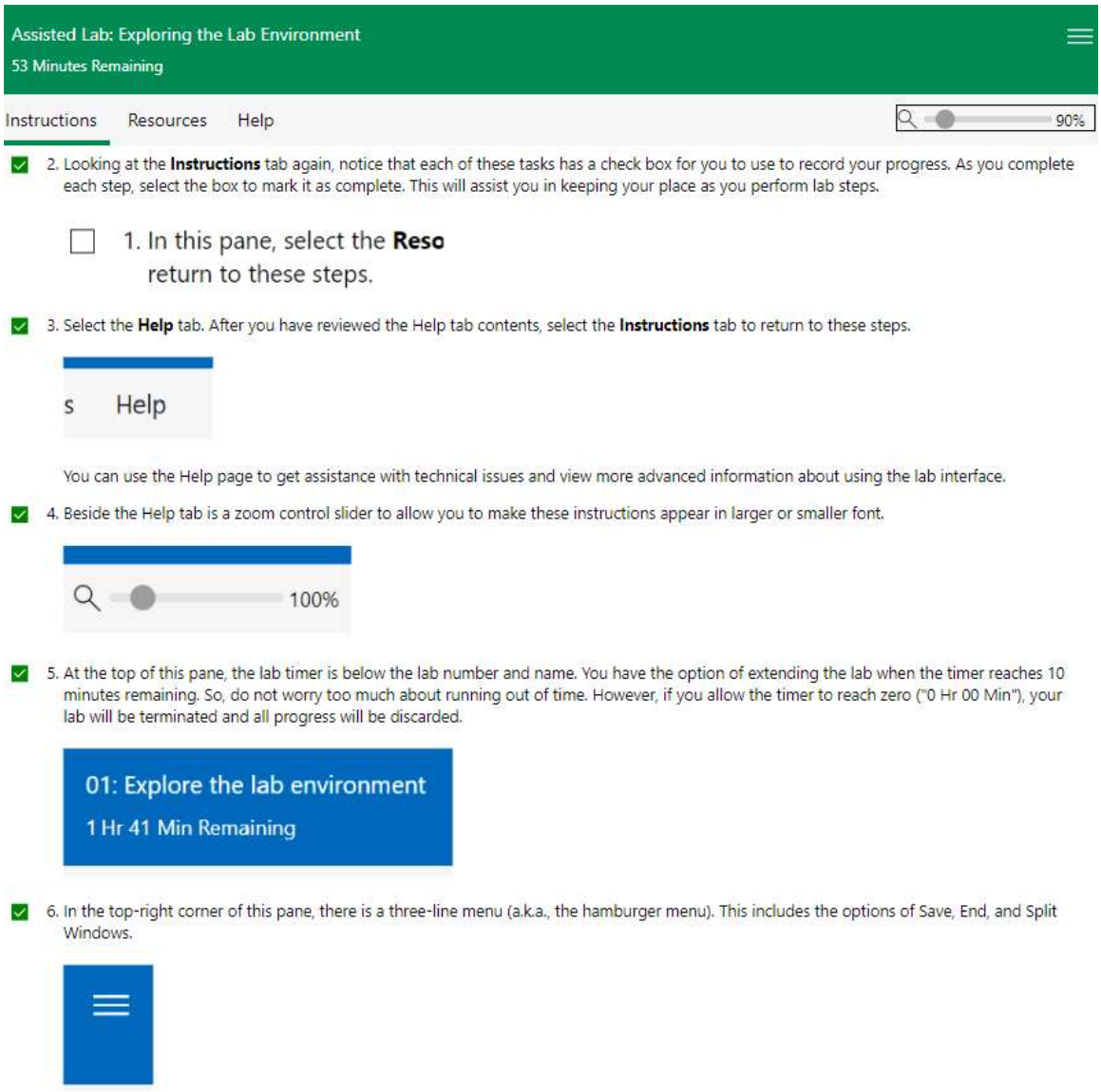
1. In this pane, select the **Resources** tab heading (see image below). You can launch a VM by selecting it from the Resource tab.

The **Resources** tab lists the VMs available to you. You can choose a different ISO disc to load into each VM's DVD drive and change the virtual network to which the VM is connected. You can also switch between VMs using the pull-down menu at the top center of your VM display - click on the name of the current VM, then select the VM you wish to switch to.

