Practice Labs - Ethical Hacker v10

Steganography

Introduction

Ethical Hacking
Steganography
Steghide
Stegosuite
SilentEye
Image

Welcome to the **Steganography** Practice Lab. In this module, you will be provided with the instructions and devices needed to develop your hands-on skills.

Learning Outcomes

In this module, you will complete the following exercises:

- Exercise 1 - Hide Documents Using Steganography

After completing this lab, you will be able to:

- Hide Documents in an Image
- Use Steghide and Stegosuite to Hide Data in an Image
- Use SilentEye to Hide Information within a File

Exam Objectives

The following exam objectives are covered in this lab:

- **1.1** Network and Communication Technologies
- **3.1** Information Security Controls
- **3.3** Information Security Attack Prevention

> ***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.

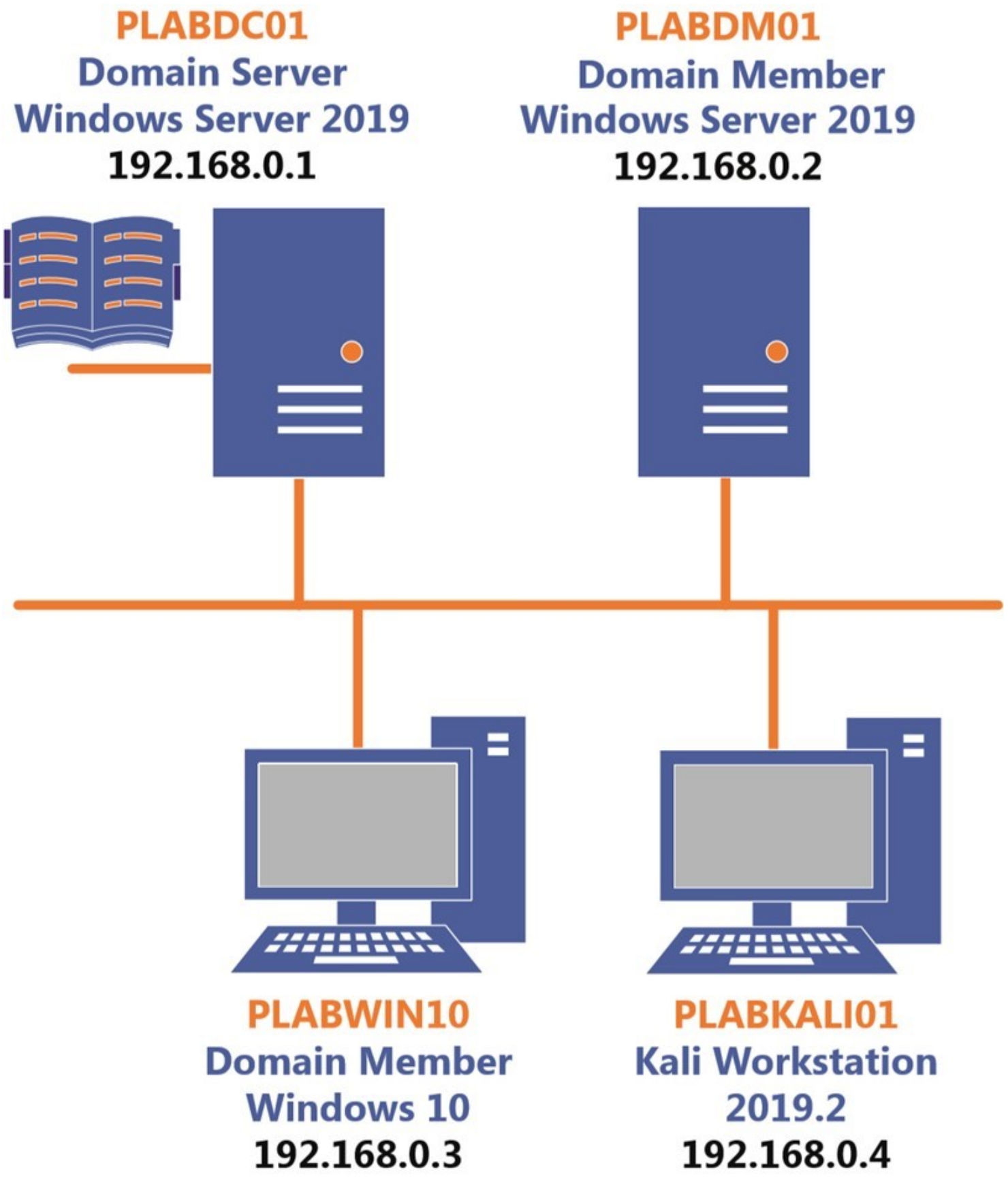
Help and Support

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.

- **PLABDC01 -** (Windows Server 2019 - Domain Server)
- **PLABDM01 -** (Windows Server 2019 - Domain Member)
- **PLABWIN10 -** (Windows 10 - Workstation)
- **PLABKALI01 -** (Kali 2019.2 - Linux Kali Workstation)

Click **Next** to proceed to the first exercise.

Exercise 1 - Hide Documents Using Steganography

Steganography means covered or hidden. It is mainly intended to hide a secret message in a plain message or an image file. Steganography is not a new technology. It has been around for thousands of years and was used by Greeks and Romans. In recent types, the methods of steganography have changed, but its intent still remains the same.

A basic steganography tool encodes information within another file, typically a media file such as a picture or audio/video file. A typical technique is to encode information in the least significant bit of the image or audio data. This does not materially affect the picture or sound and does not alter the file header (though it can change the file size).

In this exercise, you will hide documents in an image file.

Learning Outcomes

After completing this exercise, you will be able to:

- Hide Documents in an Image
- Use Steghide and Stegosuite to Hide Data in an Image
- Use SilentEye to Hide Information within a File

Your Devices

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

- **PLABDC01 -** (Windows Server 2019 - Domain Server)
- **PLABWIN10 -** (Windows 10 - Workstation)
- **PLABKALI01 -** (Kali 2019.2 - Linux Kali Workstation)

Task 1 - Hiding Documents within an Image

Steganography (covered writing) is a method of hiding a message in a different form, such as a picture that only the sender or recipient knows about. This means communication can happen without a third party being able to detect the hidden message. It is extremely difficult to detect steganography.

There are various tools that you can use. One such tool is Gargoyle Investigator™ Forensic Pro. However, you can perform the same task with the help of a simple compression program like WinZip, Winrar, or 7-zip.

In this task, you will use 7-zip for folder steganography and hide the contents of a folder in an image file.

Step 1

Ensure you have powered on all the devices listed in the introduction and connect to **PLABWIN10.**

Click the **File Explorer** icon from the taskbar.

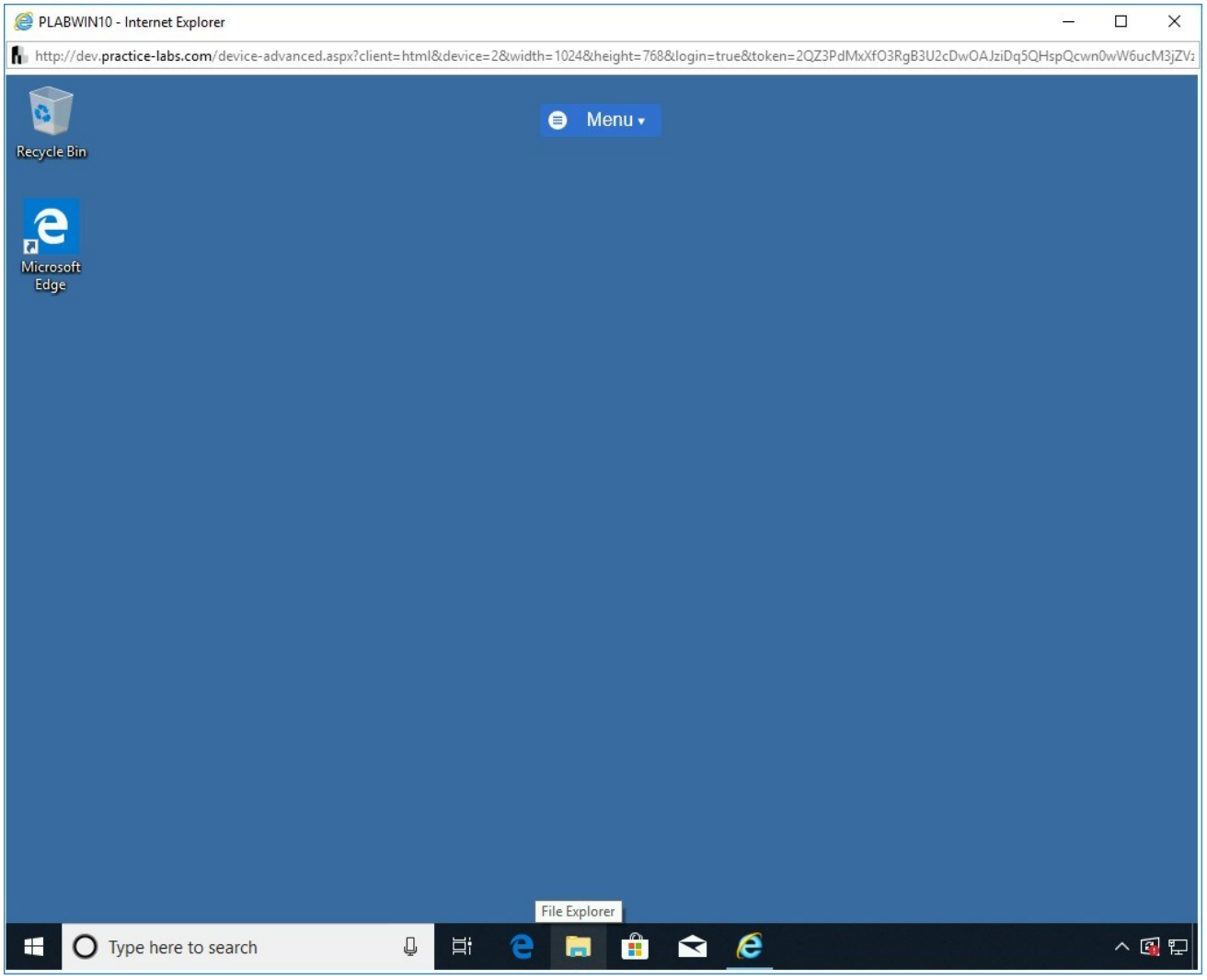


Figure 1.1 Screenshot of PLABWIN10: Clicking the File Explorer icon on the taskbar.

Step 2

In the left pane, expand **This PC** and select **Local Disk (C:)**.

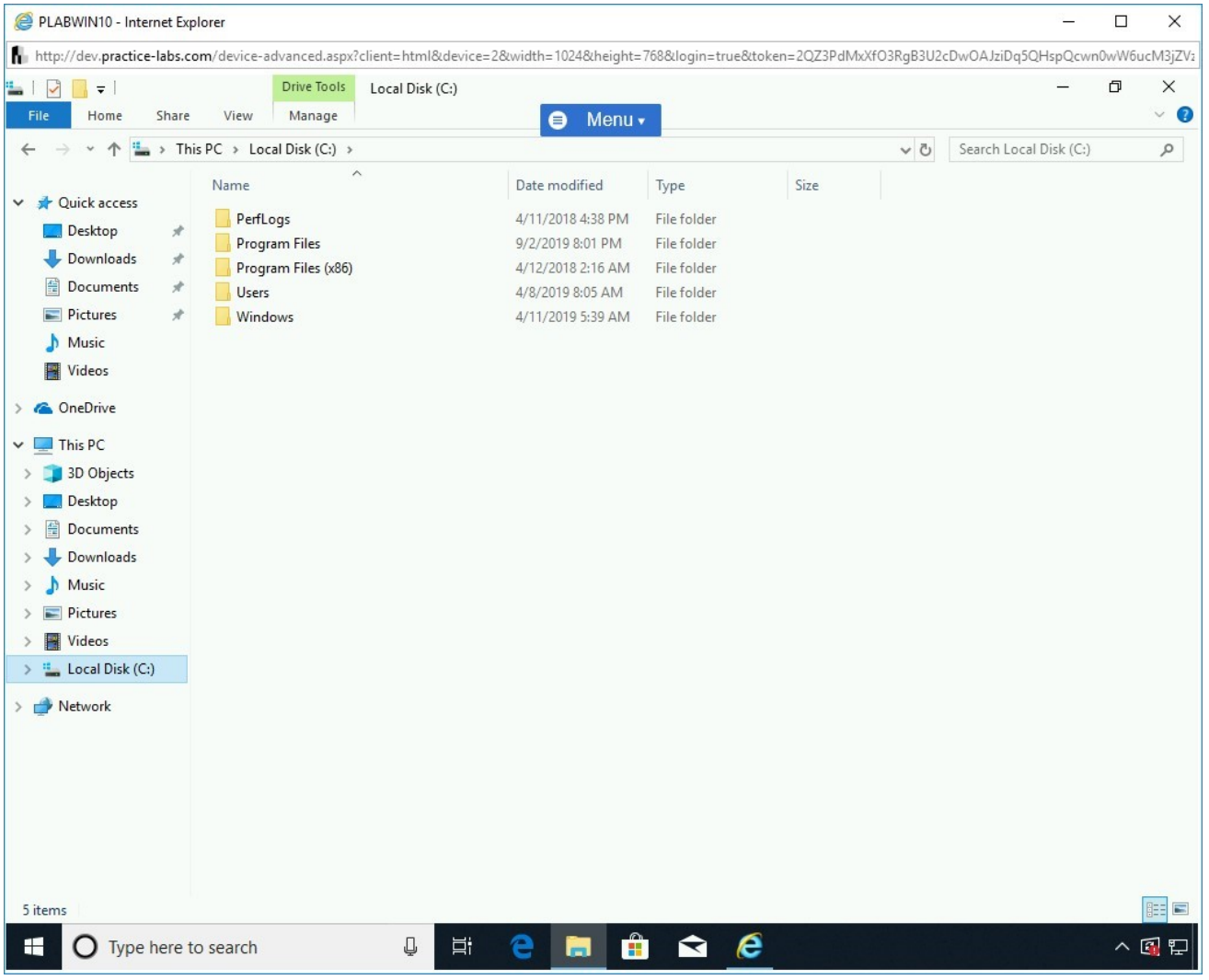


Figure 1.2 Screenshot of PLABWIN10: Selecting the Local Disk (C) in the left pane.

Step 3

Click the **Home** tab and then click **New folder**.

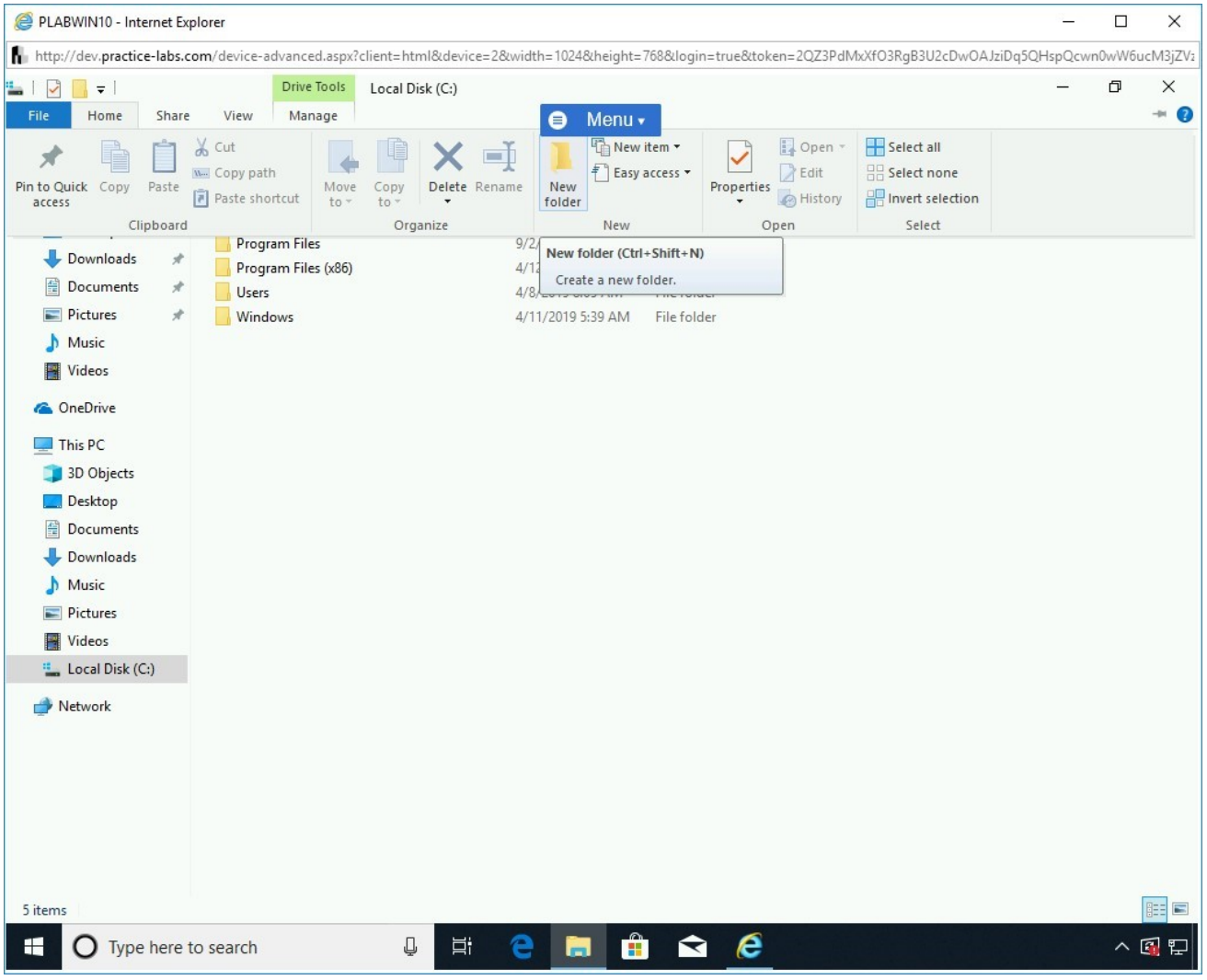


Figure 1.3 Screenshot of PLABWIN10: Creating a new folder on the Home tab in File Explorer.

Step 4

Type the following name for the new folder:

```
PLAB
```

Press **Enter**. Alternatively, click anywhere outside the text box where you are typing the name.

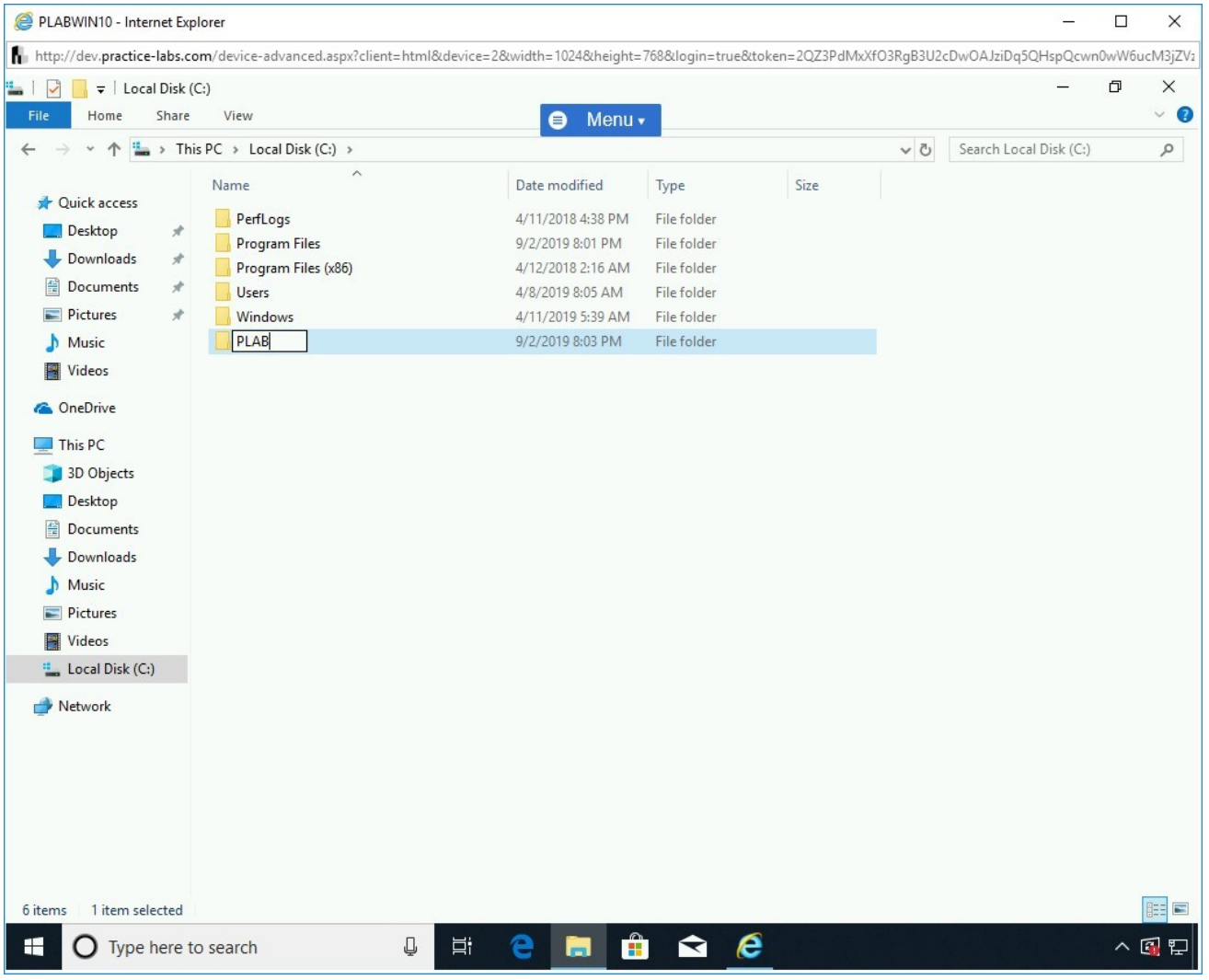


Figure 1.4 Screenshot of PLABWIN10: Naming the newly created folder as PLAB.

Step 5

Double-click the **PLAB** folder. You are now inside the **PLAB** folder. Note that the folder is currently empty.

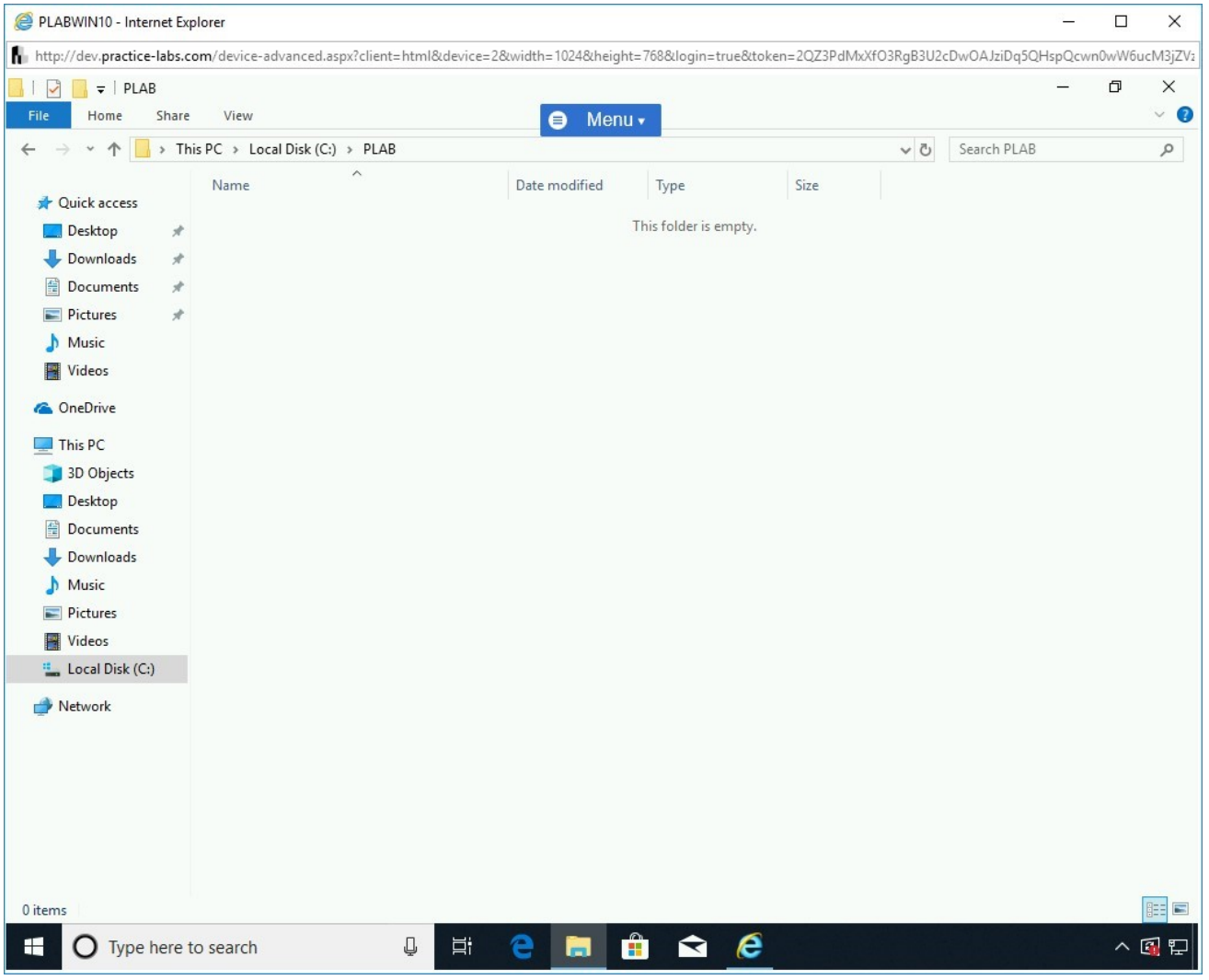


Figure 1.5 Screenshot of PLABWIN10: Navigating inside the PLAB folder.

Step 6

You need to create two new text files.

To create a text file, right-click on the white area and select **New** and then select **Text Document**.

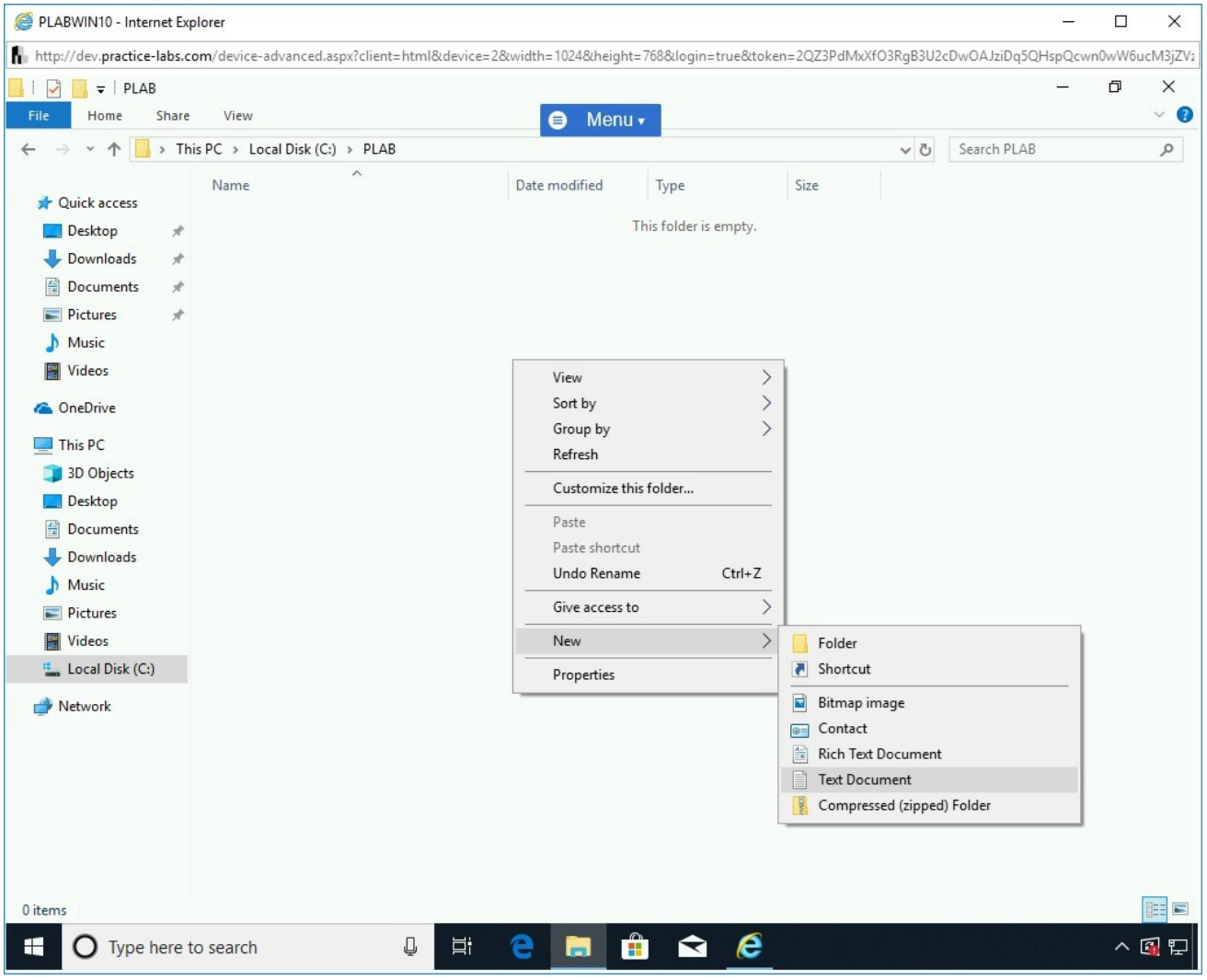


Figure 1.6 Screenshot of PLABWIN10: Creating a text document in the PLAB folder.

Step 7

You will be prompted to name the text document. In the text box, type the name as:

```
PLAB1
```

Press **Enter**.

Similarly, create another text file with the name:

PLAB2

Press **Enter**.

For this task, two text files, **PLAB1,** and **PLAB2** are created.

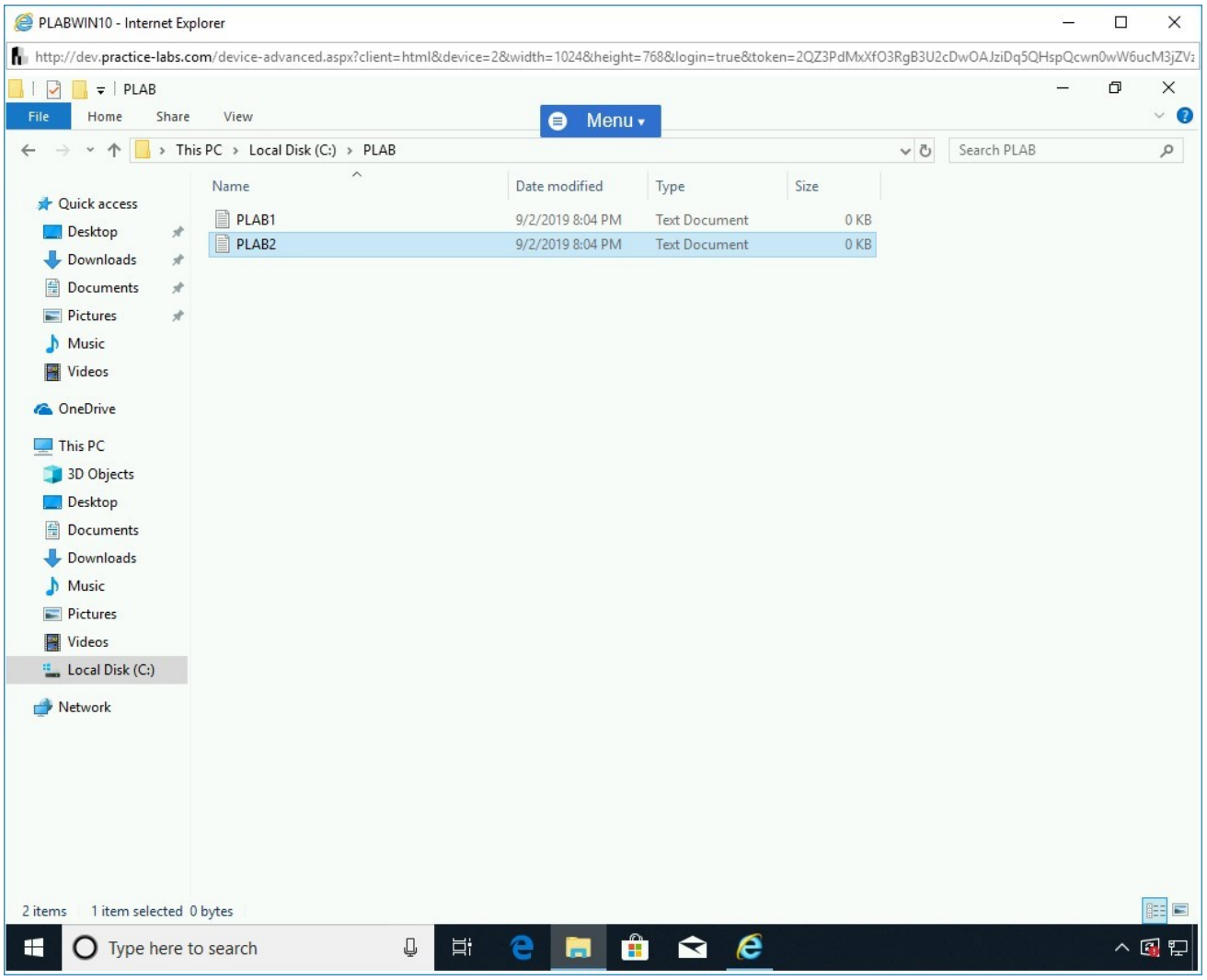


Figure 1.7 Screenshot of PLABWIN10: Showing two text files in the PLAB folder.

Step 8

Select both the files. Right-click on the selection, select **7-Zip** and then select **Add to "PLAB.zip"**.

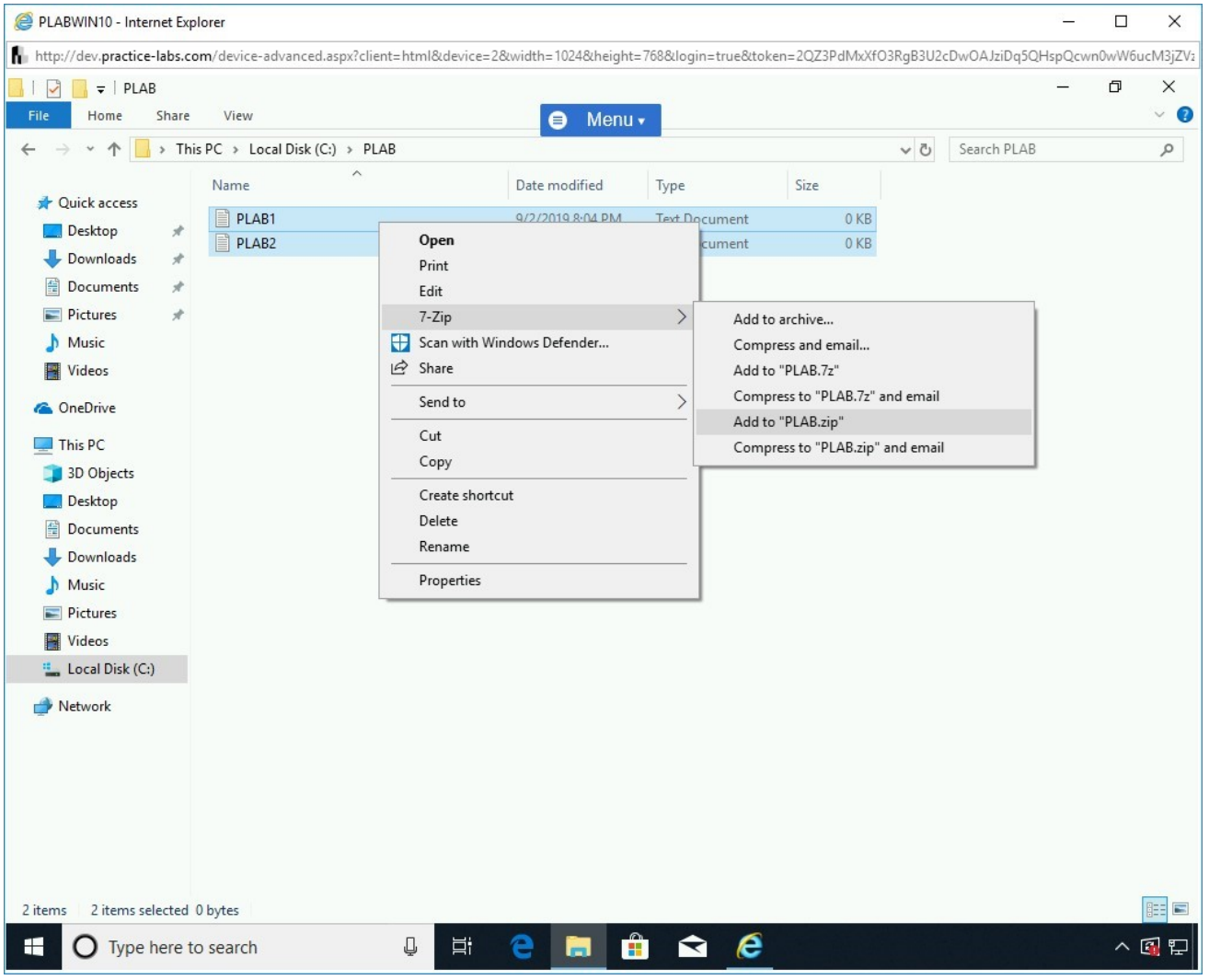


Figure 1.8 Screenshot of PLABWIN10: Adding the text files to the PLAB.zip file.

Step 9

The **PLAB.zip** file is now created.

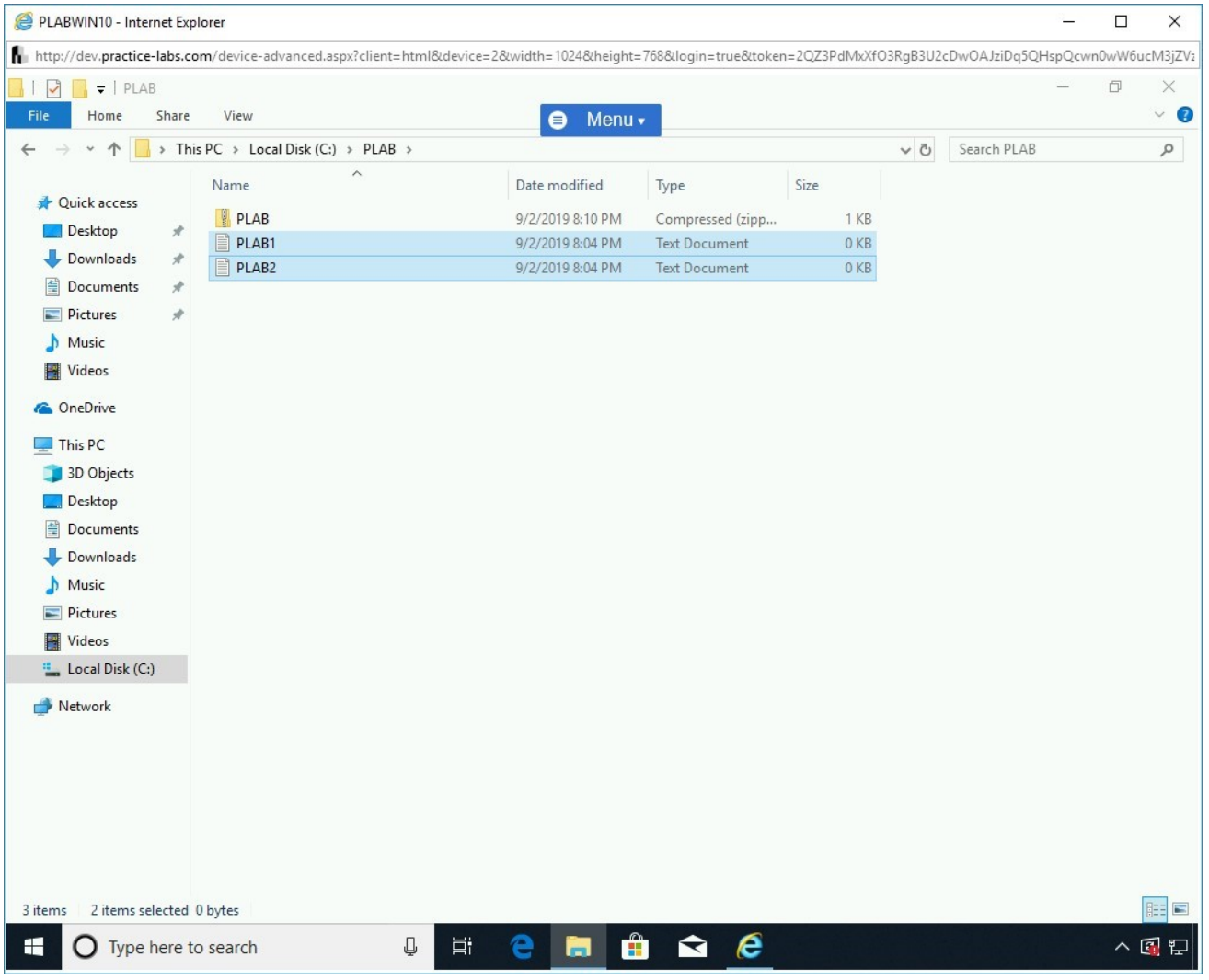


Figure 1.9 Screenshot of PLABWIN10: Showing the newly created PLAB.zip file.

