CompTIA Linux+

Control Mounting and Unmounting of Filesystems

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:

- 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

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

Task 1 - 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.

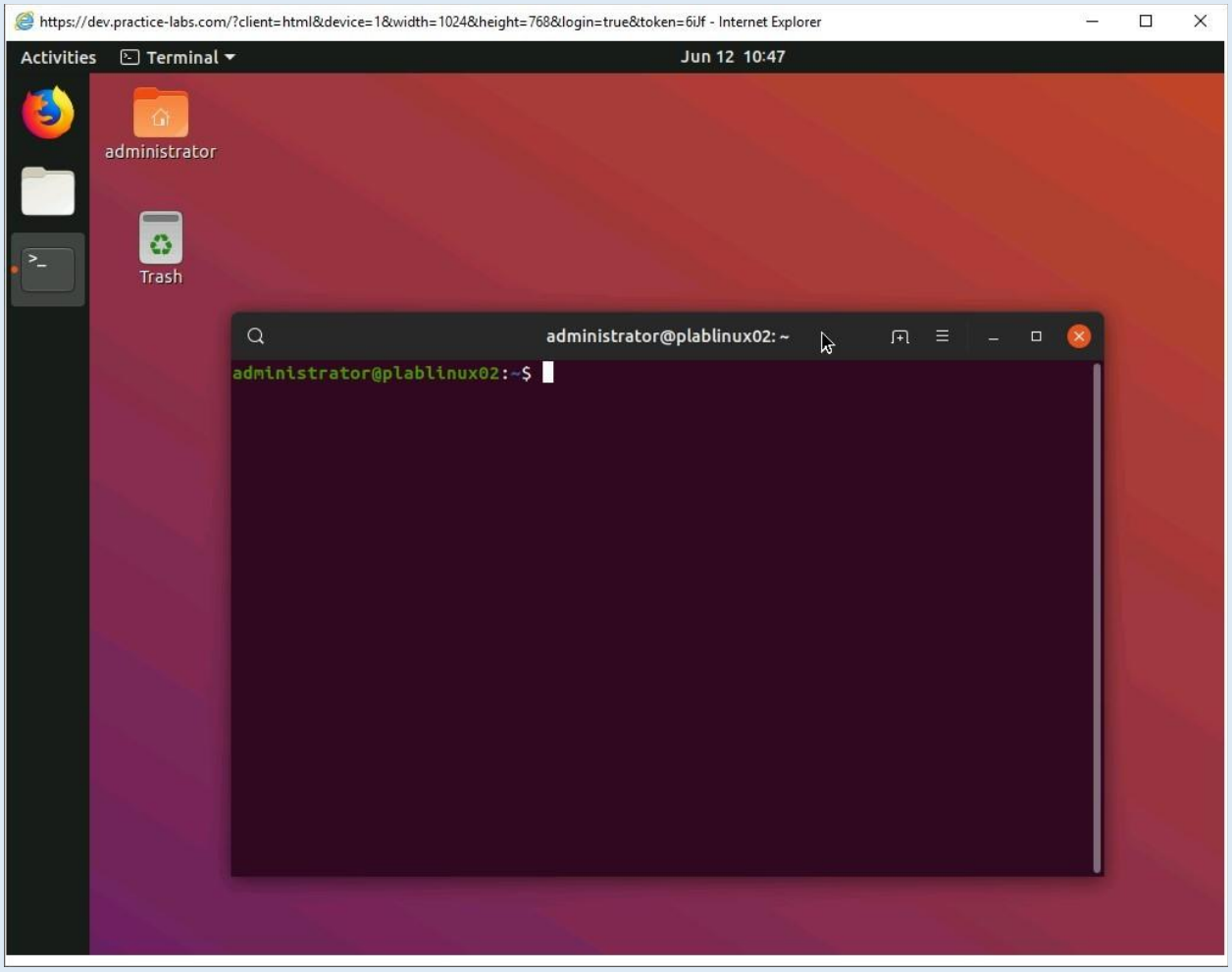

Figure 1.1 Screenshot of PLABLINUX02: Selecting the Open in Terminal option from the context menu.

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:

`Passw0rd`

Press Enter.

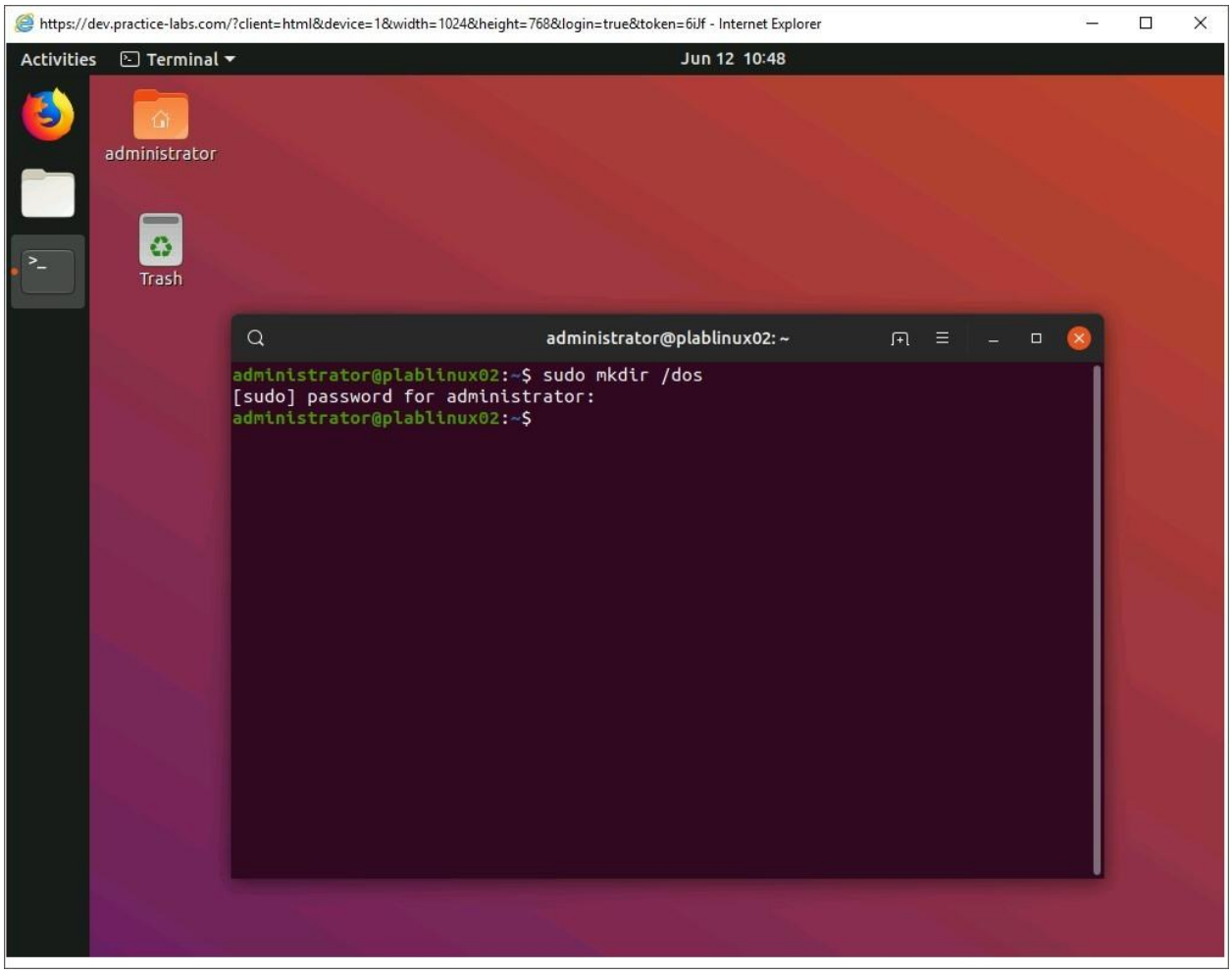

Figure 1.2 Screenshot of PLABLINUX02: Creating a new directory.

