Enabling Hyper-V Feature

Hyper-V is a machine virtualization platform from Microsoft that enables you to install and run multiple 32-bit or 64-bit OS in parallel on the same machine. You can use Hyper-V to install and test virtual machines of various configurations without affecting the functionality of the physical machine and without interfering with the other virtual machines. This enables you to work on various OS's without having to invest in computer hardware.

To get a better understanding of this technology, please refer to your course material or use your preferred search engine to research this topic in more detail.

Learning Outcomes

After completing this exercise, you will be able to:

- Install Hyper-V

Your Devices

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

- **PLABSA01** (Member Server - Windows Server 2019)

Task 1 - Install Hyper-V on PLABSA01

To install Hyper-V on a machine, you can access the **Add roles and features** link on the Server Manager console. You can also perform the installation using the Windows PowerShell commands. In this task, you will use Windows PowerShell to install Hyper-V on the **PLABSA01** server.

To install Hyper-V using the CLI method, perform the following steps:

Step 1

Ensure that you have powered on the required devices listed in the Introduction to this lab.

Connect to **PLABSA01**.

Minimize the **Server Manager** window.

Click the Type here to search icon. In the search box displayed, begin typing **Windows PowerShell**.

When the **Windows PowerShell** menu item appears, click it.

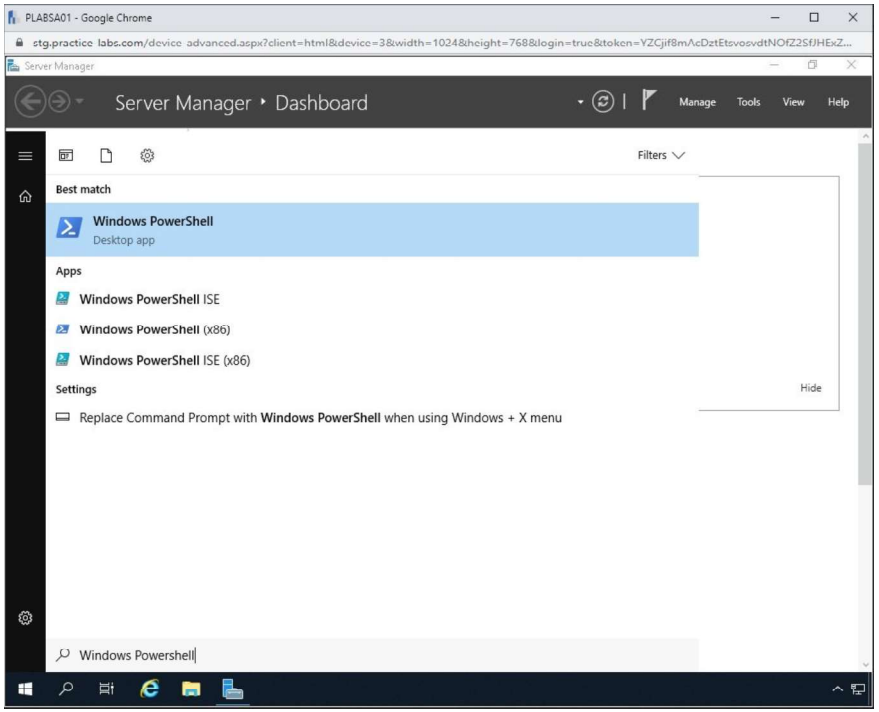

Figure 1.1 Screenshot of the PLABSA01 desktop: Windows PowerShell menu-option is highlighted on the Best match popup menu.

Step 2

To install Hyper-V feature on the **PLABSA01** device, type:

```
Install-WindowsFeature -Name Hyper-V
-IncludeManagementTools
-Restart
```

Press **Enter**.

Note: Windows PowerShell commands are not case-sensitive. They are written in the text with capitalizations for ease of readability.

