CompTIA A+

Using Microsoft Operating System Tools and Features

Introduction

Windows features
Windows Tools
Microsoft
A+

Welcome to the **Using Microsoft Operating System Tools and Features** 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 - Working with Windows Administrative Tools
- Exercise 2 - Implementing System Configuration Settings
- Exercise 3 - Using the Task Manager
- Exercise 4 - Managing Storage Spaces

After completing this lab, you will be able to:

- Access Computer Management Tools
- Configure Local Security Policy
- Create a Task on the Task Scheduler
- Explore Print Management Properties
- Configure Windows Memory Diagnostics
- Explore Component Services
- Add a Data Source to a Listed Driver
- Access the Event Viewer Logs
- Specify the Startup Type for Computer
- Set the Timeout Period on the Boot Tab
- Disable a Service on the Services Tab
- Enable Microsoft OneDrive as a Startup Service
- End a Task on the Processes Tab
- Explore the Performance Tab
- Disconnect a User on the Users Tab
- Initialize a Disk
- Partition a Dynamic Disk
- Explore Disk Management Operations
- Re-initialize a Disk
- Manage Storage Spaces

Exam Objectives

The following exam objectives are covered in this lab:

- **220-1002:** 1.5 Given a scenario, use Microsoft operating system features and tools.

> ***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 the theoretical topics in more detail.*

Lab Duration

It will take approximately **1 hour**.

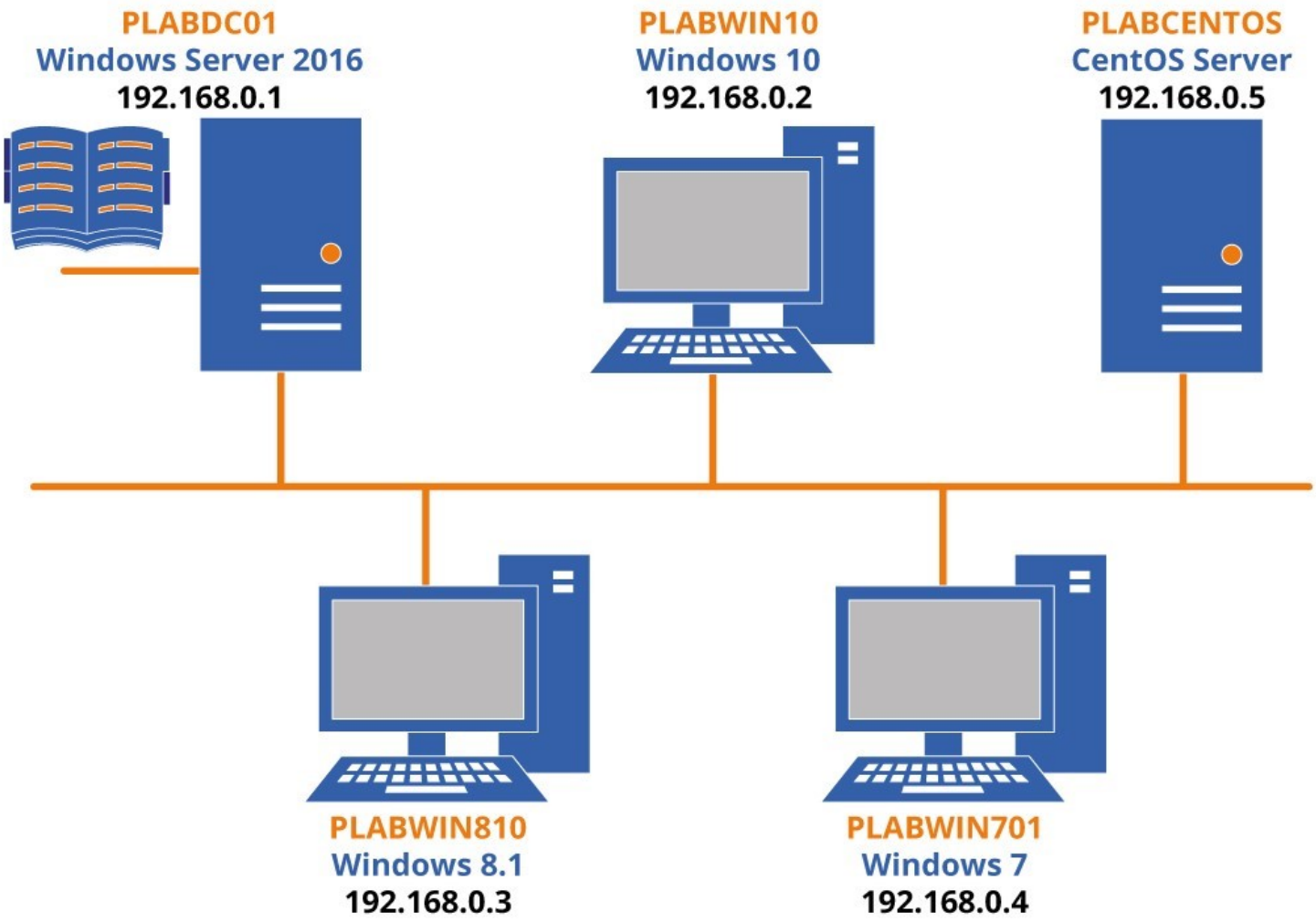
Help and Support

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 - Working with Windows Administrative Tools

Administrative tools are a collection of computer management services that help to perform regular maintenance tasks, such as disk defragmentation, disk clean-up, and running system memory diagnostics. These tools also help manage the system by defining the security policy for Windows and other devices running on the system. Administrative tools are available on the **Start** screen or even as a part of the **Control Panel**.

In this exercise, you will explore the functions and uses of Windows Administrative Tools.

Learning Outcomes

After completing this exercise, you will be able to:

- Access Computer Management Tools
- Configure Local Security Policy
- Create a Task on the Task Scheduler
- Explore Print Management Properties
- Configure Windows Memory Diagnostics
- Explore Component Services
- Add a Data Source to a Listed Driver
- Access the Event Viewer Logs

Your Devices

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

- **PLABDC01 -** (Windows Server 2016 - Domain Controller)
- **PLABWIN10 -** (Windows 10 - Domain Member)

Task 1 - Access Computer Management Tools

Computer management services enable you to manage system tools, storage, services, and applications of your local or remote system. Moreover, by using these tools you can automate some of the routine system management tasks. **Computer Management** tools are available as a part of the **Administrative tools**.

In this task, you will access the **Computer Management** tools.

Step 1

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

The desktop is displayed.

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

```
Administrative Tools
```

Under **Best Match** section, select **Administrative Tools**.

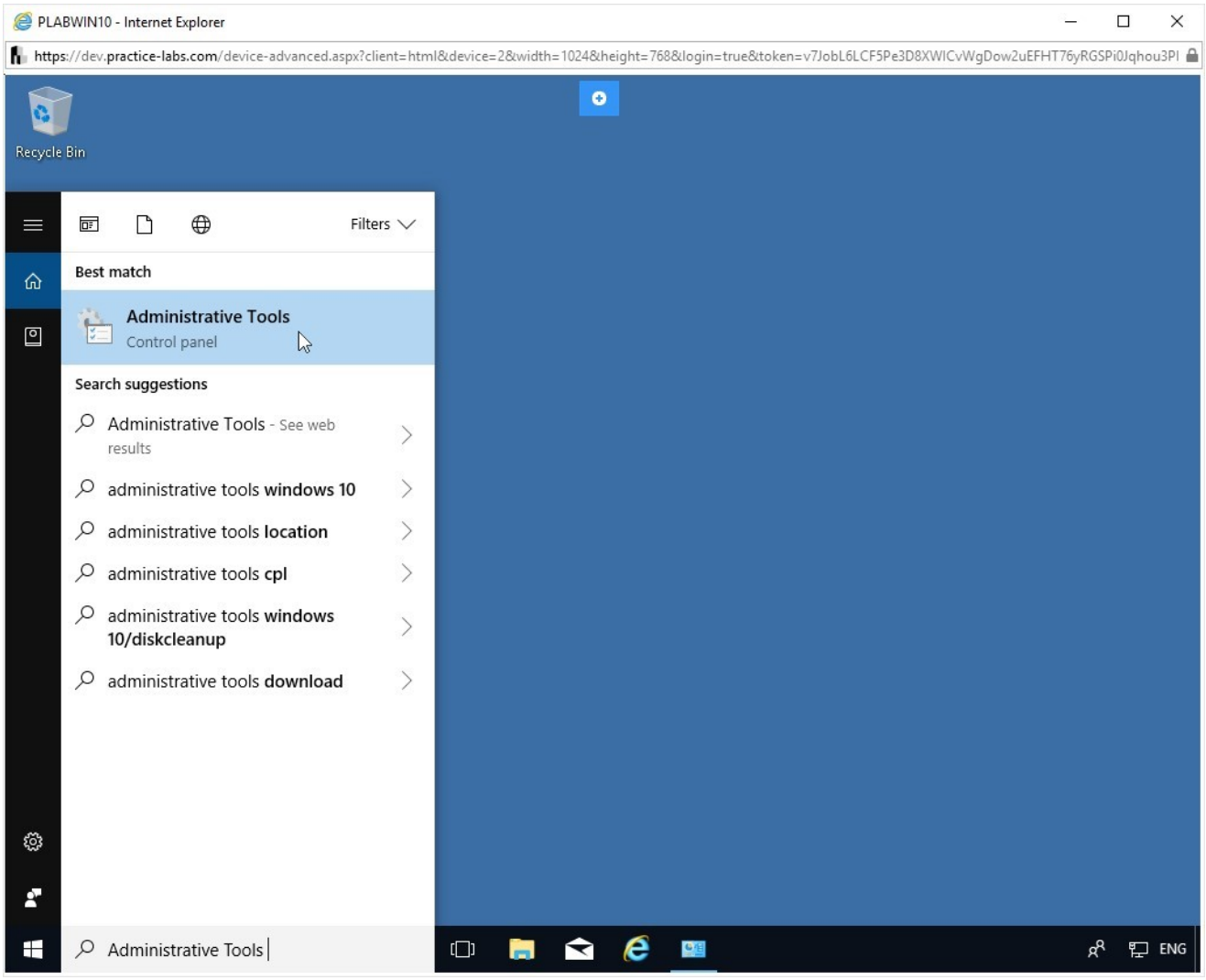


Figure 1.1 Screenshot of PLABWIN10: Selecting Administrative Tools from the search results.

Step 2

In the **Administrative Tools** window, double-click **Computer Management**.

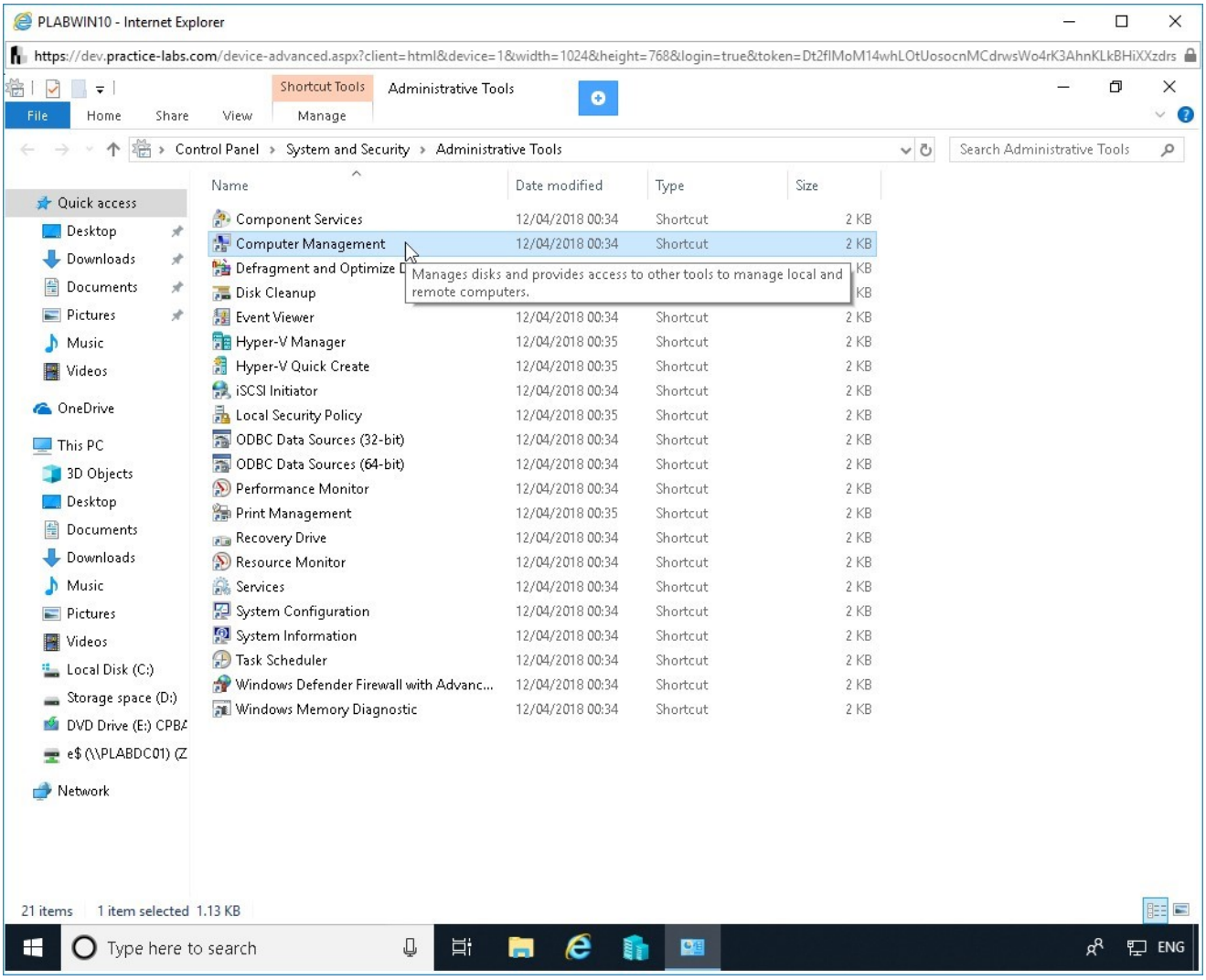


Figure 1.2 Screenshot of PLABWIN10: Double-clicking Computer Management in the Administrative Tools window.

Step 3

The **Computer Management** console is displayed.

Several tools and utilities are listed here under three different sections:

- **System Tools**: This contains tools, such as Event Viewer, Shared Folders, Local Users and Groups.
- **Storage**: This contains Disk Management, which allows you to create, delete, and modify partitions on your local system.
- **Services and Applications**: This contains Services and WMI Control, which is Windows Management Instrumentation.

It is important to note that all these tools are available individually. For example, you can manage services from the Services console or from the **Services** node in **Computer Management**.

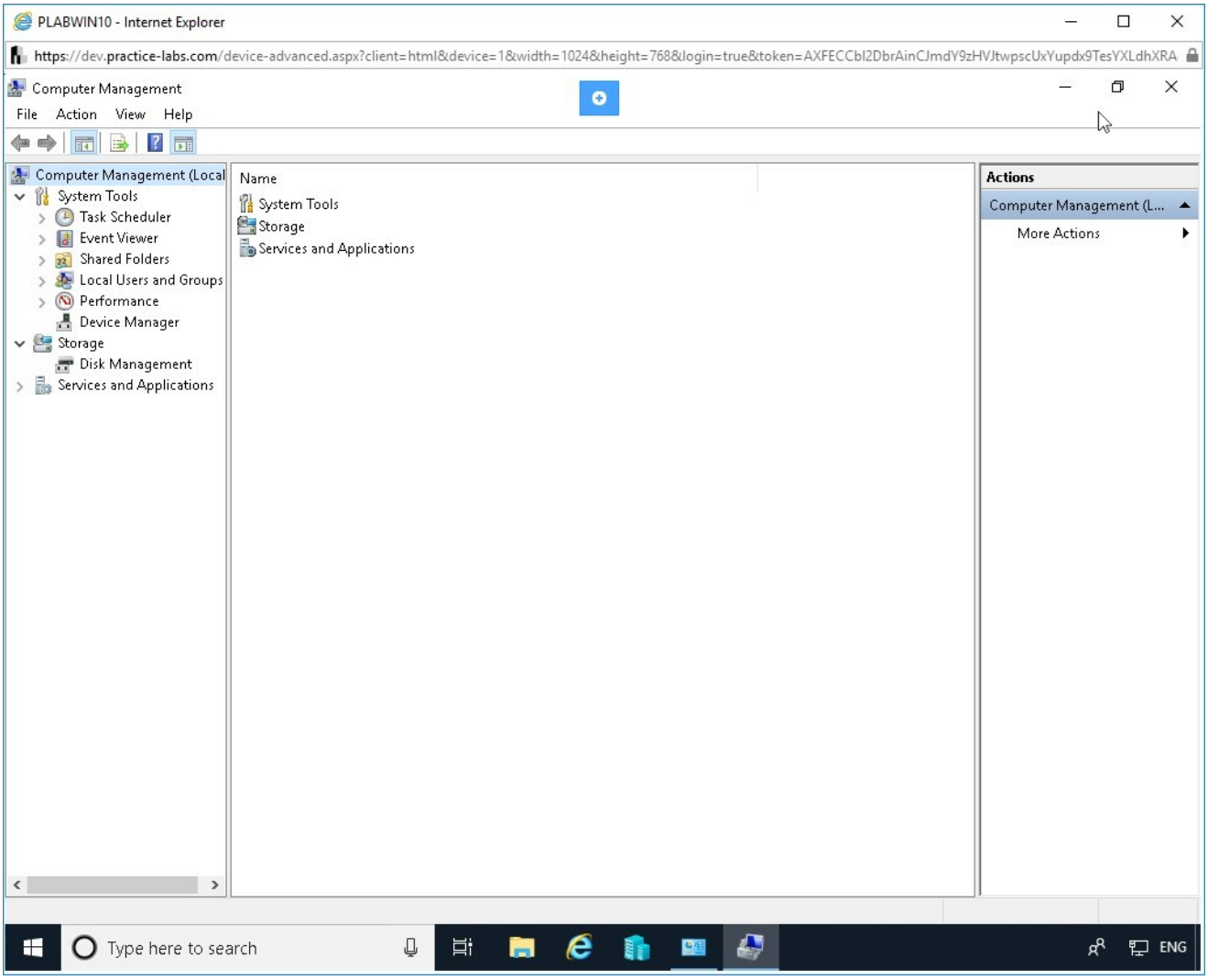


Figure 1.3 Screenshot of PLABWIN10: Displaying the Computer Management window with its tools.

Step 4

Expand the **Services and Applications** node in the left pane and select **Services**.

The Windows services are displayed. Each service must have a status. For example, a service can be running or stopped. The services that are running are marked with **Running** status. Stopped services do not have any status displayed.

Close the **Computer Management** window.

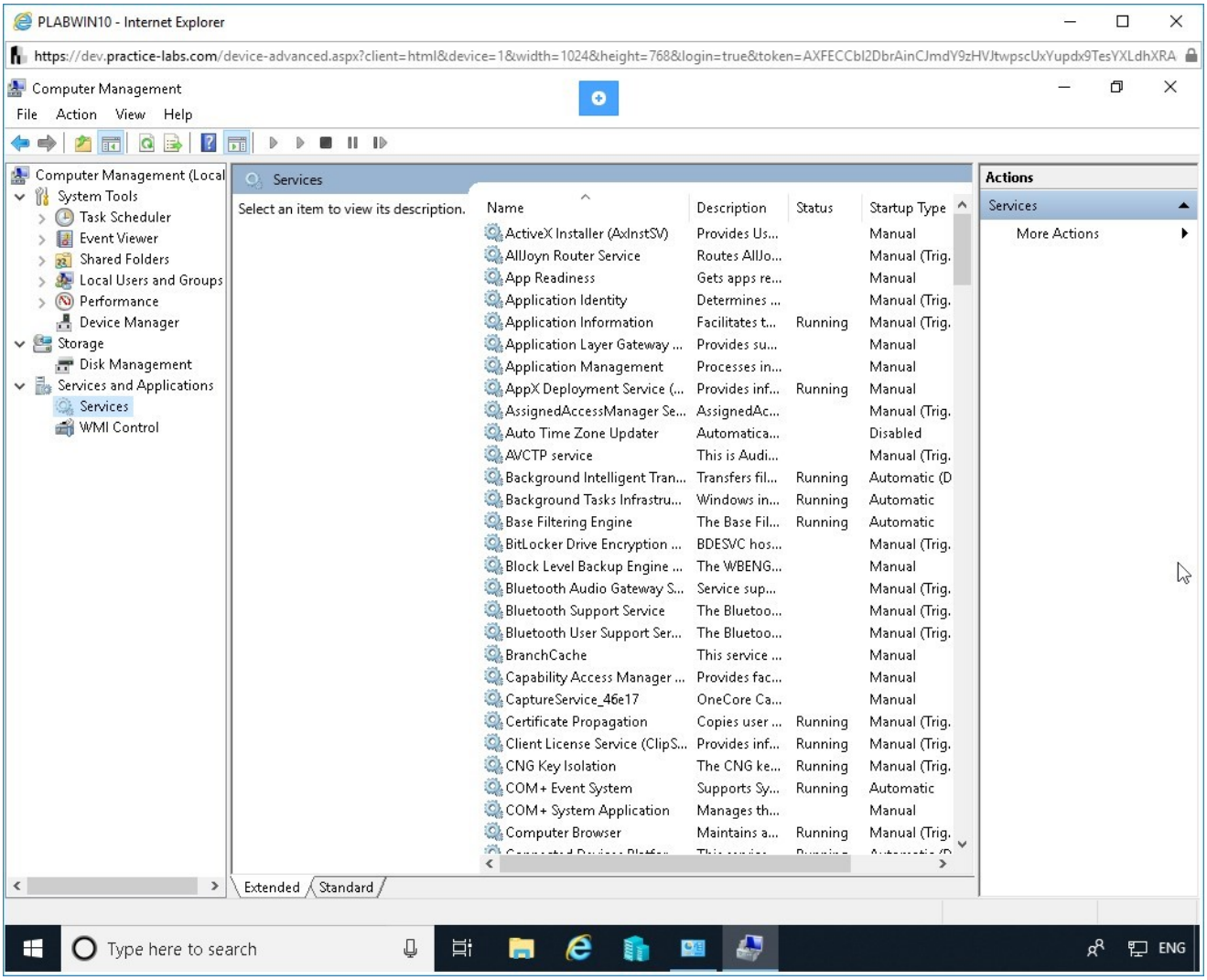


Figure 1.4 Screenshot of PLABWIN10: Using the Services node in the Computer Management window.

Task 2 - Configure Local Security Policy

Local security policy configures the security settings of your local machine; thereby allowing you to make your device more secure, taking care of possible threats. For example, by using these policies you can configure the system firewall, set application and software control policies, enforce passwords, specify trusted domains, configure access rights, define account privileges, and schedule security auditing.

These settings can be broadly categorized into three types - user-related settings, system-related settings, and security-related settings.

In this task, you will modify the password settings on the system.

Step 1

Ensure that the **Administrative Tools** window is displayed.

On the **Administrative Tools** window, double-click **Local Security Policy**.

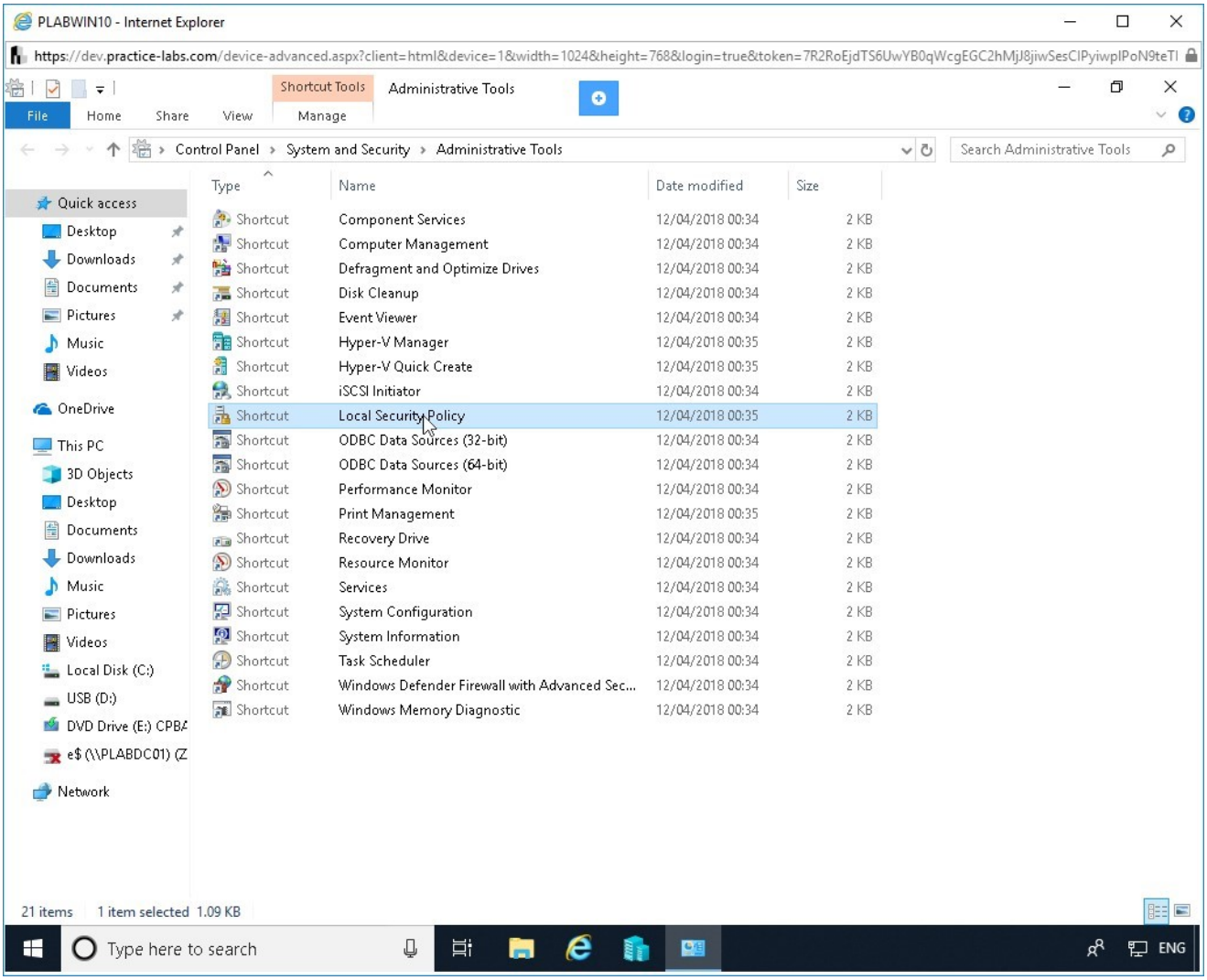


Figure 1.5 Screenshot of PLABWIN10: Double-clicking Local Security Policy.

Step 2

On the **Local Security Policy** window, expand **Account Policies** and then select **Password Policy** in the left pane.

Notice that the right pane displays the password related policies.

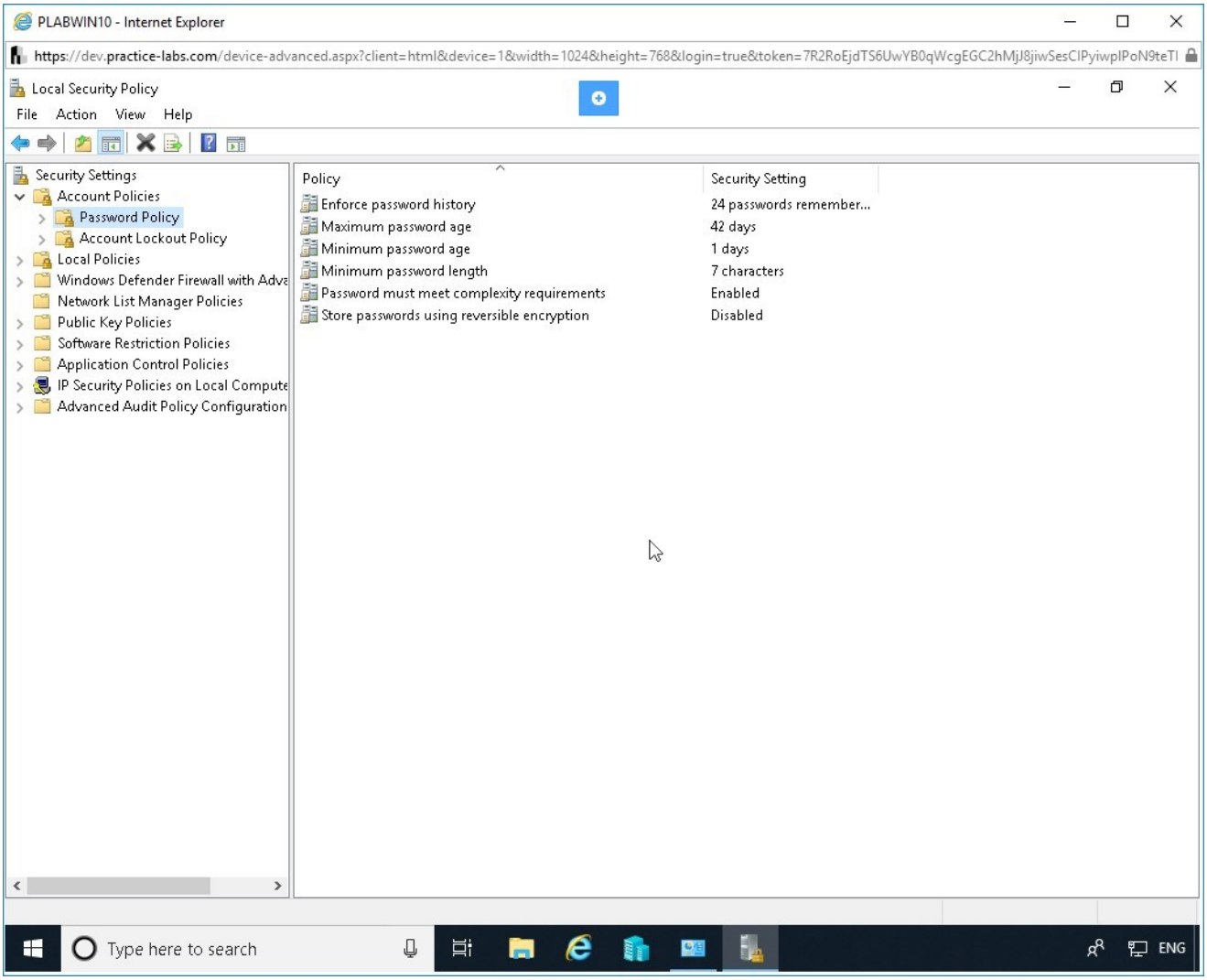


Figure 1.6 Screenshot of PLABWIN10: Displaying policies listed under Password Policy.

Step 3

On the details pane at the right, double-click the **Maximum password age** policy.

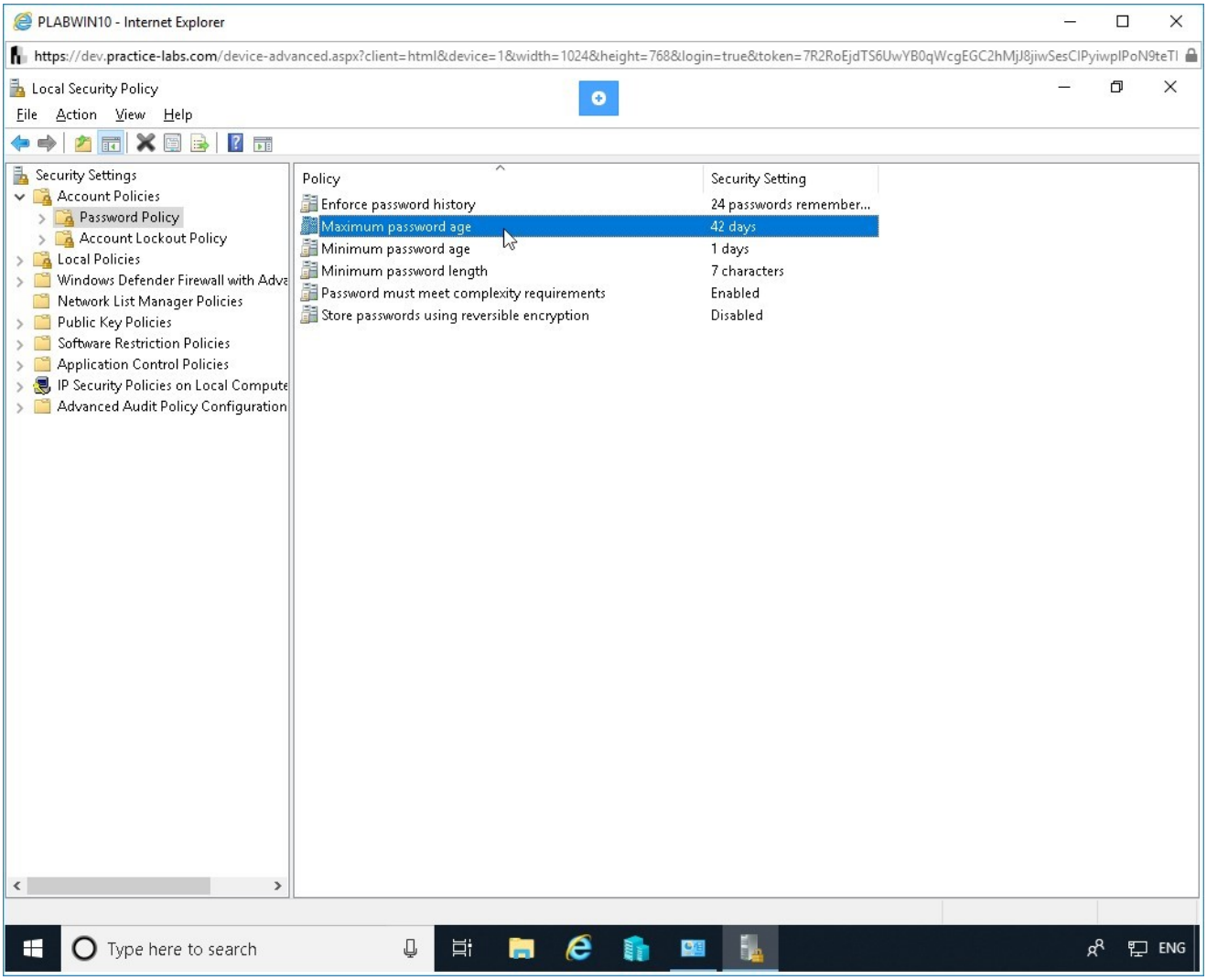


Figure 1.7 Screenshot of PLABWIN10: Double-clicking the Maximum password age policy

Step 4

The **Maximum password age Properties** dialog box is displayed.

Notice that the value is non-editable. This is because this value is being inherited from the domain controller. By default, the domain members inherit password policy values from the domain controller.

Click **OK**.

> ***Note**: By default, 42 days is the default domain policy setting for maximum password age.*

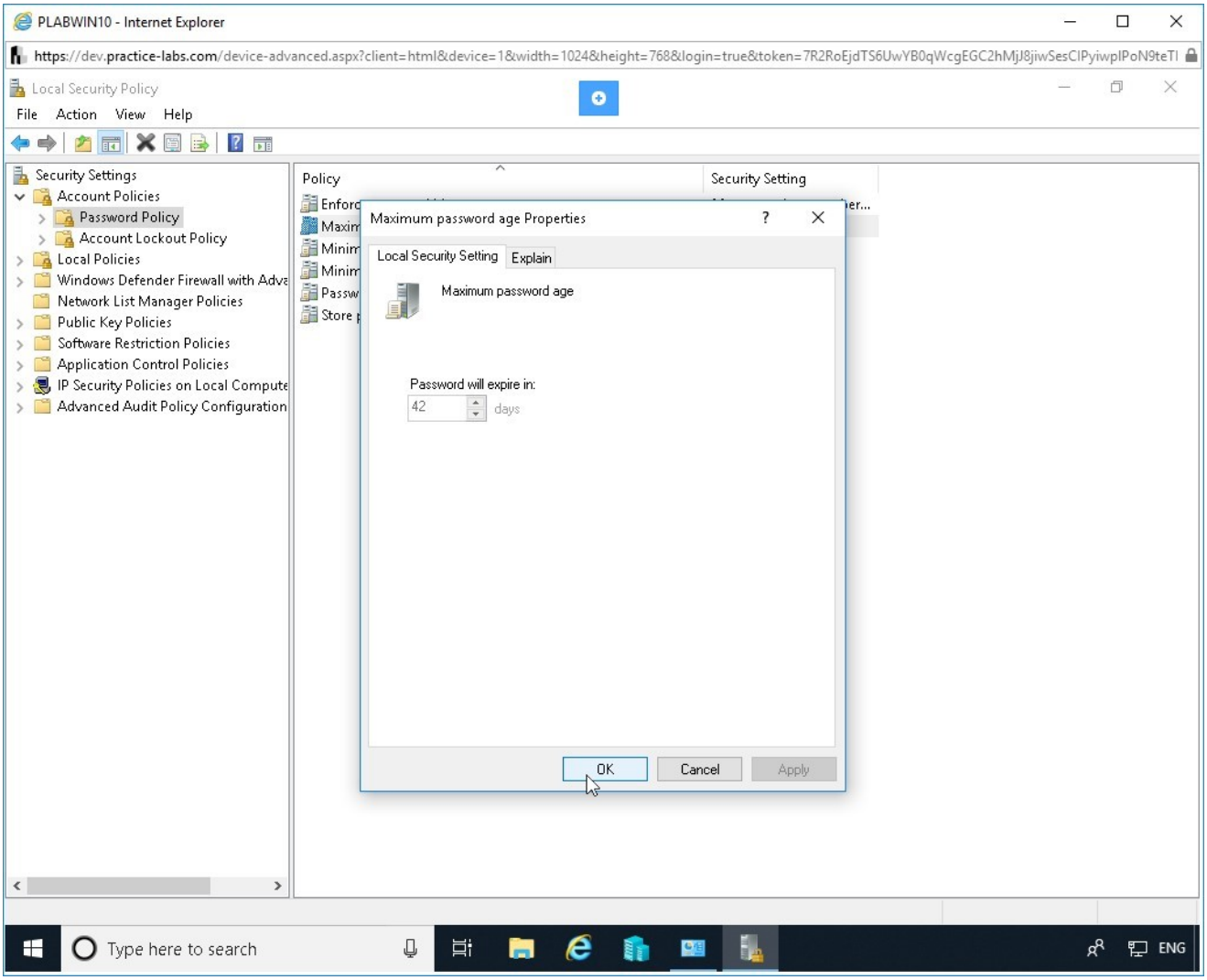


Figure 1.8 Screenshot of PLABWIN10: Closing the Maximum password age Properties dialog box.

Step 5

Let's look at some of the policies that can be configured locally even if the system is a domain member.

Expand the **Local Policies** node in the left pane and select **Audit Policy**. Notice that the right pane displays audit related policies.

In the right pane, double-click the **Audit account logon events** policy.

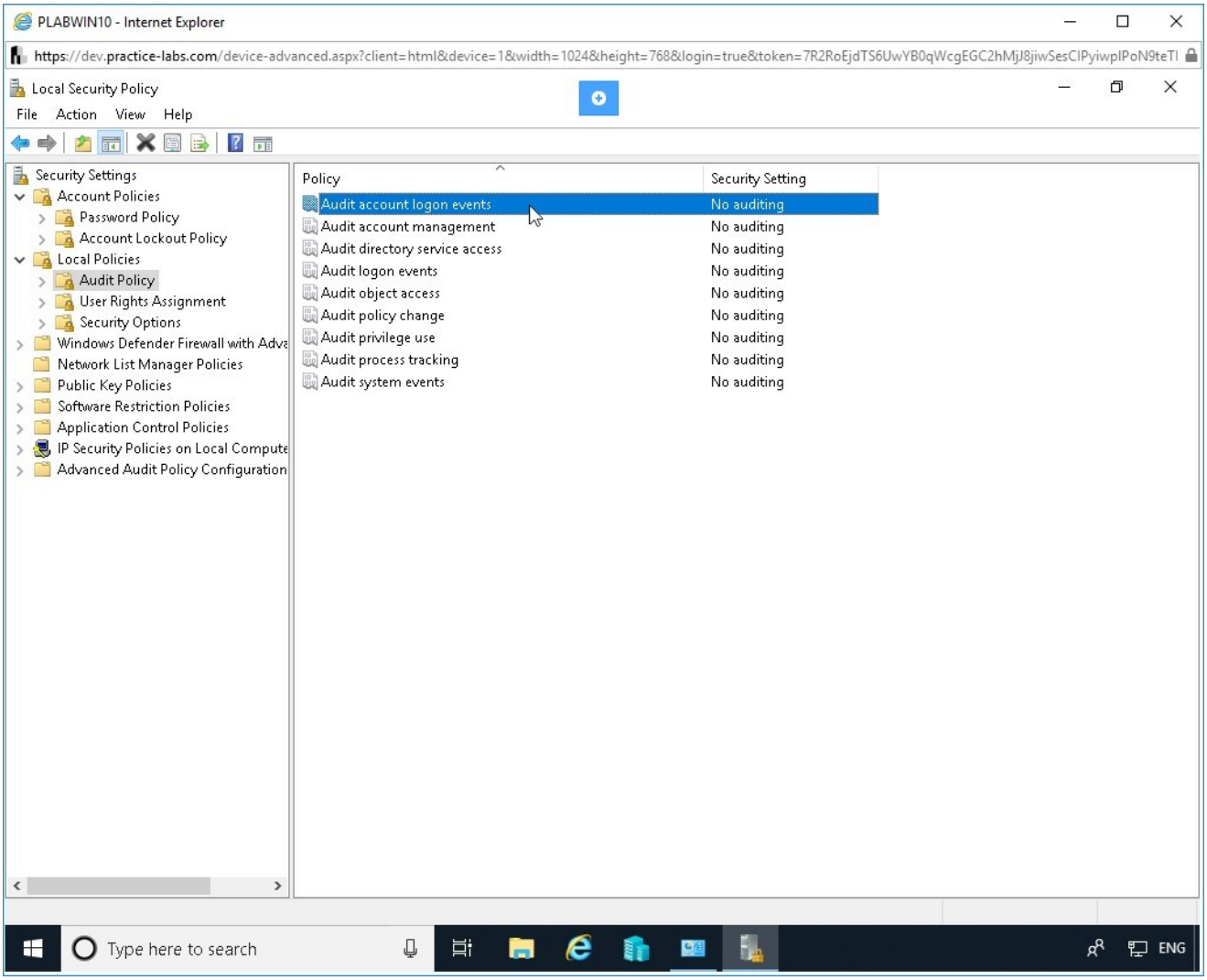


Figure 1.9 Screenshot of PLABWIN10: Double-clicking the Audit Account logon events policy.

Step 6

In the **Audit account logon events Properties** dialog box, select **Failure** and then click **OK**.

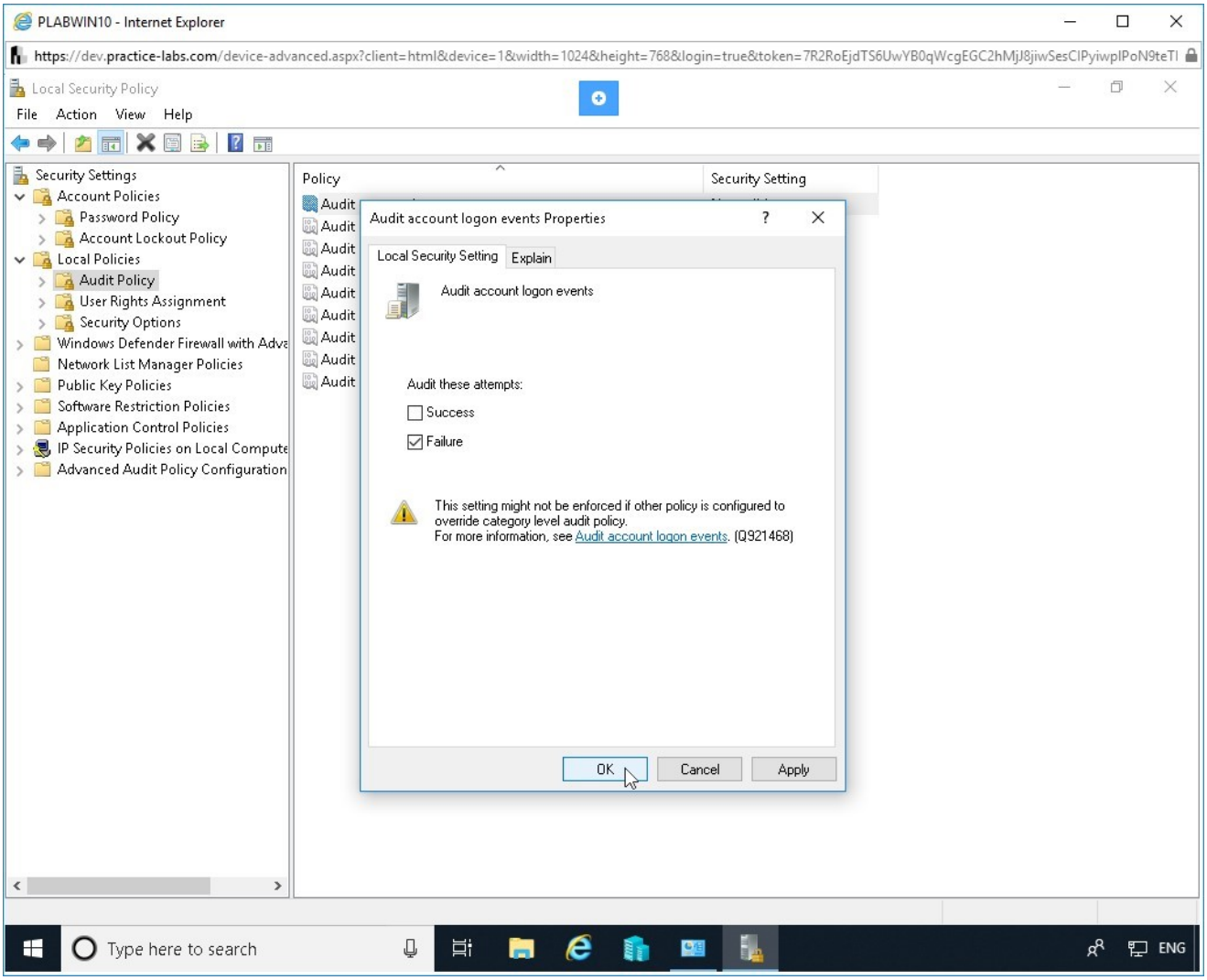


Figure 1.10 Screenshot of PLABWIN10: Selecting Failure in the Audit account logon events Properties dialog box.

Step 7

Notice that the status for **Audit account logon events** policy has changed to **Failure**.

> ***Note:*** *If time permits, you may want to review some of the policies.*

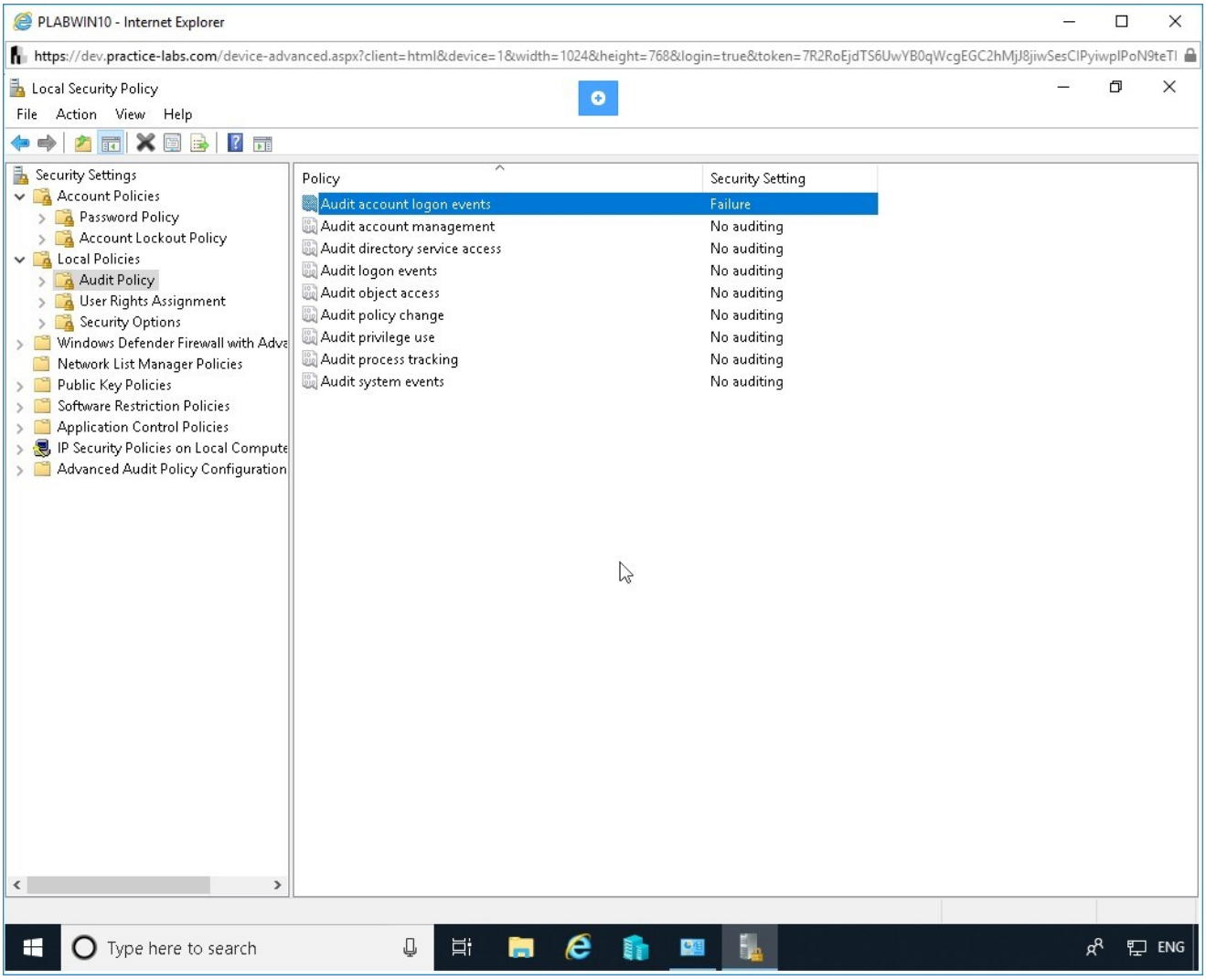


Figure 1.11 Screenshot of PLABWIN10: Showing Failure as the status for Audit account logon events policy.

Task 3 - Create a Task on the Task Scheduler

The task scheduler allows you to automate the schedule to start/run/stop a task. For example, you can specify the applications that shall start when a specific event occurs. The specified application will start and run as specified in the setting. In addition, you can view the already running tasks, and you can also import a task.

In the following steps, you will create a basic task.

Step 1

Ensure that the **Administrative Tools** window is displayed.

Double-click **Task Scheduler**.

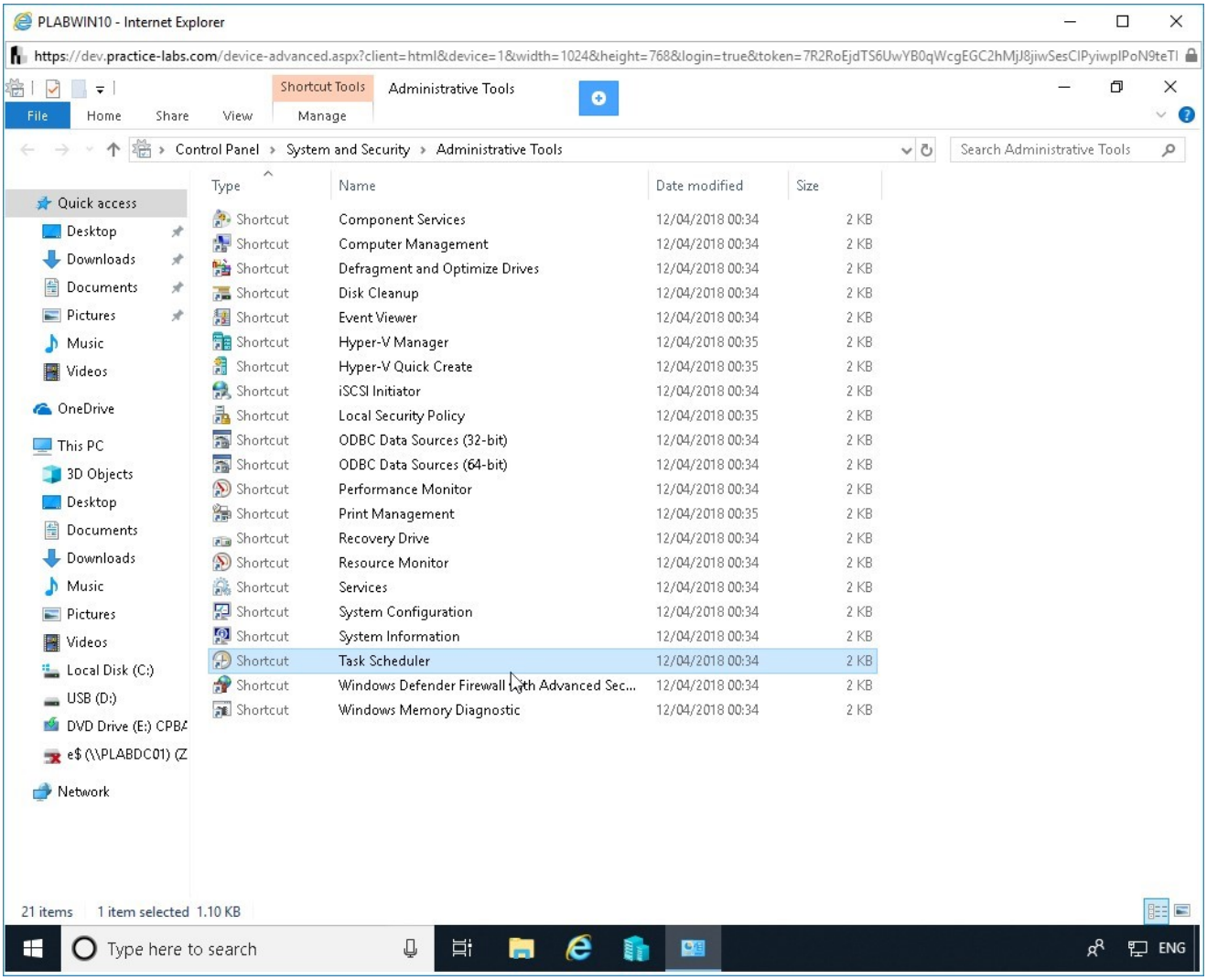


Figure 1.12 Screenshot of PLABWIN10: Double-clicking Task Schedule in Administrative Tools window.

