CompTIA A+

Microsoft Windows System Utilities

Introduction

Windows system utilities
A+
Microsoft
Dxdiag
MSinfo32
MSTSC
MMC

Welcome to the **Microsoft Windows System Utilities** 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 exercise:

- Exercise 1 - Get to know Various System Utilities

After completing this lab, you will be able to:

- Explore Registry Editor
- Use the Services Console
- Use the Microsoft Terminal Services Client (MSTSC)
- Use Notepad

- Use File Explorer
- Use MSinfo32
- Use the Microsoft Management Console (MMC)
- Use Dxdiag
- Use the Defragment and Optimize Drives Utility
- Use Windows Update

Exam Objectives

The following exam objectives are covered in this lab:

- **220-1002:** 1.8 Getting to know Microsoft system utilities

> ***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.
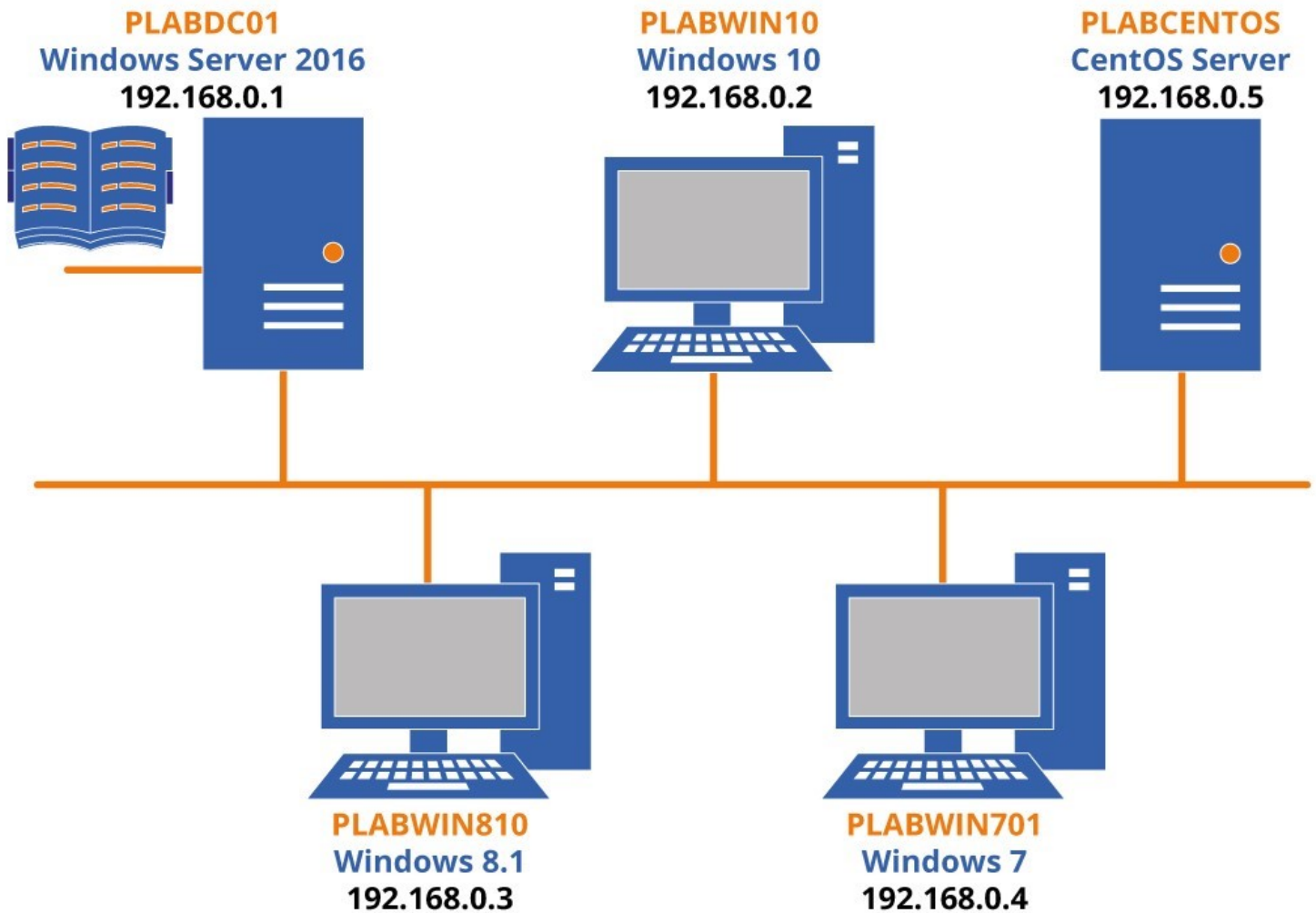
Help and Support

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 2016 - Domain Controller)
- **PLABWIN10 -** (Windows 10 - Domain Member)
- **PLABCENTOS -** (CentOS Server)
- **PLABWIN810 -** (Windows 8.1 - Domain Member)
- **PLABWIN701 -** (Windows 7 - Domain Member)

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

Exercise 1 - Get to Know Various System Utilities

System utilities are a set of programs that help a user manage and personalize a system according to his or her needs. A utility program is different from typical application software. A utility program is generally small and performs a specific task. For example, Remote Desktop Program (RDP) can be considered a utility program, which is designed to connect with a remote computer. Similarly, the registry editor is meant to edit the registry. Each of these work in isolation in most cases. However, some of these utilities can also be linked a common purpose utility, such as Computer Management.

In this exercise, you will work with RDP and connect computers remotely.

Learning Outcomes

After completing this exercise, you will be able to:

- Explore Registry Editor
- Use the Services Console
- Use the Microsoft Terminal Services Client (MSTSC)
- Use Notepad
- Use File Explorer
- Use MSinfo32
- Use the Microsoft Management Console (MMC)
- Use Dxdiag
- Use the Defragment and Optimize Drives Utility
- Use Windows Update

Your Devices

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

- **PLABWIN10 -** (Windows 10 - Domain Member)
- **PLABWIN810 -** (Windows 8.1 - Domain Member)

PLABWIN10
Windows 10
192.168.0.2

PLABWIN810
Windows 8.1
192.168.0.3

Task 1 - Explore Registry Editor

The registry editor allows you to view, update, and search for Windows registry settings. Windows registry is a database that contains various Windows configuration settings. Using the Registry Editor, you can modify, add, or delete settings. However, changes to these settings should be made with caution. A single wrong edit to the registry can stop the functioning of the computer.

In this task, you will explore **Registry Editor**.

Step 1

Ensure **PLABWIN10** is powered on and connected.

The desktop is displayed.

In the **Type here to search** textbox in the taskbar and type the following command:

```
regedit
```

Click on the **regedit** result.
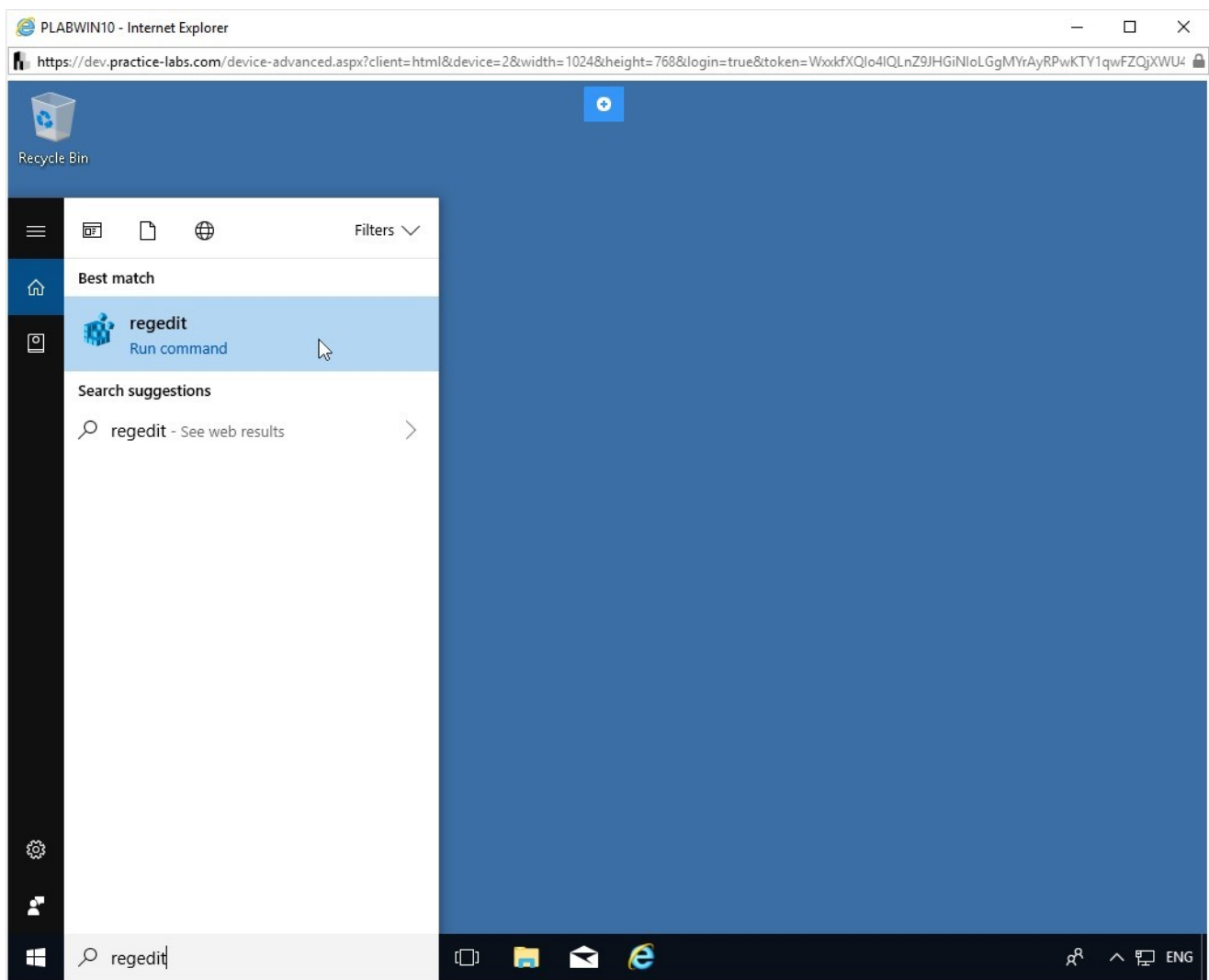
Figure 1.1 Screenshot of PLABWIN10: Selecting regedit from the search.

Step 2

The **Registry Editor** window is displayed. It is important to note that other than the system configuration settings, **Windows Registry** also stores information, such as installed applications, security settings, and drivers information.

Notice that there are various root keys, which are:

- **HKCR (HKEY_CLASSES_ROOT):** Contains the information about various file types, file extensions, and OLE.
- **HKCU (HKEY_CURRENT_USER):** Contains information about the currently logged in user and the settings assigned to the user.
- **HKLM (HKEY_LOCAL_MACHINE):** Contains hardware and software settings that are specific to the system. This is the most used registry key.

- **HKU (HKEY_USERS):** Contains information about the users who have logged on to the system. Both, generic and user-specific, information is contained in this registry key.
- **HKEY_CURRENT_CONFIG (HKCC):** Contains the system hardware information.
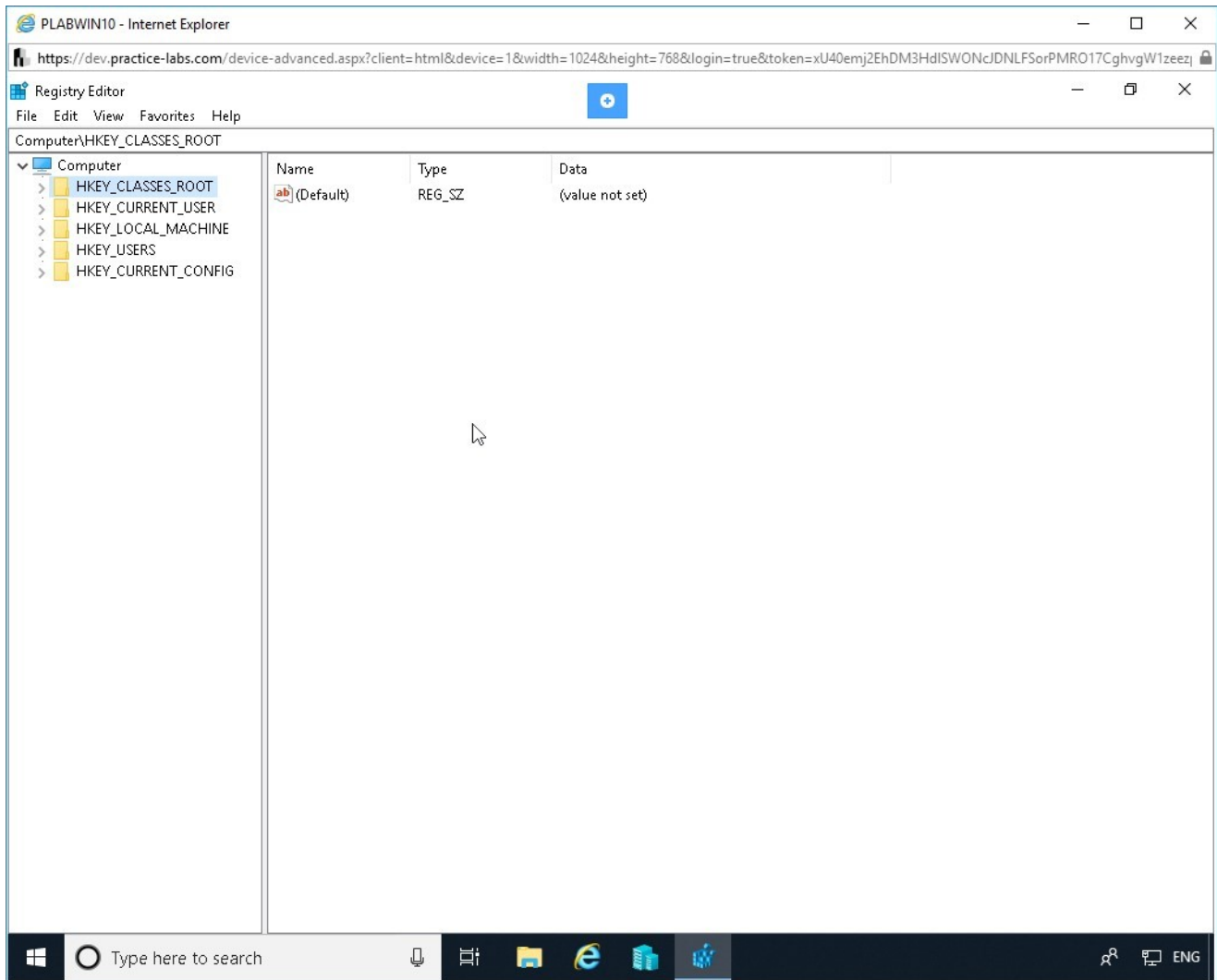
Figure 1.2 Screenshot of PLABWIN10: Showing the Registry Editor window.

Step 3

In the left pane, under **Computer**, select the folder named **HKEY_CLASSES_ROOT**.

In the right pane, right-click the **(Default)** key and select **Modify**.
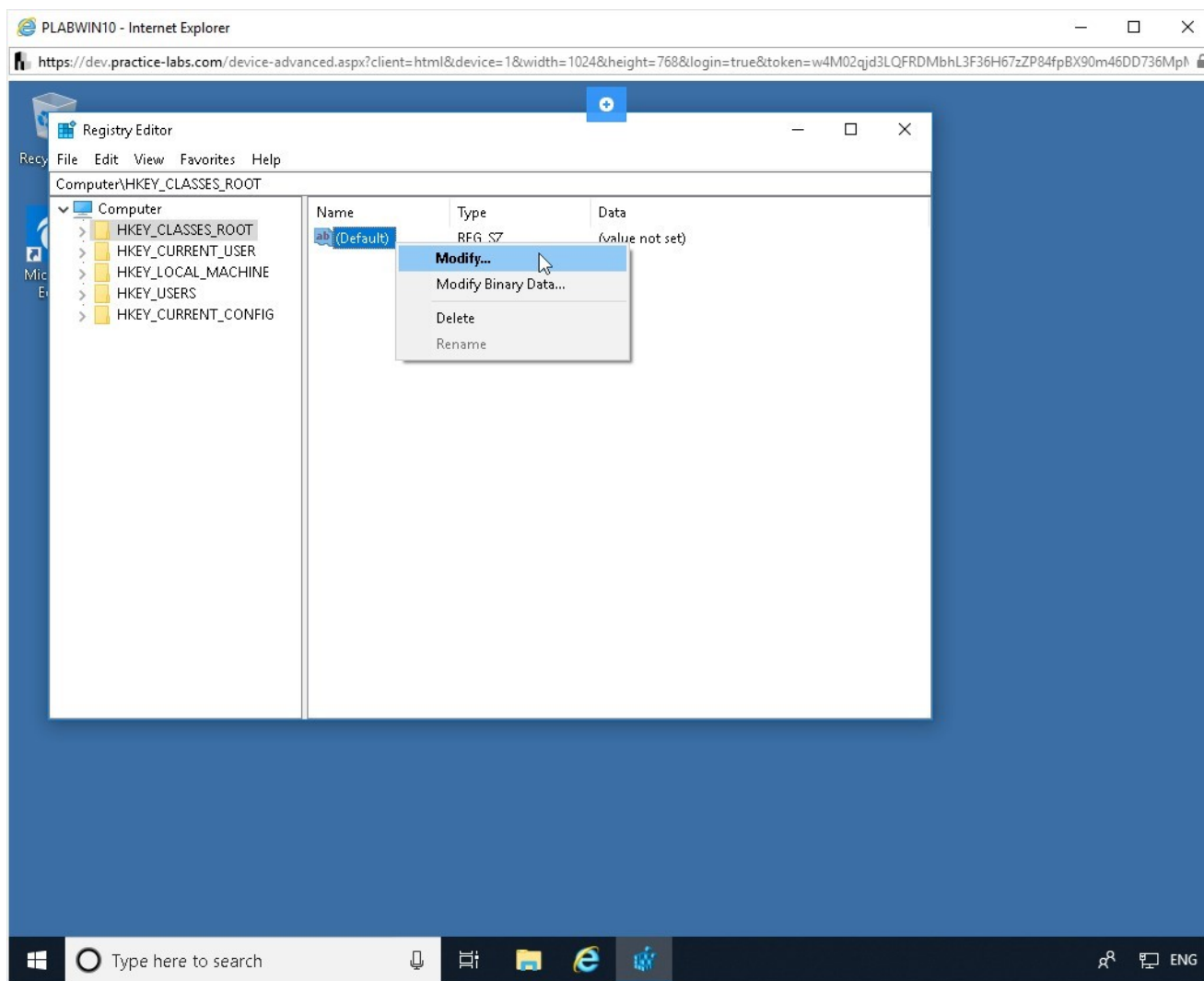
Figure 1.3 Screenshot of PLABWIN10: Right-clicking the (Default) key and then selecting the Modify option from the context menu.

Step 4

The **Edit String** dialog box appears.

By filling in the **Value data** field, a new value can be assigned to the file.

> *Note: For this task, you should not make any changes to the registry. Any unwanted change can cause system issues.*

Close the **Edit String** dialog box. You are now back on the Registry Editor window.
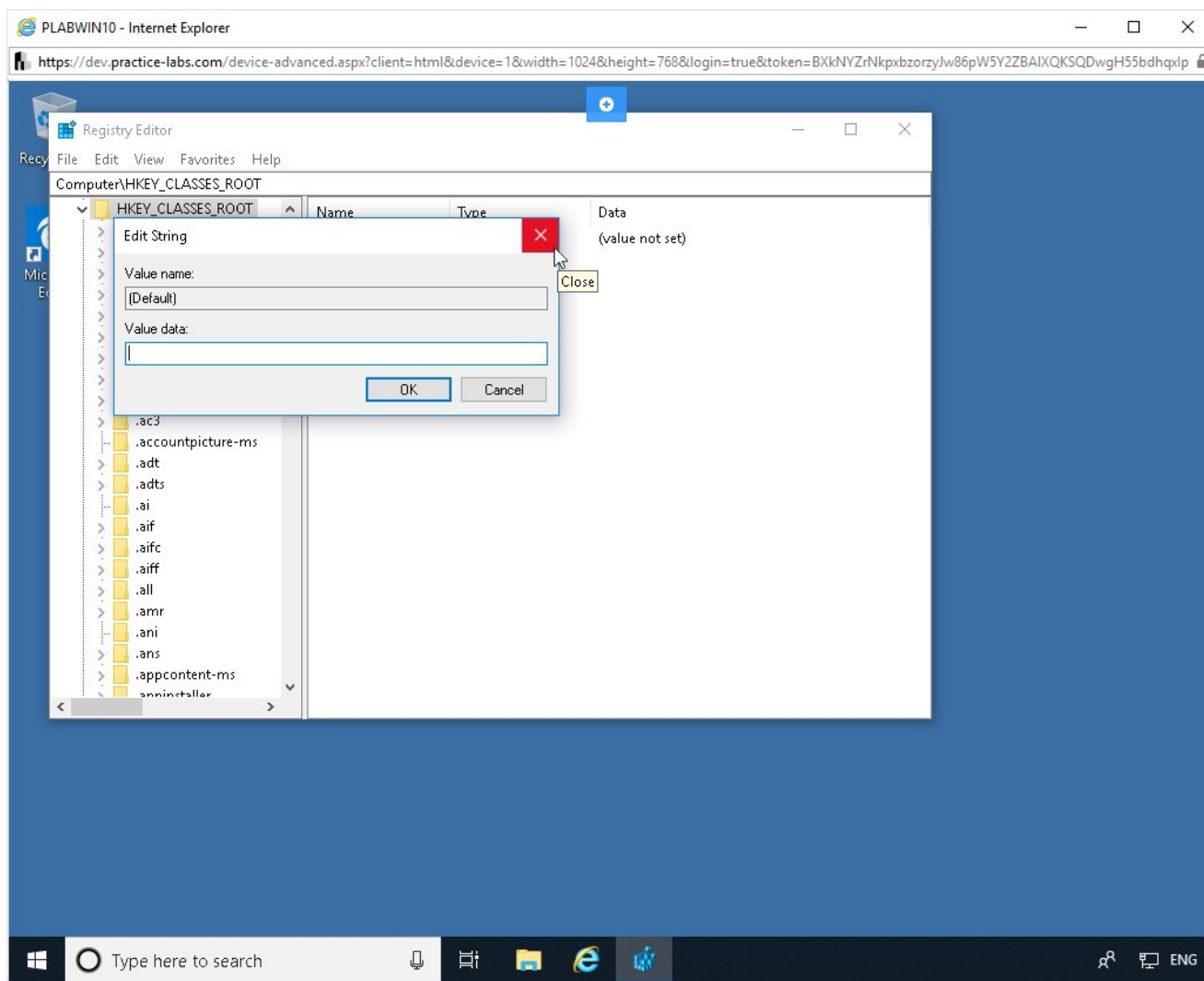
Figure 1.4 Screenshot of PLABWIN10: Showing the Edit String dialog box with no value mentioned in the Value data textbox.

Step 5

Right-click in the right-hand pane, select **New** and then select **Key**.

Adding a new key in the registry is simple as long as you are aware of what needs to be added. Any unwanted key or a key with the wrong value can cause system issues, such as a non-bootable system.

> **Note:** *For this task, you should not make any changes to the registry. Any unwanted change can cause system issues.*

Close the **Edit String** dialog box. You are now back on the **Registry Editor** window.
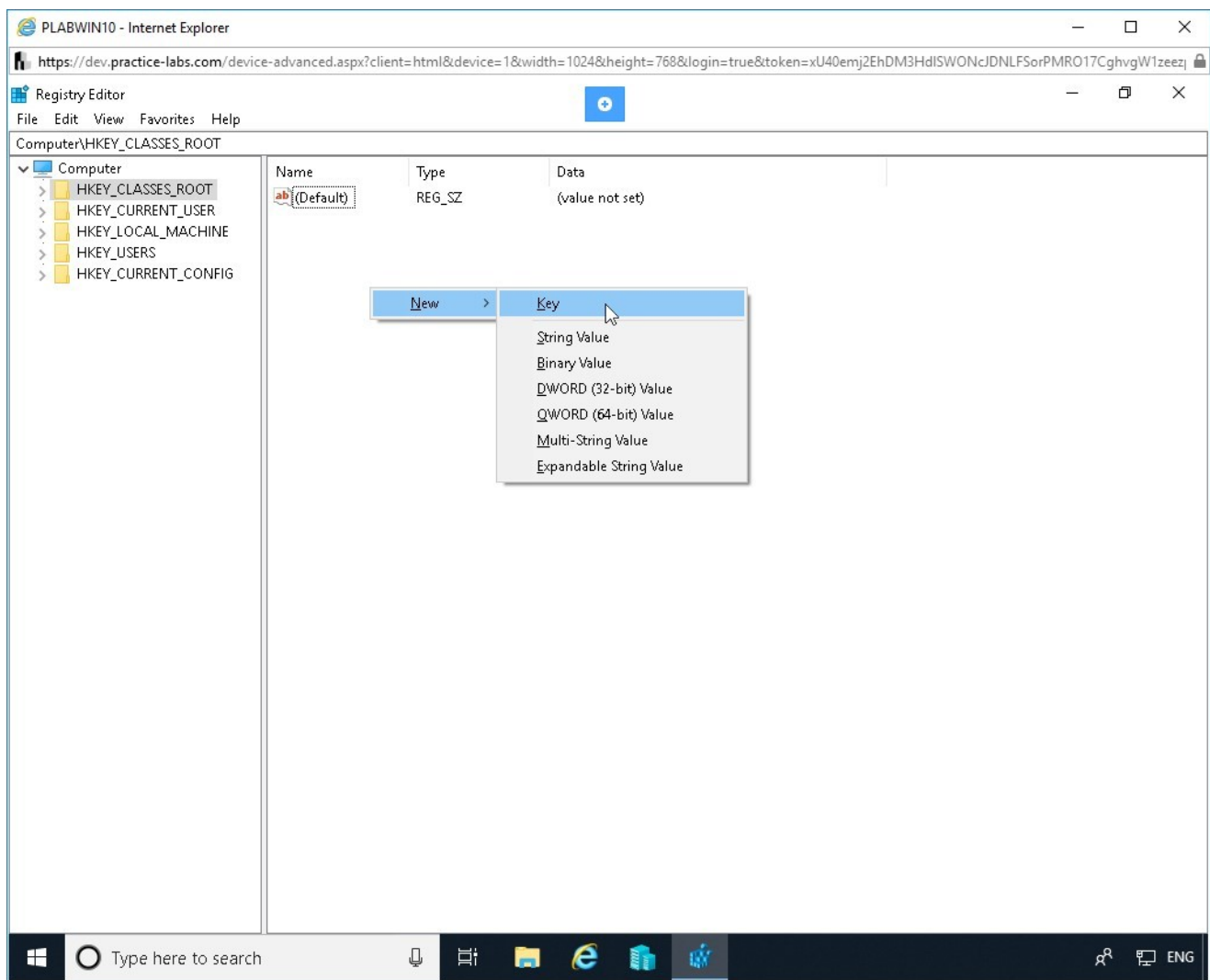
Figure 1.5 Screenshot of PLABWIN10: Right-clicking in the right pane and selecting the New (Key option from the context menu.

Step 6

Notice that a new key has been added to **HKEY_CLASSES_ROOT**. You can add a key to any of the root keys.

Notice that in the right pane, no value has been set for the **(Default)** key.
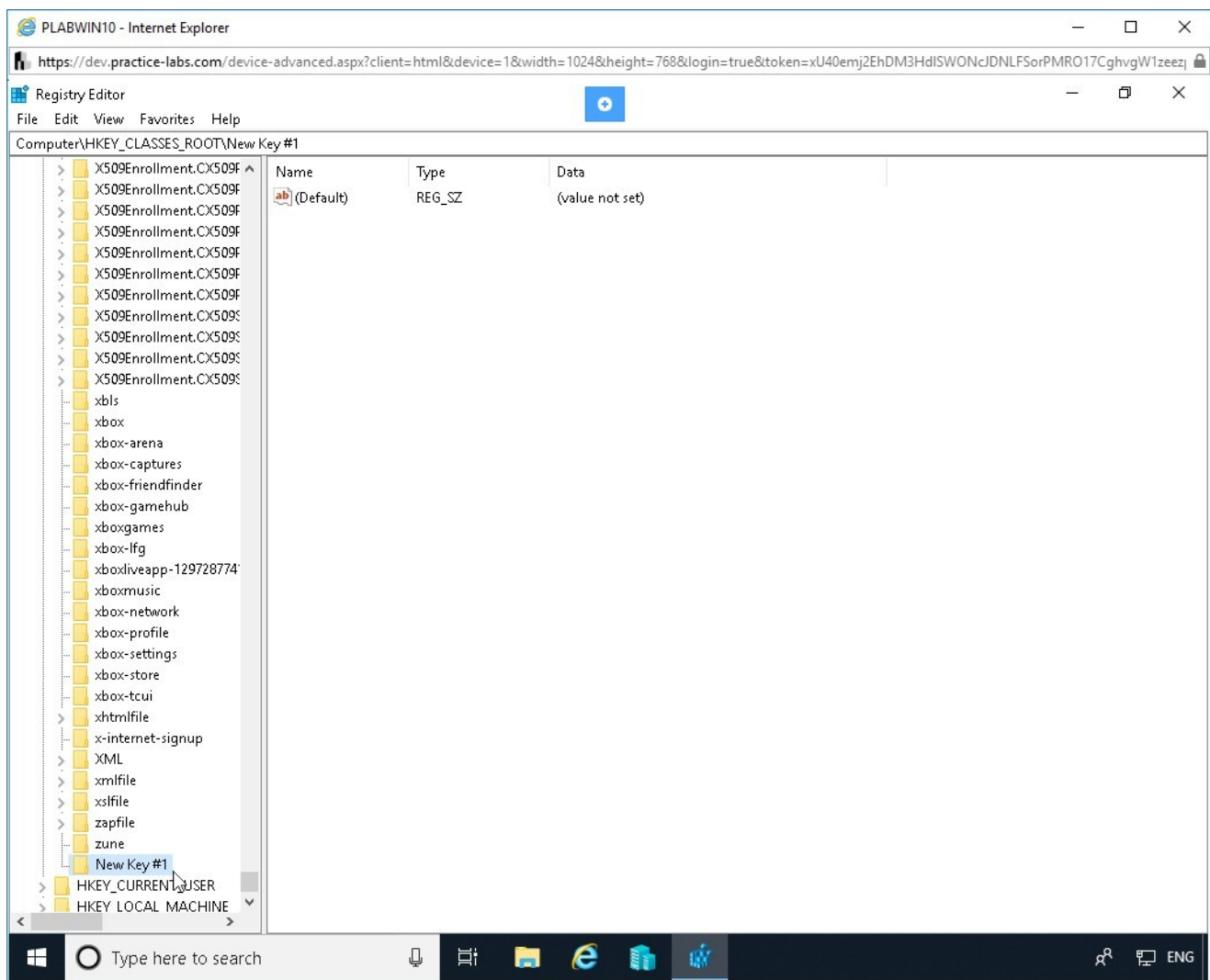
Figure 1.6 Screenshot of PLABWIN10: Showing a new key added in HKEY_CLASSES_ROOT.

Step 7

You now know how to add or update a key. Deleting a key is also a simple task. Right-click **New Key #1** in the left pane and select **Delete**.
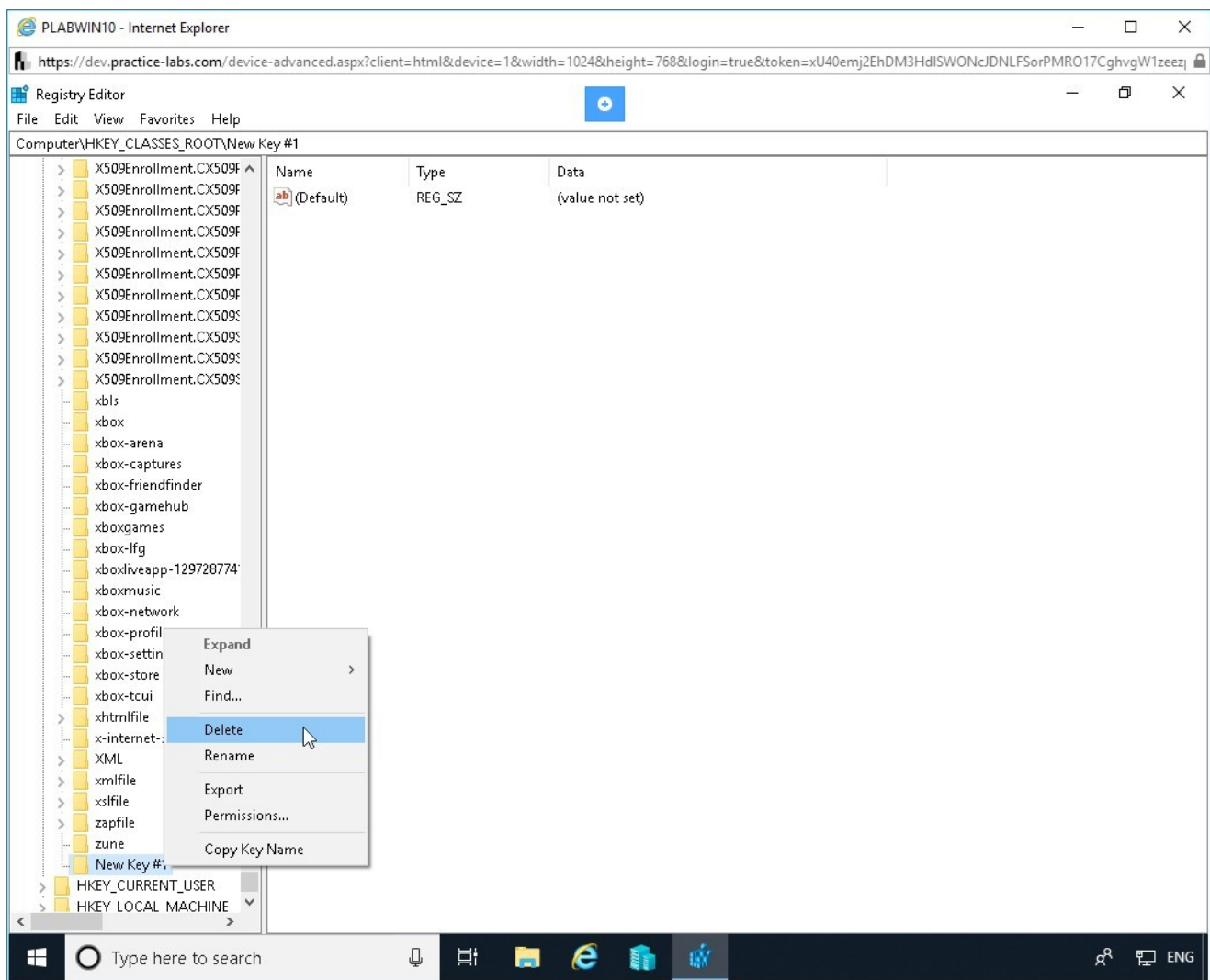
Figure 1.7 Screenshot of PLABWIN10: Right-clicking New Key #1 and selecting Delete to delete the key.

Step 8

In the **Confirm Key Delete** dialog box, click **Yes**.
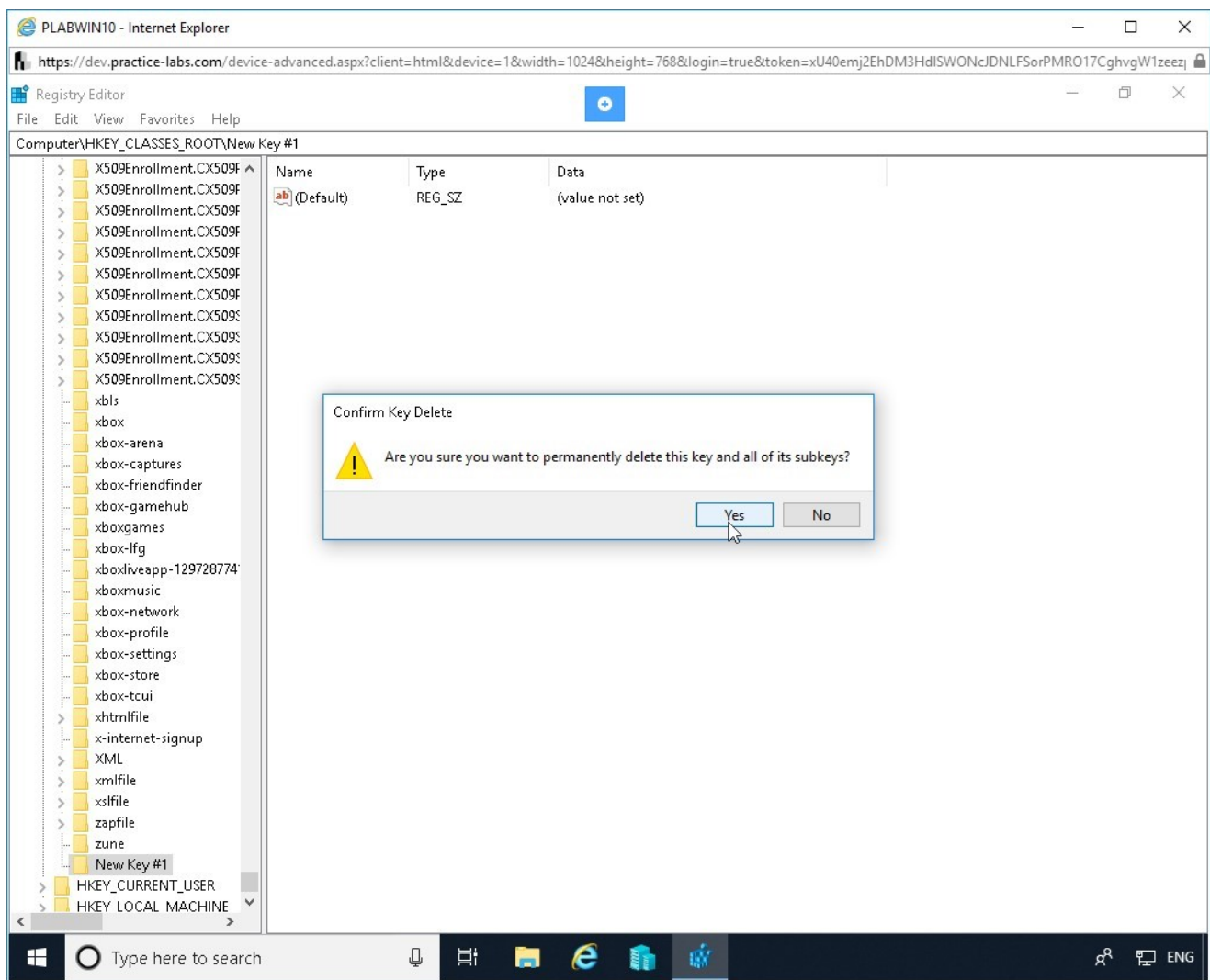
Figure 1.8 Screenshot of PLABWIN10: Confirming the key deletion.

Step 9

Notice that the key no longer exists.
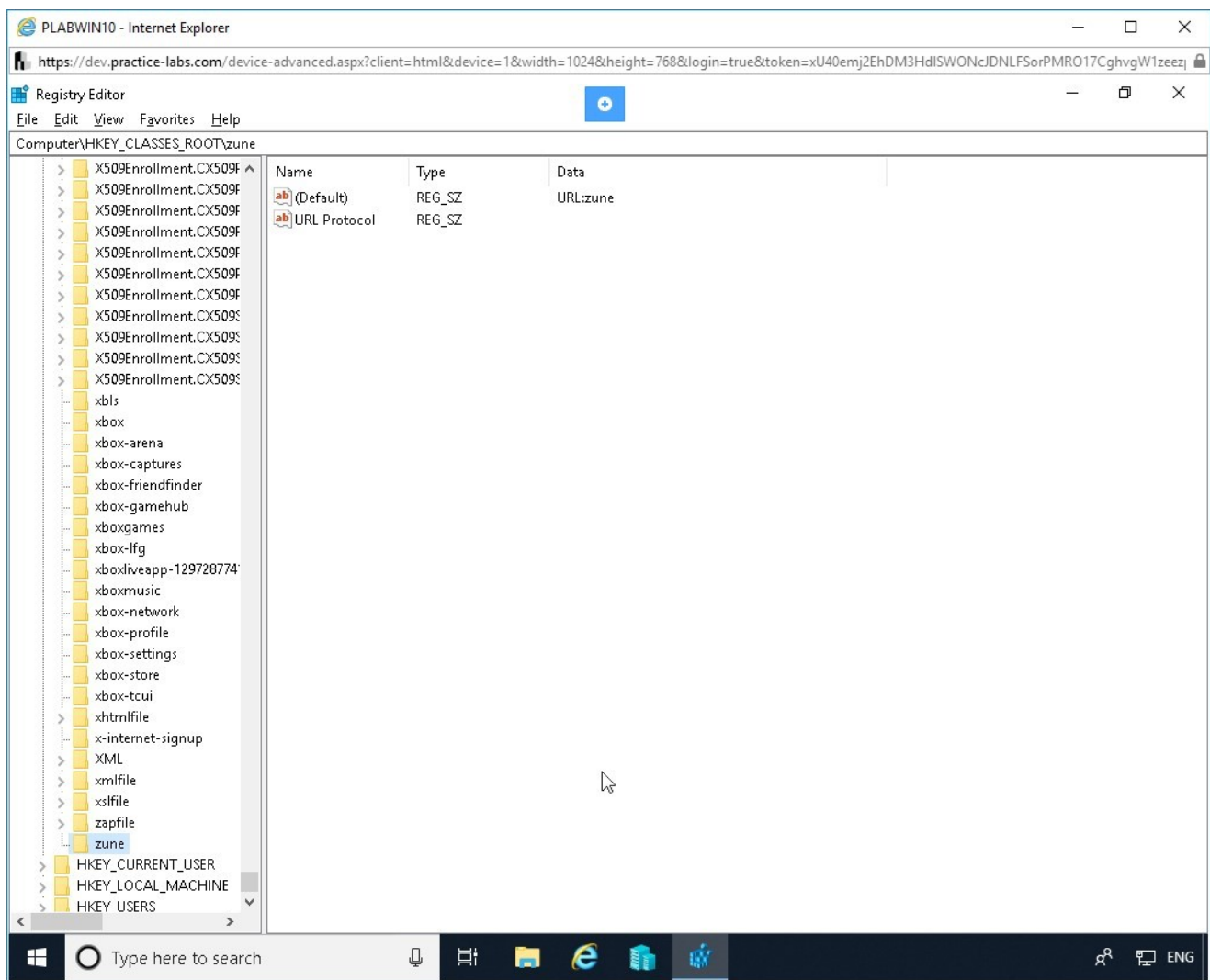
Figure 1.9 Screenshot of PLABWIN10: Showing that the deleted key no longer exists. Closing the Registry Editor window.

Close the **Registry Editor** window.

Step 10

You should have now returned to the desktop.

Figure 1.10 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 2 - Use the Services Console

Several Windows components are dependent on the services that run in the Services console. Many of the services start when the system boots up. Other services, which are created when applications are installed, can either start with the system boot up or can be manually started. They can also be disabled if a specific Windows component is not required at the moment.

In this task, you will use the **Services** console.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar and type the following command:

```
services.msc
```

Under the **Best Match** section, select **Services**.
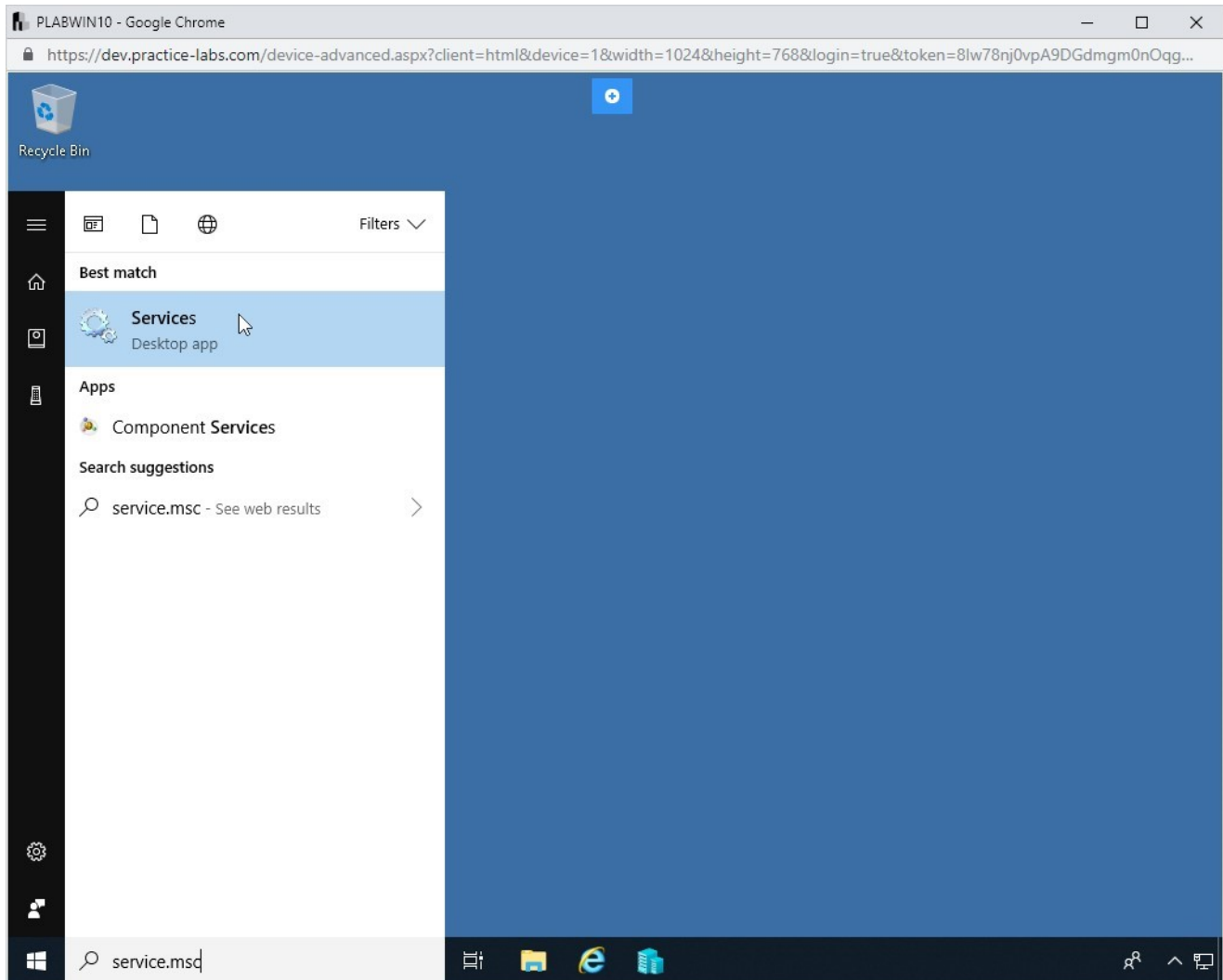
Figure 1.11 Screenshot of PLABWIN10: Selecting services.msc from the search.

Step 2

Notice that the **Services** console is displayed. The services are listed in the alphabetical order.
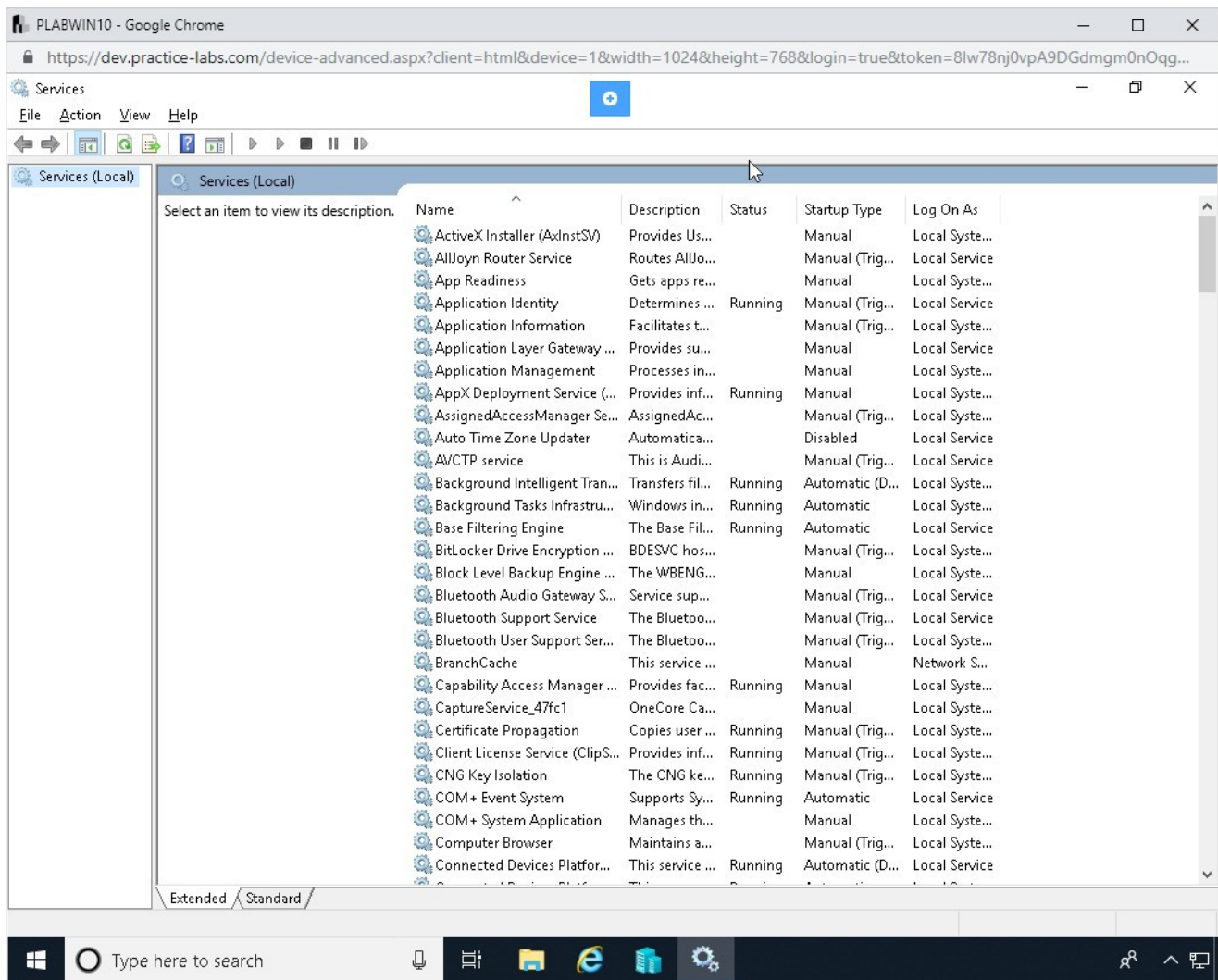
Figure 1.12 Screenshot of PLABWIN10: Displaying the Services console with the services listed in the alphabetical order.

Step 3
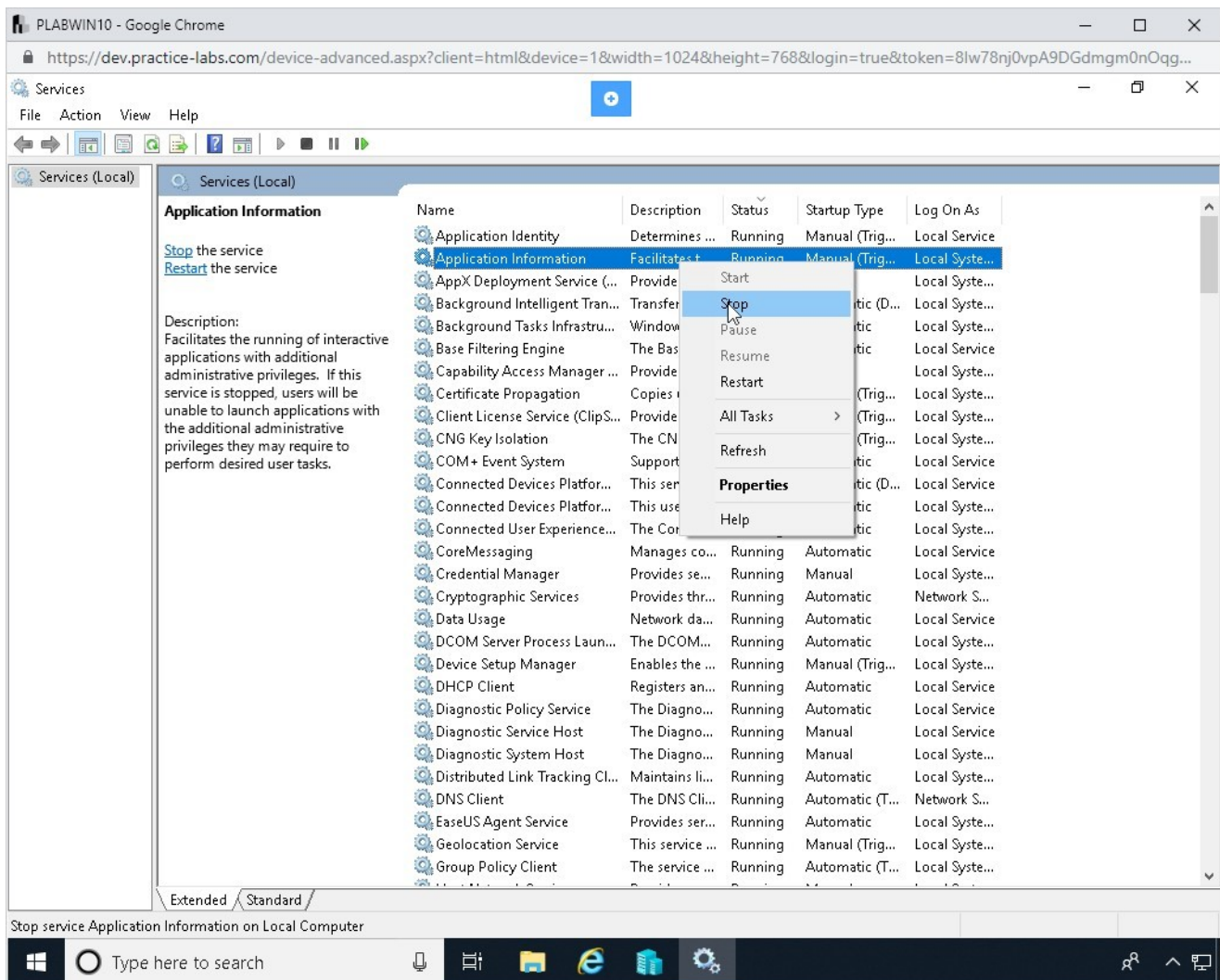
Right Click **Application Information** and click **Start**
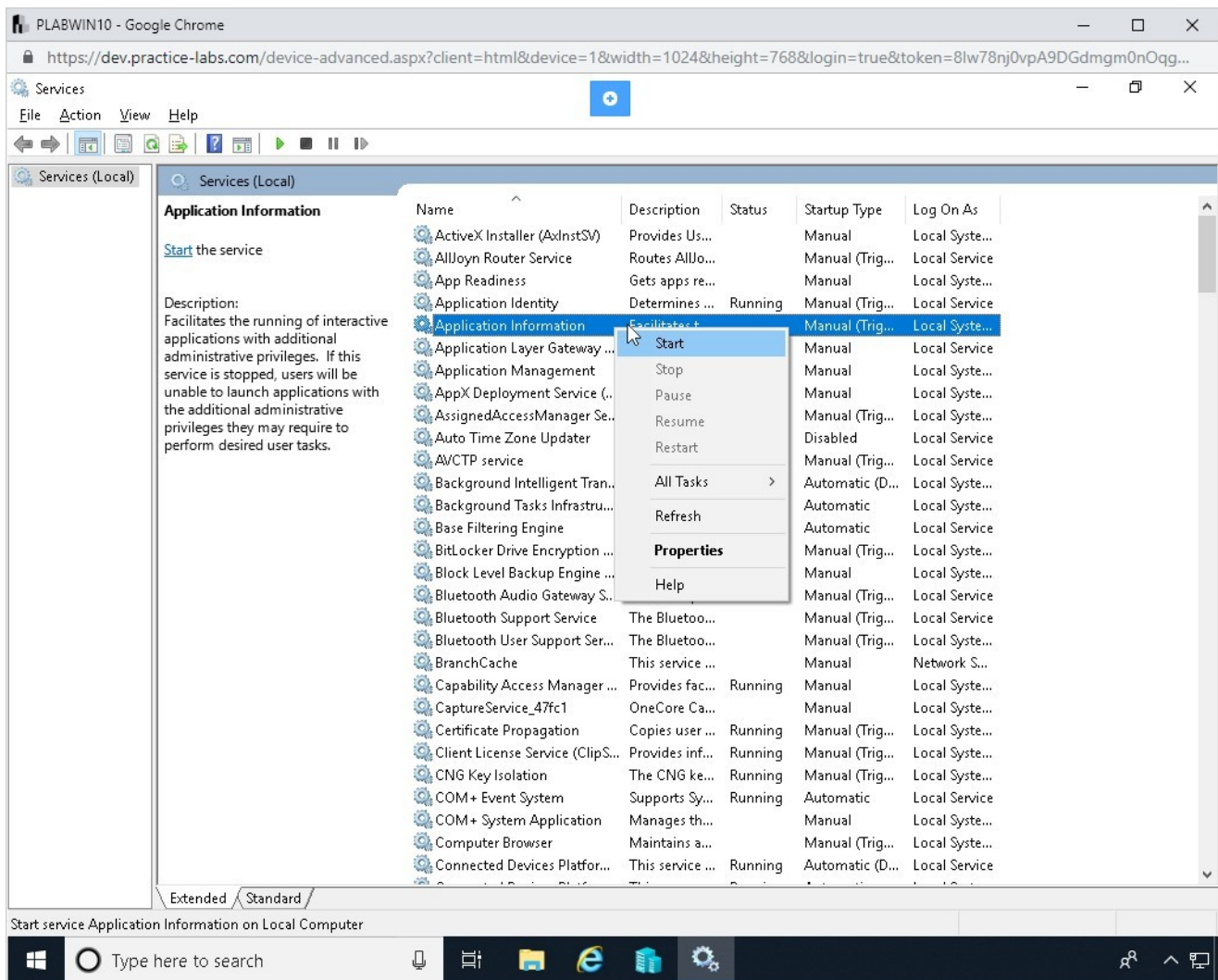
Figure 1.13 Screenshot of PLABWIN10: Right-clicking the Application Information service and selecting Start from the context menu.

Step 4

You can sort the services according to their status. Click **Status**.
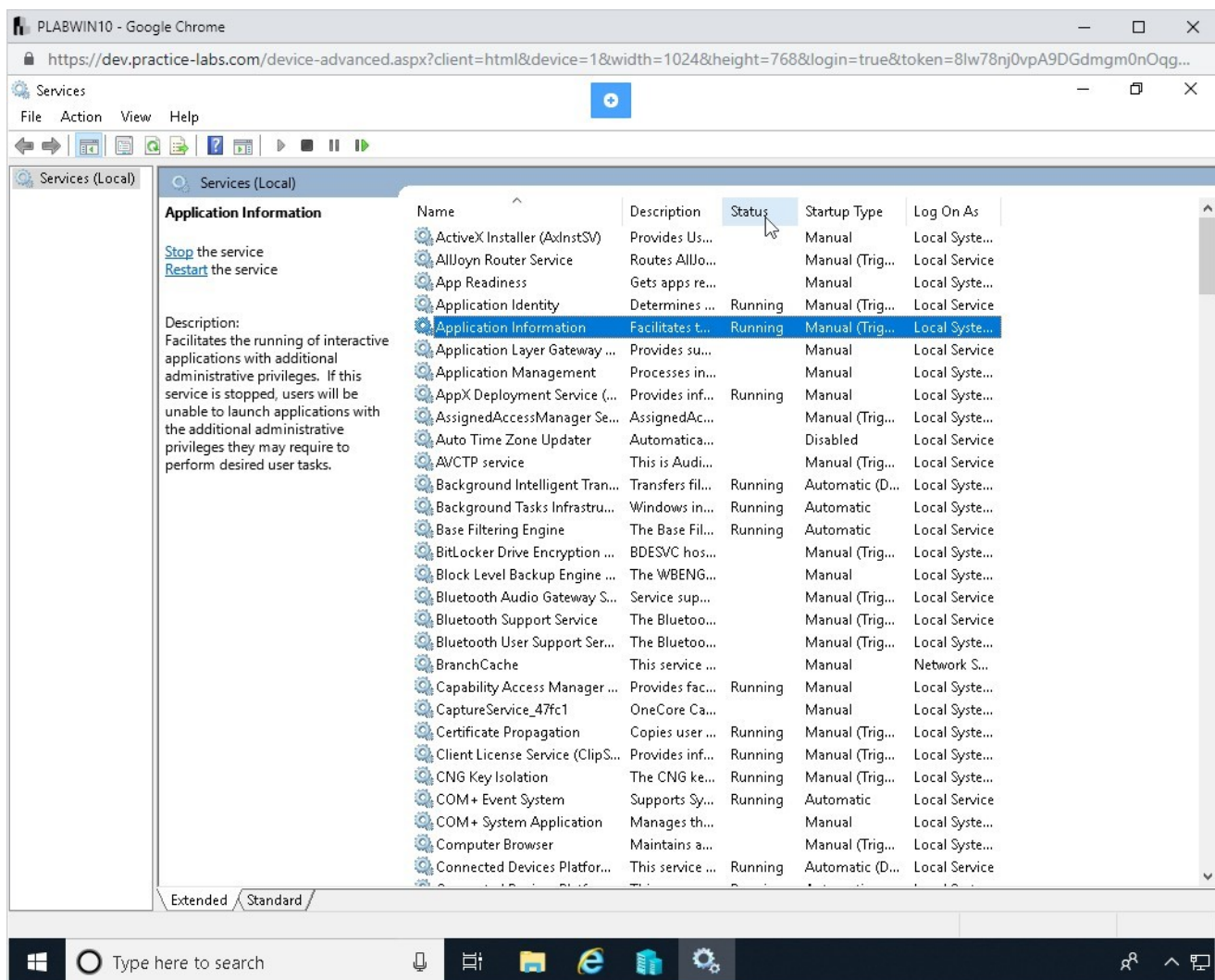
Figure 1.14 Screenshot of PLABWIN10: Sorting the services according to their status.

Step 5

Services are now sorted according to their status.
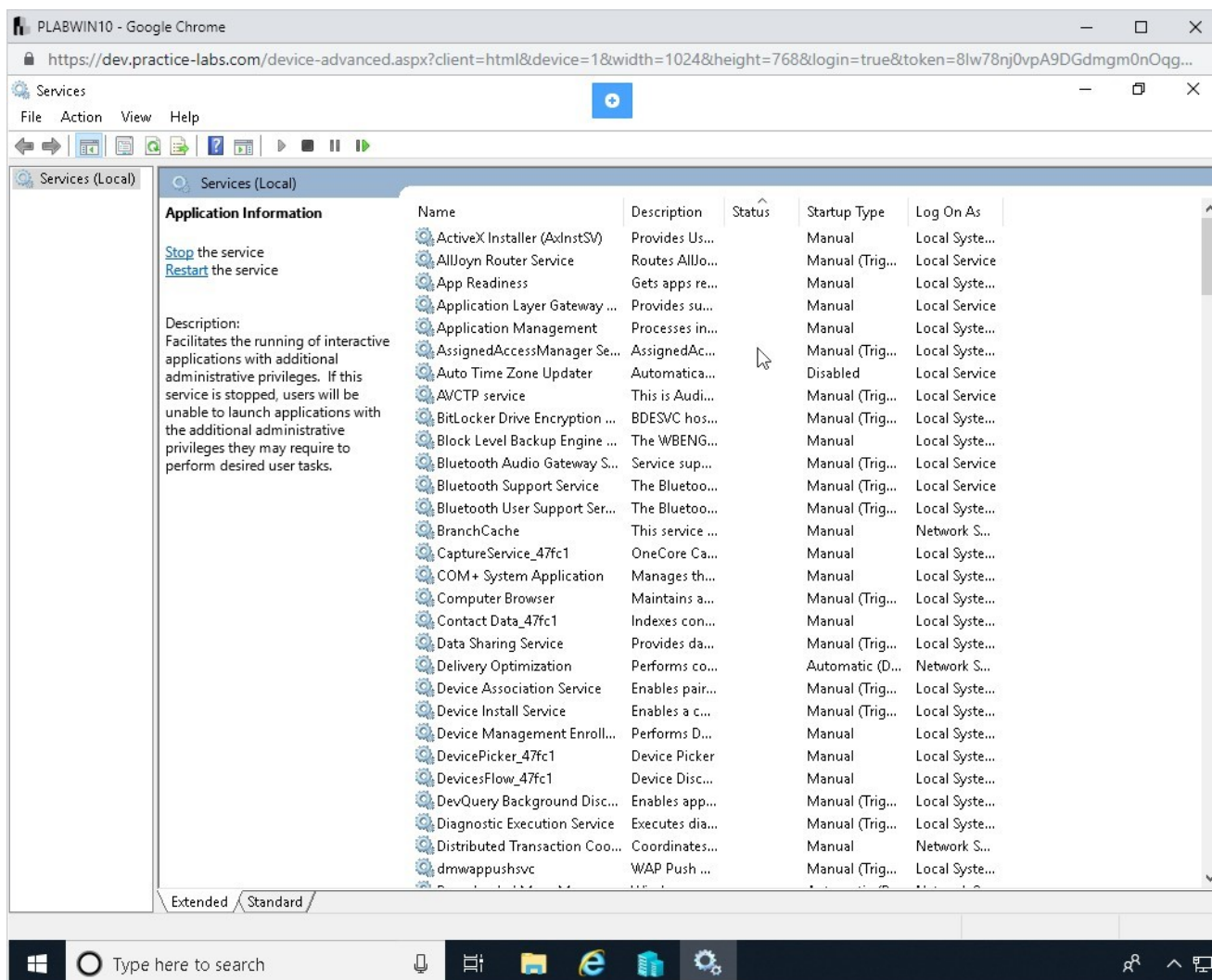
Figure 1.15 Screenshot of PLABWIN10: Showing the sorted services according to their status.

Step 6

Click **Status** once again.

Notice that the services with the **Running** status are now listed. When you scroll down, you will find the services with no status are listed. No is shown means that the service is stopped.

> **Note:** *You can use any column heading to sort the services.*
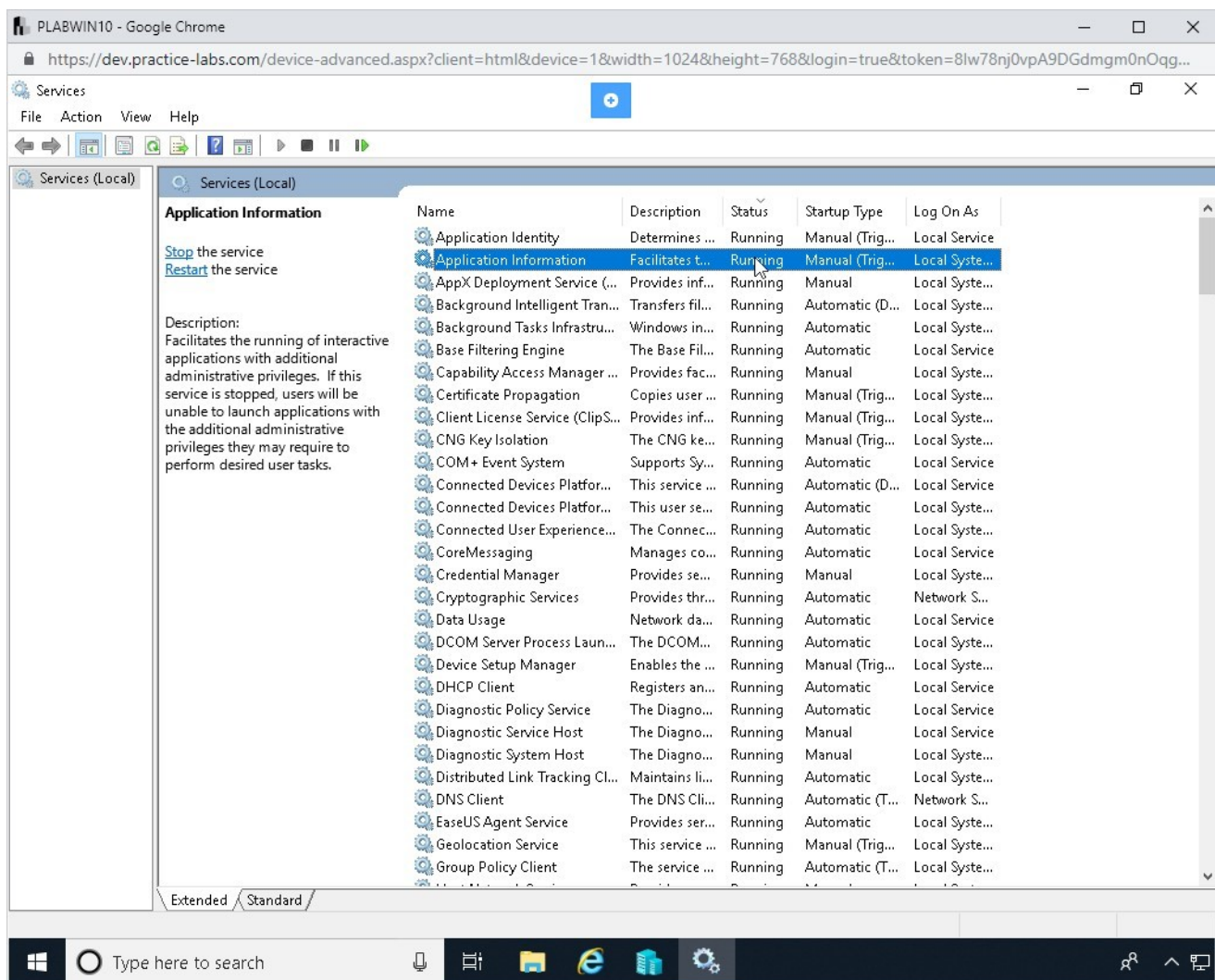
Figure 1.16 Screenshot of PLABWIN10: Sorting the services once again and listing the Running services on top.

Step 7

Let's attempt to stop a service.

Select **Application information** in the **Name** column, then right-click and select **Stop**.

Doing this will cause the service to stop its ongoing execution.

Figure 1.17 Screenshot of PLABWIN10: Right-clicking the Application Information service and selecting Stop from the context menu.

Step 8

A dialog box showing the progress to stop the service appears for a moment. As soon as the service is disabled, the dialog box disappears.

Notice that the service is no longer listed with the **Running** status.
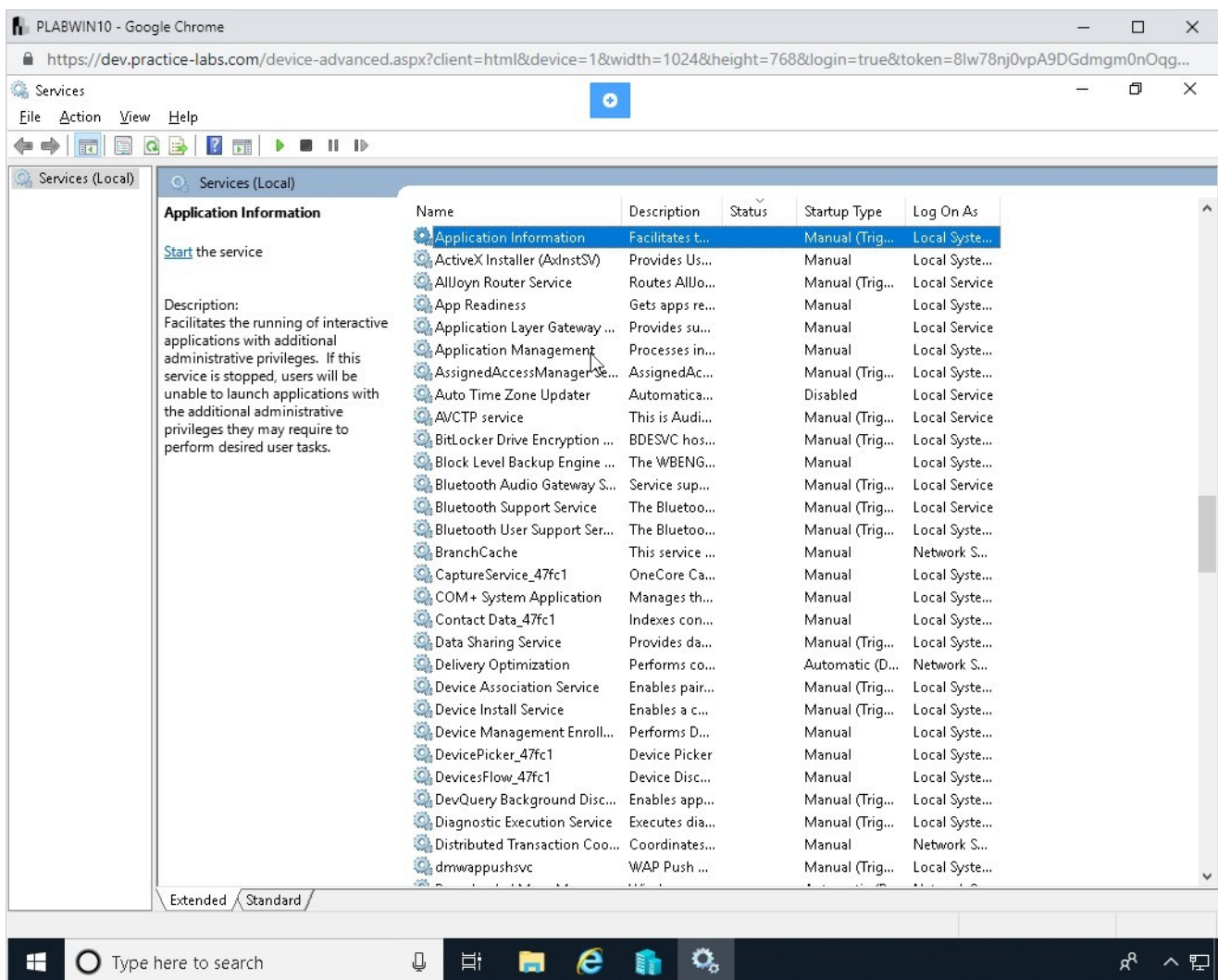
Figure 1.18 Screenshot of PLABWIN10: Showing only the services with the Running status.

