

Control Mounting and Unmounting of Filesystems

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Introduction

Welcome to the **Control Mounting and Unmounting of Filesystems** Practice Lab. In this module you will be provided with the instructions and devices needed to develop your hands-on skills.

Mounting
Unmounting
Filesystems

Learning Outcomes

In this module, you will complete the following exercise:

- Exercise 1 - Configure User Mountable Removable Filesystems

After completing this lab, you will be able to:

- Log into a Linux System
- Manually mount and unmount filesystems
- Configure filesystem mounting on bootup
- Configure user mountable removable filesystems

Exam Objectives

The following exam objectives are covered in this lab:

- **LPI:** 104.1 Create partitions and filesystems
- **LPI:** 104.3 Control mounting and unmounting of filesystems
- **CompTIA:** 1.4 Given a scenario, manage storage in a Linux environment.

***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 - Configure User Mountable Removable Filesystems

The Linux filesystem uses the root as the base of a filesystem. Along with root, you can have different filesystems on different devices and partitions. When you boot a Linux system, the root (/) filesystem is mounted as part of the initialization process. However, the remaining filesystems are not usable until they are mounted at a specific mount point.

In this exercise, you will understand how to configure user mountable removable filesystems.

Learning Outcomes

After completing this exercise, you will be able to:

- Log into a Linux System
- Manually mount and unmount filesystems
- Configure filesystem mounting on bootup
- Configure user mountable removable filesystems

Your Devices

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

- **PLABLINUX02** (Ubuntu Server)



Task 1 - Log into a Linux System

To perform any operations on the system, you need to log into the system. In this task, you will log into an Ubuntu Linux system on the lab.

To log into a Linux system, perform the following steps:

Step 1

Ensure all the required devices are powered on. Connect to **PLABLINUX02**

Press **Enter** and click **Administrator**.

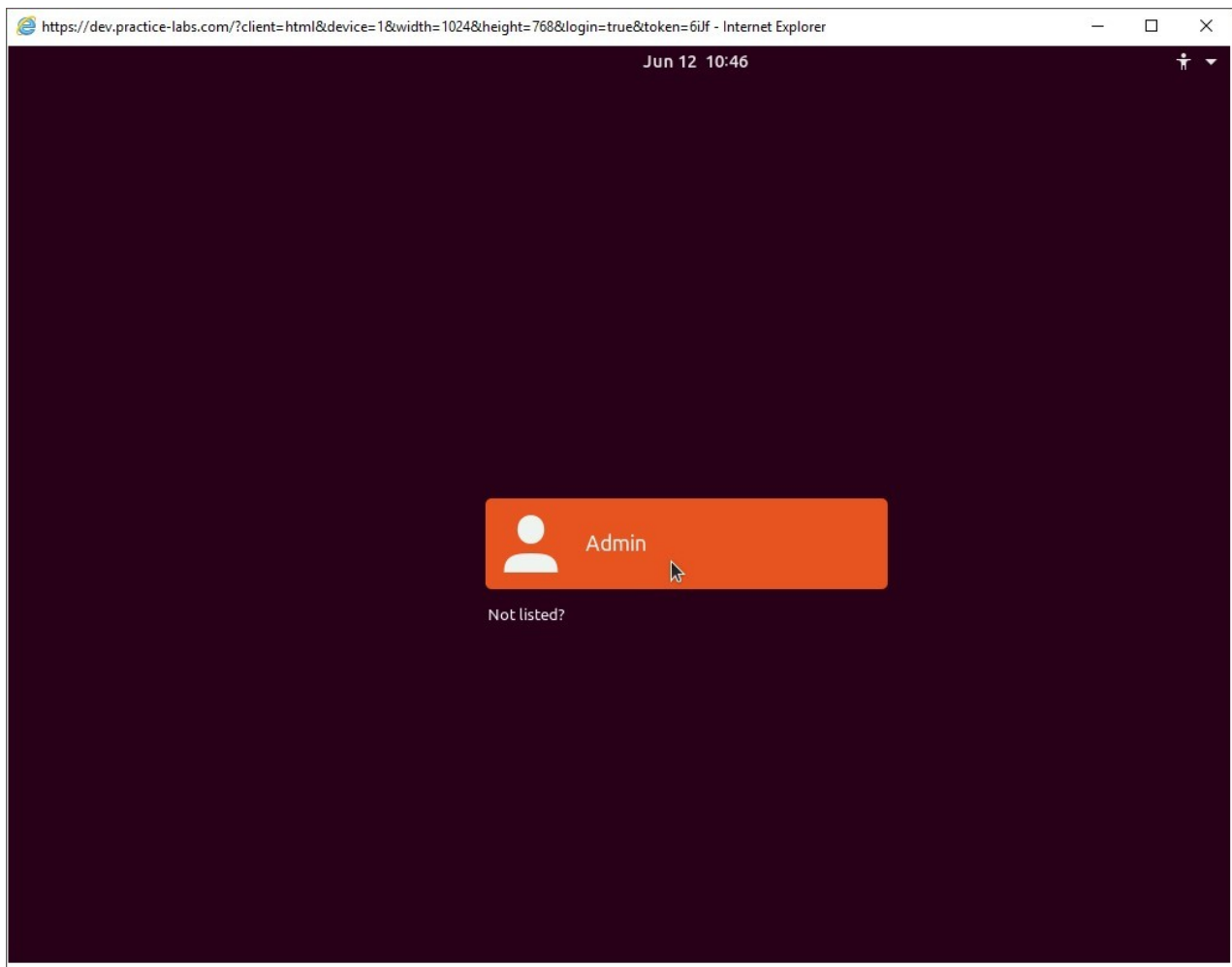


Figure 1.1 Screenshot of PLABLINUX02: Clicking the Administrator account on the login screen.

Step 2

When prompted, type the following password in the **Password** field:

Passw0rd

Click **Sign In**.

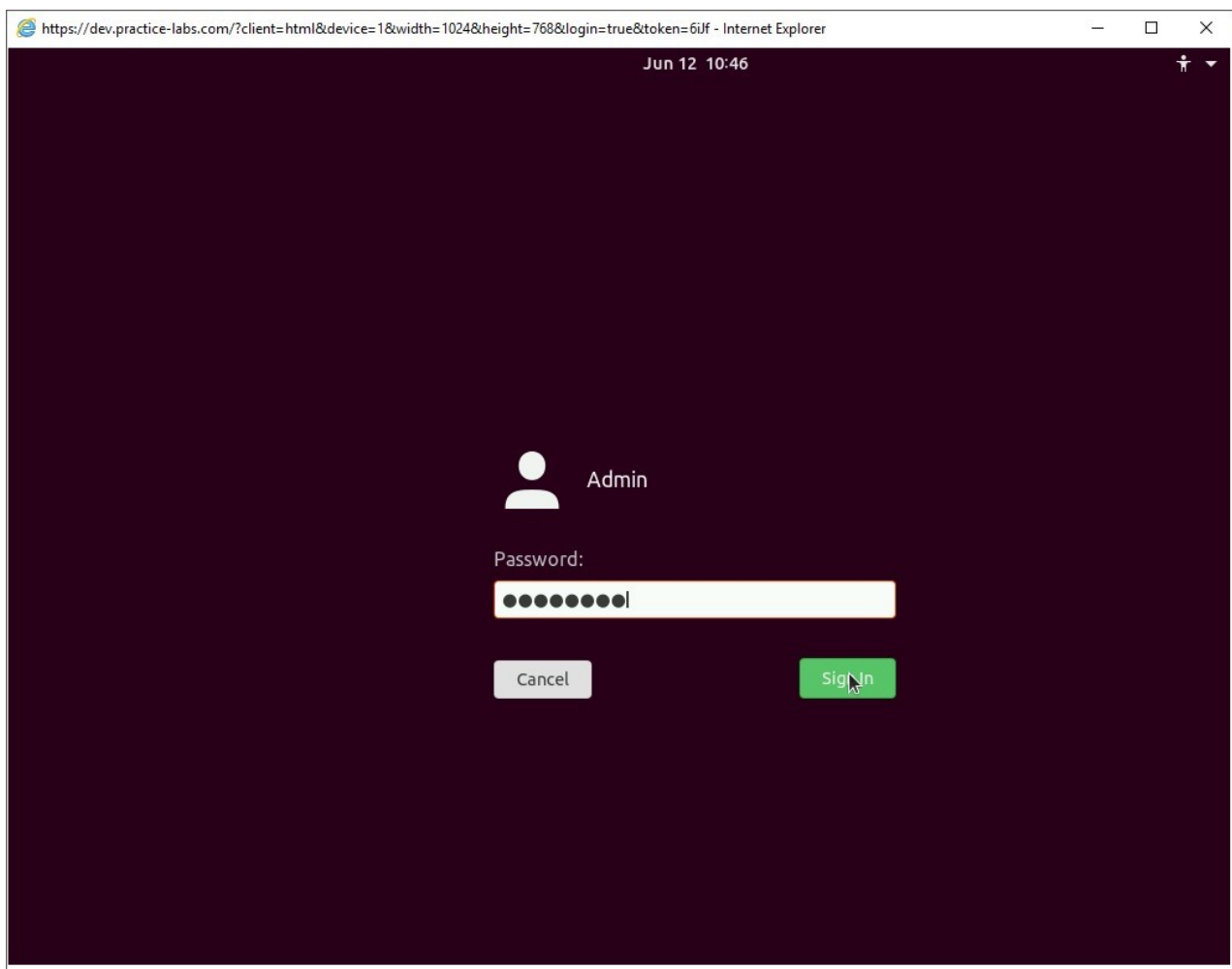


Figure 1.2 Screenshot of PLABLINUX02: Entering the password in the Password text box and then clicking Sign In.