Step 2

On the **Task Scheduler** console displayed, click the **Create Basic Task** option in the right pane.

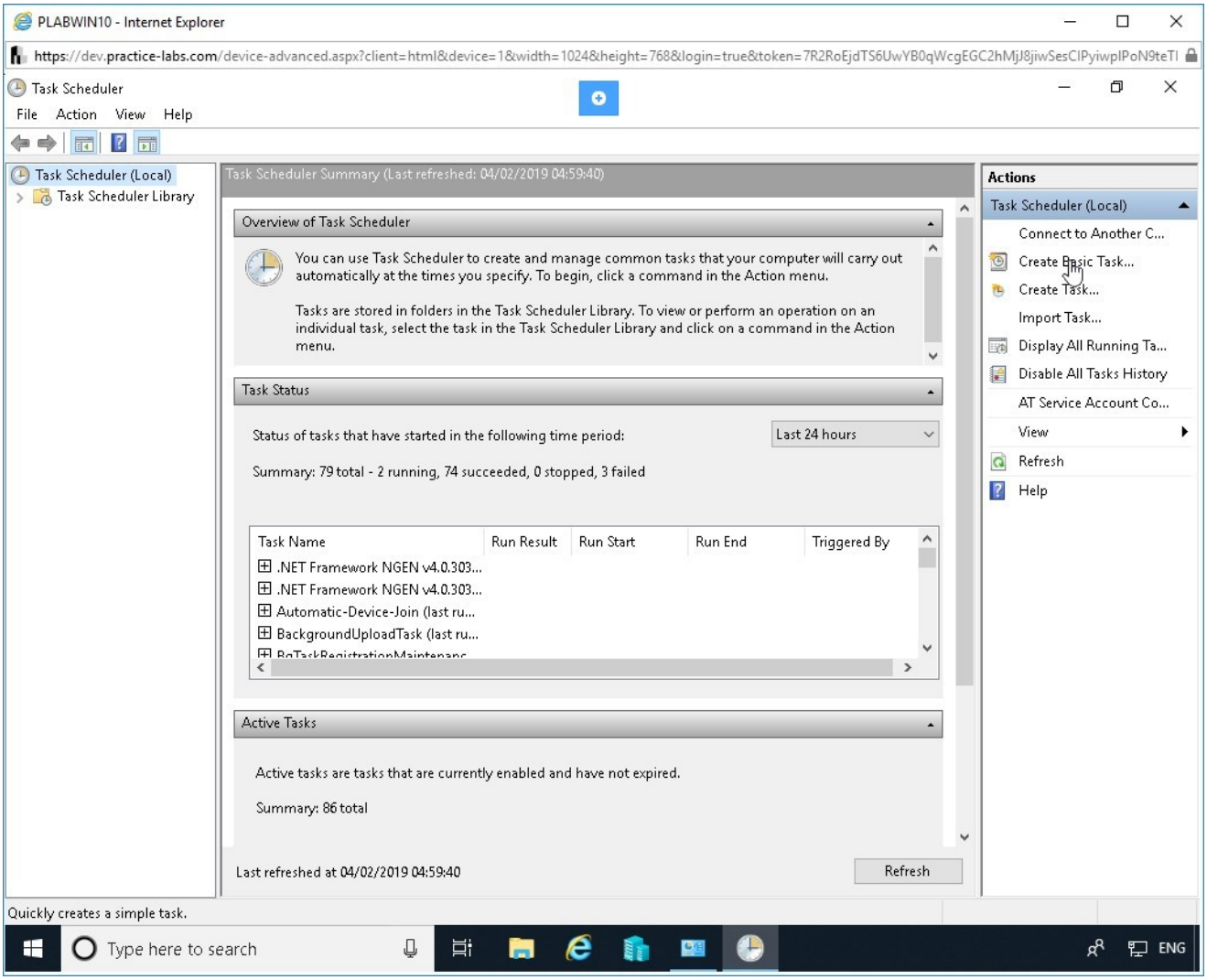


Figure 1.13 Screenshot of PLABWIN10: Clicking the Create Basic Task option

Step 3

The **Create Basic Task Wizard** is displayed.

On the **Create a Basic Task** page, in the **Name** section, type:

```
Starting Command Prompt
```

In the **Description**, type:

```
Automatically starts the command prompt when the system
boots.
```

Click **Next**.

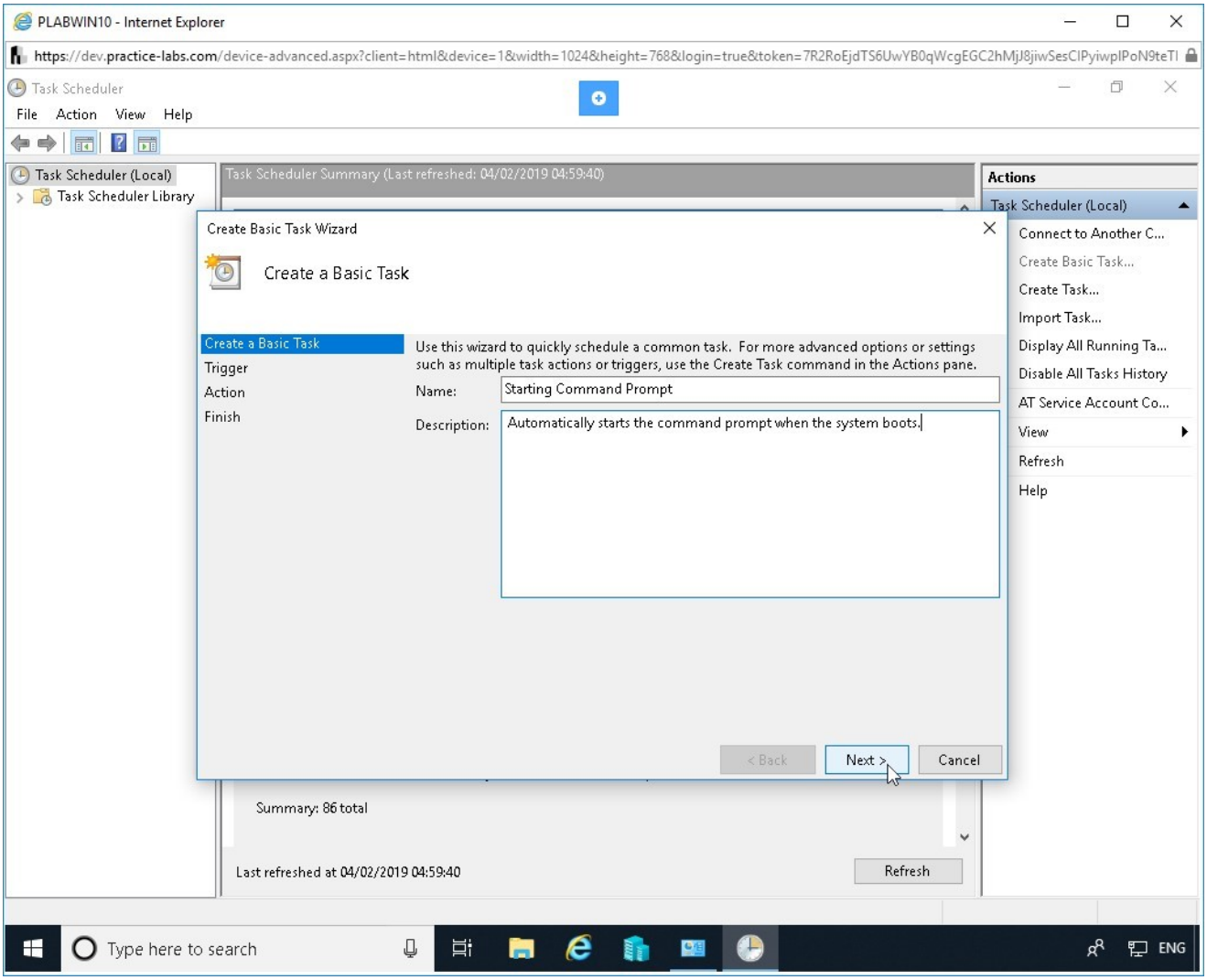


Figure 1.14 Screenshot of PLABWIN10: Adding value in the fields on the Create a Basic Task page.

Step 4

On the **Task Trigger** page, under the **When do you want the task to start?** question, select the **When the computer starts** option, and click **Next**.

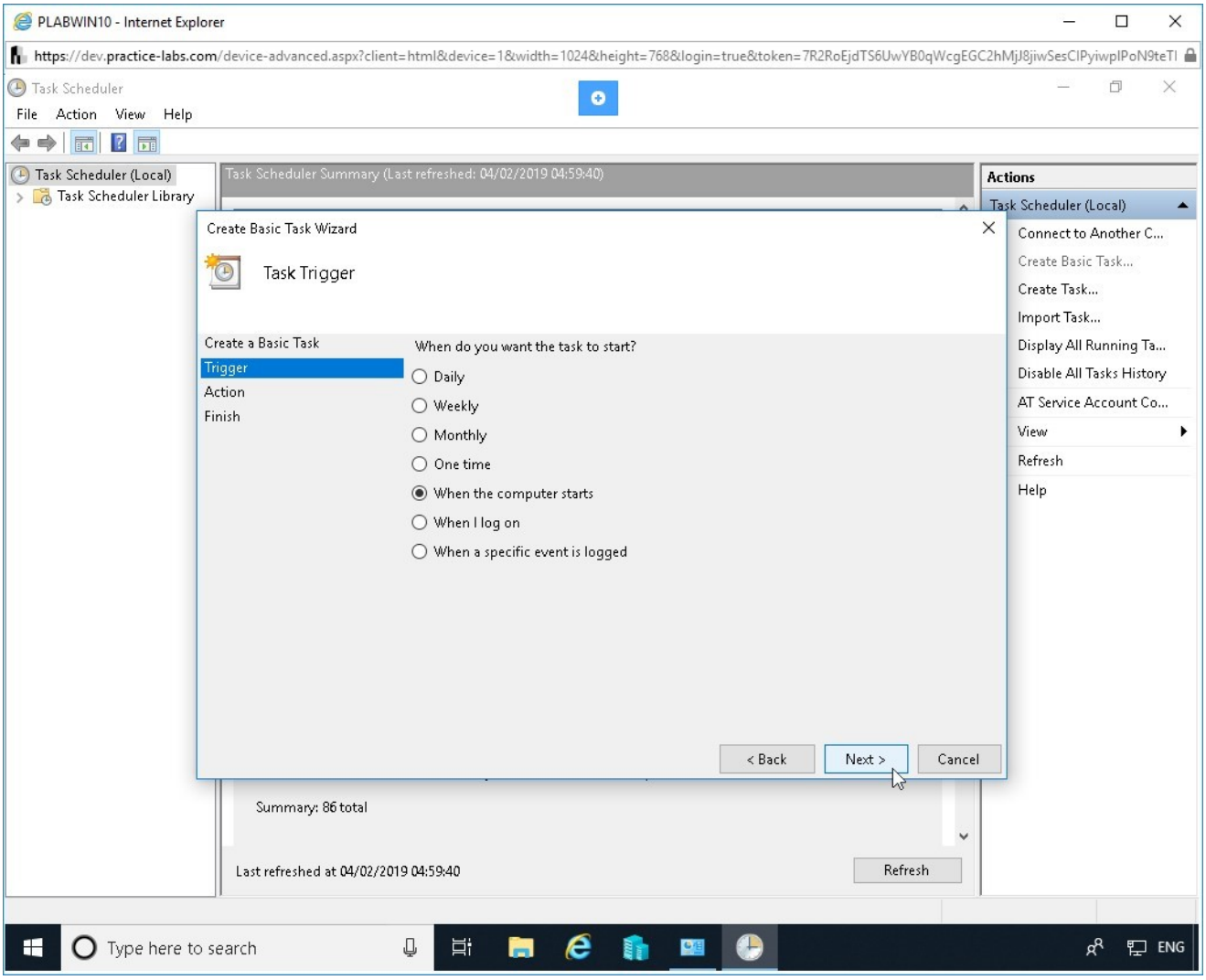


Figure 1.15 Screenshot of PLABWIN10: Selecting the task start on the Task Trigger page.

Step 5

On the **Action** page, ensure that the **Start a Program** option is selected, and click **Next**.

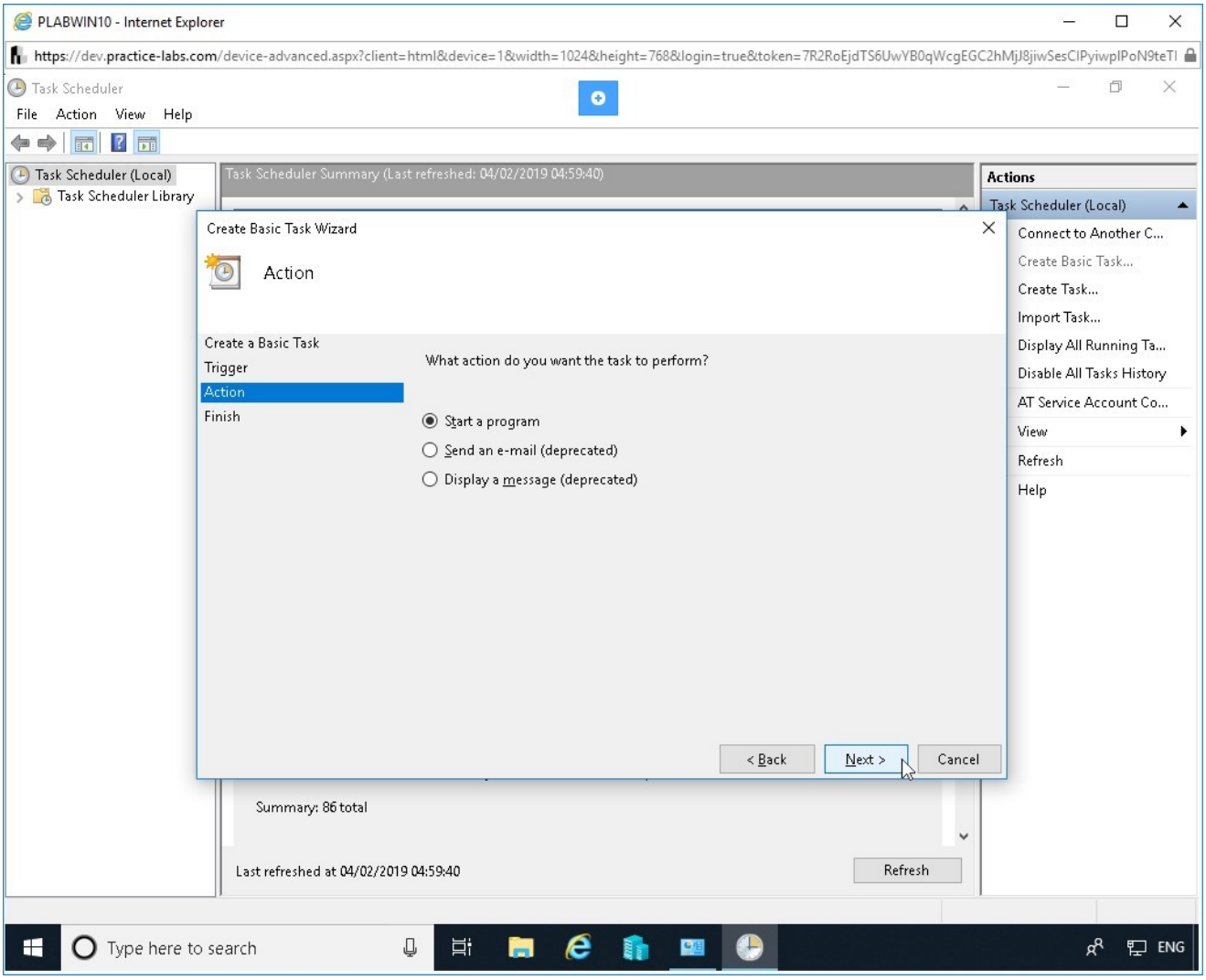


Figure 1.16 Screenshot of PLABWIN10: Keeping the Start a program selected and clicking Next.

Step 6

On the **Start a Program** page, click **Browse** to select the required program.

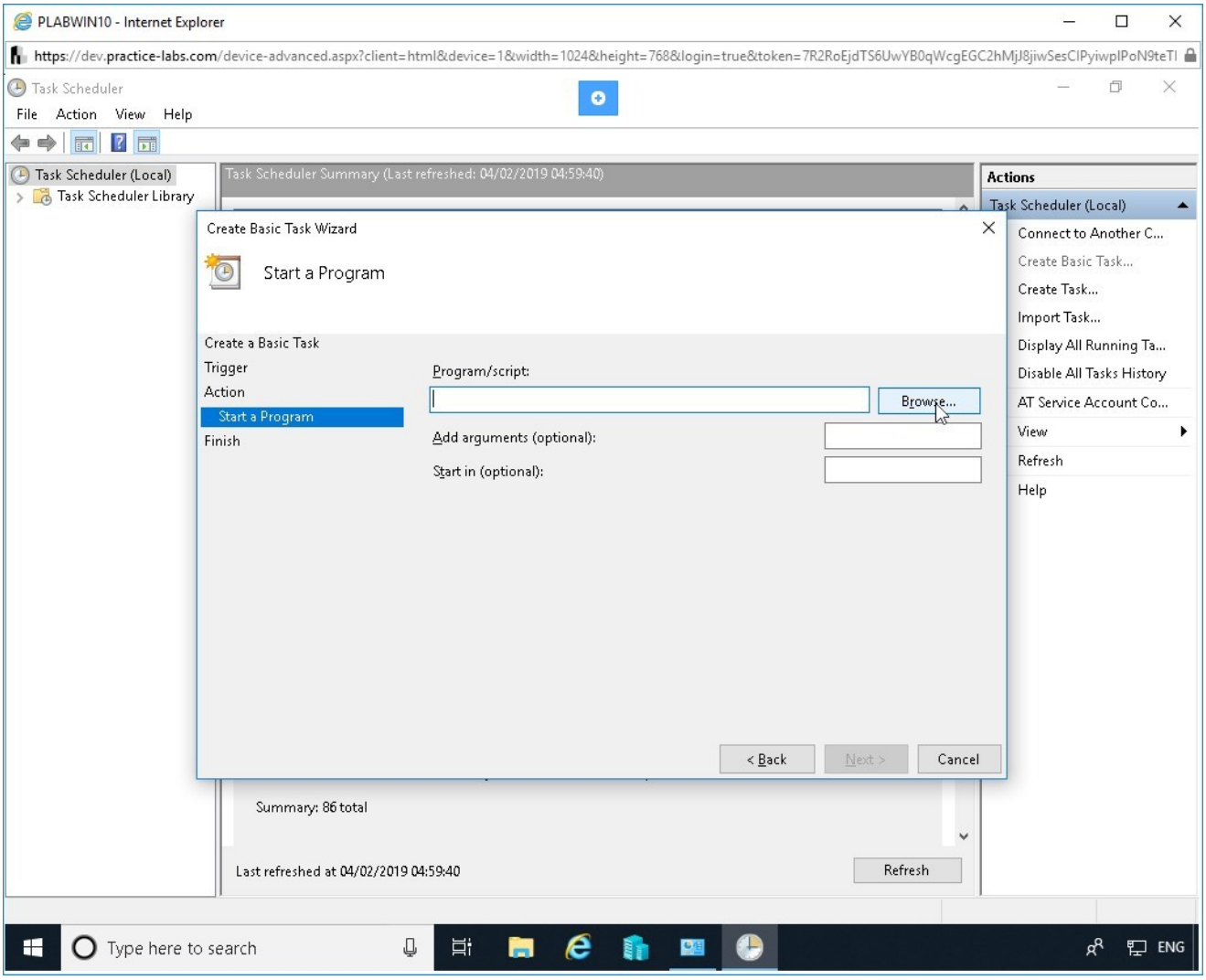


Figure 1.17 Screenshot of PLABWIN10: Clicking Browse on the Start a Program page.

Step 7

The **Open** dialog box is displayed.

Select the **Component Services** from the available options.

Click **Open.**

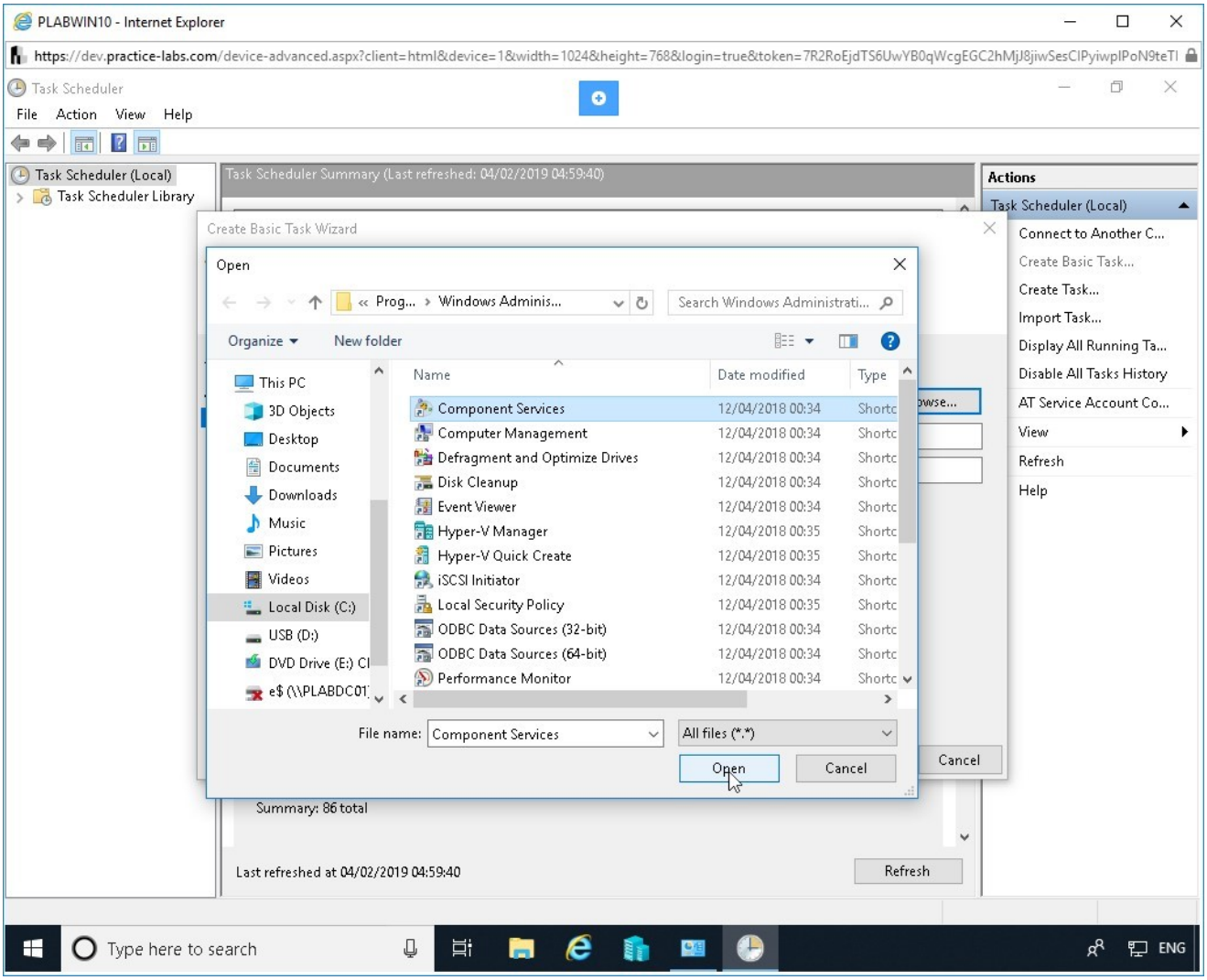


Figure 1.18 Screenshot of PLABWIN10: Selecting Component Services in the Open dialog box and then clicking Open.

Step 8

Back in the **Start a Program** page, notice that the selected program is now listed for a scheduled startup.

Click **Next**.

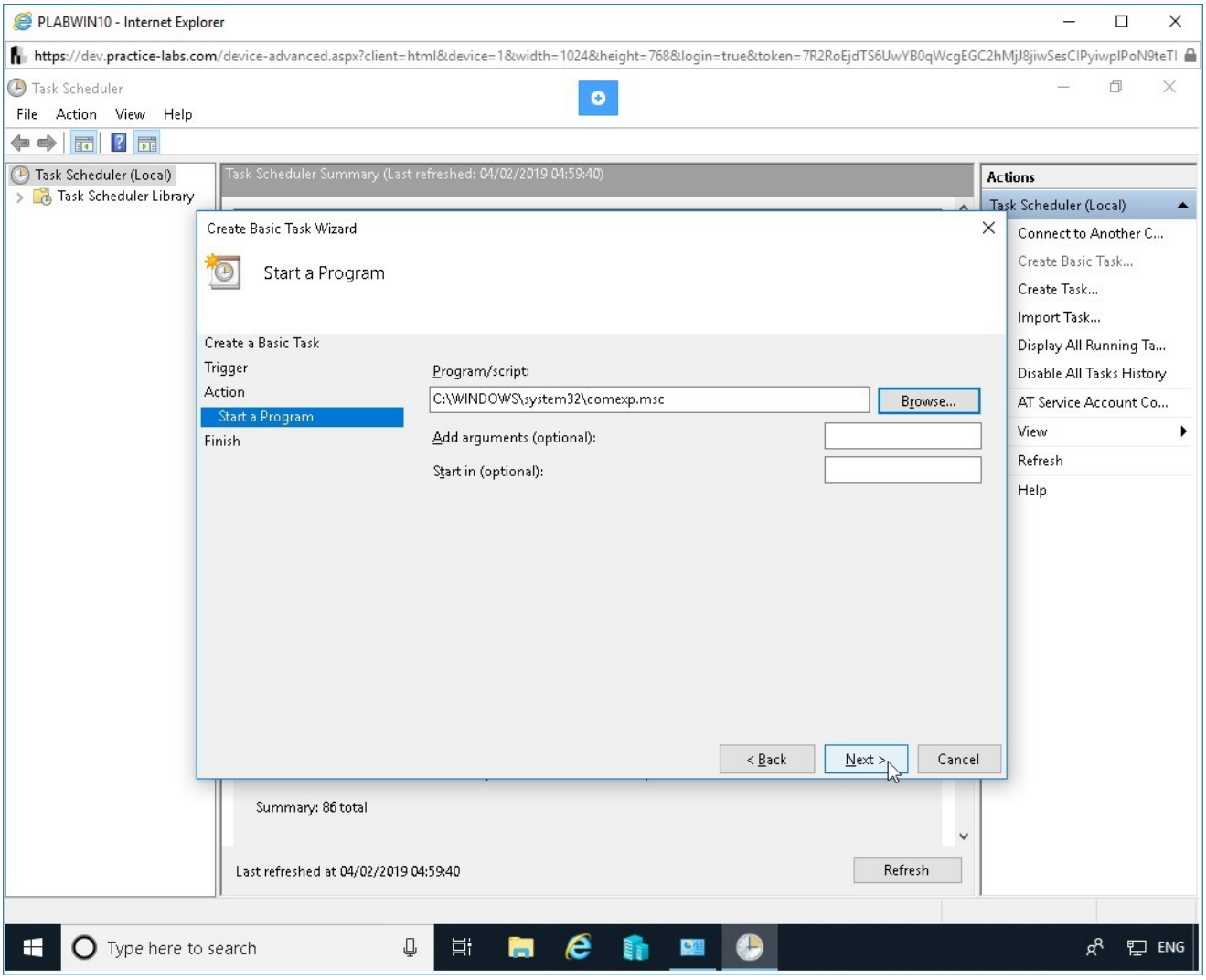


Figure 1.19 Screenshot of PLABWIN10: Clicking Next after adding a program on the Start a Program page.

Step 9

The **Summary** page is displayed listing a summary of the specifications for the task scheduling activity.

Click **Finish** to create a task in the **Windows scheduler**.

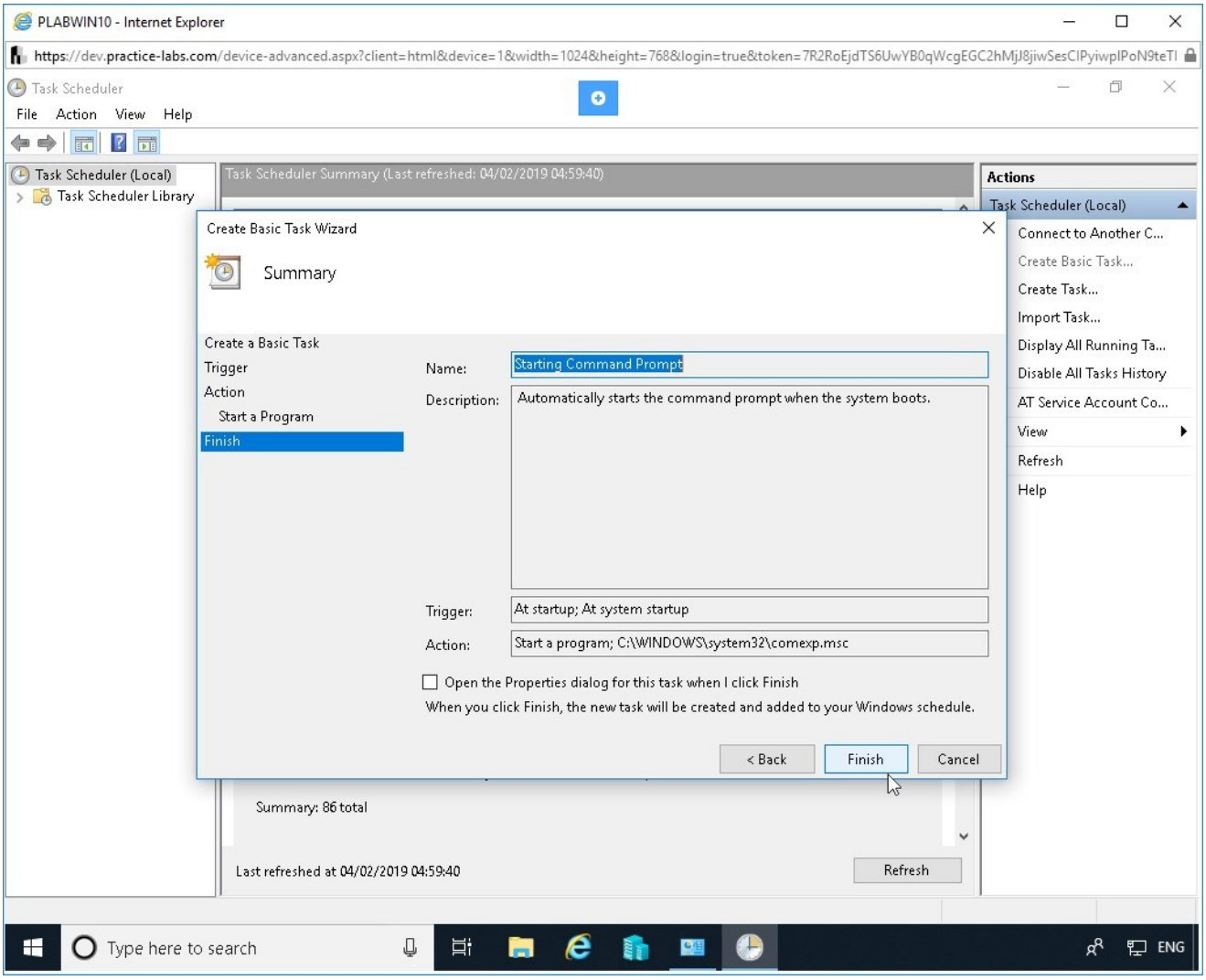


Figure 1.20 Screenshot of PLABWIN10: Showing the Summary page on the Create Basic Task Wizard and showing the Finish button highlighted.

Step 10

You are back on the **Task Scheduler** window.

Tasks are stored as files in the **Task Scheduler Library**.

To view the newly created task, select the **Task Scheduler Library** node in the left pane

All the tasks are listed in the middle pane. Notice that the Starting Command Prompt task is also listed.

Close the **Task Scheduler** window.

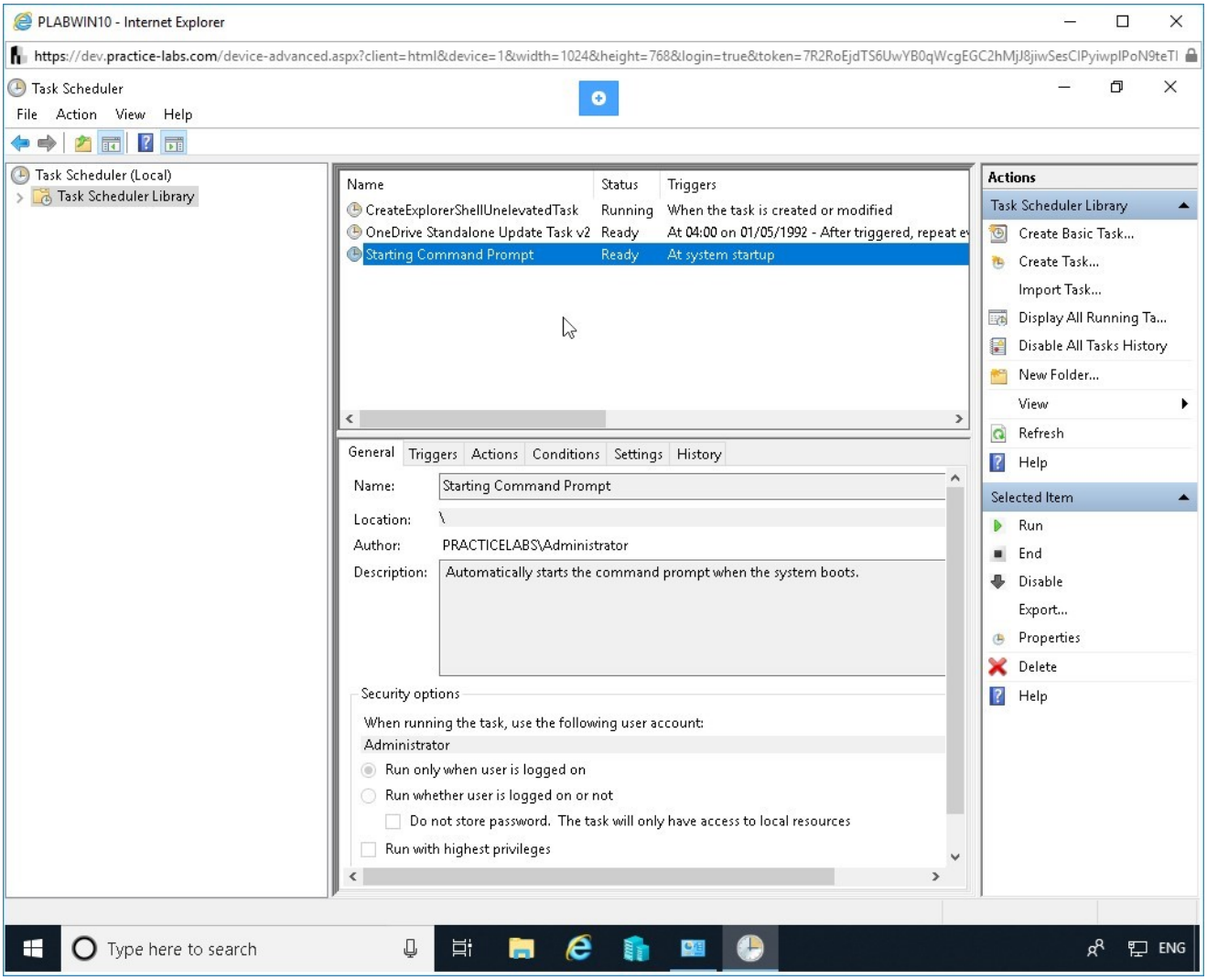


Figure 1.21 Screenshot of PLABWIN10: Showing the newly created task listed on the middle pane of the Task Scheduler console.

Task 4 - Explore Print Management Properties

The print management option of **Administrative Tools** allows you to view the overall status of various printers associated with the computer system. It allows you to access printer properties, configure print-related settings, and view print server-related information. In addition, it allows you to view information such as which printer(s) is ready/not ready, which printer(s) is currently assigned a job(s), and the length of the print job queue.

In this task, you will observe the properties of one of the printers configured on the system.

Step 1

Ensure that the **Administrative Tools** window is displayed.

Double-click **Print Management**.

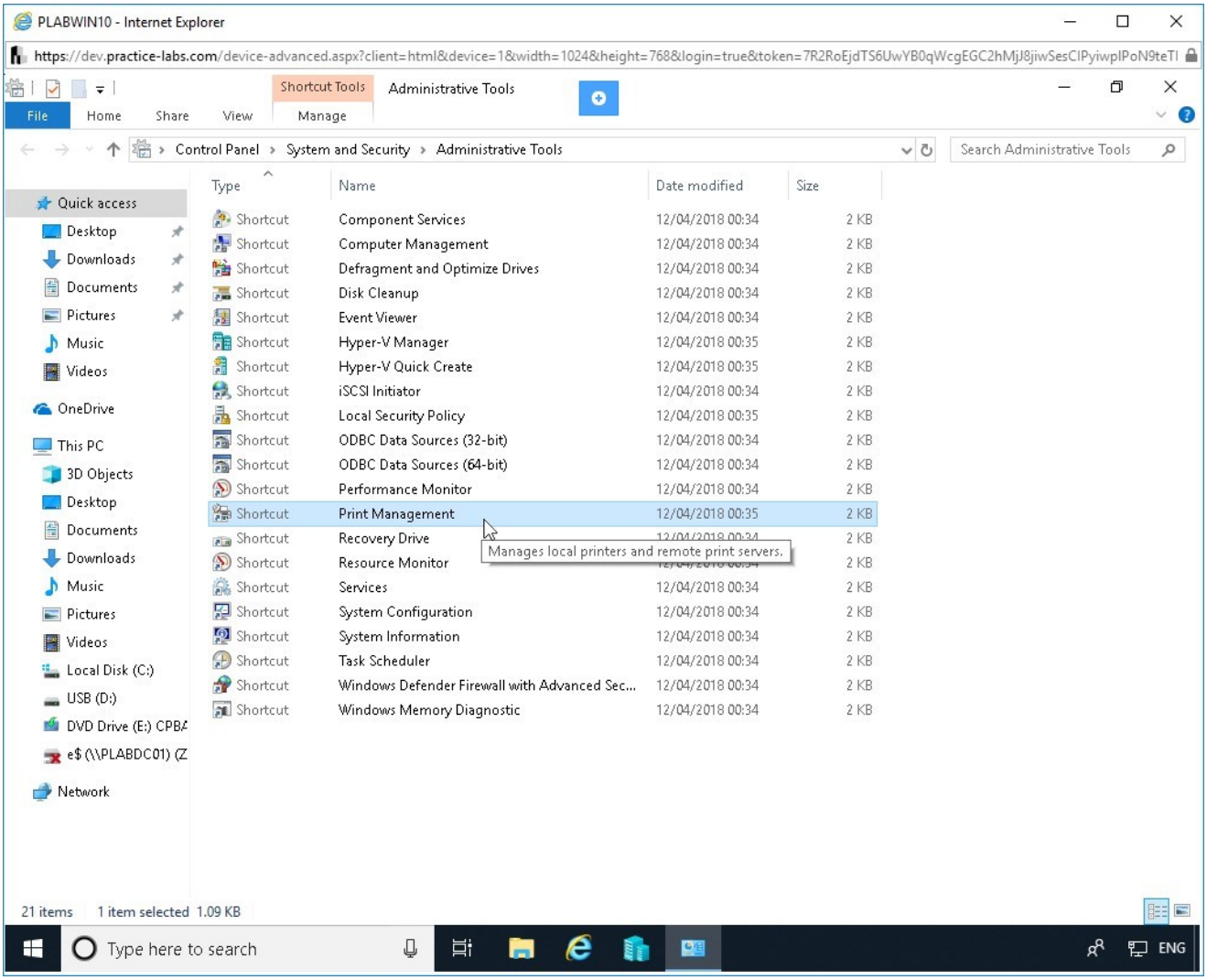


Figure 1.22 Screenshot of PLABWIN10: Double-clicking Print Management in the Administrative Tools window.

Step 2

The **Print Management** console is displayed.

Under the **Custom Filters** section, select **All Printers** in the left pane.

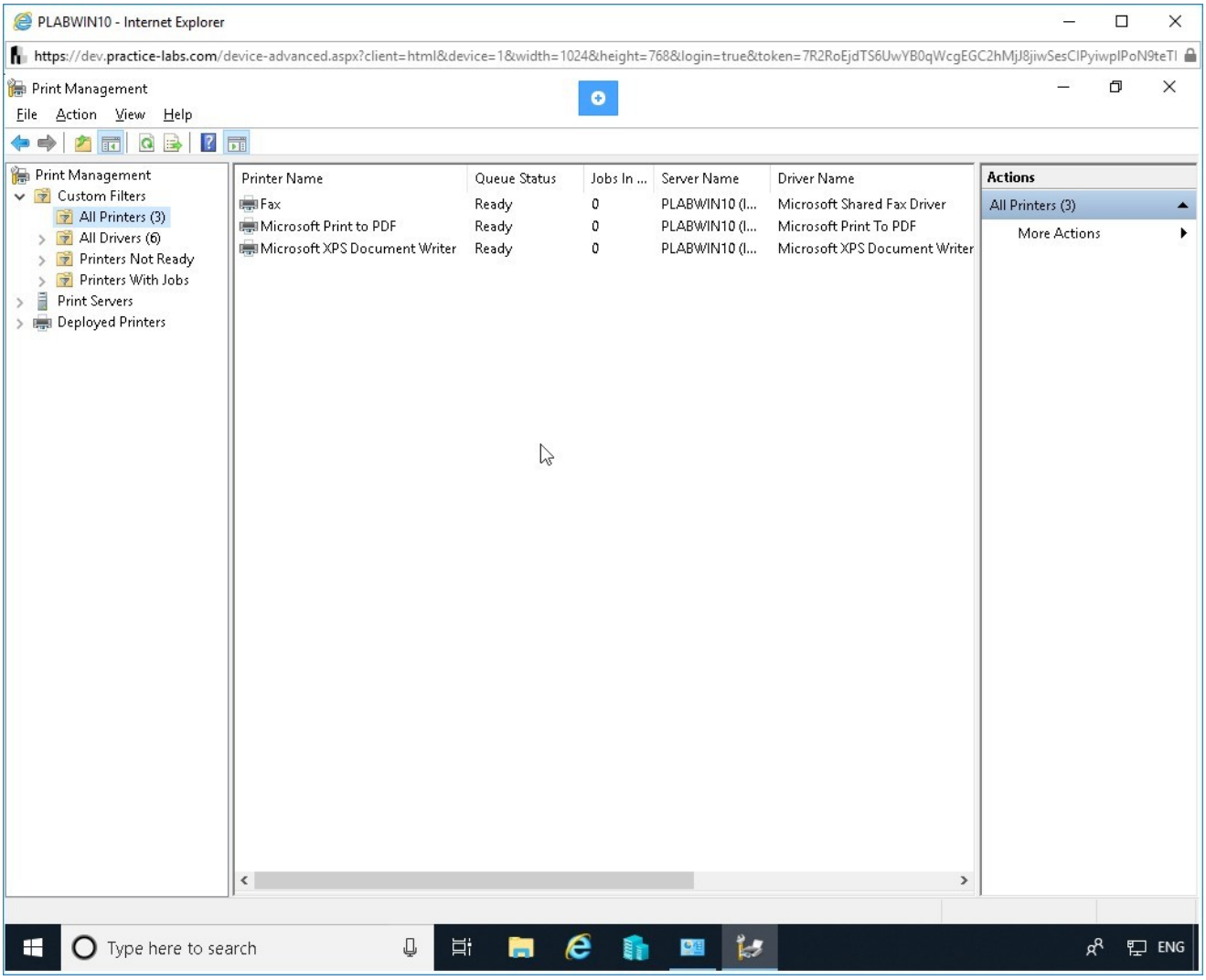


Figure 1.23 Screenshot of PLABWIN10: Showing the Print Management window with the All Printers node selected in the left pane.

Step 3

All the printers configured on the system are now listed on the middle pane of the **Print Management** console.

Right-click **Fax** and select **Properties**.

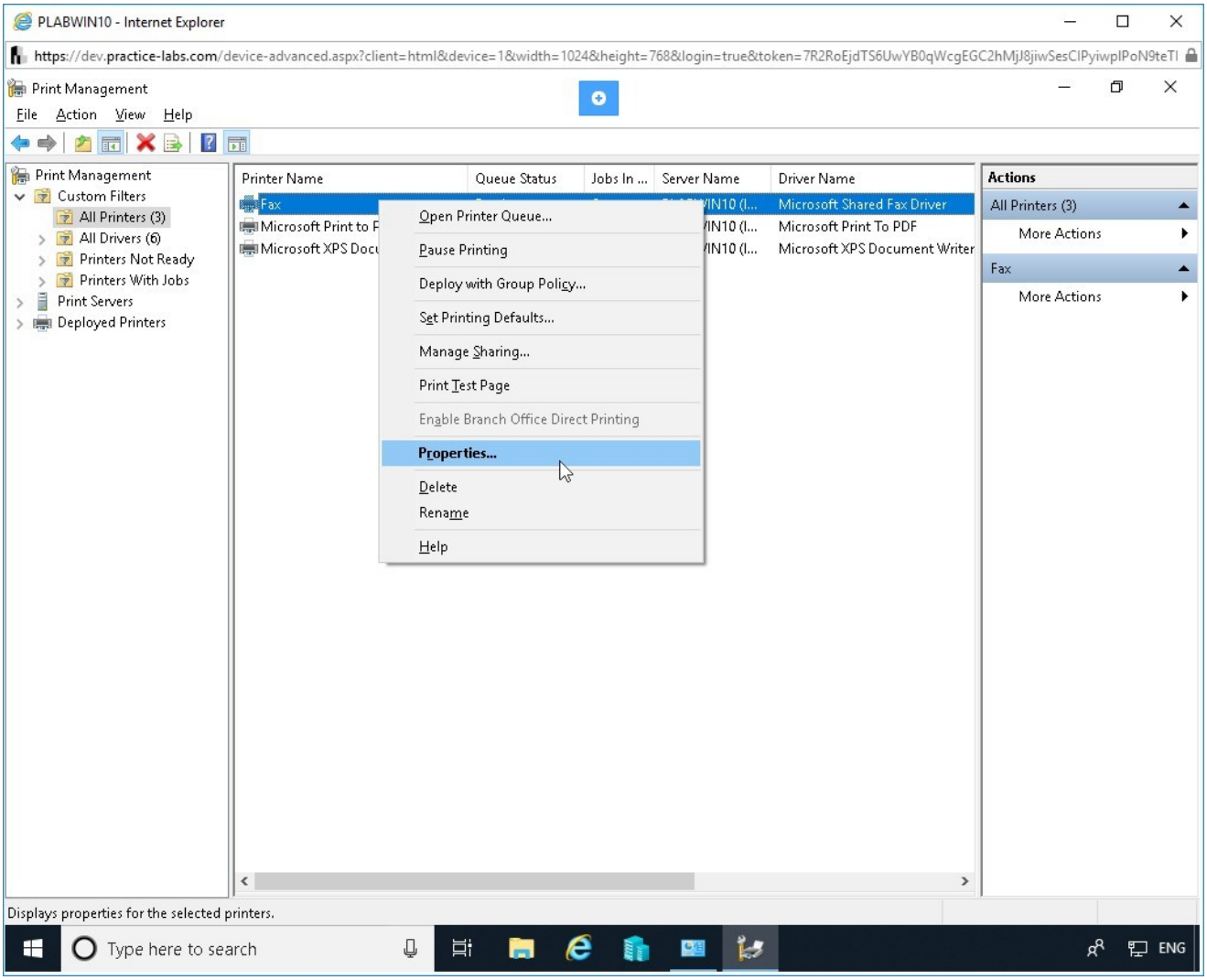


Figure 1.24 Screenshot of PLABWIN10: Showing the Context menu after right-clicking Fax and then selecting Properties.

Step 4

The **Fax Properties** dialog box is displayed. Notice that there are four tabs:

- **General**: Allows you to configure page layout settings.
- **Sharing**: Displays the sharing options. For Fax, even though the tab is listed, you cannot share a Fax.
- **Color Management**: Allows you to configure the color related settings.
- **Security**: Allows you to configure permissions.

Click **Preferences**.

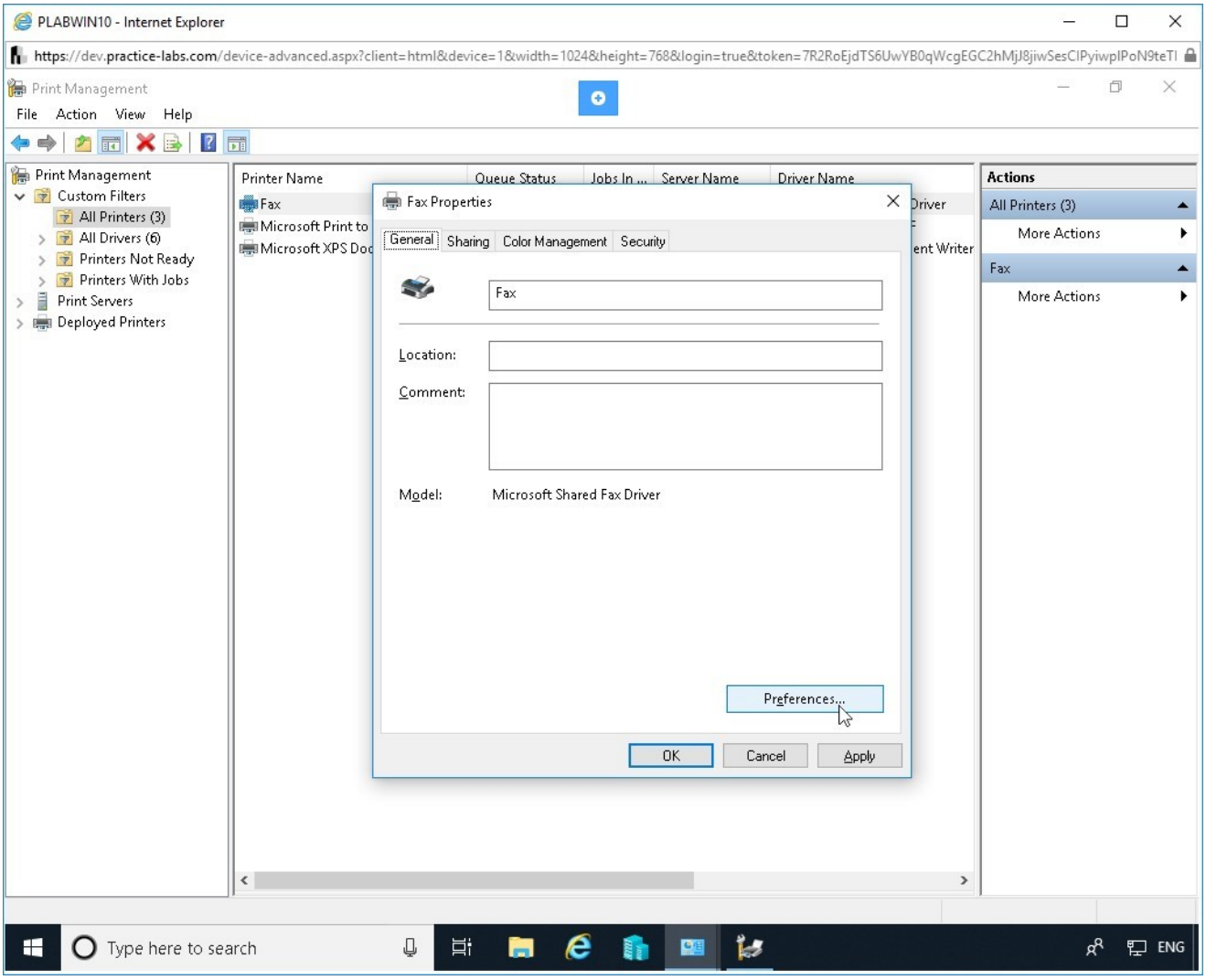


Figure 1.25 Screenshot of PLABWIN10: Showing the Fax Properties dialog box and showing the Preferences button highlighted.

Step 5

The **Fax Printing Properties** dialog box is displayed.

From the **Paper size** drop-down list, select **A4 Small** and click **OK**.

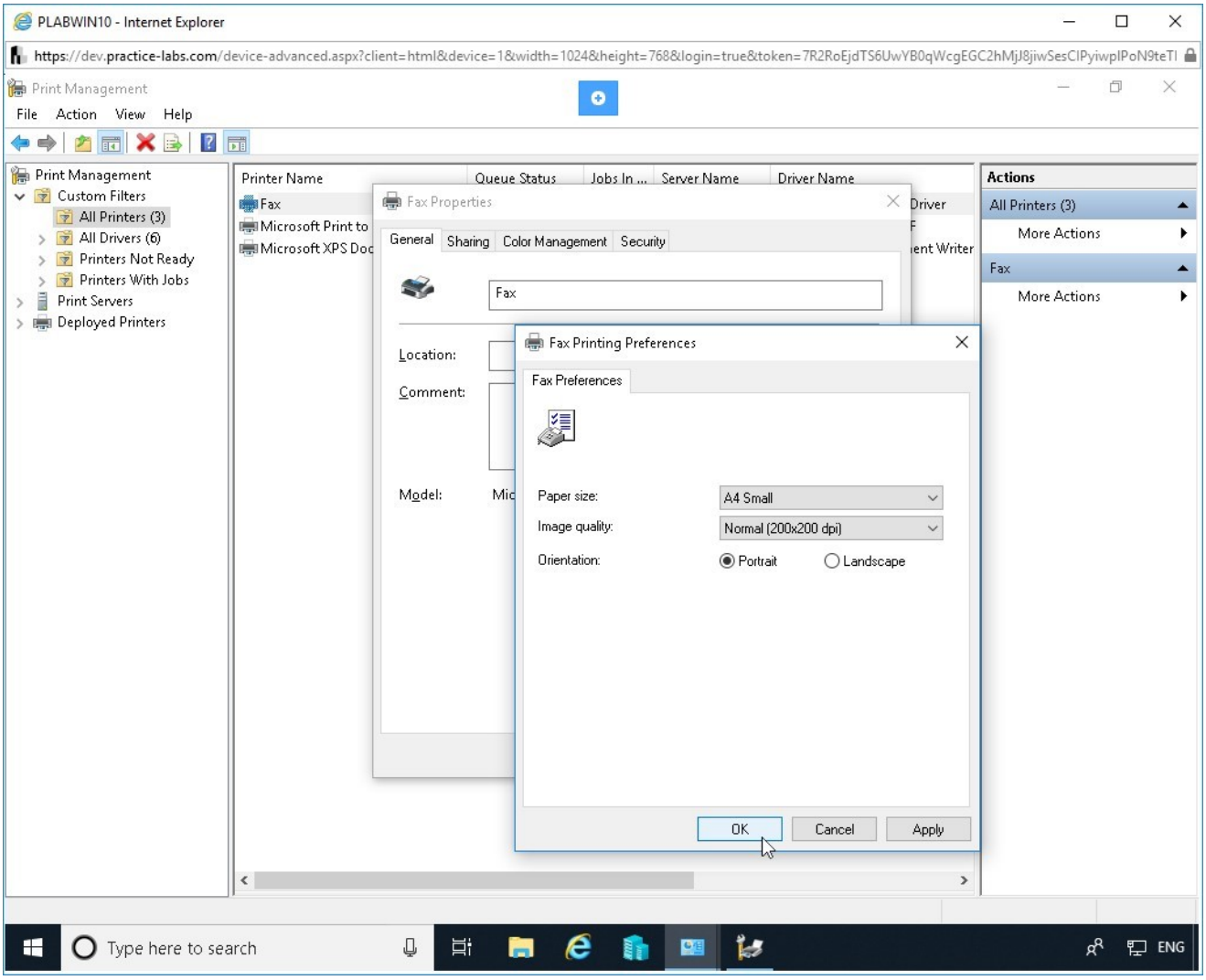


Figure 1.26 Screenshot of PLABWIN10: Showing the Fax Printing Preferences dialog box and showing the OK button highlighted.