Step 9

Right-click **Application Information** and select **Properties**.
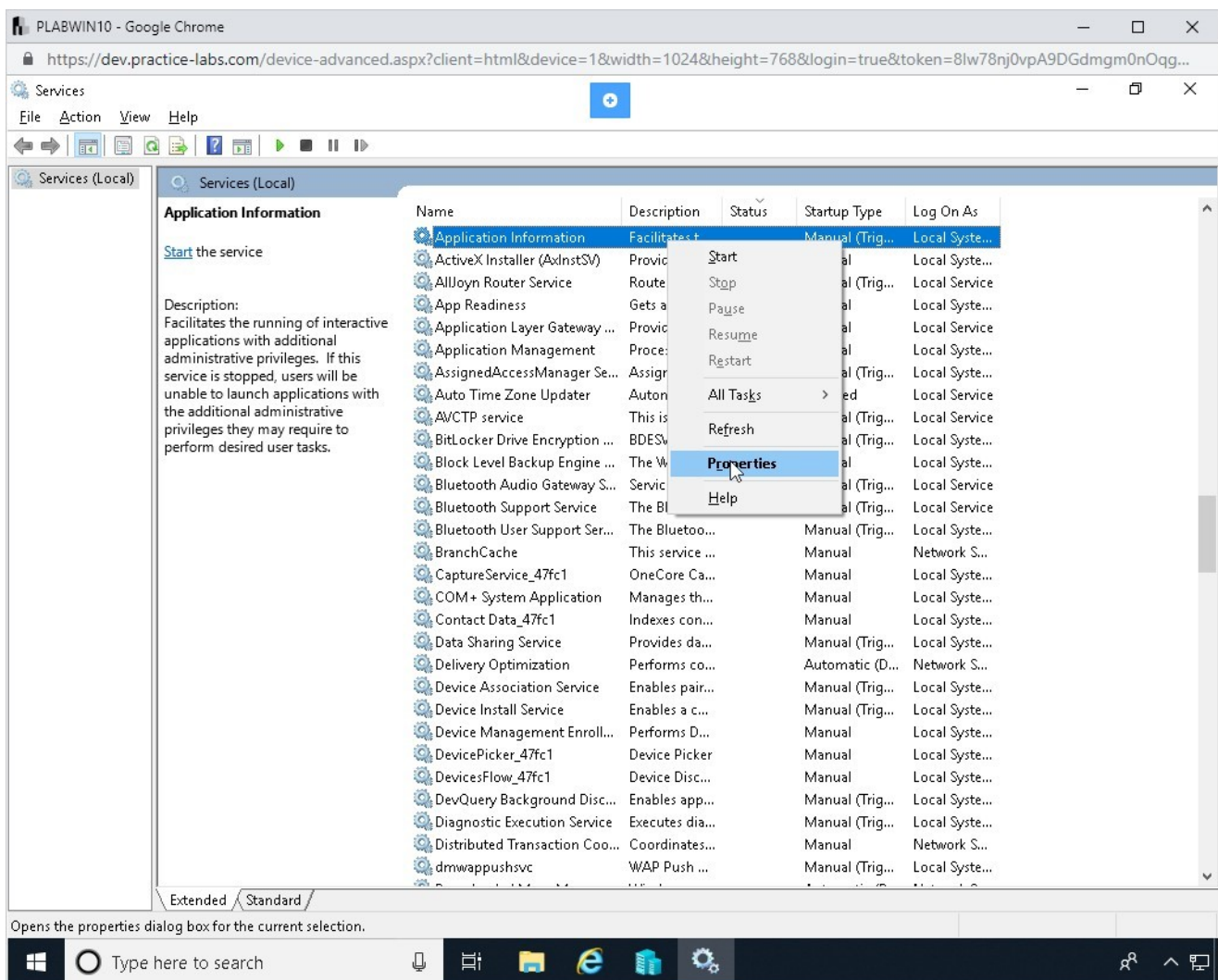
Figure 1.19 Screenshot of PLABWIN10: Right-clicking the Application Information service and selecting Properties from the context menu.

Step 10

In the **Application Information Properties (Local Computer)** dialog box, notice that the **Service** status is set as **Stopped**.

Click **Start**.
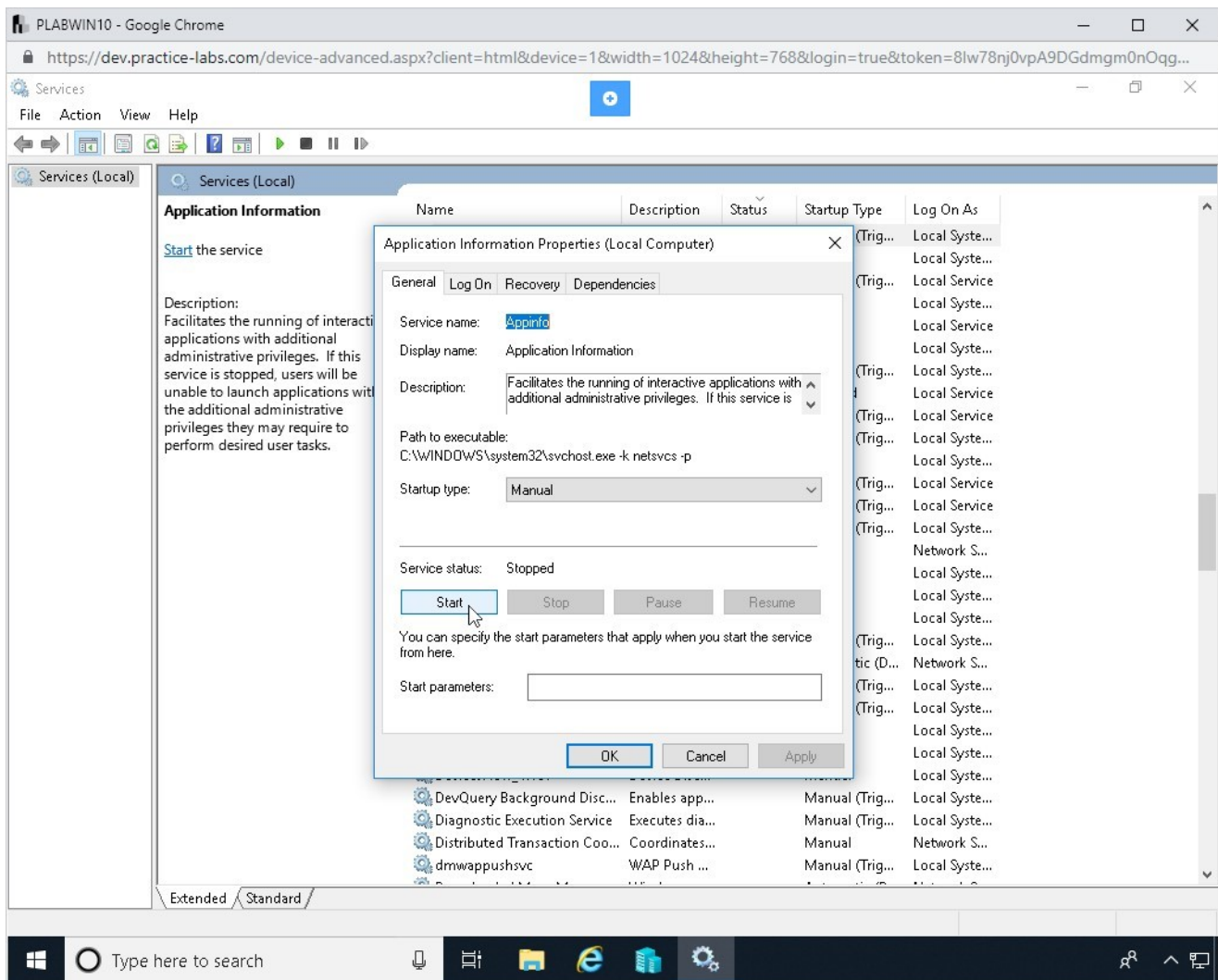
Figure 1.20 Screenshot of PLABWIN10: Clicking Start in the Application Information Properties (Local Computer) dialog box.

Step 11

Notice that the **Service status** is now set as **Running**.
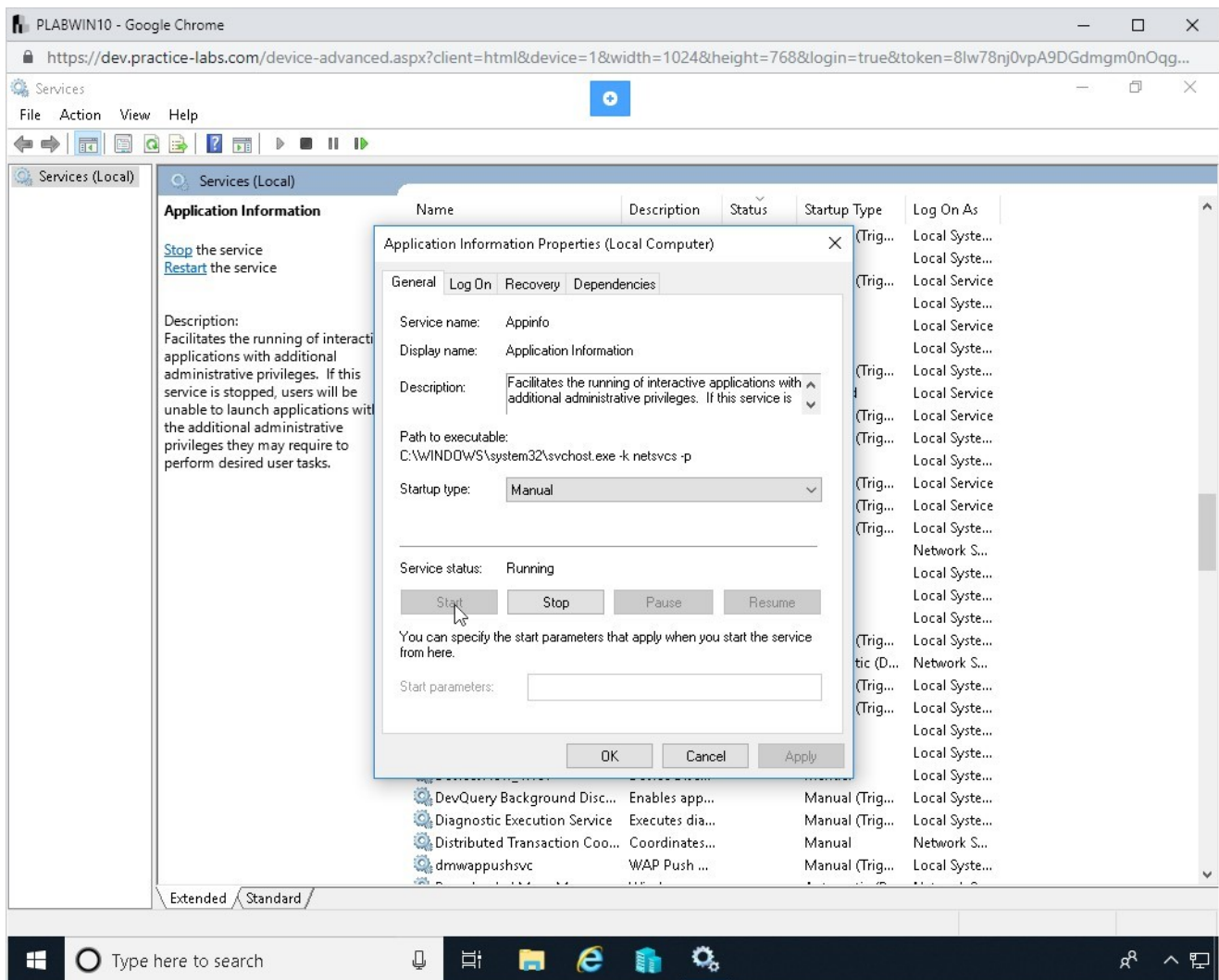
Figure 1.21 Screenshot of PLABWIN10: Showing the Application Information service status as Running.

Step 12

Move the **Application Information Properties (Local Computer)** dialog box towards the left to ensure that the **Application Information** service is visible in the **Services** console.
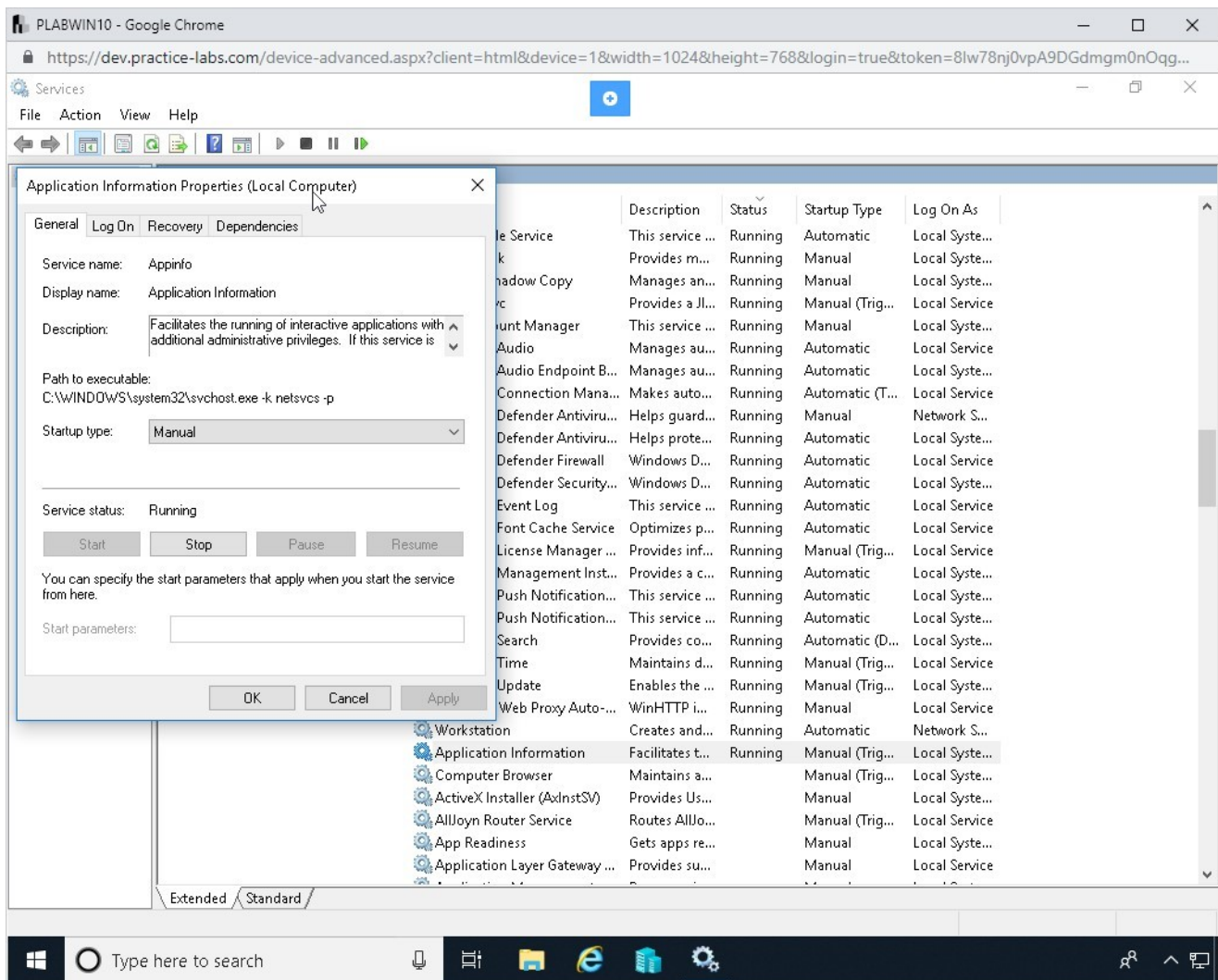
Figure 1.22 Screenshot of PLABWIN10: Showing the Application Information service with the Running status in the Services console.

Step 13

Let's change the **Startup Type** for the **Application Information** service.

Currently, the service is set to **Manual**.
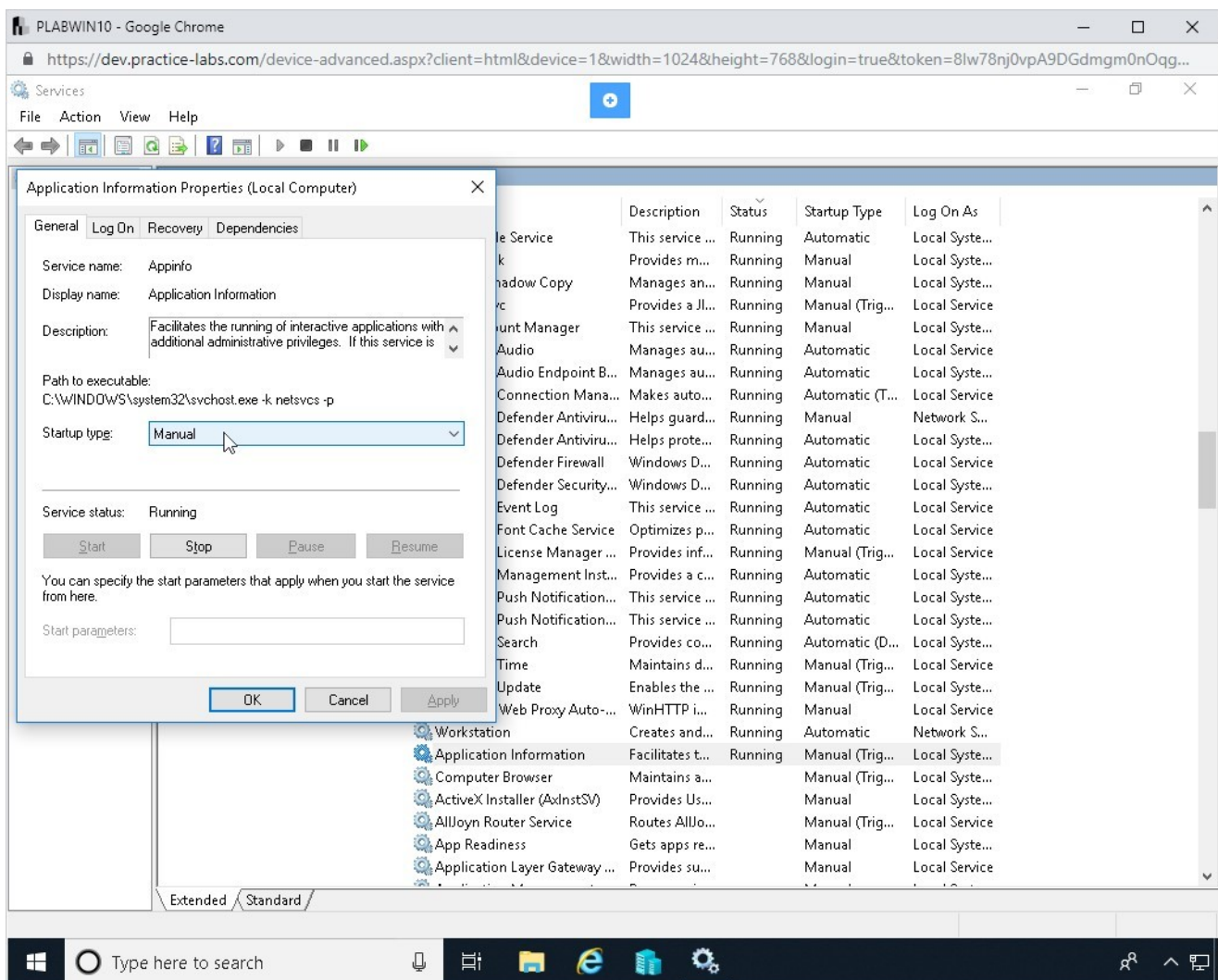
Figure 1.23 Screenshot of PLABWIN10: Showing the Startup type as Manual for the Application Information service.

Step 14

Click the **Startup type** drop-down and select **Automatic**.
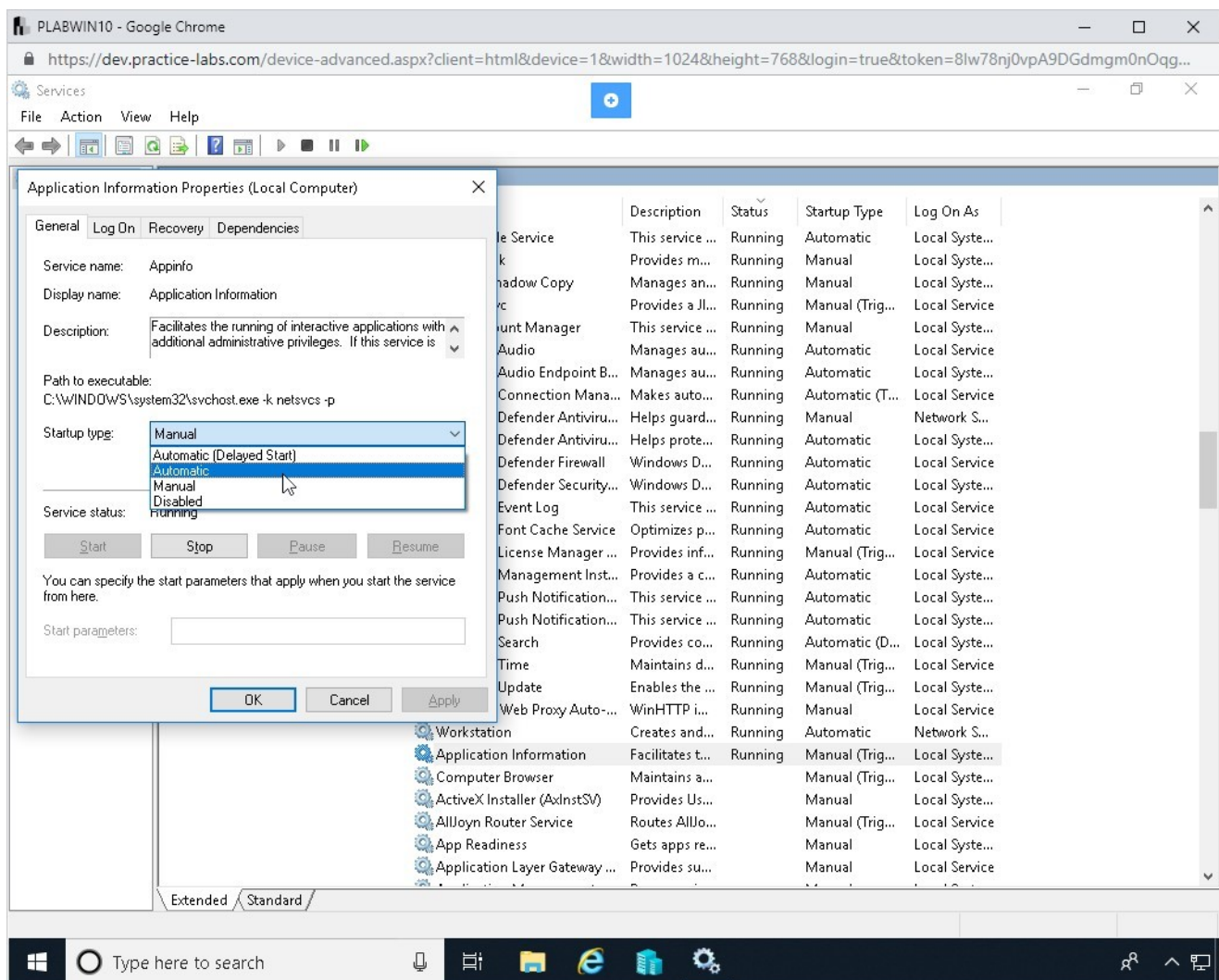
Figure 1.24 Screenshot of PLABWIN10: Selecting Automatic as the Startup type for the Application Information service.

Step 15

In the **Startup type** drop-down, the service is now set to **Automatic**.
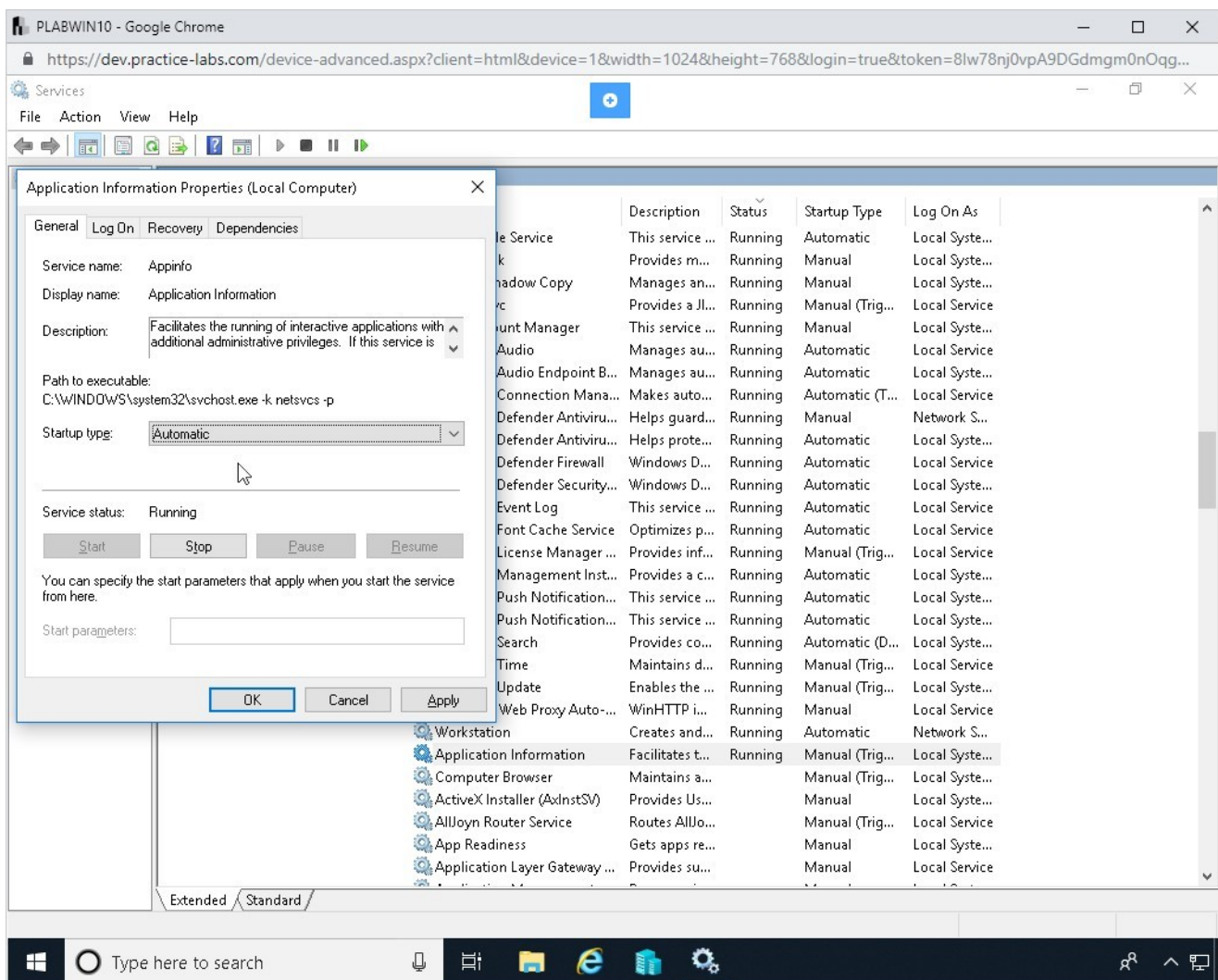
Figure 1.25 Screenshot of PLABWIN10: Showing Automatic as the Startup type for the Application Information service.

Step 16

Click the **Log On** tab.

A service can be set to either start with the **Local System account** or with a specific account. For this task, keep the default settings.
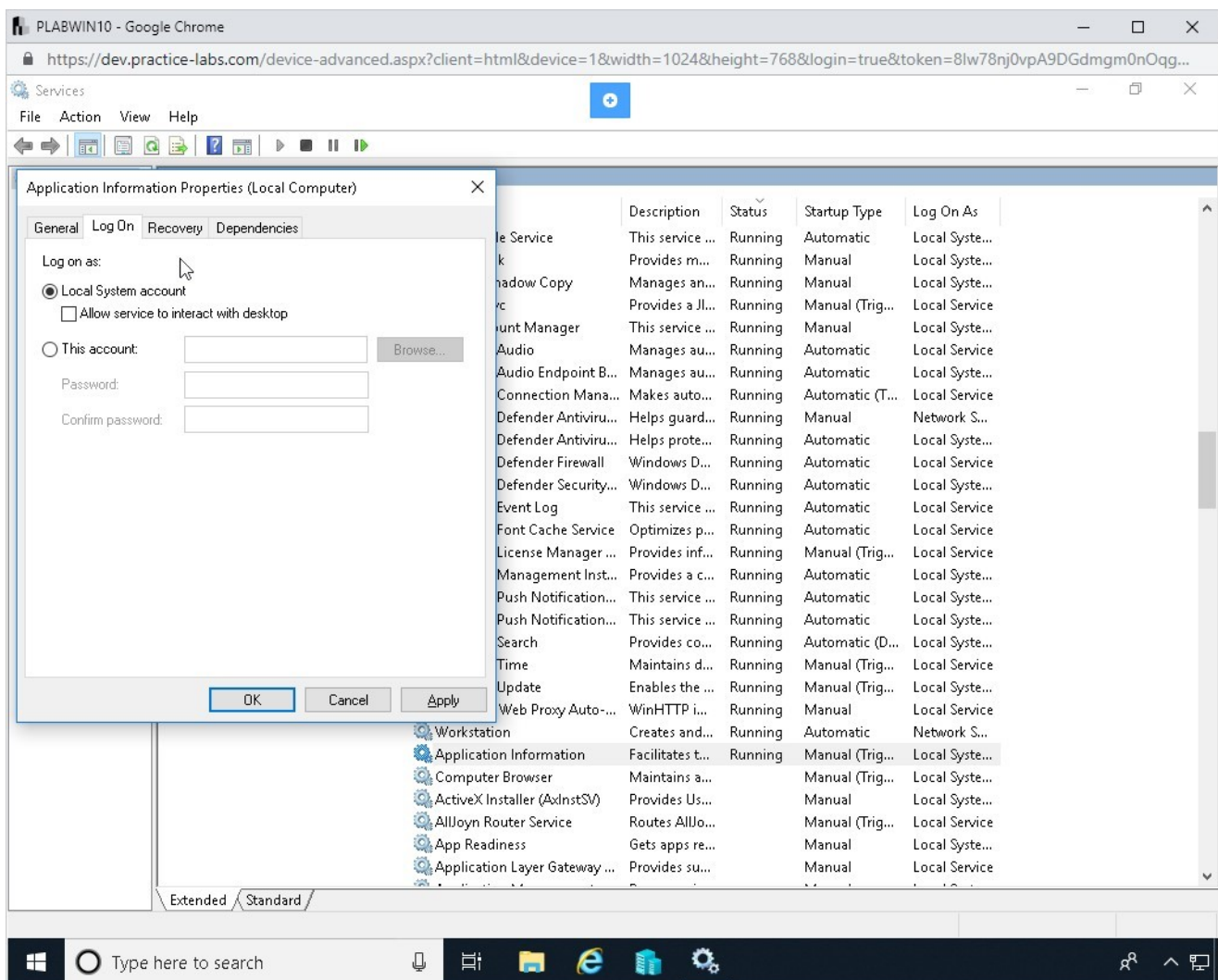
Figure 1.26 Screenshot of PLABWIN10: Clicking the Log On tab and then verifying the Log on as status.

Step 17

Click the **Recovery** tab. This tab allows you to trigger an action if the service fails. By default, the first, second, and subsequent failures are set to **Take No Action**.

In this task, you will change this to **Restart the Service** for the first failure.

From the **First failure** drop-down, select **Restart the Service**.
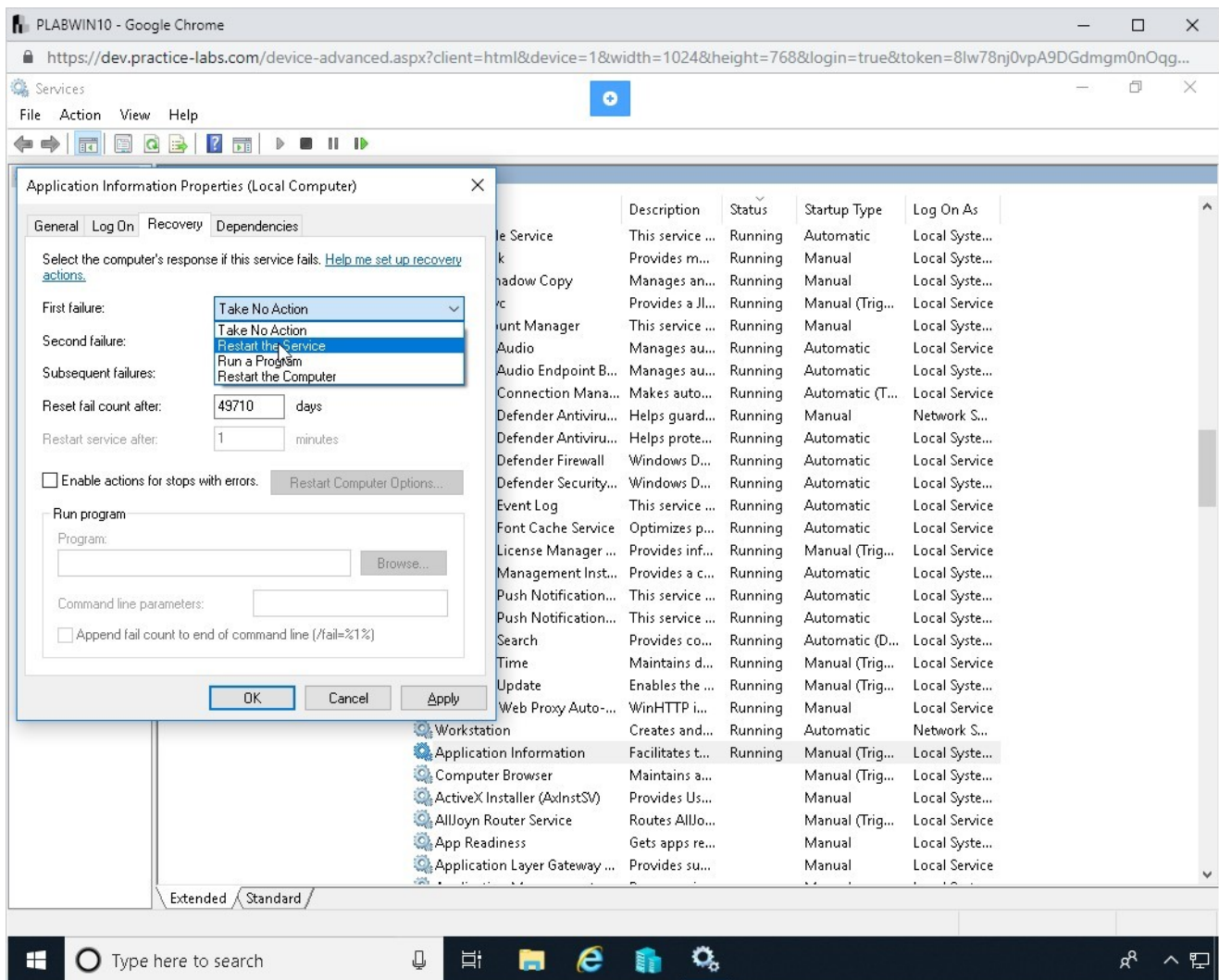
Figure 1.27 Screenshot of PLABWIN10: Clicking the Recovery tab and setting Restart the Service for the First failure.

Step 18

The **First failure** drop-down is now set to **Restart the Service**.
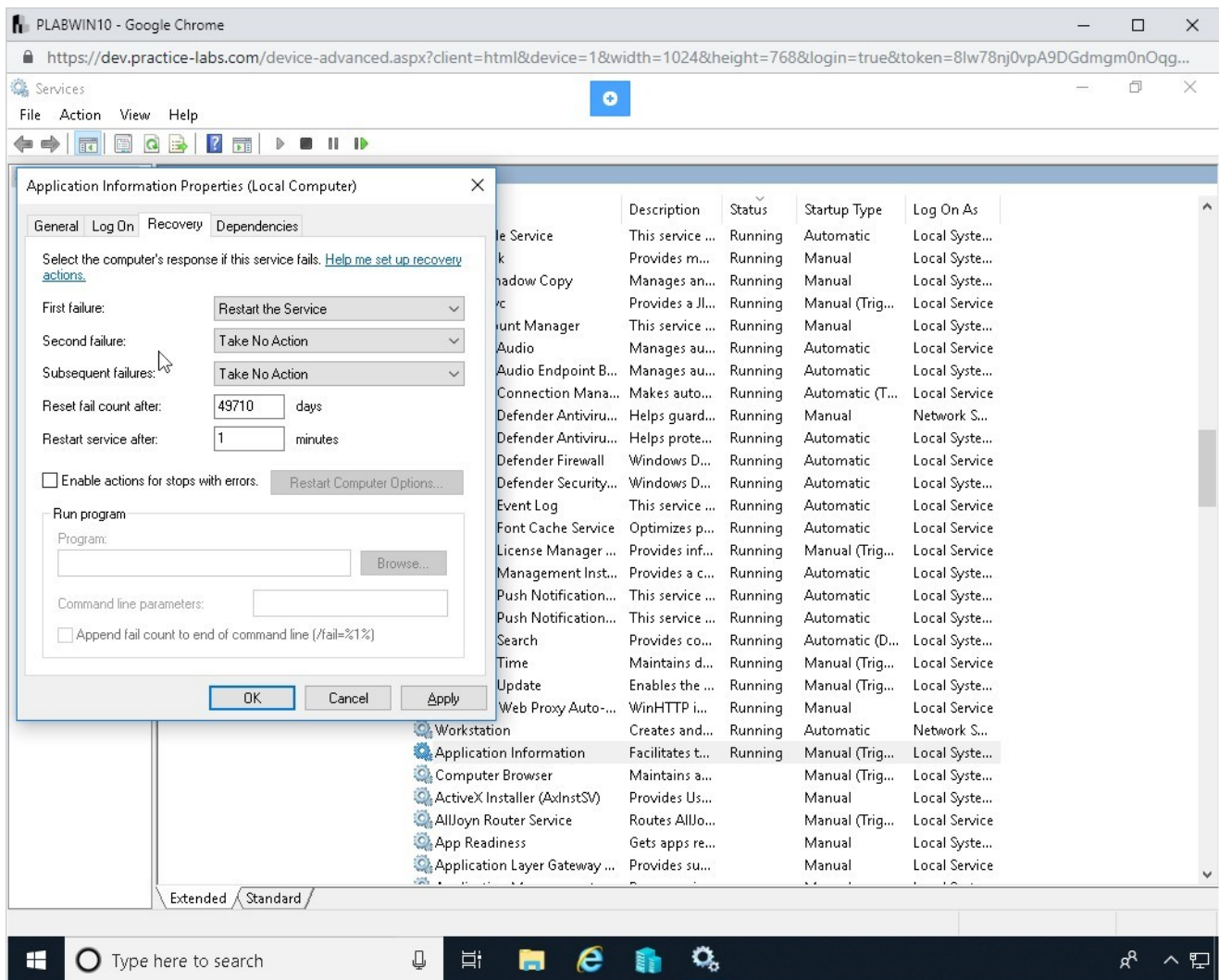
Figure 1.28 Screenshot of PLABWIN10: Showing Restart the Service as the configured option for the First failure.

Step 19

Click the **Dependencies** tab. Note that this service depends on two different services. If both / either of the services fail, this service will not start.

Click **OK** to close the **Application Information Properties (Local Computer)** dialog box.
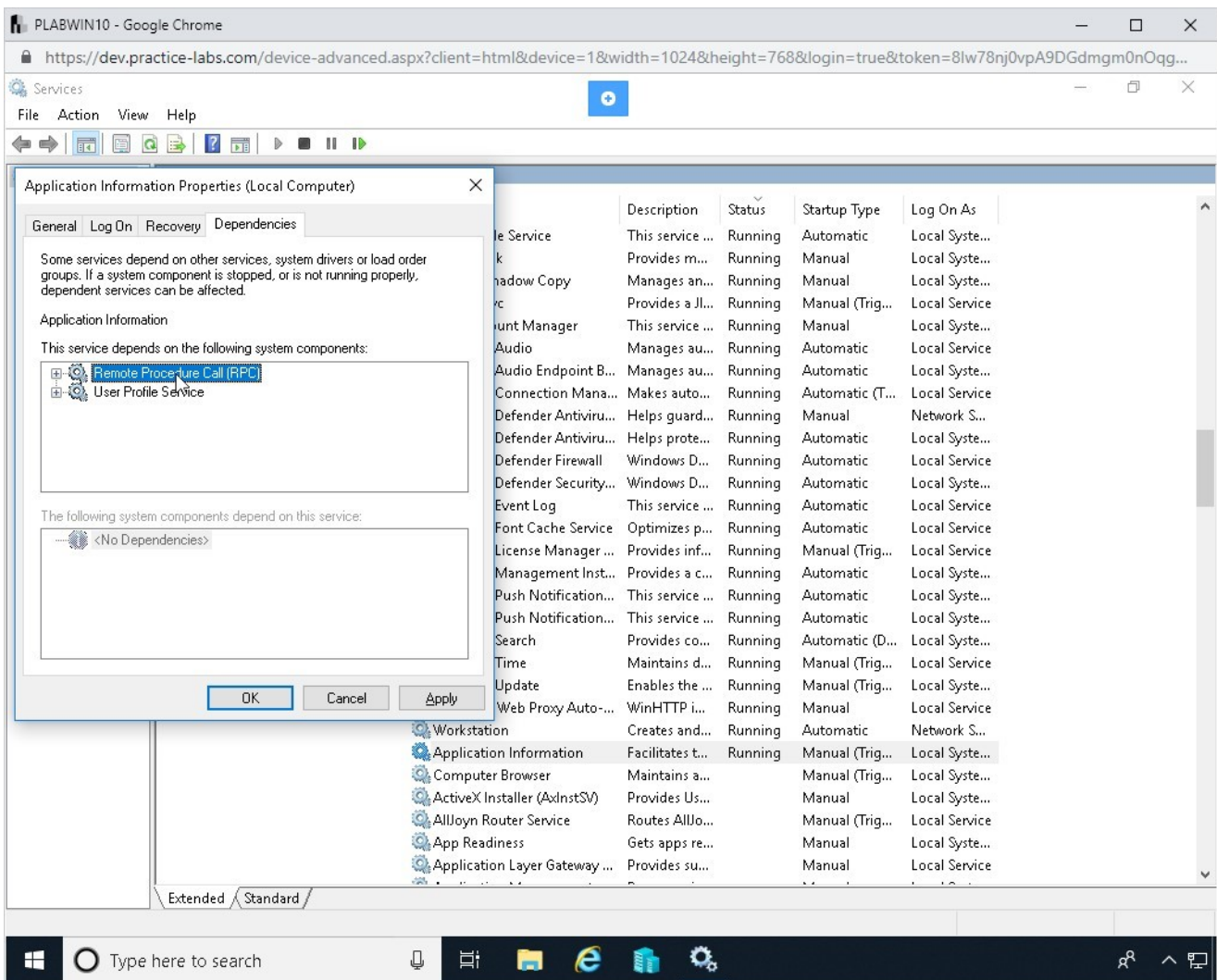
Figure 1.29 Screenshot of PLABWIN10: Showing the Dependencies tab and then closing the dialog box.

Step 20

In the left pane, notice the **Services (Local)** node.

This means that the **Services** console is displaying the services of the local system. However, you can also see the services running from another system on the network if needed.
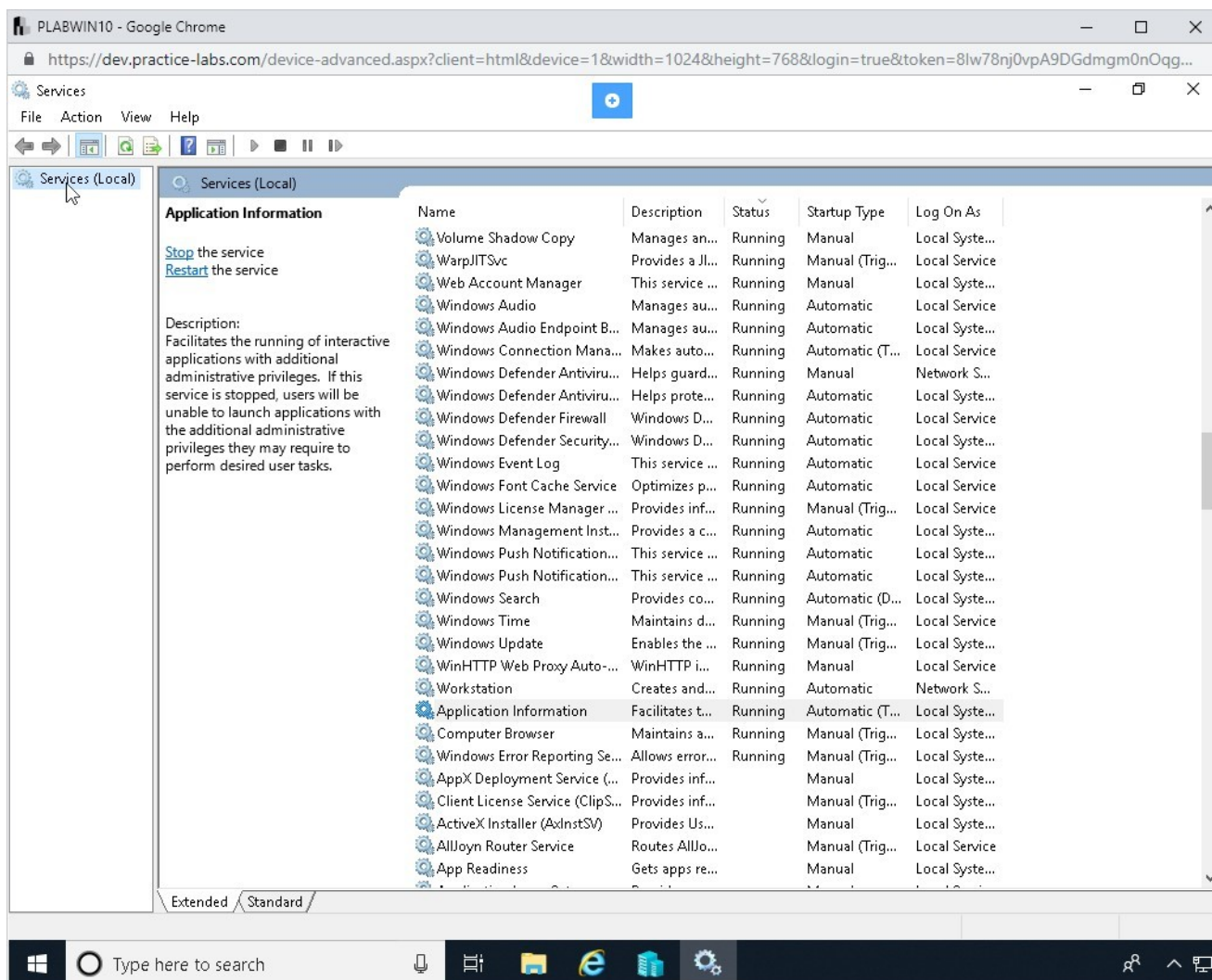
Figure 1.30 Screenshot of PLABWIN10: Displaying the services of the local system.

Step 21

Right-click **Services (Local)** and select **Connect to another computer**.
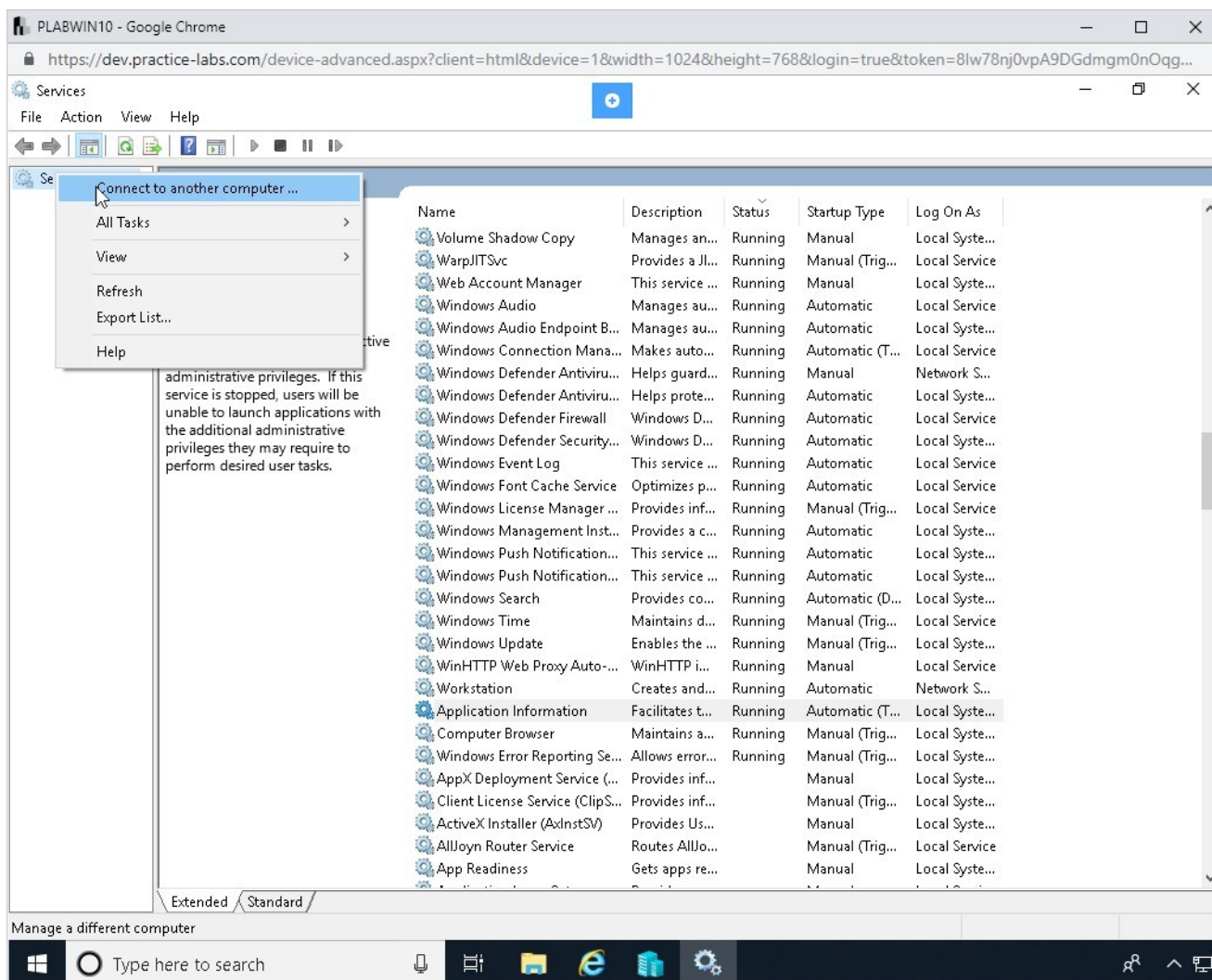
Figure 1.31 Screenshot of PLABWIN10: Selecting the Connect to another computer option from the context menu.

Step 22

Select **Another computer** if already not selected. In the textbox, type the following name:

```
PLABWIN810
```

Click **OK.**
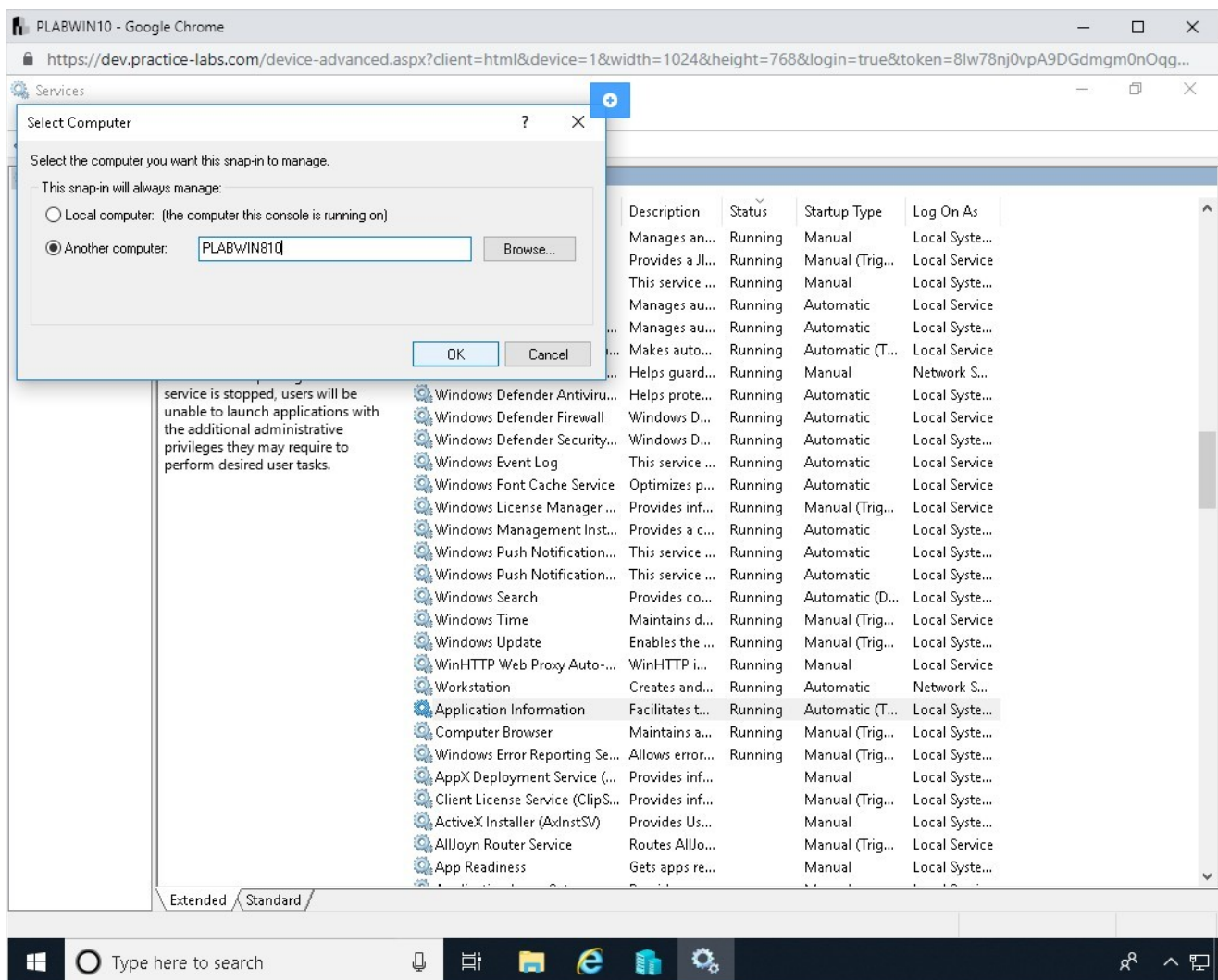
Figure 1.32 Screenshot of PLABWIN10: Connecting to PLABWIN810 to display its services.

Step 23

Notice that the services from **PLABWIN810** are now displayed in the **Services** console.
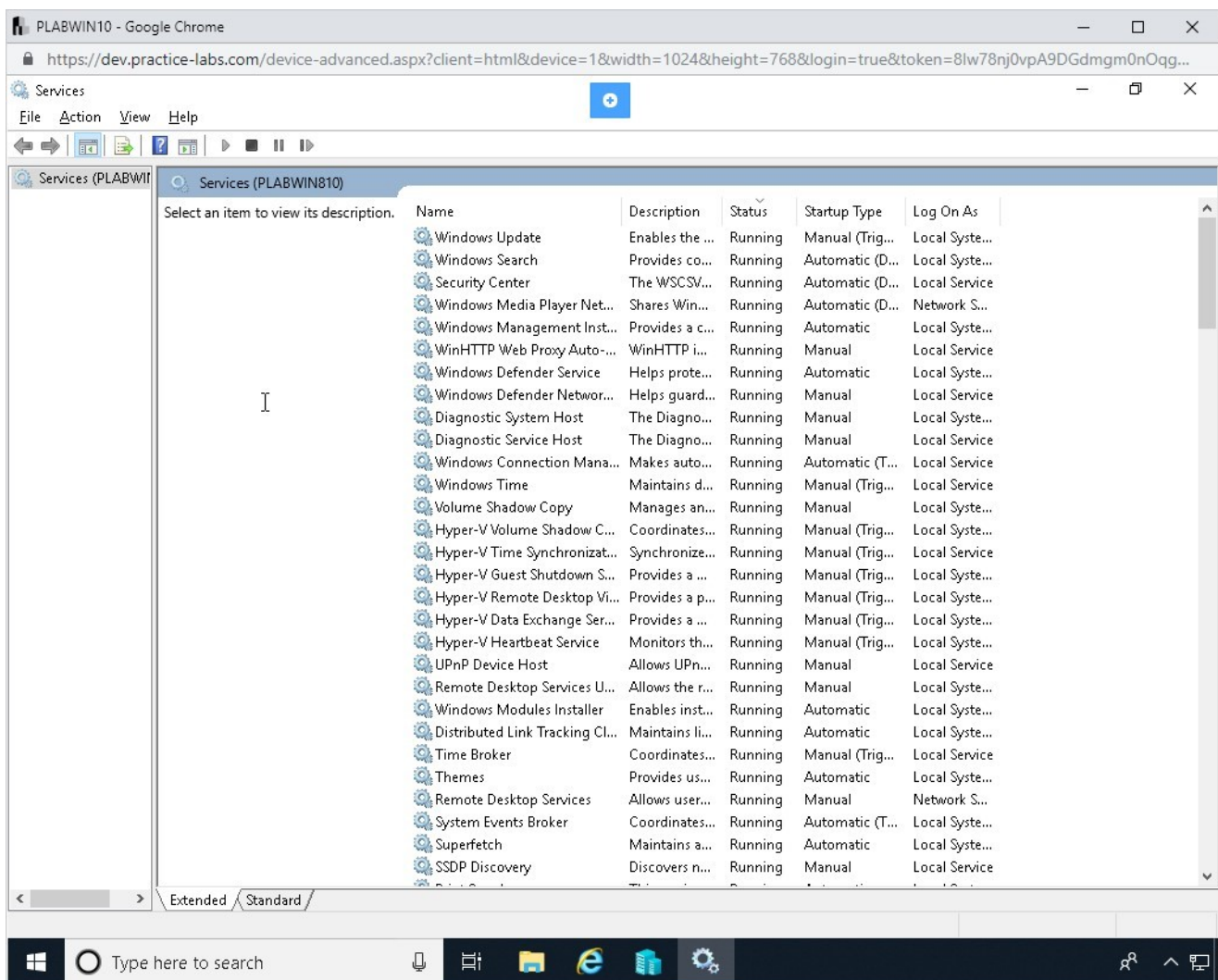
Figure 1.33 Screenshot of PLABWIN10: Displaying the services of PLABWIN810.

Close the **Services** console.

Step 24

You should have now returned to the desktop.
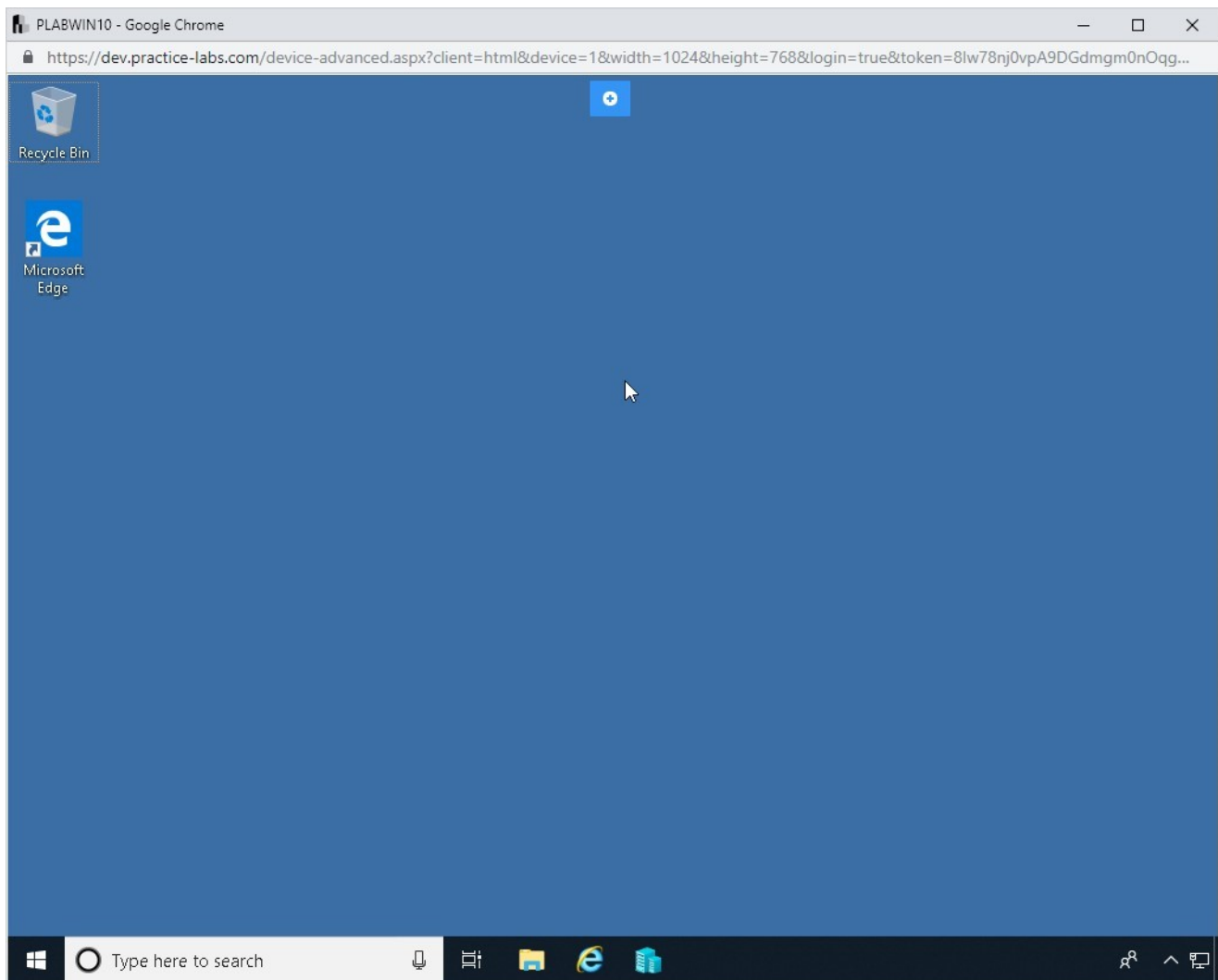
Figure 1.34 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 3 - Use the Microsoft Terminal Services Client (MSTSC)

Microsoft Terminal Services Client (MSTSC) is used for connecting to another system remotely. Using MSTSC, you can connect to another system and work as you are working on your own system. Windows has in-built support for the Remote Desktop Protocol (RDP), which is used by Microsoft Terminal Services client. On Linux, you can use an application named freerdp, which is freely available. It also has the support for RDP.

In this task, you will establish a connection using **MSTSC**.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar, type the following command:

```
MSTSC
```

Under the **Best Match** section, select **Remote Desktop Connection**.
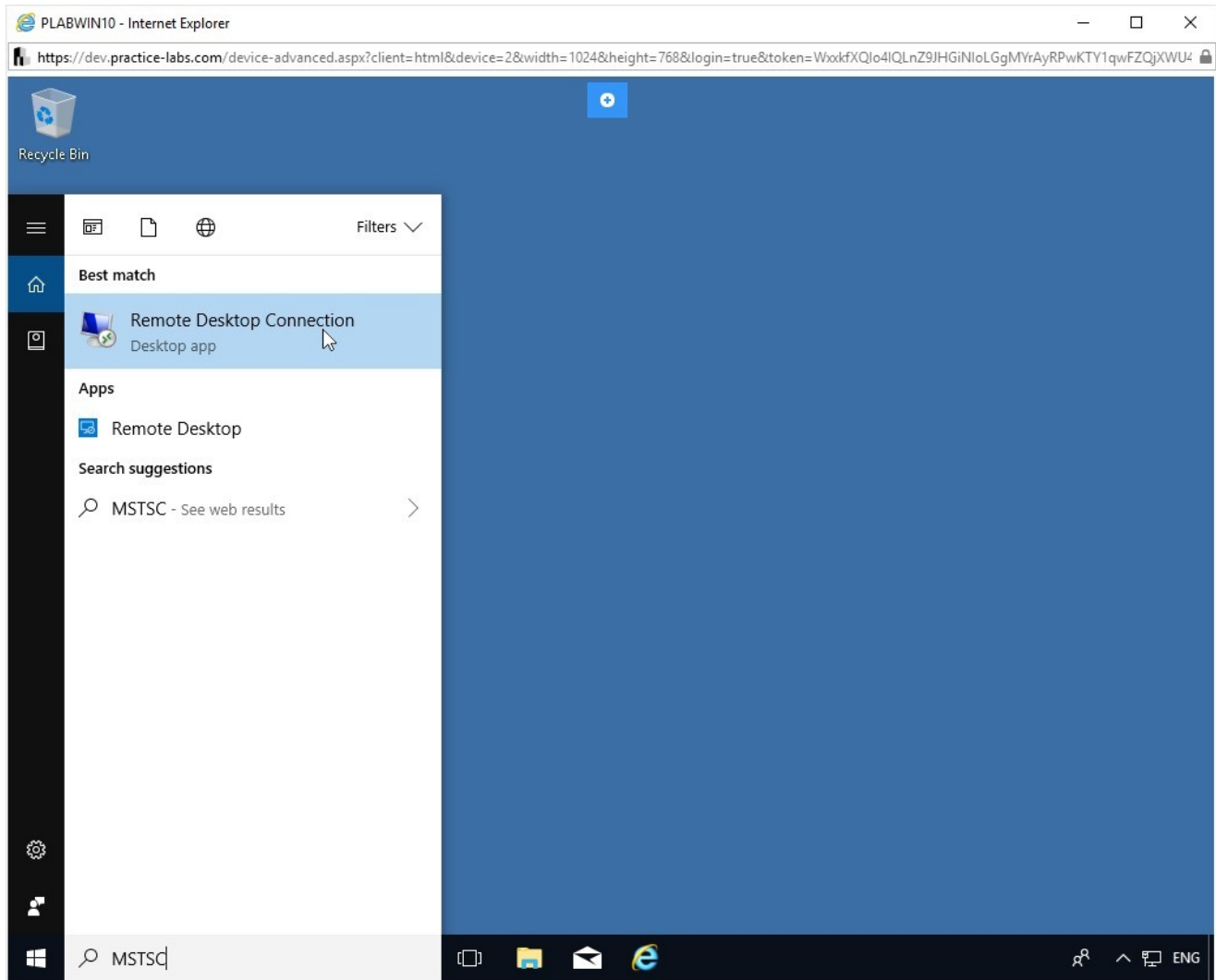
Figure 1.35 Screenshot of PLABWIN10: Selecting Remote Desktop Connection from the search.

Step 2

The **Remote Desktop Connection** dialog box is displayed.

In the **Computer** textbox, you need to enter the name of the system you want to connect remotely.

Type the following name in the **Computer** textbox:
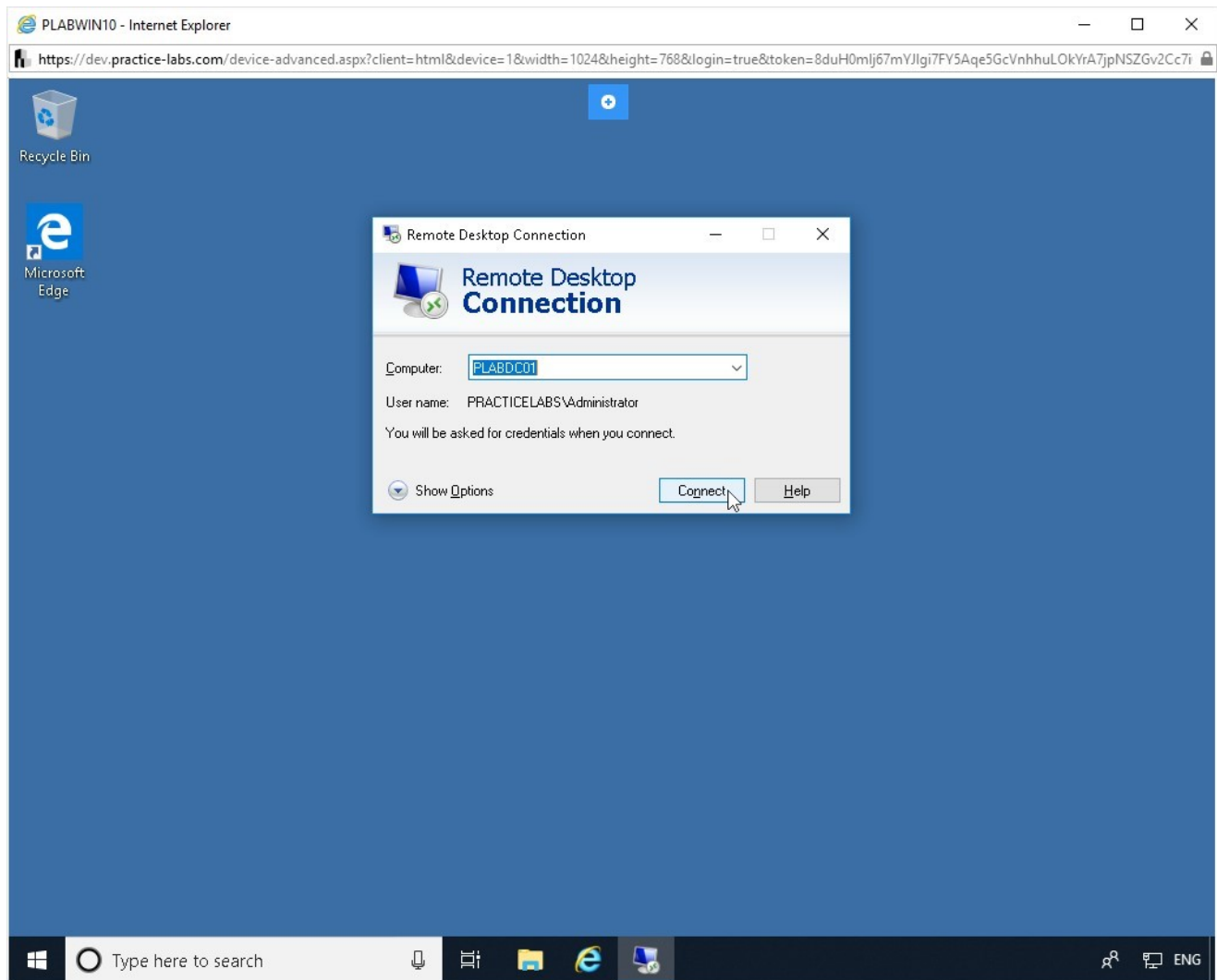
PLABDC01

Then, click **Connect**.

Figure 1.36 Screenshot of PLABWIN10: Entering the name of the remote computer in the Remote Desktop Connection dialog box.

Step 3

The **Windows Security** dialog box is displayed.

To sign in as **PRACTICELABS\Administrator**, type the following password:

Passw0rd

Then, click **OK**.
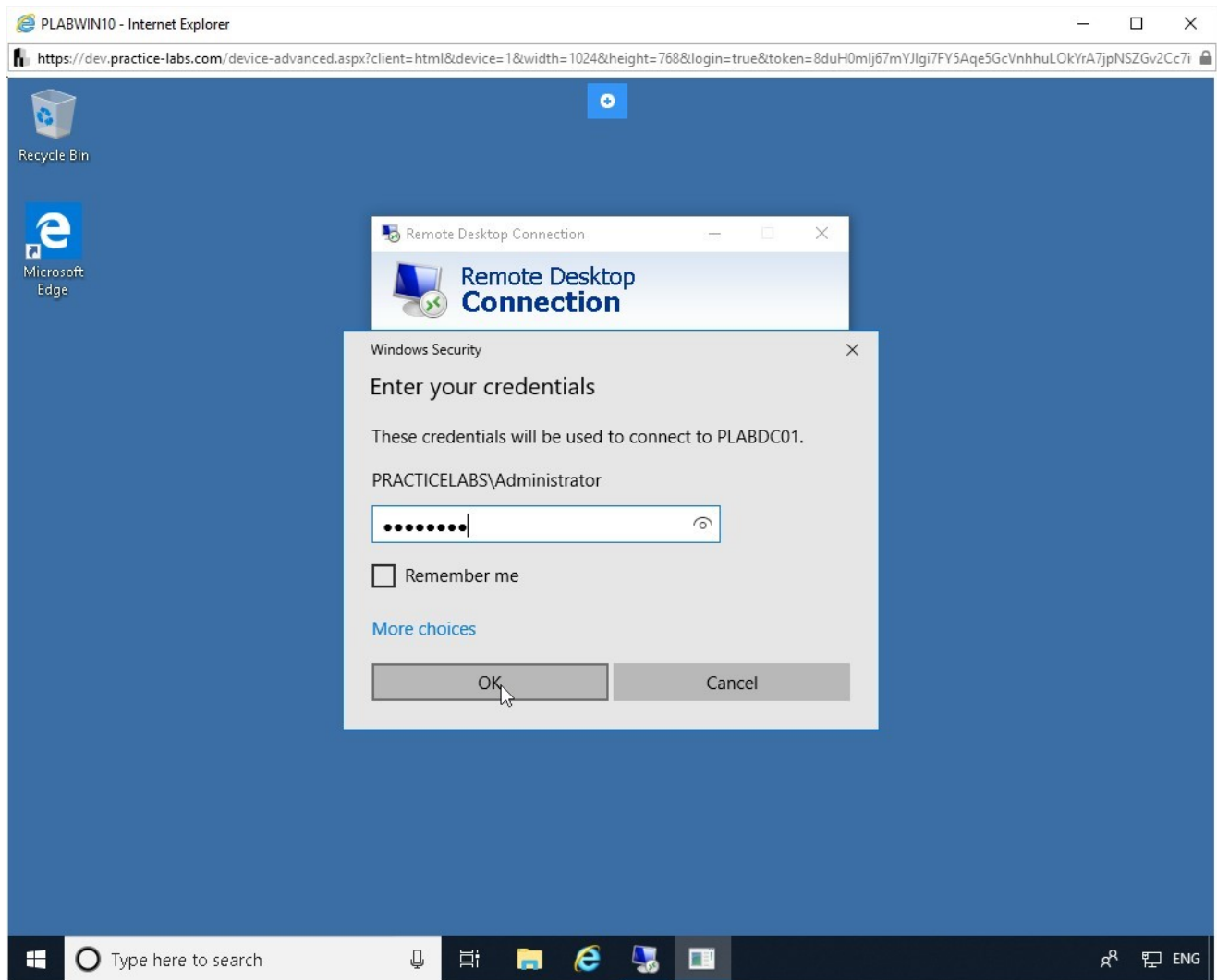
Figure 1.37 Screenshot of PLABWIN10: Entering the password for connecting to the remote computer.