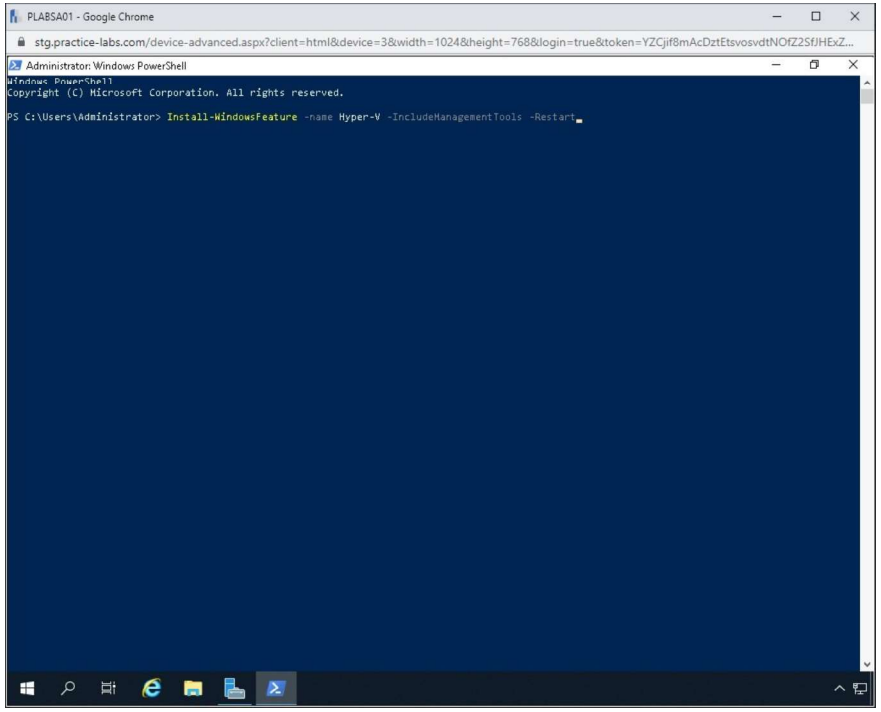

Figure 1.2 Screenshot of the PLABSA01 desktop: The command to install Hyper-V is typed in on the Administrator Windows PowerShell window.

Step 3

Please wait while installation of Hyper-V feature is in progress. Once the Installation is completed, you will lose your connection to **PLABSA01** as the device restarts.

Note: *Please wait for about 2 minutes before you reconnect to PLABSA01. This is to give the computer sufficient time to complete its restart after the installation of Hyper-V.*

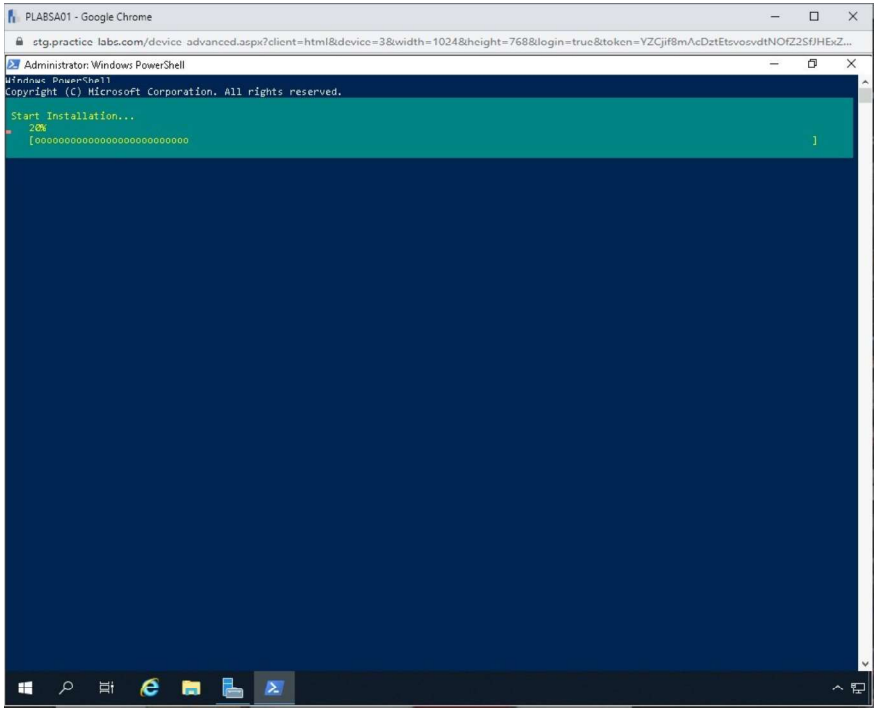

Figure 1.3 Screenshot of the PLABSA01 desktop: Administrator Windows PowerShell window is displayed tracking the installation specified in the previous step.

Step 4

Reconnect to the **PLABSA01** device.

When signed in, minimize the **Server Manager,** click **Start** and find the **Windows Administrative Tools** folder. Click to expand the folder. Locate the **Hyper-V Manager** app.

