CompTIA Linux+

Install and Configure a Web Server

Exercise 1 - Install and Configure a Web Server

A Web server is designed to host pages that can be either viewed on the intranet or the Internet. By default, CentOS does not have a Web server installed. However, you can download and install the Web server package.

In this exercise, you will learn to install and configure a Web server.

Learning Outcomes

After completing this exercise, you will be able to:

- Log into a Linux system
- Configure network settings
- Install Apache Web Server
- Manage Apache Web Server
- Configure firewalld to allow Apache traffic
- Test Apache Web Server traffic

Your Devices

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

- PLABLINUX01 (CentOS Server)

PLABLINUX01
CentOS Server
192.168.0.2

Task 1 - Install Apache Web Server

You need first to install Apache Web Server. You can use the yum utility to do this.

In this task, you will learn to install the Apache Web Server.

Step 1
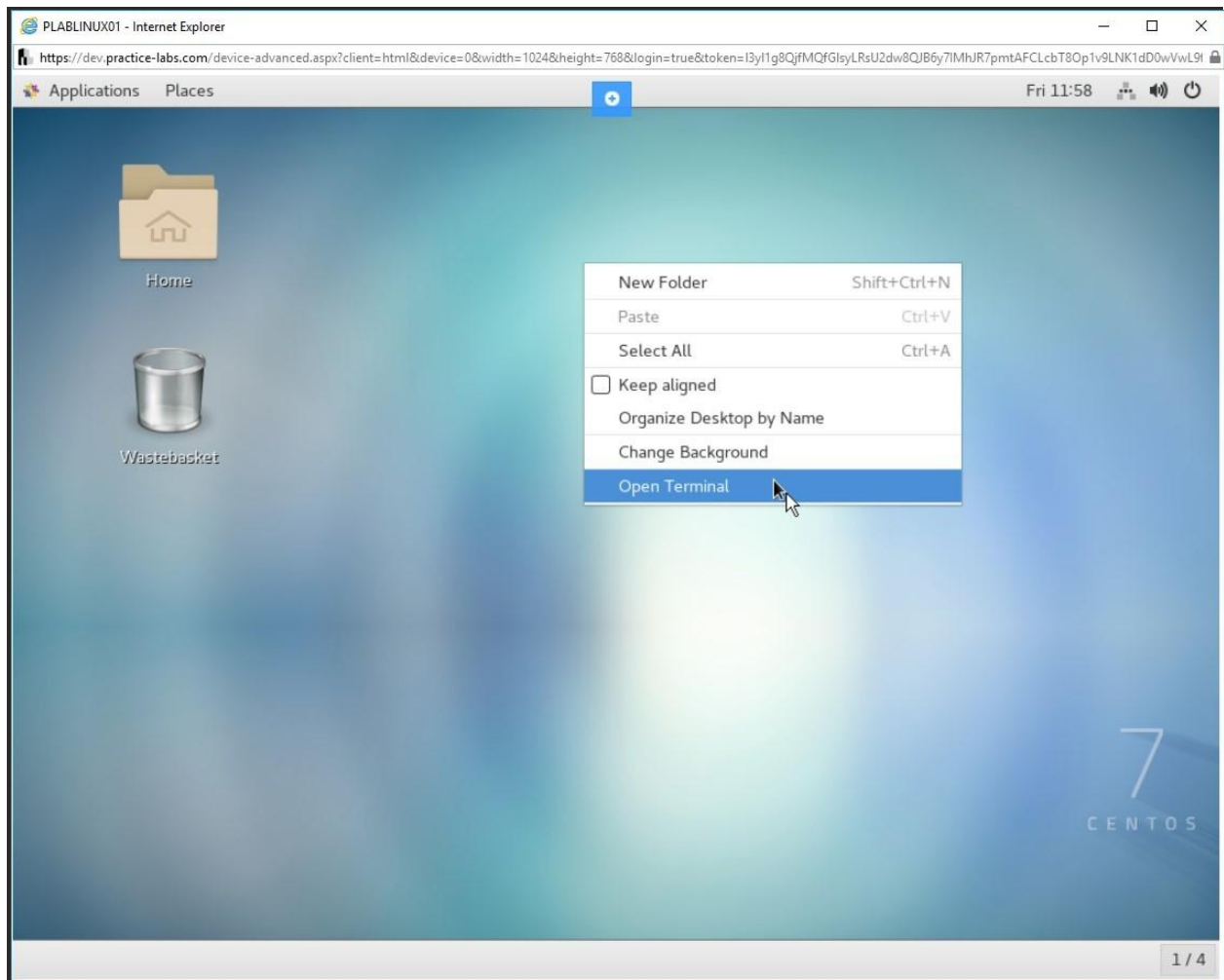
On the desktop, right-click and select Open Terminal.

Figure 1.1 Screenshot of PLABLINUX01: Selecting the Open Terminal option from the context menu.

Step 2

The terminal prompt window is displayed. Type the following command:

```
su -
```

Press Enter.

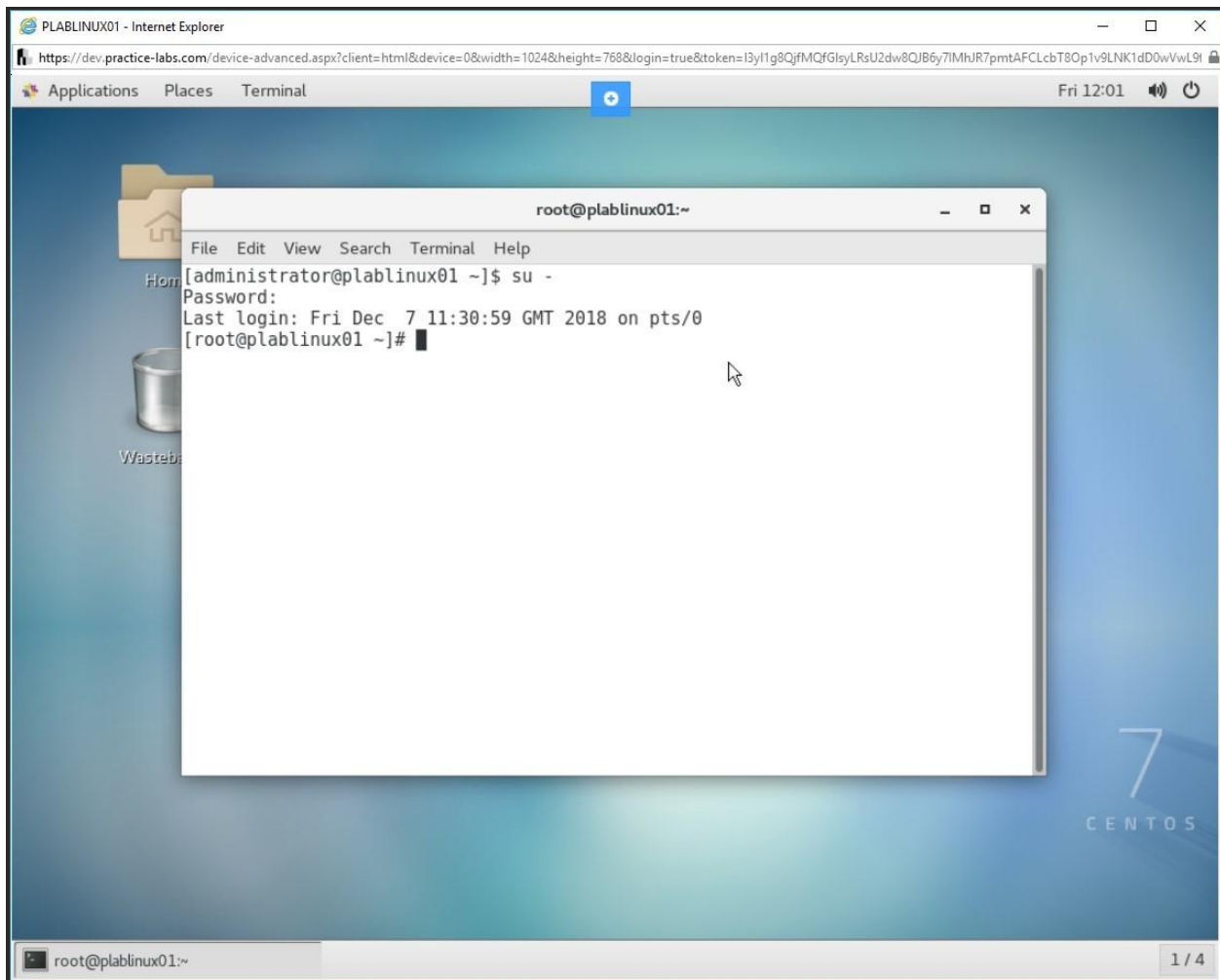At the Password prompt, type the following password:

Passw0rd

Press Enter.

Figure 1.2 Screenshot of PLABLINUX01: Changing the account to the root account with the su - command.