Step 6

Back on the **Fax Properties** dialog box, click **OK**.

Close the **Print Management** window.

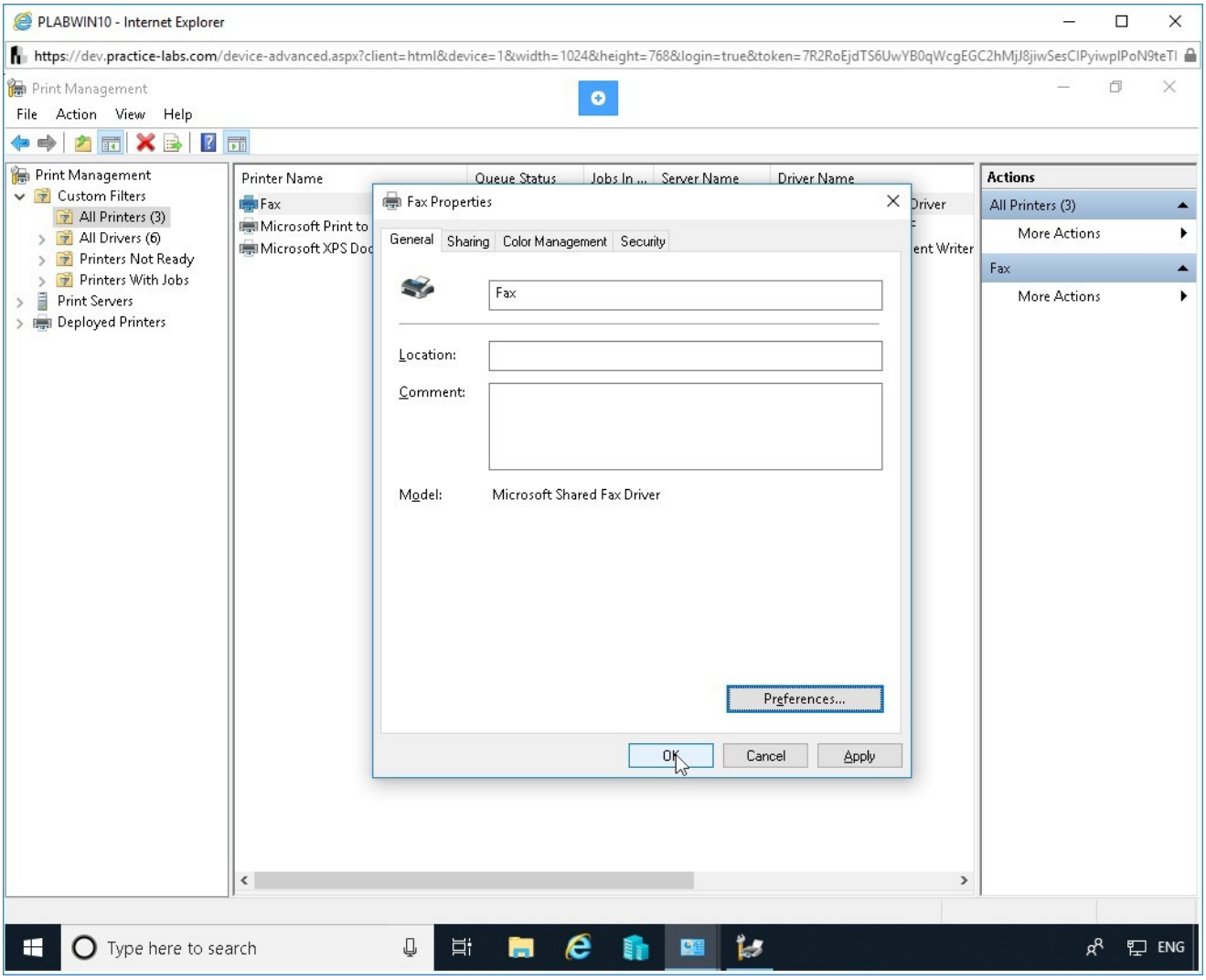


Figure 1.27 Screenshot of PLABWIN10: Showing the OK button highlighted on the Fax Properties dialog box.

Task 5 - Configure Windows Memory Diagnostics

Windows Memory Diagnostics is a Windows tool that can scan the system memory at the booting time. This scan is more thorough than a similar scan performed by the BIOS system. Therefore, a scan by the **Windows Memory Diagnostics** tool is more reliable and is able to identify more threats than the BIOS scan.

In this task, you will configure the **Windows Memory Scan** to scan the memory whenever the computer starts-up next.

Step 1

Ensure that the **Administrative Tools** window is displayed.

Select the **Windows Memory Diagnostic** option.

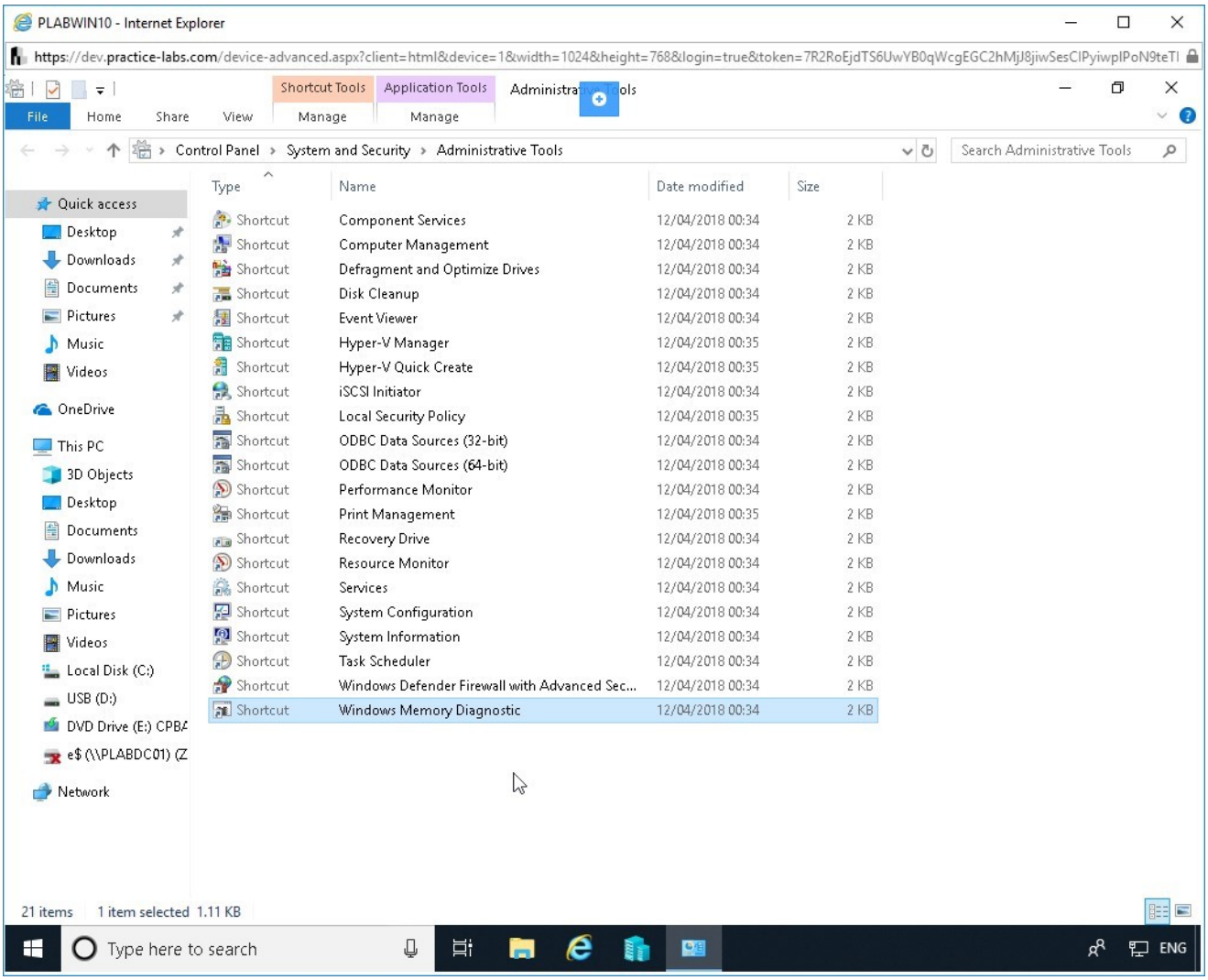


Figure 1.28 Screenshot of PLABWIN10: Double-clicking Windows Memory Diagnostic in the Administrative Tools window.

Step 2

The **Check your computer for memory problems** dialog box is displayed.

Click the **Check for problems the next time I start my computer** option.

A scan will be performed when the computer system starts-up the next time.

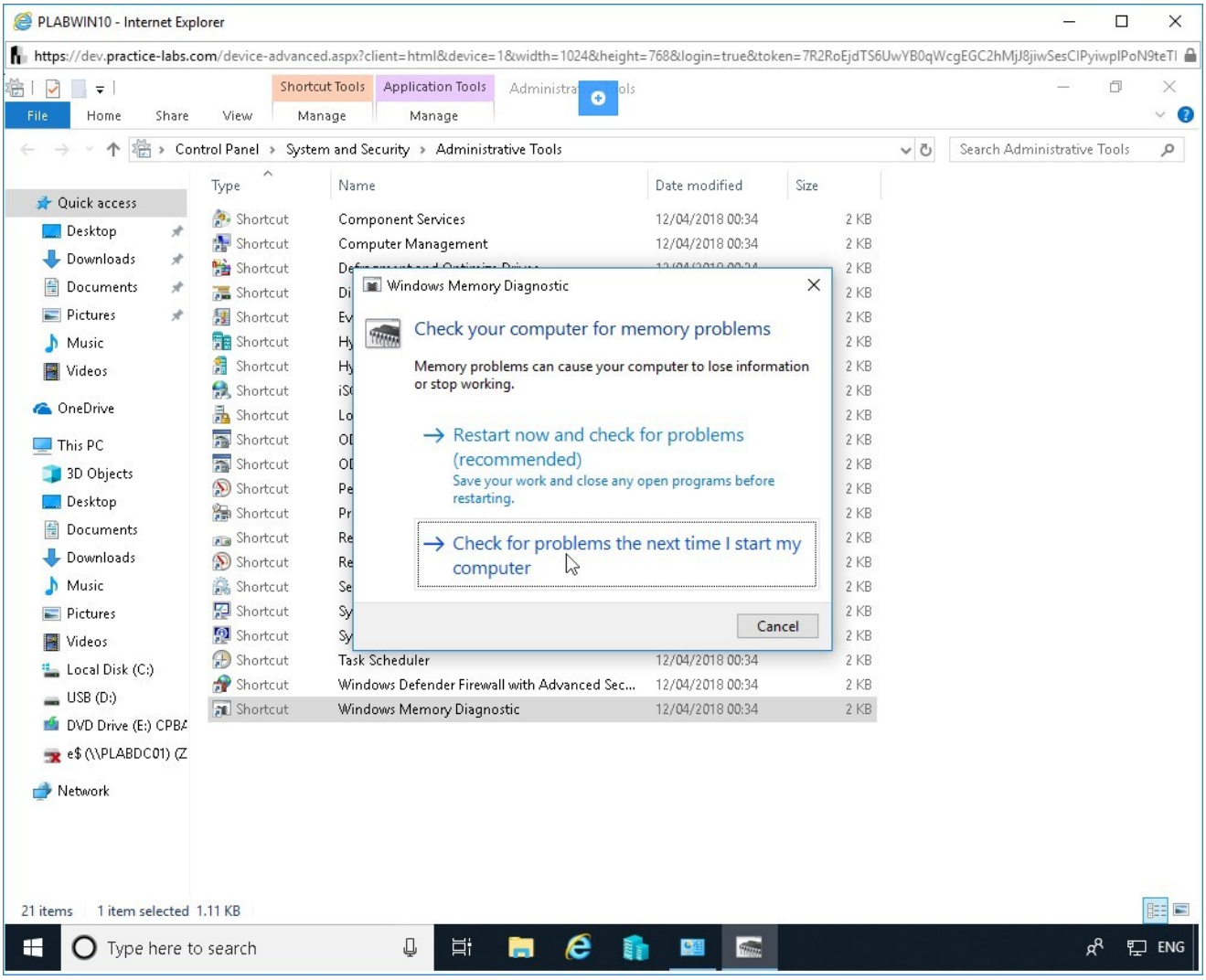


Figure 1.29 Screenshot of PLABWIN10: Clicking the Check for problems the next time I start my computer option in the Windows Memory Diagnostic dialog box.

Step 3

The memory test was scheduled successfully dialog box is displayed confirming the memory diagnostic setup.

Click **Close** to exit the dialog box.

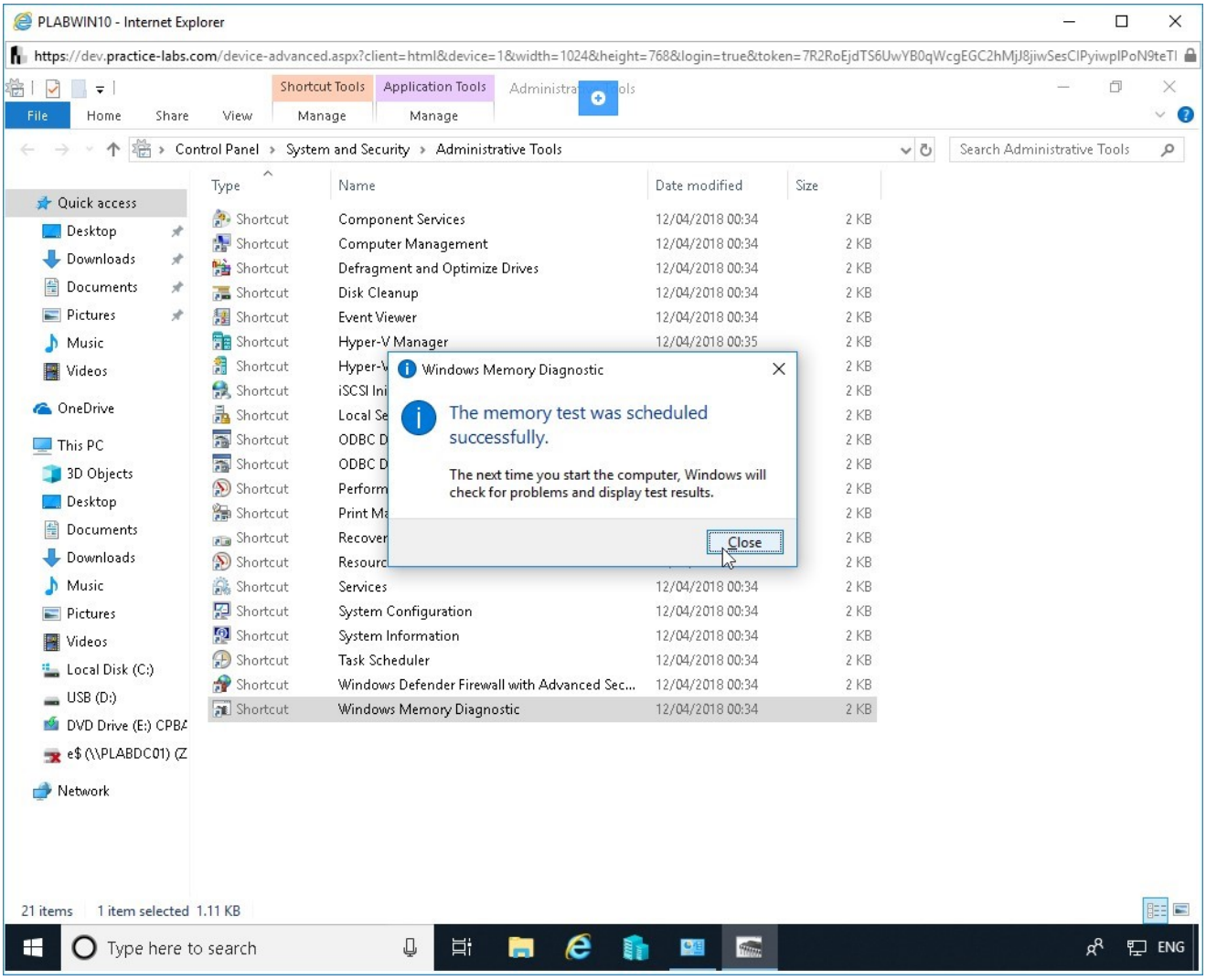


Figure 1.30 Screenshot of PLABWIN10: Displaying the Windows Memory Diagnostic dialog box with the Close button highlighted.

Task 6 - Explore Component Services

Component Services tool is a part of the **Administrative Tools** console. **Component services** enable you to configure and administer various COM/DCOM applications and components on the computer.

> ***Note:*** *To understand COM/DCOM further, refer to the following URL: https://bit.ly/2RXLFDc*

In this task, you will explore the **Component Services** configuration on the system.

Step 1

Ensure that the **Administrative Tools** window is displayed.

Double-click **Component Services**.

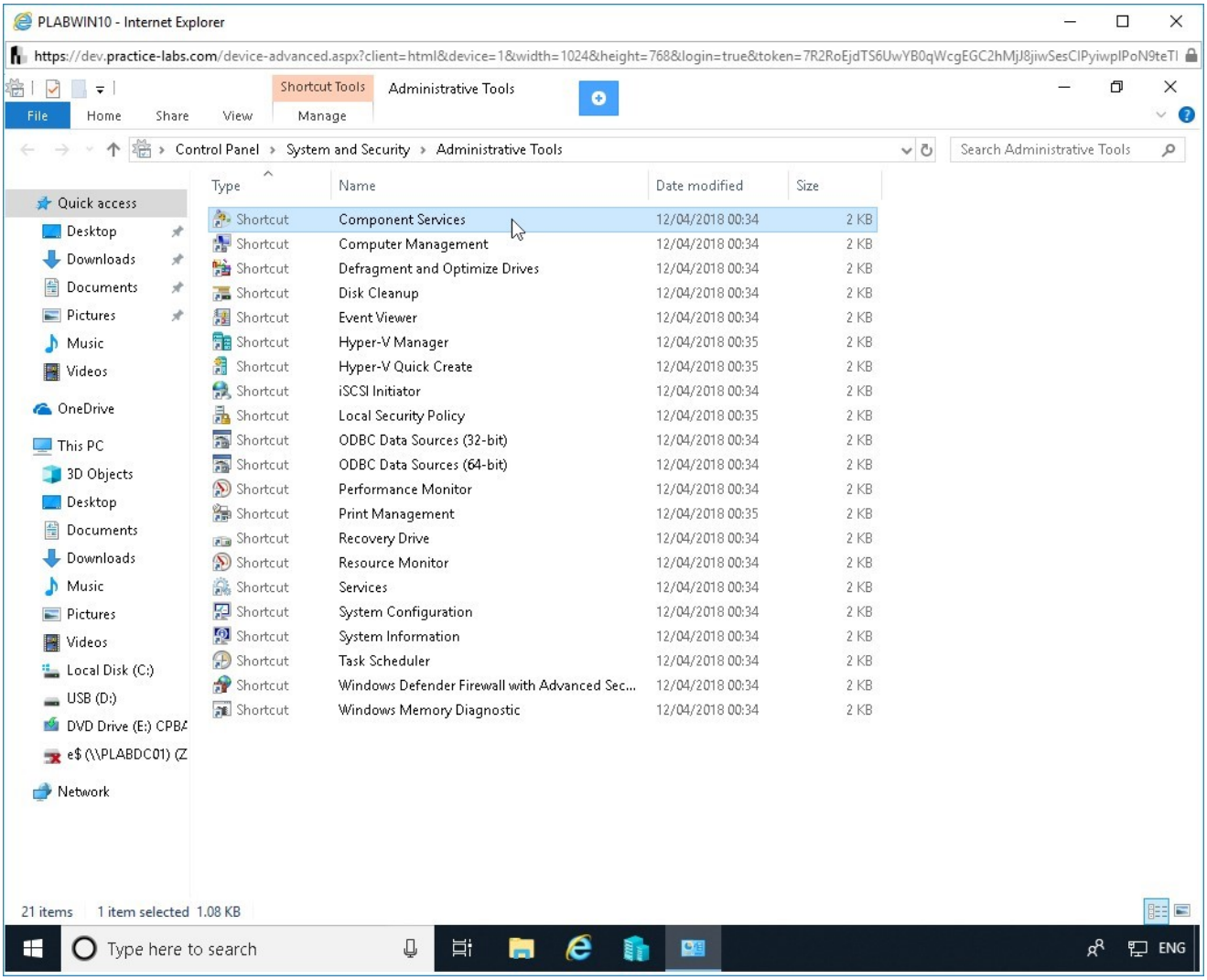


Figure 1.31 Screenshot of PLABWIN10: Double-clicking Component Services in the Administrative Tools window.

Step 2

The **Component Services** window is displayed.

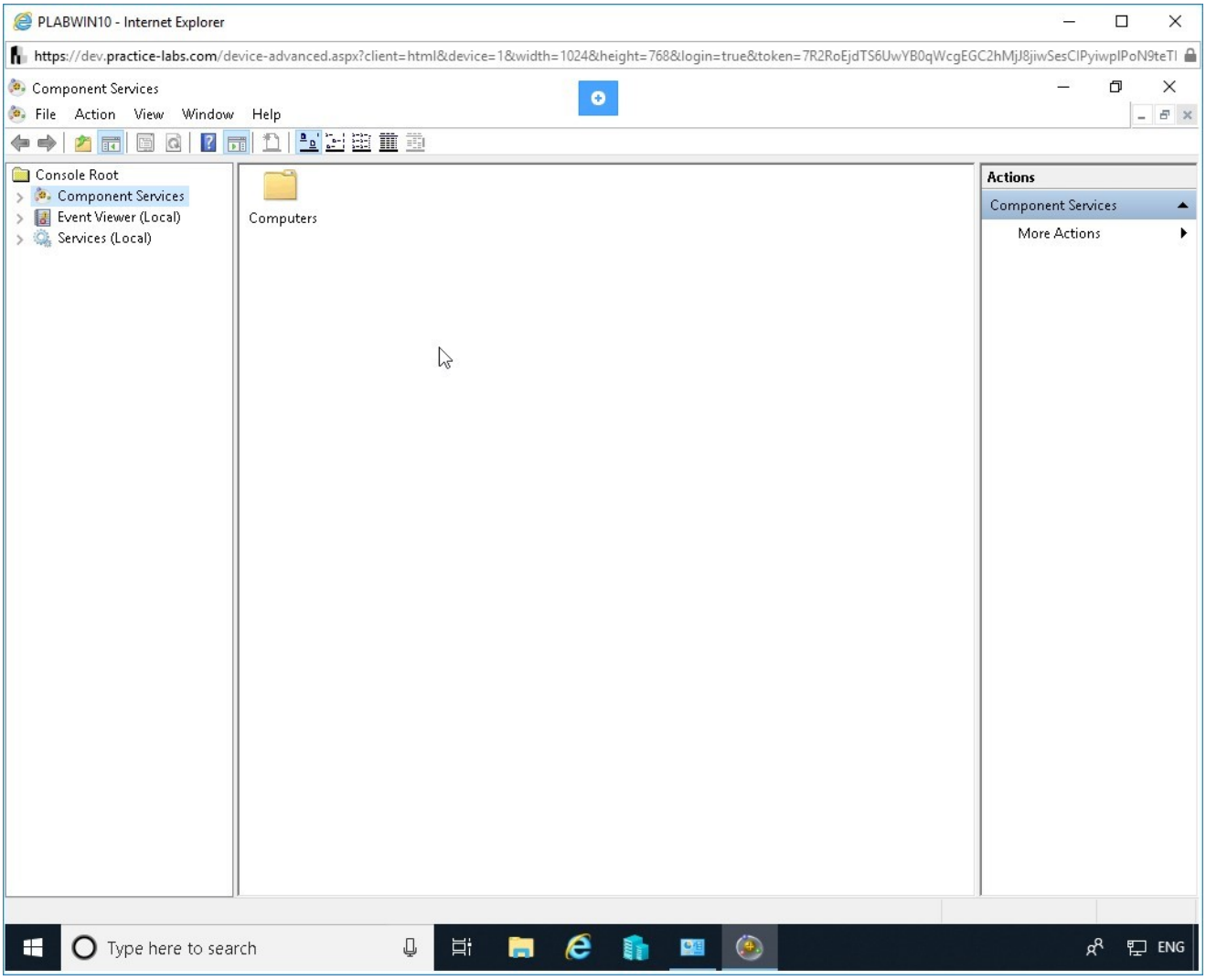


Figure 1.32 Screenshot of PLABWIN10: Showing the Component Services console.

Step 3

On the **Console Root** panel at the left, the **Component Services** node is selected by default. Expand **Component Services**, expand **Computers**, and then select **My Computer**.

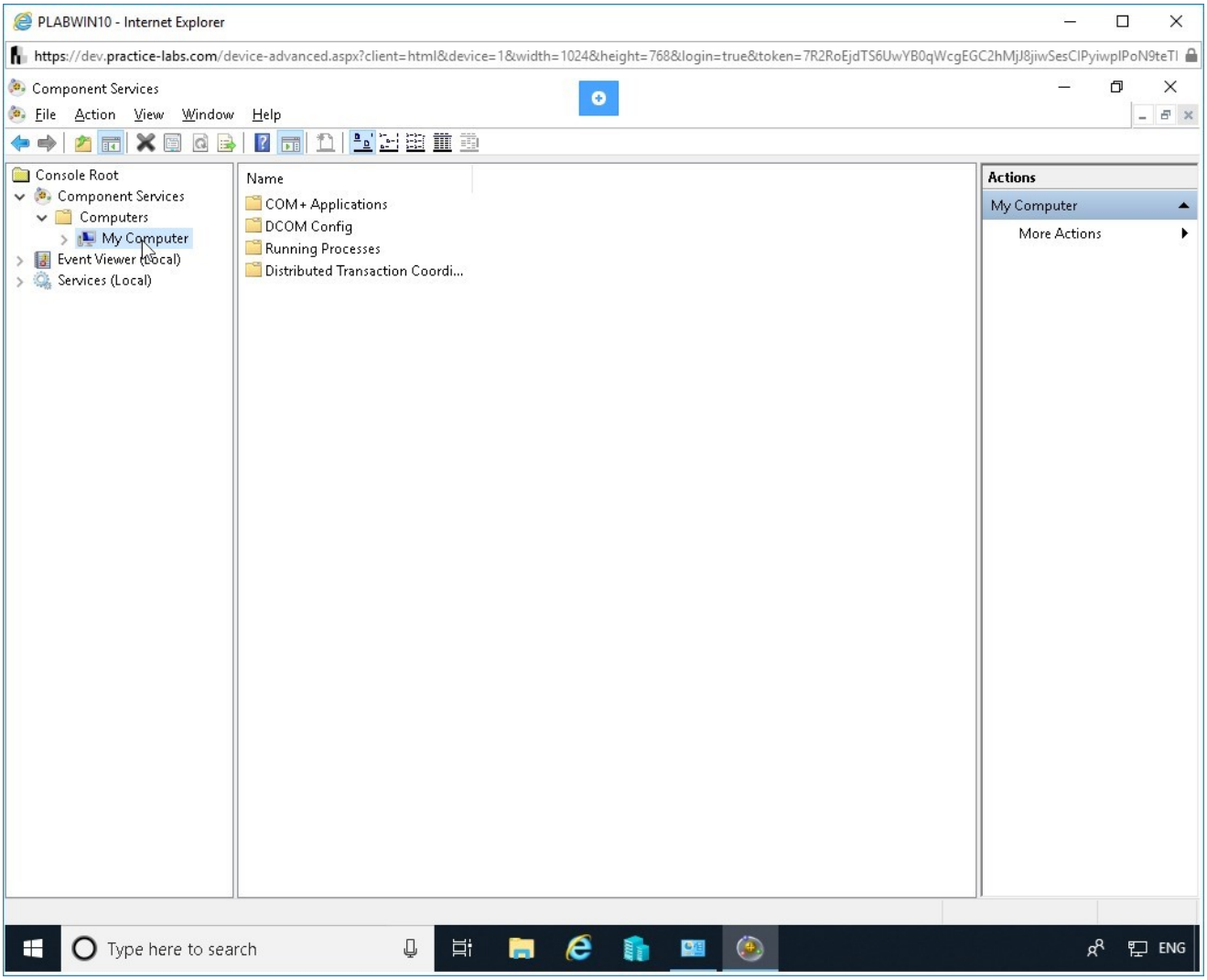


Figure 1.33 Screenshot of PLABWIN10: Selecting Component Services > Computers > My Computer node in the Component Services window.

Step 4

On the **Name** panel in the middle, notice that the COM/DCOM components, apps, and processes are listed that can be managed.

Close the **Component Services** window.

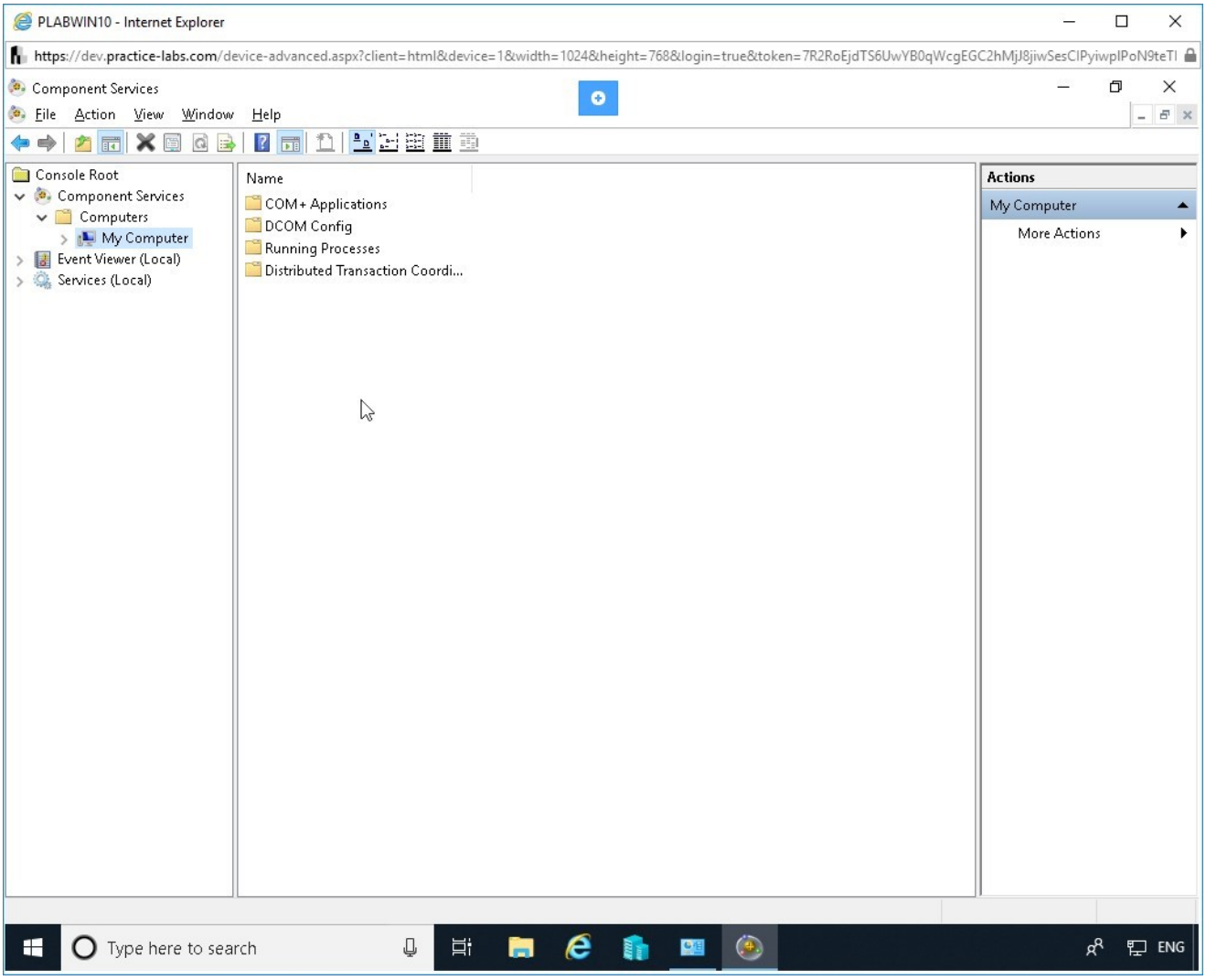


Figure 1.34 Screenshot of PLABWIN10: Displaying the components in the middle pane.

Task 7 - Add a Data Source to a Listed Driver

Configuring ODBC data source is the most convenient way of connecting to a database.

Note: You can also connect to a database by using a connection string.

Data source configuration connects a database to one of the available ODBC driver(s), which use Open Database Connectivity (ODBC) interface. With the help of ODBC interface, an application can connect to a database. The added data source is then available for use by any ODBC-enabled application.

You can configure multiple data sources for each installed driver.

In this task, you will add a listed database to one of the listed drivers.

Step 1

Ensure that the **Administrative Tools** window is displayed.

Double-click **ODBC Data Sources** (64-bit).

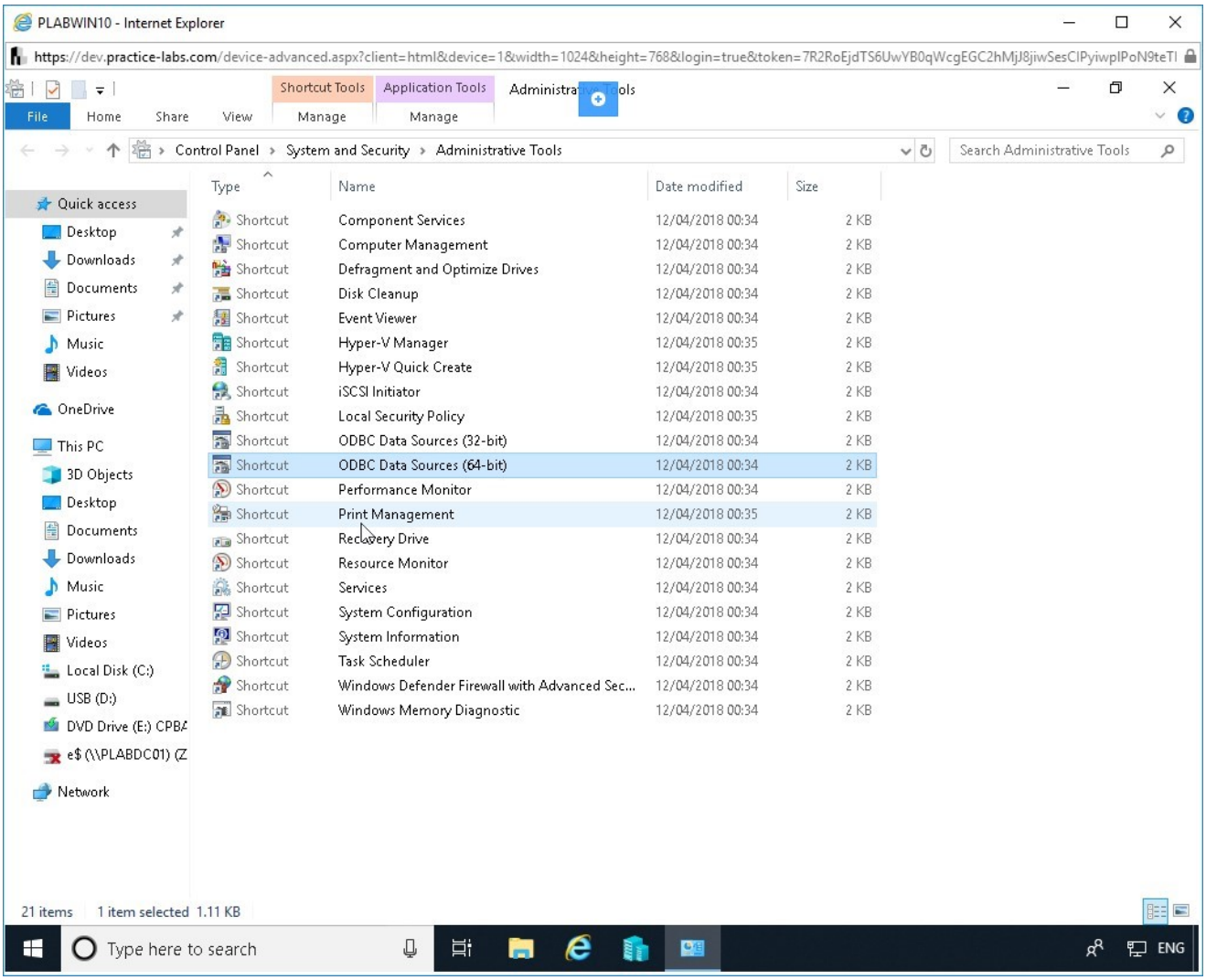


Figure 1.35 Screenshot of PLABWIN10: Double-clicking ODBC Data Sources in the Administrative Tools window.

Step 2

The **ODBC Data Source Administrator** dialog box is displayed.

Notice that the **User DSN** tab is displayed by default.

Click **Add** to add a data source.

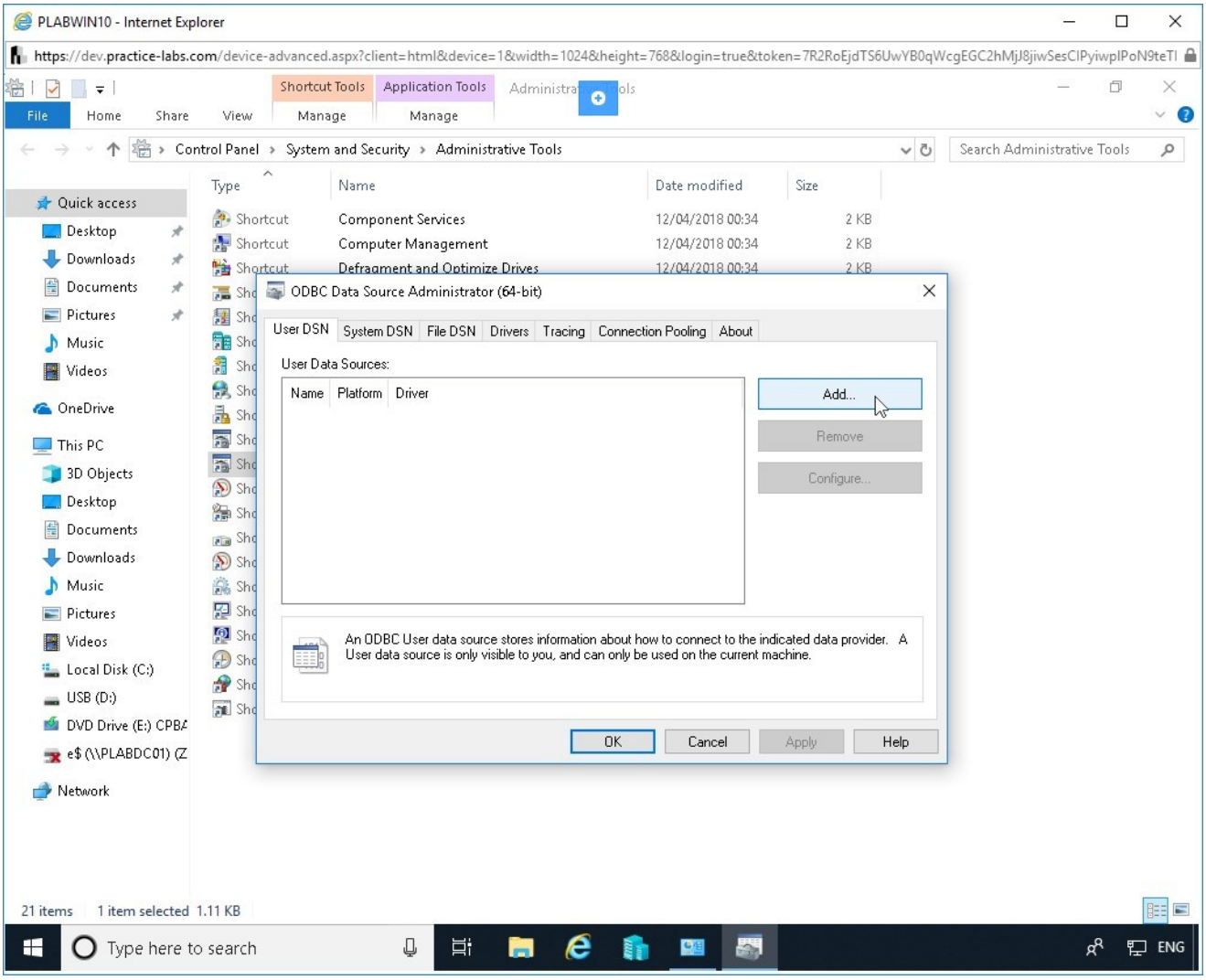


Figure 1.36 Screenshot of PLABWIN10: Showing the User DSN tab of the ODBC Data Source Administrator dialog box with the Add button highlighted.

Step 3

The **Create New Data Source** dialog box is displayed.

This dialog box lists all the ODBC drivers installed on your system. You can select the one to add.

For this task, select **SQL Server**.

Click **Finish** to save the settings and exit the dialog box.

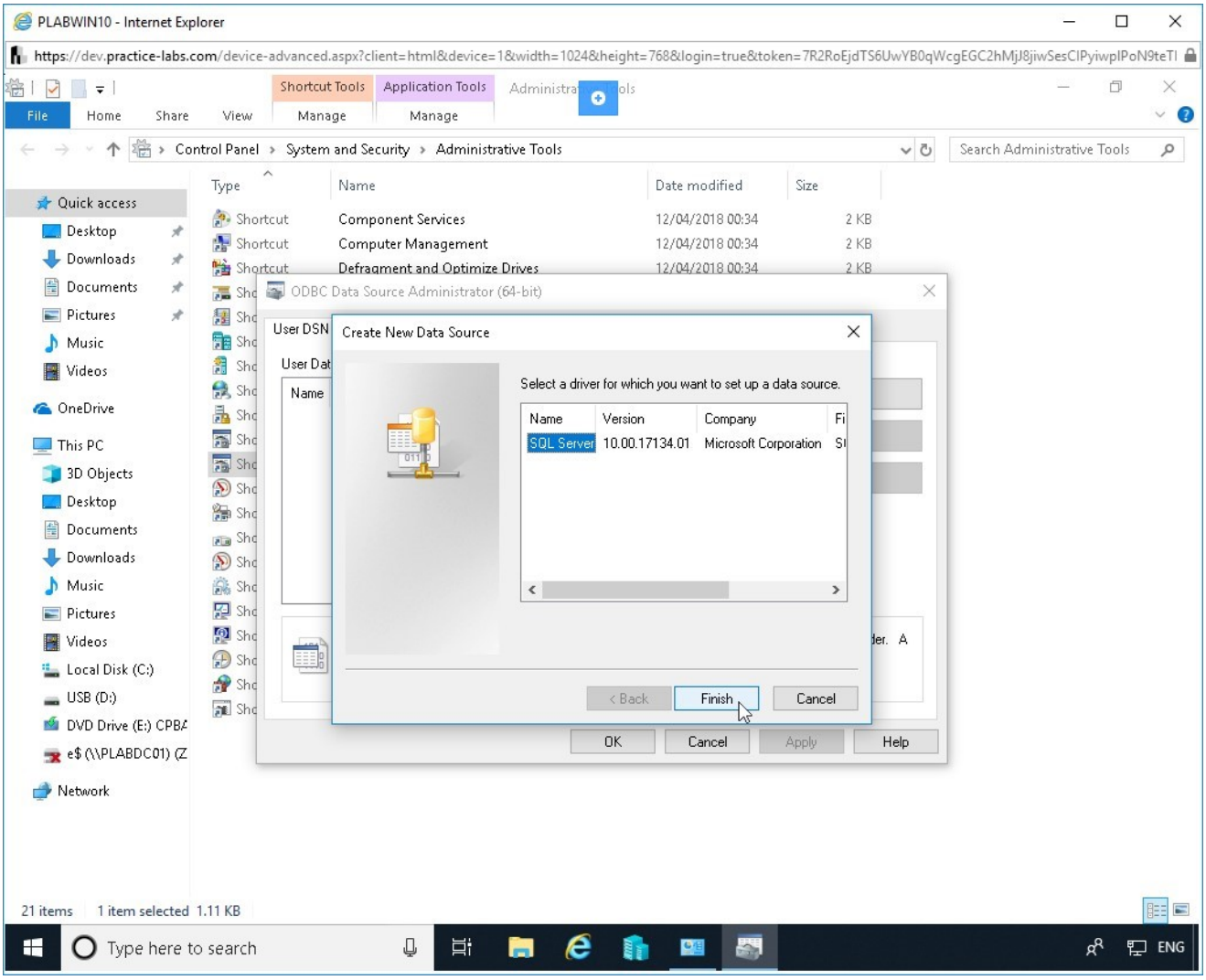


Figure 1.37 Screenshot of PLABWIN10: Showing the Create New Data Source dialog box with the required selection performed and the Finish button highlighted.

Step 4

The **Create a New Data Source to SQL Server** wizard is displayed. In the **Name** textbox, type the following name:

```
SQL
```

Click **Next**.

Note: *You need to add the SQL Server name in the Server drop-down. However, the lab environment does not have a SQL Server installed. Therefore, for this task, you can skip it.*

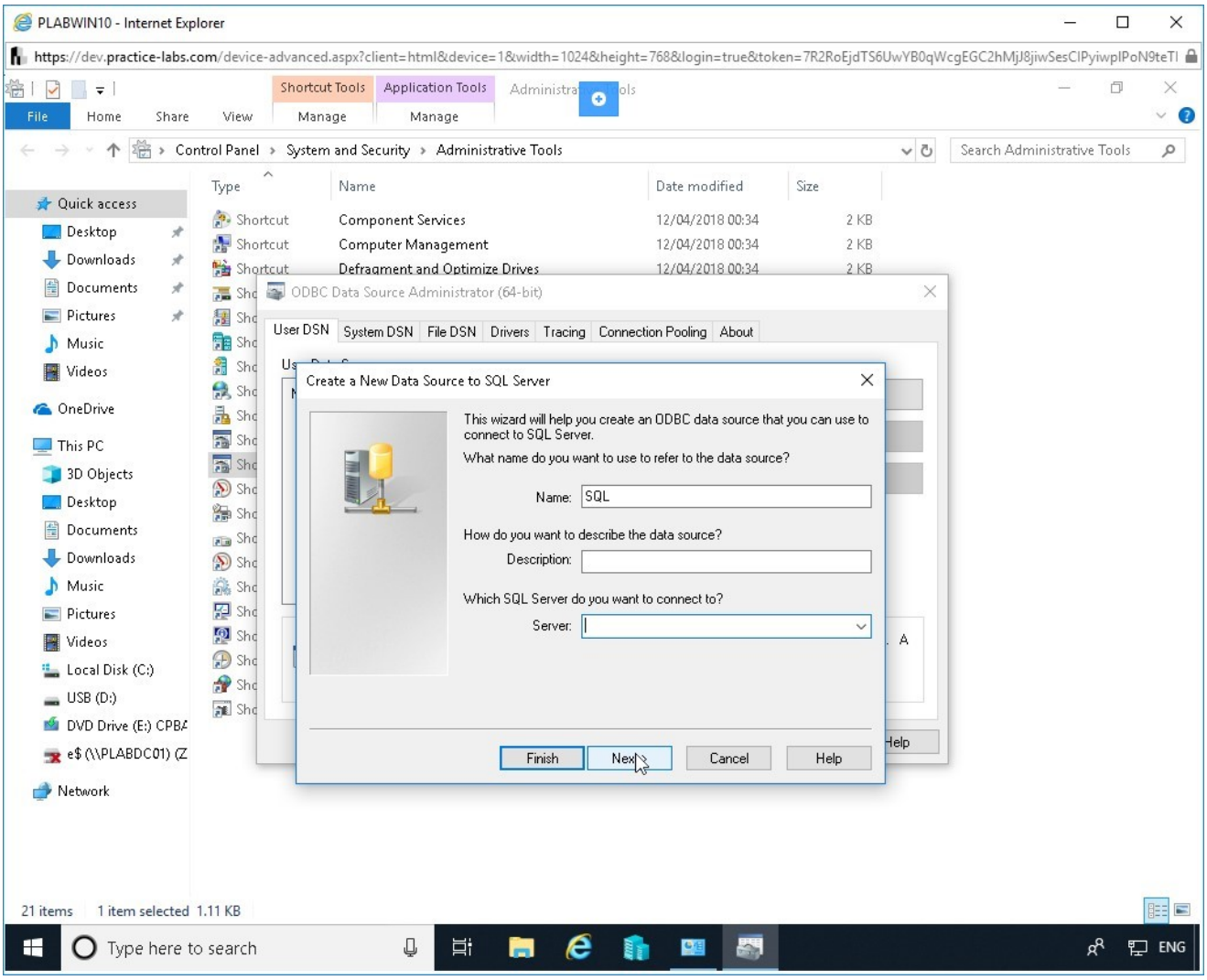


Figure 1.38 Screenshot of PLABWIN10: Defining a name for the data source in the Name textbox.

Step 5

On the next page, deselect **Connect to SQL Server to obtain default settings for the additional configuration options**.

Click **Next**.

Note: *Since you do not have a SQL Server installed and keep this option selected, you will be prompted with an error.*

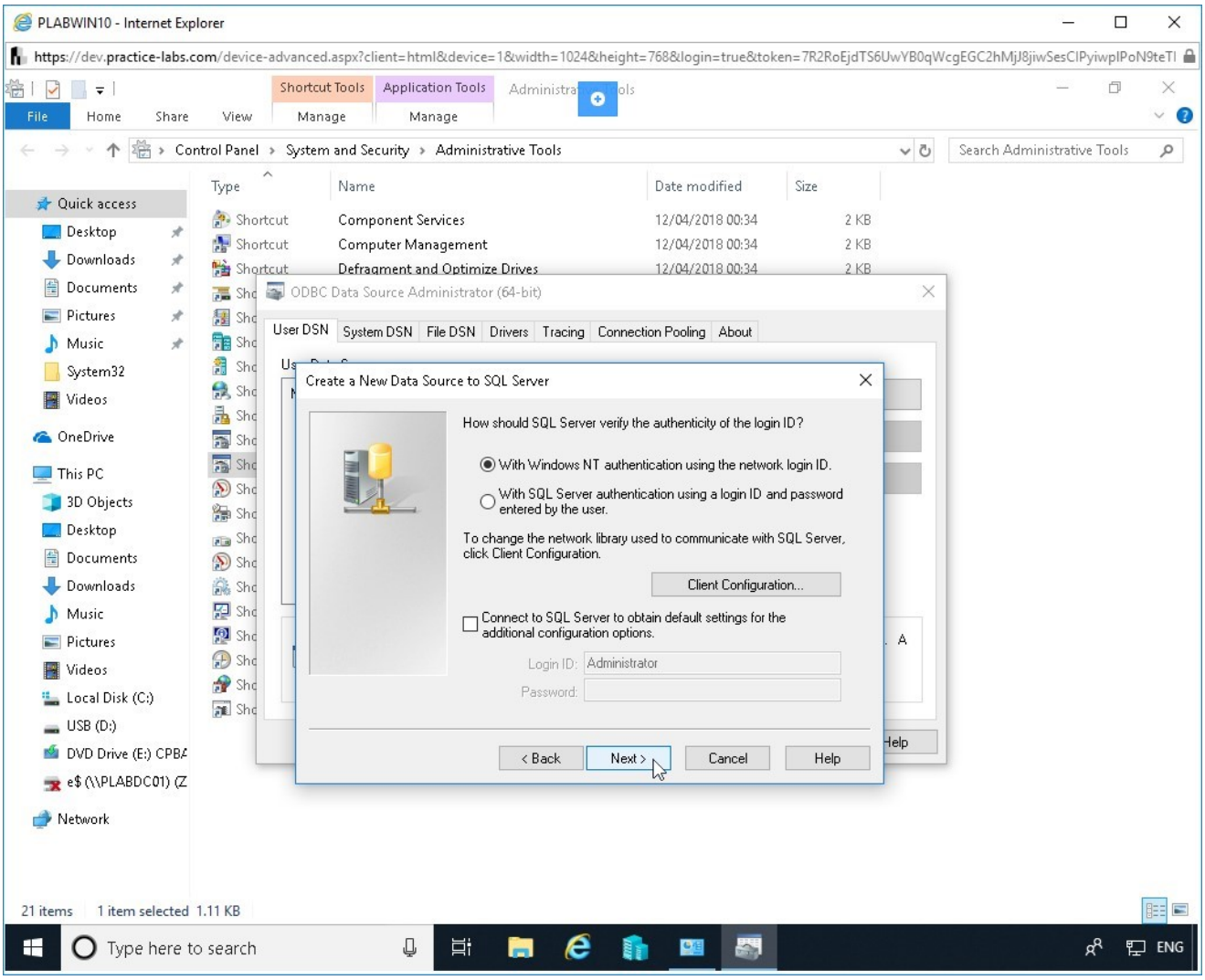


Figure 1.39 Screenshot of PLABWIN10: Keeping the default option for authentication.

Step 6

On the next page, keep the default settings and click **Next**.