Step 10

Now, you will need an image file that you can copy to the **PLAB** folder. For this demonstration, you have an image file named **PLAB.png**.

In the left pane, click the **Pictures** folder.

In the **Pictures** folder, right-click on **PLAB.png** and select **Copy**.

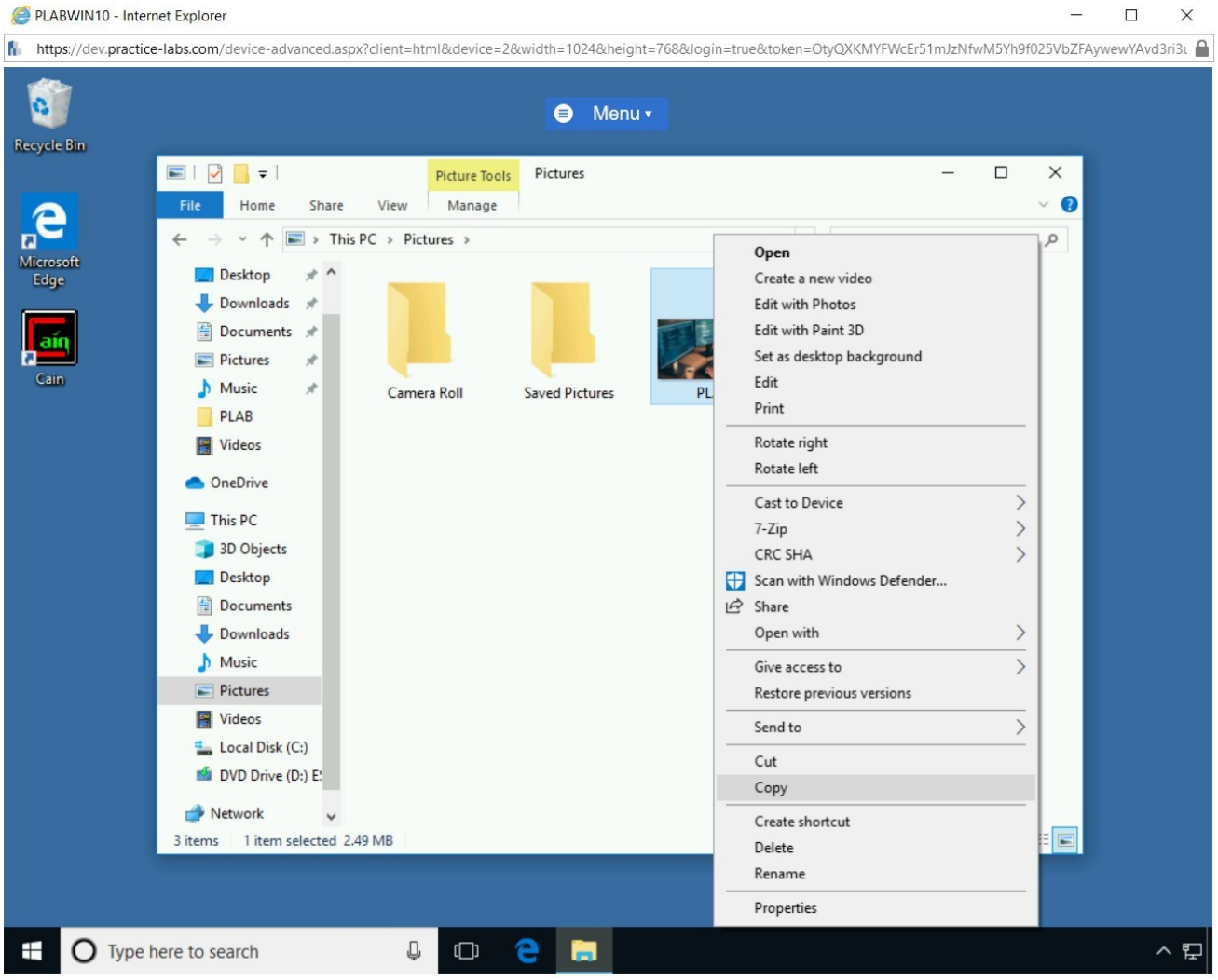


Figure 1.10 Screenshot of PLABWIN10: Copying the PLAB.png file from the Pictures folder.

Step 11

Navigate to **This PC>Local Disk (C:)>PLAB** .

Right-click anywhere on the white space and select **Paste**. The **PLAB.png** image is now in the **PLAB** folder.

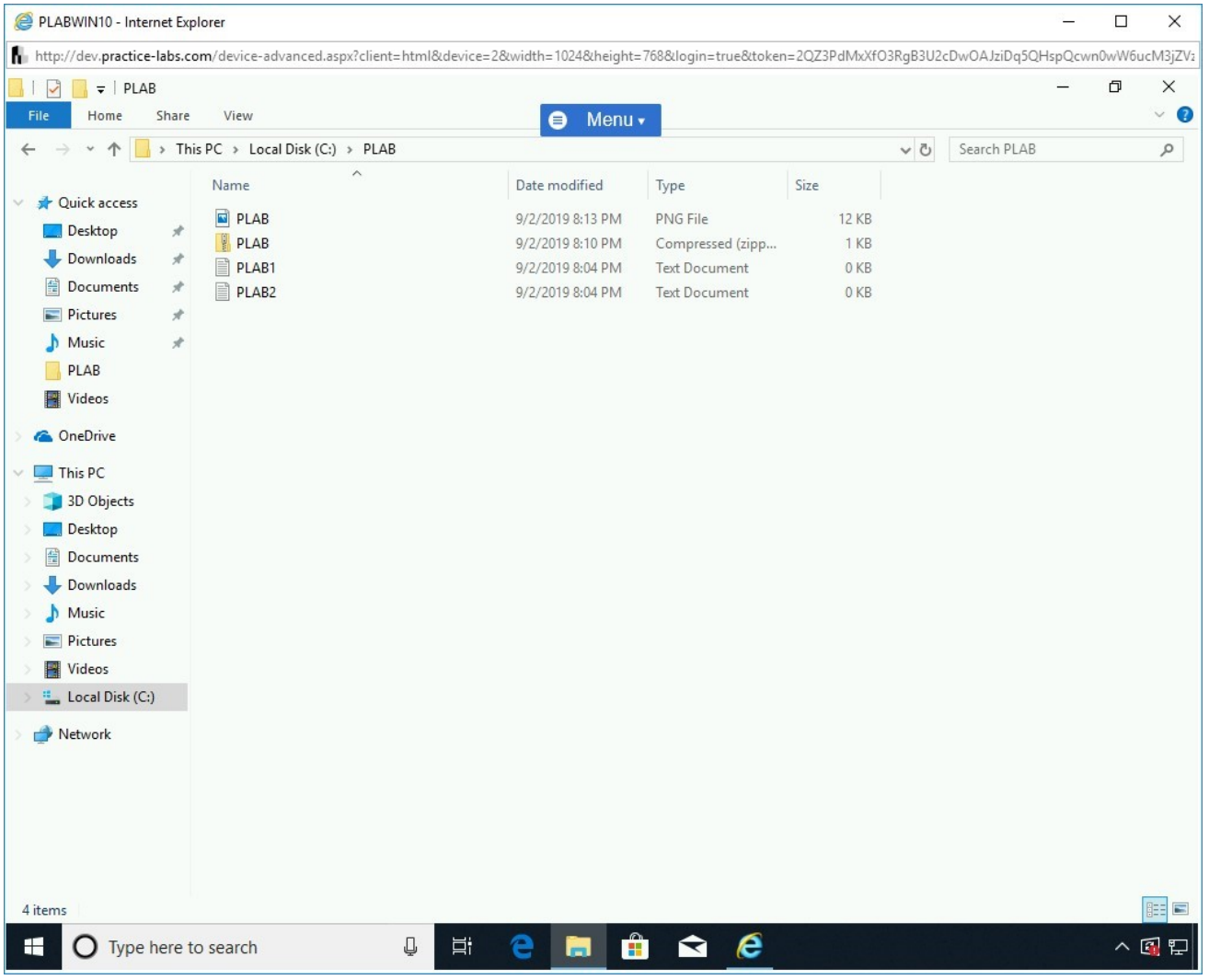


Figure 1.11 Screenshot of PLABWIN10: Adding the PLAB.png image file to the PLAB folder.

Step 12

In the address bar of **File Explorer**, type the following command:

```
cmd
```

Press **Enter**.

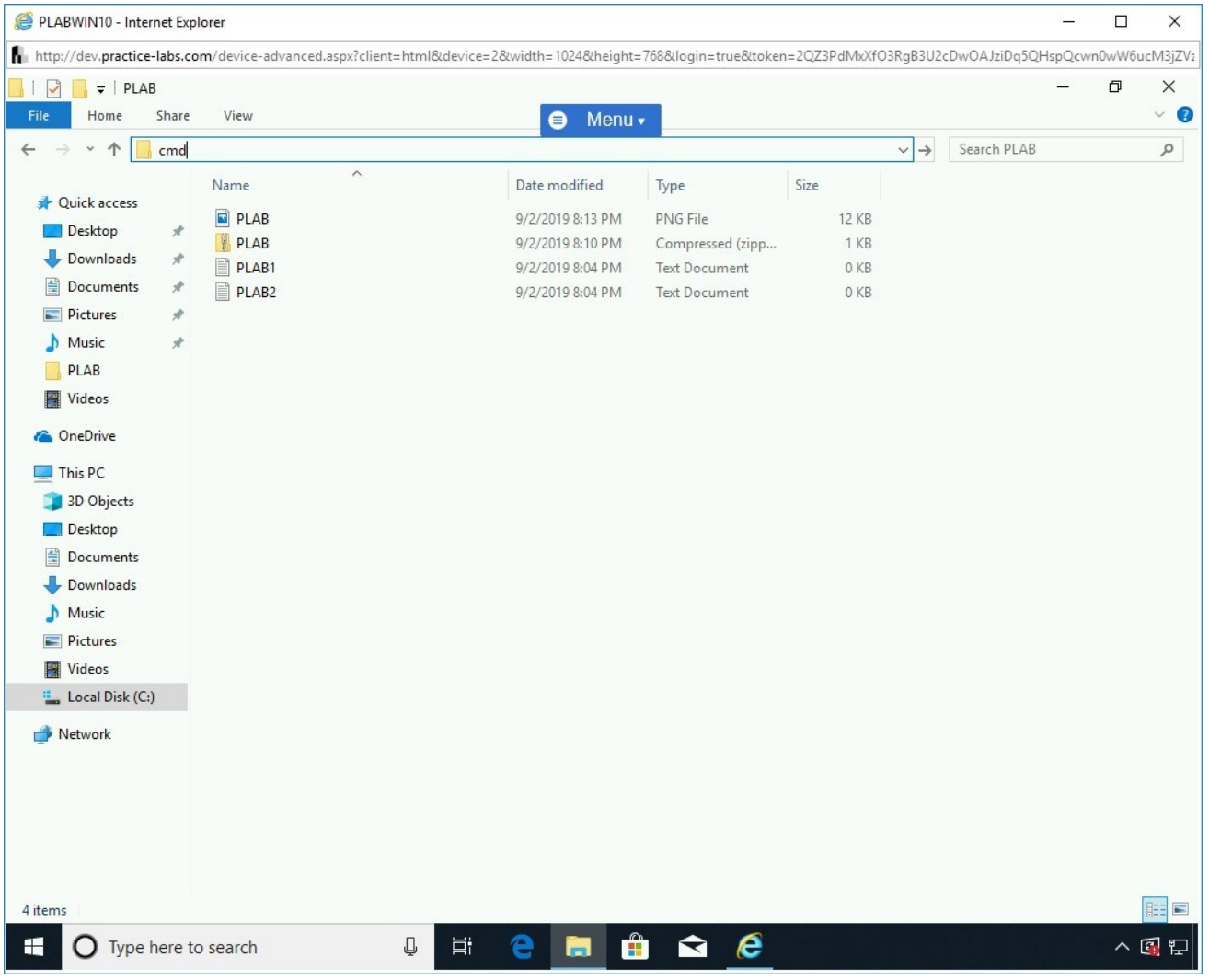


Figure 1.12 Screenshot of PLABWIN10: Opening the command prompt.

Step 13

The command prompt window is displayed. You are already in the **C:\PLAB** directory.

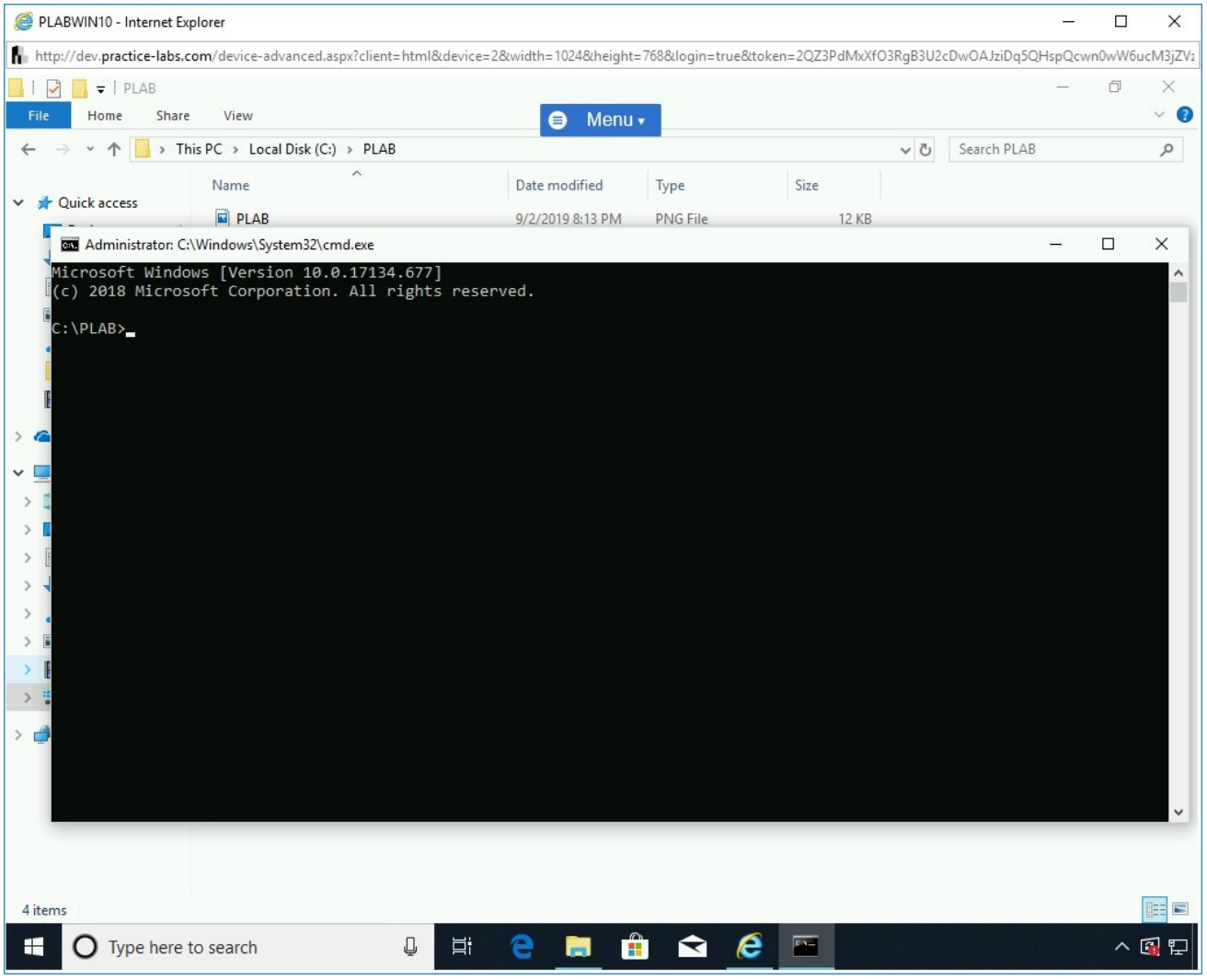


Figure 1.13 Screenshot of PLABWIN10: Showing the opened command prompt window.

Step 14

Using the copy command with /b parameter will combine the two files creating a new file named **PLAB-new.png**.

Type the following command:

```
copy /b “PLAB.png”+PLAB.zip PLAB-new.png
```

Press **Enter**.

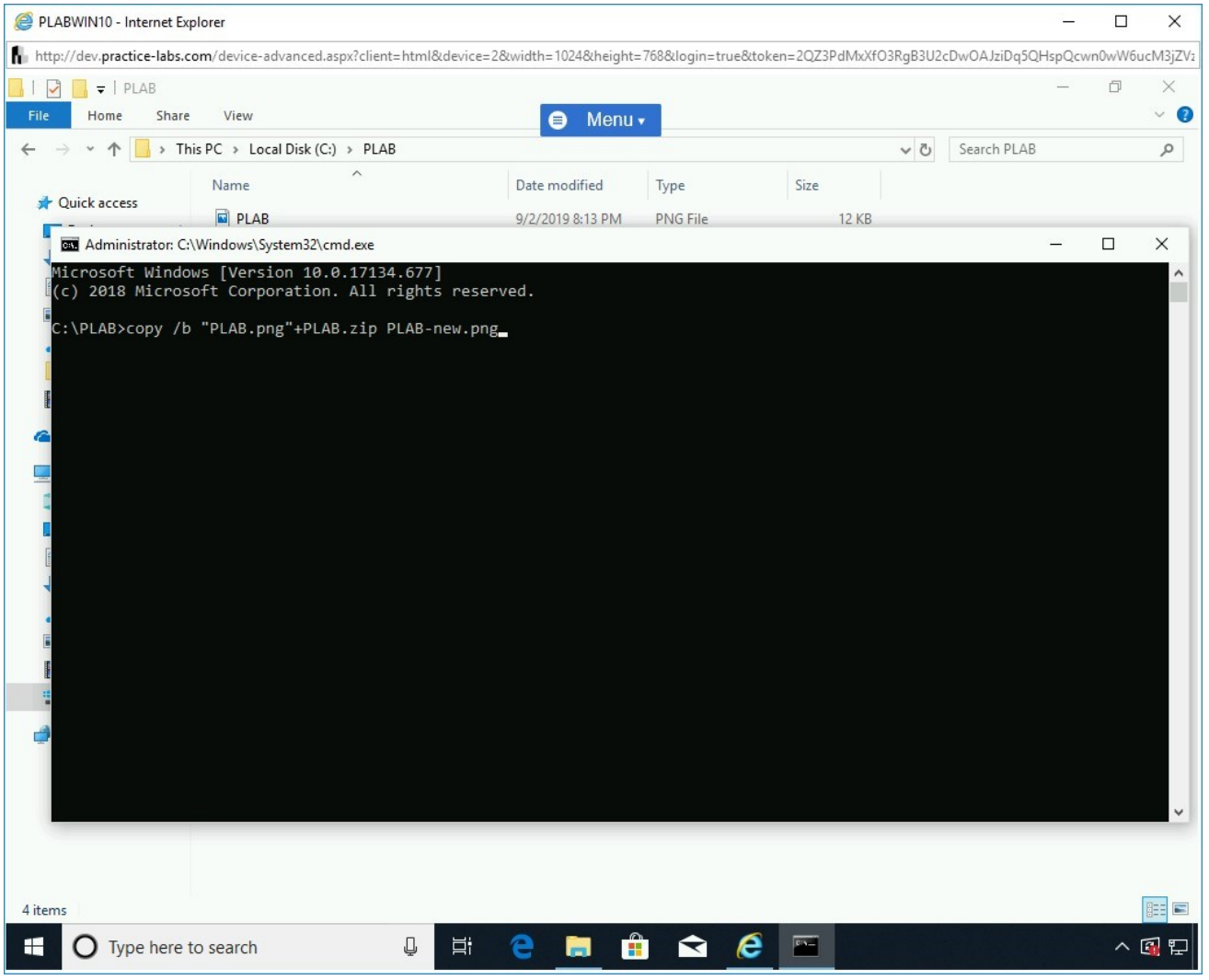


Figure 1.14 Screenshot of PLABWIN10: Entering the command to hide the text files in the image file.

Step 15

You will see a message showing that the command was successfully executed.

Close the command prompt window.

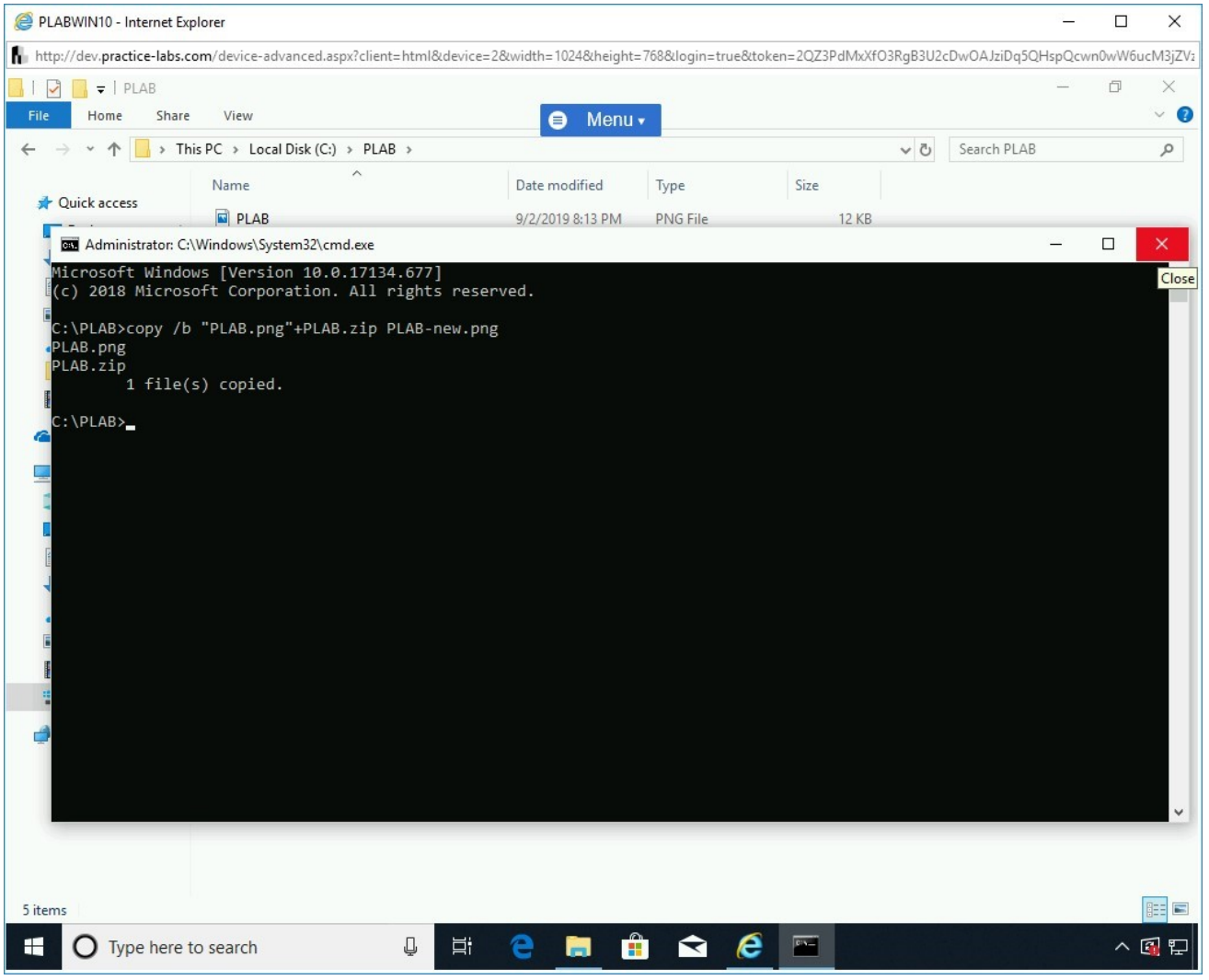


Figure 1.15 Screenshot of PLABWIN10: Showing the successful outcome of the command and closing the command prompt window.

Step 16

In File Explorer, ensure that you are in the **C:\PLAB** folder.

A new image file named **PLAB-new.png** is now created. Notice that the file size is the same as **PLAB.png**.

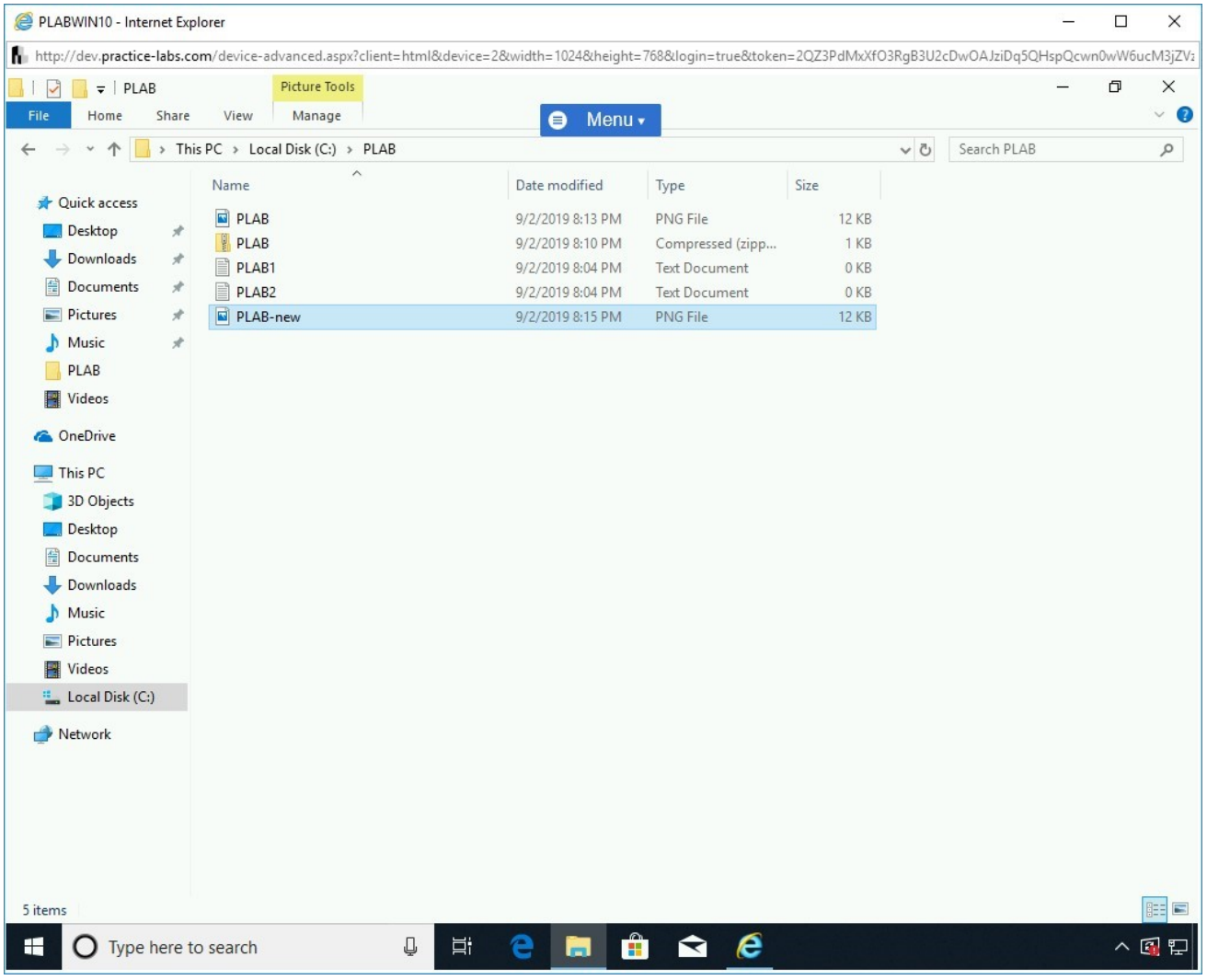


Figure 1.16 Screenshot of PLABWIN10: Showing the sizes of the PLAB and PLAB image files.

Step 17

Double-click **PLAB.png** and then **PLAB-new.png**. Note that both the image files display the same content. Most people will not be aware that the **PLAB.png** file actually has hidden content behind it.

Close both the files and minimize the **File Explorer** window.

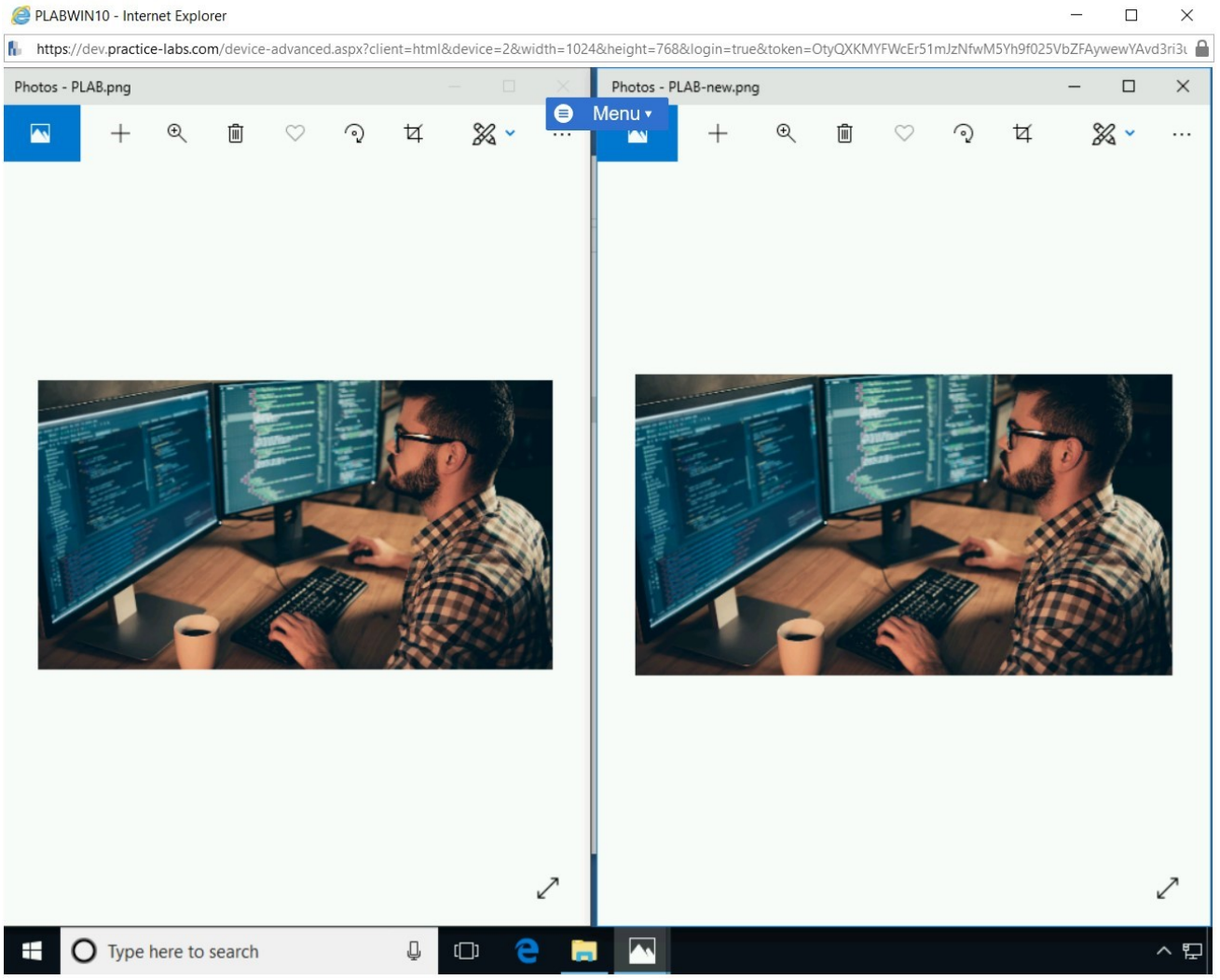


Figure 1.17 Screenshot of PLABWIN10: Showing the PLAB-new.png and PLAB.png files.

Step 18

In the **Type here to search** text box, type the following:

```
7-zip File Manager
```

Press **Enter**.

From the search result, select **7-Zip File Manager**.

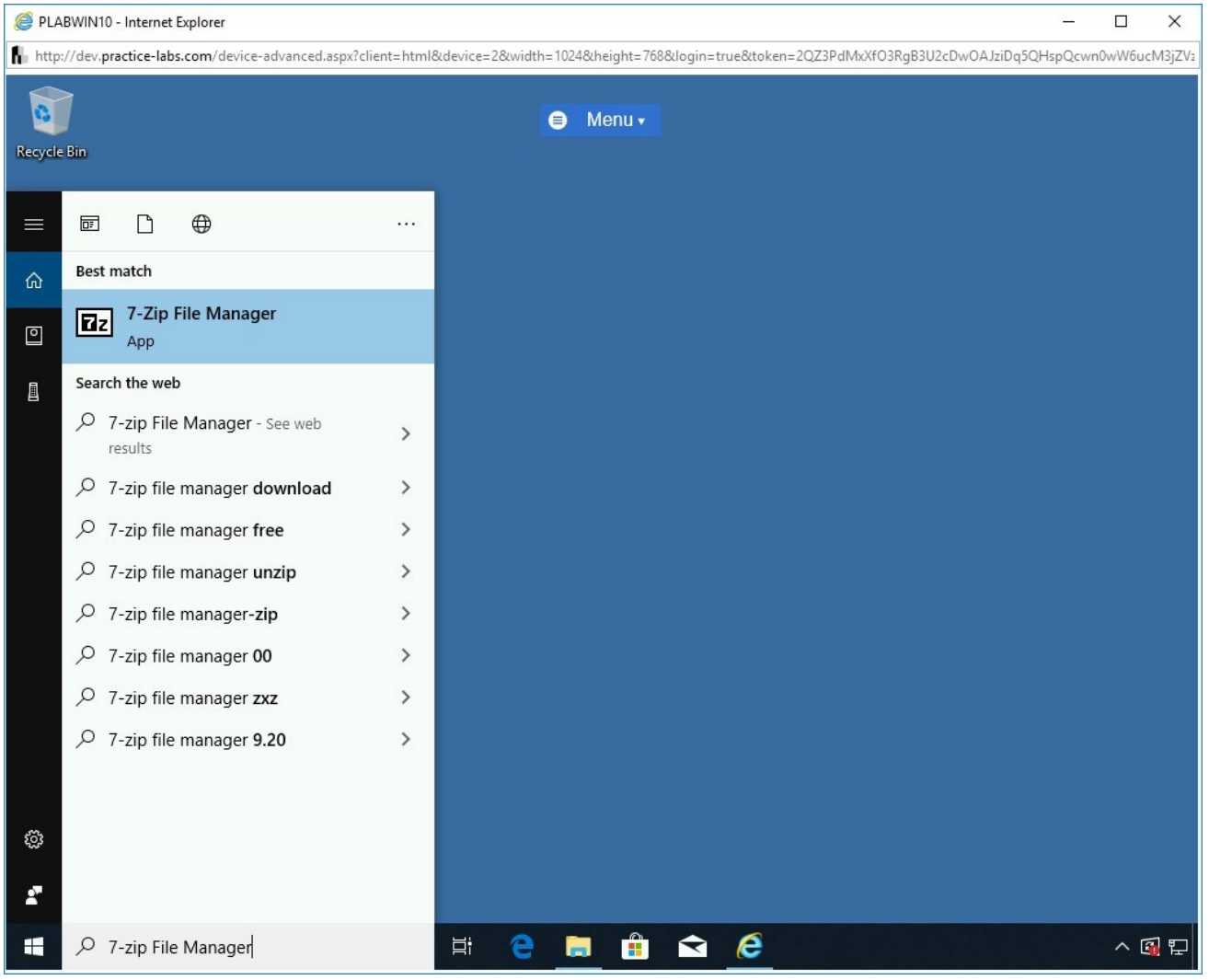


Figure 1.18 Screenshot of PLABWIN10: Showing the search bar with the results and selection of 7-Zip File Manager.

Step 19

The **7-Zip File Manager** window is displayed.

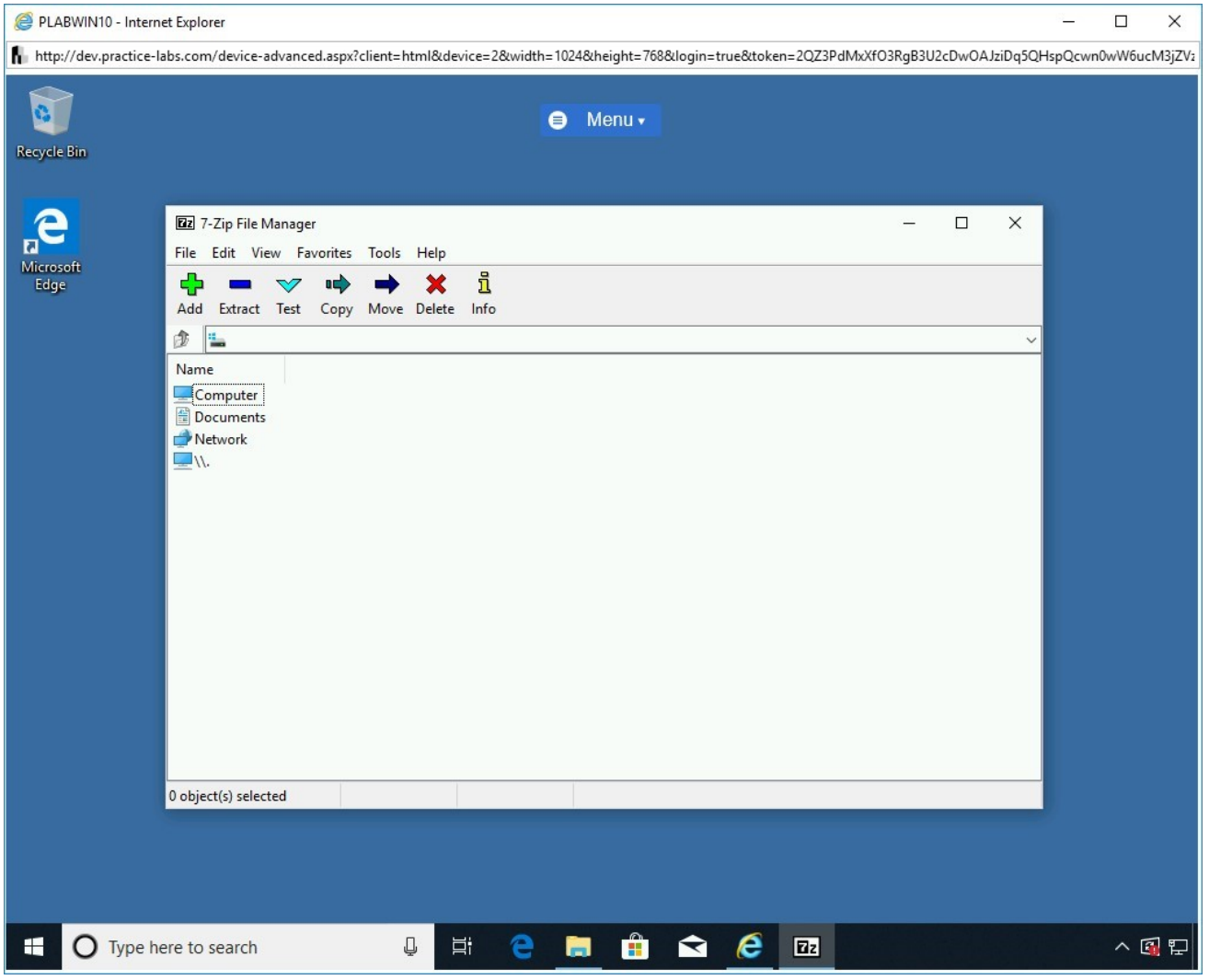


Figure 1.19 Screenshot of PLABWIN10: Showing the 7-Zip File Manager window.