Step 4

After authentication is successful, you will notice that a dialog box appears for a few seconds attempting to establish a connection with the remote system, which is **PLABDC01** in this task.
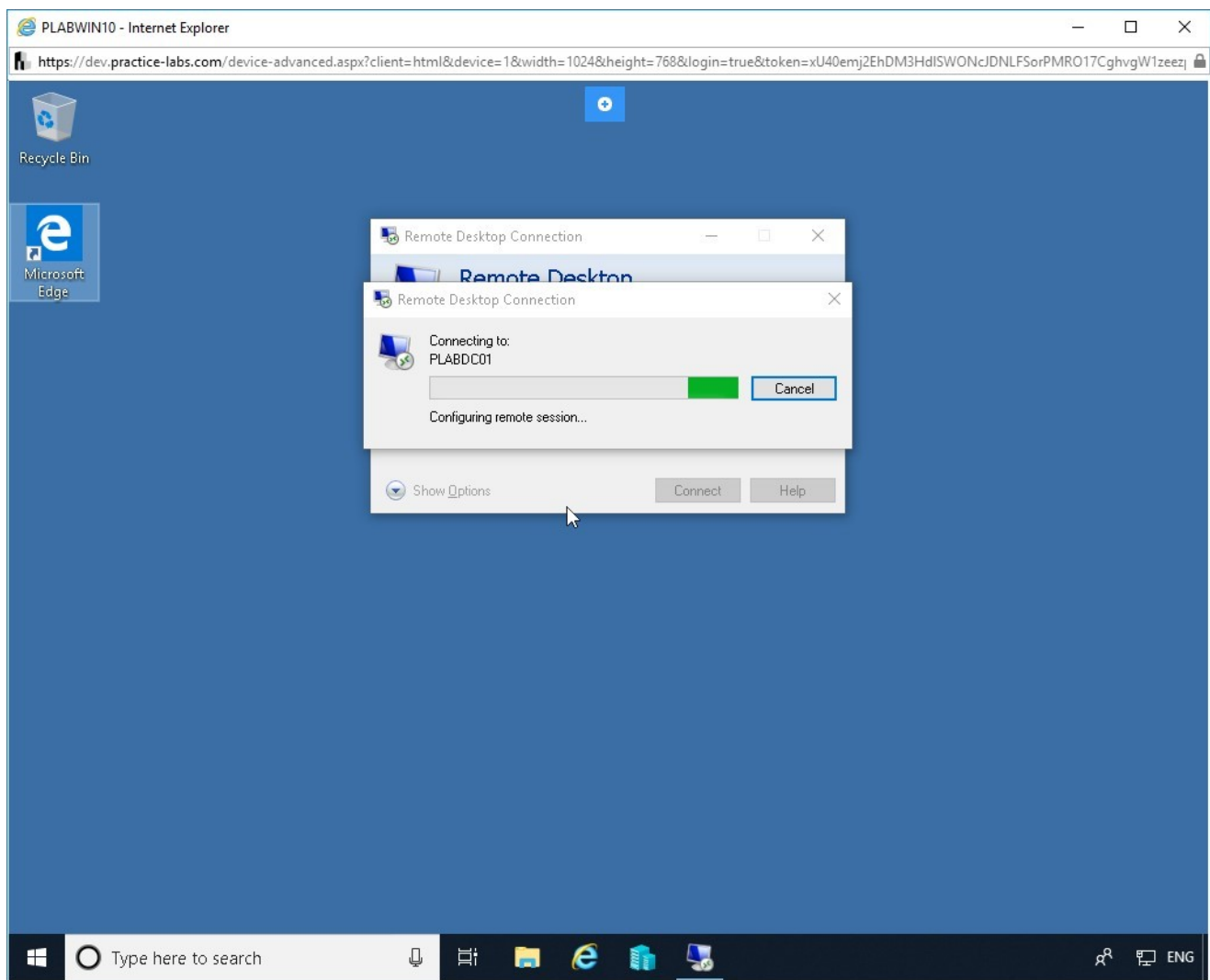
Figure 1.38 Screenshot of PLABWIN10: Showing the Remote Desktop Connection dialog box with the attempt to connect to the remote computer.

Step 5

After the connection is established, the desktop of the remote system, **PLABDC01**, is now visible. Notice that the remote system is now displayed with full screen.
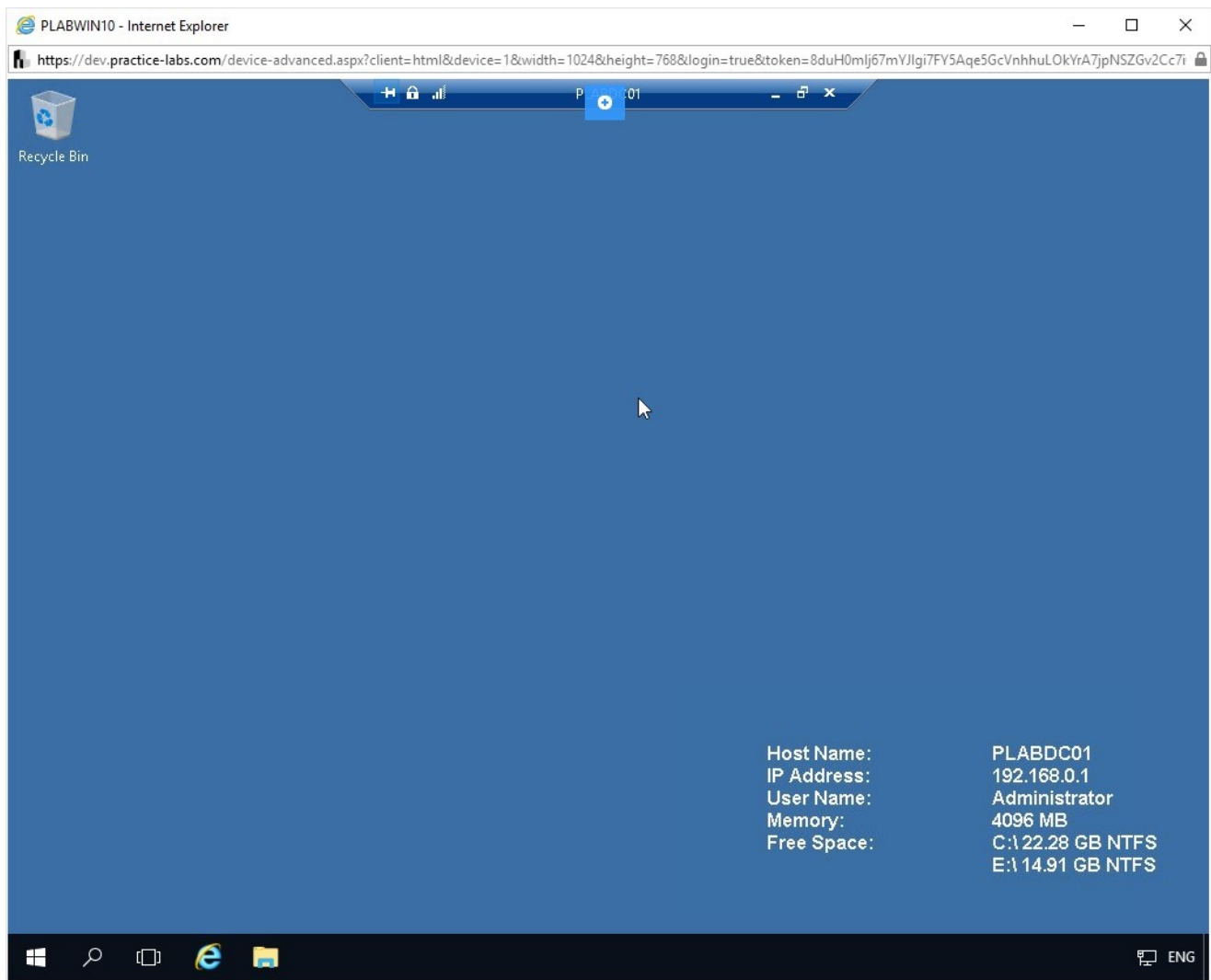
Figure 1.39 Screenshot of PLABWIN10: Showing the desktop of the remote computer after successful connection.

Step 6

The remote connection bar is displayed on top of the screen. You can make this remote connection bar disappear by clicking anywhere on the desktop.
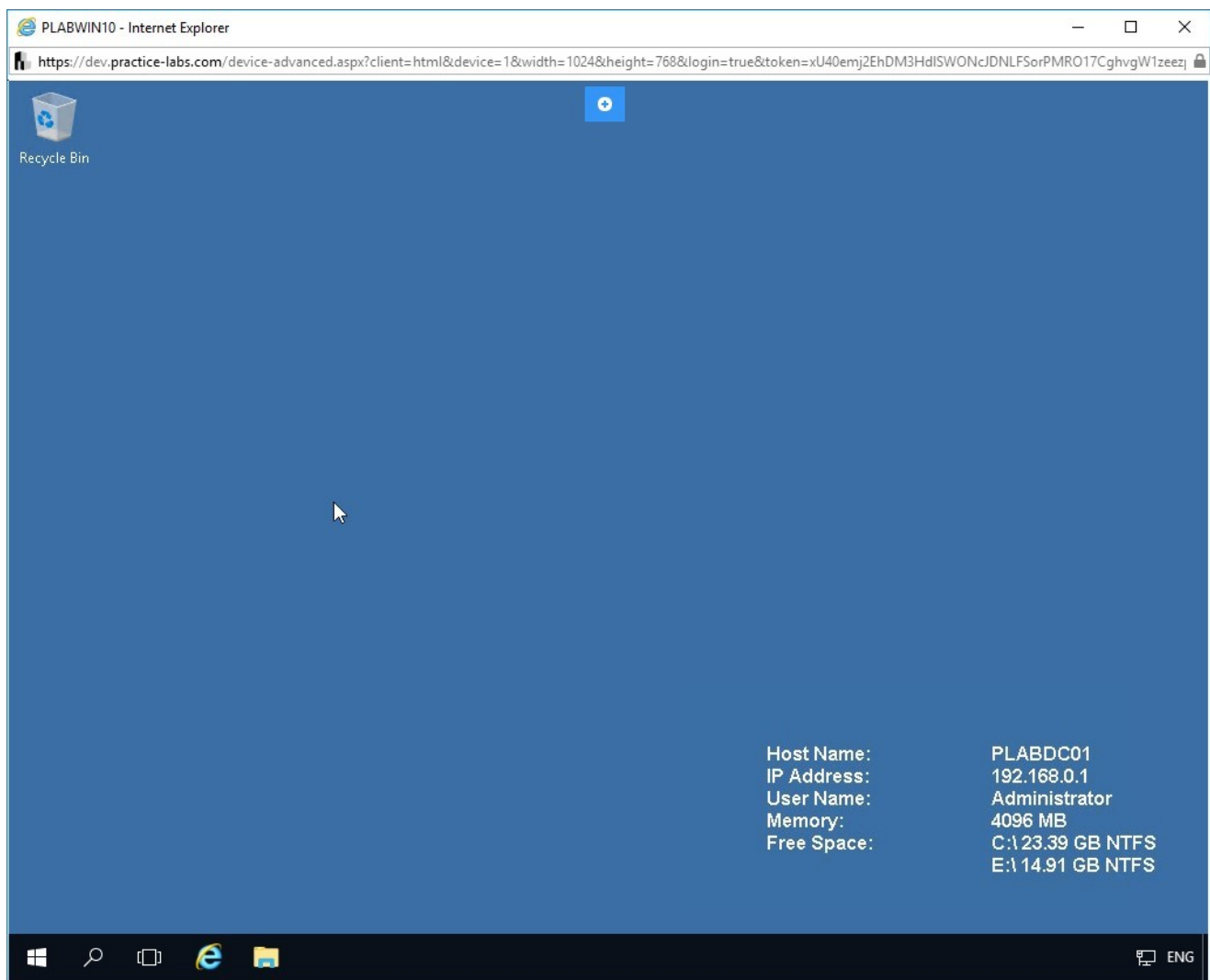
Figure 1.40 Screenshot of PLABWIN10: Making the remote connection bar disappear.

Step 7

To bring the remote connection bar back, move the cursor to the middle of the top of the screen.
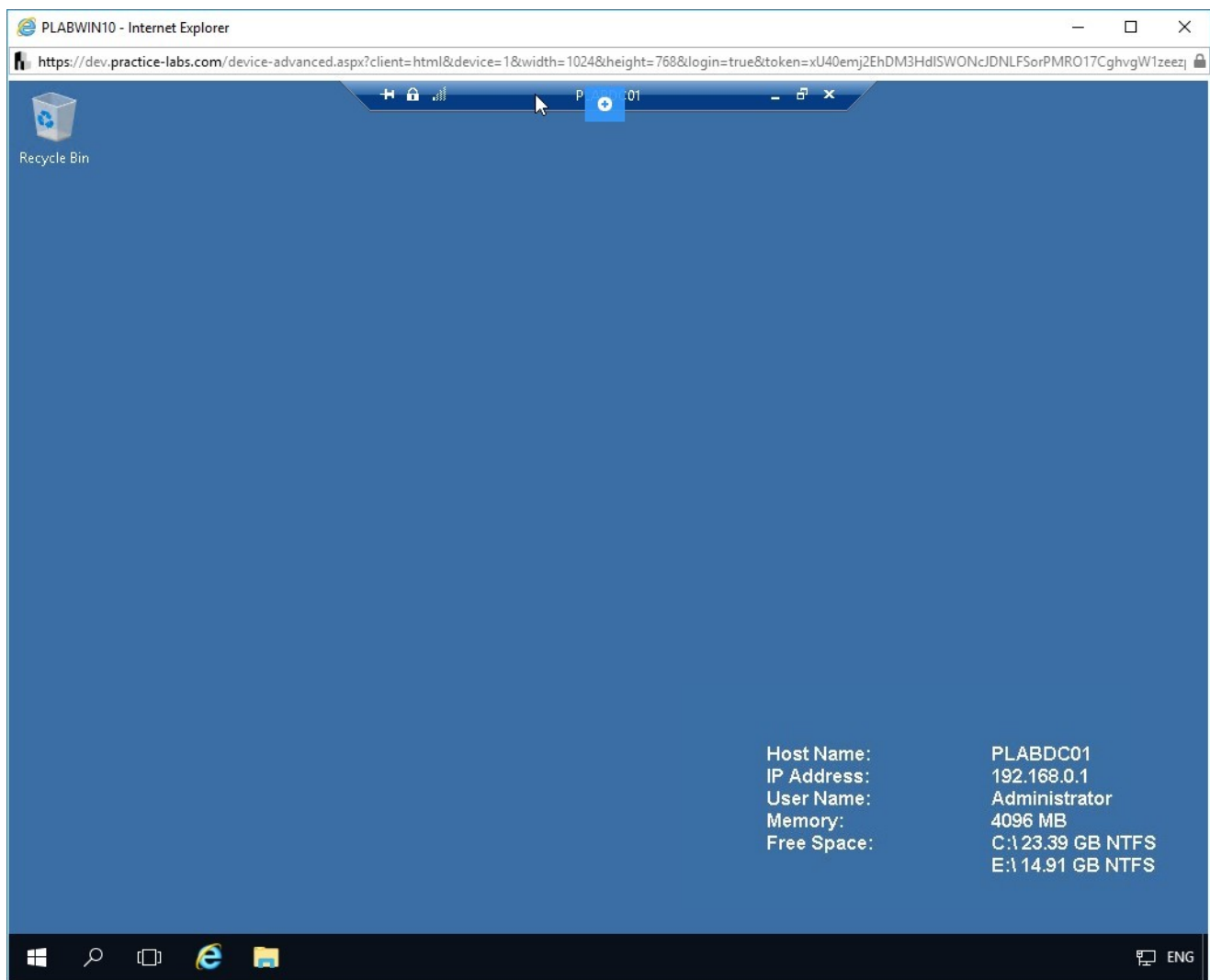
Figure 1.41 Screenshot of PLABWIN10: Displaying the remote connection bar.

Step 8

You can make the remote connection bar visible all the time by clicking the pin, which is the first icon.
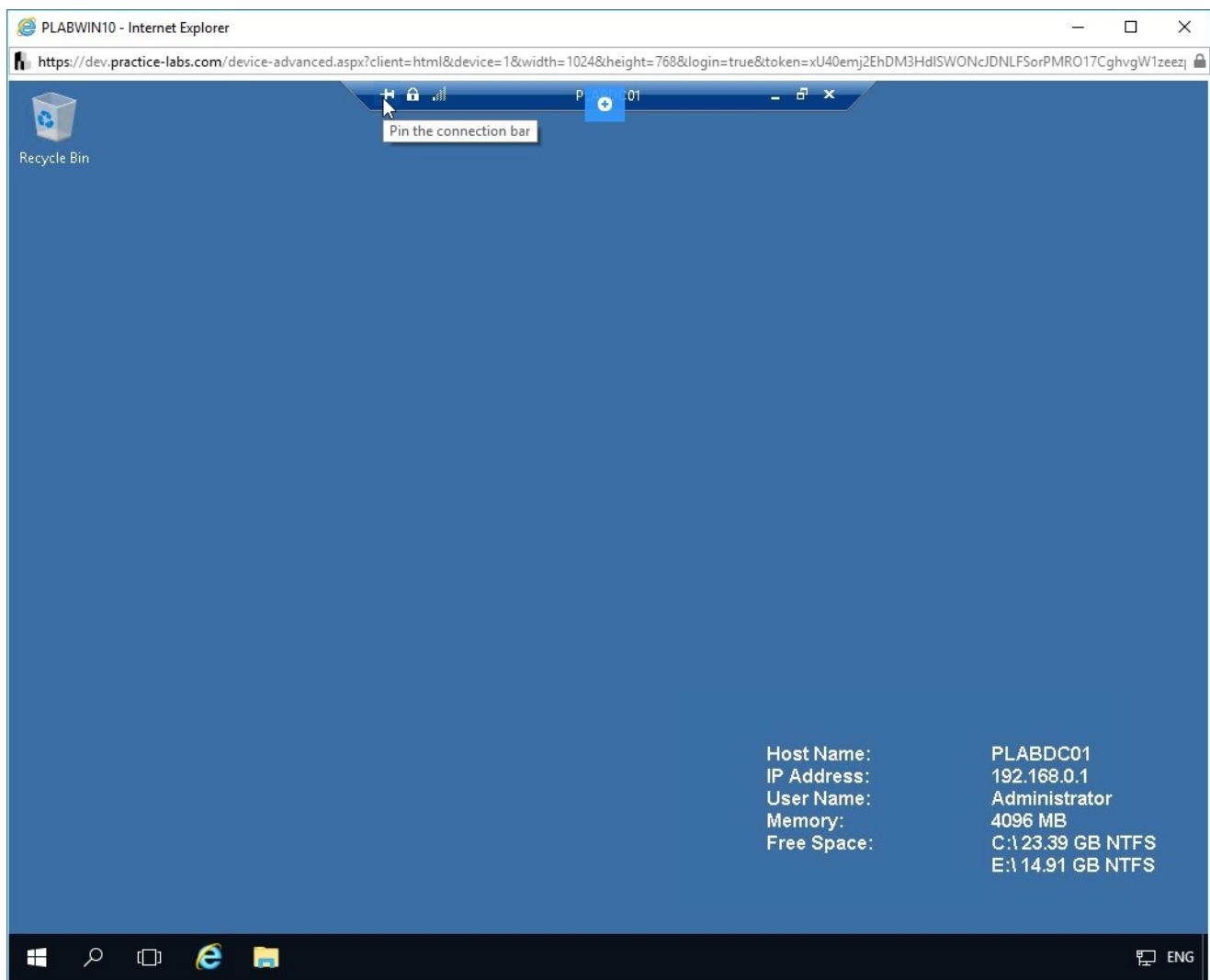
Figure 1.42 Screenshot of PLABWIN10: Pinning the remote connection bar.

Step 9

After pinning it, click anywhere on the desktop. Notice that the remote connection bar does not disappear this time.
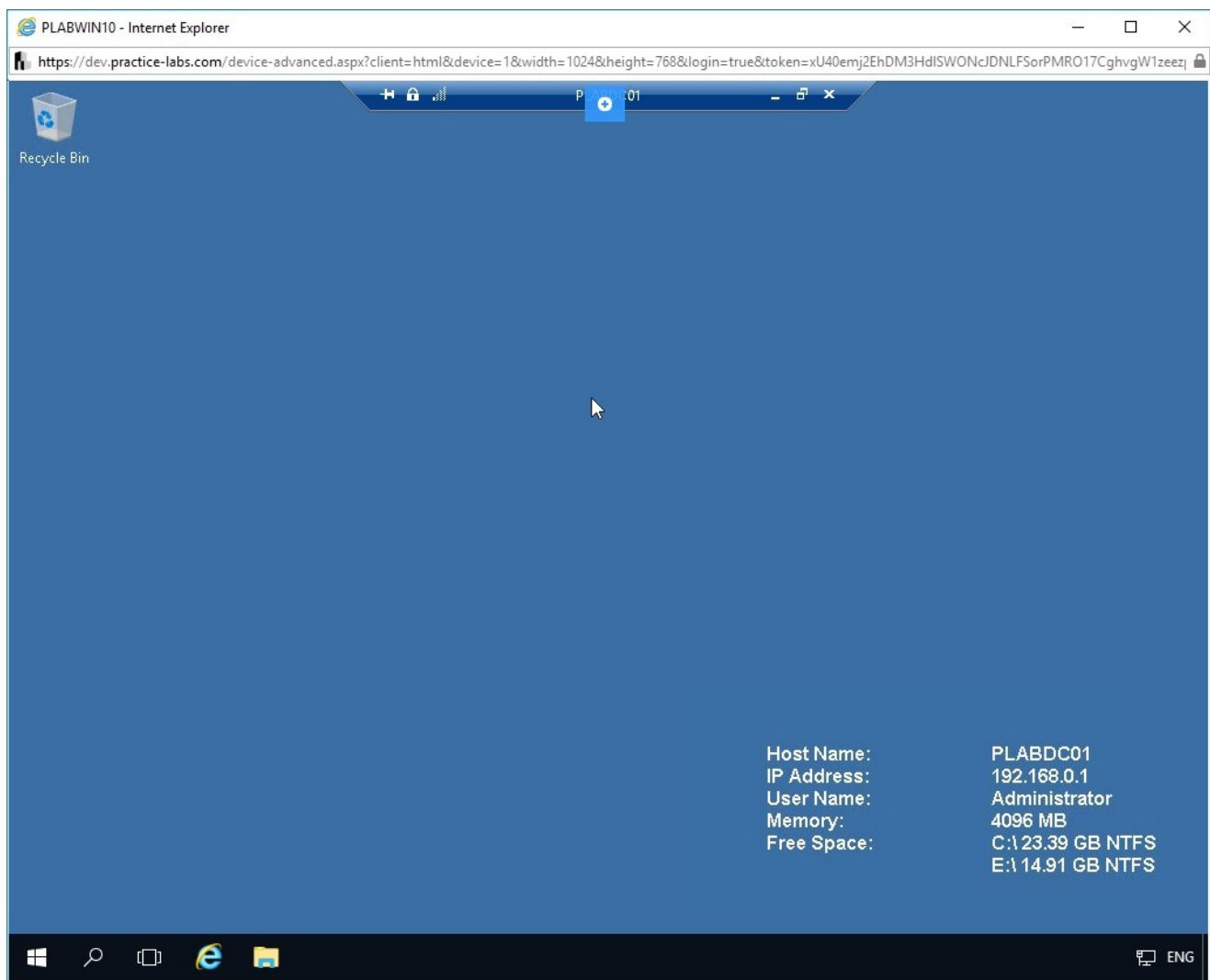
Figure 1.43 Screenshot of PLABWIN10: Showing the remote connection bar.
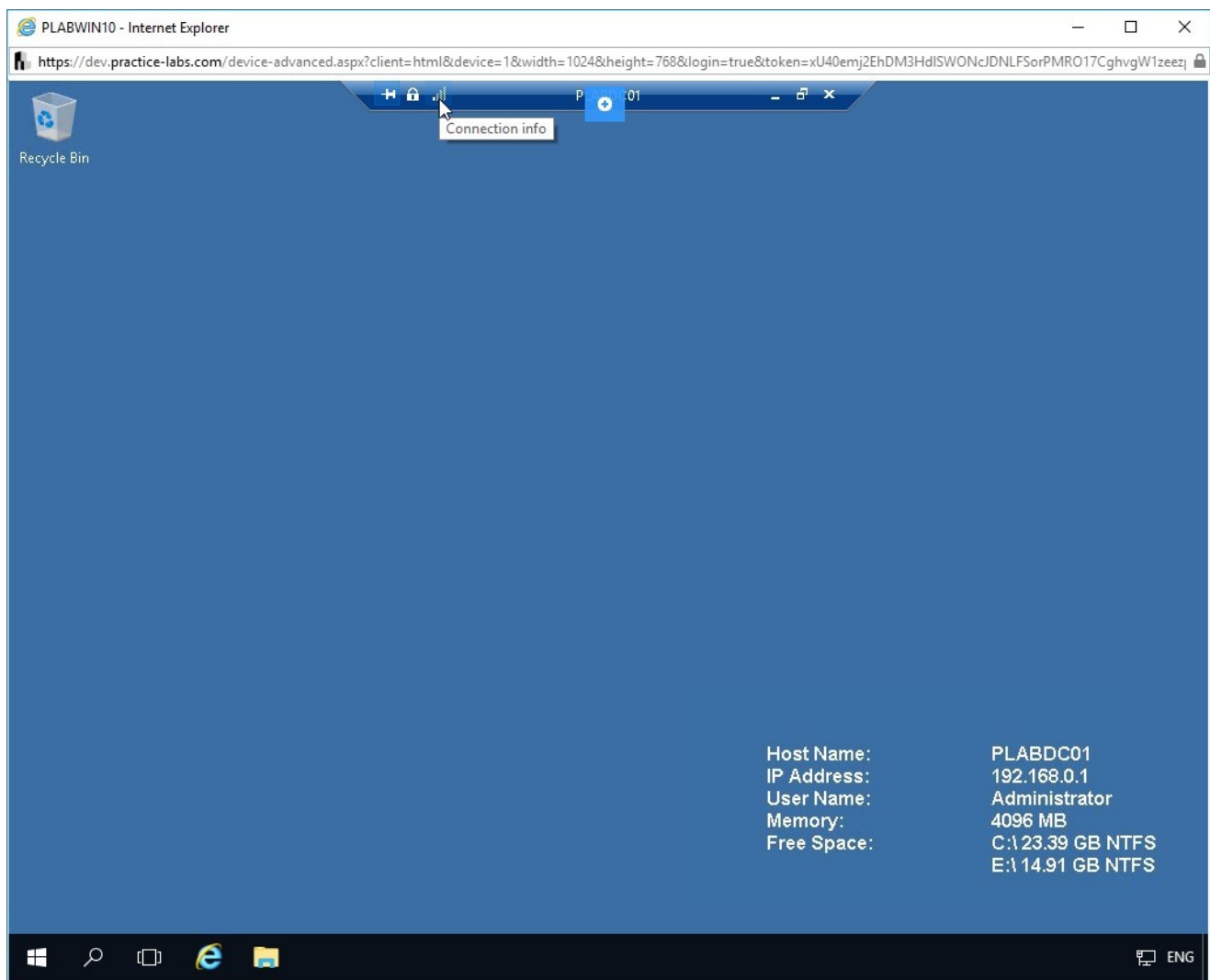
Step 10

Click the **Security info** icon.
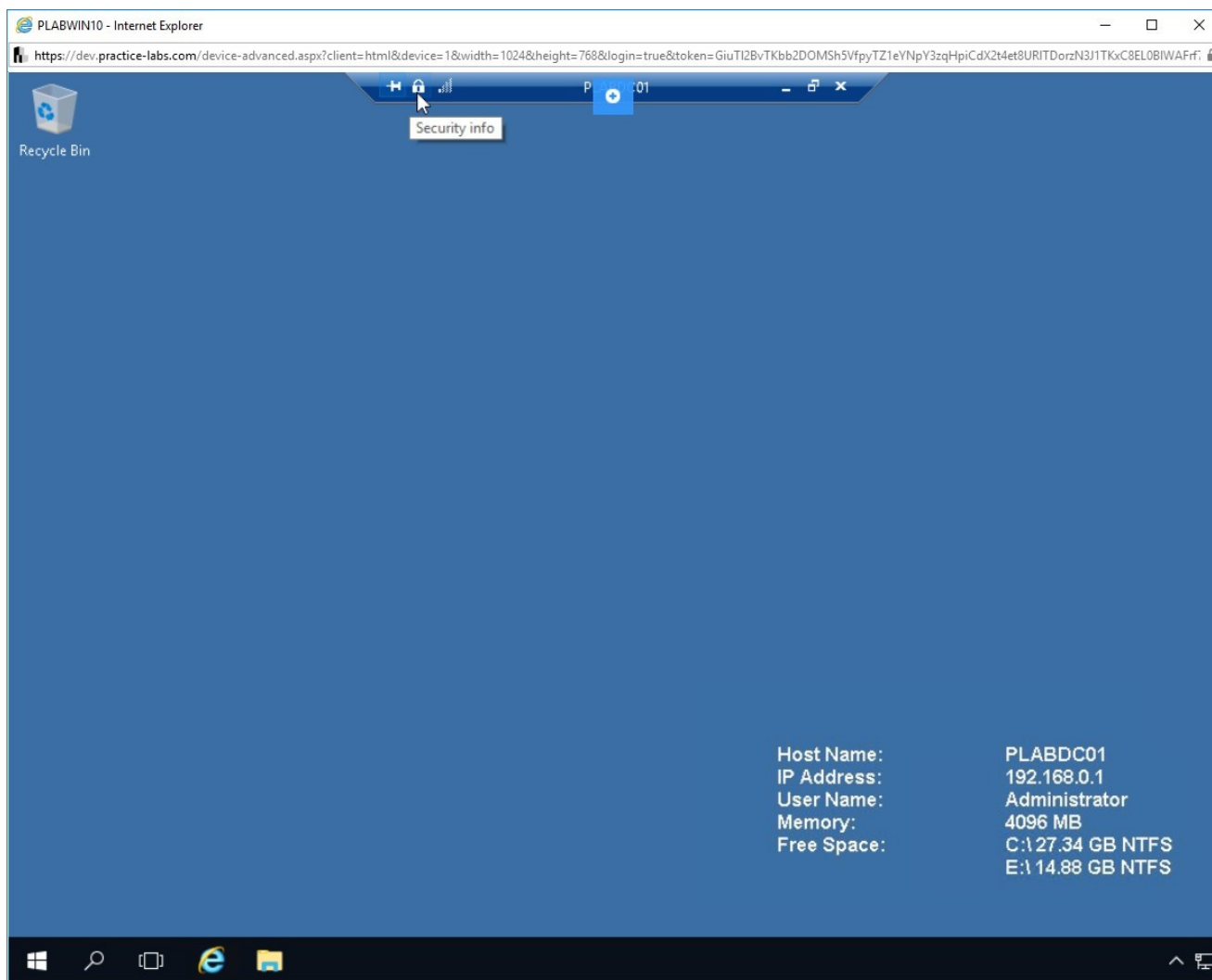
Figure 1.44 Screenshot of PLABWIN10: Clicking the Security info icon.

Step 11

In the **Remote Desktop Connection** dialog box, notice that it states that the identity of the remote computer was verified by **Kerberos**. Click **OK**.
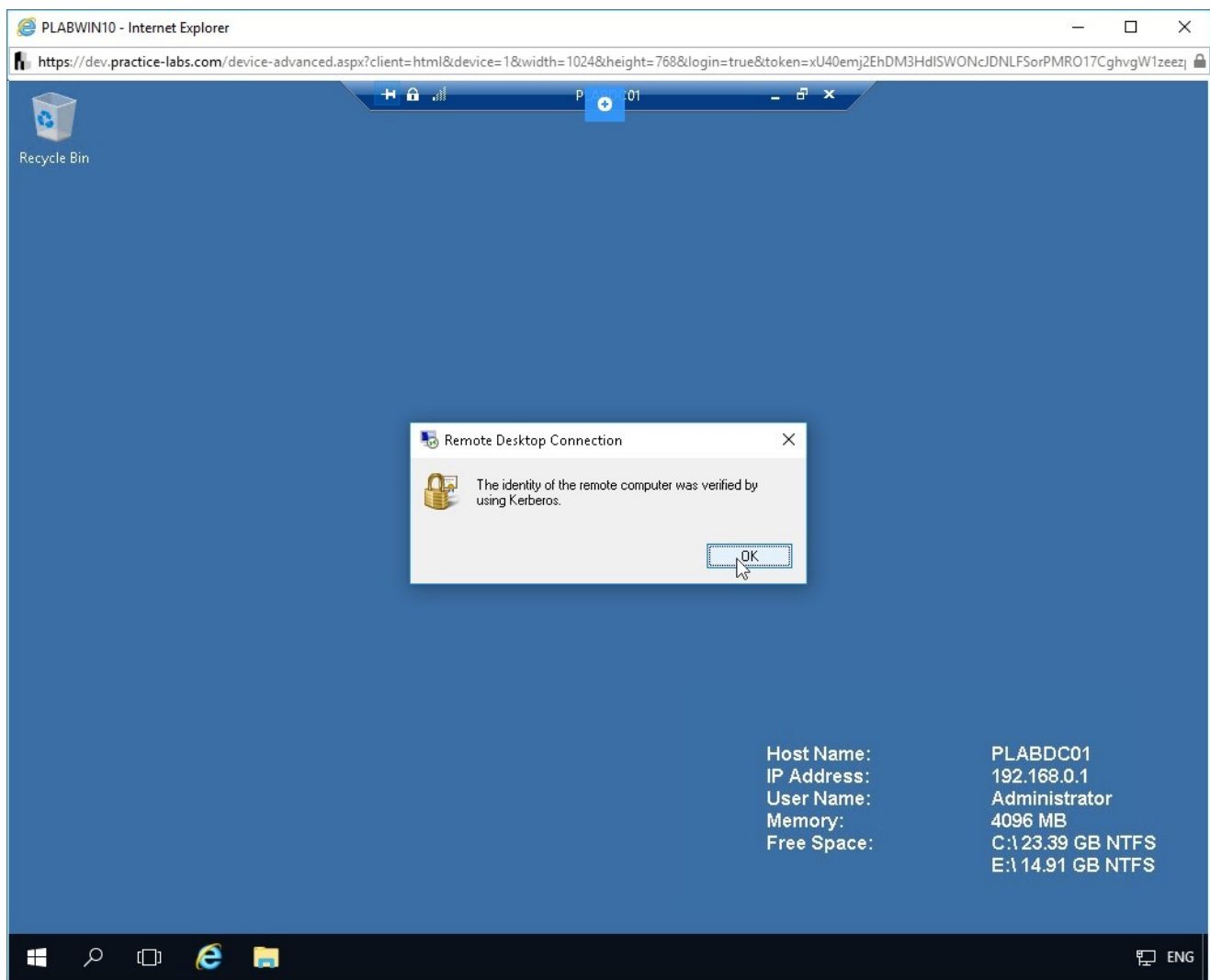
Figure 1.45 Screenshot of PLABWIN10: Clicking OK to close the Remote
Desktop Connection dialog box.

Step 12

Click the **Connection info** icon.

Figure 1.46 Screenshot of PLABWIN10: Clicking the Connection info icon.

Step 13

In the **Remote Desktop Connection** dialog box, notice that it states that the quality of the connection to the remote computer is good and has **UDP** enabled. Click **OK**.
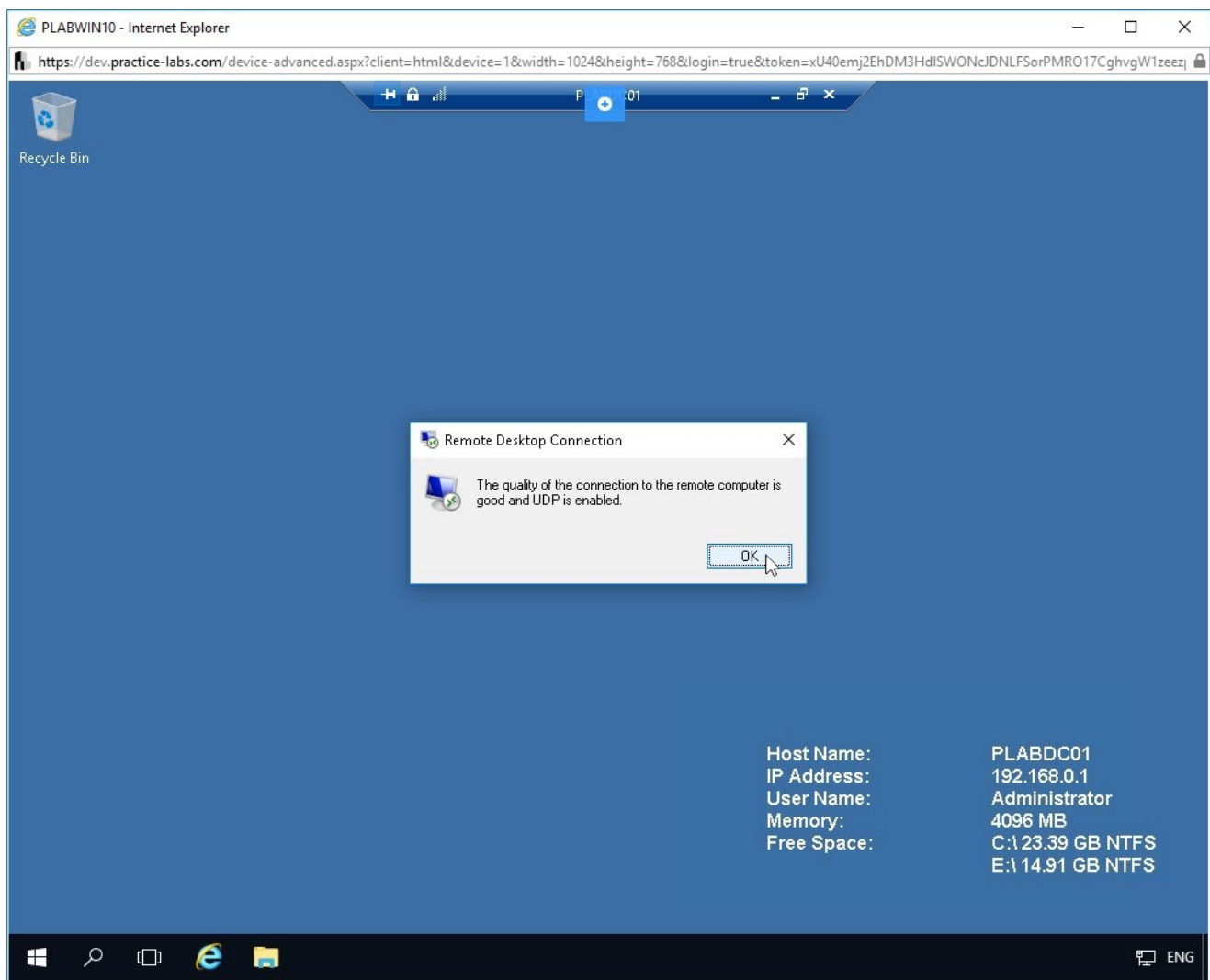
Figure 1.47 Screenshot of PLABWIN10: Showing the Remote Desktop
Connection dialog box.

Step 14

Click **Close**.
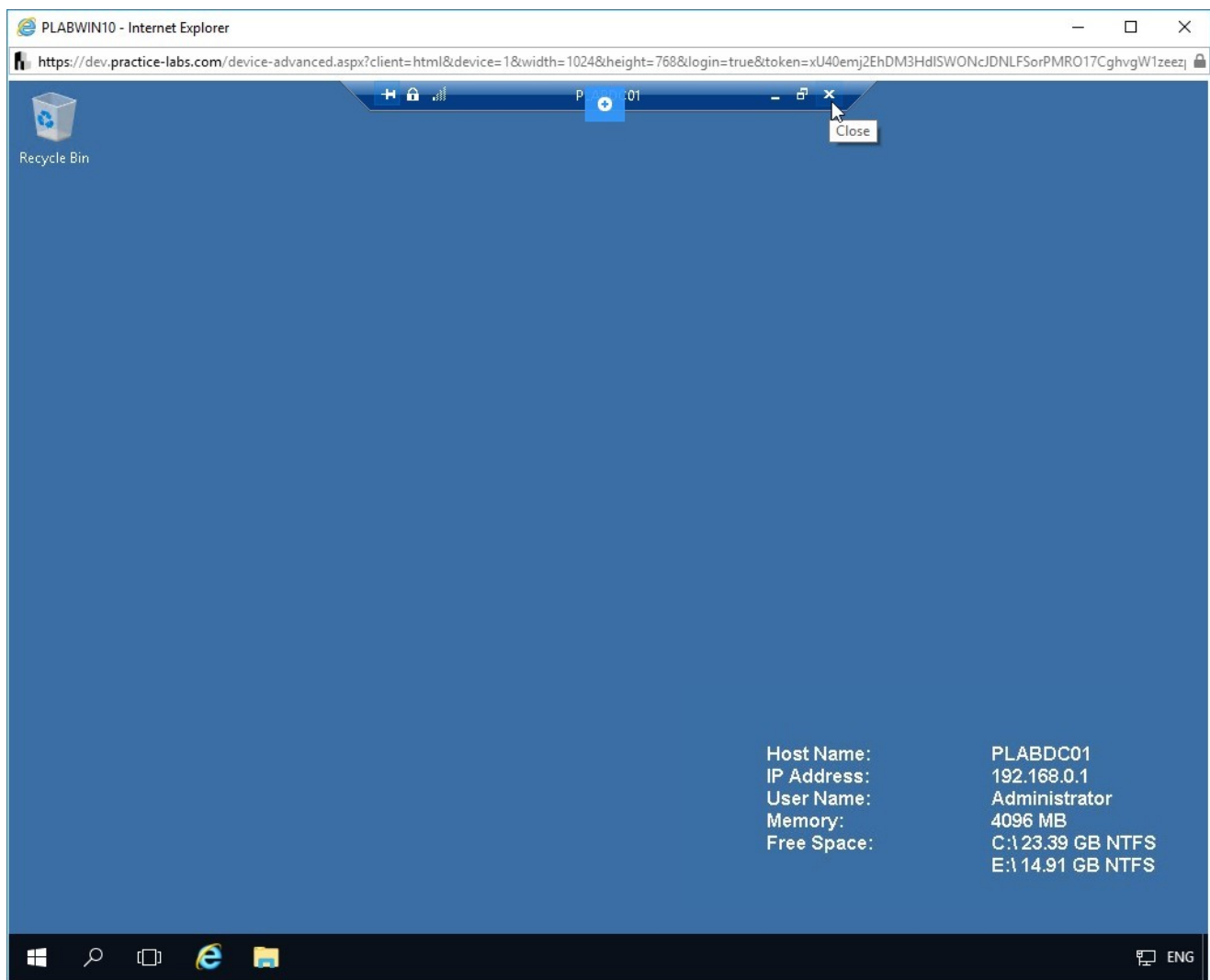
Figure 1.48 Screenshot of PLABWIN10: Closing the remote session.

Step 15

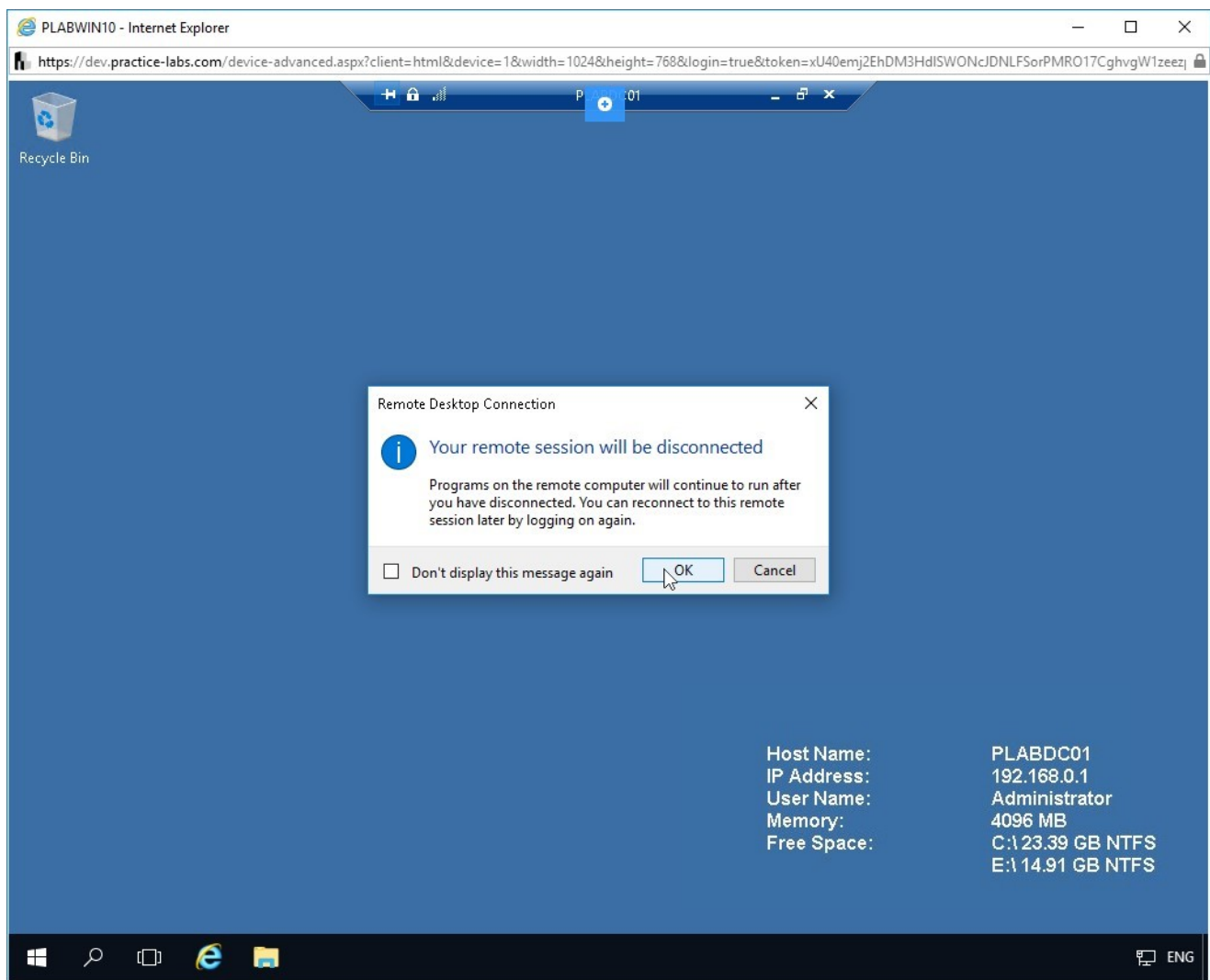In the **Remote Desktop Connection** dialog box, click **OK** to close the remote session.

Figure 1.49 Screenshot of PLABWIN10: Clicking OK on the Remote Desktop Connection dialog box to close the remote session.

Step 16

You are now back on the **PLABWIN10's** desktop. Invoke the **MSTSC** client once again.

Notice that **PLABDC01** name appears automatically.

> **Note:** *You can overwrite this name. Whichever remote system you connect with, the names are cached.*
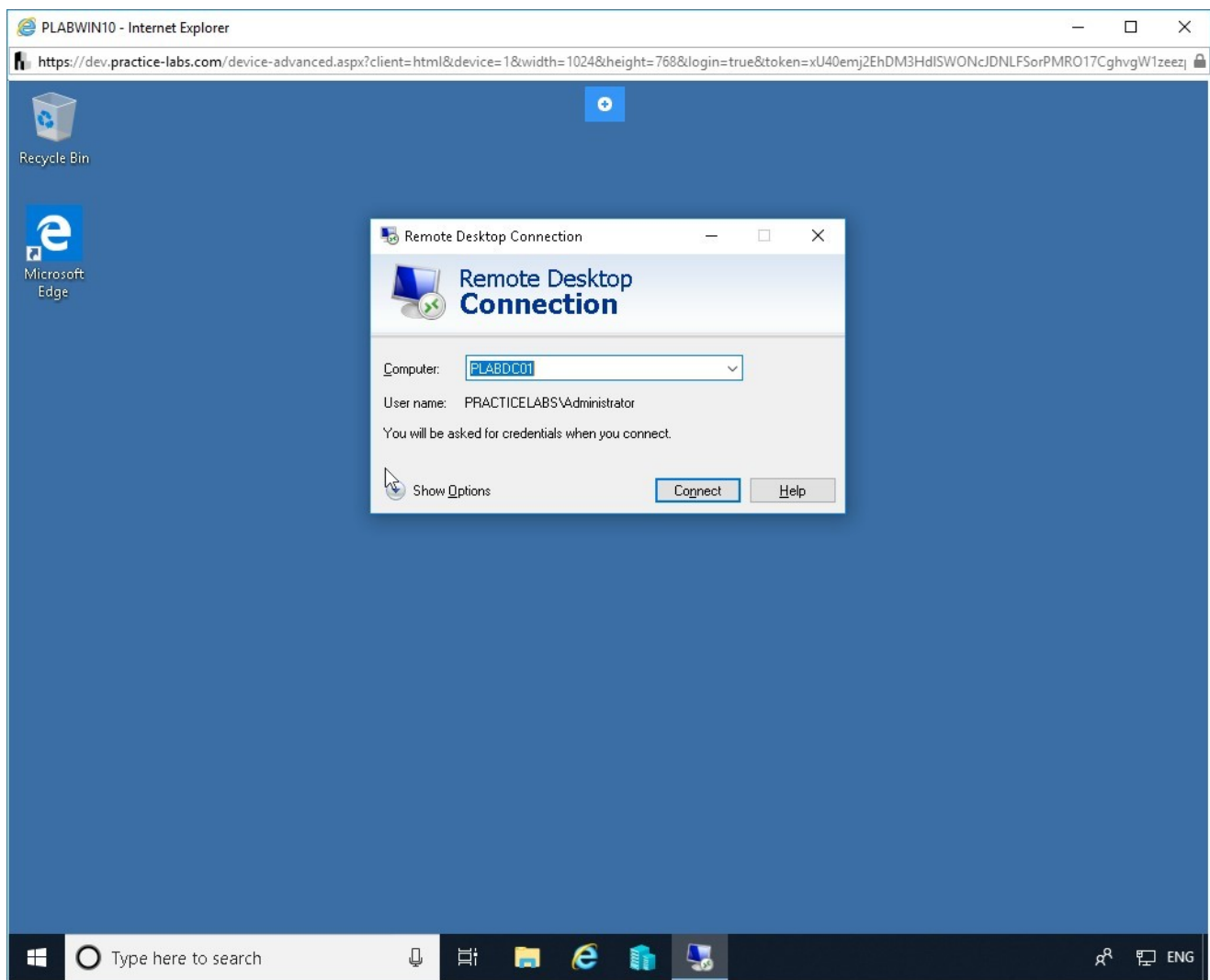
Figure 1.50 Screenshot of PLABWIN10: Invoking the Remote Desktop Connection dialog box once again.
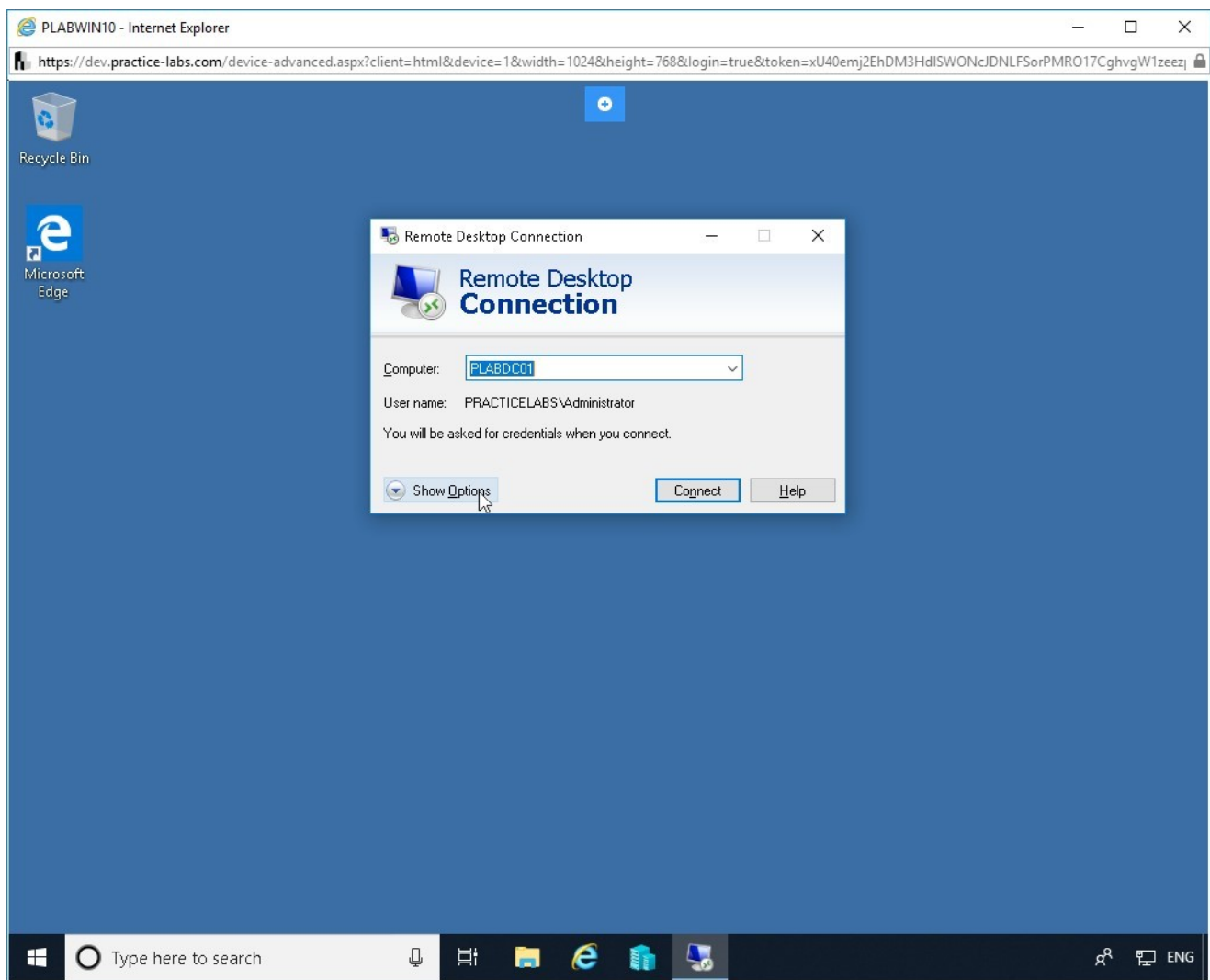
Step 17

Click **Show Options**.

Figure 1.51 Screenshot of PLABWIN10: Clicking Show Options.

Step 18

The **Remote Desktop Connection** dialog box is displayed. By default, the **General** tab is displayed. In the **General** tab, you can either use the remote system name or IP address and then provide the username that you want to use.

Previously, you had connected with **PLABDC01**. Notice that its name and username are already added. You can choose to connect with a different system and with a different username.
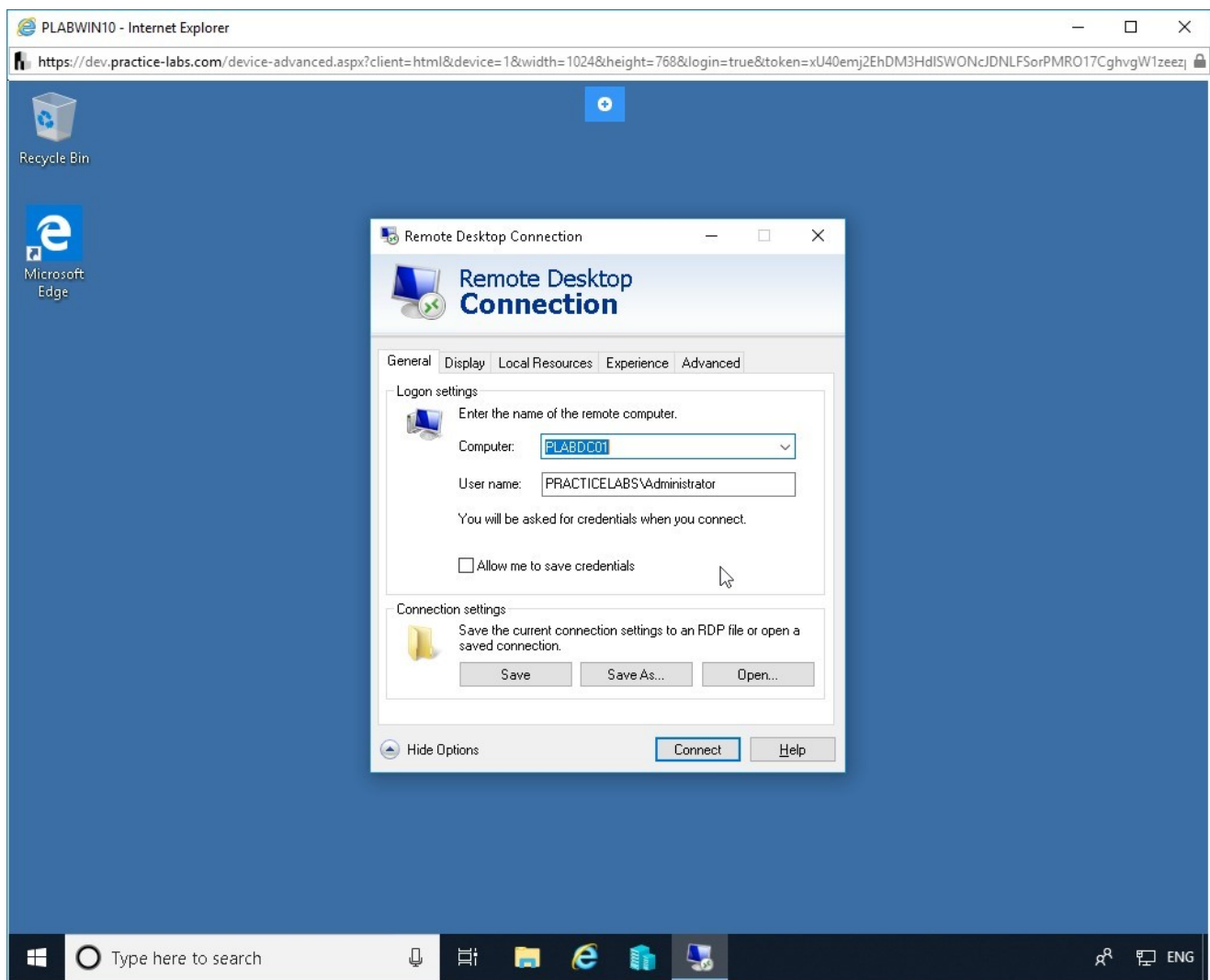
Figure 1.52 Screenshot of PLABWIN10: Displaying the General tab of the Remote Desktop Connection dialog box.

Step 19

When you click **Save**, the existing settings will be saved. Click **Save As** to save it as a file, which can be used later.
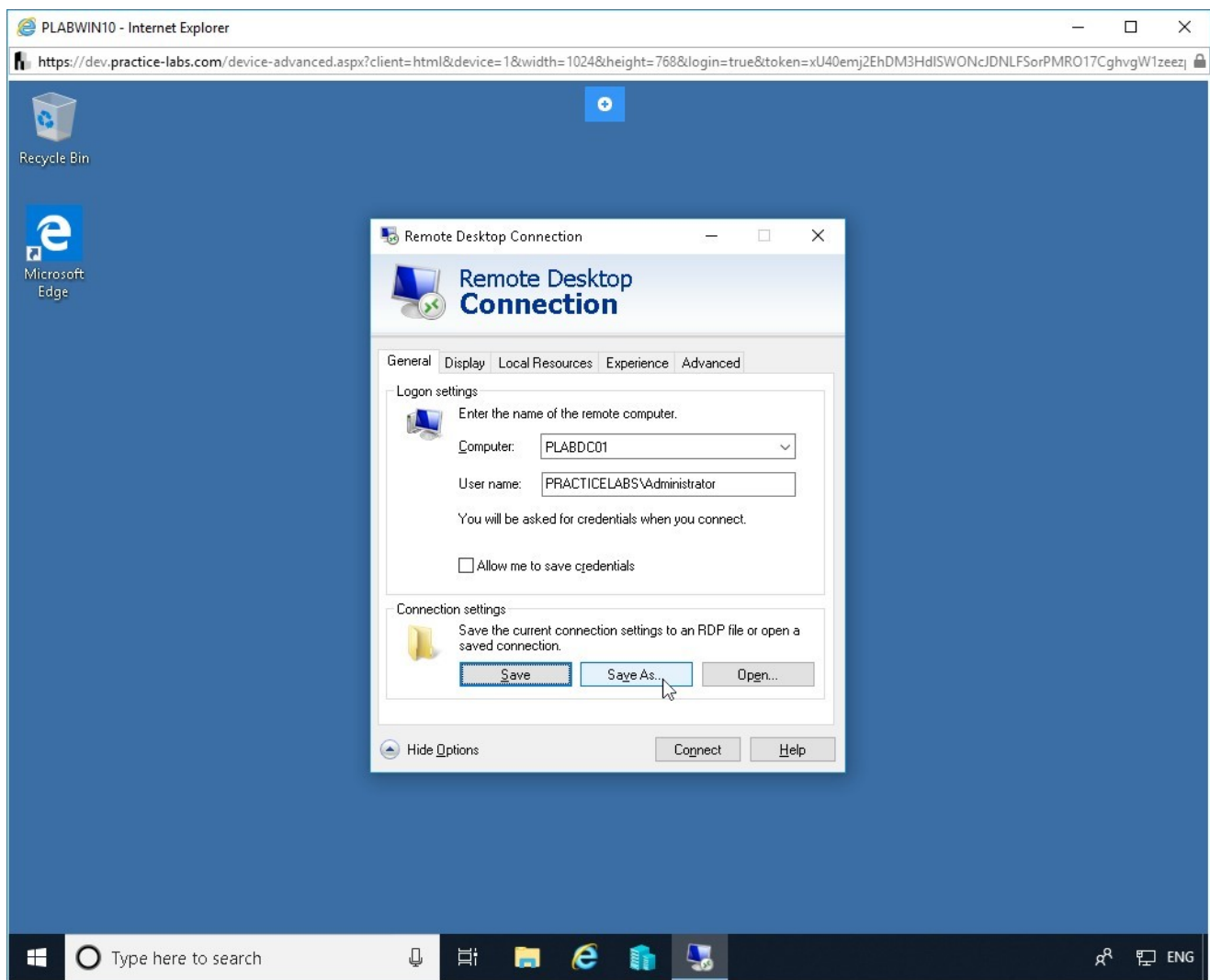
Figure 1.53 Screenshot of PLABWIN10: Displaying the system name with the remote system name and user name.

Step 20

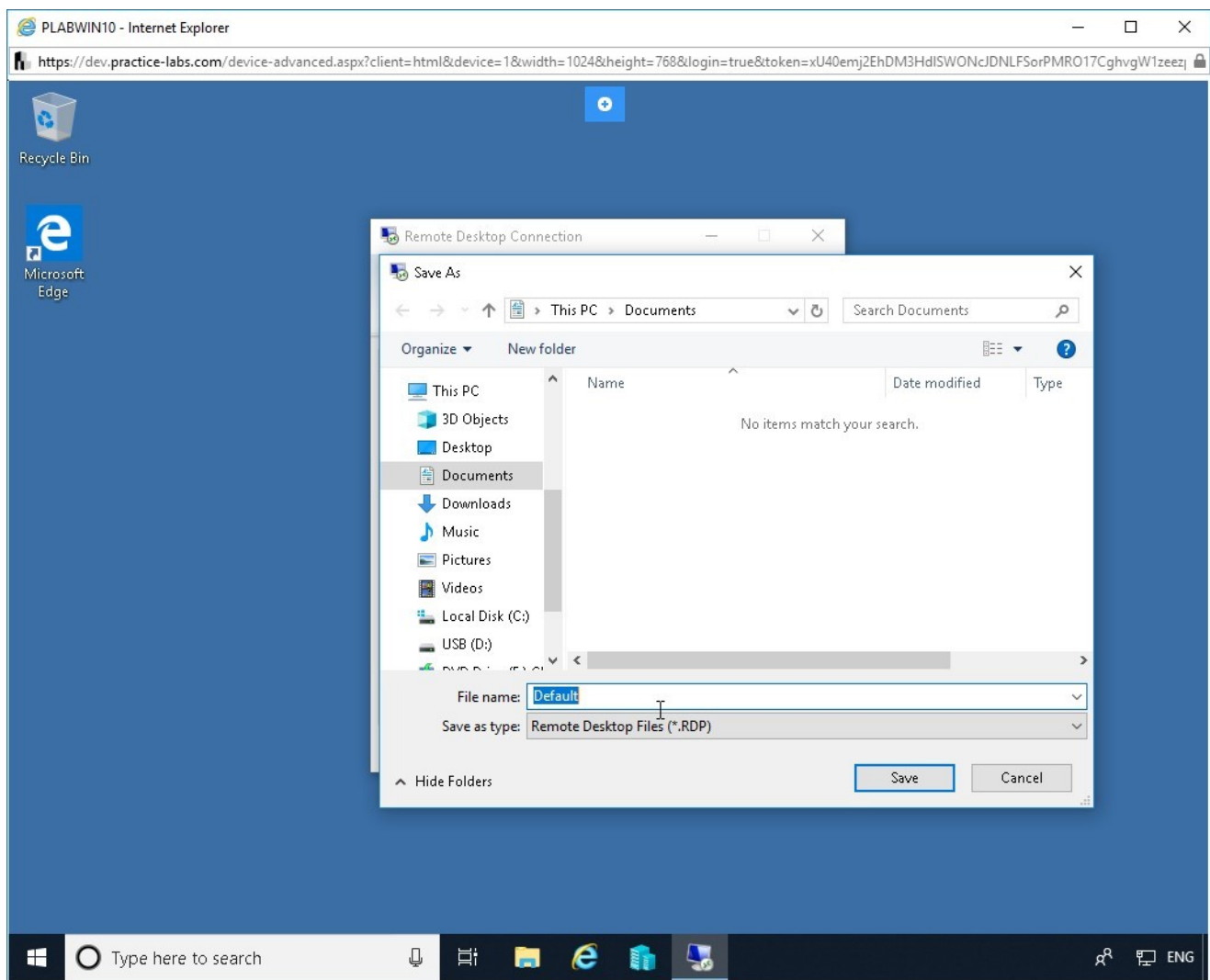The **Save As** dialog box is displayed. Notice that **File name** is **Default**.

Figure 1.54 Screenshot of PLABWIN10: Saving the remote connection information in the .RDP file.

Step 21

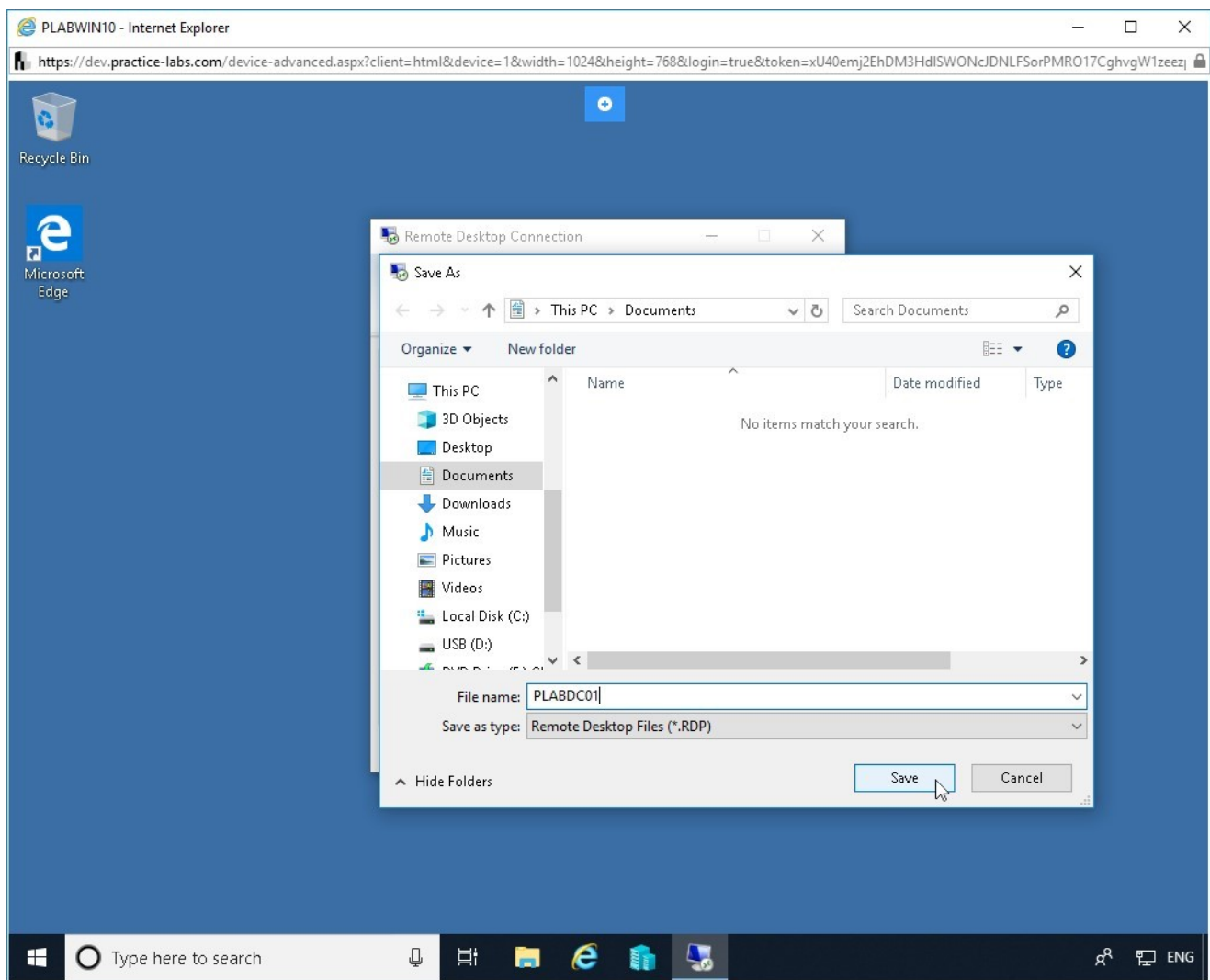In the **File name** textbox, type the following name:

PLABDC01

Click **Save**.

Figure 1.55 Screenshot of PLABWIN10: Saving the .RDP file with the
PLABDC01 name.

Step 22
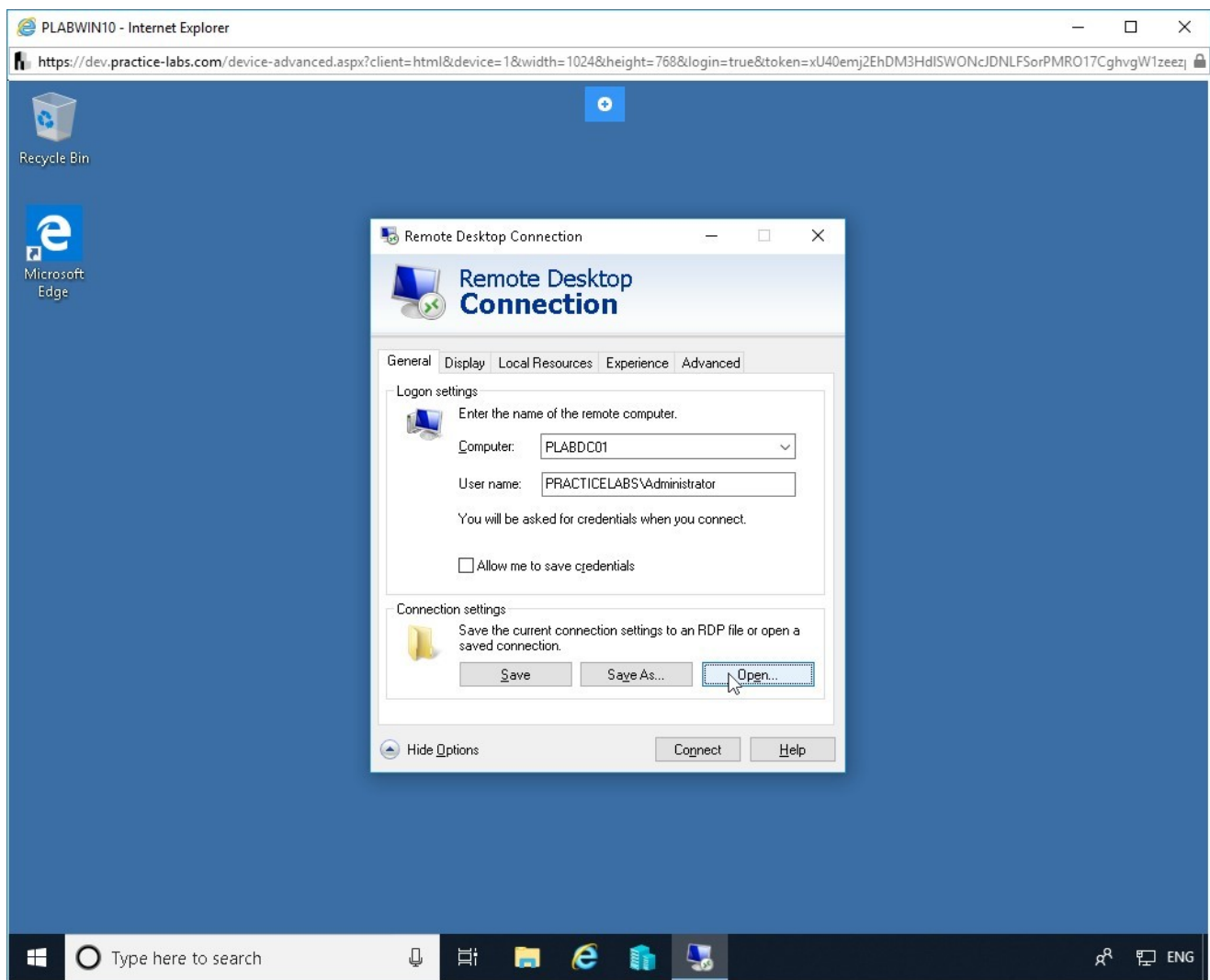
You are back on the **General** tab. Click **Open**.

Figure 1.56 Screenshot of PLABWIN10: Clicking the Open button on the General tab.