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.

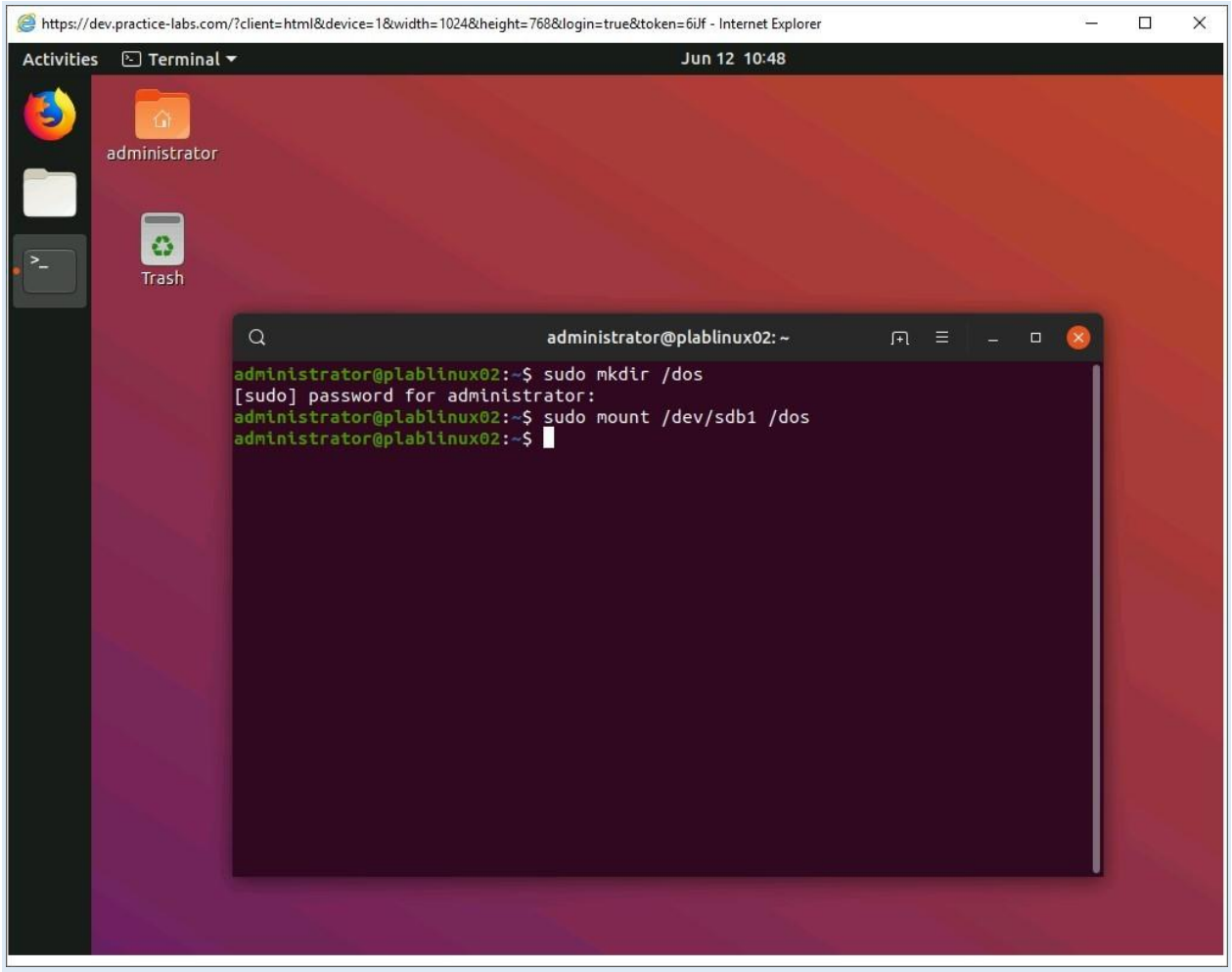

Figure 1.3 Screenshot of PLABLINUX02: Mounting the filesystem.

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.

