CompTIA Linux+

Use Systemctl and update-rc.d Utility to Manage Services

Introduction

Welcome to the **Use Systemctl and update-rc.d Utility to Manage Services** Practice Lab. In this module you will be provided with the instructions and devices needed to develop your hands-on skills.

Systemctl
rc.d
Managing Services

Learning Outcomes

In this module, you will complete the following exercise:

- Exercise 1 - Use Systemctl and update-rc.d utility to manage services

After completing this lab, you will be able to:

- Install Apache2
- Use Systemctl to manage services
- Use daemon-reload
- Use the update-rc.d utility

Exam Objectives

The following exam objectives are covered in this lab:

- **LPI:** 107.1 Manage user and group accounts and related system files.
- **LPI:** 110.1 Perform security administration tasks.
- **CompTIA:** 2.2 Given a scenario, manage users and groups.

Note: *Our main focus is to cover the practical, hands-on aspects of the exam objectives. We recommend referring to course material or a search engine to research theoretical topics in more detail.*

Lab Duration

It will take approximately **1 hour** to complete this lab.

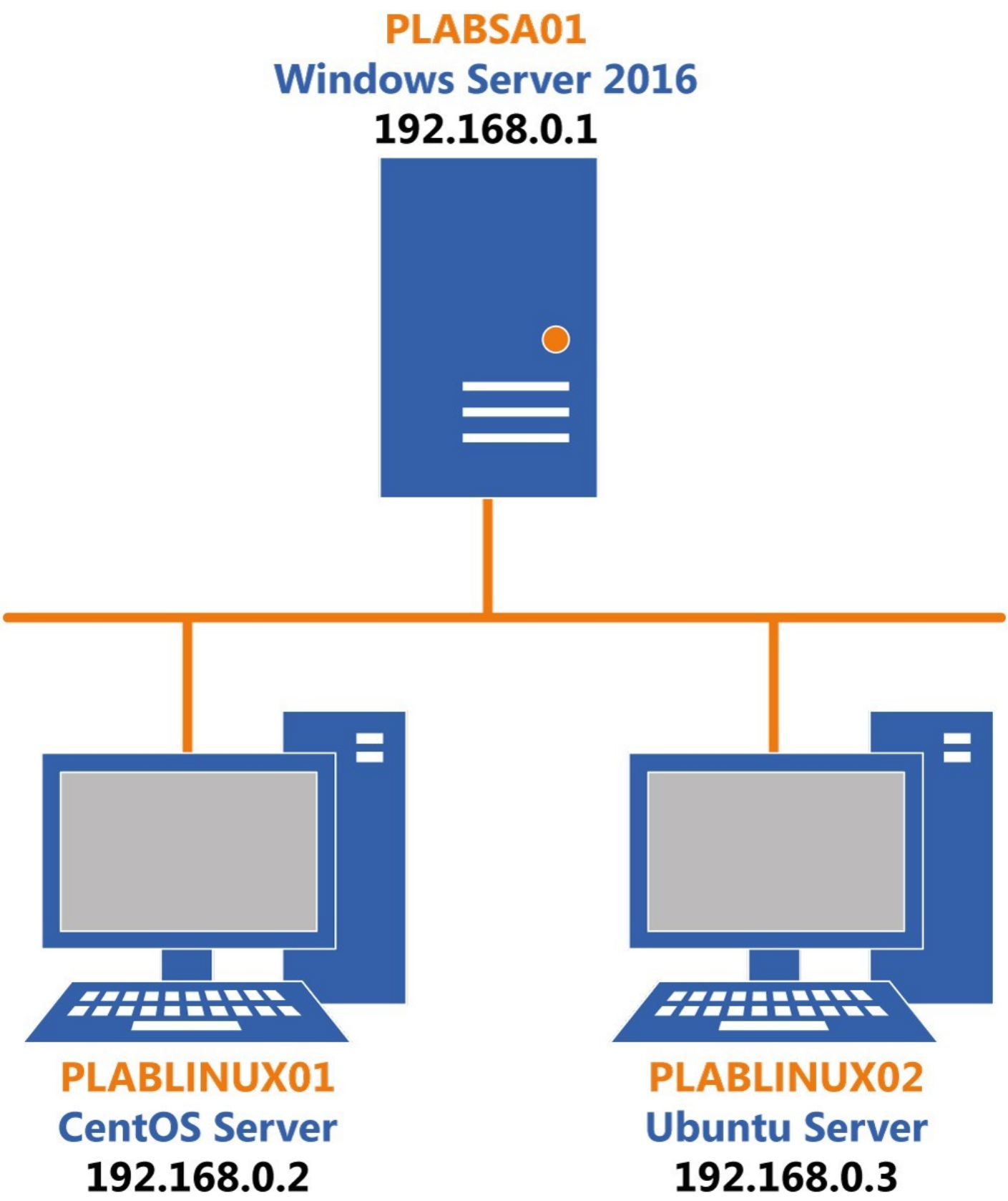
Help and Support

For more information on using Practice Labs, please see our **Help and Support** page. You can also raise a technical support ticket from this page.

Click Next to view the Lab topology used in this module.

Lab Topology

During your session, you will have access to the following lab configuration.



Depending on the exercises you may or may not use all of the devices, but they are shown here in the layout to get an overall understanding of the topology of the lab.

- **PLABSA01** (Windows Server 2016)
- **PLABLINUX01** (CentOS Server)
- **PLABLINUX02** (Ubuntu Server)

Click Next to proceed to the first exercise.

Exercise 1 - Use Systemctl and update-rc.d utility to manage services

There are numerous services that run on a Linux system. Some of them are available by default and others are installed when a particular package is added to the system. In this exercise, you will understand how to manage services on a Linux system.

Learning Outcomes

After completing this exercise, you will be able to:

- Log into a Linux System
- Install Apache2
- Use Systemctl to manage services
- Use daemon-reload
- Use the update-rc.d utility

Your Devices

You will be using the following device in this lab. Please power these on now.

- **PLABLINUX02** (Ubuntu Server)

Task 1 - Install Apache2

Apache is a Web server that works on the Linux and Windows systems. In Ubuntu, Apache2 is the package that you can install. This module will use the apache2 package. You can, however, choose to use any package.

In this task, you will use the hostnamectl command to change the hostname. To do this, perform the following steps:

Step 1

On the desktop, right-click and select **Open in Terminal**.

> ***Note:*** *If you are prompted with the* ***Software Updater*** *dialog box, click* ***Remind Me Later****. This dialog box may occur before or after this step.*

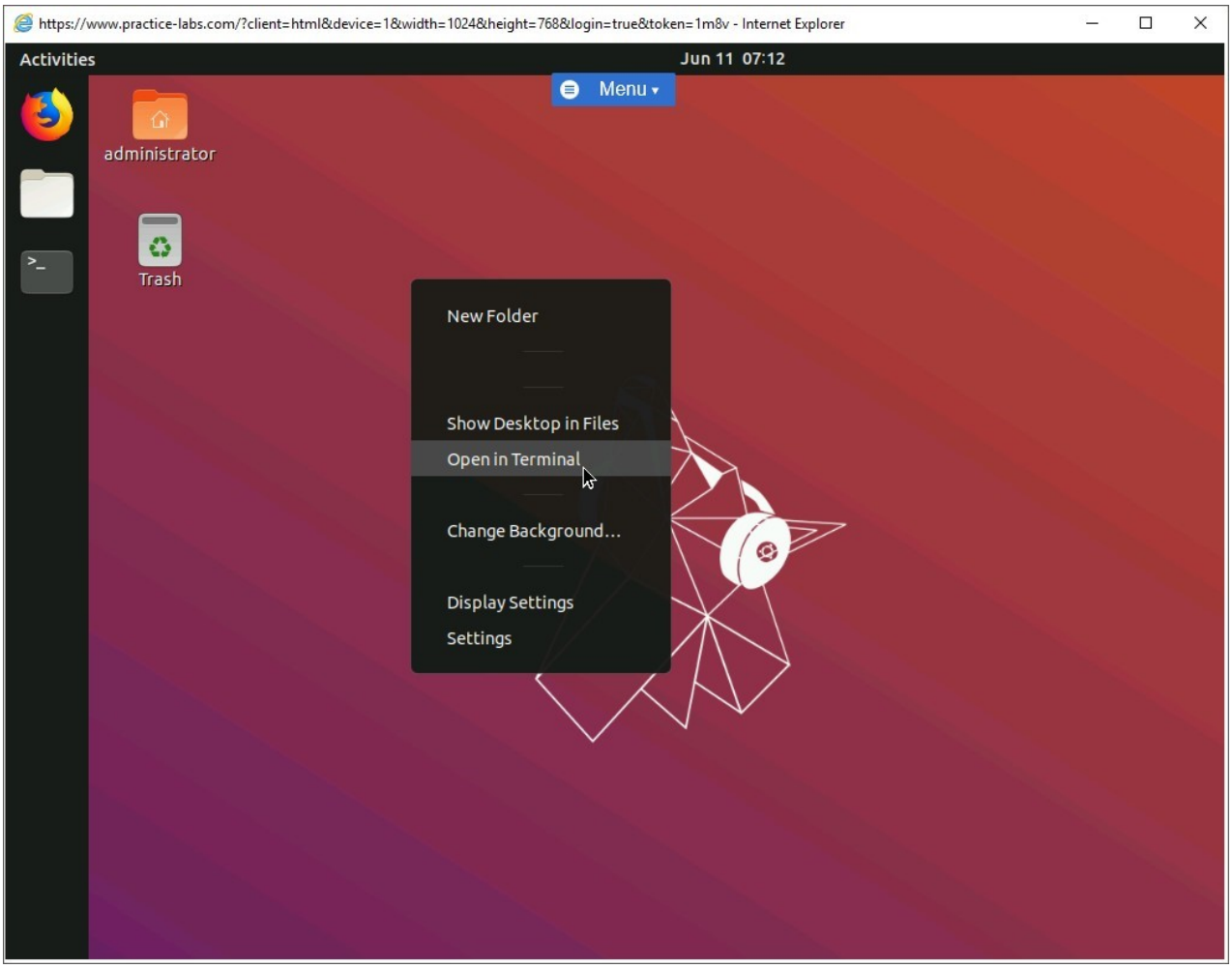


Figure 1.1 Screenshot of PLABLINUX02: Selecting the Open Terminal option from the context menu.

Step 2

Let's first install **apache2**. Type the following command:

```
sudo apt-get install apache2
```

Press **Enter**.

When prompted for a password, type the following:

```
Passw0rd
```

Press **Enter**.