Step 20

Click on **Computer** . Navigate to **C:\PLAB** folder and double-click the **PLAB-new.png** file.

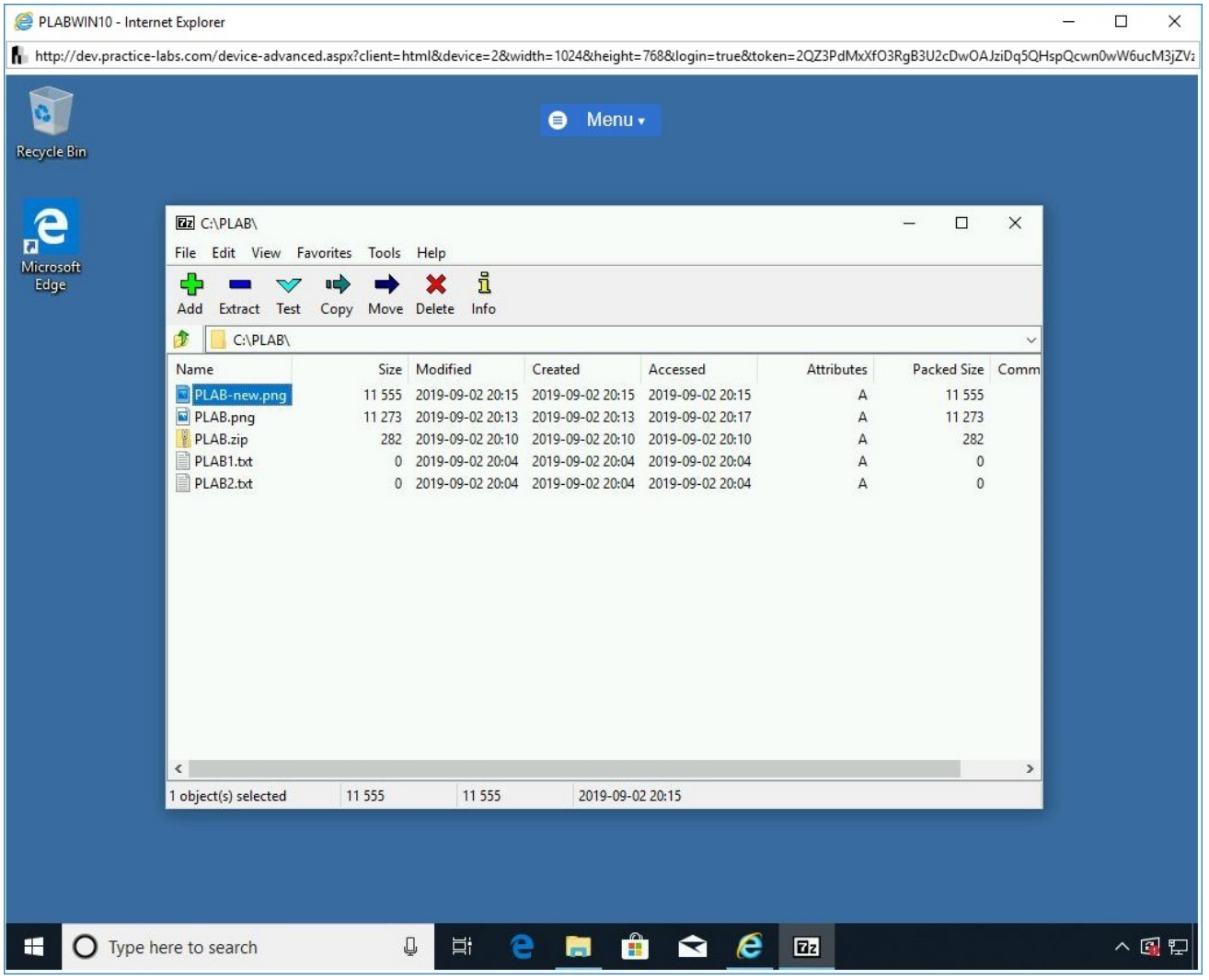


Figure 1.20 Screenshot of PLABWIN10: Opening the C:\PLAB folder inside the File Manager.

Step 21

Notice both the hidden text files are displayed.

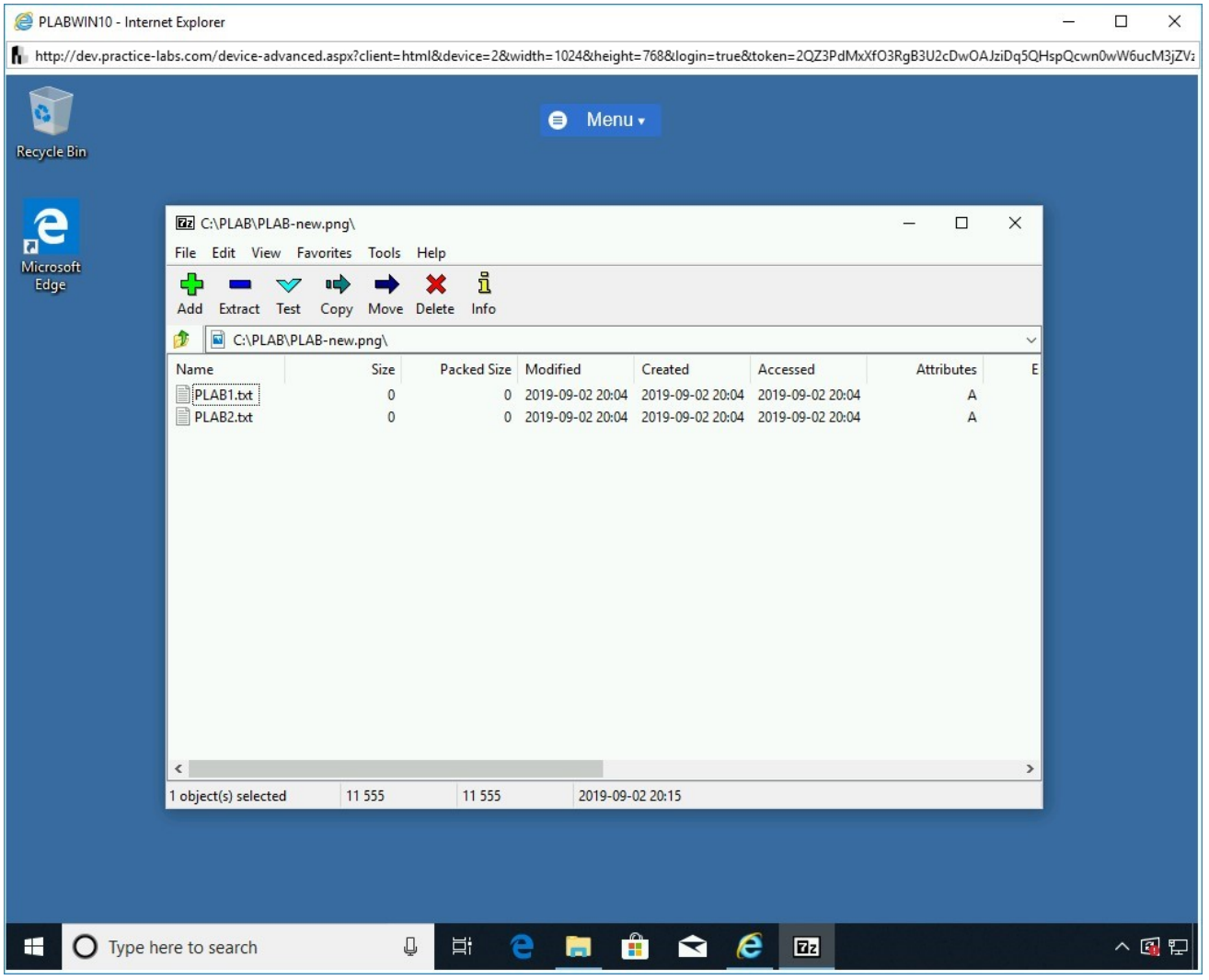


Figure 1.21 Screenshot of PLABWIN10: Showing two text files hidden within the PLAB-new.png.

Close all open windows.

Task 2 - Using Steghide to Hide Data in an Image

Steghide is a tool that needs to be installed on a Linux system, such as Kali Linux. It has the capability to hide data in different types of images or audio files such as JPEG, BMP, WAV, and AU files. This program allows the data to be encrypted after it's been embedded into an image or audio file.

In this task, you will practice using Steghide.

Step 1

Ensure you have powered on all the devices listed in the introduction and connect to **PLABKALI01.**

Credentials are:

Username:

```
root
```

Password:

```
Passw0rd
```

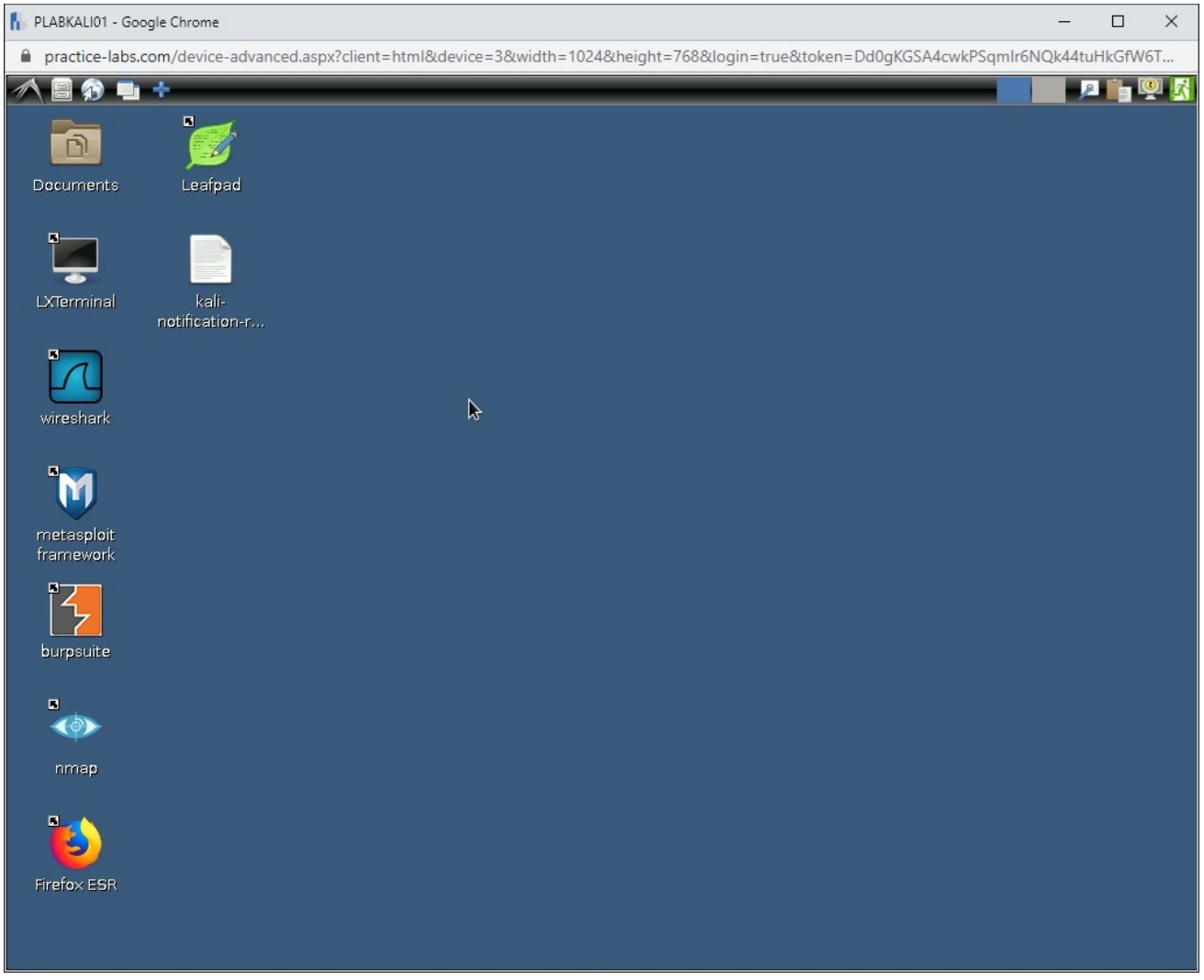


Figure 1.22 Screenshot of PLABKALI01: Showing the desktop of PLABKALI01.

Step 2

On the desktop, in the left pane, click the **LXTerminal** icon.

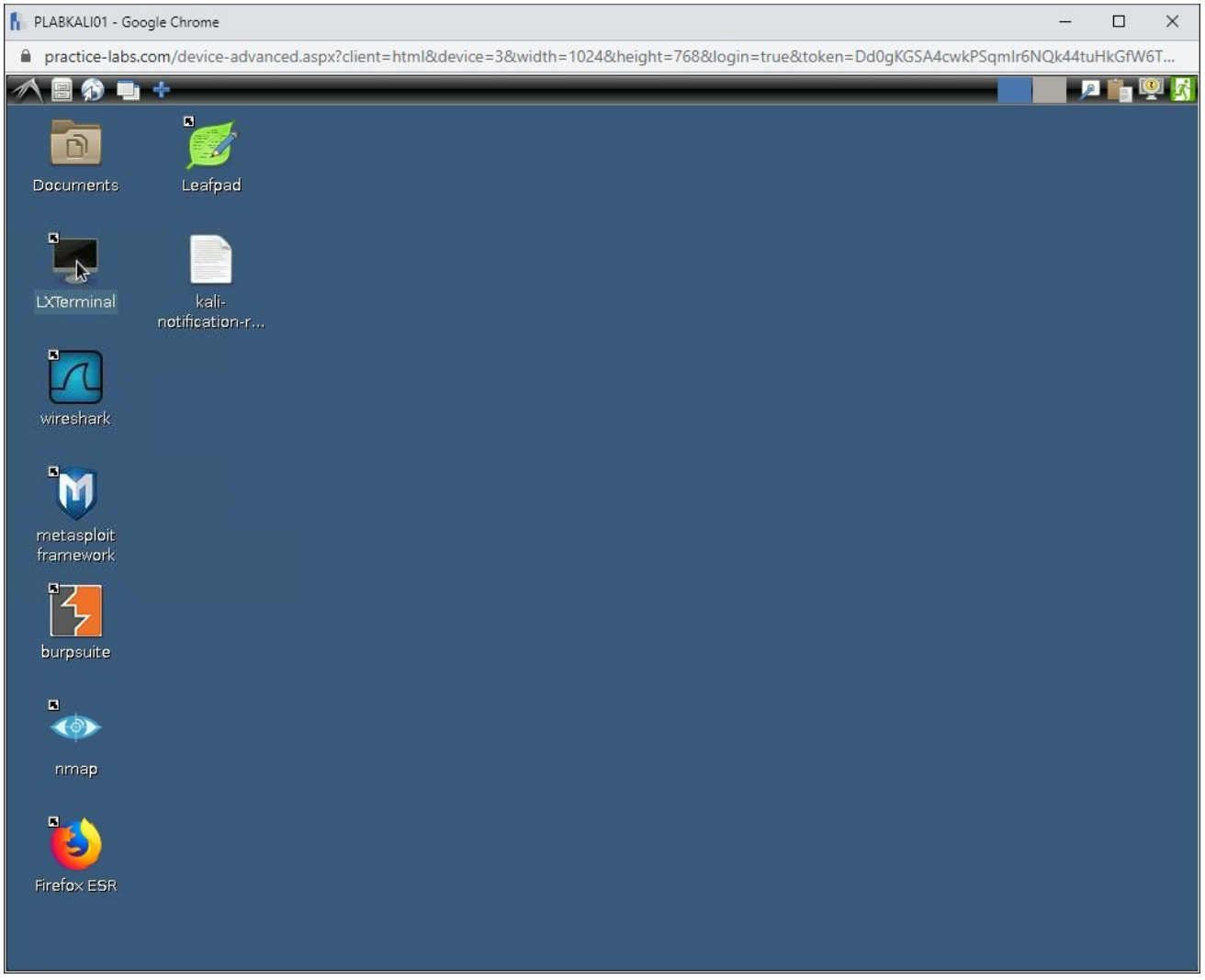


Figure 1.23 Screenshot of PLABKALI01: Clicking the Terminal icon in the left pane.

Step 3

The terminal window is displayed. You first need to perform an apt-get update command to ensure we are getting the latest version, This can be done using the following command:

```
apt-get update
```

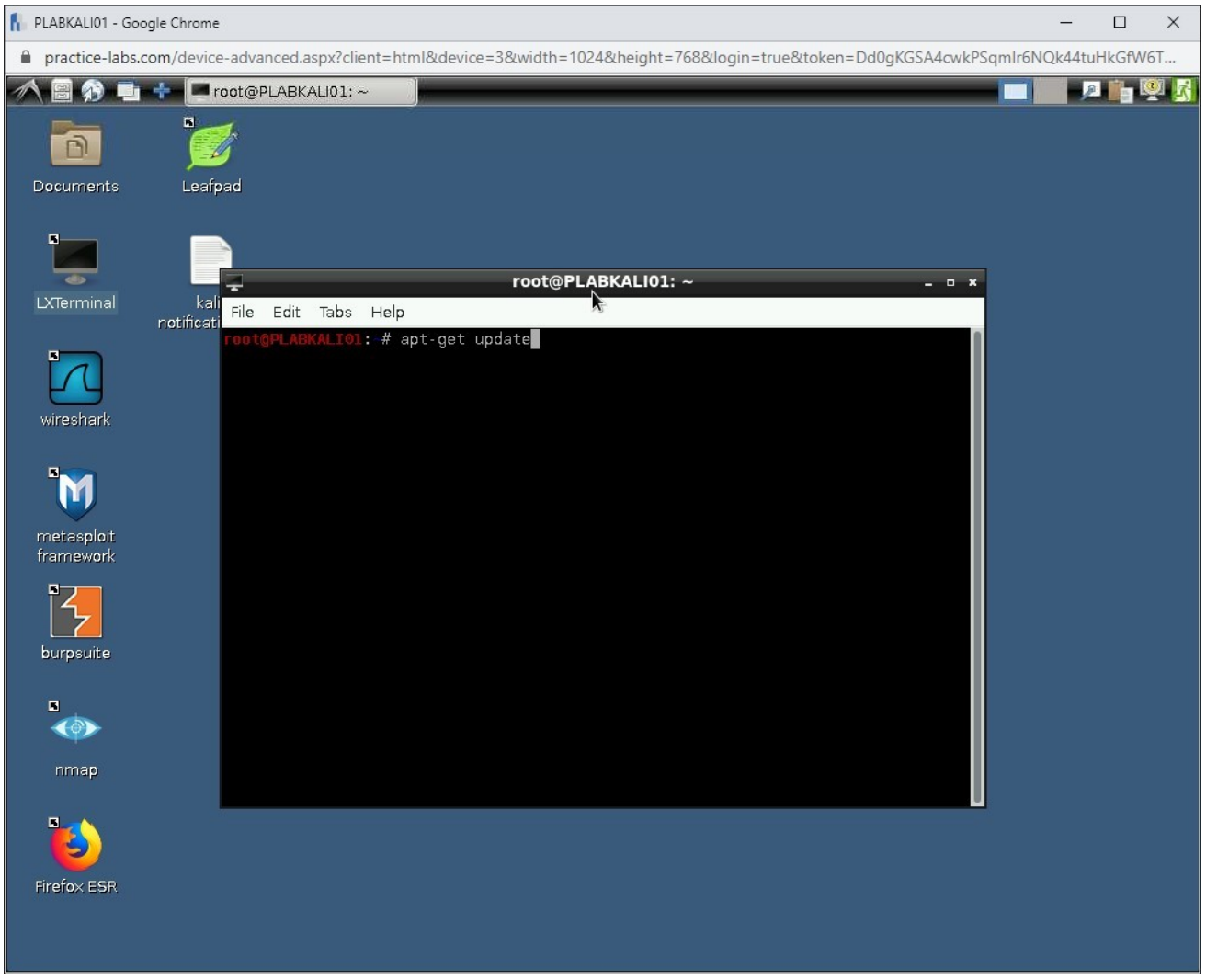


Figure 1.24 Screenshot of PLABKALI01: Entering the command to update apt-get.

Step 4

Next install the **Steghide** tool. This can be done using a command.

Type the following command:

```
apt-get install steghide -y
```

Press **Enter**.

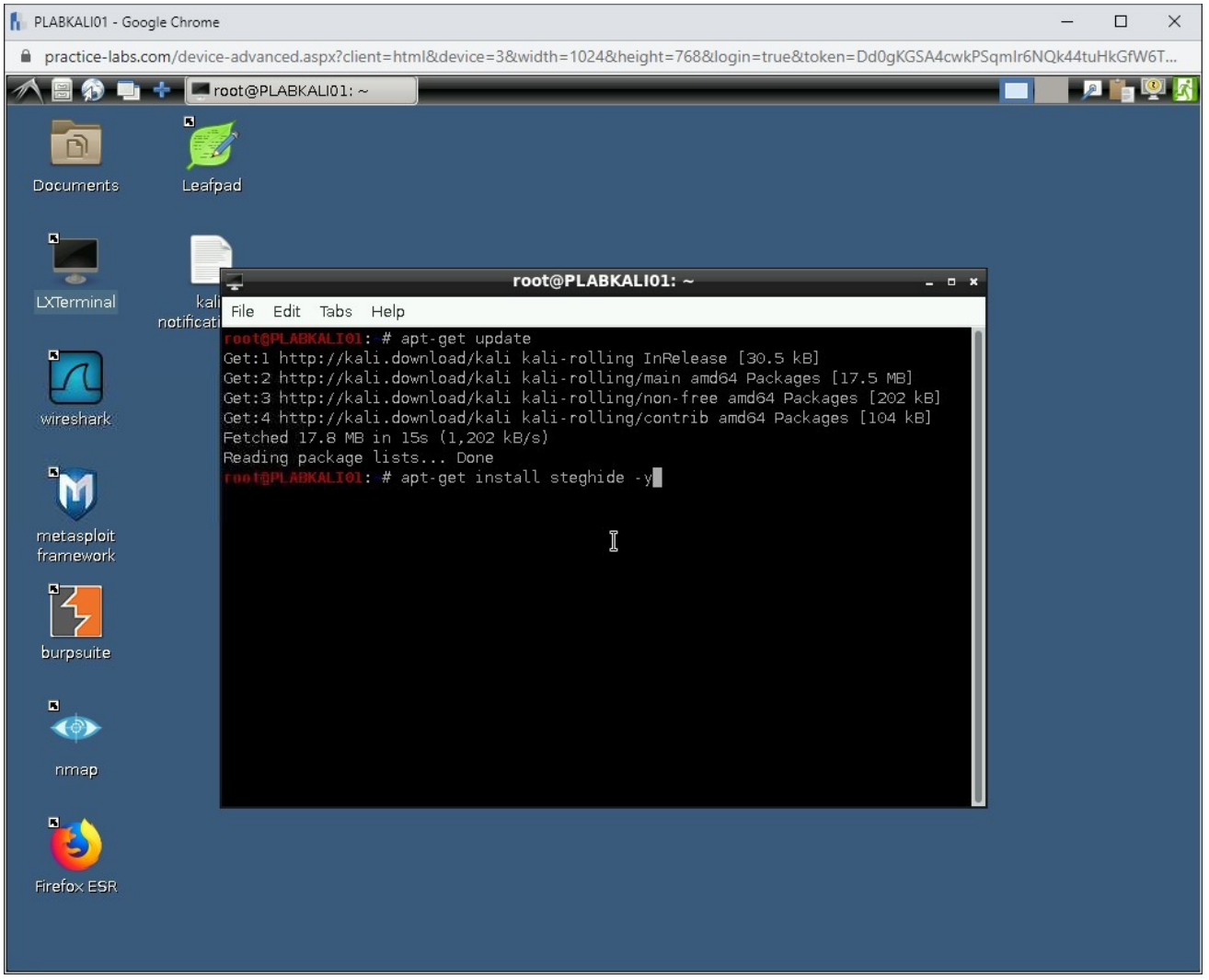


Figure 1.24 Screenshot of PLABKALI01: Entering the command to install Steghide.

Step 5

The **Steghide** installation process starts.

> ***NOTE:*** *The installation process will take a few minutes to complete.*

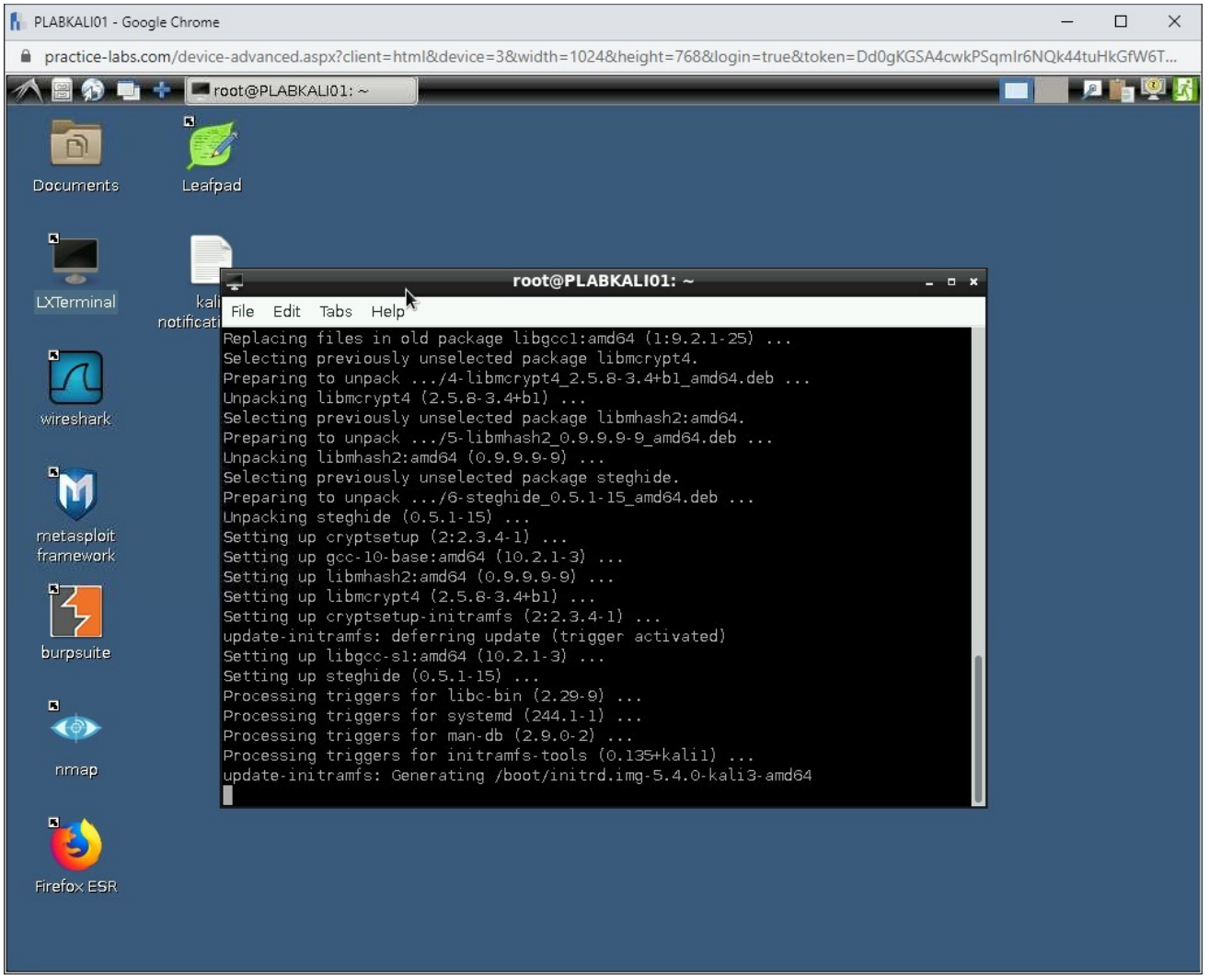


Figure 1.26 Screenshot of PLABKALI01: Showing the installation progress of the Steghide tool.

Step 6

The installation is now complete.

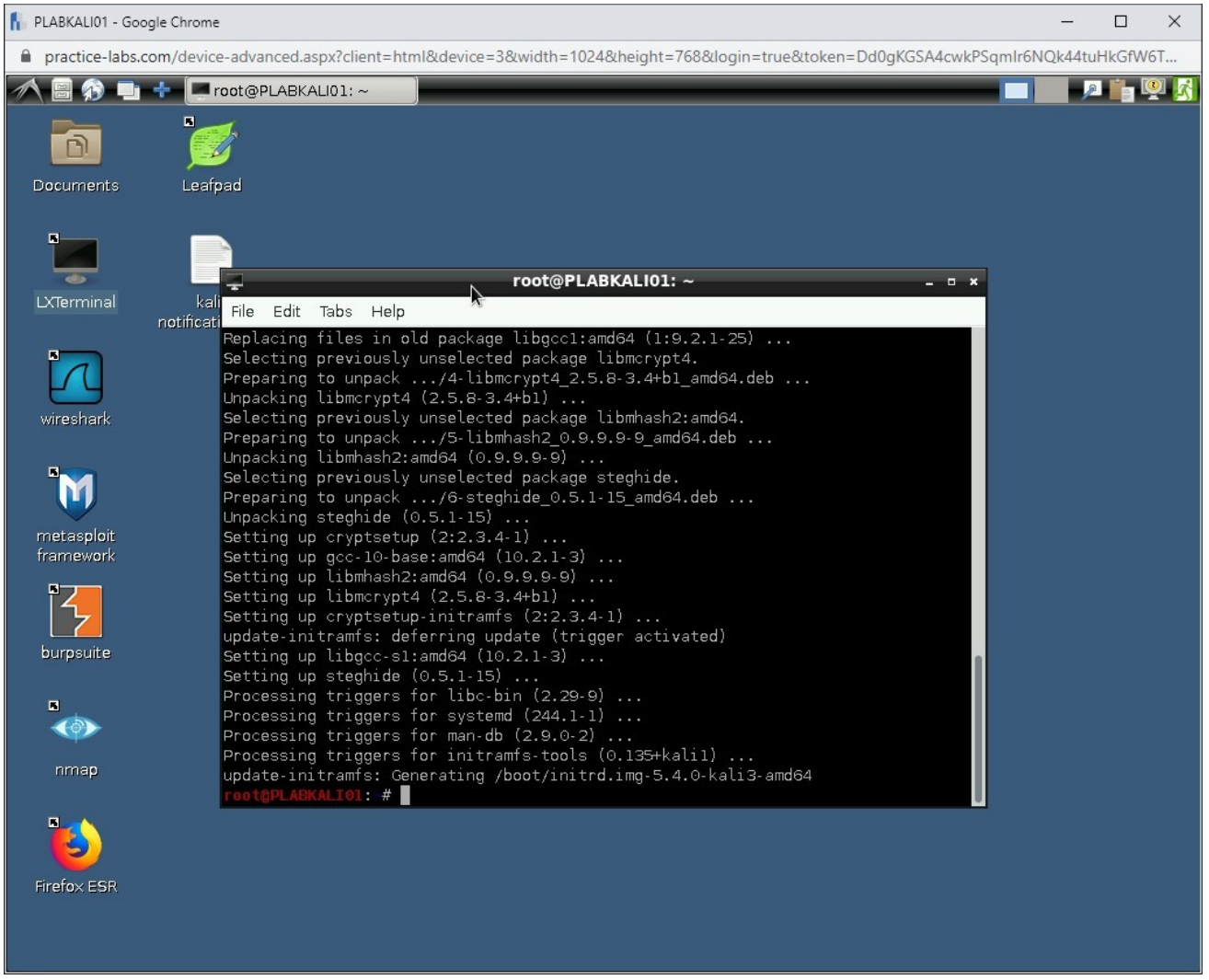


Figure 1.27 Screenshot of PLABKALI01: Showing the installation completion of Steghide.

> ***Note:*** *Sometimes, the installation can have errors, which you can ignore.*

Step 7

Clear the screen by entering the following command:

```
clear
```

To view the **Steghide** help, type the following command:

```
steghide --help
```

Press **Enter**.

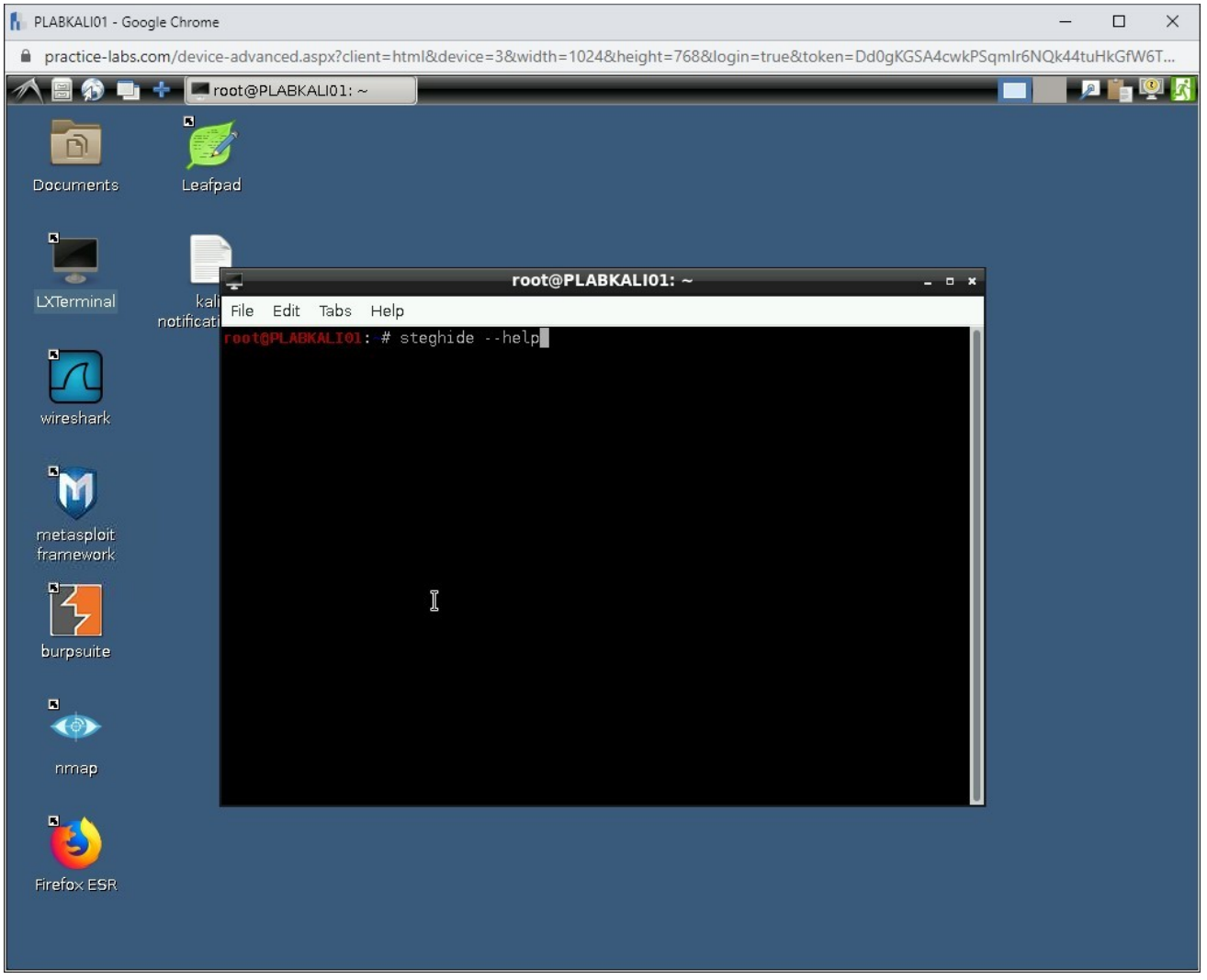


Figure 1.28 Screenshot of PLABKALI01: Entering the command to view the Steghide help.

Step 8

The help parameter displays the list of parameters that can be used with the steghide command.

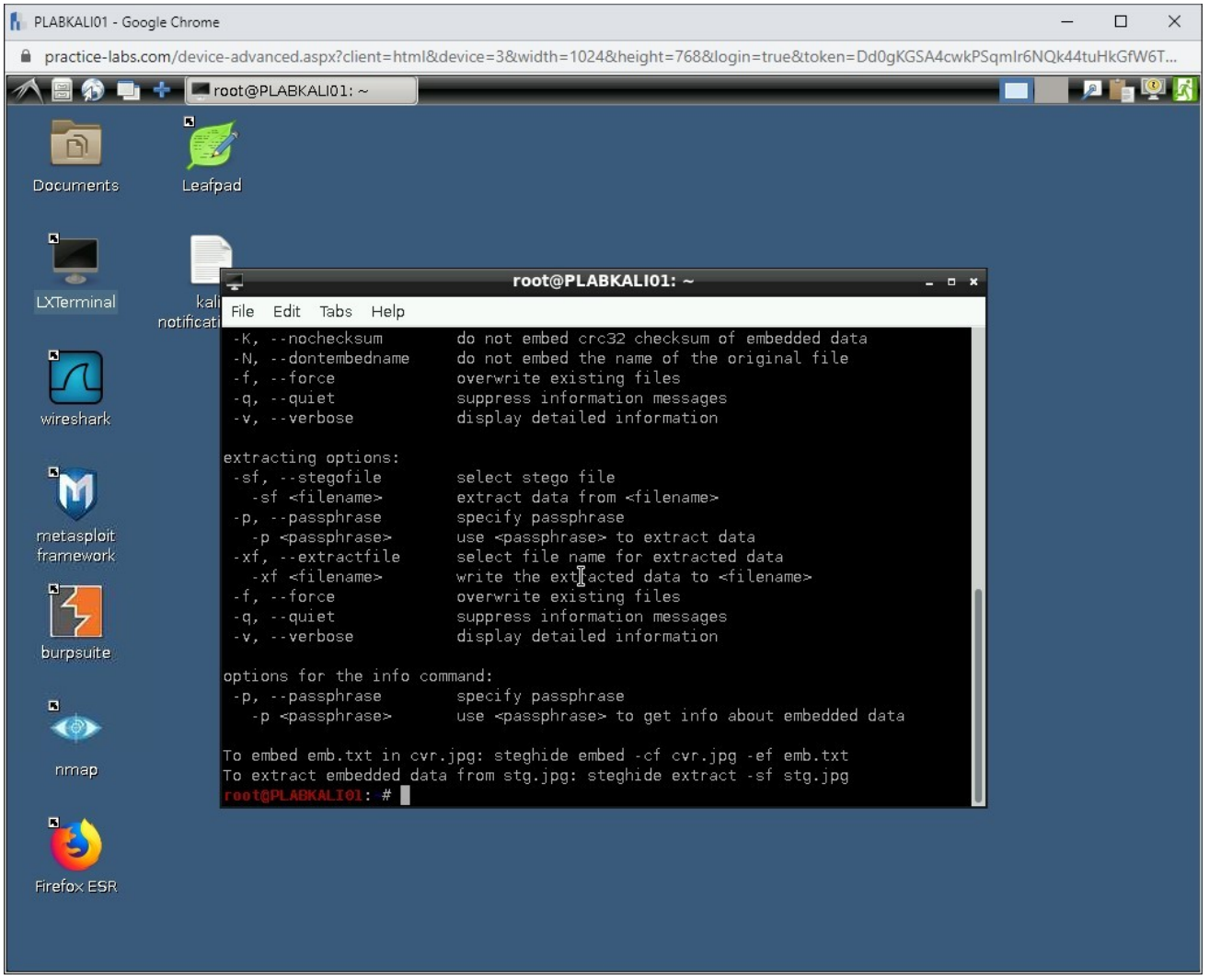


Figure 1.29 Screenshot of PLABKALI01: Showing the output of the help parameter with the steghide command.

Step 9

Clear the screen by entering the following command:

```
clear
```

Firstly, create a new directory named **plab**. To do this, type the following command:

```
mkdir plab
```

Press **Enter**.

