Hands-on Windows Server 2019 (3e)

Module 2 Solutions

# Review Questions

1. Server Manager can be used to monitor and manage other Windows Server 2008 and later systems. True or False?

**Answer: True.** You can add other Windows Server 2008 and later systems to a Server Manager console within Windows Server 2019.

1. Which of the following are panes that you will see listed for a server, server group, or server role within Server Manager? (Choose all that apply.)
   1. Services
   2. Events
   3. Roles and Features
   4. Performance

**Answer: a, b, c, d.** Events, Services, Best Practices Analyzer, Performance, and Roles and Features are the five panes displayed for each server, server group, or server role within Server Manager.

1. Which of the following tools within the navigation pane of the Windows Admin Center can be used to perform capacity planning?
   1. Performance
   2. Services
   3. System Insights
   4. Azure hybrid services

**Answer: c.** The System Insights tool can be used to monitor trends over a long period of time to perform capacity planning.

1. The Windows Admin Center allows you to obtain a Windows PowerShell session within your Web browser. True or False?

**Answer: True.** The PowerShell tool within the Windows Admin Center opens a Windows PowerShell console on the target system within the Windows Admin Center Web browser.

1. Which of the following utilities can be used to manually install a new device that is not fully PnP-compliant?
   1. Windows PowerShell
   2. Device Manager
   3. Devices and Printers utility
   4. Server Manager

**Answer: c.** The Devices and Printers utility can be used to add a new device that is not automatically detected by the system. Server Manager and Windows PowerShell do not have the ability to add new devices. Device Manager can only update the driver for a device that is automatically detected.

1. Your system has three physical storage devices. Windows Server 2019 is installed on the first physical storage device. What can you do to increase the performance of the system as much as possible?
   1. Move the paging file to the second physical storage device
   2. Move the paging file to the third physical storage device
   3. Create a paging file on the second and third physical storage devices
   4. Create a paging file on the second and third physical storage devices and remove the page file from the first storage device

**Answer: d.** To increase performance, you can move the paging file to a different physical storage device than the Windows operating system. You can further improve performance by creating multiple paging files on physical storage devices that do not include the Windows operating system. Only answer d. provides both of these features.

1. The Sigverif tool can be used to verify and repair corrupt system files. True or False?

**Answer: False.** Sigverif only detects system files that are not signed. The System File Checker tool can be used to verify and repair corrupt system files.

1. Which of the following features can be configured within Control Panel? (Choose all that apply.)
   1. File caching and flushing
   2. Environment variables
   3. Power options
   4. Startup and recovery options

**Answer: a, b, c, d.** Environment variables, power options, and startup and recovery options can be configured within the Control Panel. File caching and flushing is configured within Device Manager, which can also be accessed from Control Panel.

1. Some software issues require that you modify the value of an entry within the Windows Registry to fix a system problem. True or False?

**Answer: True.** Modifying the Windows Registry may be a task that Microsoft has you perform to remedy a software or hardware-related problem.

1. What should be your first course of action when you see a device marked Unknown within Device Manager?
   1. Install the manufacturer-provided driver package on the system and reboot.
   2. Right-click the Unknown device within Device Manager and choose Update driver. Supply the manufacturer-provided driver files if prompted.
   3. Right-click the Unknown device within Device Manager and choose Uninstall device. Reboot your system afterwards.
   4. Right-click the Unknown device within Device Manager and choose Properties. Note whether there is a resource conflict.

**Answer: b.** Unknown devices do not have a device driver. As a result, the first step should be to update the driver within Device Manager, providing the manufacturer-supplied driver, if required. This will associate the device driver with the correct device.

1. System environment variables apply to any user logged onto the system. True or False?

**Answer: True.** System environment variables apply to all users on a system, whereas user environment variables apply to the current user only.

1. What command could you execute within PowerShell to learn about the syntax of the **Get-WMIObject** cmdlet? (Choose all that apply.)
   1. **help Get-WMIObject**
   2. **Get-Help Get-WMIObject**
   3. **get-help Get-WMIObject**
   4. **Get-Help Get-WMIObject -online**

**Answer: a, b, c, d.** The Get-Help cmdlet obtains help for another cmdlet, thus b. is correct. Because the help alias is a shortcut to Get-Help, and Windows PowerShell is case-insensitive, both a. and c. will also work. You can also pass the -online option to Get-Help to view the online (possibly updated) version, hence d. is also correct.