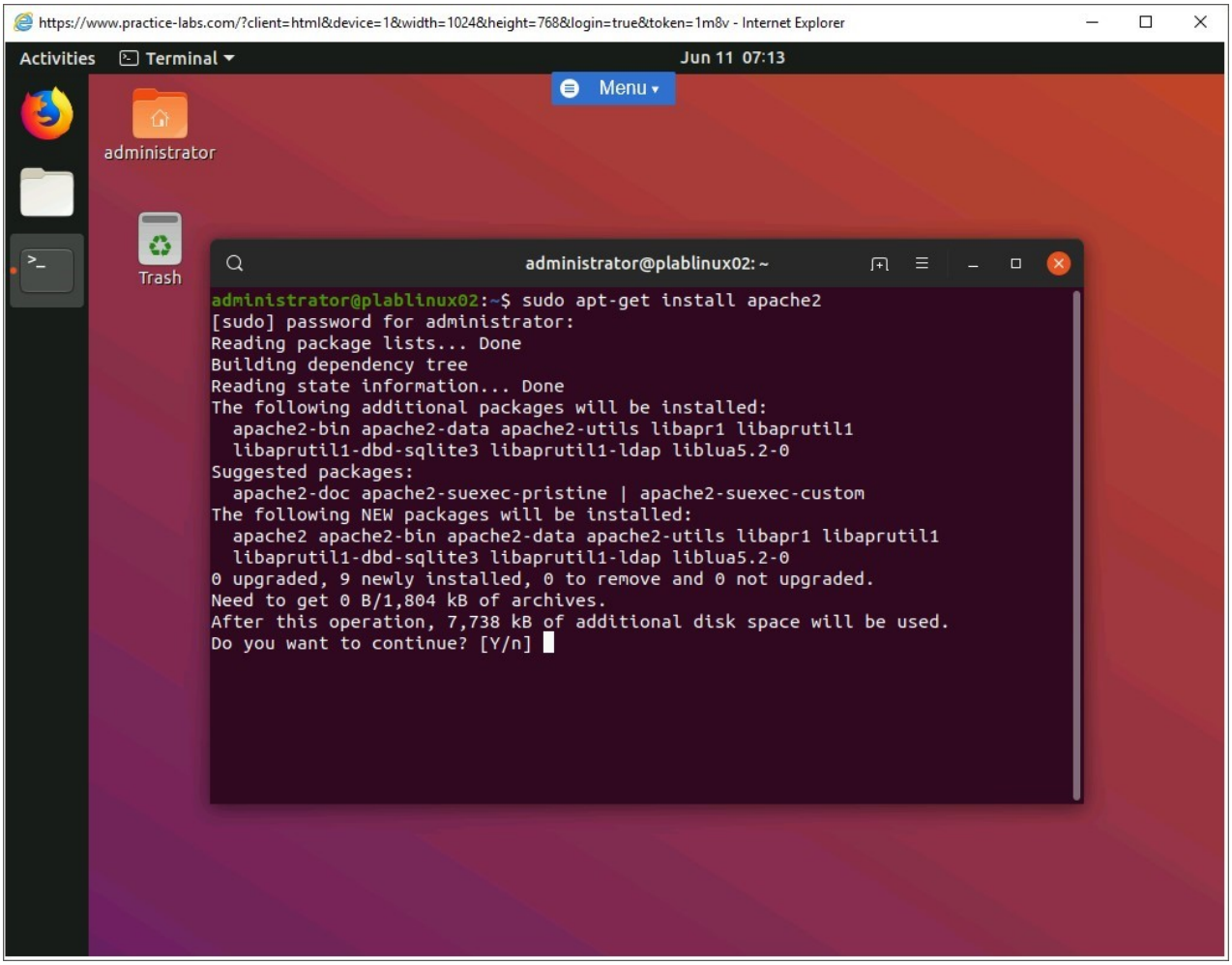


Figure 1.2 Screenshot of PLABLINUX02: Starting the installation of apache2.

Step 3

When prompted to confirm installation, press the following:

```
Y
```

Press **Enter**.

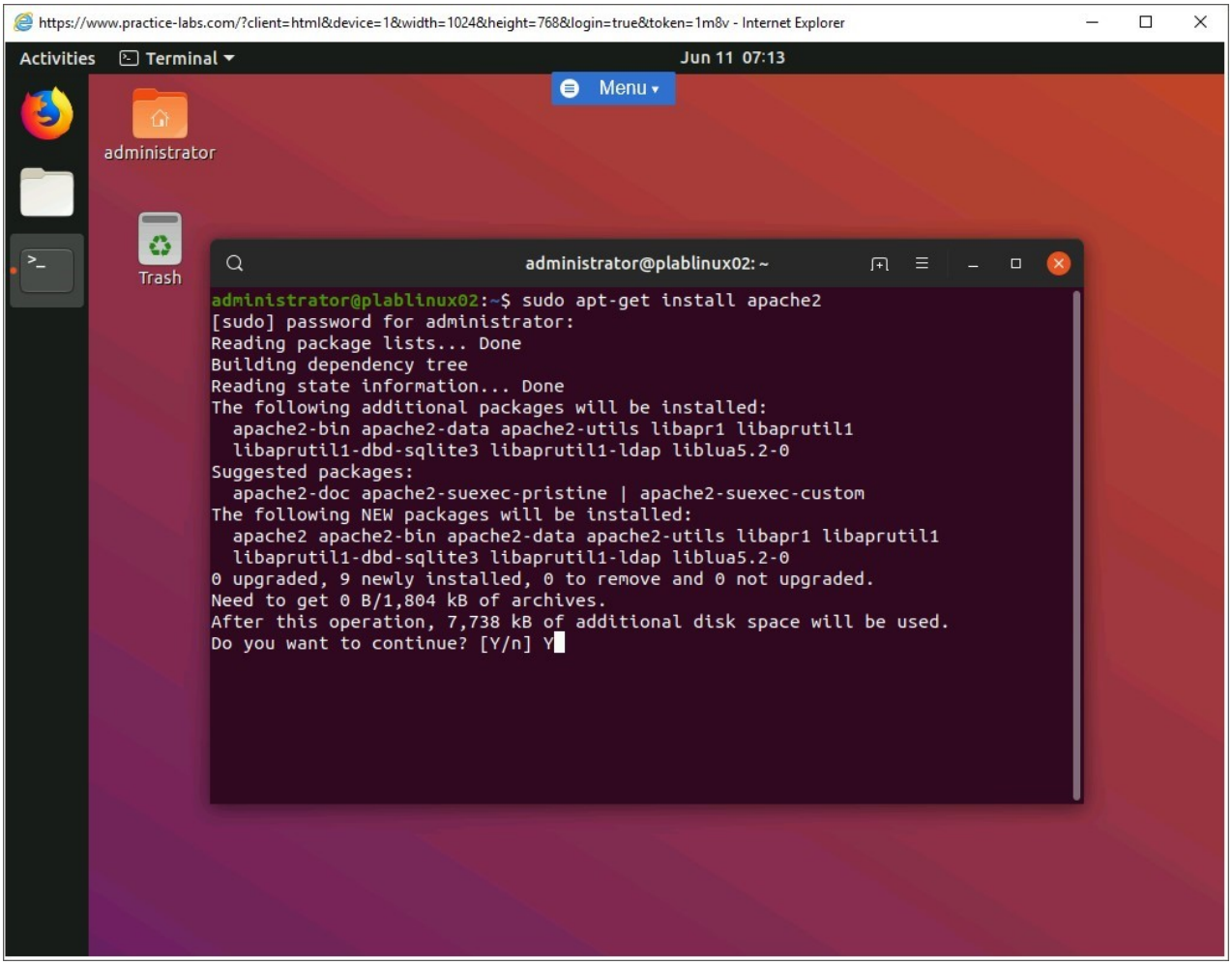


Figure 1.3 Screenshot of PLABLINUX02: Confirming the installation of apache2.

Step 4

The download and installation process will start. After the installation is completed, you are back on the command prompt.

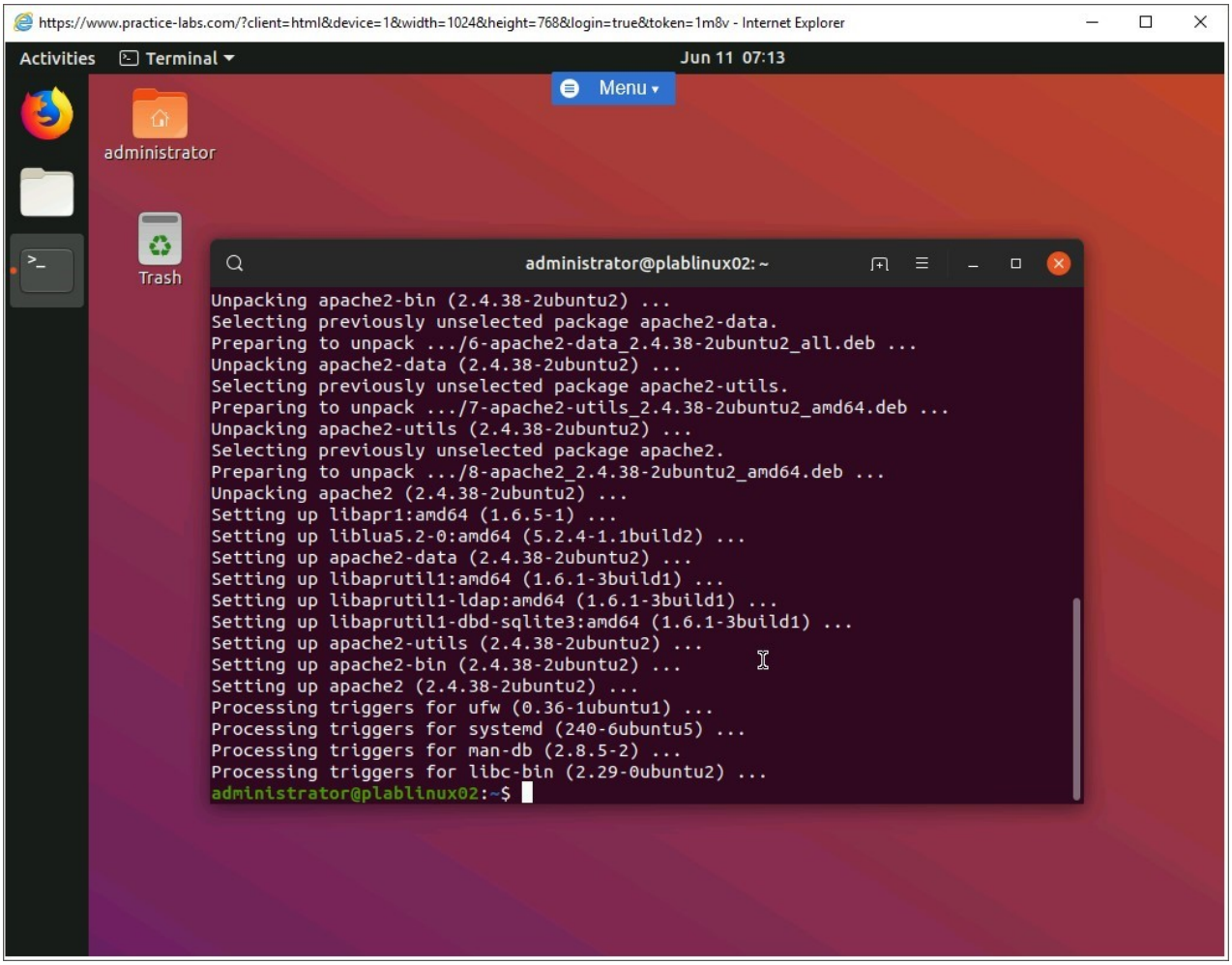


Figure 1.4 Screenshot of PLABLINUX02: Showing the installation completion of apache2.

