

PowerShell on the Network

INTRODUCTION AND WELCOME



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You have started
working with
PowerShell

You have servers to
manage

How can PowerShell
help?



Who am I?
Long time Microsoft
MVP



Who am I?

Long time Microsoft
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Longtime Pluralsight
author

pluralsight 

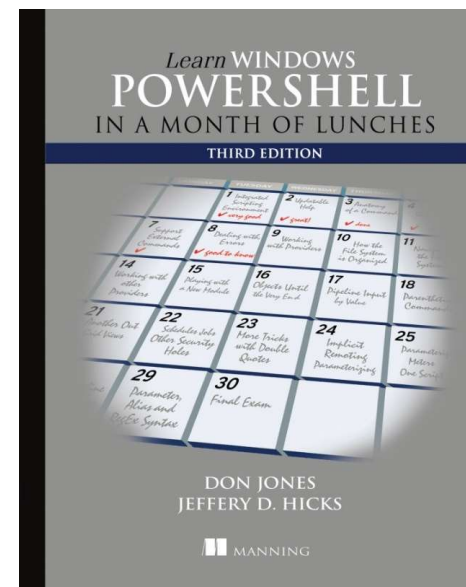


Who am I?

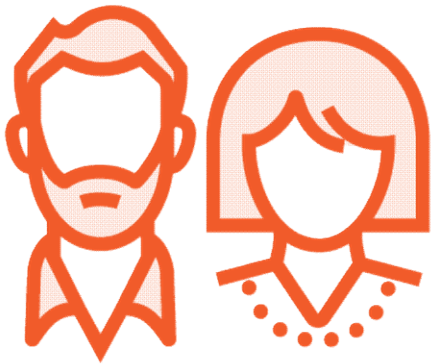
Long time Microsoft
MVP

Longtime Pluralsight
author

Author & Speaker



Who You Are



Windows IT Pro



Know PowerShell
fundamentals



Experience with server
administration



Course Objectives

**Know how to use
PowerShell to
remotely manage
systems**

**Know how to use
WMI and CIM**

**Know how to use
PowerShell to
interact with the
Internet**





No PowerShell scripting

- Well, maybe a little...

Emphasis on using PowerShell from the command line...

...to manage servers and more on the network



What to Expect



Emphasis on seeing PowerShell at work on the network



Feel free to follow along with the demos



PowerShell v5.1 on
Windows 10

Domain based test
environment

Should have admin
rights

Or setup a lab
environment



AutoLab

8GB-16GB of RAM

50GB-100GB free disk space

**Computer that supports
Hyper-V virtualization**

**Windows 10 preferred
(Windows Server 2016)**



<https://github.com/theJasonHelmick/PS-AutoLab-Env>

Scroll through the README

Detailed instructions are
with course downloads

Watch the video!

Download the latest release
zip file

Extract zip file to C:\

Reboot before running setup

Versions

Current Release

Go Here!

Unreleased (Dev Branch)

New release under development

- Updated to Lablity version 0.11.0

Version 3.0.2

- Download release [PS-AutoLab-Env v3.0.2](#)
- Added New course config for Michael Bender