The **Resources** tab lists the VM's superuser/administrator username and password. However, you should always use the username and password as directed by the step instructions at any given point in the lab. This may be different from the account listed on the Resources tab. For example:

Select the KALI VM and sign in as **kali** using **Pa$$w0rd** as the password.

After you have reviewed the Resources tab contents, select the **Instructions** tab to return to these steps (see image below).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Instructions
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Help
90%
2. Looking at the **Instructions** tab again, notice that each of these tasks has a check box for you to use to record your progress. As you complete each step, select the box to mark it as complete. This will assist you in keeping your place as you perform lab steps.
1. In this pane, select the **Reso**
return to these steps.
3. Select the **Help** tab. After you have reviewed the Help tab contents, select the **Instructions** tab to return to these steps.
s Help
You can use the Help page to get assistance with technical issues and view more advanced information about using the lab interface.
4. Beside the Help tab is a zoom control slider to allow you to make these instructions appear in larger or smaller font.
100%
5. At the top of this pane, the lab timer is below the lab number and name. You have the option of extending the lab when the timer reaches 10 minutes remaining. So, do not worry too much about running out of time. However, if you allow the timer to reach zero ("0 Hr 00 Min"), your lab will be terminated and all progress will be discarded.
01: Explore the lab environment
1 Hr 41 Min Remaining
6. In the top-right corner of this pane, there is a three-line menu (a.k.a., the hamburger menu). This includes the options of Save, End, and Split Windows.

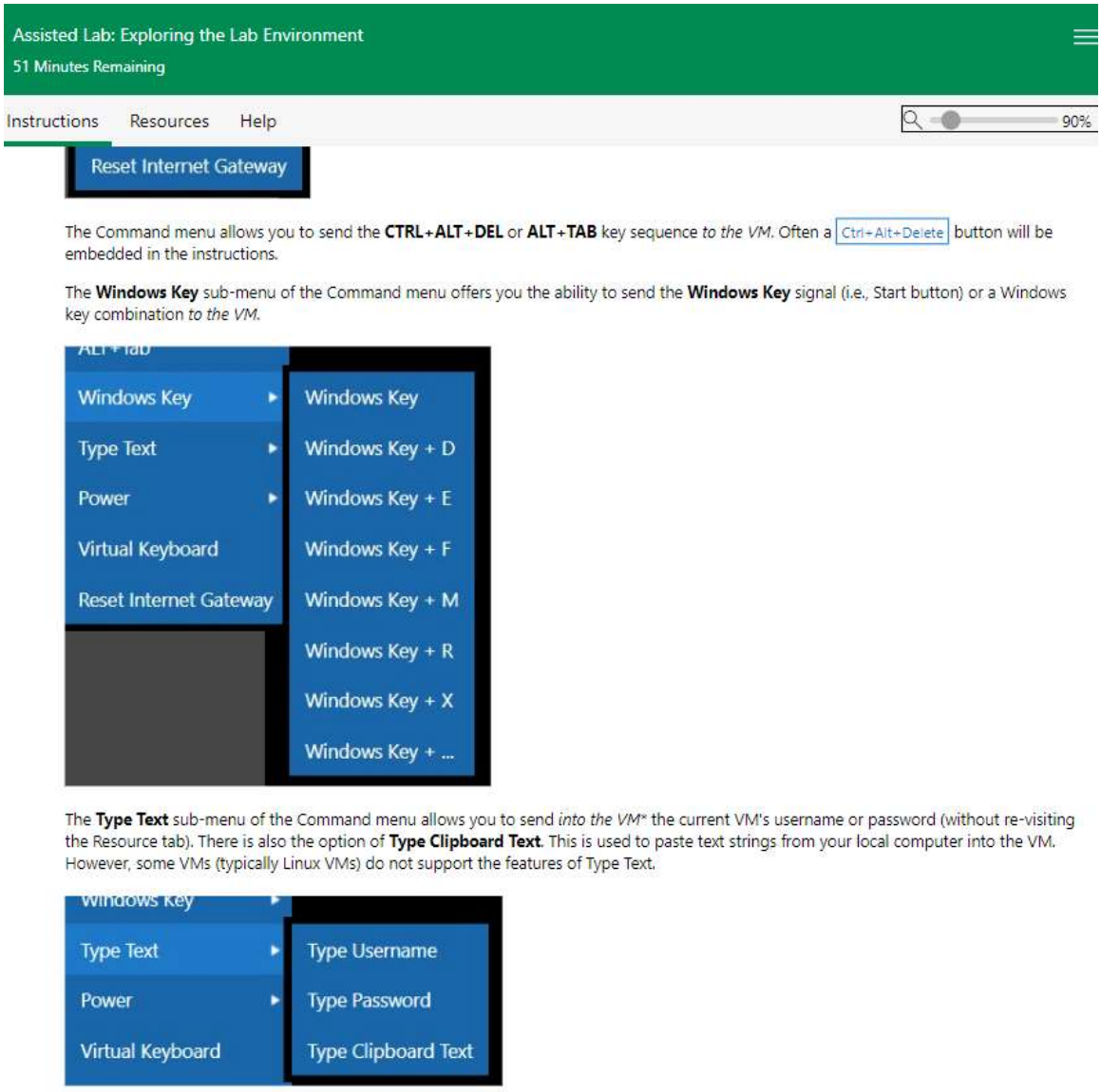
The **Save** option will save your current progress, allowing you to return to the lab at a future time and pick up exactly where you left off. The **End** option can be used to terminate your lab and discard all progress (The next time you launch the lab, it will be reset to its starting conditions). The **Split Windows** option will separate this pane from the VM display pane allowing you to move them onto different monitors.