Task 2 - Use Systemctl to Manage Services

The systemctl command is a management tool for managing and controlling the init system. Using the systemctl command, you can manage services, check service statuses, or change the service states.

In this task, you will use the systemctl command to perform various actions on the apache2 service. To do this, perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

Let's first check the status of the **apache2** service. To do this, type the following command:

```
systemctl status apache2
```

Press **Enter**.

Press **Ctrl** + **c** to break the command.

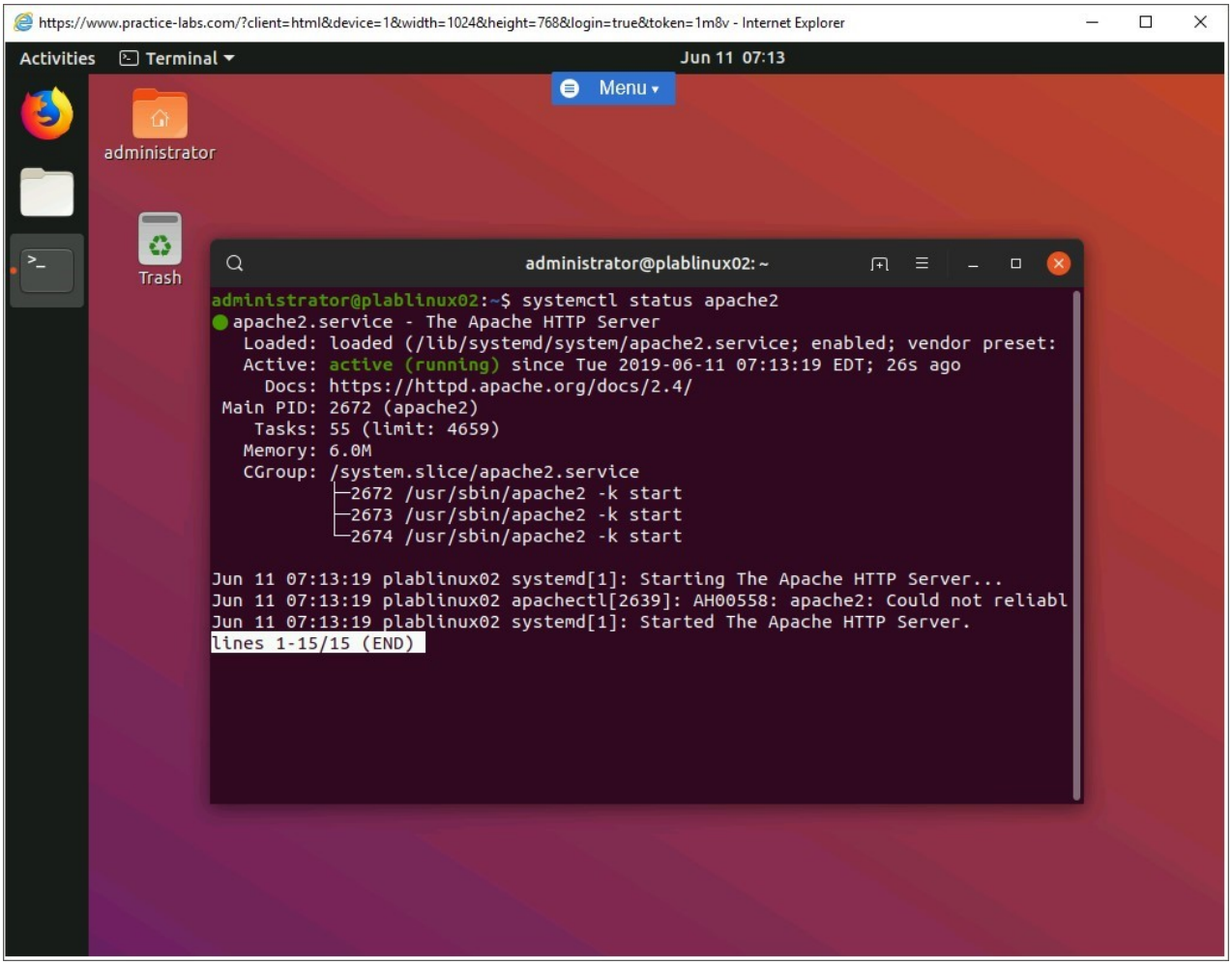


Figure 1.5 Screenshot of PLABLINUX02: Displaying the current status of apache2.

Step 2

Clear the screen by entering the following command:

```
clear
```

***Note:** You can use the **systemctl** command to either stop the service directly or executing instructions in the service's unit file, which is suffixed with **.service**. The result will be the same in both the cases.*

Using the systemctl command, you can stop the **apache2** service. To do this, type the following command:

```
sudo systemctl stop apache2
```

Press **Enter**.

If prompted for a password, type the following:

`Passw0rd`

Press **Enter**.

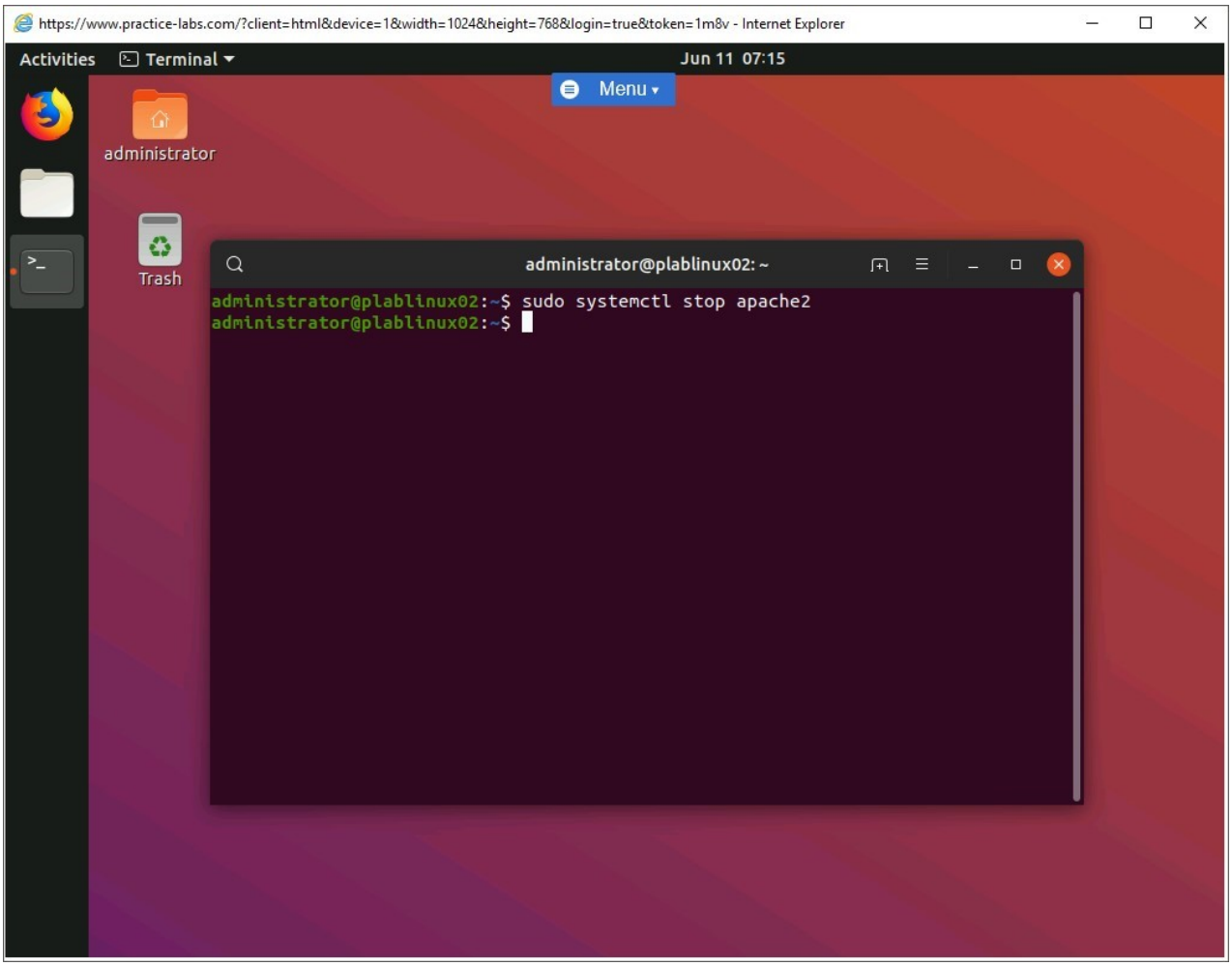


Figure 1.6 Screenshot of PLABLINUX02: Stopping the apache2 service.

Step 3

Clear the screen by entering the following command:

```
clear
```

To start the **apache2** service, type the following command:

```
sudo systemctl start apache2
```

Press **Enter**.