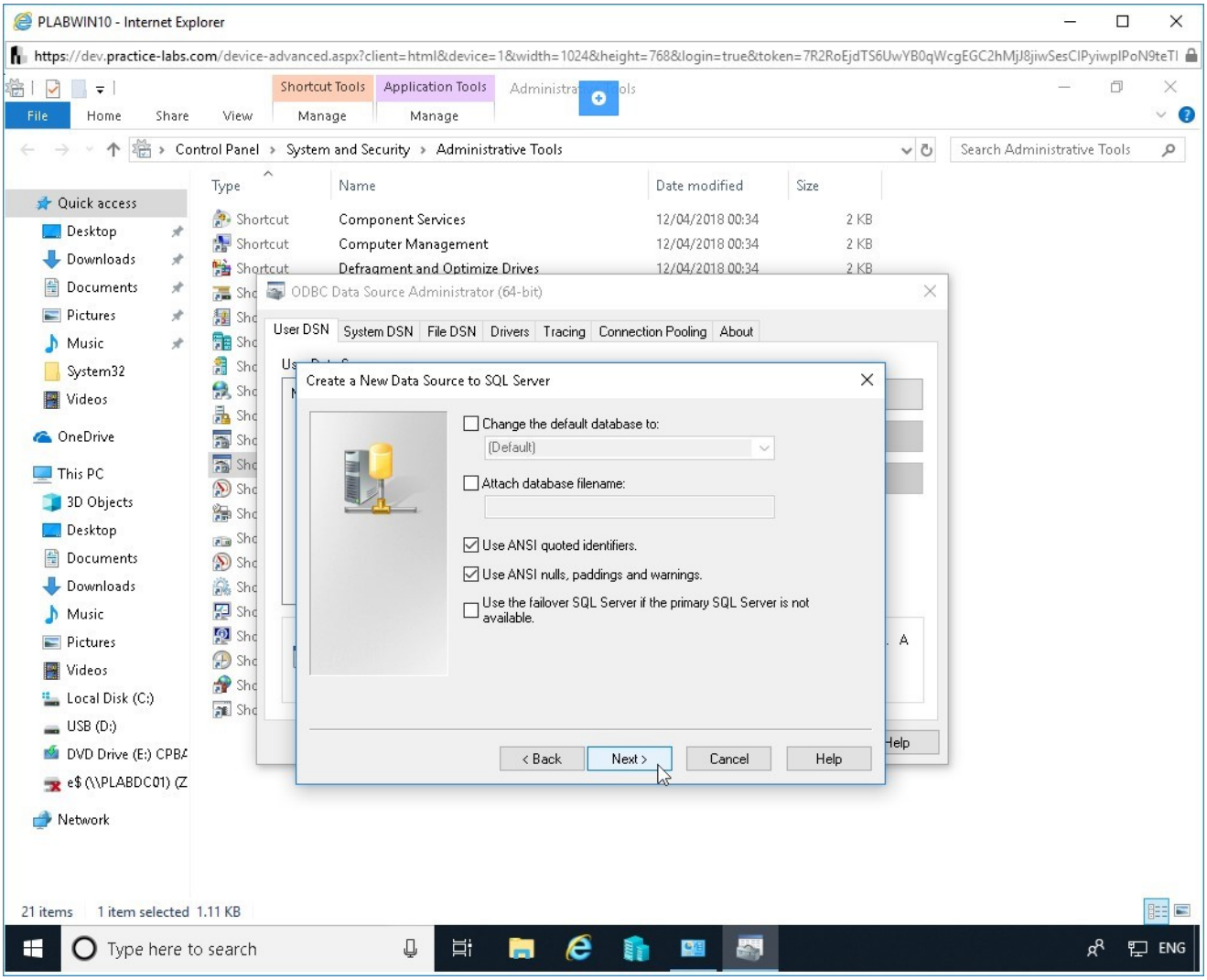


Figure 1.40 Screenshot of PLABWIN10: Keeping the default option for default database.

Step 7

On the next page, keep the default settings and click **Finish**.

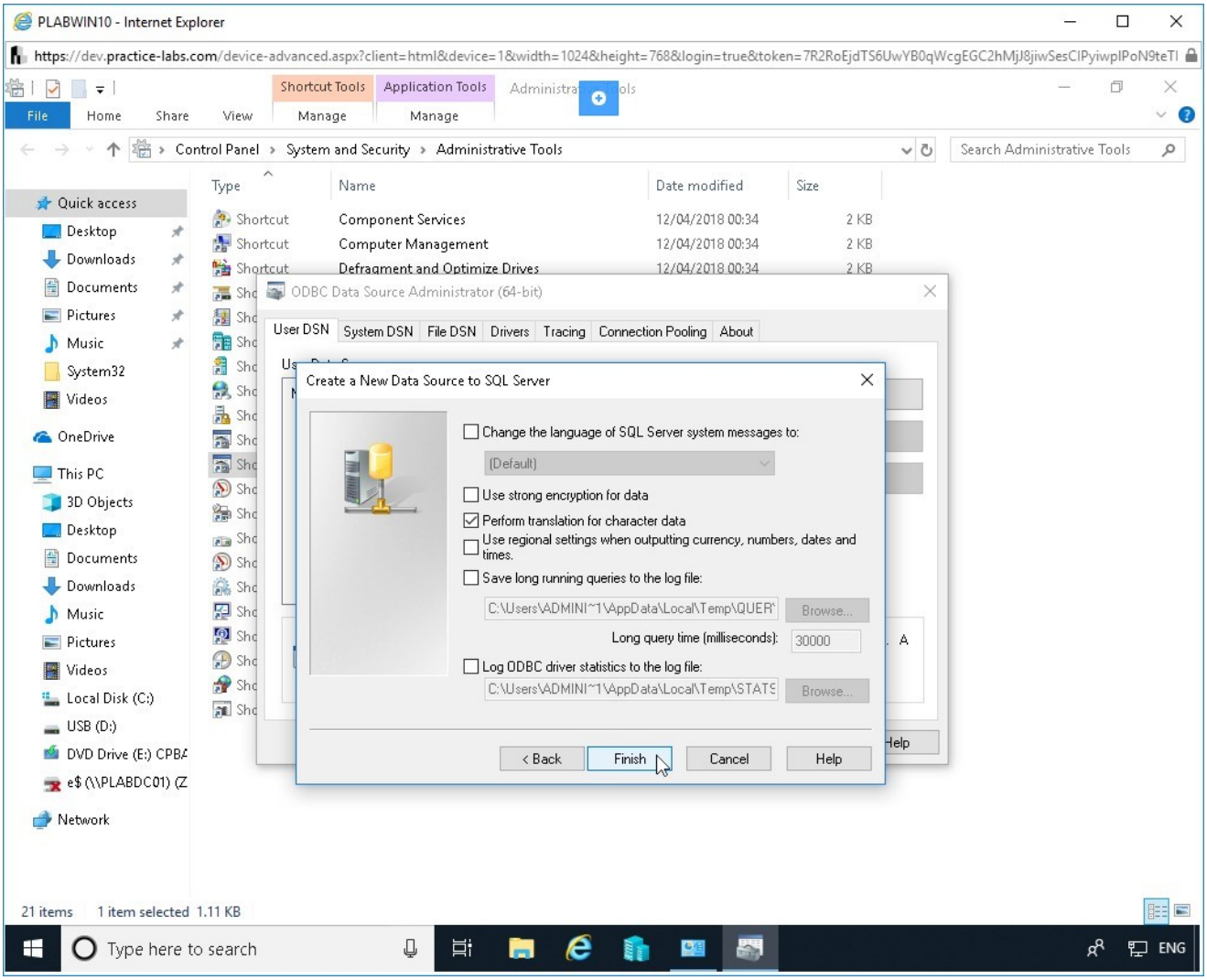


Figure 1.41 Screenshot of PLABWIN10: Clicking Finish to create the data source.

Step 8

The **ODBC Microsoft SQL Server Setup** dialog box is displayed. Click **OK**.

> ***Note:*** *The intent of this dialog box is to test the data source that you had created. However, in the absence of SQL Server, you will be prompted with an error.*

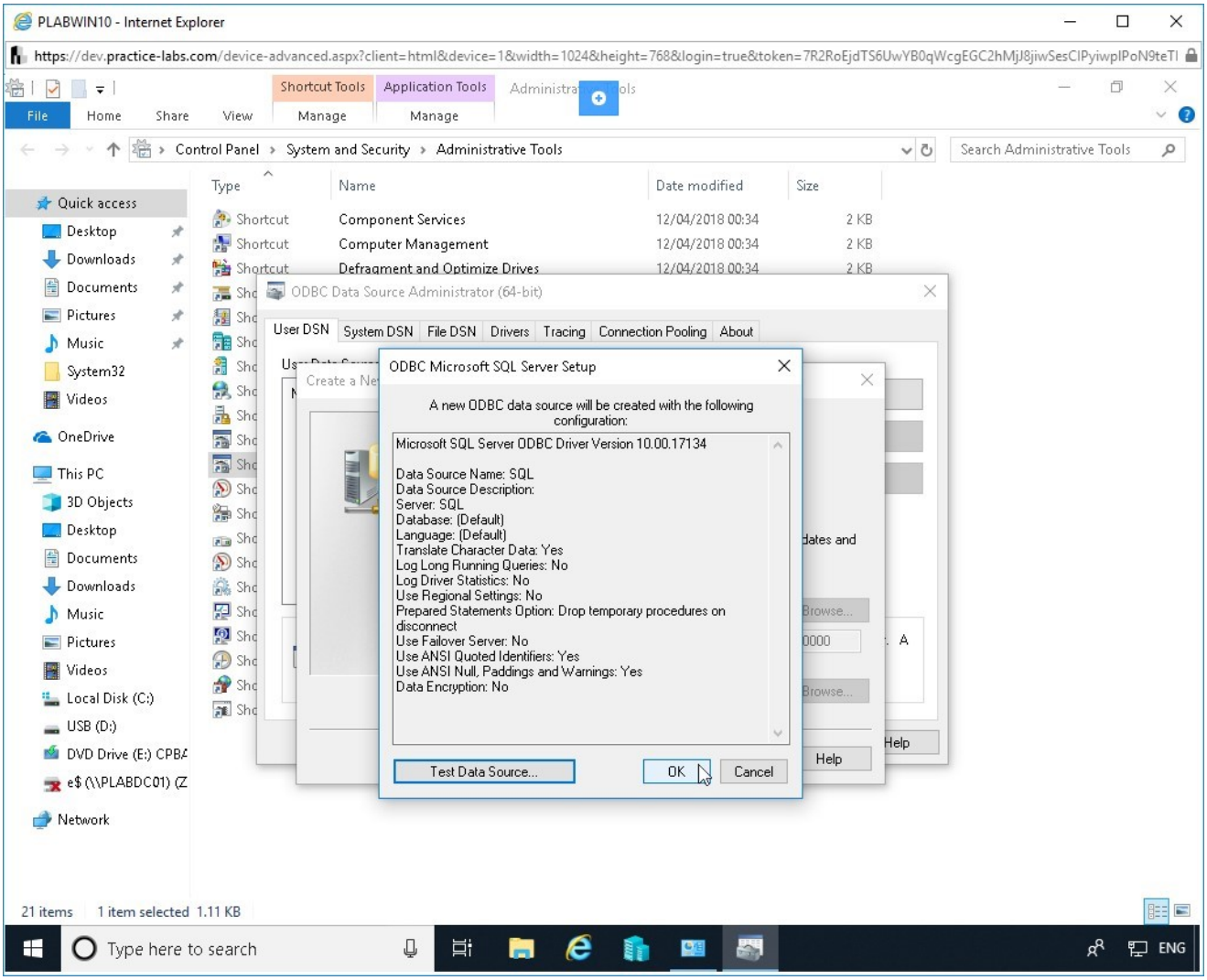


Figure 1.42 Screenshot of PLABWIN10: Clicking OK on the ODBC: Microsoft SQL Server Setup dialog box.

Step 9

Back on the **ODBC Data Source Administrator (64-bit)** dialog box, notice that the newly added data source is now listed on the **User DSN** tab.

> ***Note**: A user data source is visible only to the logged in user and can be used only on the current machine.*

Click **OK** to save the changes and exit the **ODBC Data Source Administrator** console.

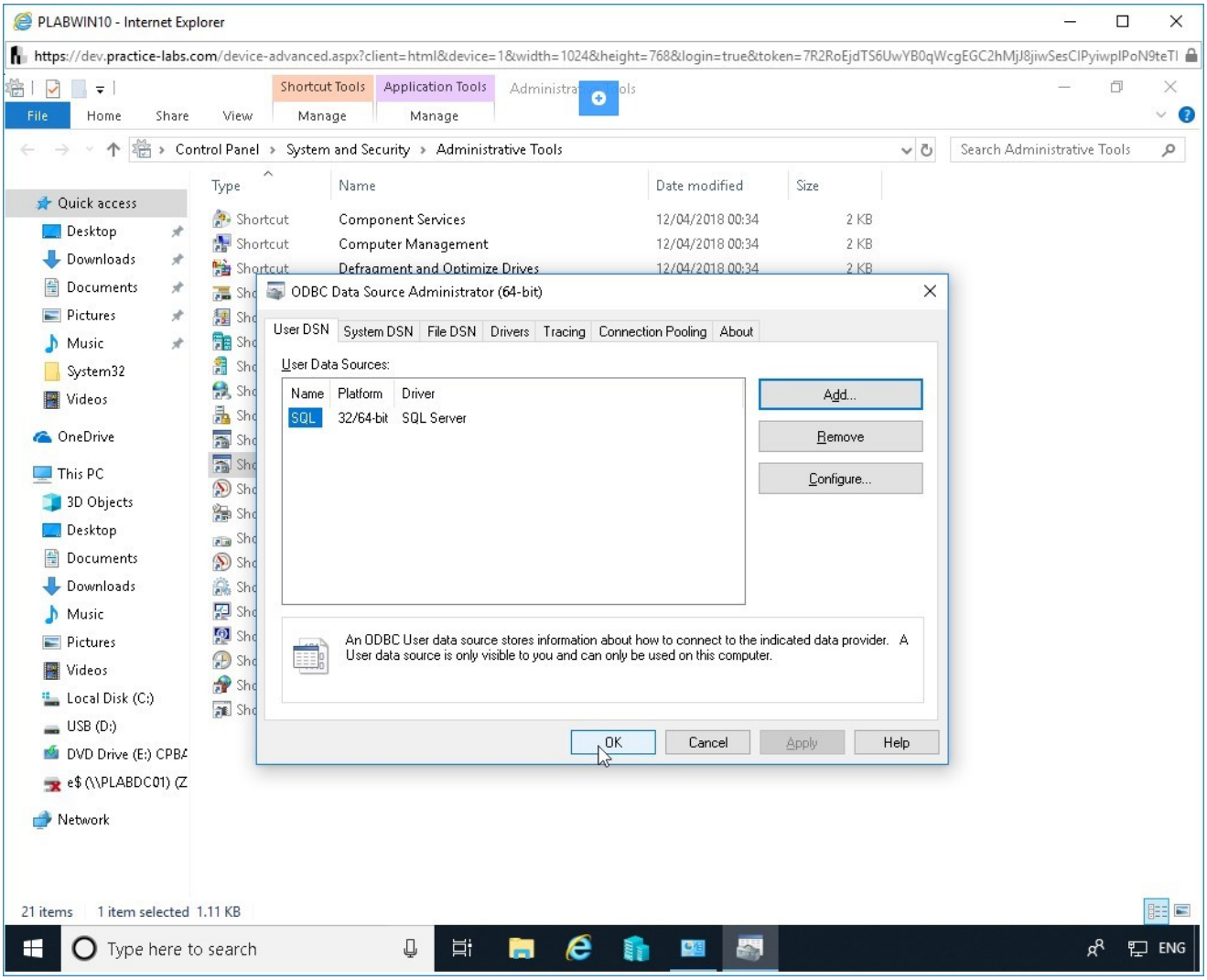


Figure 1.43 Screenshot of PLABWIN10: Showing the newly created data source.

Task 8 - Access the Event Viewer Logs

The **Event Viewer** is a system tool in Windows which displays information about various events happening on your computer. This tool can help to track the event flow while troubleshooting any issues either with the OS or the installed applications. The **Event Log** service starts as soon as you start Windows.

There are three types of event logs: application logs, system logs, and security logs. Application and System logs are available to all users; however, security logs are available only to the administrators.

In this task, you will access application logs on the system.

Step 1

Ensure that the **Administrative Tools** window is displayed.

Double-click **Event Viewer**.

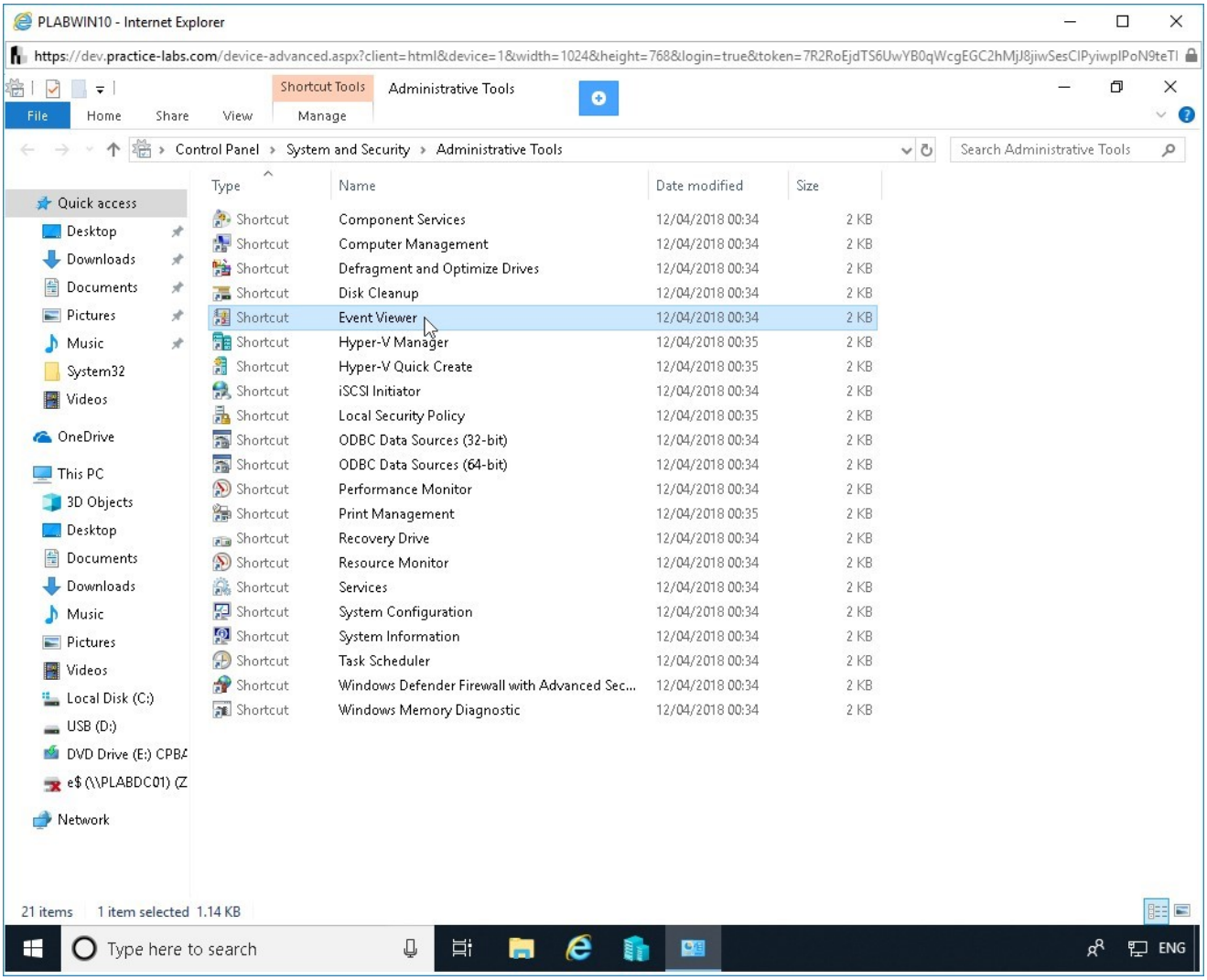


Figure 1.44 Screenshot of PLABWIN10: Double-clicking Event Viewer in the Administrative Tools window.

Step 2

The **Event Viewer** console is displayed.

In the left pane, expand the **Windows Logs** node, and then select the **Application** log.

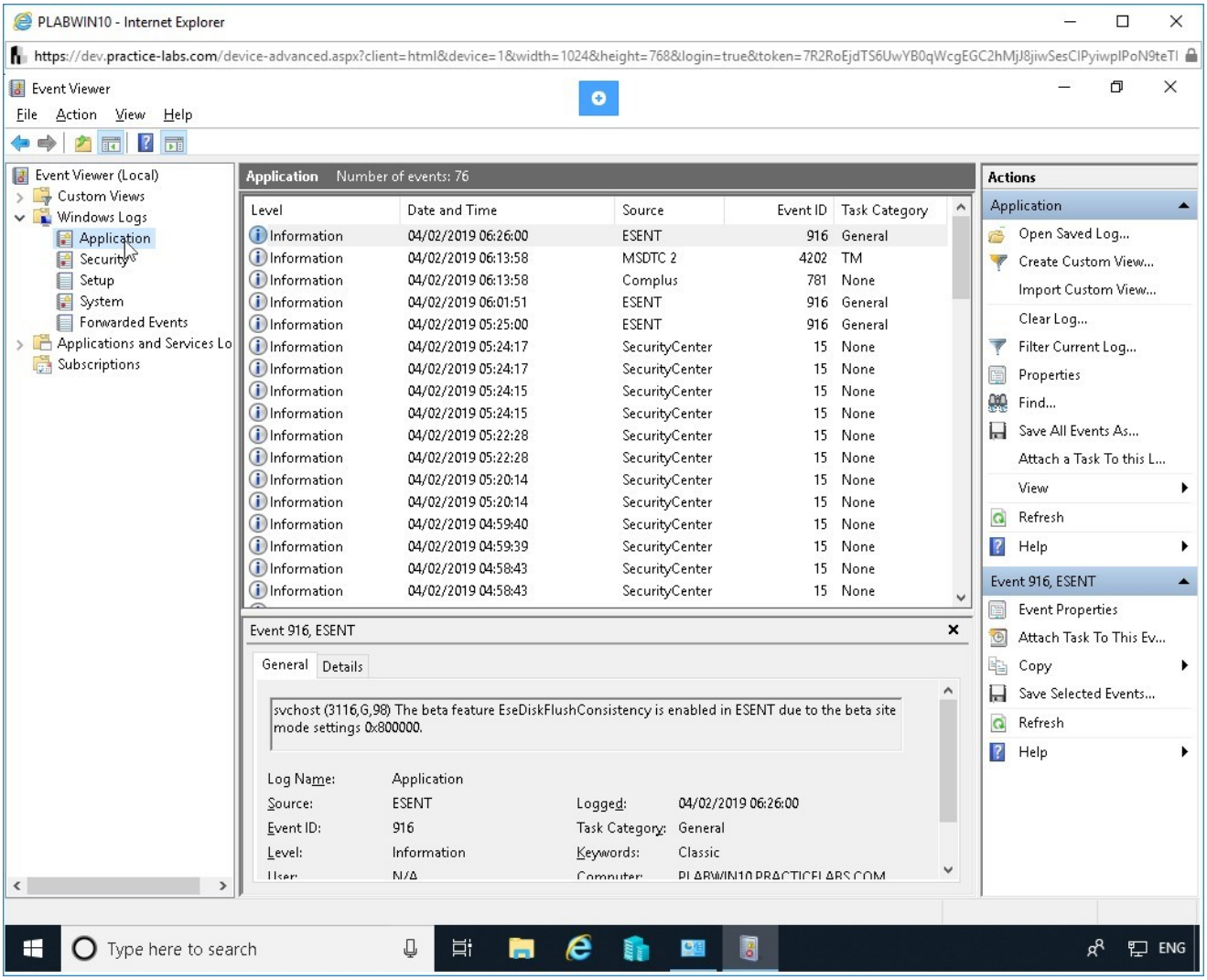


Figure 1.45 Screenshot of PLABWIN10: Showing the Application logs in the middle pane.

Step 3

Notice that various events relevant to the applications on the system are listed in the middle pane. You can have events that are labeled as Information, Warning, and Error.

> ***Note:*** *If the events have not loaded, you may need to maximize the Event Viewer window and click on Windows Logs on the left side of the window and then back onto the Application section.*

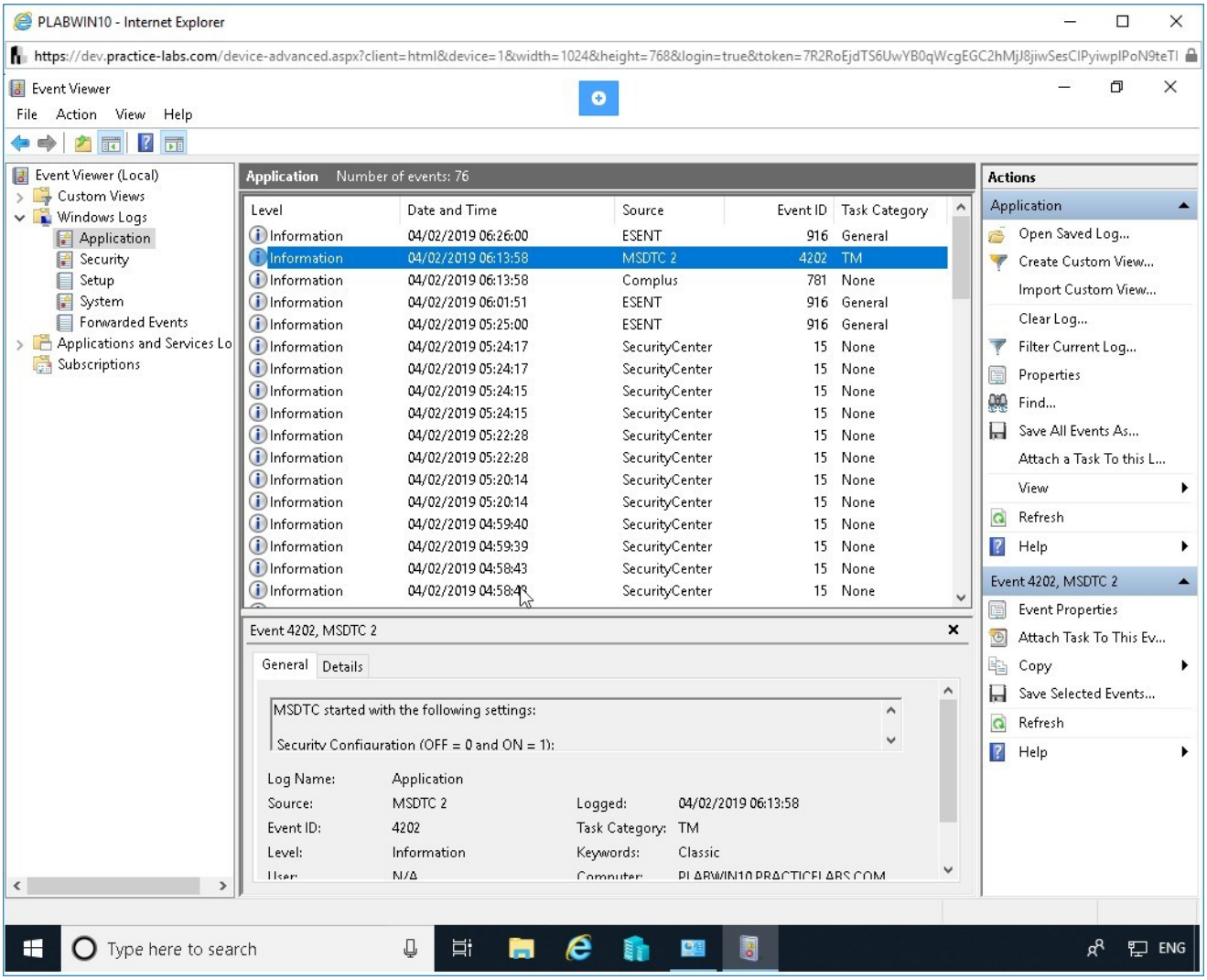


Figure 1.46 Screenshot of PLABWIN10: Showing the Application logs in the middle pane.

Step 4

You can have events that are labeled as Information, Warning, Error and so on. Click **System** in the left pane. Notice that there are different types of events listed.

> ***Note:*** *In your lab environment, there may be a possibility that all of these may not be listed.*

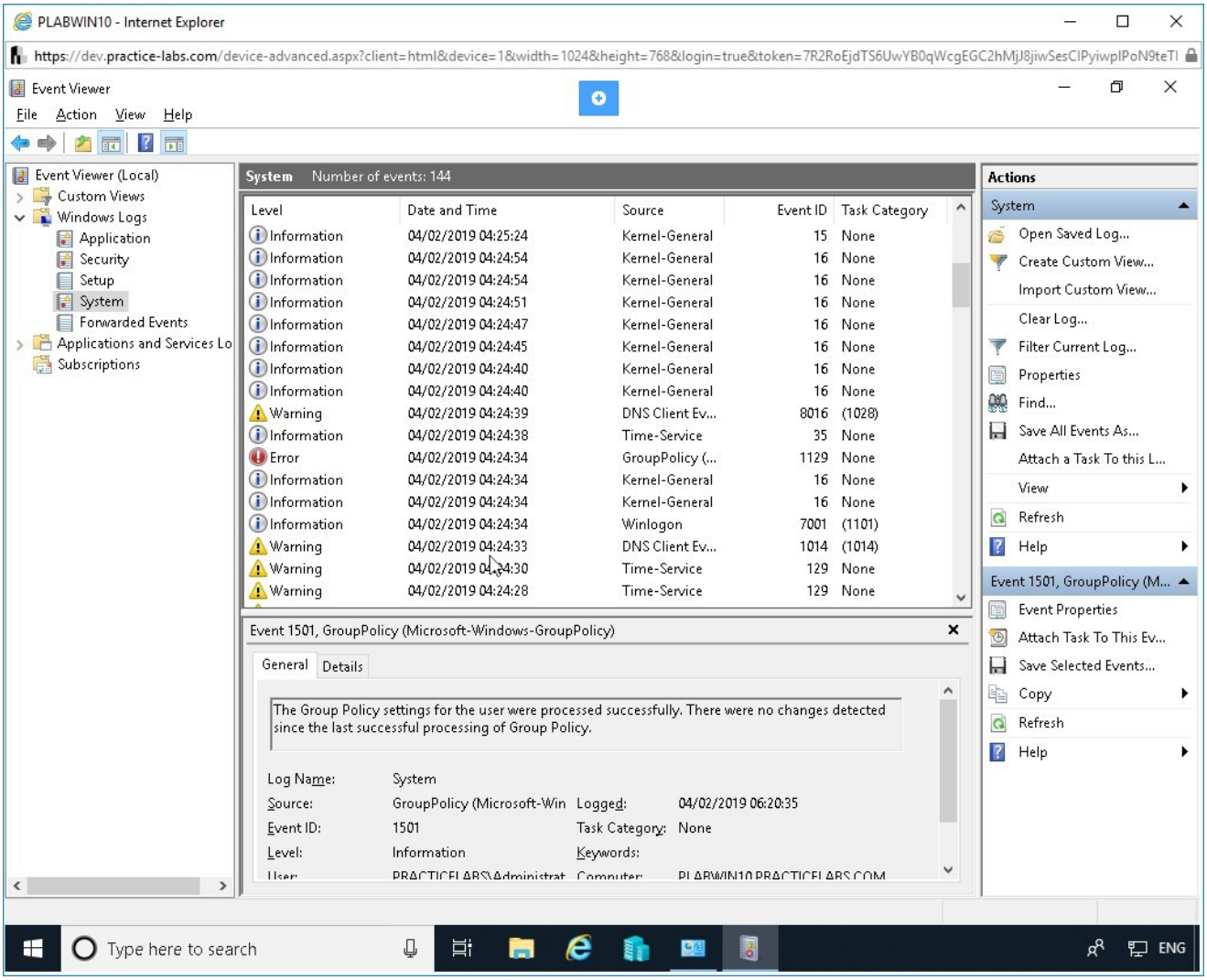


Figure 1.47 Screenshot of PLABWIN10: Showing the System logs in the middle pane.

Step 5

The **Event Viewer** console is displayed. Notice that the Windows Logs node displays different types of logs. It is important to note that these are static logs on all Windows systems. However, a server with specific services, such as a DNS server, can have DNS logs as well. Such logs are listed under the Applications and Services Logs node.

Expand **Applications and Services Logs**. Notice that these logs are specific to applications.

Close all open windows.

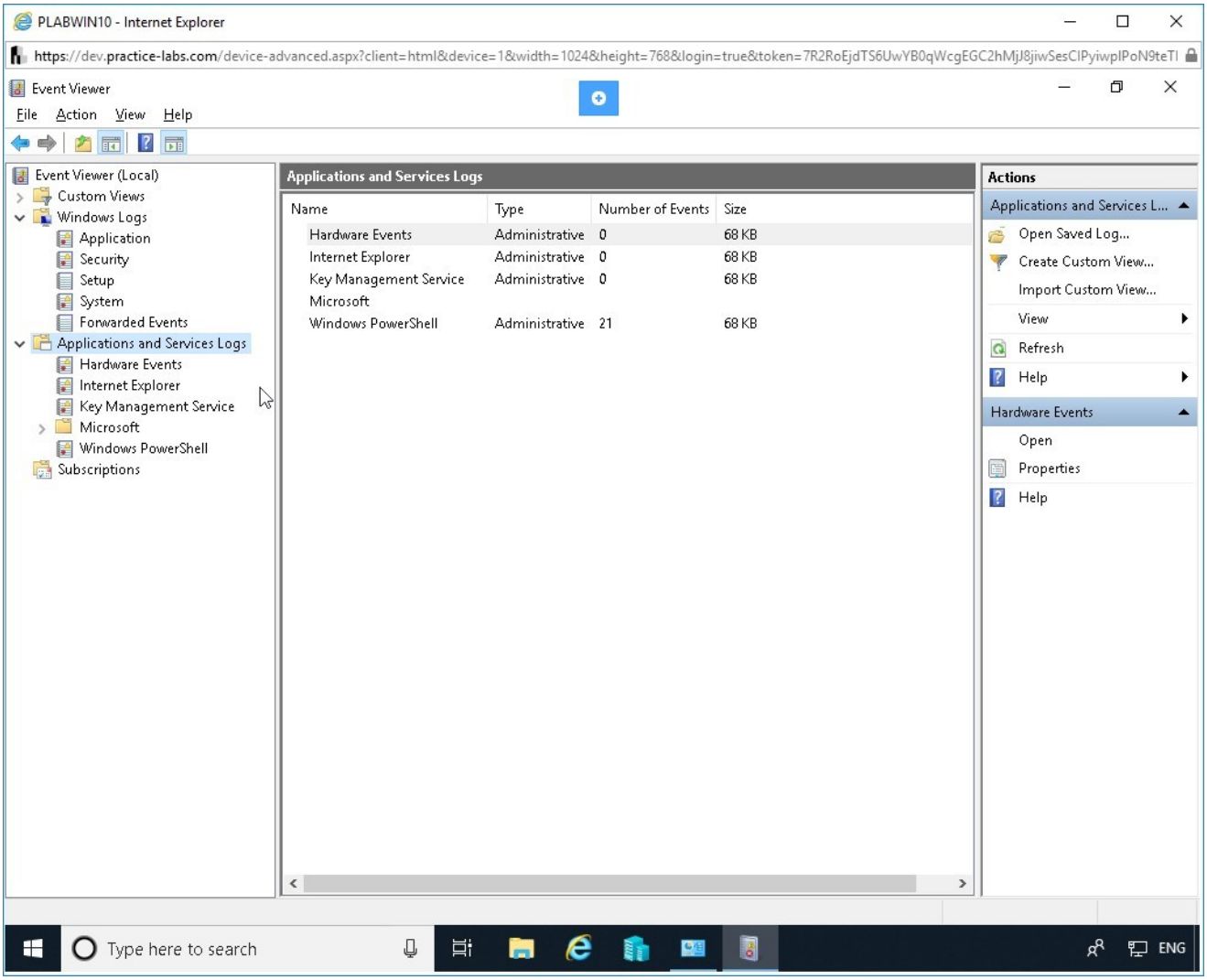


Figure 1.48 Screenshot of PLABWIN10: Showing the Applications and Services Logs related logs in the middle pane.

Leave the devices in their current states and continue on to the next exercise.

Exercise 2 - Implementing System Configuration Settings

System Configuration is a Windows tool that helps in configuring settings, such as the boot options for the machine, services to be enabled/disabled for a login, and programs to run at the startup of the machine. If you have multiple operating systems installed, you can configure the system to boot with a specific operating system by default. Moreover, you can also make settings for other Windows tools, such as **Action Center**.

In this exercise, you will explore the functionality of these tabs, one by one.

Learning Outcomes

After completing this exercise, you will be able to:

- Specify the Startup Type for Computer
- Set the Timeout Period on the Boot Tab
- Disable a Service on the Services Tab
- Enable Microsoft OneDrive as a Startup Service

Your Devices

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

- **PLABDC01 -** (Windows Server 2016 - Domain Controller)
- **PLABWIN10 -** (Windows 10 - Domain Member)

Task 1 - Specify the Startup Type for Computer

The **System Configuration** console has the following tabs - **General**, **Boot**, **Services**, **Startup**, and **Tools**. As the names suggest, each tab provides options for configuring the relevant settings.

The **General** tab provides the following options for the Windows startup:

- **Normal startup** - loading all the device drivers and services
- **Diagnostic startup** - loading only basic devices and services
- **Selective startup** - you select the services and items to load

In this task, you will specify the **Diagnostic startup** for the computer.

Step 1

Ensure **PLABWIN10** is powered on.

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

```
System Configuration
```

Under **Best Match** section, select **System Configuration**.

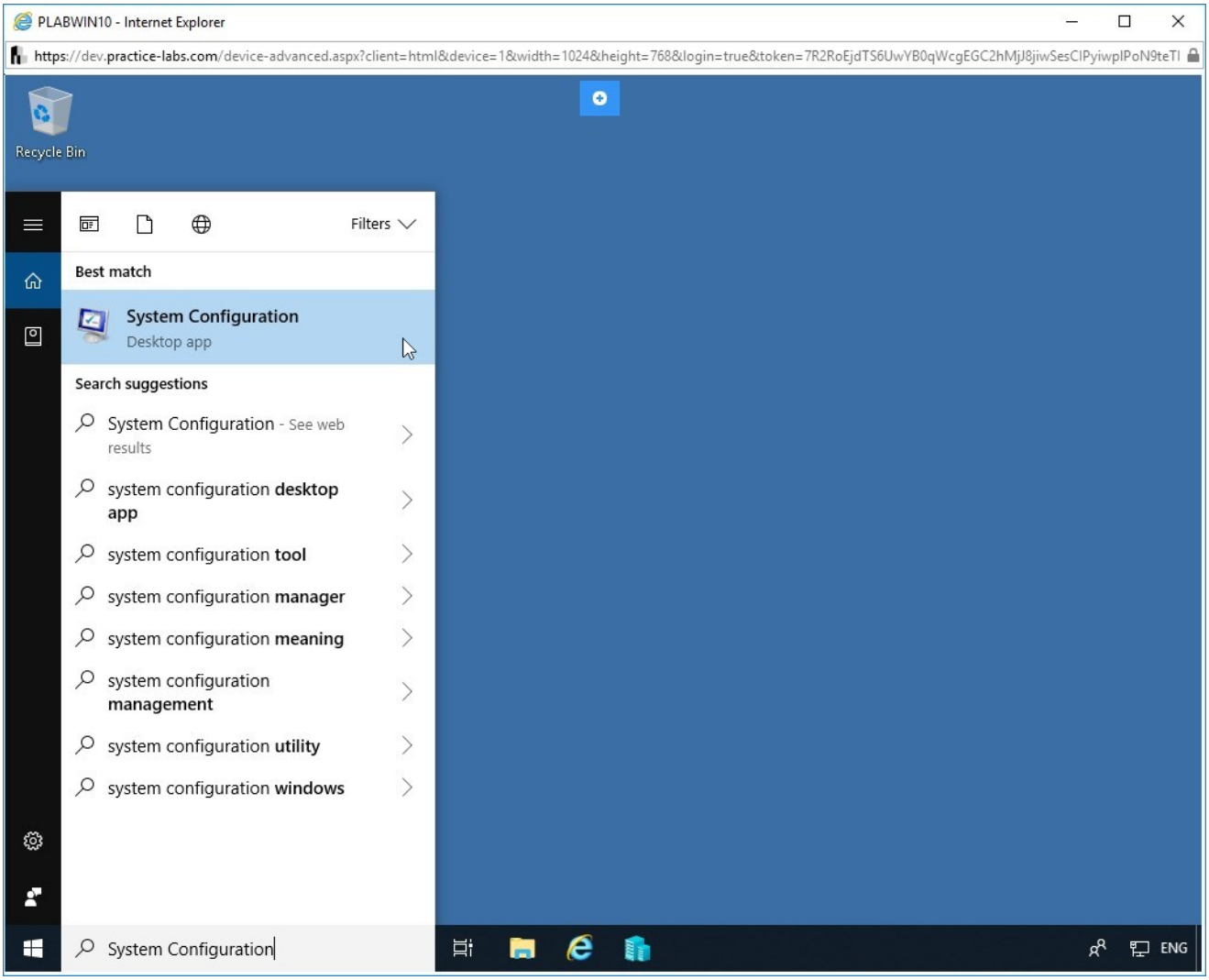


Figure 2.1 Screenshot of PLABWIN10: Selecting System Configuration from the search results.

Step 2

The **System Configuration** dialog box is displayed.

Notice that the **General** tab is displayed by default.

On the **General** tab, select the **Diagnostic Startup - load basic devices and services only** option.

Click **Apply**.

> ***Note:*** *Please be aware that if the setting does not apply, please continue. You do not apply any of the changes below as they would require a system reboot which is not needed for this module.*

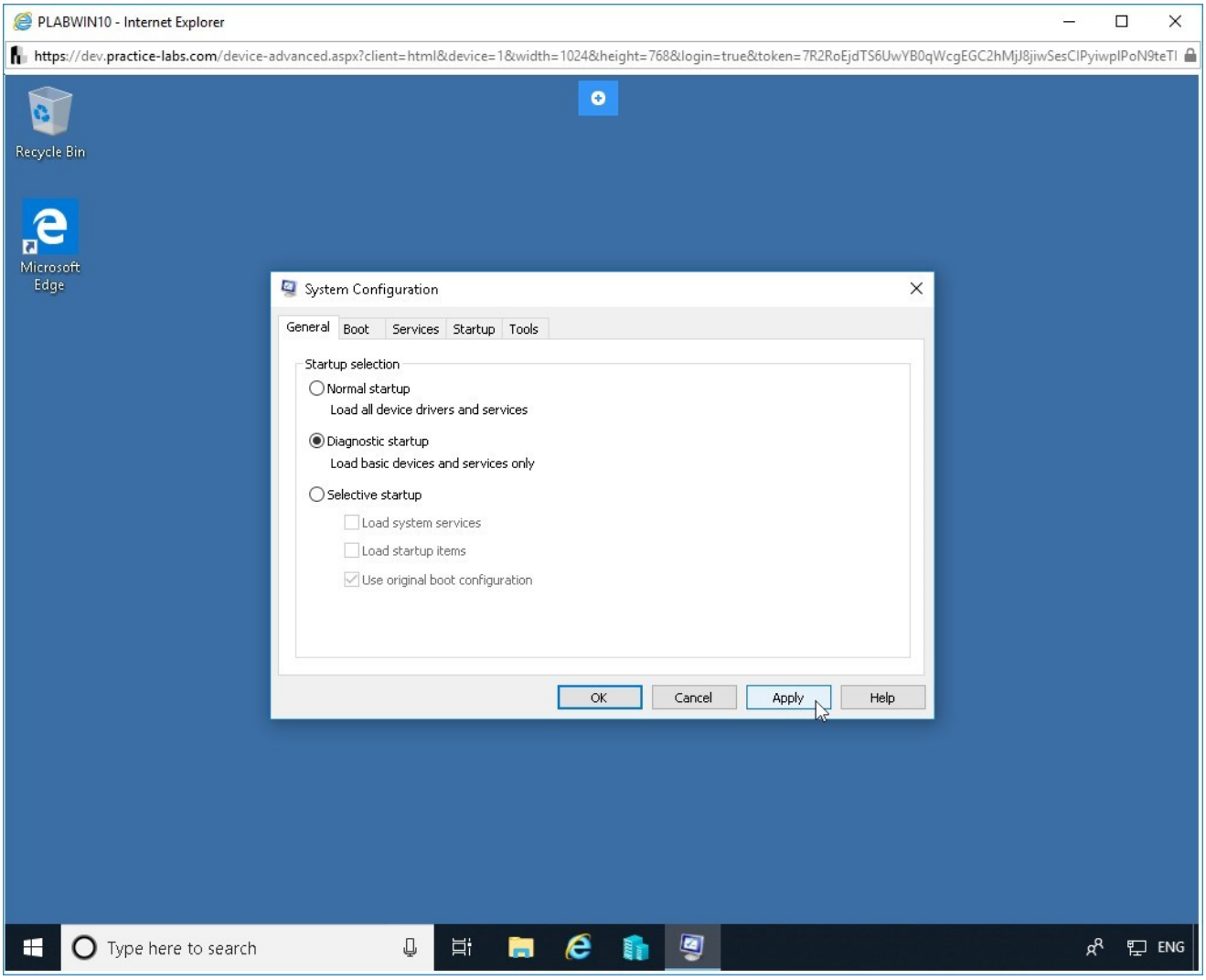


Figure 2.2 Screenshot of PLABWIN10: Showing the General tab on the System Configuration dialog box and selecting the Diagnostic startup.

Task 2 - Set the Timeout Period on the Boot Tab

Options on the **Boot** tab allow you to specify which operating system should load, in-case you have multiple. It also allows you to make choices, such as Safe boot, which is mainly used for troubleshooting purposes and loads only the necessary services and system programs.

In this task, you will specify the timeout period on the **Boot** tab.

Step 1

Ensure that **PLABWIN10** is running and the **System Configuration** dialog box is displayed.

Click the **Boot** tab.

Set **Timeout** period as 20 seconds.

Press **Apply**.

With this setting, the system waits 20 seconds for a user to make operating system selection; otherwise, it will proceed with the default specification.

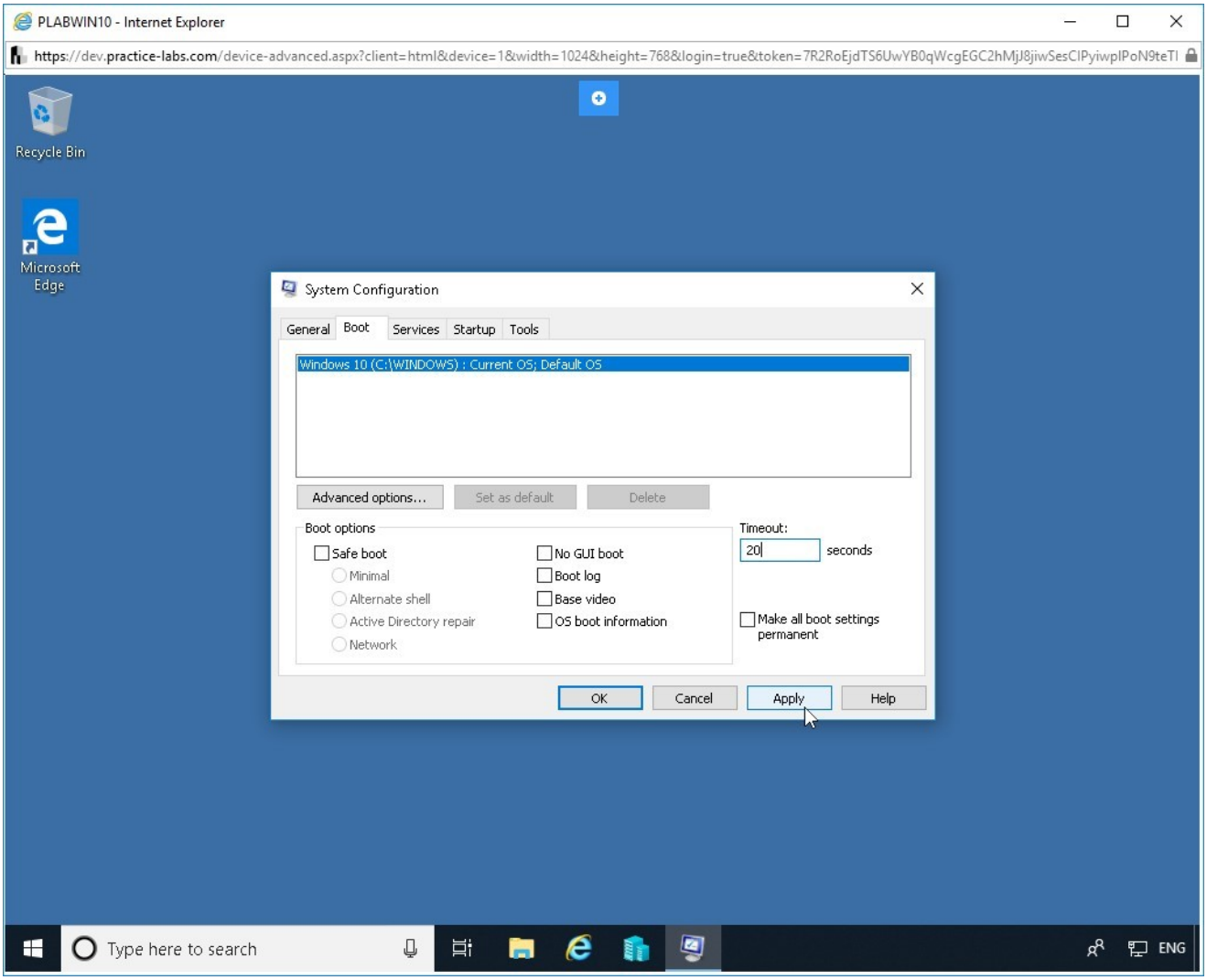


Figure 2.3 Screenshot of PLABWIN10: Showing the Boot tab on the System Configuration dialog box with the required configuration changes.

Task 3 - Disable a Service on the Services Tab

The **Services** tab on the **System Configuration** dialog box lists all the services present on the computer system. Along with service name, the tab also mentions the **Manufacturer**, **Status**, and **Date Disabled** for each service.

In this task, you will disable the **Microsoft Audio** service on the computer.

Step 1

Ensure that **PLABWIN10** is running and the **System Configuration** dialog box is displayed.

Click the **Services** tab.

Notice that either you can enable or disable all services. However, you cannot enable or disable a single service.

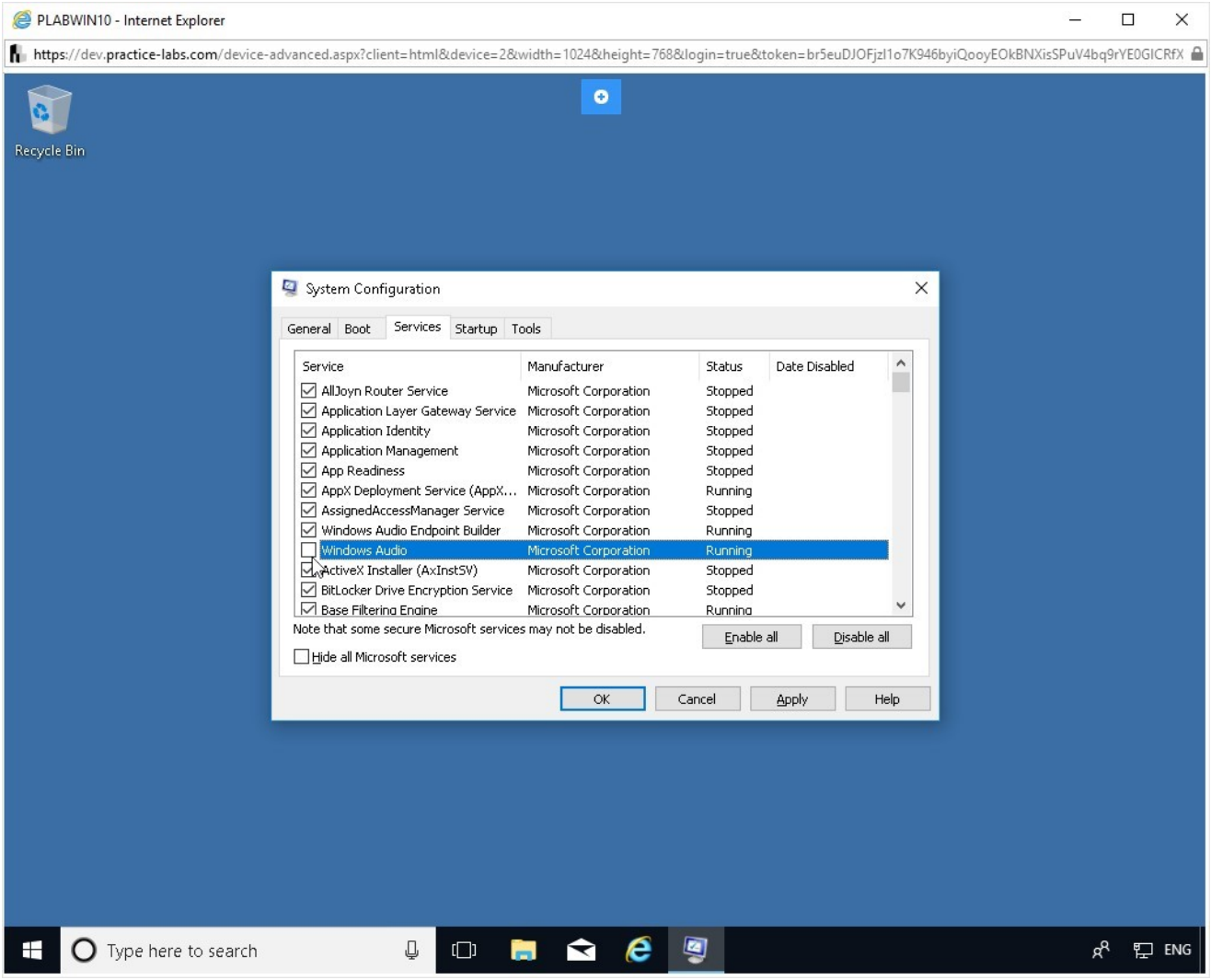


Figure 2.4 Screenshot of PLABWIN10: Showing the Services tab on the System Configuration dialog box.

Step 2

Select Windows Audio. Notice that **Disable All** button is now enabled.