- [x] 7. Looking at the pane containing the VM, in the top-left corner, select the **Display** icon (the small computer screen) and select **Full Screen**. To exit full screen, press **ESC**.

Working in full-screen mode is usually best because it allows the maximum possible screen resolution for the VM you are operating. The other options in this menu will enable you to fit the VM screen to the browser window. If the display seems to be frozen or you suspect there has been a disconnect, the **Reconnect** option will disconnect and attempt a reconnect to the display interface with the VM.

- [x] 8. If you use a Windows computer to access these labs, press the **START** key on your keyboard. Notice that this activates the Taskbar on *your* PC. This might also cause the lab environment to exit full-screen mode in some browsers. If necessary, switch to full-screen mode again.

- [x] 9. Select the **Commands** icon (the lightning bolt) to open the menu—do not select anything from the menu yet.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90%
Reset Internet Gateway
The Command menu allows you to send the CTRL+ALT+DEL or ALT+TAB key sequence to the VM. Often a Ctrl+Alt+Delete button will be embedded in the instructions.
The Windows Key sub-menu of the Command menu offers you the ability to send the Windows Key signal (i.e., Start button) or a Windows key combination to the VM.
Windows Key
Type Text
Power
Virtual Keyboard
Reset Internet Gateway
Windows Key
Windows Key + D
Windows Key + E
Windows Key + F
Windows Key + M
Windows Key + R
Windows Key + X
Windows Key + ...
The Type Text sub-menu of the Command menu allows you to send into the VM* the current VM's username or password (without re-visiting the Resource tab). There is also the option of Type Clipboard Text. This is used to paste text strings from your local computer into the VM. However, some VMs (typically Linux VMs) do not support the features of Type Text.
Type Text
Power
Virtual Keyboard
Type Username
Type Password
Type Clipboard Text

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50 Minutes Remaining

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The **Power** sub-menu of the Command menu offers you the ability to suspend or pause a VM, trigger a reboot of a VM, or power off/on a VM. You should generally only use these options if instructed.

There is also a **Virtual keyboard** for use if you find you have trouble typing particular characters. The VMs use a US keyboard layout, so if your physical keyboard has a different layout, you may find that some keys do not type the same symbols.

The final option of **Reset Internet Gateway** of the Command menu is used to reconnect to the lab host data center if your connection is extremely poor or disconnected.

- [x] 10. Now that you are familiar with the lab interface, let's look at the Kali Linux VM you will use. Select the **Next** button below to continue.

Check your work

- [x] Confirm that you viewed the Instructions, Resources, and Help tabs.
- [x] Confirm that you are aware of the countdown timer and the hamburger menu to access Save, End, and Split Windows.
- [x] Confirm that you used the Display menu.
- [x] Confirm that you explored the Commands menu.