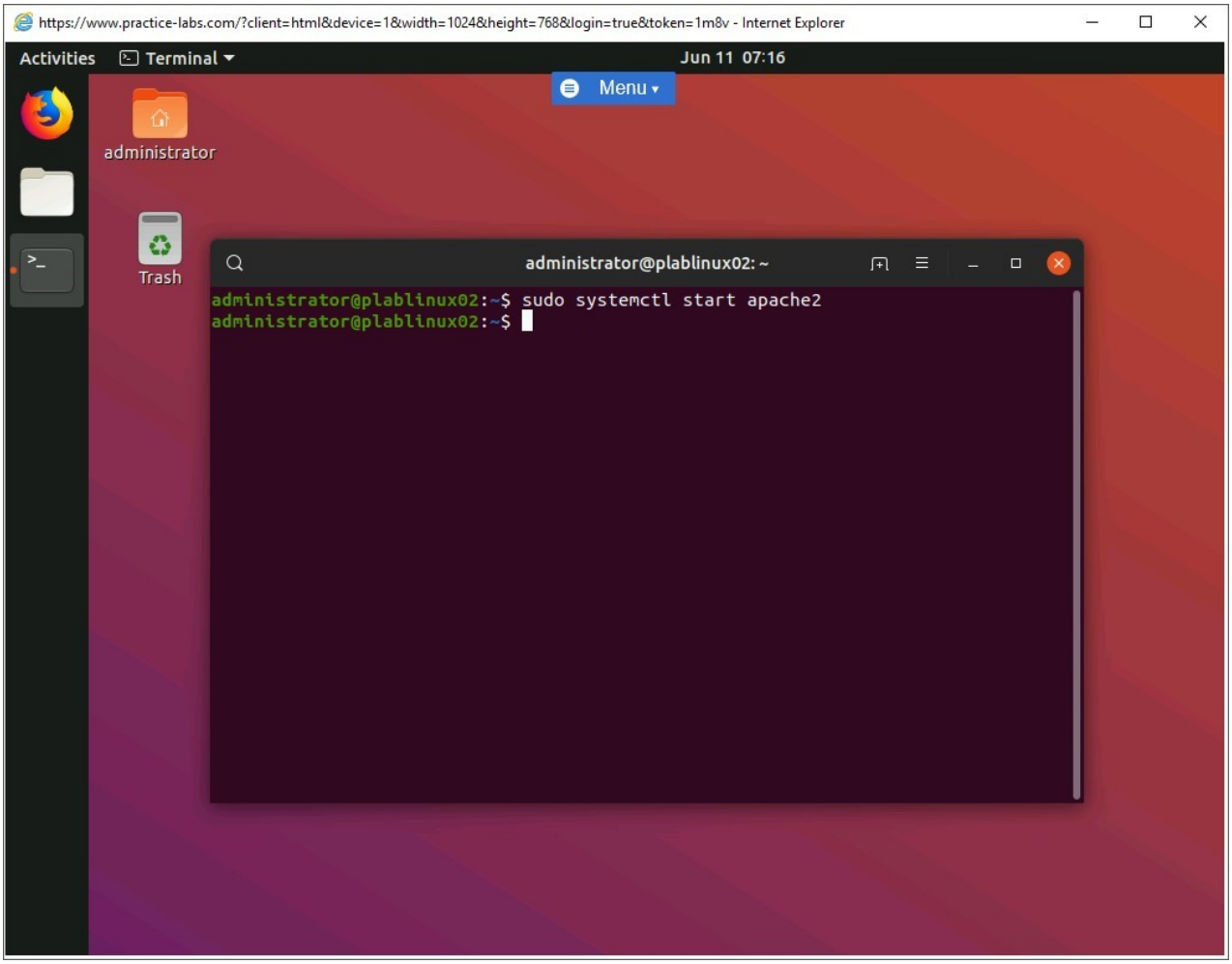


Figure 1.7 Screenshot of PLABLINUX02: Starting the apache2 service.

Step 4

To restart the **apache2** service, type the following command:

```
sudo systemctl restart apache2
```

Press **Enter**.

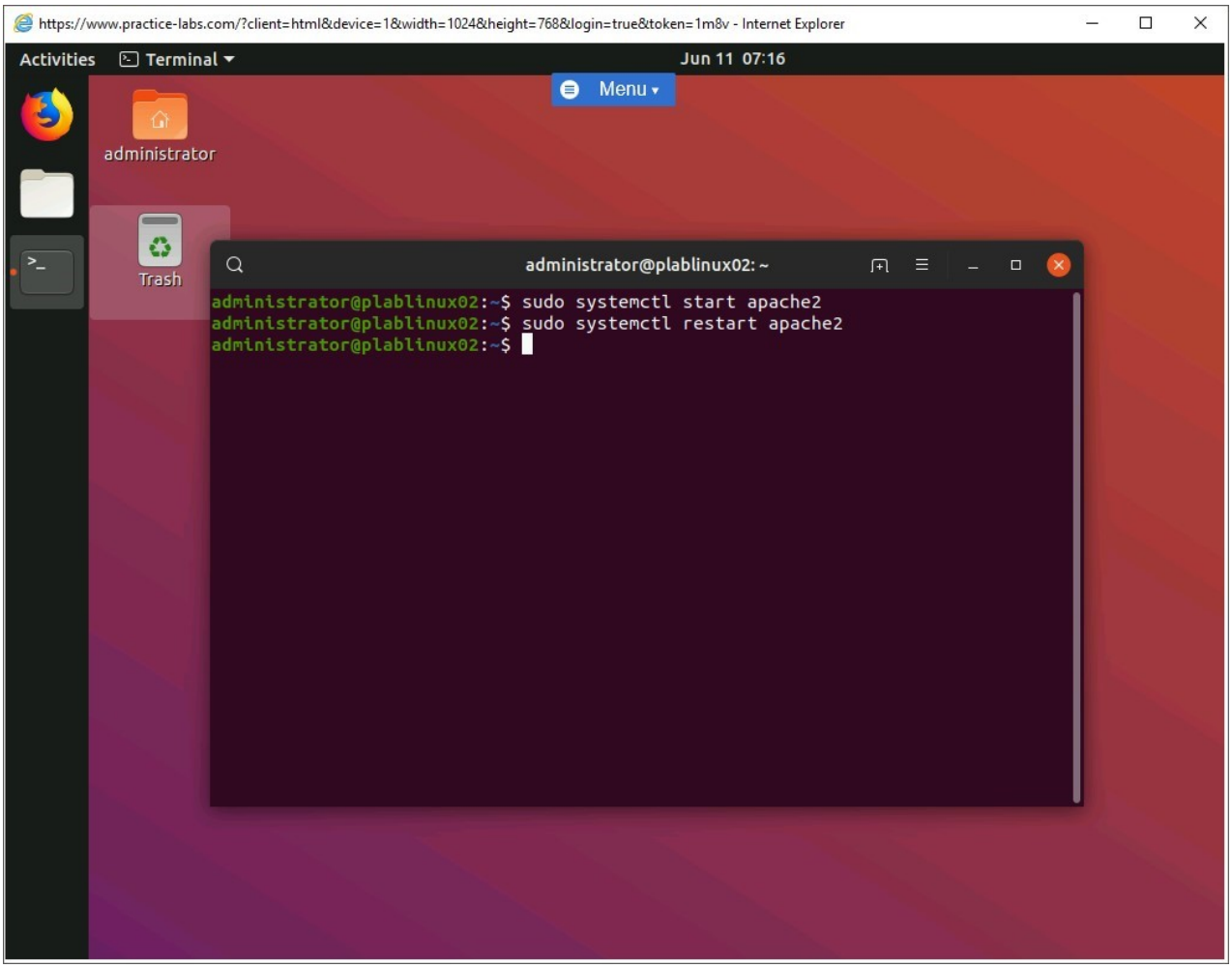


Figure 1.8 Screenshot of PLABLINUX02: Restarting the apache2 service.

Step 5

There may be scenarios in which you need to reload an application's configuration files without restarting the system; you can use the reload option. Type the following command:

```
sudo systemctl reload apache2
```

Press **Enter**.

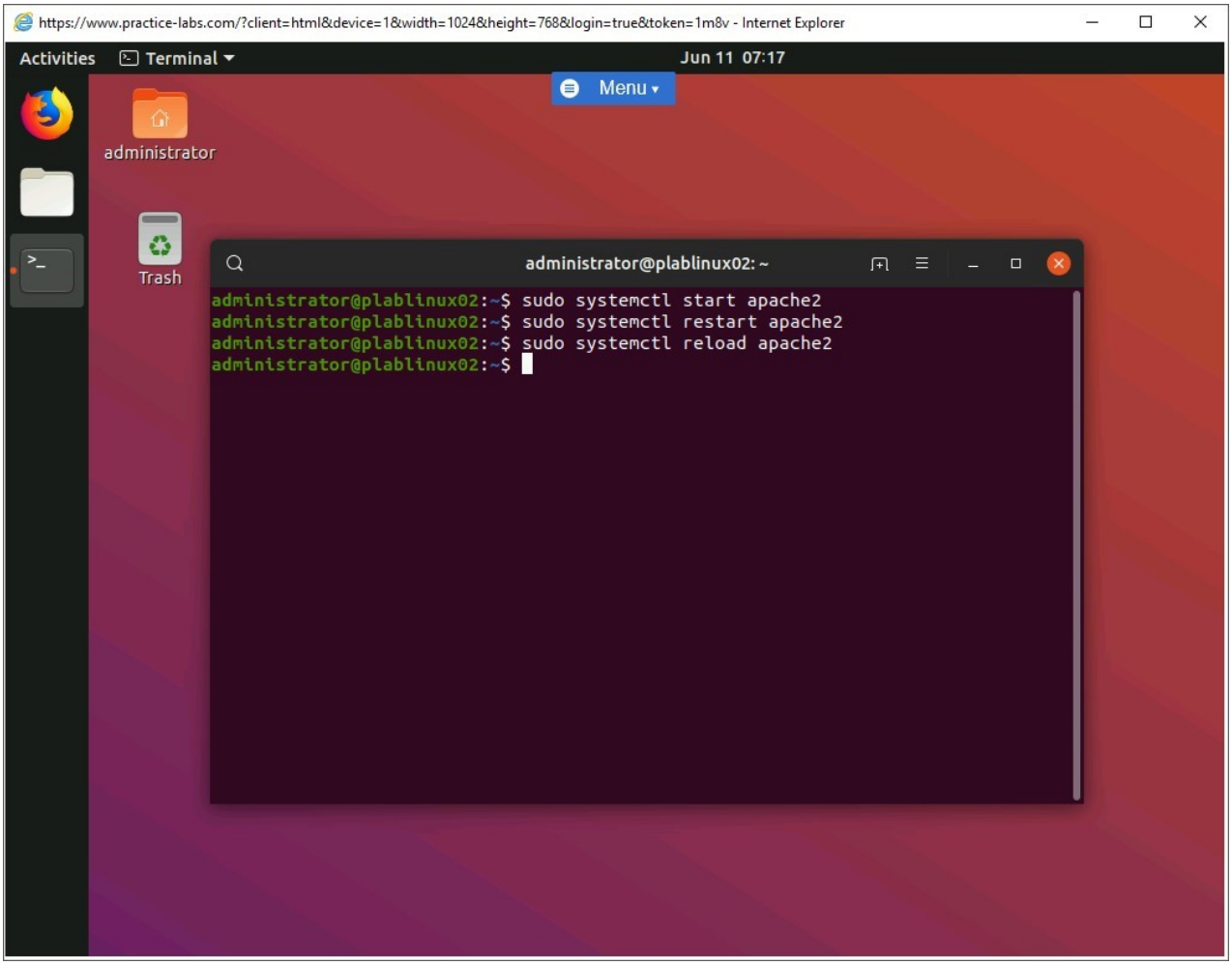


Figure 1.9 Screenshot of PLABLINUX02: Reloading the apache2 service.