Listing of the **Hyper-V Manager** app in the menu verifies successful installation.

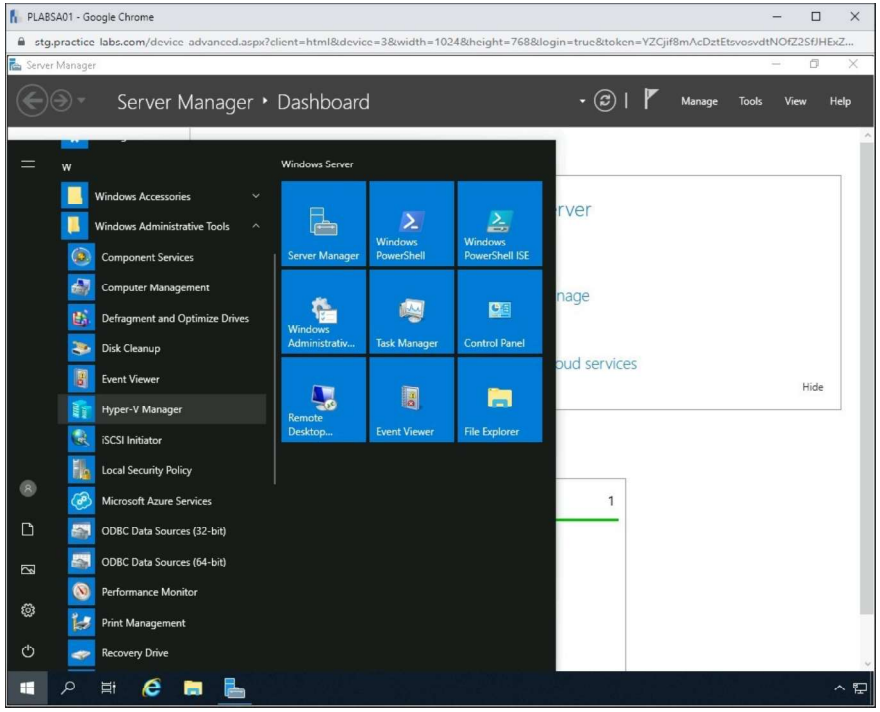

Figure 1.4 Screenshot of the PLABSA01 desktop: Hyper-V Manager option is highlighted on the Start menu.

Task 2 - Create Hyper-V Virtual Network Switch

A virtual network switch works like a physical network switch except that the switch is software-based.

Hyper-V supports three types of virtual networks:

External virtual networks - used to provide virtual machines with access to a physical network so they can communicate with externally located servers and clients.

Internal virtual networks - used to allow network communication between virtual machines on the same virtualization server, and between virtual machines and the management operating system.

Private virtual network - used to allow network communication between virtual machines on the same virtualization server. A private virtual network is not bound to a physical network adapter. This type of network is useful if you want to create an isolated network environment.

In this task, you will create a private virtual network switch.

To create a virtual network, follow these steps:

Step 1

Click **Hyper-V Manager**.

On the **Hyper-V Manager** window, locate **PLABSA01** on the navigation pane at the left.

Right-click **PLABSA01** and select **Virtual Switch Manager**...