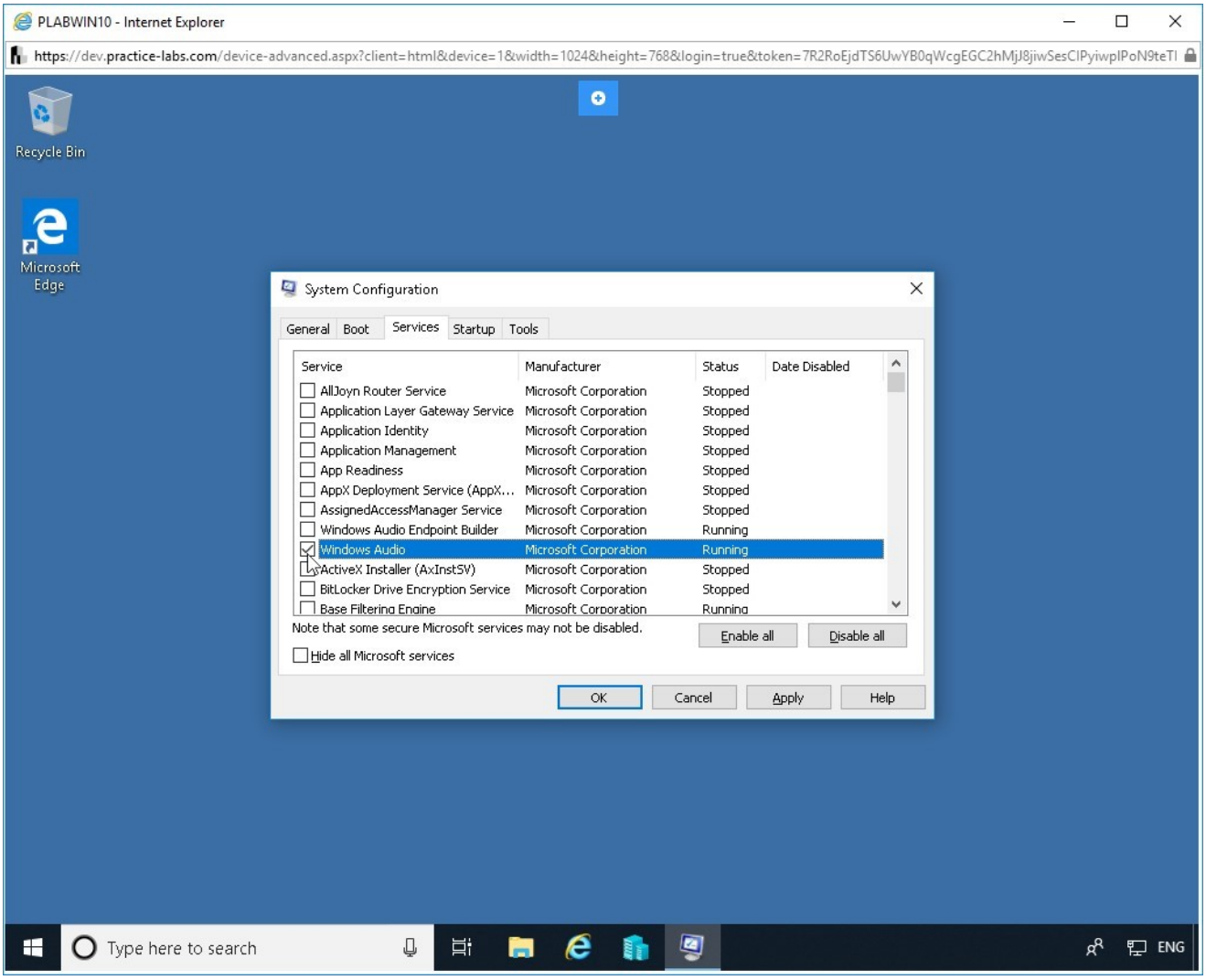


Figure 2.5 Screenshot of PLABWIN10: Selecting a service and then showing the Disable All button highlighted.

Step 3

Select **Hide all Microsoft services**. Notice now the **Services** tab does not have any service listed.

Click **Apply**.

> ***Note:*** *There may be a service or some services still listed, please continue to the next task.*

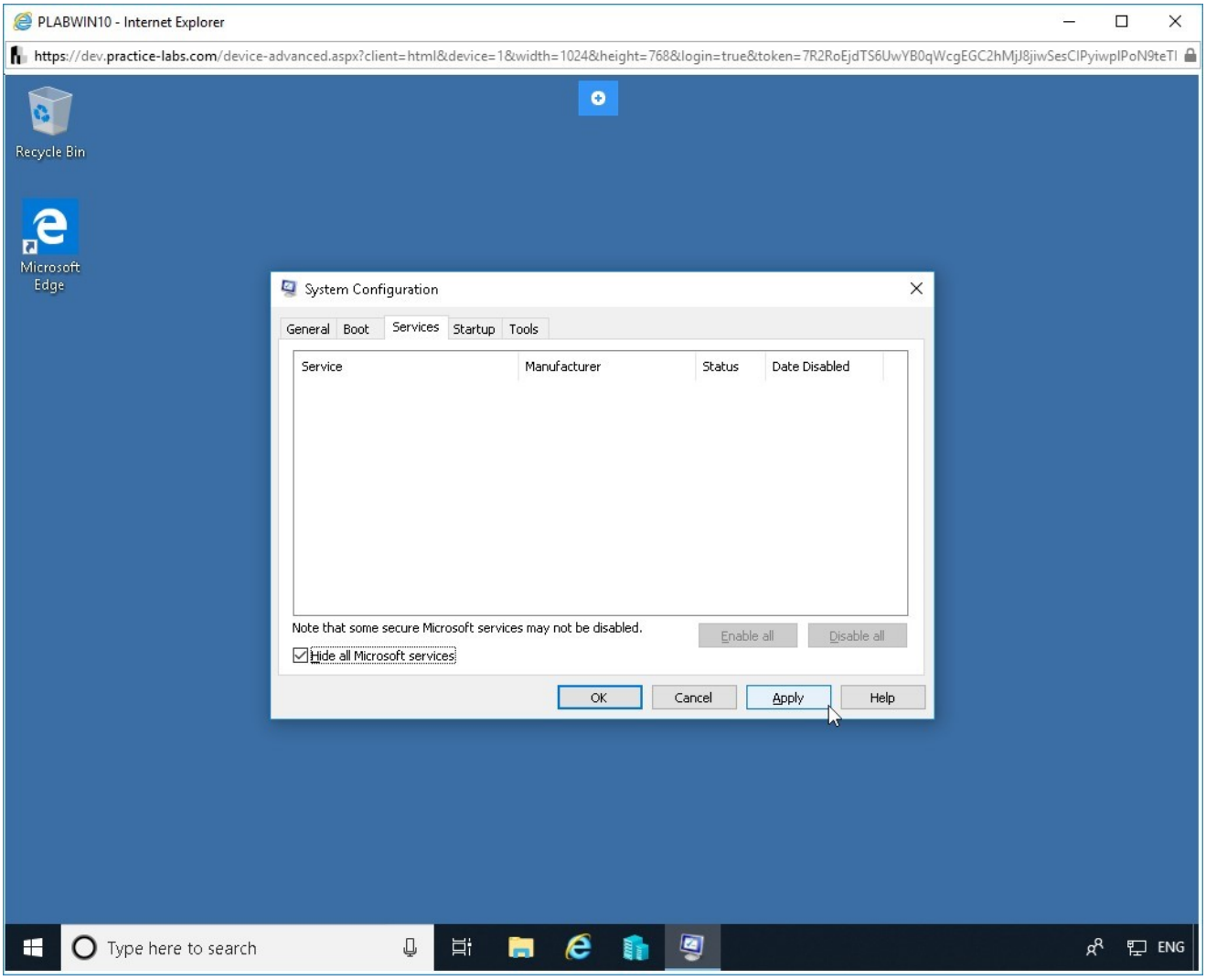


Figure 2.6 Screenshot of PLABWIN10: Hiding all the Microsoft services.

Task 4 - Enable Microsoft OneDrive as a Startup Service

The **Startup** tab lists the startup items, along with information such as the publisher of the item, status, and startup impact. On the **Startup** tab, you can enable/disable individual/multiple start-up items.

In this task, you will enable the **Microsoft OneDrive** to start-up with the computer.

Step 1

Ensure that **PLABWIN10** is running and the **System Configuration** dialog box is displayed.

Click the **Startup** tab.

Click the **Open Task Manager** link.

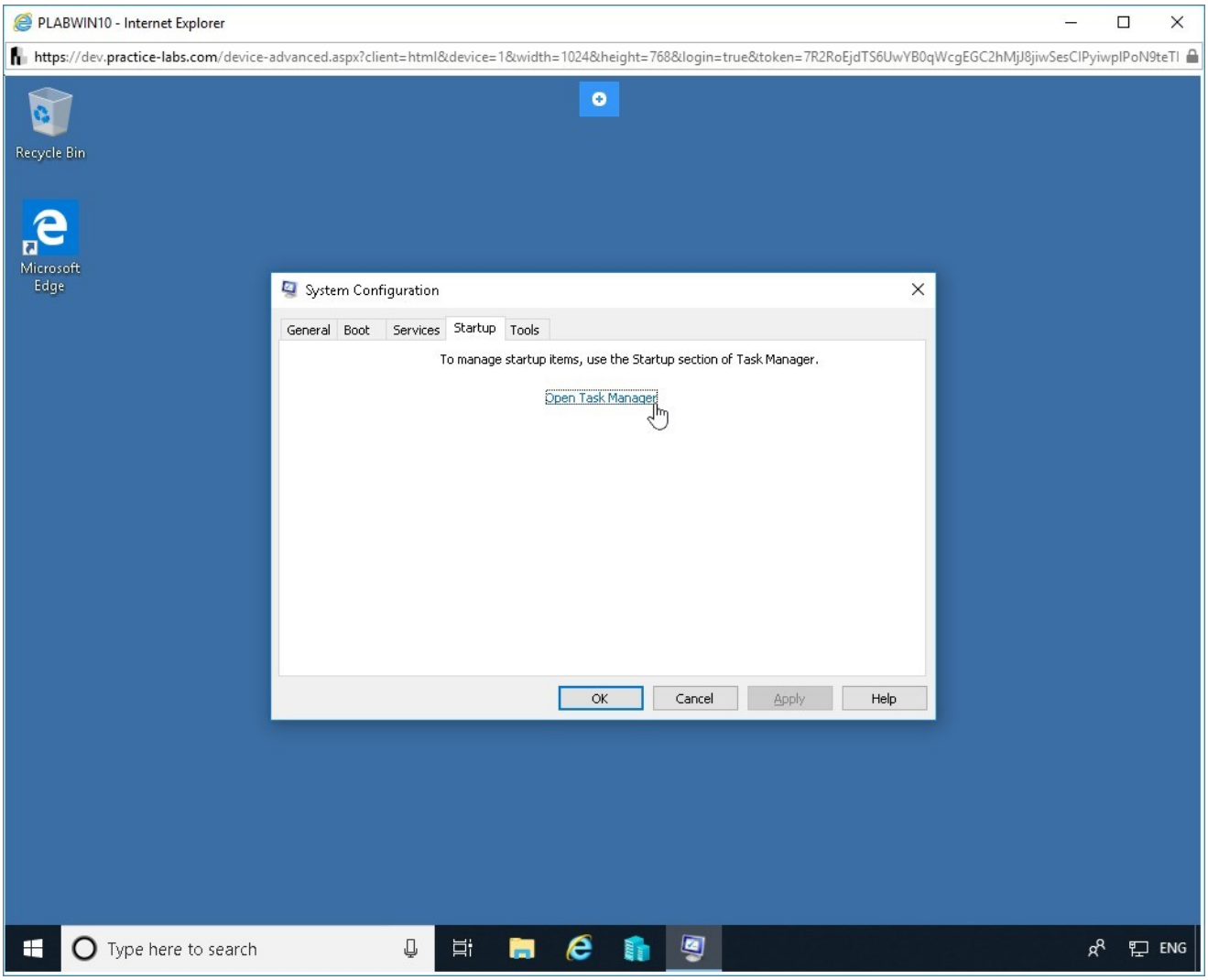


Figure 2.7 Screenshot of PLABWIN10: Clicking the Open Task Manager link on the Startup tab of the System Configuration dialog box.

Step 2

The **Task Manager** dialog box is displayed. By default, the **Startup** tab is selected. On the **Startup** tab, select the **Microsoft OneDrive** option and click **Enable**.

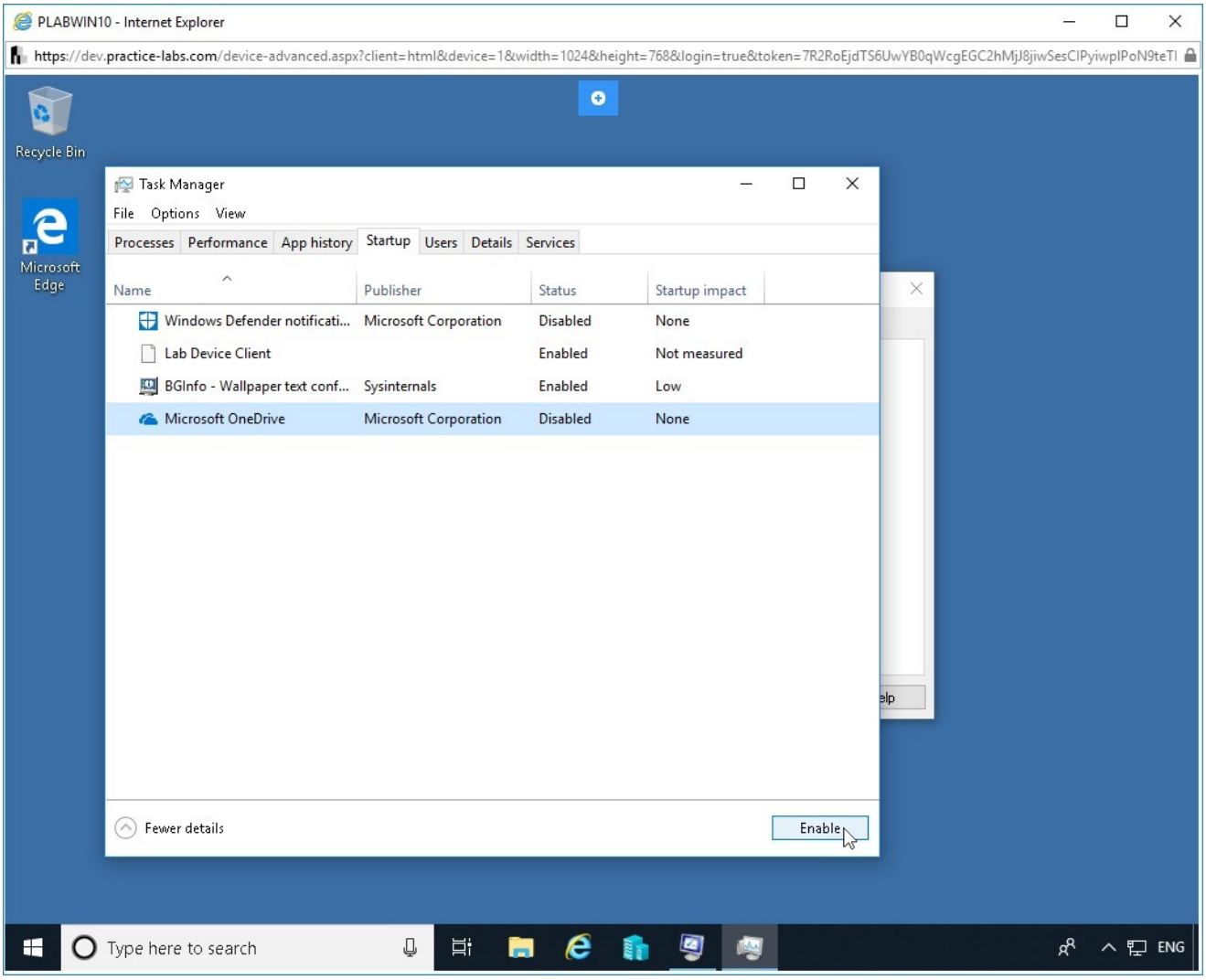


Figure 2.8 Screenshot of PLABWIN10: Showing the Startup tab on the Task Manager dialog box with the required selection performed and the Enable button highlighted.

Step 3

Notice that the **Status** of the **Microsoft OneDrive** service is now changed to **Enabled**. This specifies the **Microsoft OneDrive** as a startup service.

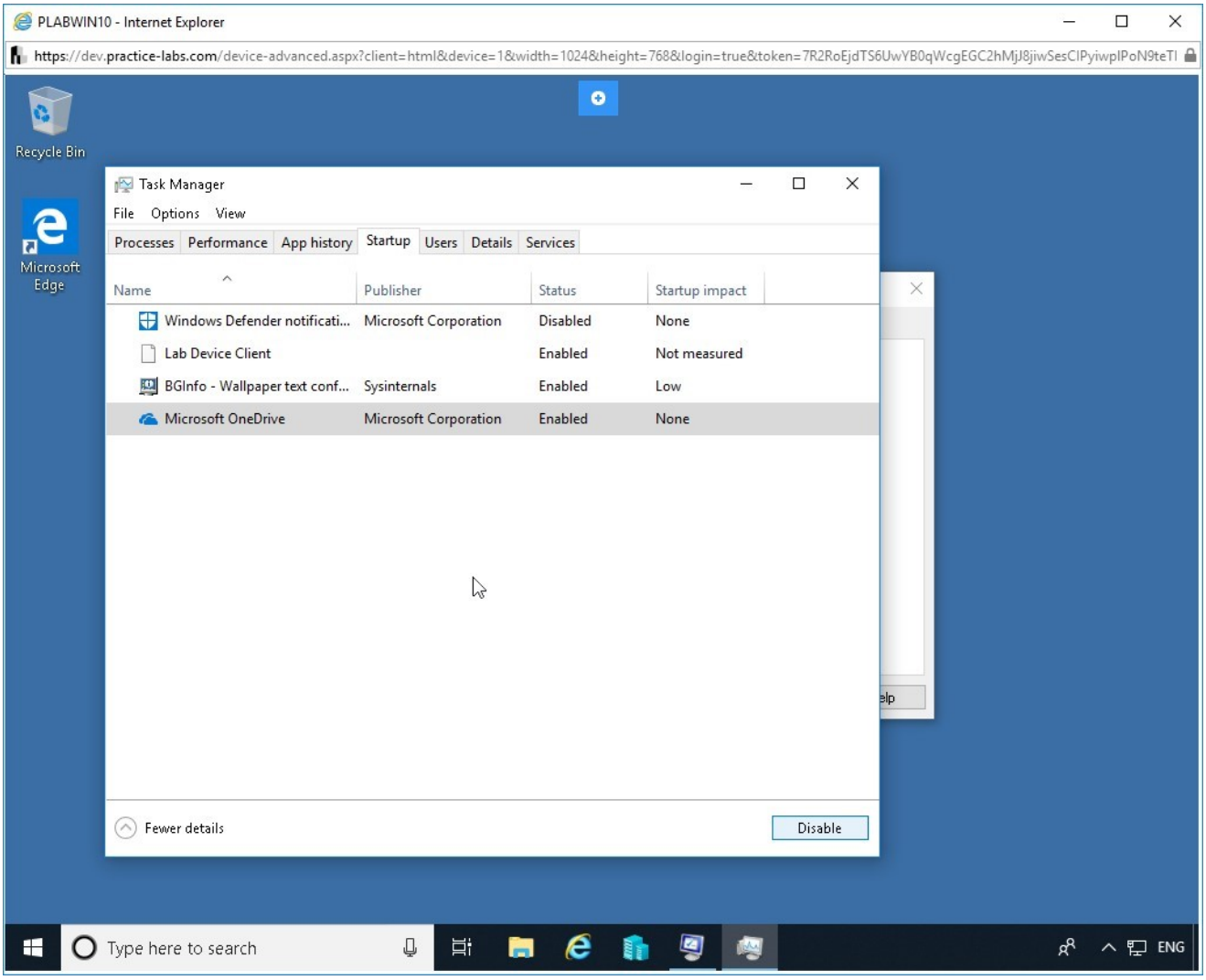


Figure 2.9 Screenshot of PLABWIN10: Showing the enabled Microsoft OneDrive service.

Close the **Task Manager** dialog box.

Step 4

You are back on the **Startup** tab of the **System Configuration** dialog box.

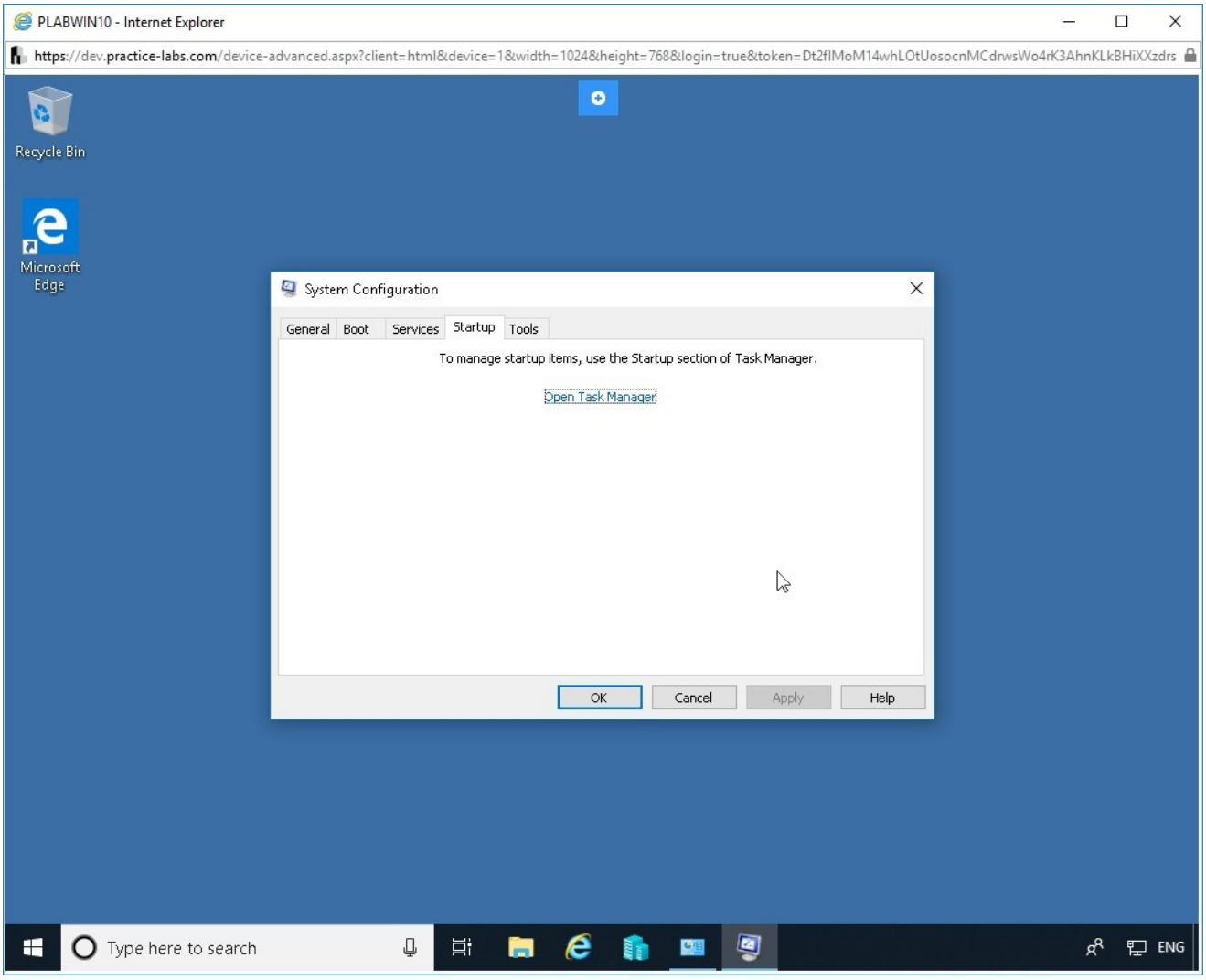


Figure 2.10 Screenshot of PLABWIN10: Displaying the Startup tab on the Task Manager.

Task 5 - Launch a Tool from the Tools Tab

The **Tools** tab lists the available tools and their description. You can select and launch a tool from here.

In this task, you will access the **About Windows** information on the **Tools** tab.

Step 1

Ensure that **PLABWIN10** is running and the **System Configuration** dialog box is displayed.

Click the **Tools** tab.

Select the **About Windows** option and click **Launch**.

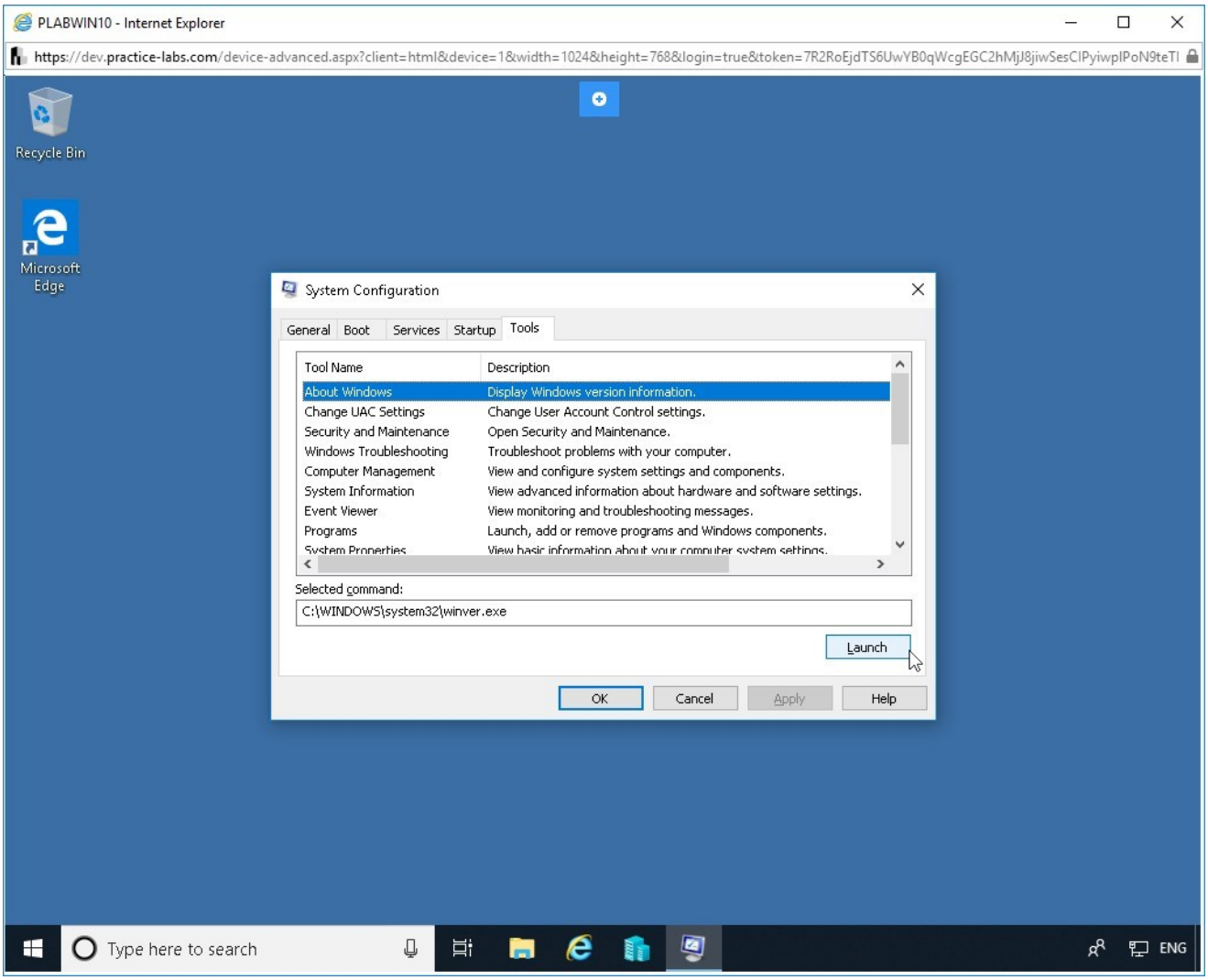


Figure 2.11 Screenshot of PLABWIN10: Launching the About Windows dialog box.

Step 2

The **About Windows** window is displayed.

View the information and click **OK** to exit the **About Windows** dialog box.

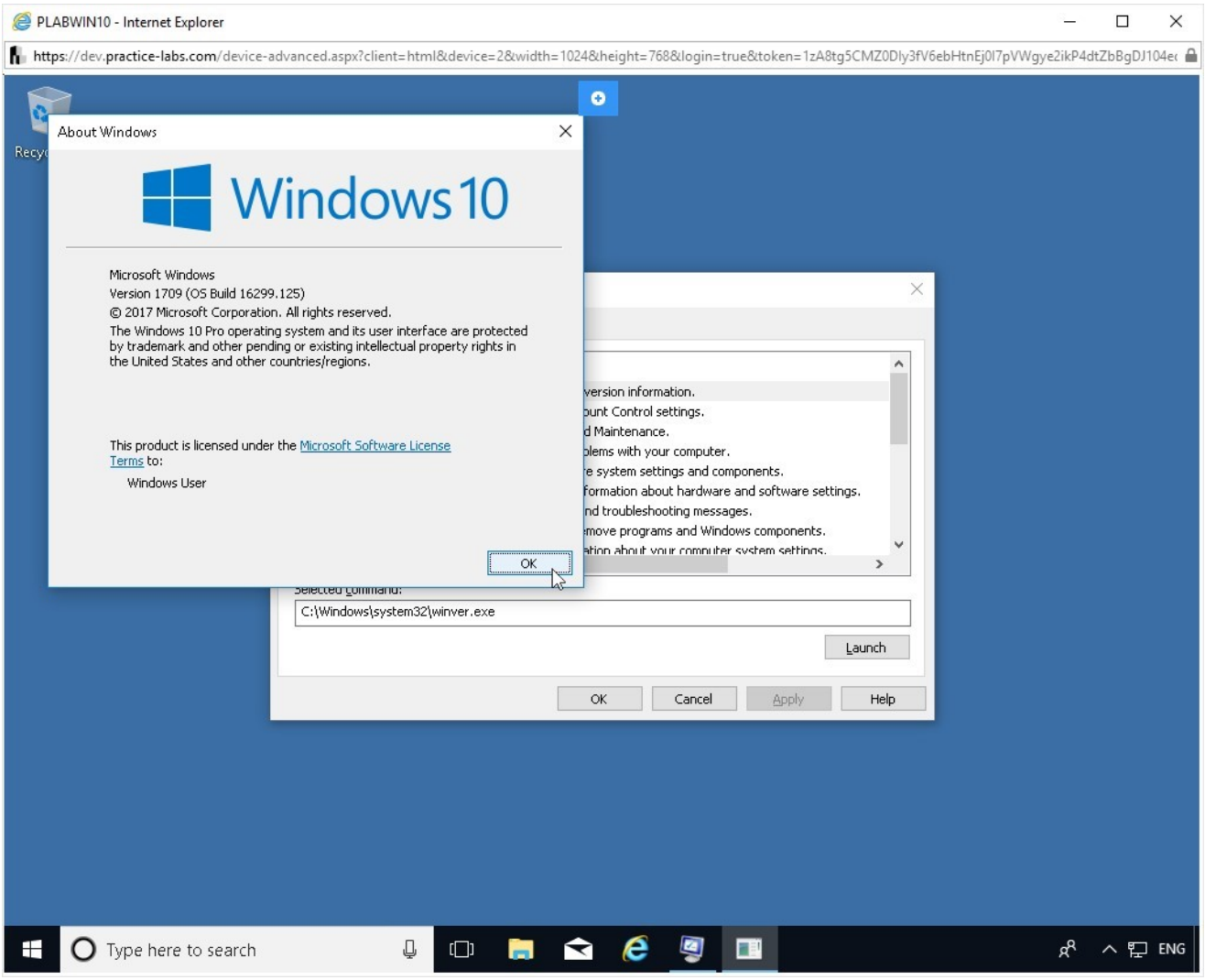


Figure 2.12 Screenshot of PLABWIN10: Showing the About Windows dialog box and showing the OK button highlighted.

Step 3

Back on the **System Configuration** dialog box, click **OK** to save the changes and exit.

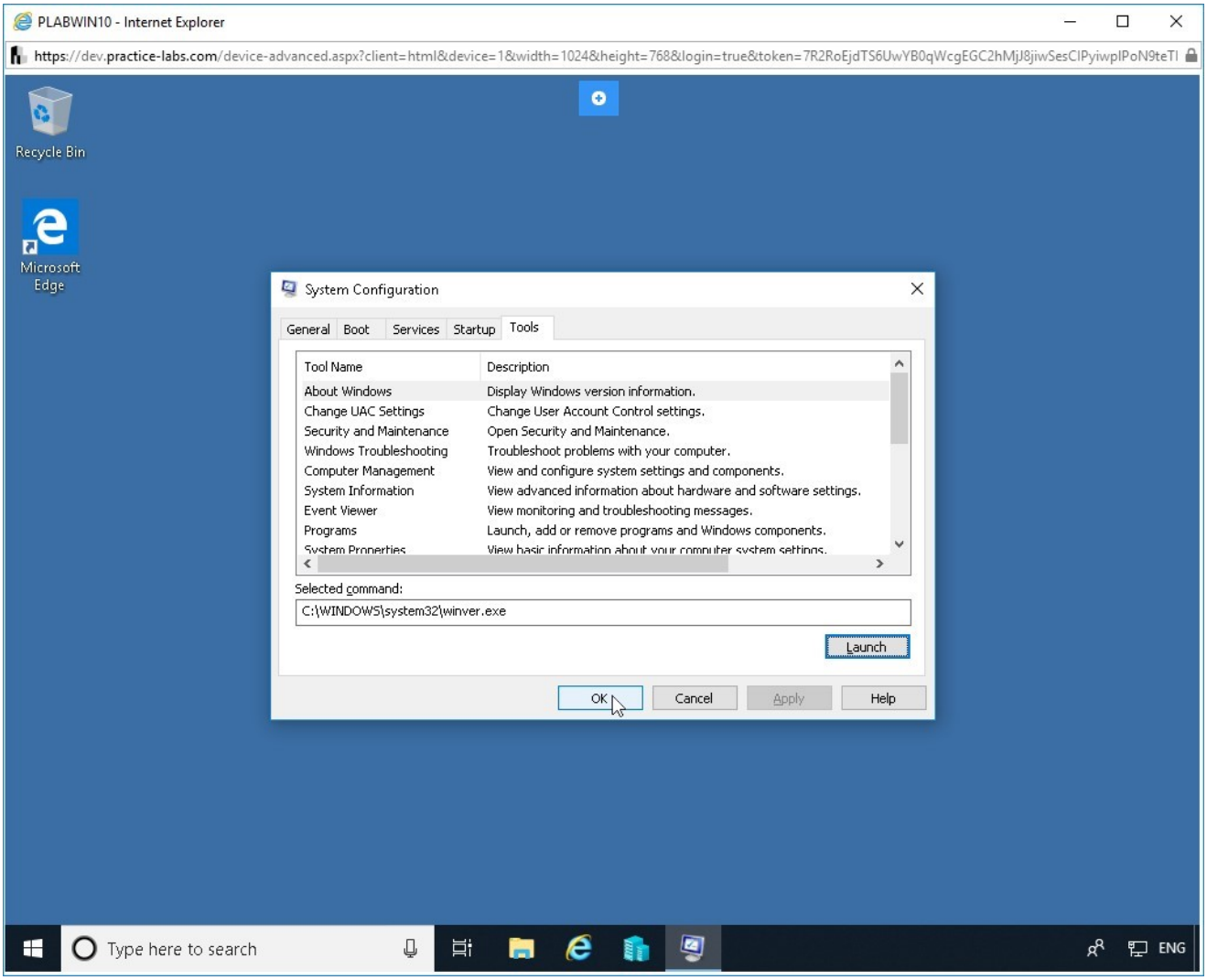


Figure 2.13 Screenshot of PLABWIN10: Showing the OK button highlighted on the System Configuration dialog box.

Step 4

The **System Configuration** dialog box is displayed. You can apply the changes immediately by restarting the system or exit without restarting. For this task, click **Exit without restart**.

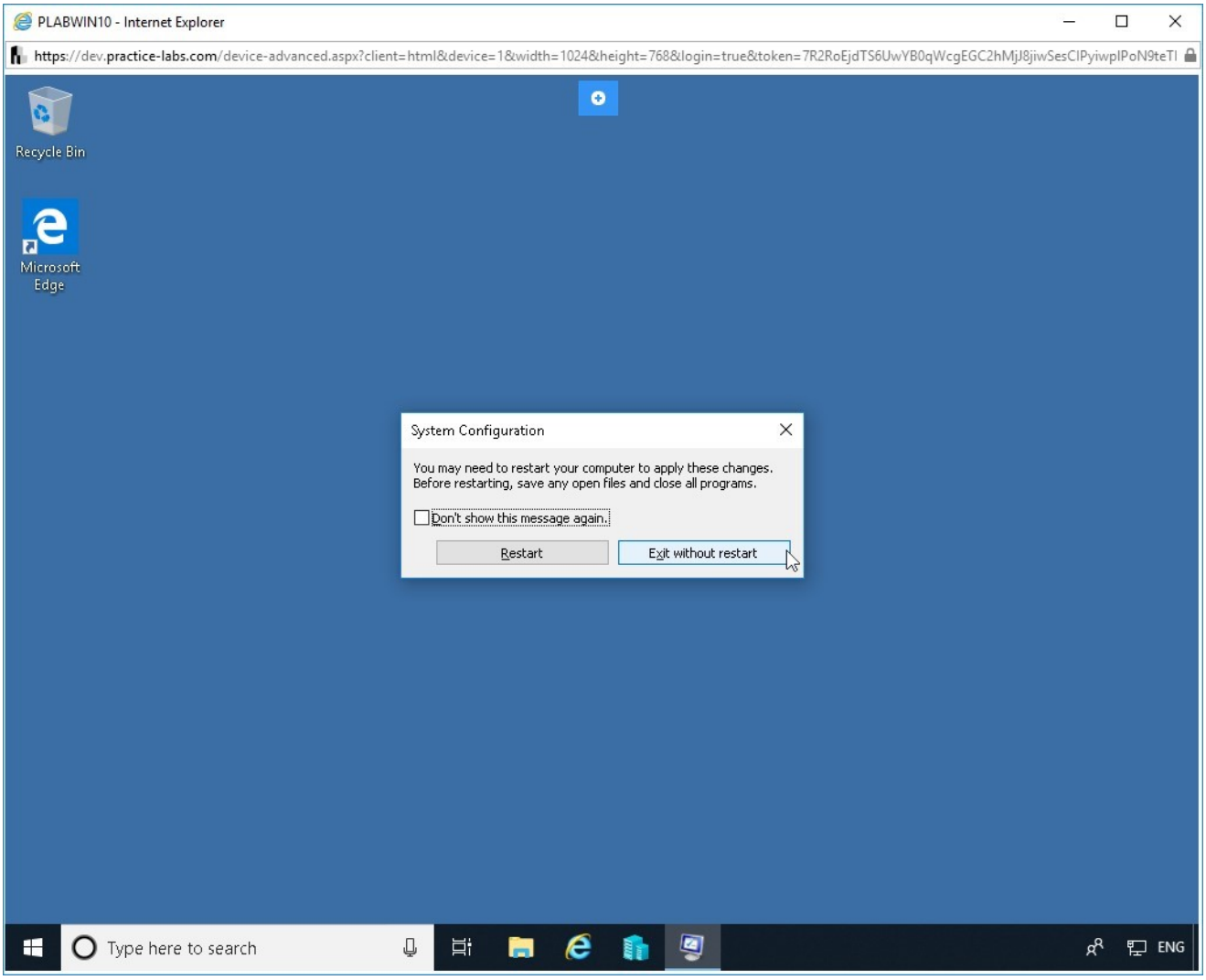


Figure 2.14 Screenshot of PLABWIN10: Showing the System Configuration dialog box with the Exit without restart button highlighted.

Leave the devices in their current states and continue on to the next exercise.

Exercise 3 - Using the Task Manager

Task Manager is a Windows tool that enables you to track, monitor, and troubleshoot the system performance at levels starting from the OS level right up to the individual application level.

Features of the **Task Manager** are organized into the following tabs:

- Processes

- Performance
- App History
- Startup
- Users
- Details
- Services

In this exercise, you will explore the options available and the functions served by each of these tabs.

Learning Outcomes

After completing this exercise, you will be able to:

- End a Task on the Processes Tab
- Explore the Performance Tab
- Disconnect a User on the Users Tab

Your Devices

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

- **PLABDC01 -** (Windows Server 2016 - Domain Controller)
- **PLABWIN10 -** (Windows 10 - Domain Member)

Task 1 -End a Task on the Processes Tab

The **Processes** tab is the first tab on the **Task Manager** console. This tab lists the processes and applications running on the system while tracking the number of resources - **CPU**, **Memory**, **Disk**, and **Network** - that each process/application is using. There will be scenarios in which an application, such as Google Chrome or Microsoft Word,

consume a large amount of memory or CPU. In that case, you can use the Processes tab to terminate the processes specific to these applications. In this task, you will stop the execution of the **Antimalware Service Executable** process.

Step 1

Ensure **PLABWIN10** is running and the desktop is displayed. Right-click the **taskbar** and select Task Manager from the context menu.

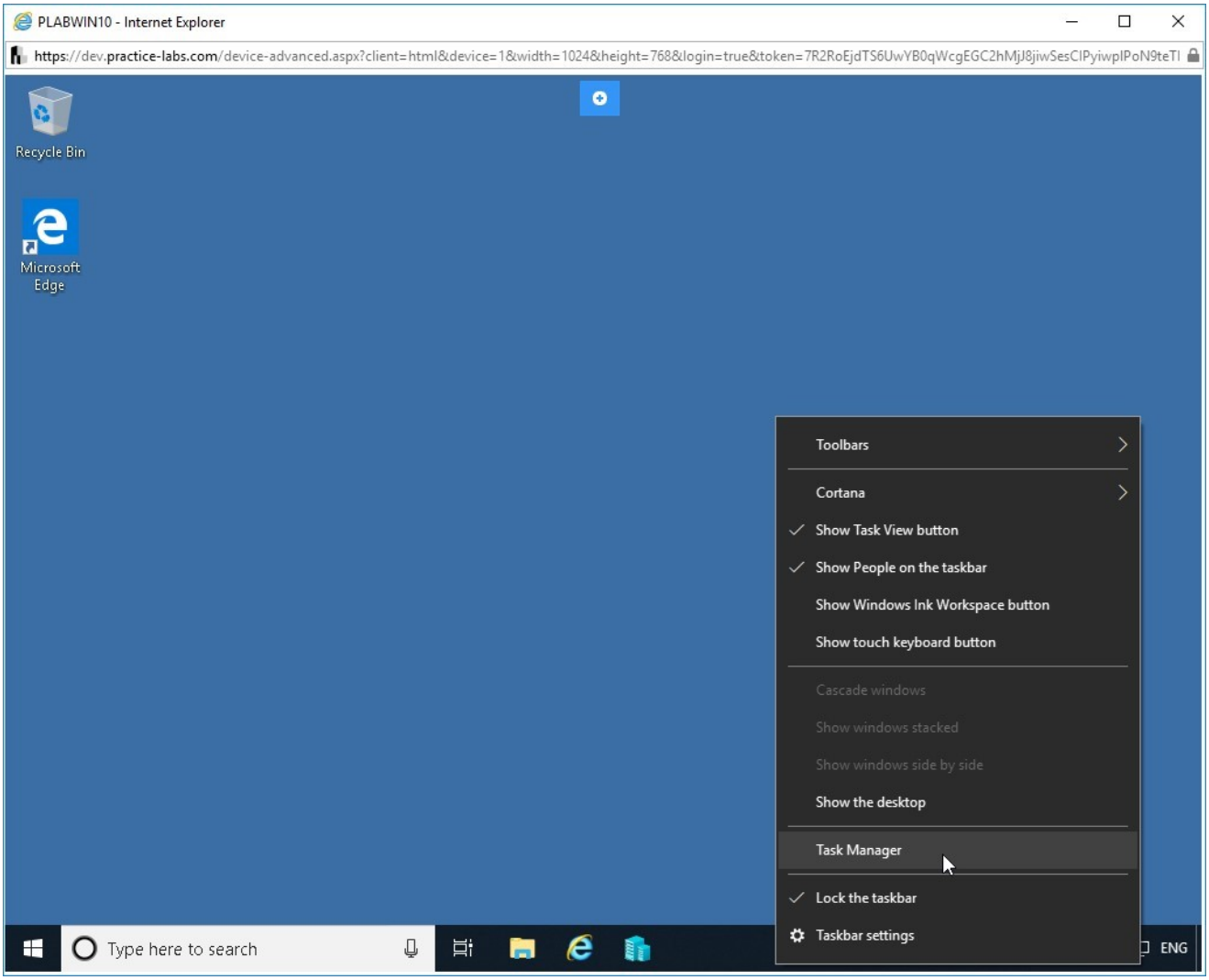


Figure 3.1 Screenshot of PLABWIN10: Selecting Task Manager from the context menu of Windows taskbar.

Step 2

Task Manager is displayed.

Notice that the **Processes** tab is displayed by default.

On the **Processes** tab, the list of running processes - along with the resource-usage by each - is organized into two sections - **Applications** and **Background processes**.

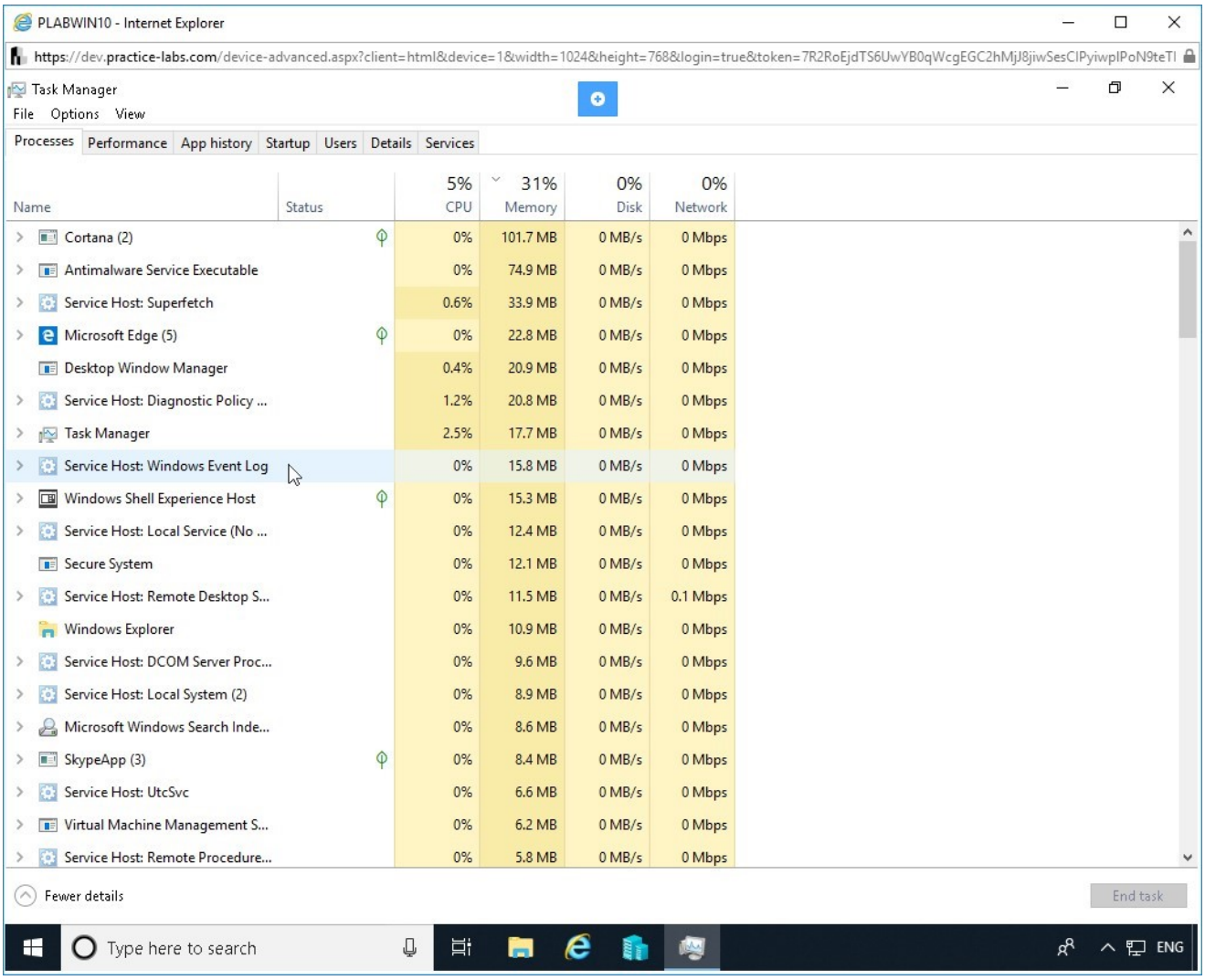


Figure 3.2 Screenshot of PLABWIN10: Showing the Processes tab on the Task Manager window.

Step 3

For this task, select the **Antimalware Service Executable** process, then click **End task**.

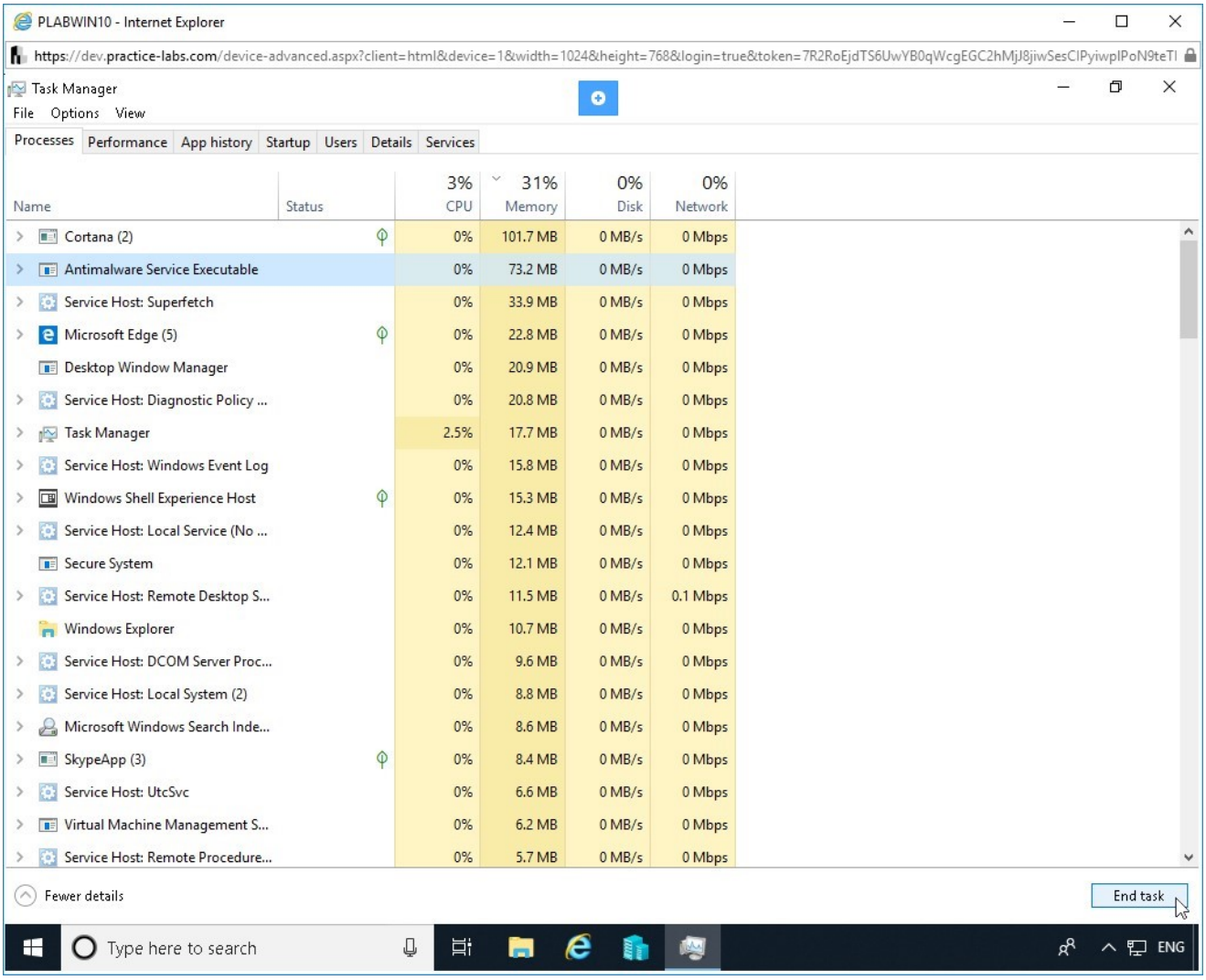


Figure 3.3 Screenshot of PLABWIN10: Selecting the Antimalware Service Executable process, then clicking End task.

Step 4

Since this is a system-controlled process, it cannot be terminated. Notice that the **Unable to terminate process** dialog box is displayed. Click **OK** to close this dialog box.

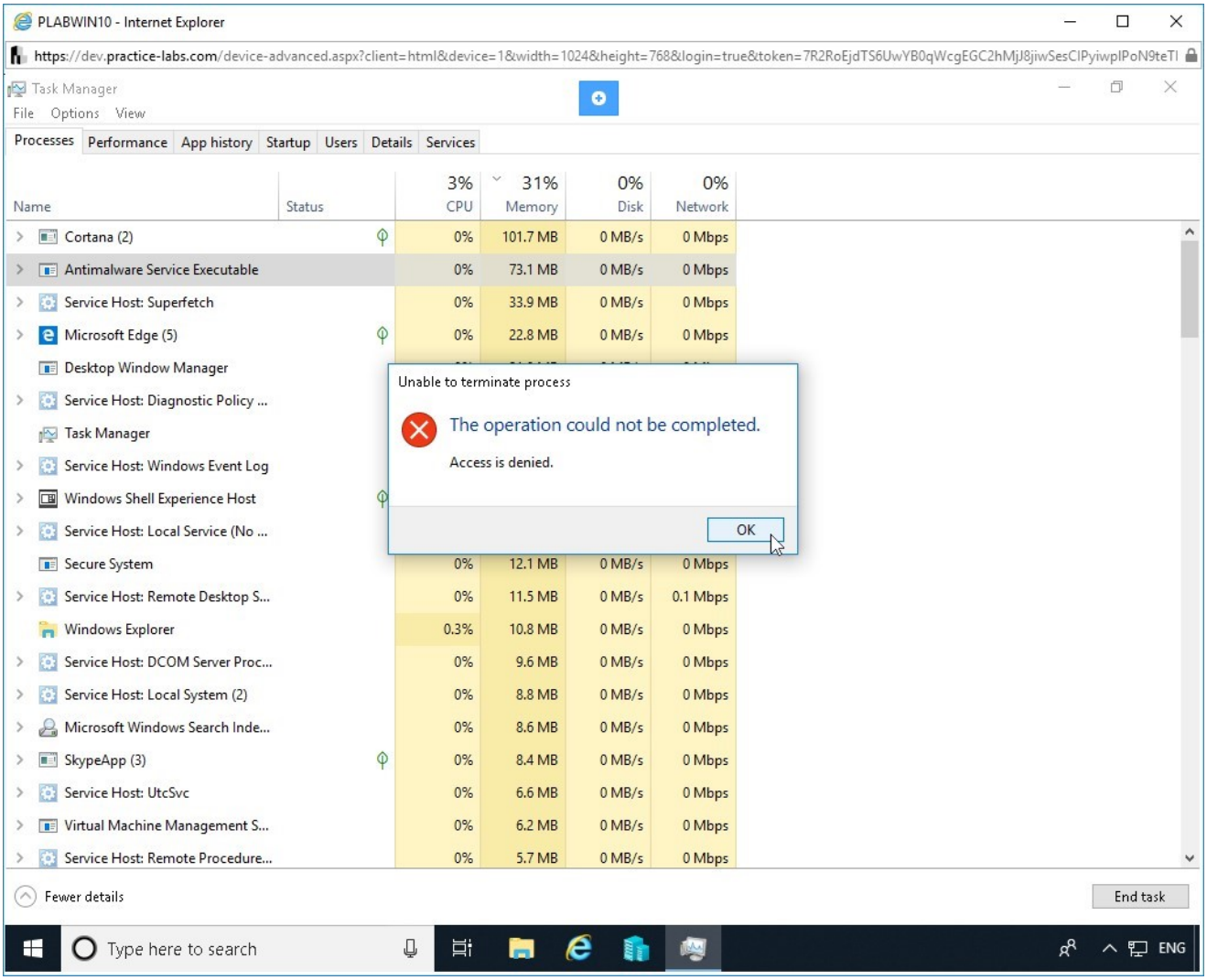


Figure 3.4 Screenshot of PLABWIN10: Showing the Access is denied message.