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Using a Linux VM

The Kali VM is running the Kali pen testing/forensics Linux distribution, created and maintained by Offensive Security (kali.org). Kali is based on the Debian Linux distribution with the GNOME desktop environment.

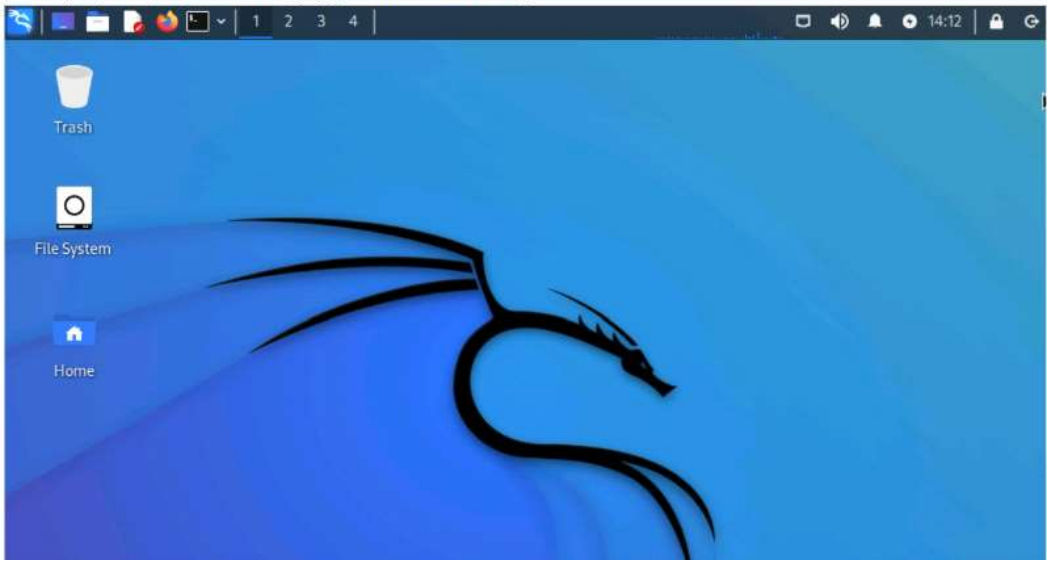
⚠ The virtual hosting of Kali Linux does not support the TypeText feature, so you will need to enter commands manually while working in the Kali VM. Commands are displayed in a **bold terminal font**. Take care to type in commands correctly.

- [x] 1. Select the KALI VM and sign in as **root** using **Pa$$w0rd** as the password.

  ⓘ The Kali VM's screen may automatically lock if not used for 10 minutes. If the Kali desktop is not visible and the logon fields are not displayed, click-and-drag the privacy shader up rather than just clicking it. Or, if the screen goes black, go to the Display menu and click on Reconnect.

- [x] 2. Take a few moments to familiarize yourself with the desktop. Some key points to note are:

  - The desktop contains shortcuts to some of the applications, notably Trash, File System (focusing on / or the root of the system), and Home (focusing on /home/kali (or the currently logged-on user's home folder)).



Assisted Lab: Exploring the Lab Environment

45 Minutes Remaining

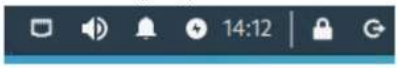
Instructions Resources Help

- On the top menu panel, there are shortcuts for minimizing all windows, the file browser, text editor, Firefox (web browser), and Terminal Emulator. When you open applications, they will appear as icons to the right of the shortcuts, which can be used to switch between the open applications.

The numbers beside the Kali menu panel are virtual workspaces. You can keep various open windows in each workspace and quickly switch between them by selecting the number from this toolbar.

- The **Application** icon (i.e., the equivalent of the Windows's Start menu) gives you access to all installed applications.

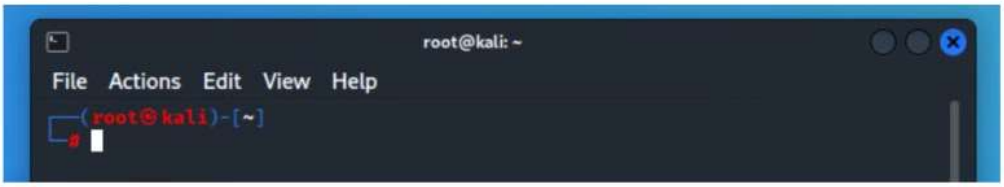
- To the right on the top menu panel is another group of icons. The first is the **Network** icon which allows you to change network settings using the Network Manager application.