Step 3

Clear the screen by entering the following command:

```
clear
```

You should first update the package on the CentOS system. Type the following command:
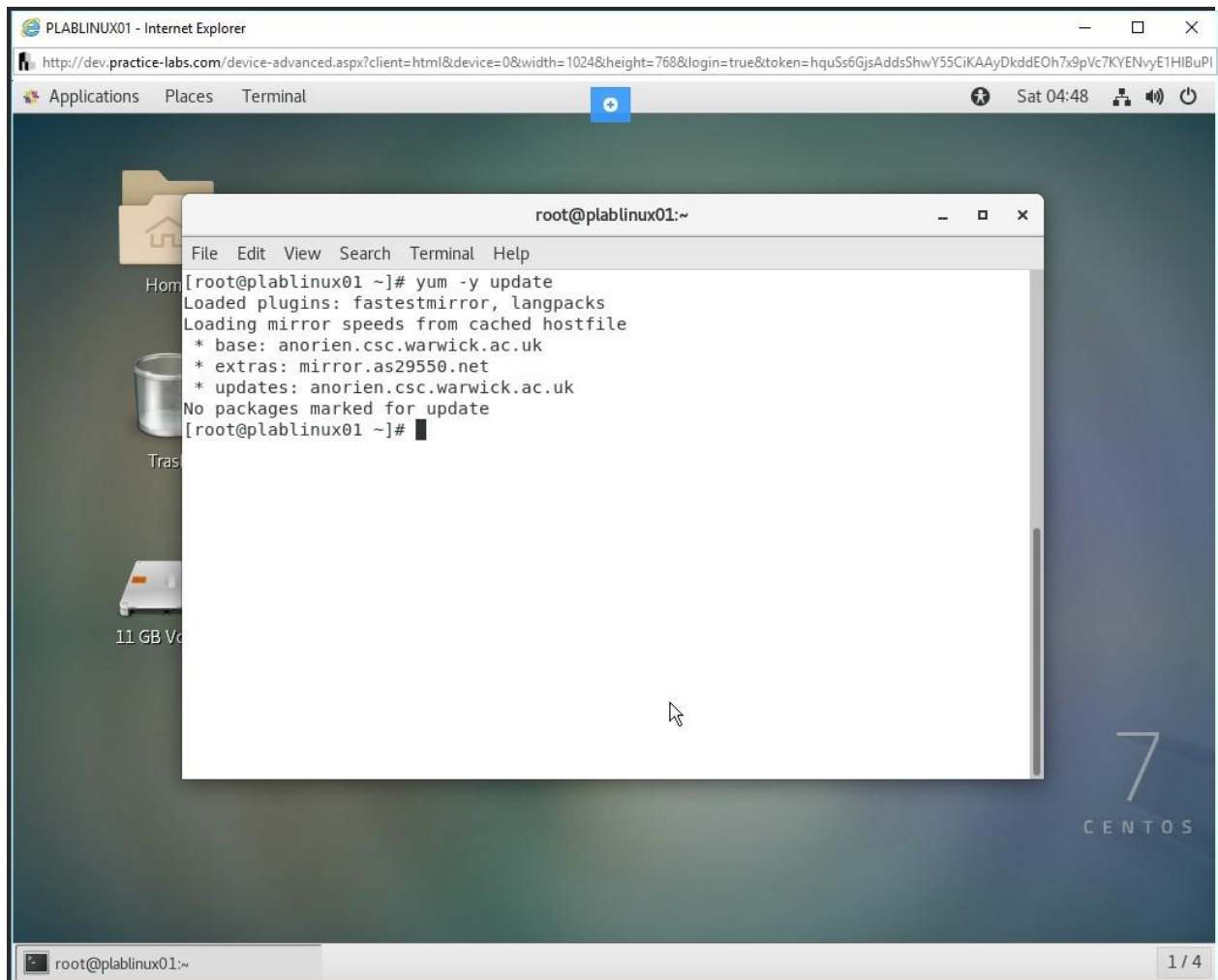
```
yum -y update httpd
```

Press Enter.

Figure 1.3 Screenshot of PLABLINUX01: Updating the packages on the CentOS system.

Step 4

Clear the screen by entering the following command:

```
clear
```

You should install the Apache Web Server. Type the following command:

```
yum install httpd
```

Press Enter. Notice that the download is now completed, and you are prompted for confirmation to install.
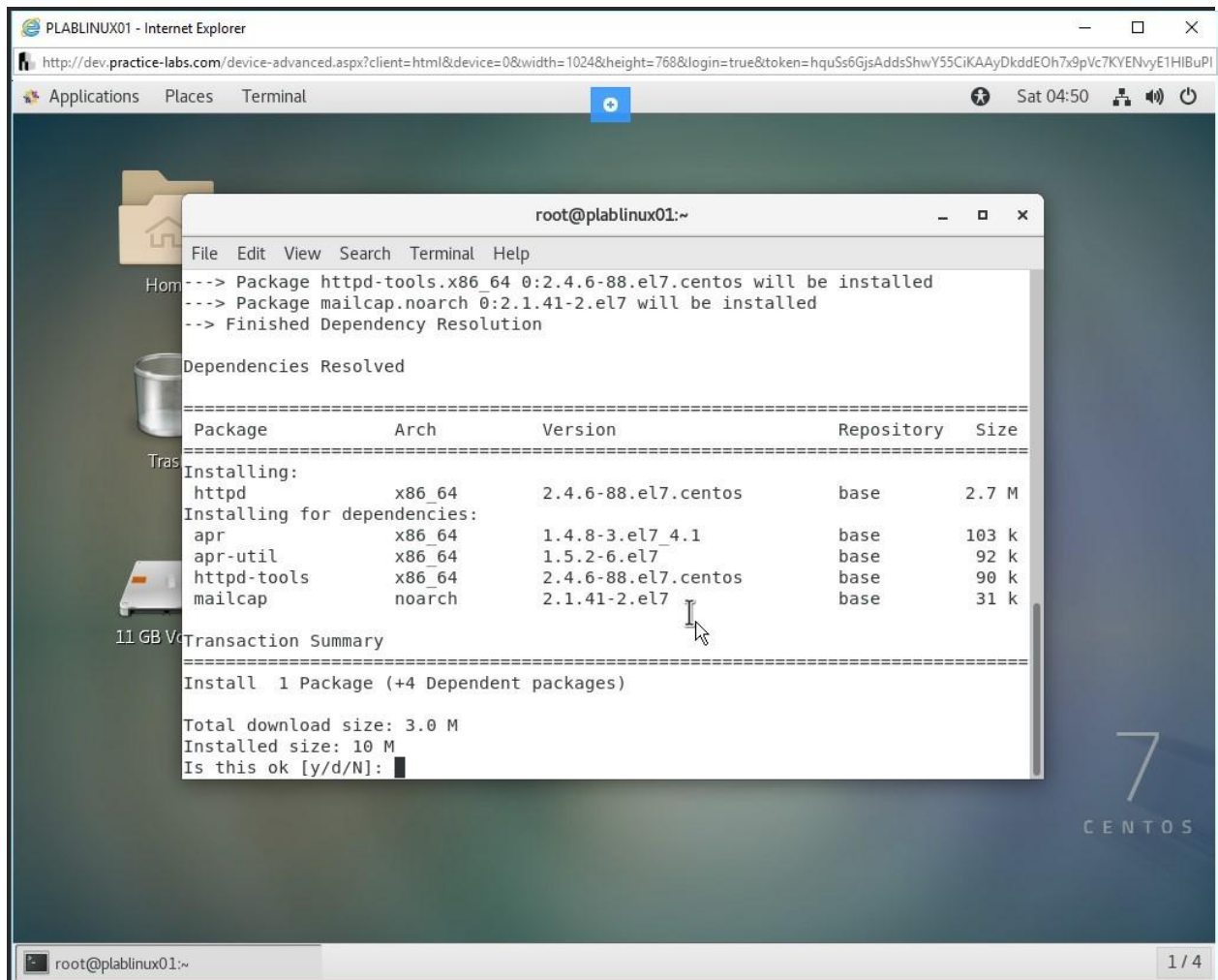
Figure 1.4 Screenshot of PLABLINUX01: Installing the Apache Web Server.