Step 5

Select **Microsoft Edge** and click **End task**.

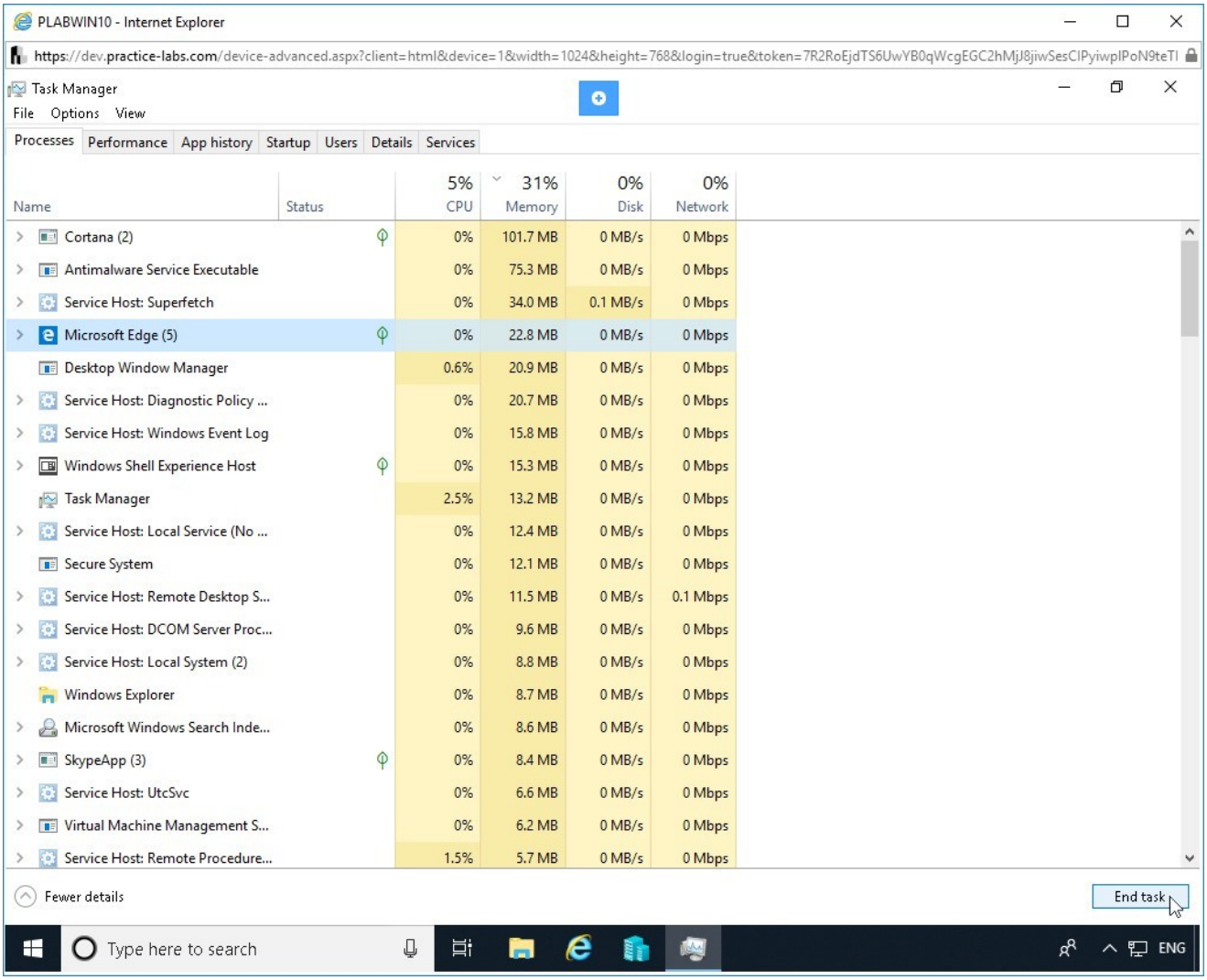


Figure 3.5 Screenshot of PLABWIN10: Selecting Microsoft Edge and clicking End task.

Step 6

Notice that **Microsoft Edge** no longer appears in the list. It has been terminated.

Keep the **Task Manager** open for the next task.

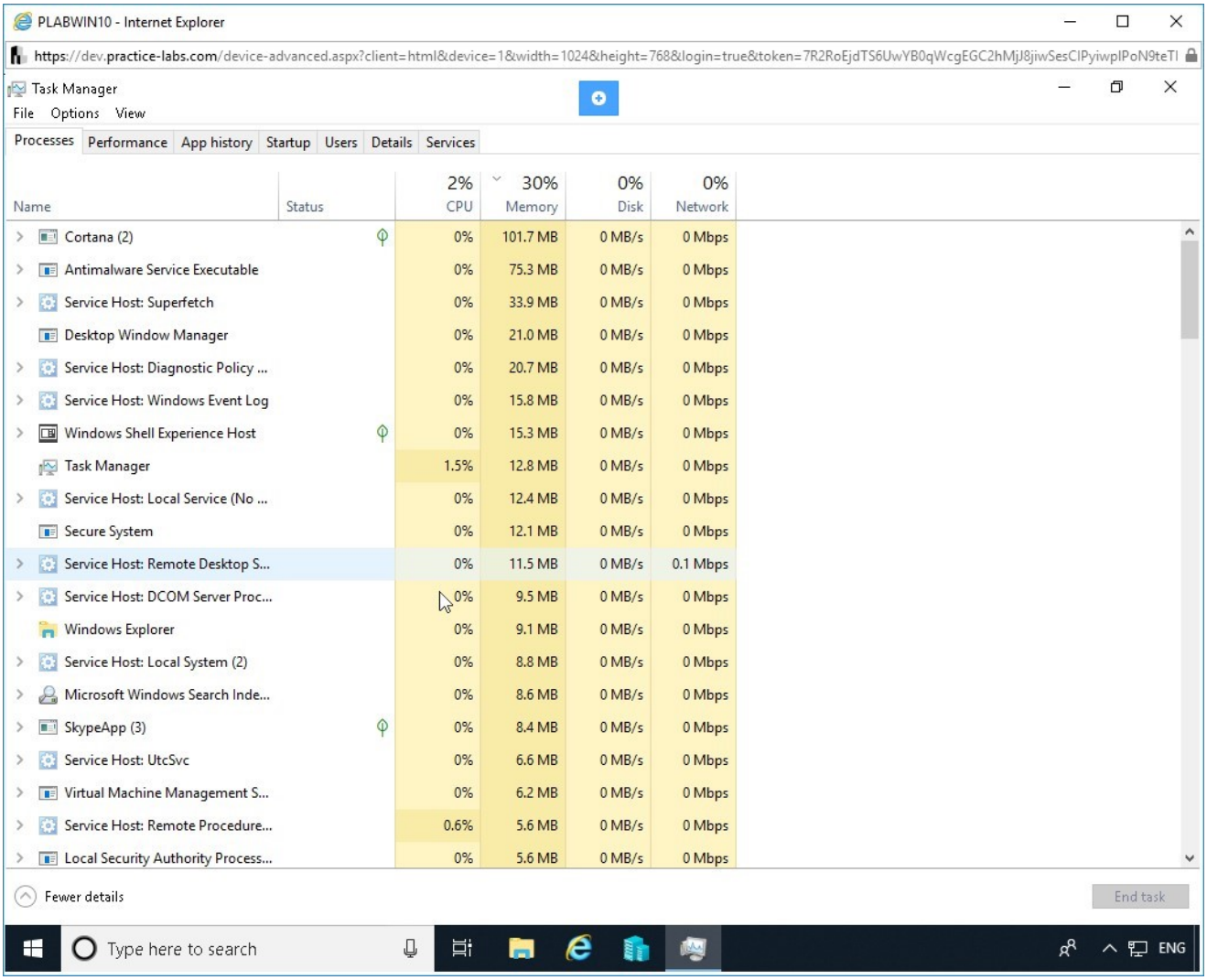


Figure 3.6 Screenshot of PLABWIN10: Showing the updated task list without Microsoft Edge.

Task 2 - Explore the Performance Tab

The **Performance** tab on the **Task Manager** monitors and tracks the system parameters - **CPU**, **Memory**, **Disk**, and **Ethernet**. The performance-history is traced as a graph to refer to during performance analysis or troubleshooting. In addition, statistics relevant to each feature appear on the tab.

In this task, you will explore the Performance tab on the Task Manager console.

Step 1

Ensure **PLABWIN10** is running and the **Task Manager** console is displayed.

Click the **Performance** tab.

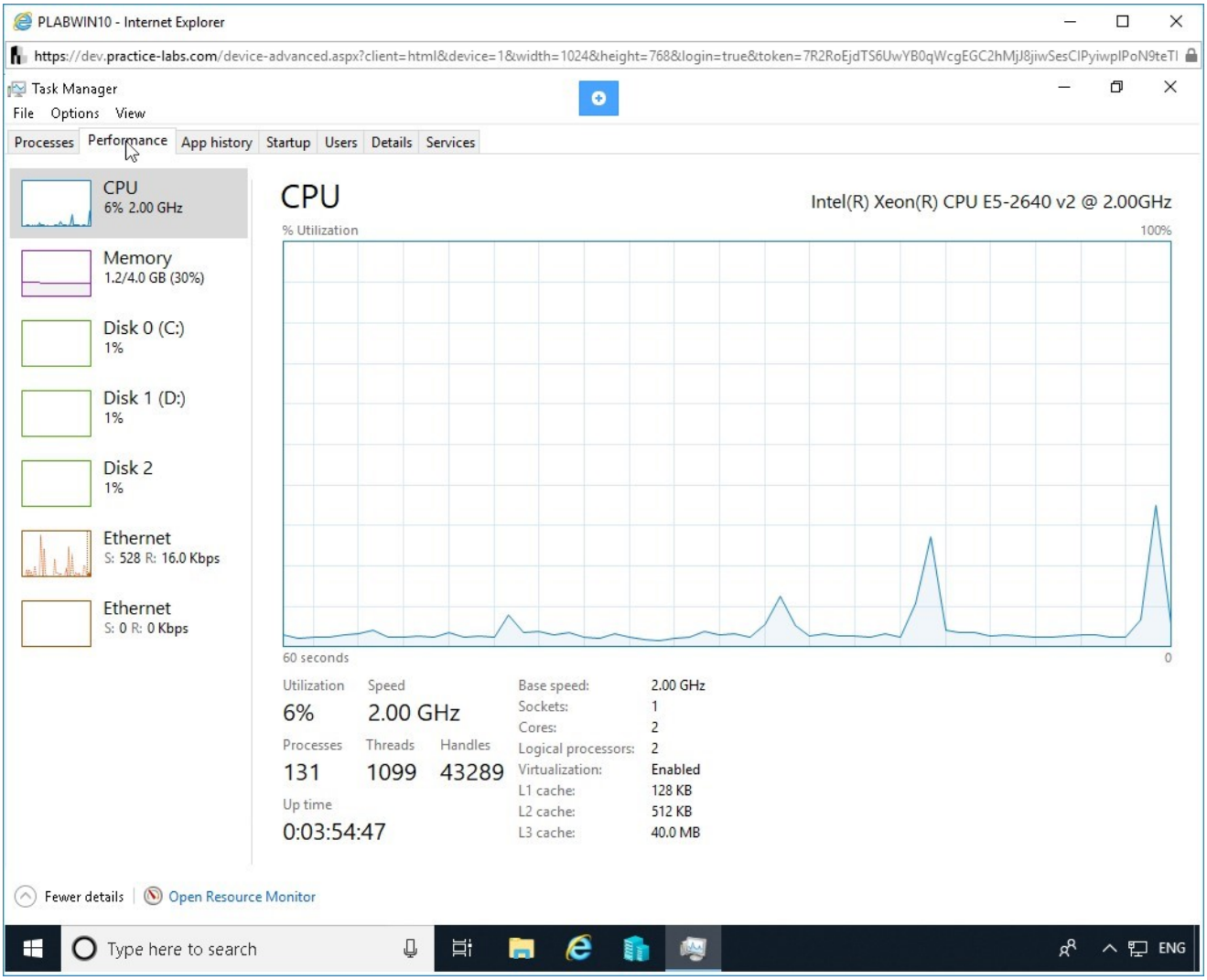


Figure 3.7 Screenshot of PLABWIN10: Showing the Performance tab on the Task Manager and showing the relevant statistics for the CPU parameter.

Step 2

Notice that the performance graph and the relevant statistics for the **CPU** parameter are displayed by default. This tab, depending on what you have selected, for example, CPU, displays the configuration statistics. It displays statistics, such as virtual processors, sockets, utilization, processes, threats, handles, and the processor speed. It also provides the uptime for the processor.

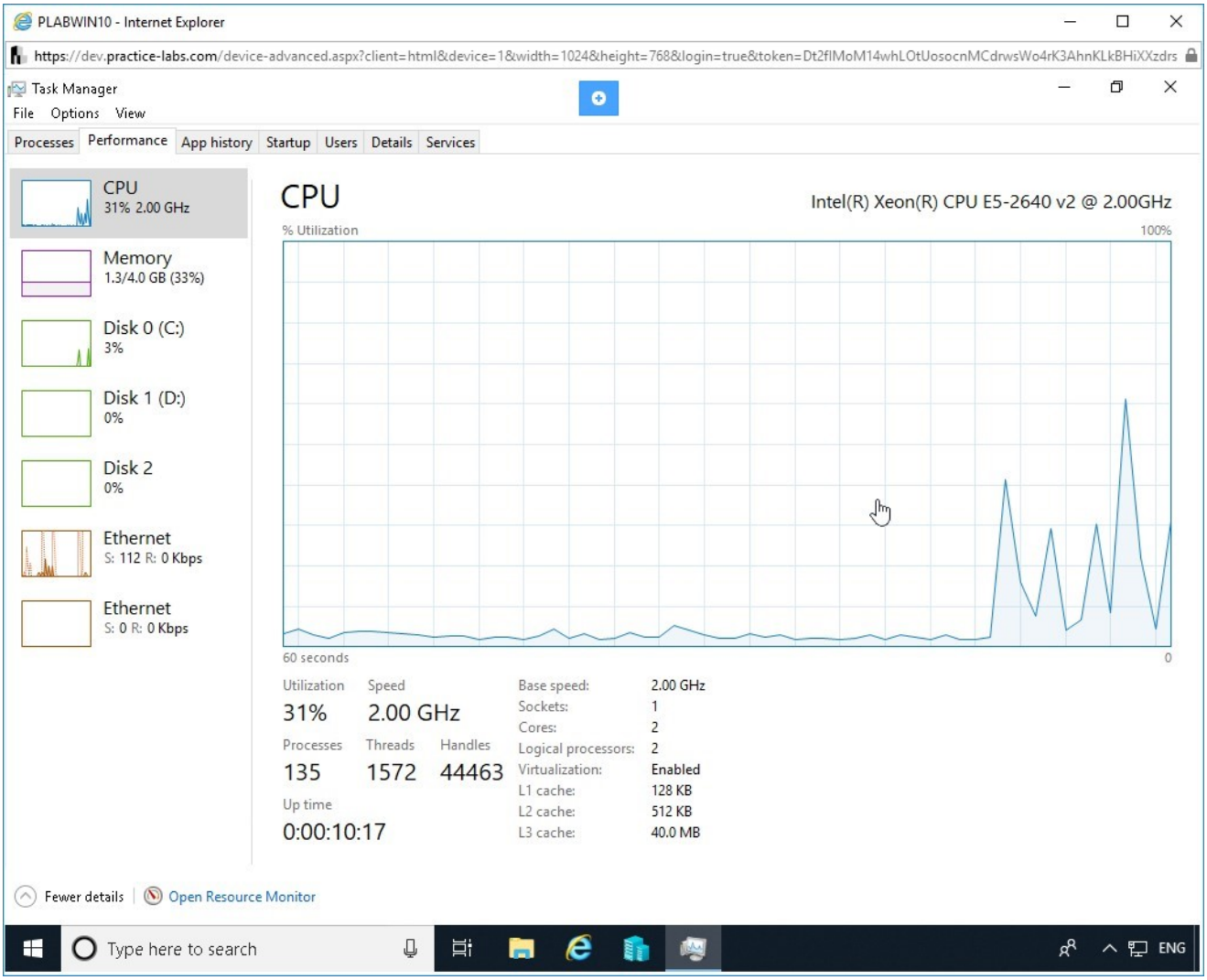


Figure 3.8 Screenshot of PLABWIN10: Showing the Performance tab on the Task Manager and showing the relevant statistics for the CPU parameter

Step 3

Select **Memory**. Just like CPU, memory statistics are being displayed. The graph displays a visual of the memory being used.

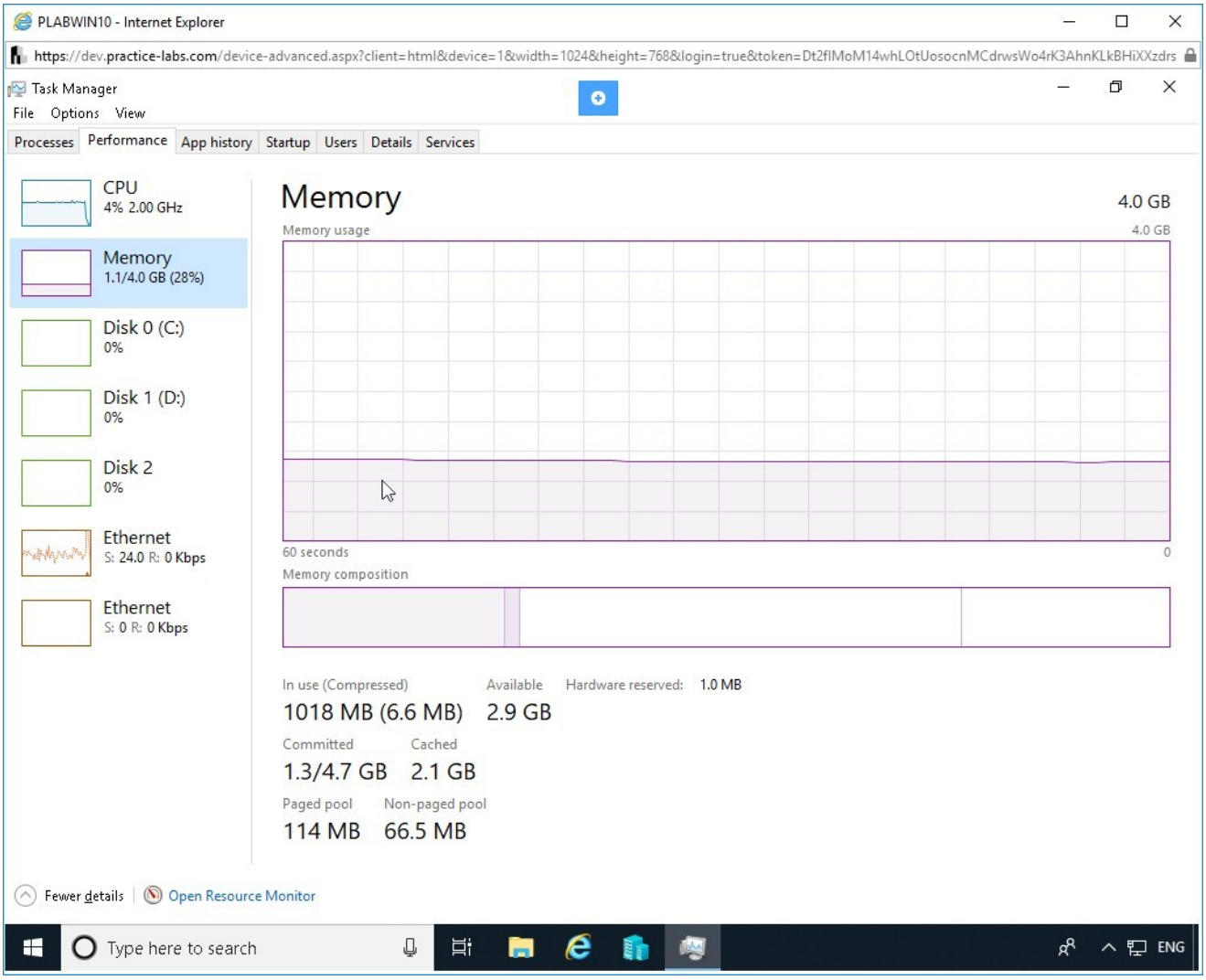


Figure 3.9 Screenshot of PLABWIN10: Showing the Performance tab on the Task Manager and showing the relevant statistics for the memory parameter.

Step 4

Select **Disk 0**. The disk statistics are displayed. Notice that there are three disks being displayed. When you have more than one disk, it is marked as **Disk 0**, **Disk 1**, and the number is increased by one number.

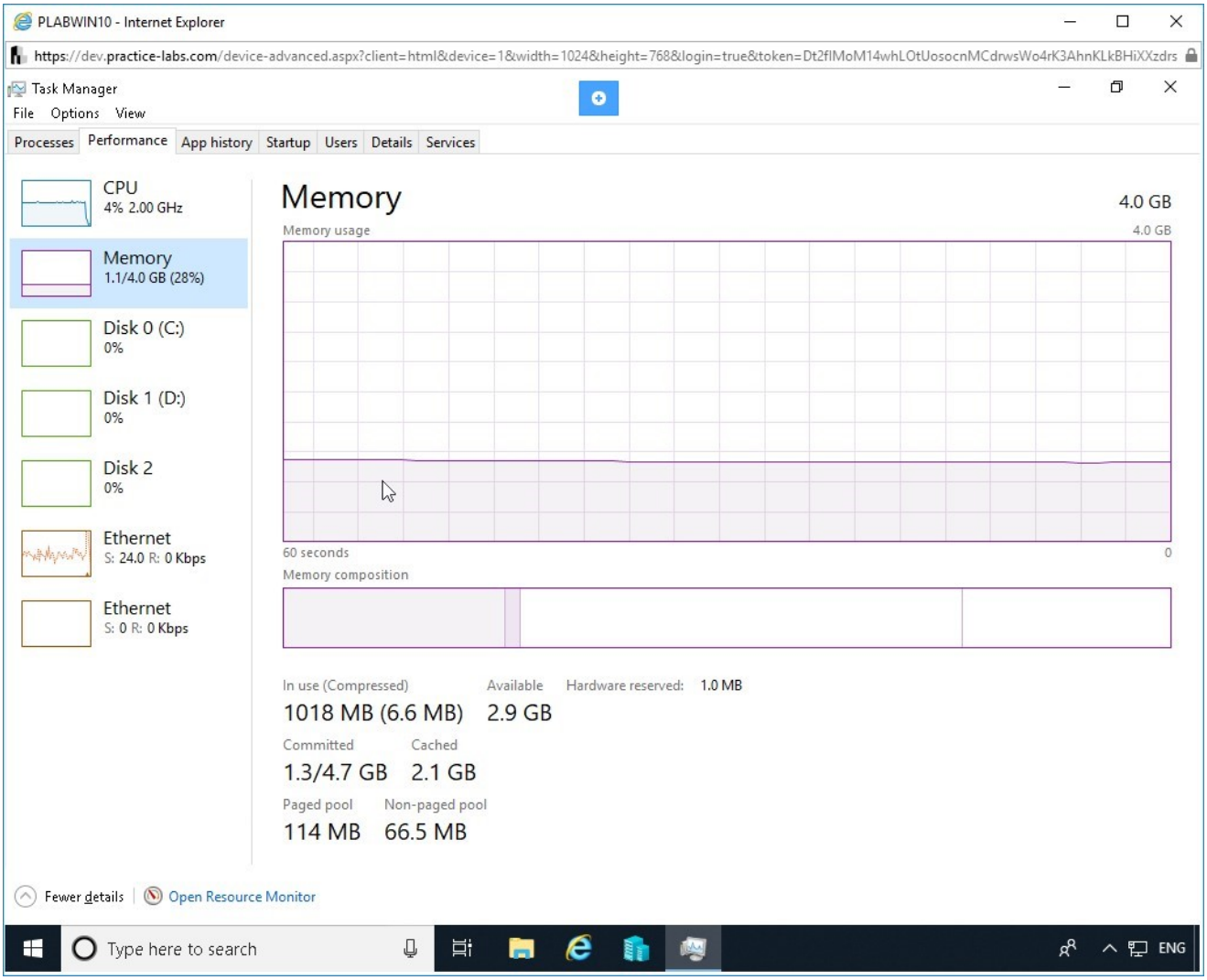


Figure 3.10 Screenshot of PLABWIN10: Showing the Performance tab on the Task Manager and showing the relevant statistics for the disk parameter

Step 5

Select **Ethernet. Ethernet** is another option on the **Performance** tab that you might access often to analyze the performance history of the local system.

Notice that the **Ethernet** option also lists other relevant details such as adapter name, connection type, IP addresses, and data speeds.

> ***Note**: One Ethernet option is listed on the Performance tab for each Ethernet cable connected to the machine.*

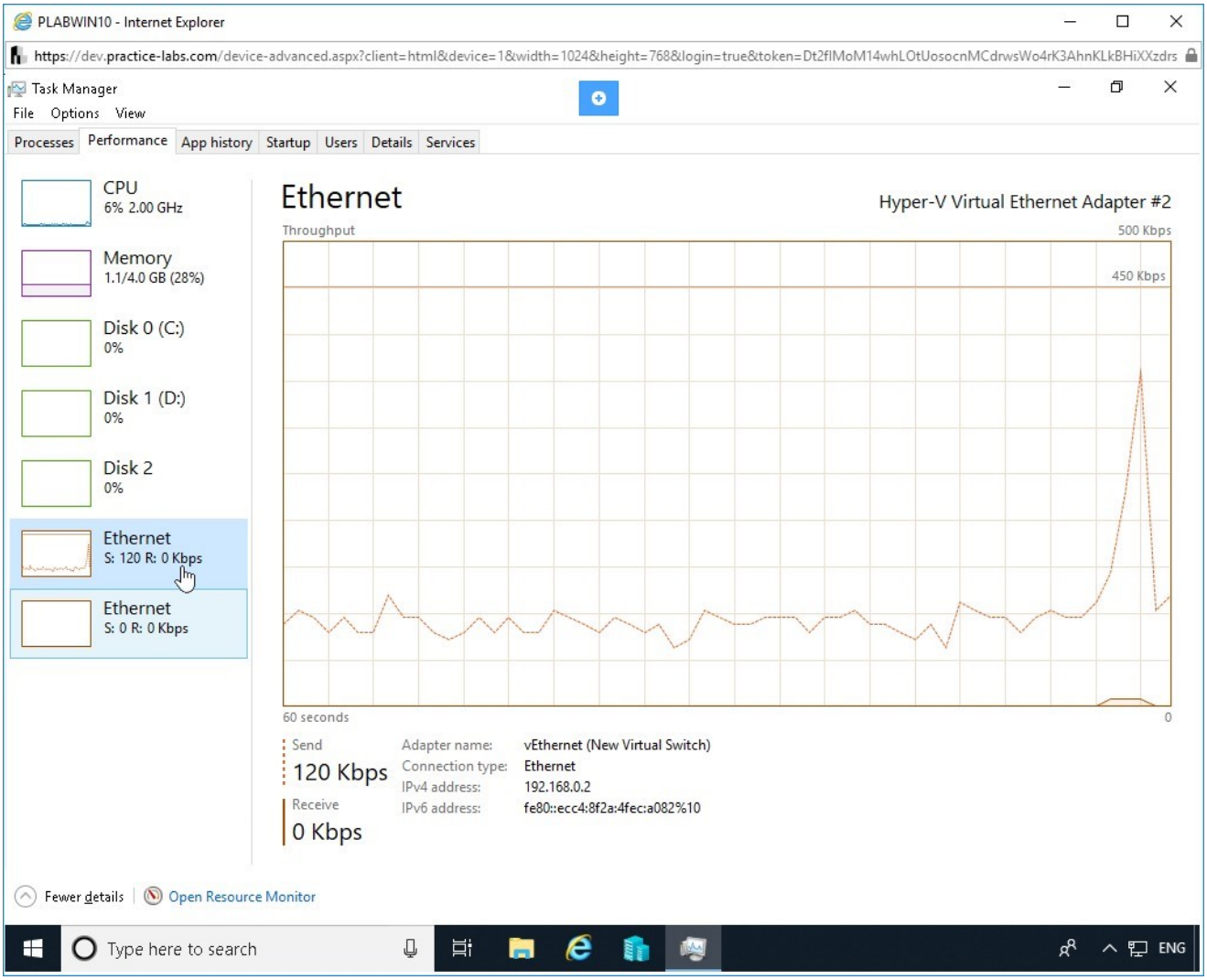


Figure 3.11 Screenshot of PLABWIN10: Showing the Performance tab on the Task Manager and showing the relevant statistics for the Ethernet parameter

Task 3 - Disconnect a User on the Users Tab

The **Users** tab on the **Task Manager** console lists the number of users on the machine, along with the details, such as the status of the user and system-resource consumption. You can use this information to monitor and track the resource-usage for a user and if required, disconnect the user. In this task, you will disconnect a listed user.

Step 1

Ensure **PLABWIN10** is running and the **Task Manager** console is displayed.

Click the **Users** tab. Notice that there is only one user connected.

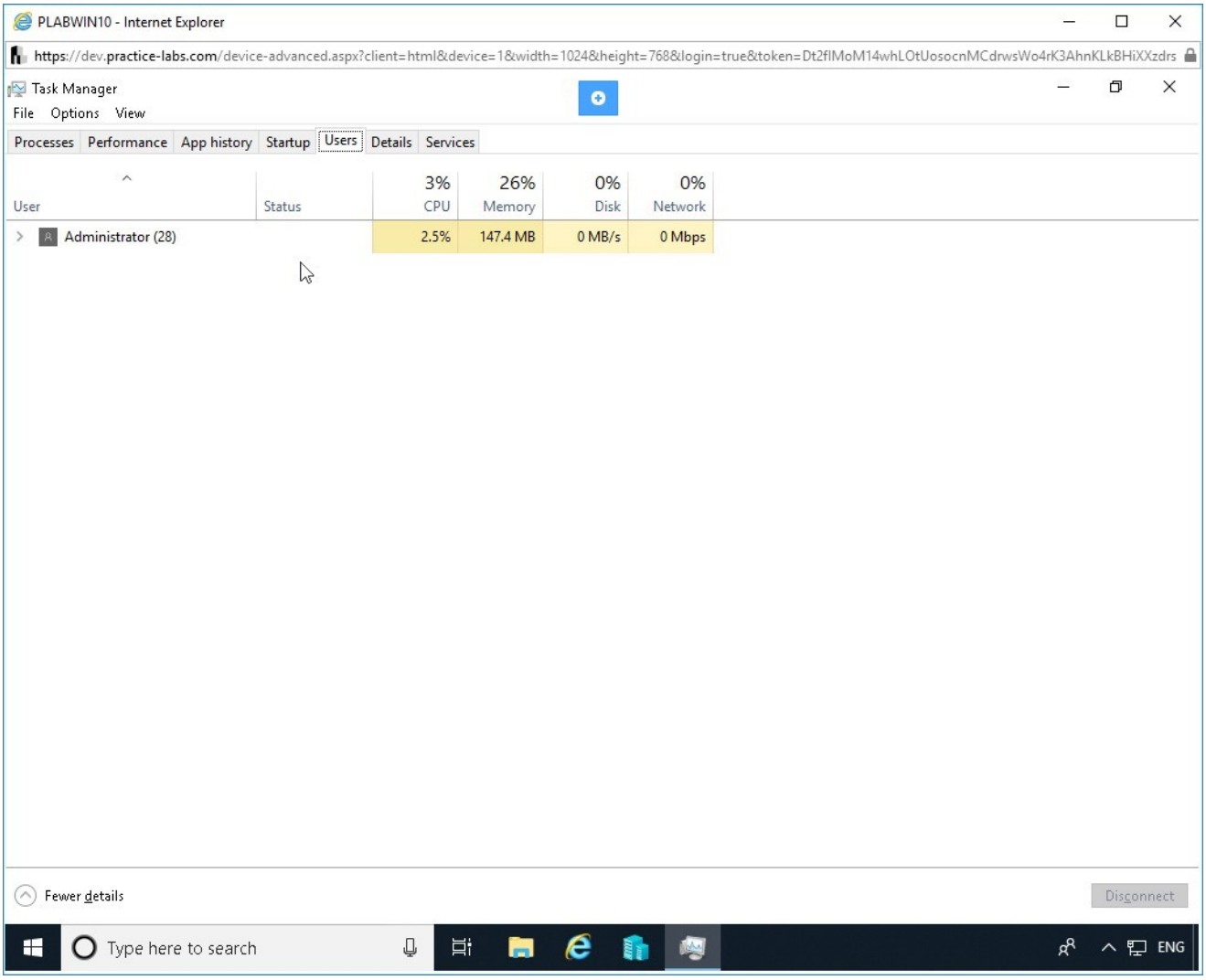


Figure 3.12 Screenshot of PLABWIN10: Showing the Users tab on the Task Manager.

Step 2

To disconnect **Administrator** and click **Disconnect**.

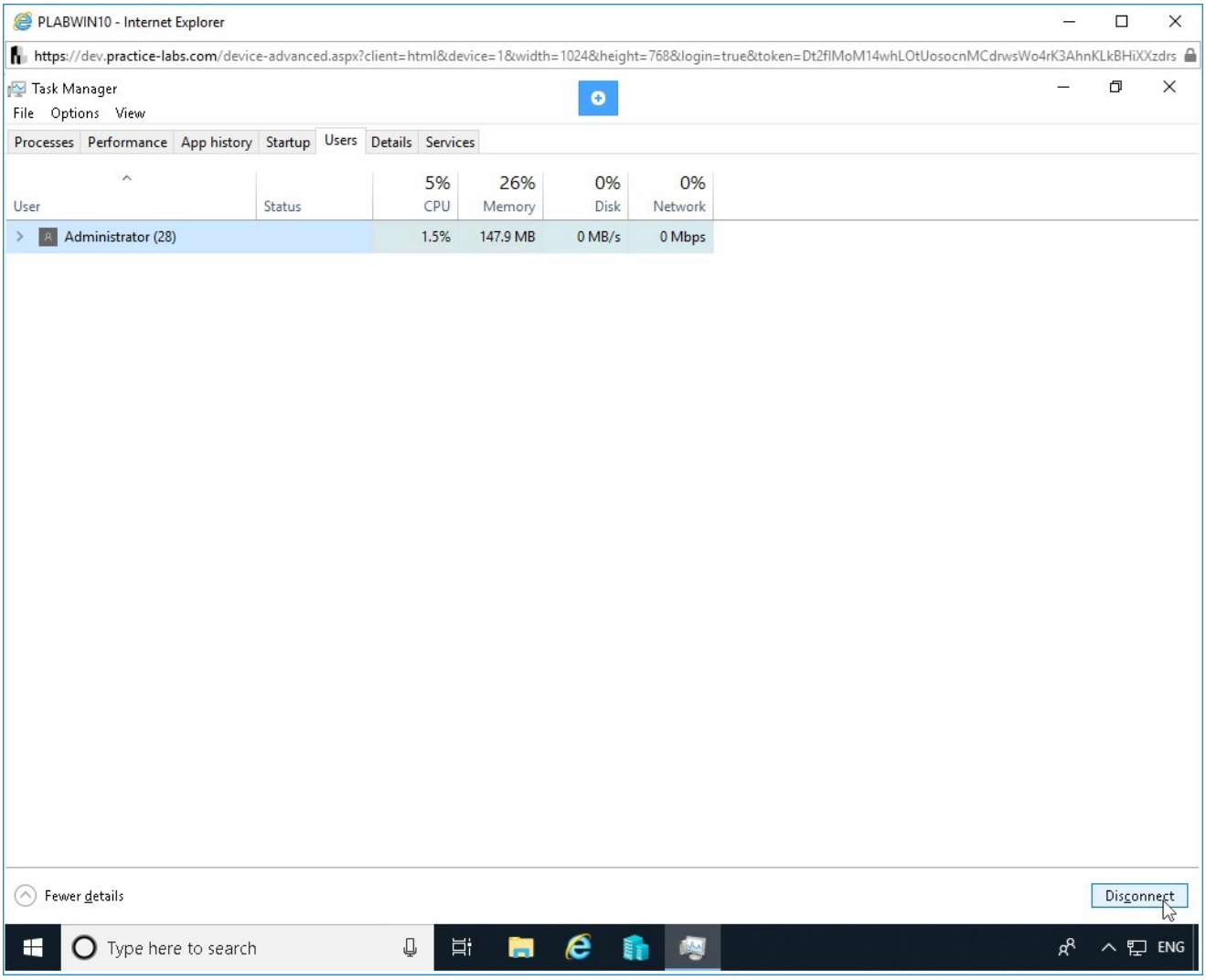


Figure 3.13 Screenshot of PLABWIN10: Selecting Administrator and then clicking the Disconnect button.

Step 3

The **Task Manager** dialog box is displayed. To confirm the disconnection, click **Disconnect user**.

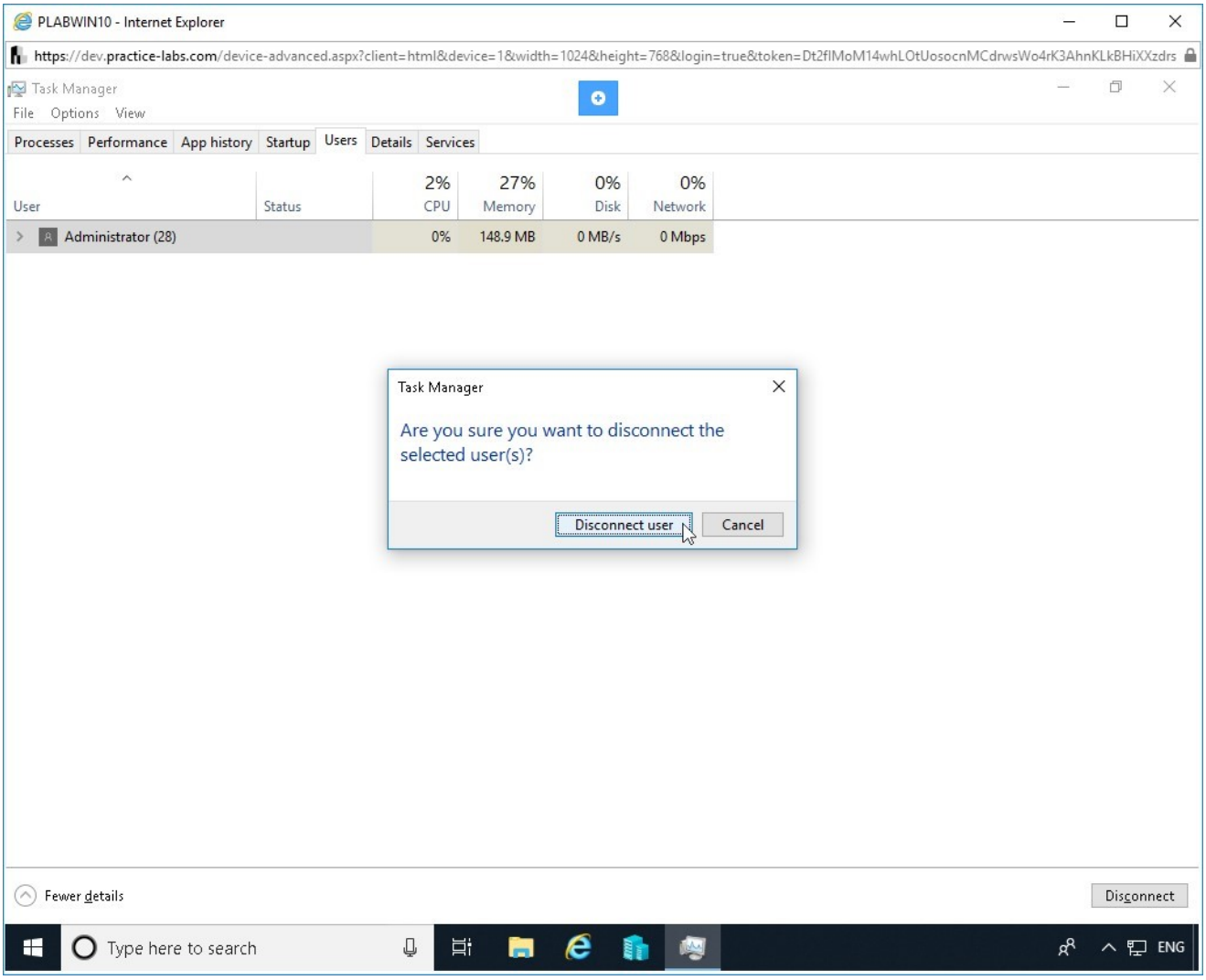


Figure 3.14 Screenshot of PLABWIN10: Confirming the disconnection by clicking the Disconnect user button.

Step 4

Notice that the session is disconnected. The key reason is that you have forcefully disconnected yourself.

> ***Note:*** *Similarly, you can view and explore the other tabs on the Task Manager console.*

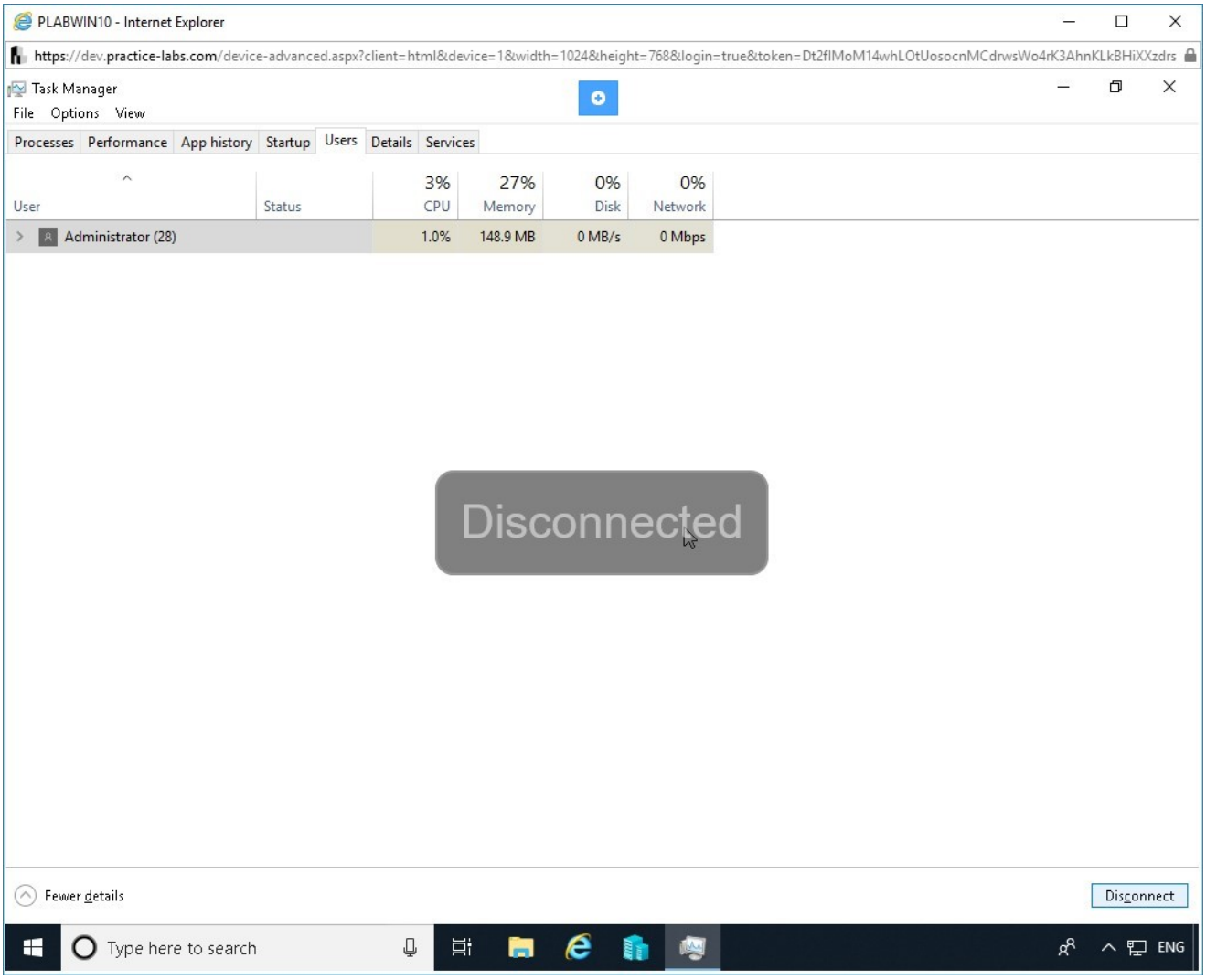


Figure 3.15 Screenshot of PLABWIN10: Showing the disconnected user and the session.

Step 5

Close the disconnected session window. From the Practice-Labs environment, reconnect with PLABWIN10 device. When PLABWIN10 device window is displayed, notice that the Administrator account is again displayed. This is because you have re-established the session.

Close **Task Manager**.

> ***Note:*** *Similarly, you can view and explore the other tabs on the Task Manager console.*

Please reset the devices to their original state and continue on to the next exercise.

Exercise 4 - Managing Storage Spaces

Disk Management is a GUI-based Windows tool introduced in Windows XP and available in all later versions. **Disk Management** helps create, format, and manage disks, both internal and external. You can use the **Disk Management** tool to create and attach hard disks, view and format various disks configured on the system, list the storage space configured on the hard drives and view the free space available.

Windows also provides the **Storage Spaces** feature that helps create a pool of disk drives. This pool can then be used to provide data redundancy as well as memory flexibility on the computer.

In this exercise, you will explore and implement the various storage space management operations supported by both **Disk Management** as well as the **Storage Spaces** features.

Learning Outcomes

After completing this exercise, you will be able to:

- Initialize a Disk
- Partition a Dynamic Disk
- Explore Disk Management Operations
- Re-initialize a Disk
- Manage Storage Spaces

Your Devices

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

- **PLABDC01 -** (Windows Server 2016 - Domain Controller)
- **PLABWIN10 -** (Windows 10 - Domain Member)

Task 1 - Initialize a Disk

After adding a disk to a computer, you need to initialize the disk to make it discoverable by the OS. An initialized disk can then be partitioned or formatted to make it ready for storing data. The **Disk Management** tool enables you to bring disks online to make them available for initialization.

In this task, you will use the **Disk Management** tool to bring a disk online.

Step 1

Ensure that **PLABWIN10** is running and the desktop is displayed.

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

```
Disk Management
```

Under **Best Match** section, select the **Create and format hard disk partitions**.

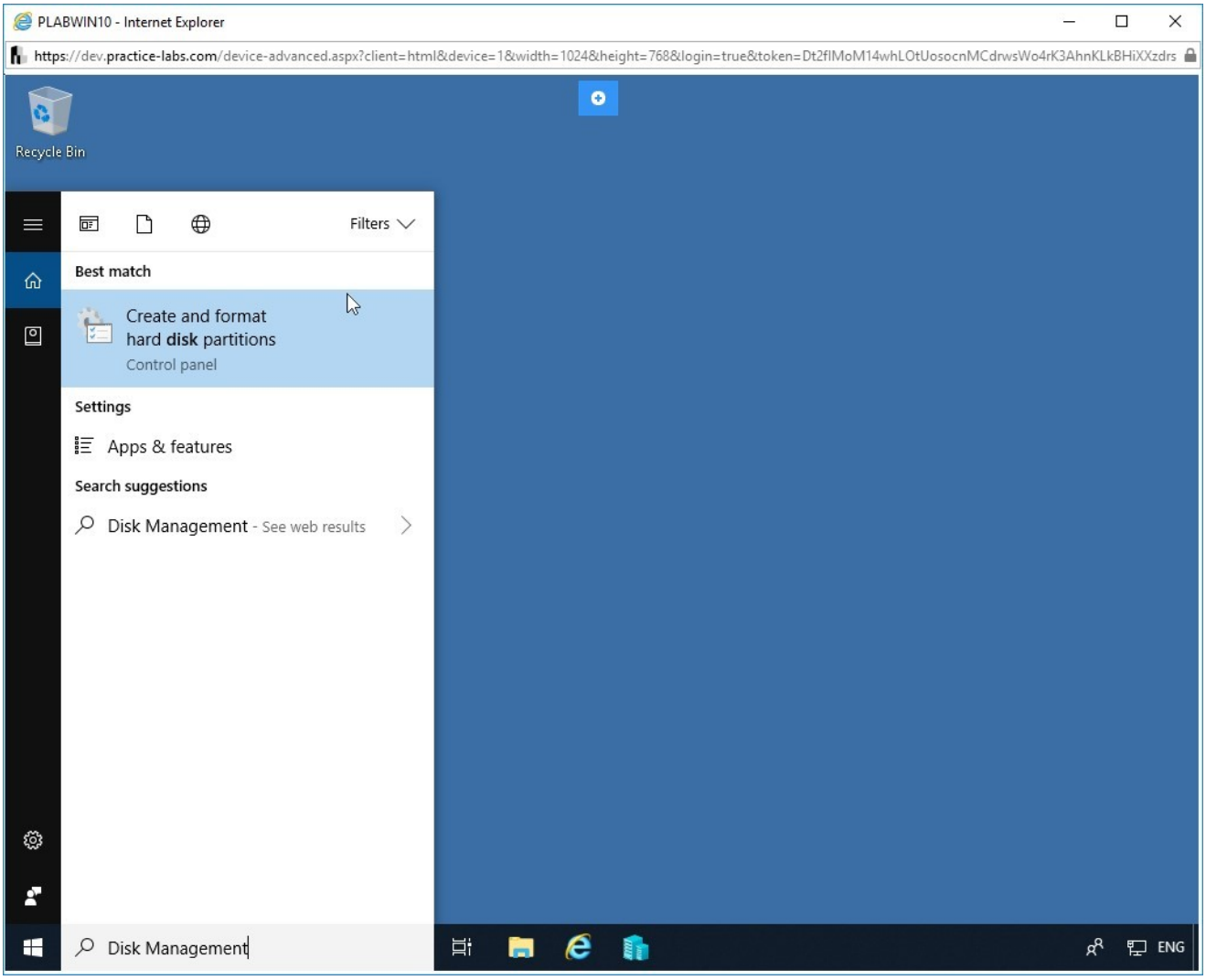


Figure 4.1 Screenshot of PLABWIN10: Selecting Create and format hard disk partitions from the search results.

Step 2

The **Disk Management** window is displayed.

Notice that the disks configured on the computer, along with the relevant details are listed. **Disk 1** is currently marked as **Online**.

In the bottom pane, right-click in the Grey area under **Disk 1** and select **Offline**.

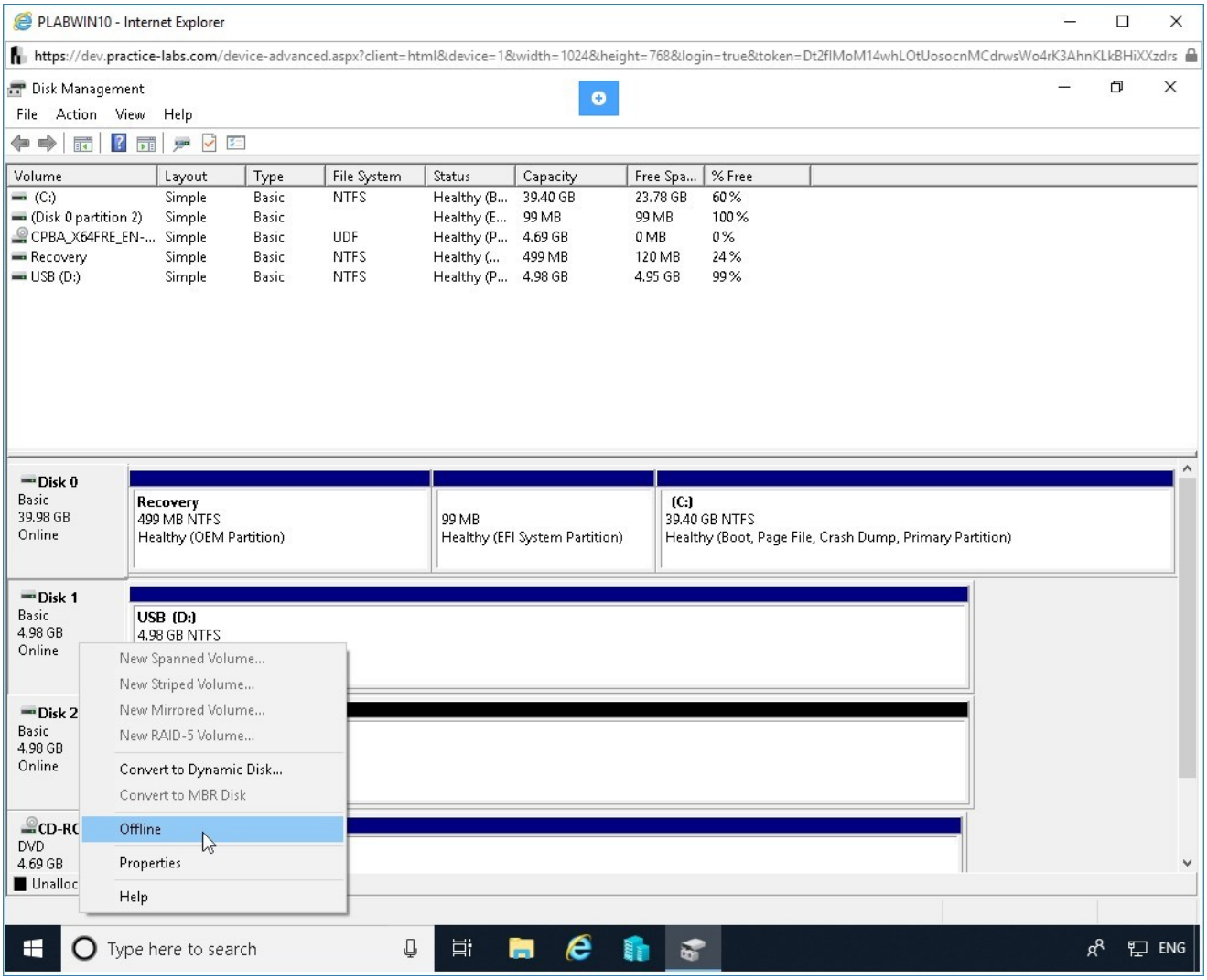


Figure 4.2 Screenshot of PLABWIN10: Making Disk 1 offline.