Step 6

You can also use the **reload-or-restart** option. With this option, it will reload the in-place configuration if available. Else, it will restart the service Type the following command:

```
sudo systemctl reload-or-restart apache2
```

Press **Enter**.

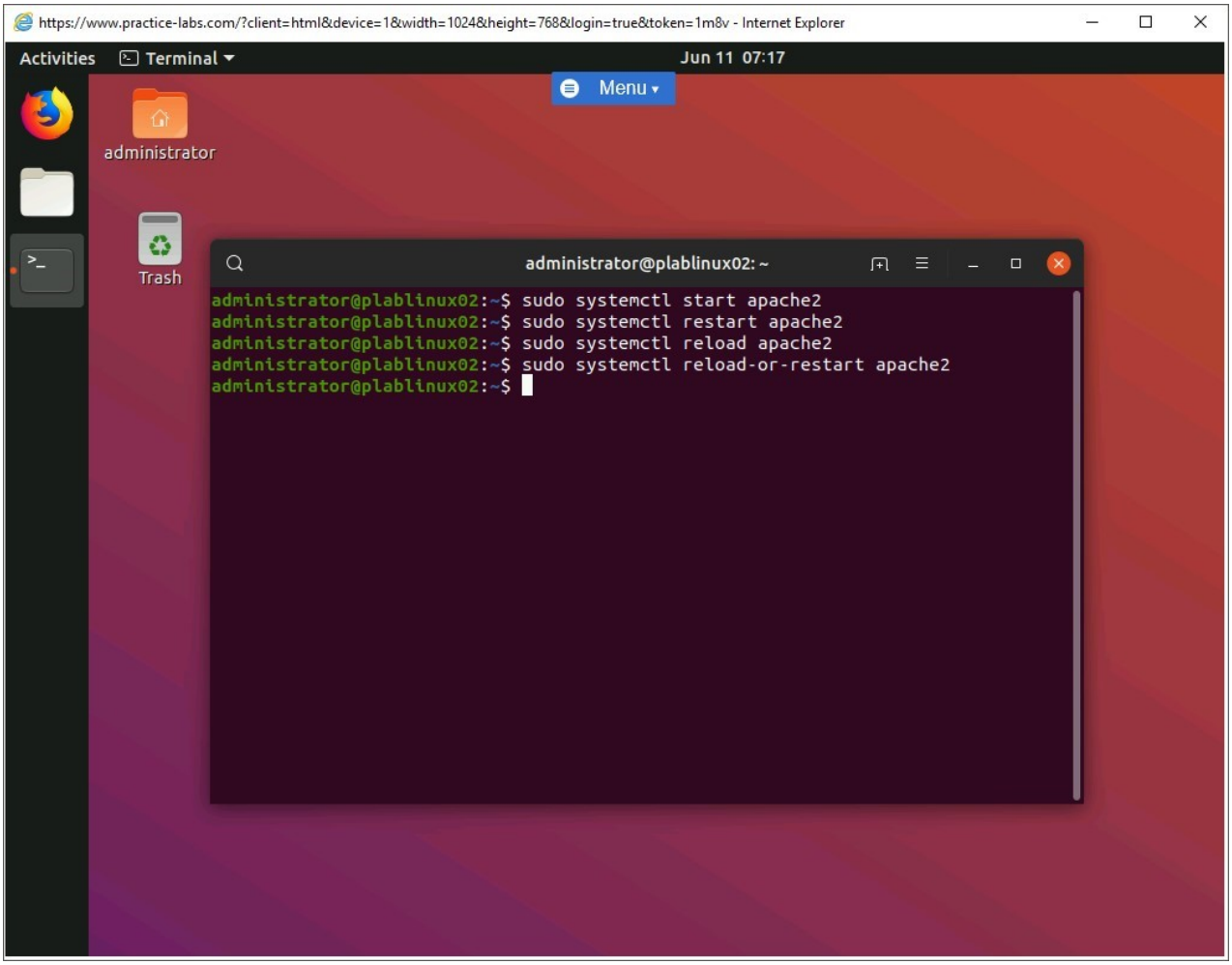


Figure 1.10 Screenshot of PLABLINUX02: Reloading or restarting the apache2 service.

Step 7

There will be some services that you require to start when the system boots up. To enable **apache2** to start at the system boot, type the following command:

```
sudo systemctl enable apache2
```

Press **Enter**.

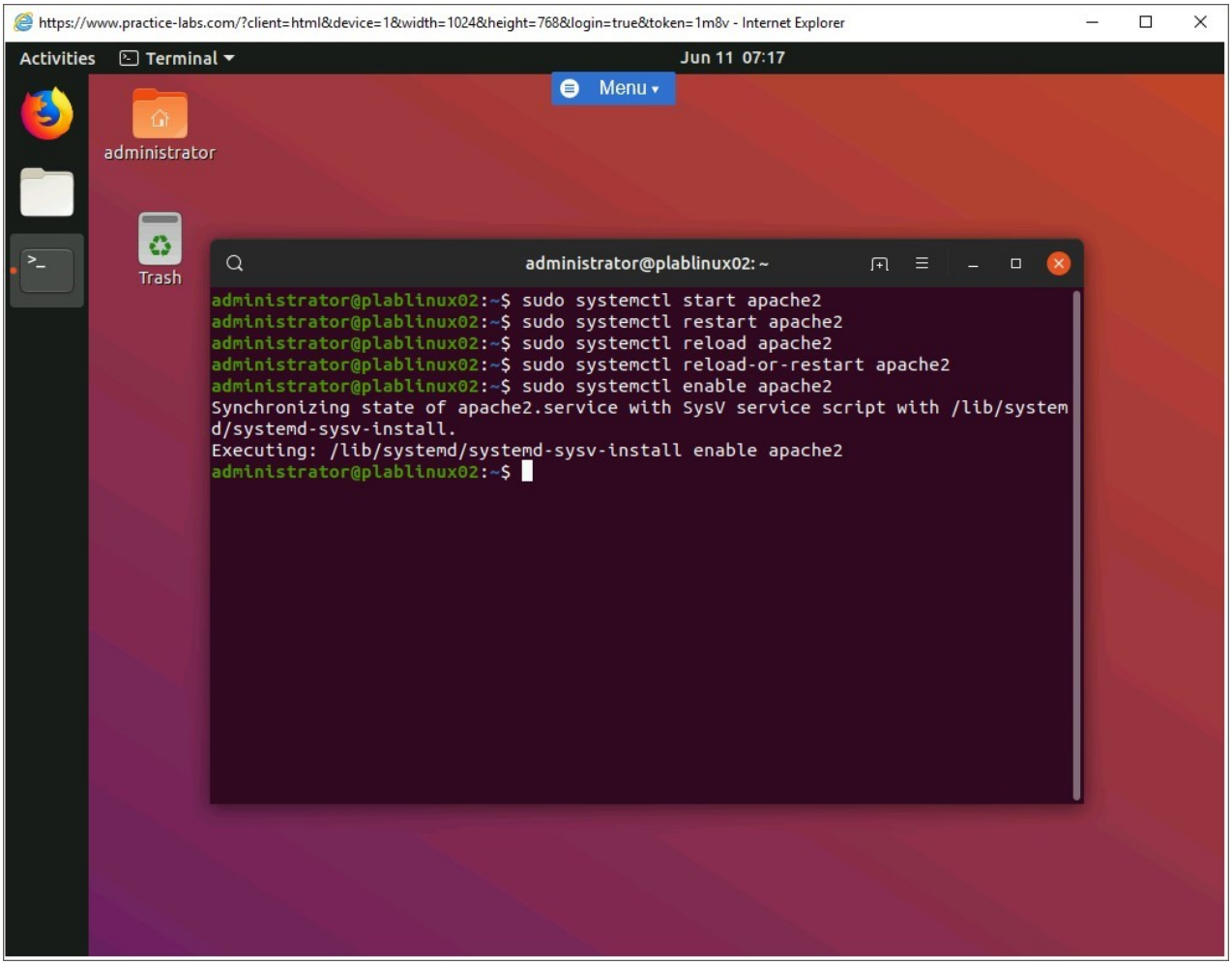


Figure 1.11 Screenshot of PLABLINUX02: Enabling the apache2 service.

Step 8

You can also disable an automatic start of the service at the system boot. To disable **apache2** to start at the system boot, type the following command:

```
sudo systemctl disable apache2
```

Press **Enter**.