Step 5

Type the following command:

y

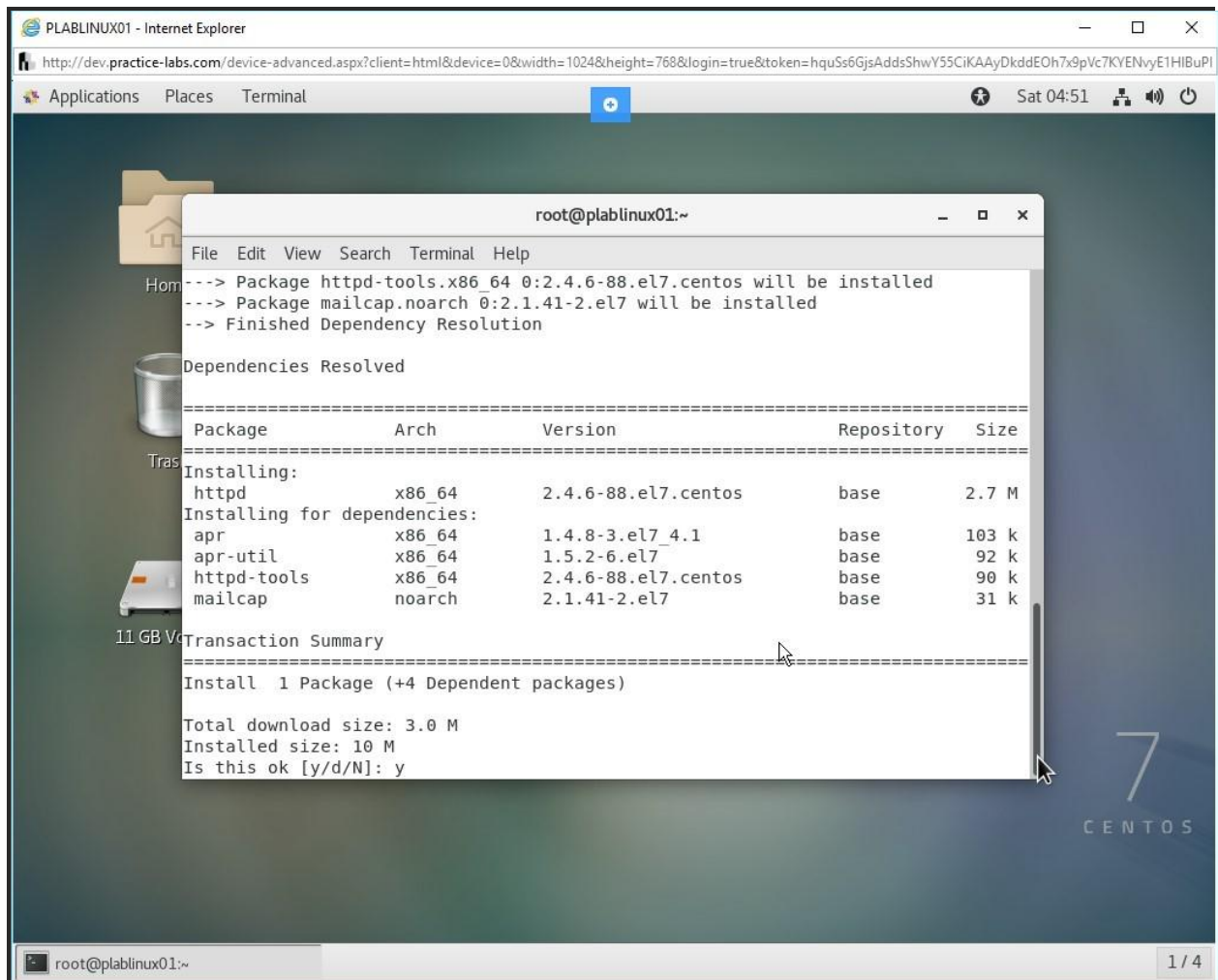Press Enter. The installation of Apache Web Server will now start.

Figure 1.5 Screenshot of PLABLINUX01: Confirming the installation of Apache Web Server.

Step 6

The installation starts. First, the transaction check takes place, and then the installation begins.
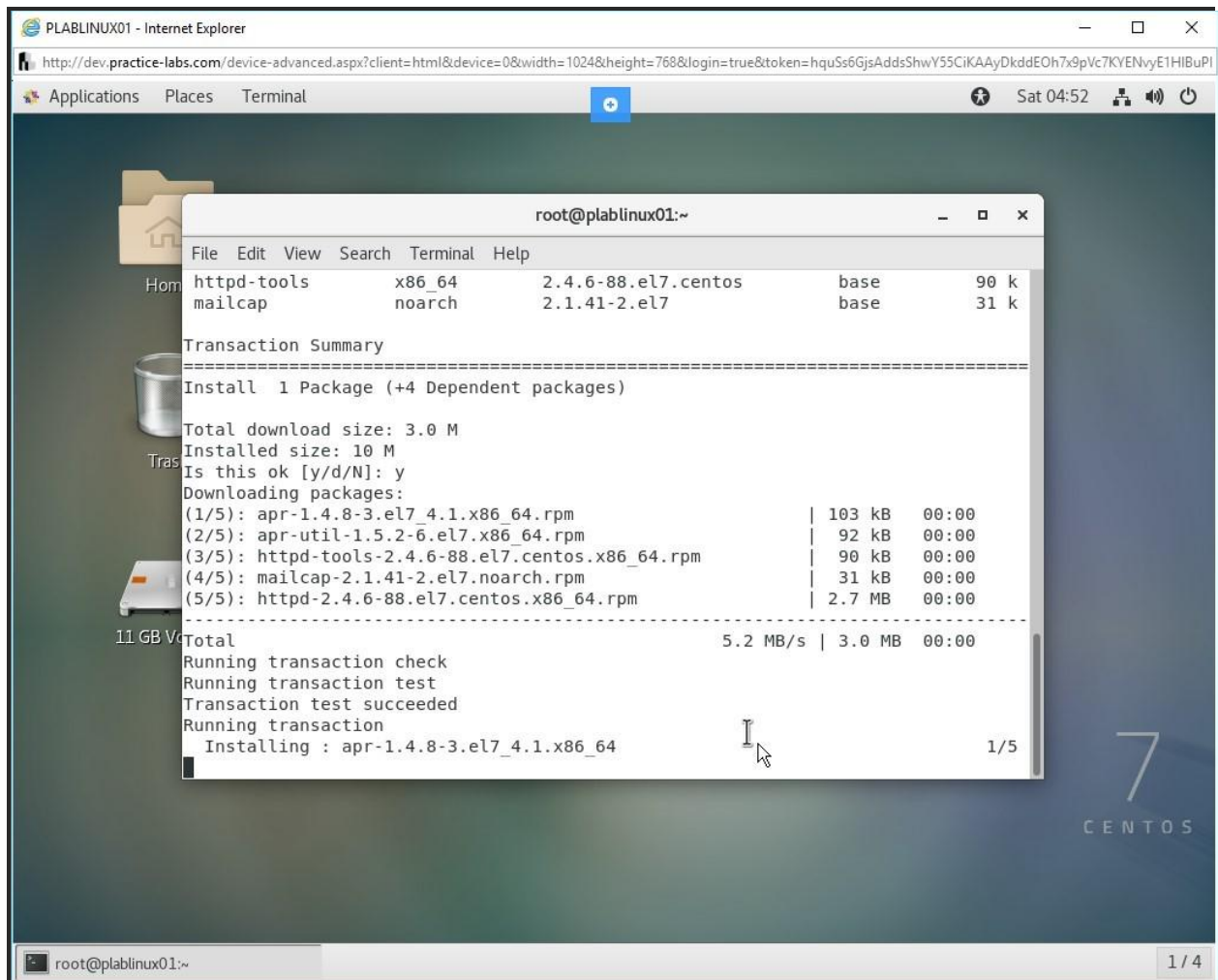
Figure 1.6 Screenshot of PLABLINUX01: Showing the installation of Apache Web Server.