Step 23

The **Open** dialog box is displayed. Select **PLABDC01** if already not selected.
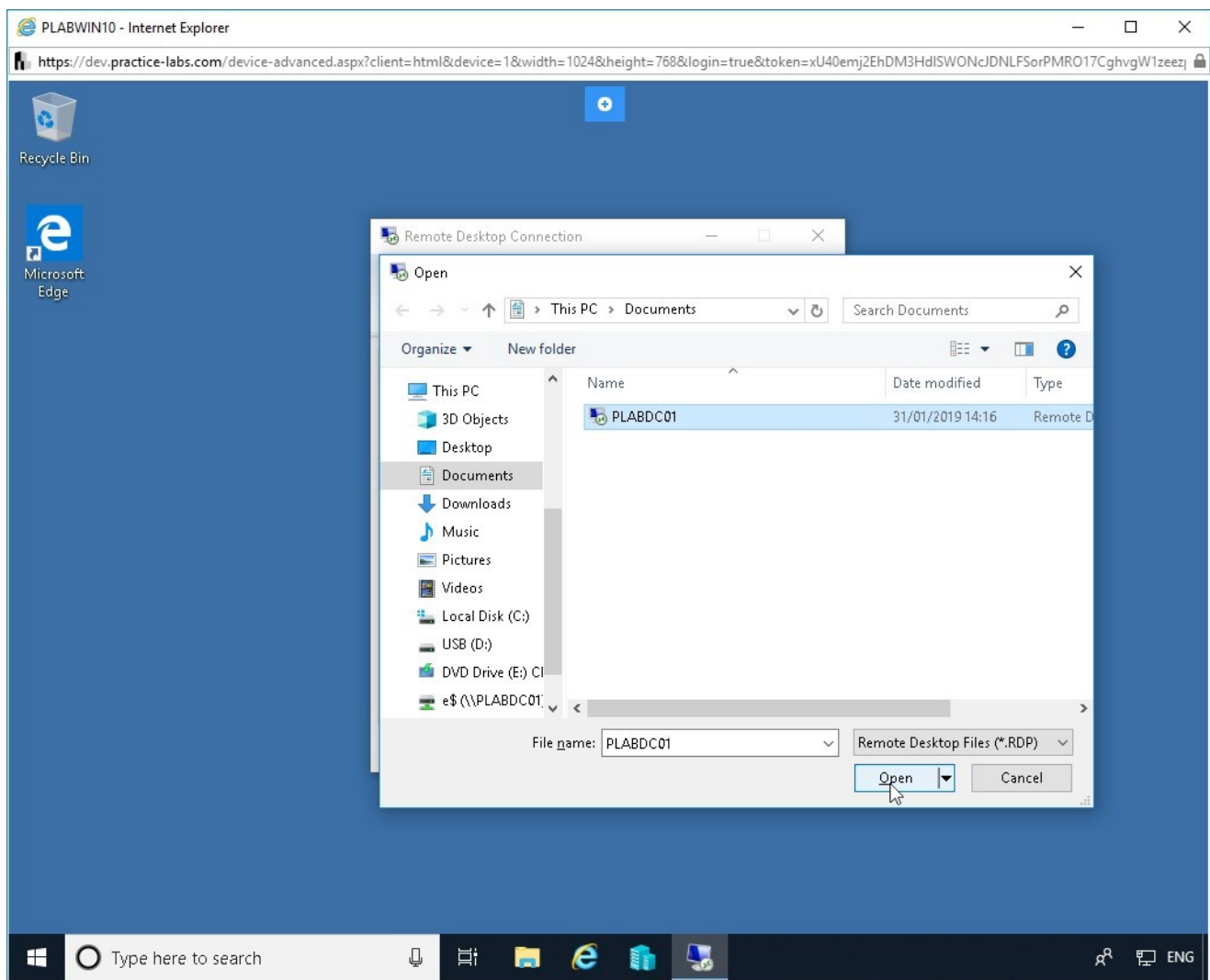
Click **Open**.

Figure 1.57 Screenshot of PLABWIN10: Opening the saved PLABDC01.RDP file.

Step 24

Notice that the **PLABDC01** settings are loaded. However, the username was not loaded. If you need the username to be loaded with the settings, you would need to select the **Allow me to save credentials** checkbox.
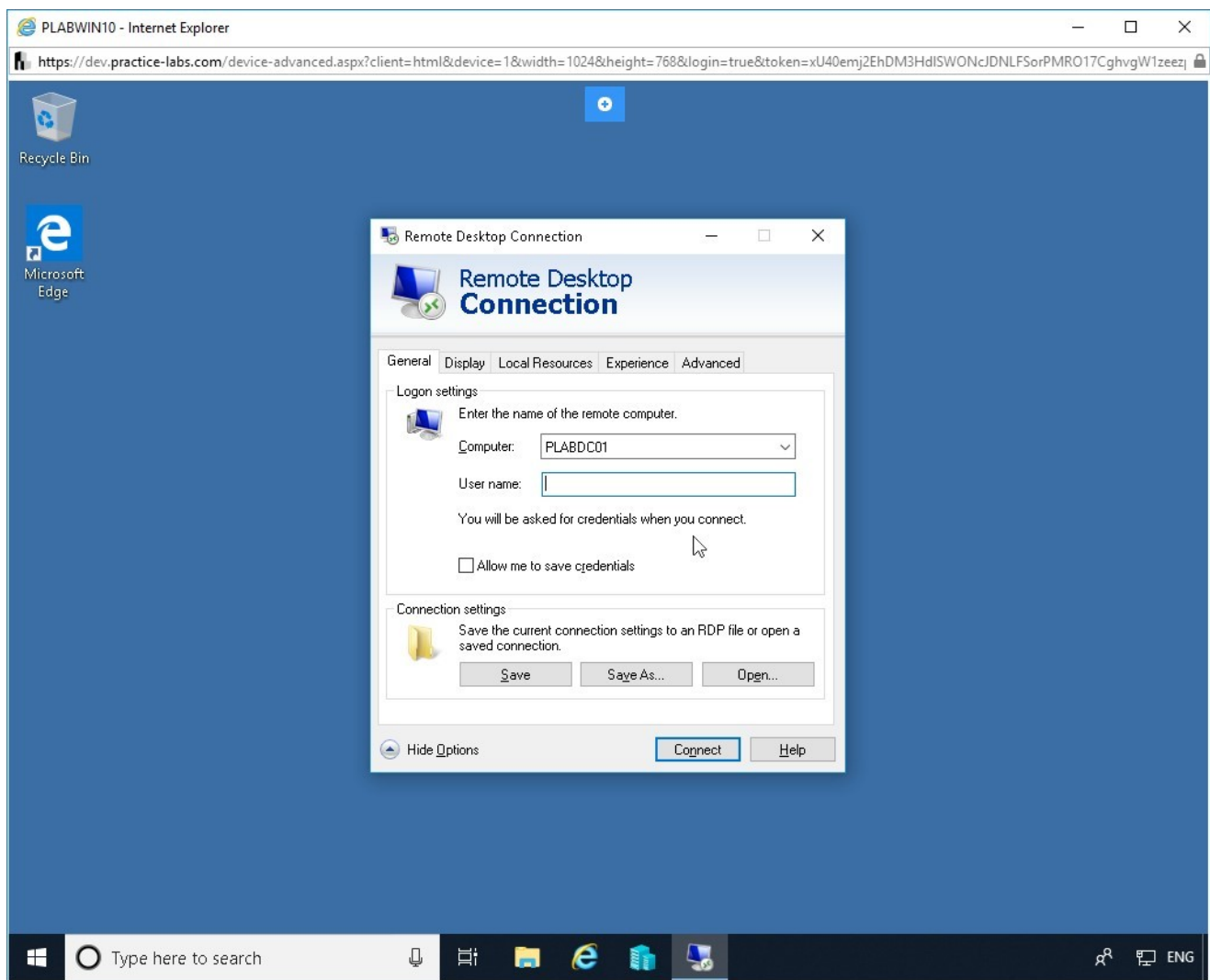
Figure 1.58 Screenshot of PLABWIN10: Loading the remote session details from the PLABDC01.RDP file.

Step 25

Click the **Display** tab. Here, you can configure the display settings. If you have a slow connection, then you can lower the quality from the **Highest Quality (32 bit)** drop-down.

Also, by default, remote desktop is displayed to the full screen. You can drag the bar to the left to decrease the window size.

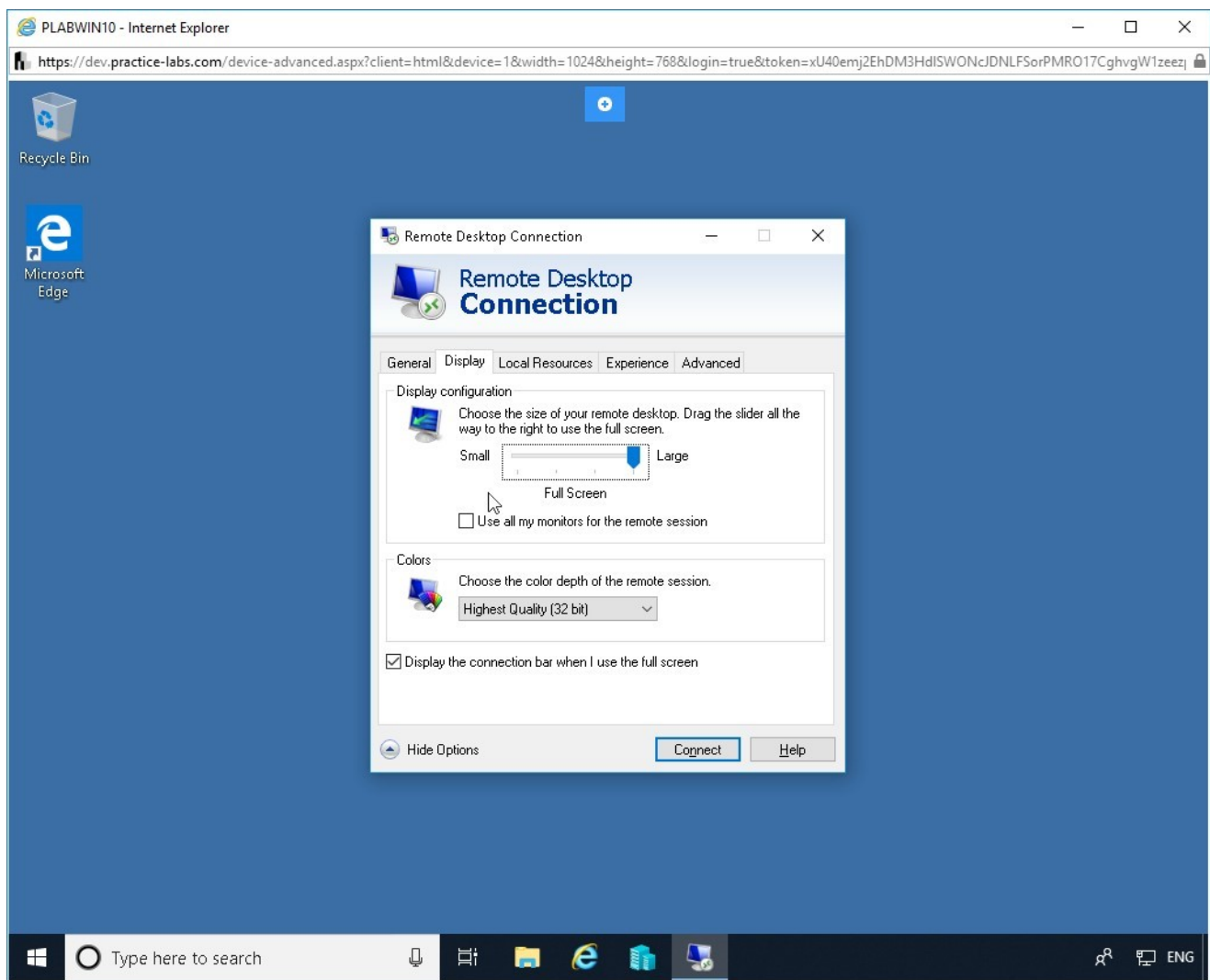For this task, you can leave the default settings.

Figure 1.59 Screenshot of PLABWIN10: Showing the settings on the Display tab.

Step 26

Click the **Local Resources** tab. There are three key settings that can be done on this tab:

- **Remote audio:** When the remote system plays audio, this specifies where audio will be played. By default, it is set to the computer managing the remote connection. Remote audio recording is not configured by default.
- **Keyboard:** This controls where an action will be performed when you press a combination of keys, such as Alt+Tab.
- **Local devices and resources:** The system, which you are using for managing the remote system, can have printers configured. With the default setting, the remote

system can use the printer that is configured on your local system. The clipboard is also configured in the same manner.
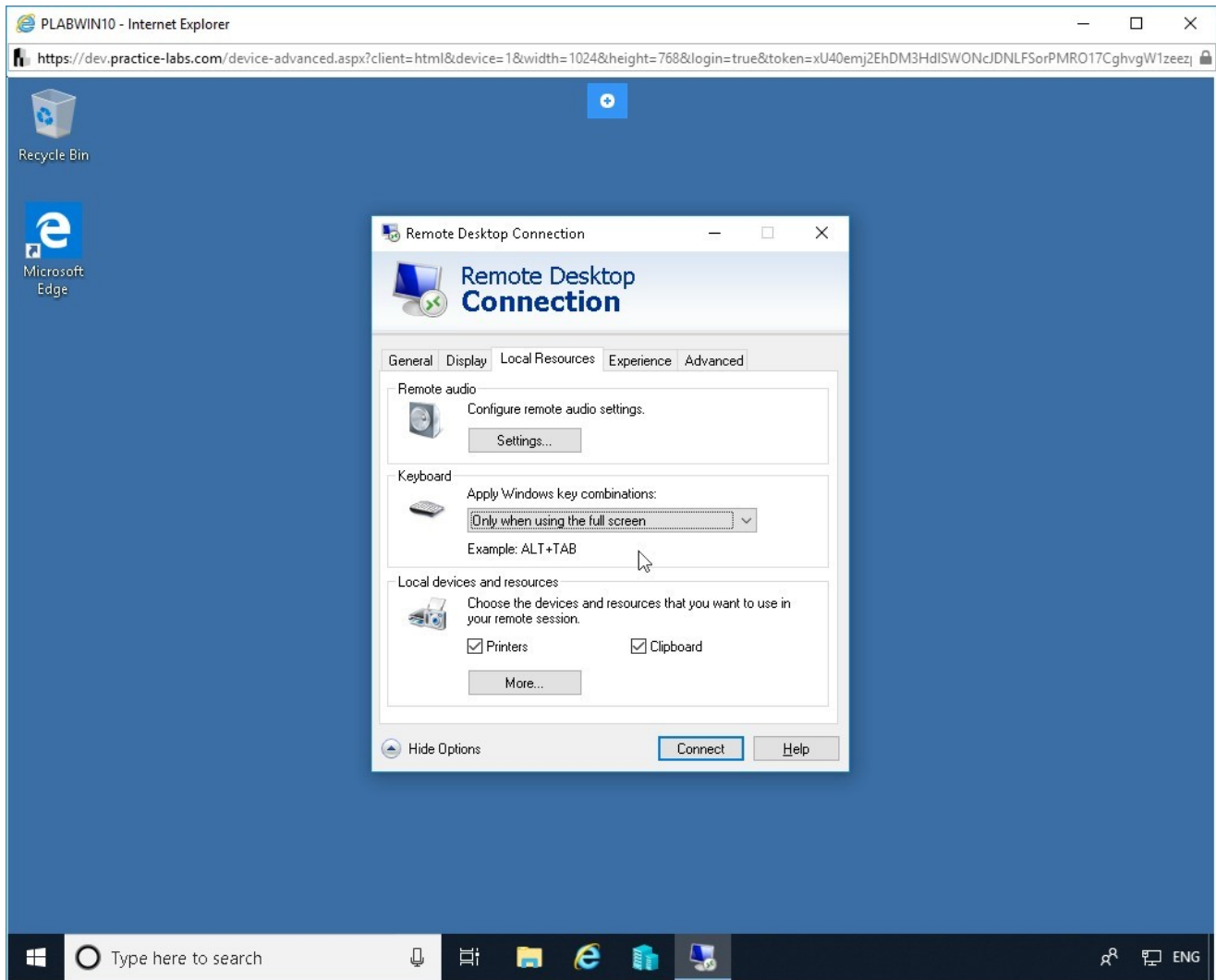

Figure 1.60 Screenshot of PLABWIN10: Showing the settings on the Local Resources tab.

Step 27

Click the **Experience** tab. On this tab, you can configure settings, such as connection type and reconnection if connection breaks.
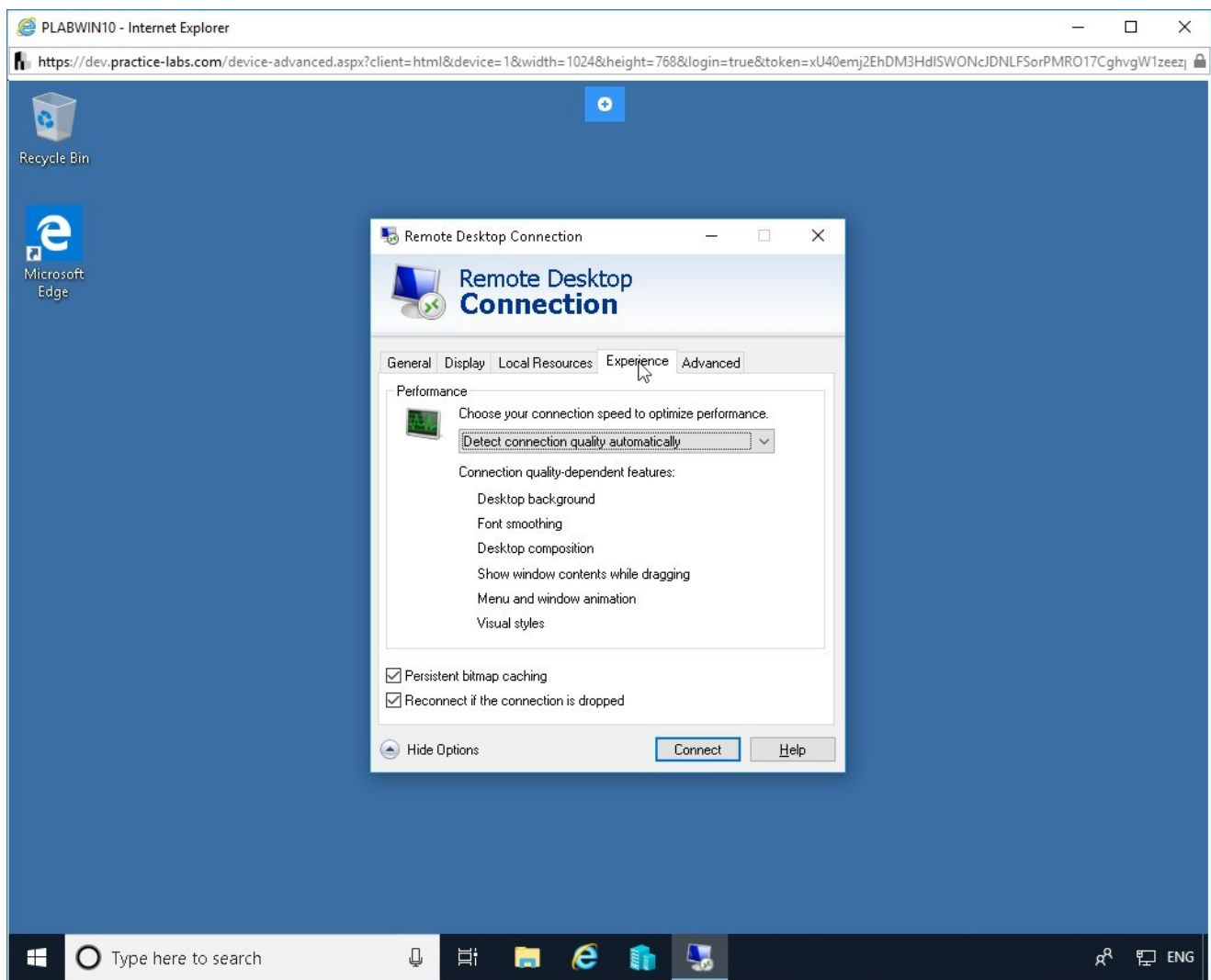
Figure 1.61 Screenshot of PLABWIN10: Showing the settings on the Experience tab.

Step 28

Click the **Advanced** tab. On this tab, you can configure settings, such as server authentication and **Remote Desktop Gateway** settings.

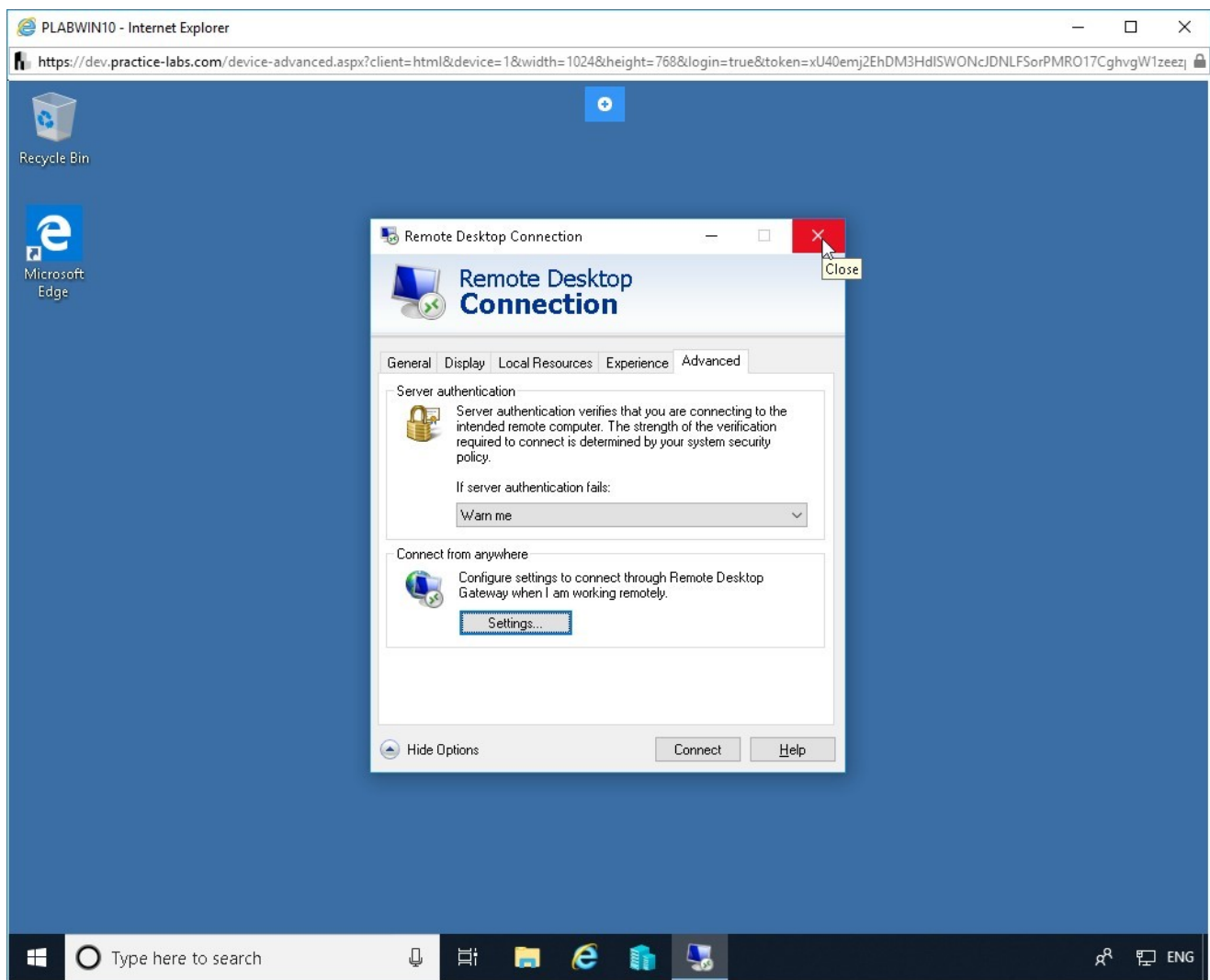Click **Close** to close the **Remote Desktop Connection** dialog box.

Figure 1.62 Screenshot of PLABWIN10: Showing the settings on the Advanced tab.

Step 29

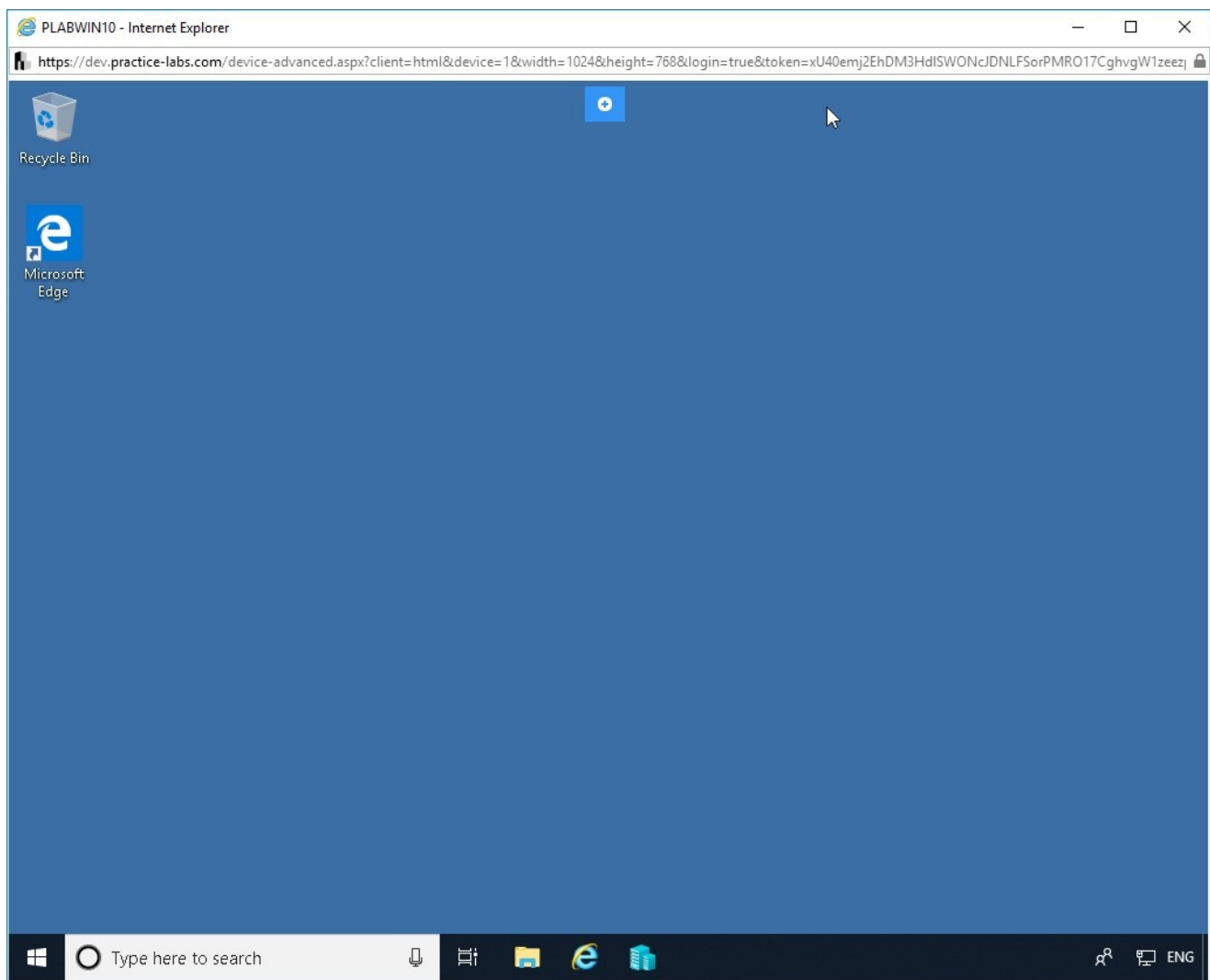You should have now returned to the desktop.

Figure 1.63 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 4 - Use Notepad

Notepad is a system utility which is useful for text editing.

Notepad allows you to apply some basic styling aspects to your text, such as font style and size. It also provides some other basics formatting features, such as word-wrapping. Notepad has an inbuilt search facility to search within the written content. The document can also be saved.

In this task, you will explore **Notepad**.

Step 1

Go to the **search** box in the taskbar and type:

```
Notepad
```

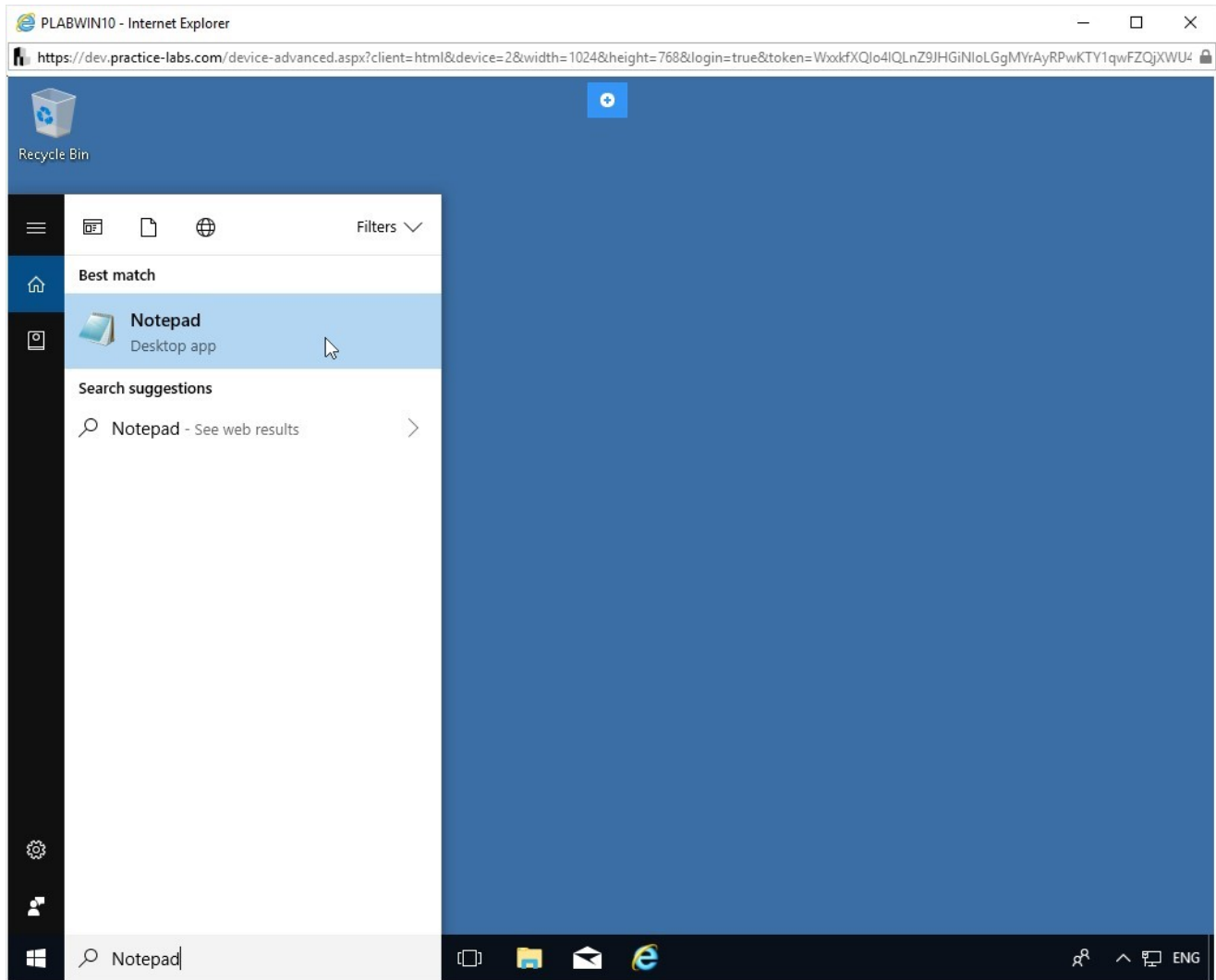Select the **Notepad** result from the search.

Figure 1.64 Screenshot of PLABWIN10: Selecting Notepad from the search

Step 2

The **Untitled - Notepad** window is displayed.

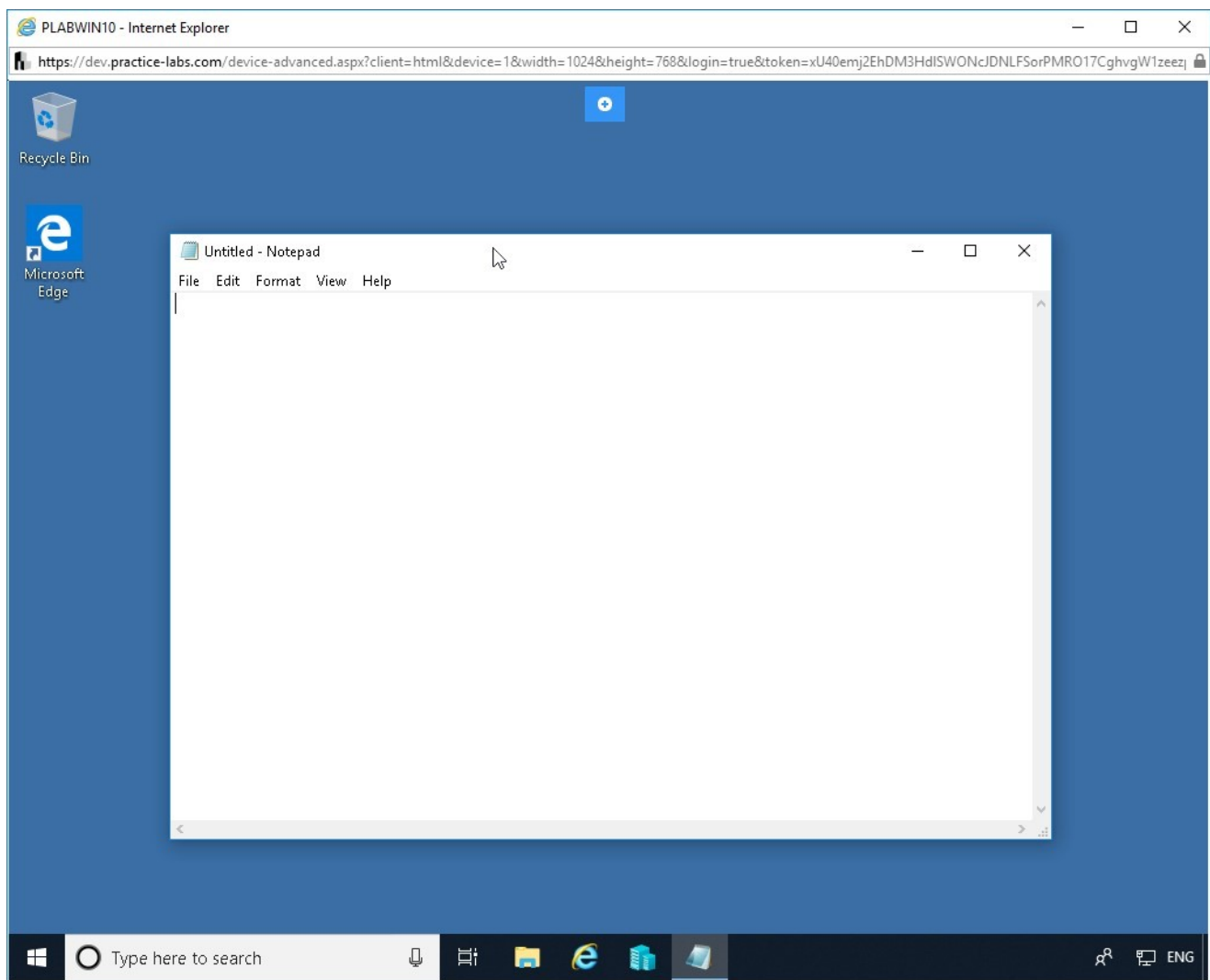> **Note:** *The Untitled - Notepad name will remain until you save the file with your chosen file name.*

Figure 1.65 Screenshot of PLABWIN10: Showing the Untitled - Notepad document in the Notepad window.

Step 3

Notice that by default, **Notepad** does not display the status bar. Let's enable the status bar.

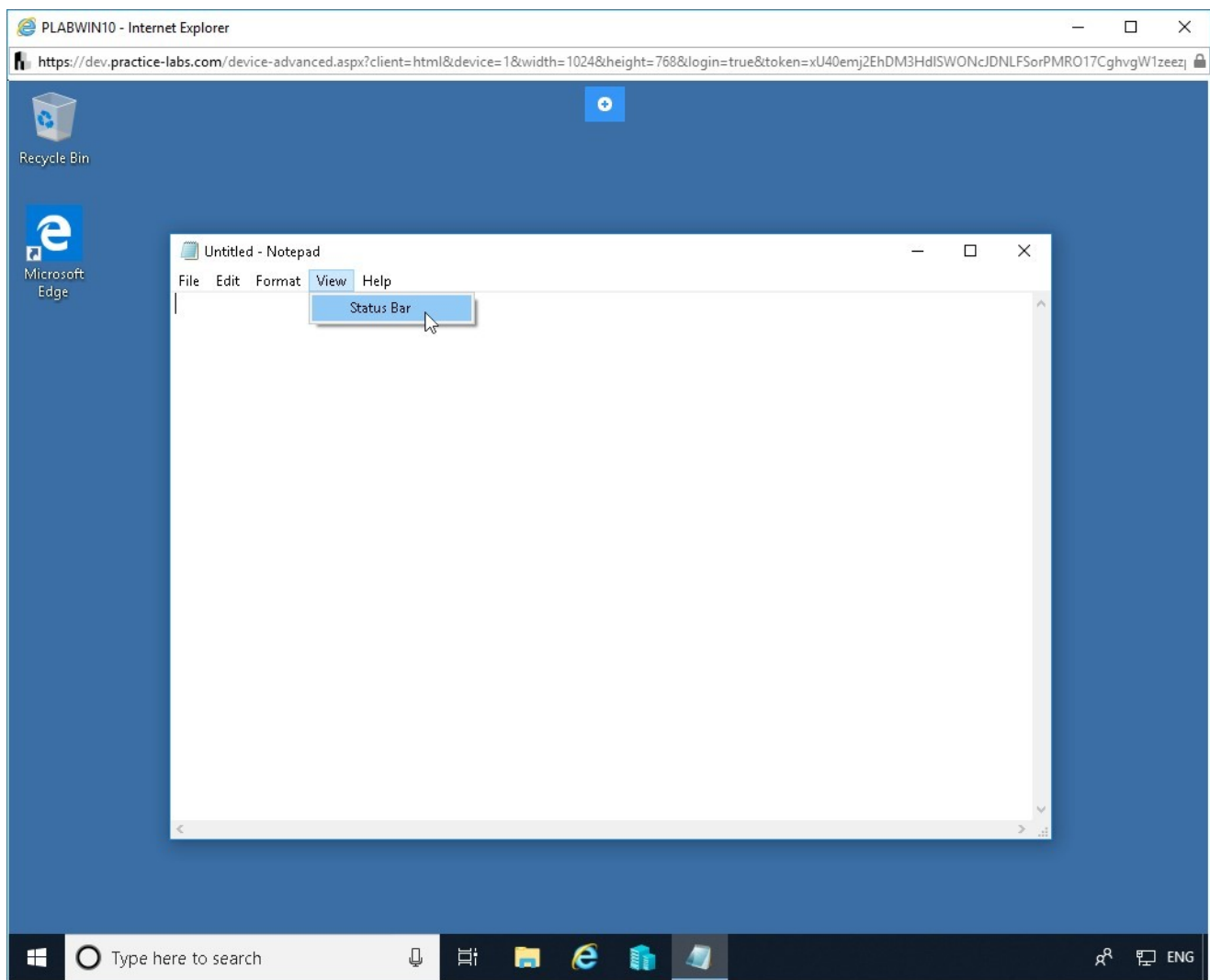Click **View** and select **Status Bar**.

Figure 1.66 Screenshot of PLABWIN10: Selecting the Status Bar option from the View menu.

Step 4

The right side of the status bar shows the cursor location.
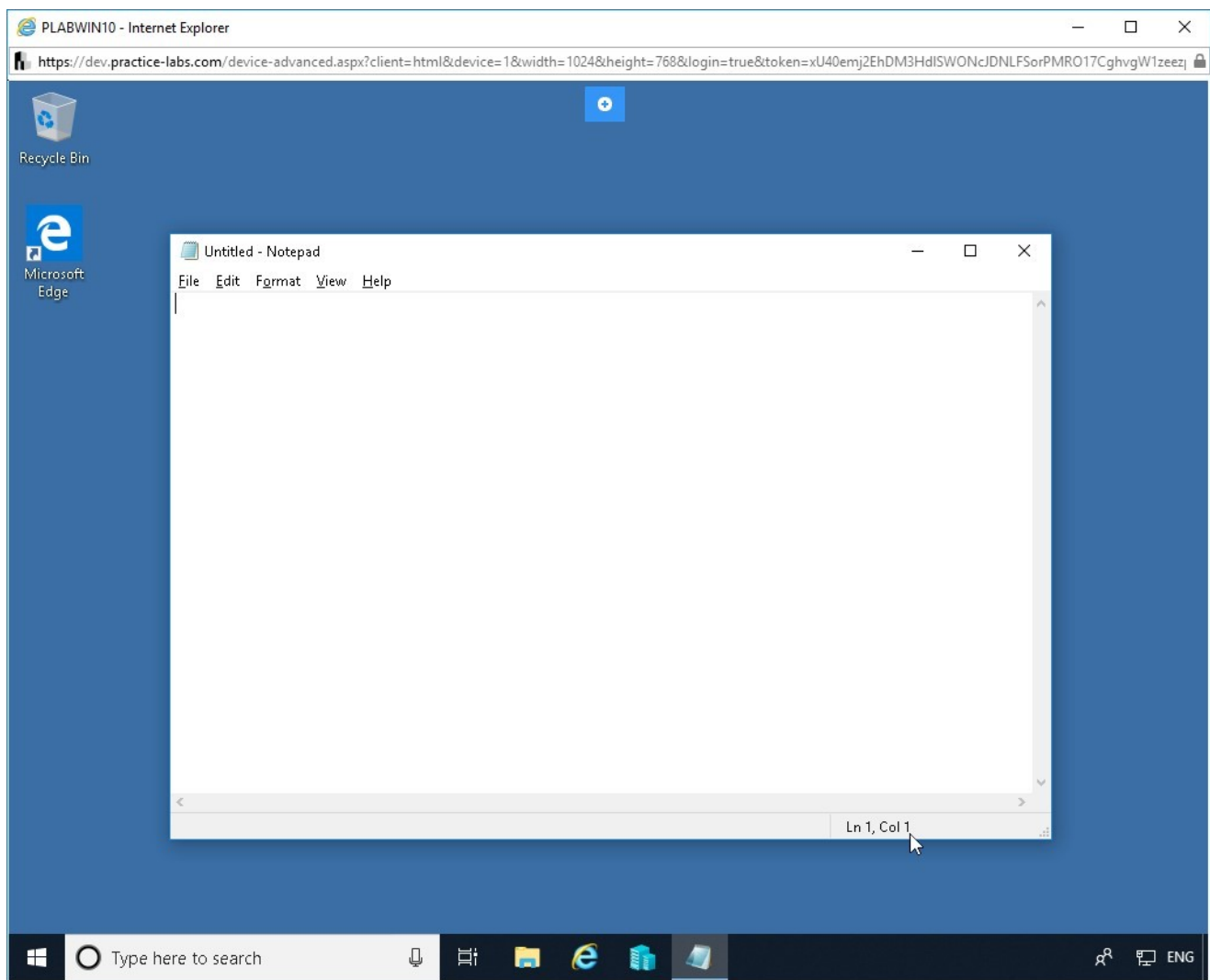
It currently states **Ln 1**, **Col 1**.

Figure 1.67 Screenshot of PLABWIN10: Showing the cursor location in the status bar.

Step 5

Press **Spacebar** once.
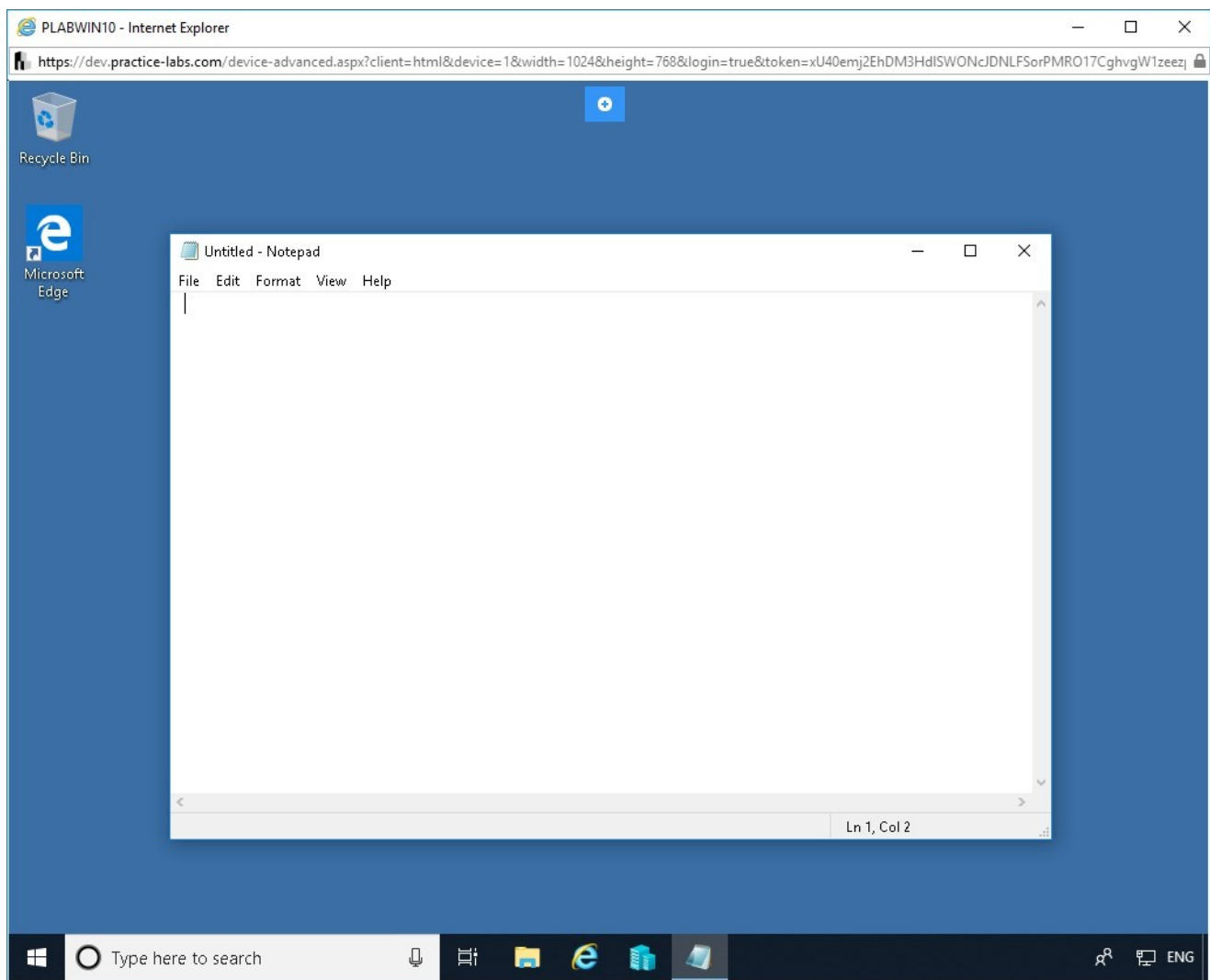
Notice that the status bar now states **Ln 1, Col 2**.

Figure 1.68 Screenshot of PLABWIN10: Showing the updated cursor location in the status bar.

Step 6

Click **File** and select **New**.

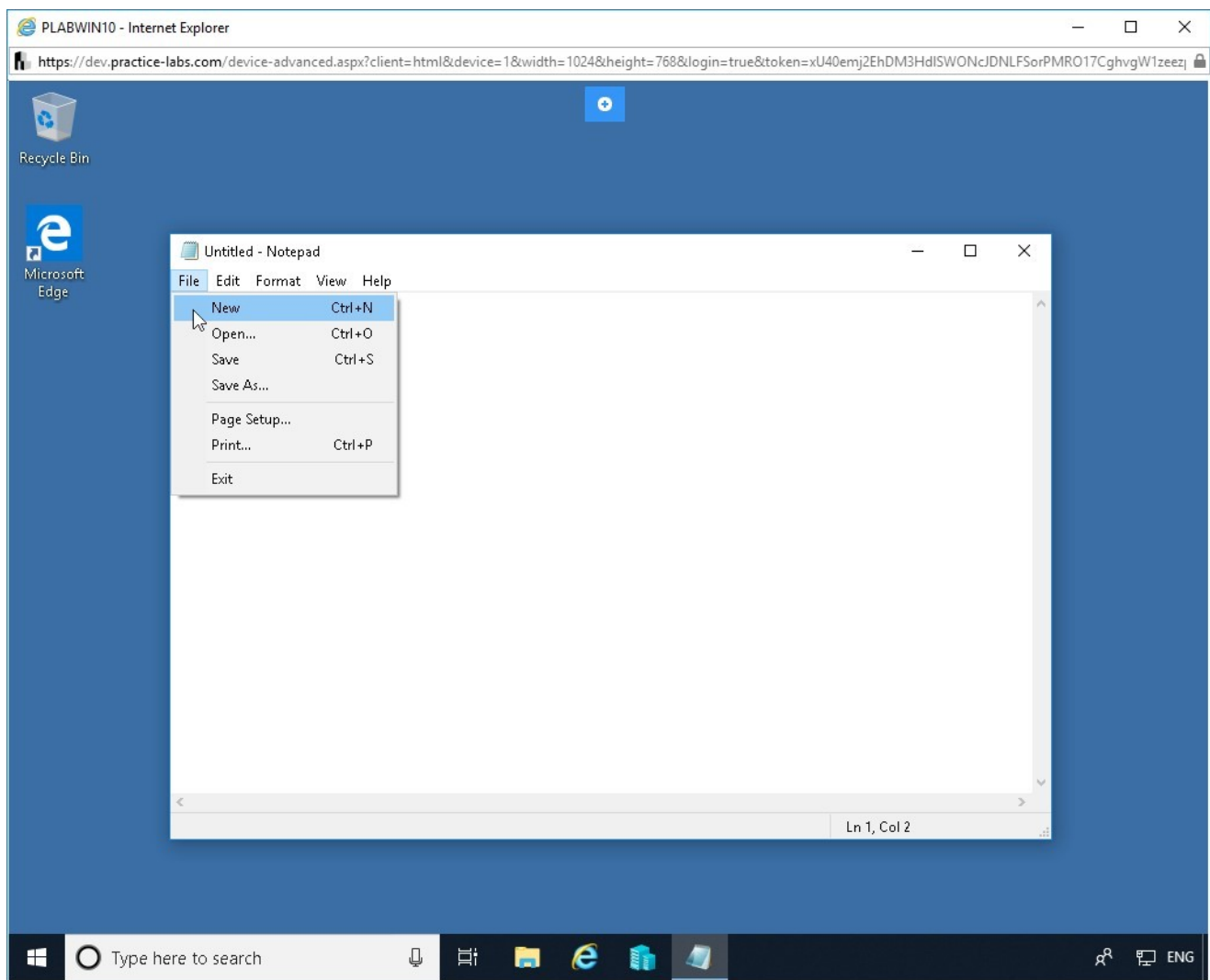Figure 1.69 Screenshot of PLABWIN10: Opening a new file from the File menu.

Step 7

The **Notepad** dialog box is displayed. Even though you had not typed anything in the notepad, you had moved the cursor from **Ln 1, Col 1** to **Ln 1, Col 2**. Notepad assumes that some changes to the new document have been made. It then prompts you to save the document.
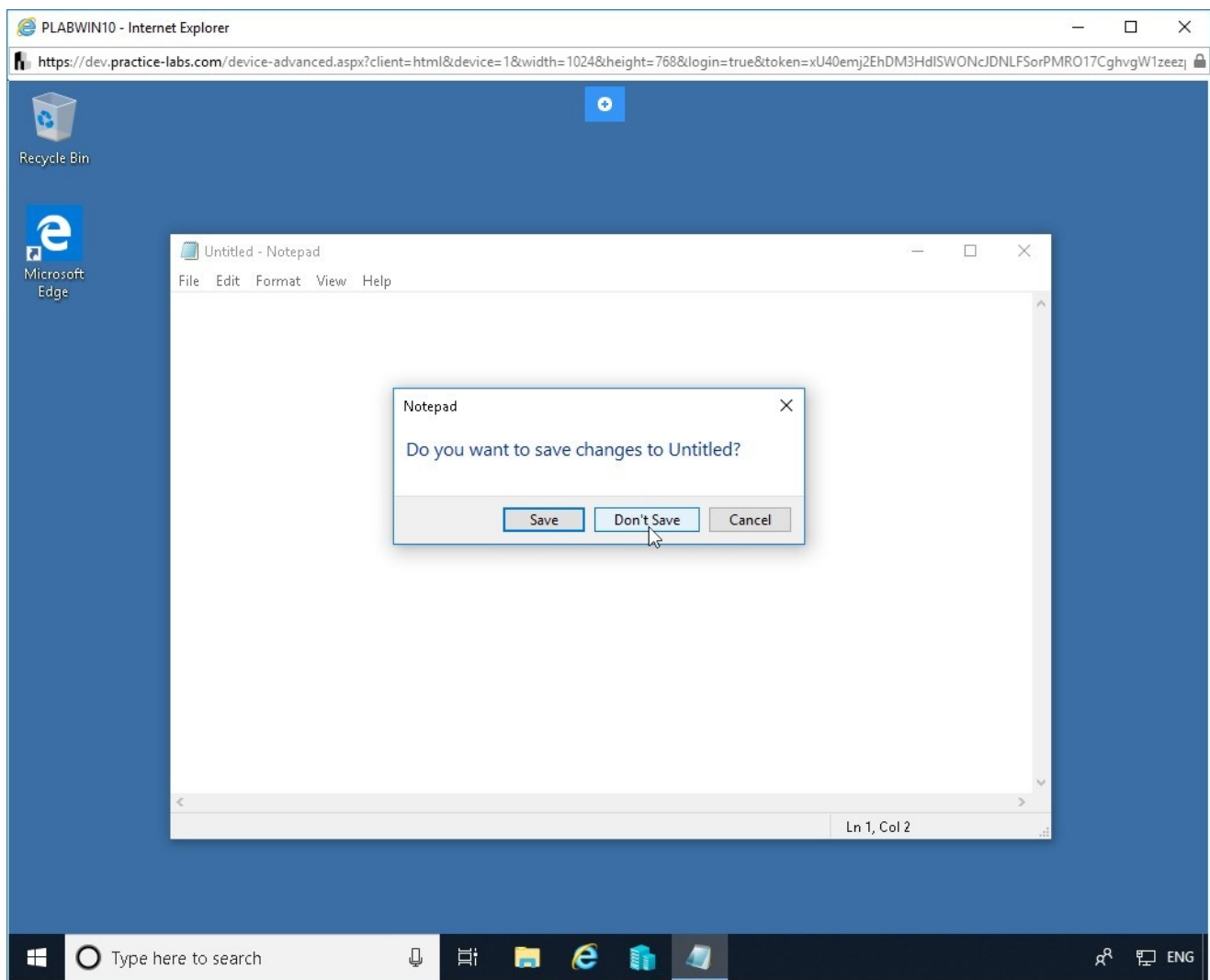
Click **Don't Save**.

Figure 1.70 Screenshot of PLABWIN10: Clicking the Don't Save option in the Notepad dialog box.

Step 8

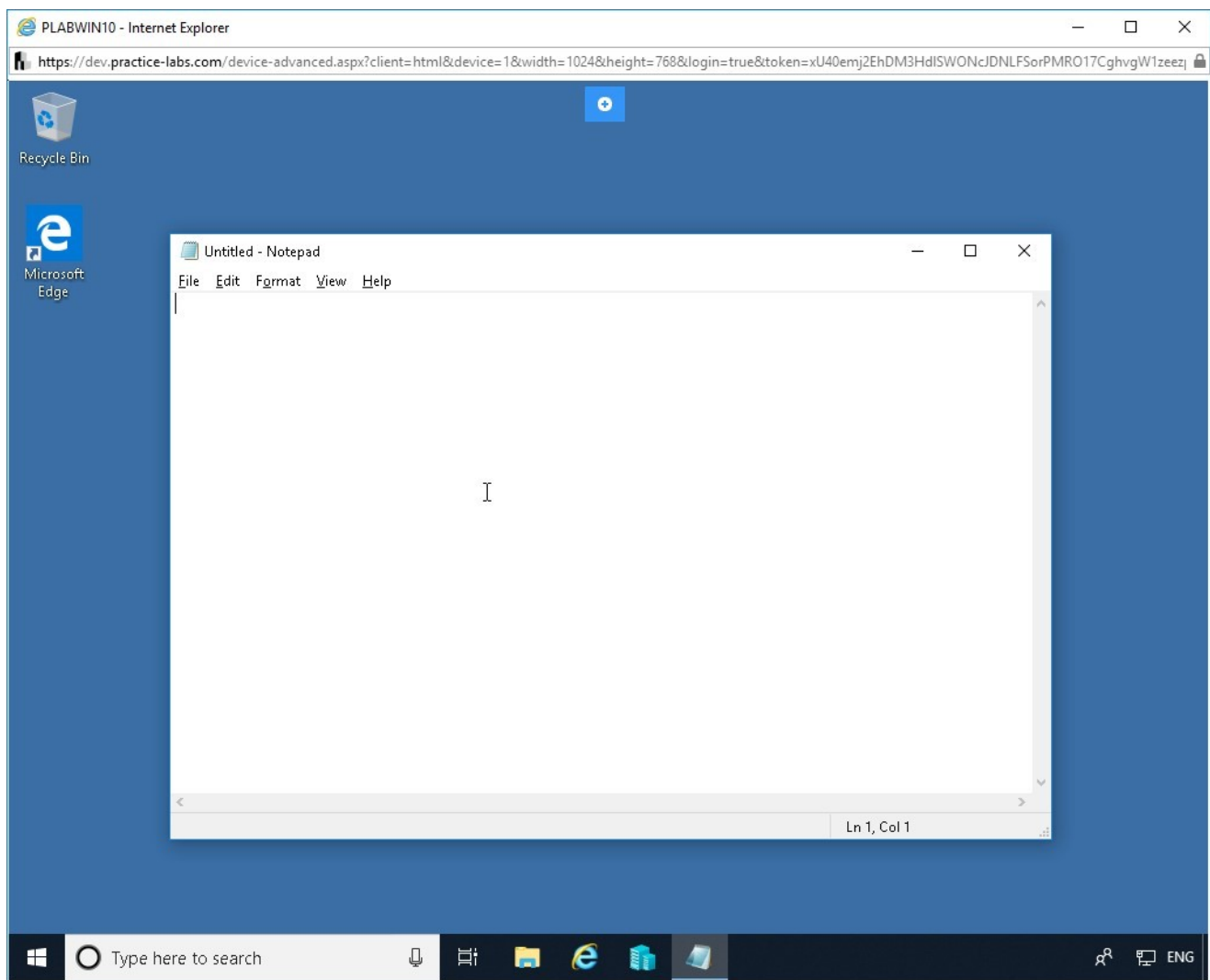Notice that a new **Untitled - Notepad** document is opened. The status bar again displays **Ln 1, Col 1**.

Figure 1.71 Screenshot of PLABWIN10: Showing the new document with the current cursor status.

Step 9

Let's now look at the page layout settings.
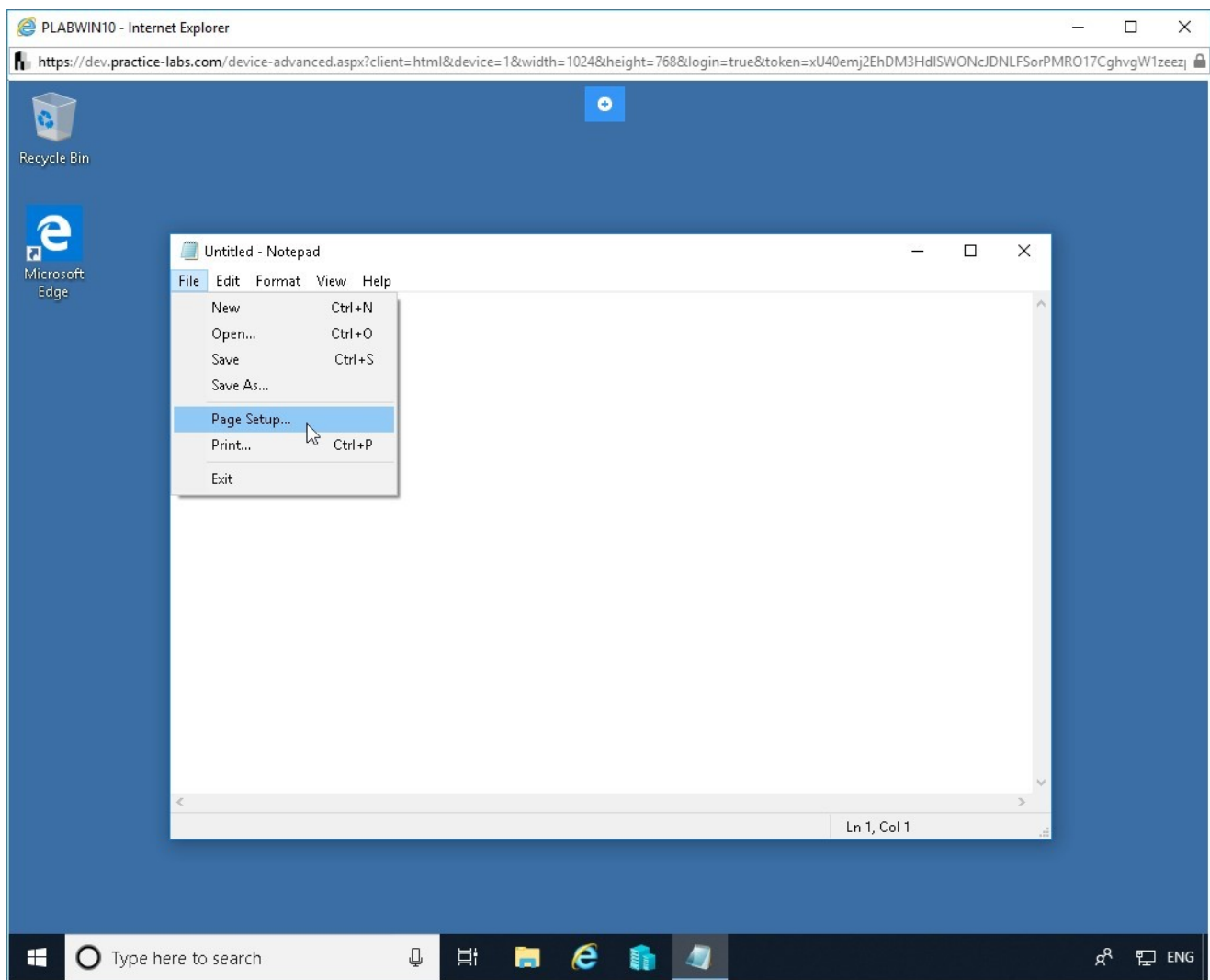
Click **File** and select **Page Setup**.

Figure 1.72 Screenshot of PLABWIN10: Selecting the Page Setup option from the File menu.

Step 10

The **Page Setup** dialog box is displayed. You can set the page orientation, choose the paper size, set the margins, and also header/footer.

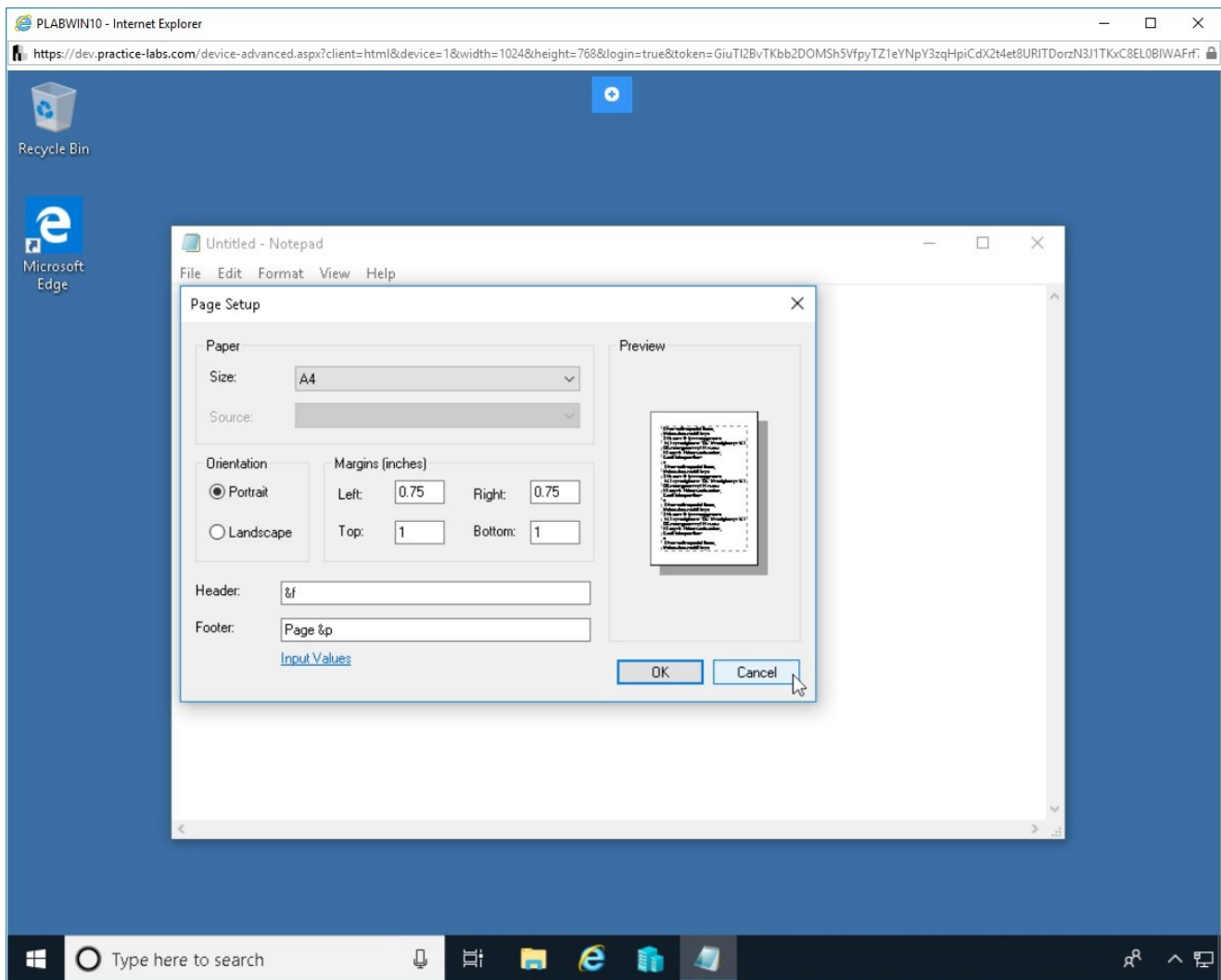Leave the default settings and click **Cancel**.

Figure 1.73 Screenshot of PLABWIN10: Showing the Page Setup dialog box.

Step 11

Click **Edit** in the menu bar. There are various commands available. Some of the key commands are:

- **Find:** You can search a word using this option.
- **Replace:** You can find and replace a word. You can even restrict the replacement of a word on the basis of the casing. If the case matches, then only the word will be found and replaced.
- **Go To:** You can go to a specific line by entering its number.
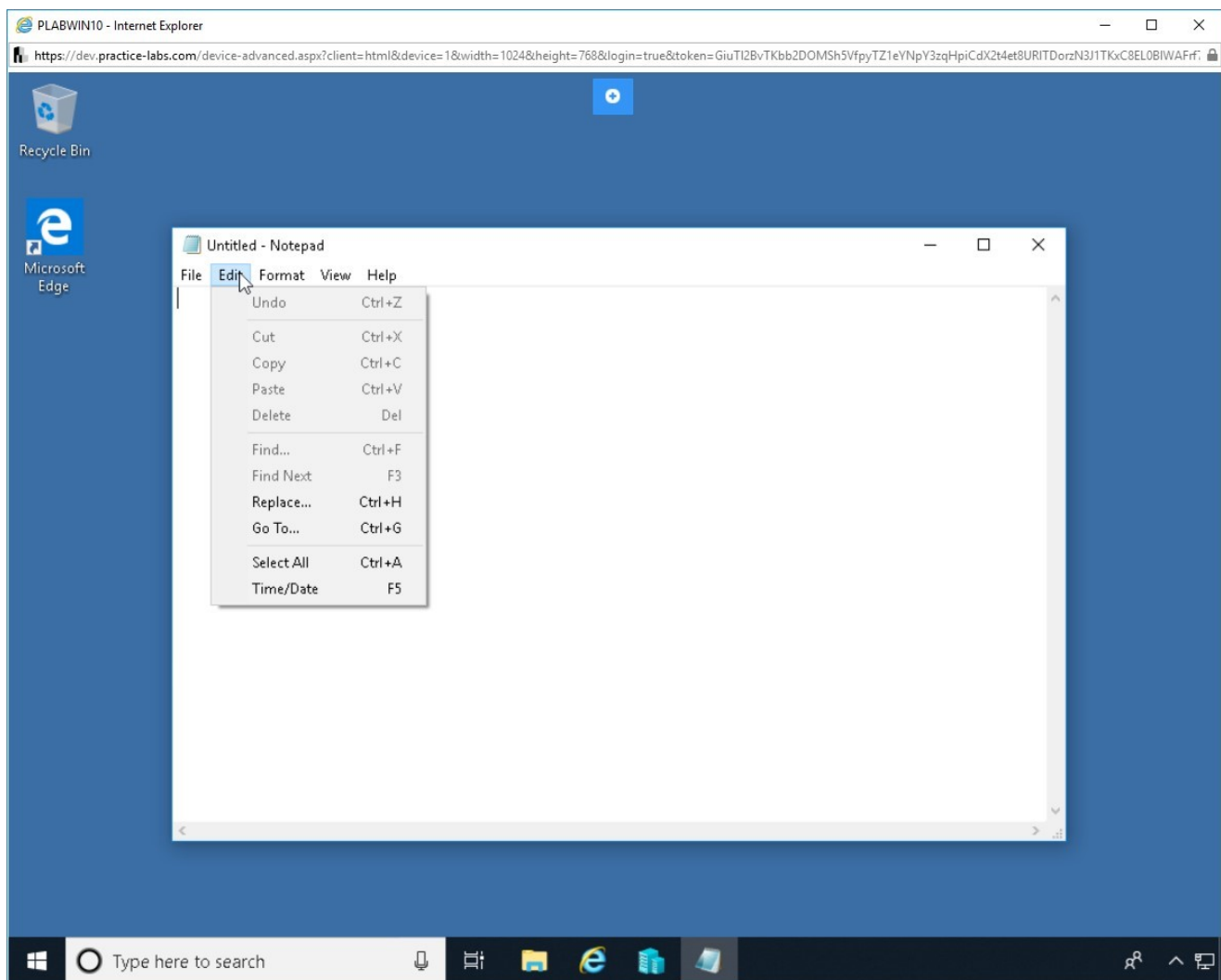- **Time/Date:** You can insert today's date and time.

Figure 1.74 Screenshot of PLABWIN10: Showing the available commands in the Edit menu.

Step 12

Type any sentence in the **Notepad**.

For this task, you can also use the following sentence:
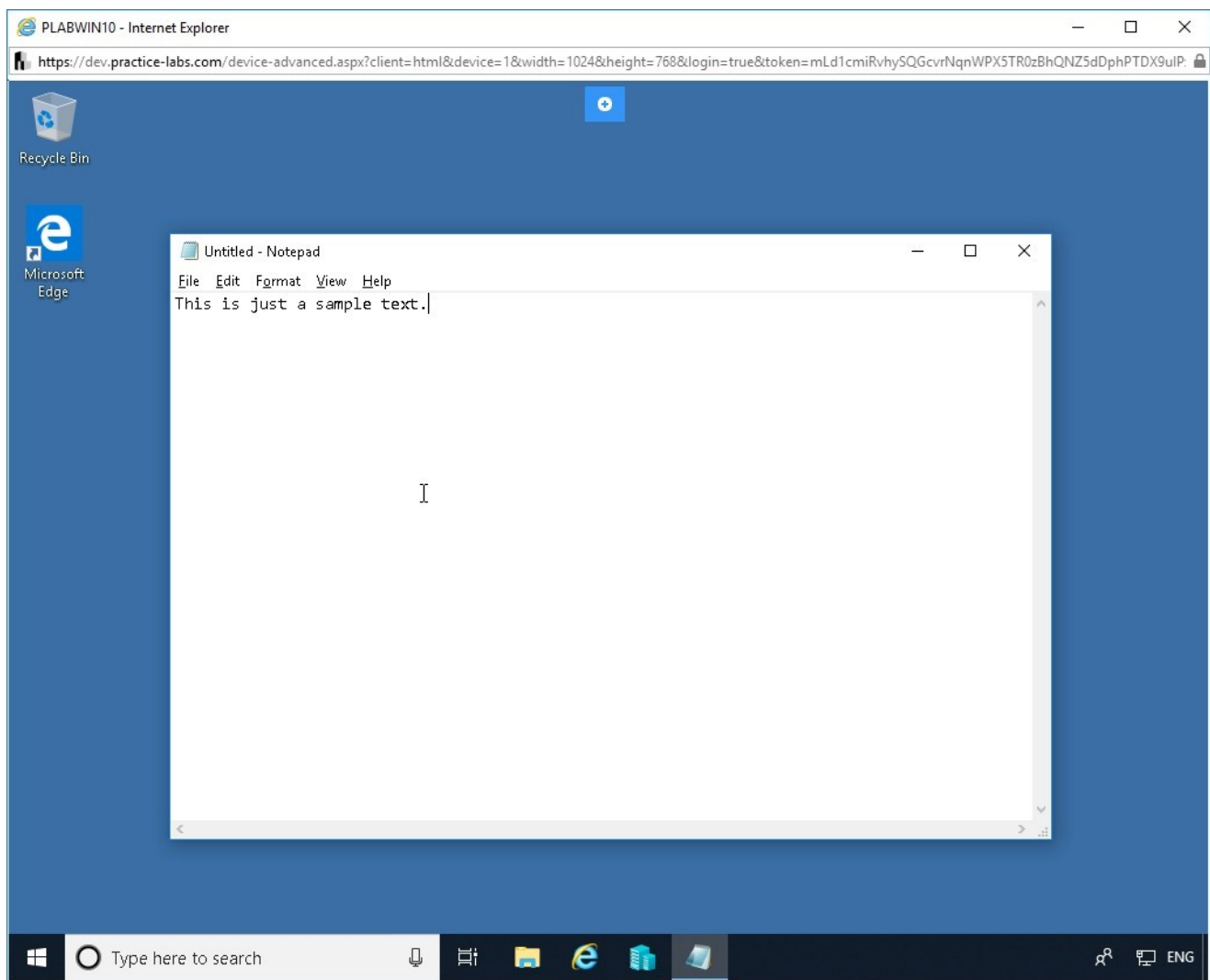
```
This is just a sample text.
```

Figure 1.75 Screenshot of PLABWIN10: Entering text in the Notepad document.

