

Lab 4-8 Using Windows Powershell

Learning Targets

- Understand Powershell
- Understand cmdlets
- Understand how to navigate around in PowerShell

Checkoff Success Criteria—have you met your mark?

Tory Check	You check	
		Add Powershell
		Test commands and demonstrate moving through directories.
		Locate a command and get help on it
		Write a simple script in Notepad.
		Set a restore point
		Open as an administrator
		Change execution policy
		Run script
		Answer questions

Directions

1. Boot into your server 2012 R2
2. Open Server Manager
3. Expand Features
4. Add a Feature
5. Select Windows Powershell and install.
6. Read this:

PowerShell is a very power command line interface (shell) that allows you to perform activities in Server. It is the strongest tool you have to manage server quickly and adeptly. We are going to just touch the surface on things you can do with with. Powershell uses both **cmdlets** (command-lets) and **scripts** to perform a variety of functions. It seems to be particularly useful for remote administrating other servers and applying the same script to perform different actions. For example, you may set up an application server and use a PowerShell script to control the installation of a number of applications.

Test using the Console. Try the following commands.

To	Do this
List the contents of the current directory	Type the command dir , or ls , and press Enter .
Move to a different directory	Type the command cd followed by a space, specify the path name of the directory to change to, and press Enter .
Make a new directory	Type the command md followed by a space, and then type the name of the directory to be created. Then press Enter .
Delete a file or directory	Type the command del followed by a space, and then type the name of the file/directory to be deleted. Then press Enter .
Display a line of text in the console	Type the command echo followed by a space, and then type the message surrounded by quotation marks. Then press Enter .
Clear the console	Type the command cls and then press Enter .

Cmdlets are specialized commands for performing different tasks in PowerShell. If you type **get-command** in the PowerShell prompt, you'll get a list of all the cmdlets available. You can even write your own cmdlets if Microsoft doesn't have what you need built into it.

One thing I noticed when I was writing this lab is that PowerShell uses many commands you can find in both DOS and Linux commands (UNIX). I went to perform a few typical tasks such as listing a directory, and accidentally typed the Linux command LS instead of DIR. Both worked identically.

Test it out.

1. Go into the Metro Interface and start typing PowerShell. Open it up. You'll notice PowerShell. It looks much like the CMD prompt. It is, but it's not. CMD is a shell environment, and so is PowerShell only cmd.exe can't do the CMDLETS.
2. Type **dir** and hit return.
3. Type **ls** and hit return.
4. Type **help dir** and hit return.
5. Type **man dir** and hit return
6. What do you get with the last two? Yeah, I don't know why that is either. I think it's a bug.

7. Type **get-process**.
8. What do you see?

9. Type **get-process | more** and hit return to show just a pageview at a time.

10. What does **| more** do? Note that the **|** is known as a "pipe".

11. Now let's say that you have a server running really slowly and you think it's RAM. You want to kill all processes taking over 500 MB RAM. Type **get-process | where { \$_.WS -gt 500MB } | stop-process**.
12. To see a list of services running, type **get-service**.
13. To get a list of all the cmdlets available, type **get-help about_core_command** and press enter.
14. Whoa! What was that?
15. Hit the up arrow to bring the command back onto your prompt. Now add to the end **| more** (the **|** is called a pipe and is usually on the top of the **** key) to pause it.
16. Choose one of the commands in the list and type **get-help** followed by the name of the command.

Command	What it does

PowerShell is extremely powerful. It is much more than the cmd prompt on steroids. There are entire books written on PowerShell and its applications.

Let's write a simple script in PowerShell that is completely pointless, but will let you see if you can write a program.

1. Open Notepad and save it as helloworld.PS1 (PS1 is the extension for PowerShell). Save this right in the C:\ drive to find it easily.
2. Type the following commands in Notepad and save.
 - a. **\$strString = "Hello World"**
 - b. **write-host \$strString**
3. Save.

4. Open PowerShell.
5. Type `c:\helloworld.PS1`
6. If you get an error that says the execution of scripts is disabled, you can change that policy by changing a registry key. NOTE: CHANGING REGISTRY KEYS IS DANGEROUS SO YOU HAVE TO REALLY CAREFUL!!
7. Set a restore point first.
8. You may have to close PowerShell and reopen as Administrator. (Right click—Run as Administrator)
9. Now type `PS C:\Users\shriganesh> Set-ExecutionPolicy unrestricted`
10. Then type `Set-ExecutionPolicy RemoteSigned`
11. Now run the command in step two.

Go to this website and practice with the commands shown. <http://www.howtogeek.com/114344/5-cmdlets-to-get-you-started-with-powershell/> or use <http://bit.ly/Powershell1>

Questions

1. Which is more powerful, CMD or PowerShell?	
2. What command would you use to clear your screen?	
3. What is a cmdlet?	
4. Why do you have to type a – between a command and a modifier? (Read the website if you don't know.)	
5. What command turns off the signed execution policy?	
6. If I wanted to get help on ipconfig, what do you think I would type??	