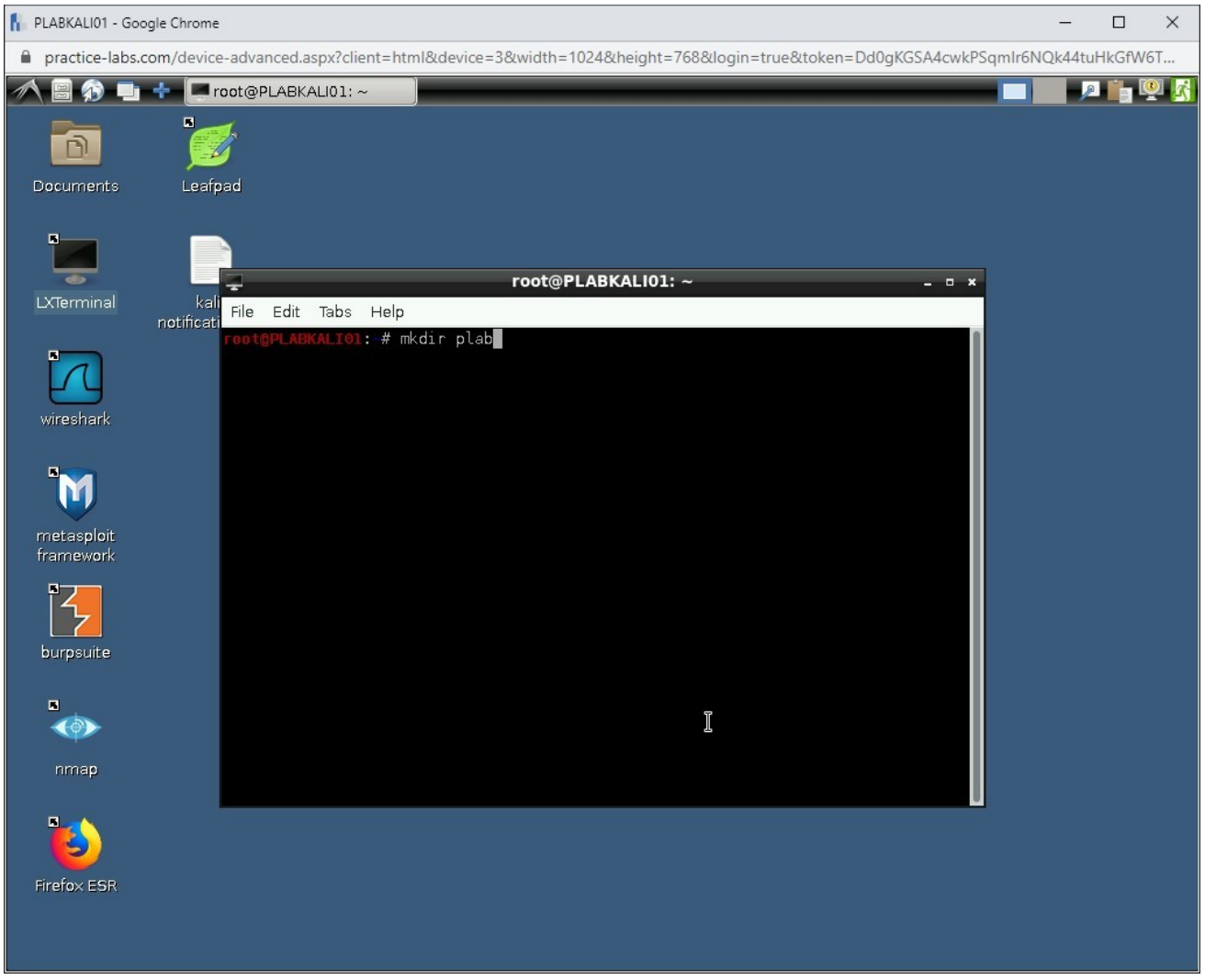


Figure 1.30 Screenshot of PLABKALI01: Creating a new directory with the mkdir command.

Step 10

Let's navigate inside the **plab** directory. To do this, type the following command:

```
cd plab
```

Press **Enter**.

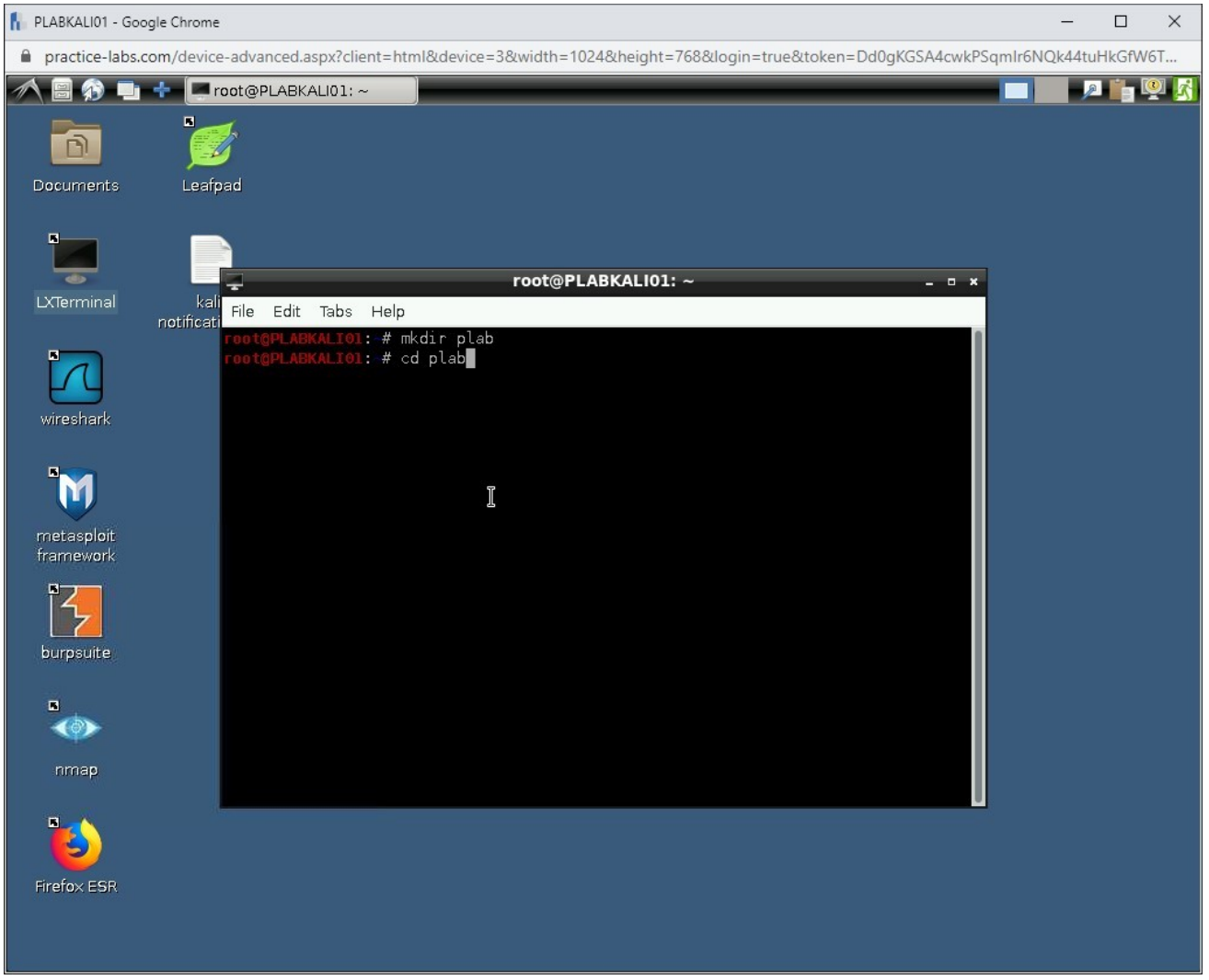


Figure 1.31 Screenshot of PLABKALI01: Navigating to the plab directory with the cd command.

Step 11

You are now inside the **plab** directory. Notice plab is colored blue to indicate you are in a directory.

You need to create a new text file named **secret.txt** using the touch command. The touch command can be used to generate a basic blank file in your Kali machine.

To do this, type the following command:

```
touch secret.txt
```

Press **Enter**.

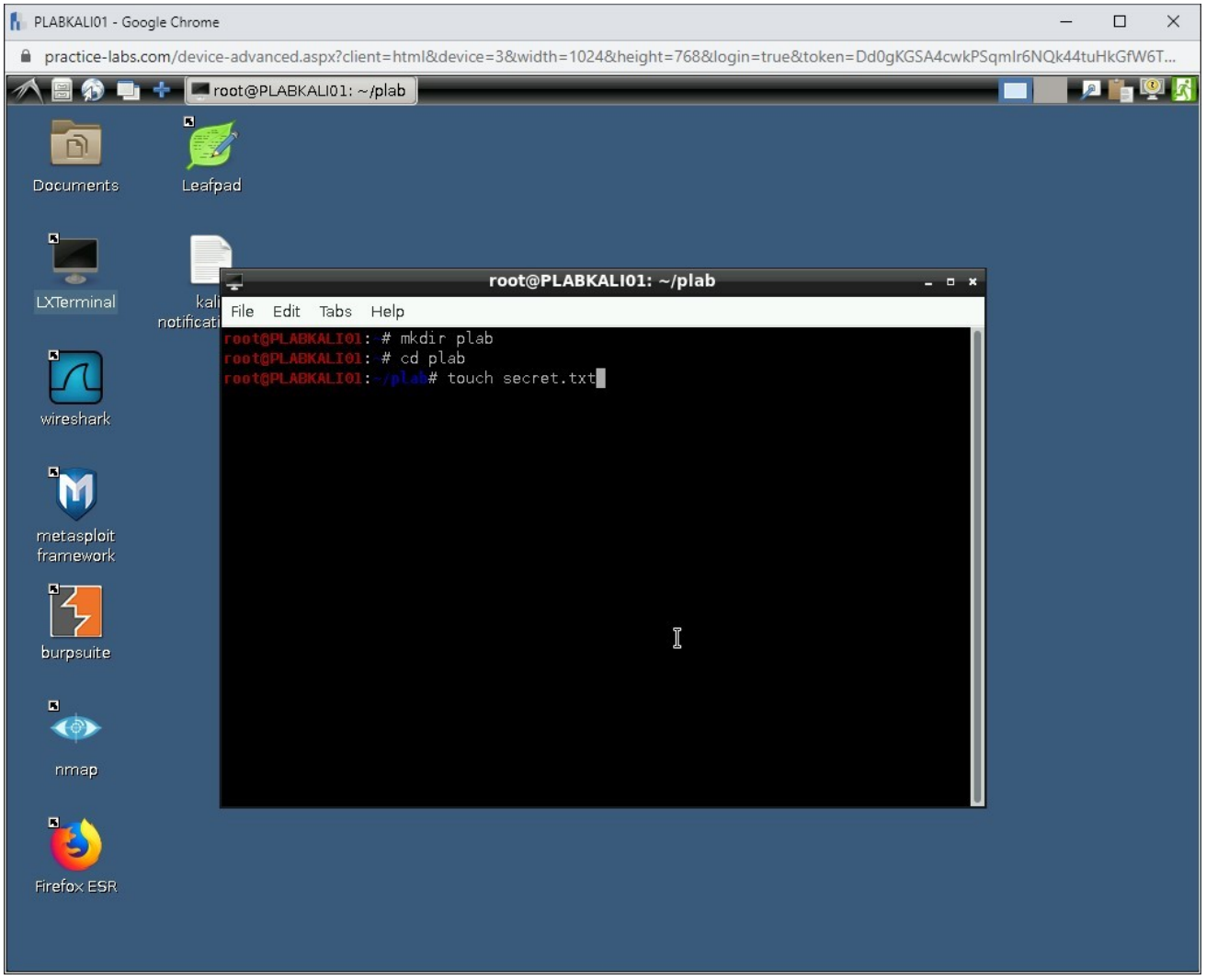


Figure 1.32 Screenshot of PLABKALI01: Creating a new text file with the touch command.

Step 12

Let's view the list of files in the **plab** directory.

To do this, type the following command:

```
ls -l
```

Press **Enter**.

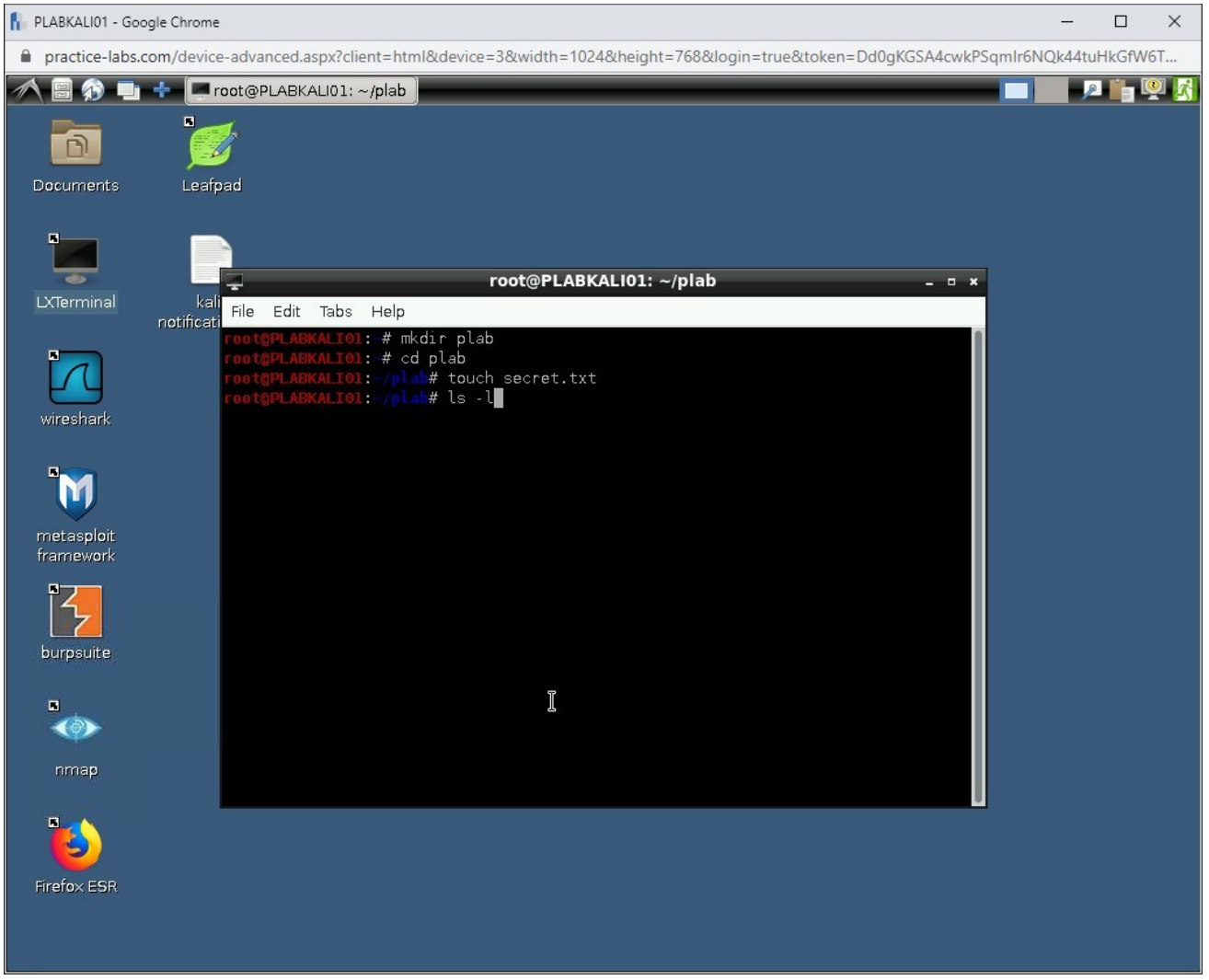


Figure 1.33 Screenshot of PLABKALI01: Running the ls -l comment in the terminal.

Step 13

Notice that the **secret.txt** file is now present in the **plab** directory.

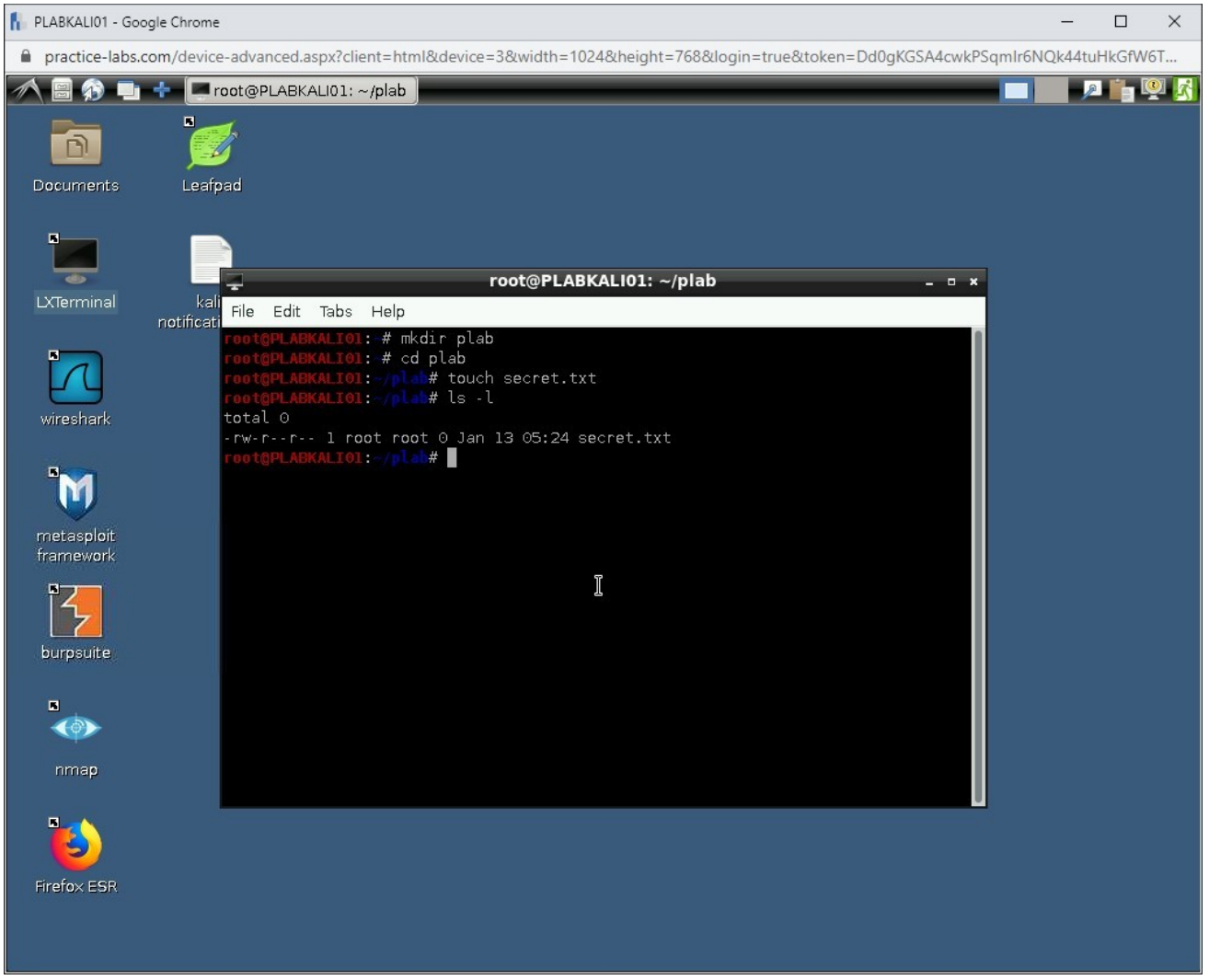


Figure 1.34 Screenshot of PLABKALI01: Showing the secret.txt file in the plab directory.

Step 14

Clear the screen by entering the following command:

```
clear
```

Now, you will need an image file to copy to the **plab** directory.

For this demonstration, you will find an image file named **practice-labs.jpg** under **Files>Pictures**.

Use the following command to copy this image into the **plab** directory:

```
cp ~/Pictures/practice-labs.jpg ~/plab
```

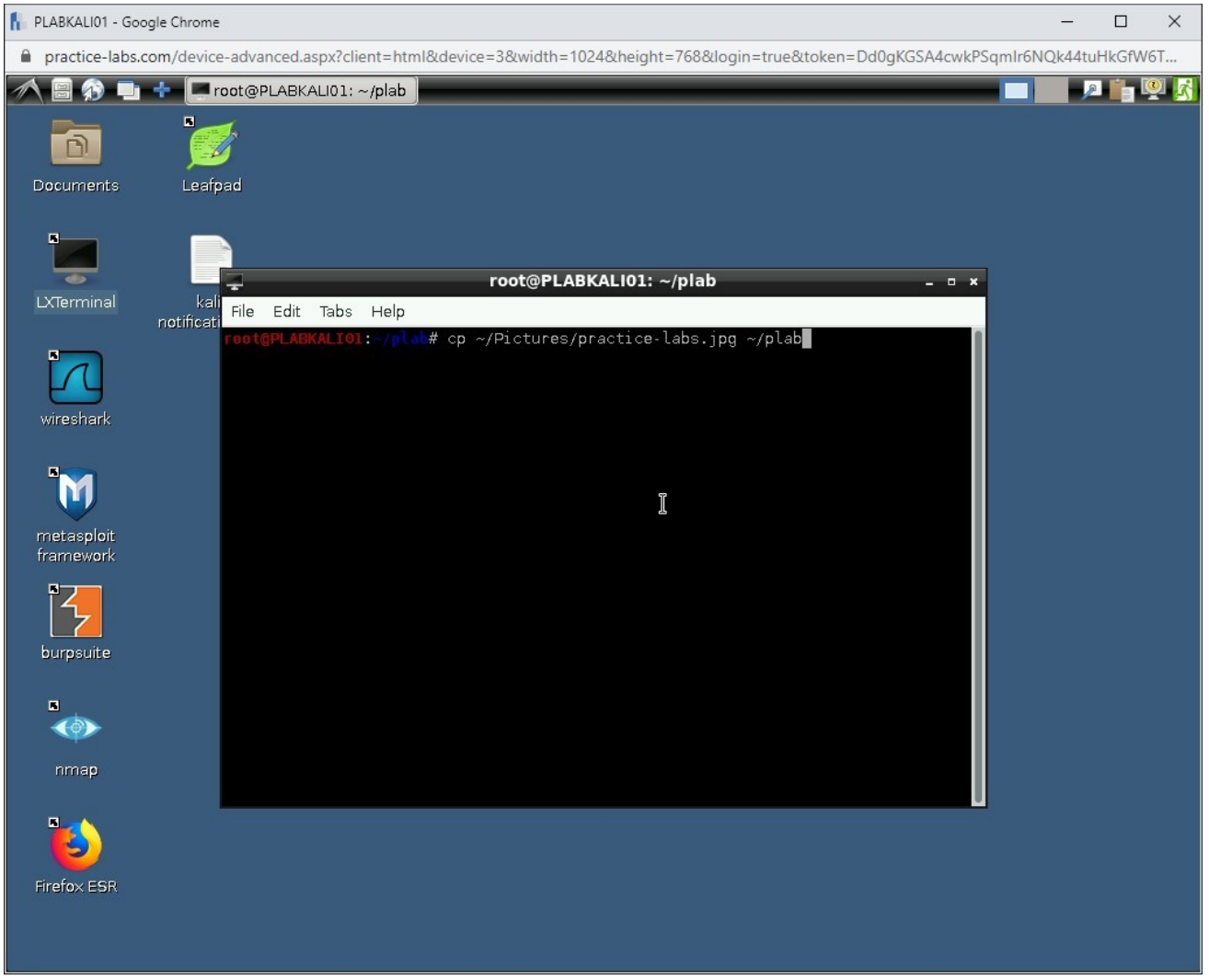


Figure 1.35 Screenshot of PLABKALI01: Showing the command to copy an image file into the plab directory.

Step 15

After copying the file, verify that the file exists in the **plab** directory. To do this, type the following command:

```
ls -l
```

Press **Enter**. Notice that the file exists in the plab directory.

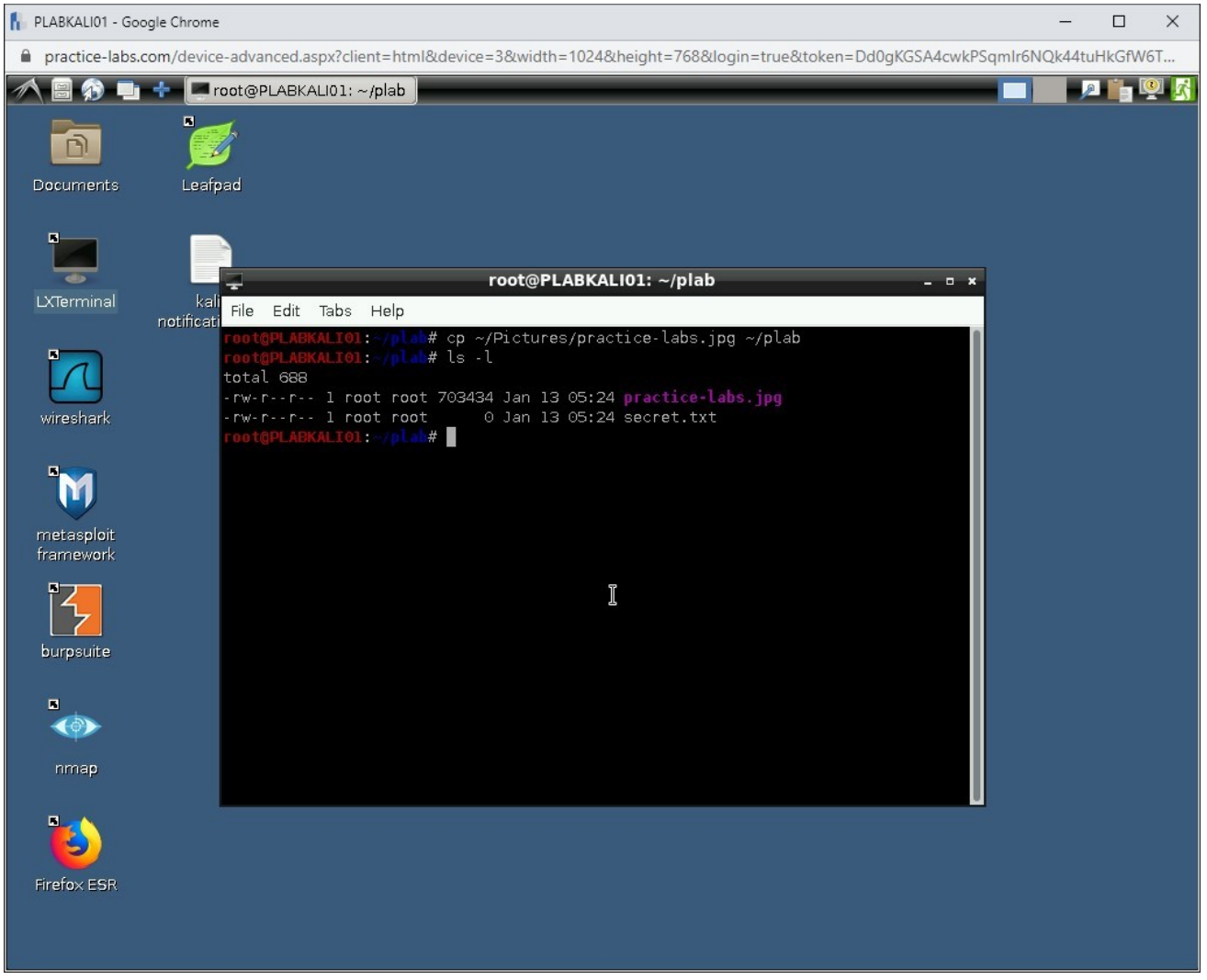


Figure 1.36 Screenshot of PLABKALI01: Showing the text file and an image file in the plab directory

Step 16

You will now hide the **secret.txt** file in the **practice-labs.jpg** file. To do this, type the following command:

Note: *Two parameters are being used:* ***ef*** *= is for the file that is being embedded.* ***cf*** *= is for the file that will contain the embedded file.*

```
steghide embed -cf practice-labs.jpg -ef secret.txt
```

Press **Enter**.

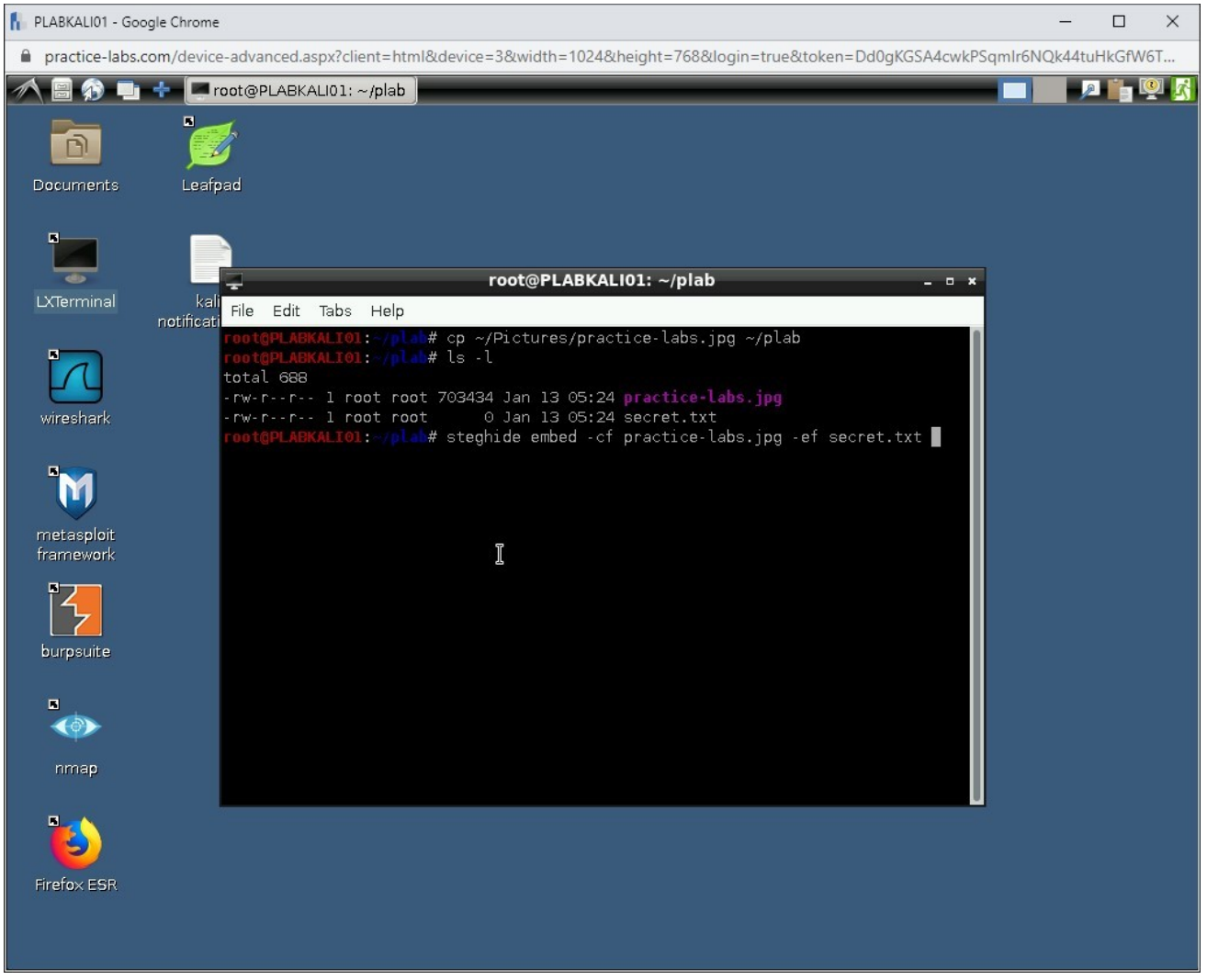


Figure 1.37 Screenshot of PLABKALI01: Entering a command to hide the secret.txt file in the practice-labs.jpg file.

Step 17

You will be prompted to set a passphrase. Type the following password:

```
Passw0rd
```

Press **Enter**.

When prompted to re-enter the passphrase, type the following password:

```
Passw0rd
```

Press **Enter**.

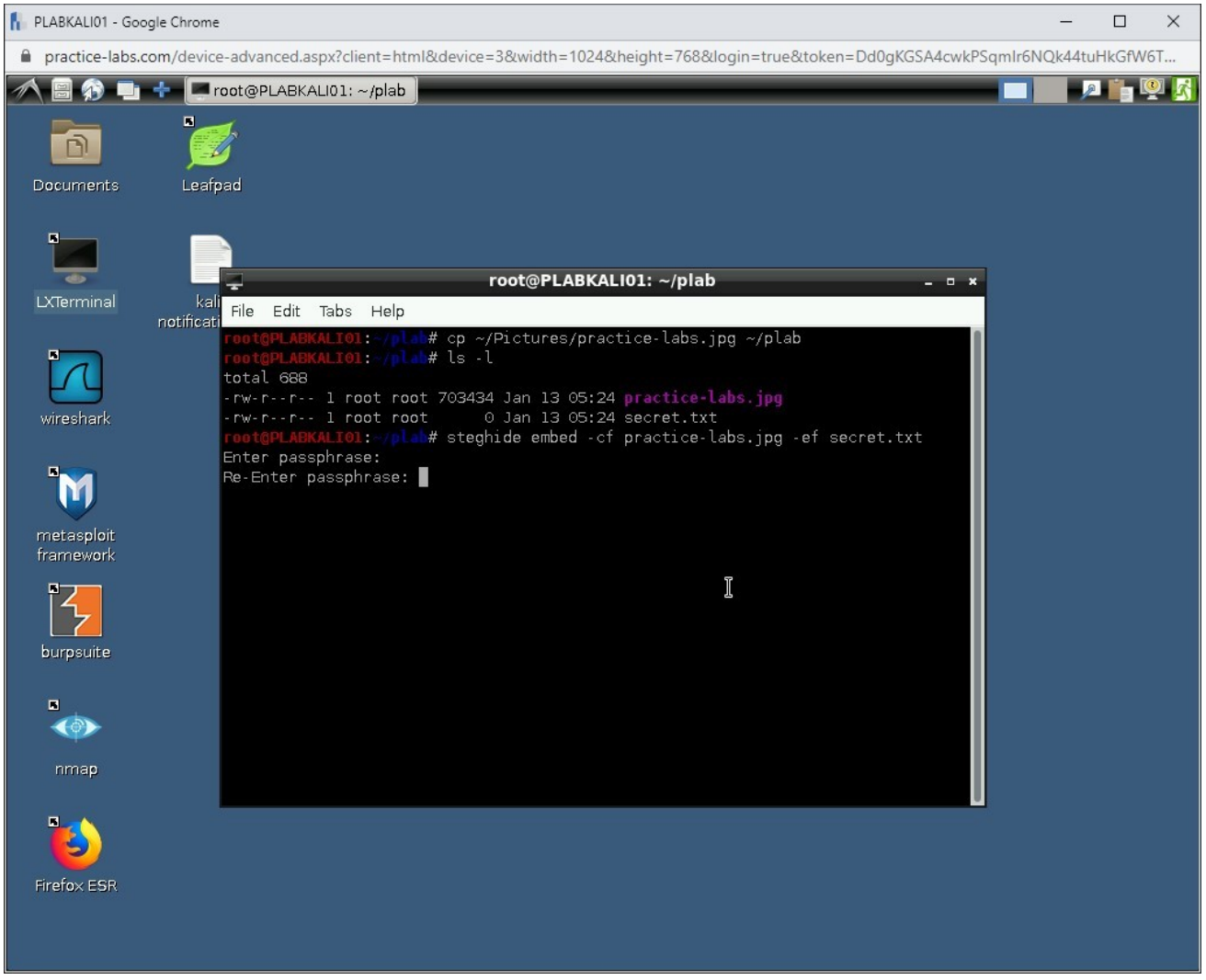


Figure 1.38 Screenshot of PLABKALI01: Entering and re-entering the password.

Step 18

Notice that the message states that **secret.txt** file is now embedded in the **practice-labs.jpg** file.

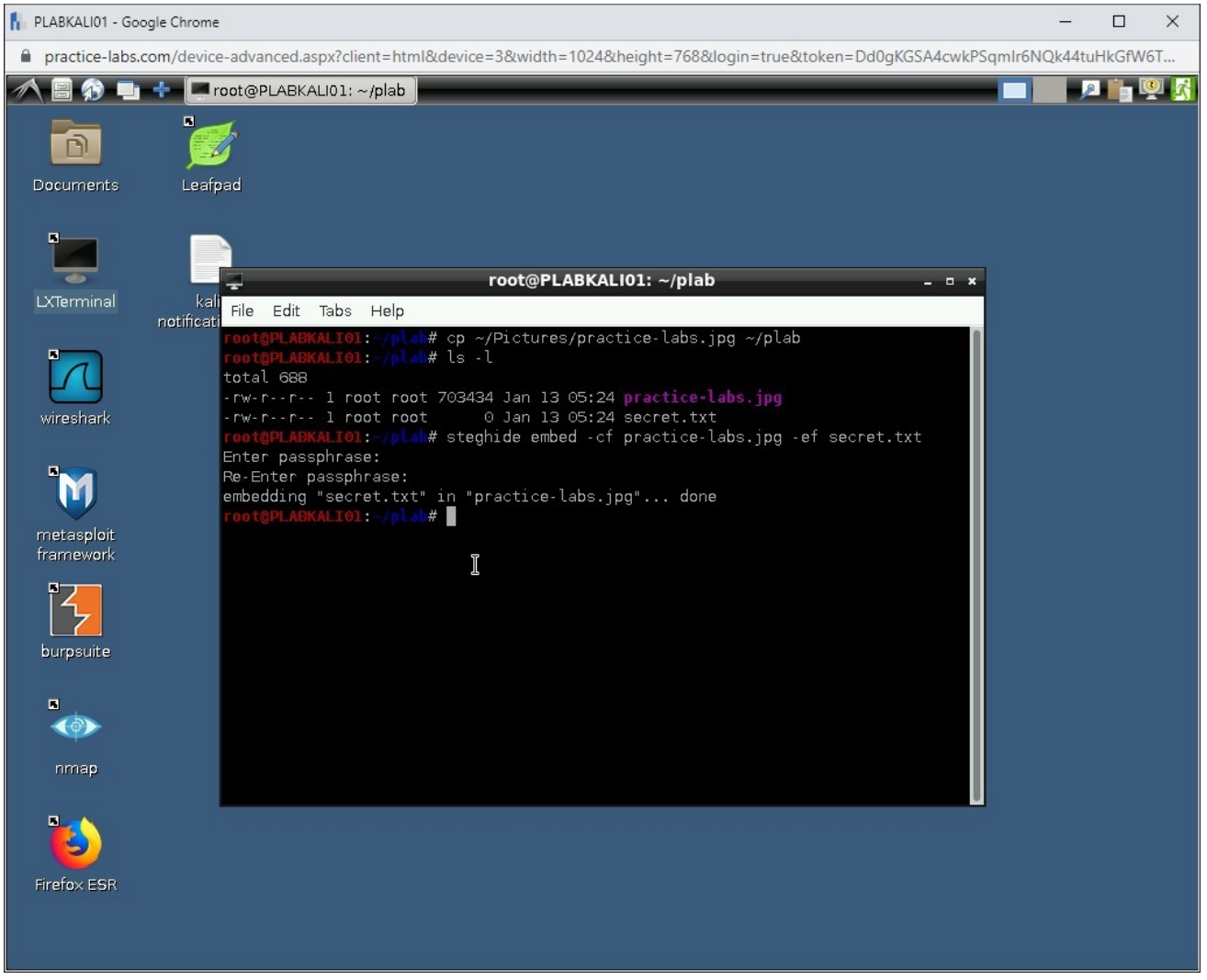


Figure 1.39 Screenshot of PLABKALI01: Showing the message stating that the secret.txt file is embedded in the practice-labs.jpg file.

Step 19

Clear the screen by entering the following command:

```
clear
```

For users, the **practice-labs.jpg** file is a normal image file. However, you know that it has a hidden file inside. To extract the hidden file, type the following command:

```
steghide extract -sf practice-labs.jpg
```

Press **Enter**.