Step 7

After installation is completed, you are prompted with the Complete! message.
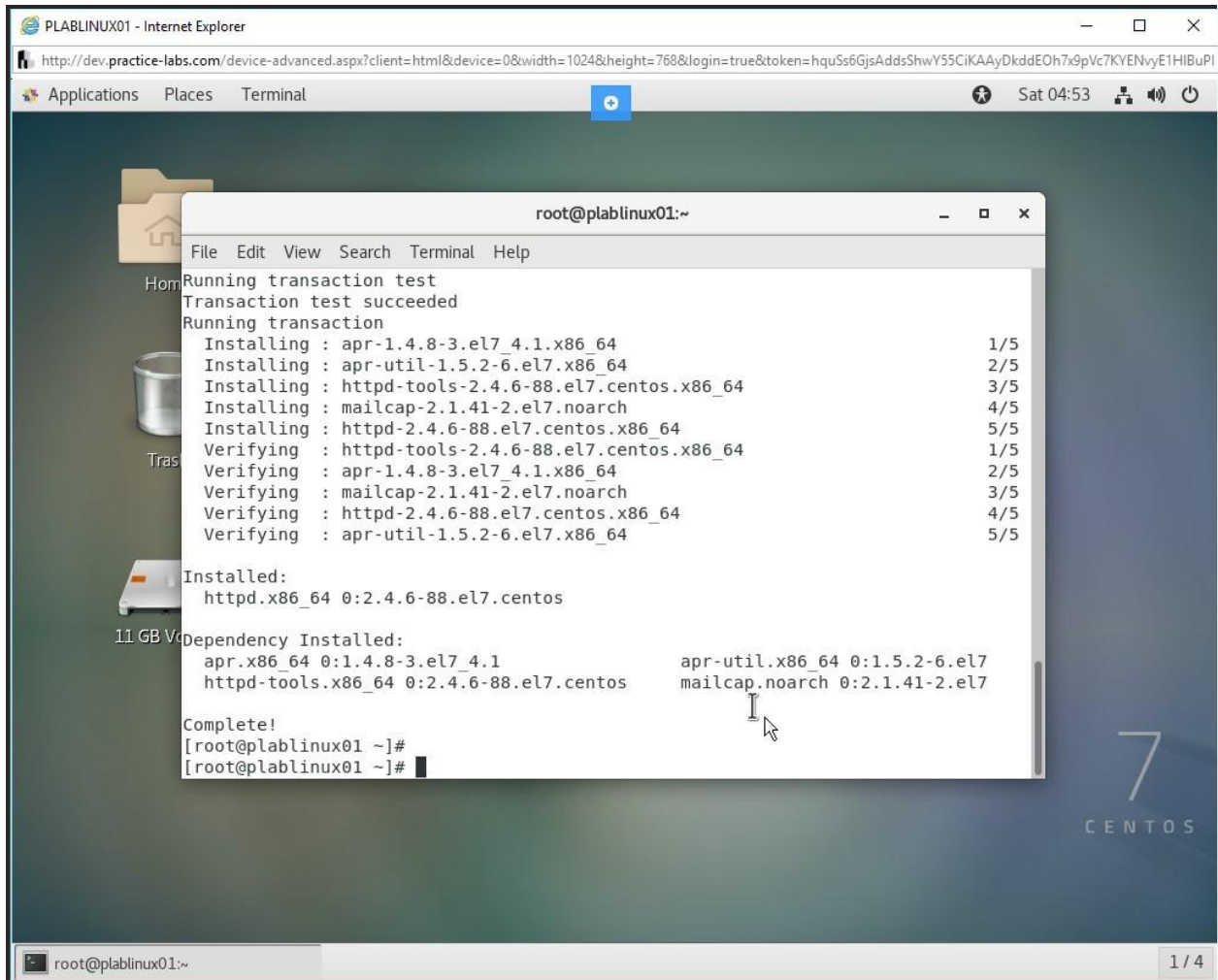
Figure 1.7 Screenshot of PLABLINUX01: Showing the completion of the Apache Web Server.

Task 2 - Manage Apache Web Server

After Apache is installed, you want to perform some basic configuration with its service. The httpd service should start automatically without any manual intervention.

In this task, you will learn to manage Apache Web Server. To manage Apache Web Server , perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

Let's first check the status of the Apache Web Server. Type the following command:

```
systemctl status httpd
```

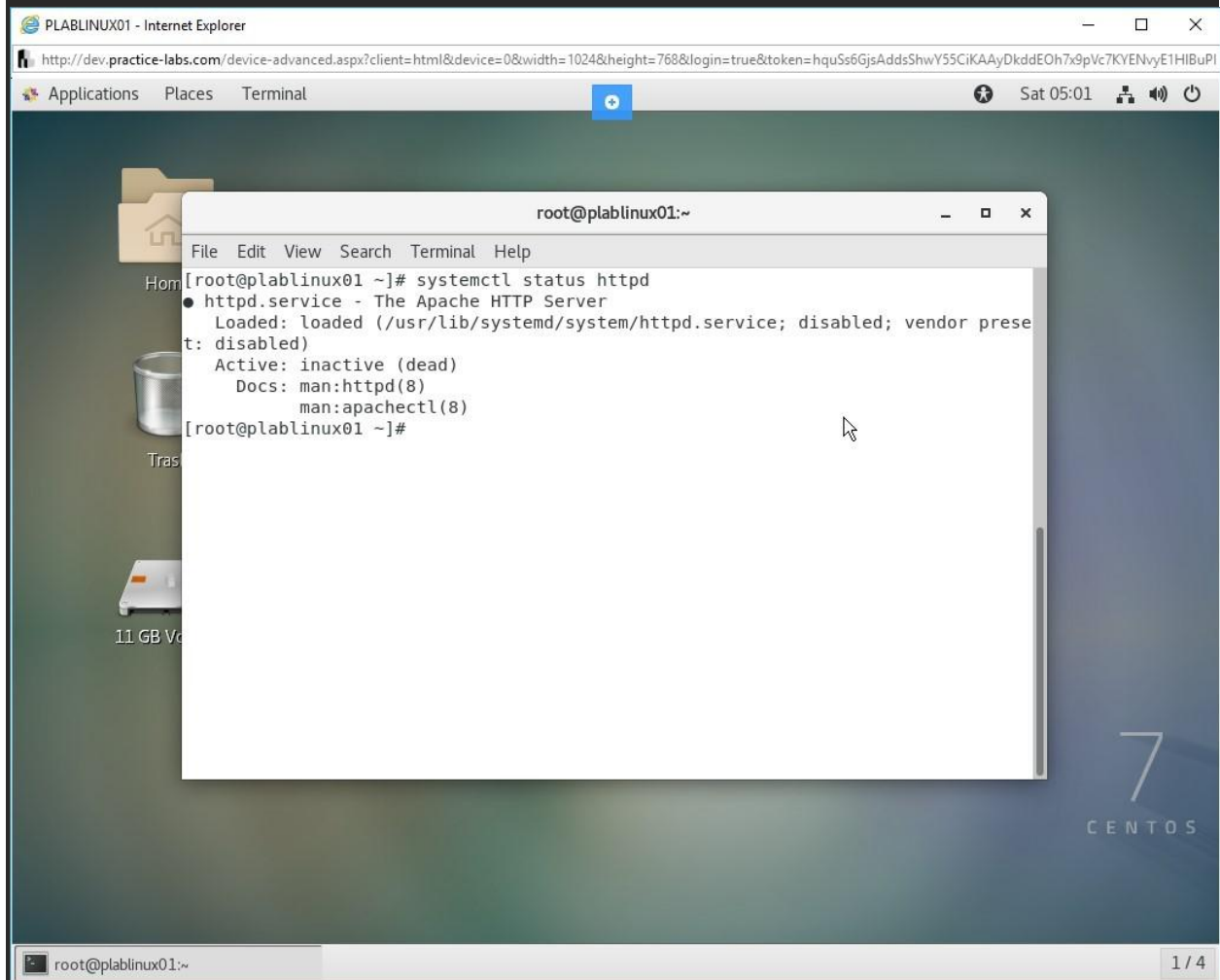Press Enter. Notice the httpd server is shown as Inactive.

Figure 1.8 Screenshot of PLABLINUX01: Checking the status of the httpd service.
Step 2

You need to start the Apache Web Server by starting the httpd service. Type the following command:

```
systemctl start httpd
```

Press Enter. Notice that no response is returned.

Please wait before moving to the next step.

The service may take a minute to start and there might be a delay before the terminal window will become responsive.
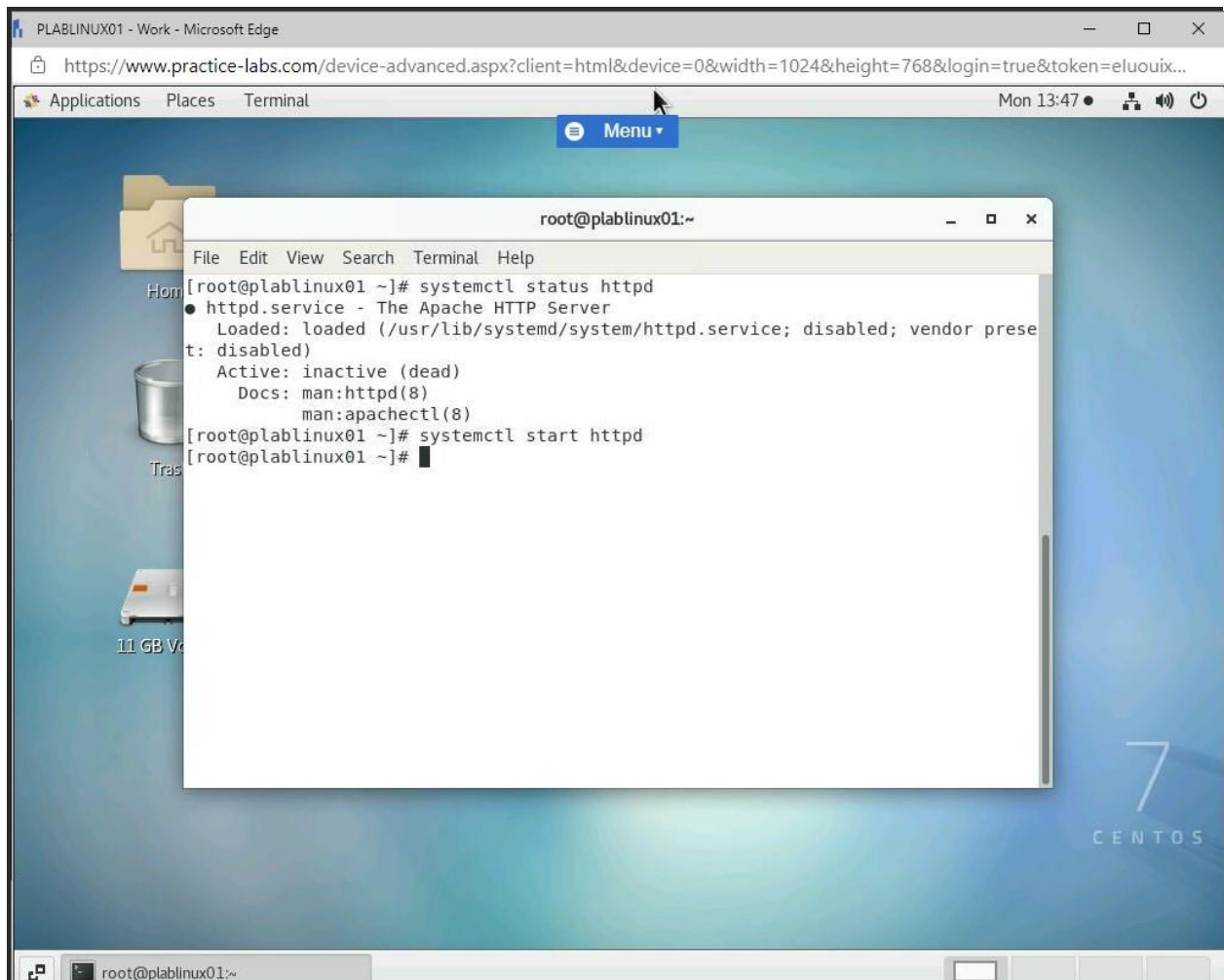
Figure 1.9 Screenshot of PLABLINUX01: Starting the httpd service.