After a successful login, the desktop is displayed.

Note: If you are prompted with Software Updater dialog box, click **Remind Me Later**.

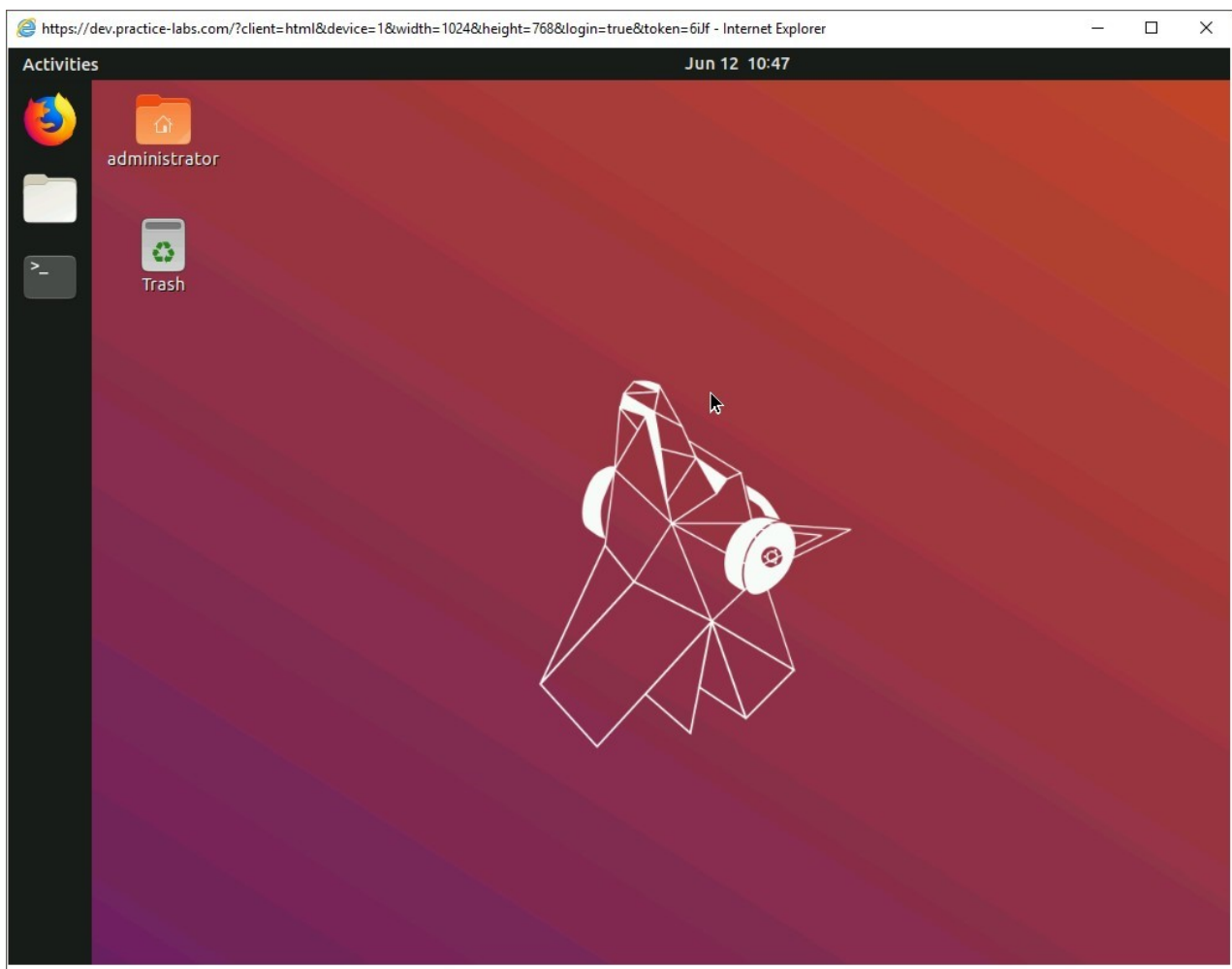


Figure 1.3 Screenshot of PLABLINUX02: Displaying the desktop after the successful login.

Task 2 - Manually Mount and Unmount Filesystems

Mounting a partition makes it accessible to the users. You can create multiple partitions on a hard disk, but you can use them only after mounting them. When you boot a Linux system, the **root** (/) filesystem is mounted as part of the initialization process. In this task, you will manually mount and unmounts a filesystem.

To manually mount and unmounts a filesystem, 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.

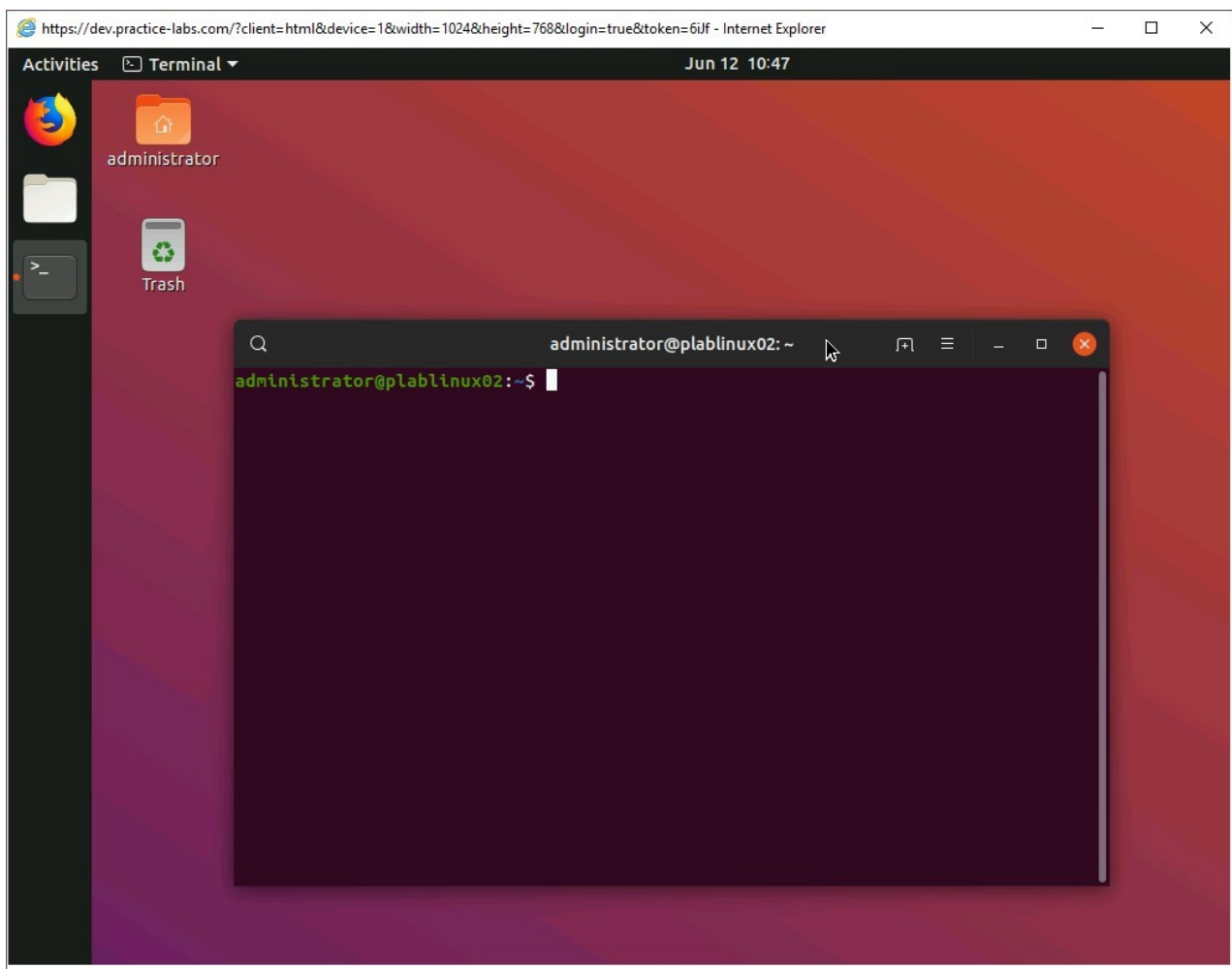


Figure 1.4 Screenshot of PLABLINUX02: Selecting the Open Terminal option from the context menu.

Step 2

The terminal window is displayed. You need to create a mount point before you can mount a filesystem.

