

## Lab – Download and Install Kali Linux VM

### Objectives

In this lab, you will complete the following objectives:

**Part 1: Deploying a Customized Kali Linux VM on AMD or Intel Chip-based Computer**

**Part 2: Deploying a Customized Kali Linux VM on ARM M1/M2 based MacOS Computer**

**Part 3: Exploring Linux**

### Background / Scenario

Computing power and resources have increased tremendously in a short period of time. A benefit of multi-core processors and large amounts of RAM is the ability to run multiple operating systems on a computer using virtualization.

With virtualization, one or more virtual computers can operate on a single physical computer. Virtual computers that run on physical computers are called virtual machines (VMs). Virtual machines are often called guests, and physical computers are often called hosts. Anyone with a modern computer and operating system can run virtual machines.

In this lab, you will first install a desktop virtualization application, such as Oracle VirtualBox, and deploy a virtual machine running a Kali Linux OS.

### Required Resources

- Computer with a minimum of 4 GB of RAM and 50 GB of free disk space
- Internet access to download virtualization software, Oracle Virtualbox or UTM, and VM image

### Instructions

Even though most modern computers can support virtualization, if you are not sure, perform an internet search to determine the capability of virtualization on your PC and enable virtualization as necessary.

Depending on the architecture of your PC, you will either use Oracle VirtualBox or UTM for your virtualization software.

### Part 1: Deploying a Pre-Built Customized Kali VM on AMD or Intel Chip-based Computer

**Note:** Go to the next part if you have M1/M2 MacOS or other ARM-based devices that can support UTM.

#### Step 1: Download and install VirtualBox.

VMware Workstation Player and VirtualBox are two virtualization programs that you can download and install to run the Kali VM file. In this lab, you will use the VirtualBox application.

- a. Navigate to <https://www.virtualbox.org/>. Click the download link on this page.
- b. Choose and download the appropriate installation file based on your operating system.
- c. After the VirtualBox installation file is downloaded, run the installer and accept the default installation settings.

#### Step 2: Download the pre-built customized Kali.

- a. Navigate to the [Resource Hub](#) from skillsforall.com.
- b. Download the OVA file for this course. Note the location of the downloaded OVA file on your computer.

### **Step 3: Deploy the VM in VirtualBox.**

- a. Open **VirtualBox**.
- b. Click **File > Import Appliance** to import the downloaded OVA file, **Kali.ova**. Click **Next** to continue.
- c. Review the appliance settings. Increase the amount of RAM if desired. Click **Finish** to continue.
- d. Click **Start** to power up the newly created VM after the appliance has been imported.

## **Part 2: Deploying a Pre-Built Customized Kali VM on ARM M1/M2 Chip-based Computer**

**Note:** Do the previous part if you have an AMD or Intel Chip-based Computer.

### **Step 1: Download and install UTM.**

In this lab, you will use the free version of the UTM app.

- a. Navigate to <https://mac.getutm.app/>. Click **Download** to download the free version.
- b. After the file is downloaded, install UTM.

### **Step 2: Download and load the pre-built customized Kali.**

- a. Navigate to the [Resource Hub](#) from skillsforall.com.
- b. Download the Kali.utm.zip file. Note the location of the downloaded Kali.utm.zip file.
- c. Unzip the zip archive.
- d. Double-click the unzipped file to open the VM in UTM.

## **Part 3: Exploring Linux**

### **Step 1: Root Privileges**

The root user in Linux is equivalent to the administrator user on windows. The commands **su** and **sudo** allow you to gain root permissions.

The **su** command allows you to become the root user after providing the root password. When you are done with running commands, you will need to type the **exit** command to leave the root shell and back to your own account.

With the **sudo** command, only a single command is run with root privileges using the current user's password by default.

For the pre-built customized Kali for this course, the user **kali** is configured to use the **sudo** command to access root privileges.

**Note:** These commands are for demonstration only. You will be more familiar with these commands as you become more fluent with Linux.