Step 3

Clear the screen by entering the following command:

```
clear
```

Again, you should check the status of the Apache Web Server. Type the following command:

```
systemctl status httpd
```

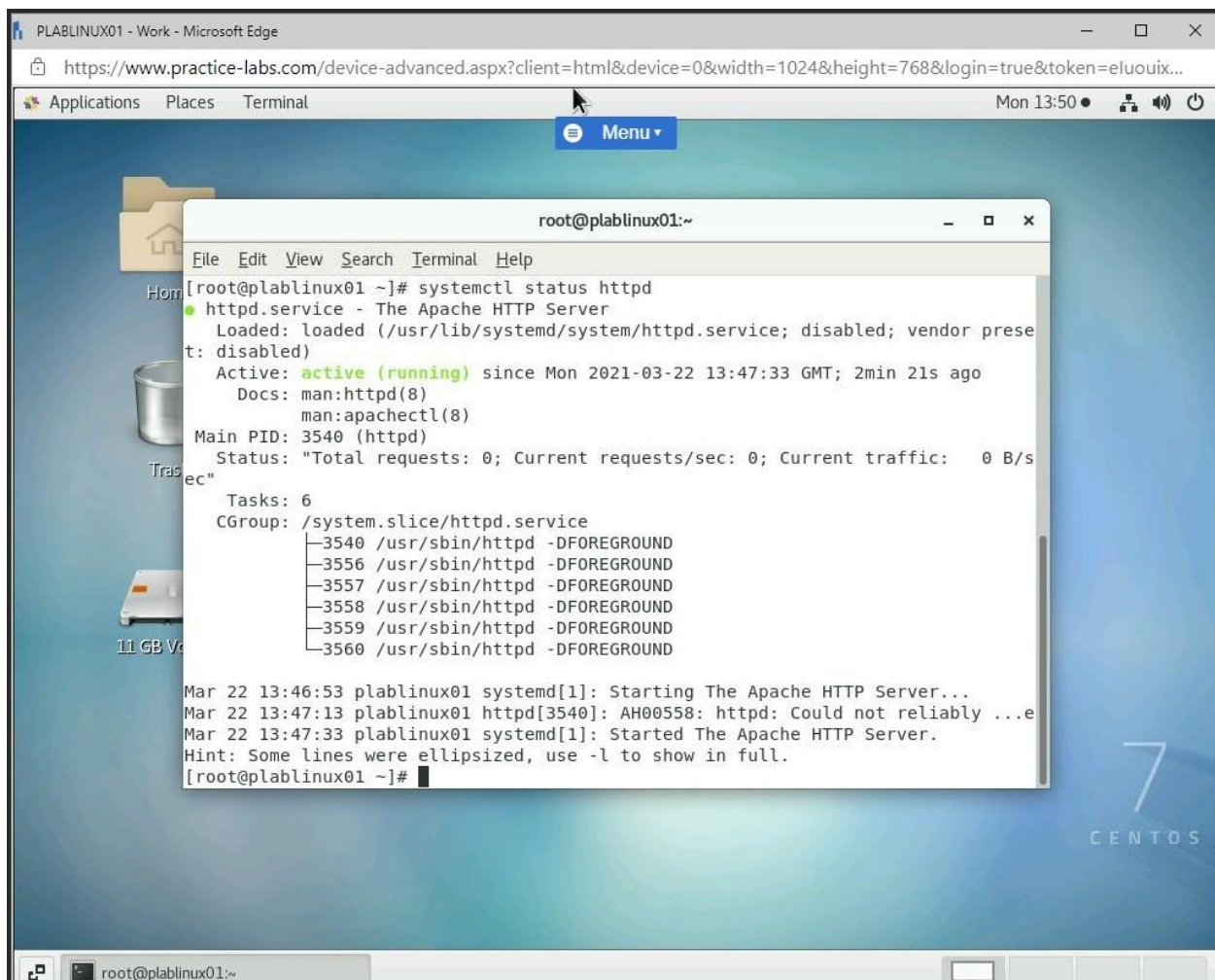Press Enter. Notice the httpd server is shown as active (running).

Figure 1.10 Screenshot of PLABLINUX01: Checking the status of the httpd service.

Step 4

Clear the screen by entering the following command:

```
clear
```

Now you should configure the httpd service to start automatically when the system boots up. Type the following command:

```
systemctl enable httpd
```

Press Enter.

Notice that the httpd service is now configured to start automatically when the system boots up.
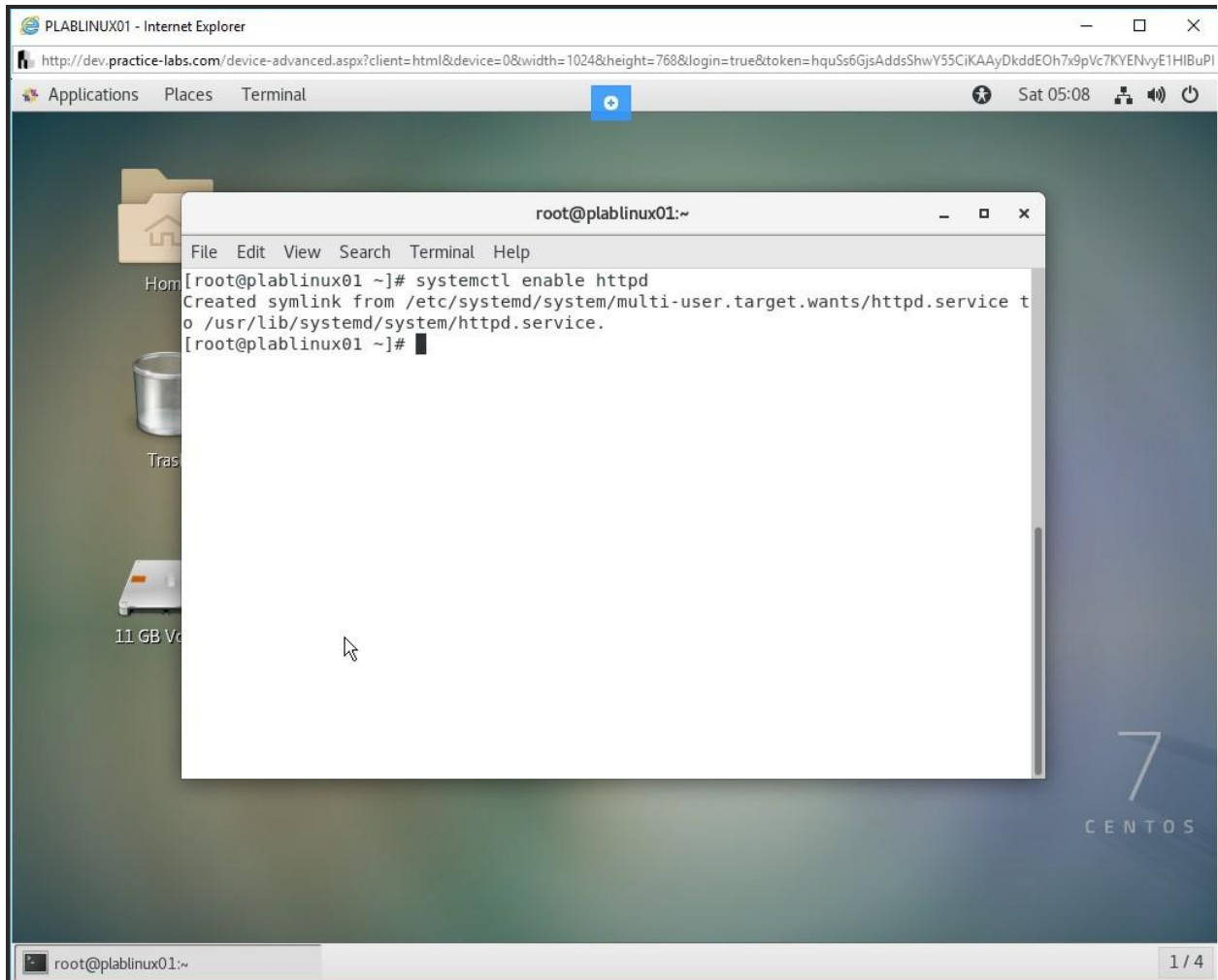
Figure 1.11 Screenshot of PLABLINUX01: Enabling the httpd service for an auto start at system boot.