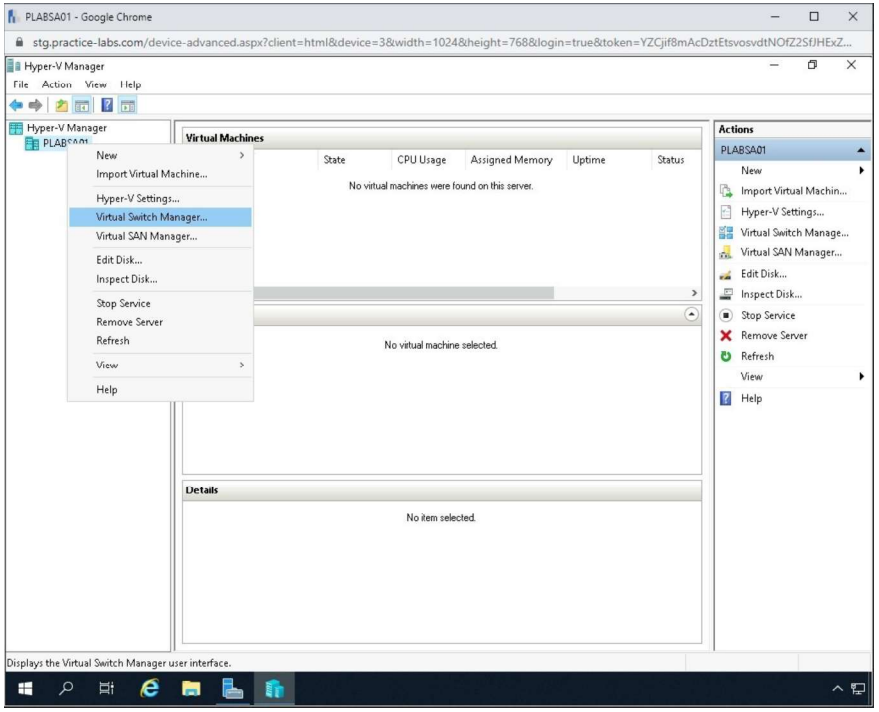

Figure 1.5 Screenshot of the PLABSA01 desktop: Context menu (that appears on right-clicking a listed Hyper-V server) > Virtual Switch Manager menu-options are highlighted on the Hyper-V Manager console.

Step 2

The **Virtual Switch Manager for PLABSA01** dialog box is displayed.

On the **What type of virtual switch do you want to create** section, select **Private**.

Click **Create Virtual Switch**.

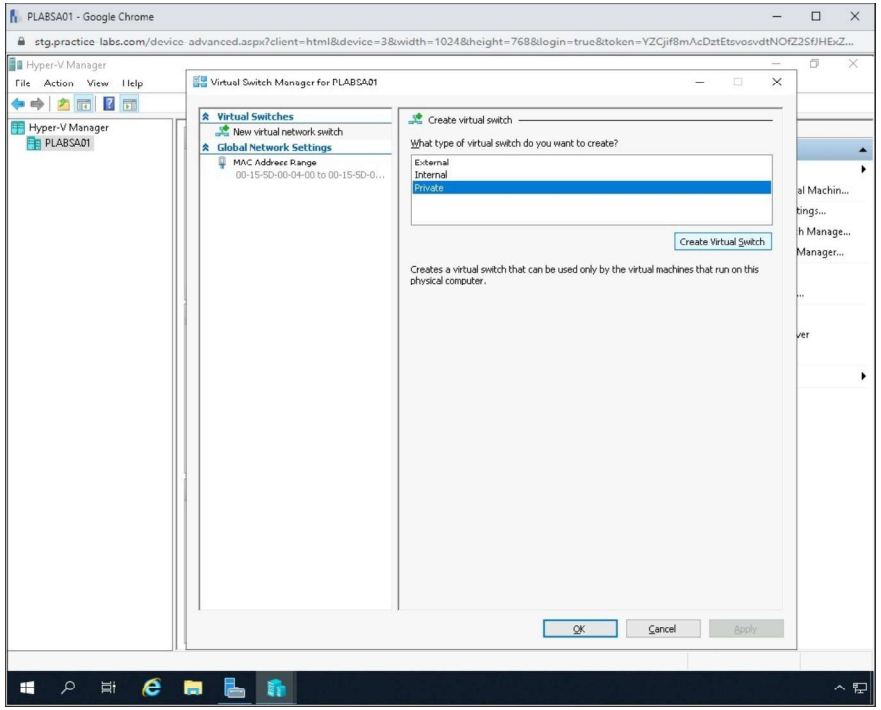

Figure 1.6 Screenshot of the PLABSA01 desktop: Virtual Switch Manager for PLABSA01 console is displayed showing the required selection performed and the Create Virtual Switch button highlighted.

Step 3

In the **Virtual Switch Properties** section, click within the **Name** field and replace its contents with the following:

```
Private Network 1
```

Verify **Connection type** is set **Private network**.

Click **Apply**.