To create a mount point of the DOS filesystem, you will need to create a directory, which can be named anything. However, for this task, you can name it as **/dos**. To create the **/dos** directory, type the following command:

```
sudo mkdir /dos
```

Press **Enter**.

When prompted, type the following password:

Password

Press **Enter**.

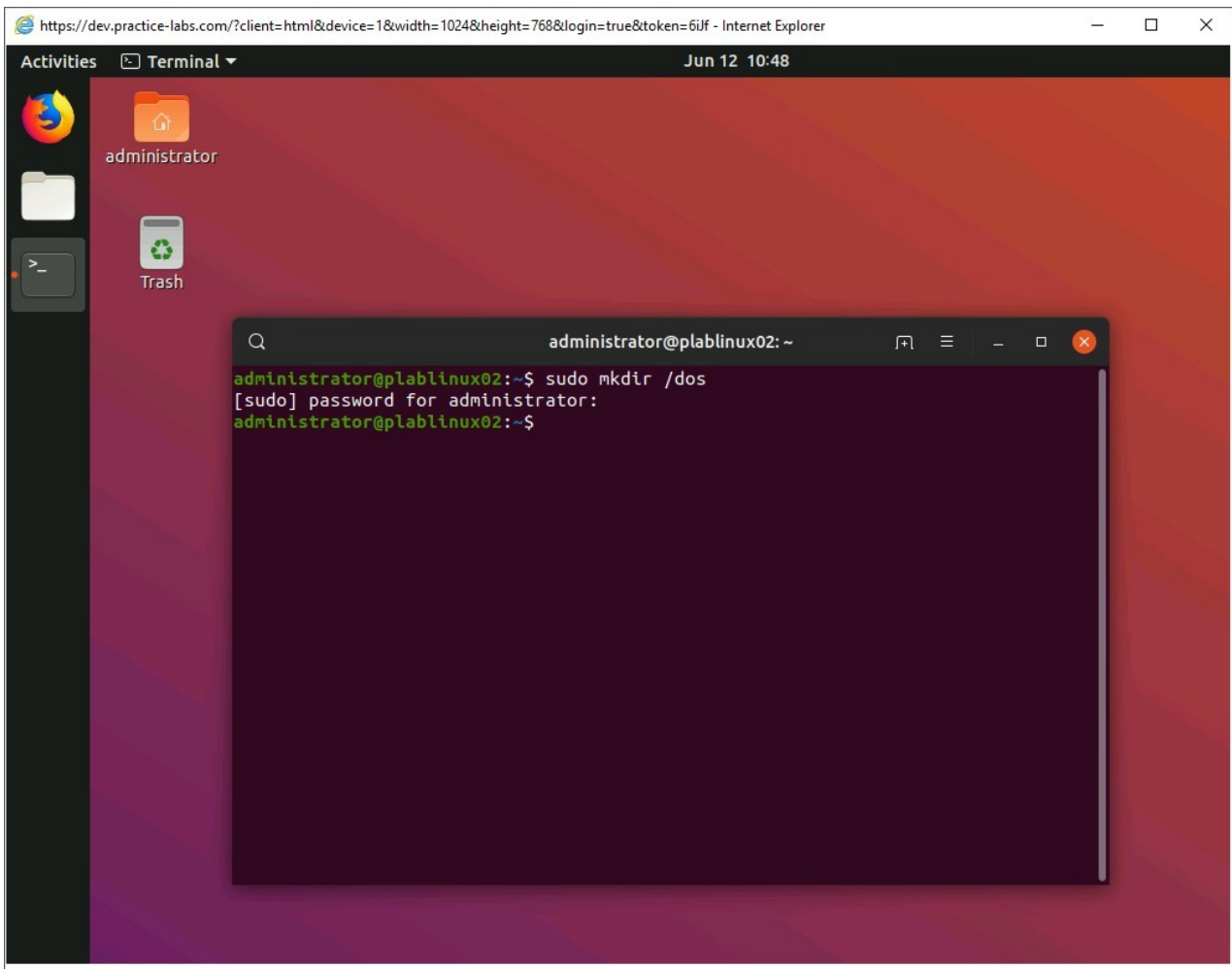


Figure 1.5 Screenshot of PLABLINUX02: Creating a new directory.

Step 3

For this task, let us mount the **/dev/sdb1** filesystem.

To mount the **/dev/sdb1** filesystem, type the following command:

```
sudo mount /dev/sdb1 /dos
```

Press **Enter**.

*Note: If you have not created the **/dev/sdb1** partition, you can create it using the **fdisk** command.*

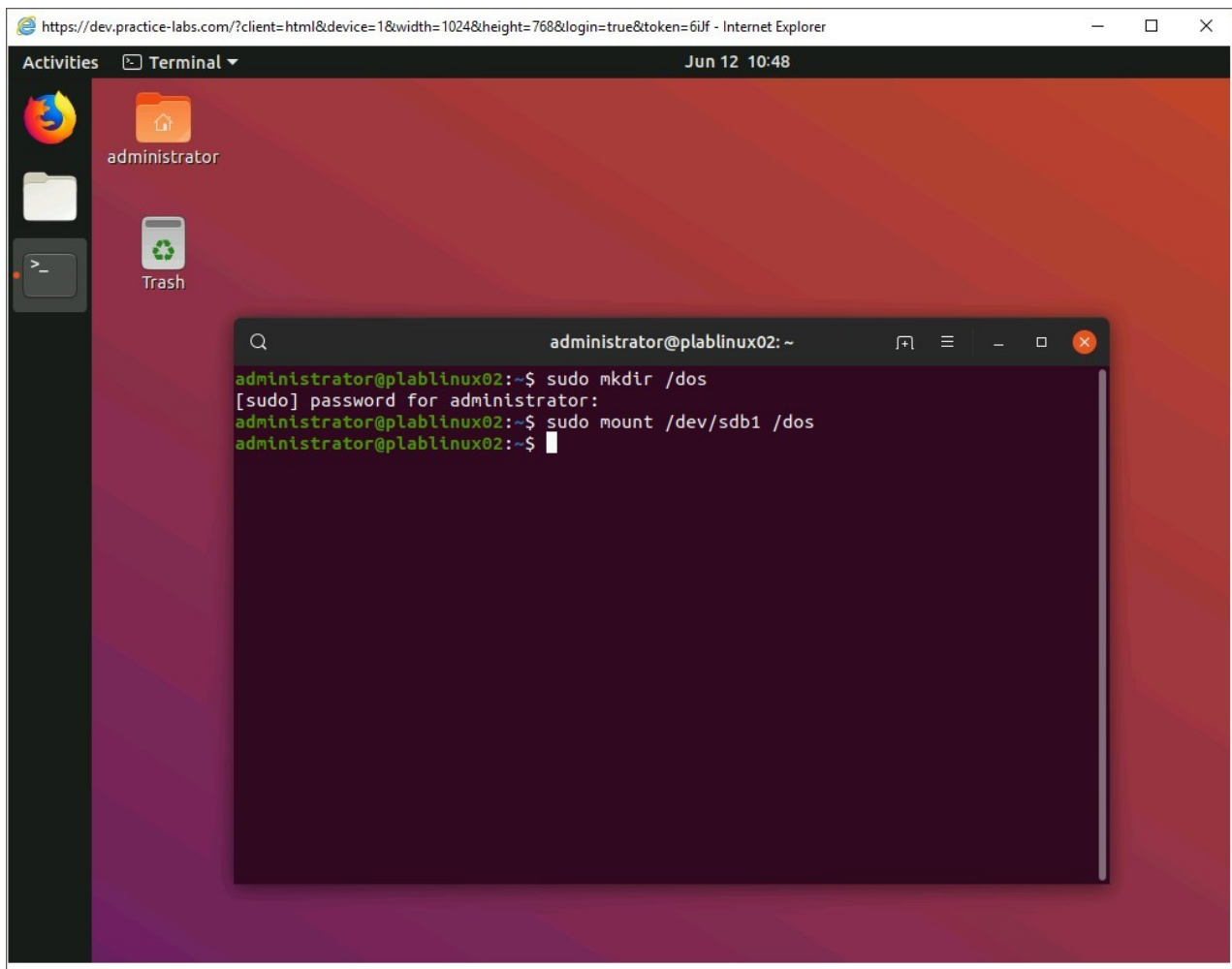


Figure 1.6 Screenshot of PLABLINUX02: Mounting the filesystem.

Step 4

You can view the mounted filesystems using the mount command.

To view the mounted filesystems, type the following command:

```
sudo mount
```

Press **Enter**.

Note that all the mounted filesystems are displayed.