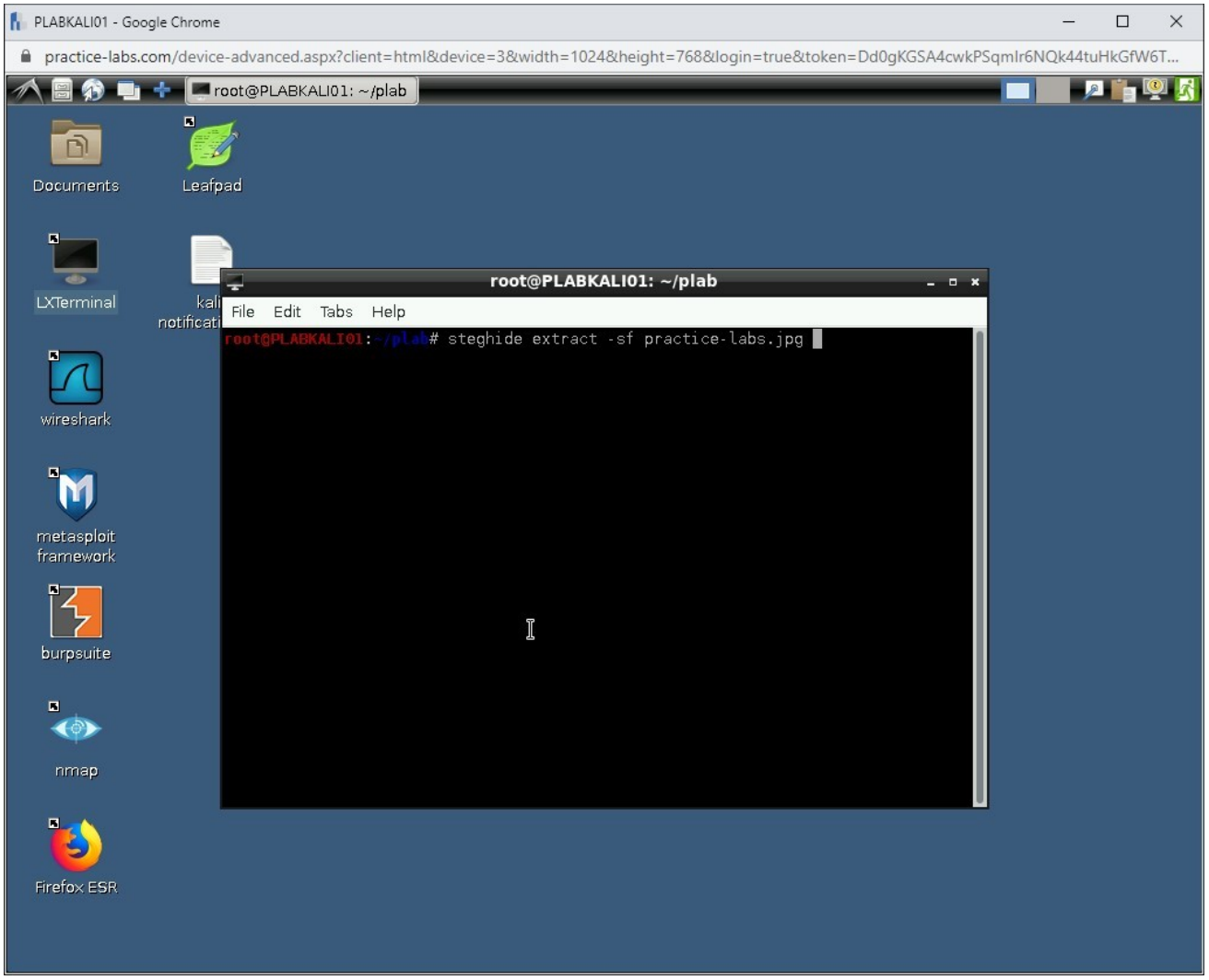


Figure 1.40 Screenshot of PLABKALI01: Entering the command to extract the file from the image file.

Step 20

Since there is password protection, you will be asked to enter the passphrase. Type the following password:

```
Passw0rd
```

Press **Enter**.

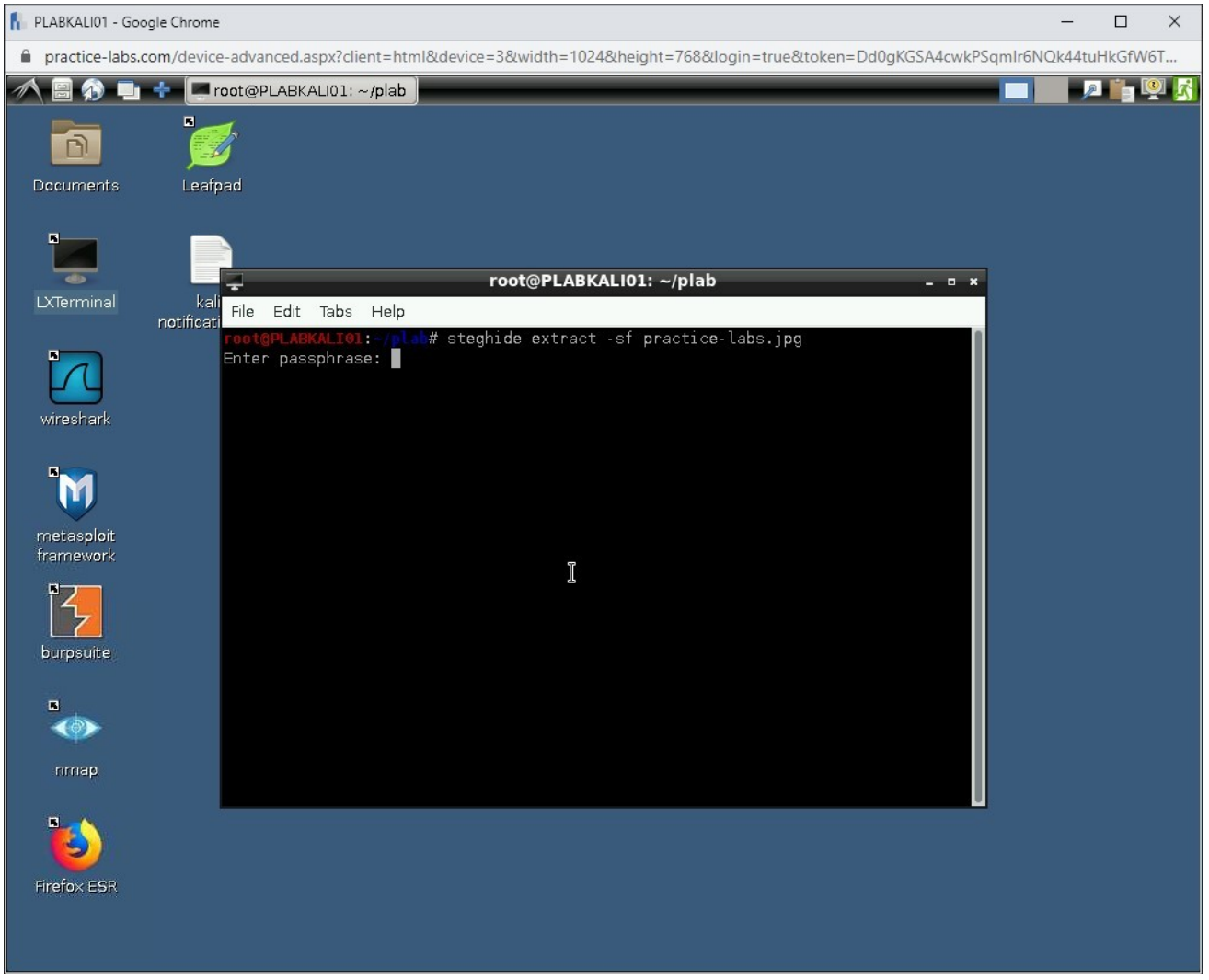


Figure 1.41 Screenshot of PLABKALI01: Entering the password to extract the file.

Step 21

After the password is verified, the file will extract. However, since the **secret.txt** file already exists in the **plab** directory, you will be prompted to overwrite this file.

In the real-world scenario, it is unlikely that you will be extracting the embedded file in the same directory.

Press the **y** key then press **Enter**.

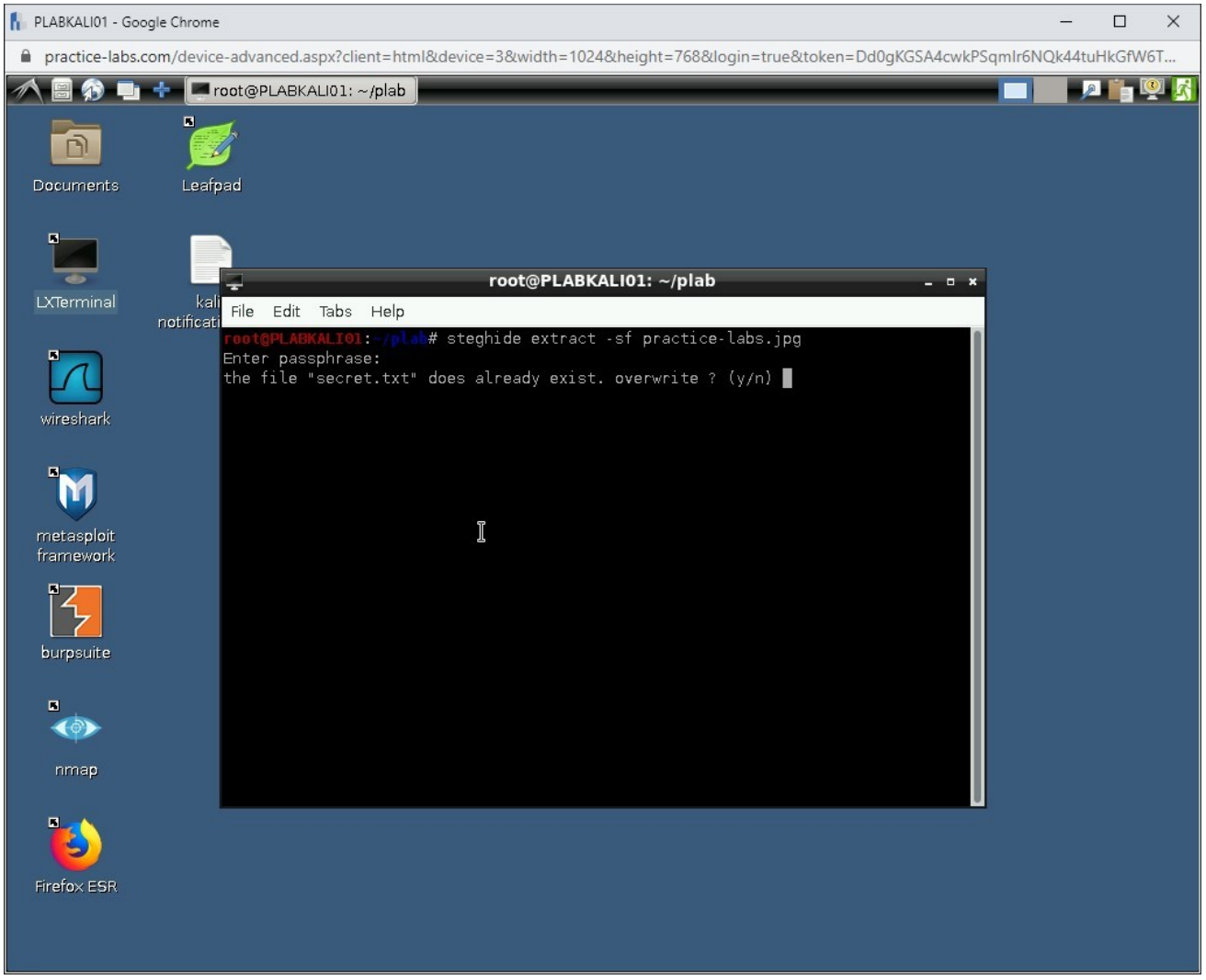


Figure 1.42 Screenshot of PLABKALI01: Entering y to confirm the overwriting of the text file.

Step 22

Notice that the **secret.txt** is now extracted successfully.

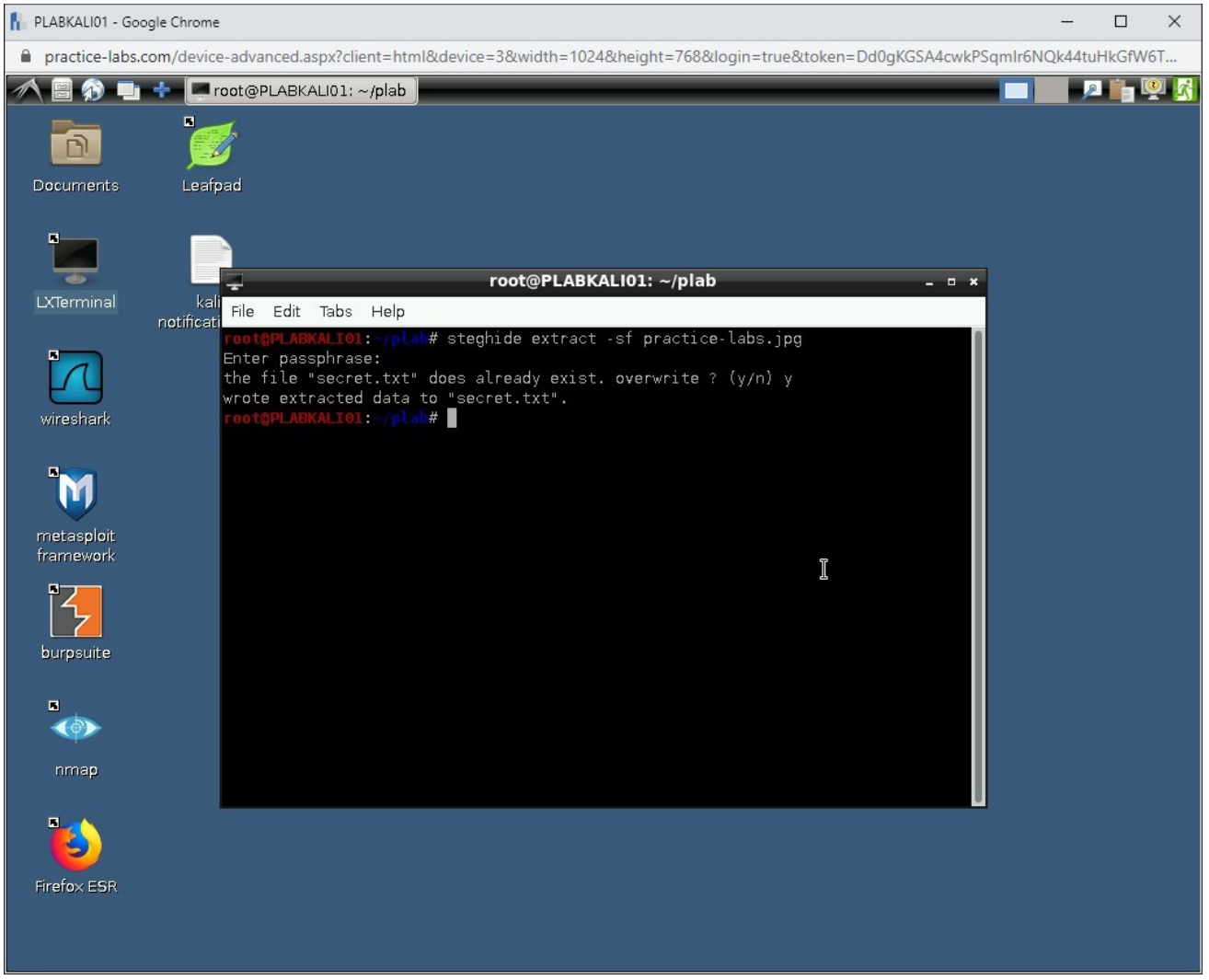


Figure 1.43 Screenshot of PLABKALI01: Showing the extracted file.

Keep the terminal window open.

Task 3 - Using Stegosuite to Hide Data within an Image

Stegosuite is another tool that you can use in Kali Linux to hide data within an image file. Unlike Steghide, which is a command-line tool, Stegosuite is an image tool. It allows you to embed text as well as files within an image file.

In this task, you will practice using the Stegosuite tool.

Step 1

Ensure you have powered on all the devices listed in the introduction and still connected to **PLABKALI01.**

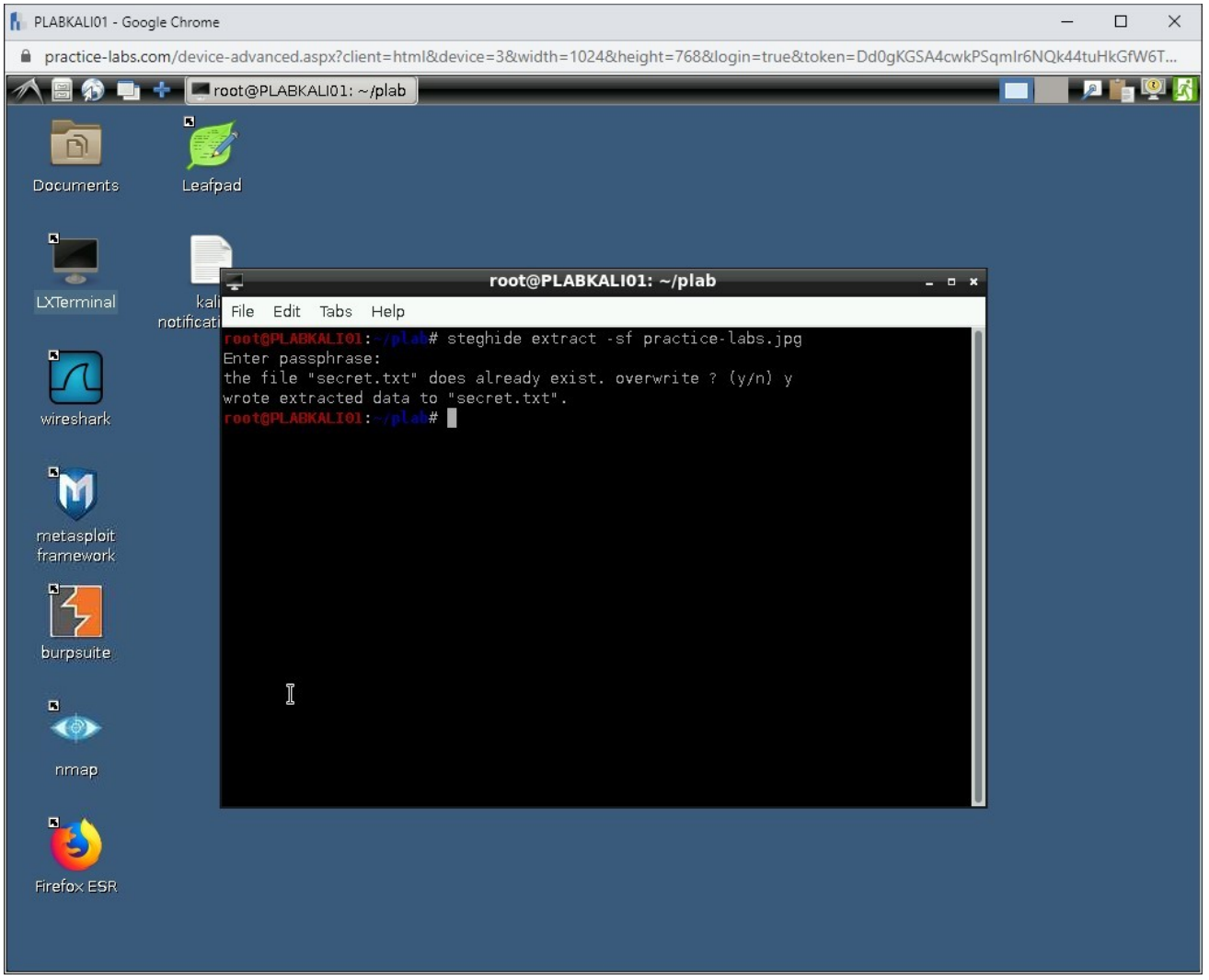


Figure 1.44 Screenshot of PLABKALI01: Showing the terminal window.

Step 2

Clear the screen by entering the following command:

```
clear
```

By default, **Stegosuite** is not installed in Kali Linux. You need to install it using the **apt-get** command. To do this, type the following command:

```
apt-get install stegosuite -y
```

Press **Enter**.

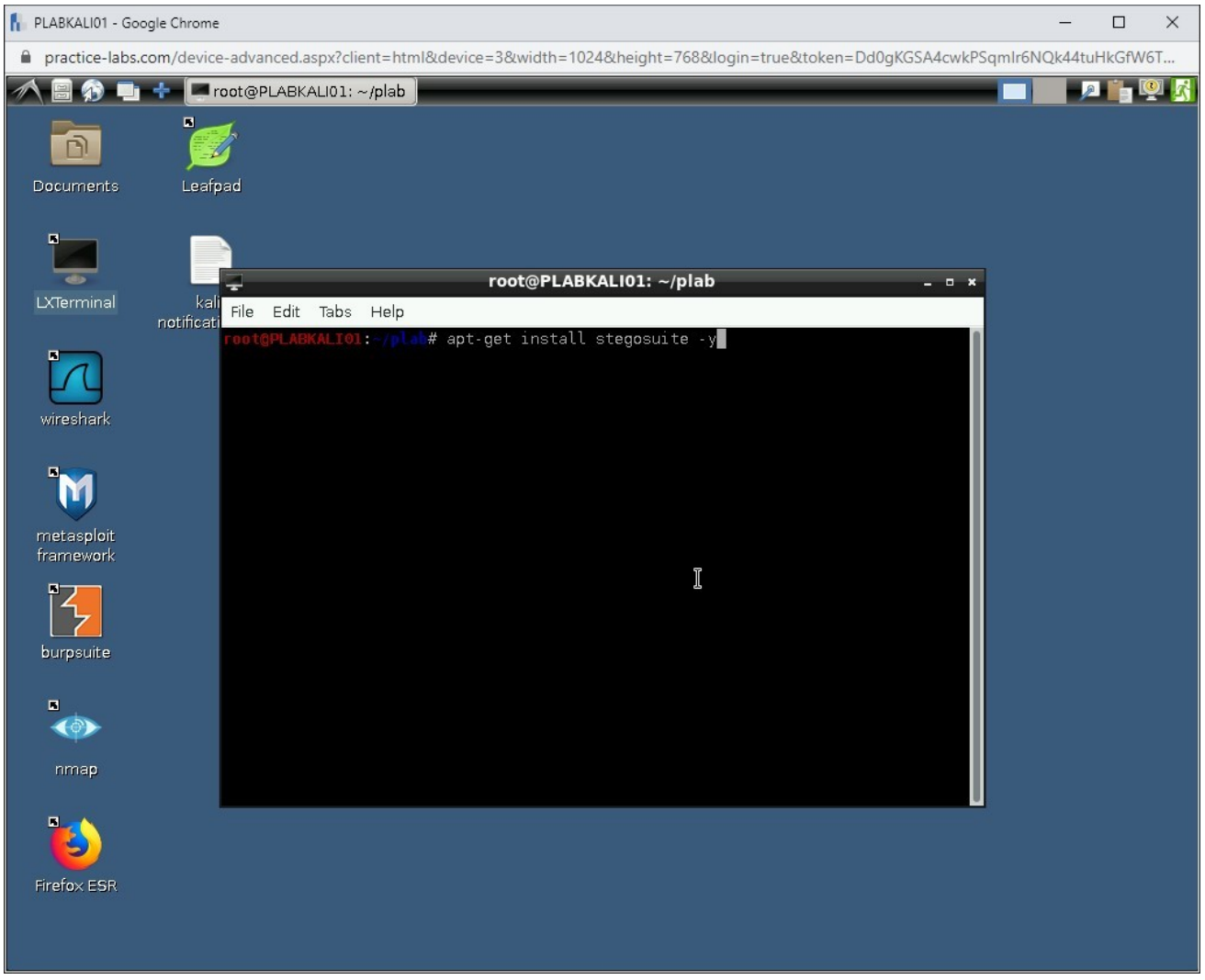


Figure 1.45 Screenshot of PLABKALI01: Entering the command to install Stegosuite.

Step 3

The **Stegosuite** installation process will start. The installation process will take a few minutes to complete.

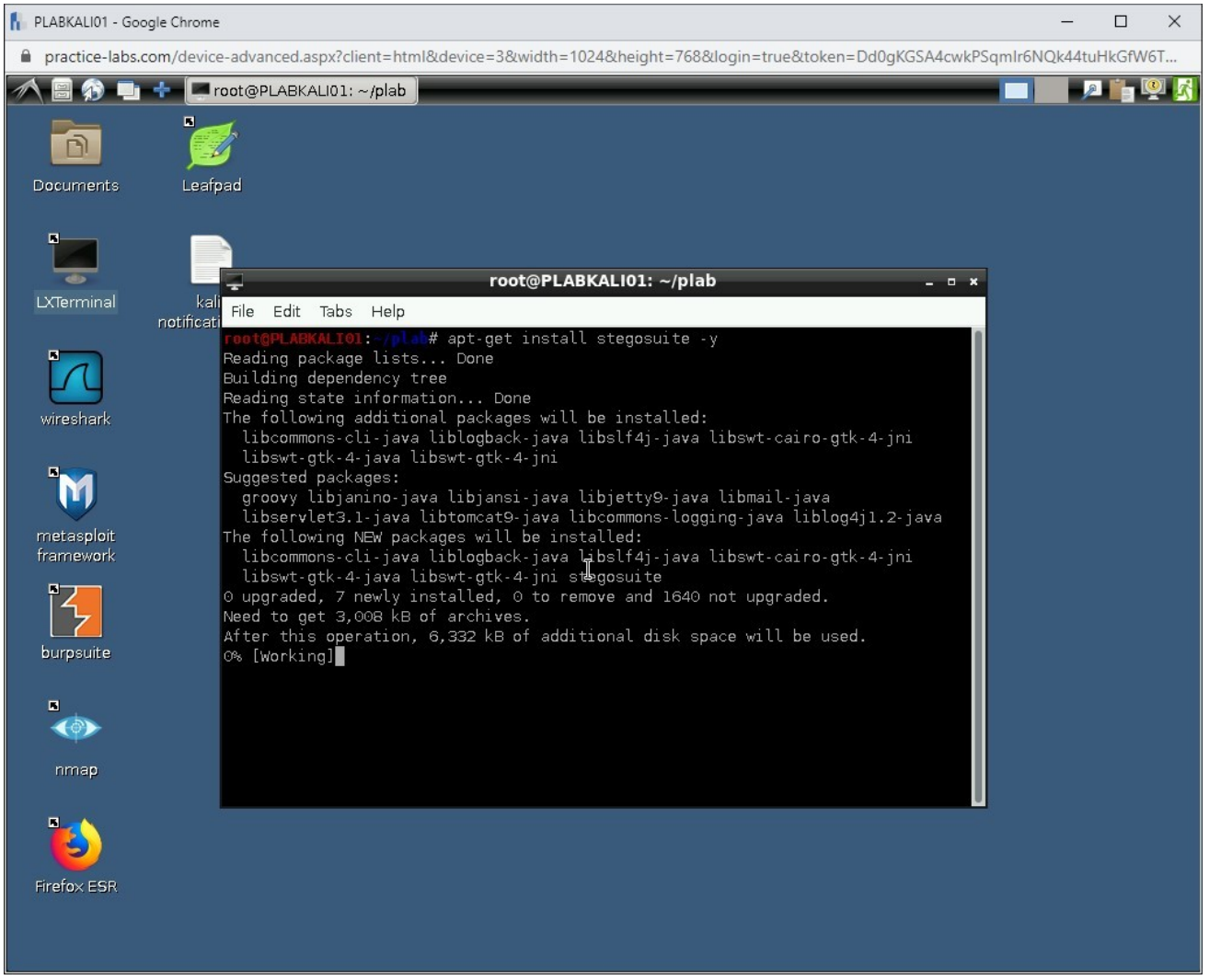


Figure 1.46 Screenshot of PLABKALI01: Showing the installation progress of Stegosuite.

Step 4

The installation is now complete.

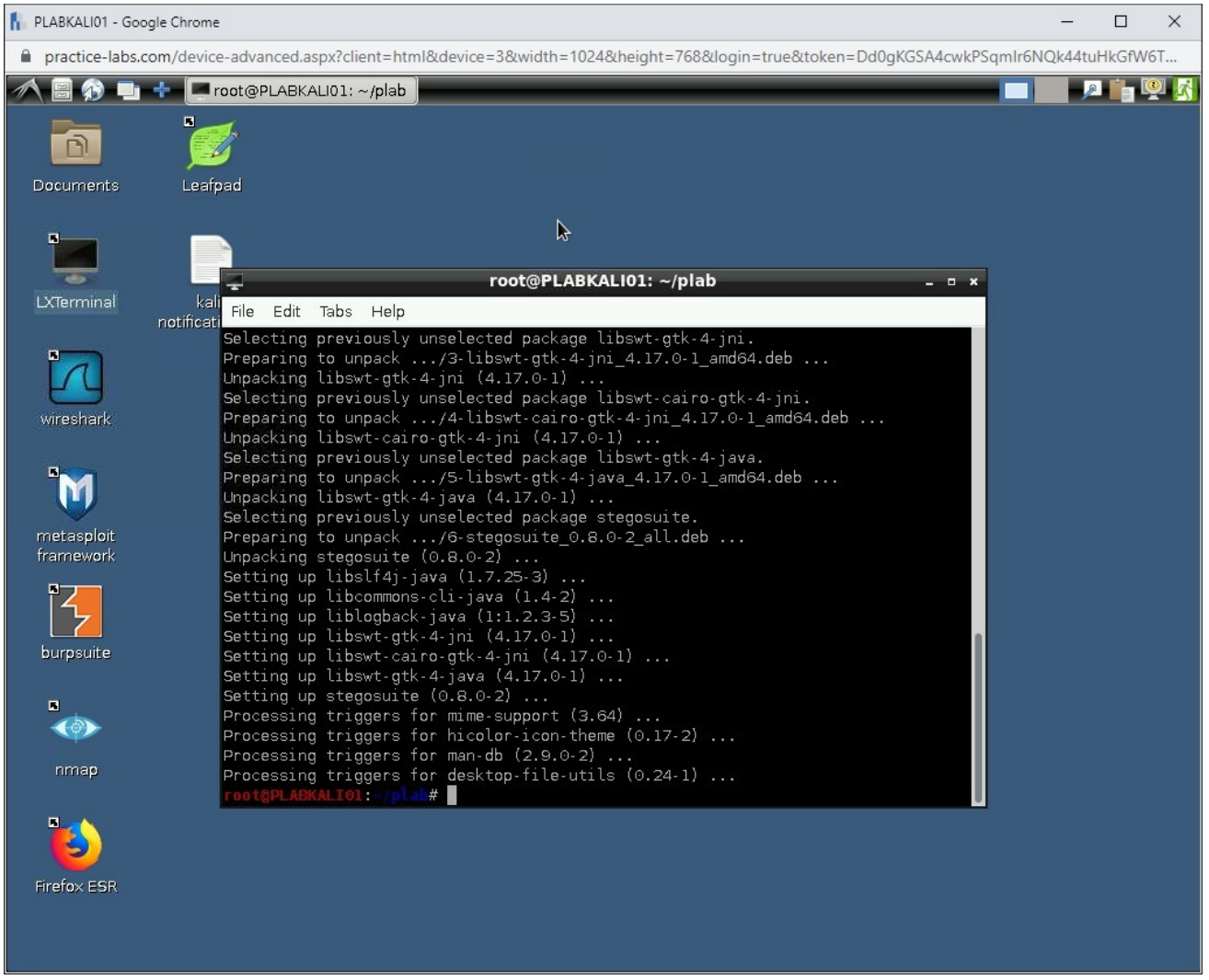


Figure 1.47 Screenshot of PLABKALI01: Showing the successful installation of Stegosuite.

> ***Note:*** *Sometimes, the installation can have errors, which you can ignore.*

Step 5

Clear the screen by entering the following command:

```
clear
```

You have installed **Stegosuite** successfully. Now, you need to start it. There are multiple methods to start Stegosuite:

- Using the Applications menu
- By searching it
- Using the command line

Let's start **Stegosuite** using the command line. Enter the following command:

```
stegosuite
```

Press **Enter**.

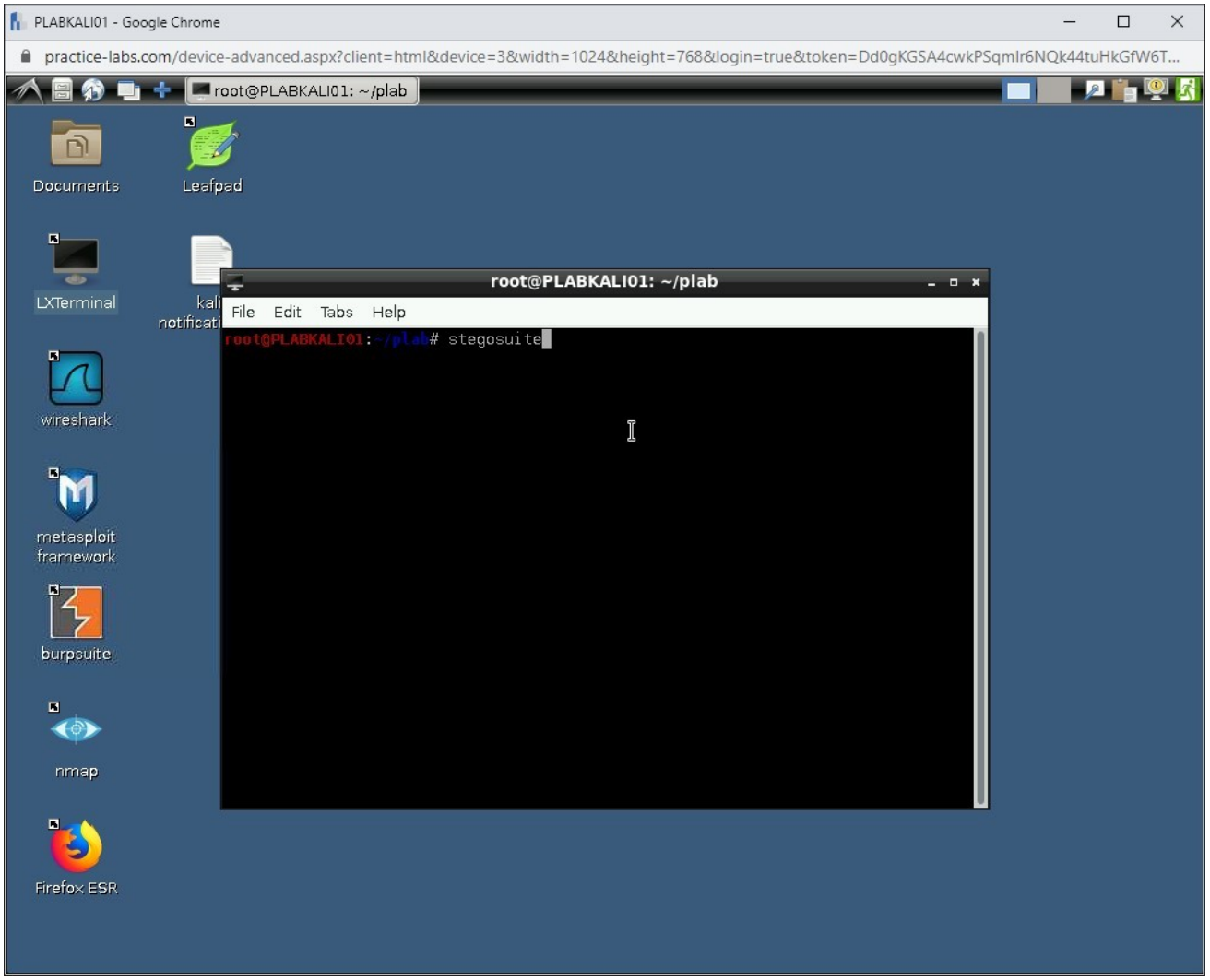


Figure 1.48 Screenshot of PLABKALI01: Entering the Stegosuite command to start it.

> ***Note:*** *Sometimes, errors can appear on the terminal screen, which you can ignore.*

Step 6

The **Stegosuite** application is now displayed. Click **File** and then select **Open**.

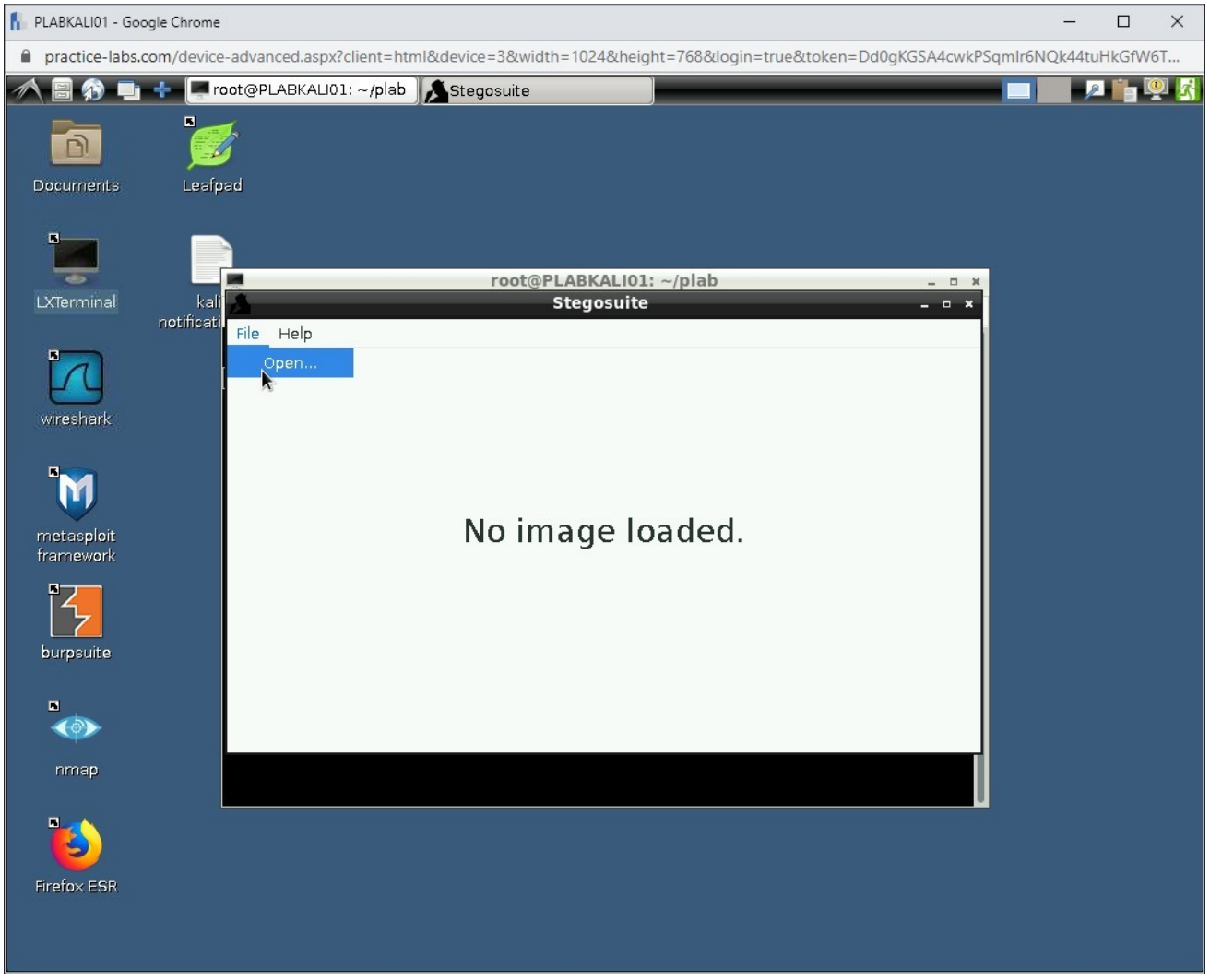


Figure 1.49 Screenshot of PLABKALI01: Showing the window of the Stegosuite application.

Step 7

A dialog box is displayed. On the left pane, click on the **plab** directory.

Select **practice-labs.jpg** and click **Open**.