Step 13

Copy the sentence and paste it four more times in continuation of the existing text.

```
This is just a sample text. This is just a sample text.
This is just a sample text. This is just a sample text.
This is just a sample text.
```
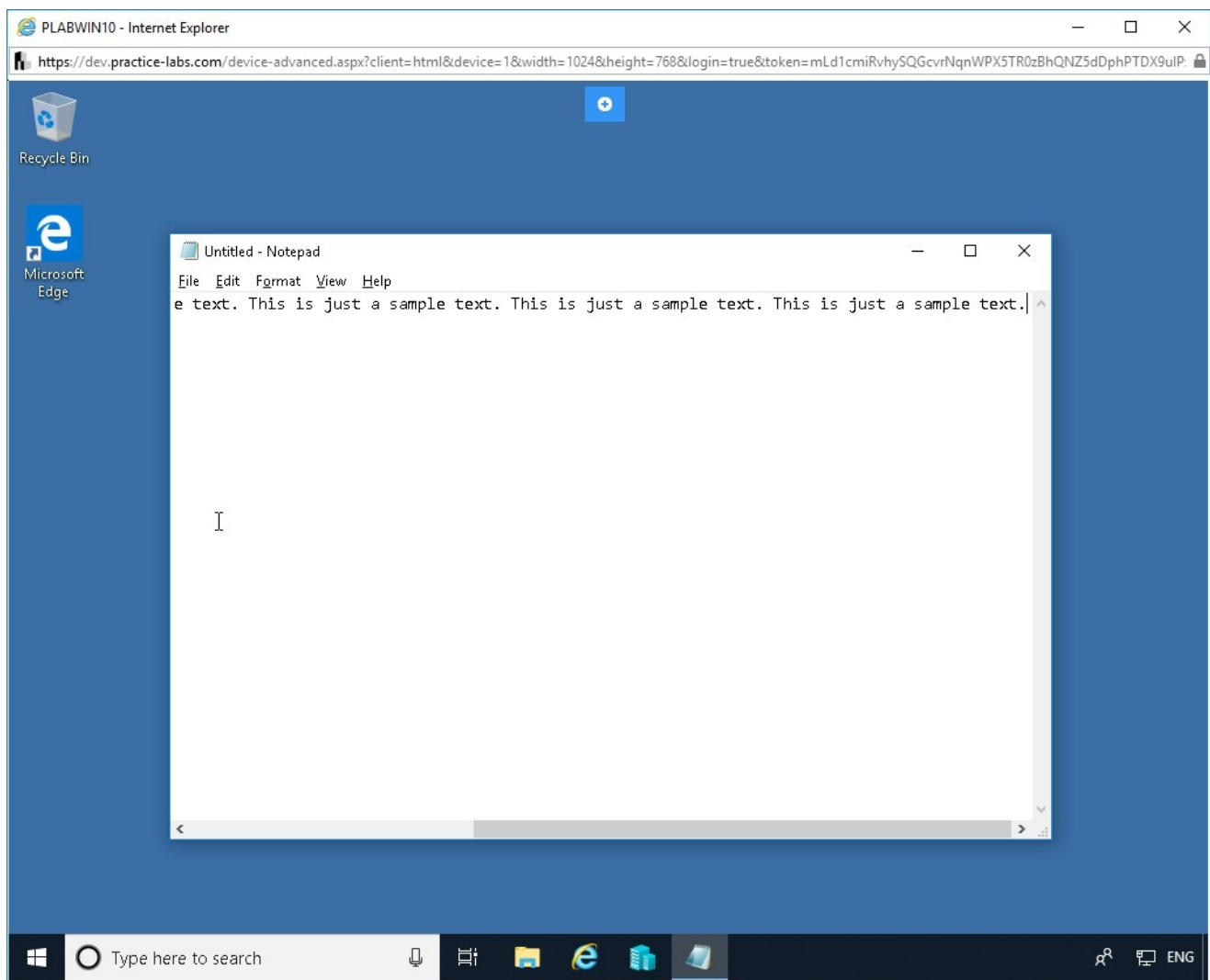
Notice a scroll bar appears at the bottom.

Figure 1.76 Screenshot of PLABWIN10: Copying and pasting the same text multiple times.
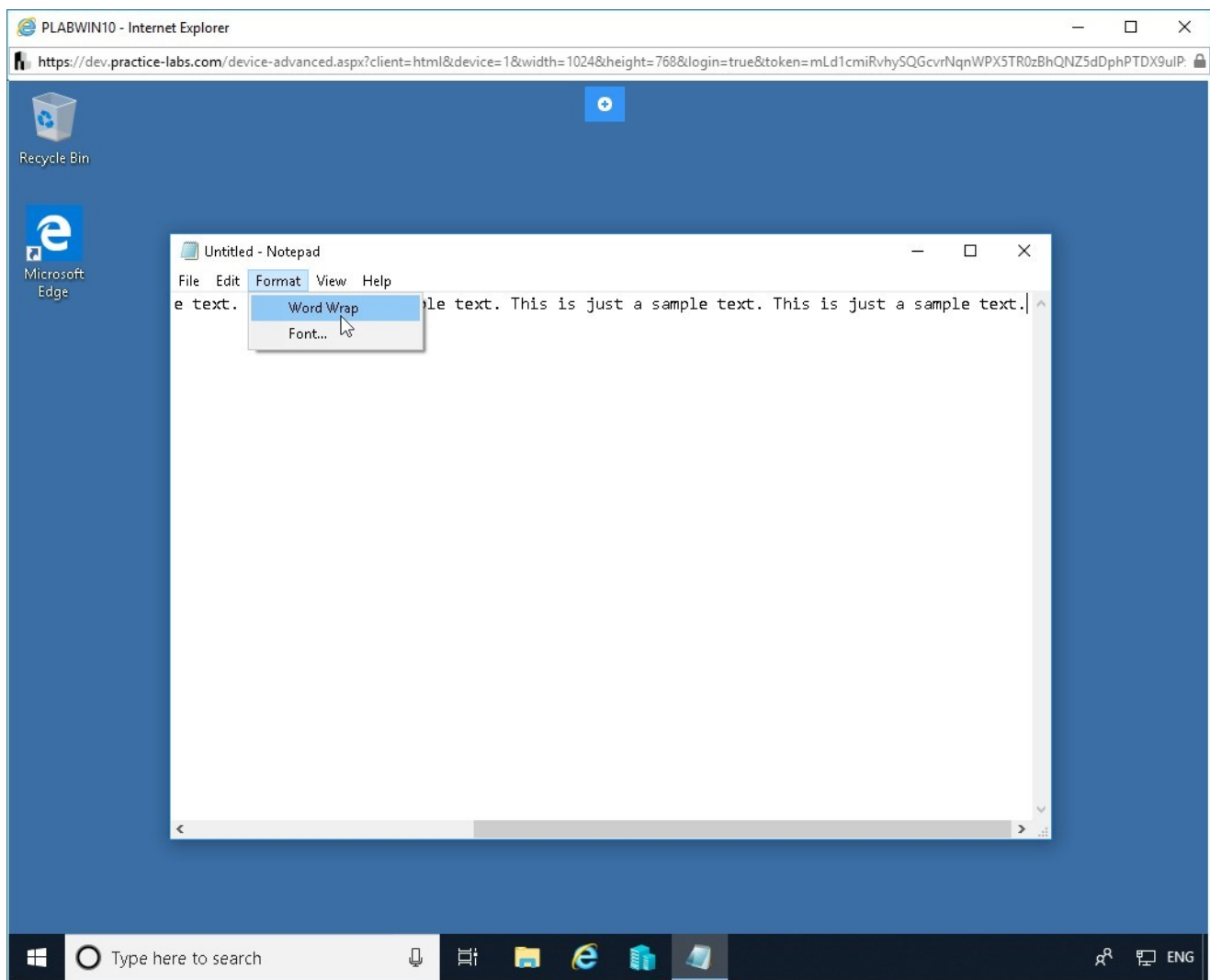
Step 14

Click **Format** and select **Word Wrap**.

Figure 1.77 Screenshot of PLABWIN10: Selecting the Word Wrap option from the Format menu.

Step 15

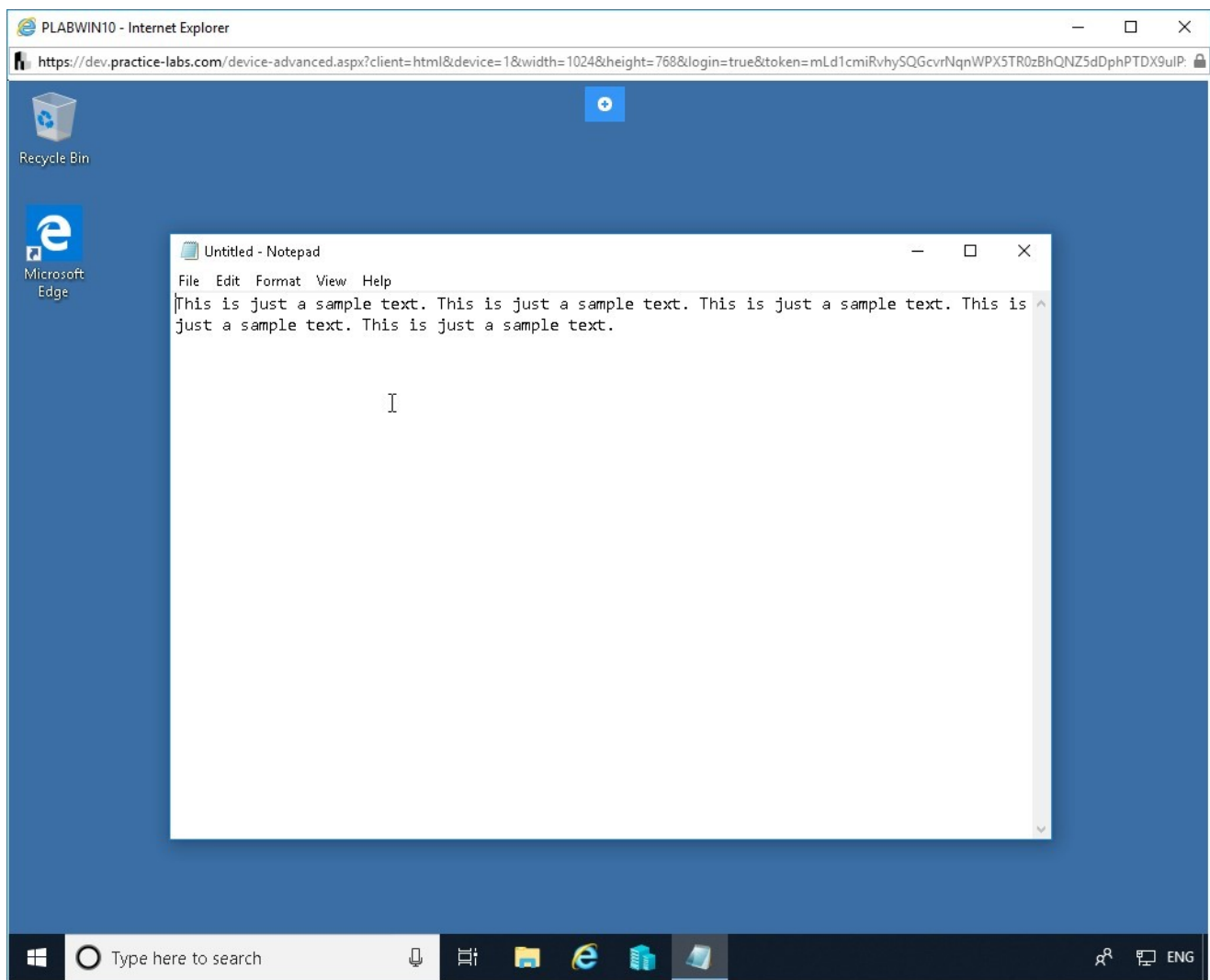The text is now wrapped to the next line automatically, and the scroll bar has disappeared.

Figure 1.78 Screenshot of PLABWIN10: Showing the wrapped text in the Notepad document.

Step 16

Highlight the text. Click **Format** and then select **Font**.

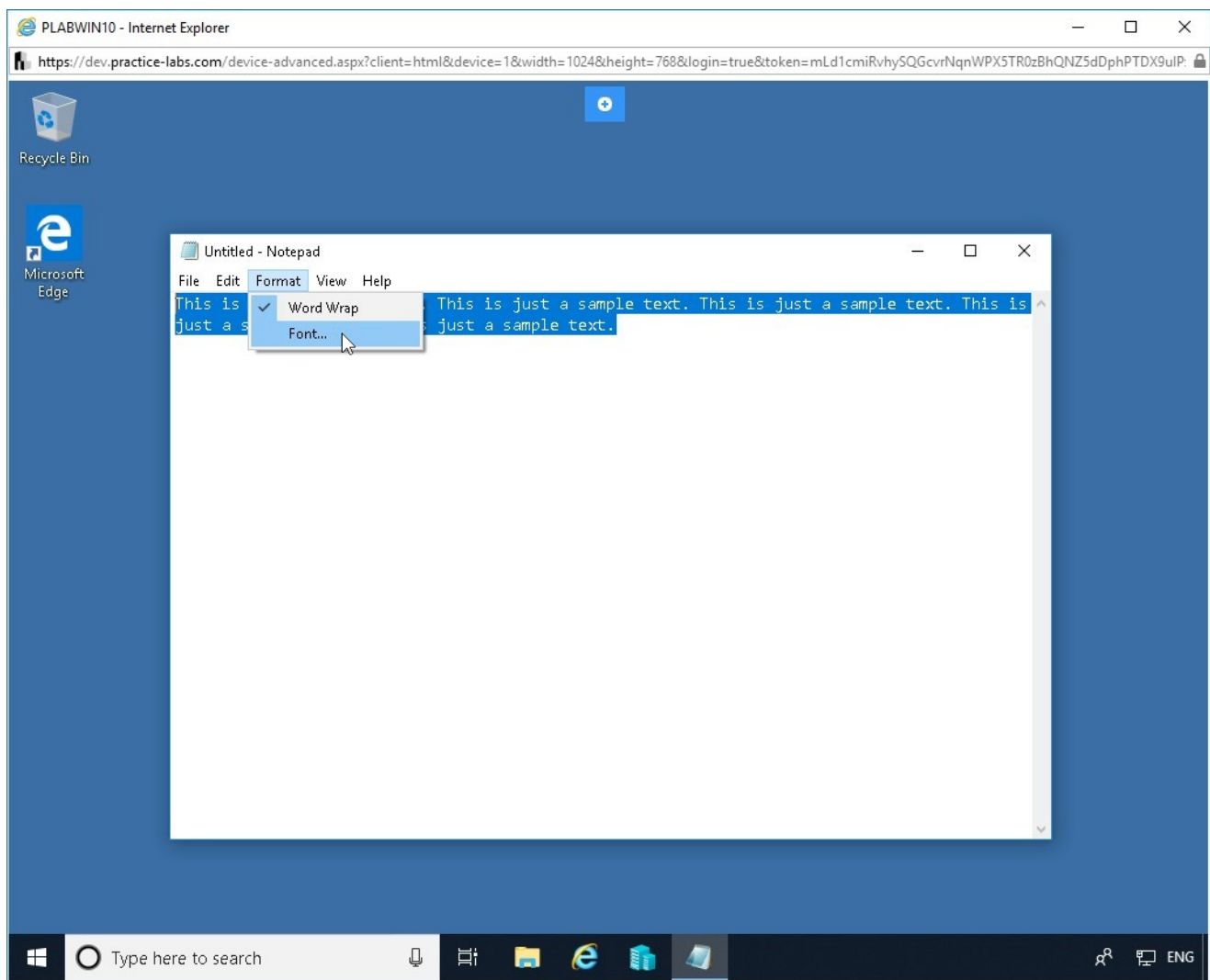Figure 1.79 Screenshot of PLABWIN10: Selecting the Font option from the Format menu.

Step 17

The default font is set to **Consolas**, **Regular**, and **11**.

Try changing it to the following:

```
Courier New, Bold, 14
```

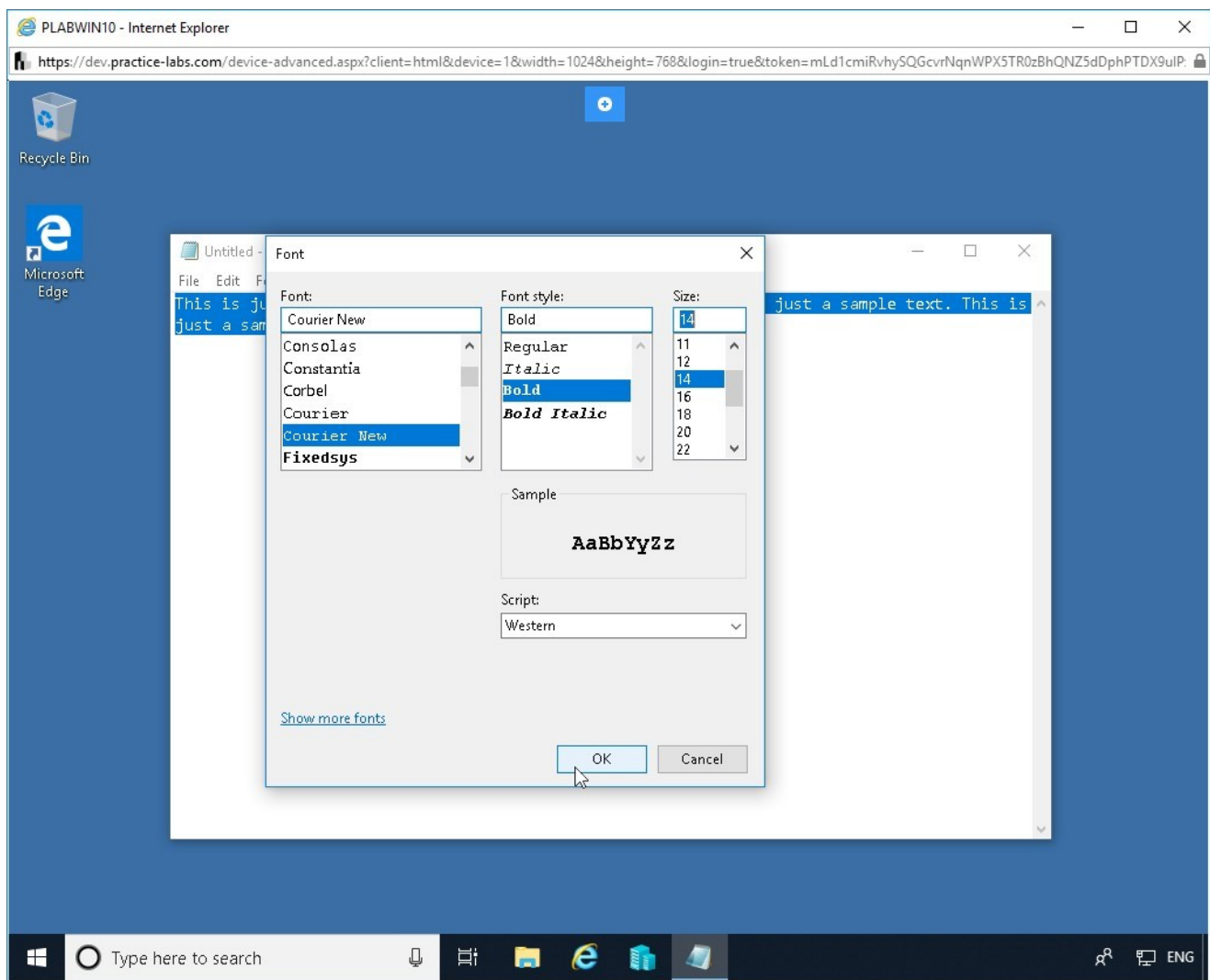Click **OK**. Remember that these changes are only applicable to the current document.

Figure 1.80 Screenshot of PLABWIN10: Changing the font, size, and font style for the selected text.

Step 18
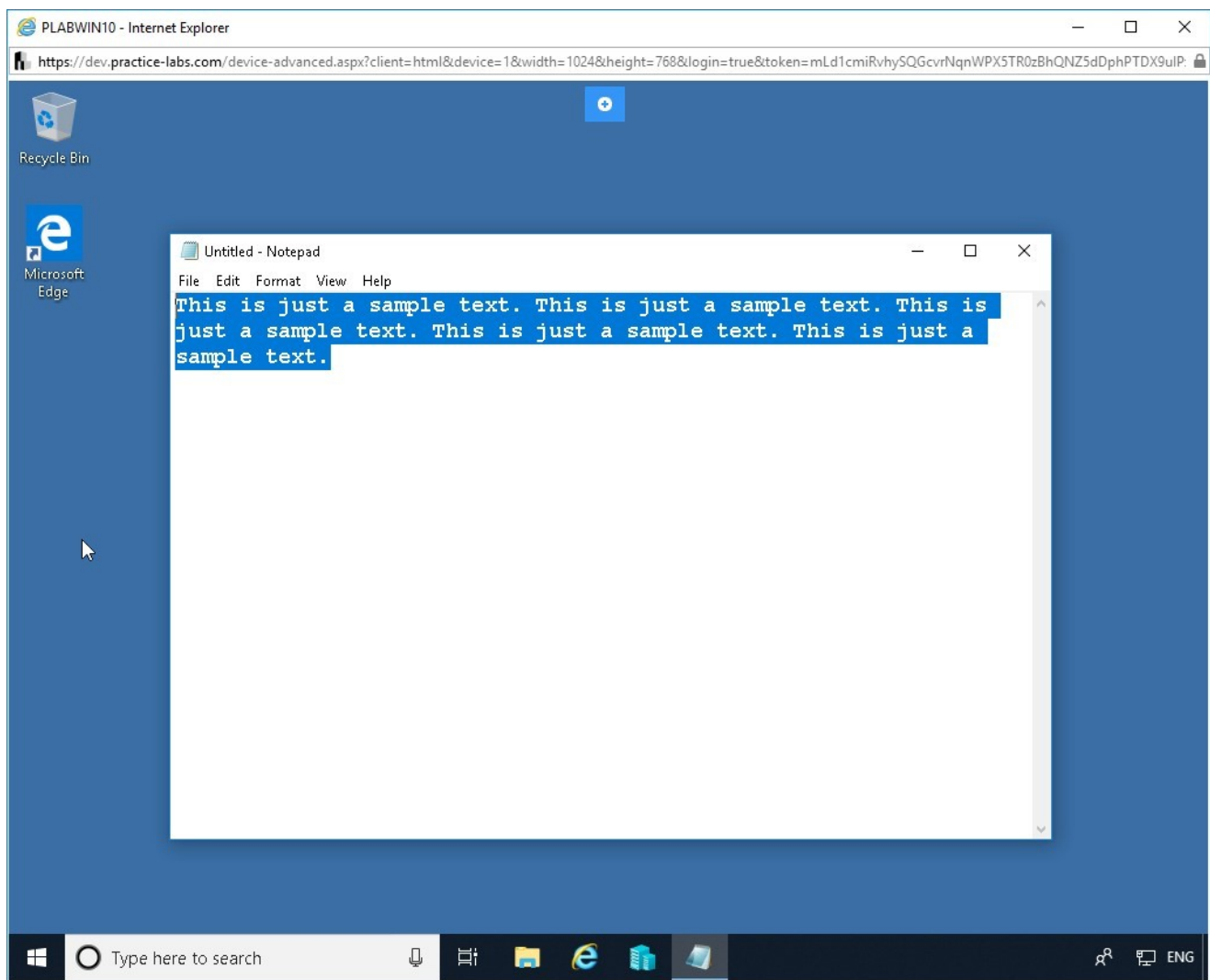
You can see that the font changes have been applied.

Figure 1.81 Screenshot of PLABWIN10: Showing the changed text with the new font, size, and font style.

Step 19

Close Notepad. Do not save changes to the document.
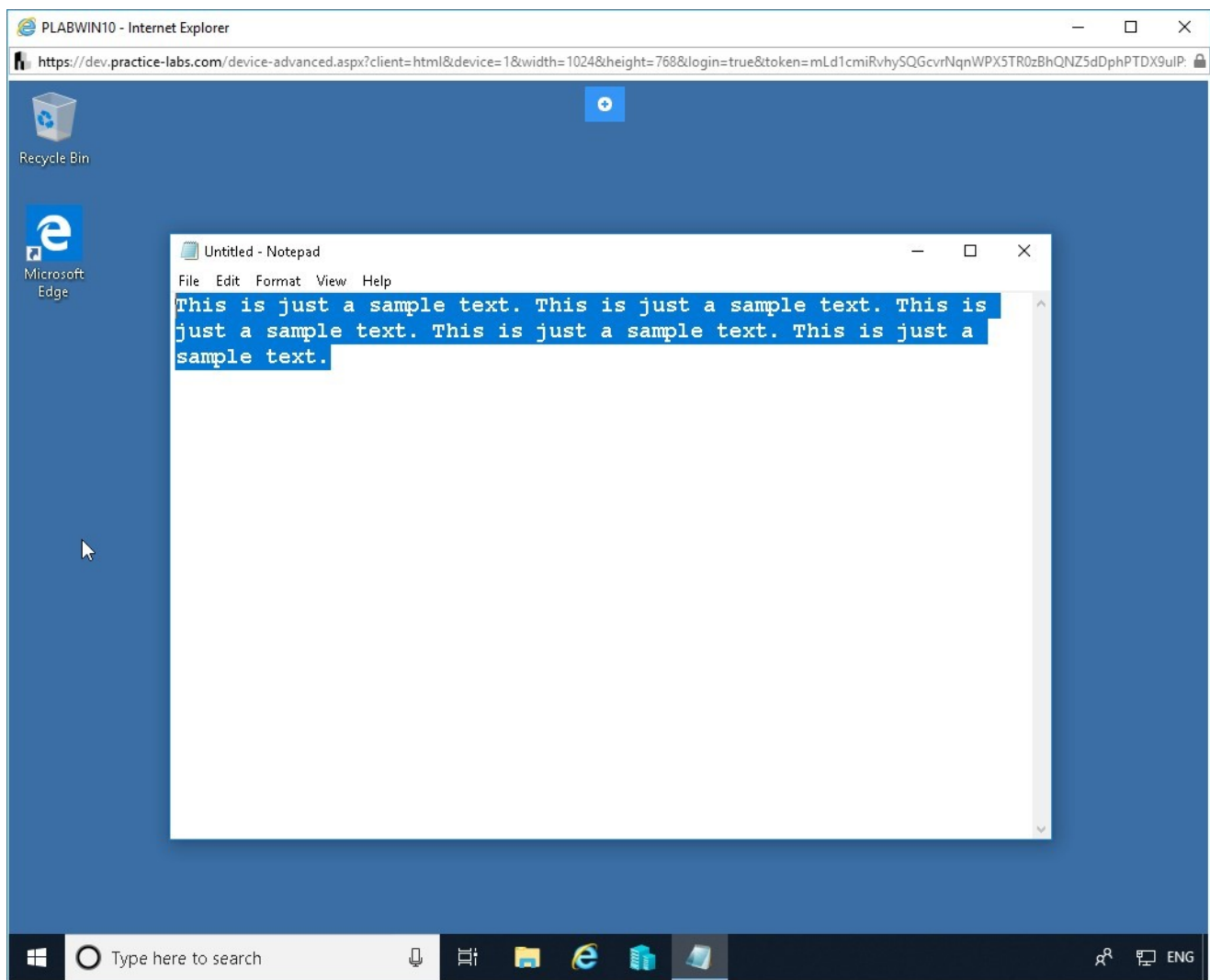
Figure 1.82 Screenshot of PLABWIN10: Closing the Notepad window without saving the text.

Step 20

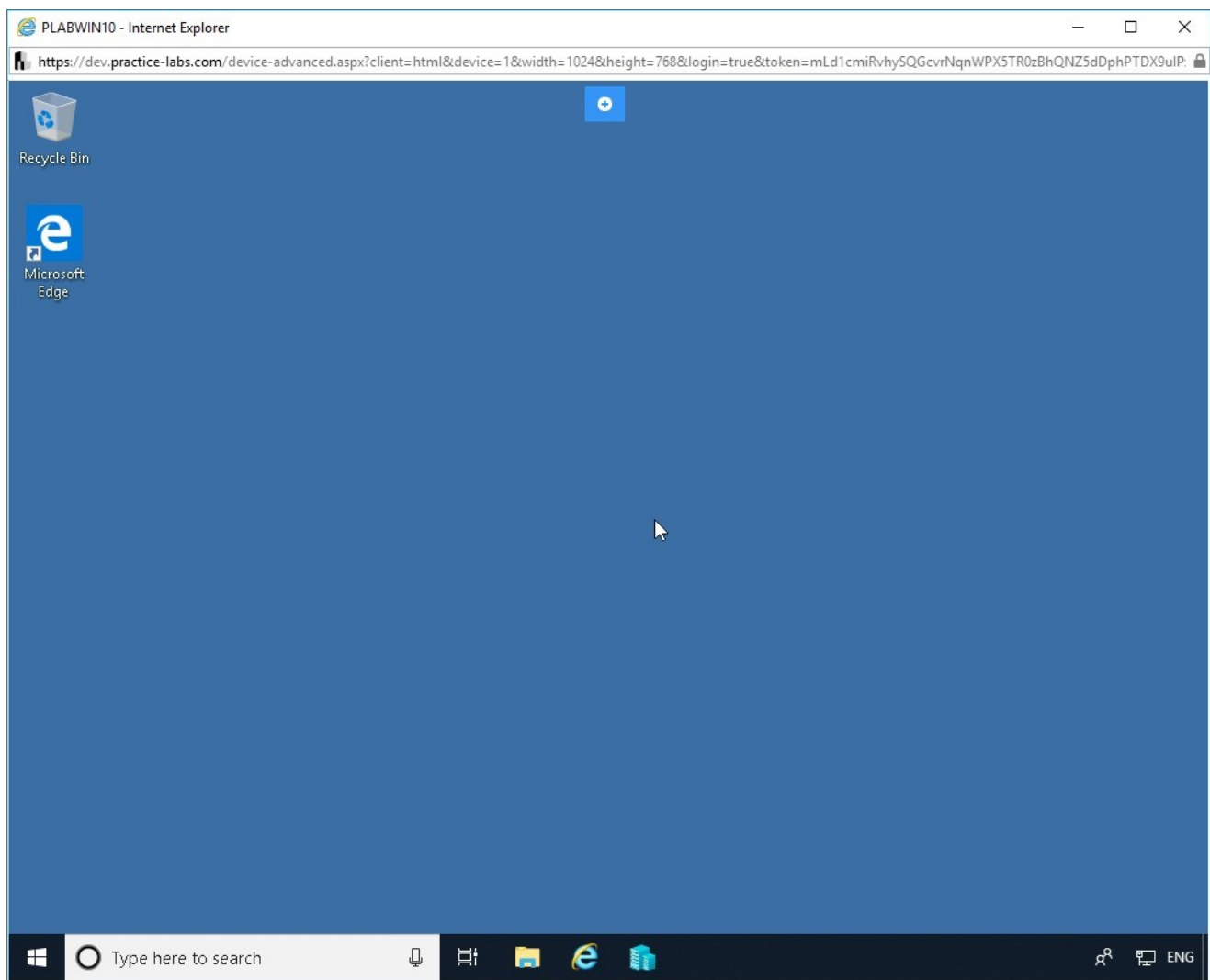You should have now returned to the desktop.

Figure 1.83 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 5 - Use File Explorer

Windows File Explorer gives easy access to all of your hard disk drives, the directories inside the drives, sub-directories, and the individual files. Using this, you can also access your application software(s), windows utilities, and various system settings.

It provides a view of the complete directory structure on one or more hard drives inside a system. Using this organized structure, it is possible to easily navigate from one location of your disk drive to another.

In file explorer, it is also possible to customize the way in which drives, folders, and files are displayed. However, note that customization only impacts how the files and directories are displayed on the screen. The actual files and directories are not impacted by the customizations.

In this task, you will learn a few key functions of Windows File Explorer.

Step 1

Ensure that you are connected to **PLABWIN10**.
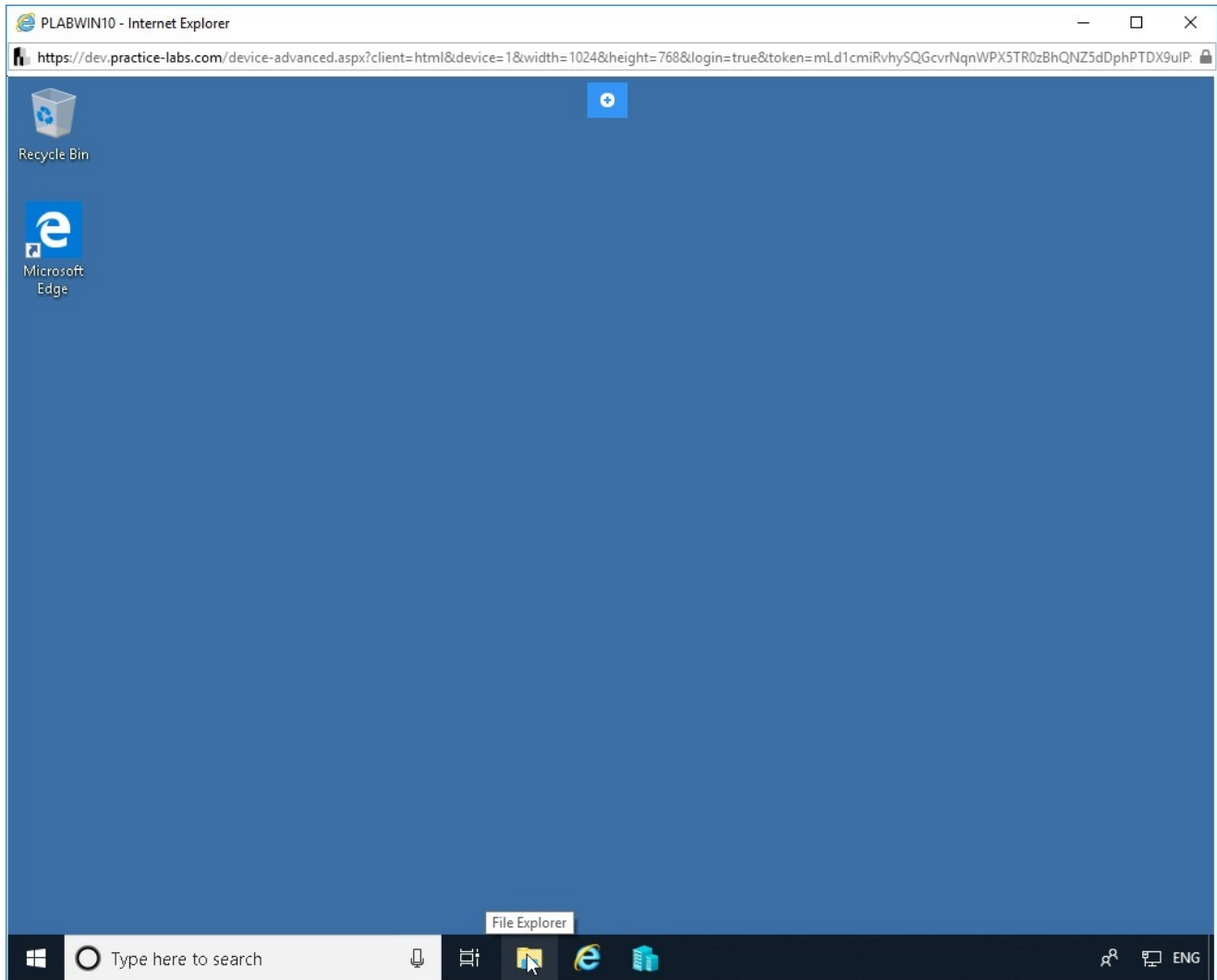
From the Windows taskbar, click **File Explorer**.

Figure 1.84 Screenshot of PLABWIN10: Clicking the File Explorer icon from the Windows taskbar.

Step 2

The left pane displays libraries, folders, and volumes. When a folder, library, or volume is selected in the left pane, the right pane displays its contents.

In the left pane, under **This PC**, select **Local Disk (C:)**. Notice that the folders on the selected volume are displayed. The **File Explorer** window displays tabs, address bar, and search bar.
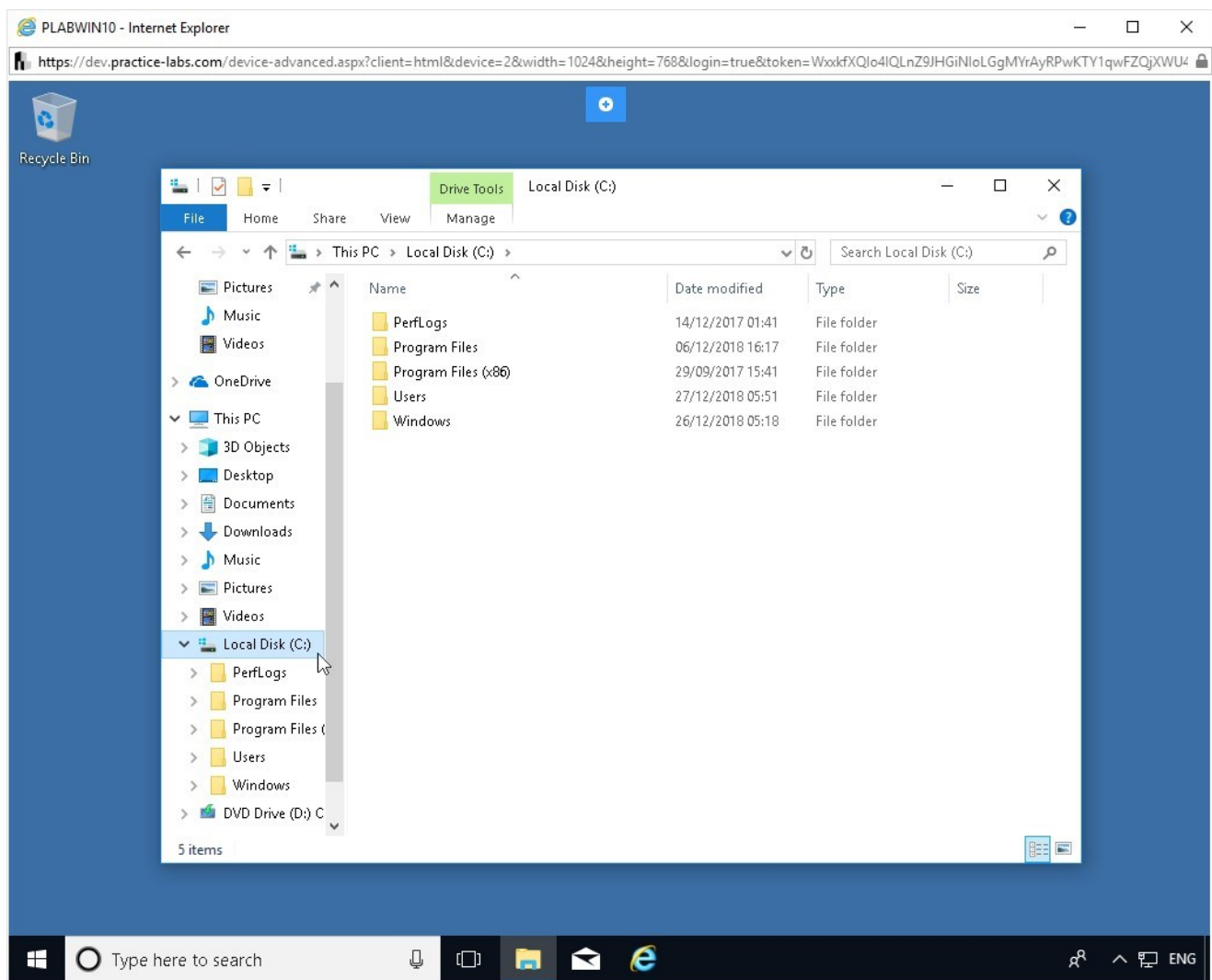
Figure 1.85 Screenshot of PLABWIN10: Displaying the File Explorer window with Local Disk (C:) selected.

Step 3

Let's try to search for a particular folder from the available list. Type following in the search bar:

```
Windows
```
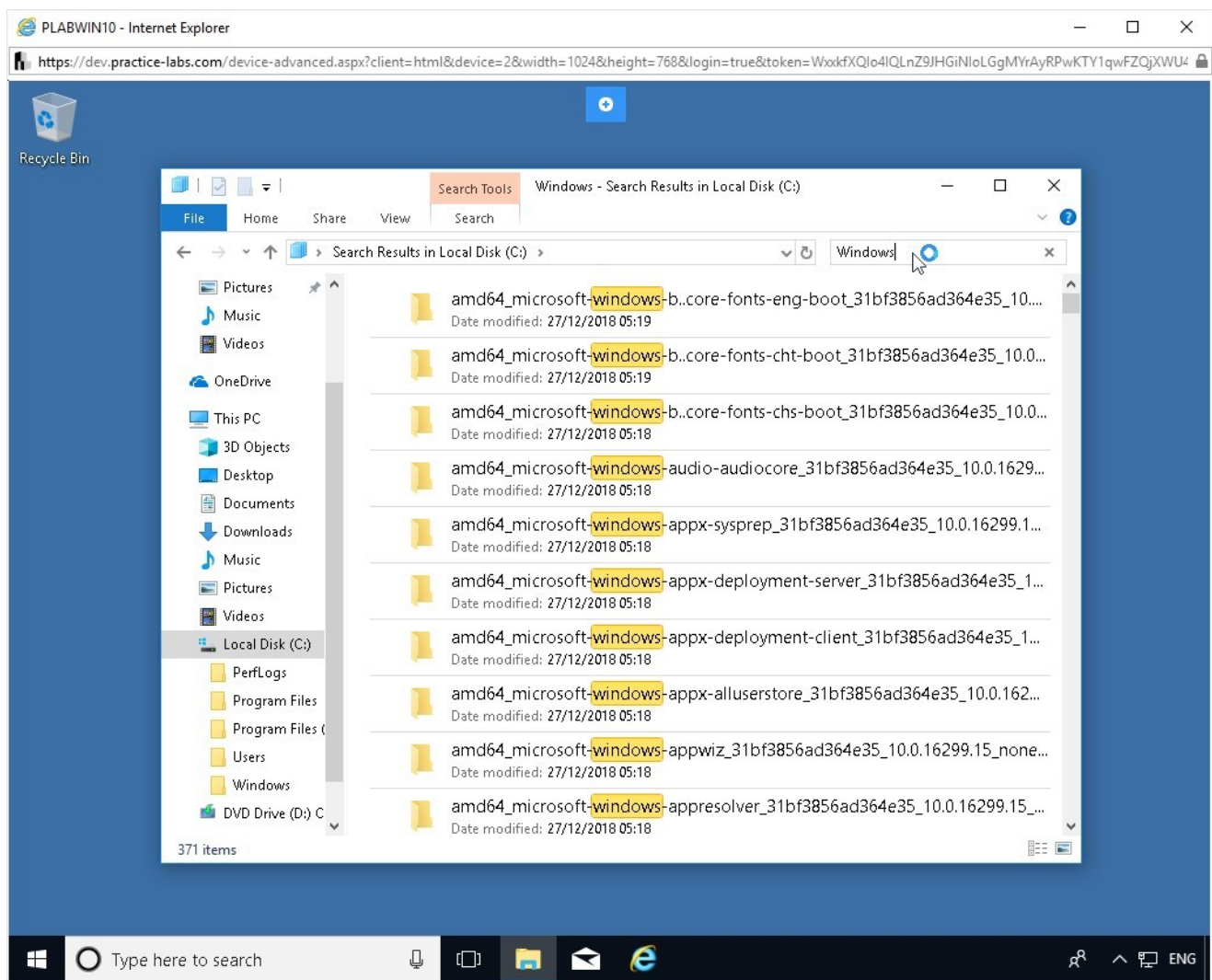
Press **Enter**. It displays the search results.

Figure 1.86 Screenshot of PLABWIN10: Searching for files and folders in File Explorer.

Step 4

Notice that the address bar is showing a green progress bar. This indicates that more results are being added to the right pane as the search continues.

Click **x** in the search textbox to close this search and its results.
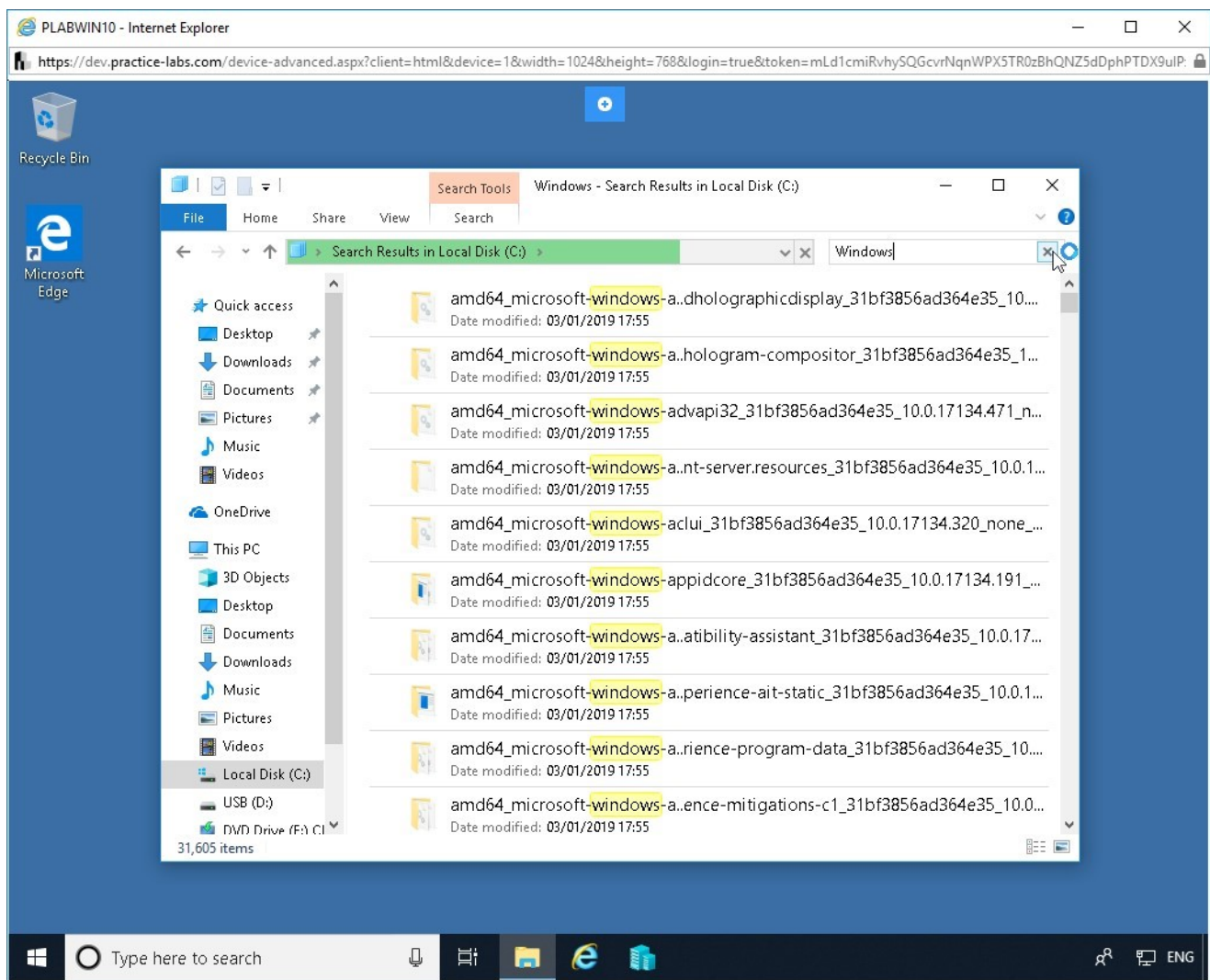
Figure 1.87 Screenshot of PLABWIN10: Showing the search results and then closing the search.

Step 5

You are back on the screen that displays **Local Disk (C:)** drive contents in the right pane.
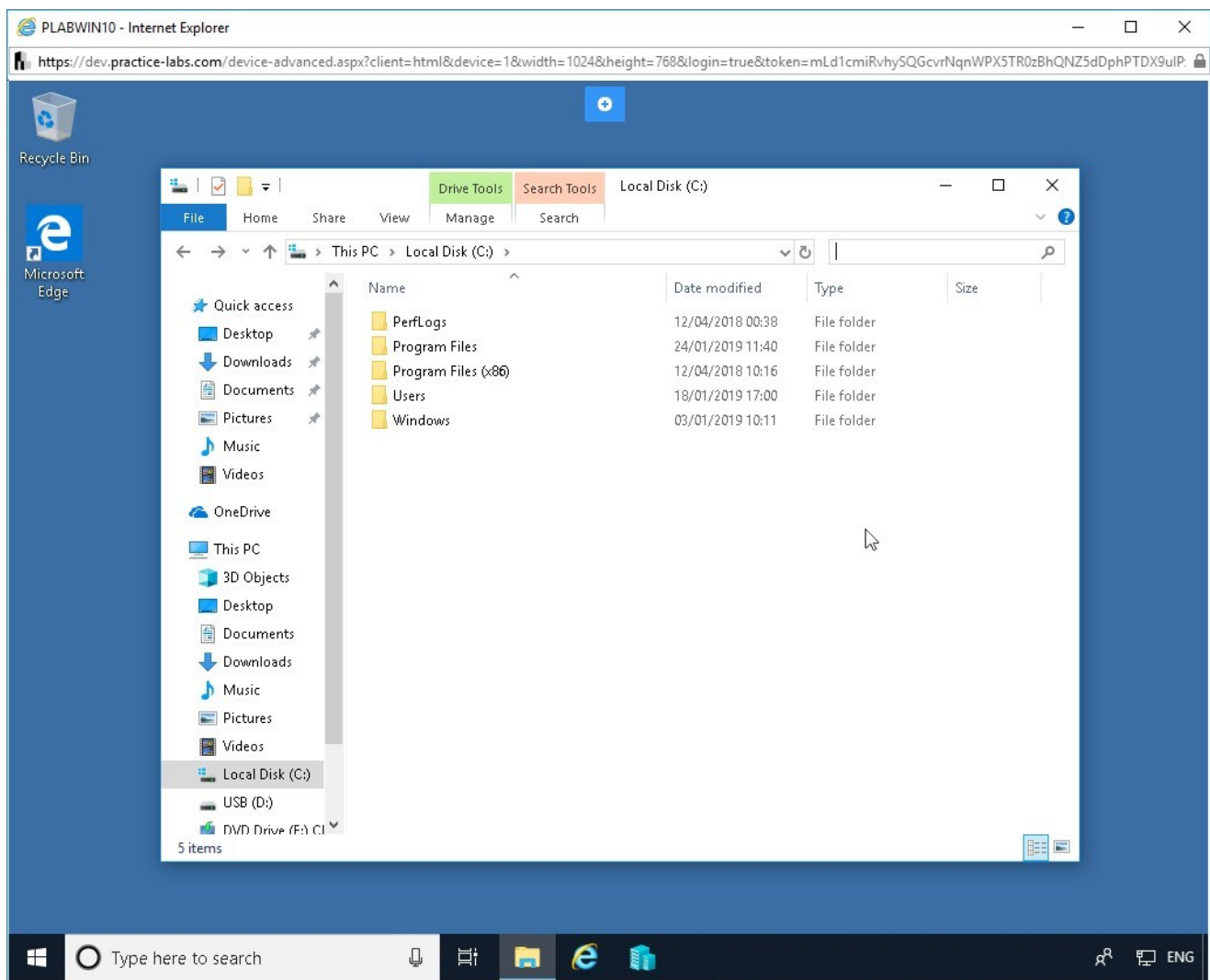
Figure 1.88 Screenshot of PLABWIN10: Displaying the File Explorer window with Local Disk (C:) selected.

Step 6

Notice there are three arrows to the left of the address bar.

- **Left**: Takes you to the previous screen.
- **Right**: Takes you back to the screen you were on before clicking the left arrow. If you click the right arrow, you will be taken to the search results.
- **Up**: Will take you one level up in the directory structure. In this scenario, it will be **This PC**.
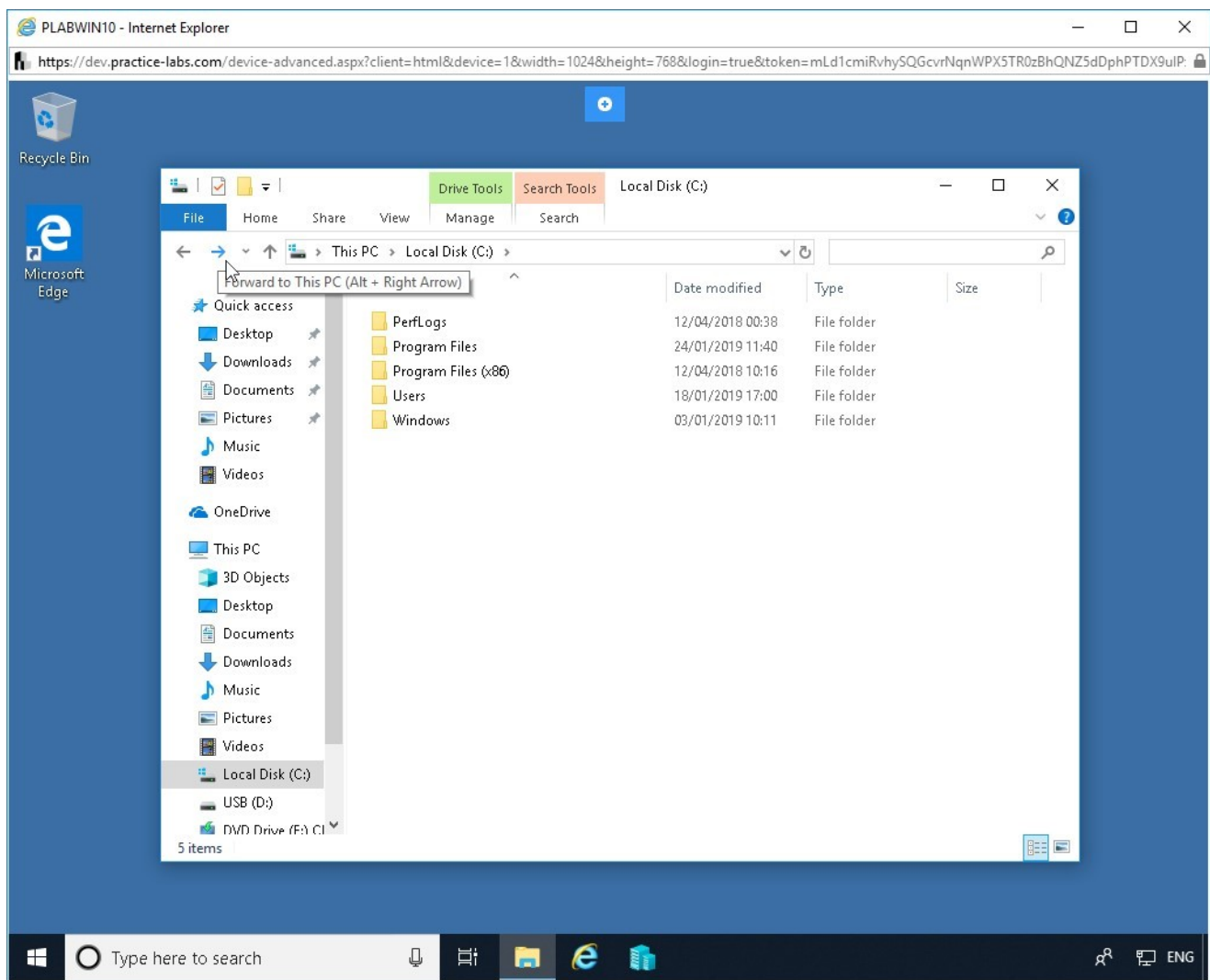
Click the right arrow.

Figure 1.89 Screenshot of PLABWIN10: Clicking the right arrow in File Explorer.

Step 7

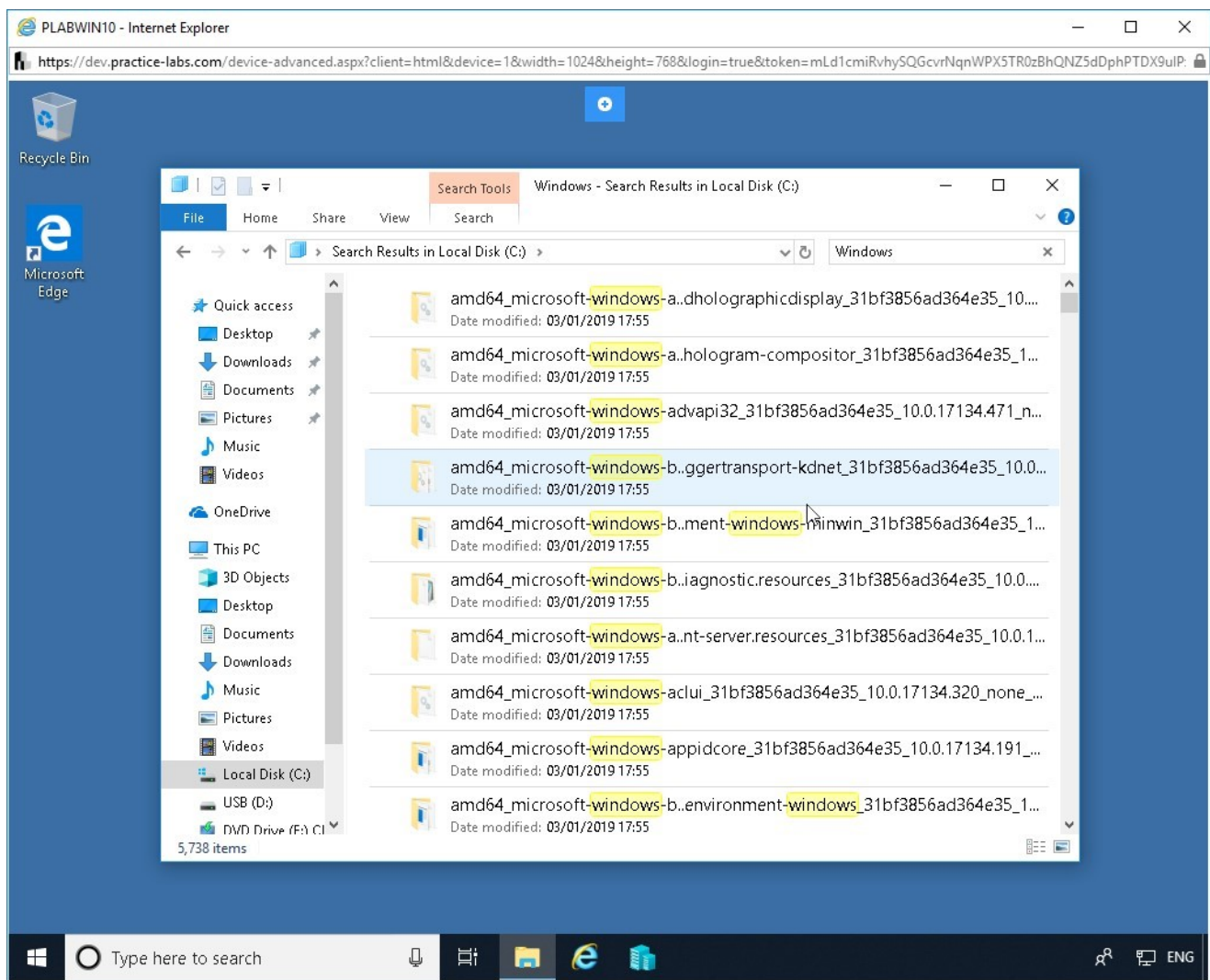Notice that you are shown the search results you previously accessed.

Figure 1.90 Screenshot of PLABWIN10: Showing the search result window.
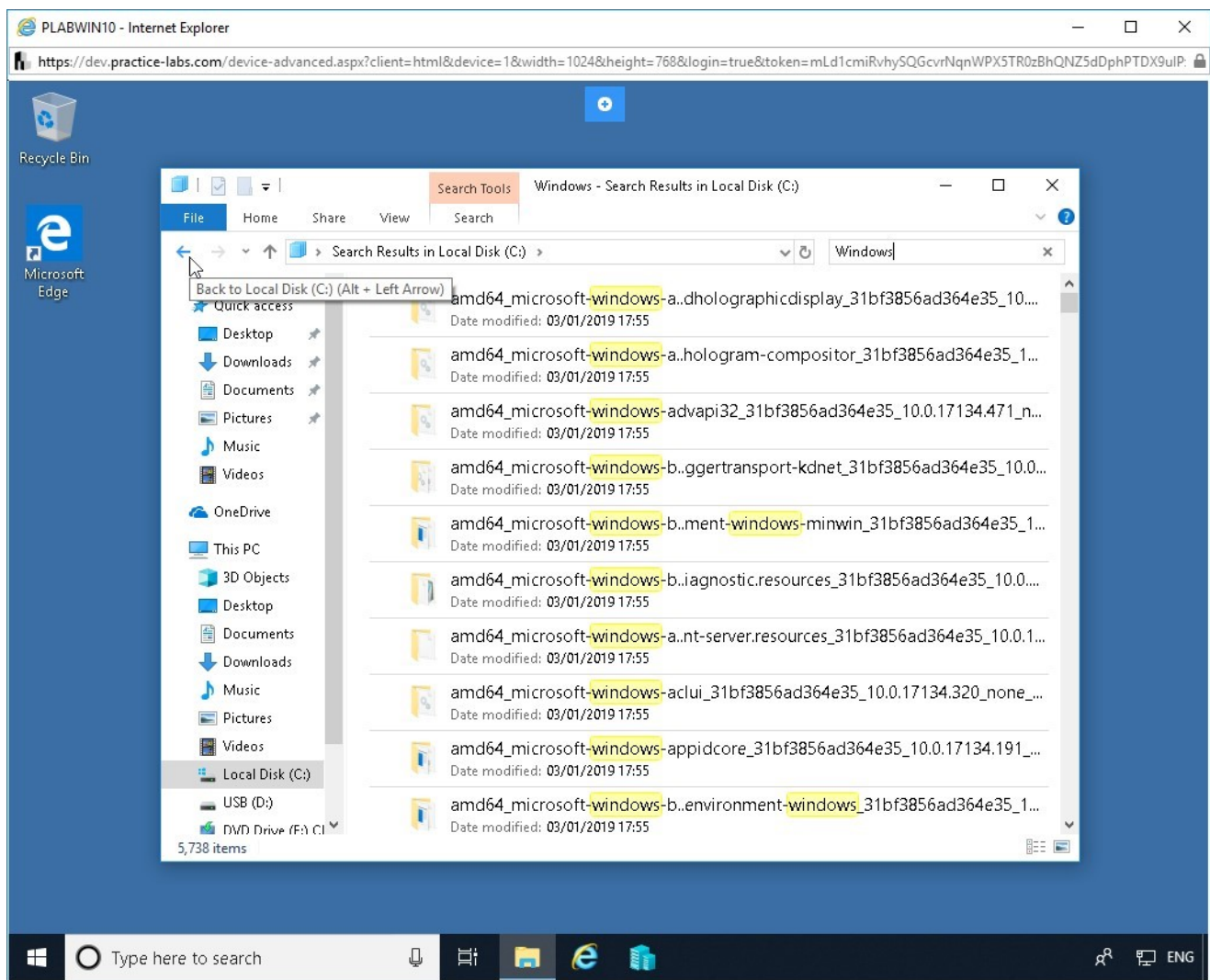
Step 8

Click the left arrow.

Figure 1.91 Screenshot of PLABWIN10: Clicking the left arrow to visit the previous screen.

Step 9

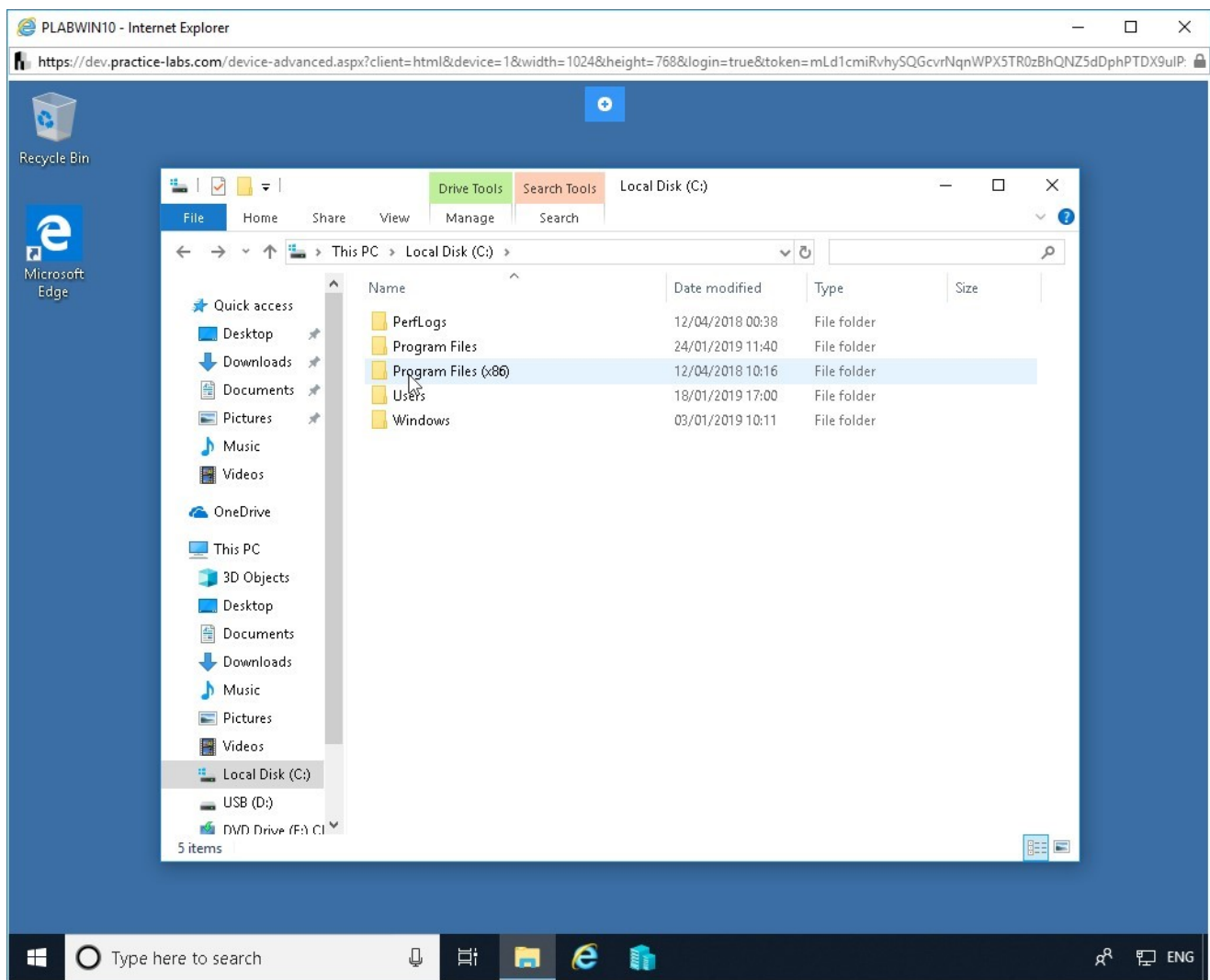You are back on the screen that displays **Local Disk (C:)** drive contents in the right pane.

Figure 1.92 Screenshot of PLABWIN10: Displaying the File Explorer window with Local Disk (C:) selected.

Step 10

Let's explore the tabs.

Click the **Home** tab.

This displays generic functions, such as copy, paste, cut, move to, copy to, and creation of a new folder. You can also view the properties of a file or folder using the **Properties** command.
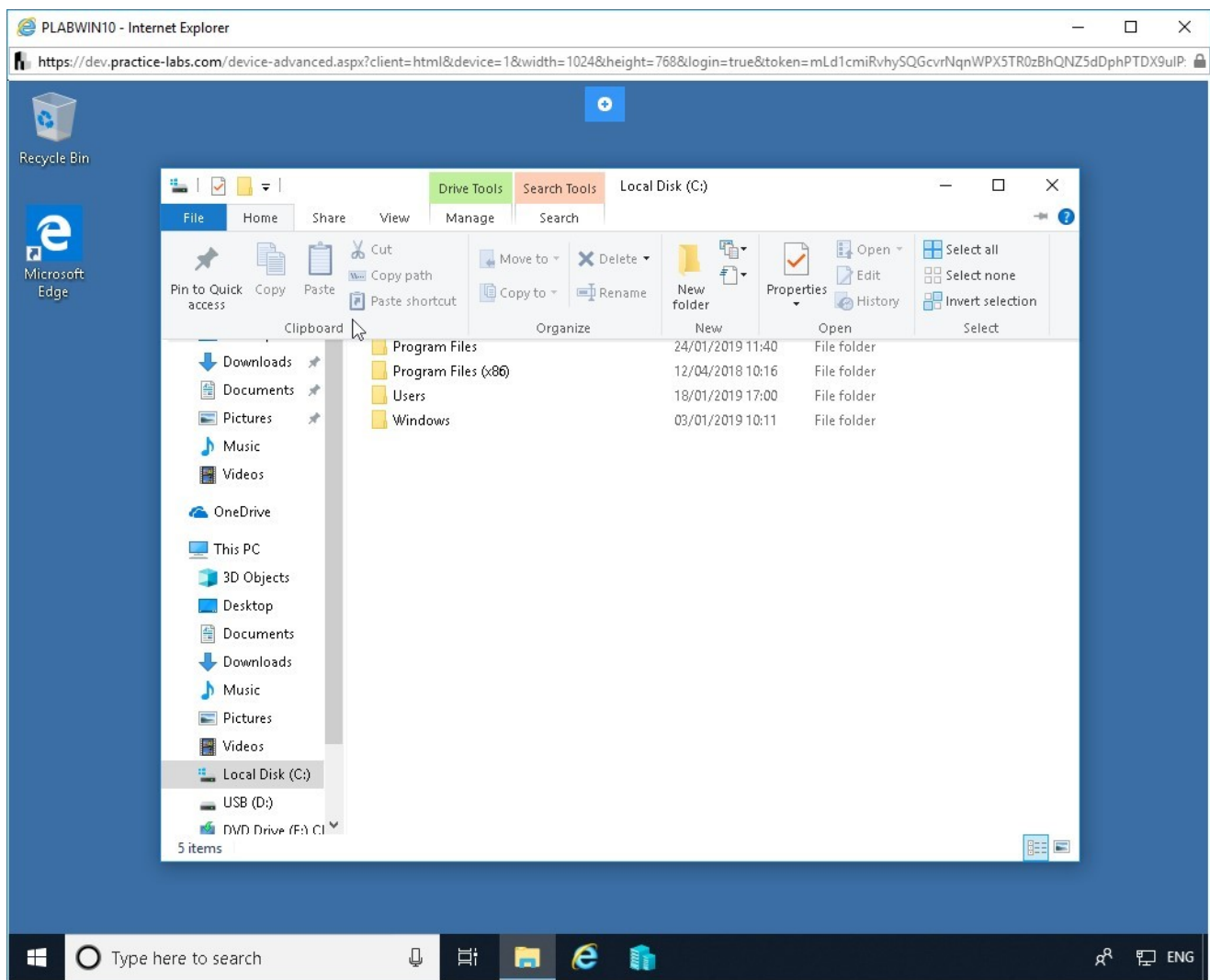
Figure 1.93 Screenshot of PLABWIN10: Clicking the Home tab and displaying its commands.

Step 11

Click the **Share** tab.

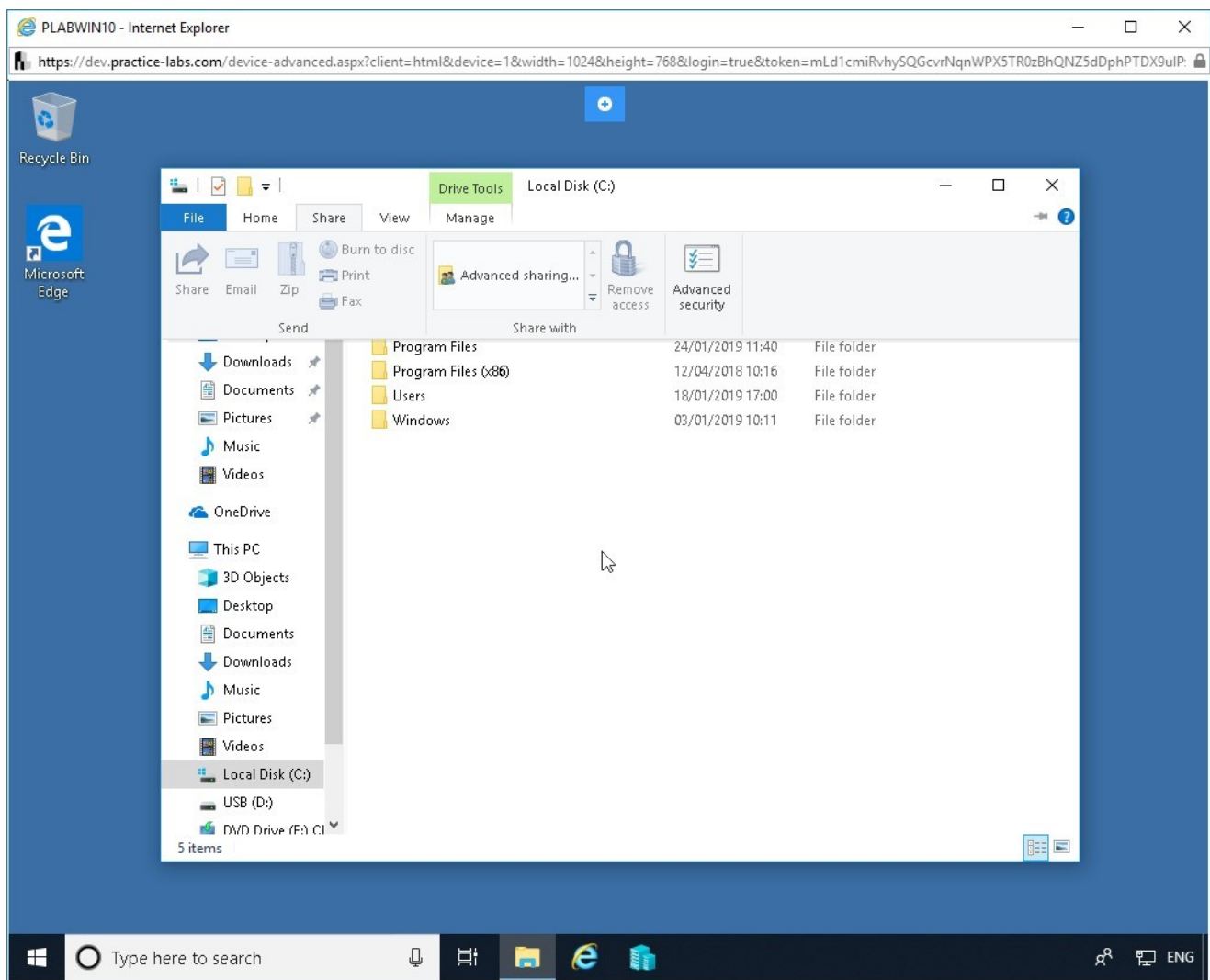This tab displays the folder sharing options.