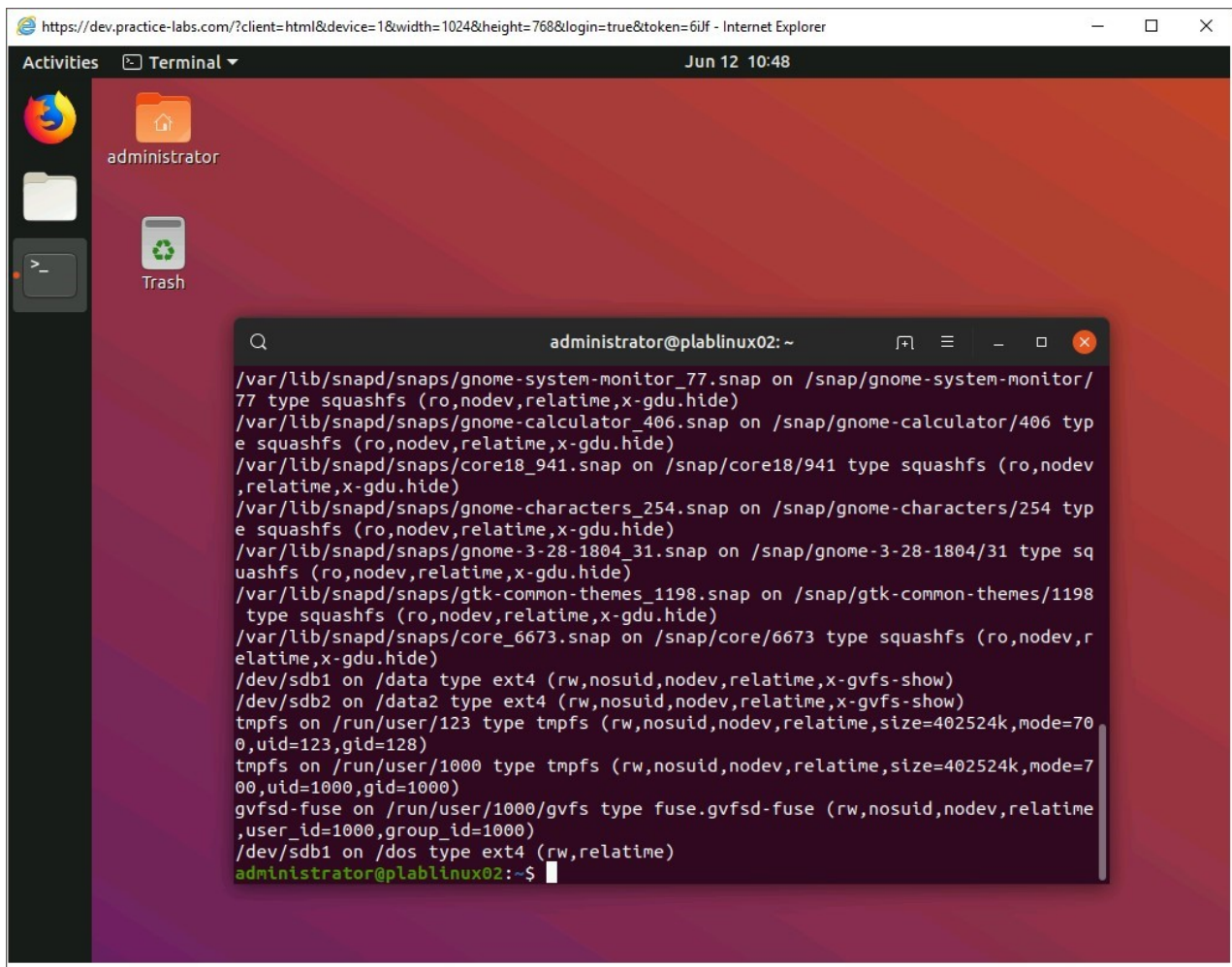


Figure 1.7 Screenshot of PLABLINUX02: Viewing the mounted filesystems.

Step 5

Clear the screen by entering the following command:

```
clear
```

To unmount a filesystem, type the following command:

```
sudo umount /dev/sdb1
```

Press **Enter**.

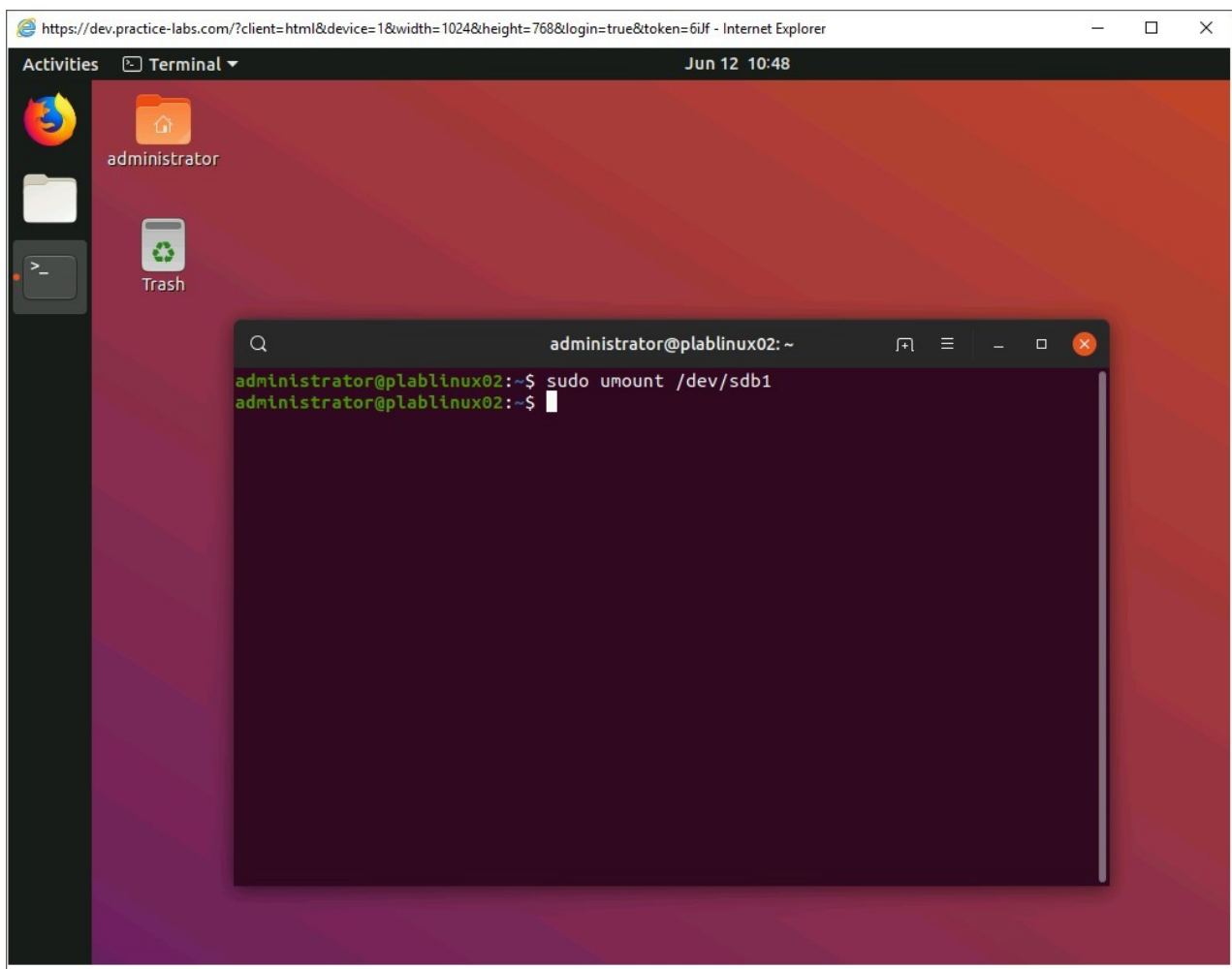


Figure 1.8 Screenshot of PLABLINUX02: Unmounting the filesystem.

Task 3 - Configure Filesystem Mounting on Bootup

The **/etc/fstab** file lists the partitions that will be detected at the boot time. It also defines which filesystem is mounted as the **root partition** (/). In this task, you will configure a filesystem to mount at the bootup. To configure filesystem mounting on bootup, perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

To view the **/etc/fstab** file, type the following command:

```
sudo cat /etc/fstab
```

Press **Enter**.

The **/etc/fstab** file is opened and displayed.

