PowerShell Providers

In this lecture we are going to be taking a look at PowerShell Providers.

So what are Providers?

Providers are a method to access data so that you can view this data in a hierarchical (Hi -er-R-Key-Kool) structure. For example, if you open Windows explorer, you view this data as a file system located in drives, directories and subdirectories. So with providers, they are designed to take **various kinds of data storage** and make it look like a **disk drive**. Providers have cmdlets that the user can run to manage these data stores. All the cmdlets used with Powershell Providers are listed and defined in this section.

Let's go ahead and open, PowerShell ISE. From the Windows search box type **Powershell**, now right click on **Powershell ISE** and click **run-as Administrator**. From view, click **show the script pane.**

To view Built-in PowerShell Providers, type **Get-PsProvider**

```
PS C:\Users\Dad> Get-PSProvider

Name                 Capabilities                              Drives
----                 ------------                              ------
Registry             ShouldProcess, Transactions               {HKLM, HKCU}
Alias                ShouldProcess                             {Alias}
Environment          ShouldProcess                             {Env}
FileSystem           Filter, ShouldProcess, Credentials        {C, E, F, G...}
Function             ShouldProcess                             {Function}
Variable             ShouldProcess                             {Variable}
Certificate          ShouldProcess                             {Cert}
WSMan                Credentials                               {WSMan}
```

The above list not only shows the built-in providers, but the **drives** that each provider currently supports.
A **drive** is an entity that a provider uses to represent a data store through which data is made available to the PowerShell session. For example, the **Registry provider** creates a PowerShell drive for the HKEY_Current_User registry hive.

Now let's take a look at all our drives. Type **get-psdrive –** This cmdlet is used to view all the **PowerShell drives**

```
PS C:\Users\Dad> get-psdrive

Name           Used (GB)     Free (GB) Provider      Root
----           ---------     --------- --------      ----
Alias                                  Alias
C                 323.86        140.85 FileSystem    C:\
Cert                                   Certificate   \
D                                      FileSystem    D:\
E                 243.13        222.63 FileSystem    E:\
Env                                    Environment
F                  56.78        874.63 FileSystem    F:\
Function                               Function
G                1378.73        484.28 FileSystem    G:\
H                  47.76         66.78 FileSystem    H:\
HKCU                                   Registry      HKEY_CURRENT_USER
HKLM                                   Registry      HKEY_LOCAL_MACHINE
T                   0.03          0.07 FileSystem    T:\
U                1353.24        509.77 FileSystem    U:\
Variable                               Variable
WSMan                                  WSMan
Y                 323.86        140.85 FileSystem    \\live.sysinternals.com\tools
```

Updating your help system

By now you are familiar with the PowerShell Help System. In this section We'll be using it to display syntax and to get the latest examples for all the provider related cmdlets.

To update the Powershell help system we have to be running as an administrator.
Type **Update-Help**

I have already updated my helps system so your display may look a little different.

- If you can update successfully great, If you get an error that displays, Failed to update Help for the module(s) PSReadline. This is a Microsoft issue.

Try running this command instead. **Update-Help -Verbose -Force -ErrorAction SilentlyContinue**
This command worked for me.

Ok we are done with this lecture, good job and we will see you in the next one.