Figure 1.94 Screenshot of PLABWIN10: Clicking the Share tab and displaying its commands.

Step 12

Select the **Users** folder in the right pane and click the **Share** tab once again to hide it.

Notice that with the selection of the Users folder, the Manage tab has disappeared. It is important to note that some of the tabs are context-specific and are only visible if their relevant object, such as a file, is selected.
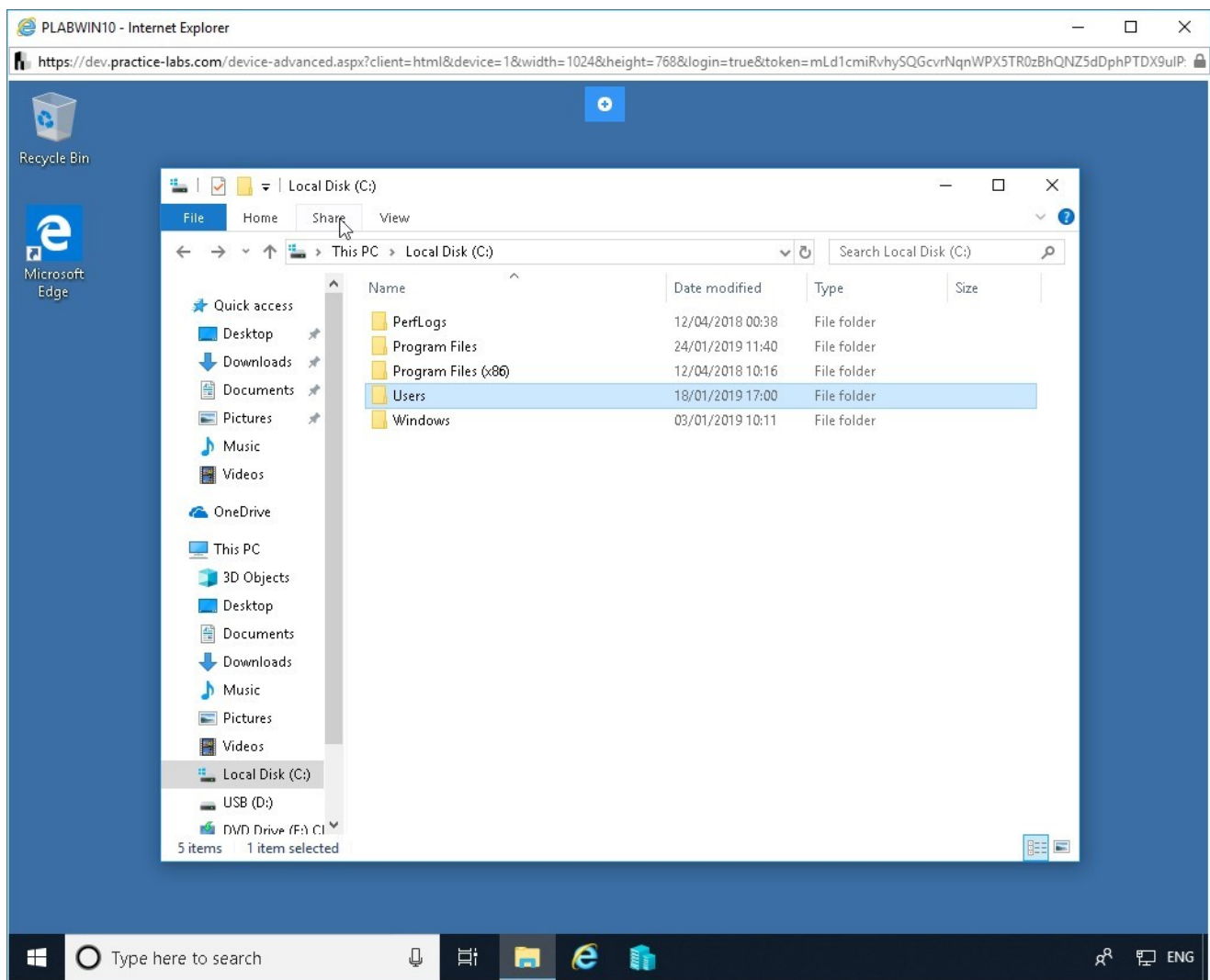
Figure 1.95 Screenshot of PLABWIN10: Displaying the Users tab and showing its commands.

Step 13

Click the **View** tab.

The current layout is set to **Details** by default. This tab contains the commands that allow you to alter the visual settings of files and directories. For example, you can choose to display file extensions, which are hidden by default. There are several system files that are hidden. You can choose to display them by default by selecting the **Hidden items** checkbox.
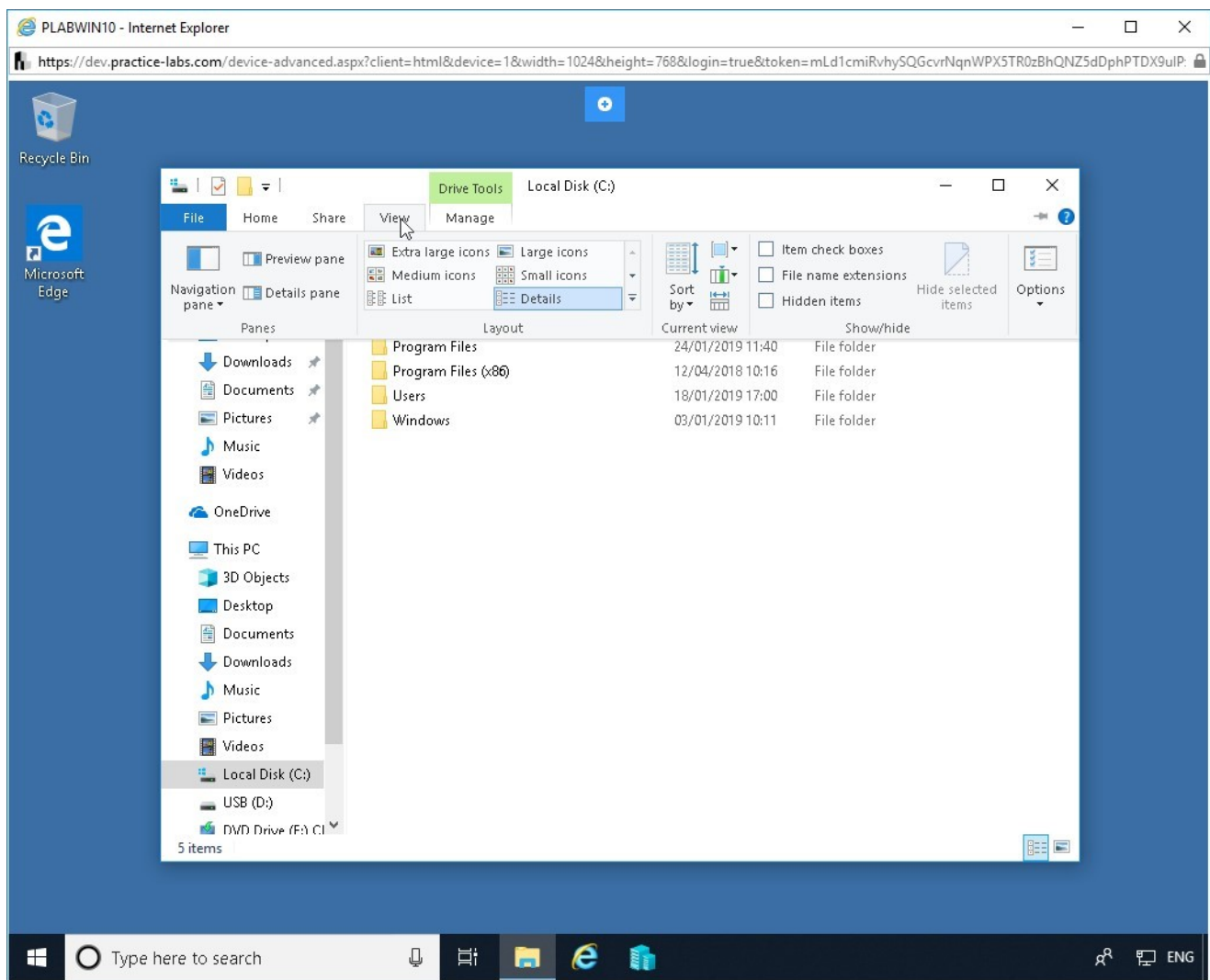
Figure 1.96 Screenshot of PLABWIN10: Showing various commands on the View tab.

Step 14

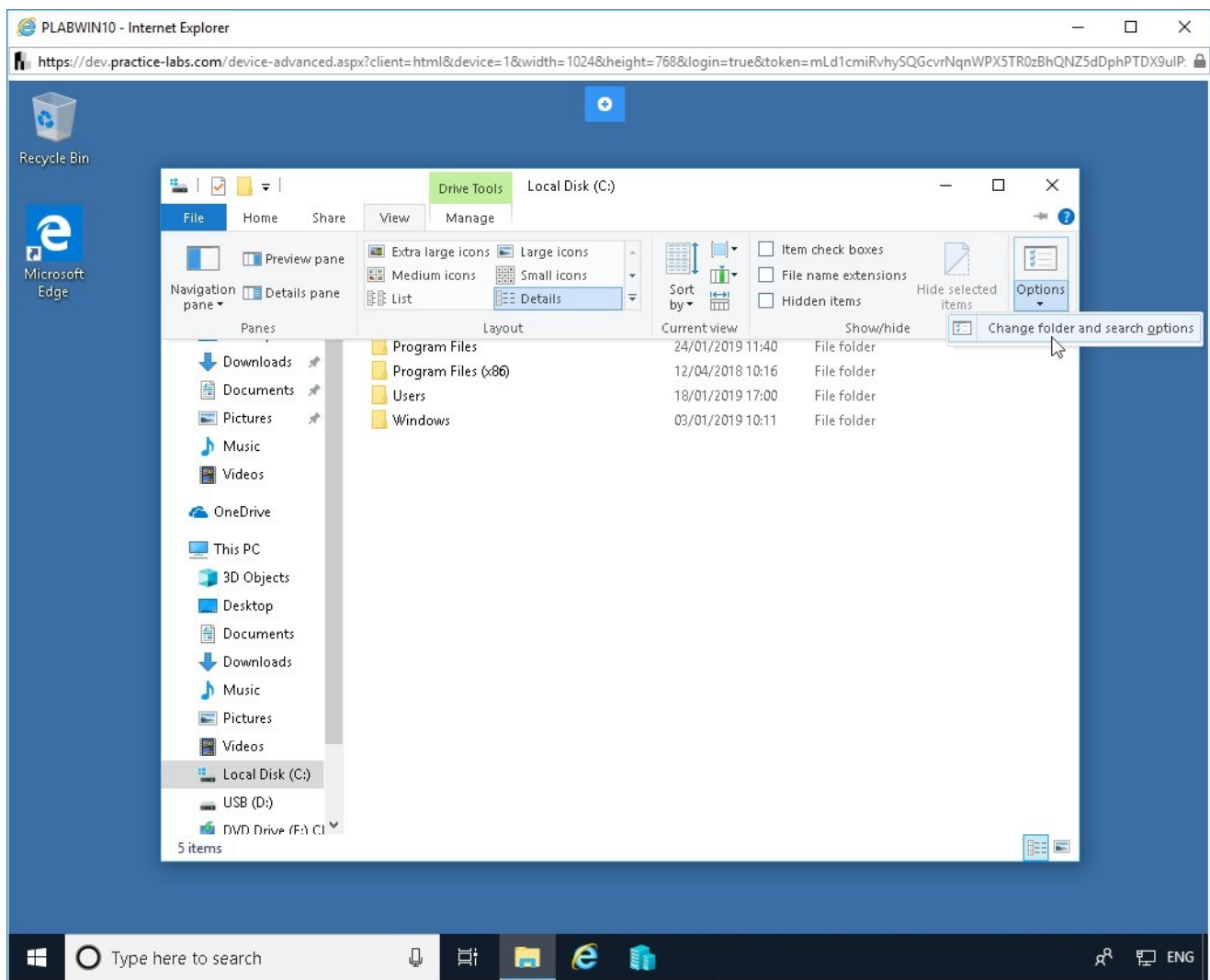On the **View** tab, click **Options** and then select **Change folder and search**.

Figure 1.97 Screenshot of PLABWIN10: Selecting the Change folder and search option

Step 15

The **Folder Options** dialog box is displayed. There are three tabs:

- **Browse folders**: Allows you to open folders in the same window or a new window. By default, it is set to open folders in the same window.
- **Click items as follows**: By default, you need to double-click to open a folder. You can configure it to open with a single click.
- **Privacy**: By default, recently used files are shown in Quick access, which also displays the frequently used folders. You can choose to disable both the settings.
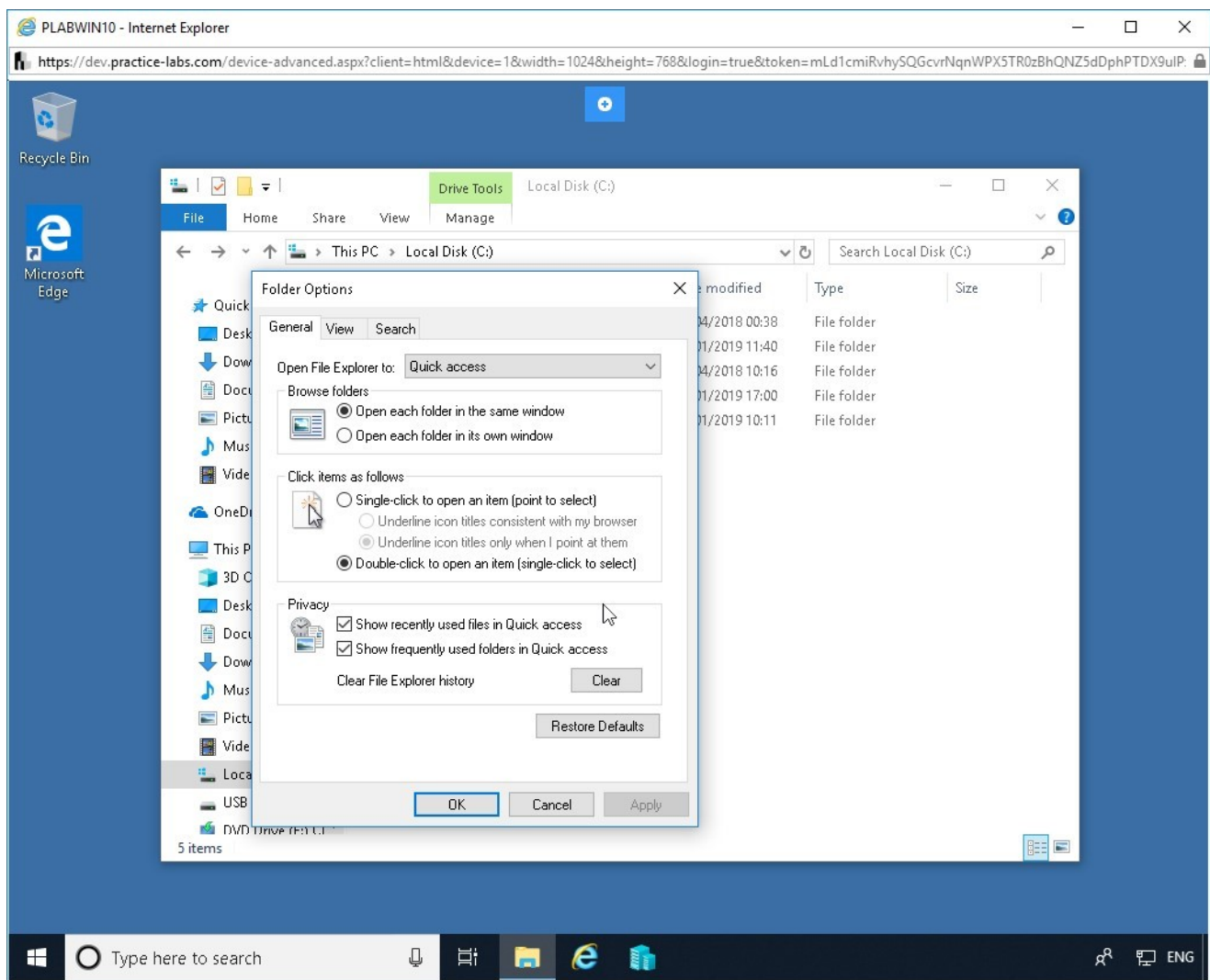
Figure 1.98 Screenshot of PLABWIN10: Showing the General tab of the Folder Options dialog box.

Step 16

Click the **View** tab.
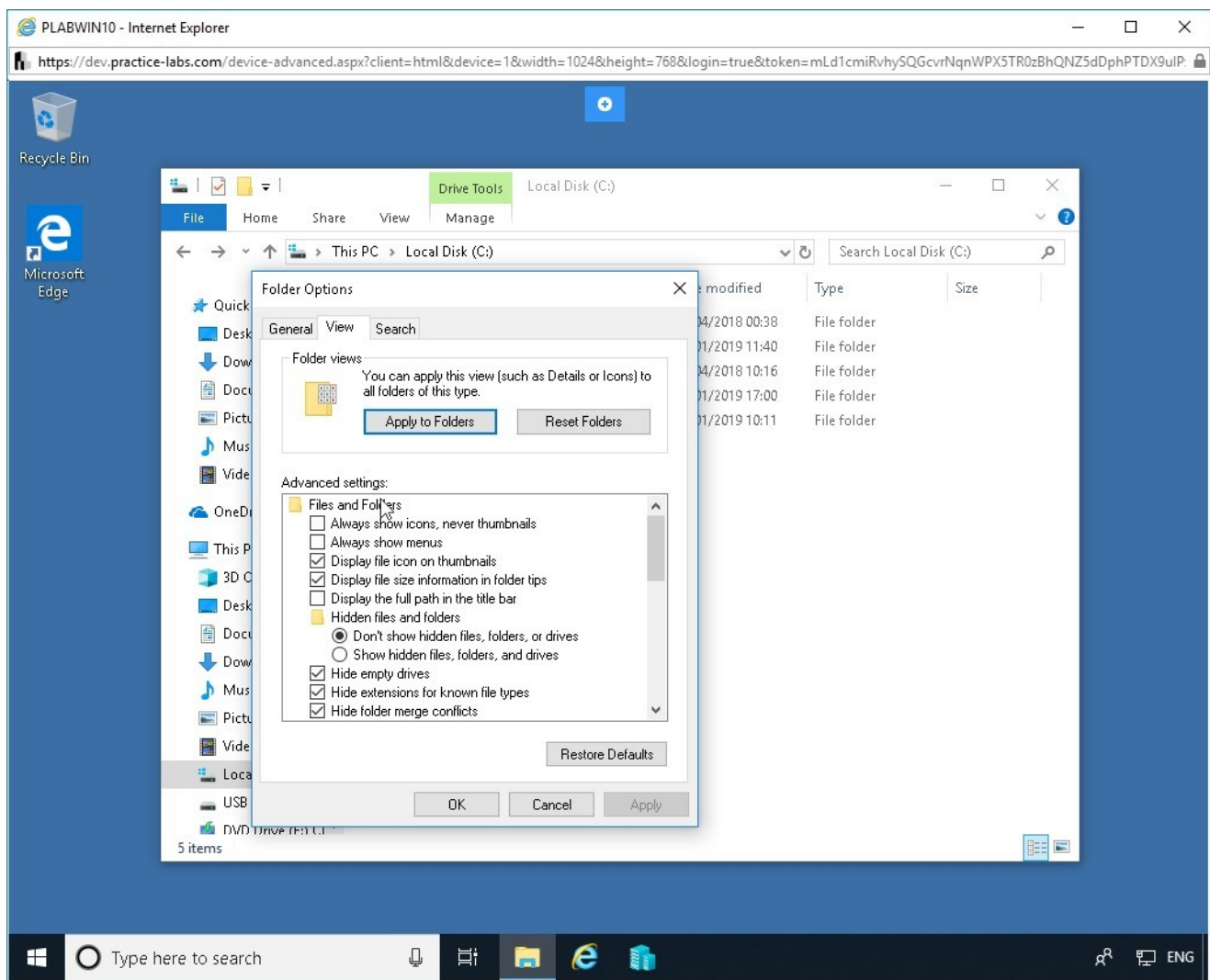
This displays the settings specific to files and folders.

Figure 1.99 Screenshot of PLABWIN10: Clicking the View tab and displaying the various options to display files and folders.

Step 17

In the **Advanced settings** section, select **Show hidden files, folders, and drives**.

Also, deselect **Hide extensions for known file types**.
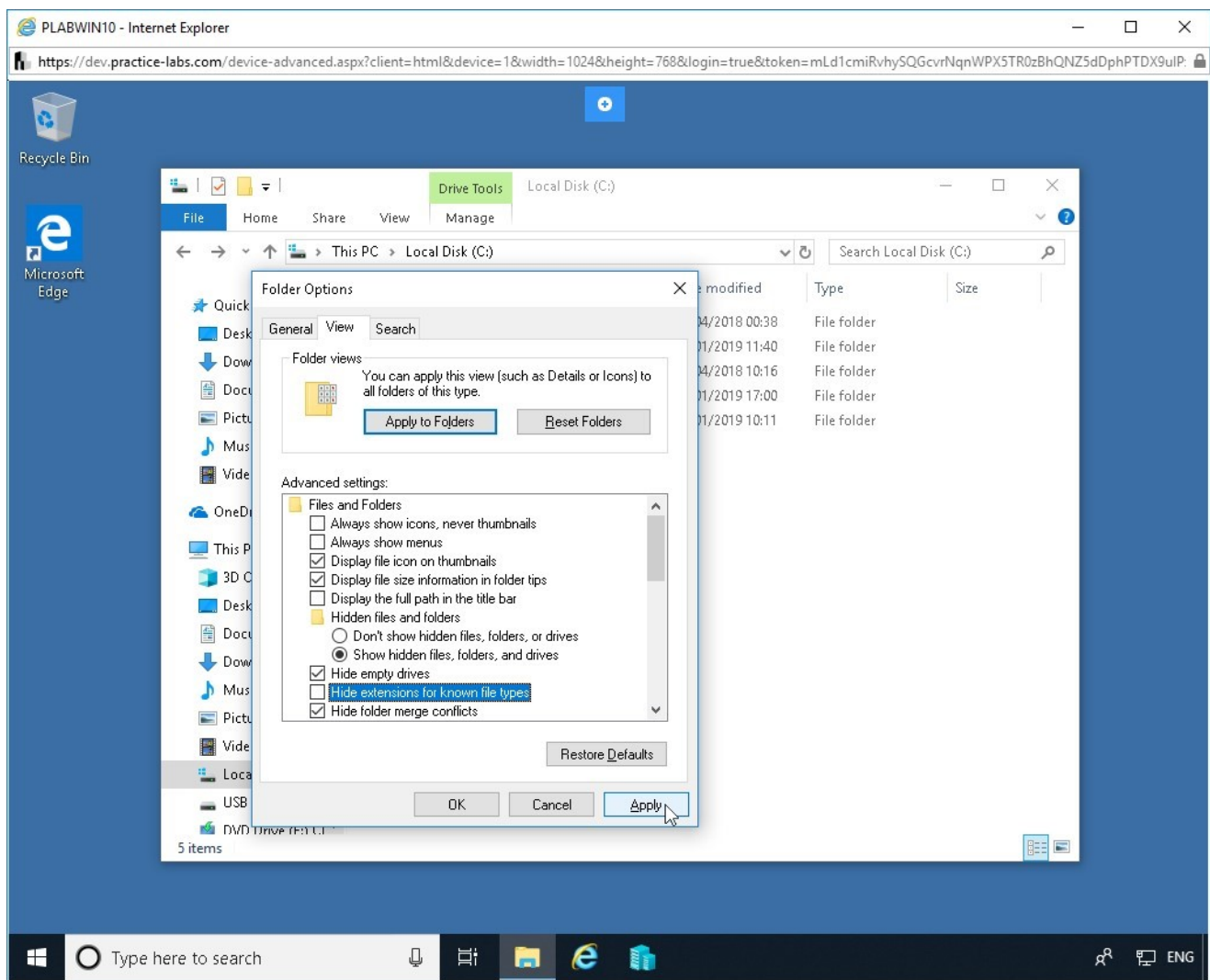
Click **Apply**.

Figure 1.100 Screenshot of PLABWIN10: Selecting the Show hidden files, folders, and drives option and then deselecting Hide extensions for known file types.

Step 18

Click the **Search** tab, which includes the search and index settings. Notice that the **Include system directories** checkbox is already selected.

Select the following:

- **Include compressed files (ZIP, CAB...)**
- **Always search file names and contents (this might take several minutes)**
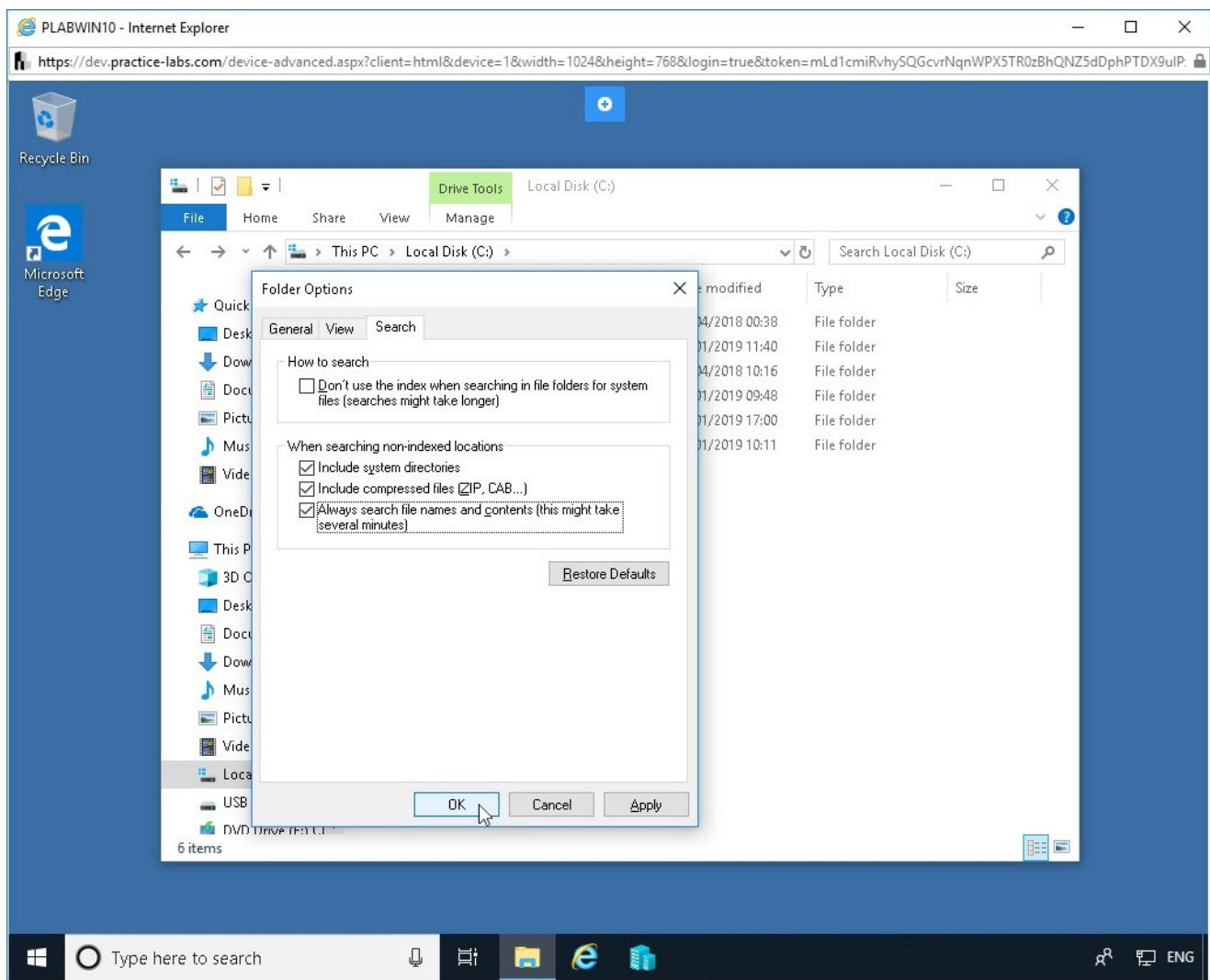
Click **OK**.

Figure 1.101 Screenshot of PLABWIN10: Clicking the Search tab and then selecting the required checkboxes. OK is selected.

Step 19

You are back on the **File Explorer** window. Notice the **ProgramData** folder. This is dimmed in comparison to the other folders as it is hidden.

Close the **File Explorer** window.

> **Note:** *If time permits, navigate to some of the system directories, such as Windows. Verify if the file extensions are now being displayed.*
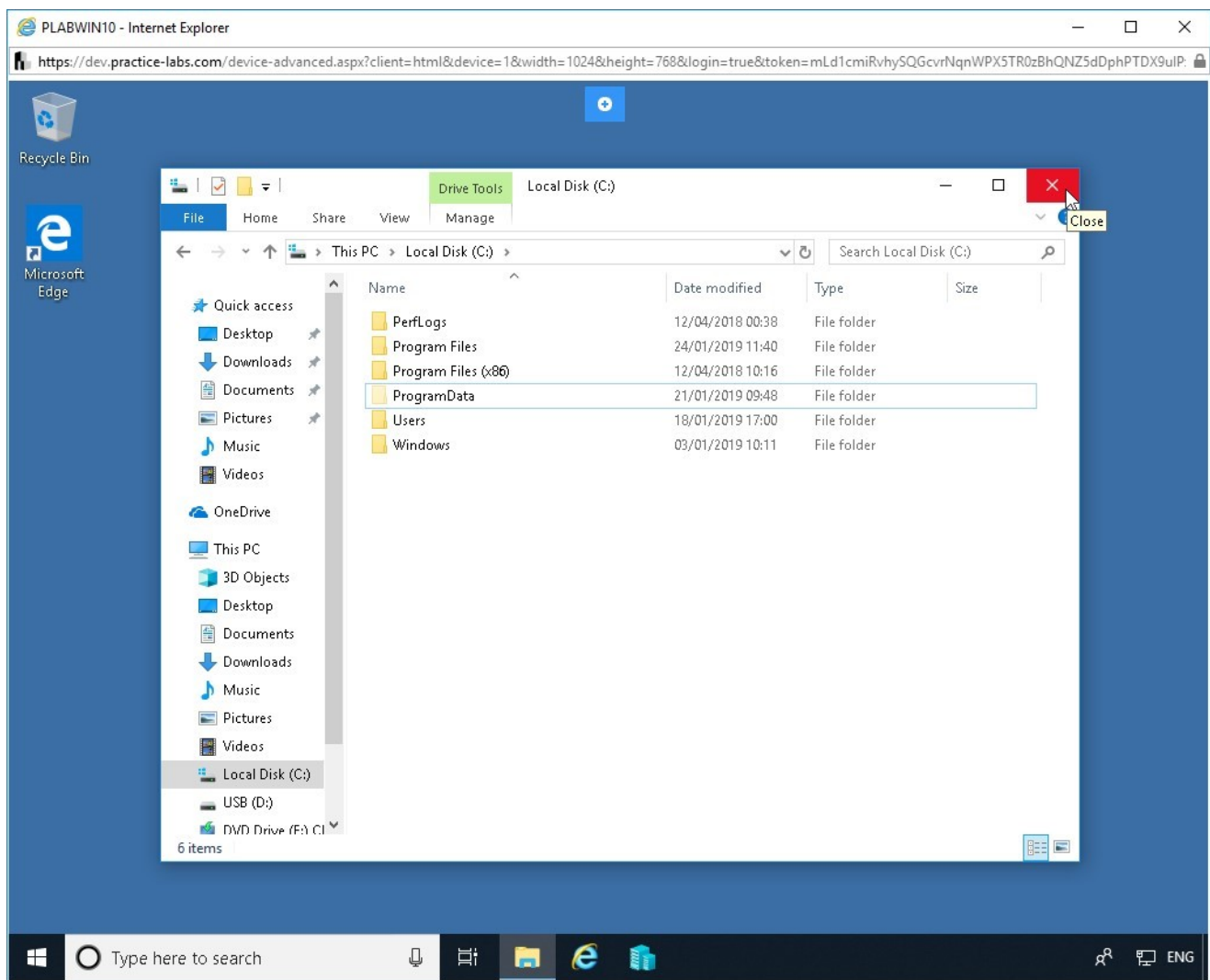
Figure 1.102 Screenshot of PLABWIN10: Displaying the hidden folder named ProgramData.

Step 20
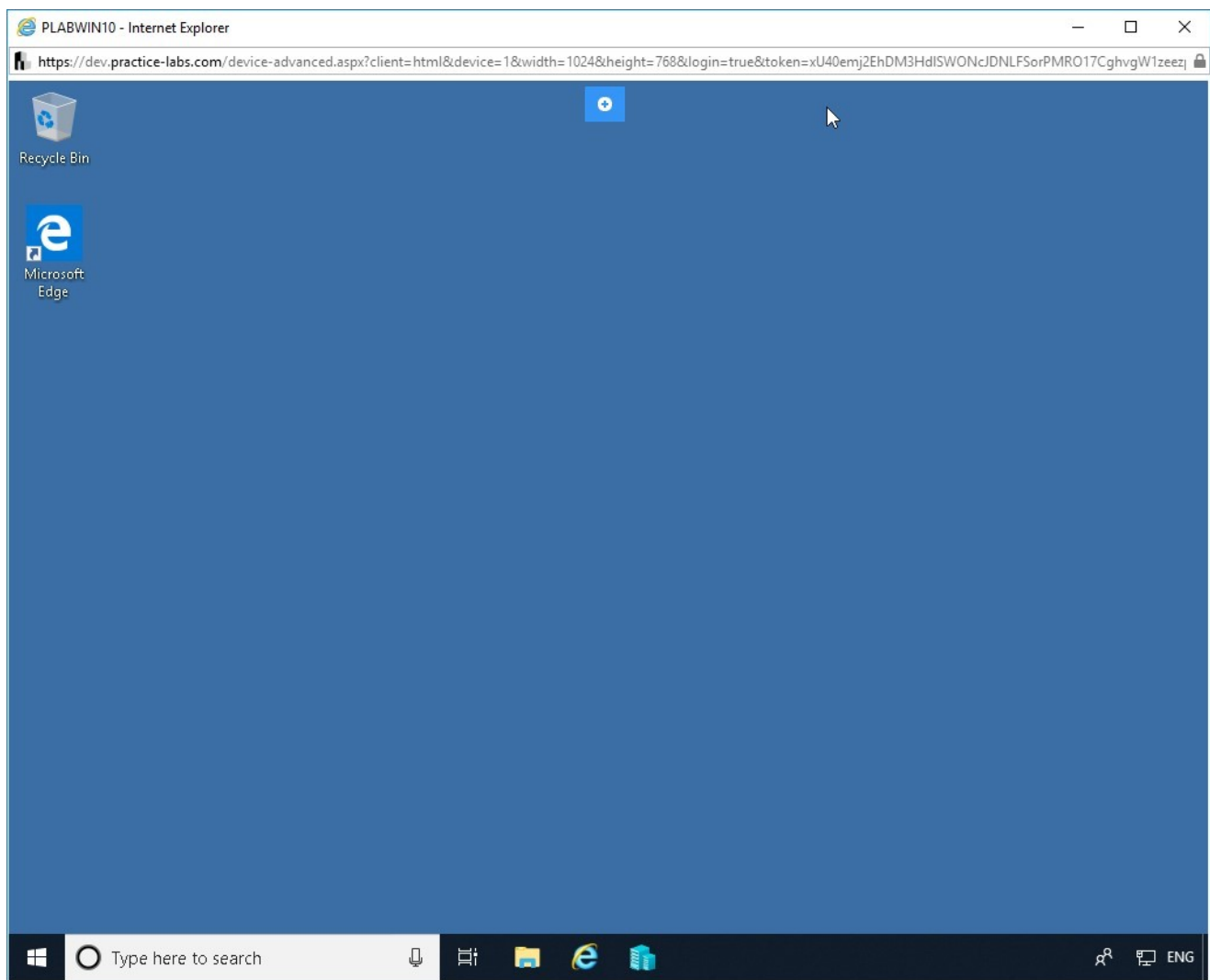
You should have now returned to the desktop.

Figure 1.103 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 6 - Use MSinfo32

Msinfo32 gives you a comprehensive view of system-related information. This information is primarily covering the hardware setup, software setup, and peripheral devices.

Using Msinfo32, information about various aspects/features of the system, such as the operating system (OS), random-access memory (RAM), sound devices, display devices, network adapter(s), printers, USB devices, print jobs, and system services can be viewed.

In this task, you will explore **MSinfo32**.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar, type the following command:

```
msinfo32
```

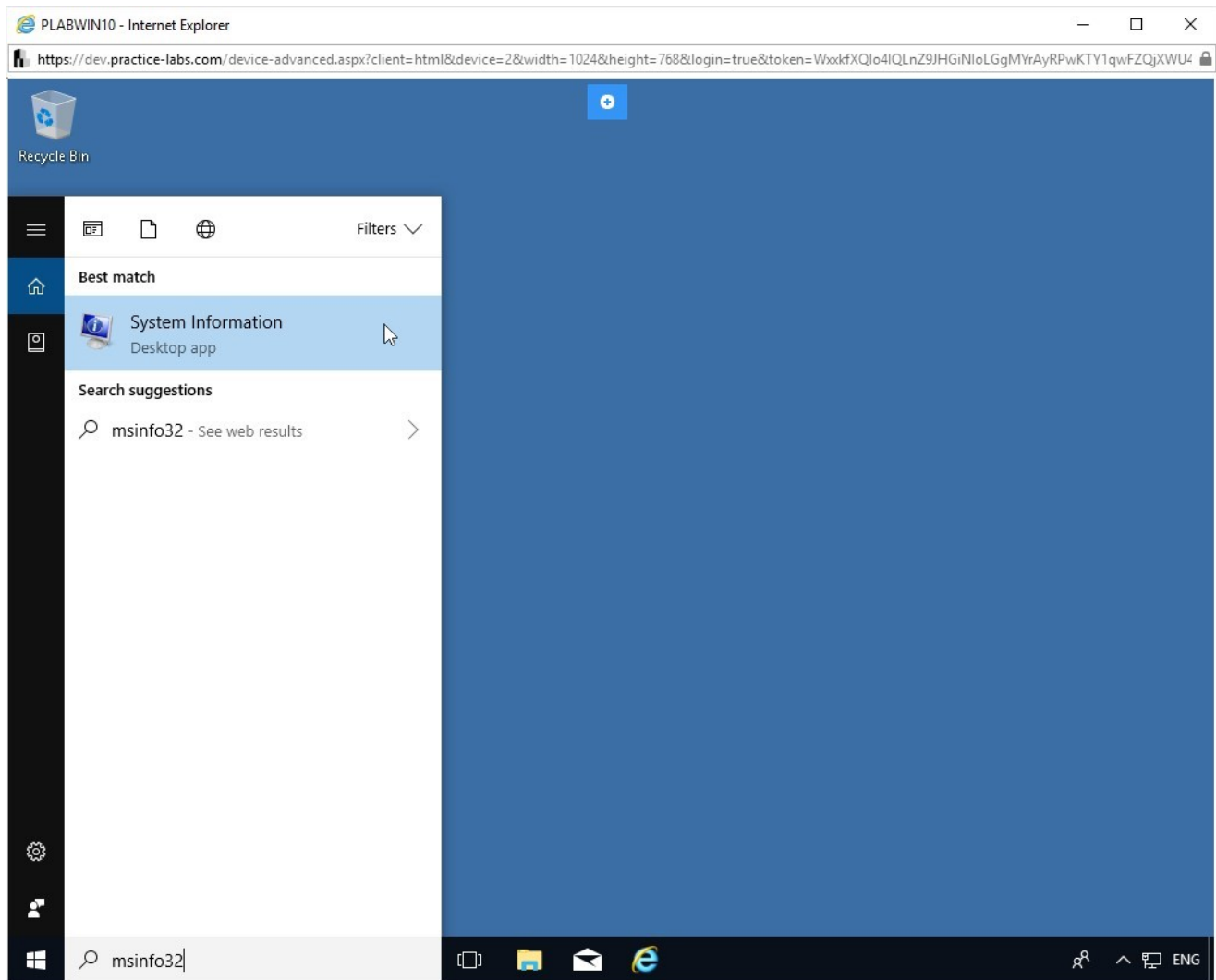Under the **Best Match** section, select **System Information**.

Figure 1.104 Screenshot of PLABWIN10: Selecting System Information from the search.

Step 2

By default, the **System Summary** is selected in the left pane, and its information is displayed in the right pane.
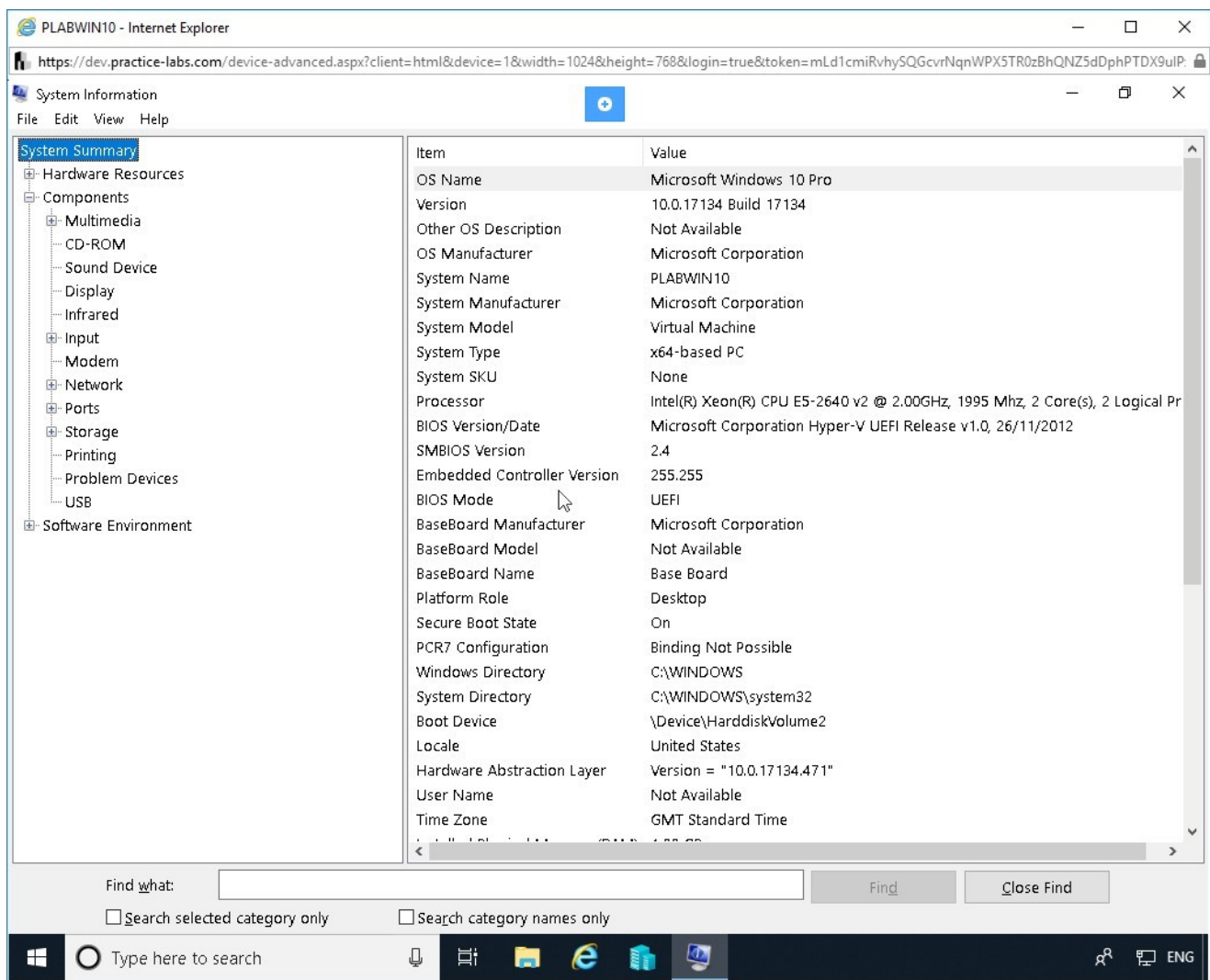
Figure 1.105 Screenshot of PLABWIN10: Showing the System Summary information in the right pane.

Step 3

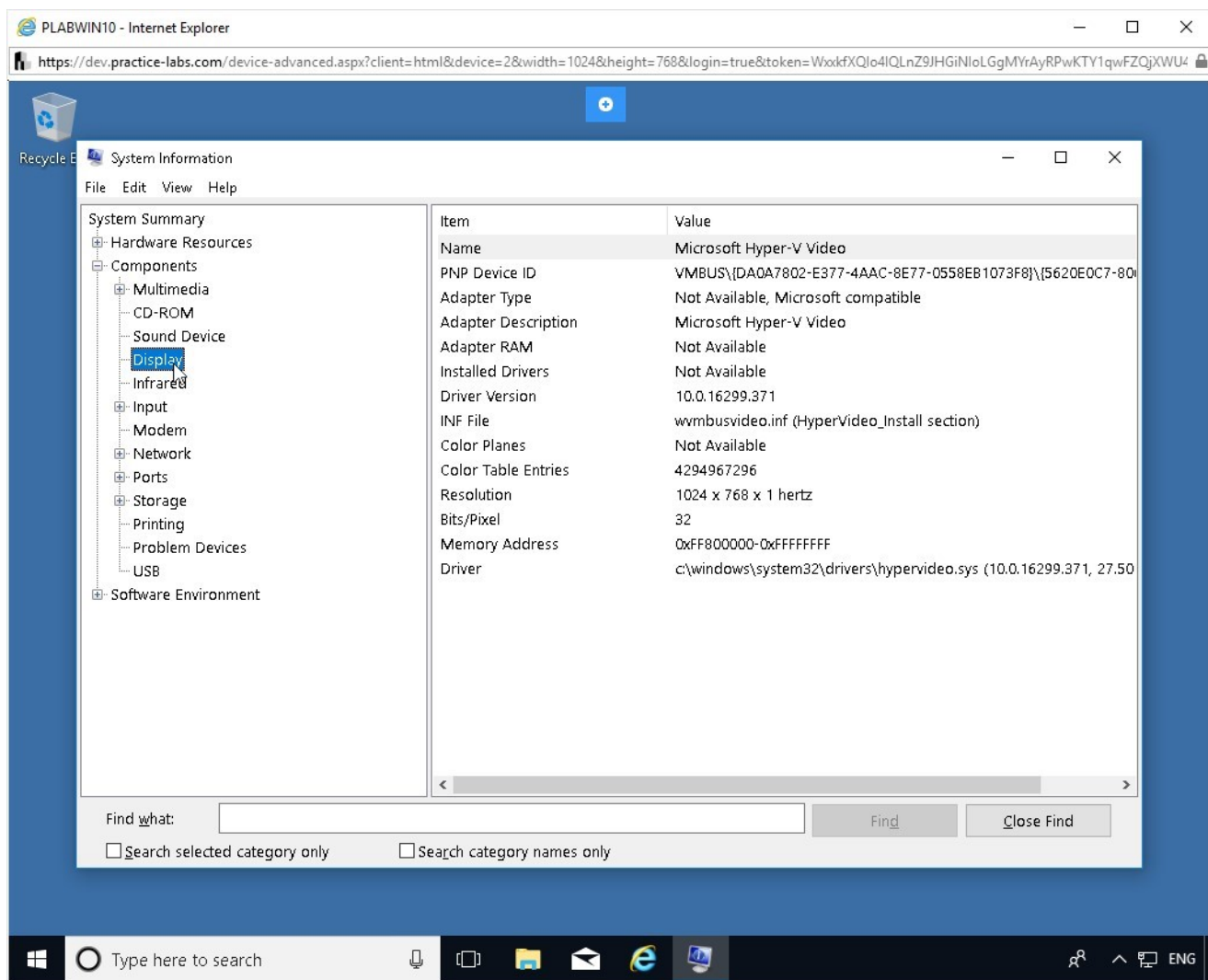For example, to view the display device-related information, select **Display** under **Components**.

Figure 1.106 Screenshot of PLABWIN10: Showing the information after selecting Display.

Step 4

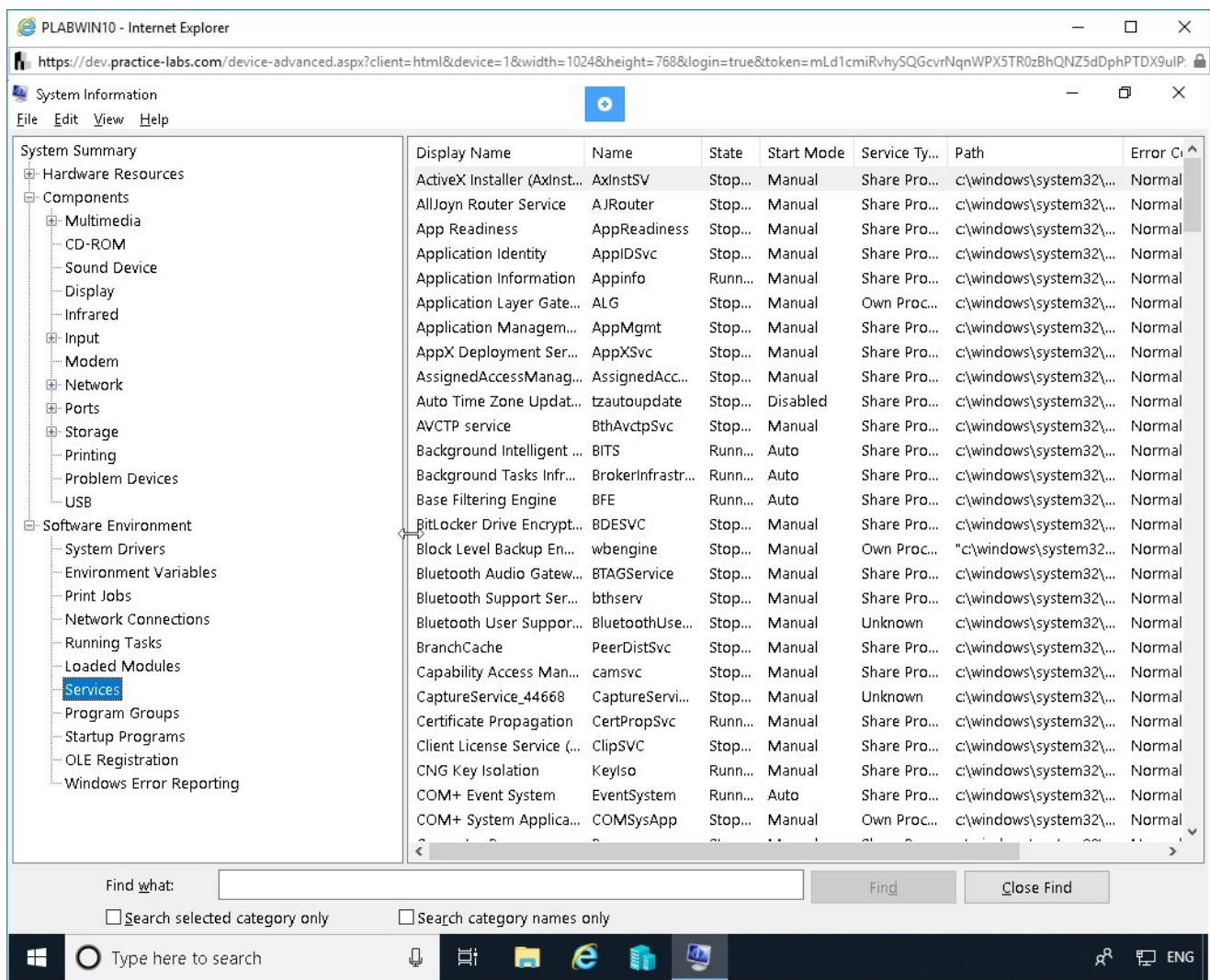Expand **Software Environment** and then select **Services**.

Figure 1.107 Screenshot of PLABWIN10: Expanding Software Environment to select Services.

Step 5

Close the **System Information** window.
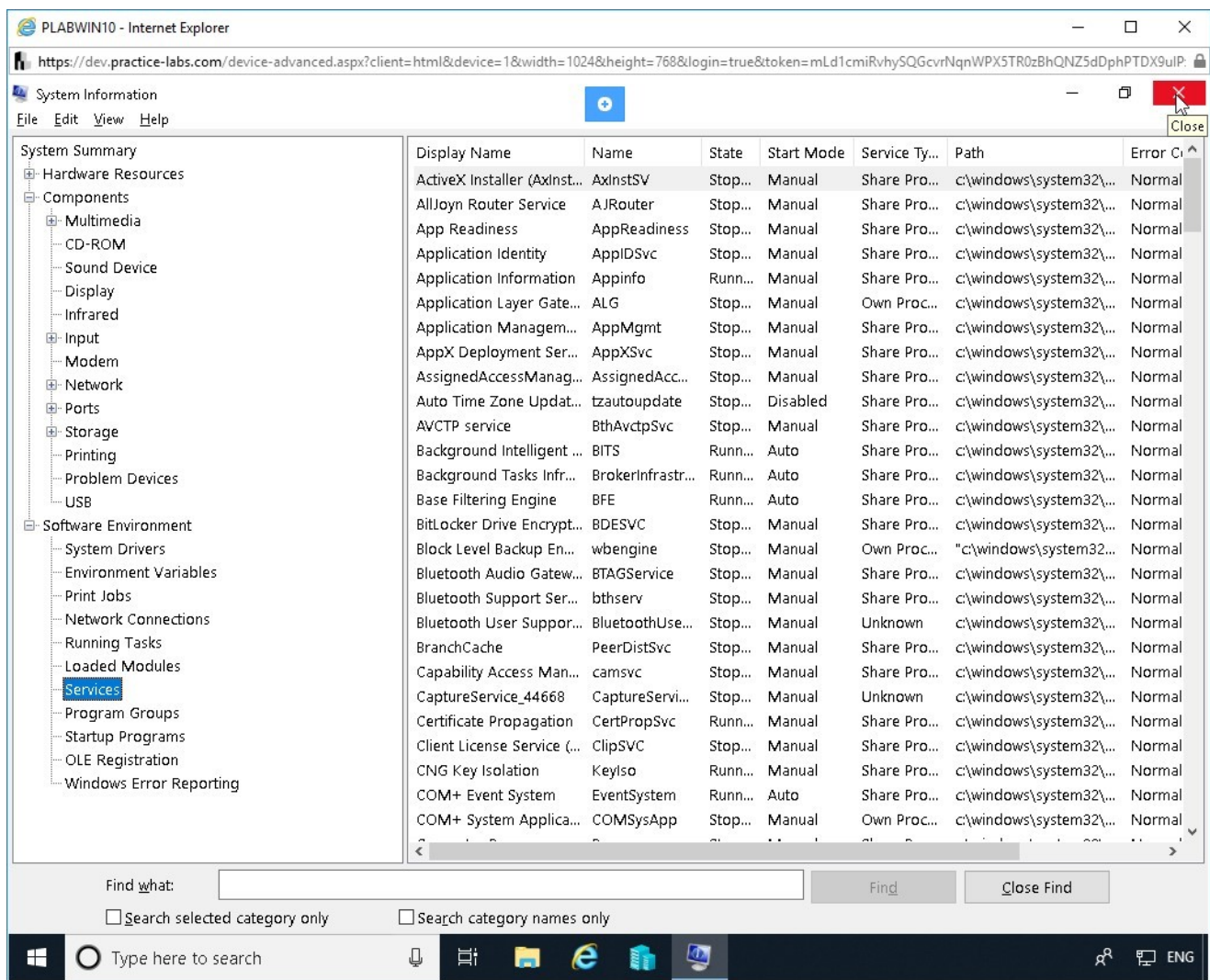
Figure 1.108 Screenshot of PLABWIN10: Closing the System Information window.

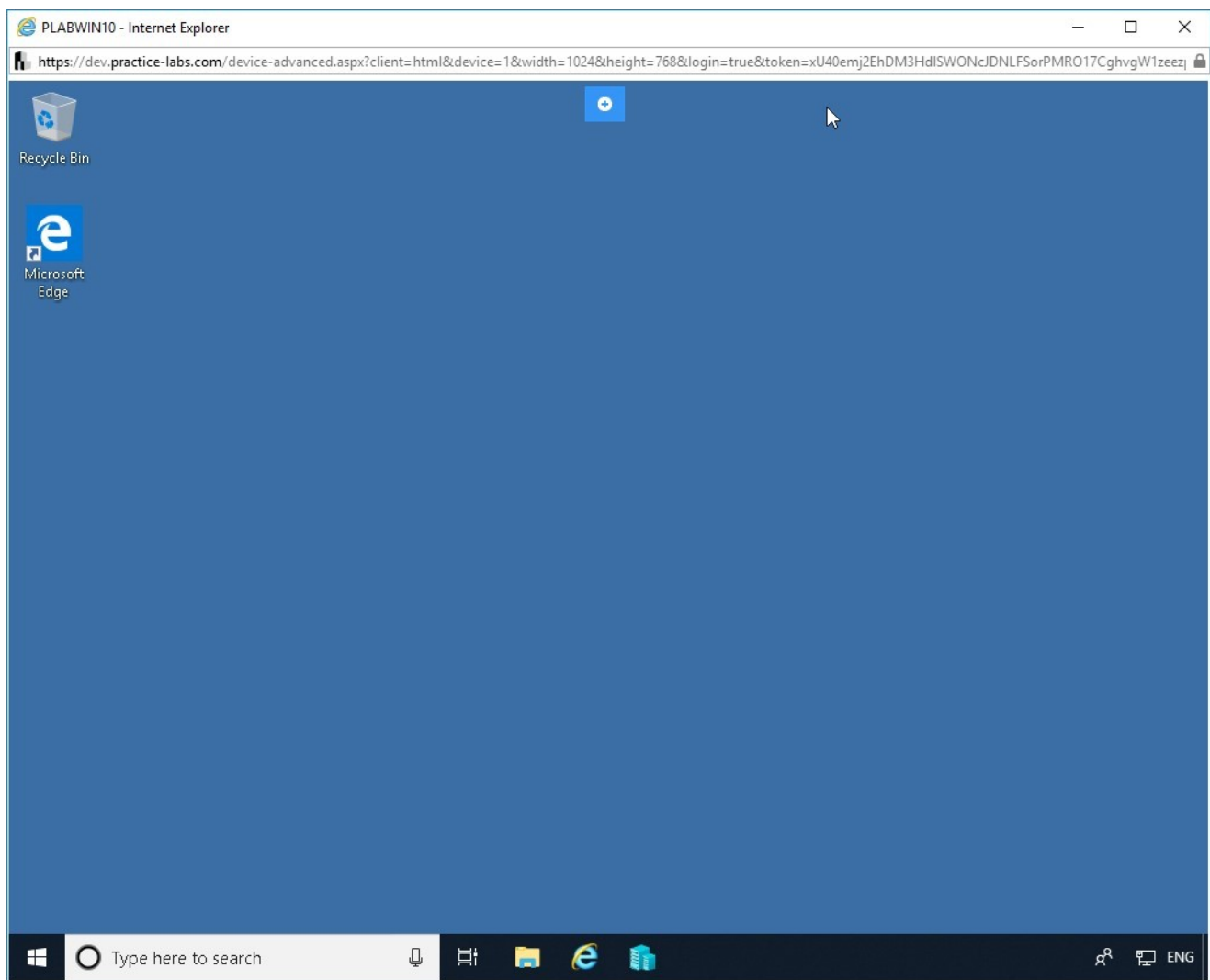# Step 6

You should have now returned to the desktop.

Figure 1.109 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 7 - Use the Microsoft Management Console (MMC)

MMC stands for Microsoft Management Console. As the name suggests, it provides users with a collection of tools useful for performing managerial activities. It is a combination of the graphical user interface and programming framework. MMC is essentially a container where all these managerial functions can be accessed in one place.

In this task, you will explore **MMC**.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar and type the following command:

```
mmc.
```

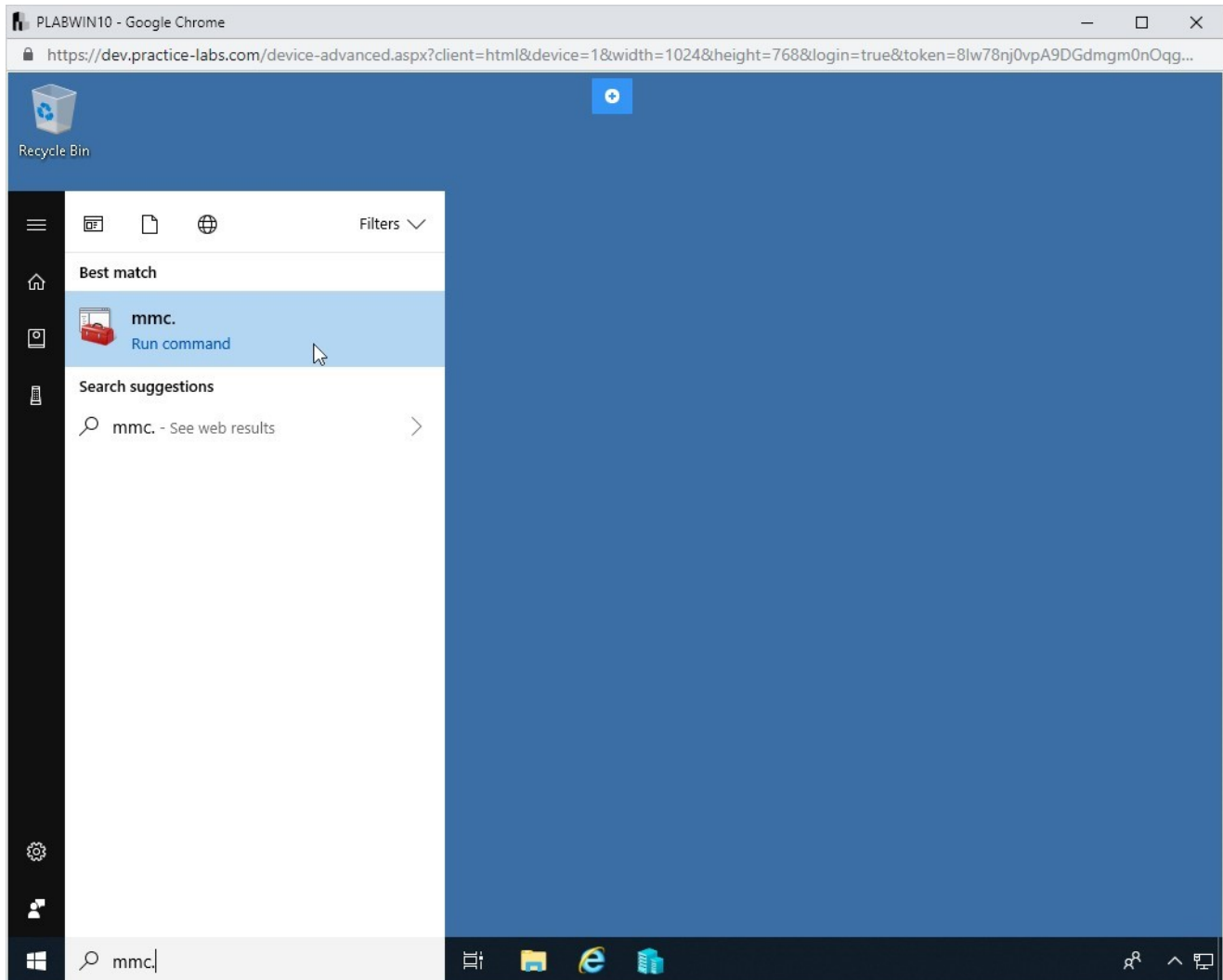Under the **Best Match** section, select **MMC**.

Figure 1.110 Screenshot of PLABWIN10: Selecting MMC from the search.

Step 2

On the **Console 1 - [Console Root]** window, select the **File** tab and select
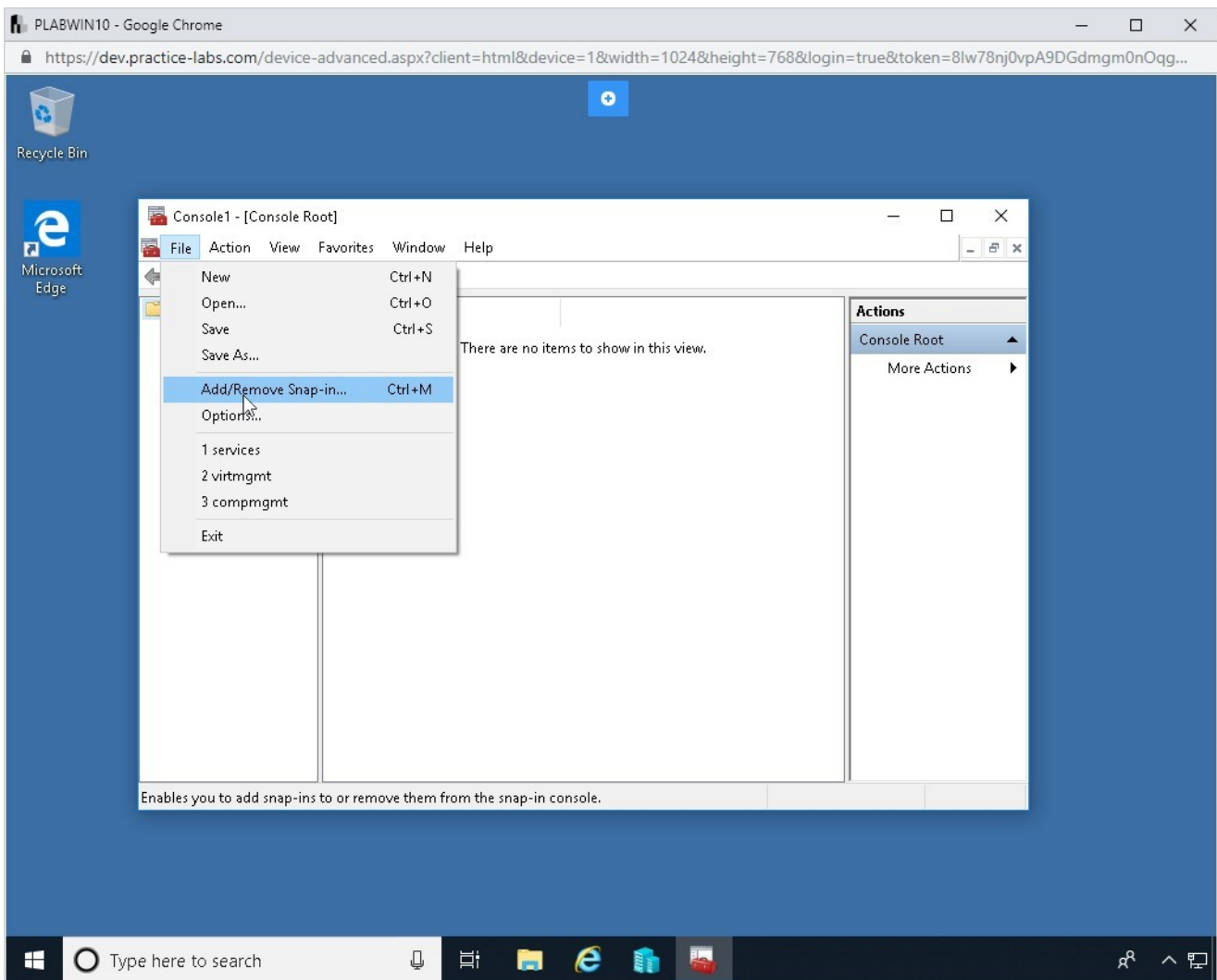**Add/Remove Snap-in**.

Figure 1.111 Screenshot of PLABWIN10: Selecting the Add/Remove Snap-in option from the File menu.

Step 3

The **Add or Remove Snap-ins** dialog box is displayed. Snap-ins are useful for administering the computer system, connected networks, system components, and services. In the left pane, a list of available snap-ins is displayed, and on the right-hand side are the added snap-ins.

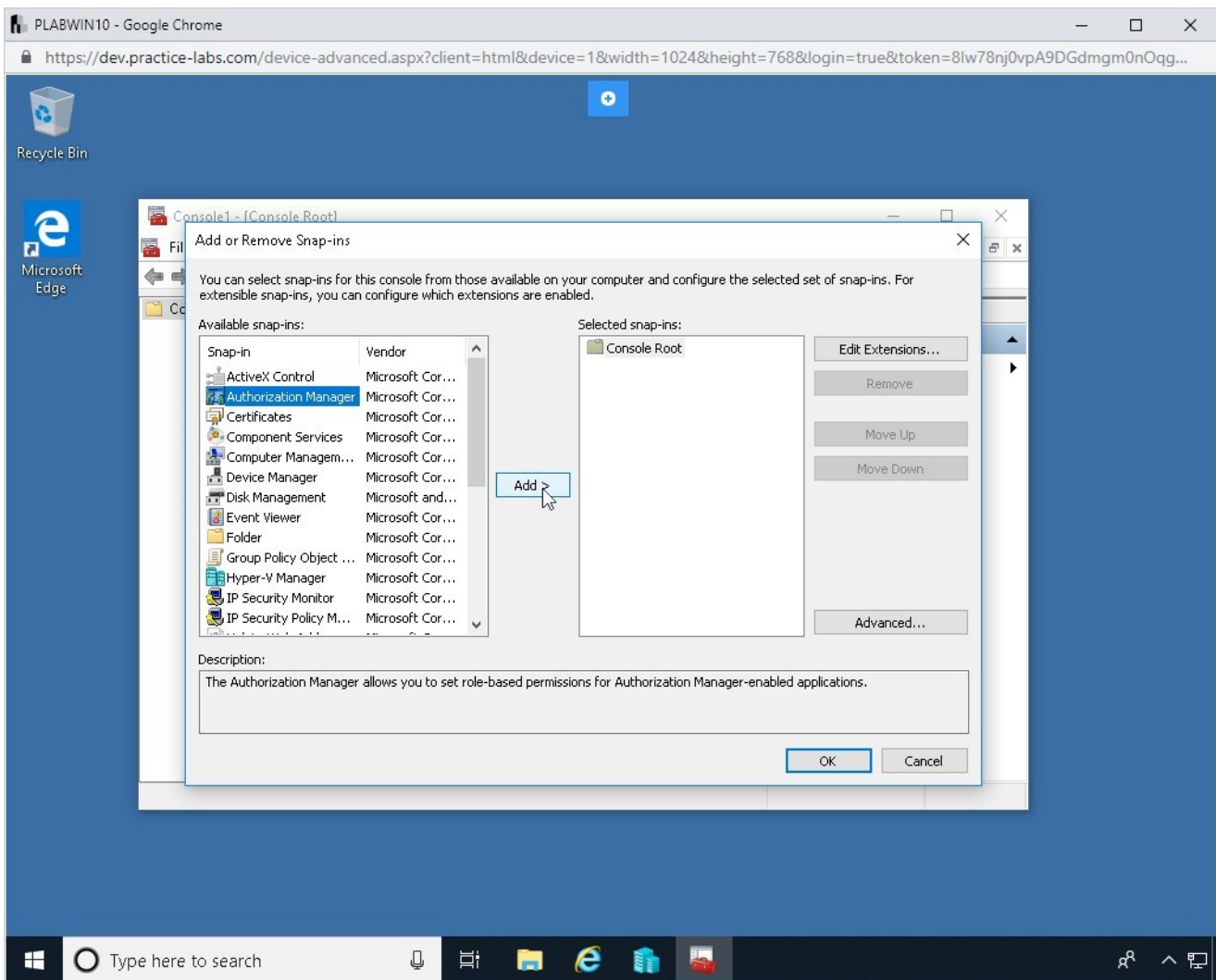Select the **Authorization Manager** from the left pane, and click **Add**.

Figure 1.112 Screenshot of PLABWIN10: Adding the Authorization Manager snap-in to the Selected snap-ins list.