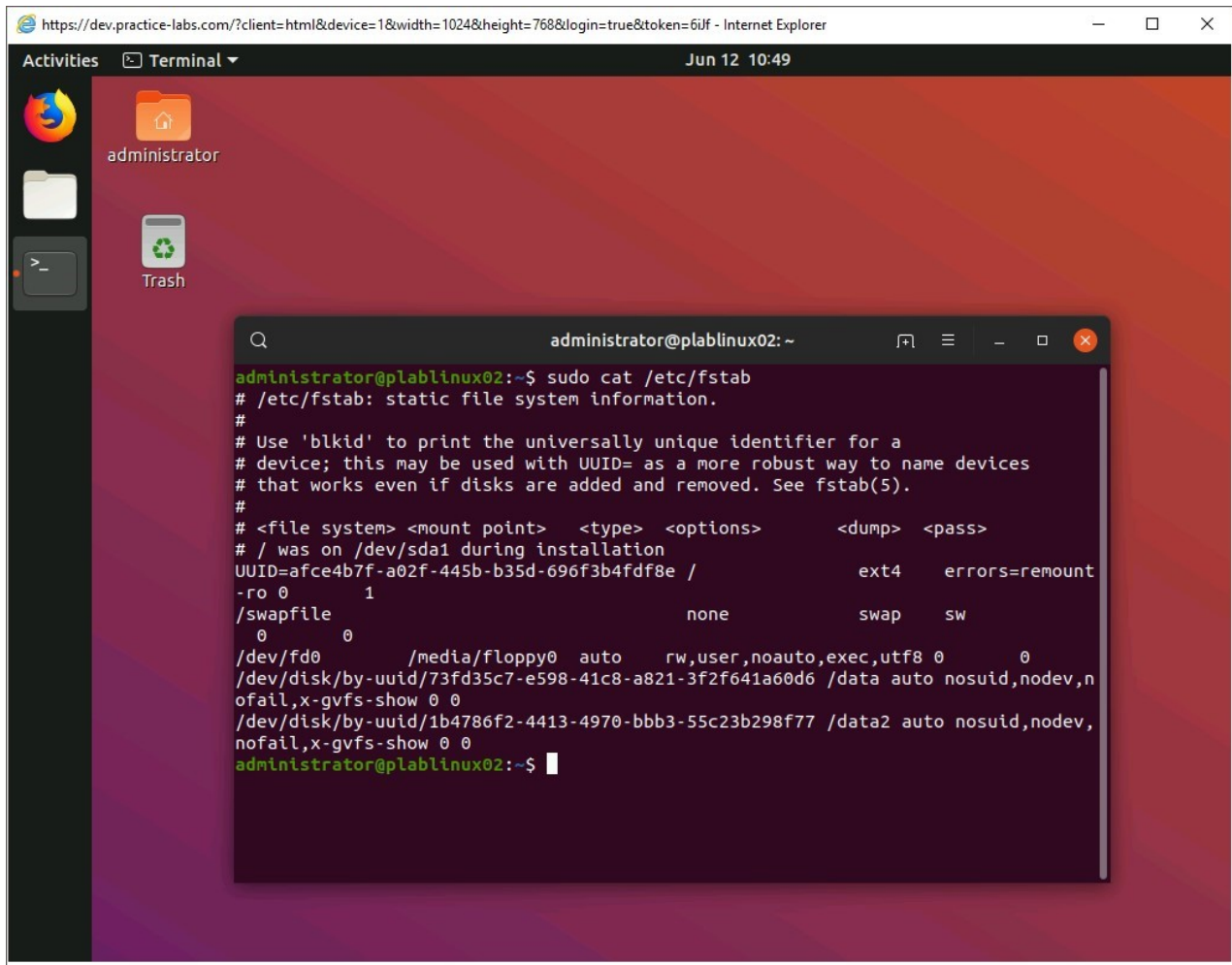


Figure 1.9 Screenshot of PLABLINUX02: Viewing the **/etc/fstab** file.

Step 2

Clear the screen by entering the following command:

```
clear
```

You can add the filesystem to be autodetected at the boot time. You will need to know the **UID** for the filesystem. To find the **UID** of the filesystem, type the following

command:

```
sudo blkid /dev/sdb1
```

Press **Enter**. The UID of the **/dev/sdb1** partition is displayed.

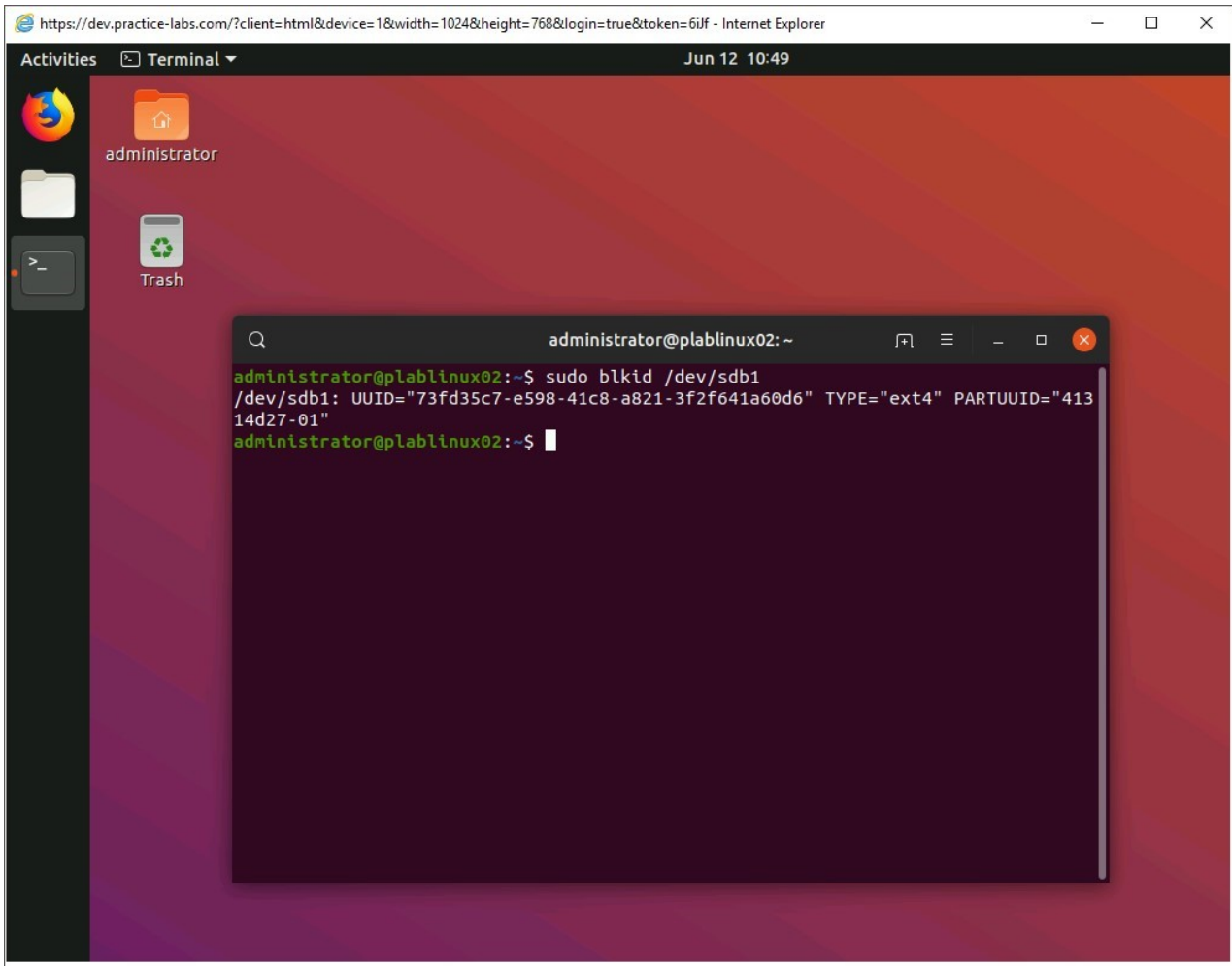


Figure 1.10 Screenshot of PLABLINUX02: Viewing the UID of **/dev/sdb1**.

Step 3

Clear the screen by entering the following command:

```
clear
```

You will now make an entry in the **/etc/fstab** file to load the **/dev/sdb1** filesystem. To open the **/etc/fstab** file, type the following command:


```
sudo nano /etc/fstab
```

Press **Enter**. The **/etc/fstab** file is now open.