- The **Volume** icon allows you to adjust the sound volume.
- The **Notifications** icon gives you access to notices and messages.
- The **Computer** icon give you quick access to the power manager.
- The **Clock** icon shows the current time.
- The **Lock Screen** icon allows you to lock the desktop/screen.
- The **Log Out...** icon allows you to log out, reboot, and shut down the VM.

3. Right-click the desktop and select **Open Terminal Here**.

4. Note that the prompt indicates the current directory. Because you opened the terminal by right-clicking the desktop, the Desktop directory within the root user's home directory has focus.



- [x] 5. In the Terminal window, enter **pwd** to report the full path to the current directory. This will be reported as `/root/Desktop`.

> When an instruction uses the term *enter*, it means type in the following command, then press **ENTER** on the keyboard.

> In the prompt, the tilde (~) represents the current user's home directory (i.e., `/root`).

- [x] 6. In the Terminal window, enter **`ip a s eth0`** to check the network adapter configuration.

> The KALI machine has a second adapter (eth1). This is used to evaluate graded activities. Do not change any settings for the eth1 adatper.

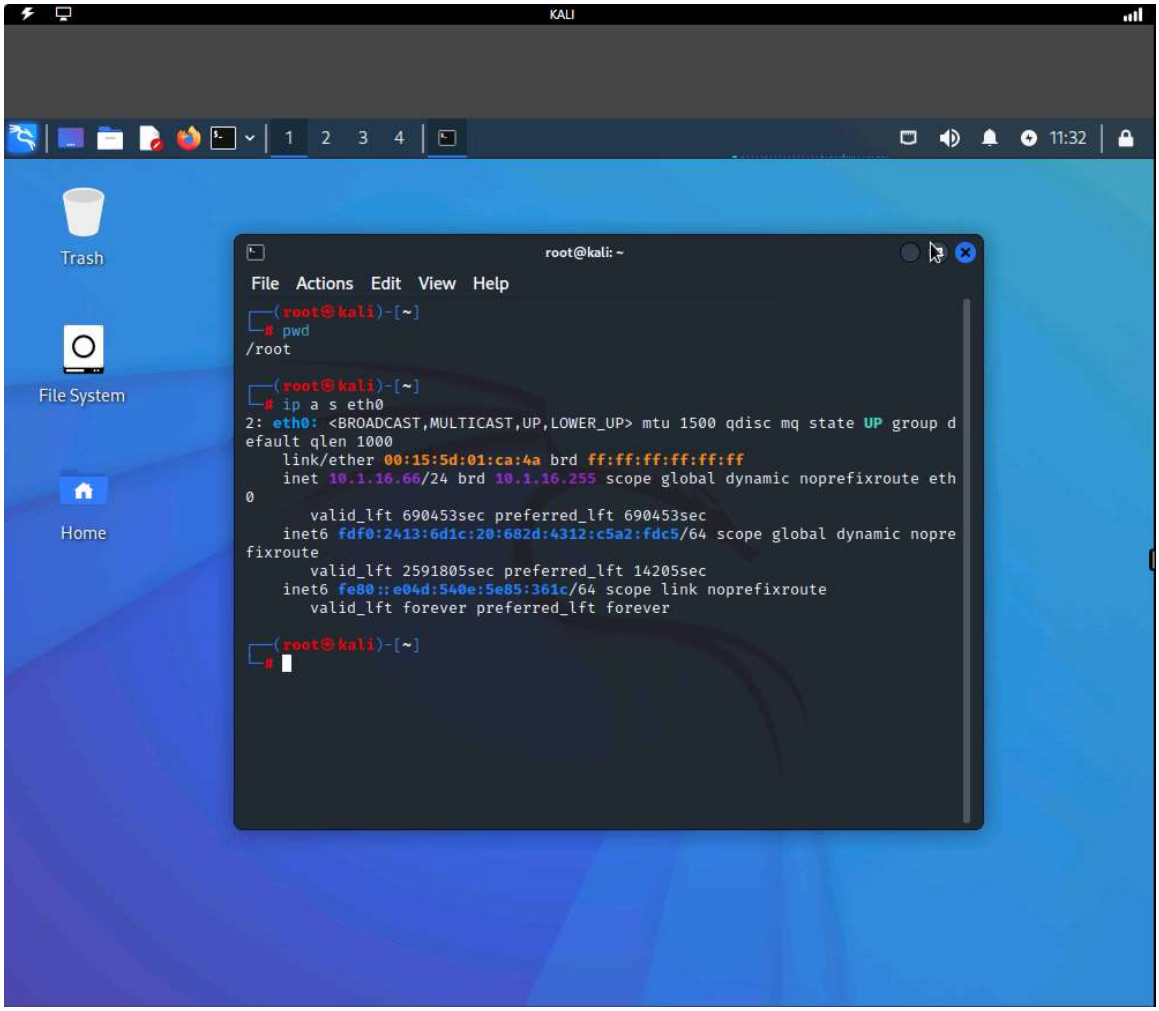
> Remember that the Linux command line is case-sensitive. Also, recall that Type Text is not available. Therefore, you will have to enter commands manually when using Linux virtual machines.