Step 4

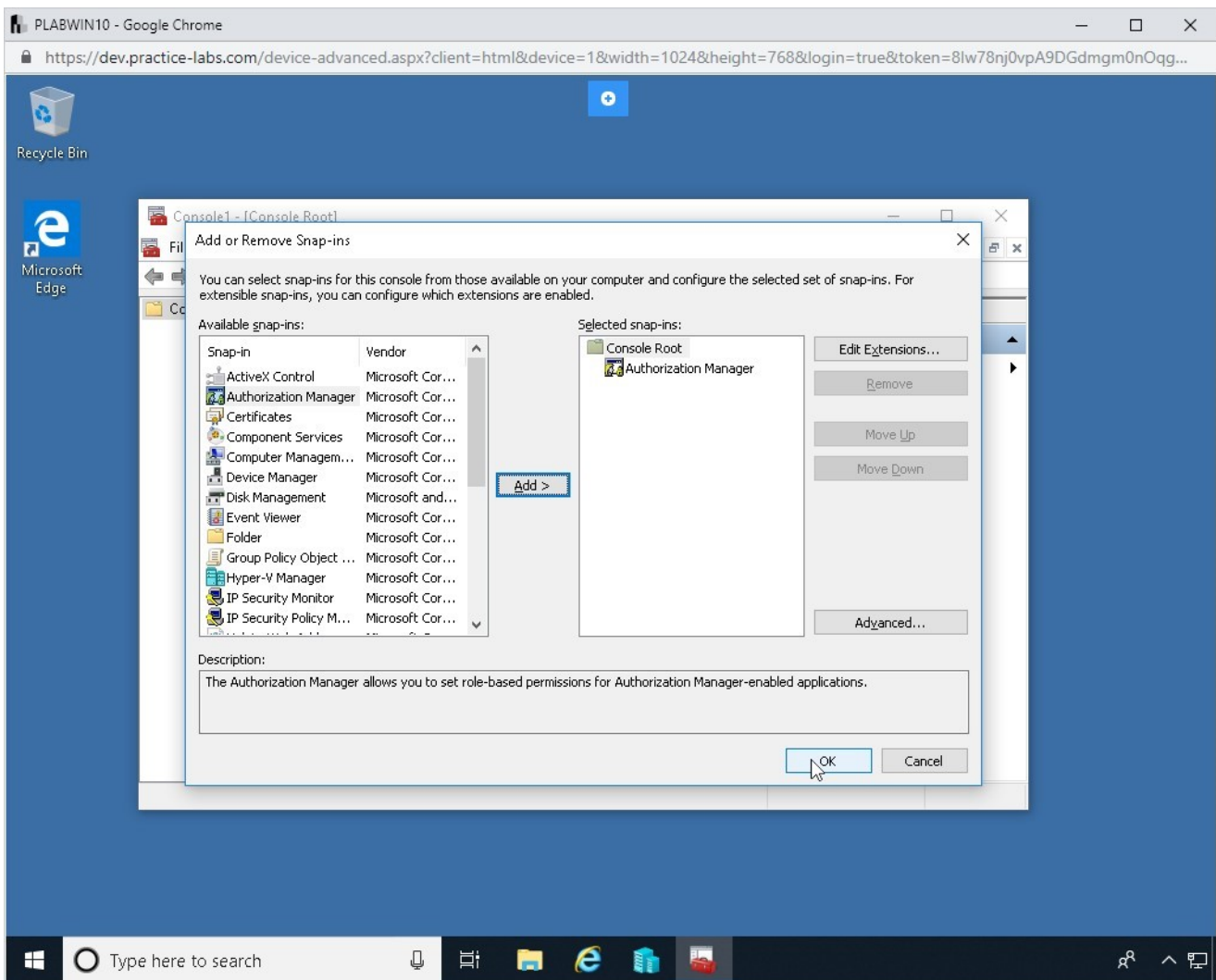Authorization Manager has now been added to the **Select snap-ins** section. Click **OK**.

Figure 1.113 Screenshot of PLABWIN10: Showing the Selected snap-ins list with the Authorization Manager snap-in added.

Step 5

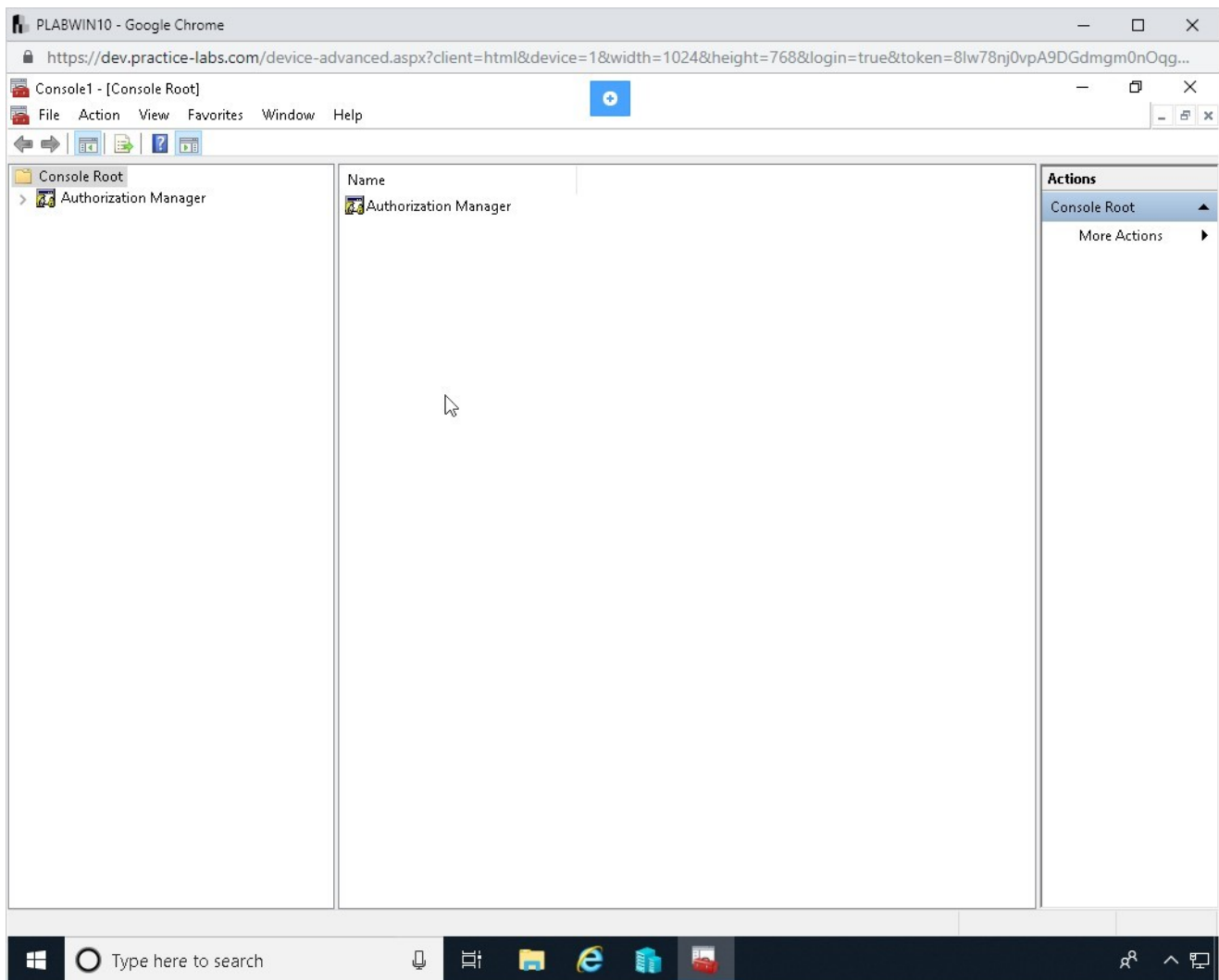You are back on the **Console1** window. Notice that the **Authorization Manager** snap-in is now added.

Figure 1.114 Screenshot of PLABWIN10: Showing the Authorization Manager snap-in added in the Console1 window.

Step 6

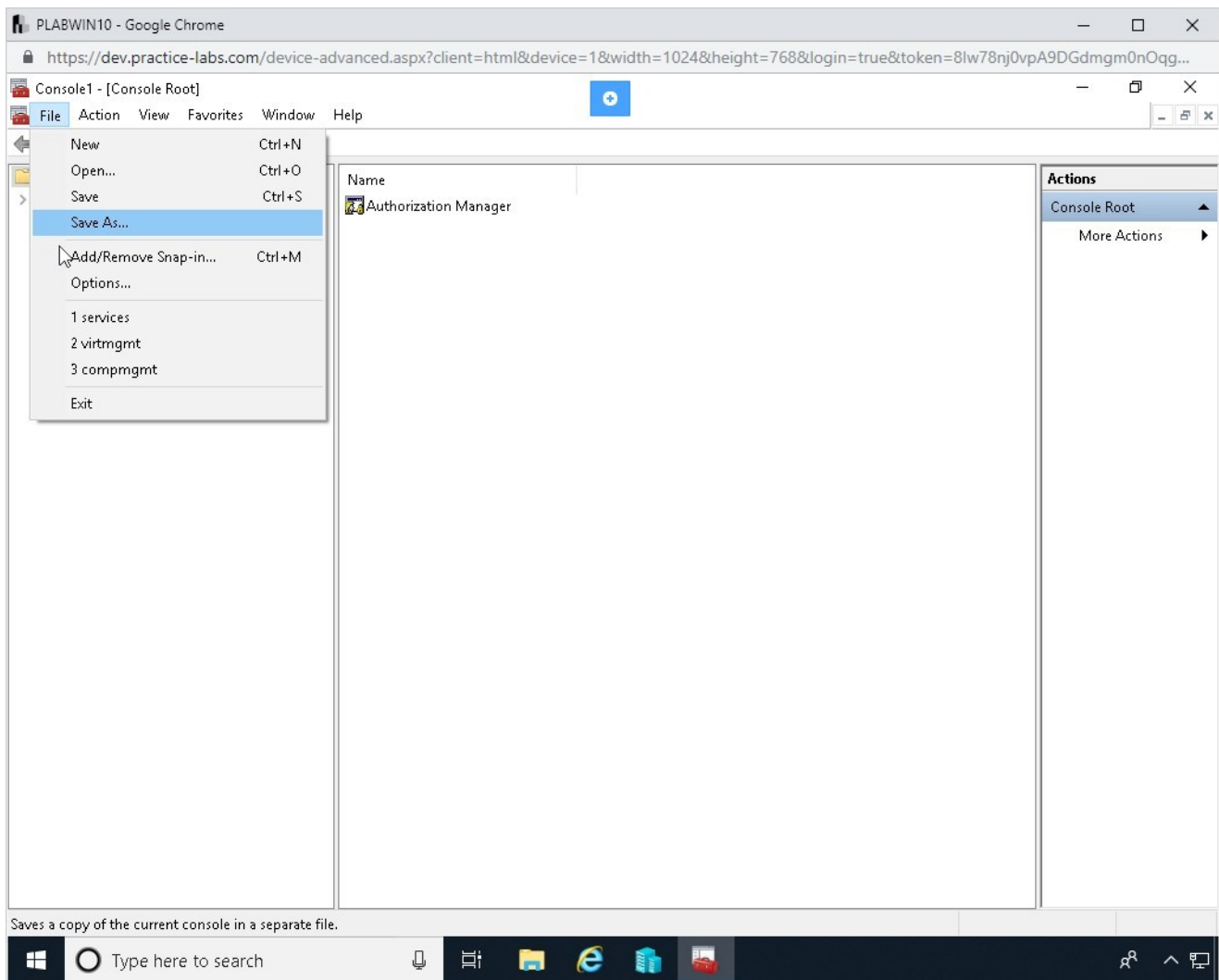Let's save the snap-in. Click **File** and select **Save As**.

Figure 1.115 Screenshot of PLABWIN10: Selecting the Save As option from the File menu.

Step 7

The **Save As** dialog box is displayed. Click **Desktop** in the left pane.

In the **File name** text box, **Console1.msc** is the default name that is displayed. Type the following name:

```
AuthorizationManager
```
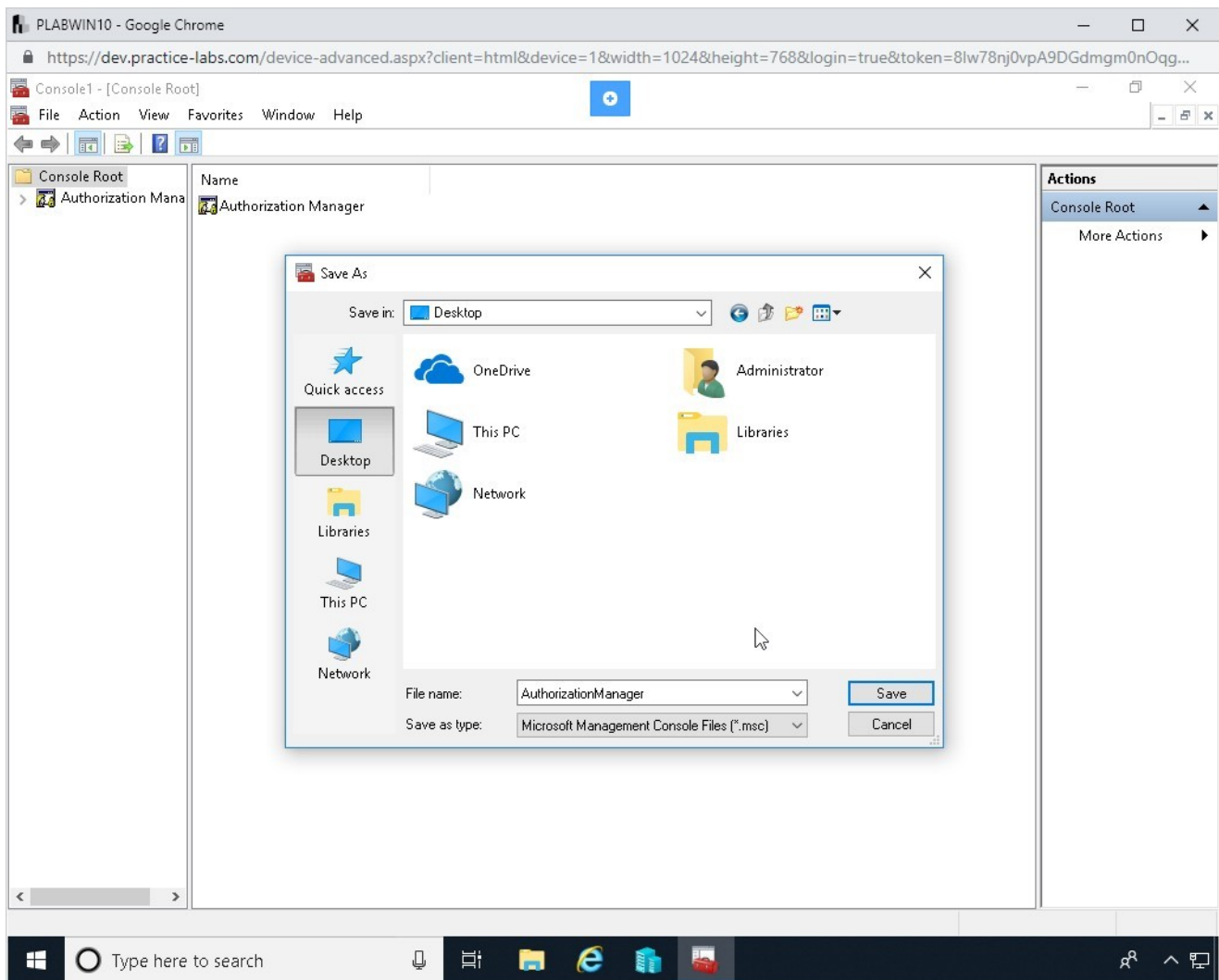
Click **Save**.

Figure 1.116 Screenshot of PLABWIN10: Saving the snap-in with the new name on the desktop.

Step 8

The title of the console has been successfully changed to **AuthorizationManager**. Close the **AuthorizationManager** window.
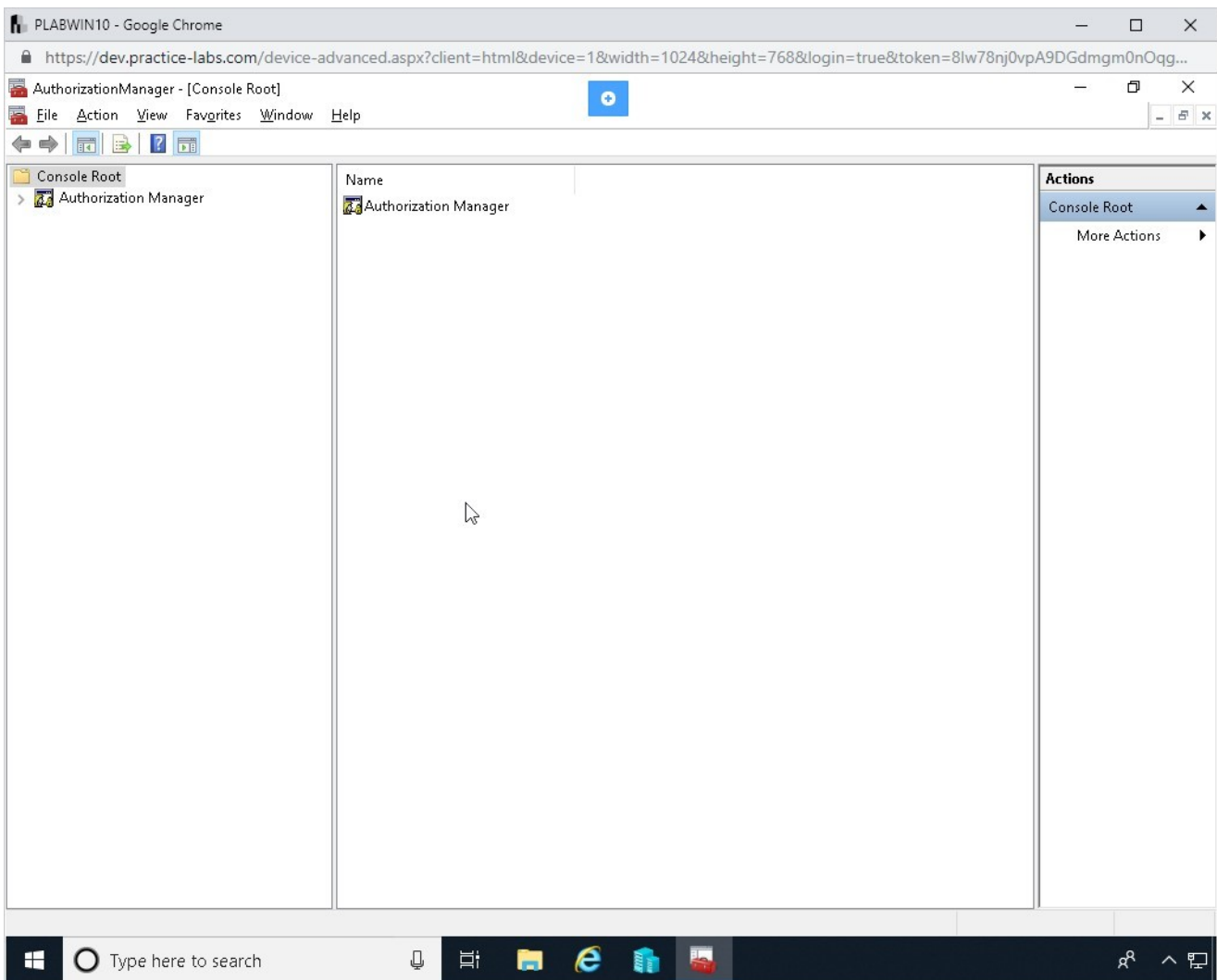
Figure 1.117 Screenshot of PLABWIN10: Showing the changed titled as AuthorizationManager.

Step 9

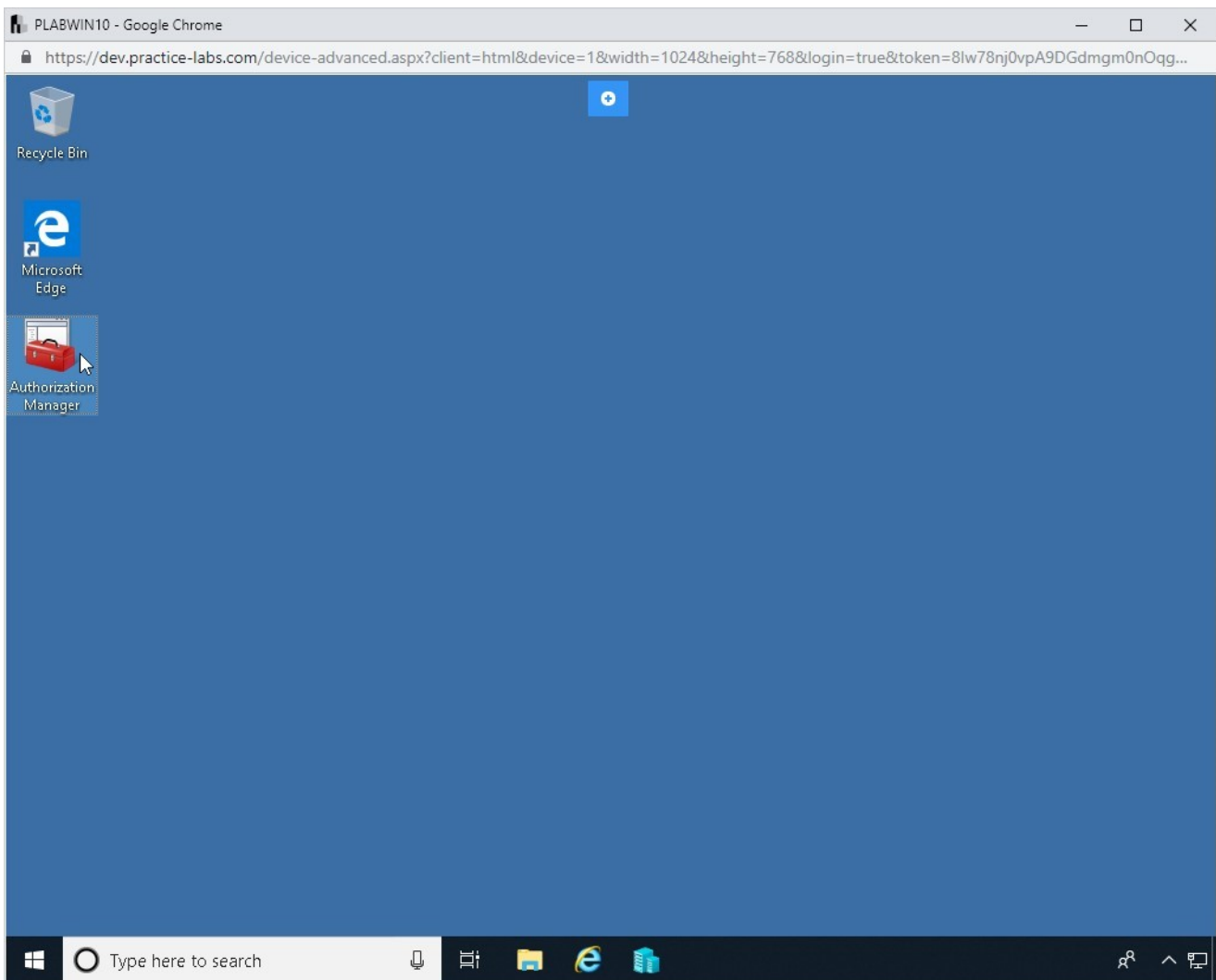You are now back on the desktop, which contains the **AuthorizationManager.msc** file. Double-click this file.

Figure 1.118 Screenshot of PLABWIN10: Showing the AuthorizationManager.msc file on the desktop and double-clicking it to open it.

Step 10

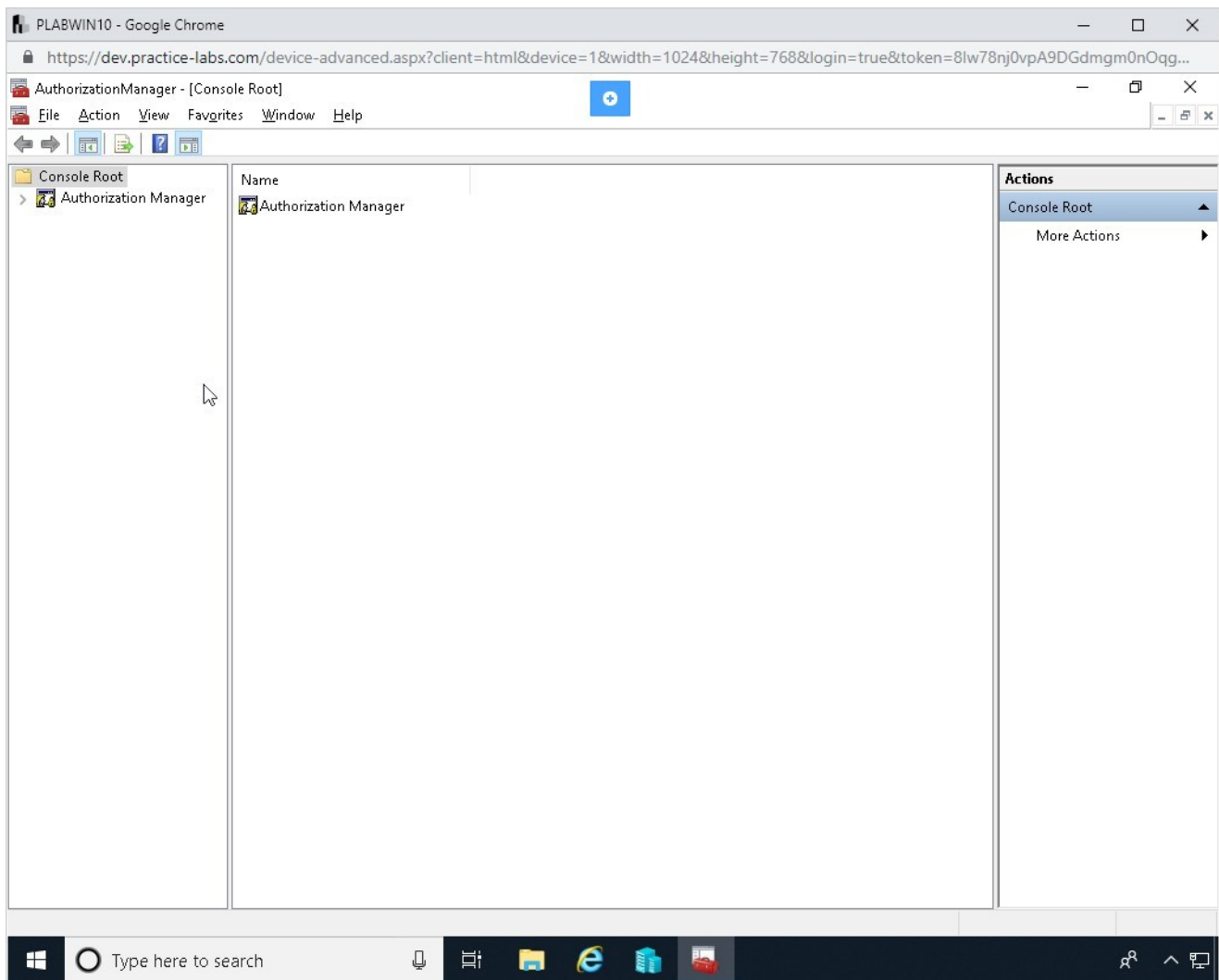The **AuthorizationManager** console window is now displayed.

Figure 1.119 Screenshot of PLABWIN10: Showing the AuthorizationManager console window.

Step 11

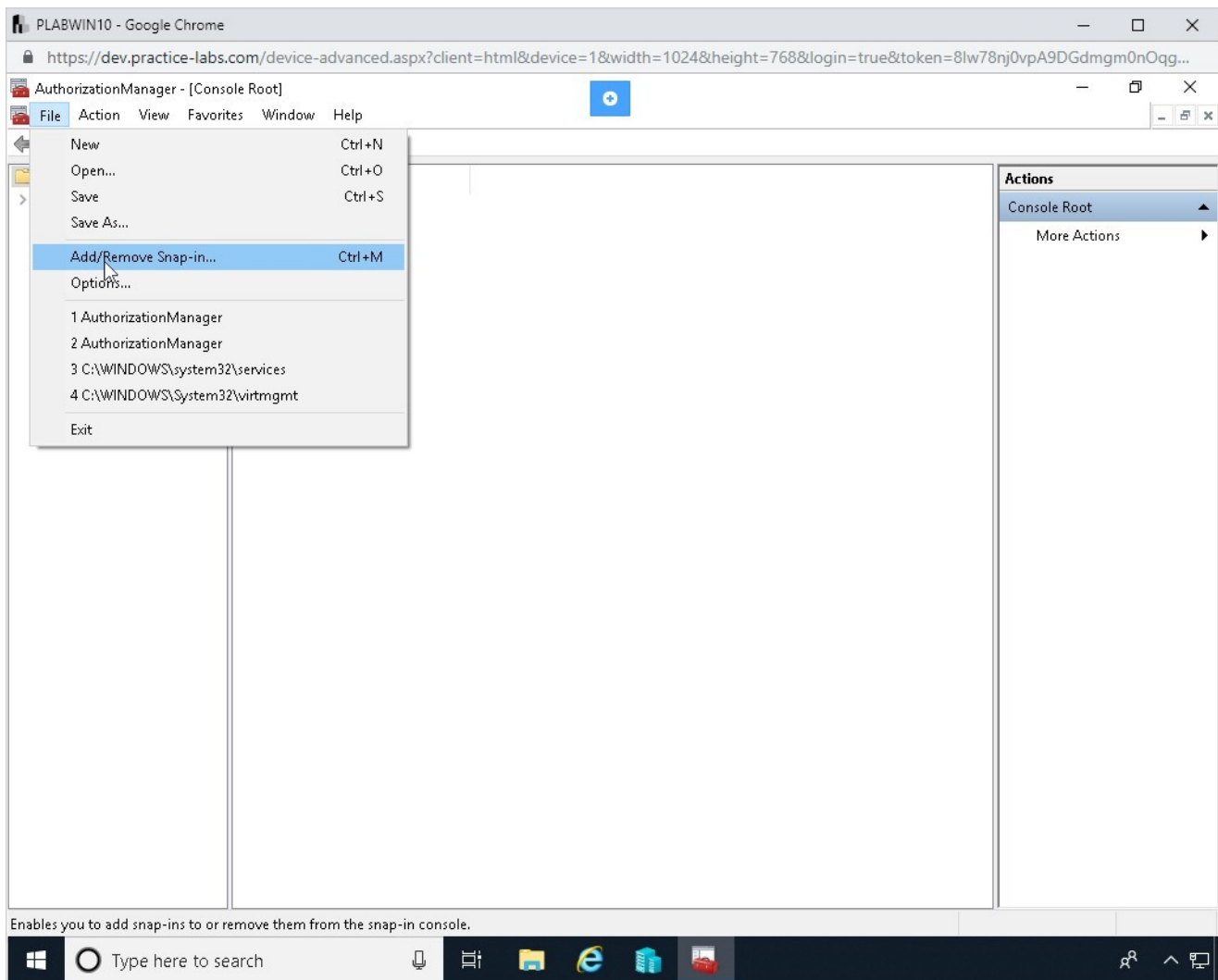Click **File** and select **Add/Remove Snap-ins**.

Figure 1.120 Screenshot of PLABWIN10: Selecting Add/Remove Snap-ins option from the File menu.

Step 12

In the **Add or Remove Snap-ins** window, select **Authorization Manager** in the **Selected snap-ins** list and click **Remove**.
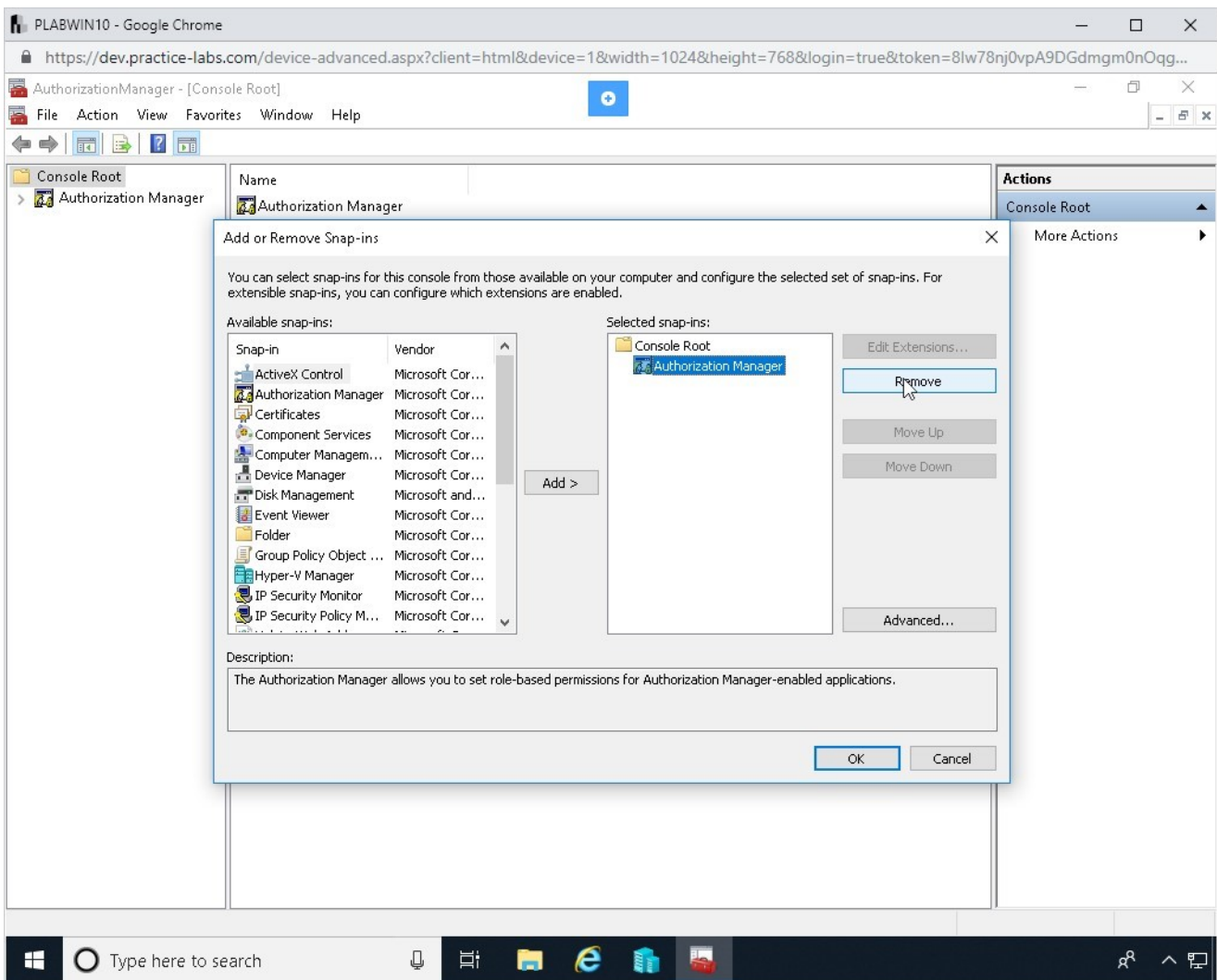
Figure 1.121 Screenshot of PLABWIN10: Selecting Authorization Manager snap-in in the Selected snap-ins list and then clicking Remove.

Step 13

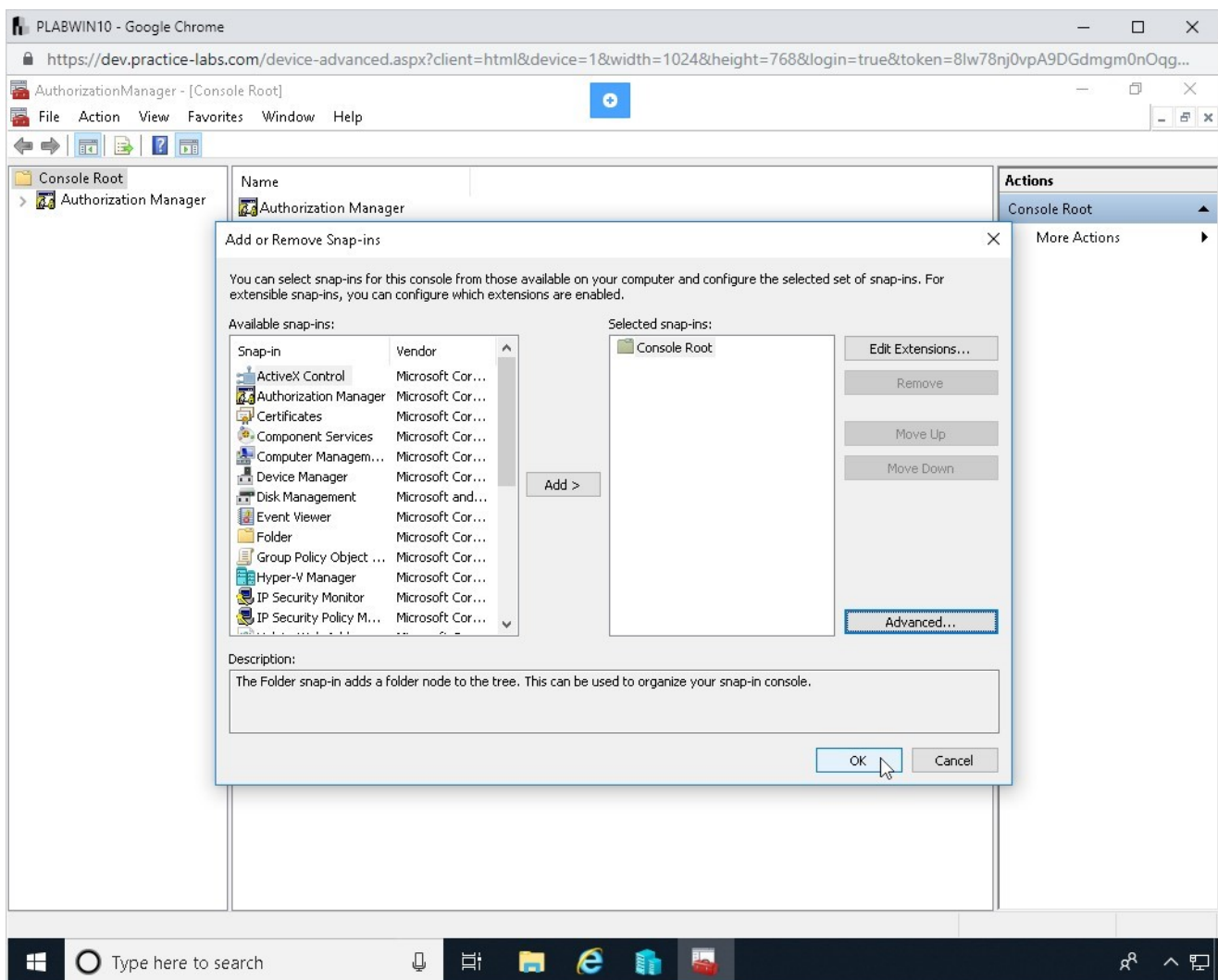The **Authorization Manager** snap-in is successfully removed from the **Selected snap-ins** list. Click **OK**.

Figure 1.122 Screenshot of PLABWIN10: Showing the empty Selected snap-ins list after removal of Authorization Manager snap-in.

Step 14

The **AuthorizationManager** console no longer contains the **Authorization Manager** snap-in. Close the **AuthorizationManager** console.
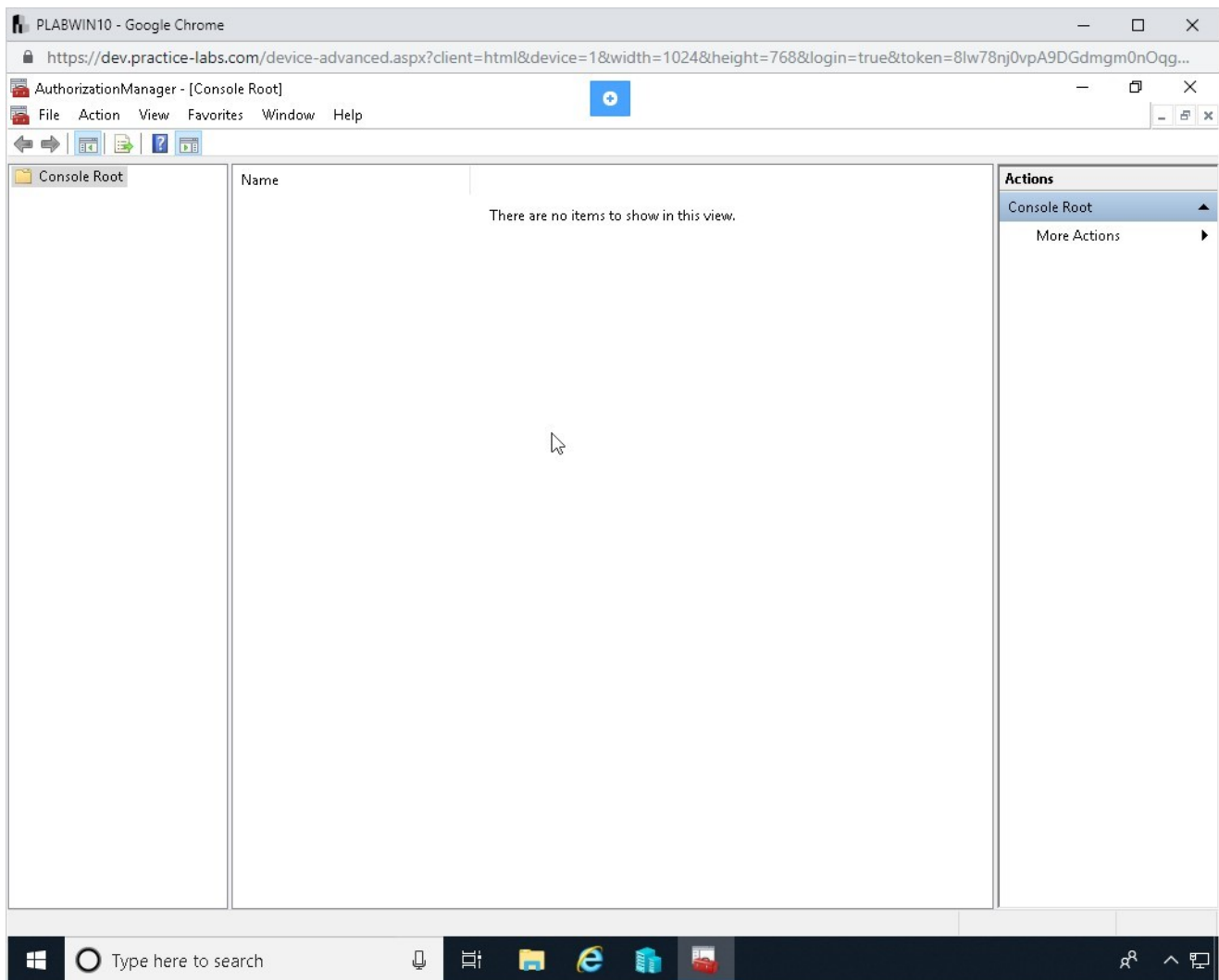
Figure 1.123 Screenshot of PLABWIN10: Showing the AuthorizationManager console after the Authorization Manager snap-in removal.

Step 15

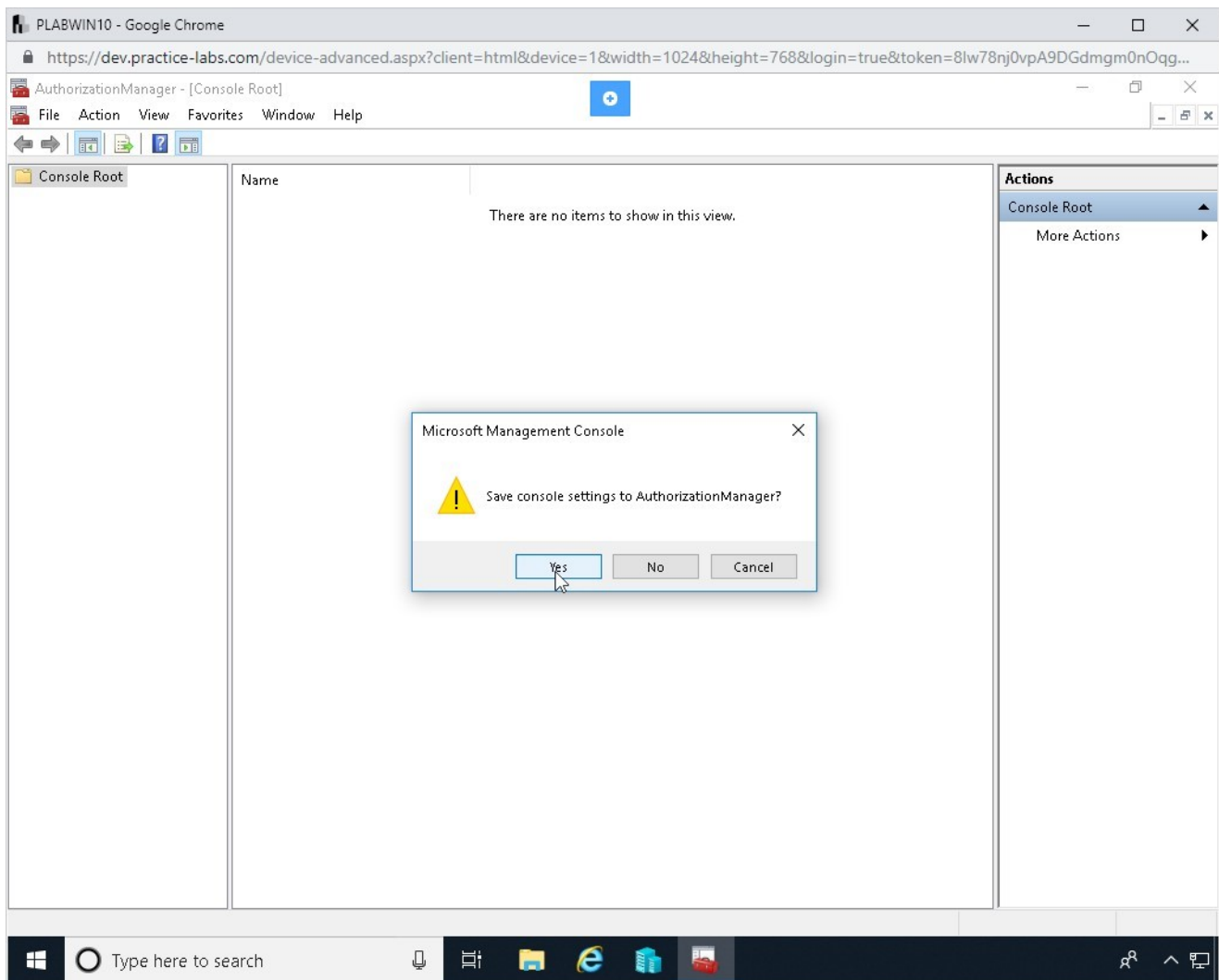The **Microsoft Management Console** dialog box is displayed. Click **Yes** to save the settings.

Figure 1.124 Screenshot of PLABWIN10: Saving the AuthorizationManager console by clicking Yes on the Microsoft Management Console dialog box.

Step 16

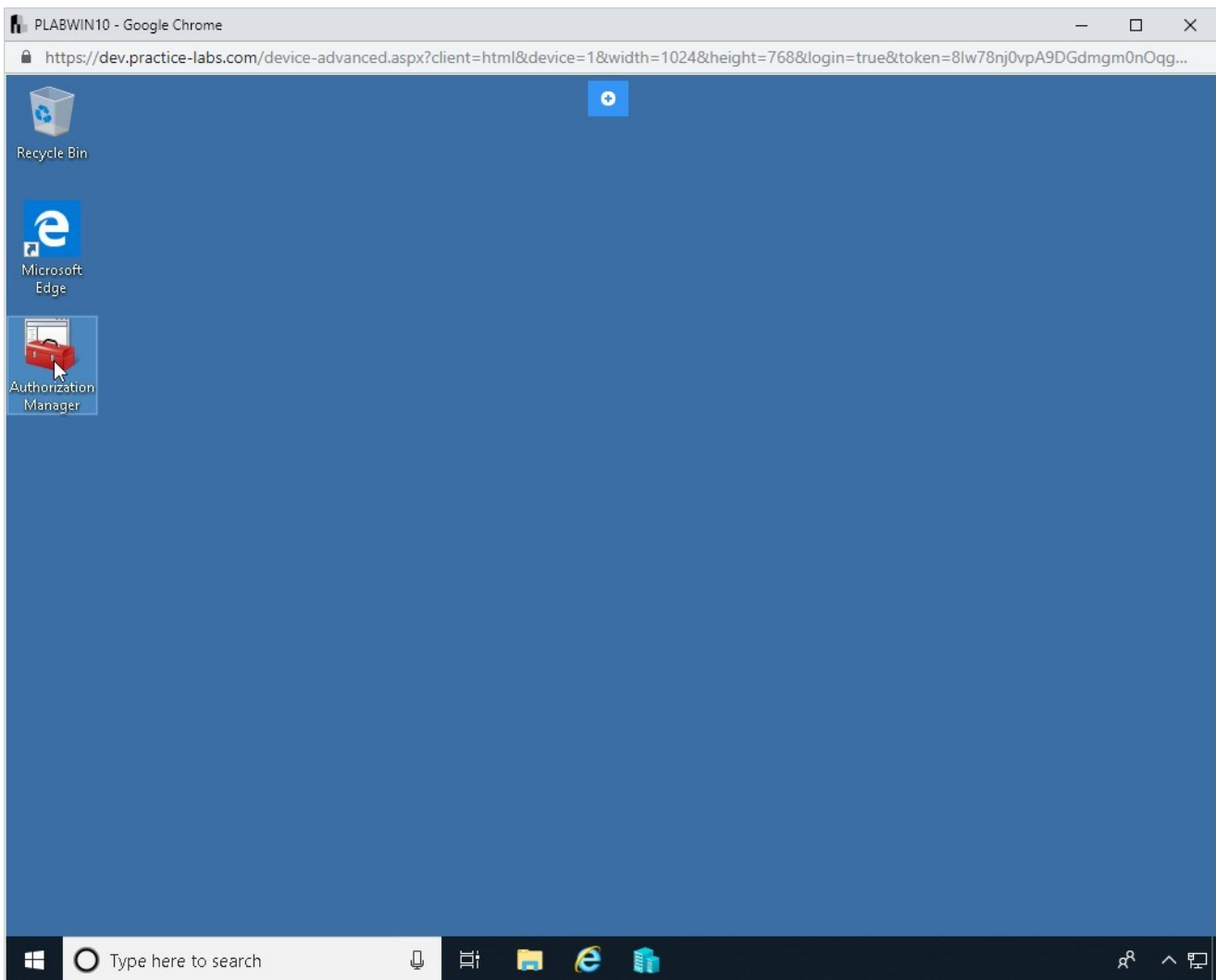You are back on the desktop. Select the **AuthorizationManager.msc** file if not already.

Figure 1.125 Screenshot of PLABWIN10: Selecting the AuthorizationManager.msc file from the desktop.

Press **Shift**+**Delete** to delete it.

> ***Note:*** *When prompted for confirmation of the deletion, click Yes.*

Step 17

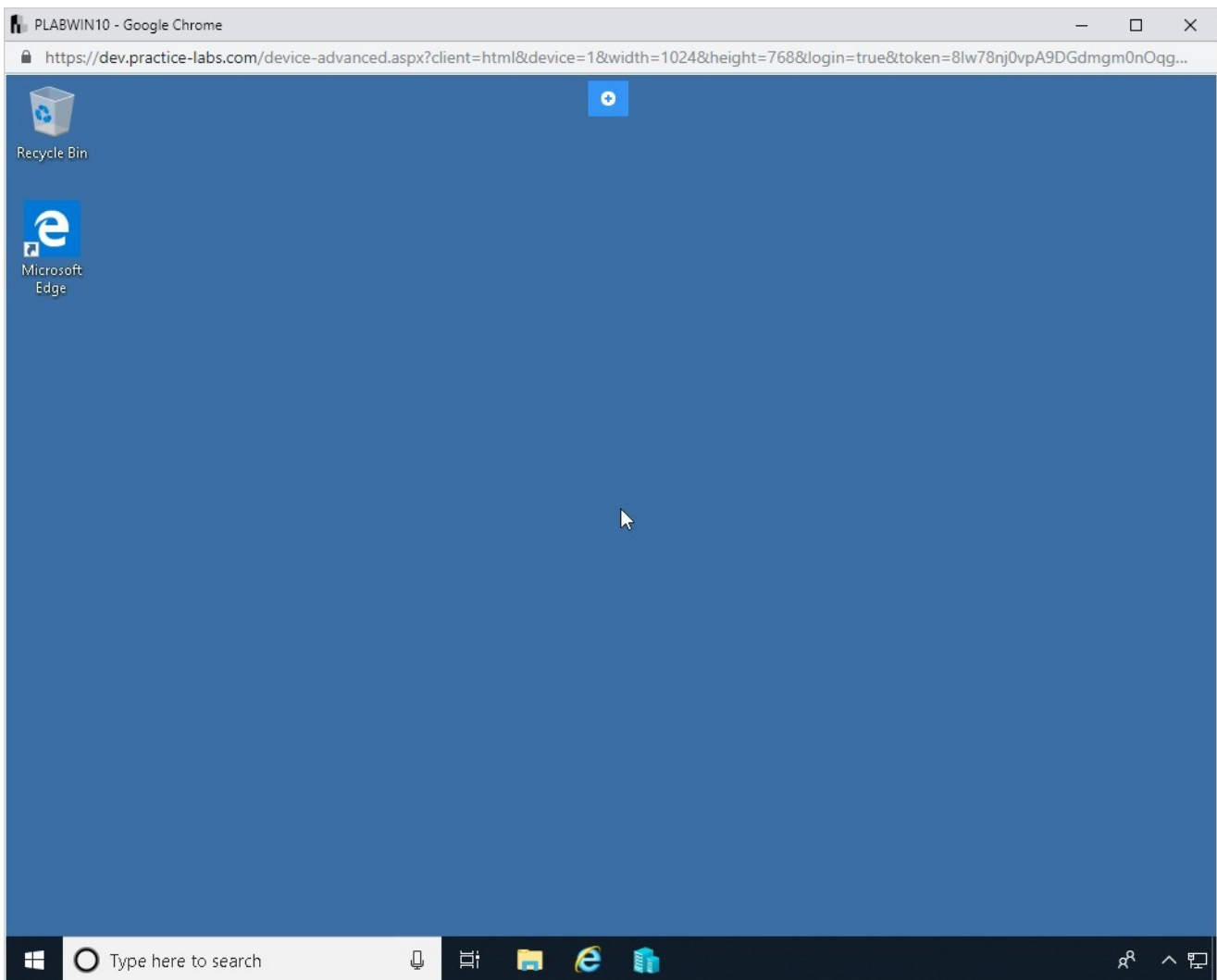The desktop no longer contains this file.

Figure 1.126 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 8 - Use Dxdiag

DxDiag is a diagnostic tool, primarily used for detecting errors on the system. It displays information about various aspects of the system, including the DirectX components and drives installed. DirectX components facilitate the smooth running of rich multimedia content on Windows-based machines. To run rich multimedia content, a lot of system resources are needed. DirectX components fulfill this resource need. This information fits into four categories. These categories are System, Display, Sound, and Input. By analyzing this information, a fault can be identified.

In this task, you will view some of the information provided by **Dxdiag**.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar, type the following command:

```
dxdiag
```

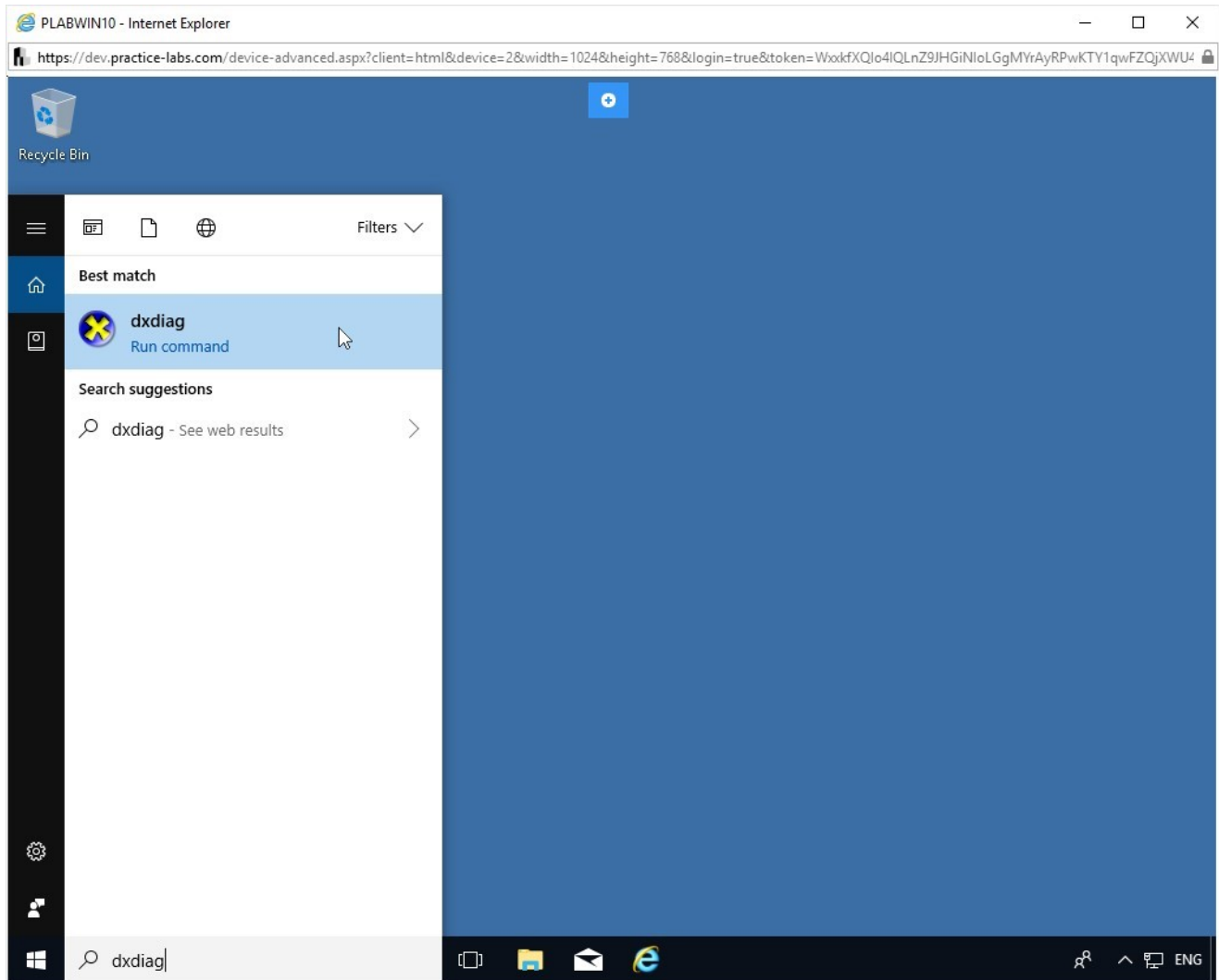Under the **Best Match** section, select **dxdiag**.

Figure 1.127 Screenshot of PLABWIN10: Selecting dxdiag from the search.

Step 2

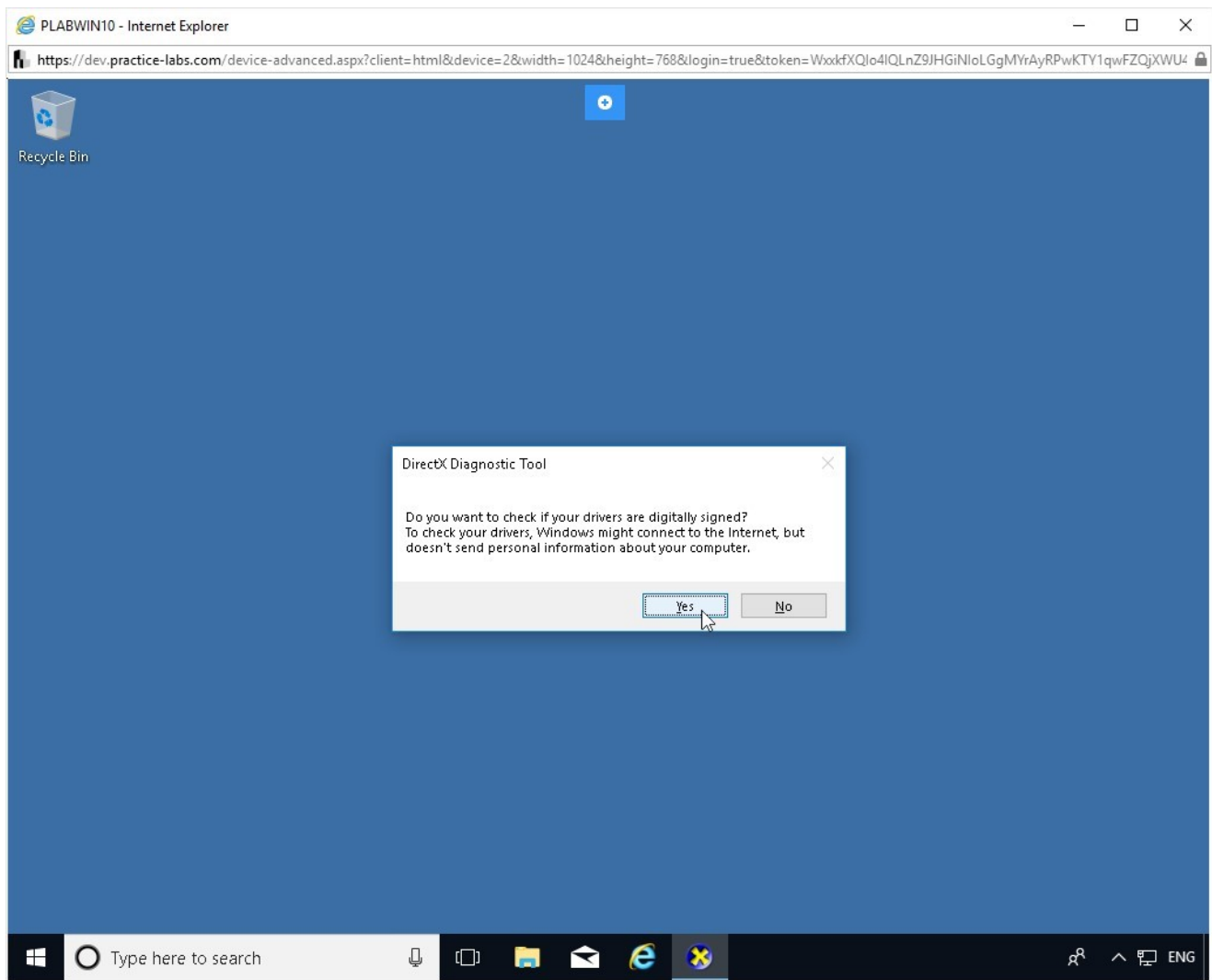The **DirectX Diagnostic Tool** window will appear.

Click **Yes**.

Figure 1.128 Screenshot of PLABWIN10: Clicking Yes on the DirectX Diagnostic Tool dialog box.

Step 3

The **System** tab is displayed by default.

This tab displays the Windows and basic hardware information, such as CPU and memory. It also displays information about the pagefile.
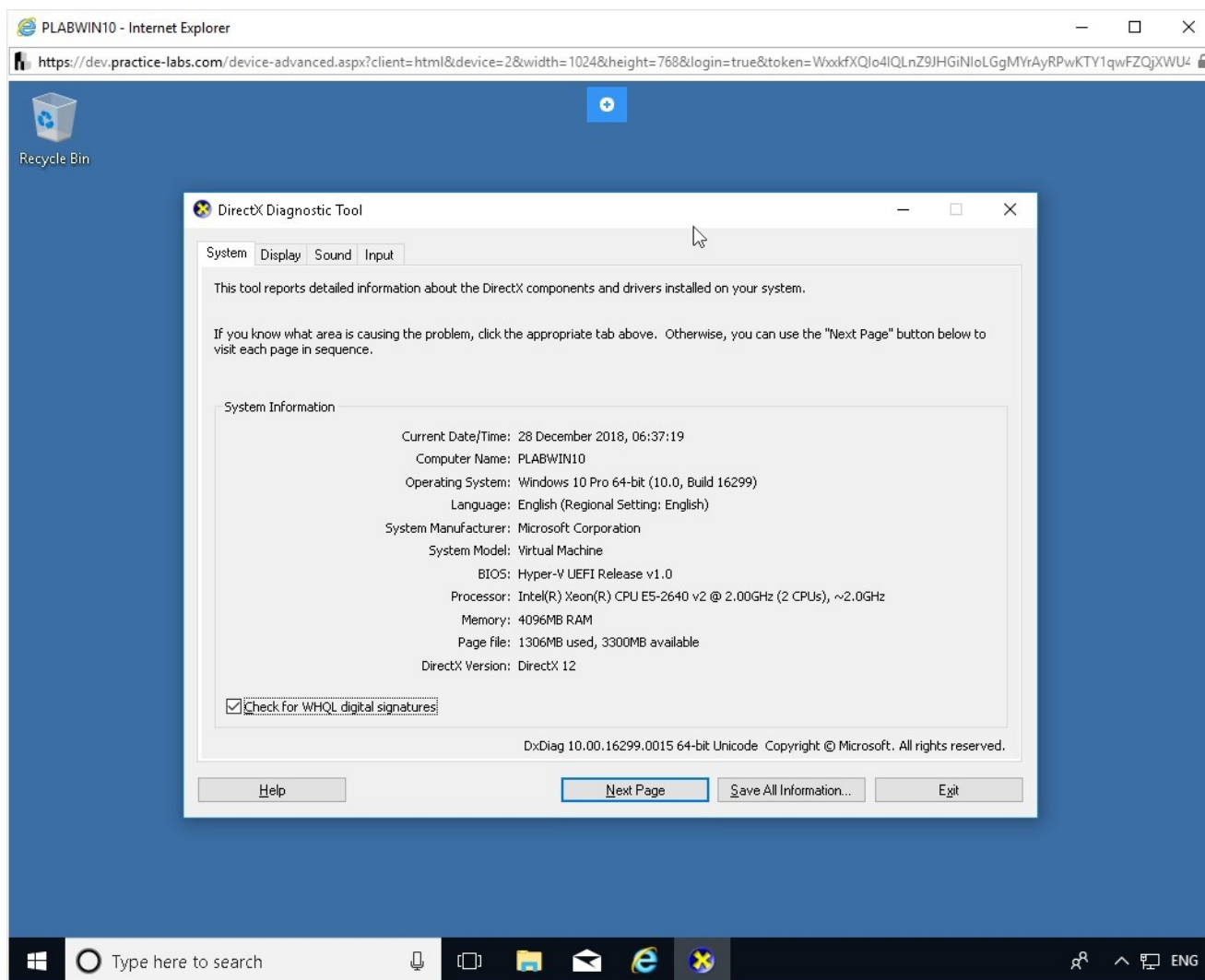
Figure 1.129 Screenshot of PLABWIN10: Showing the System tab.

Step 4

To view the display-related information, click the **Display** tab. Notice that most of the information is marked as **Unknown**. This could be due to this system being a virtual machine, and there is no real graphics card being used.
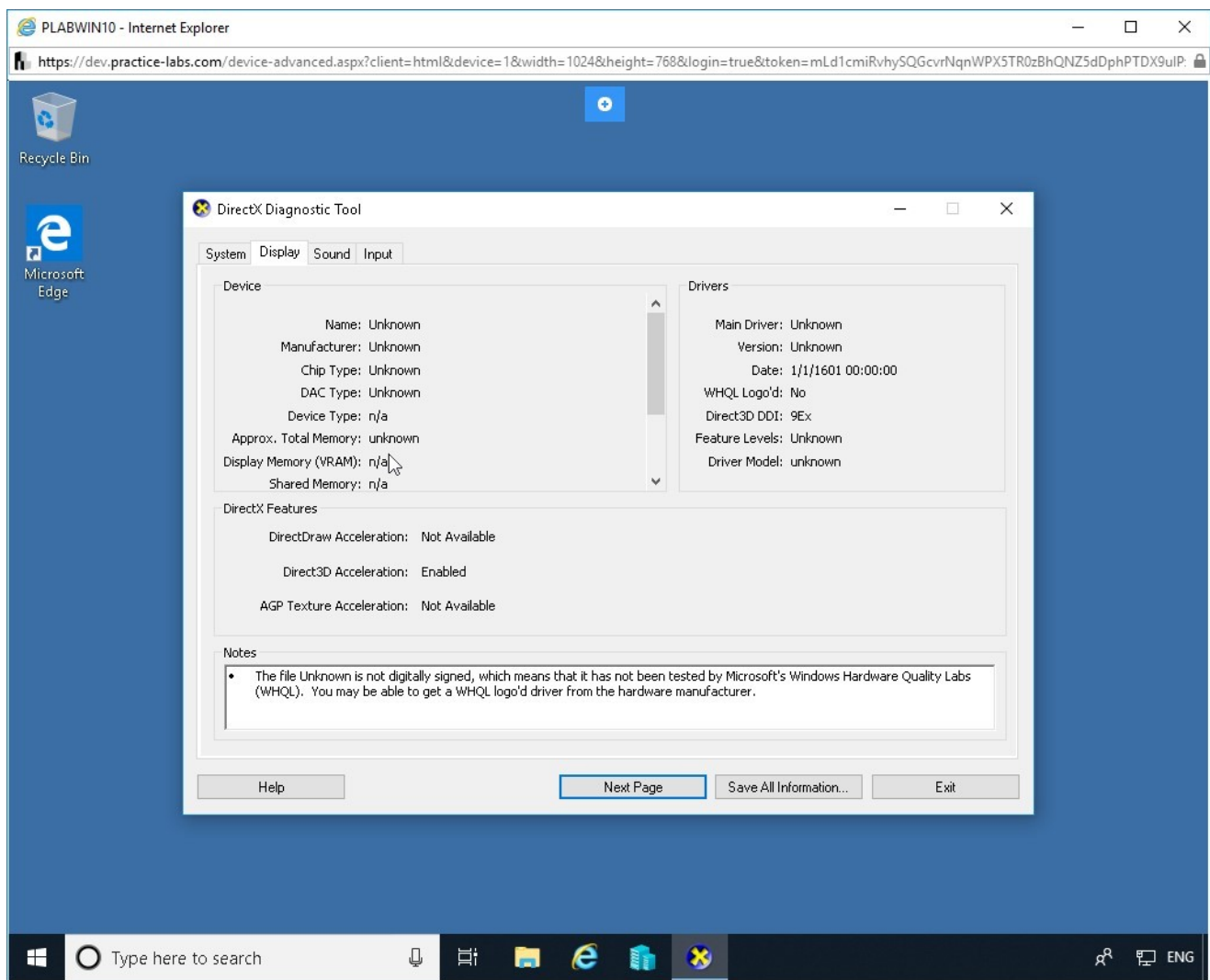
Figure 1.130 Screenshot of PLABWIN10: Showing the Display tab.

Step 5

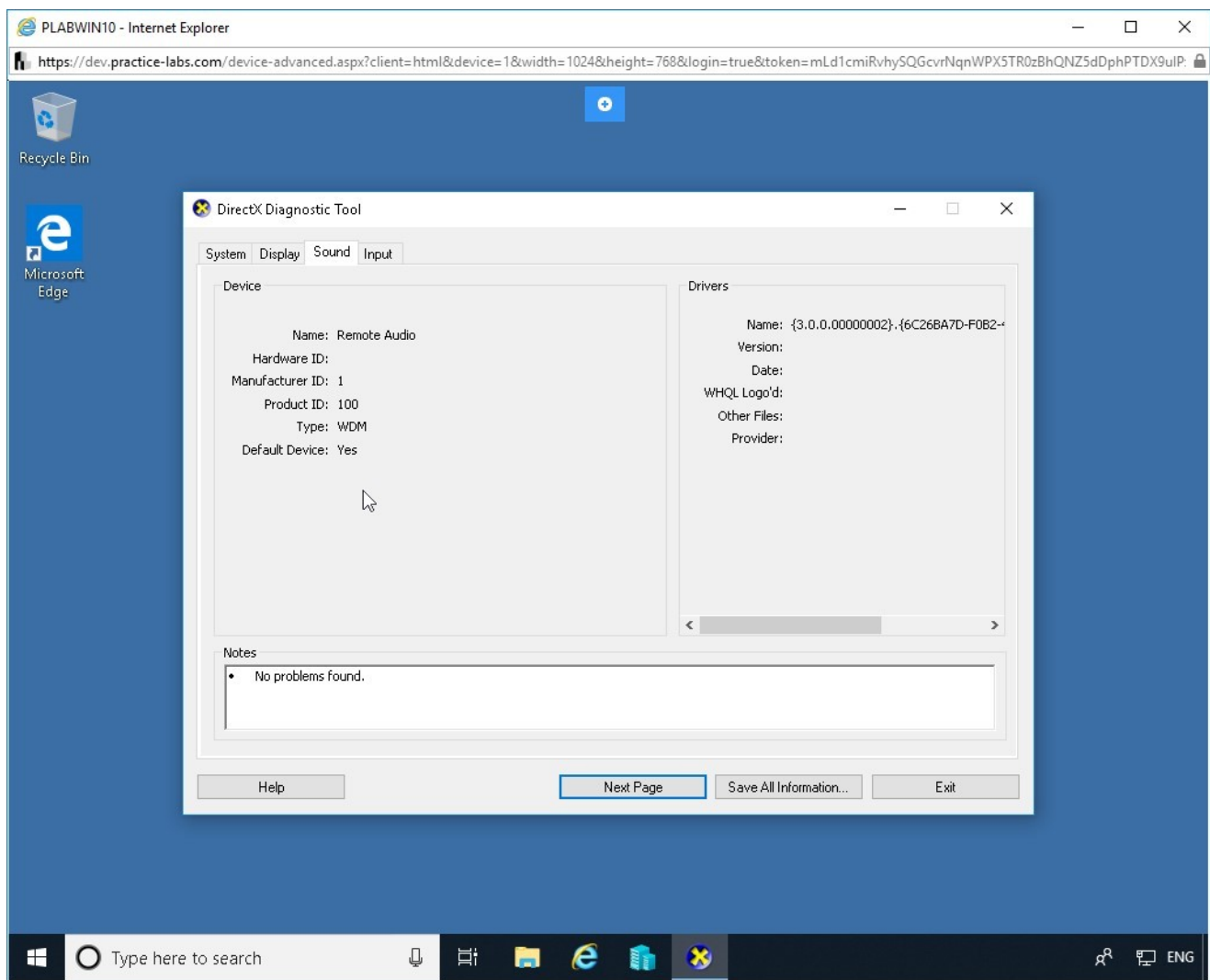Click the **Sound** tab. Notice that the information related to Sound is displayed.

Figure 1.131 Screenshot of PLABWIN10: Showing the Sound tab.

Step 6

Click the **Input** tab.