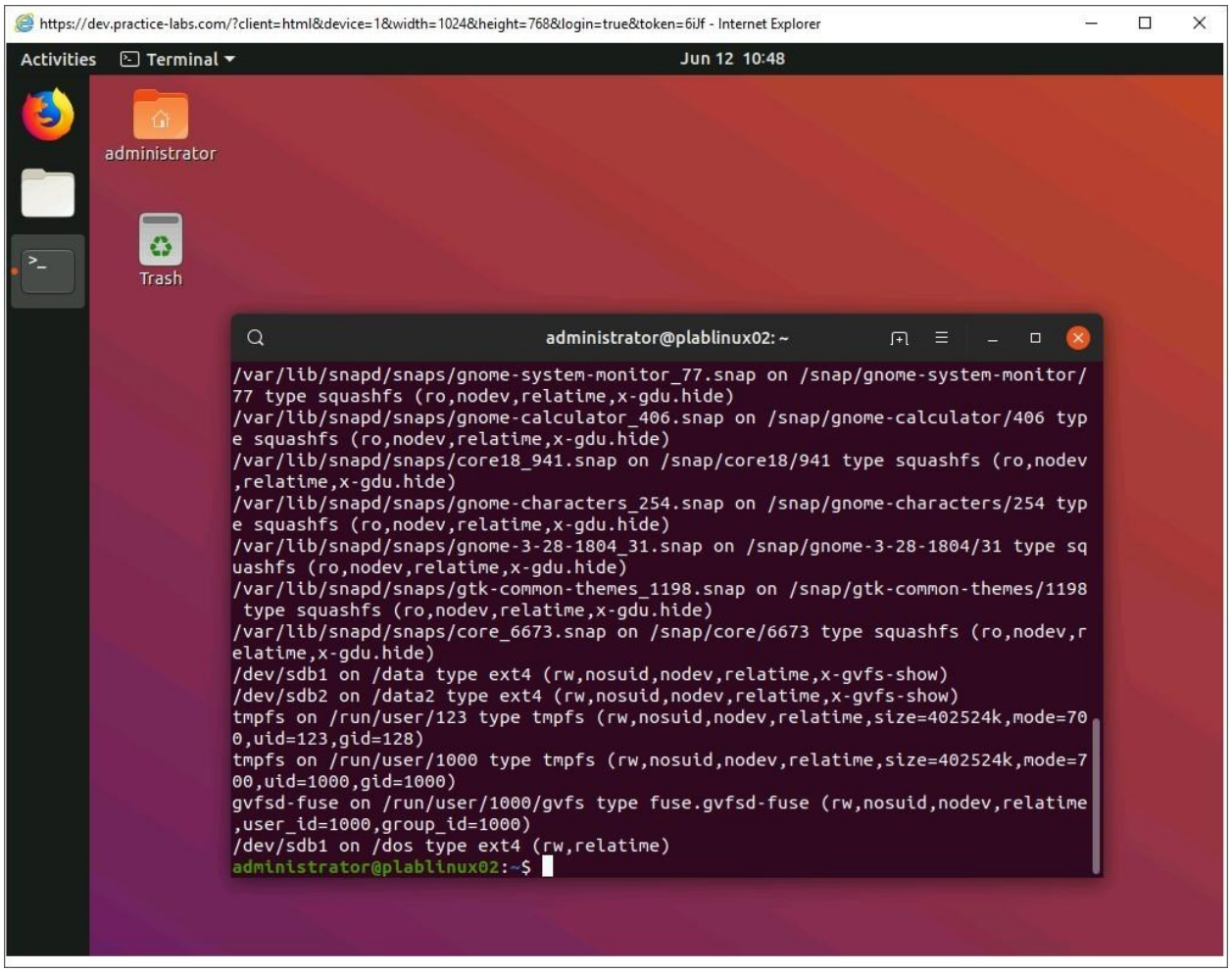

Figure 1.4 Screenshot of PLABLINUX02: Viewing the mounted filesystems.

Step 5

Clear the screen by entering the following command:

```
clear
```

Press Enter. To unmount a filesystem, type the following command:

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

Press Enter.

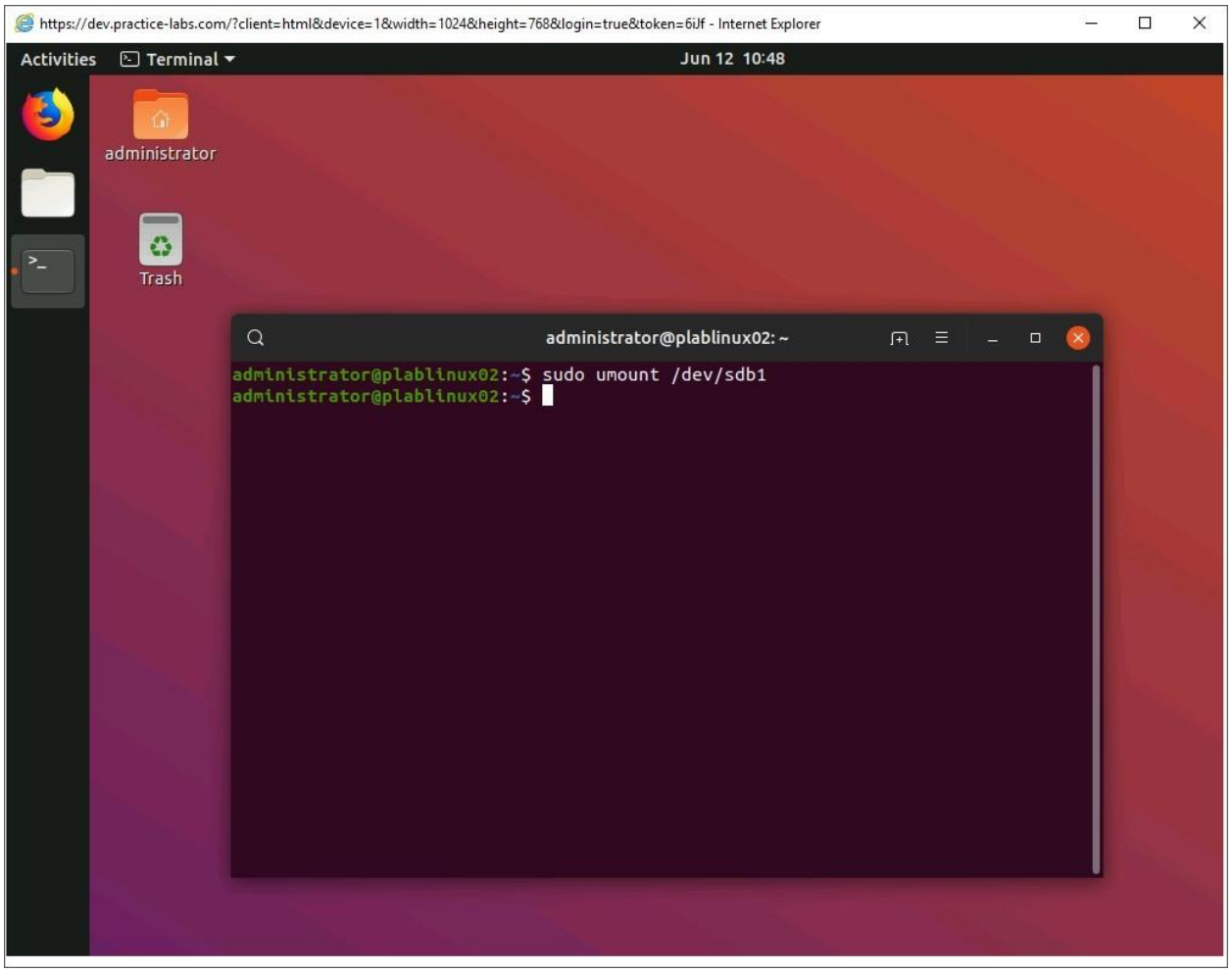

Figure 1.5 Screenshot of PLABLINUX02: Unmounting the filesystem.