- a. Root privilege is required to view and edit the file /etc/sudoers. To illustrate the use of root privileges, enter the command **visudo** at the command prompt.

```
└─(kali㉿Kali)-[~]
└─$ visudo
visudo: /etc/sudoers: Permission denied
```

Note that you do not have permission to view and edit the file.

- b. To temporarily elevate your permission for root access, enter **sudo visudo** at the prompt. Provide the password **kali** when prompted.

```
└─(kali㉿Kali)-[~]
└$ sudo visudo
```

- c. Scroll toward the end of the file. The highlighted configurations allow any users in the sudo group to execute any commands. Press Ctrl +x to exit the file and do not save any changes.

```
# Allow members of group sudo to execute any command
%sudo    ALL=(ALL:ALL)  ALL
```

- d. Verify that the user kali is part of the sudo group. The **grep** command only prints out the lines that match the given pattern. In this example, the command searches for the word sudo in the file /etc/group and prints out that line. The result confirms that the user kali is in the group sudo.

```
└─(kali㉿Kali)-[~]
└$ grep sudo /etc/group
sudo:x:27:kali
```

## Step 2: Keyboard shortcuts

As you work in the terminal, you may find yourself retyping some commands or trying to remember a command, filename, or folder name. A few keyboard shortcuts can help you become more efficient at the terminal.

- a. You can use the up or down arrow keys to locate and execute the previously entered command. In the terminal, press the up arrow until you find the visudo command.

How many times did you need to press up arrow? **Do not press enter unless you want to run the command again.**

If you wanted to locate the command sudo visudo, how many times would you need to press the down arrow to find it? **Do not press enter unless you want to run the command again.**

- b. What if you were looking for a command that you used a while ago? The command **history** allows you to view all the commands that you have used recently in the same terminal. At the prompt, delete the displayed command if necessary. Enter the **history** command to see a list of recently used commands.

```
└─(kali㉿Kali)-[~]
└$ history
 1 visudo
 2 sudo visudo
 3 grep sudo /etc/group
 4 history
```

The output displays the list of commands with a number beside each command that you just used in the previous step.

- c. You can use a combination of the exclamation point (!) and history number or command string to repeat previously used commands.

At the prompt, enter **!3**. What command is displayed?

At the prompt, enter **!his**. What command is displayed?

- d. The tab key can help you complete a partial command or file or folder name.

At the prompt, enter **hi** and press the tab key. What is the output?

- e. You can continue to add more letters to the command until **histo** is displayed. Now when you press tab, the command is completed because it is unique to the system.
- f. Tab completion can also be used on files and folders. Enter **ls /me** and press the tab key. Because the string **me** is unique in the listing of file and folder names in the root directory, you should see the command completed as **ls /media**. Press **Enter** to view the contents of the /media folder.

## Reflection Question

What are the benefits of using either the installer image or the pre-built image to create the Kali VM?

## Lab – Investigate Kali Linux VM

### Objectives

In this lab, you will complete the following objectives:

- Familiarize yourself with the Kali Linux GUI.
- Familiarize yourself with the Kali Linux shell.

### Background / Scenario

Linux is open source, fast, reliable, and small. It requires very little hardware resources to run and is highly customizable. Unlike other operating systems such as Windows and Mac OS X, Linux was created, and is currently maintained by, a community of programmers. Linux is part of several platforms and can be found on devices anywhere from “wristwatches to supercomputers”. Because Linux is open source, any person or company can get the kernel’s source code, inspect it, modify it, and re-compile it at will. They are also allowed to redistribute the program with or without charges.

Linux distributions are packages created by different organizations. Linux distributions (or distros) include the Linux kernel with customized tools and software packages. While some of these organizations may charge for their Linux distribution support (geared towards Linux-based businesses), most of them also offer their distribution for free without support. Debian, Red Hat, Ubuntu, CentOS, and SUSE are just a few examples of Linux distributions.

Kali Linux is a special version of Linux designed specifically for security auditing and penetration testing. Many changes have been implemented to ensure security, system integrity, and security-specific capabilities. It is not recommended to use Kali for standard uses, such as gaming, development, and other day-to-day uses. As a security and pentesting expert, it is very important for you to know how to get around in Kali, both in the GUI and at the terminal. You need to be able to find the tools that you need to perform your job and manipulate files in the file system.