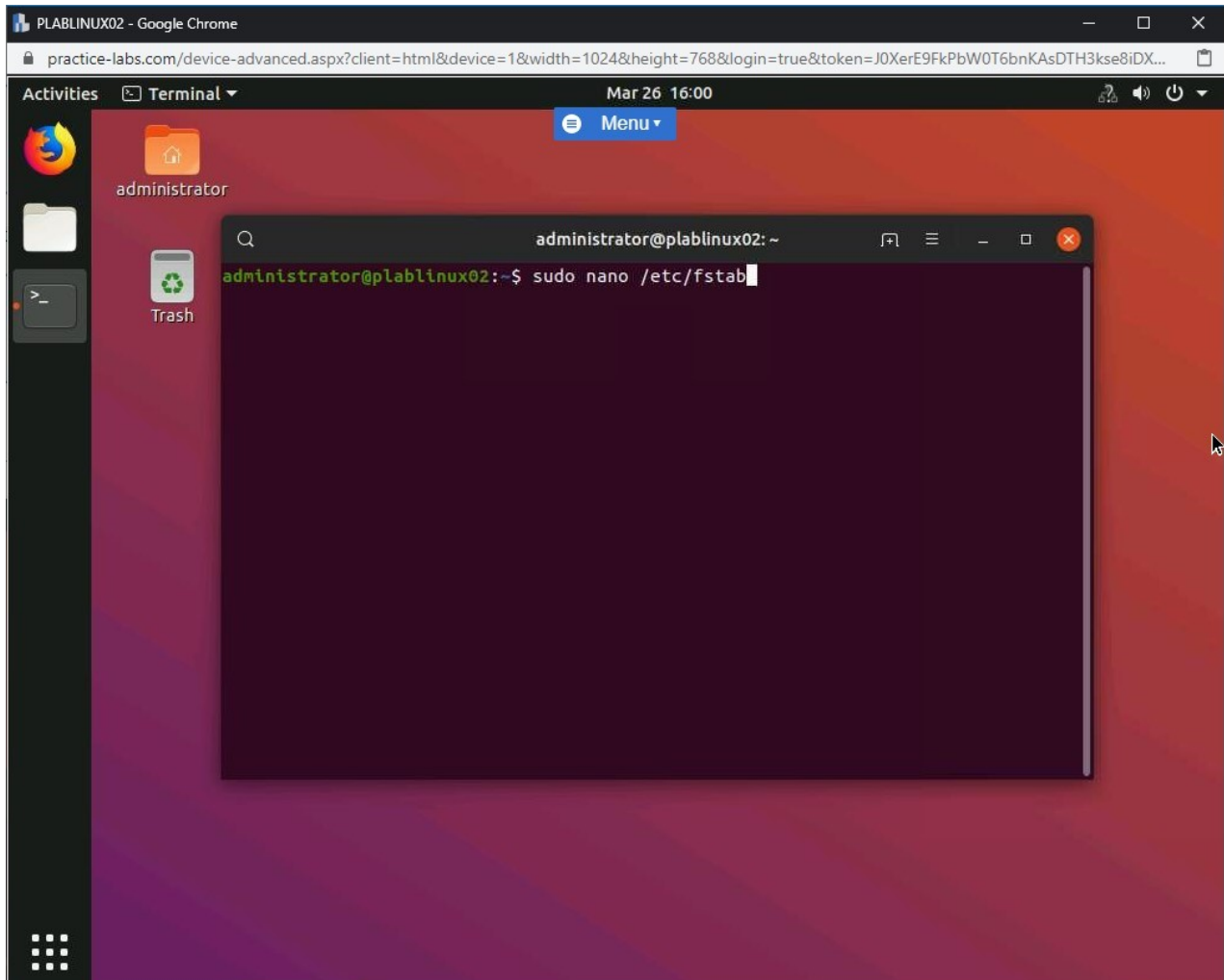


Figure 1.11 Screenshot of PLABLINUX02: Opening the **/etc/fstab** file for editing.

Step 4

Move to the end of the file. To add the filesystem, type the following line at the end:

```
UUID=73fd35c7-e598-41c8-a821-3f2f641a60d6  
EXT4 defaults 2 1
```

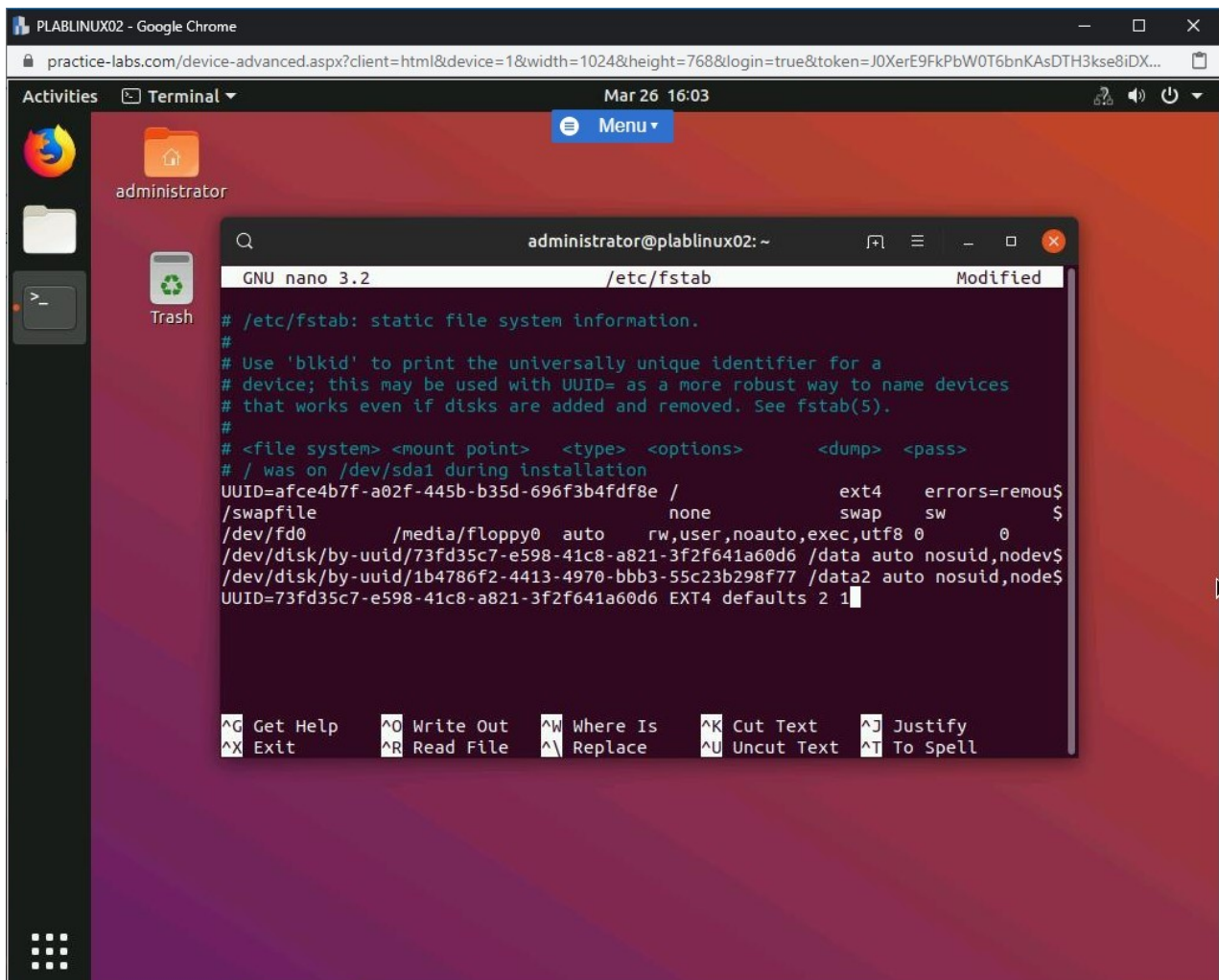


Figure 1.12 Screenshot of PLABLINUX02: Entering the information for the /dev/sdb1 in the /etc/fstab file.

Step 6

To save the file, press **CTRL+X** and then type **Y** to save, then press **Enter** when it says File Name to Write:

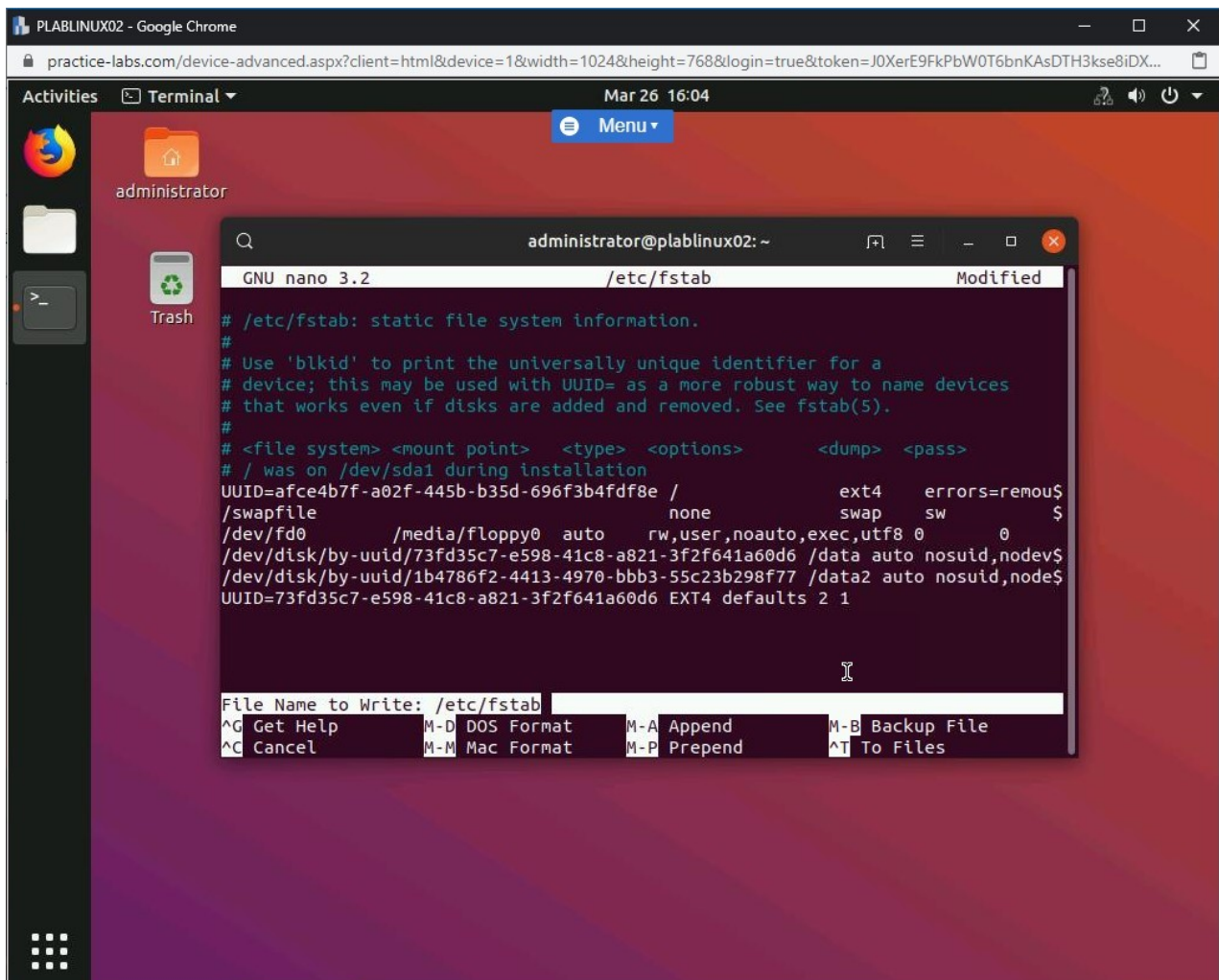


Figure 1.13 Screenshot of PLABLINUX02: Saving the /etc/fstab file.