Task 2 - 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
```

Press Enter. To view the /etc/fstab file, type the following command:

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

Press Enter.

The /etc/fstab file is opened and displayed.

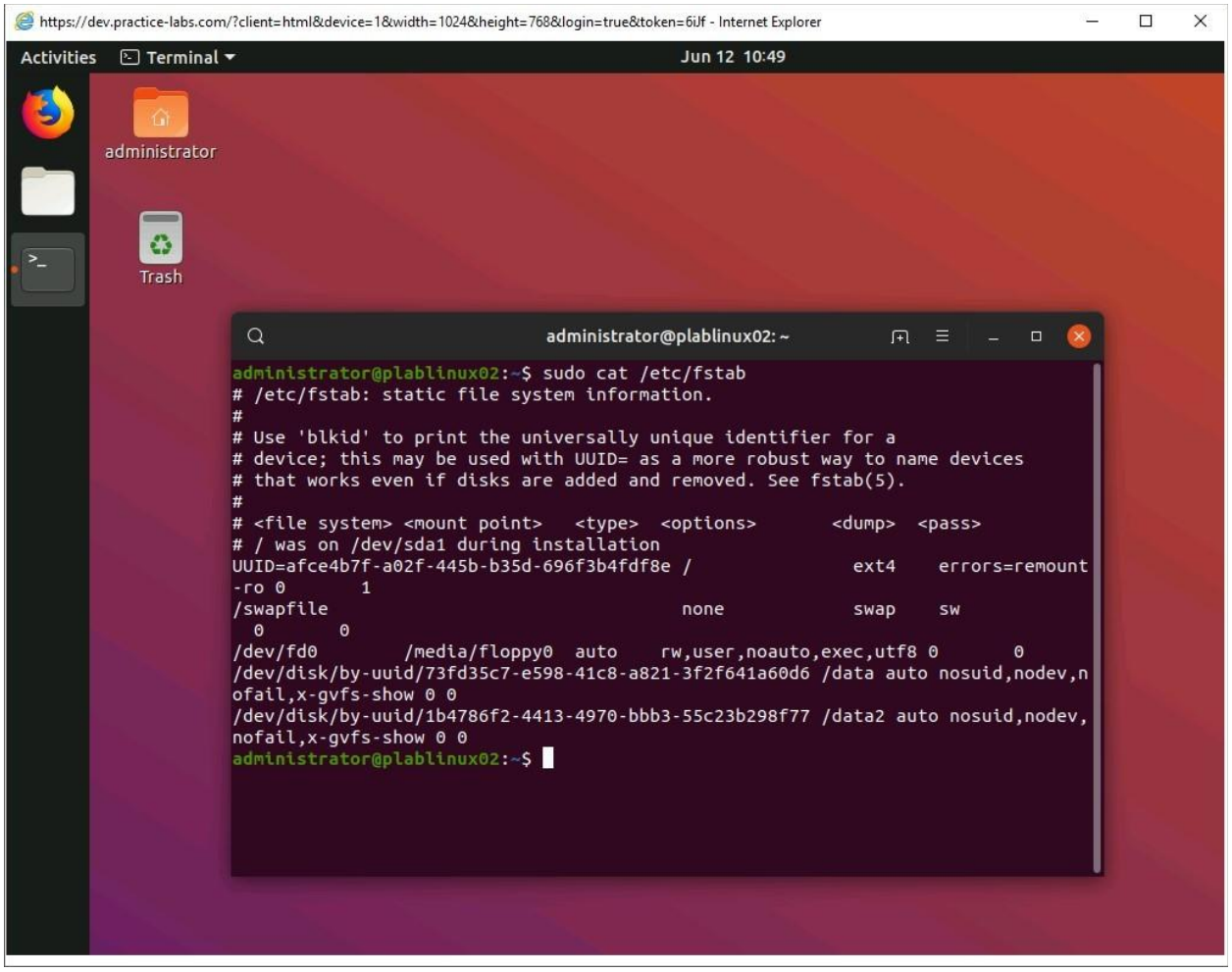

Figure 1.6 Screenshot of PLABLINUX02: Viewing the /etc/fstab file.

Step 2

Clear the screen by entering the following command:

```
clear
```

Press Enter. 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.

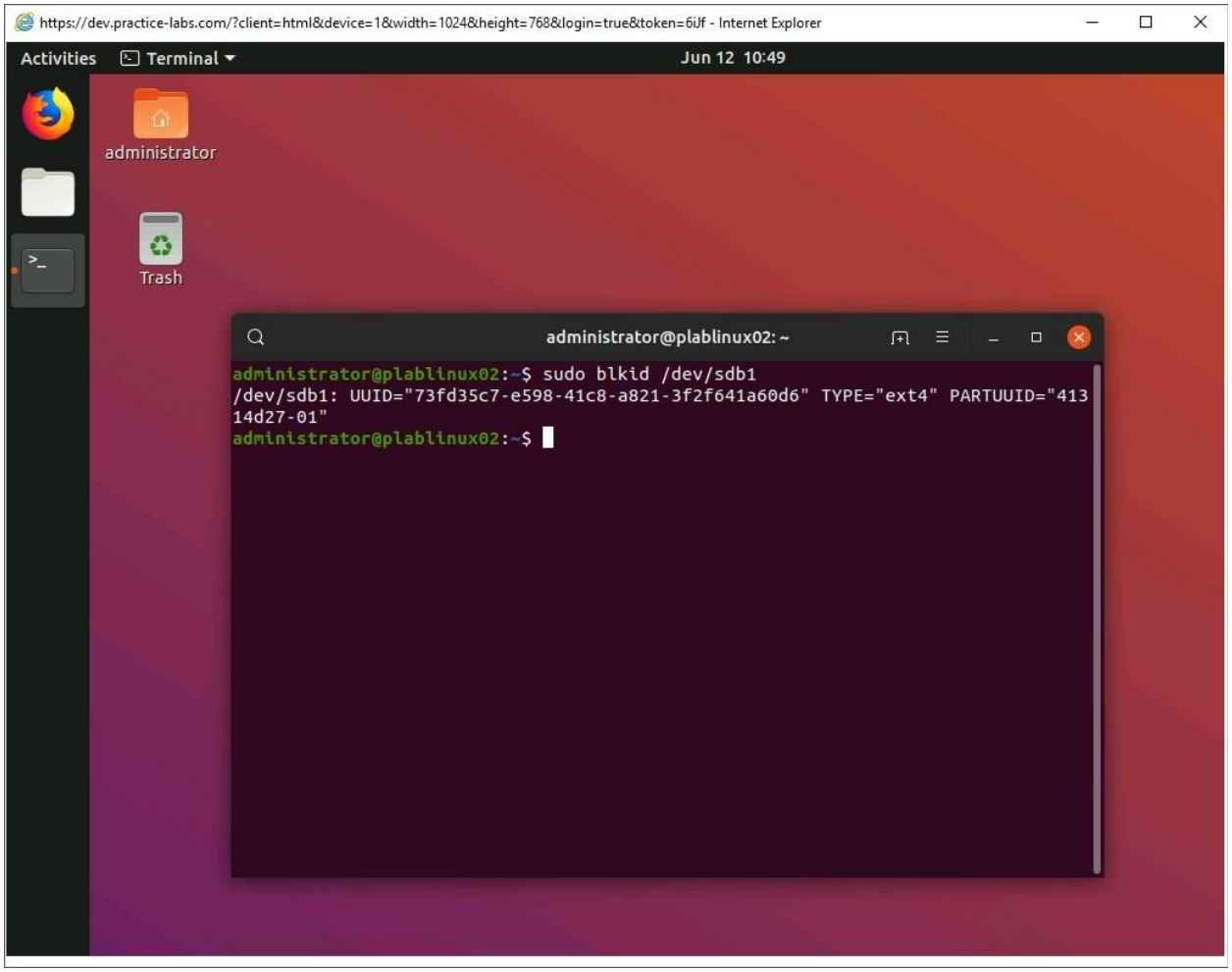

Figure 1.7 Screenshot of PLABLINUX02: Viewing the UID of /dev/sdb1.

Step 3

Clear the screen by entering the following command:

```
clear
```

Press Enter. 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.

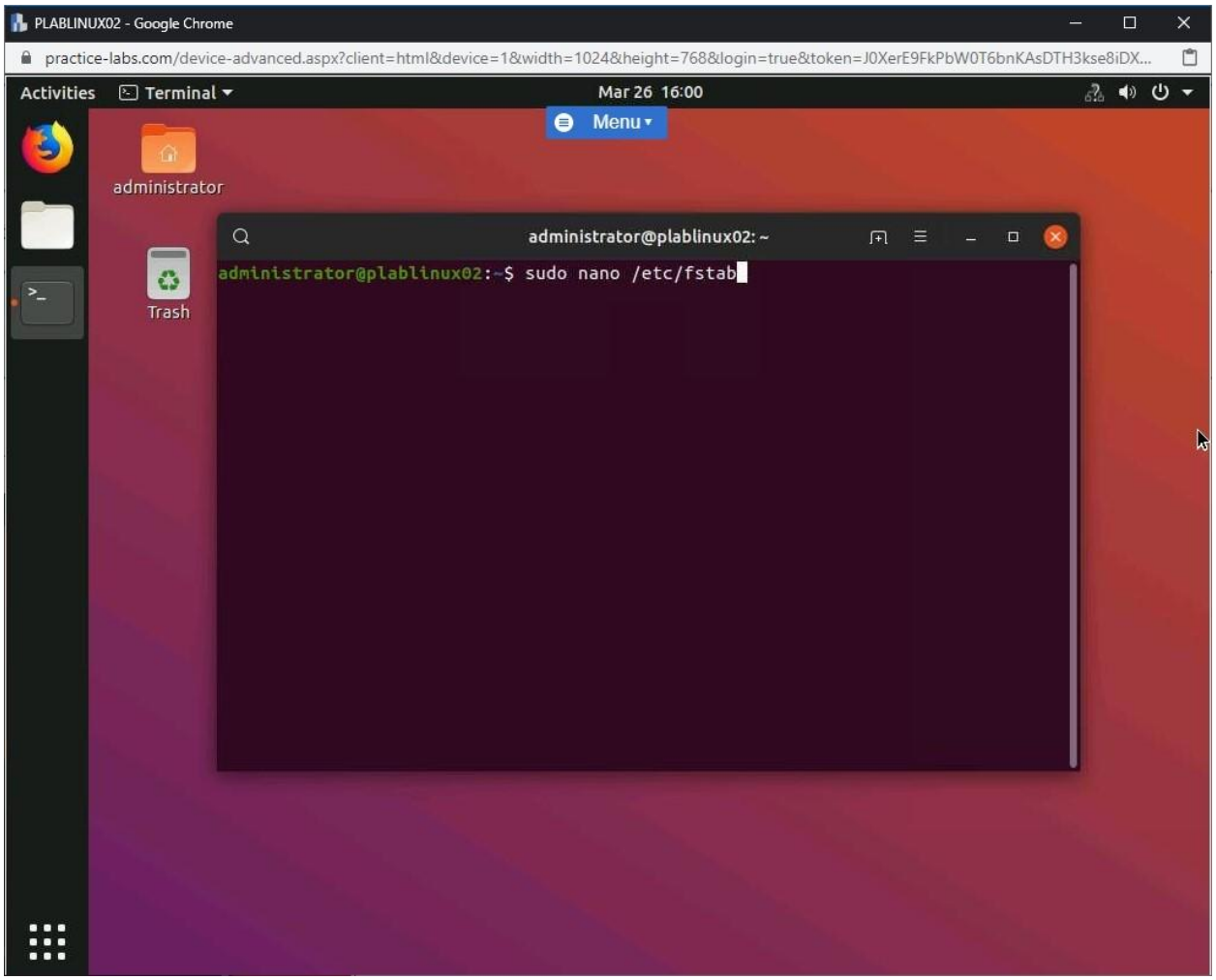

Figure 1.8 Screenshot of PLABLINUX02: Opening the /etc/fstab file for editing.

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
```