1. PowerShell console files use the **.ps1** extension. True or False?

**Answer: False.** PowerShell console files use the .psc1 extension, whereas PowerShell script files use the .ps1 extension.

1. Which of the following aliases can be used to switch to a different PowerShell provider?
   1. **sp**
   2. **ps**
   3. **cd**
   4. **sl**

**Answer: d.** The sl alias is a shortcut to Set-Location, and can be used to switch to another PowerShell provider.

1. The **Test-NetConnection** cmdlet can be used to test network connectivity to a target computer. True or False?

**Answer: True.** The Test-NetConnection cmdlet automatically tests network connectivity to a computer at Microsoft, but you can also specify the name of a computer on the network, as well as a port number.

1. Which of the following can be used to open a new Windows PowerShell prompt that is connected to a remote computer (provided that winRM is enabled)?
   1. **Enter-PSSession *computername***
   2. **Invoke-Command *computername***
   3. **Execute-Shell *computername***
   4. **Enable-PSRemoting *computername***

**Answer: a.** You can use Enter-PSSession to connect to a remote computer and obtain a Windows PowerShell session. Invoke-Command can be used to run a PowerShell script on a remote computer. Execute-Shell does not exist. Enable-PSRemoting can be used to enable winRM.

1. Which of the following are valid methods for executing the superscript.ps1 file within PowerShell, assuming it is in your current directory, C:\Scripts? (Choose all that apply.)
   1. **C:\Scripts\superscript.ps1**
   2. **superscript.ps1**
   3. **./superscript.ps1**
   4. **.\superscript.ps1**

**Answer: a, c, d.** You can execute a PowerShell script using an absolute pathname (a.), or a forced relative pathname (c. and d.) only.

1. In the following example, three loops will be executed. True or False?

**$args = "one","two","three","four"**

**foreach ($i in $args) {write $i –foregroundcolor magenta}**

**Answer: False.** A foreach loop processes each element it is given. Because $args contains four elements, four loops will be executed.

1. Which of the following PowerShell constructs is best to use when you wish to perform a specific action based on the value of a single variable?
   1. **if**
   2. **switch**
   3. **do...while**
   4. **for**

**Answer: b.** The switch construct provides different actions based on the value of a particular variable. The if construct provides different actions based on a series of different statements. The do…while and for loop constructs merely repeat a given set of actions.

1. The Tab key can be used to auto complete a PowerShell cmdlet as you are typing it. True or False?

**Answer: True.** PowerShell shares the same auto-completion feature as MS-DOS and UNIX or Linux shells.

# Discovery Exercises

## Discovery Exercise 1

Because the Server Manager that ships with RSAT is not running on a local server, there is no Local Server section. Instead, all connections to servers must be remote. Aside from this, the functionality is identical between RSAT Server Manager and the Server Manager tool included with Windows Server 2019.

## Discovery Exercise 2

Not available. Answers will vary.

## Discovery Exercise 3

The first line creates a variable called $ui that contains an object that represents the Windows PowerShell user interface for the current host computer. The second command changes the WindowTitle property of this object to read “Extreme PowerShell Window!”

## Discovery Exercise 4

Although answers may vary, the following is a sample script that will provide this functionality:

**#This script prints process information to the screen for a**

**#process that is supplied as an argument to the script**

**Get-WmiObject win32\_process -Filter "name='$args'" | Format-Table HandleCount,VirtualSize,UserModeTime,KernelModeTime,ProcessID,Name**

## Discovery Exercise 5

Although answers will vary, the following is an example trace:

* The first line of the script creates a $list variable that includes a sorted list of all of the objects (files, subdirectories) within the current directory.
* Next, a foreach loop processes each entry within this sorted list and sets the $fgc variable to cyan for directories, blue for PowerShell scripts, green for executable files, red for zip/rar files and yellow for all other file types.
* Finally, the name, size (Length), and modification date (LastWriteTime) is listed for each file using the associated foreground color for the file type (from the associated $fgc variable).

## Discovery Exercise 6

Answers will vary—not available.

## Discovery Exercise 7

Not available.