Step 7

The **/etc/fstab** file is now saved. You are back on the command prompt.

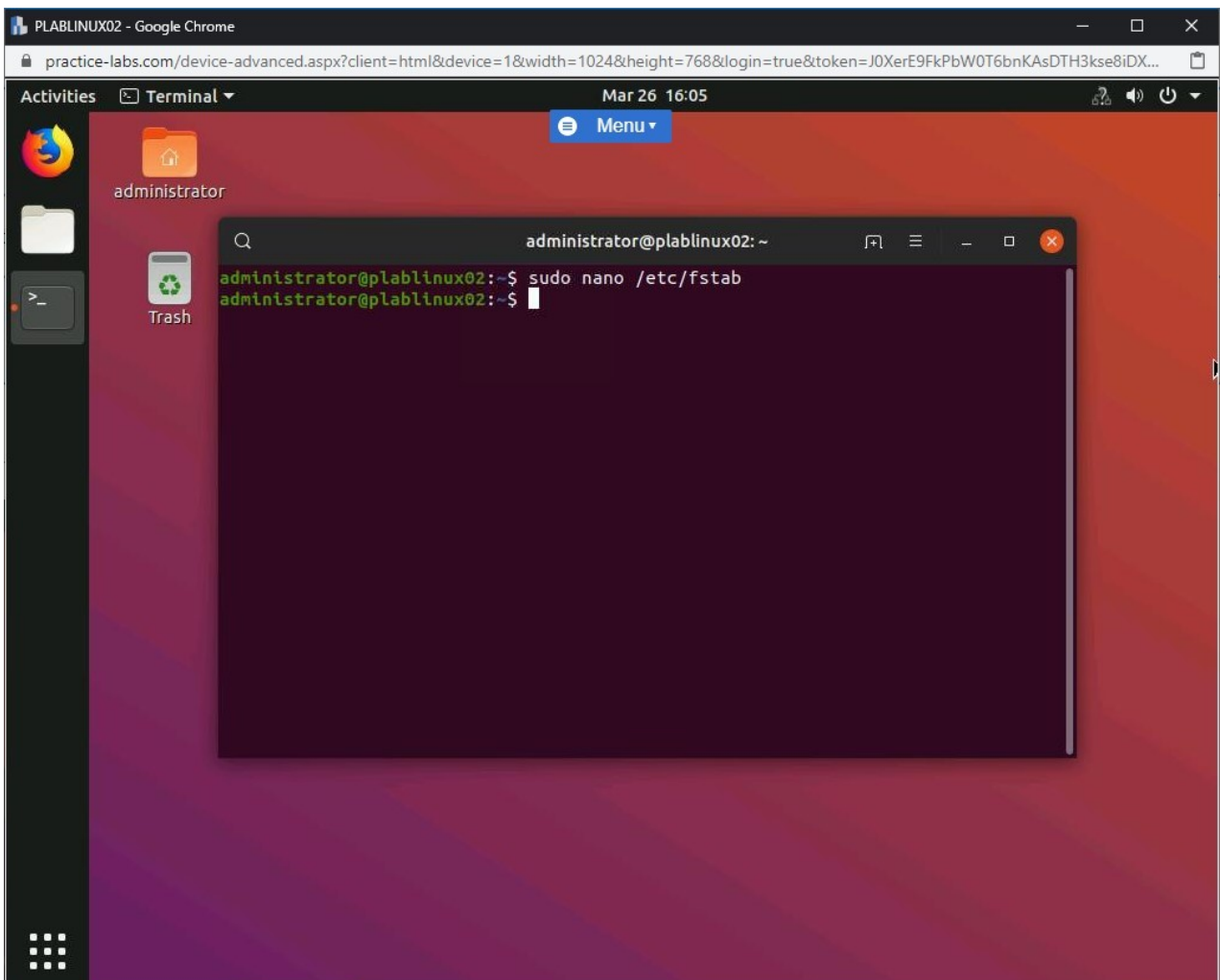


Figure 1.14 Screenshot of PLABLINUX02: Returning to the command prompt after saving the /etc/fstab file.

Step 8

Clear the screen by entering the following command:

```
clear
```

To view the current partitions mounted, type the following command:

```
sudo mount -v
```

Press **Enter**. The currently mounted partitions are displayed.

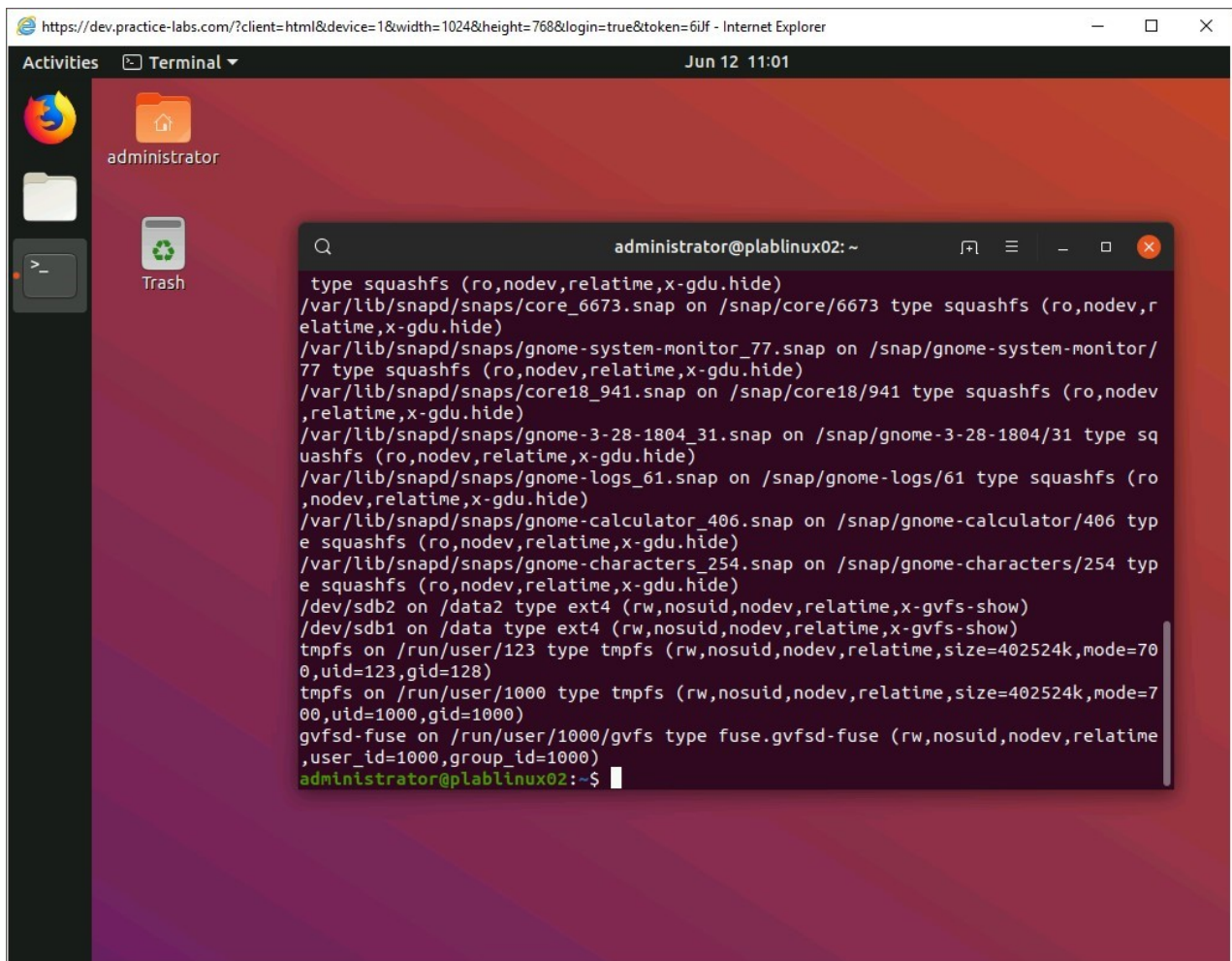


Figure 1.15 Screenshot of PLABLINUX02: Viewing the mounted filesystems.