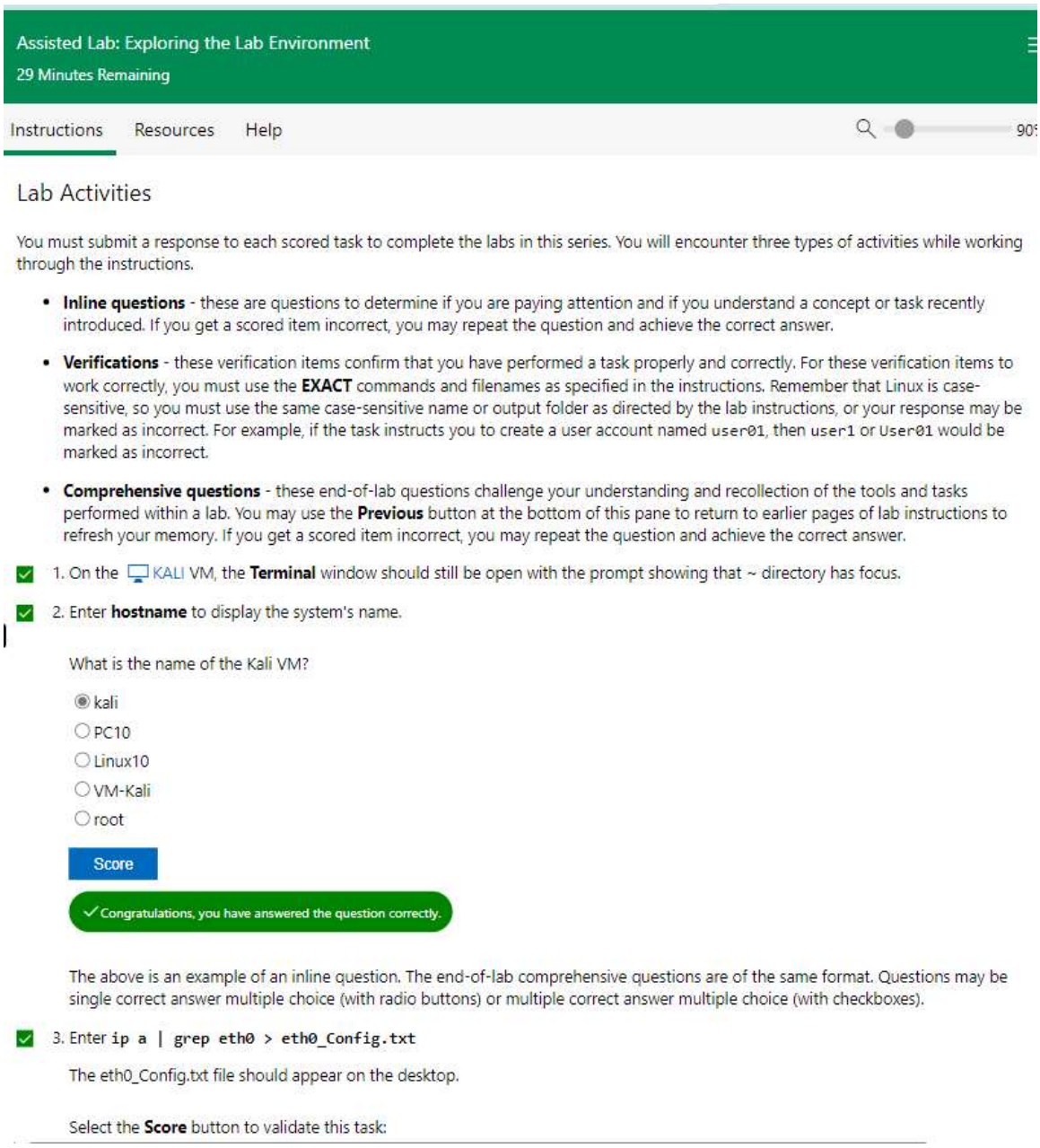
The lab environment uses DHCP reservations to assign the same host ID to the Kali VM. Regardless of which network is selected for eth0 on the Resources tab, it should always be configured with an IP address where the host part is .66.