Open elevated PowerShell prompt

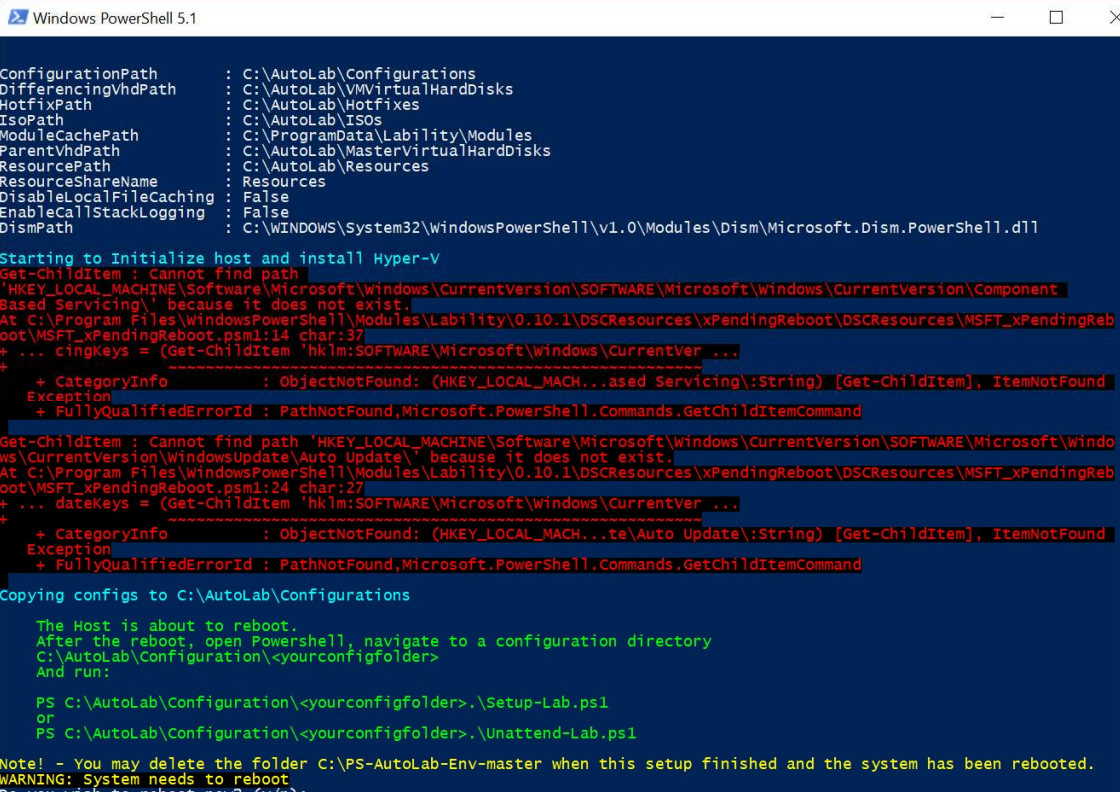
Type: `cd C:\PS-AutoLab-Env-<version>`

Type: `.\Setup-Host.ps1`

Follow prompts

Some errors are ok

Reboot as instructed



```
Windows PowerShell 5.1

ConfigurationPath      : C:\AutoLab\Configurations
DifferencingVhdPath    : C:\AutoLab\VMVirtualHardDisks
HotfixPath             : C:\AutoLab\Hotfixes
IsoPath               : C:\AutoLab\ISOs
ModuleCachePath        : C:\ProgramData\Lability\Modules
ParentVhdPath          : C:\AutoLab\MasterVirtualHardDisks
ResourcePath           : C:\AutoLab\Resources
ResourceShareName      : Resources
DisableLocalFileCaching : False
EnableCallStackLogging : False
DismPath               : C:\WINDOWS\System32\WindowsPowerShell\v1.0\Modules\Dism\Microsoft.Dism.PowerShell.dll

Starting to initialize host and install Hyper-V
Get-ChildItem : Cannot find path 'HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\SOFTWARE\Microsoft\Windows\CurrentVersion\Component
Based Servicing\' because it does not exist.
At C:\Program Files\WindowsPowerShell\Modules\Lability\0.10.1\DSCResources\XPendingReboot\DSCResources\MSFT_xPendingReb
oot\MSFT_xPendingReboot.psm1:14 char:37
+ ... cingKeys = (Get-ChildItem 'hk1m:SOFTWARE\Microsoft\Windows\CurrentVer ...
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (HKEY_LOCAL_MACH...ased Servicing\(:String) [Get-ChildItem], ItemNotFound
Exception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetChildItemCommand

Get-ChildItem : Cannot find path 'HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\SOFTWARE\Microsoft\Windo
ws\CurrentVersion\WindowsUpdate\Auto Update\' because it does not exist.
At C:\Program Files\WindowsPowerShell\Modules\Lability\0.10.1\DSCResources\XPendingReboot\DSCResources\MSFT_xPendingReb
oot\MSFT_xPendingReboot.psm1:24 char:27
+ ... dateKeys = (Get-ChildItem 'hk1m:SOFTWARE\Microsoft\Windows\CurrentVer ...
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (HKEY_LOCAL_MACH...te\Auto Update\(:String) [Get-ChildItem], ItemNotFound
Exception
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetChildItemCommand

Copying configs to C:\AutoLab\Configurations

The Host is about to reboot.
After the reboot, open Powershell, navigate to a configuration directory
C:\AutoLab\Configuration\<yourconfigfolder>
And run:

PS C:\AutoLab\Configuration\<yourconfigfolder>.\Setup-Lab.ps1
or
PS C:\AutoLab\Configuration\<yourconfigfolder>.\Unattend-Lab.ps1

Note! - You may delete the folder C:\PS-AutoLab-Env-master when this setup finished and the system has been rebooted.
WARNING: System needs to reboot
Do you wish to reboot now? (y/n):
```



Go to <https://github.com/jdhitsolutions/PowerShellLab>

Download the current release zip file (check the README)