Task 3 - Configure Firewalld to Allow Apache Traffic

CentOS 7 firewall, by default, blocks the Apache Web Server traffic. You will need to configure the firewall service, which is firewalld, to allow the traffic.

In this task, you will learn to configure firewalld to allow the Apache traffic. To allow the Apache traffic through firewalld, perform the following steps:

Step 1

Clear the screen by entering the following command:

```
clear
```

Now you should configure the httpd service to start automatically when the system boots up. Type the following command line:

```
firewall-cmd --zone=public --permanent --add-service=http
```

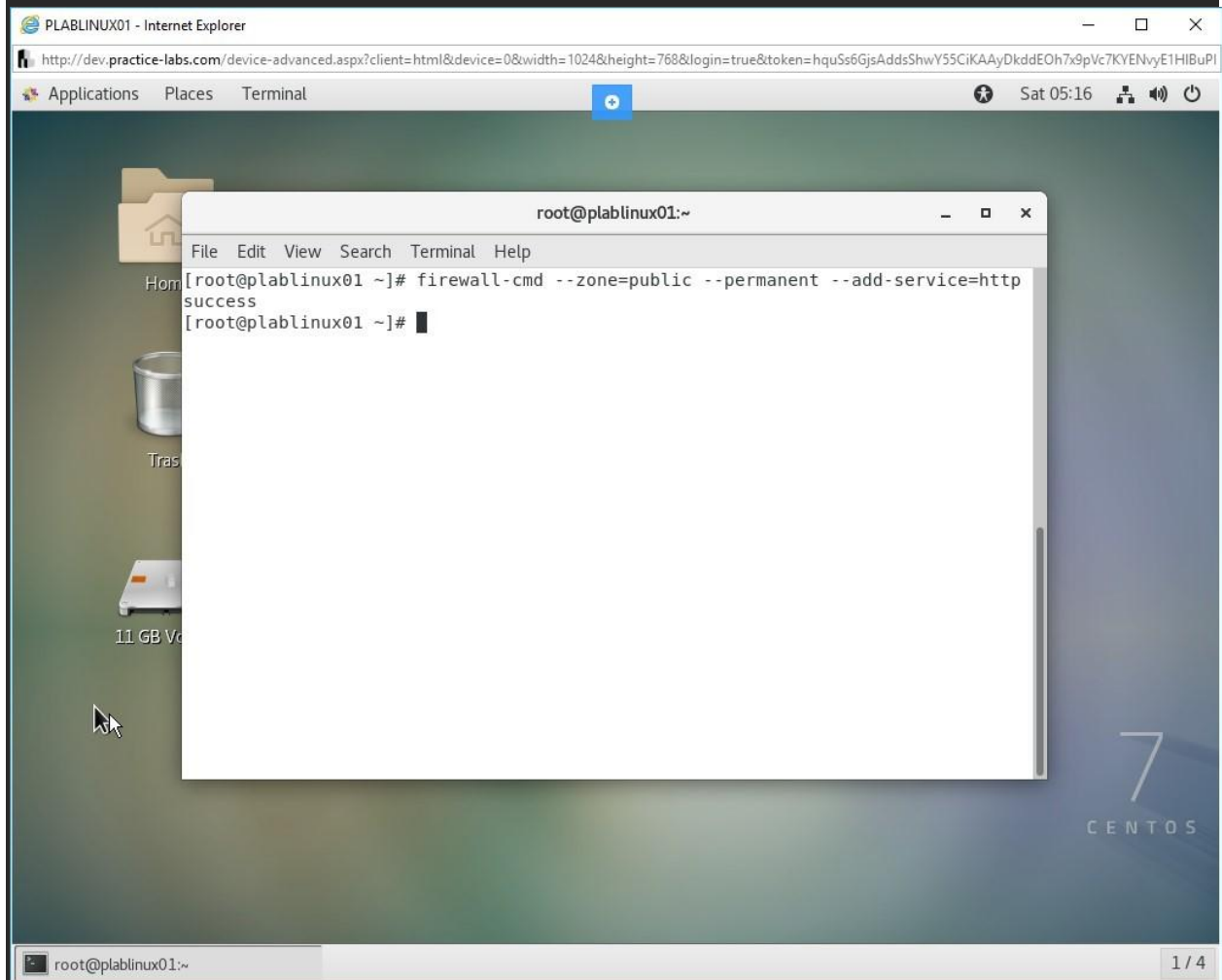Press Enter. Notice that you receive the success message.

Figure 1.12 Screenshot of PLABLINUX01: Adding a rule in the firewall for http.

Step 2

Similarly, if you need, you can also allow the https traffic. Type the following command:

```
firewall-cmd --zone=public --permanent --add-service=https
```

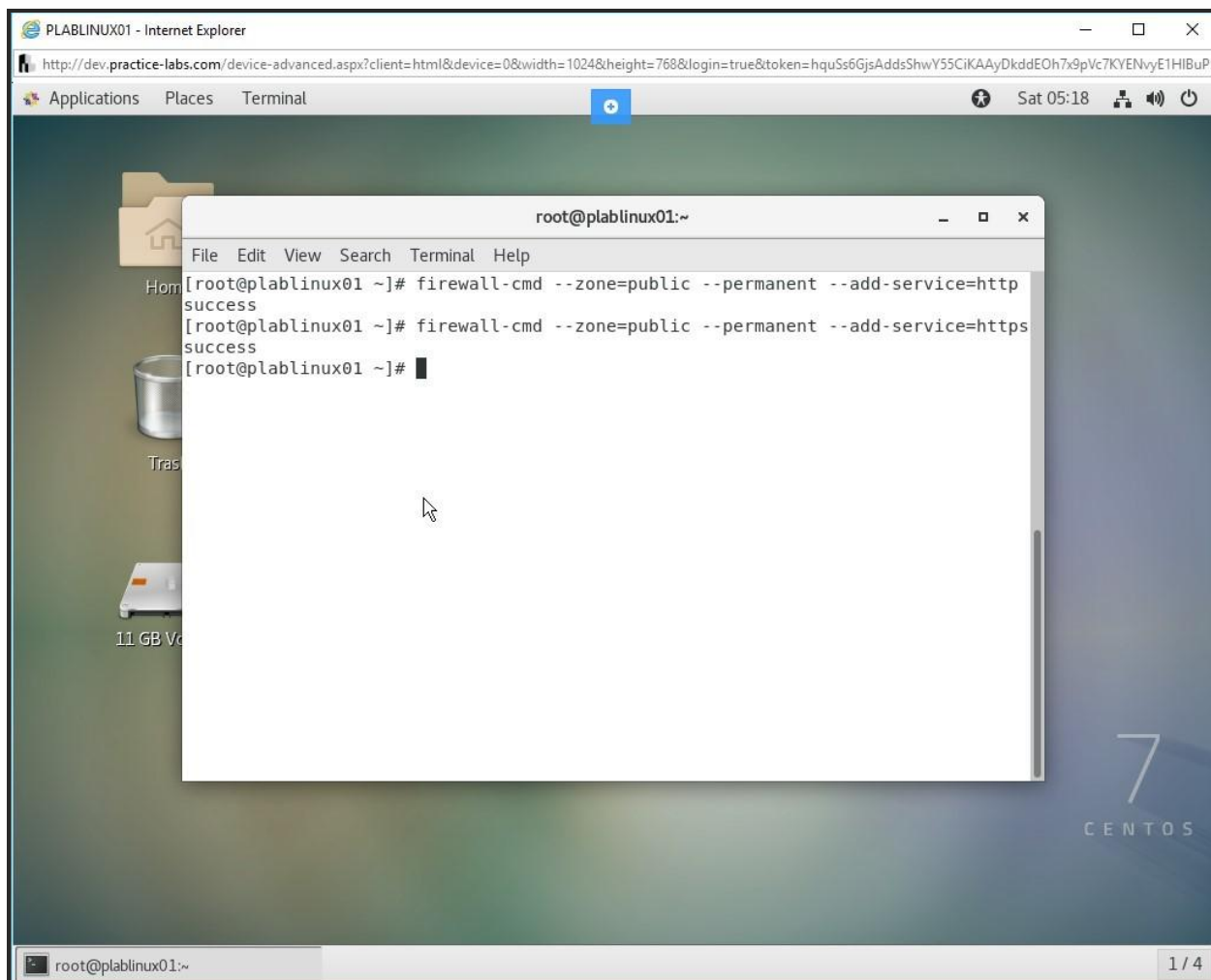Press Enter. Notice that you receive the success message.