- [x] 7. Leave the Terminal window open for the next exercise.

Check your work

- [x] Confirm that you accessed the Kali Linux VM.
- [x] Confirm that you explored Kali's desktop and top menu panel.
- [x] Confirm that you opened a Terminal window and entered commands.


KALI
1 2 3 4
11:32
Trash
File System
Home
root@kali: ~
File Actions Edit View Help
┌──(root㉿kali)-[~]
└─# pwd
/root
┌──(root㉿kali)-[~]
└─# ip a s eth0
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
link/ether 00:15:5d:01:ca:4a brd ff:ff:ff:ff:ff:ff
inet 10.1.16.66/24 brd 10.1.16.255 scope global dynamic noprefixroute eth0
valid_lft 690453sec preferred_lft 690453sec
inet6 fdf0:2413:6d1c:20:682d:4312:c5a2:fdc5/64 scope global dynamic noprefixroute
valid_lft 2591805sec preferred_lft 14205sec
inet6 fe80::e04d:540e:5e85:361c/64 scope link noprefixroute
valid_lft forever preferred_lft forever
┌──(root㉿kali)-[~]
└─#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29 Minutes Remaining
Instructions
Resources
Help
Lab Activities
You must submit a response to each scored task to complete the labs in this series. You will encounter three types of activities while working through the instructions.
Inline questions - these are questions to determine if you are paying attention and if you understand a concept or task recently introduced. If you get a scored item incorrect, you may repeat the question and achieve the correct answer.
Verifications - these verification items confirm that you have performed a task properly and correctly. For these verification items to work correctly, you must use the EXACT commands and filenames as specified in the instructions. Remember that Linux is case-sensitive, so you must use the same case-sensitive name or output folder as directed by the lab instructions, or your response may be marked as incorrect. For example, if the task instructs you to create a user account named user01, then user1 or User01 would be marked as incorrect.
Comprehensive questions - these end-of-lab questions challenge your understanding and recollection of the tools and tasks performed within a lab. You may use the Previous button at the bottom of this pane to return to earlier pages of lab instructions to refresh your memory. If you get a scored item incorrect, you may repeat the question and achieve the correct answer.
1. On the KALI VM, the Terminal window should still be open with the prompt showing that ~ directory has focus.
2. Enter hostname to display the system's name.
What is the name of the Kali VM?
kali
PC10
Linux10
VM-Kali
root
Score
Congratulations, you have answered the question correctly.
The above is an example of an inline question. The end-of-lab comprehensive questions are of the same format. Questions may be single correct answer multiple choice (with radio buttons) or multiple correct answer multiple choice (with checkboxes).
3. Enter ip a | grep eth0 > eth0_Config.txt
The eth0_Config.txt file should appear on the desktop.
Select the Score button to validate this task:

Select the **Score** button to validate this task.

Score

✓ Path found ... checking contents
Contents matched ...
Task complete

The above is an example of a verification element. When you press the Score button a script checks if the step was performed correctly.

- [x] 4. Enter `cat eth0_Config.txt` to view the contents of the file you created previously.

Please enter the **inet** address (i.e., IPv4) for **eth0** that is displayed from the `eth0_Config.txt` file. Do not include the slash or any numbers after it.