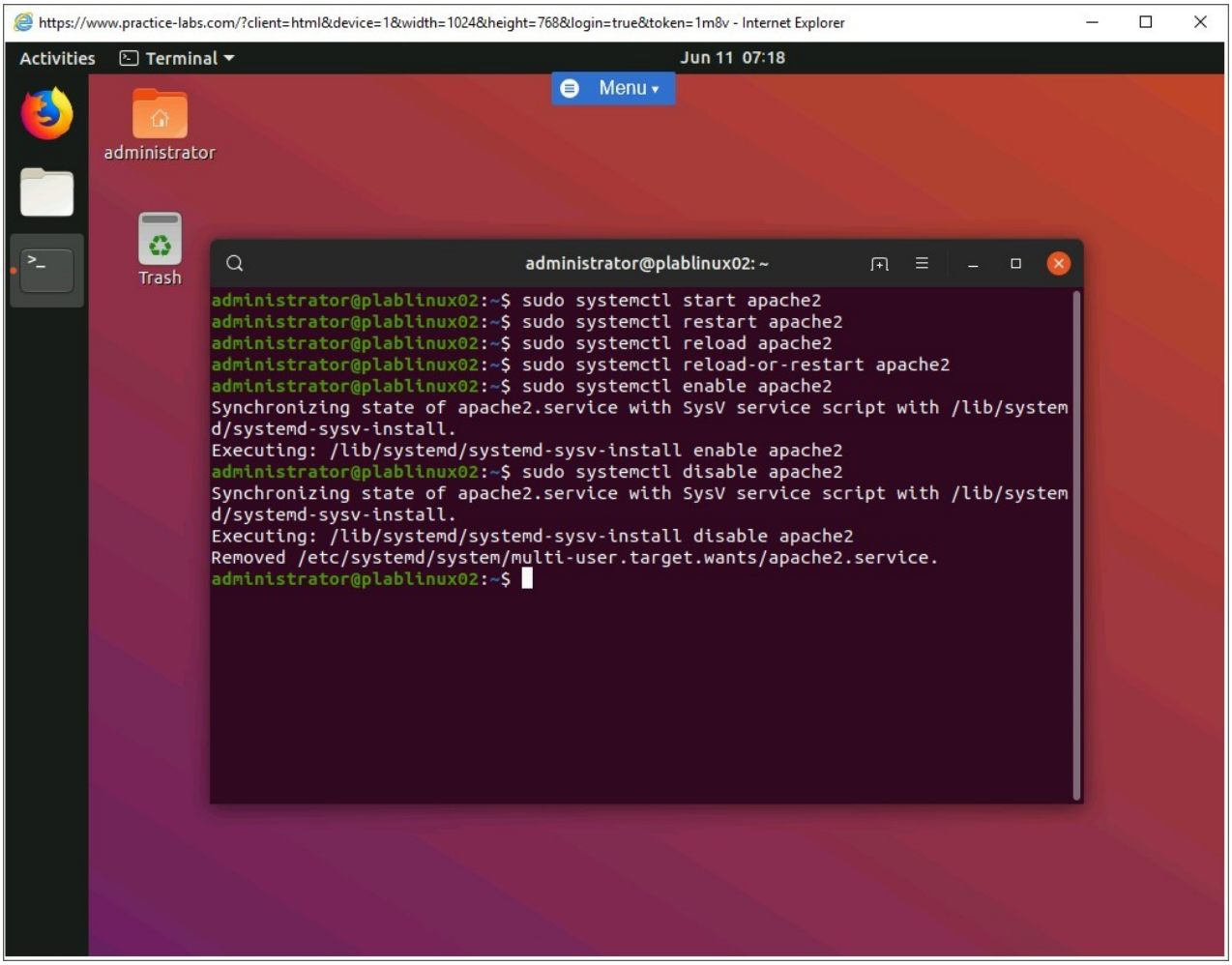


Figure 1.12 Screenshot of PLABLINUX02: Disabling the apache2 service.

Step 9

Clear the screen by entering the following command:

```
clear
```

You can also check if the service is currently running. To do this, type the following command:

```
systemctl is-active apache2
```

Press **Enter**.

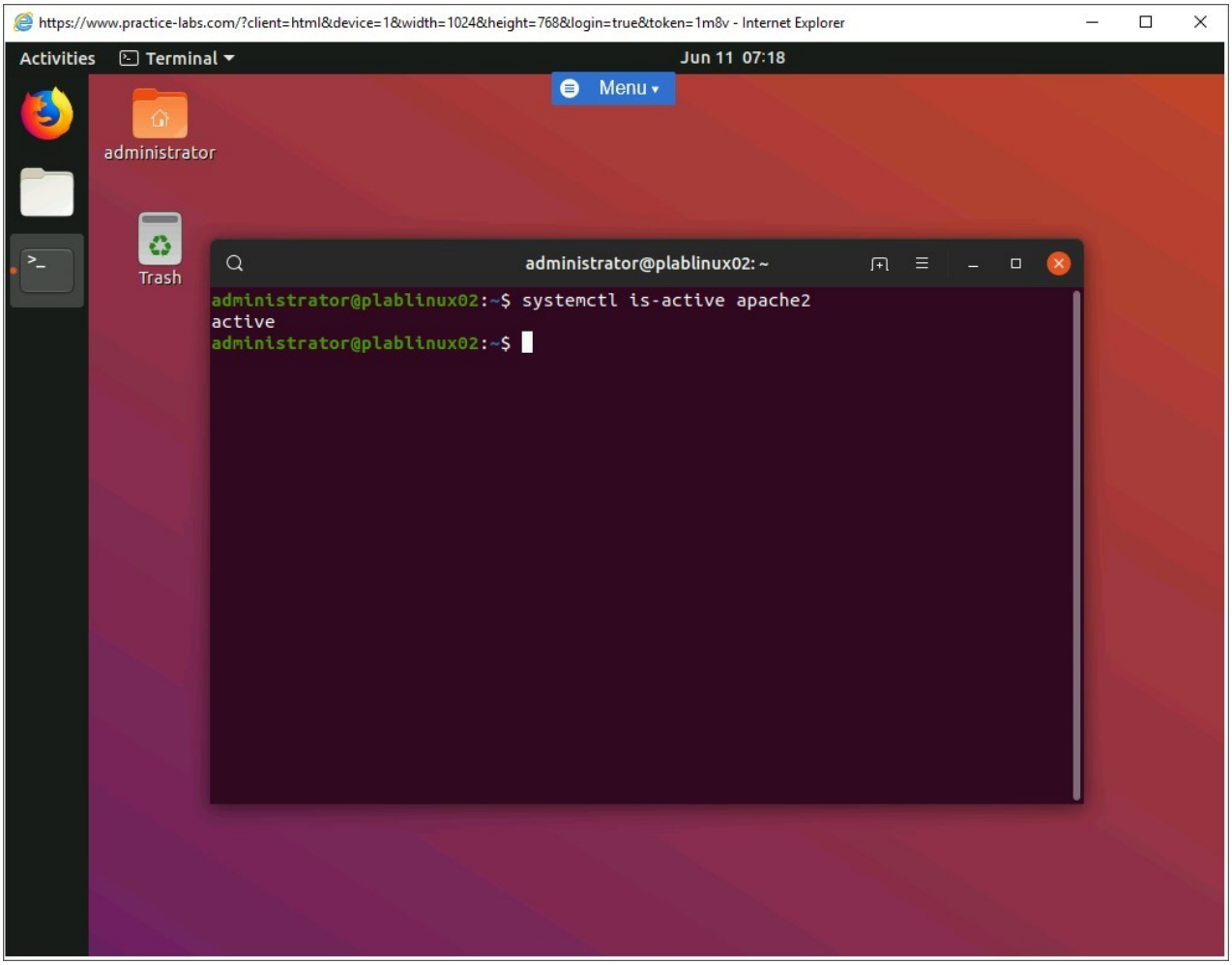


Figure 1.13Screenshot of PLABLINUX02: Verifying if the service is still running.

Step 10

You can also check if the service is enabled at the system boot. To do this, type the following command:

```
systemctl is-enabled apache2
```

Press **Enter**.

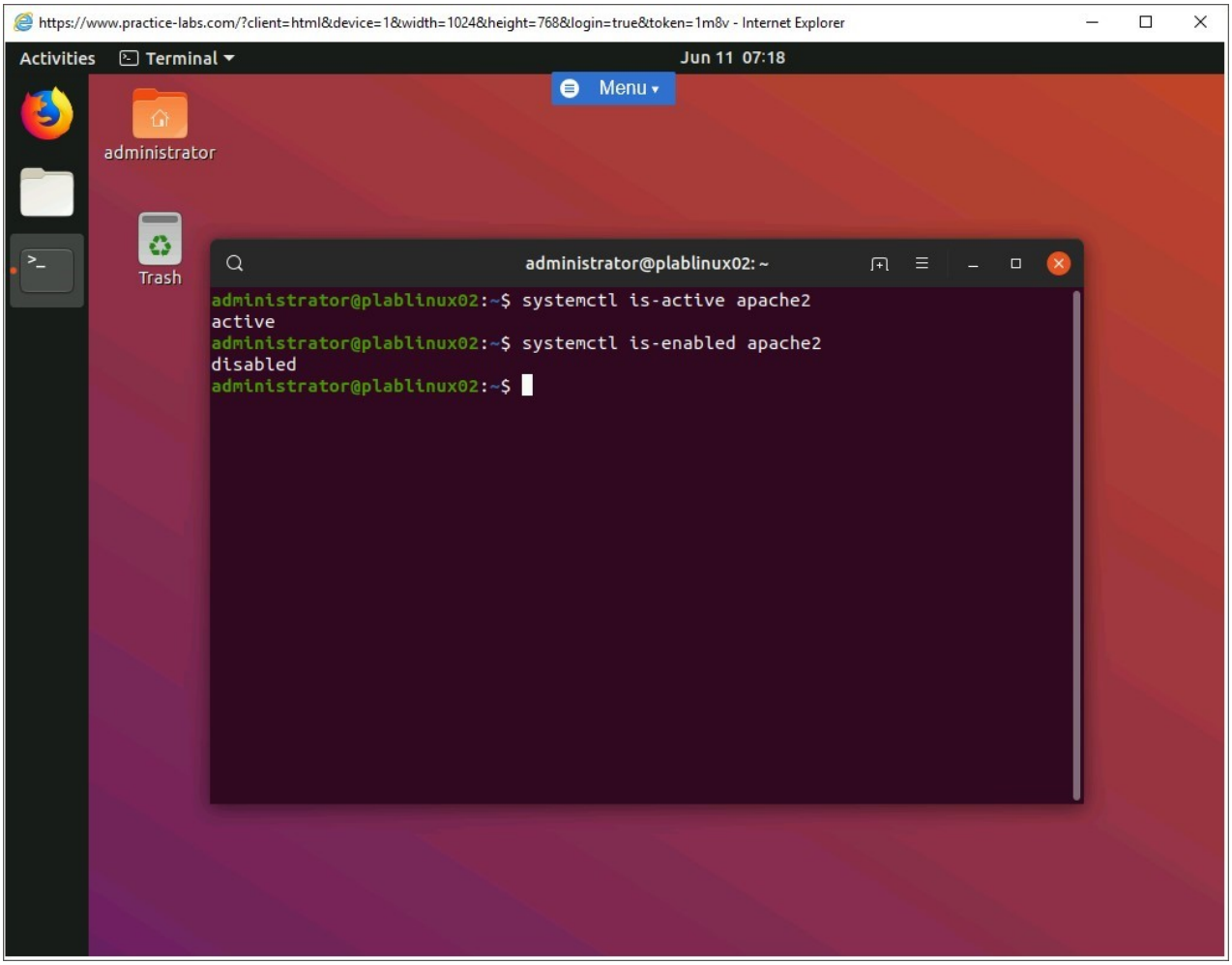


Figure 1.14 Screenshot of PLABLINUX02: Verifying if the service is enabled.

Step 11

To see a list of all of the active units, type the following command:

```
systemctl list-units
```

Press **Enter**.

Press **Ctrl + c** to break the command.