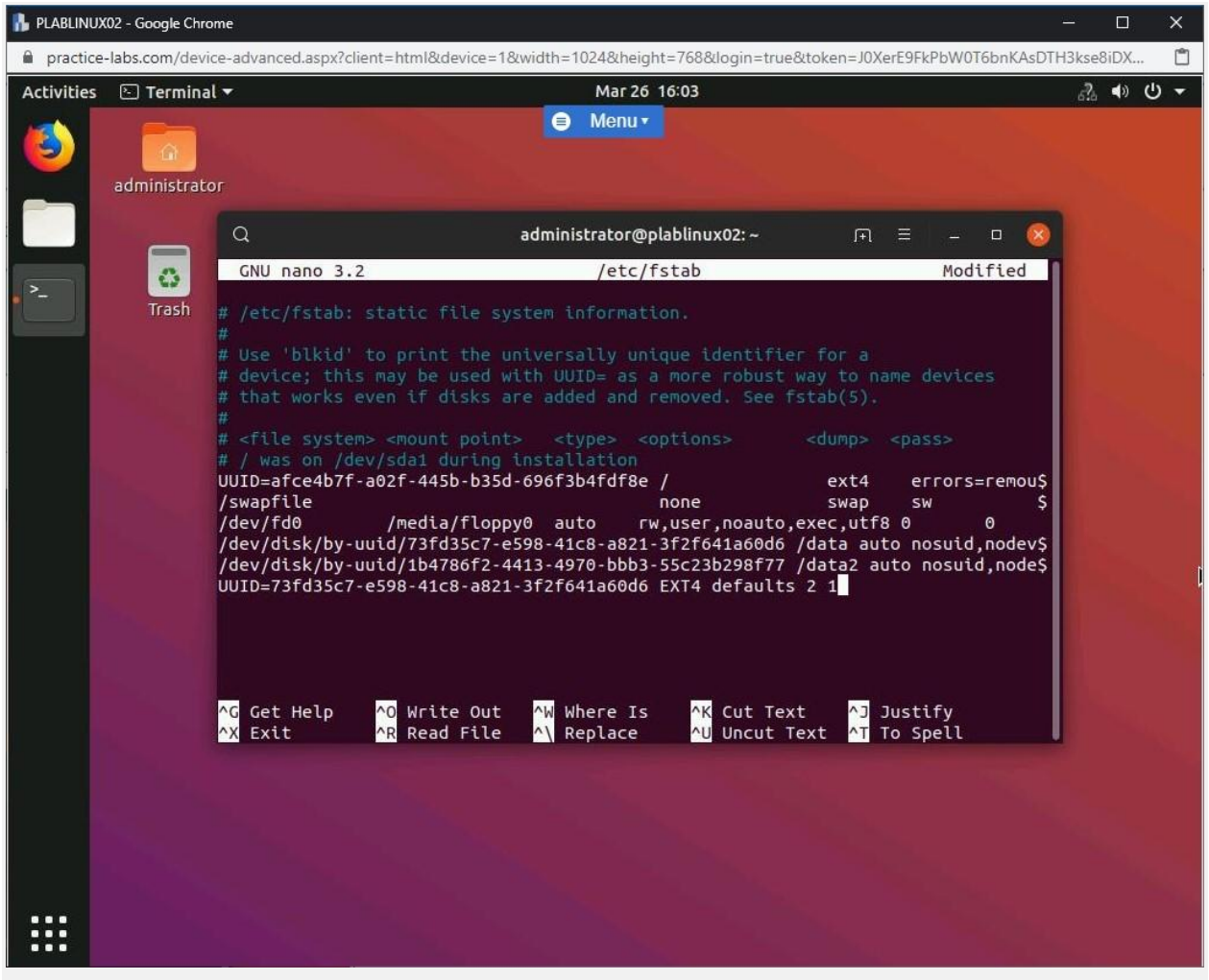

Figure 1.9 Screenshot of PLABLINUX02: Entering the information for the /dev/sdb1 in the /etc/fstab file.

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:

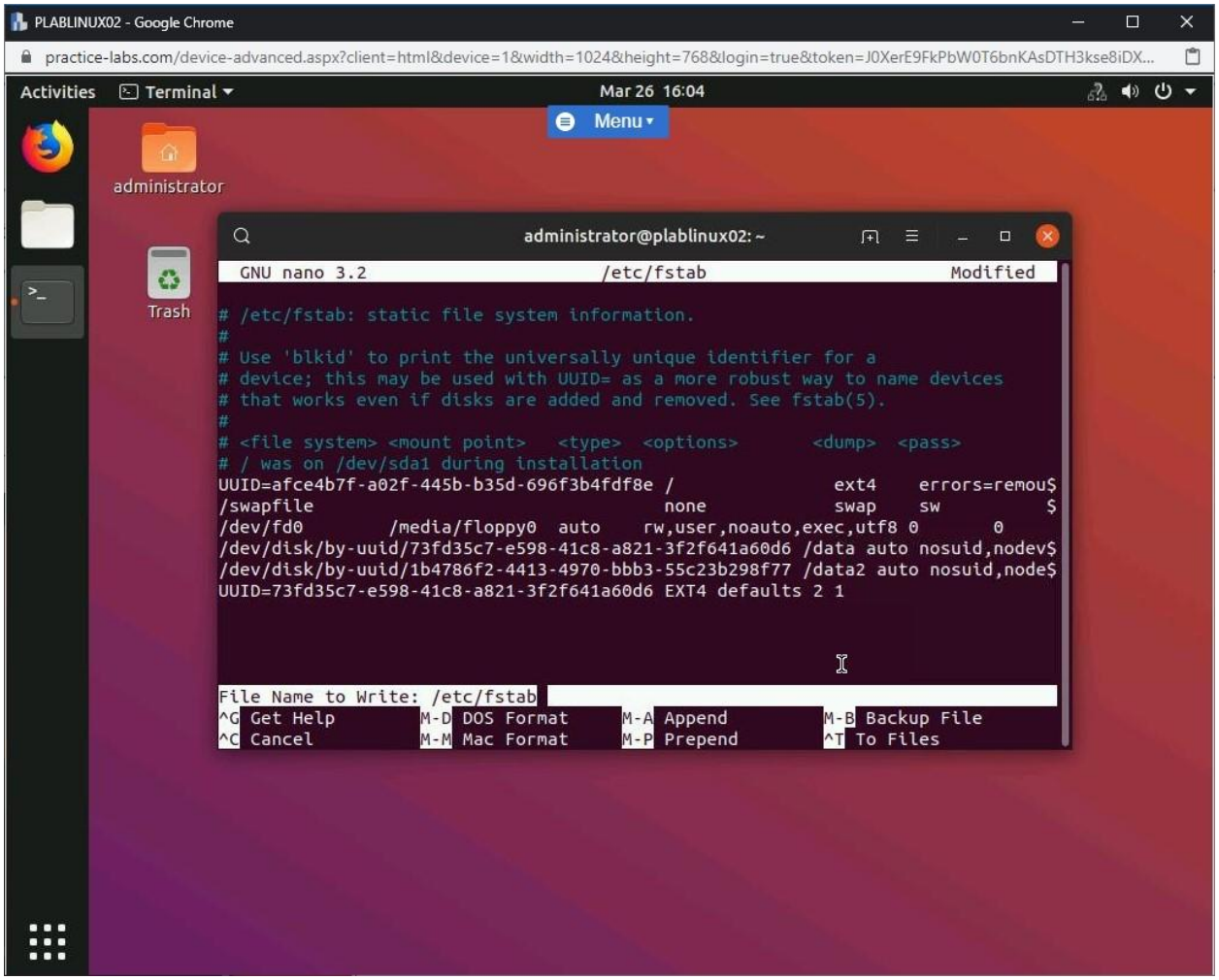

Figure 1.10 Screenshot of PLABLINUX02: Saving the /etc/fstab file.