In your Autolab\Configurations folder create a directory called PowerShellLab

Extract the files to this folder.

```
Windows PowerShell 5.1.15063
PS C:\Autolab\Configurations\PowerShellLab>
PS C:\Autolab\Configurations\PowerShellLab> dir

Directory: C:\Autolab\Configurations\PowerShellLab

Mode                LastWriteTime         Length Name
----                -
d-----            8/25/2017    7:35 PM                PostSetup
-a-----            8/25/2017    7:35 PM                24 .gitignore
-a-----            8/25/2017    7:35 PM            2017 AD-Group.json
-a-----            8/25/2017    7:35 PM             506 AD-OU.json
-a-----            8/25/2017    7:35 PM            5017 AD-Users.json
-a-----            8/25/2017    7:35 PM            1054 Instructions.md
-a-----            8/25/2017    7:35 PM             1576 README.md
-a-----            8/25/2017    7:35 PM            36159 VMConfiguration.ps1
-a-----            8/25/2017    7:35 PM            8903 VMConfigurationData.psd1
-a-----            8/25/2017    7:35 PM             6020 VMValidate.test.ps1

PS C:\Autolab\Configurations\PowerShellLab> _
```



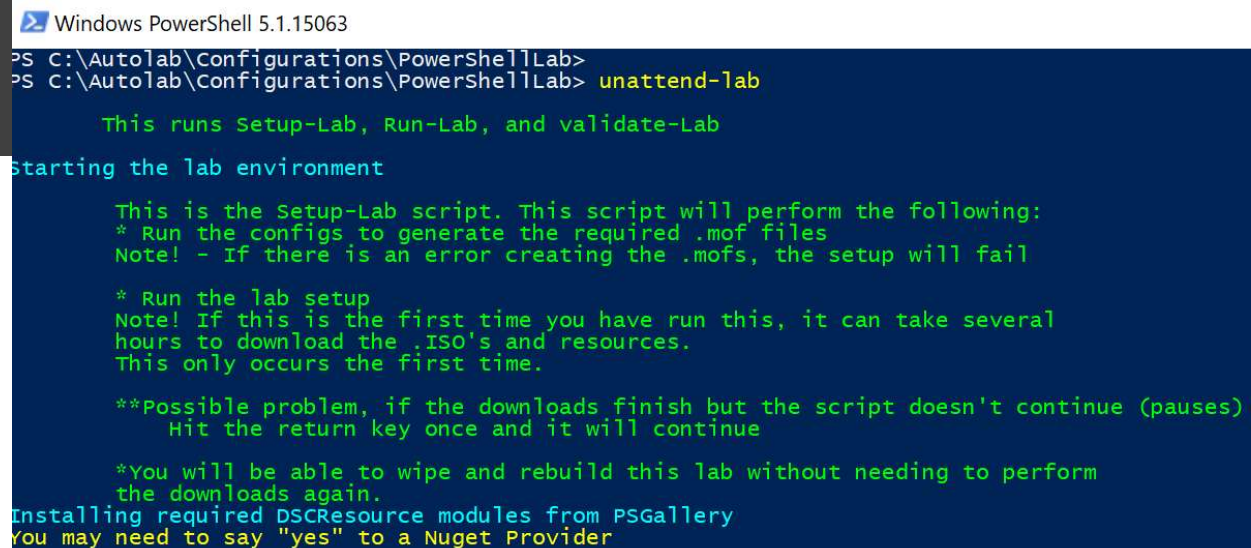
Open elevated PowerShell prompt

Type: `cd C:\Autolab\configurations\PowerShellLab`

Read: `Instructions.md`

Run: `unattend-lab`

Wait...



```
Windows PowerShell 5.1.15063