### Required Resources

- Kali VM

### Instructions

#### Part 1: Familiarize Yourself with the Kali Linux GUI.

##### Step 1: Start the VM and learn about the Kali GUI.

Modern operating systems use an interface that most people are familiar with, but there are things that can only be completed from the command line. It is still very important for you to know your way around the GUI.

- a. Log into the Kali system with the username **kali** and the password **kali**. You are presented with the Kali desktop.

Like the Windows desktop, Kali has icons representing things like the trash, file explorer, and other links. There are also several icons across the top, like the Windows taskbar. In addition, icons for running applications will appear there. This is called the panel. From here, you can launch the Firefox web browser, terminals and also set up additional desktops using the numbered buttons. Each desktop can be configured differently with specific links and files on it. This is useful if you commonly have sets of tools and files that you use for specific tasks. You can switch to the desktop that has the items you need when you are working on a certain job.

- b. Right-click the **panel**, click **Panel**, and then **+ Add New Items...**

Here you can add many items to the panel to help you get to the tools and configurations that you use the most. Close the Add New Items window.

- c. Right-click the **panel**, click **Panel**, and then **Panel Preferences...**

Here you can modify many settings to customize how the panel works and what it looks like. Additional panels can be added as well, to accommodate more items.

- d. Investigate the settings and change the settings if you desire.
- e. Close both configuration windows when you are finished.

The top-right corner shows some settings and information, such as network connection, audio, time and date, and the power button. You can add additional items to this area using the panel configuration if you wish. This is a good place to look for useful information.

## **Step 2: Navigate the Applications menu.**

- a. Click the first icon on the left side of the panel.

This opens the Applications menu. Like the Start button in Windows, this menu contains shortcuts to the applications and settings in the operating system. From here, you can navigate to any of the tools that have been installed, find the operating system settings, and search for anything you are looking for. All the tools in this VM are arranged by type, such as wireless attacks or vulnerability analysis. These groups make it easier to find an application specific to a functionality.

- b. Navigate through the folders and look at all the different tools. Open a few if you would like to see them. Note that some of the tools have GUIs, but most open in a terminal window.
- c. Close any open windows.

## **Part 2: Familiarize Yourself with the Kali Linux Shell.**

The shell is the term used to refer to the command interpreter in Linux. Also known as the terminal, command line, or command prompt, the shell is a very powerful way to interact with a Linux computer.

Linux commands are programs created to perform specific tasks. Use the **man** command (short for manual) to obtain detailed documentation about commands. As an example, **man ls** provides documentation about the ls command from the user manual.

### **Step 1: Command documentation**

- a. Click the square black and white icon in the panel. This will open a terminal emulator window.
- b. To learn more about the man page, open a terminal, and type:

```
└── (kali㉿Kali)-[~]
    └─$ man man
```

Scroll through the output and name a few sections that are included in a man page.

- c. Type **q** to exit the man page.

To invoke a command via the shell, simply type its name. The shell will try to find it in the system path and execute it.

The table lists some basic Linux commands and their functions.

Command	Description
<b>mv</b>	Moves or renames files and directories.
<b>chmod</b>	Modifies file permissions.

Command	Description
<b>chown</b>	Changes the ownership of a file.
<b>dd</b>	Copies data from an input to an output.
<b>pwd</b>	Displays the name of the current directory.
<b>ps</b>	Lists the processes that are currently running in the system.
<b>su</b>	Simulates a login as another user or to become a superuser.
<b>sudo</b>	Runs a command as a super user, by default, or another named user.
<b>grep</b>	Used to search for specific strings of characters within a file or other command outputs.
<b>ifconfig</b>	Used to display or configure network card related information. If issued without parameters, <b>ifconfig</b> will display the current network card(s) configuration. <b>Note:</b> While still widely in use, this command is deprecated. Use <b>ip address</b> instead.
<b>apt-get</b>	Used to install, configure, and remove packages on Debian and its derivatives.
<b>iwconfig</b>	Used to display or configure wireless network card related information.
<b>shutdown</b>	Shuts down the computer. <b>shutdown</b> can be instructed to perform several shut down related tasks, including restart, halt, put to sleep, or kick out all currently connected users.
<b>passwd</b>	Used to change the password. If no parameters are provided, <b>passwd</b> changes the password for the current user.
<b>cat</b>	Used to list the contents of a file and expects the file name as the parameter.
<b>man</b>	Used to display the documentation for a specific command.