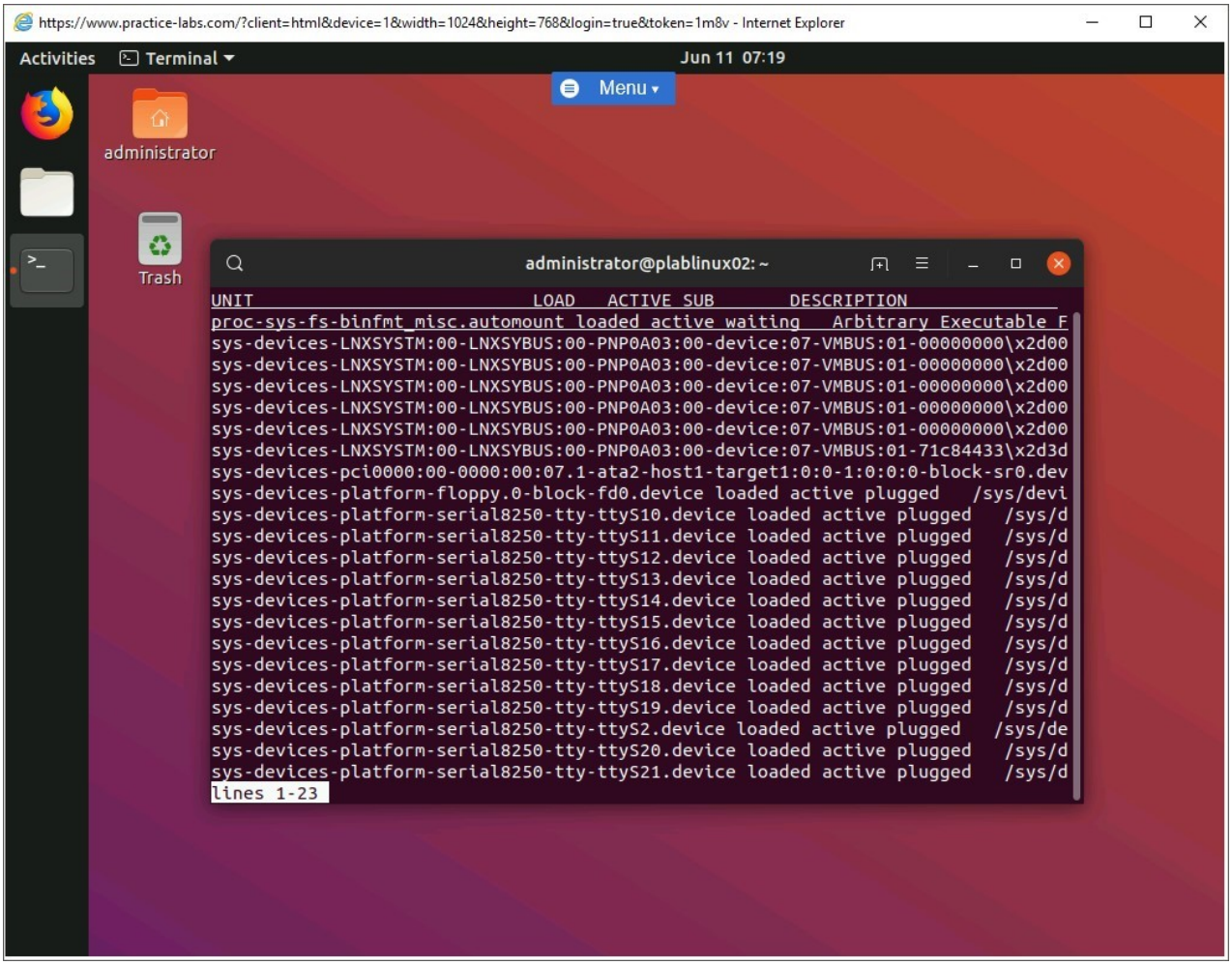


Figure 1.15 Screenshot of PLABLINUX02: Displaying the list of all of the active units.

Task 3 - Use daemon-reload

When files or directories are deleted from a Linux system, the systemctl process continues to reference them unless the process is reloaded. In this task, you will reload the system process. To do this, perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

To perform the daemon-reload, type the following command:

```
sudo systemctl daemon-reload
```

Press **Enter**.

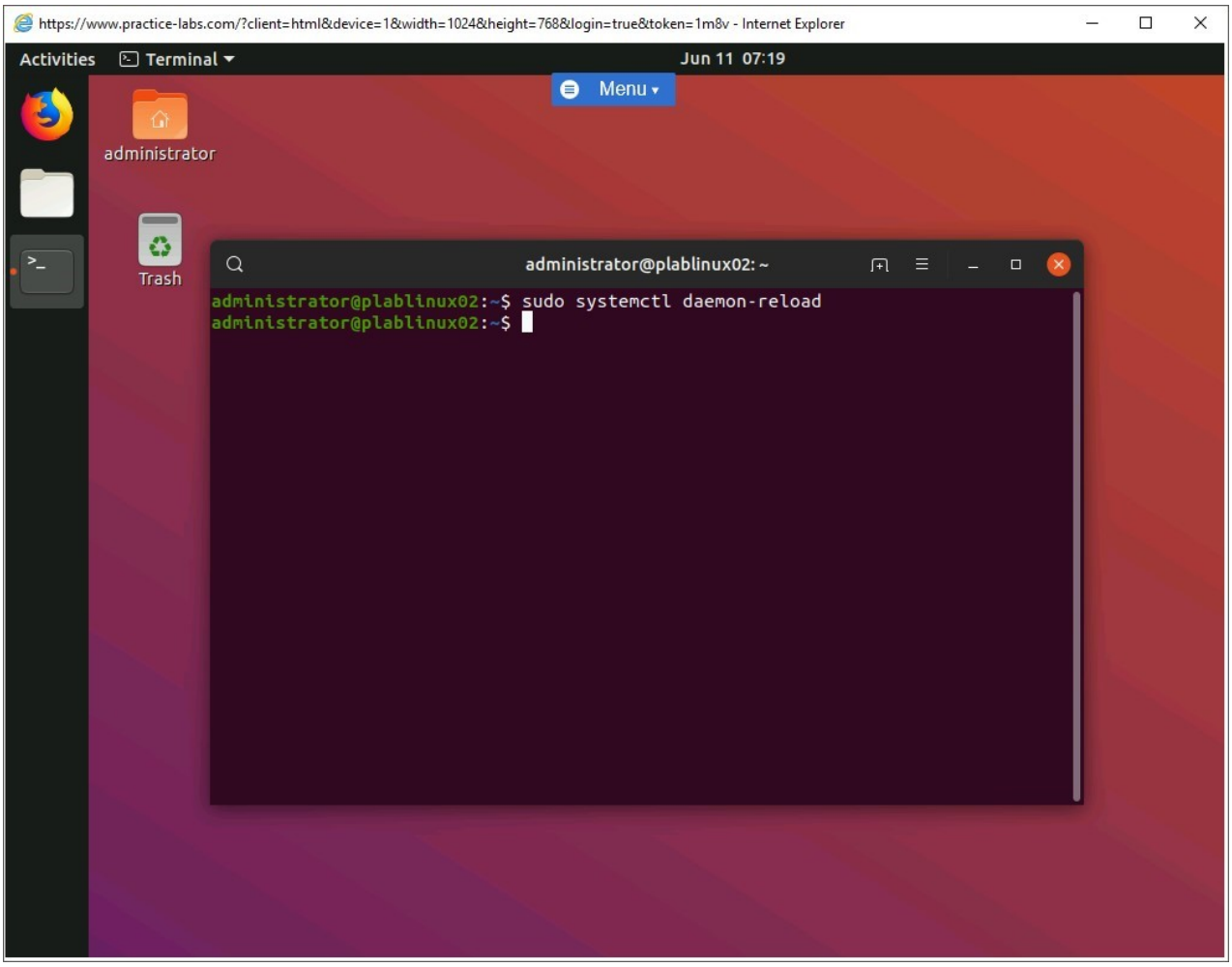


Figure 1.16 Screenshot of PLABLINUX02: Reloading the daemon.

Task 4 - Use the update-rc.d utility

The update-rc.d utility has replaced the chkconfig utility in Ubuntu. The update-rc.d utility is now available in nearly all new versions that are being released. Using the update-rc.d utility, you can activate, deactivate or modify a service startup. In this task, you will use the update-rc.d utility. To do this, perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

Assume that you need to disable **apache2** service manually. In this case, you would need to delete all existing symbolic links related to the service in the **/etc/rcX.d/** directory. Type the following command:

```
sudo update-rc.d -f apache2 remove
```

Press **Enter**.

If prompted for a password, type the following:

`Passw0rd`

Press **Enter**.

> ***Note:*** *The -f parameter forces the removal of the symbolic links from the /etc/rcX.d/ directory.*