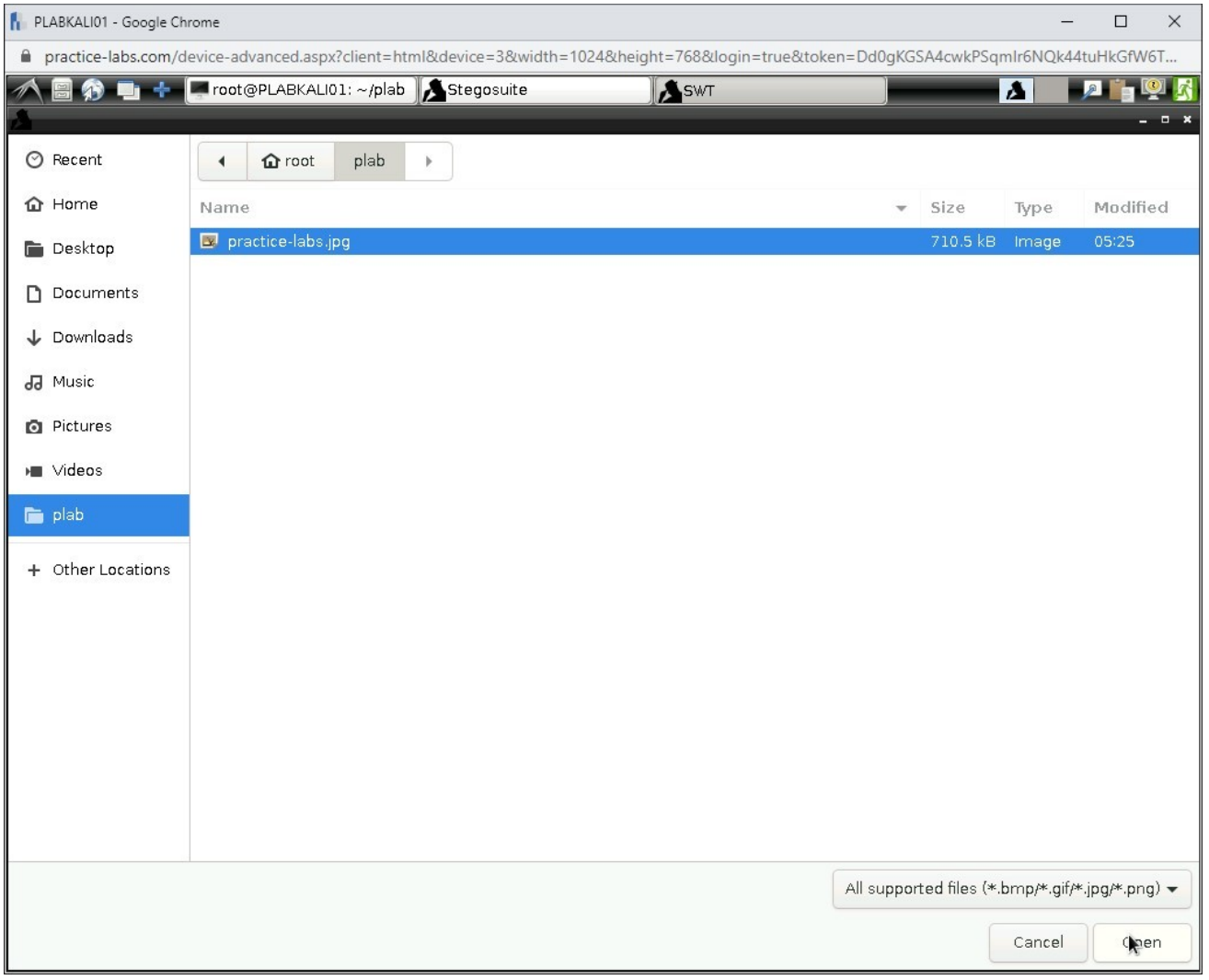


Figure 1.50 Screenshot of PLABKALI01: Selecting the practice-labs.jpg file and clicking Open.

Step 8

Notice that the right side of the **Stegosuite** dialog box displays the **practice-labs.jpg** image.

In the left pane, type the following message in the first text box:

```
This is a confidential message.
```

In the third text box, type the following password:

```
Passw0rd
```

Click **Embed**.

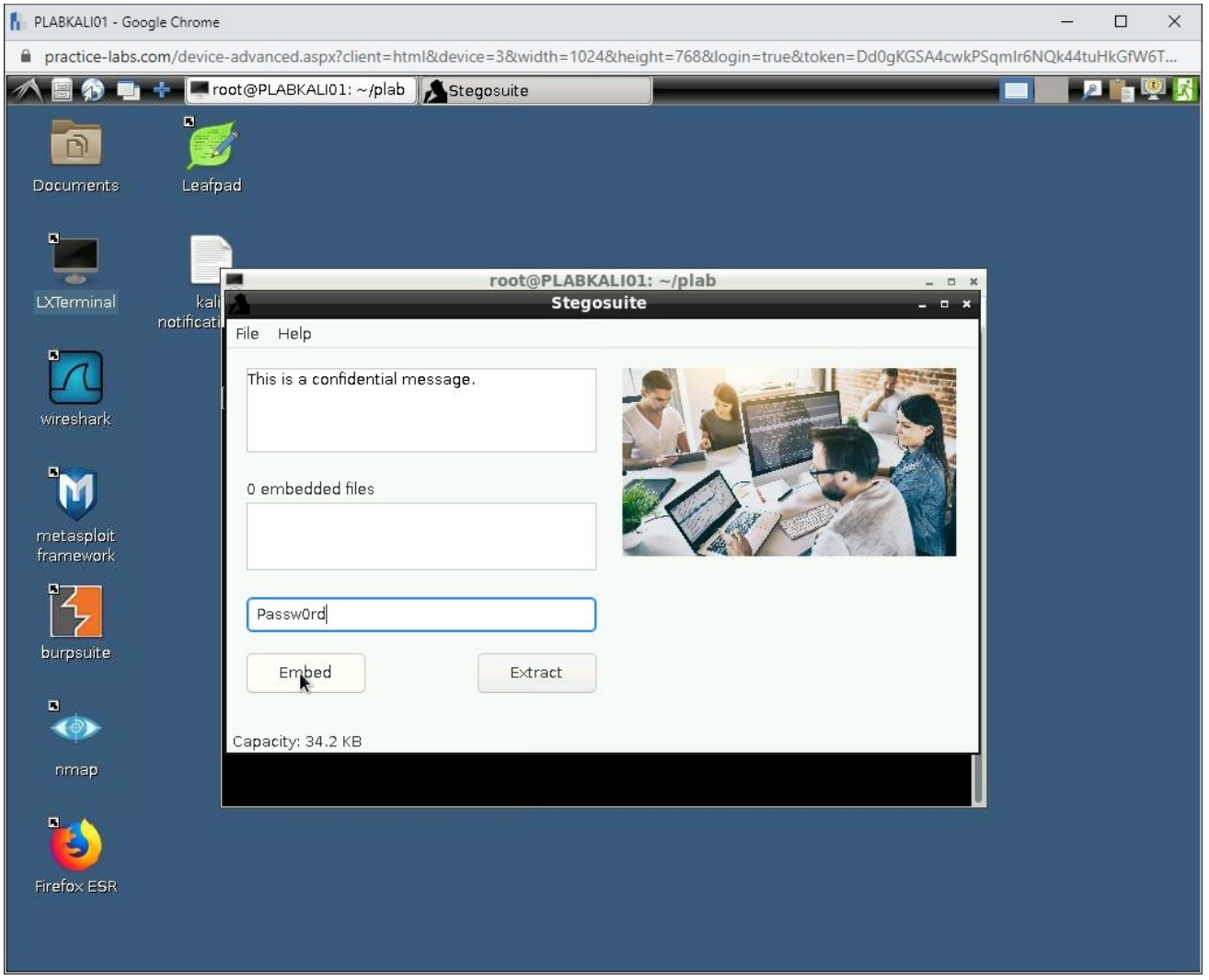


Figure 1.51 Screenshot of PLABKALI01: Entering a message to hide, entering a password, and clicking Embed.

Step 9

Notice that a message at the bottom of the **Stegosuite** dialog box states that embedding is now complete. A new file with the name **practice-labs_embed.jpg** is saved now.

Close the **Stegosuite** dialog box.

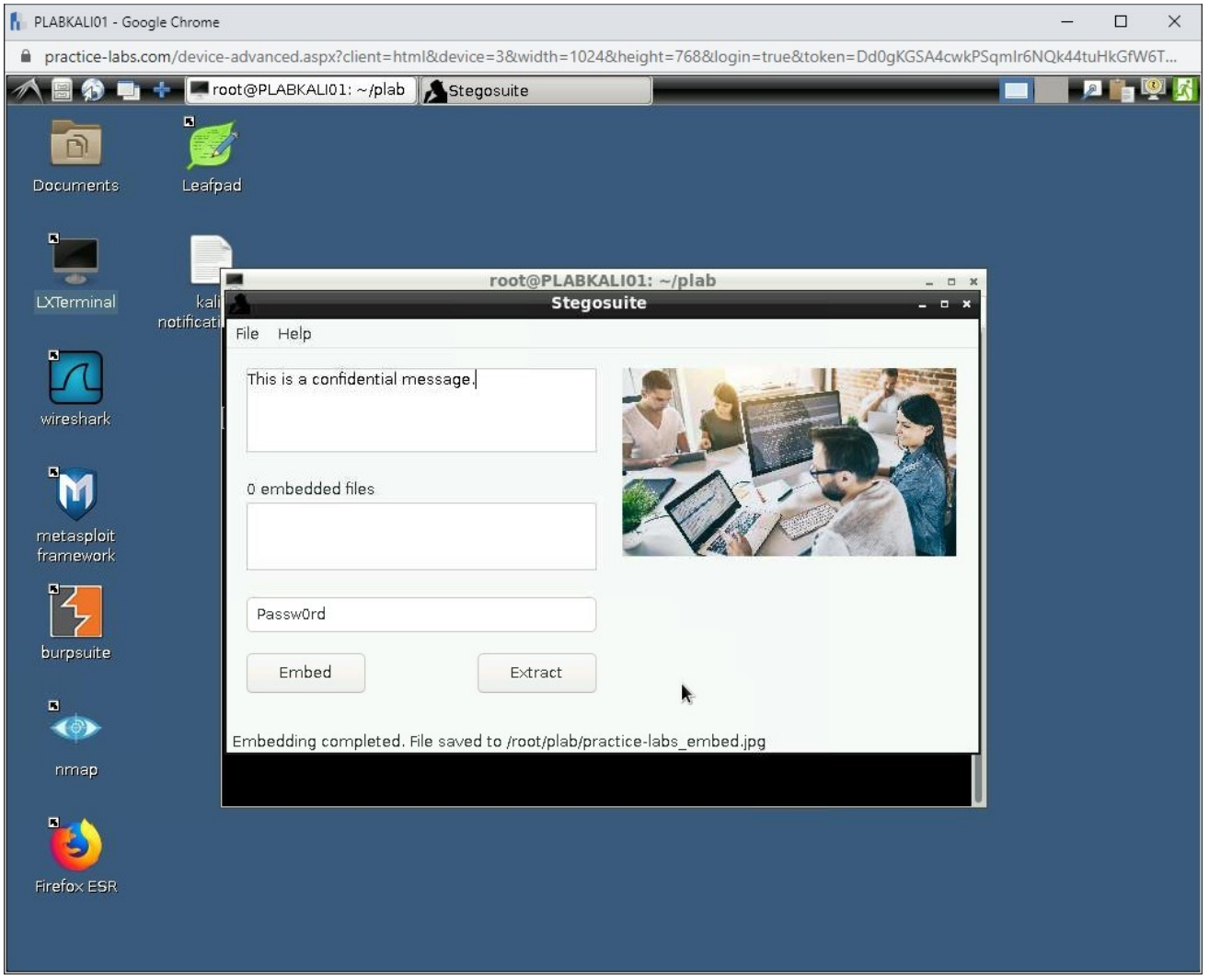


Figure 1.52 Screenshot of PLABKALI01: Showing a message at the bottom of the Stegosuite dialog box states that embedding is now complete.

Step 10

Clear the screen by entering the following command:

```
clear
```

At the command line, type the following command to start **Stegosuite** once again:

```
stegosuite
```

Press **Enter**.

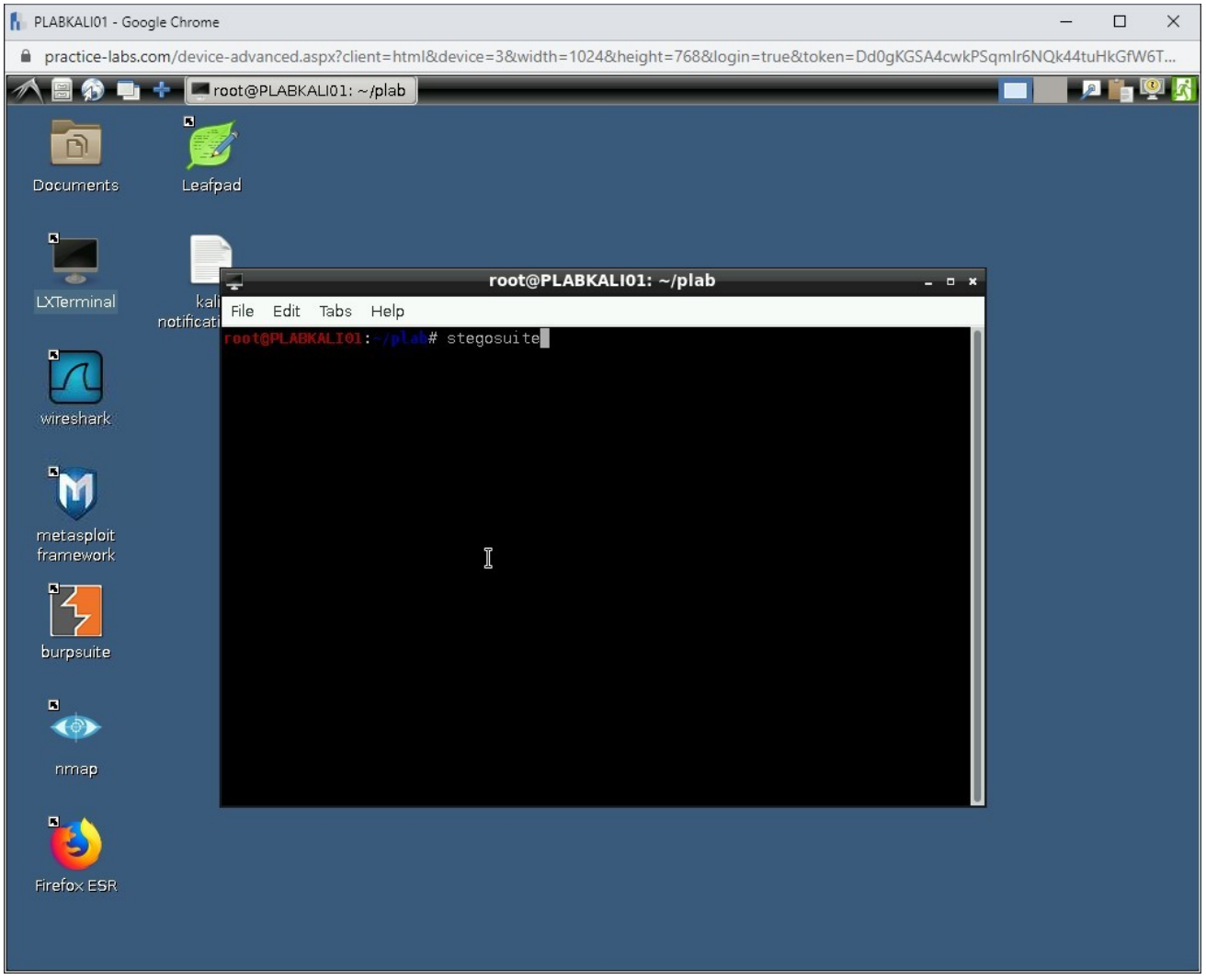


Figure 1.53 Screenshot of PLABKALI01: Entering the Stegosuite command to start it.

Step 11

The **Stegosuite** application is now displayed. Click **File** and then select **Open**.

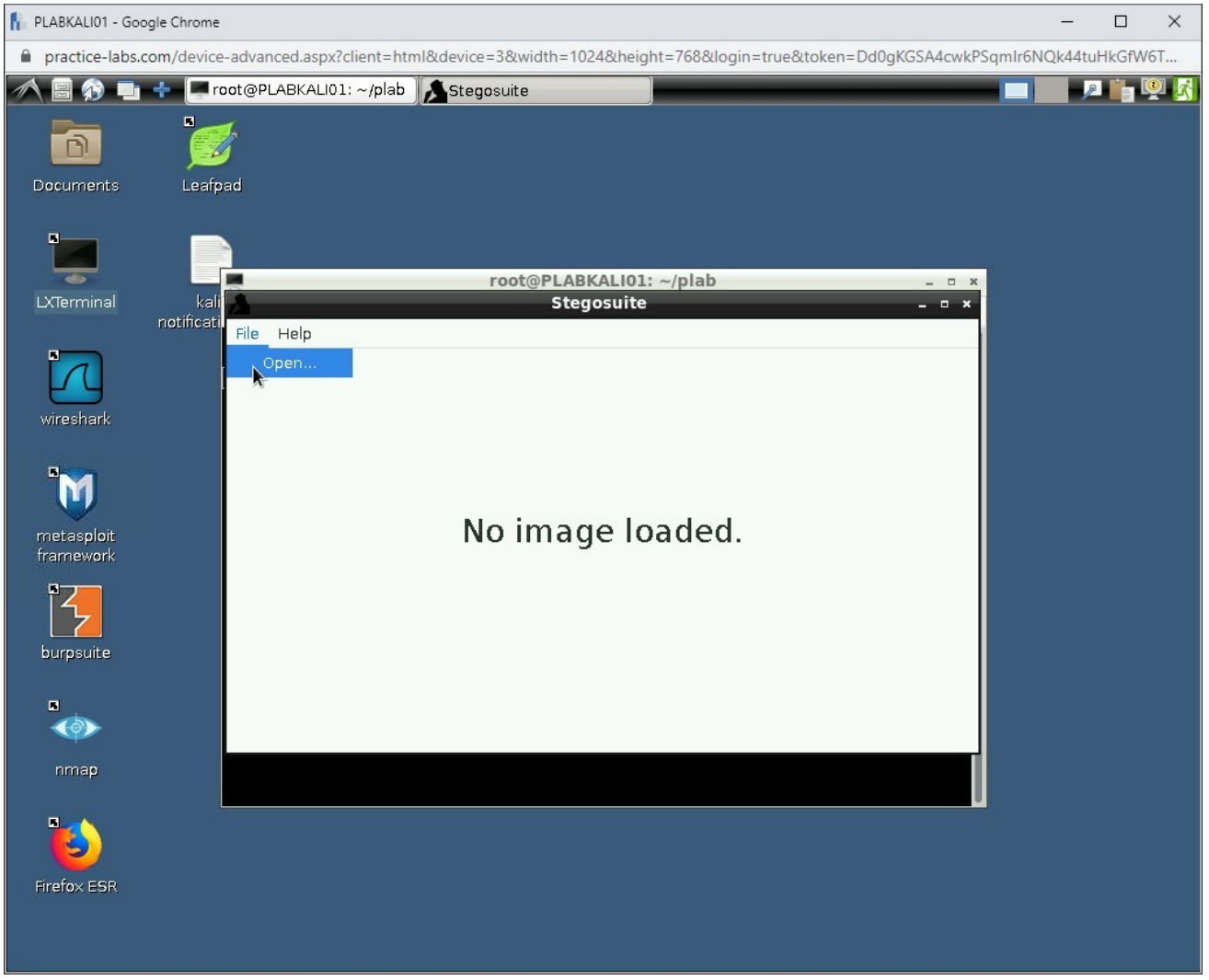


Figure 1.54 Screenshot of PLABKALI01: Clicking Open from the File menu.

Step 12

A dialog box is displayed. On the left pane, click on the **plab** directory.

Select **practice-labs_embed.jpg** and click **Open**.

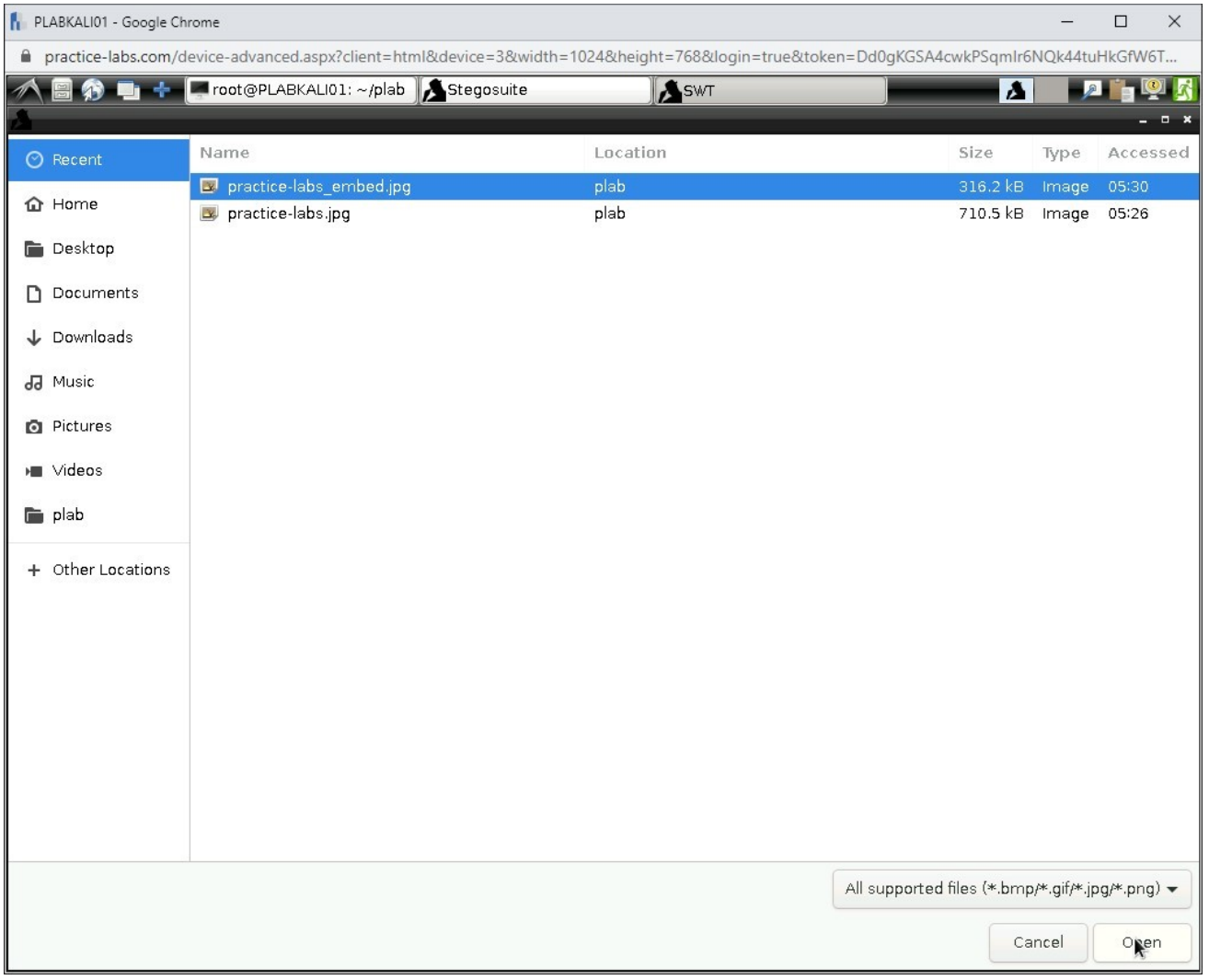


Figure 1.55 Screenshot of PLABKALI01: Selecting practice-labs_embed.jpg and clicking Open.

Step 13

Notice that the right side of the **Stegosuite** dialog box displays the **practice-labs_embed.jpg** image.

In the third text box, type the following password:

```
Passw0rd
```

Click **Extract**.

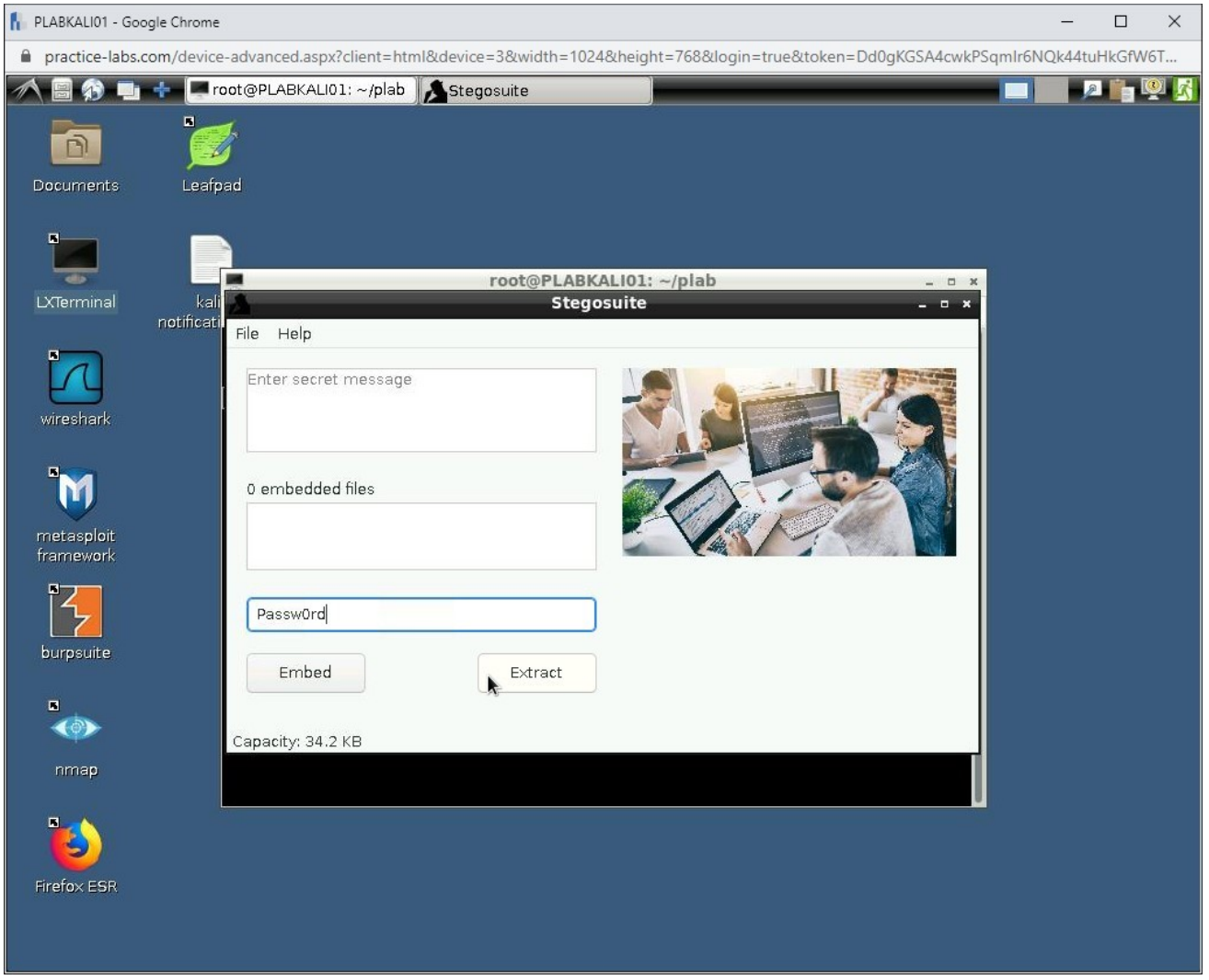


Figure 1.56 Screenshot of PLABKALI01: Showing the practice-labs_embed.jpg image, entering a password, and clicking Extract.

Step 14

Notice that the text string has been extracted in the first text box.

Close the **Stegosuite** dialog box.

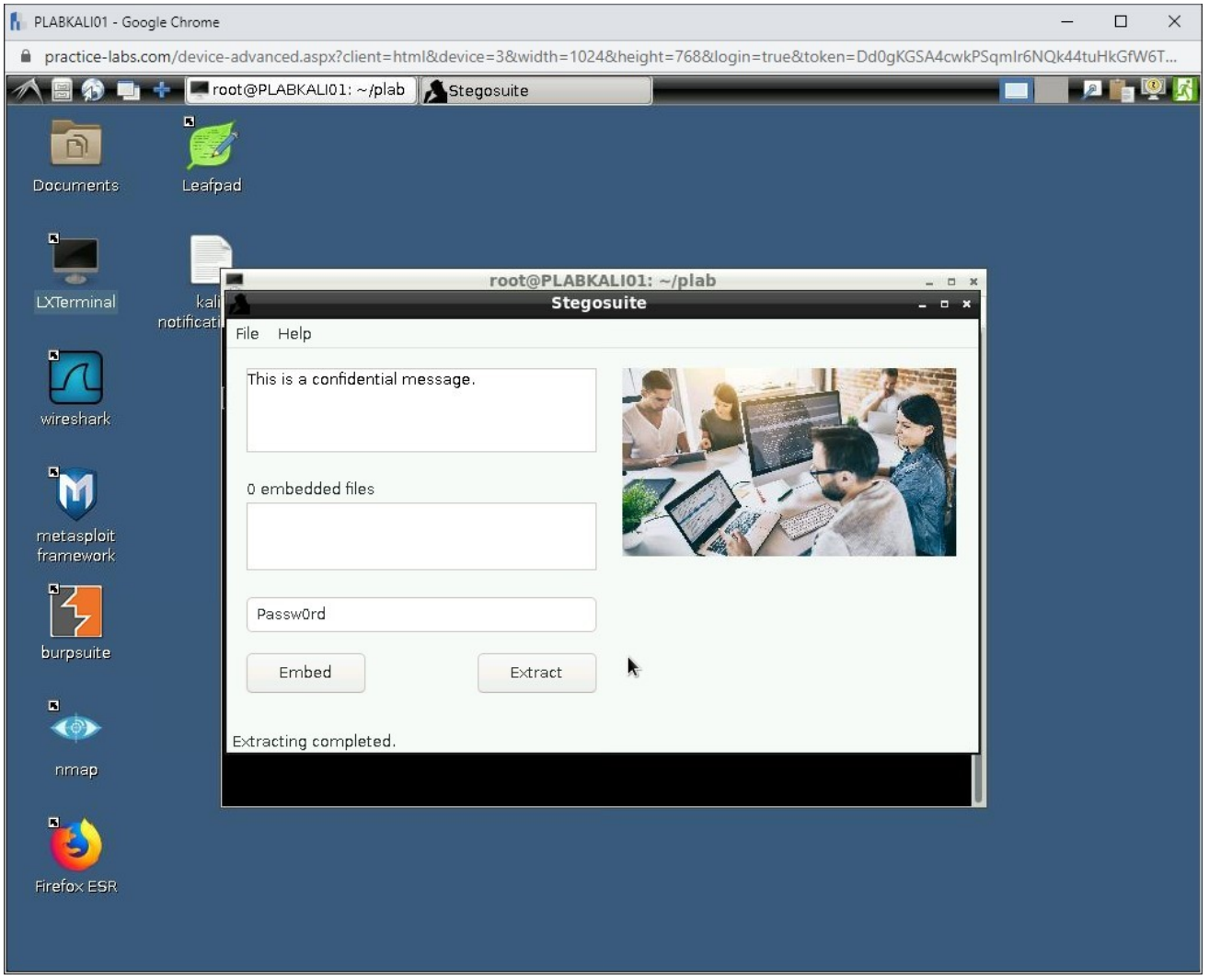


Figure 1.57 Screenshot of PLABKALI01: Showing the extracted text.

Close the terminal window.

Task 4 - Using SilentEye to Hide Information within a File

A basic steganography tool encodes information within another file, typically a media file such as a picture or audio/video file. A typical technique is to encode information in the least significant bit of the image or audio data.

This does not materially affect the picture or sound and does not alter the file header (though it can change the file size). You can use an application such as SilentEye to hide messages or data into images or audio files.

In this task, you will use SilentEye to hide information within a file. To do this, perform the following steps:

Step 1

Ensure you have powered on all the devices listed in the introduction and connect to **PLABWIN10.**

In the **Type here to search** text box, type the following:

```
Internet Explorer
```

From the search results, select **Internet Explorer**.

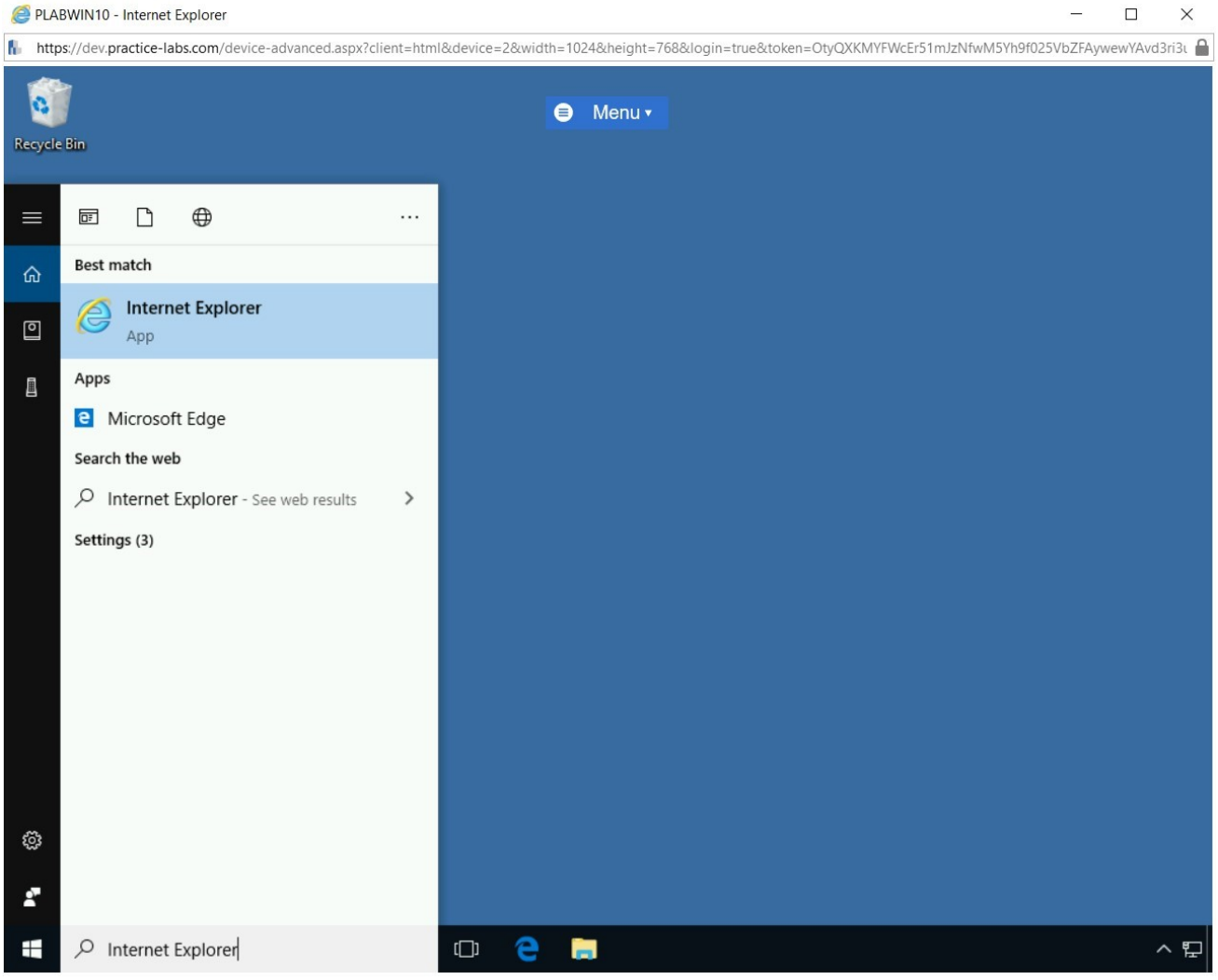


Figure 1.58 Screenshot of PLABWIN10: Selecting Internet Explorer from the search results.

Step 2

Internet Explorer opens the **Tools and resources** webpage.

Click **Tools**.

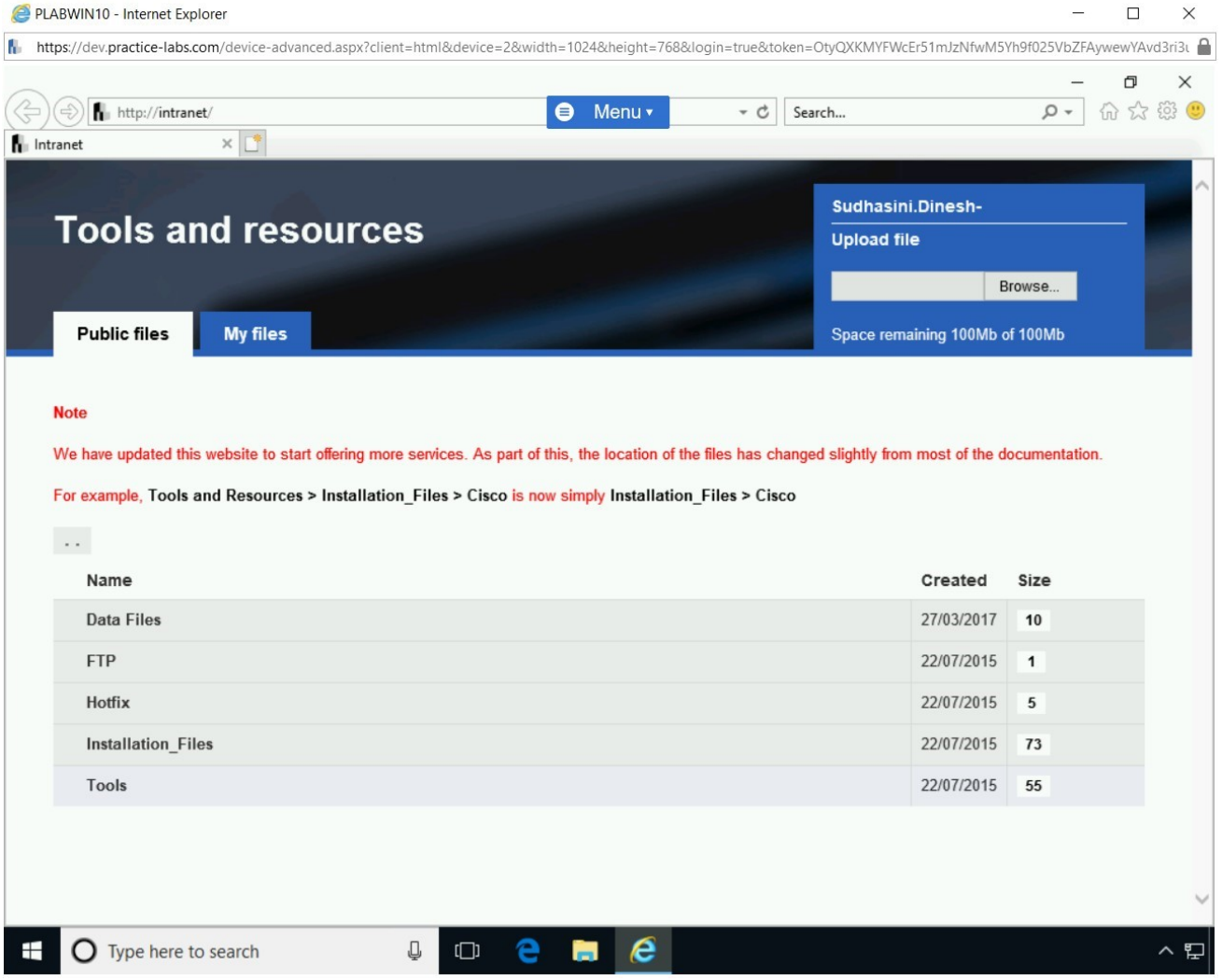


Figure 1.59 Screenshot of PLABWIN10: Clicking the Tools option on the Tools and resources page.

Step 3

You will be directed to **[..] > Tools**.

Scroll down a bit and locate **Hacking Tools**.

Click **Hacking Tools**.