Step 7

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

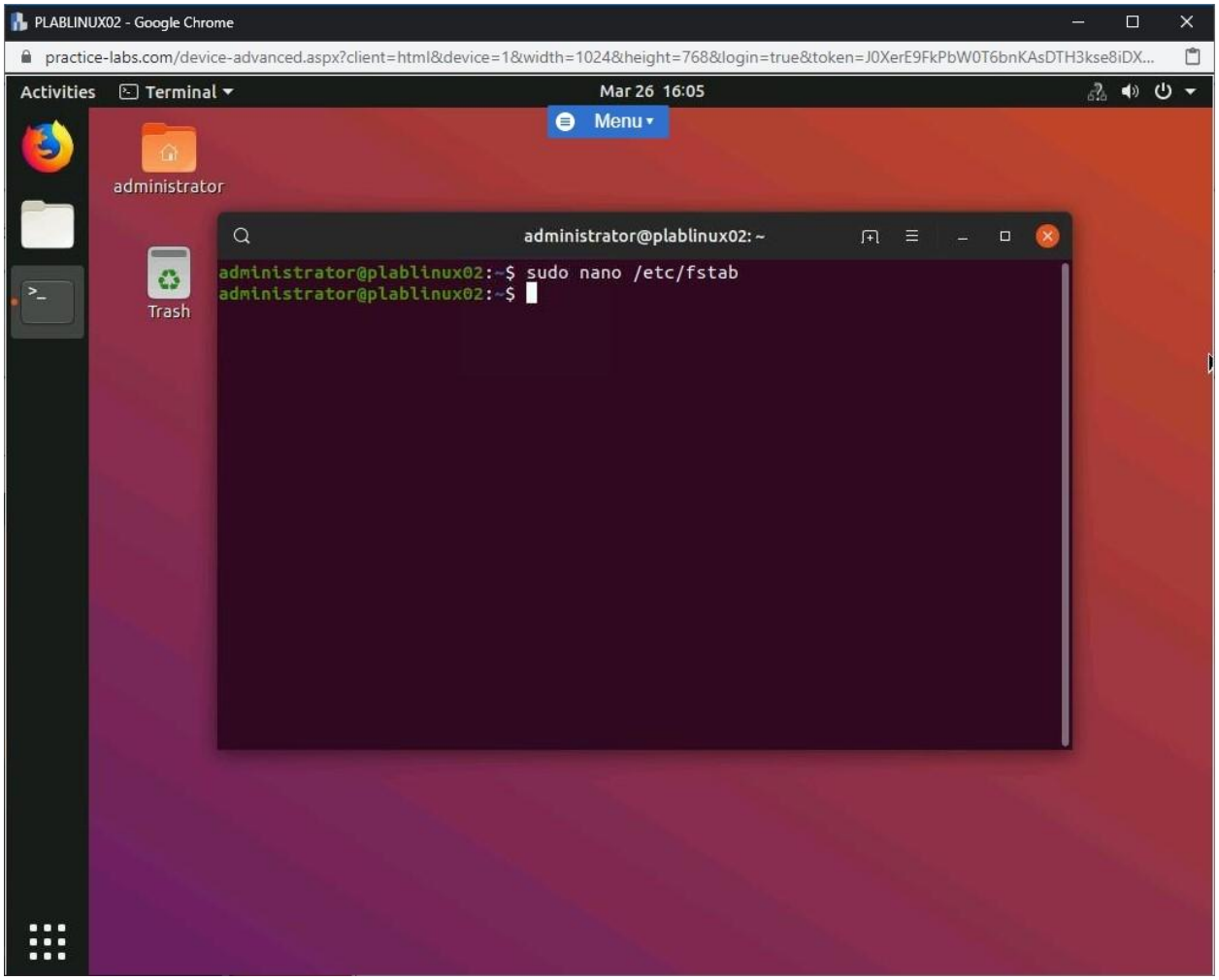

Figure 1.11 Screenshot of PLABLINUX02: Returning to the command prompt after saving the /etc/fstab file.

Step 8

Clear the screen by entering the following command:

```
clear
```

Press Enter. To view the current partitions mounted, type the following command:

```
sudo mount -v
```

Press Enter. The currently mounted partitions are displayed.

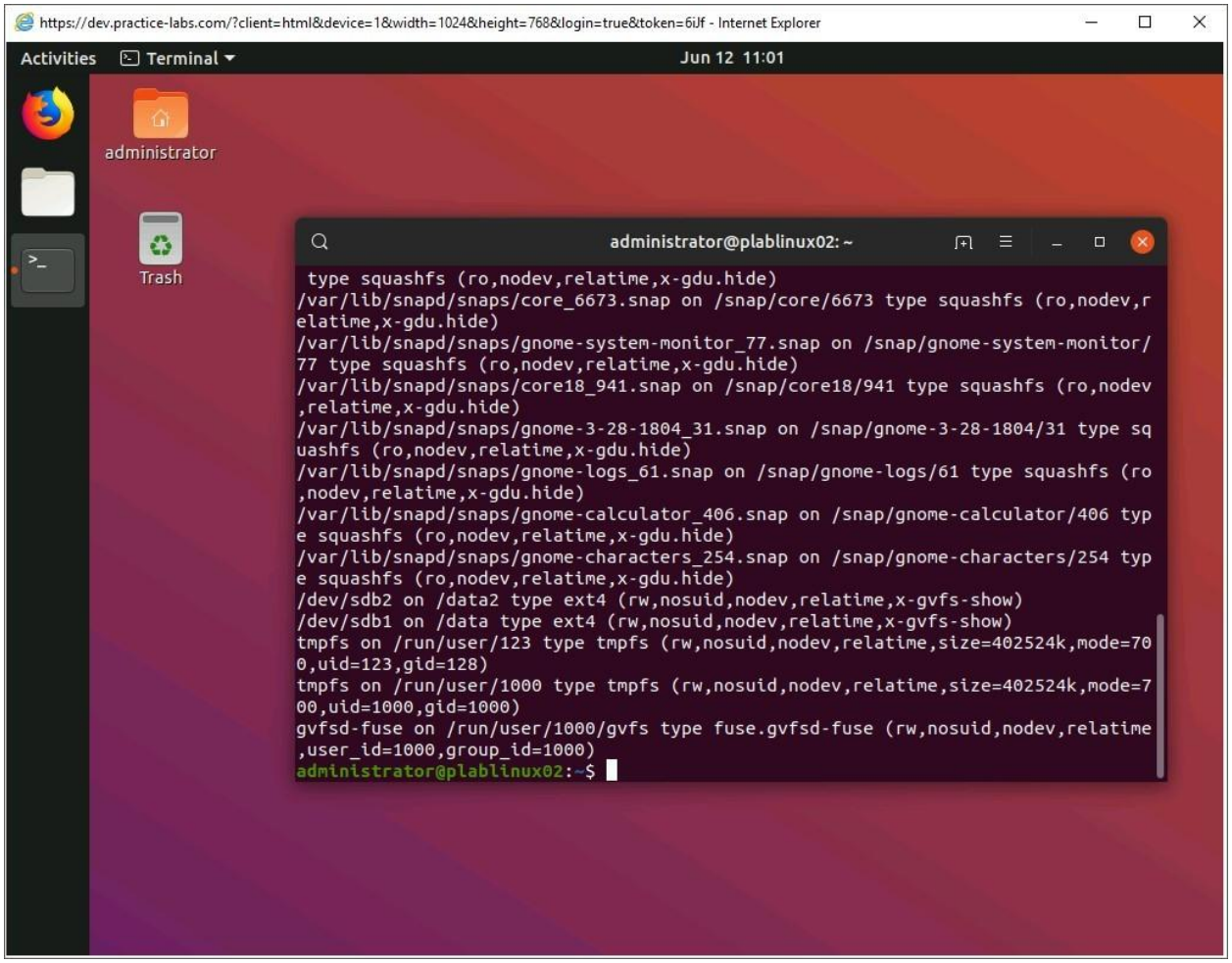

Figure 1.12 Screenshot of PLABLINUX02: Viewing the mounted filesystems.