Many command line tools are included in Linux by default. To adjust the command operation, users can pass parameters and switches along with the command. The table lists a few of the most common commands related to files and directories.

Command	Description
<b>ls</b>	Displays the files inside a directory.
<b>cd</b>	Changes the current directory.
<b>mkdir</b>	Creates directories.
<b>cp</b>	Copies files and directories from source to destination.
<b>mv</b>	Moves or renames files and directories.
<b>rm</b>	Removes files or directories.
<b>grep</b>	Searches for specific strings of characters within a file or other commands outputs.
<b>cat</b>	Lists the contents of a file and expects the file name as the parameter.

For complete help on everything Kali Linux, open the Firefox web browser and go to <https://www.kali.org/docs/>.

Here, you can perform a search by typing keywords in the search box or use the categories to find an answer by subject.

## Step 2: Create and change directories.

In this step, you will use the change directory (**cd**), make directory (**mkdir**), and list directory (**ls**) commands.

**Note:** A directory is another word for folder. The terms directory and folder are used interchangeably throughout this lab.

**Note:** There may be times when a command will not work because the user that is currently logged on does not have permission to perform it. To temporarily gain permission for the command, proceed the command with **sudo**, which stands for super user "do". You may need to provide the password of a user that has permission to perform the command. Alternatively, you can use a terminal that has a higher permission level. This terminal is called Root Terminal Emulator and can be found in the panel by using the drop-down menu next to the terminal icon.

- a. In a terminal, enter **pwd** at the prompt. This command will print the current working directory to the terminal.

```
└─(kali㉿Kali)-[~]
└$ pwd
```

What is the current directory?

- b. Navigate to the /home/kali directory if it is not your current directory. Type **cd /home/kali** to change the working directory.

```
└─(kali㉿Kali)-[~]
└$ cd /home/kali
```

- c. Type **ls -l** at the command prompt to list the files and folders that are in the current working directory. The **ls** command stands for list. The **-l** option displays the file size, permissions, ownership, date of creation and more for the files and folders.

```
└─(kali㉿Kali)-[~]
└$ ls -l
total 36
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Desktop
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Documents
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Downloads
-rw-r--r-- 1 kali kali 142 Apr 10 14:51 gvm_admin_passwd.txt
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Music
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Pictures
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Public
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Templates
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Videos
```

- d. In the current directory, use the **mkdir** command to create three new folders: **kali\_folder1**, **kali\_folder2**, and **kali\_folder3**. Type **mkdir kali\_folder1** and press **Enter**. Repeat these steps to create **kali\_folder2** and **kali\_folder3**.

```
└─(kali㉿Kali)-[~]
└$ mkdir kali_folder1
└─(kali㉿Kali)-[~]
└$ mkdir kali_folder2
```

```
└──(kali㉿Kali)-[~]
└$ mkdir kali_folder3
```

You can also specify multiple folders as in:

```
└──(kali㉿Kali)-[~]
└$ mkdir kali_folder1 kali_folder2 kali_folder3
```

- e. Type **ls -l** to verify that the folders have been created and navigate to a new folder:

```
└──(kali㉿Kali)-[~]
└$ ls -l
total 48
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Desktop
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Documents
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Downloads
drwxr-xr-x 2 kali kali 4096 Apr 21 15:09 kali_folder1
drwxr-xr-x 2 kali kali 4096 Apr 21 15:09 kali_folder2
drwxr-xr-x 2 kali kali 4096 Apr 21 15:09 kali_folder3
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Music
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Pictures
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Public
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Templates
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Videos

└──(kali㉿Kali)-[~]
└$ cd /home/kali/kali_folder3
└──(kali㉿Kali)-[~/kali_folder3]
└$
```

Which folder are you in now?