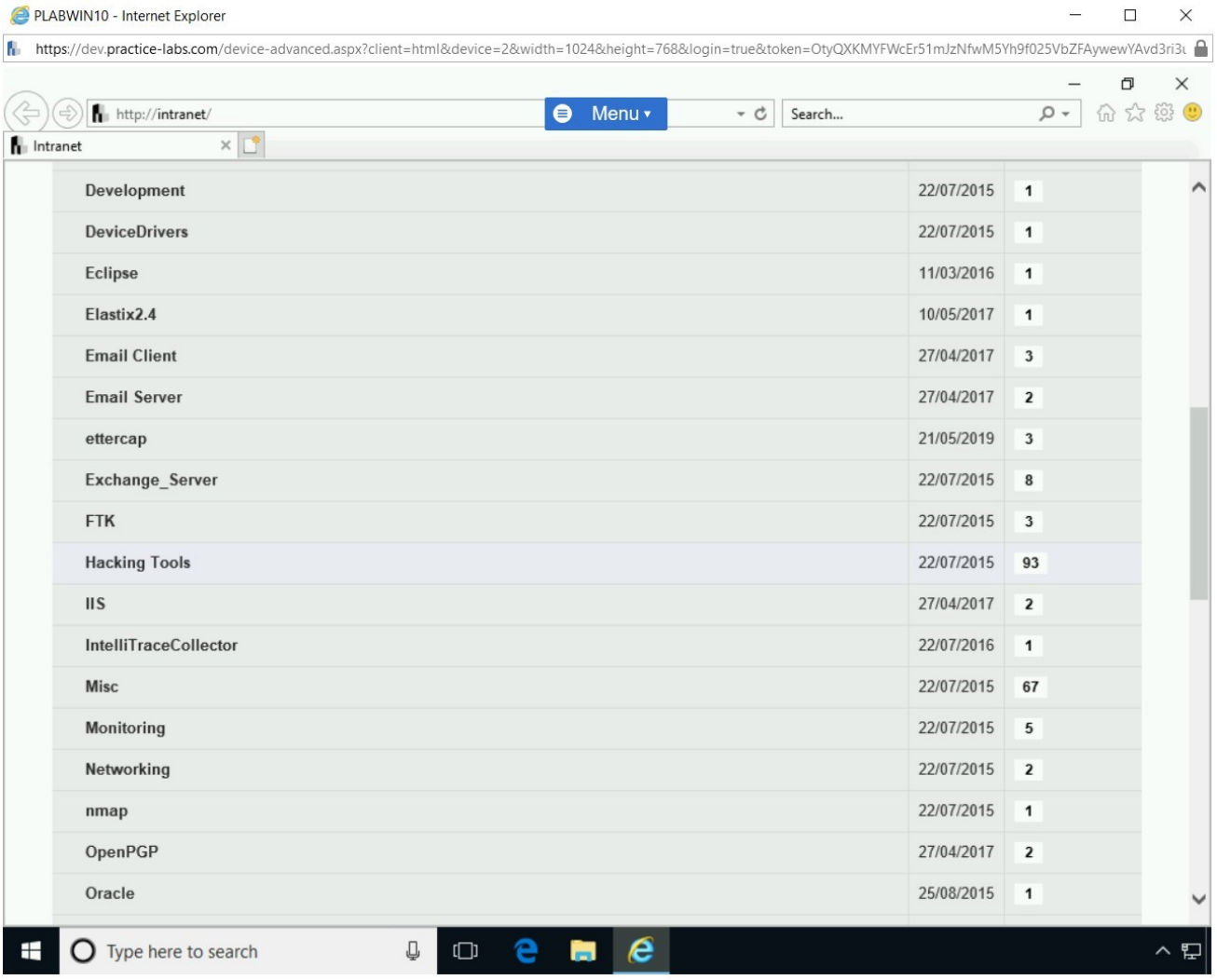


Figure 1.60 Screenshot of PLABWIN10: Clicking the Hacking Tools option.

Step 4

On the **[..] > Tools > Hacking Tools** page, scroll down the page and locate **silenteye-0.4.1-win32.exe**.

Click **silenteye-0.4.1-win32.exe**.

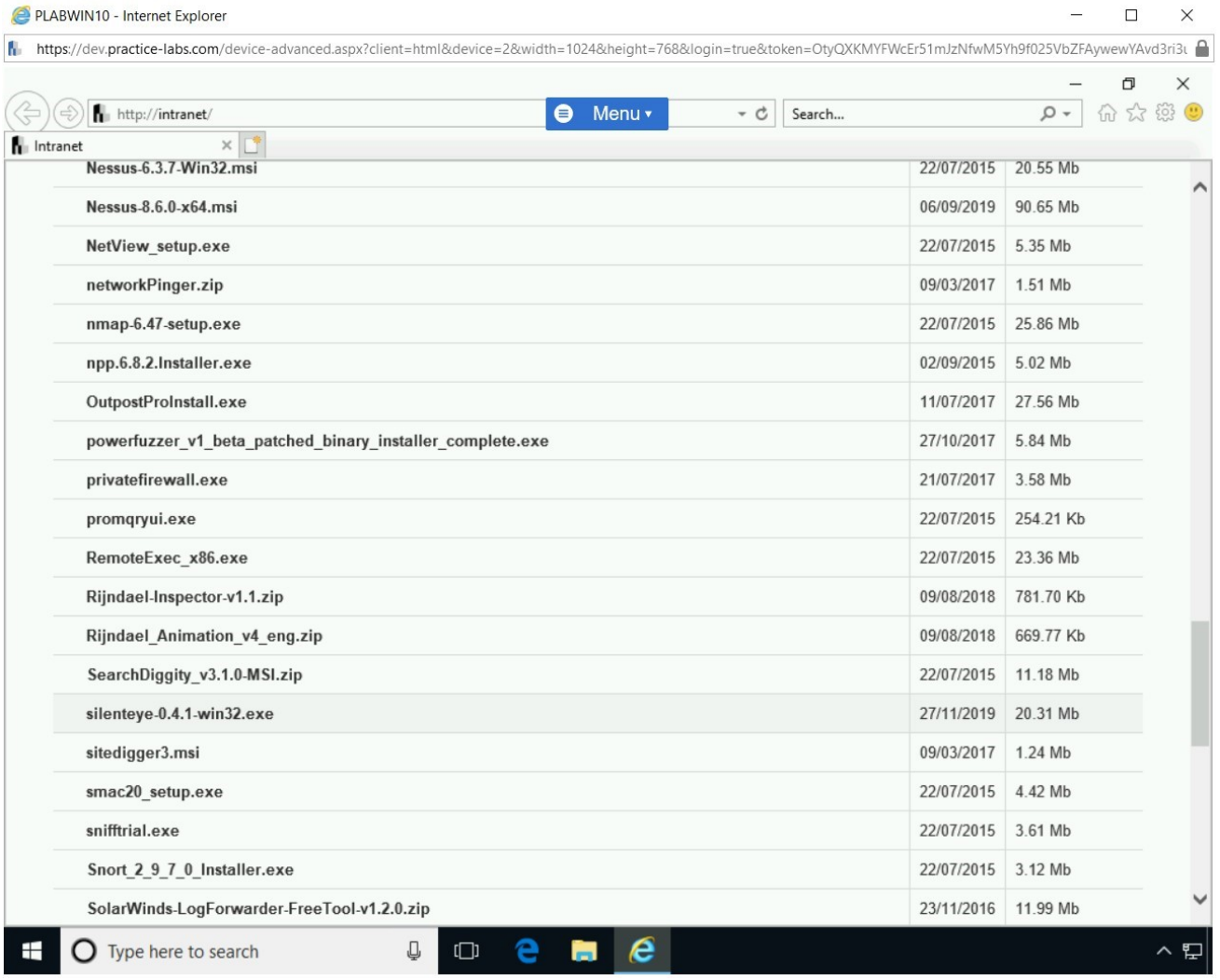


Figure 1.61 Screenshot of PLABWIN10: Clicking the silenteye-0.4.1-win32.exe option.

Step 5

In the notification bar, click **Run**.

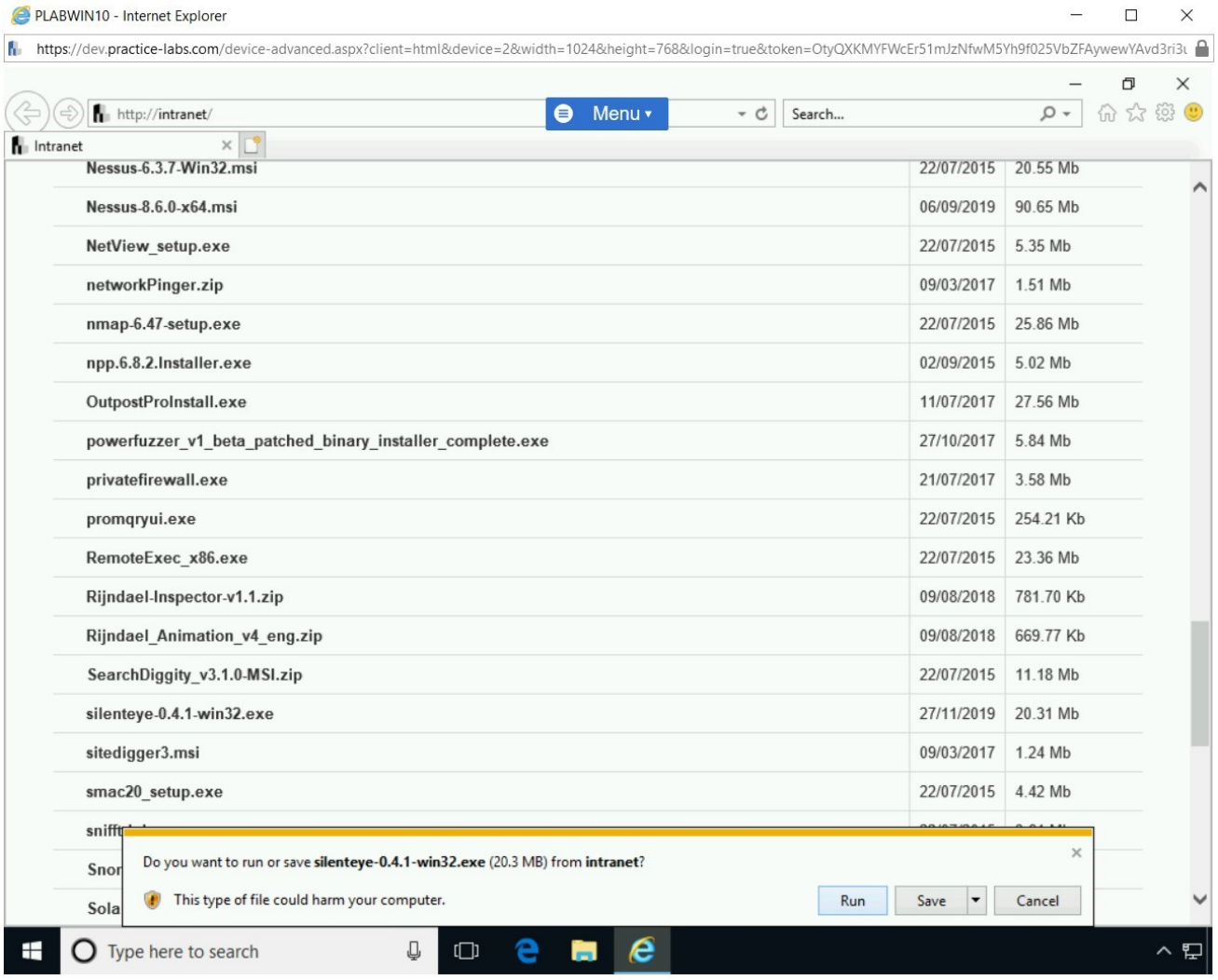


Figure 1.62 Screenshot of PLABWIN10: Clicking Run in the notification bar.

Step 6

The **SilentEye Setup** wizard is displayed. On the **Welcome to the SilentEye Setup Wizard** page, click **Next**.

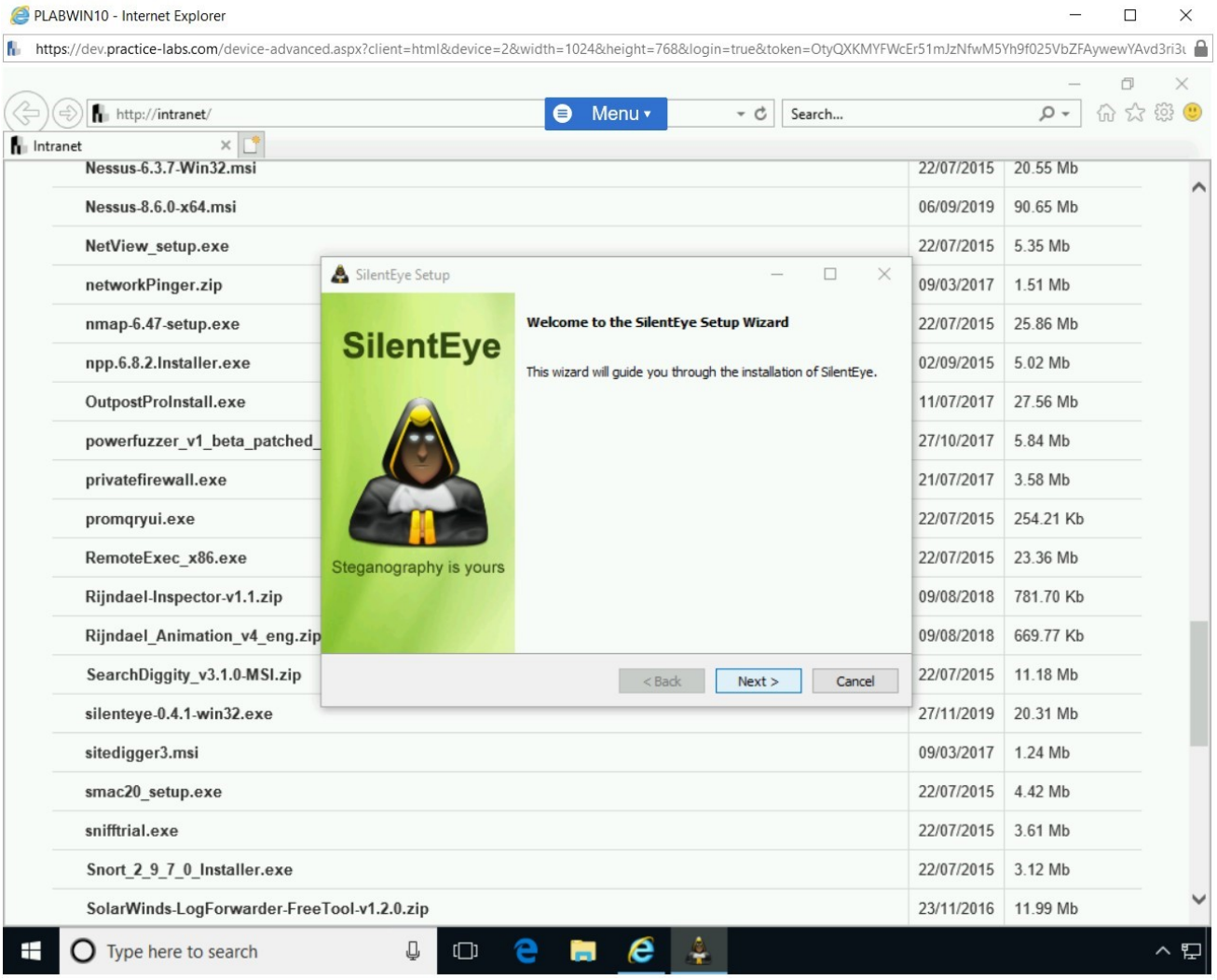


Figure 1.63 Screenshot of PLABWIN10: Showing the welcome page of the SilentEye Setup wizard.

Step 7

On the **License Agreement** page, select **I accept the agreement** and click **Next**.

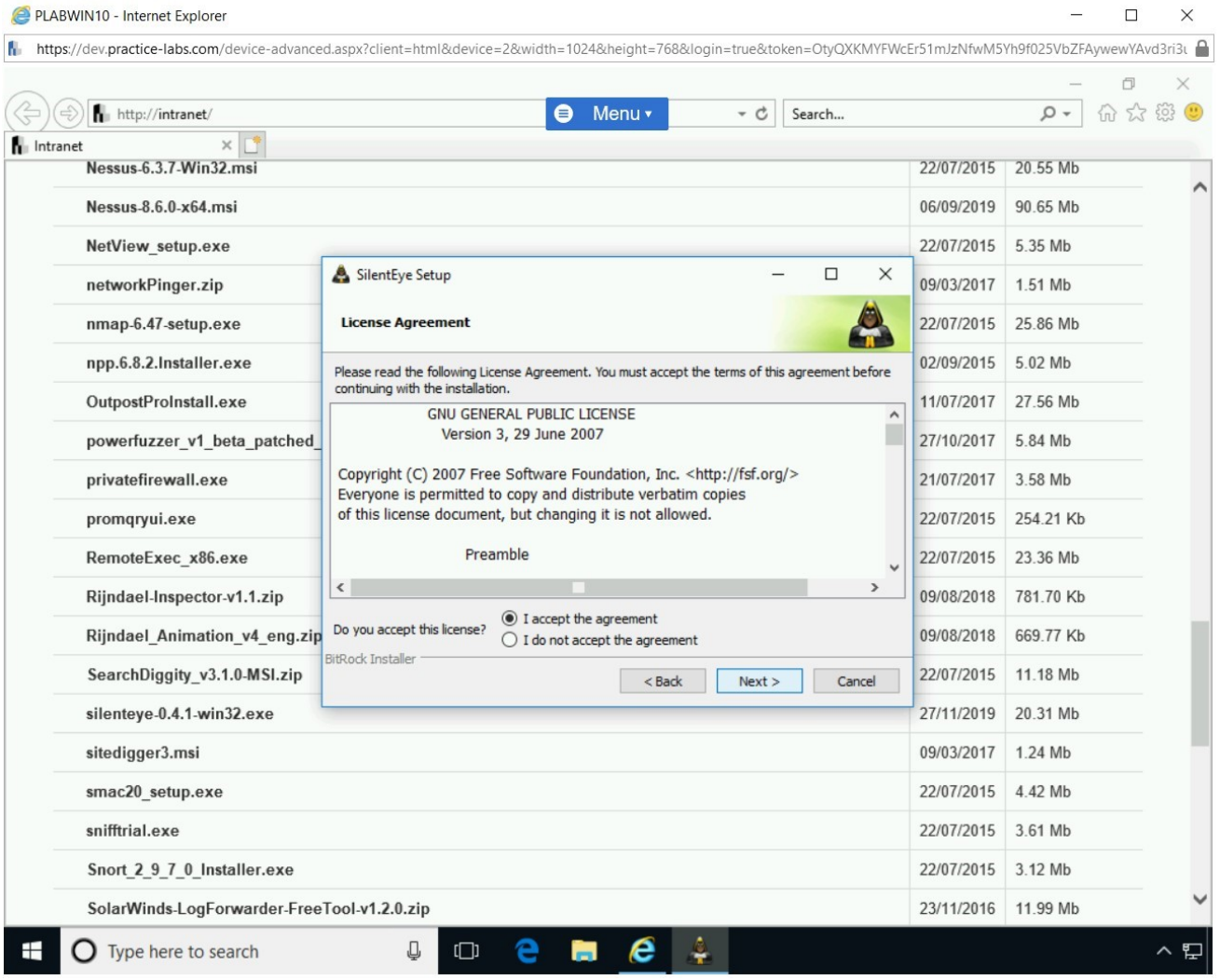


Figure 1.64 Screenshot of PLABWIN10: Accepting the license agreement on the License Agreement page.

Step 8

On the **Installation Directory** page, keep the default installation path and click **Next**.

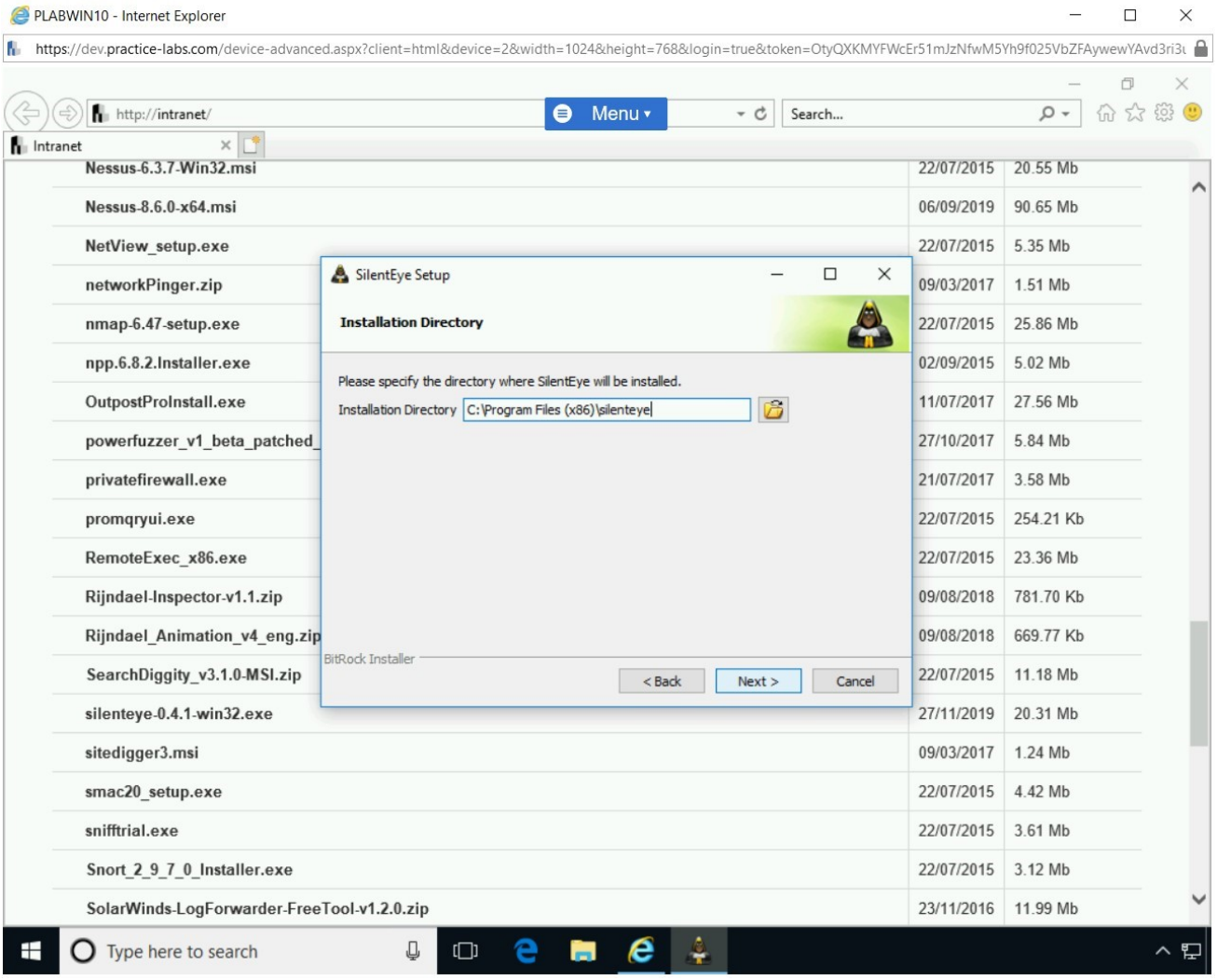


Figure 1.65 Screenshot of PLABWIN10: Accepting the default installation path on the Installation Directory page.

Step 9

On the **System Integration** page, the **Add SilentEye to start menu** and **Add SilentEye shortcut icon on desktop** options are selected by default. Select the remaining options and click **Next**.

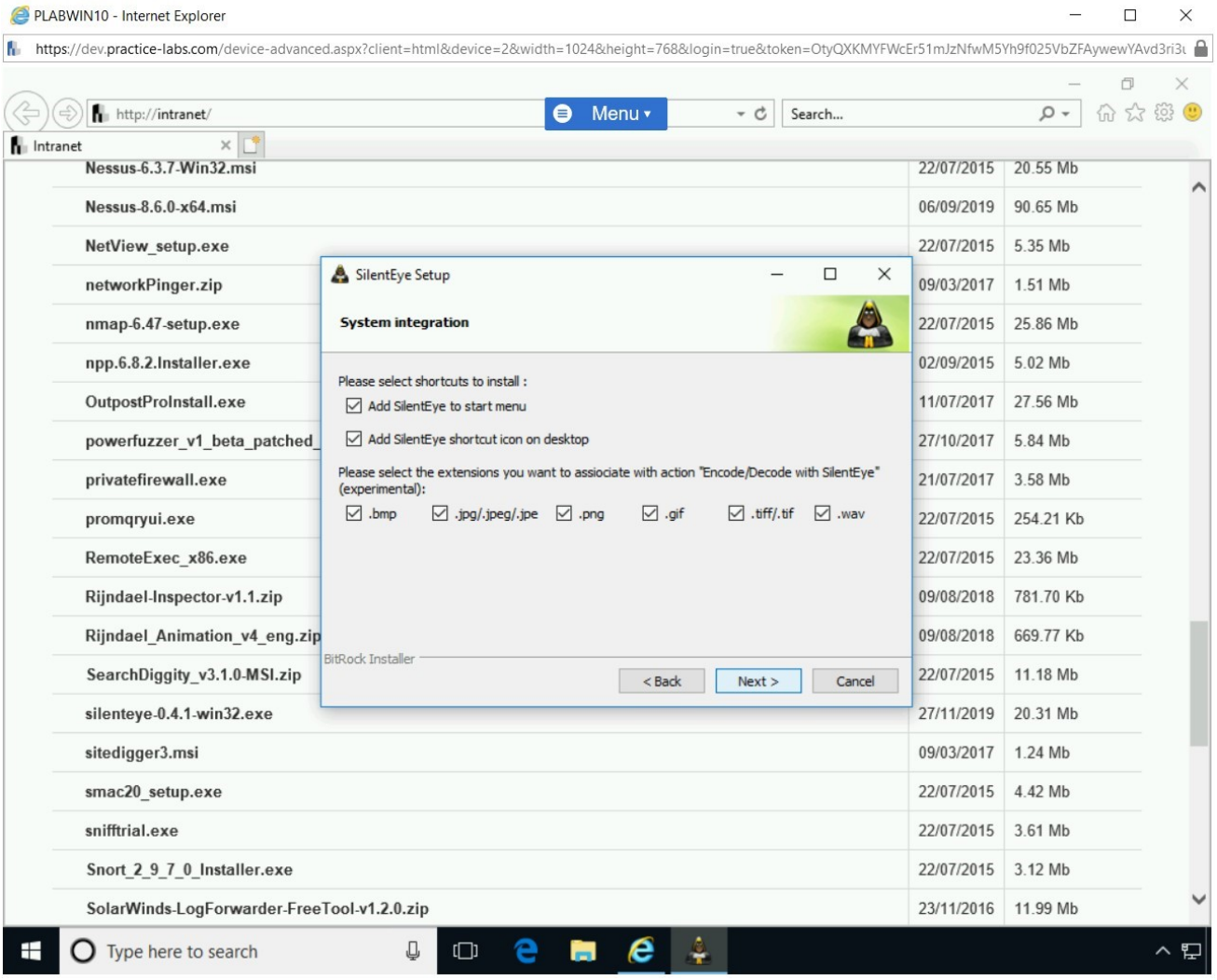


Figure 1.66 Screenshot of PLABWIN10: Selecting the appropriate options on the System Integration page.

Step 10

On the **Select Components** page, keep the default selection and click **Next**.

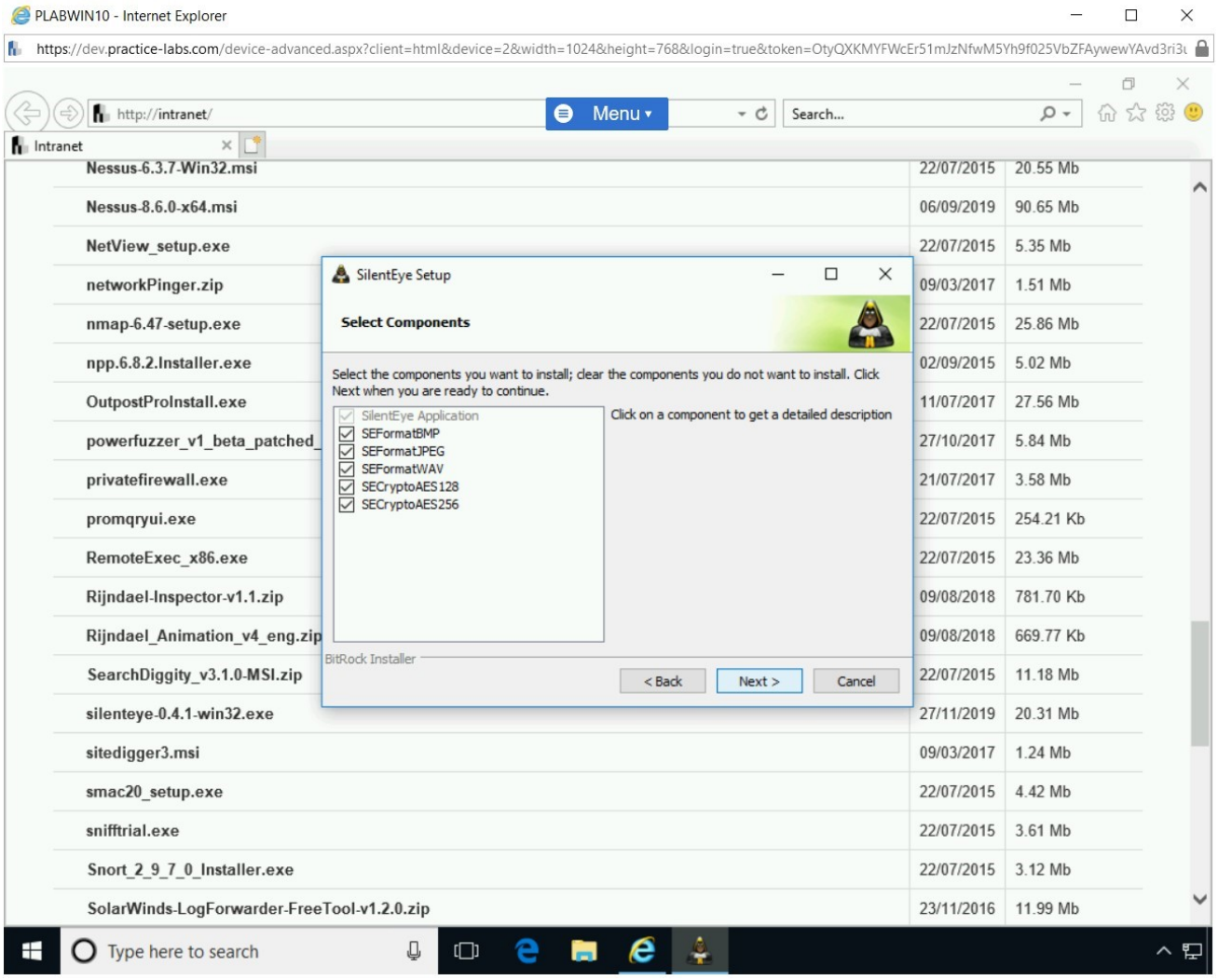


Figure 1.67 Screenshot of PLABWIN10: Accepting the defaults on the Select Components page.

Step 11

On the **Ready to Install** page, click **Next**.

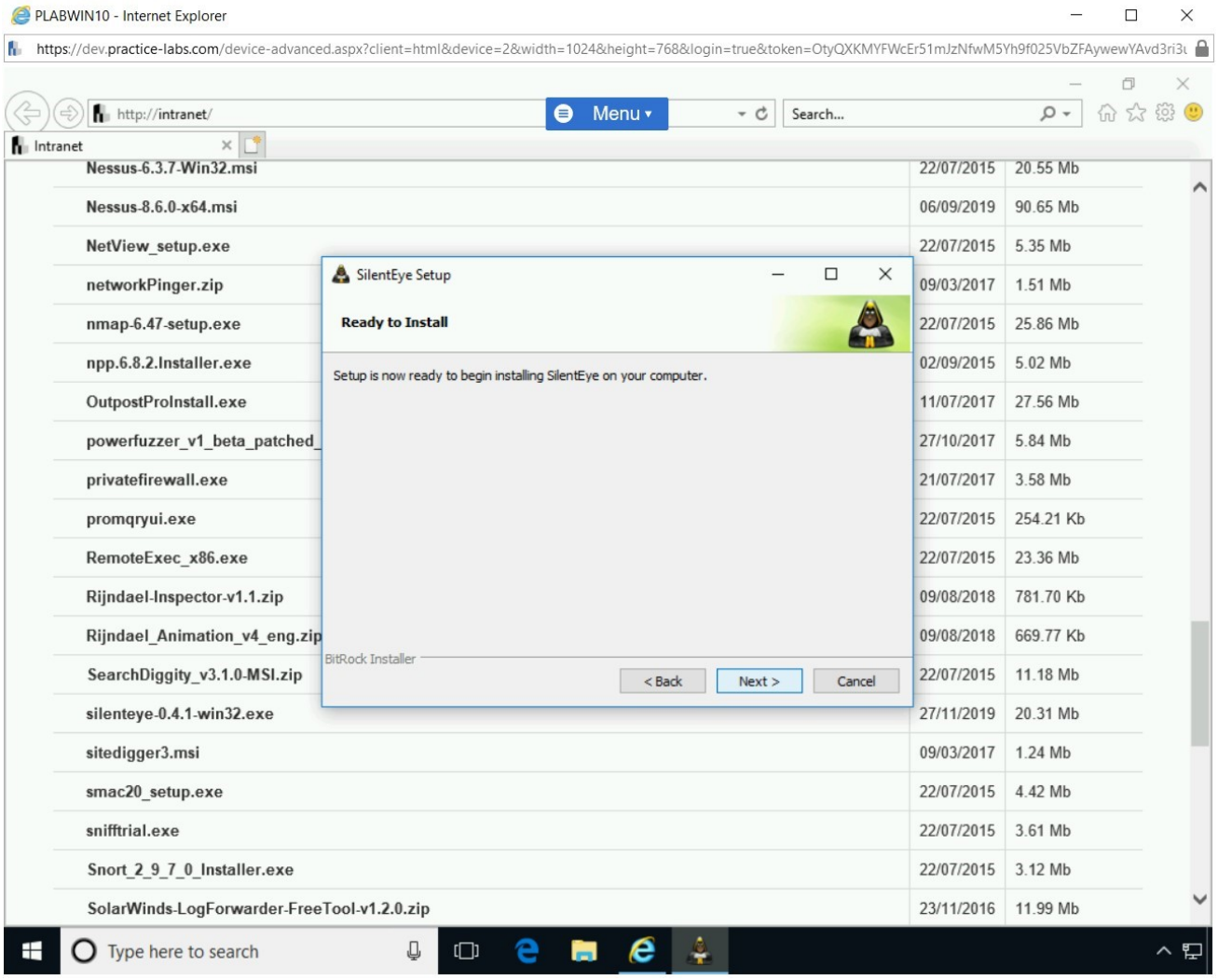


Figure 1.68 Screenshot of PLABWIN10: Clicking Next on the Ready to Install page.

Step 12

On the **Installing** page, the installation progress is displayed.

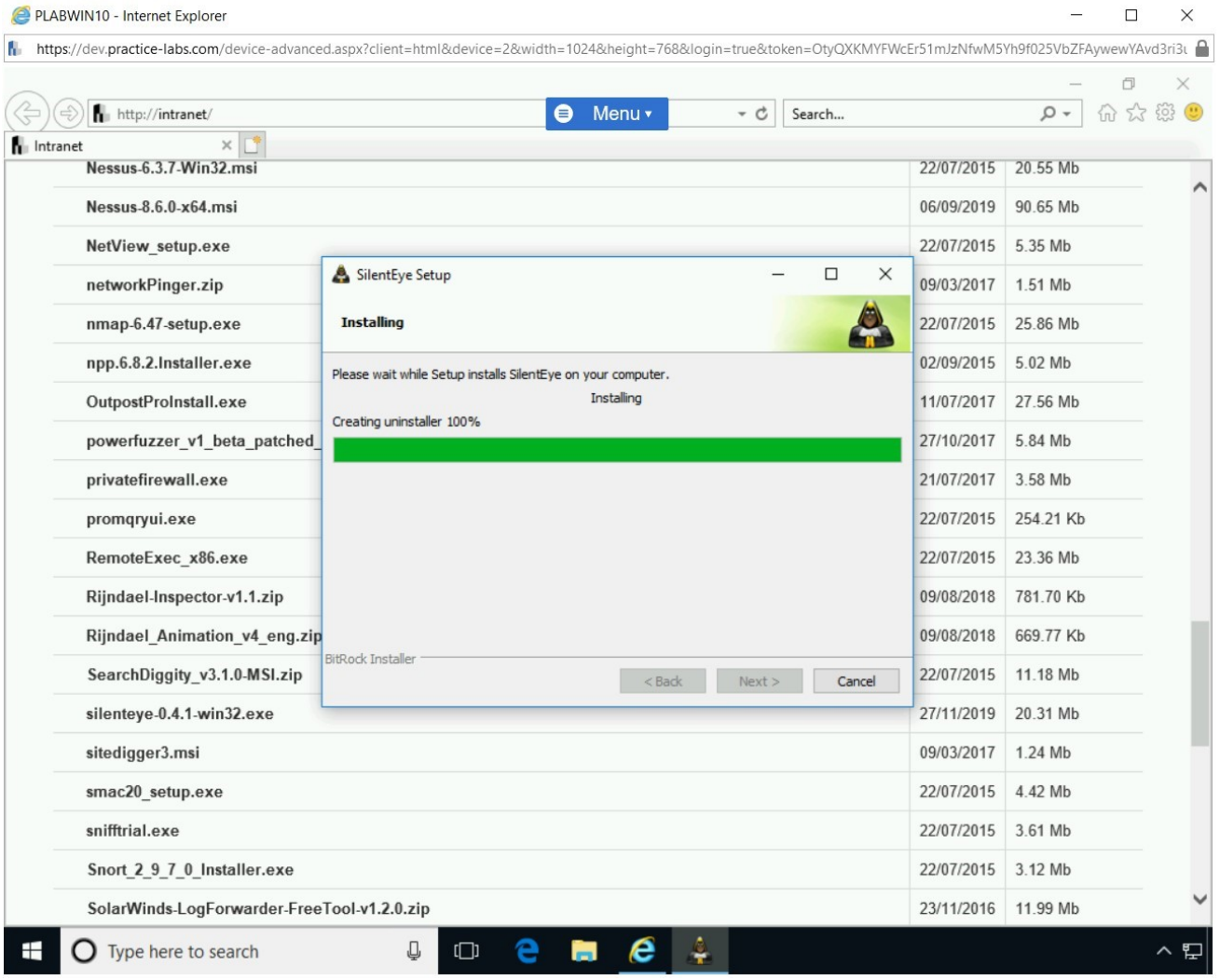


Figure 1.69 Screenshot of PLABWIN10: Showing the installation progress on the Installing page.

Step 13

On the **Completing the SilentEye Setup Wizard** page, keep the default selection and click **Finish**.

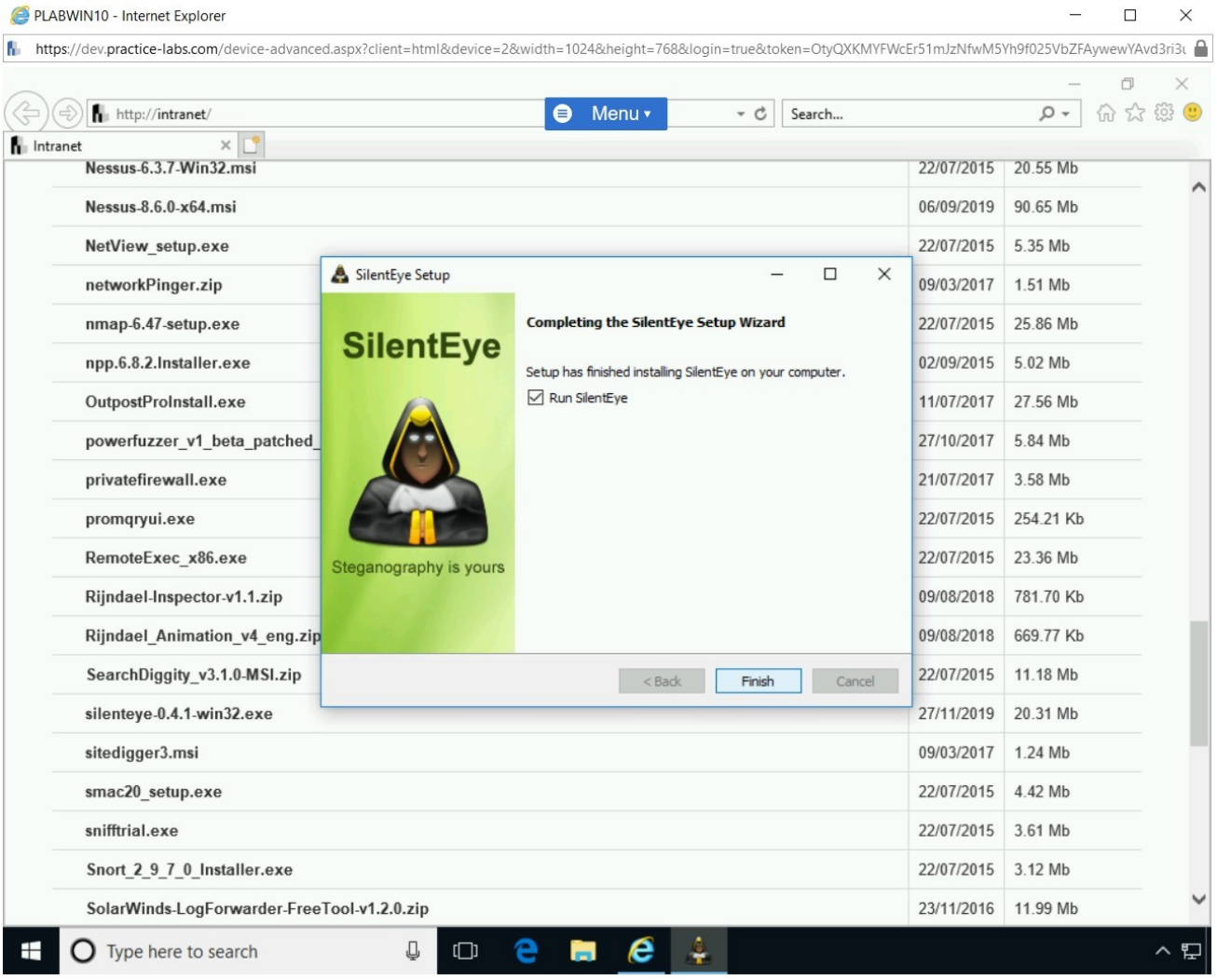


Figure 1.70 Screenshot of PLABWIN10: Showing the installation completion.