Task 3 - 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
```

Press Enter. 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.

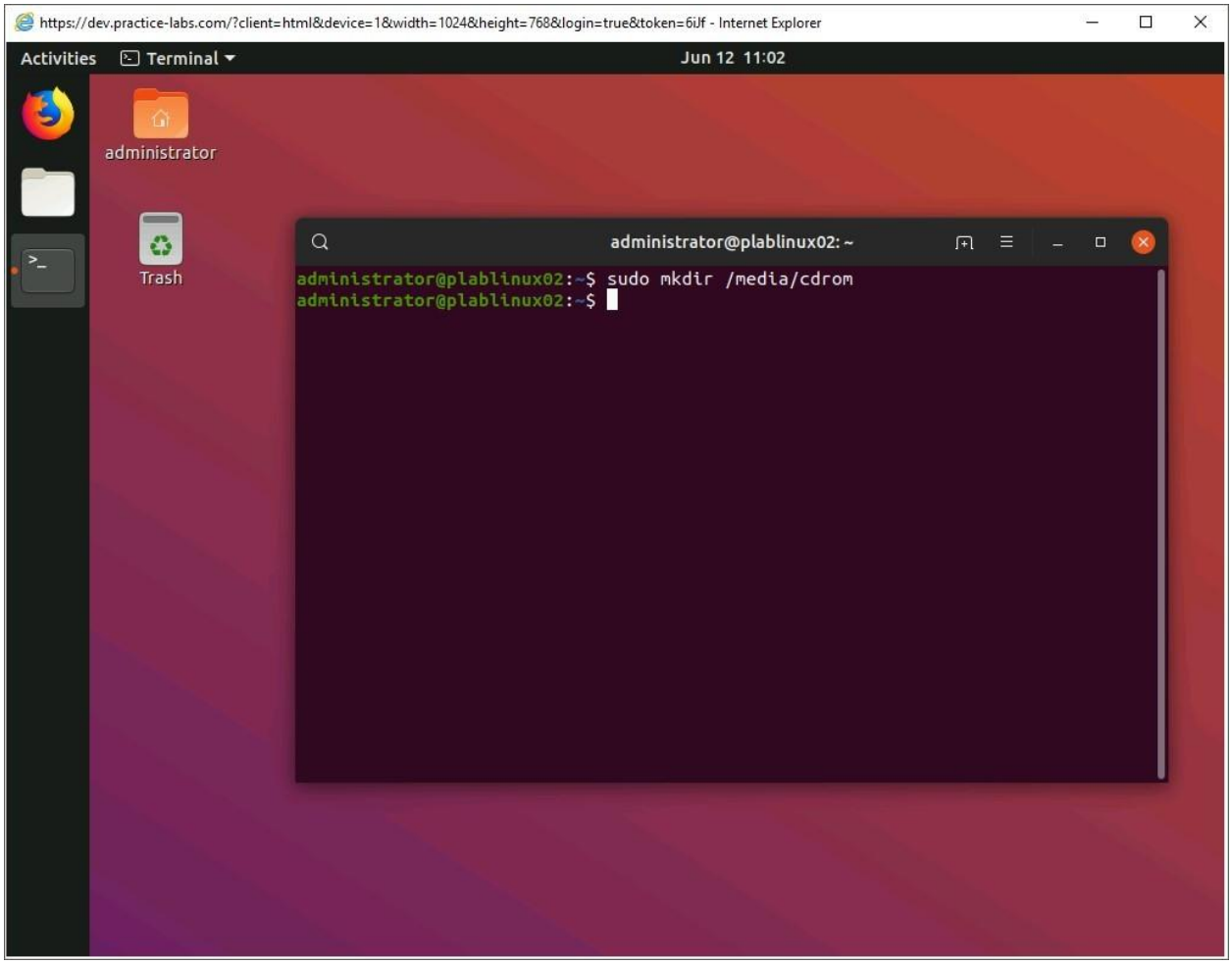

Figure 1.13 Screenshot of PLABLINUX02: Creating a new directory.

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.

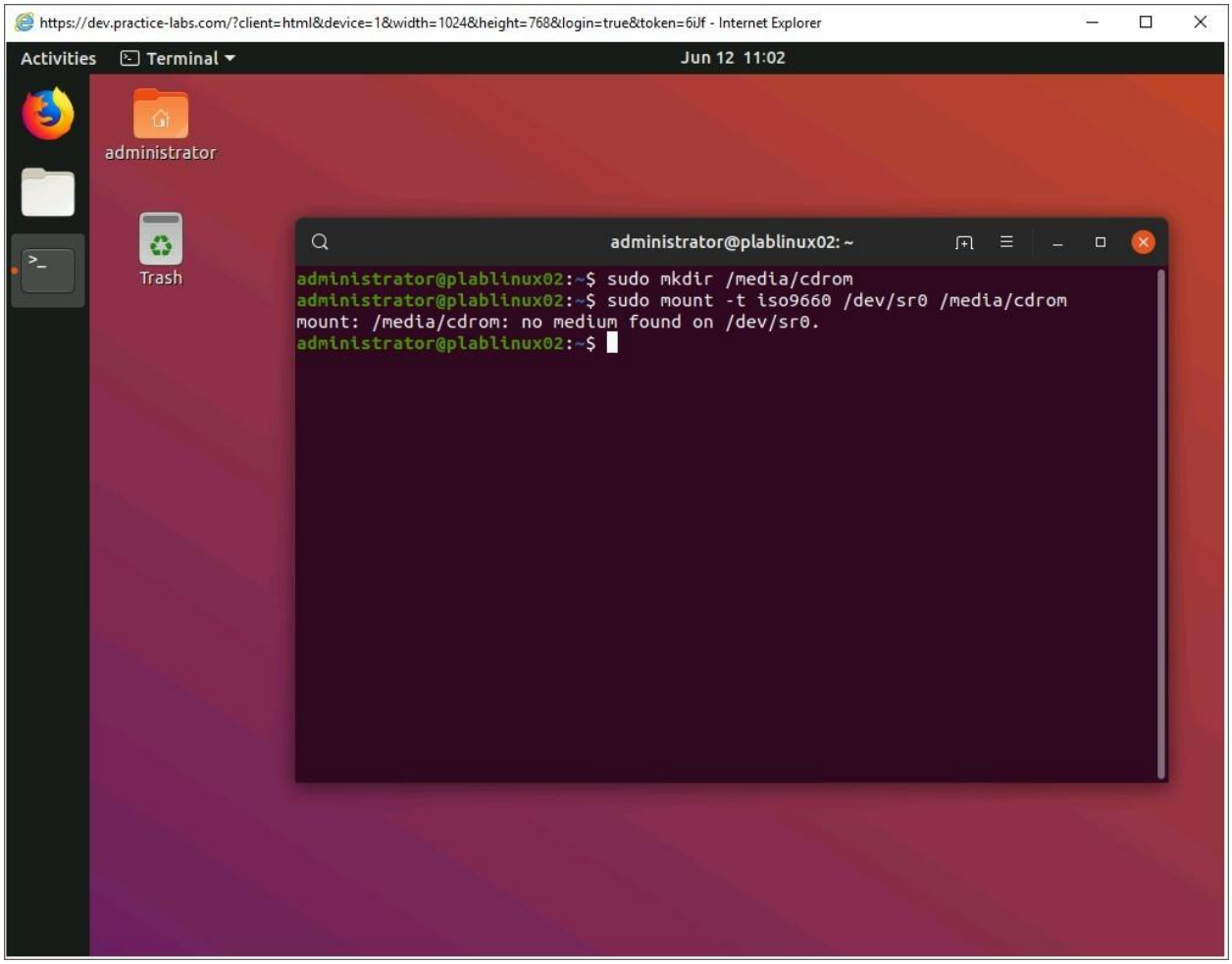

Figure 1.14 Screenshot of PLABLINUX02: Mounting the cdrom.

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:

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