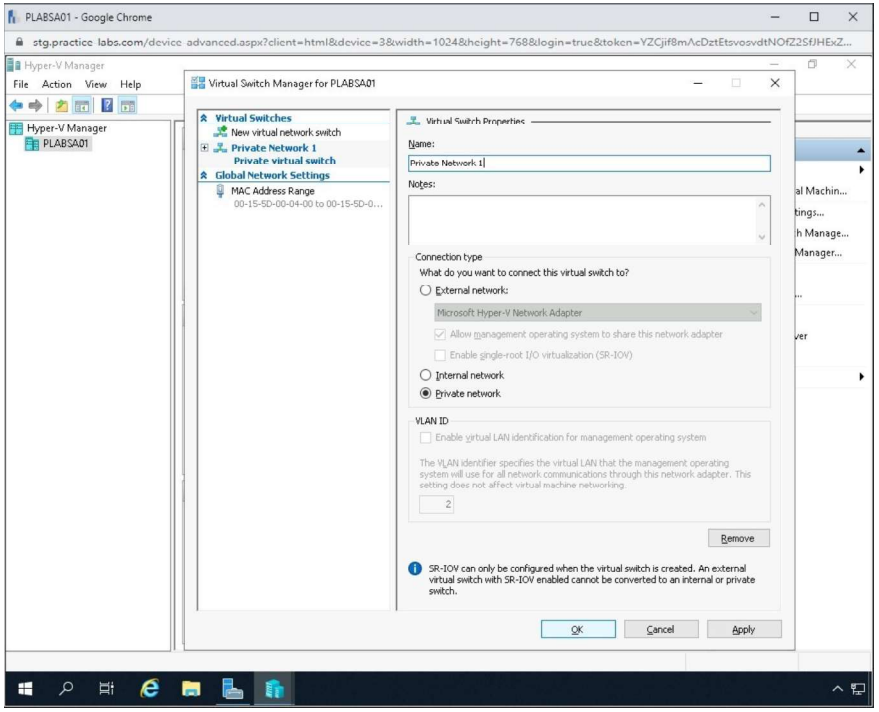

Figure 1.7 Screenshot of the PLABSA01 desktop: Virtual Switch Manager for PLABSA01 console is displayed showing the required settings performed and the OK button highlighted.

Step 4

Once the switch is created, you are returned to the main **Hyper-V Manager** page. To view your virtual switch, click on the **PLABSA01** device and then under the actions panel at the right, choose **Virtual Switch Manager**. The **Virtual Switch Manager for PLABSA01** window appears. You can see the switch you created under the **Virtual Switches** heading.

You have successfully created the virtual network switch on the Hyper-V host.

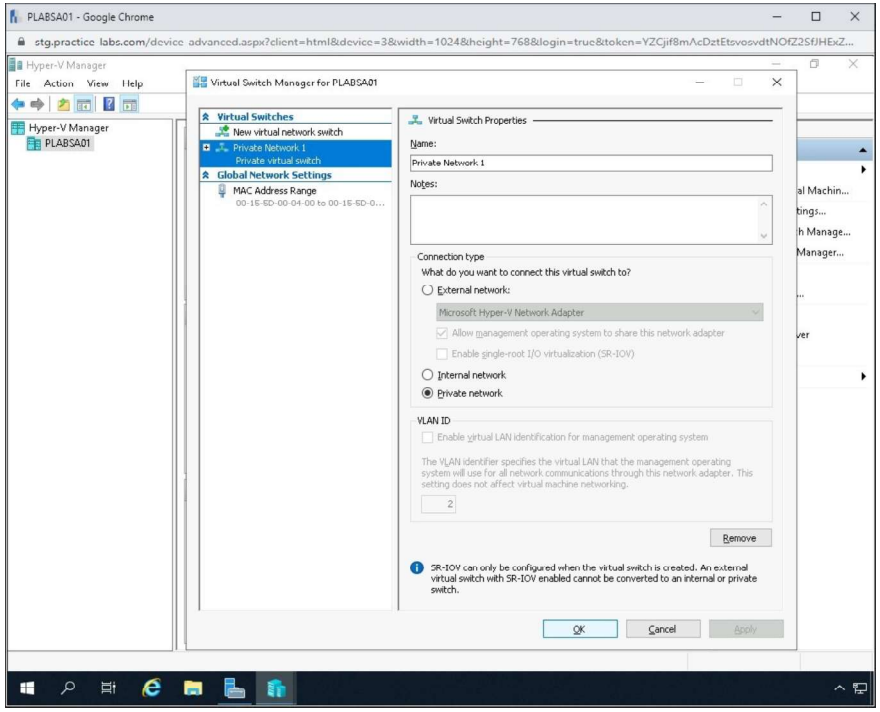

Figure 1.8 Screenshot of the PLABSA01 desktop: Virtual Switch Manager for the PLABSA01 console is displayed listing the newly created switch.

Keep all devices that you have powered on in their current state and proceed to the next exercise.