Step 3

Disk 1 is now marked as **Offline**.

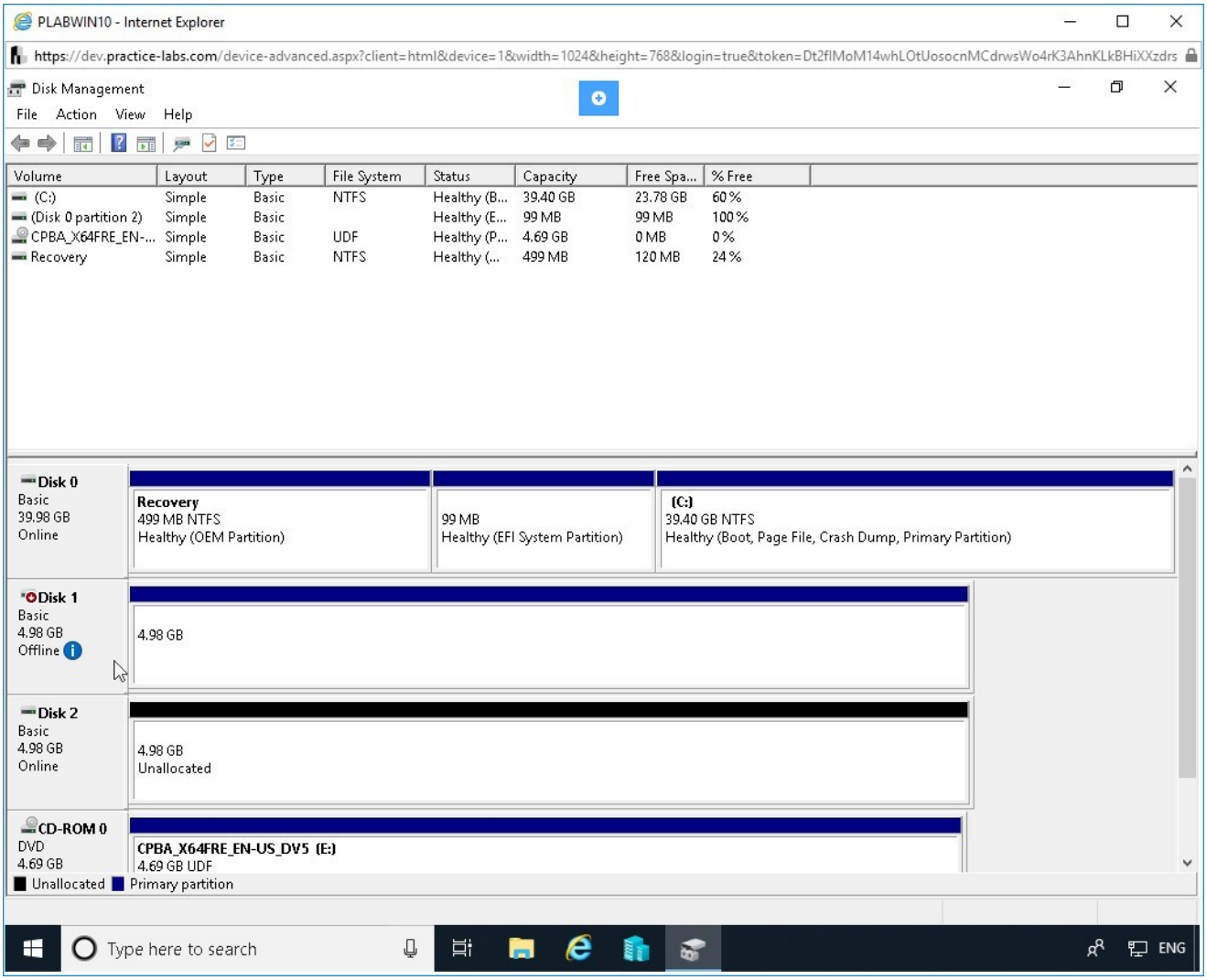


Figure 4.3 Screenshot of PLABWIN10: Showing Disk 1 as offline.

Step 4

To bring the disk online, right-click in the Grey area under **Disk 1** and select **Online**.

> ***Note**: You can use these steps to convert any offline disk to online, irrespective of its initial status.*

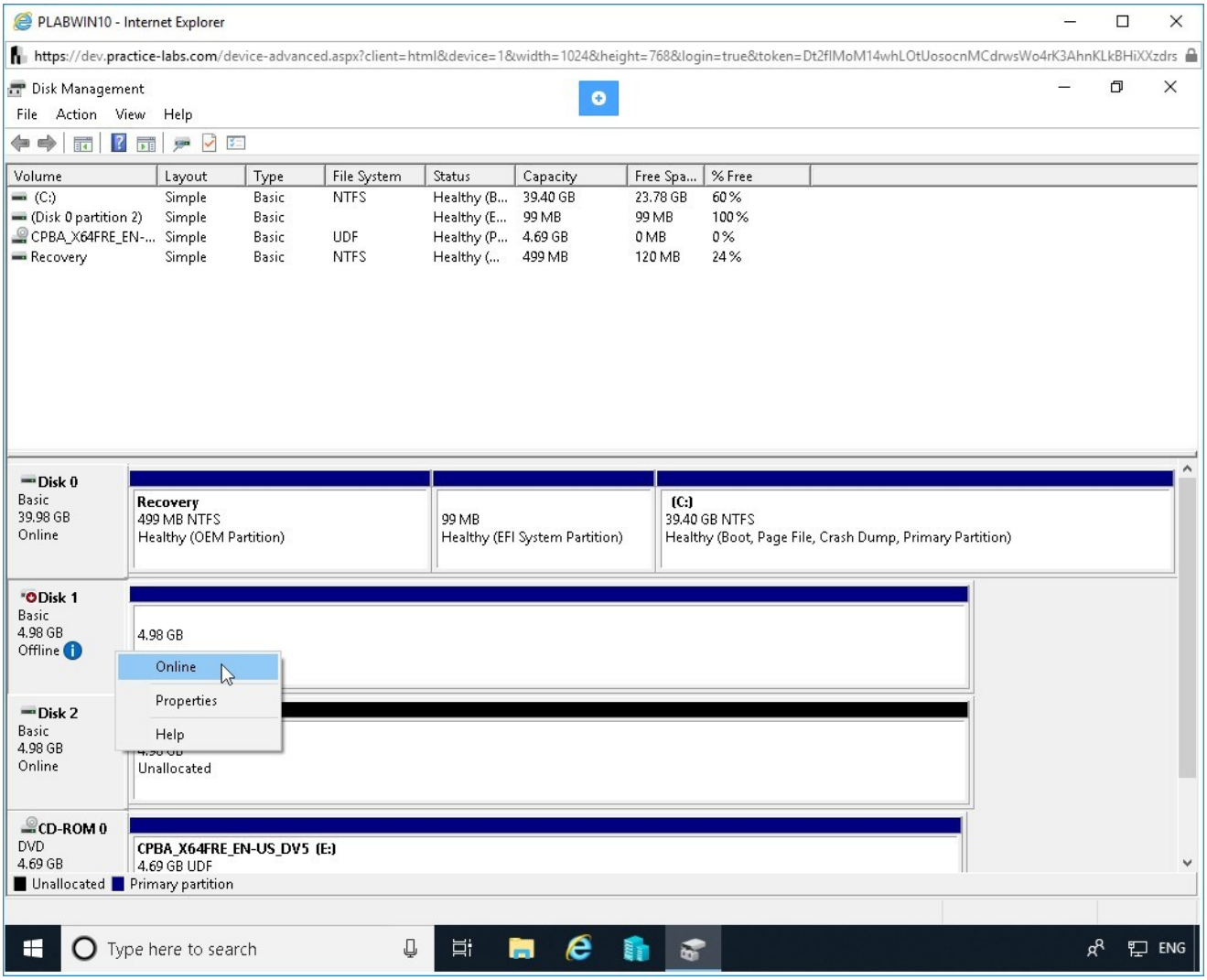


Figure 4.4 Screenshot of PLABWIN10: Selecting Online from the context menu of Disk 1.

Step 5

Notice that **Disk 1** is now marked as **Online**.

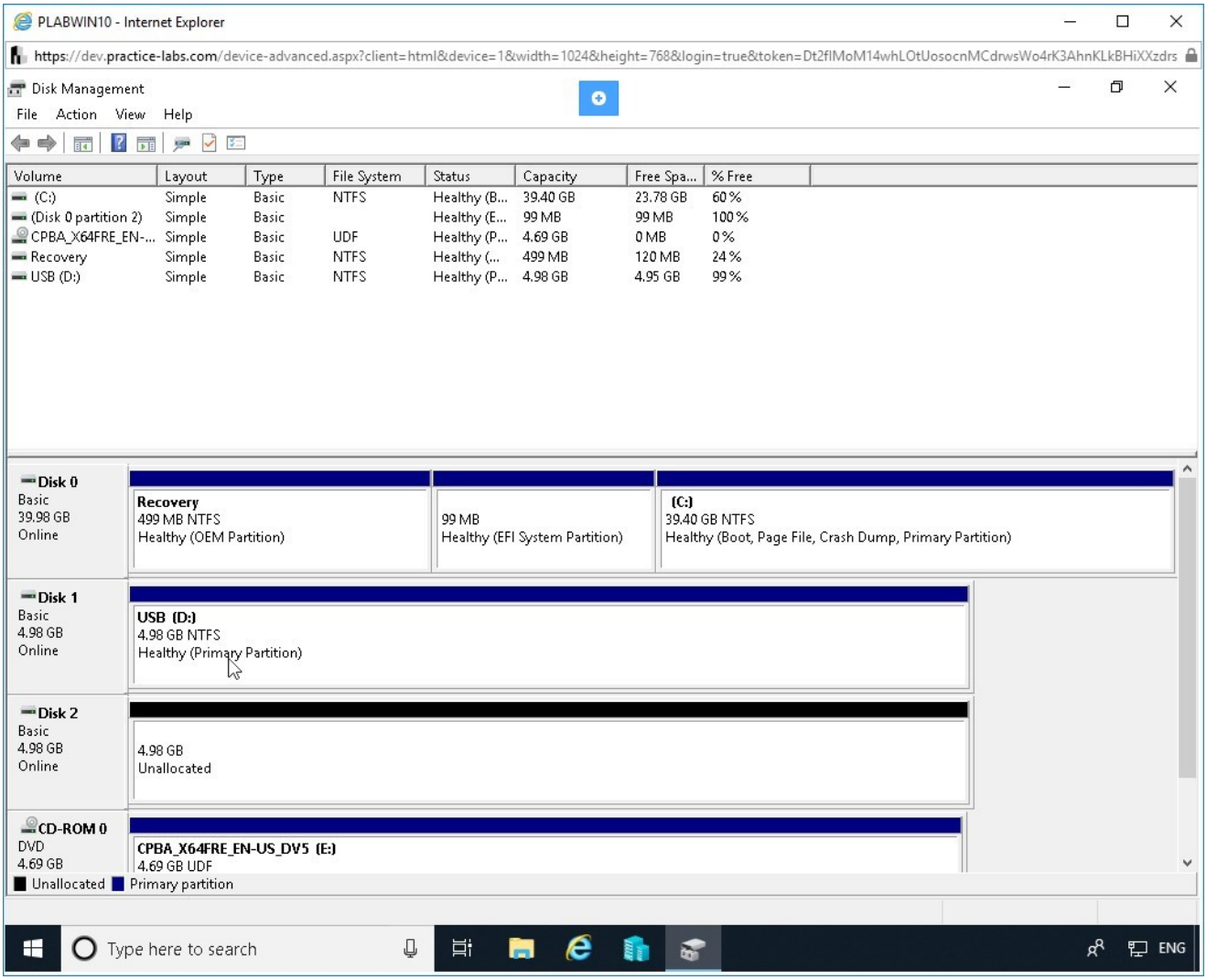


Figure 4.5 Screenshot of PLABWIN10: Showing Disk 1 as Online.

Step 6

To partition and format the drives, the drives must be dynamic.

To make **Disk 1** dynamic, right☐-click **Disk 1** in the Grey area and select **Convert to Dynamic Disk.**

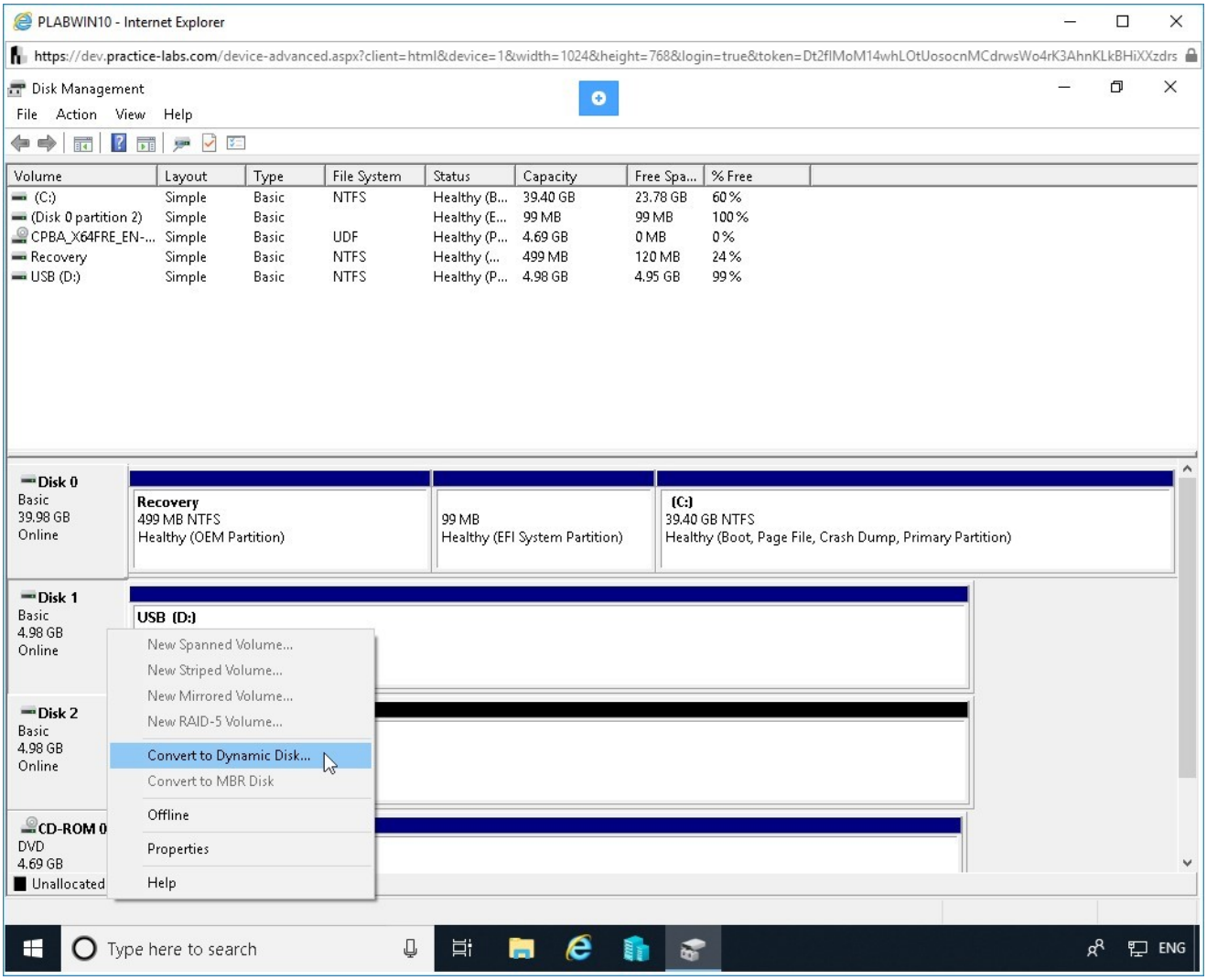


Figure 4.6 Screenshot of PLABWIN10: Selecting Convert to Dynamic Disk from the context menu of Disk 1.

Step 7

The **Convert to Dynamic Disk** dialog box is displayed.

Ensure that the **Disk 1** checkbox is selected by default.

Click **OK**.

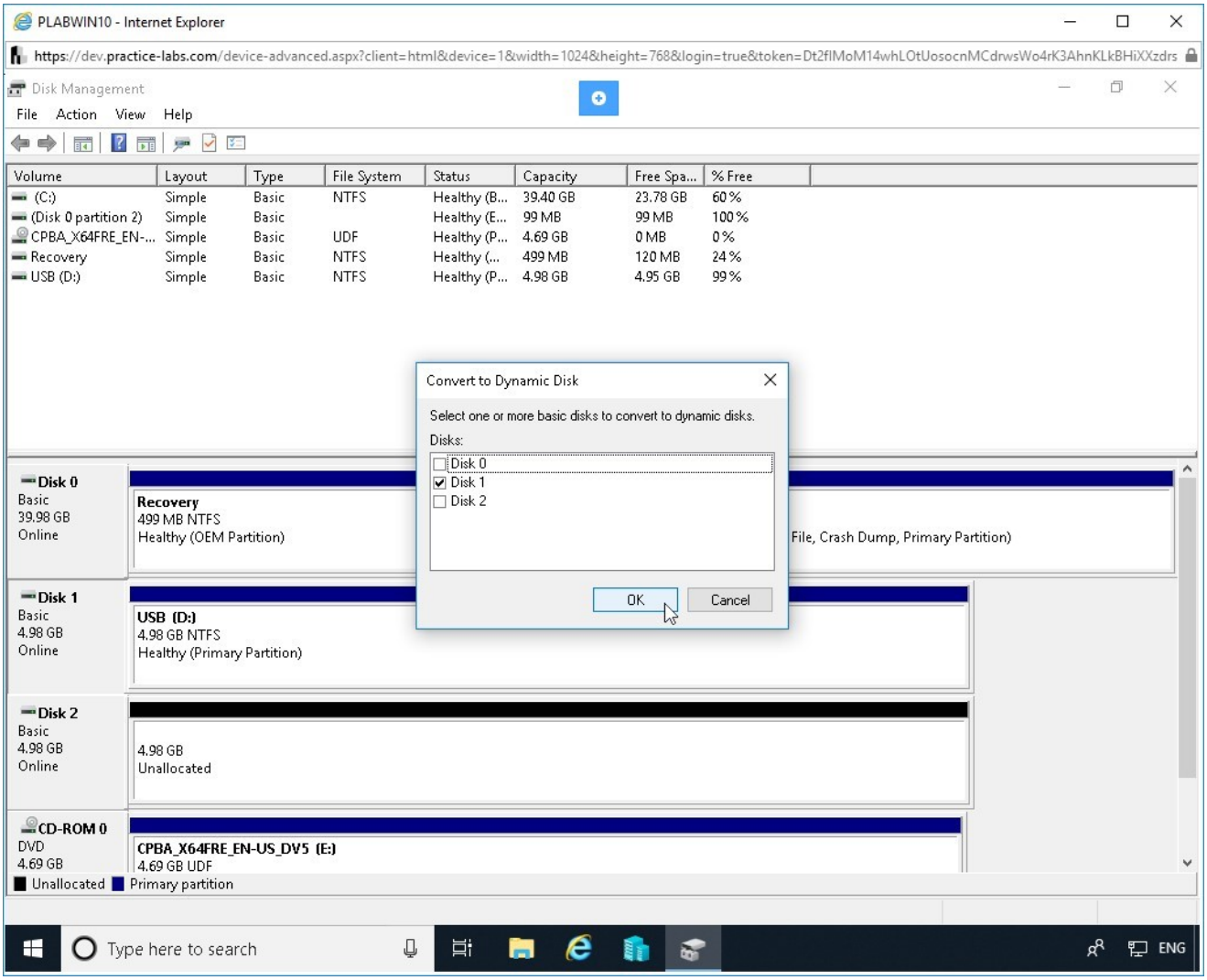


Figure 4.7 Screenshot of PLABWIN10: Showing the Convert to Dynamic Disk dialog box with Disk 1 selected.

Step 8

The **Disks to Convert** dialog box is displayed. It displays **Disk 1** for conversion.

Click **Convert**.

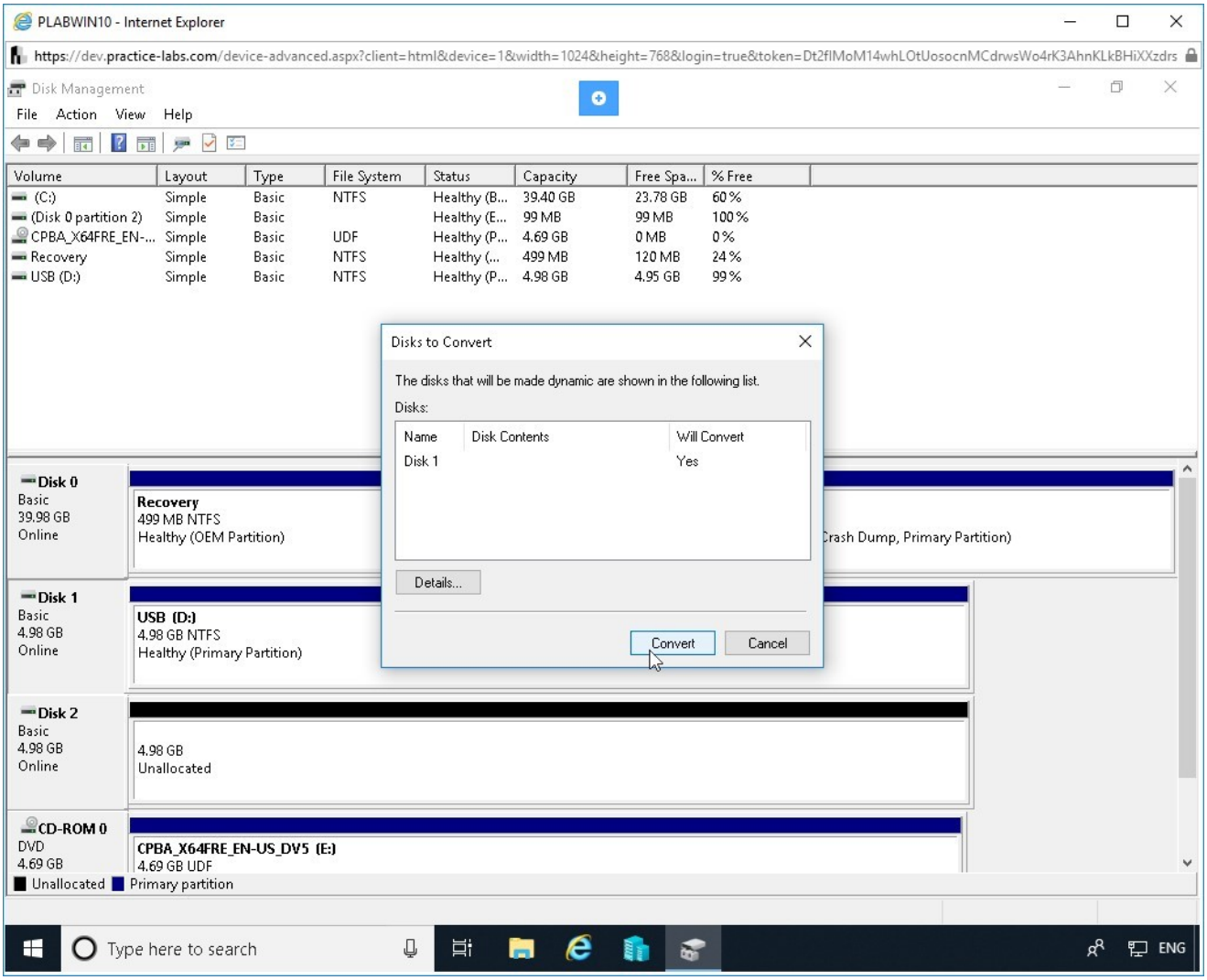


Figure 4.8 Screenshot of PLABWIN10: Clicking the Convert button on the Disk to Convert dialog box.

Step 9

The **Disk Management** dialog box is displayed listing the effects of converting the disks.

Click **Yes** proceed with the conversion.

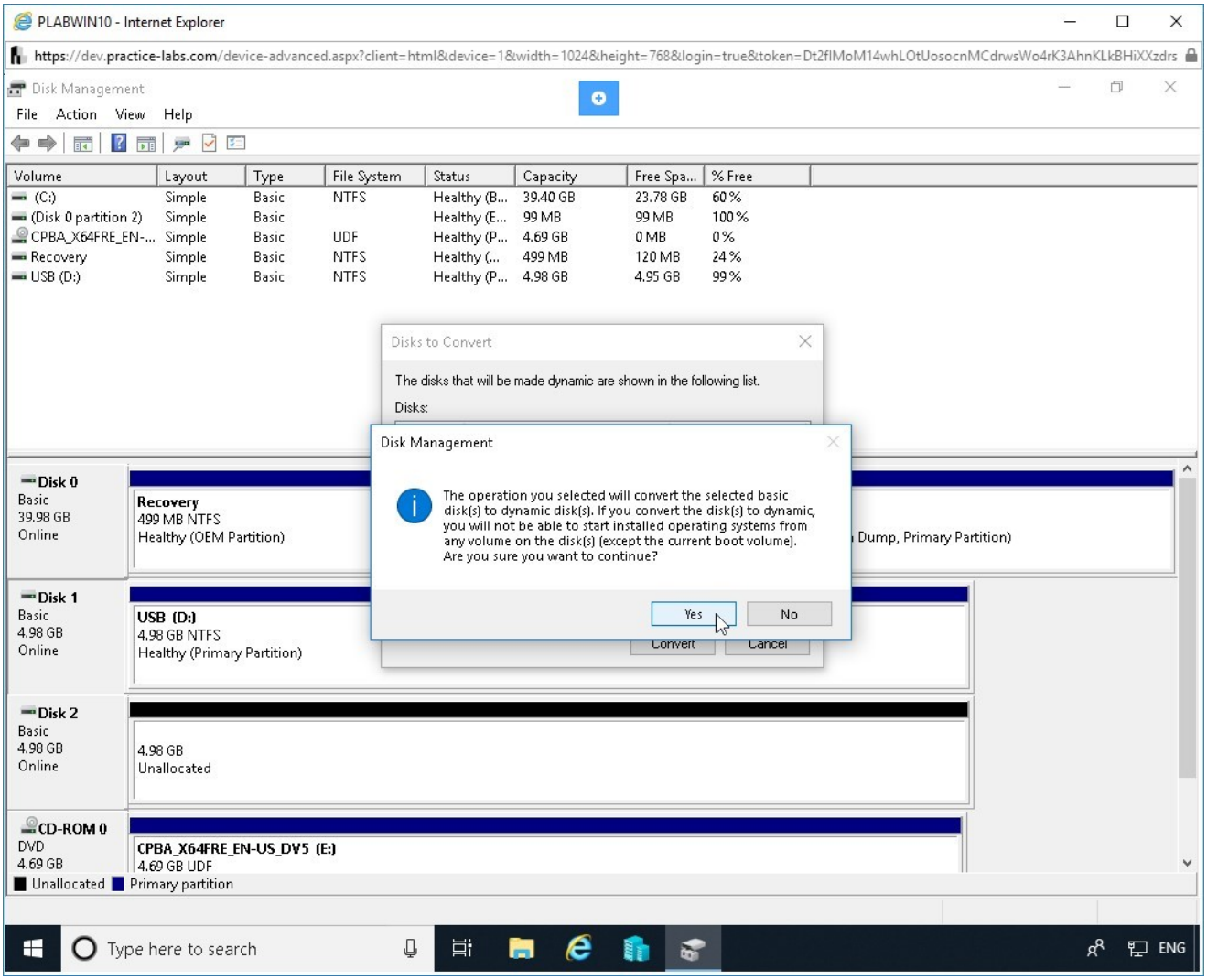


Figure 4.9 Screenshot of PLABWIN10: Showing confirmation to proceed with the conversion and showing the Yes button highlighted.

Step 10

Back on the **Disk Management** console, notice the **Healthy (Primary partition)** status of **Disk 1** now changes to **Healthy**. This indicates that the disk is now dynamic and available for portioning and formatting.

> ***Note:*** *The dynamic disks are marked in different color.*

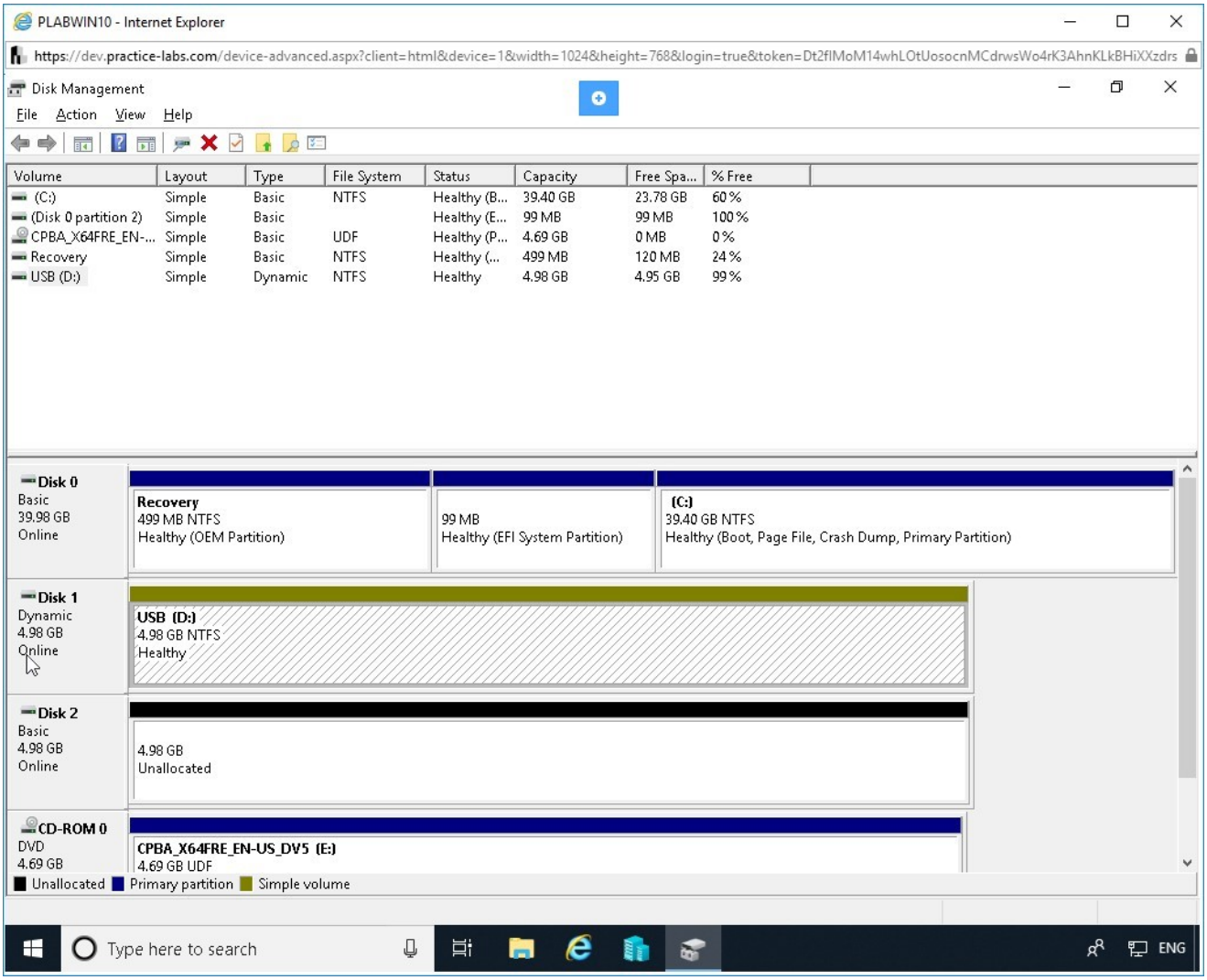


Figure 4.10 Screenshot of PLABWIN10: Showing the updated status of the newly converted disk.

Task 2 - Partition a Dynamic Disk

Disk Management tool enables you to partition dynamic disks and create volumes in various formats. It provides GUI options to create disks in simple, spanned, striped, mirrored, and RAID-level formats.

In this task, you will use the **Disk Management** tool to format a disk to create a simple volume.

Step 1

Ensure that **PLABWIN10** is running and the **Disk Management** console is displayed.

Right-click **Disk 1** and select **Delete Volume** from the context menu.

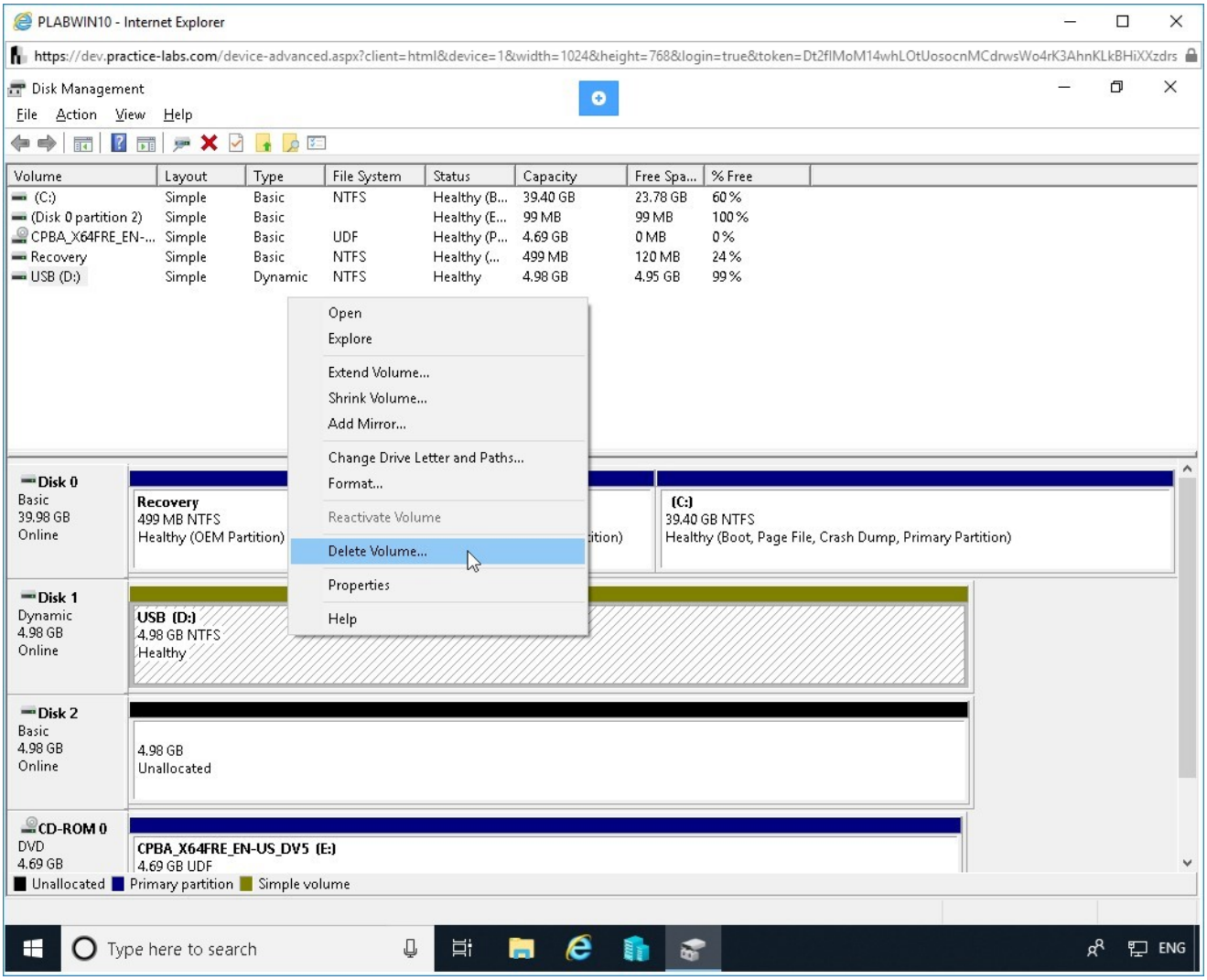


Figure 4.11 Screenshot of PLABWIN10: Selecting Delete Volume from the context menu of Disk 1.

Step 2

The **Delete simple volume** dialog box is displayed. Click **Yes**.

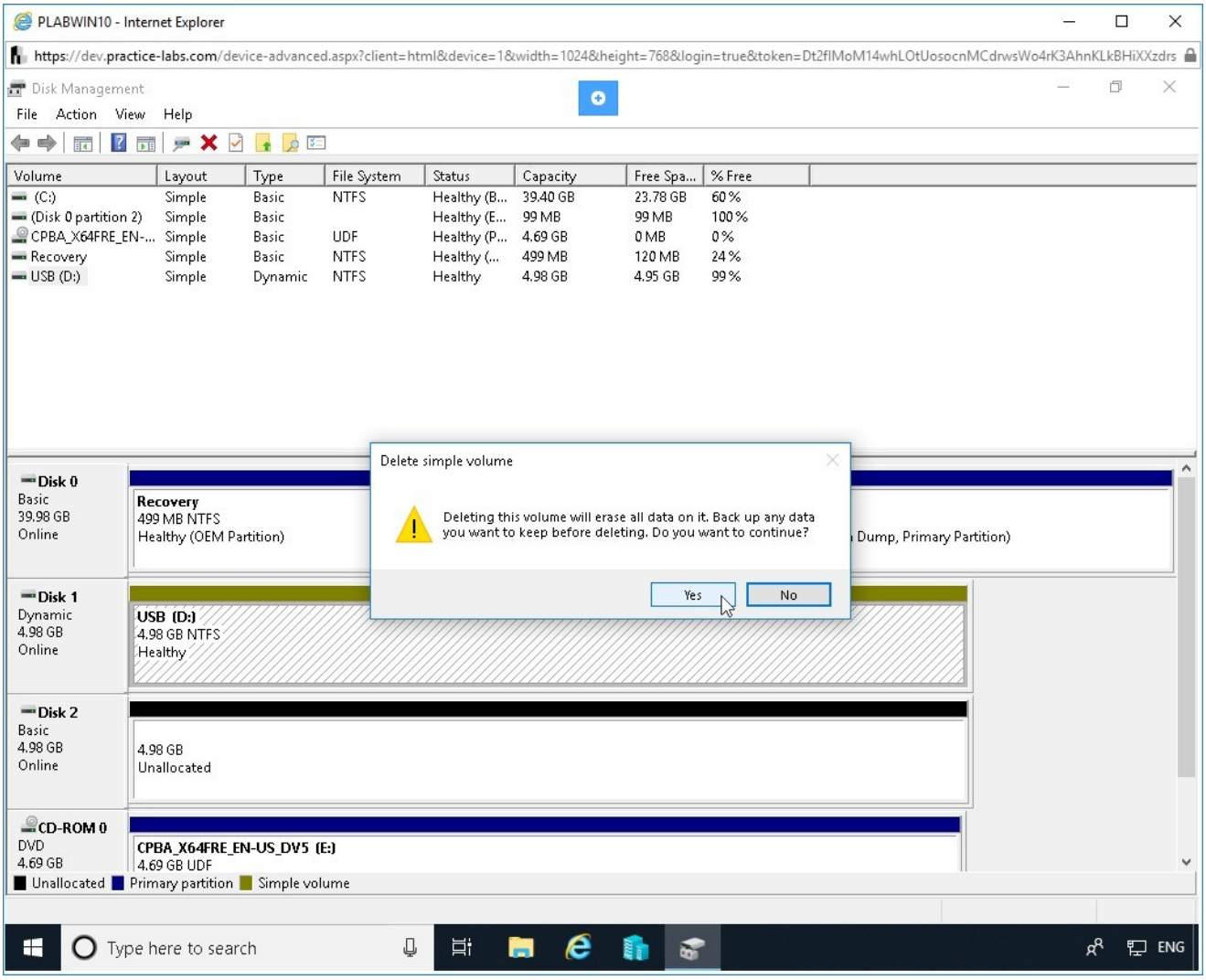


Figure 4.12 Screenshot of PLABWIN10: Confirming the deletion of volume.

Step 3

Notice that **Disk 1** is now marked as **Unallocated**.

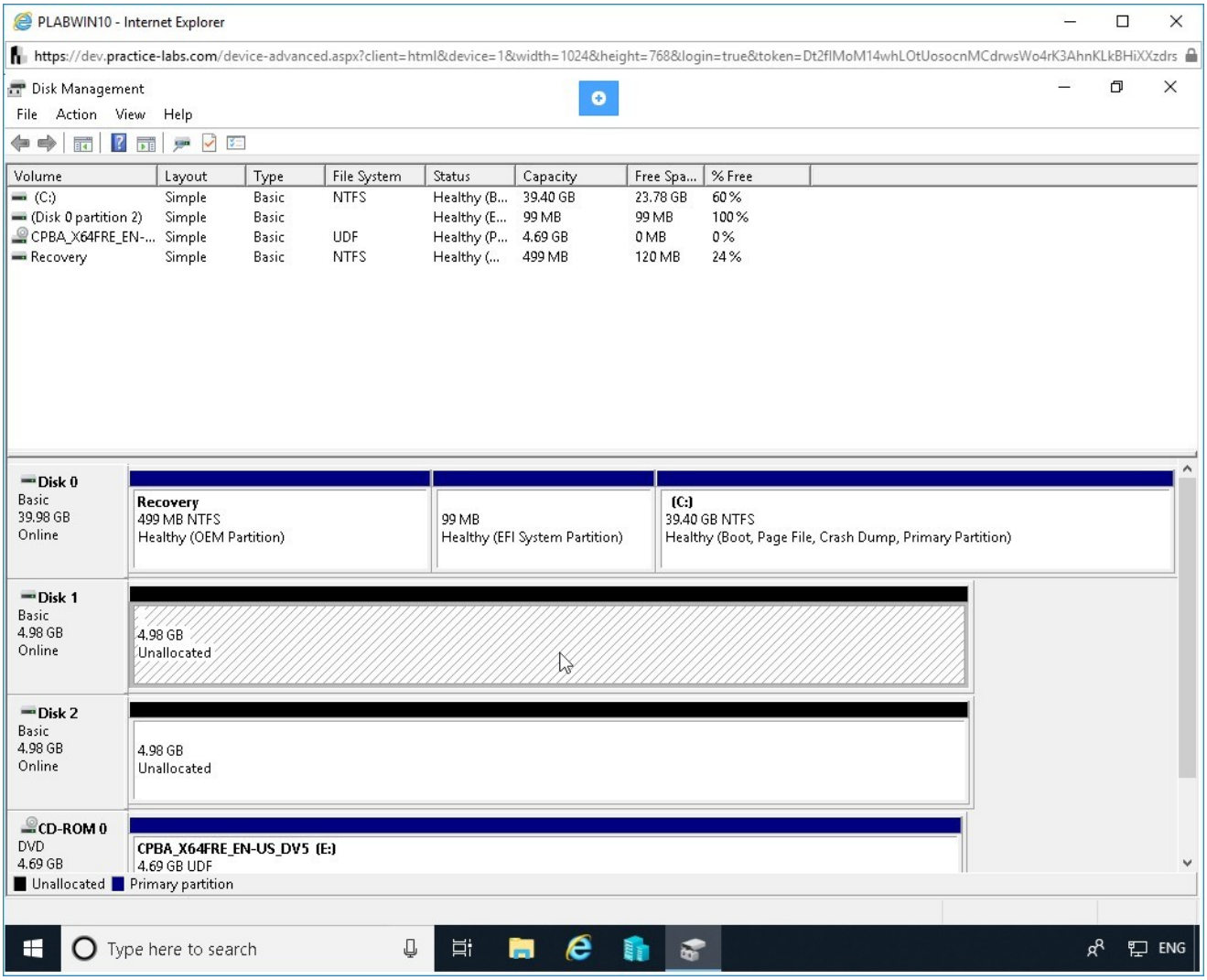


Figure 4.13 Screenshot of PLABWIN10: Showing Disk 1 as Unallocated.

Step 4

Right-click **Disk 1** and select **New Simple Volume**.

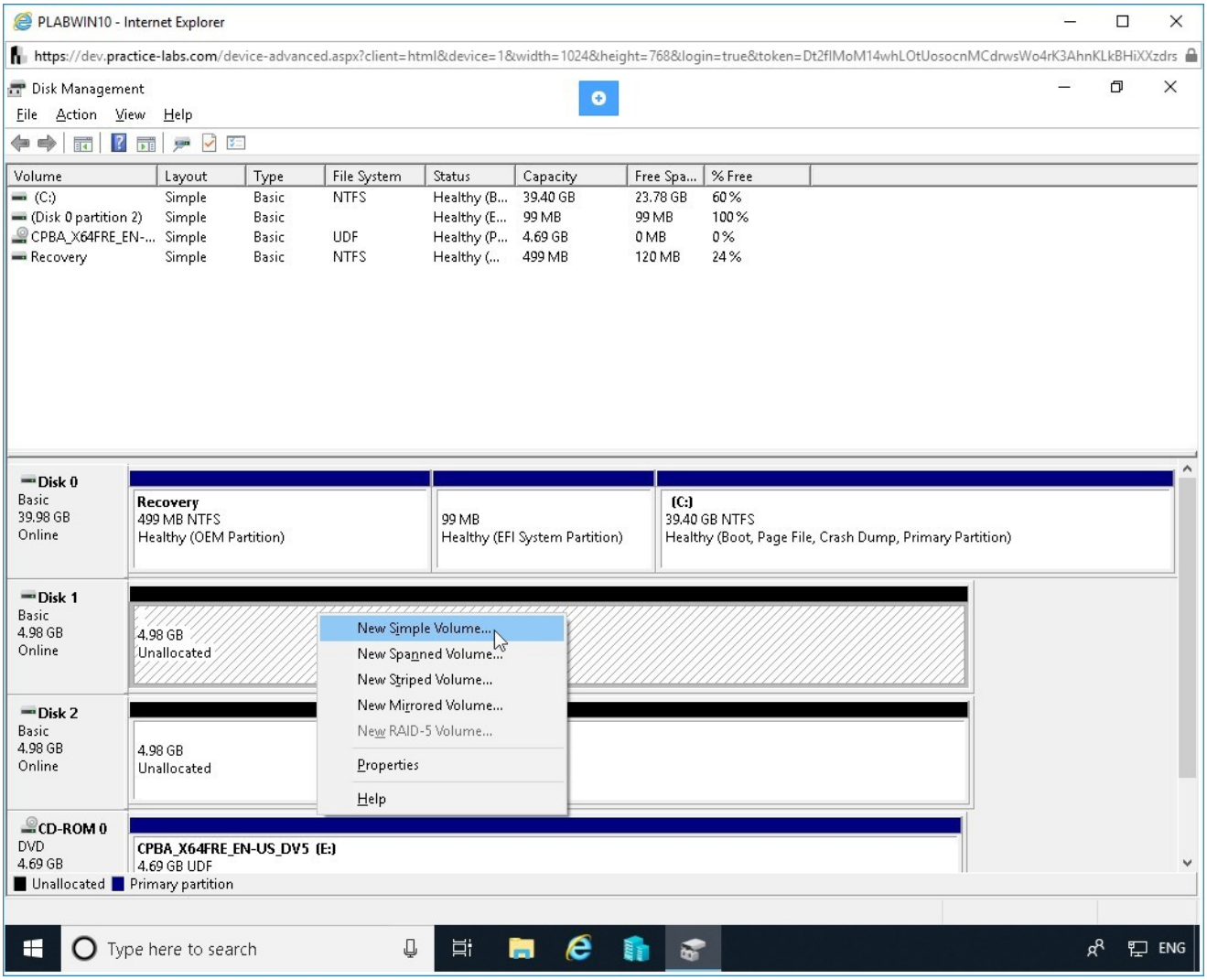


Figure 4.14 Screenshot of PLABWIN10: Selecting New Simple Volume from the context menu of Disk 1.

Step 5

The **New Simple Volume Wizard** is displayed.

On the **Welcome to the New Simple Volume Wizard** page, click **Next**.

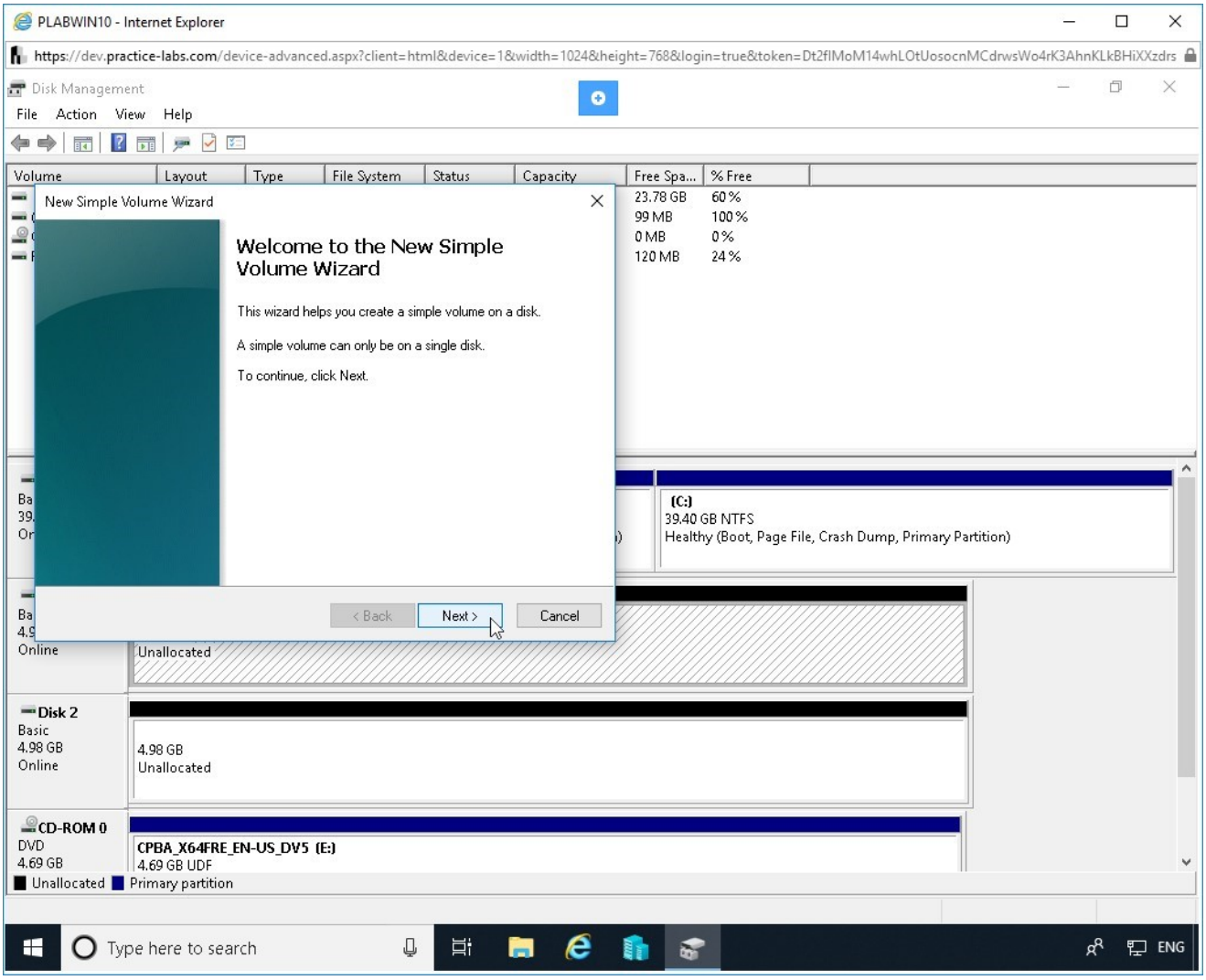


Figure 4.15 Screenshot of PLABWIN10: Showing the Welcome page on the New Simple Volume Wizard.

Step 6

On the **Specify Volume Size** page, accept the default settings and click **Next**.

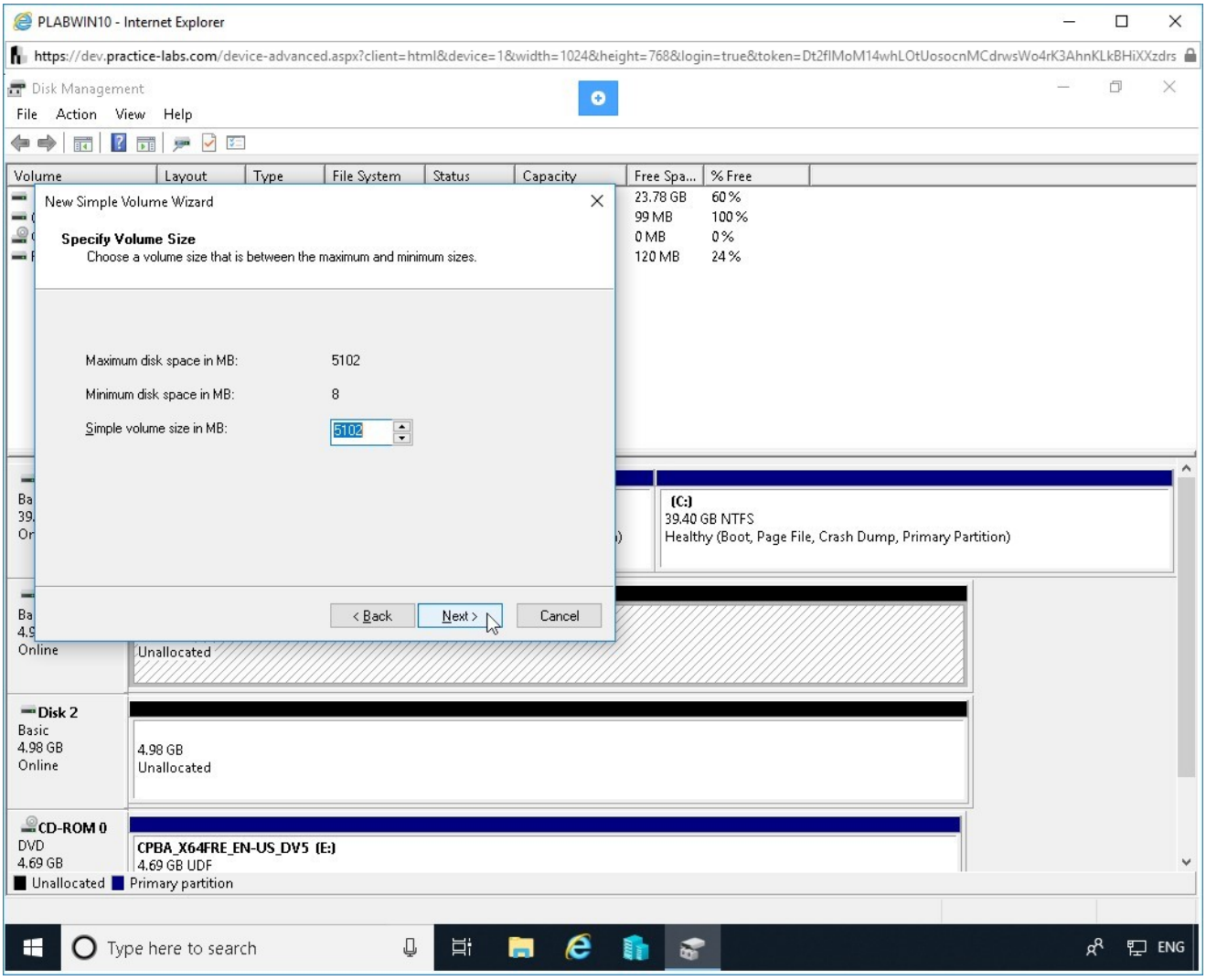


Figure 4.16 Screenshot of PLABWIN10: Specifying the Volume Size page on the New Simple Volume Wizard.