PS C:\Autolab\Configurations\PowerShellLab>
PS C:\Autolab\Configurations\PowerShellLab> unattend-lab

    This runs Setup-Lab, Run-Lab, and validate-Lab

Starting the lab environment

    This is the Setup-Lab script. This script will perform the following:
    * Run the configs to generate the required .mof files
    Note! - If there is an error creating the .mofs, the setup will fail

    * Run the lab setup
    Note! If this is the first time you have run this, it can take several
    hours to download the .ISO's and resources.
    This only occurs the first time.

    **possible problem, if the downloads finish but the script doesn't continue (pauses)
        Hit the return key once and it will continue

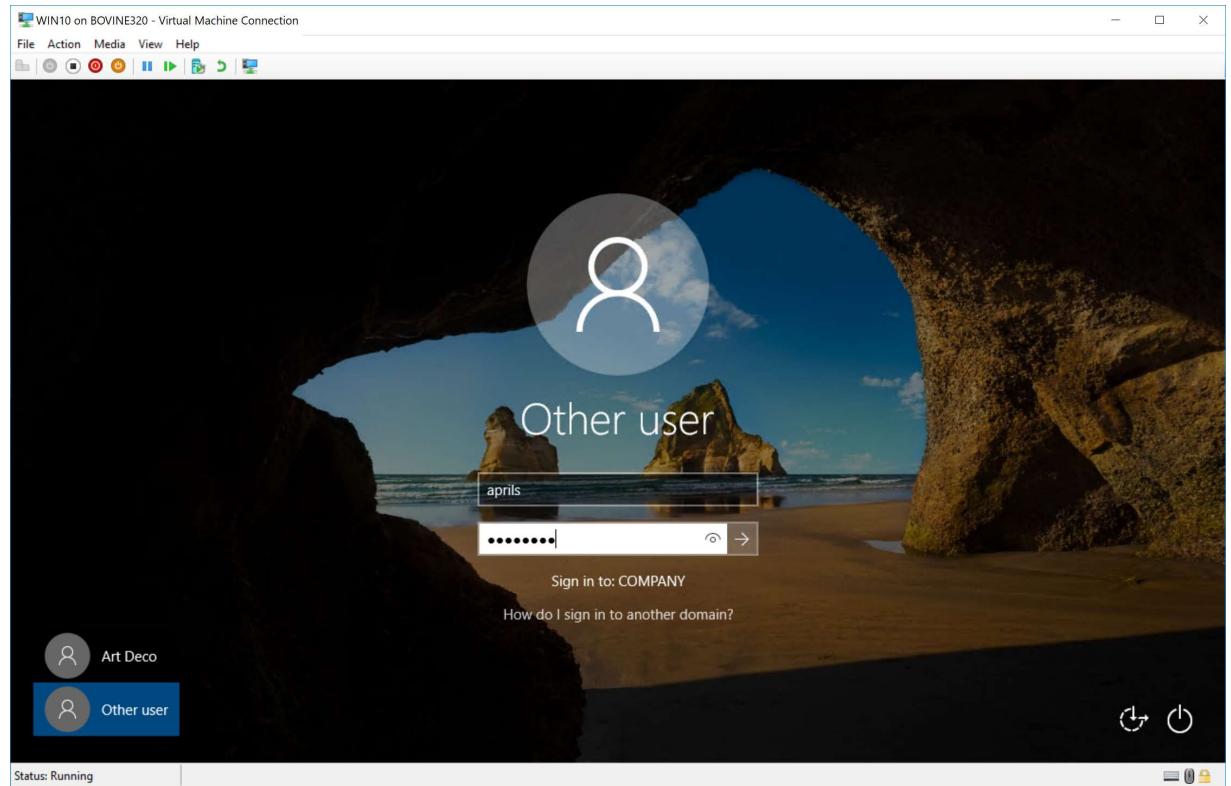
    *You will be able to wipe and rebuild this lab without needing to perform
    the downloads again.
Installing required DSCResource modules from PSGallery
You may need to say "yes" to a Nuget Provider
```

Use AutoLab commands
to manage the VMs

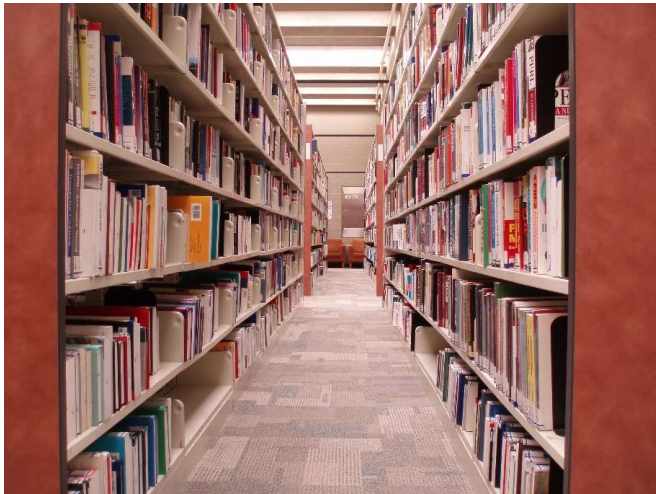
Use Remote Desktop or
VMConnect to connect
to WIN10

Logon as ArtD or AprilS

P@sswOrd



Supporting Sources



PowerShell.org

Petri.com

LeanPub.com

Pluralsight.com



Summary



Make sure you fit the requirements

Take the time to setup a lab environment

Get excited to see what PowerShell can do on the network!