Figure 1.13 Screenshot of PLABLINUX01: Adding a rule in the firewall for https.

Step 3

After adding these two new rules, you need to update the firewalld rules. Type the following command:

```
firewall-cmd --reload
```

Press Enter. Notice that you receive the success message. The firewalld service is now configured to allow the HTTP and HTTPS traffic from the Apache Web Server.
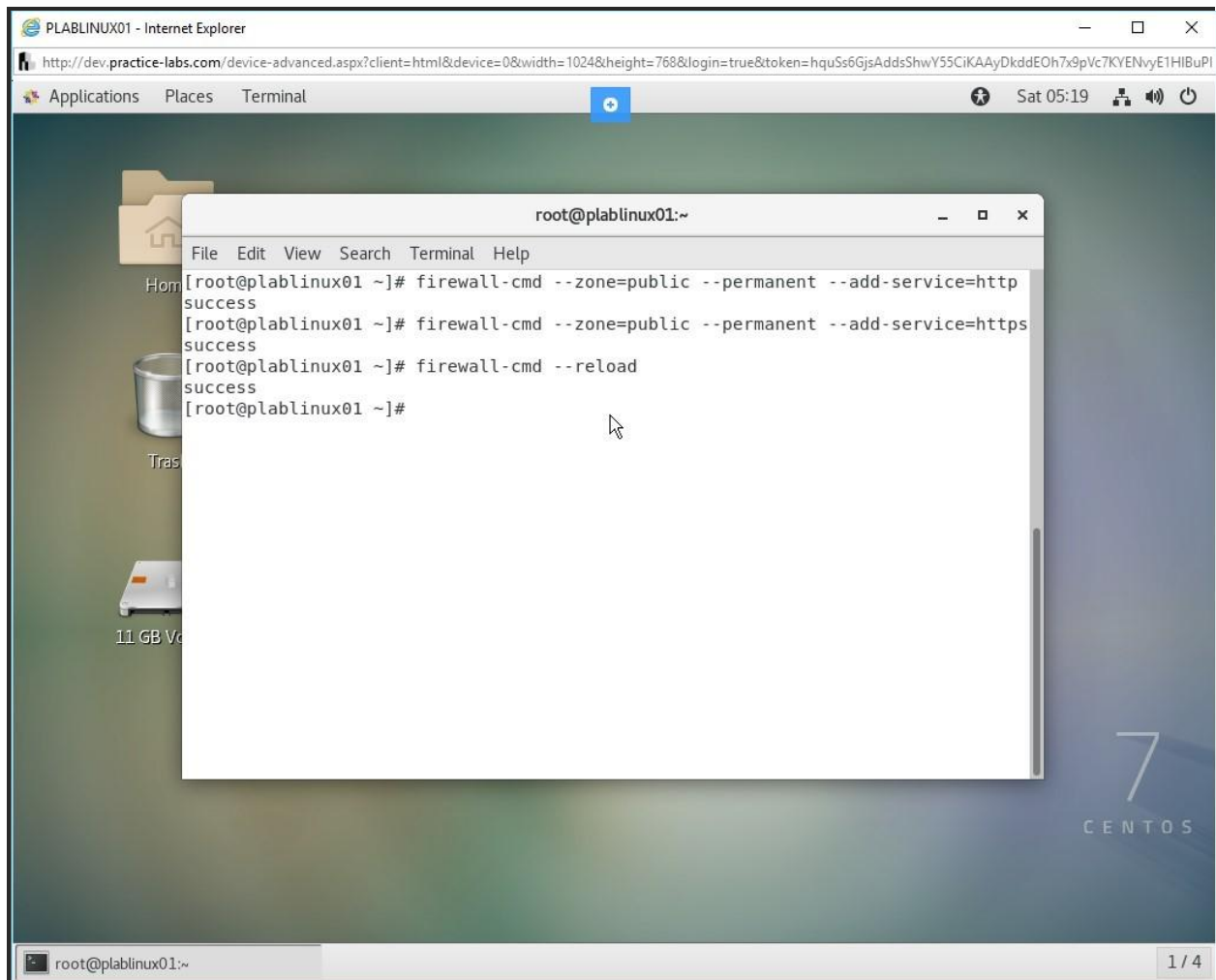
Minimize the terminal window.

Figure 1.14 Screenshot of PLABLINUX01: Reloading the firewall rules.

Task 4 - Test Apache Web Server Traffic

After performing the initial configuration, you can check the Apache Web Server.

In this task, you will test the Apache Web Server Traffic. To test the Apache Web Server Traffic, perform the following steps:

Step 1

You should now be on the CentOS desktop. Click Applications and select Firefox.
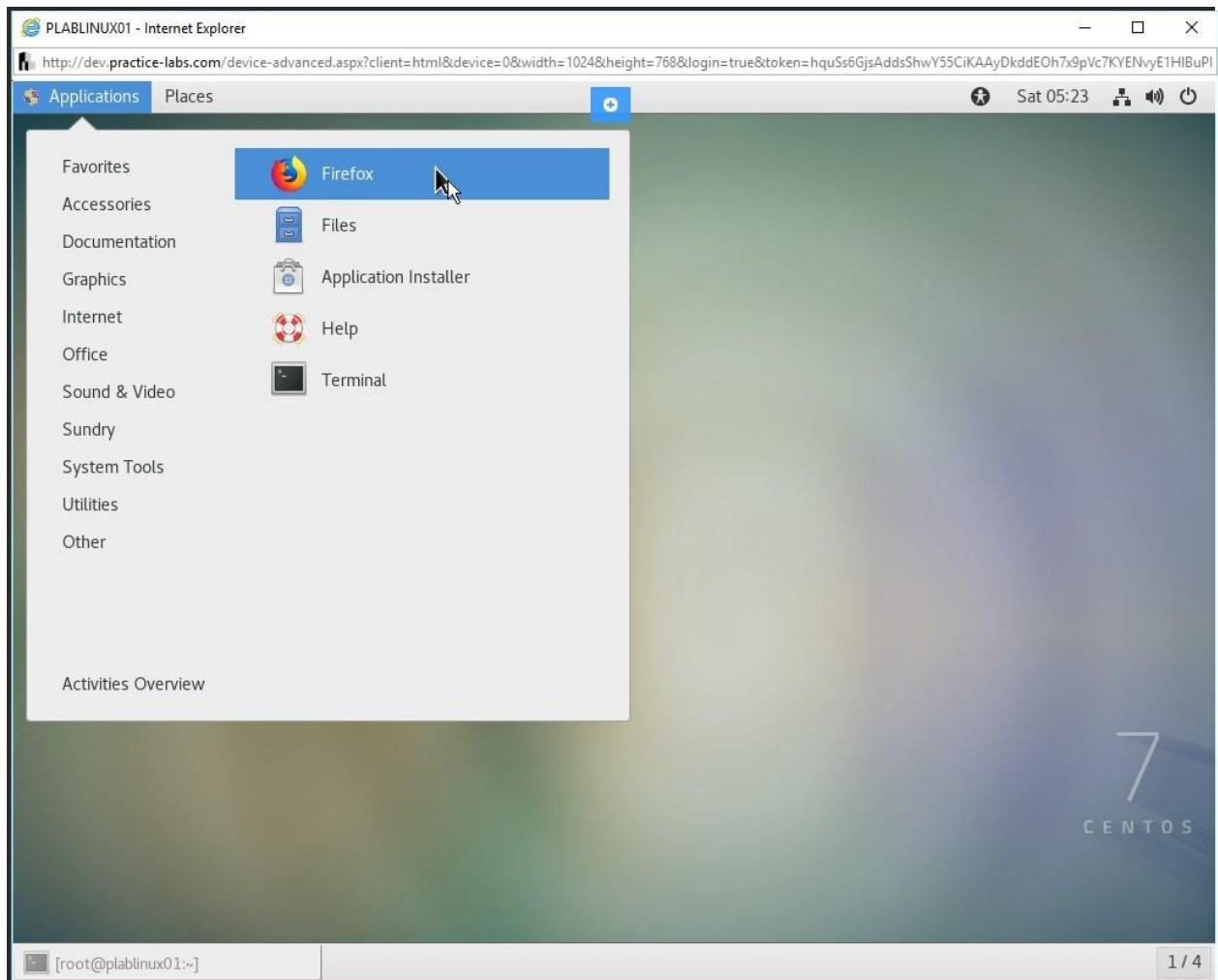
Wait a moment for the browser to launch.