Step 14

The **SilentEye** application is invoked automatically. Minimize the **SilentEye** application. Close the **Internet Explorer** window.

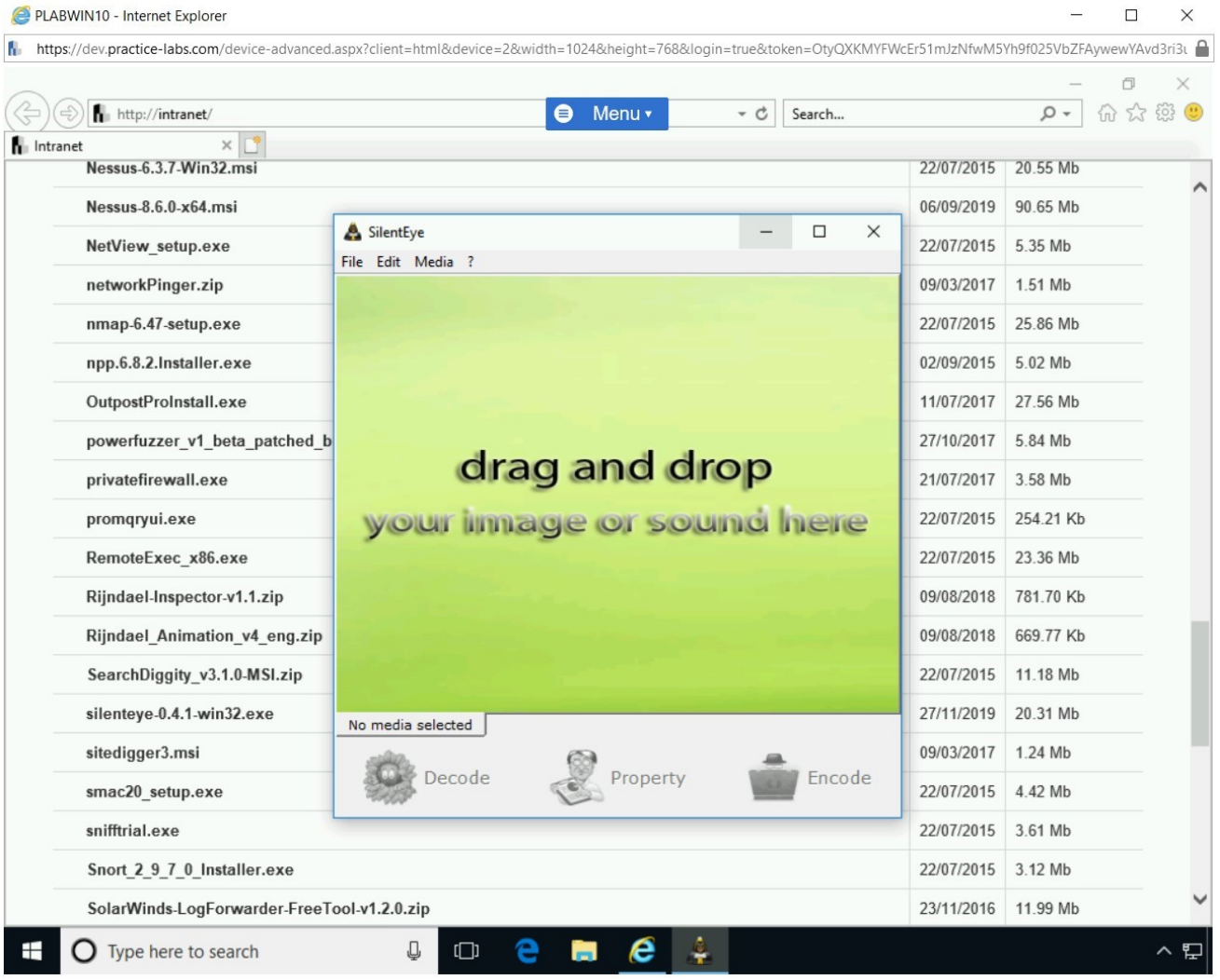


Figure 1.71 Screenshot of PLABWIN10: Showing the SilentEye dialog box and then minimizing it.

Step 15

Click **File Explorer** from the taskbar.

Navigate to **This PC > Local Disk (C:) > PLAB** directory.

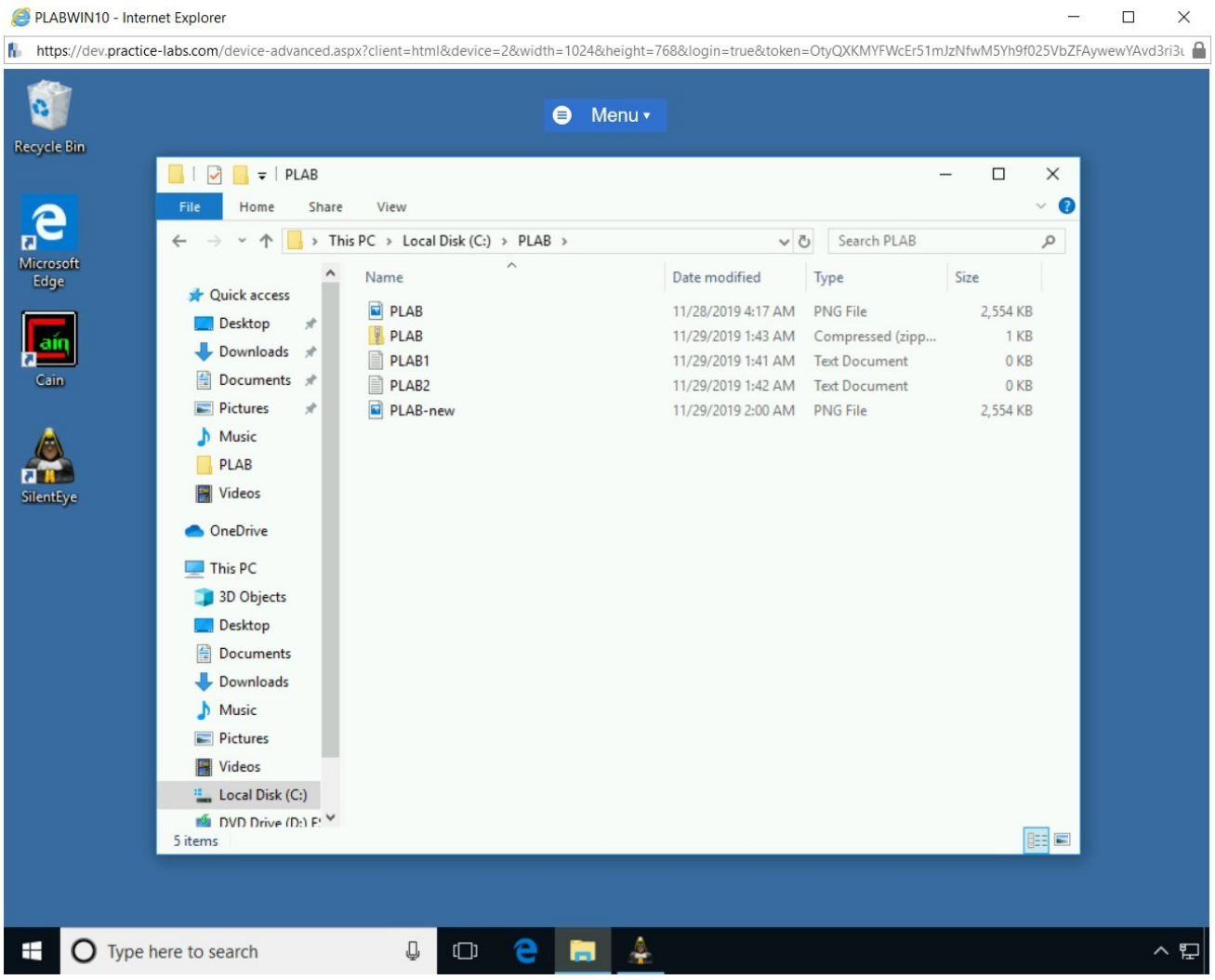


Figure 1.72 Screenshot of PLABWIN10: Navigating to the C:\PLAB directory.

Step 16

Right-click the **PLAB** image and select **Properties**.

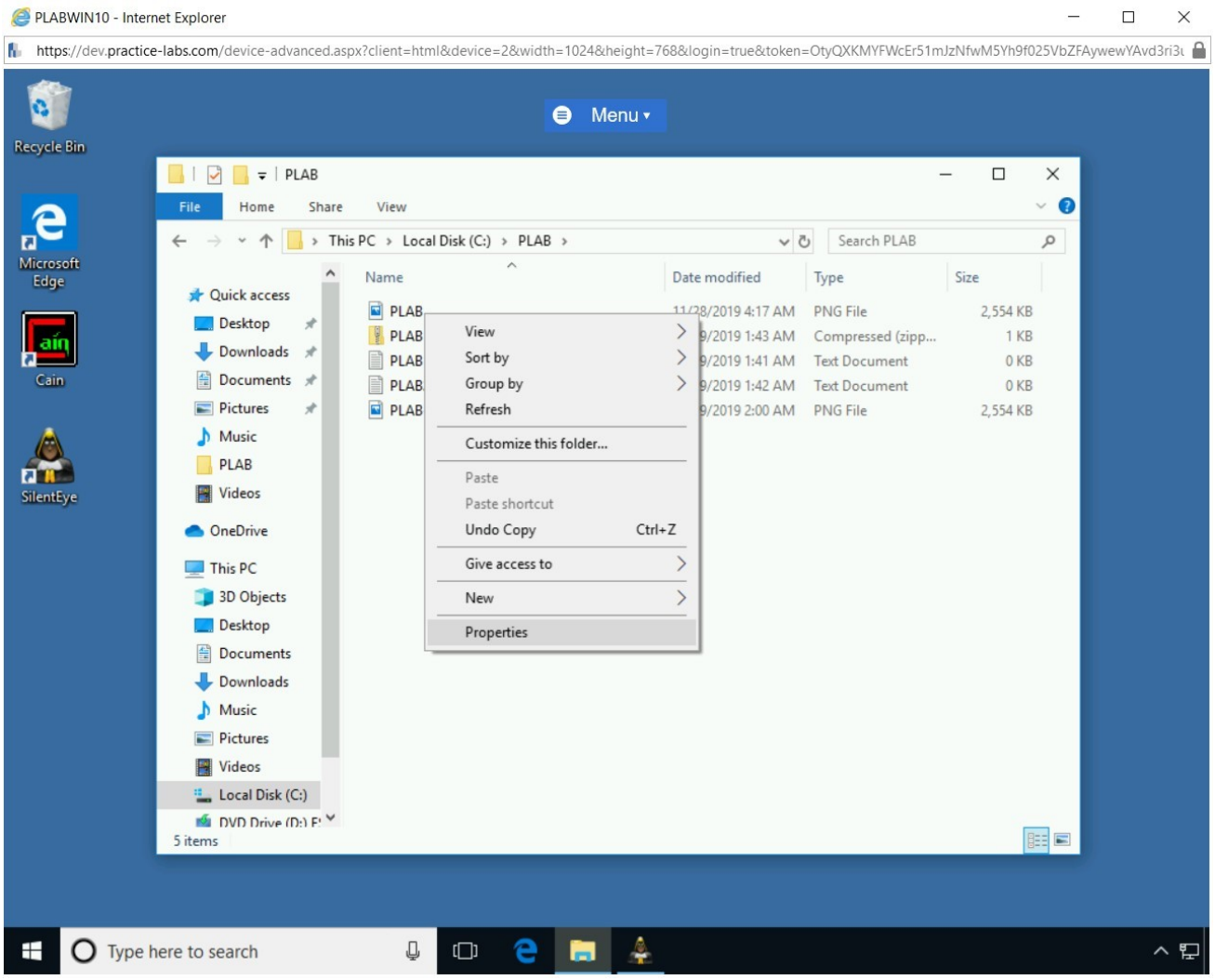


Figure 1.73 Screenshot of PLABWIN10: Right-clicking the PLAB image file and selecting Properties.

Step 17

The **PLAB Properties** dialog box is displayed. You need to make a note of the size and **Created**, **Modified**, and **Accessed** dates.

Click **OK**.

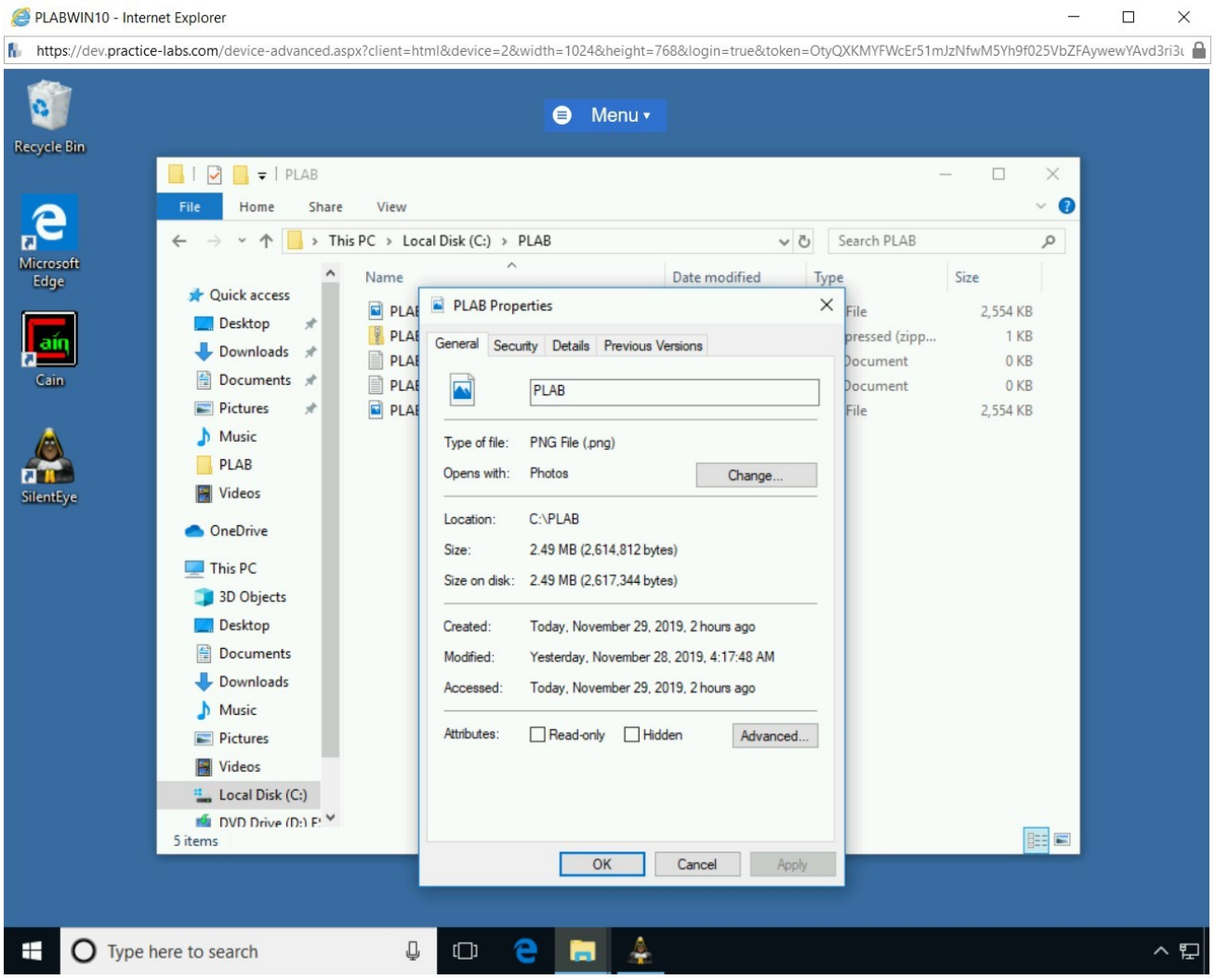


Figure 1.74 Screenshot of PLABWIN10: Showing the image properties and then closing the dialog box.

Step 18

Resume the **SilentEye** application from the taskbar. Drag-and-drop the **PLAB** file into the **SilentEye** window.

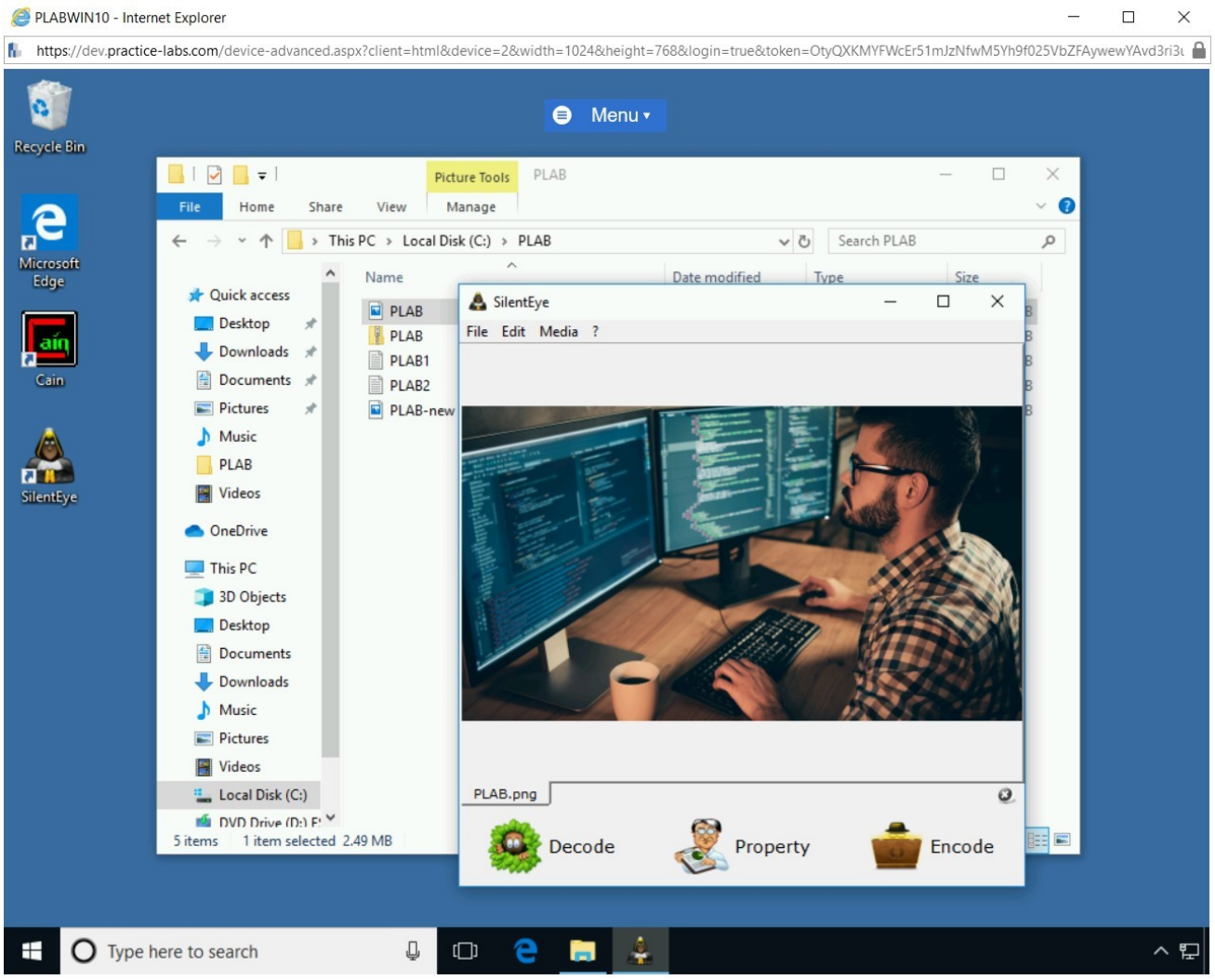


Figure 1.75 Screenshot of PLABWIN10: Dragging and dropping the image file on the SilentEye dialog box.

Step 19

Click the **Encode** option.

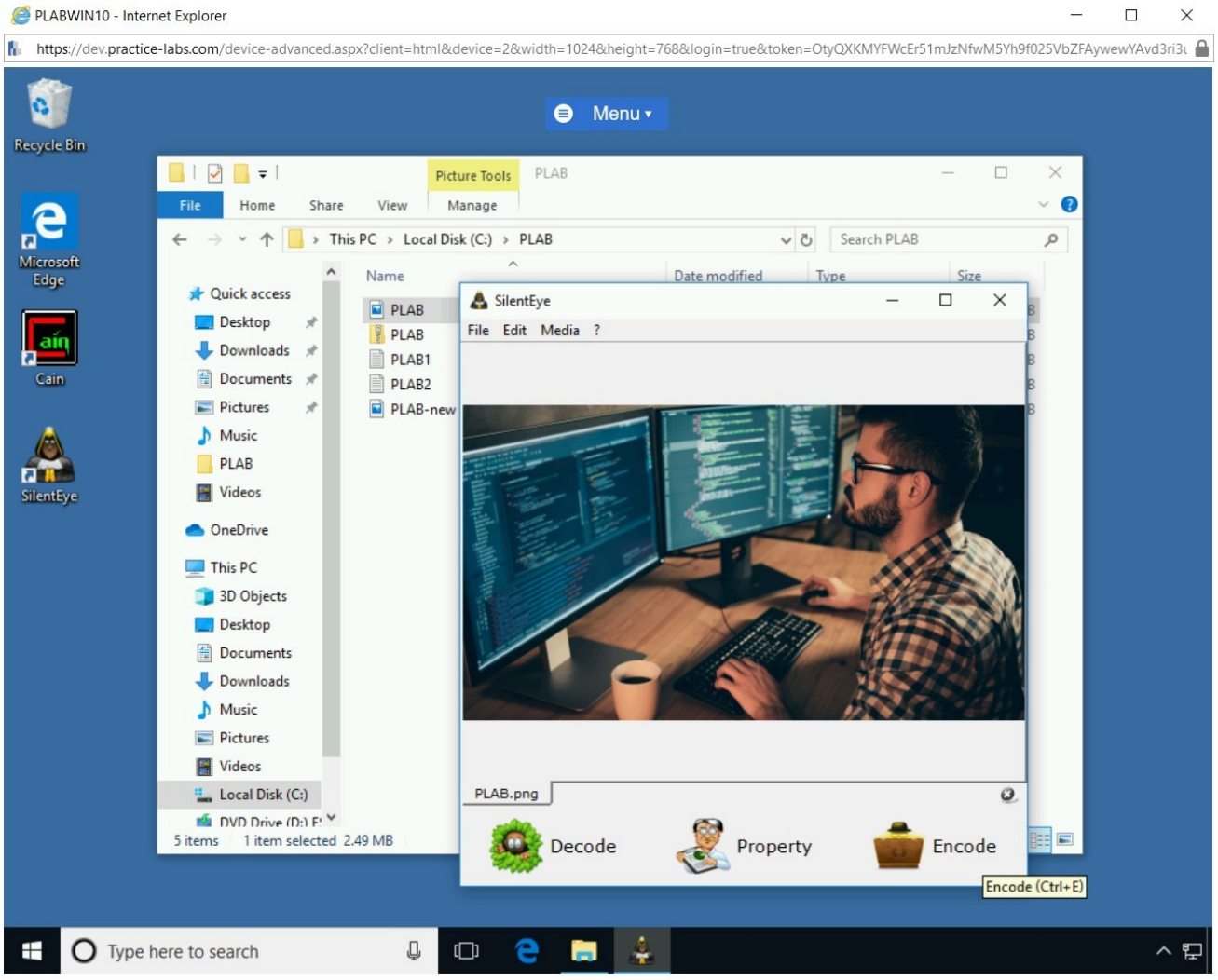


Figure 1.76 Screenshot of PLABWIN10: Clicking the Encode option.

Step 20

The **Encode message: C:/PLAB/PLAB.png** dialog box is displayed. In the **Write a message or select a file to hide** text box, type the following message:

```
This is a test!
```

In the **Destination** text box, set the path as following:

```
C:/Users/Administrator.PRACTICELABS/Desktop
```

Click the **Encode** button.

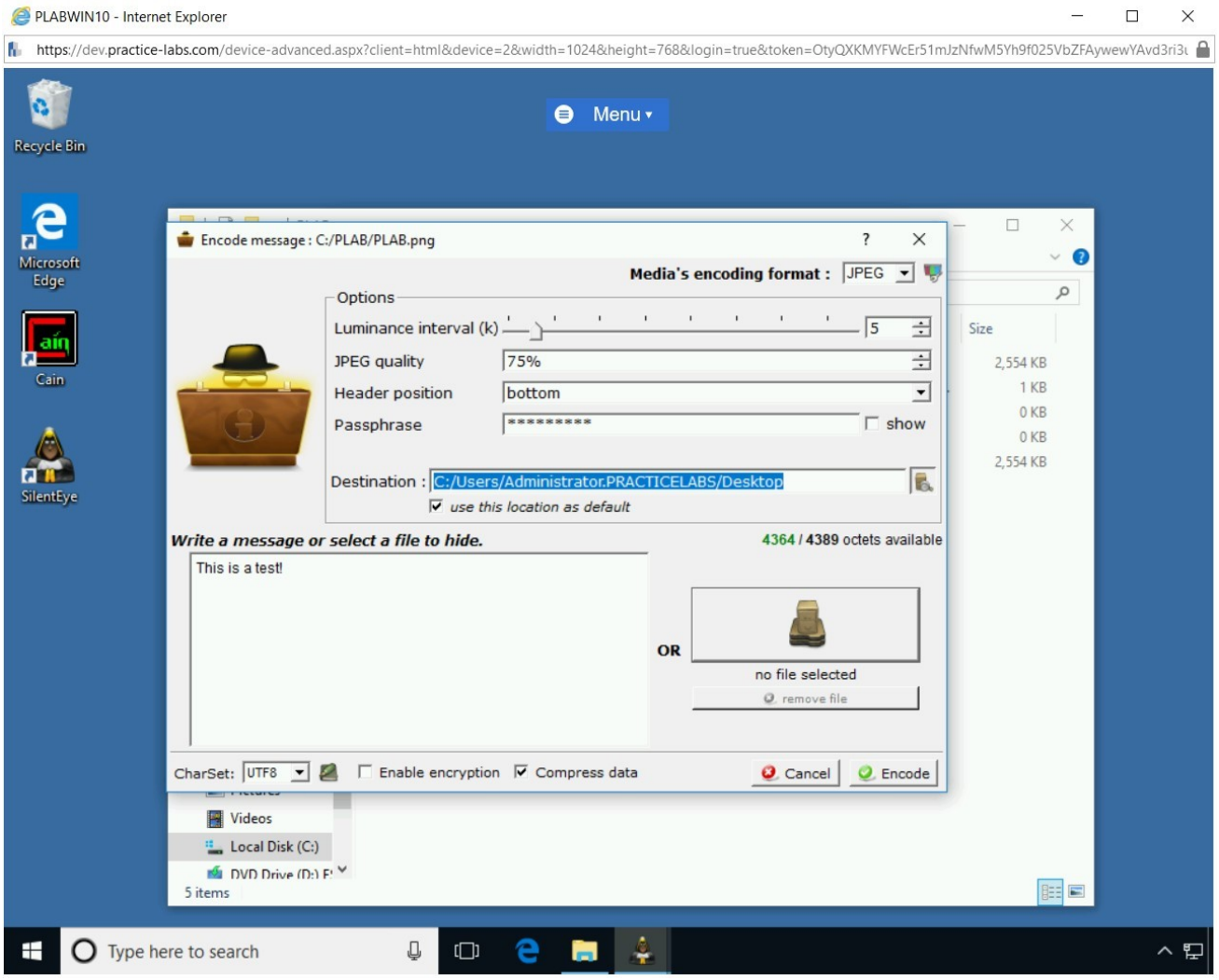


Figure 1.77 Screenshot of PLABWIN10: Entering the required details and clicking the Encode button.

Step 21

The **Encode message: C:/PLAB/PLAB.png** dialog box closes automatically. Notice that the **PLAB** image file is generated on the desktop.

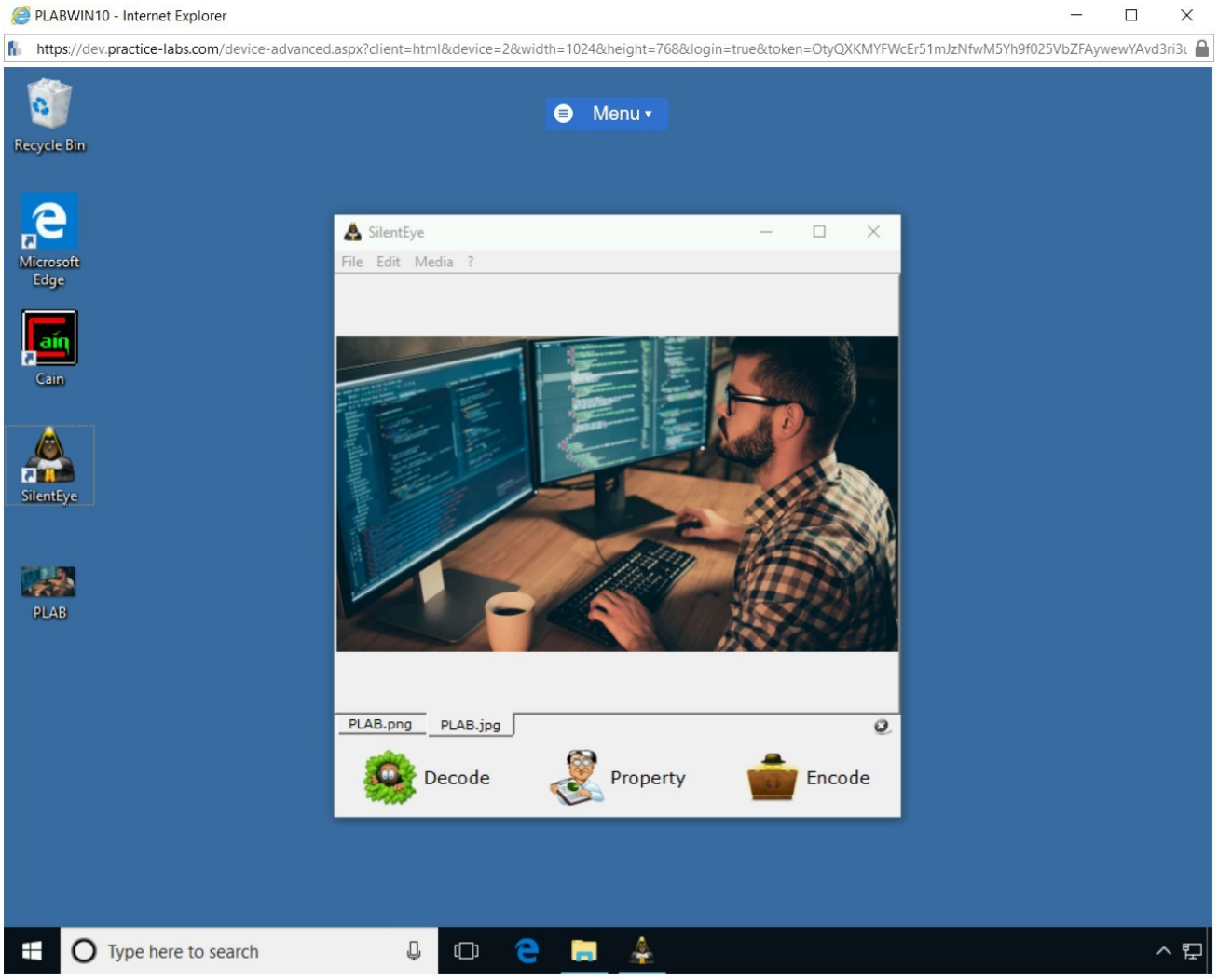


Figure 1.78 Screenshot of PLABWIN10: Showing a newly created image file on the desktop.

Step 22

On the desktop, right-click **PLAB** and select **Properties**.

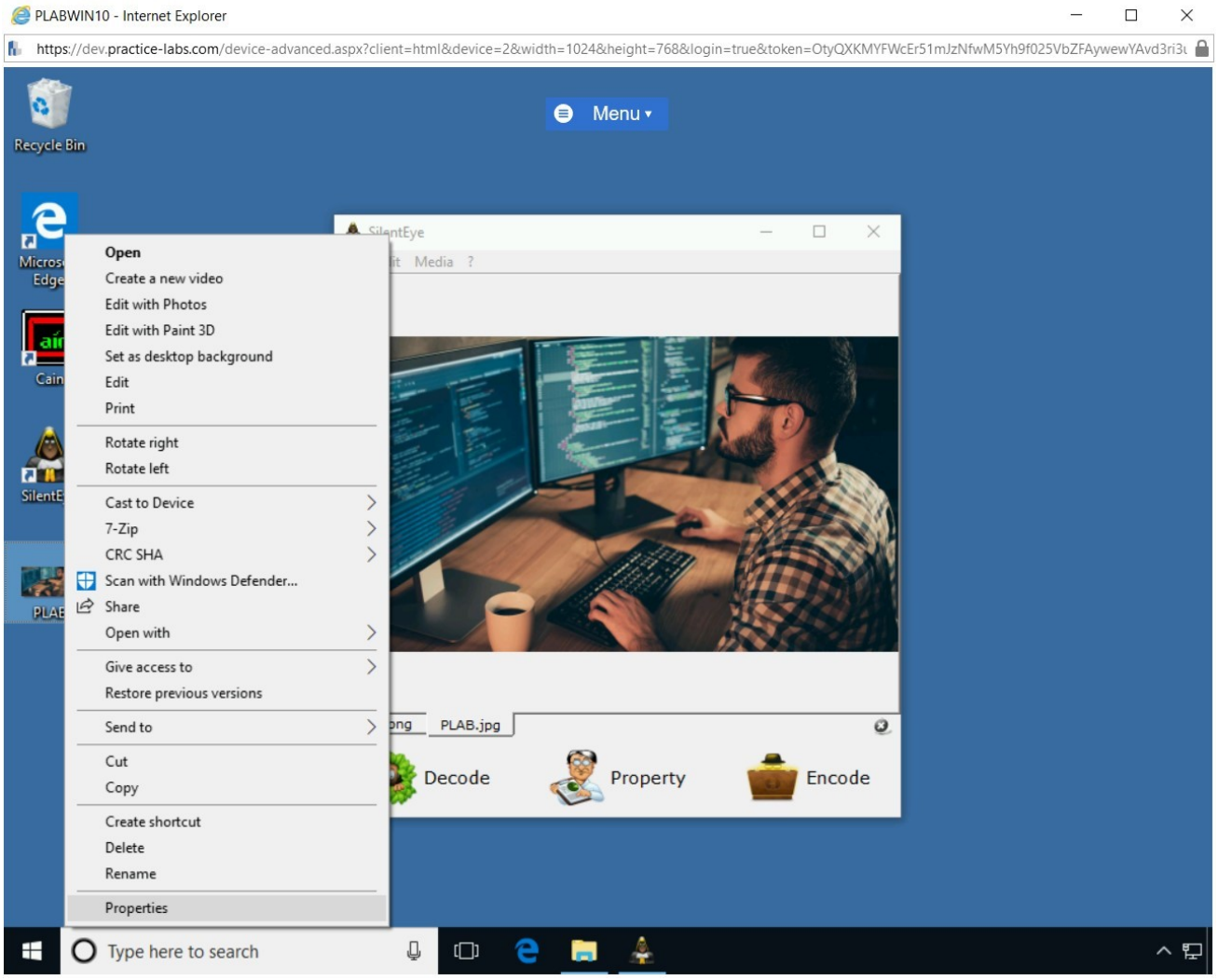


Figure 1.79 Screenshot of PLABWIN10: Right-clicking the image file and selecting Properties.

Step 23

The **PLAB Properties** dialog box is displayed. Notice that its **Created**, **Modified**, and **Accessed** attributes have changed now.

Click **OK** to close the **PLAB Properties** dialog box.

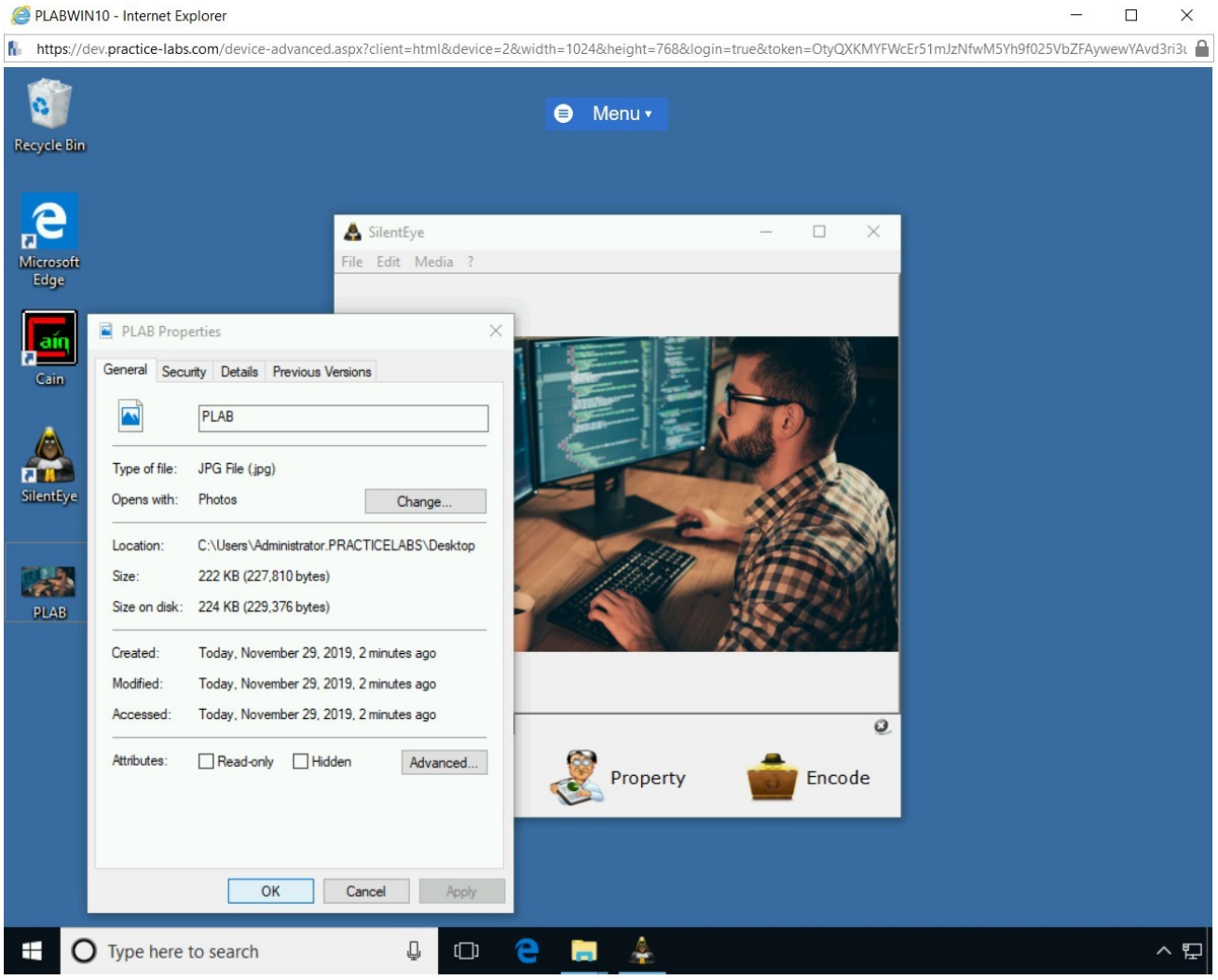


Figure 1.80 Screenshot of PLABWIN10: Showing the image properties and then closing the dialog box.

Close Silent Eye.

Review

Well done, you have completed the **Steganography** Practice Lab.

Summary

You completed the following exercises:

- Exercise 1- Hide Documents Using Steganography

You should now be able to:

- Hide Documents in an Image
- Use Steghide to Hide Data in an Image
- Use Stegosuite to Hide Data in an Image
- Use SilentEye to Hide Information within a File

Feedback

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