Task 4 - Configure User Mountable Removable Filesystems

To use a CDROM, which is a removable filesystem, you will need to mount it first with a directory. In this task, you will learn to configure user mountable removable filesystems. To configure user mountable removable filesystems, perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

First, you will need to create a directory in the **/media** directory. To create a directory, type the following command:

```
sudo mkdir /media/cdrom
```

Press **Enter**.

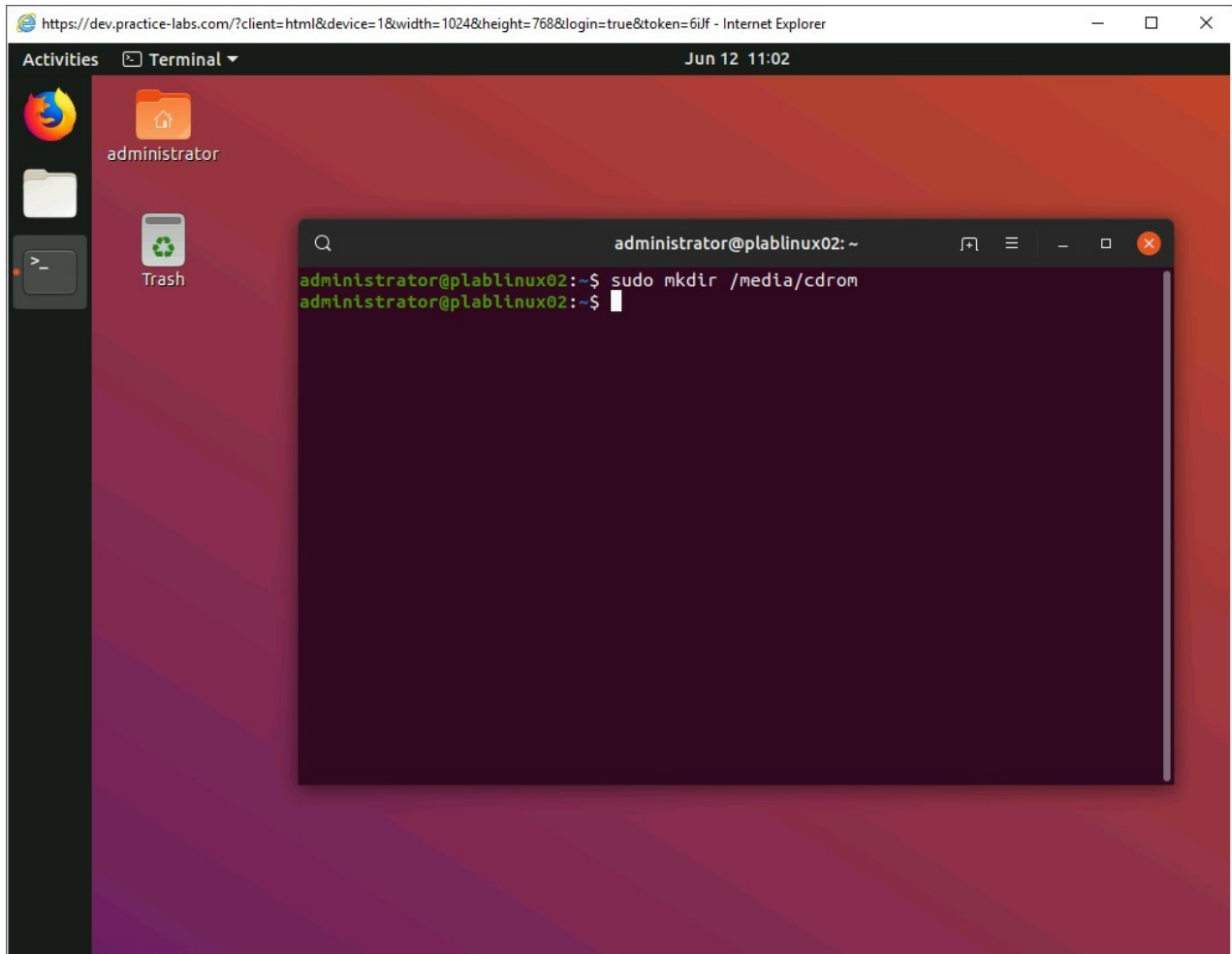


Figure 1.16 Screenshot of PLABLINUX02: Creating a new directory.

Step 2

After the directory is created, you will need to mount the cdrom device to the **/mount/cdrom** directory. To do this, type the following command:

```
sudo mount -t iso9660 /dev/sr0 /media/cdrom
```

Press **Enter**. Note that the since there is no cdrom attached to this device, you receive an error.

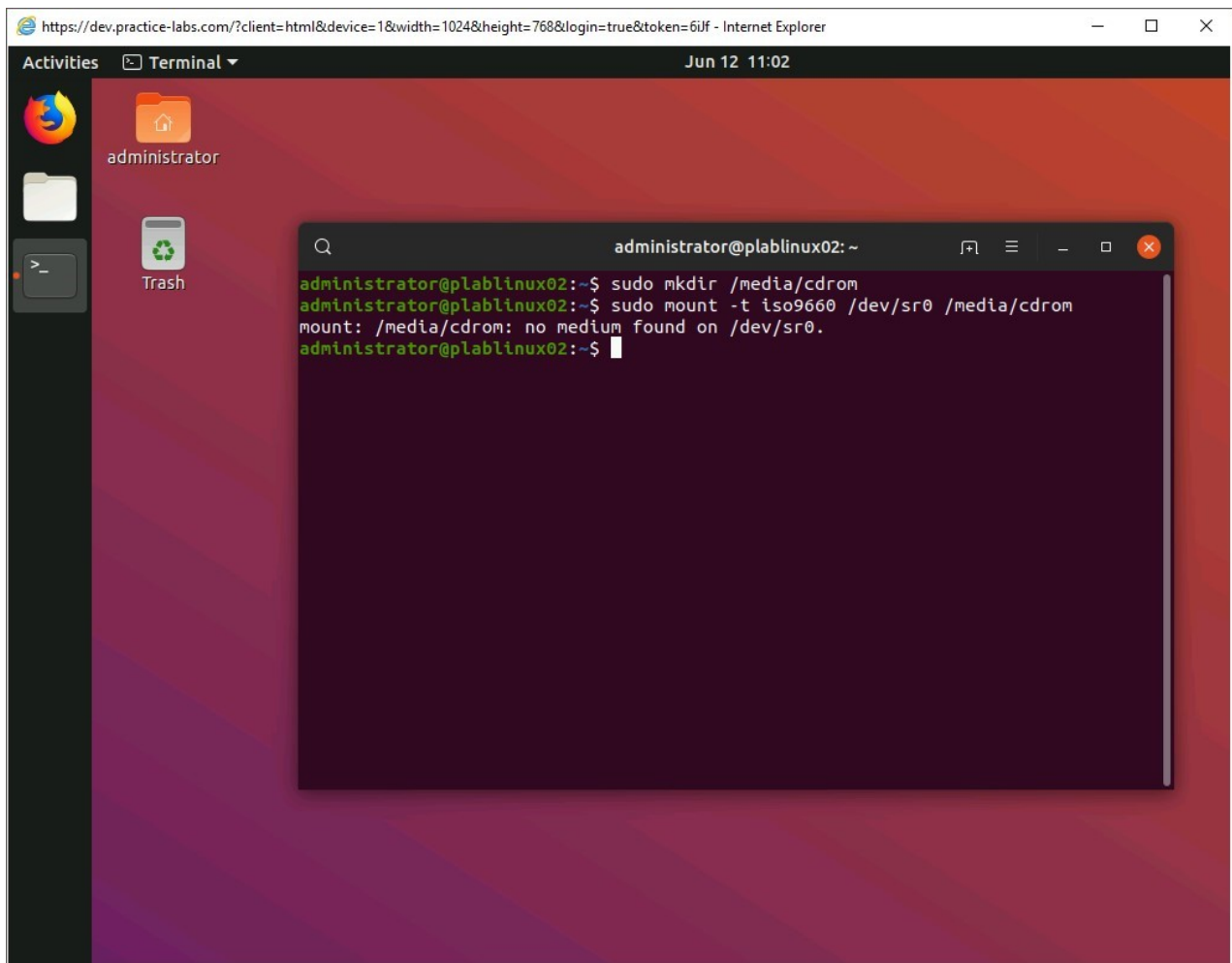


Figure 1.17 Screenshot of PLABLINUX02: Mounting the cdrom.

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

Review

Well done, you have completed the **Control Mounting and Unmounting of Filesystems** Practice Lab.

Summary

You completed the following exercise:

- Exercise 1 - Configure User Mountable Removable Filesystems

You should now be able to:

- Log into a Linux System

- Manually mount and unmount filesystems
- Configure filesystem mounting on bootup
- Configure user mountable removable filesystems

Feedback

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