Notice that the DirectInput Devices section displays two devices, mouse and keyboard.
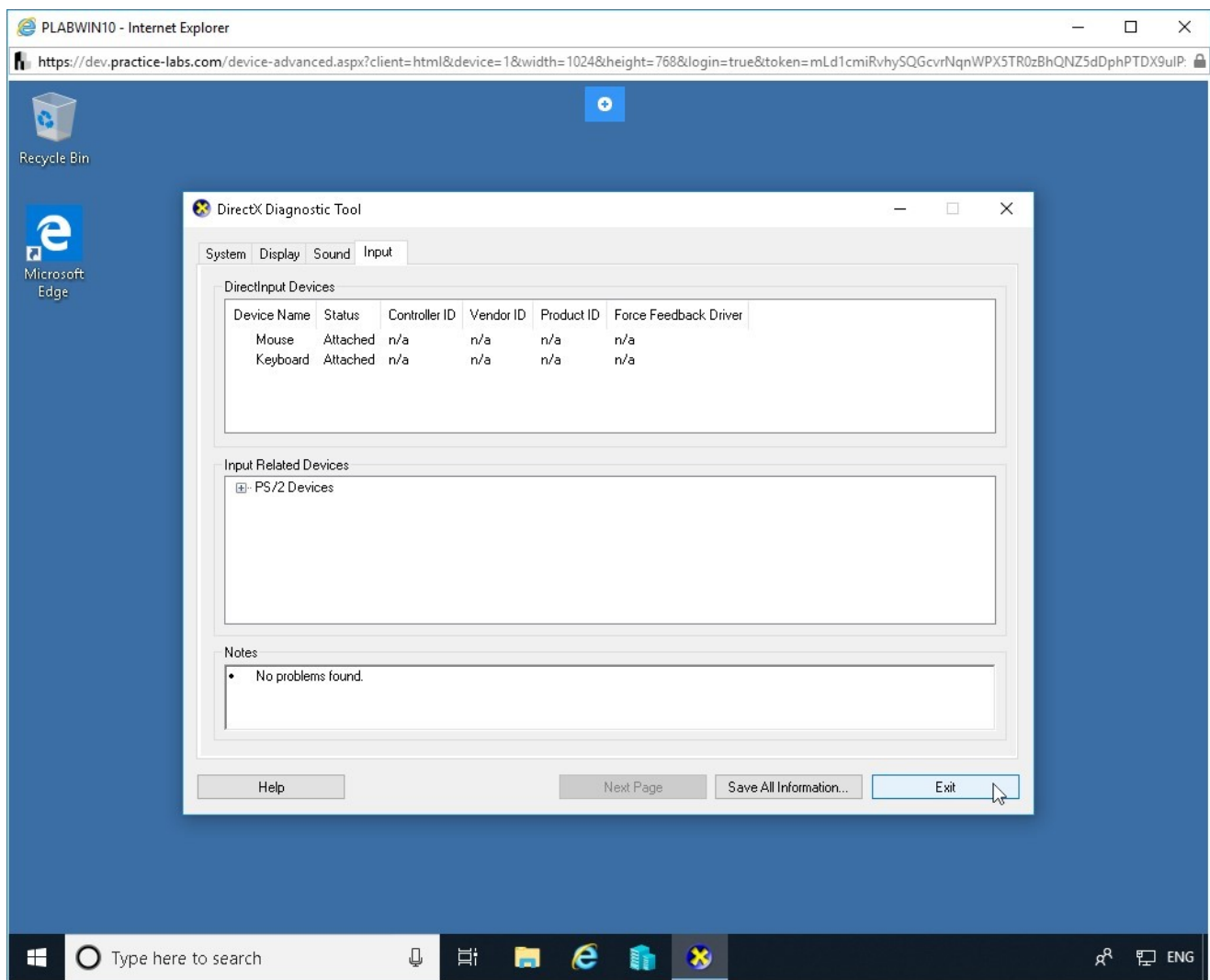
Click **Exit**.

Figure 1.132 Screenshot of PLABWIN10: Showing the Input tab.

Step 7

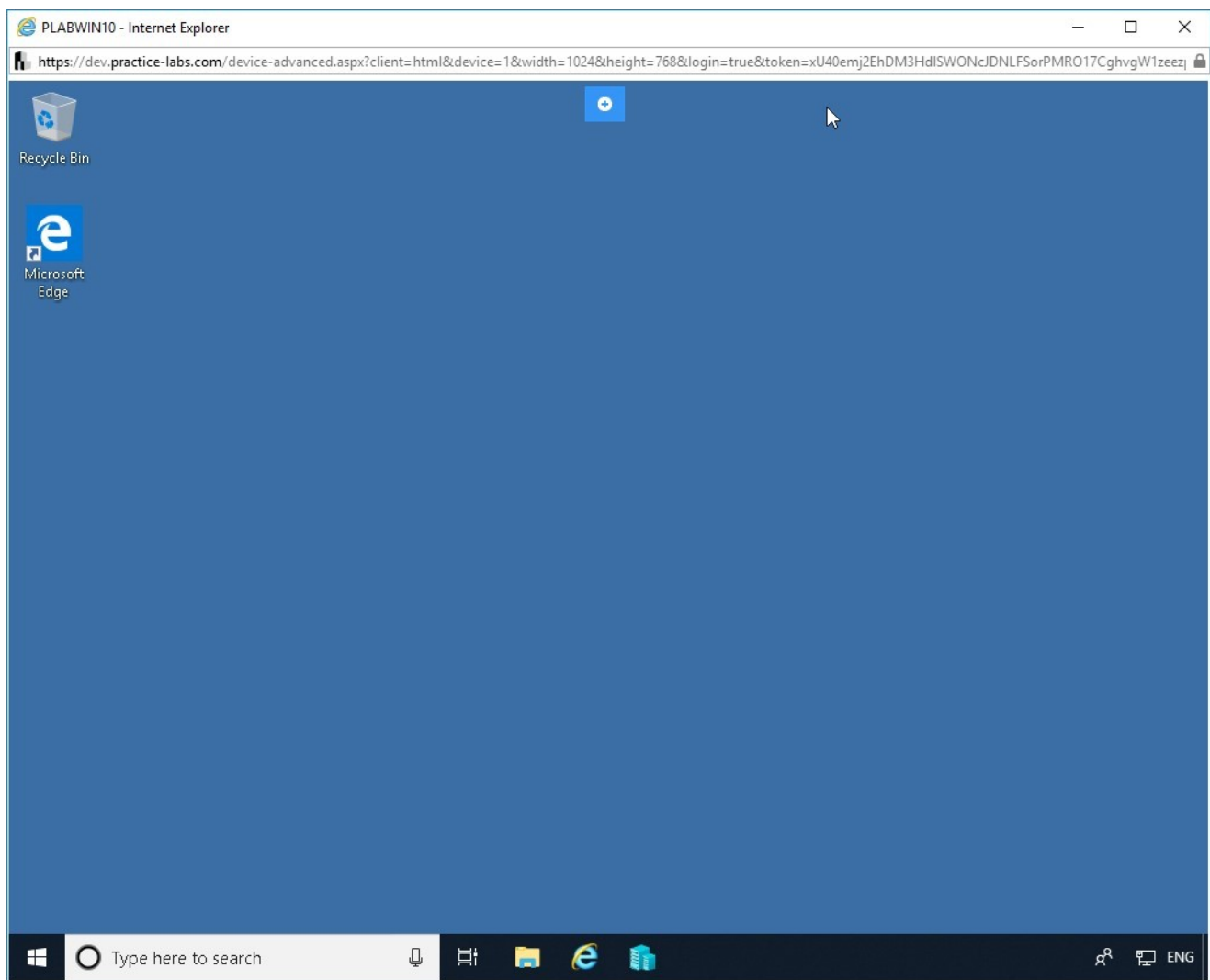You should have now returned to the desktop.

Figure 1.133 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 9 - Use the Defragment and Optimize Drives Utility

The Defragment and Optimize Drives utility allows you to make your computer run more efficiently. This utility scans the drive to decide if it needs to be optimized. Users have the choice to decide which drives should be optimized or scanned. Drive optimization is the process of increasing the efficiency of the drive. For that, the scan is performed across the drive to find out how the is data stored and where are the vacant sectors. Internal and external drives can be scanned. It is also possible to schedule optimization.

In this task, you will perform some of these functions.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar, type the following:

Defragment and optimize drives

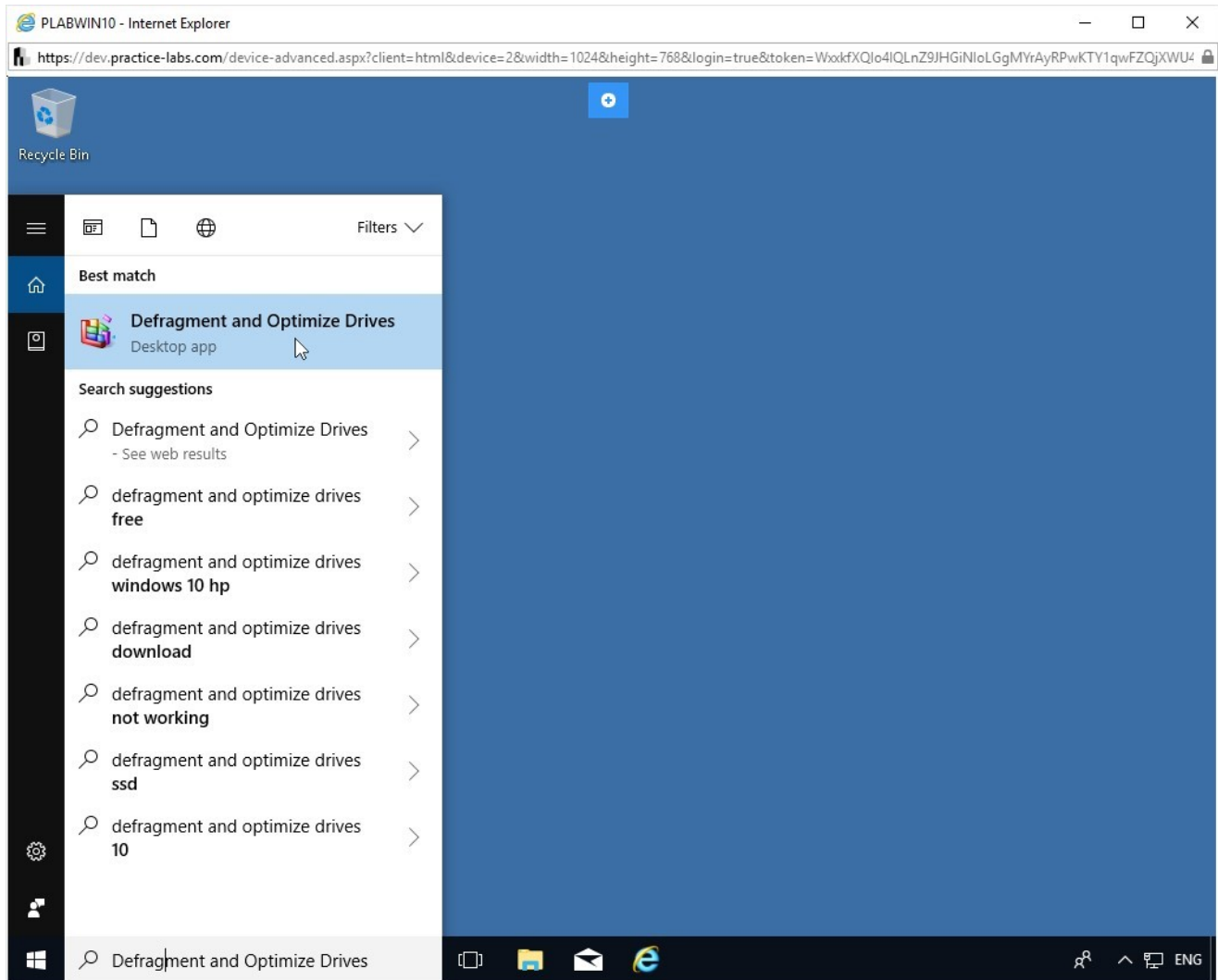Under the **Best Match** section, select **Defragment and Optimize Drives**.

Figure 1.134 Screenshot of PLABWIN10: Selecting Defragment and Optimize Drives from the search.

Step 2

In the **Optimize Drives** window, select **(C**:), then click **Analyze**.

> **Note:** *This may take a while to complete. It depends on the amount of data and the size of the hard drive.*
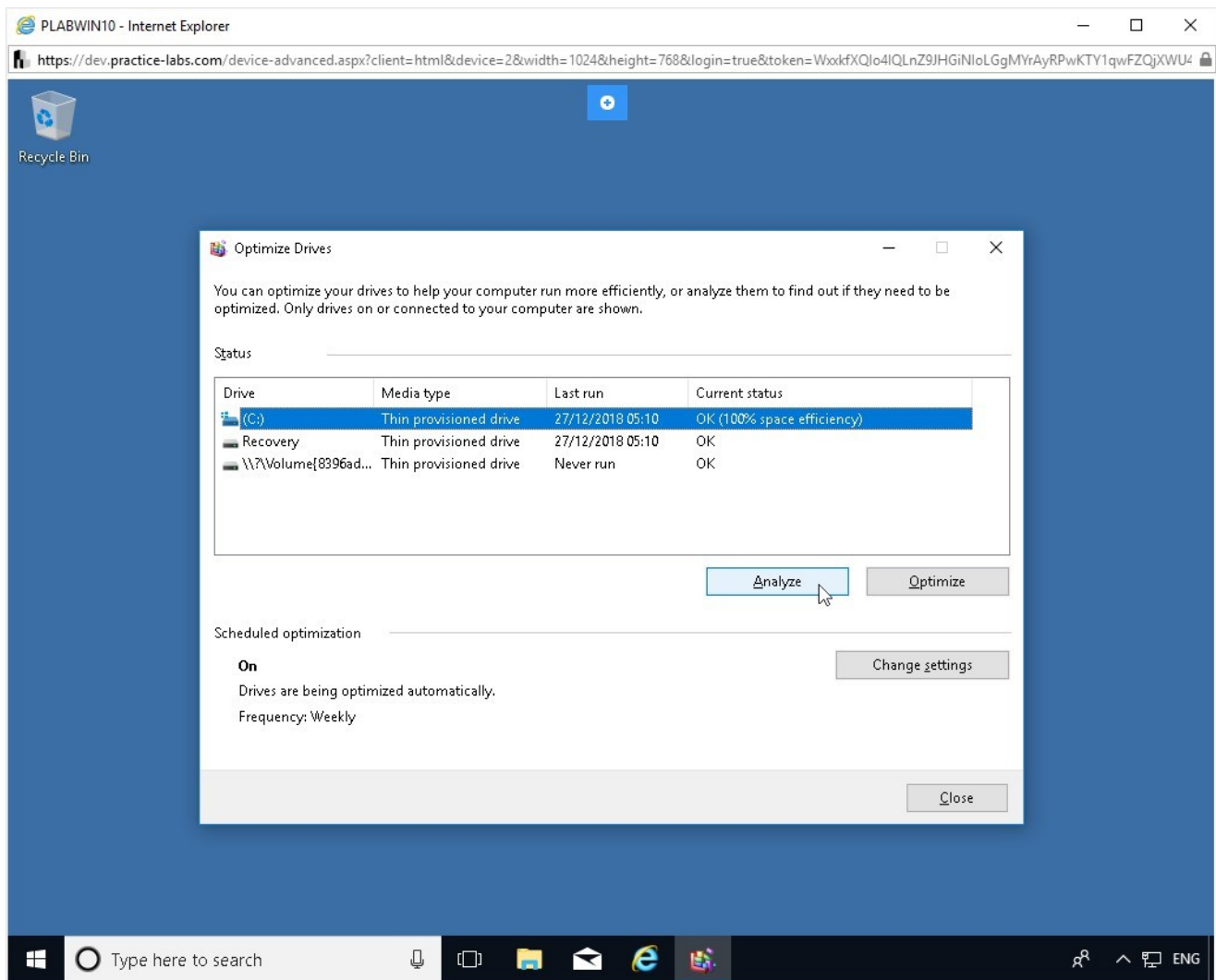

Figure 1.135 Screenshot of PLABWIN10: Clicking the Analyze button.

Step 3

Click the **Change settings** button.

Options in the appearing window will allow you to schedule when the optimization of drives shall take place.
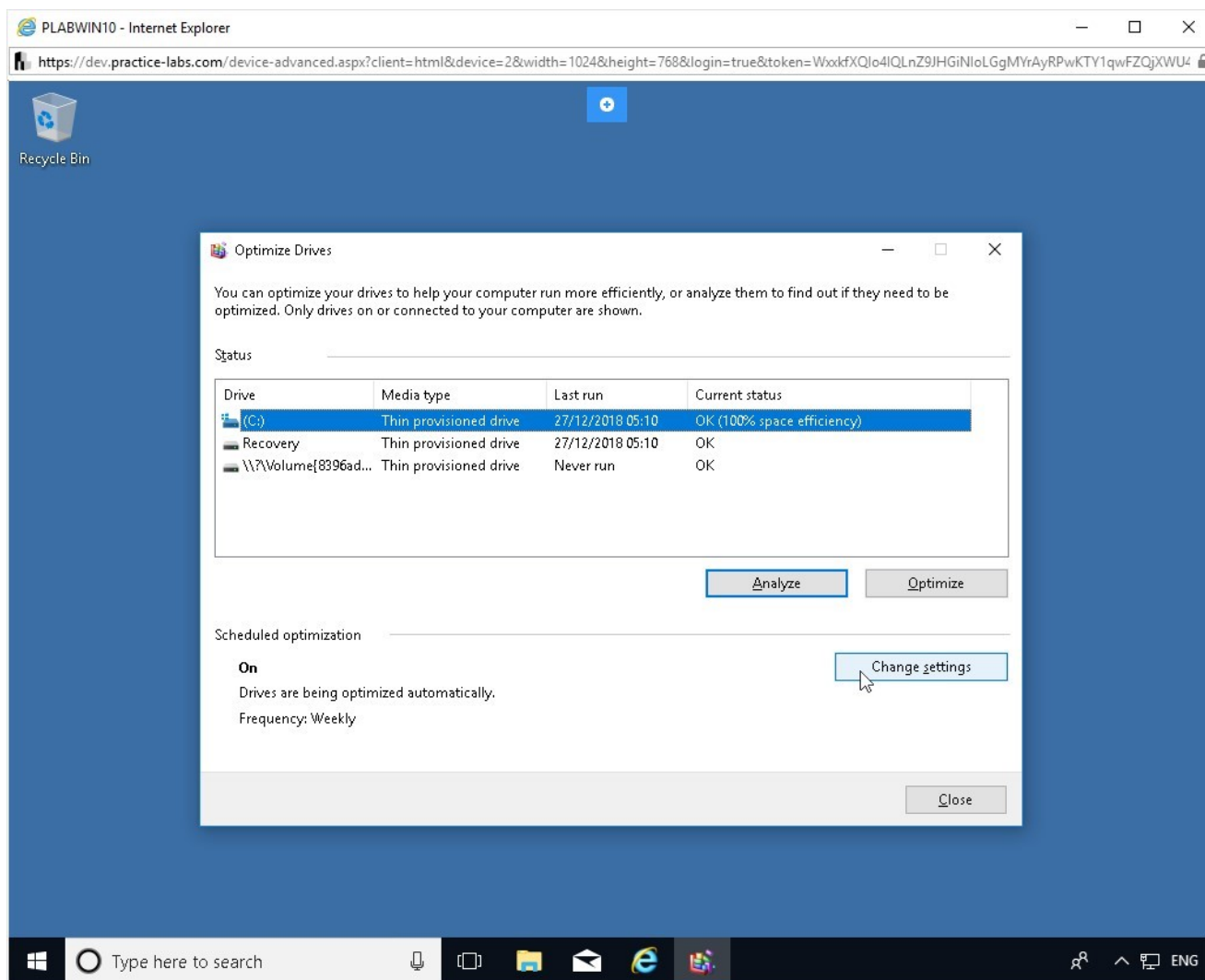
Figure 1.136 Screenshot of PLABWIN10: Clicking the Change settings button.

Step 4

The **Optimize Drives** dialog box is displayed.

Click the **Frequency** drop-down list and select the **Daily** option. This will make sure optimization is completed daily.
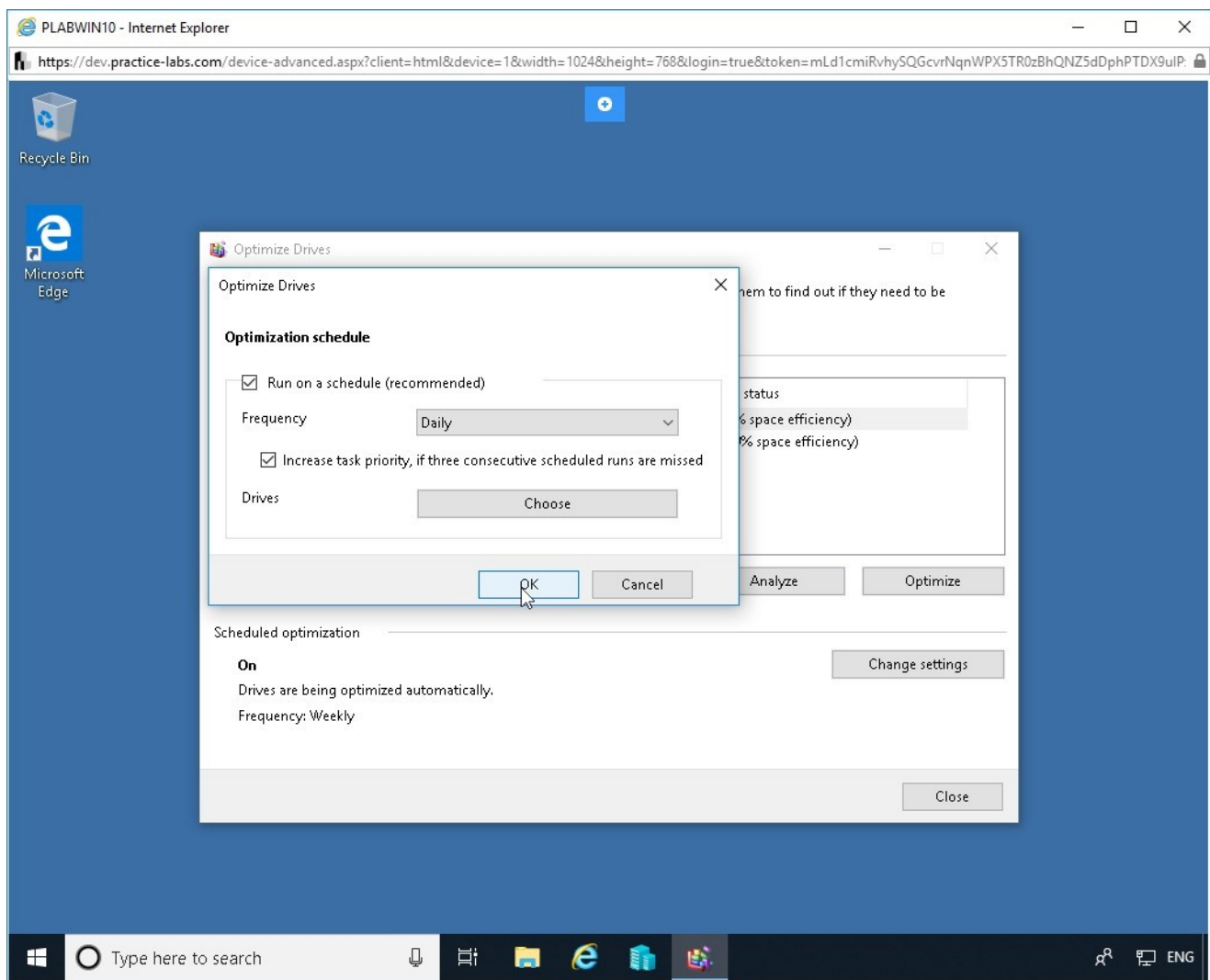
Click **OK**.

Figure 1.137 Screenshot of PLABWIN10: Setting Frequency to Daily in the Optimize Drives dialog box.

Step 5

Click **Optimize**. Notice that the **Current Status** says that the drive **Needs optimization**.

In the **Scheduled Optimization** section, it mentions that **Drives are being optimized automatically**.
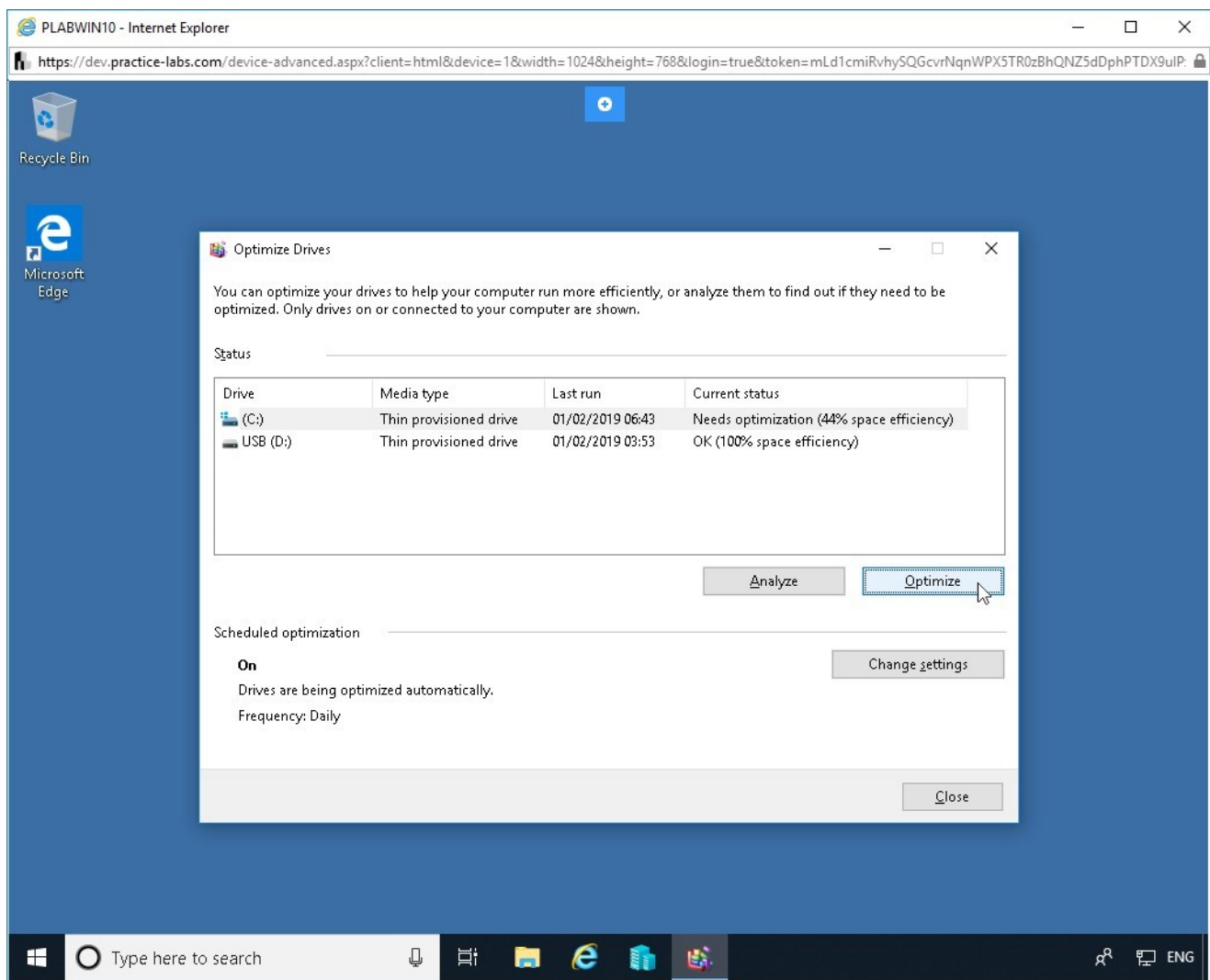
Figure 1.138 Screenshot of PLABWIN10: Clicking the Optimize button to start optimization.
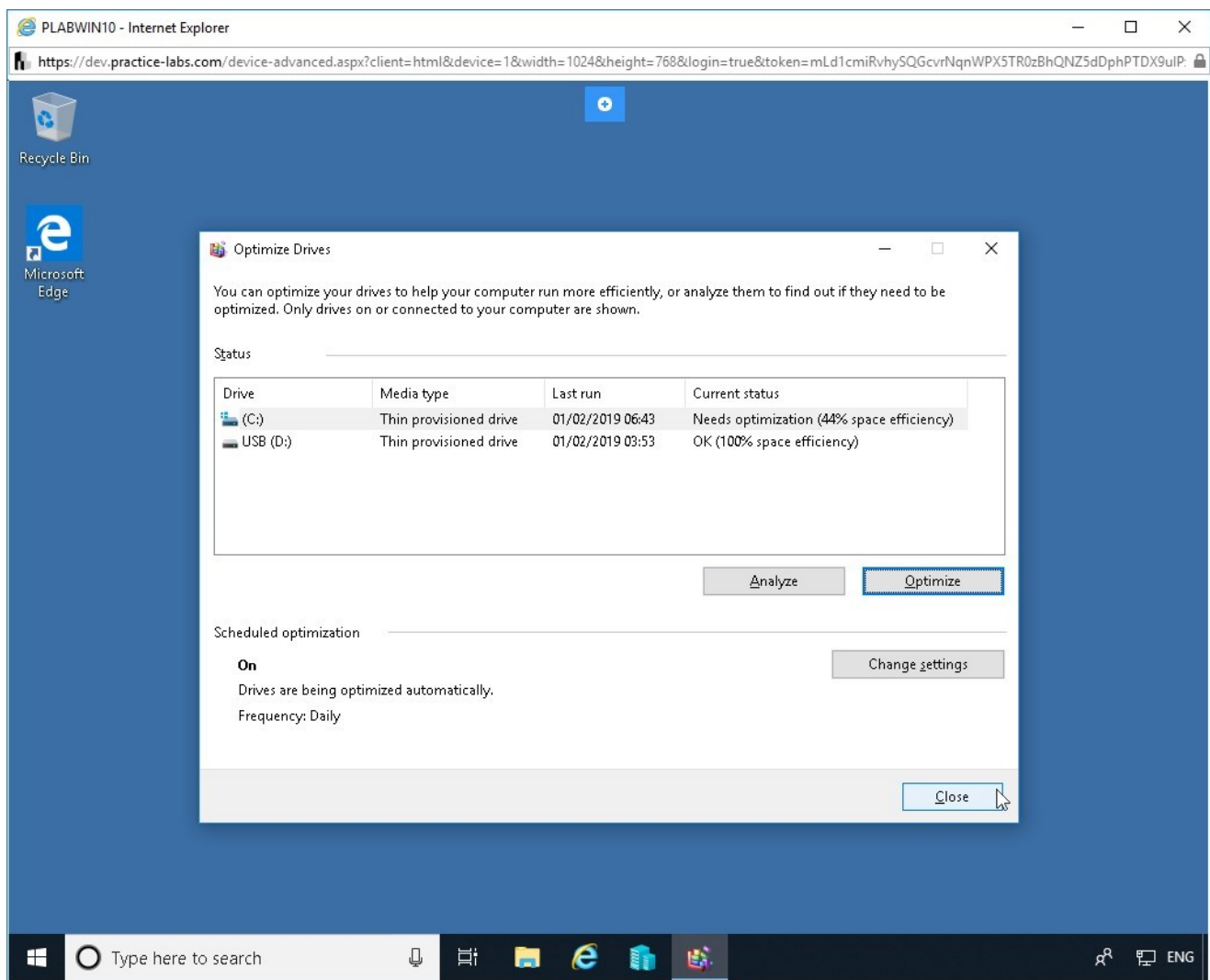
Step 6

Click **Close**.

Figure 1.139 Screenshot of PLABWIN10: Clicking Close on the Optimize Drives dialog box.

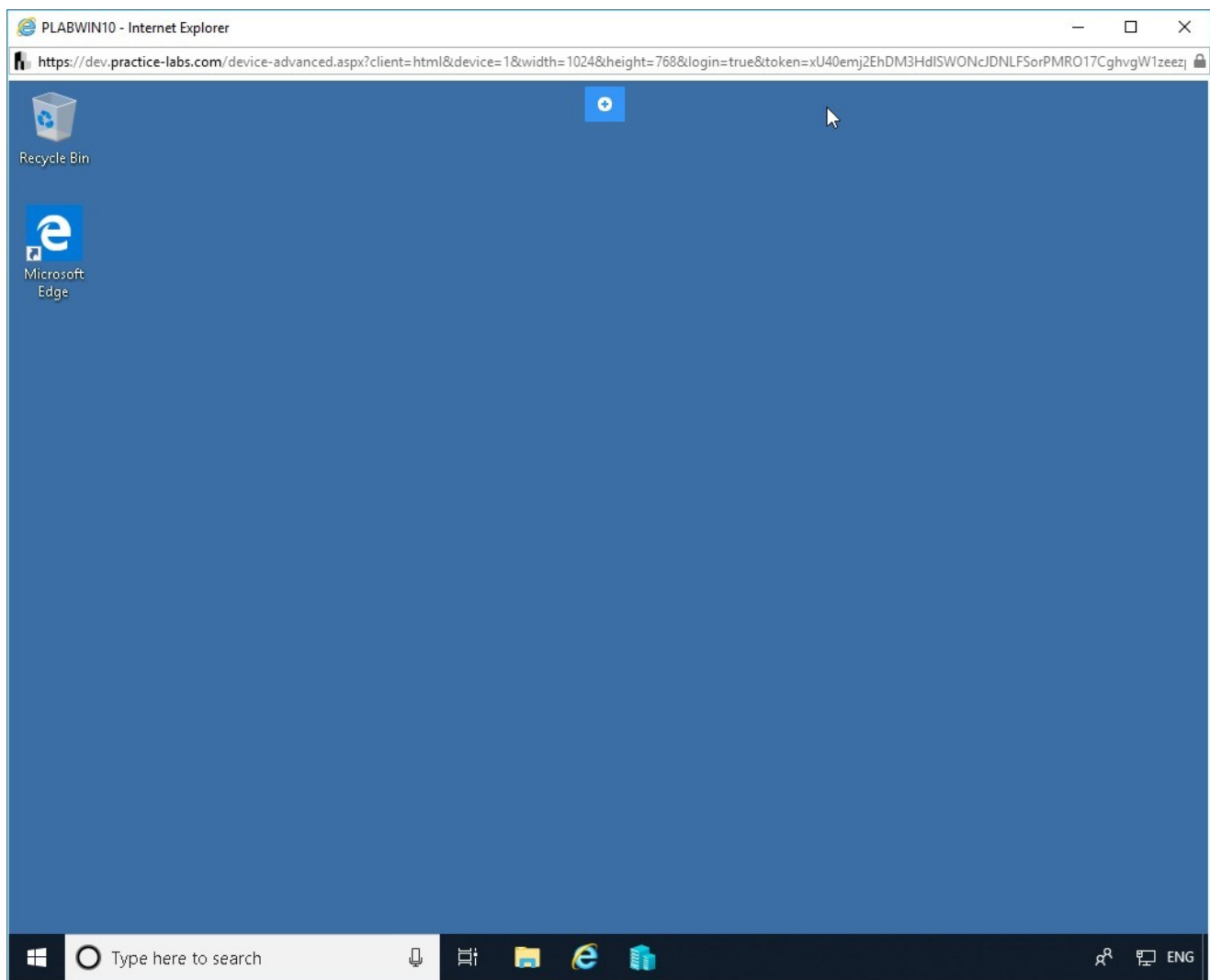# *Step 7*

You should have now returned to the desktop.

Figure 1.140 Screenshot of PLABWIN10: Showing the desktop of PLABWIN10.

Task 10 - Use Windows Update

Windows updates allow you to get the latest available version of windows for your operating system. As soon as the updates are released from the manufacturer, they are shown in this part of the system for you to apply. There are two different methods that can be used to apply updates:

- **Manual**: You must have an internet connection in order to complete the updates. You need to trigger the download of updates manually.
- **Automatic**: You must configure the system to download the updates. However, the system can be configured to download updates as they are available. This type of configuration is good for a single system at home. The automatic method can also use an internal update server to push the updates to the systems on the network. Using an internal update server is more suitable on a network. This helps in avoiding network congestion that can occur if hundreds of systems are downloading

the updates at the same time. The internal update server connects to the Internet, downloads the updates, and distributes them on the internal network.

In this task, you will learn to use **Windows Update**.

Step 1

Ensure that you are connected to **PLABWIN10**.

In the **Type here to search** textbox in the taskbar and type the following command:

```
windows updates settings
```

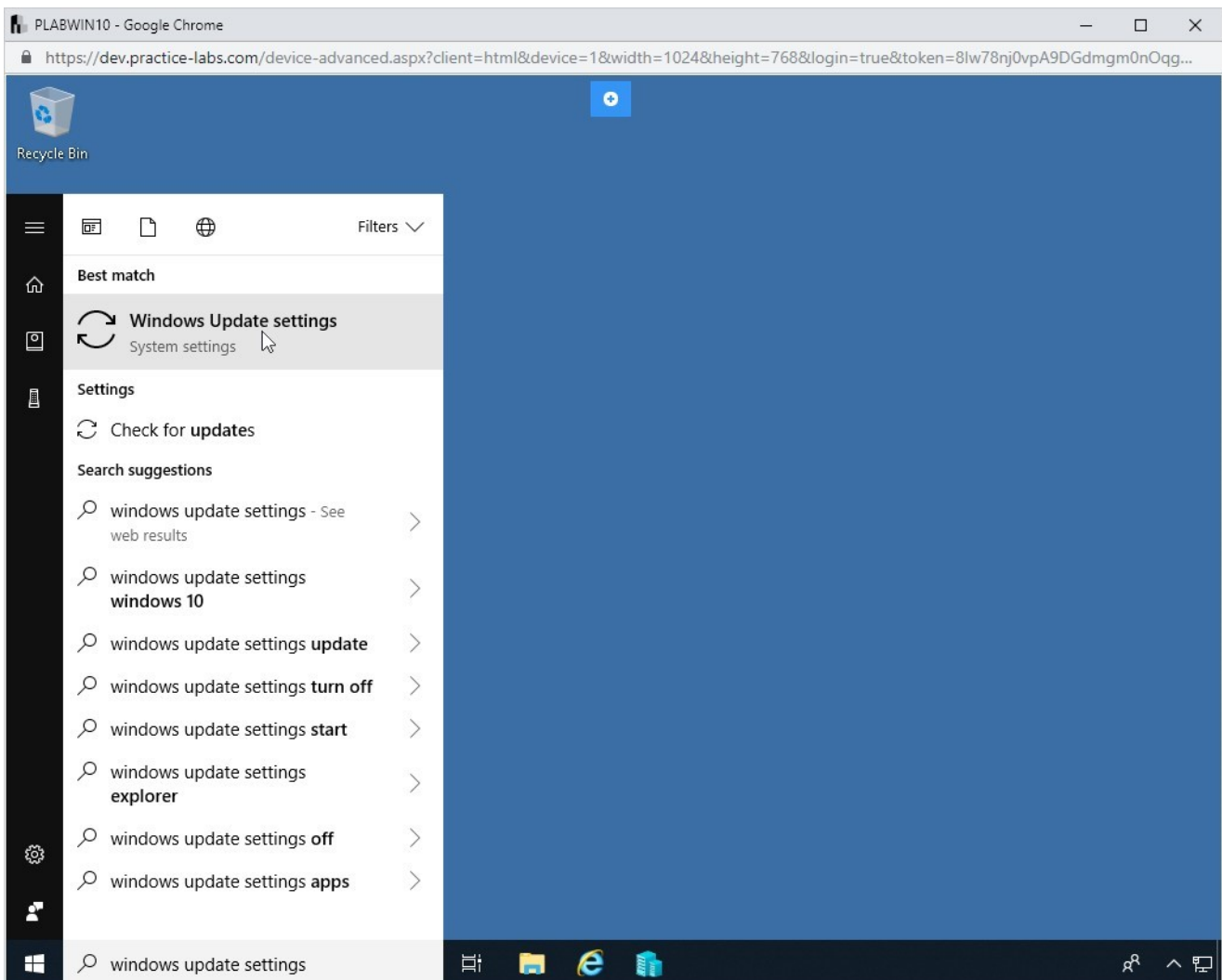Under the **Best Match** section, select **Windows Update settings**.

Figure 1.141 Screenshot of PLABWIN10: Selecting Windows Update Settings from the search.

Step 2

Click the **Change active hours** link.

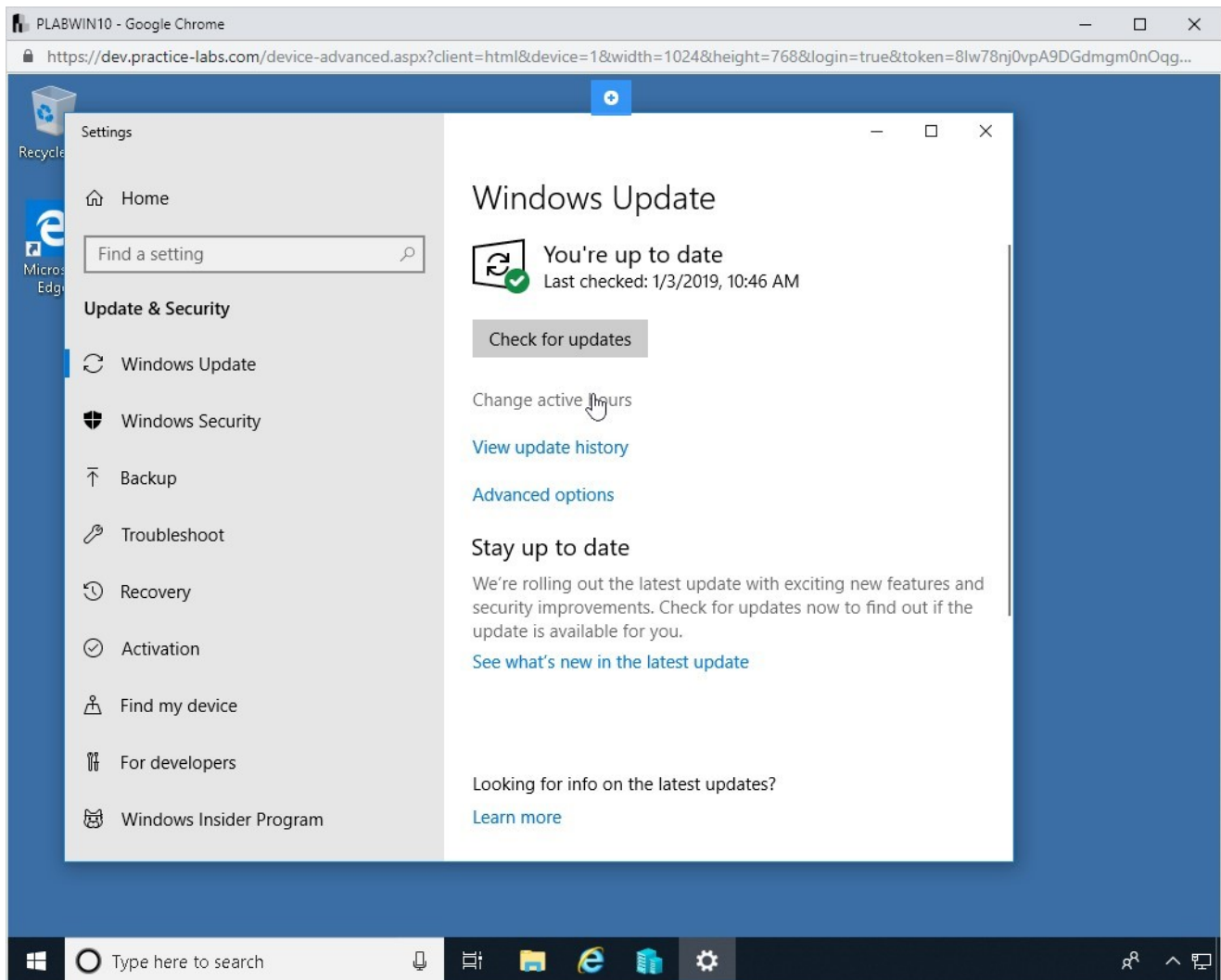

Figure 1.142 Screenshot of PLABWIN10: Clicking the Change active hours link.

Step 3

The **Active Hours** dialog box is displayed. The default timings are:

- Start time: 8:00 AM
- End time: 5:00 PM

Change the start and end time to **9:00 AM** and **6:00 PM**.
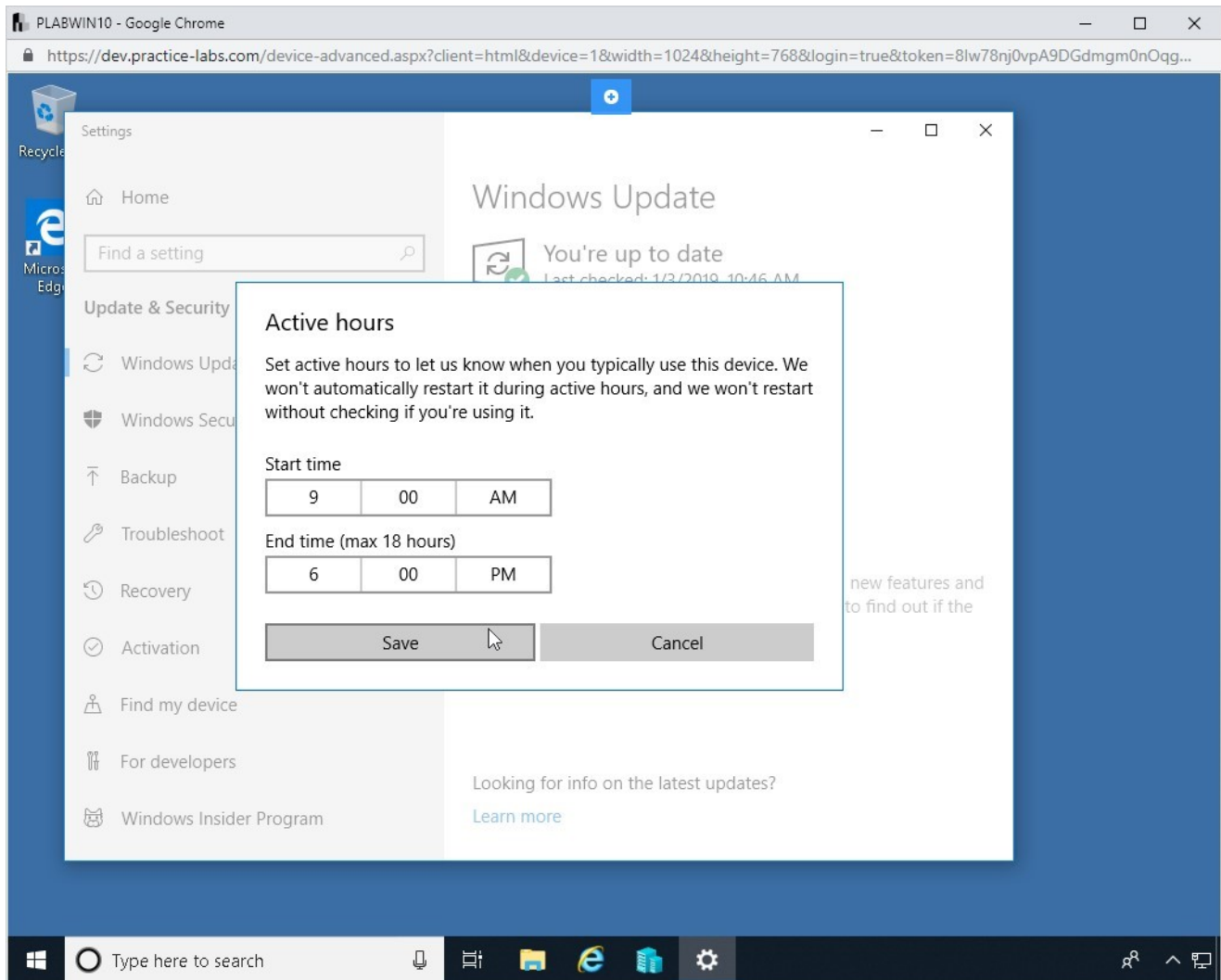
Click **Save**.

Figure 1.143 Screenshot of PLABWIN10: Changing the work timing in the Active hours.
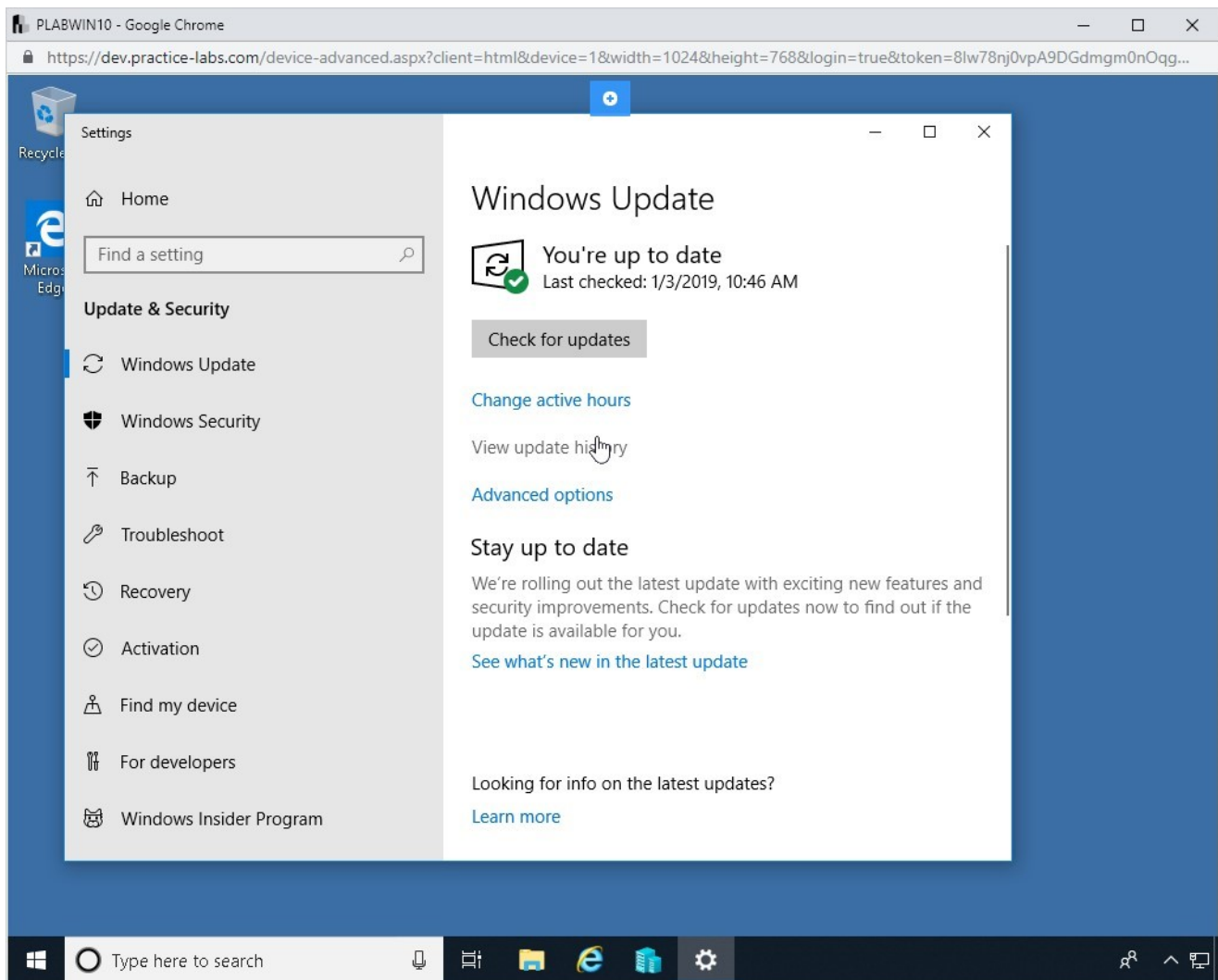
Step 4

Click the **View update history** link.

Figure 1.144 Screenshot of PLABWIN10: Clicking the View Update history link.

Step 5

The **View update history** page is displayed.
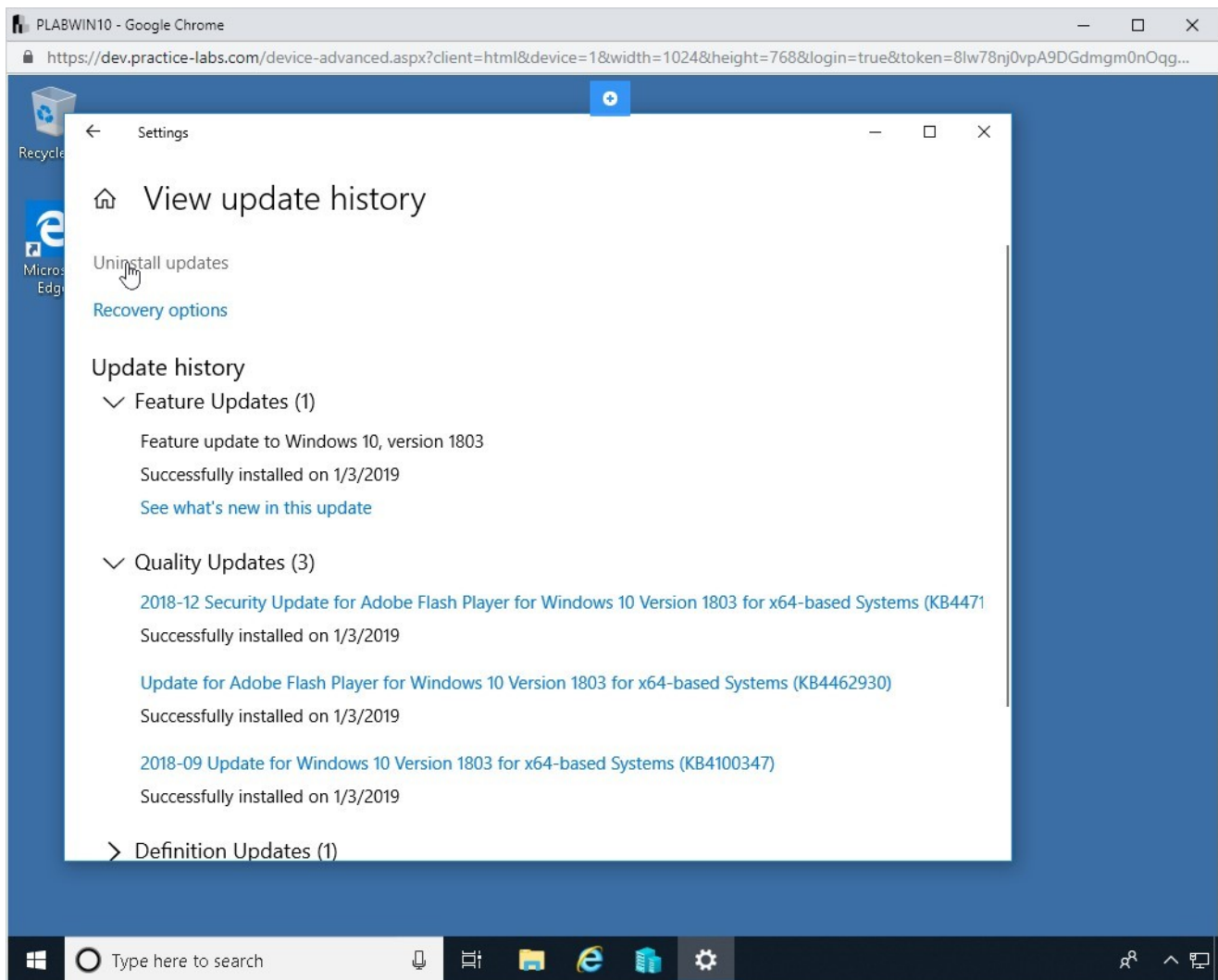
Click the **Uninstall updates** link.

Figure 1.145 Screenshot of PLABWIN10: Clicking the Uninstall updates link.

Step 6

The **Installed Updates** dialog box is displayed.

To uninstall an update, you would select the update that you want to uninstall and click **Uninstall**.

For this task, you should **not** uninstall an update. Close the **Installed Updates** dialog box.
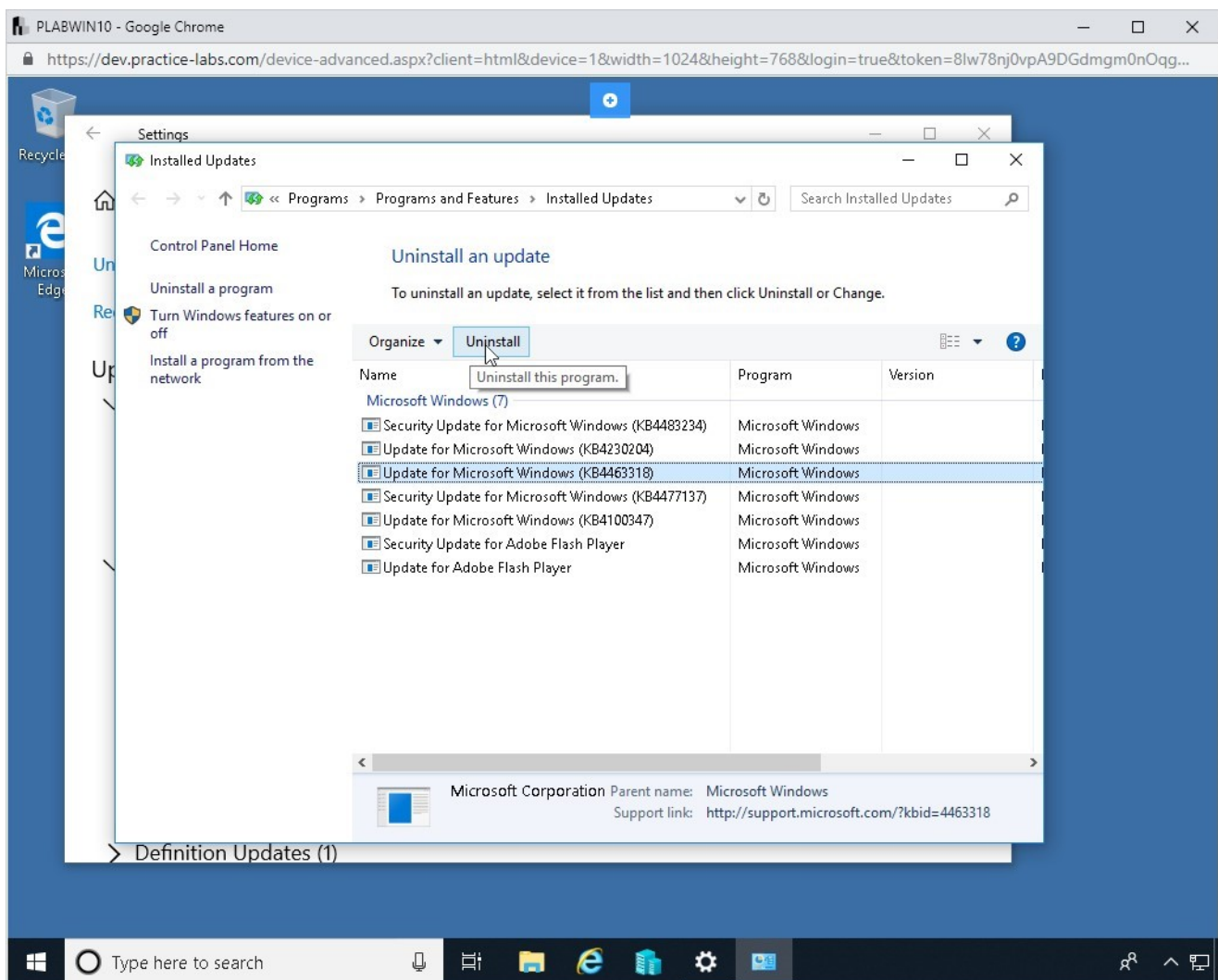
Figure 1.146 Screenshot of PLABWIN10: Selecting an update and clicking Uninstall in the Installed Updates.

Step 7

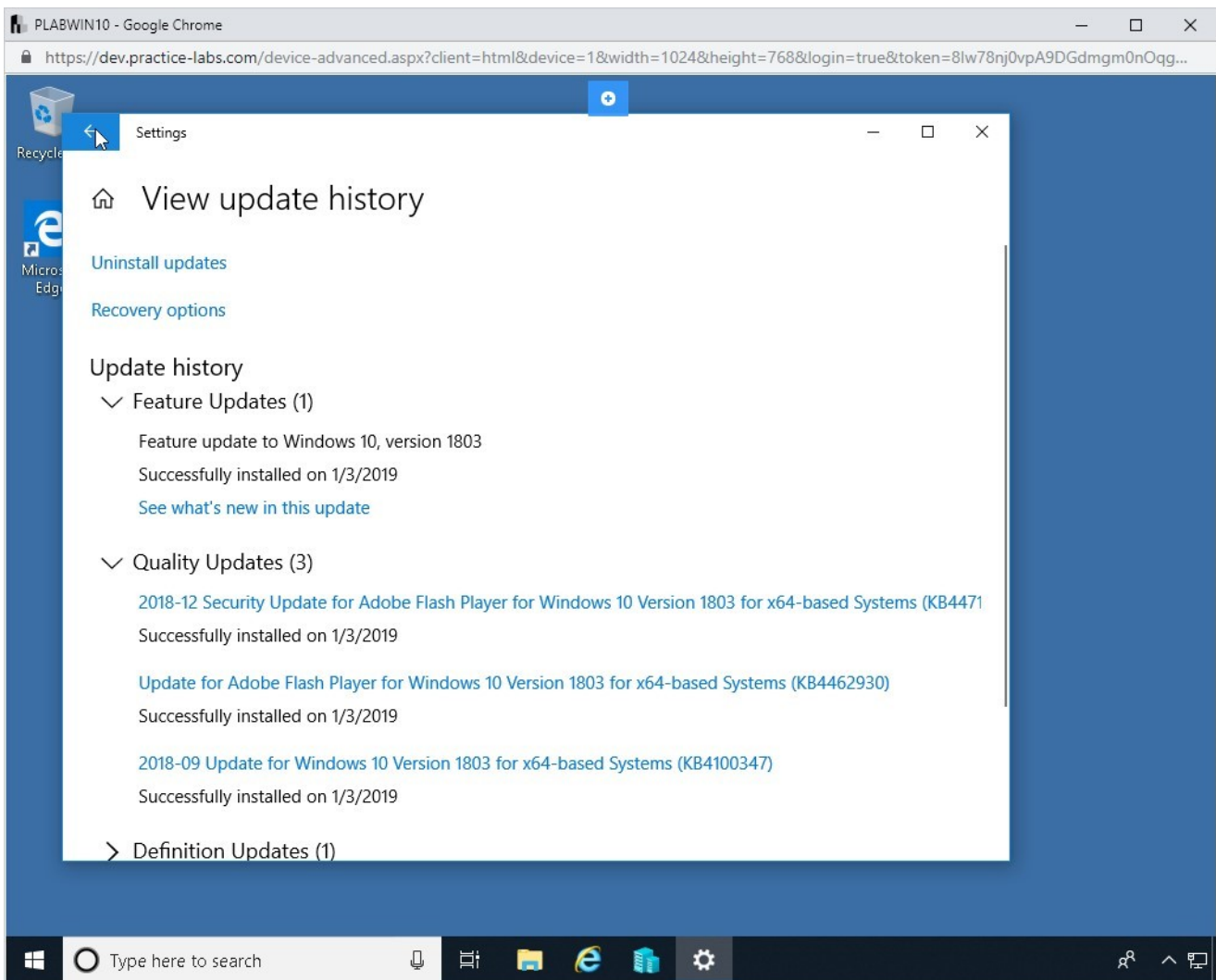You are back on the **View update history** page. Click the back arrow.

Figure 1.147 Screenshot of PLABWIN10: Clicking the back arrow on the View update history page.

Step 8

You are back on the **Windows Update** page.
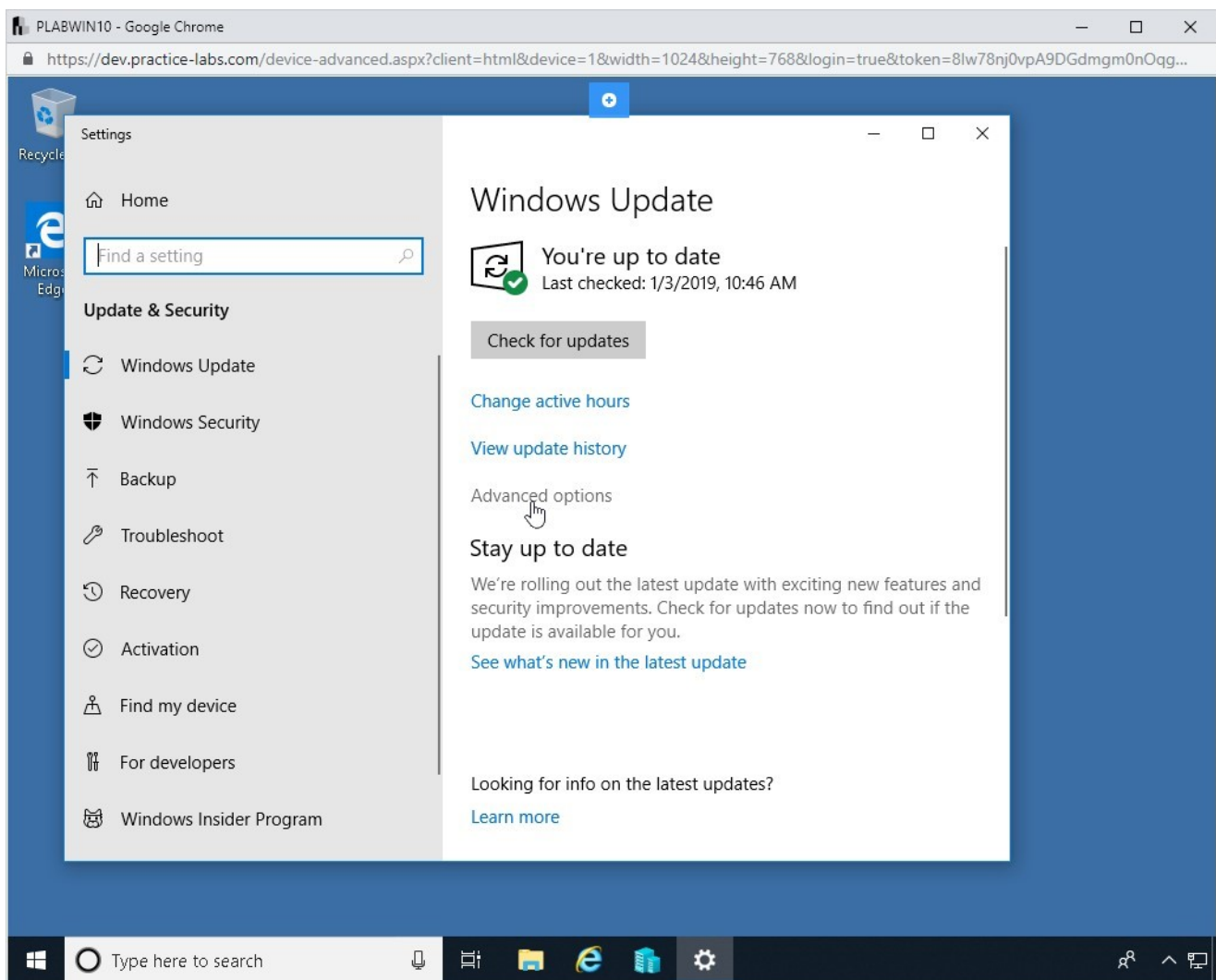
Click the **Advanced options** link.

Figure 1.148 Screenshot of PLABWIN10: Clicking the Advanced options link on the Windows Update page.

Step 9

You are now on the **Advanced options** page.

Click **Off** for **Automatically download updates, even over metered data connections (charges may apply**).
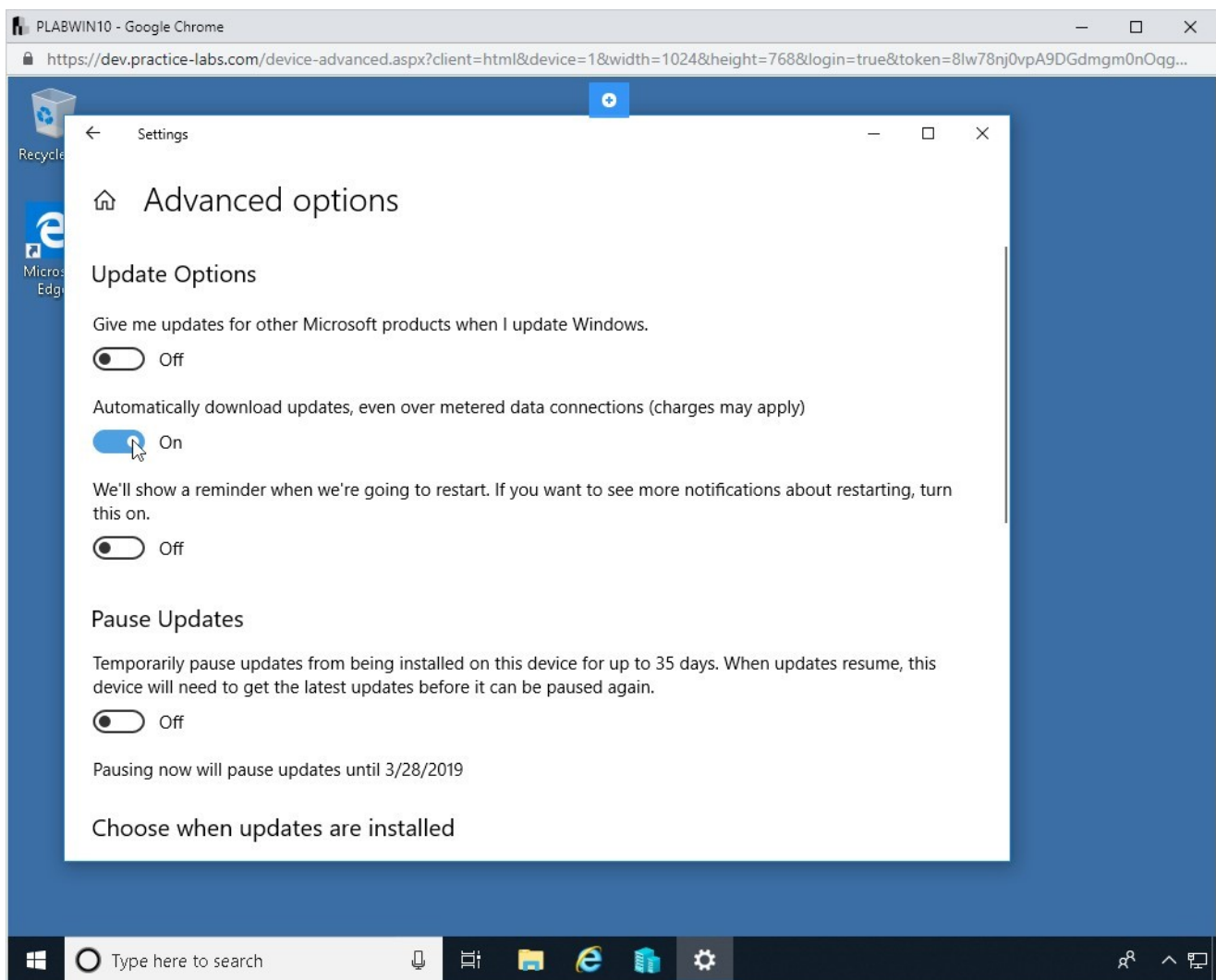
Figure 1.149 Screenshot of PLABWIN10: Clicking the automatic update options on the Advanced options page.

Click the back arrow.

Step 10

Notice that **Check for updates** button is no longer visible. While you were configuring settings, Windows is performing a check for updates.

> **Note:** *You may not get the same result for this step. If your session shows the* **Check for updates** *button, you should click and perform an update.*
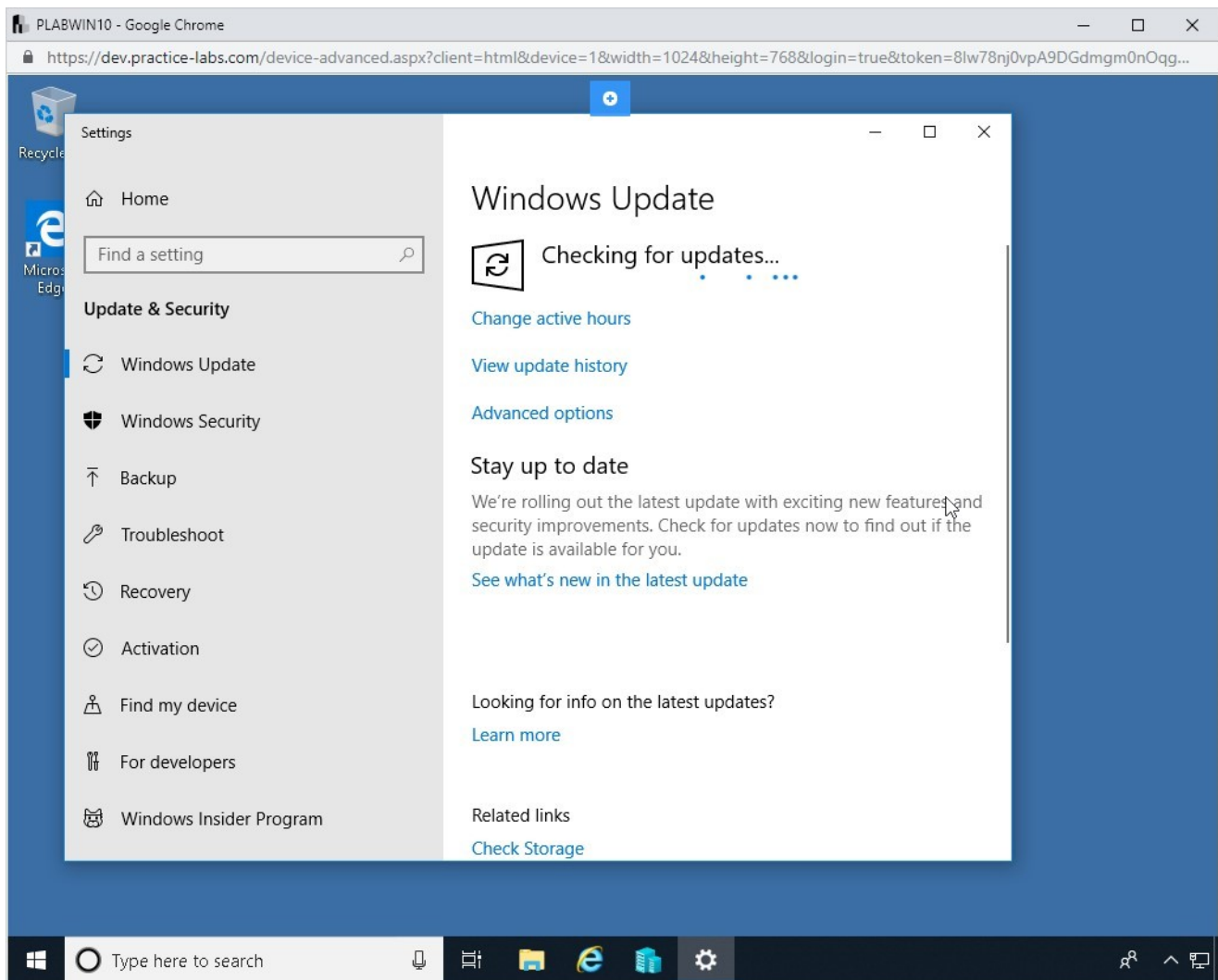
Figure 1.150 Screenshot of PLABWIN10: Showing the Check for updates on the Windows update page.

Review

Well done, you have completed the **Get to Know Various System Utilities** Practice Lab.

Summary

In this module, you will complete the following exercise:

- Exercise 1 - Get to know Various System Utilities

After completing this lab, you will be able to:

- Explore Registry Editor
- Use the Services Console
- Use the Microsoft Terminal Services Client (MSTSC)
- Use Notepad
- Use File Explorer
- Use MSinfo32
- Use the Microsoft Management Console (MMC)
- Use Dxdiag
- Use the Defragment and Optimize Drives Utility
- Use Windows Update

Feedback

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