**Note:** In the **[kali@kali ~]\$** prompt above: The tilde symbol **~** represents the current user's home directory. In this example, the current user's home directory is **/home/kali**. After the **cd /home/kali/kali\_folder3** command, the current working directory is now **/home/kali/kali\_folder3**.

**Note:** **\$** (dollar sign) indicates regular user privilege. If a '#' (hashtag or pound sign) is displayed at the prompt, it indicates elevated privilege (**root user**).

**Note:** While these symbols, conventions and main concepts remain the same, the terminal window prompt is highly customizable in Linux. Therefore, the prompt structure seen in this VM will likely differ from the prompt in other Linux installations.

**Challenge:** Type the command **cd ~** and describe what happens. Why did this happen?

- f. Use the **mkdir** command to create a new folder named **kali\_folder4** inside the **kali\_folder3** folder:

```
└──(kali㉿Kali)-[~]
└$ mkdir /home/kali/kali_folder3/kali_folder4
```

- 1) Use the **ls -l** command to verify the folder creation.

```
└─(kali㉿Kali)-[~]
└$ ls -l /home/kali/kali_folder3
total 4
drwxr-xr-x 2 kali kali 4096 Apr 21 15:19 kali_folder4
```

- 2) Up to this point, we have been using **full paths**. Full path is the term used when referring to paths that always start at the root (/) directory. It is also possible to work with **relative paths**. Relative paths reduce the amount of text to be typed. To understand relative paths, we must understand the . and .. (dot and double dots) directories. From the **kali\_folder3** directory, issue **ls -la**:

```
└─(kali㉿Kali)-[~/kali_folder3]
└$ ls -la
total 12
drwxr-xr-x 3 kali kali 4096 Apr 21 15:09 .
drwx----- 20 kali kali 4096 Apr 21 15:07 ..
drwxr-xr-x 2 kali kali 4096 Apr 21 15:19 kali_folder4
```

The **-a** option tells **ls** to show all files. Notice the . and .. listings shown by **ls**. These listings are used by the operating system to track the current directory (.) and the parent directory (..). You can use . and .. with the **cd** command to change directories. Using the **cd** command to change the directory to the . directory incurs no visible directory change as the . points to the current directory itself.

- 3) Change the current directory to /home/kali/kali\_folder3:

```
└─(kali㉿Kali)-[~]
└$ cd /home/kali/kali_folder3
```

- 4) Type **cd .**

```
└─(kali㉿Kali)-[~/kali_folder3]
└$ cd .
```

What happens?

- 5) Changing the directory to the .. directory, will change to the directory that is one level up the path. This directory is also known as *parent directory*. Type **cd ..**

```
└─(kali㉿Kali)-[~/kali_folder3]
└$ cd ..
```

What happens?

If you issued the **cd ..** command at

```
└─(kali㉿Kali)-[~]
└$
```

what would be the current directory?

If you issued the **cd ..** command at

```
└─(kali㉿Kali)-[/home]
```

```
└$
```

what would be the current directory?

If you issued the **cd ..** command at

```
└─(kali㉿Kali)-[~]
└$
```

what would be the current directory?

- 6) Try using the **~** to change back to the user home directory. Verify your location with the command that is used to display the current working directory.

**Question:Where are you?**

Type your answers here.

### Step 3: Redirect output.

Another powerful command line operator in Linux is known as **redirect**. Represented by the **>** symbol, this operator allows the output of a command to be redirected to some location other than the current terminal window (the default).

- a. Use the **cd** command to change to the **/home/kali/ (~)** directory:

```
└─(kali㉿Kali)-[~]
└$ cd /home/kali/
└─(kali㉿Kali)-[~]
└$
```

- b. Use the **echo** command to echo a message. Because no output was defined, echo will output to the current terminal window:

```
└─(kali㉿Kali)-[~]
└$ echo echo this message
echo this message
```

- c. Use the **>** operator to redirect the output of echo to a text file instead of to the screen:

```
└─(kali㉿Kali)-[~]
└$ echo redirect this to a file > text_file.txt
```

No output was shown. Is that expected?