Figure 1.15 Screenshot of PLABLINUX01: Starting Firefox from the Applications menu.

Step 2

You may see a message at the bottom about refreshing Firefox. Click the x button.
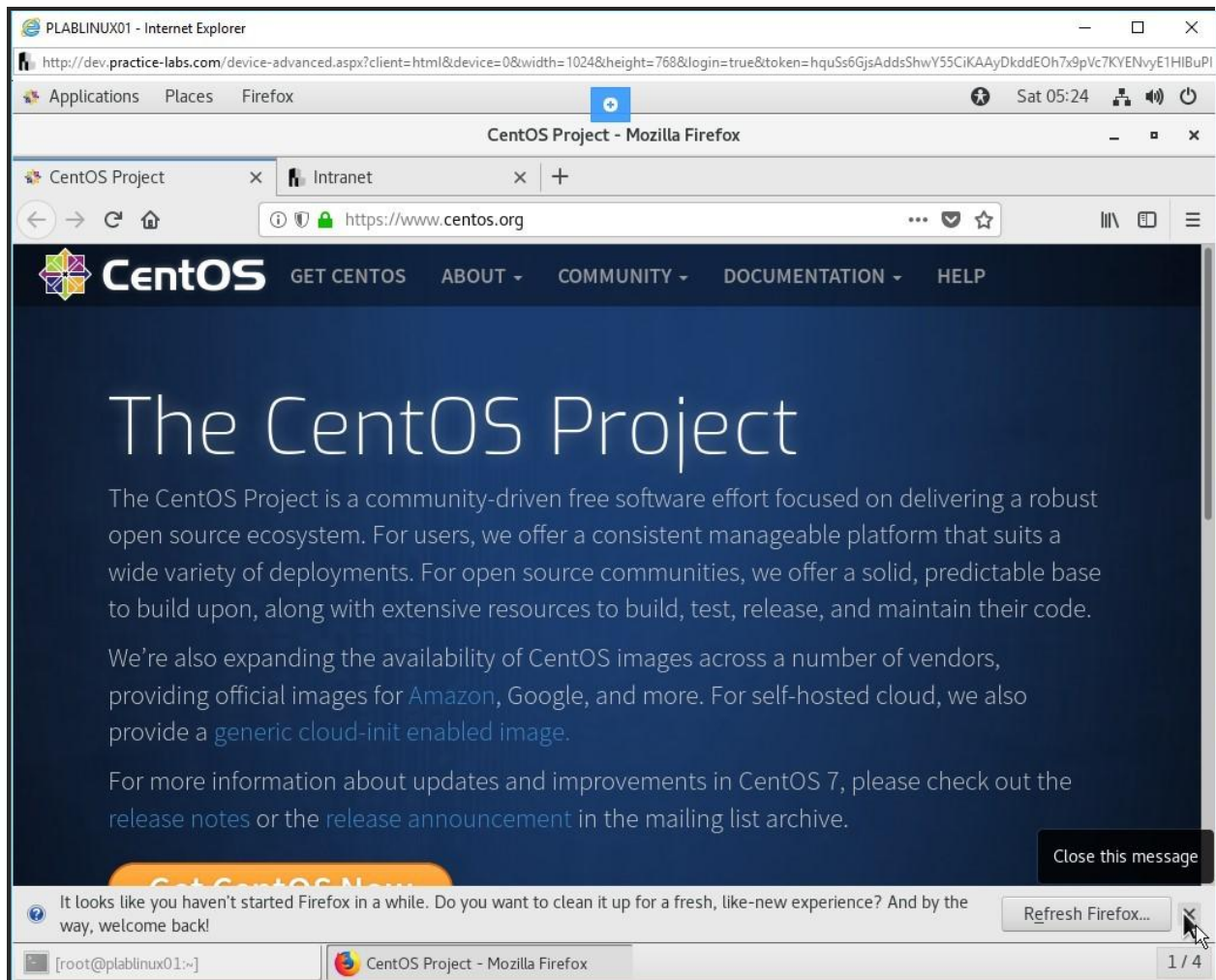
Figure 1.16 Screenshot of PLABLINUX01: Showing the Refresh Firefox message.

Step 3

In the address bar, type the following:

```
localhost
```

Press Enter. Notice that the page has successfully loaded.

Note: This is only the first level configuration that you have done. You can also configure the Apache Web Server to listen to a specific IP address or even using a Website name. You can go through various URLs to complete the configuration:

https://www.tecmint.com/install-apache-on-centos-7/

https://www.linode.com/docs/web-servers/apache/install-and-configure-apache-on-centos-7/

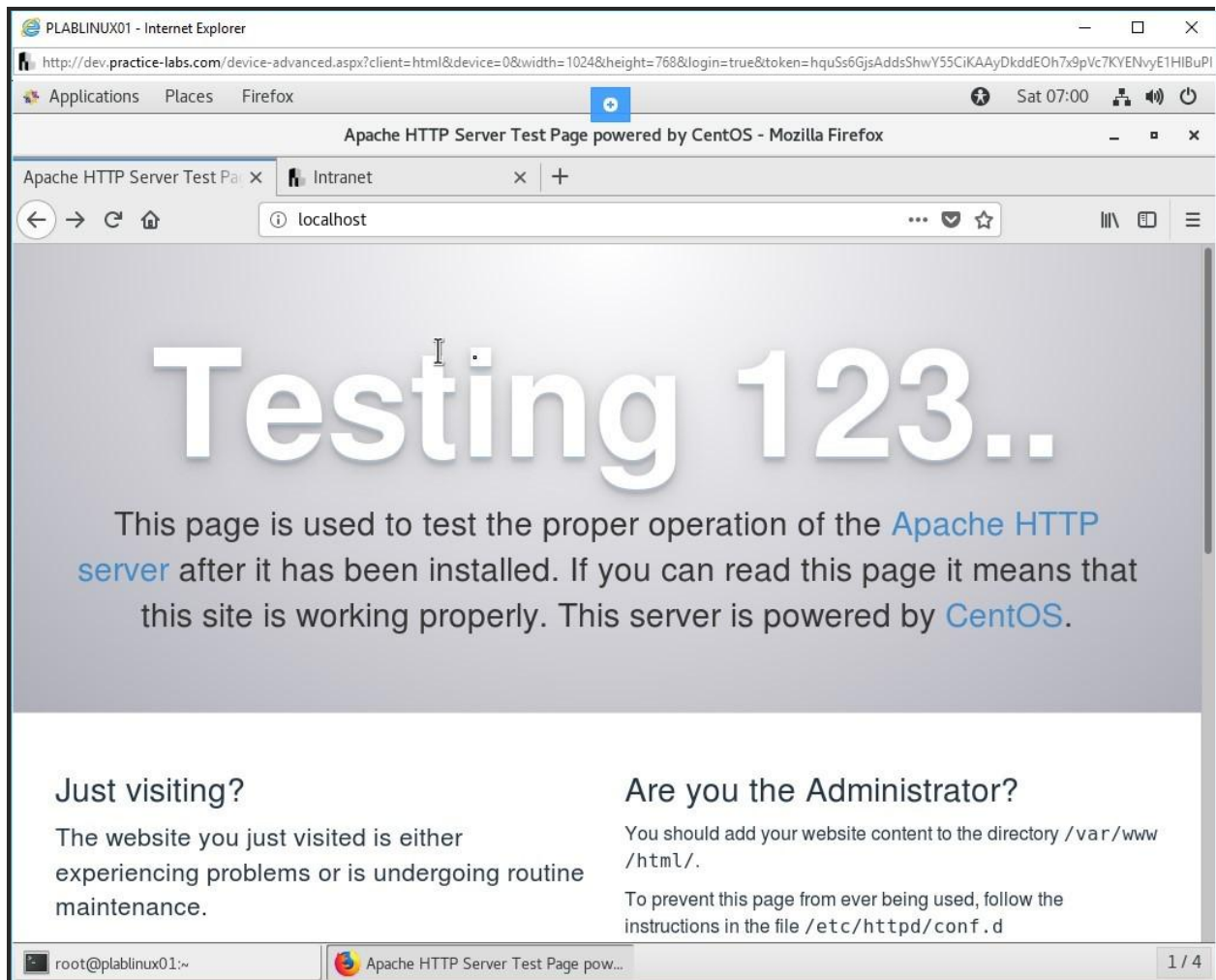*This is an advanced configuration that you should perform in your free time.*

Figure 1.17 Screenshot of PLABLINUX01: Accessing the localhost in Firefox.