Step 7

On the **Assign Drive Letter or Path** page, select the **Assign the following drive letter** checkbox.

Click **Next**.

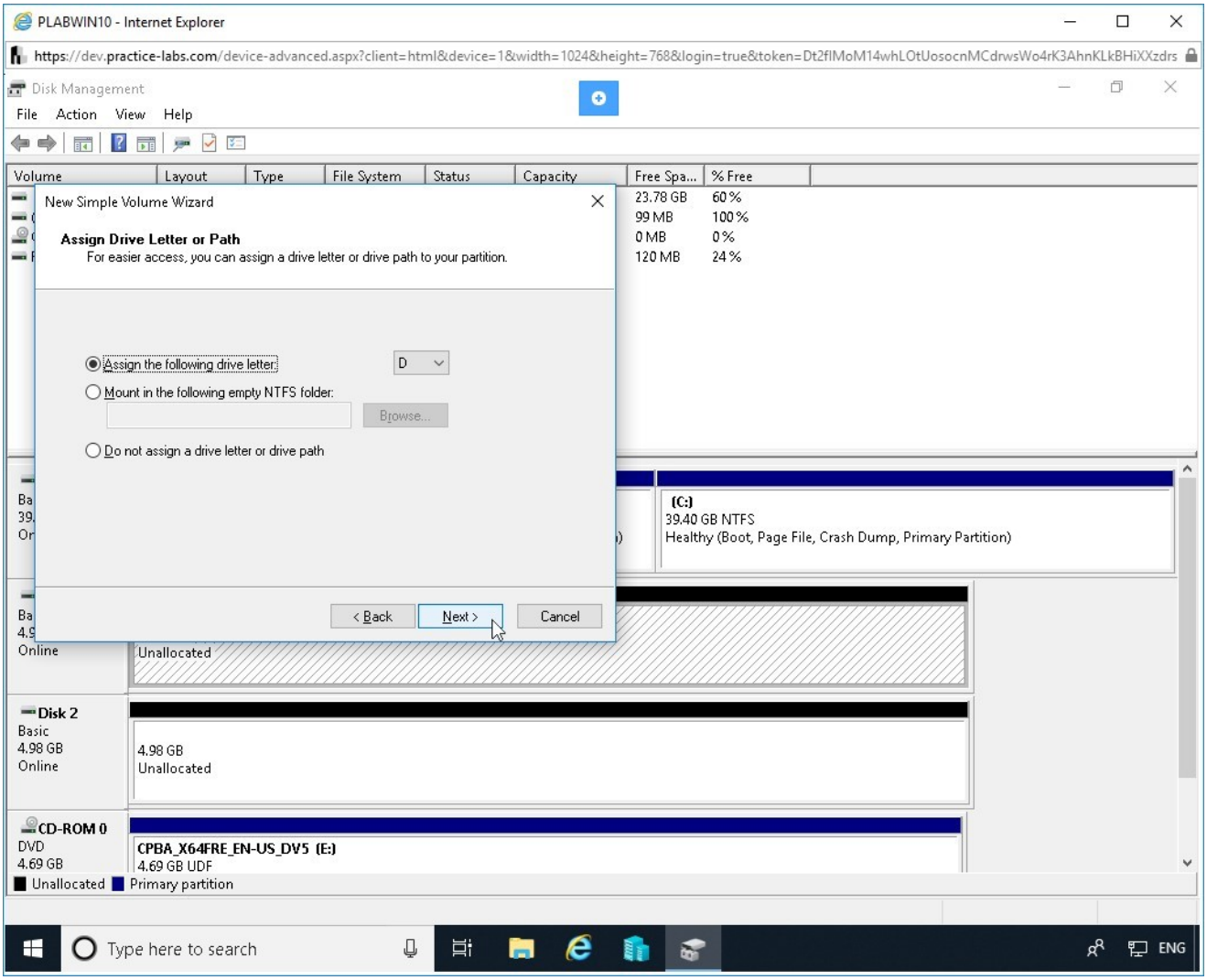


Figure 4.17 Screenshot of PLABWIN10: Selecting Assign the following drive letter on the New Simple Volume Wizard.

Step 8

On the **Format Partition** page, keep the **Format this volume with the following settings** option selected. In the **Volume label** textbox, type the following name:

```
Data
```

Click **Next**.

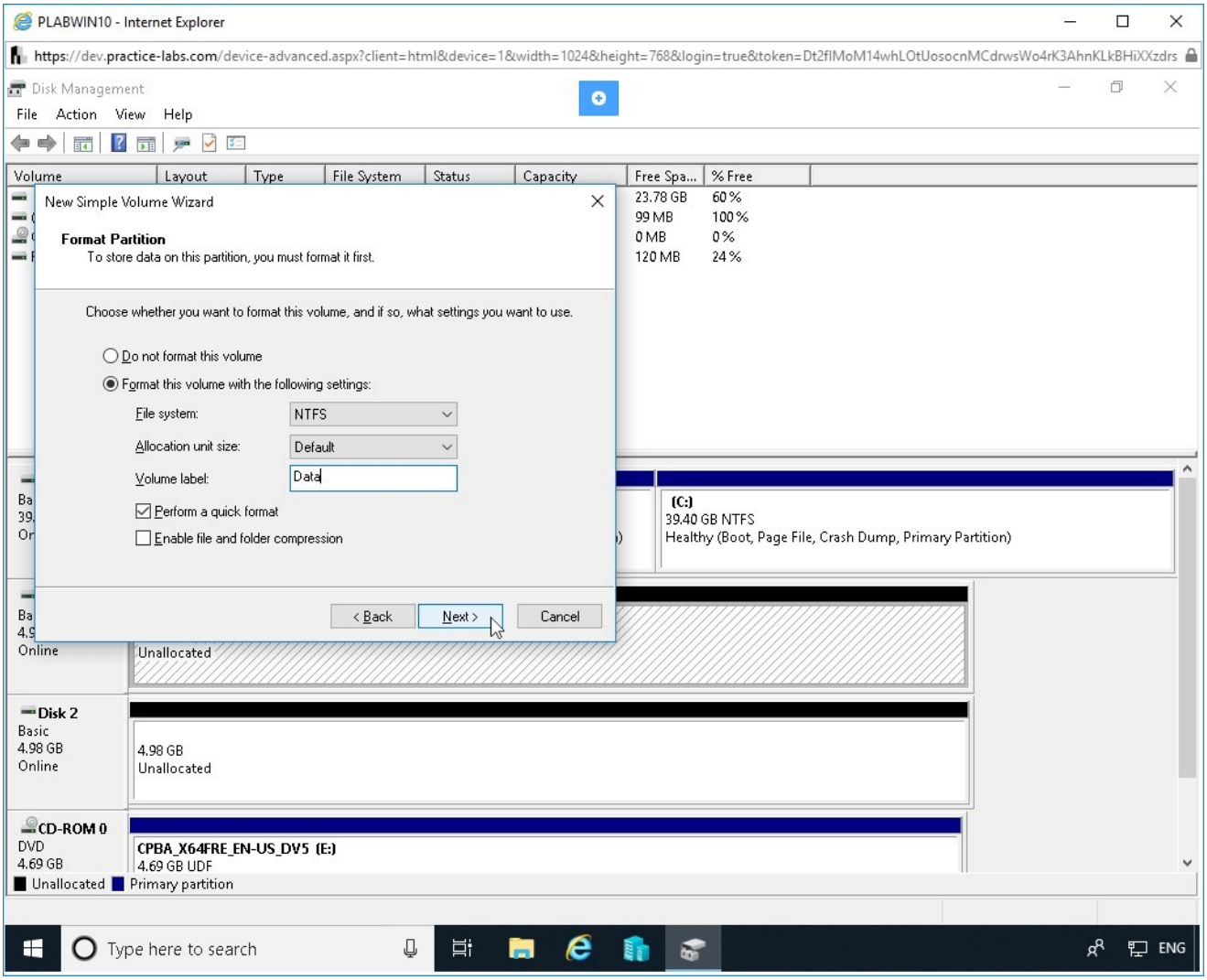


Figure 4.18 Screenshot of PLABWIN10: Showing the Format Partition page on the New Simple Volume Wizard with Data as the Volume label.

Step 9

On the **Completing the New Simple Volume Wizard** page, review the details and click **Finish**.

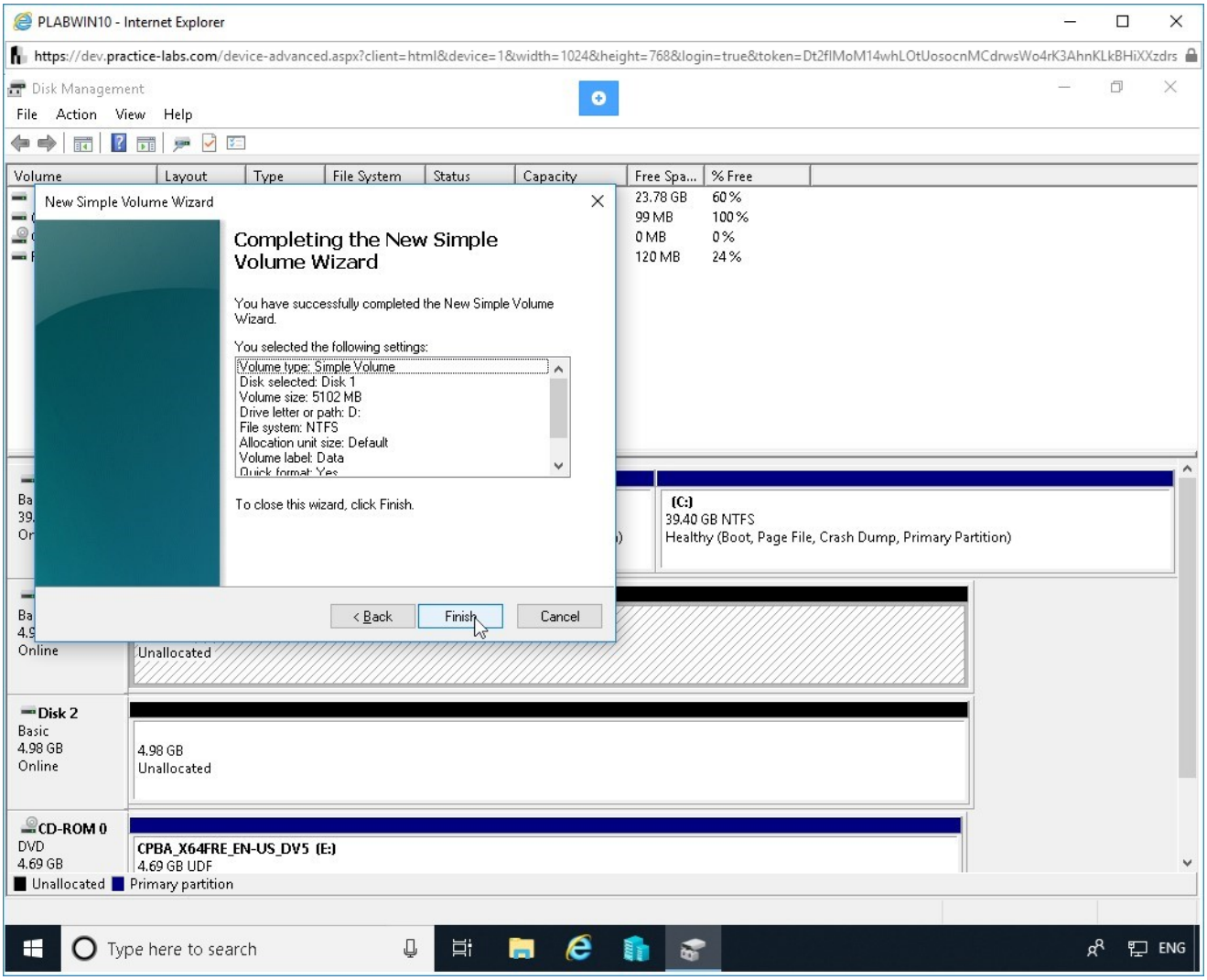


Figure 4.19 Screenshot of PLABWIN10: Showing the Completion page on the New Simple Volume Wizard listing specifications to create the volume.

Step 10

Notice that a new simple volume has been created on **Disk 1** and it has been labeled as **Data**.

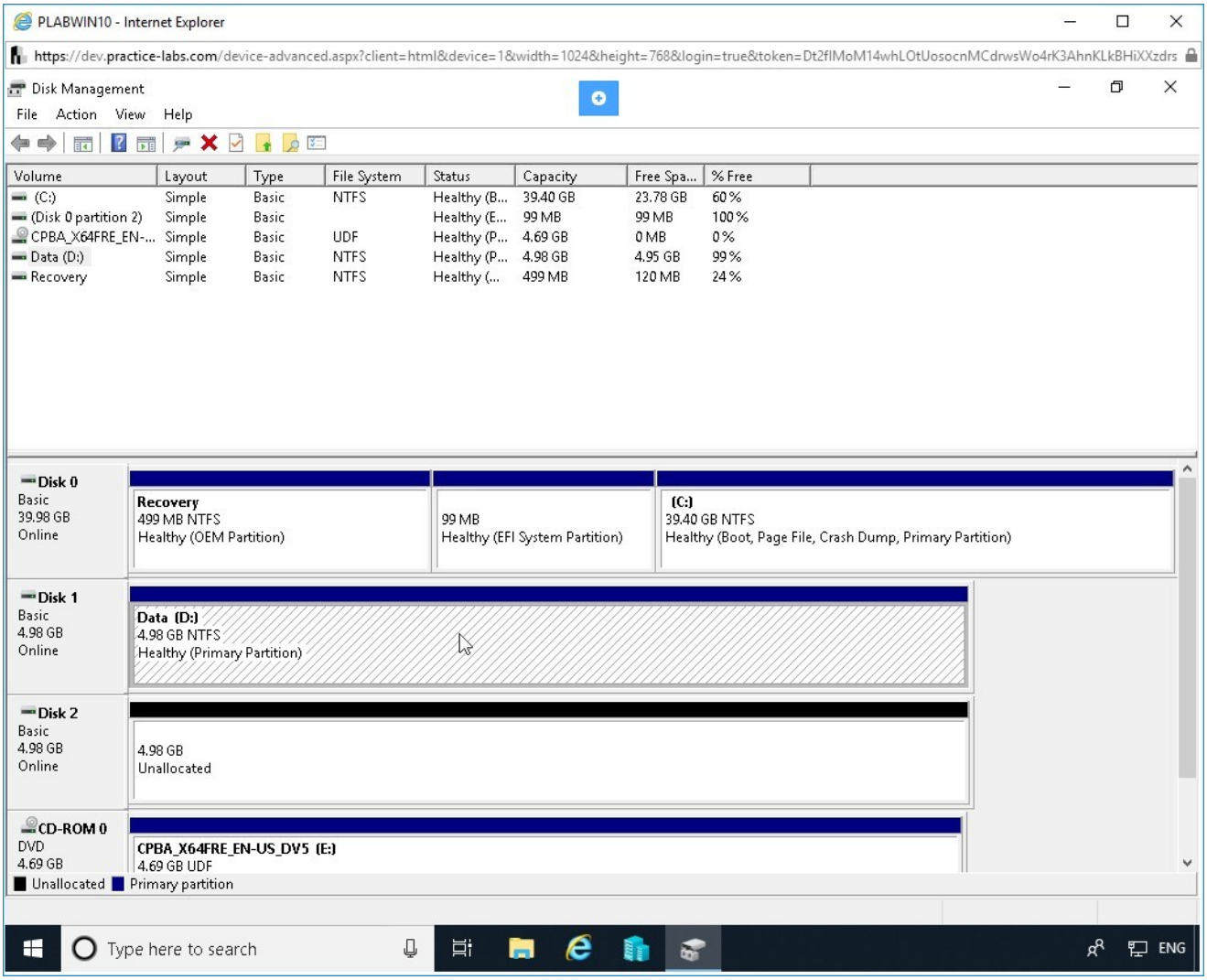


Figure 4.20 Screenshot of PLABWIN10: Showing the newly created volume with Data as the label.

Task 3 - Explore Disk Management Operations

The **Disk Management** tool supports management operations such as listing the properties of a selected disk, extending/shrinking a volume, changing the letter or path assigned to a drive. In this task, you will explore these disk management operations available on the tool.

Step 1

Ensure that **PLABWIN10** is running and the **Disk Management** console is displayed.

You will now view the properties of the **Data (D:)** drive. To do this, right-click **Data (D:)** and select **Properties**.

On the context-menu displayed, select **Properties**.

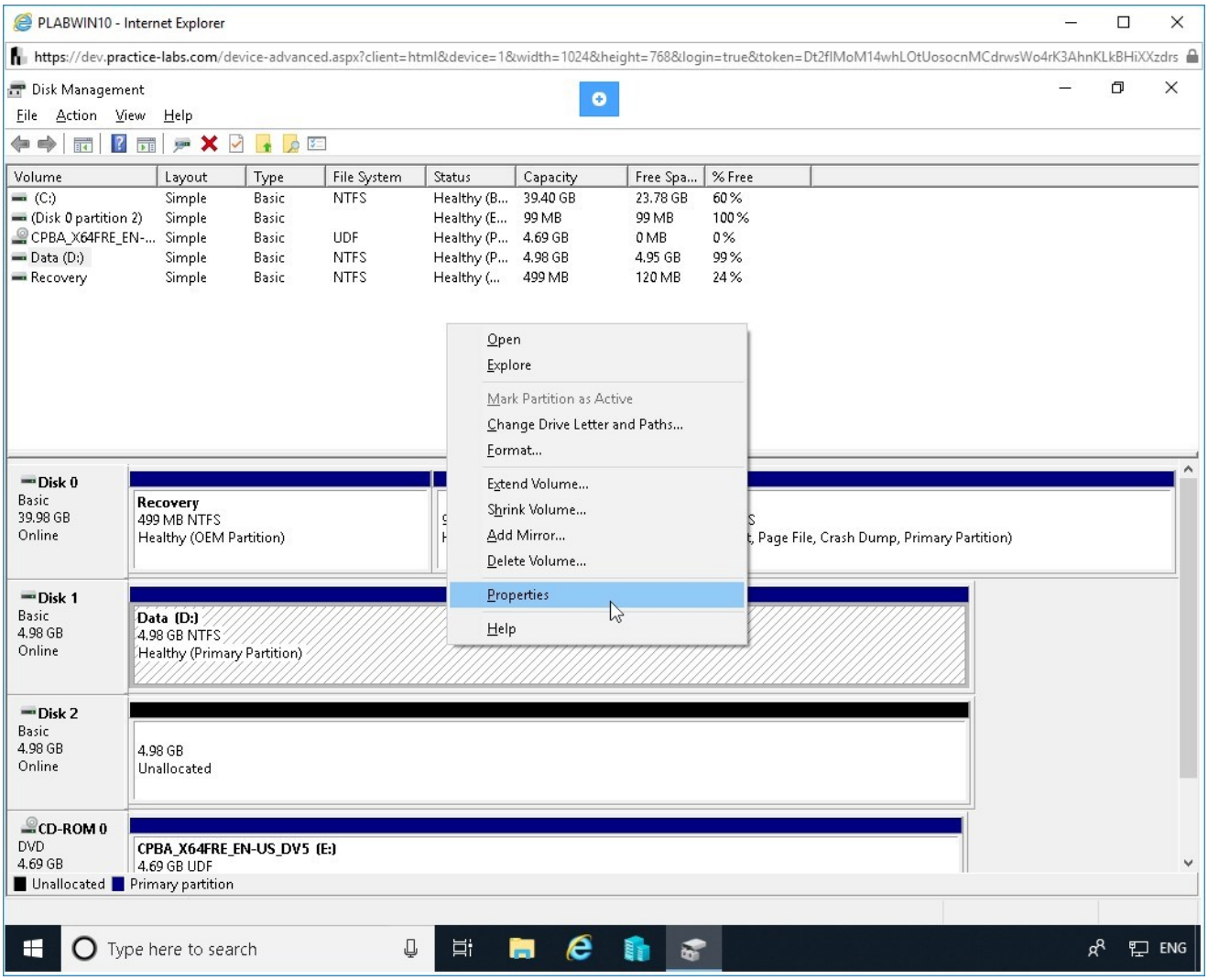


Figure 4.21 Screenshot of PLABWIN10: Selecting Properties from the context menu of the Disk 1.

Step 2

The **Data (D:) Properties** dialog box is displayed.

There are various tasks that can be performed in this dialog box. For this task, you will not make any changes. Click **Cancel** to close the dialog box.

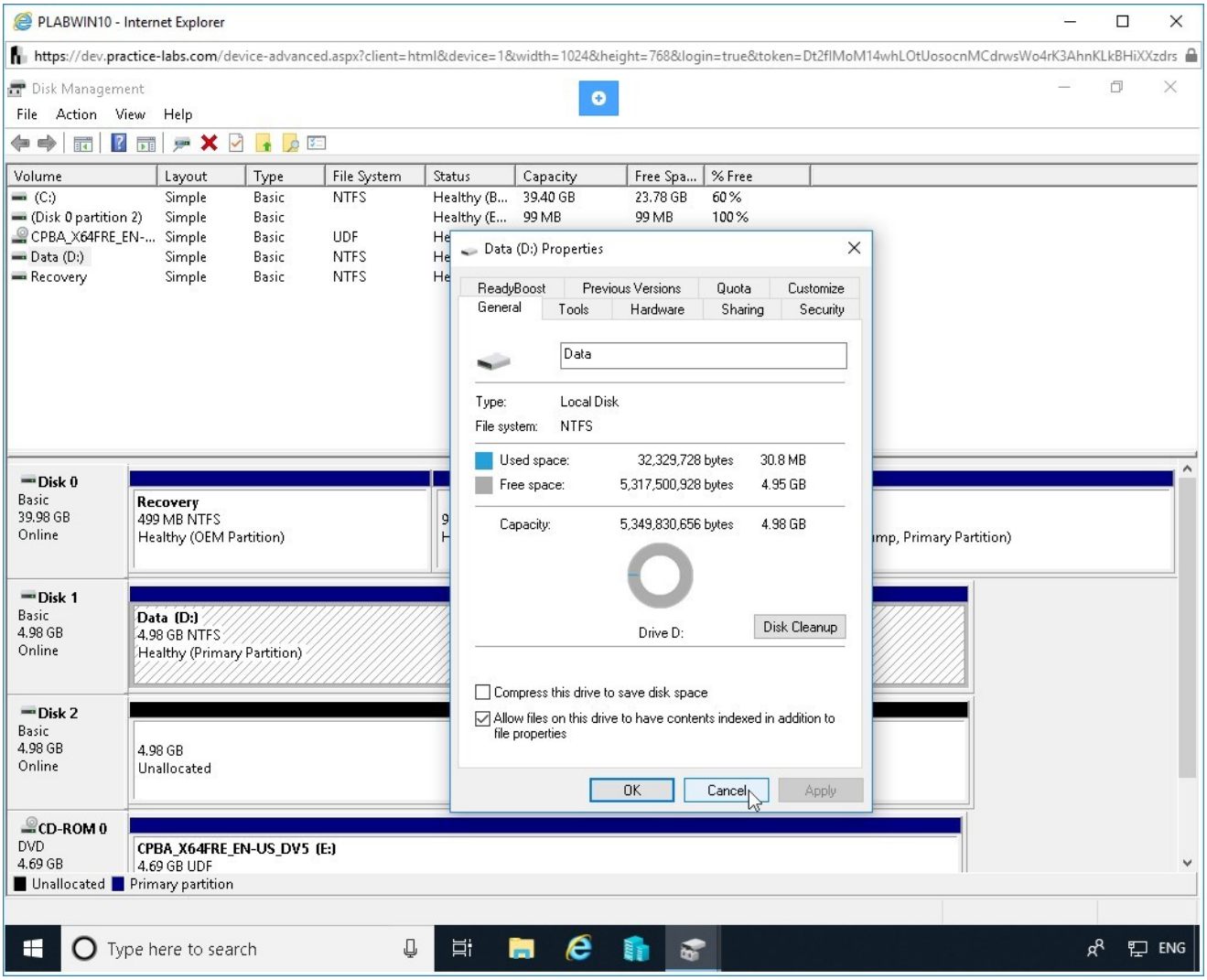


Figure 4.22 Screenshot of PLABWIN10: Showing the Properties dialog box.

Step 3

You will now extend the volume of the **Data (D:)** drive.

Again, right-click the drive and select **Extend Volume.**

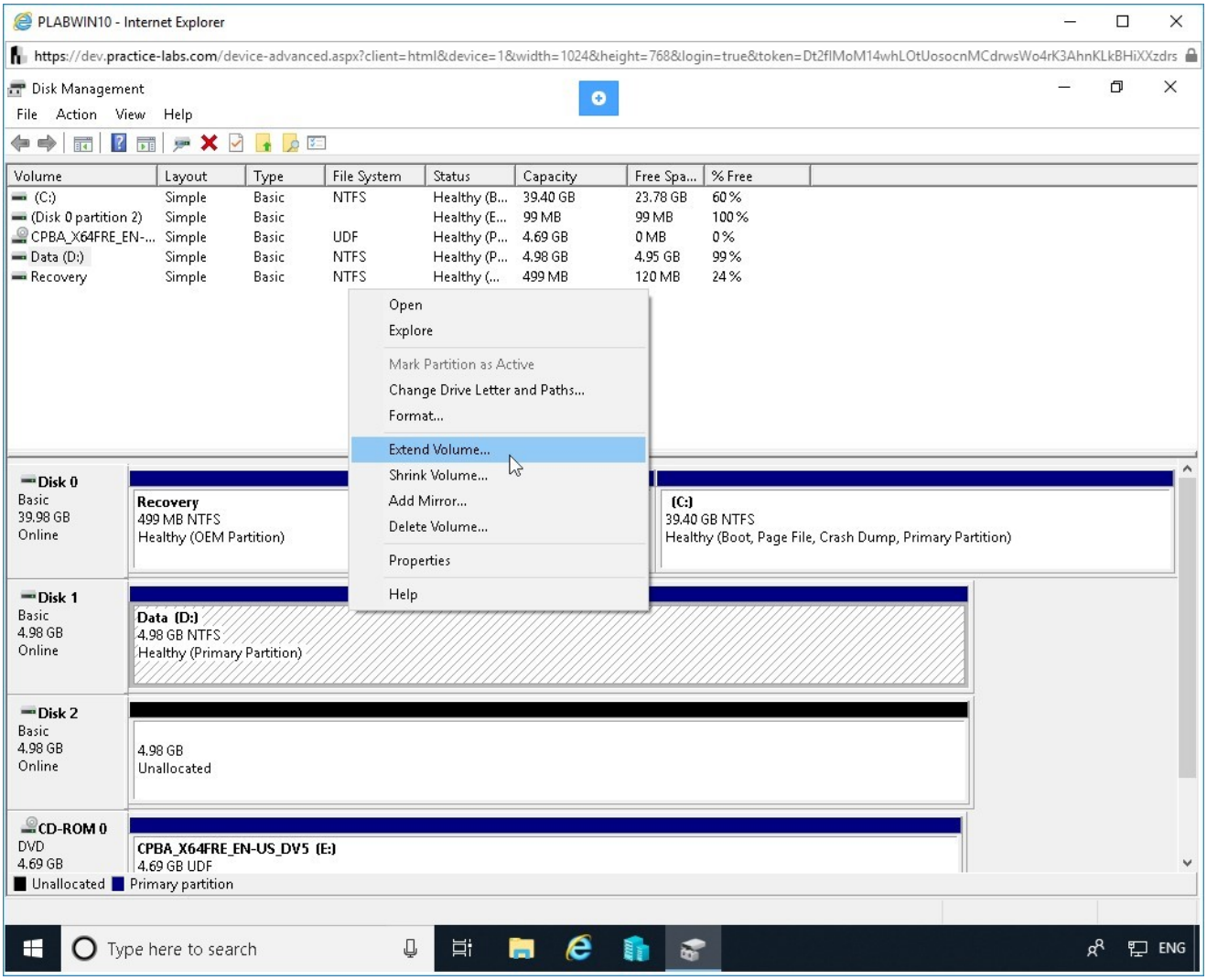


Figure 4.23 Screenshot of PLABWIN10: Selecting the Extend Volume from the context menu of Disk 1.

Step 4

The **Extend Volume Wizard** is displayed.

On the **Welcome to the Extend Volume** Wizard page, click **Next**.

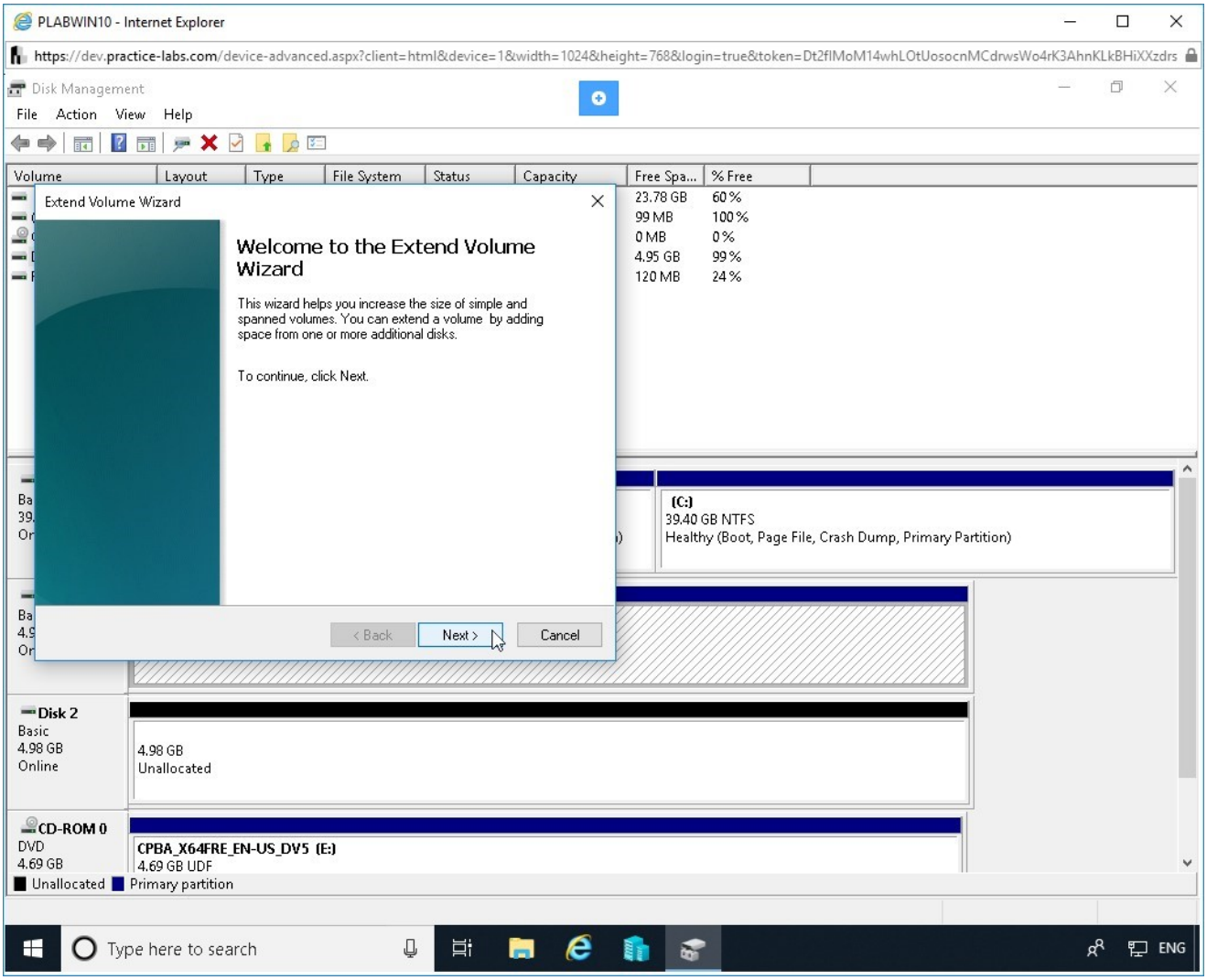


Figure 4.24 Screenshot of PLABWIN10: Showing the Welcome page on the Extend Volume Wizard.

Step 5

On the **Select Disks** page, select **Disk 2** from the **Available** panel list and click **Add**.

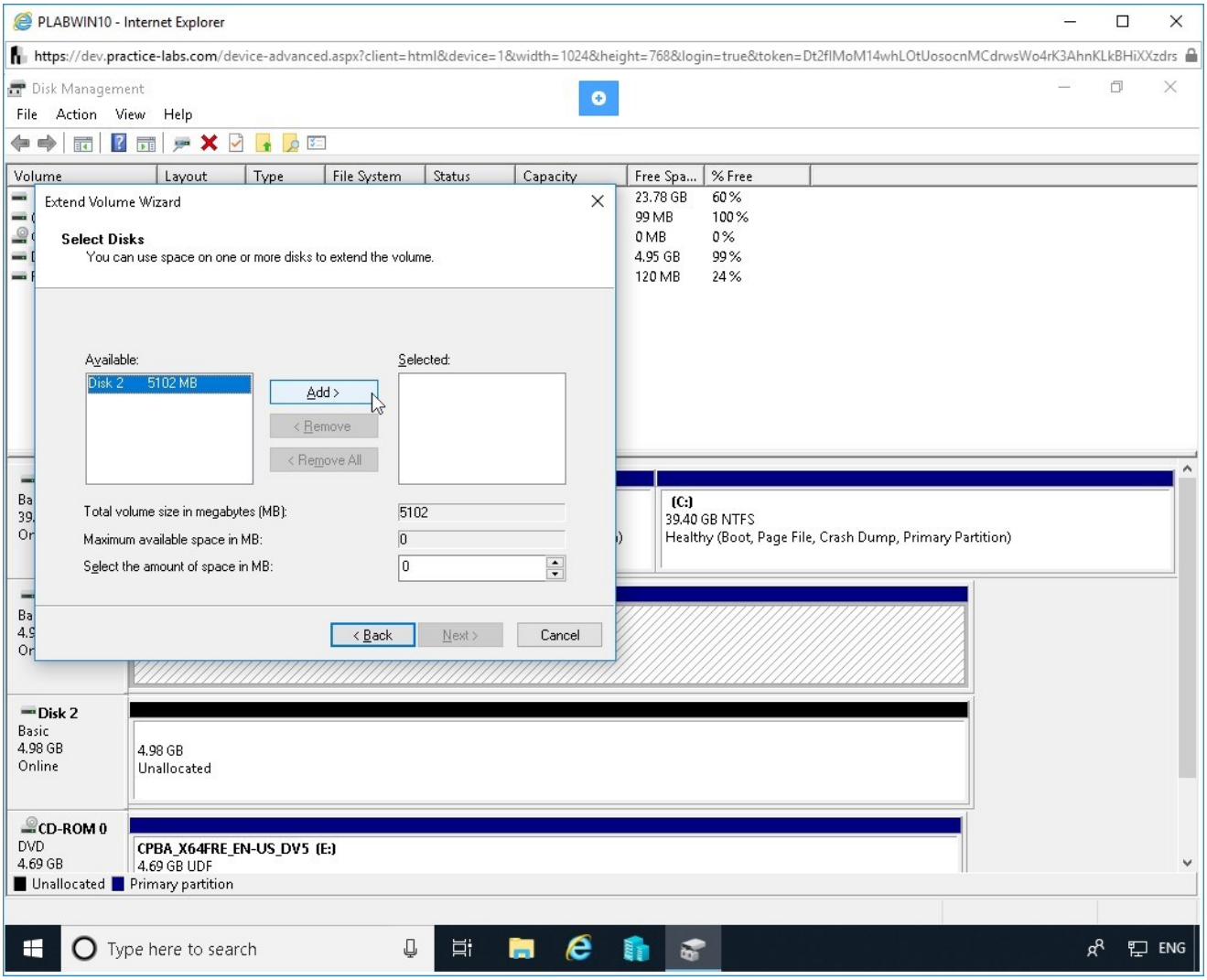


Figure 4.25 Screenshot of PLABWIN10: Showing the Select Disks page on the Extend Volume Wizard.

Step 5

Notice that the disk is now added to the **Selected** list.

In the **Select the amount of space in MB** textbox, type the following size:

```
10
```

This specifies that the disk **D:** is to be extended by 10 MB. Click **Next**.

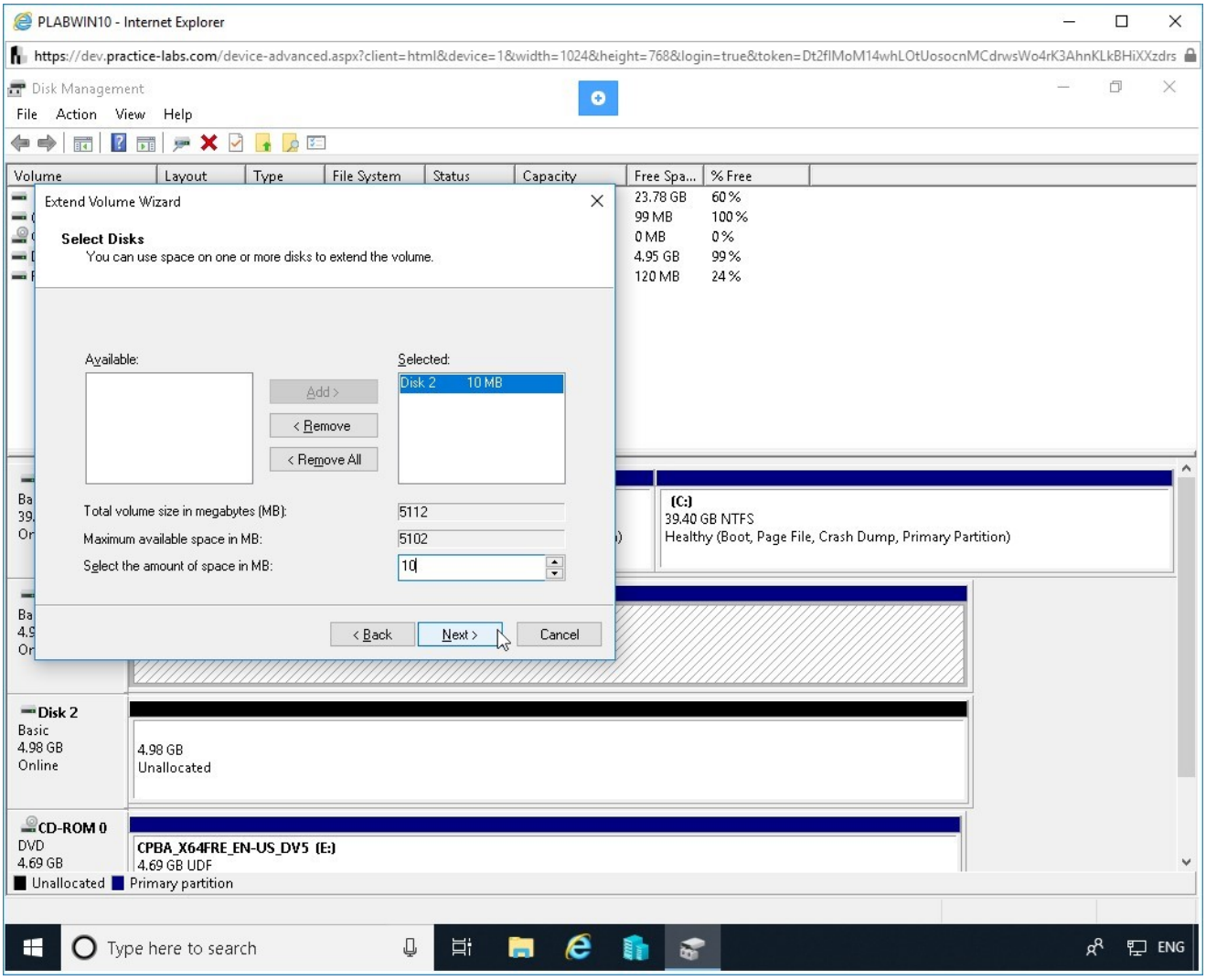


Figure 4.26 Screenshot of PLABWIN10: Showing the Select Disks page on the Extend Volume Wizard.

Step 6

On the **Completing the Extend Volume Wizard** page, click **Finish**.

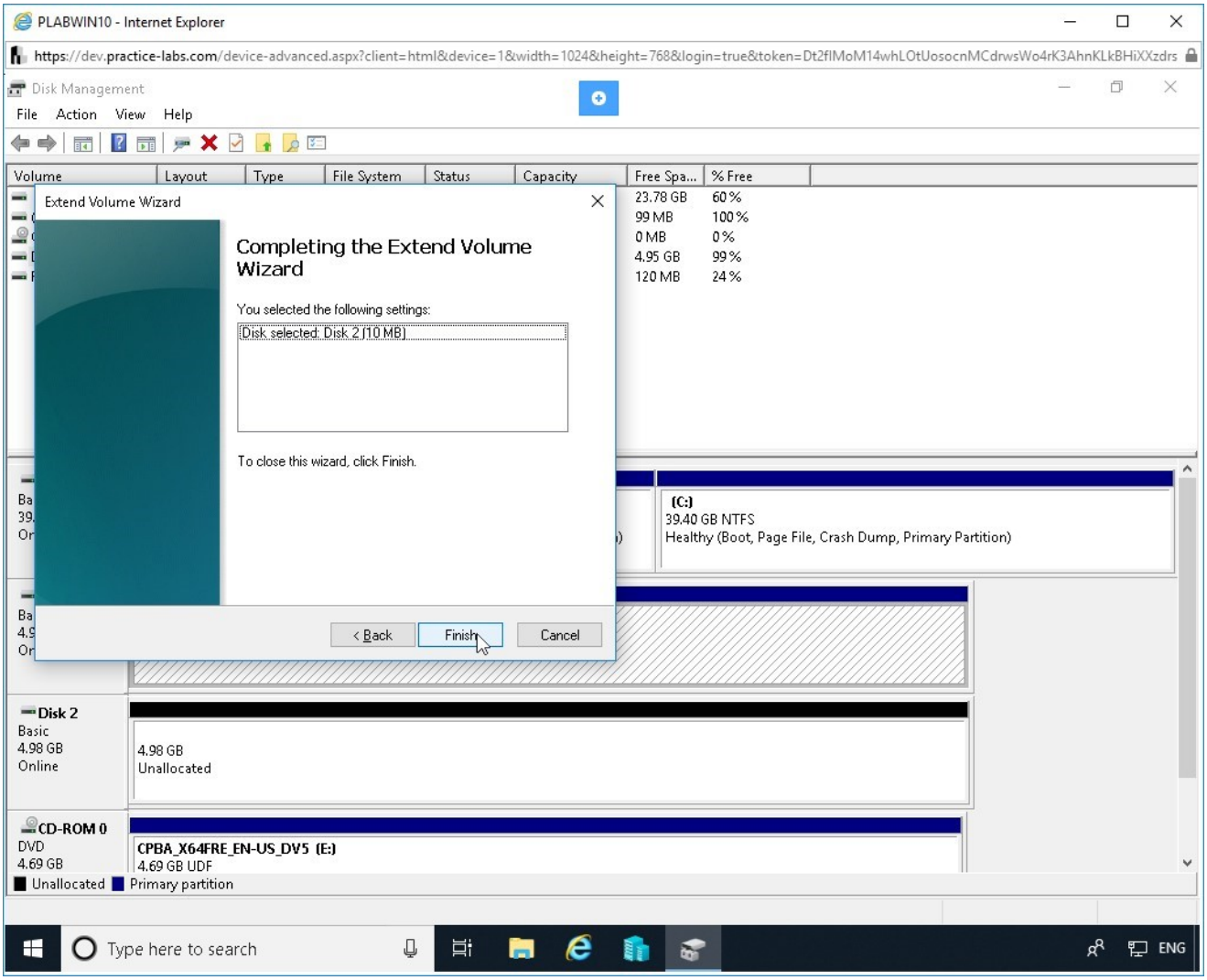


Figure 4.27 Screenshot of PLABWIN10: Showing the Completion page on the Extend Volume Wizard.

Step 7

The **Disk Management** dialog box appears warning that the specified operation will convert the disk into a dynamic disk, which might complicate the booting process of the machine.

Click **Yes**.

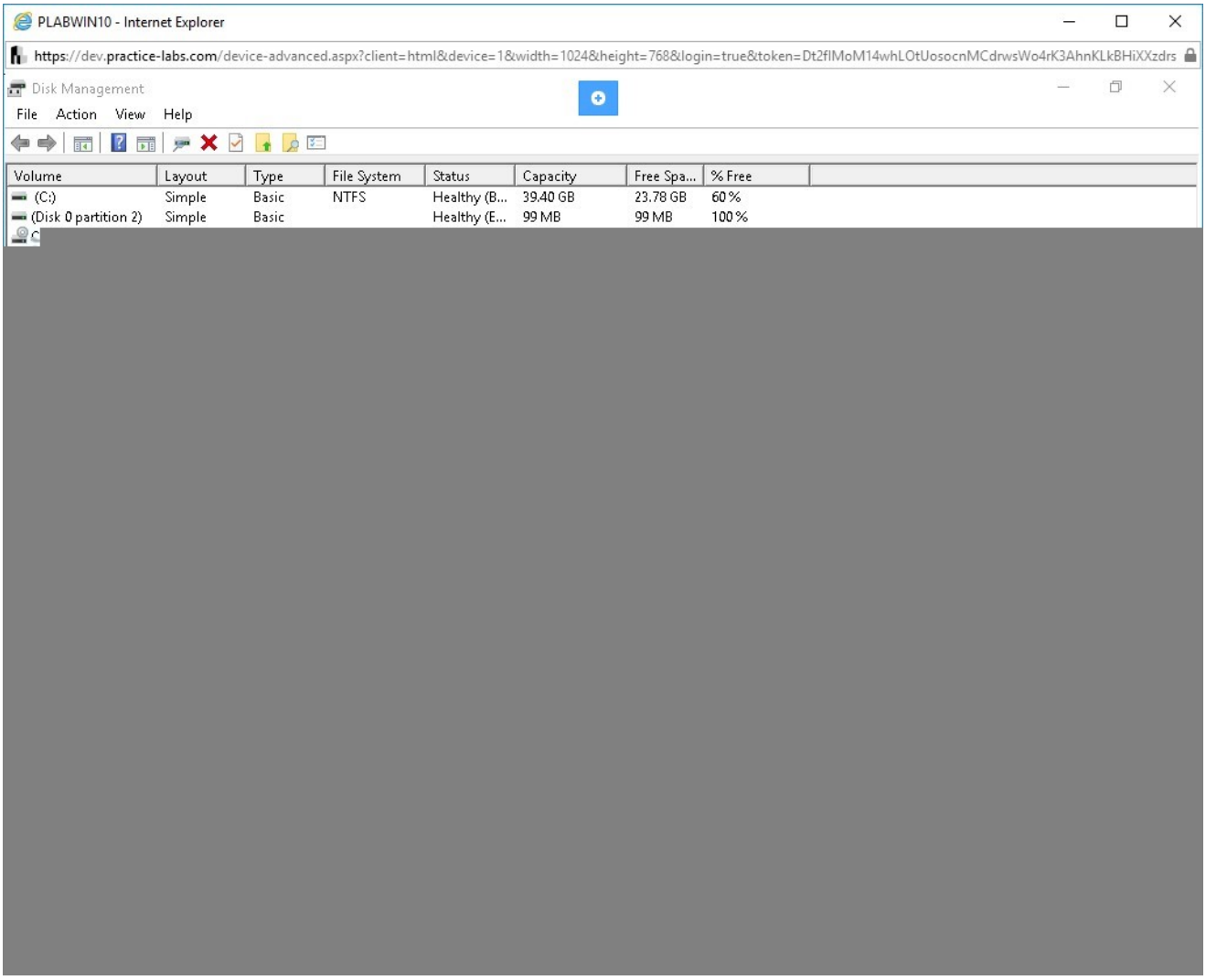


Figure 4.28 Screenshot of PLABWIN10: Showing the Disk Management dialog box for confirmation to proceed with extending the volume.

Step 8

Note that the **Data (D:)** volume is now extended.

Figure 4.29 Screenshot of PLABWIN10: Showing the Disk Management window with the extended disk.

Step 9

Just as you extended the volume, you can shrink a volume as well.

Right-click the **Data (D:)** drive and select **Shrink Volume**.

If you encounter an error, search Windows for the Command Prompt and enter the following command “sc config defragsvc start=auto” which should return a success and then reattempt the step.

Figure 4.30 Screenshot of PLABWIN10: Selecting Shrink Volume from the context menu of Disk 1.

Step 10

The **Shrink** dialog box is displayed.

Keep the default values and click **Shrink**.

Figure 4.31 Screenshot of PLABWIN10: Showing the Shrink D: dialog box and showing the Shrink button highlighted.

Step 11

Notice that the **Data (D:)** is now shrunk.

Figure 4.32 Screenshot of PLABWIN10: Showing the shrunk Disk 1.

Task 4 - Re-initialize a Disk

You might have to change the letter assigned to a drive. This might be required in case of an automatically assigned drive letter, or while mapping a network drive to another computer. **Disk Management** enables you to re-initialize a drive by changing the letter assigned to it or by changing its path.

In this task, you will use the **Disk Management** tool to re-initialize a drive.

Step 1

Ensure that **PLABWIN10** is running and the **Disk Management** console is displayed.

In the top pane, right-click **Data** (**D:)** and select the **Change Drive Letter and Paths…** option.

Figure 4.33 Screenshot of PLABWIN10: Selecting Change Drive Letter or Paths from the context menu of Disk 1.

Step 2

The **Change Drive Letter and Paths** dialog box is displayed. Click **Change.**

Figure 4.34 Screenshot of PLABWIN10: Showing the Change Drive Letter and Paths for D: (Data) dialog box is displayed showing the required disk selected, and the Change button highlighted.

Step 3

From the **Assign the following drive letter** drop-down list, select **K**.

Figure 4.35 Screenshot of PLABWIN10: Showing the Change Drive Letter or Path dialog box is displayed showing the required drive letter selected.

Step 4

Click **OK**.

Figure 4.36 Screenshot of PLABWIN10: Change Drive Letter or Path dialog box is displayed showing the OK button highlighted.

Step 5

On the **Disk Management** dialog box, click **Yes**.

Figure 4.37 Screenshot of PLABWIN10: Clicking Yes on the Disk Management dialog box.

Step 6

Notice that the instead of **Data (D**:), it is now marked as **Data (K**:).

Figure 4.38 Screenshot of PLABWIN10: Showing the updated drive letter for Disk 1.

Task 5 - Manage Storage Spaces

The **Storage Spaces** feature enables you to create a storage pool by grouping two or more drives into a storage pool. On this pool, you can configure virtual drives known as the “storage spaces”. By default, the storage spaces store two copies of every file saved, thereby providing redundancy and ensuring data availability. Moreover, you can use the storage space pool to provide for any additional storage space requirements on the computer. You can even add more drives to extend the pool capacity.

In this task, you will create a **Storage Space** using **Disk 1** and **Disk 2** on the computer.

Step 1

In the Disk Management window, delete the existing partitions for **Disk 1** and **Disk 2**. Then, create simple volumes on both the disks.

Minimize the **Disk Management** window.

Figure 4.39 Screenshot of PLABWIN10: Showing the updated drives in the Disk Management window.

Step 2

Ensure that **PLABWIN10** is running. Access the desktop.

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

```
Storage Spaces
```

Under **Best Match** section, select **Manage Storage Spaces**.

Figure 4.40 Screenshot of PLABWIN10: Selecting Manage Storage Spaces from the search result.

Step 3

The **Storage Spaces** window is displayed.

On the **Manage Storage Spaces** page, select the **Create a new pool and storage space** link.

Figure 4.41 Screenshot of PLABWIN10: Clicking the Create a new pool and storage space link on the Manage Storage Spaces page.

Step 4

On the **Select drives to create a storage pool** page, select both of the drives and click **Create pool**.

Figure 4.42 Screenshot of PLABWIN10: Showing the Select drives to create storage pool page on the Create a storage pool window showing the required selections performed and the Create pool button highlighted.

Note: *If you cannot see any disks, please make sure you have recreated the volumes in Task 5, Step 1*

Step 5

The **Create a Storage Pool** dialog box is displayed.

Click **Close**.

Figure 4.43 Screenshot of PLABWIN10: Showing an error in the Create a Storage Pool dialog box.

Step 6

The **Create a storage space** window is displayed.

On the **Enter a name, resiliency type, and size for the storage space** page, input the following settings:

Set the **Resiliency type** drop-down list box to **Simple (no resiliency**).

In the **Size (maximum)** text box, change the size to **4.00 GB**.

Click **Create storage space**.

> *Note: If the Create storage space is greyed out please press cancel and continue to the next step.*

Figure 4.44 Screenshot of PLABWIN10: Making configuration changes for creating storage space.

Step 7

Back on the **Manage Storage Spaces** page on the **Storage Spaces** window, notice that the newly created storage pool is now listed along with the capacity, usage, and disk details.

Figure 4.45 Screenshot of PLABWIN10: Showing the newly created storage pool.

Review

Well done, you have completed the **Using Microsoft Operating System Tools and Features** Practice Lab.

Summary

In this module, you will complete the following exercises:

- Exercise 1 - Working with Windows Administrative Tools
- Exercise 2 - Implementing System Configuration Settings
- Exercise 3 - Using the Task Manager
- Exercise 4 - Managing Storage Spaces

After completing this lab, you will be able to:

- Access Computer Management Tools
- Configure Local Security Policy
- Create a Task on the Task Scheduler
- Explore Print Management Properties
- Configure Windows Memory Diagnostics
- Explore Component Services
- Add a Data Source to a Listed Driver
- Access the Event Viewer Logs
- Specify the Startup Type for Computer
- Set the Timeout Period on the Boot Tab
- Disable a Service on the Services Tab
- Enable Microsoft OneDrive as a Startup Service
- End a Task on the Processes Tab
- Explore the Performance Tab
- Disconnect a User on the Users Tab
- Initialize a Disk
- Partition a Dynamic Disk
- Explore Disk Management Operations
- Re-initialize a Disk
- Manage Storage Spaces

Feedback

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