- d. Notice that even though the **text\_file.txt** file did not exist, it was automatically created to receive the output generated by echo. Use the **cat** command to display the contents of the **text\_file.txt** file:

```
└─(kali㉿Kali)-[~]
└$ cat text_file.txt
redirect this to a file
```

#### Step 4: Redirect and append to a text file.

- Similar to the `>` operator, the `>>` operator also allows for redirecting data to files. The difference is that `>>` appends data to the end of the referred file, keeping the current contents intact. To append a message to the `text_file.txt`, issue command below:

```
└──(kali㉿Kali)-[~]
└─$ echo this text will be appended to the text file >> text_file.txt
```

- Use the `cat` command to display the contents of the `text_file.txt` text file again.

What happened to the text file? Explain.

#### Step 5: Delete files and directories.

- Use the `rm` command to remove files or directories. Issue the command below to remove the file `text_file.txt` from the home directory. The `ls` command can be used to show that the file `text_file.txt` has been removed from the home directory:

```
└──(kali㉿Kali)-[~]
└─$ rm text_file.txt
```

- In Linux, directories are seen as a type of file. Therefore, the `rm` command is also used to delete directories but the `-r` (recursive) option must be used. Notice that all files and other directories inside a given directory are also deleted when deleting a parent directory. Issue the command below to delete the `kali_folder1` folder and its contents:

```
└──(kali㉿Kali)-[~]
└─$ rm -r kali_folder1
```

#### Step 6: Move files and directories.

- Moving files works similarly to copying files. The difference is that moving a file removes it from its original location. Use the `mv` commands to move files around the local filesystem. Like the `cp` command, the `mv` command also requires source and destination parameters.
- Create a new `text_file.txt` file in the `kali_folder2` folder by redirecting some text to it.
- Return to the `/home/kali/` folder.
- Issue the command below to move the `text_file.txt` from `/home/kali/kali_folder2` to the home directory.  
**Note:** There is a dot at the end of command.

```
└──(kali㉿Kali)-[~]
└─$ mv kali_folder2/text_file.txt .
└──(kali㉿Kali)-[~]
└─$ ls -l
total 48
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Desktop
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Documents
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Downloads
drwxr-xr-x 2 kali kali 4096 Apr 21 15:25 kali_folder2
drwxr-xr-x 3 kali kali 4096 Apr 21 15:25 kali_folder3
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Music
```

```
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Pictures
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Public
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Templates
-rw-r--r-- 1 kali kali 18 Apr 21 15:49 text_file.txt
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Videos
```

Why was the dot (".") used as the destination parameter for mv?

- e. The **mv** command can also be used to move entire directories and the files they contain. To move the **kali\_folder3** (and all the files and directories it contains) into **kali\_folder2**, use the command below:

```
└─(kali㉿Kali)-[~]
└$ mv kali_folder3/ kali_folder2/
└─(kali㉿Kali)-[~]
└$ ls -l /home/kali
total 44
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Desktop
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Documents
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Downloads
drwxr-xr-x 3 kali kali 4096 Apr 21 16:03 kali_folder2
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Music
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Pictures
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Public
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Templates
-rw-r--r-- 1 kali kali 18 Apr 21 15:49 text_file.txt
drwxr-xr-x 2 kali kali 4096 Apr 10 14:51 Videos
```

- f. Use the **ls** command to verify that the **kali\_folder3** directory was correctly moved to **kali\_folder2**.

```
└─(kali㉿Kali)-[~]
└$ ls -l kali_folder2/
total 4
drwxr-xr-x 3 kali kali 4096 Apr 21 15:25 kali_folder3
```

## Reflection

You have learned some basic ways to use Kali Linux in this lab. You learned how to use the Kali GUI and terminal with some basic Linux commands. The strength of Kali is in its collection of tools. We will cover some of those tools in labs to come.

How can you learn more about Kali command line tools?