10.1.16.66

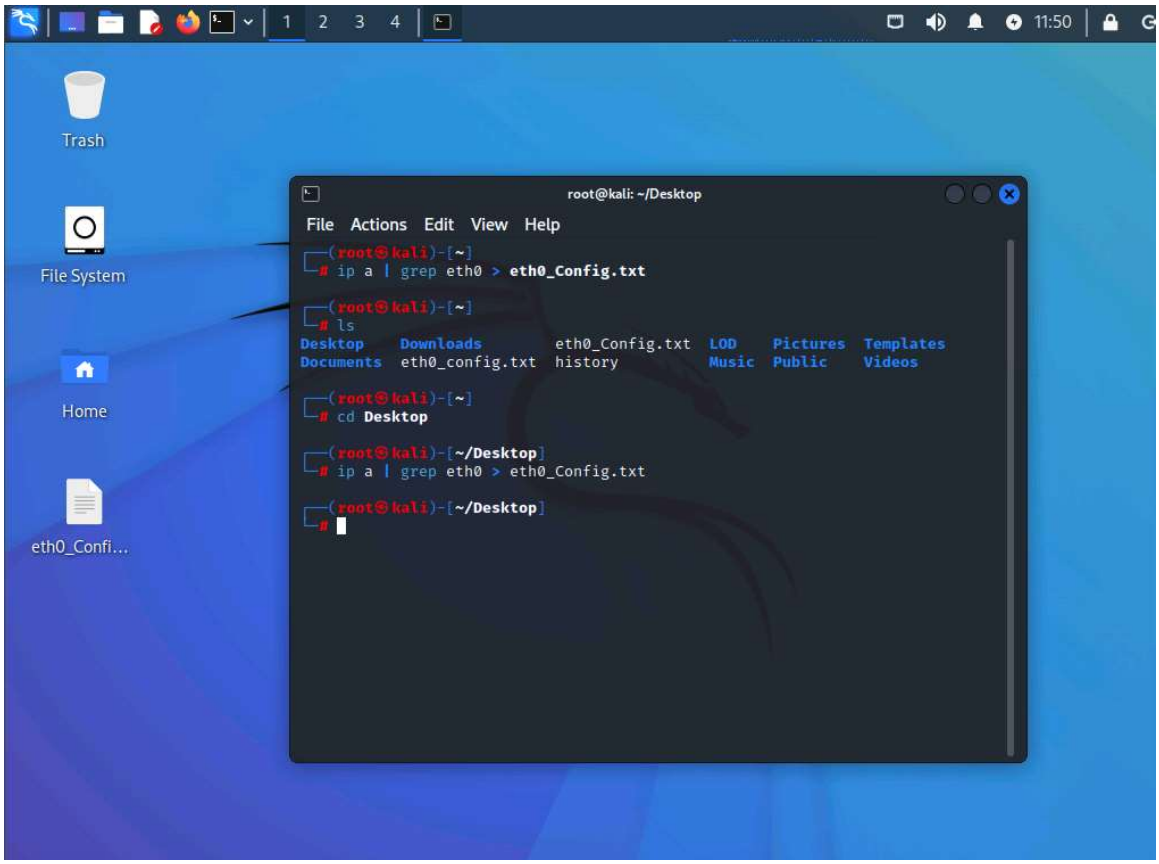
Score

The above is an example of a text-based question.

- [x] 5. Close the Terminal window by selecting the X icon in the top-right corner.

Check your work

- [x] Confirm that you are aware of lab activities, such as inline questions, verifications, and comprehensive questions.
- [x] Confirm that you answered an inline question.
- [x] Confirm that you performed a task validation.


1 2 3 4
11:50
Trash
File System
Home
eth0_Confi...
root@kali: ~/Desktop
File Actions Edit View Help
(root㉿kali)-[~]
ip a | grep eth0 > eth0_Config.txt
(root㉿kali)-[~]
ls
Desktop Downloads eth0_Config.txt LOD Pictures Templates
Documents eth0_config.txt history Music Public Videos
(root㉿kali)-[~]
cd Desktop
(root㉿kali)-[~/Desktop]
ip a | grep eth0 > eth0_Config.txt
(root㉿kali)-[~/Desktop]
#