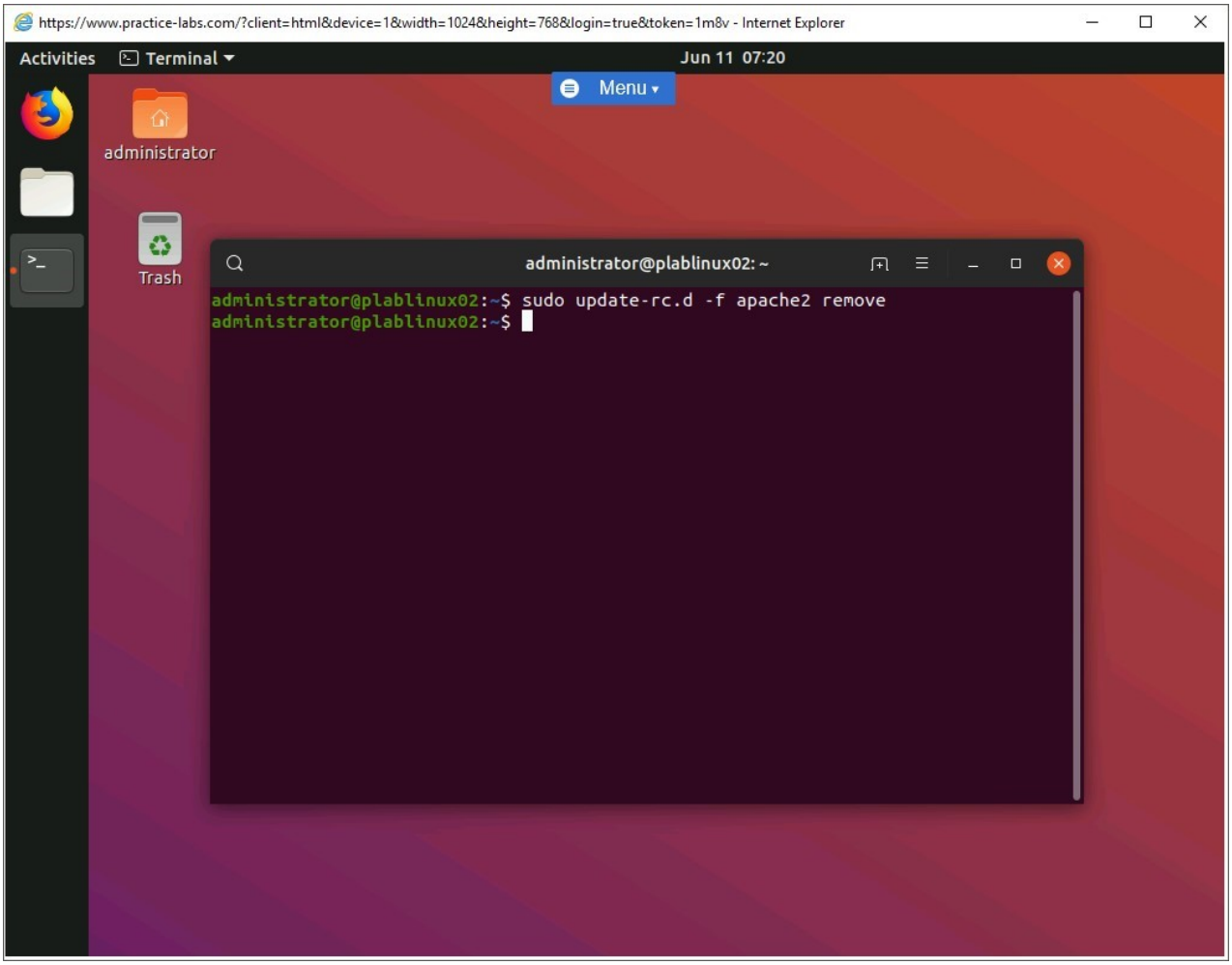


Figure 1.17 Screenshot of PLABLINUX02: Removing the apache2 service from the startup.

Step 2

You can add the **apache2** service at the system boot up. To do this, type the following command:

```
sudo update-rc.d apache2 defaults
```

Press **Enter**.

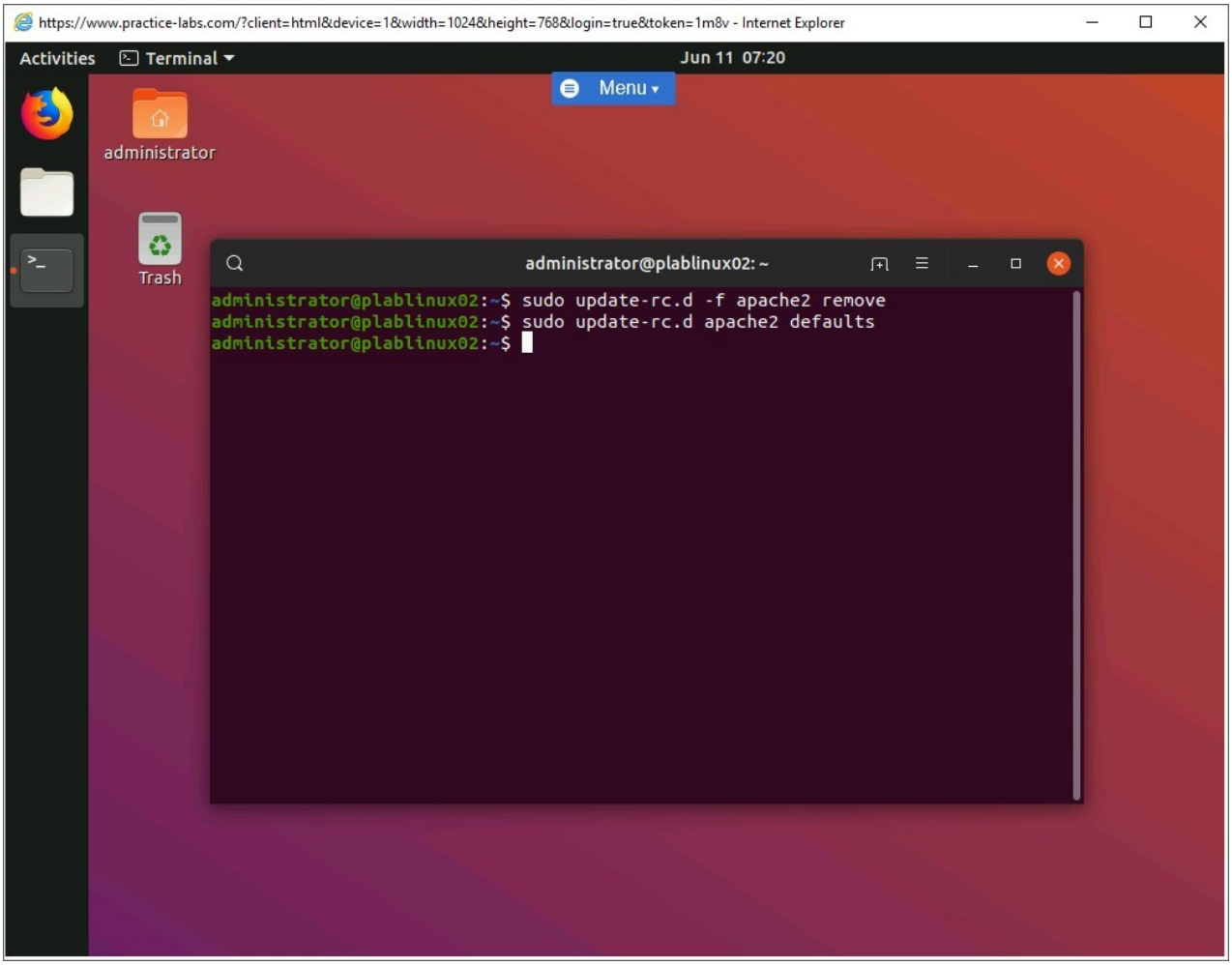


Figure 1.18 Screenshot of PLABLINUX02: Adding the apache2 service at the system boot up.

Step 3

You can also set the start and kill priority for the **apache2** service. The **start** is defined first and then **kill** is defined. To do this, type the following command:

```
sudo update-rc.d apache2 defaults 90 90
```

Press **Enter**.

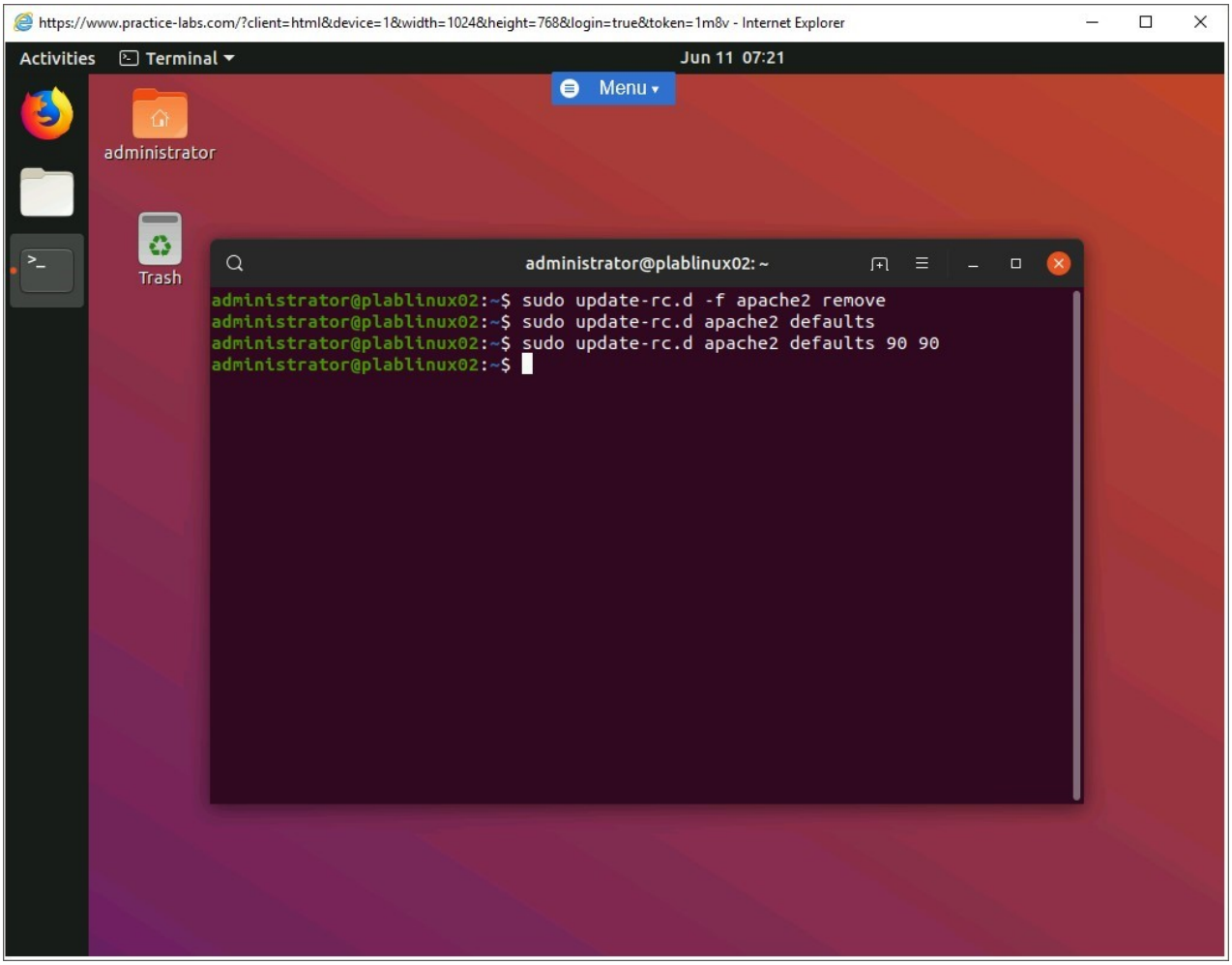


Figure 1.19 Screenshot of PLABLINUX02: Setting the start and kill priority for the apache2 service.

Keep all devices in their current state and proceed to the next exercise.

Review

Well done, you have completed the **Use Systemctl and update-rc.d utility to manage services** Practice Lab.

Summary

You completed the following exercise:

- Exercise 1 - Use Systemctl and update-rc.d utility to manage services

You should now be able to:

- Install Apache2
- Use Systemctl to manage services
- Use daemon-reload
- Use the update-rc.d utility

Feedback

Shutdown all virtual machines used in this lab. Alternatively, you can log out of the lab platform.