Windows Server Lab Guide Using Hyper-V on Windows 10 Pro
PowerShellNewbie.com

System Requirements

- PC/Laptop running Windows 10 Pro (This will be referred to as the host computer)
- 8GB minimum/16GB preferred RAM
- 150 GB Hard Drive space (an external drive can be used to store the virtual machines)
- ISO files for Windows 10 Enterprise, Server 2012r2, and Server 2016 o These can be downloaded from: https:www.microsoft.com/en-us/evalcenter/
    - o Save them in a folder such as c:\ISOs\ and rename them with easy names such as Server2016, Server2012r2, and Win10E

Run the below Commands in an Administrator level PowerShell console on HOST computer

(right click PowerShell and select run as Administrator)

1. Install Hyper-V on host computer
    a. Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Hyper-V -All b. Restart if needed
2. Create a network on host computer
    a. New-VMSwitch -Name LabNet -SwitchType Private
    b. This allows for a network of the lab environment, but protects even your computer
3. Create VMs
    a. New-VM -Name Server2012r2 -MemoryStartupBytes 2GB -BootDevice VHD -NewVHDPath .\VMs\Server2012r2.vhdx -Path .\VMData -NewVHDSizeBytes 40GB -Generation 2 -Switch LabNet
    b. New-VM -Name Server2016 -MemoryStartupBytes 2GB -BootDevice VHD -NewVHDPath .\VMs\Server2016.vhdx -Path .\VMData -NewVHDSizeBytes 40GB -Generation 2 -Switch LabNet
    c. New-VM -Name Win10E -MemoryStartupBytes 2GB -BootDevice VHD -NewVHDPath .\VMs\Win10E.vhdx -Path .\VMData -NewVHDSizeBytes 40GB -Generation 2 -Switch LabNet
4. Add DVD Drives
    a. This will add a DVD drive to each VM and mount the appropriate ISO. Make sure to match your path and filenames that you used. This is why I recommend renaming to simple clear names.
    b. Add-VMDvdDrive -VMName Server2012r2 -Path C:\isos\Server2012r2.ISO
    c. Add-VMDvdDrive -VMName Server2016 -Path C:\isos\Server2016.ISO
    d. Add-VMDvdDrive -VMName Win10E -Path C:\isos\Win10E.ISO
5. Connect to the Machines and Install the Operating System
    a. USE AN EASY PASSWORD FOR LAB MACHINES. I use Password1. Keep it simple.
    b. vmconnect localhost Server2012r2; power it on, boot to the DVD, install data center version with or without desktop experience
    c. vmconnect localhost Server2016; power it on, boot to the DVD, install data center version with or without desktop experience
    d. vmconnect localhost Win10E; power it on, boot to the DVD, install Windows 10 Enterprise

Run the below Commands in an Administrator level PowerShell console on virtual machine specified

(right click PowerShell and select run as Administrator)

6. Configure Server2012r2 as DC (Run these commands on virtual machine DC in PowerShell console)
    a. New-NetIPAddress 10.0.0.1 -InterfaceAlias "Ethernet" -PrefixLength 24
    b. Set-DnsClientServerAddress -InterfaceAlias "Ethernet" -ServerAddresses 127.0.0.1 c. Rename-Computer DC
    d. Restart-Computer
    e. Install-WindowsFeature AD-Domain-Services, DHCP -IncludeManagementTools
    f. Install-ADDSForest -DomainName corp.packtlab.com
    g. Add-DhcpServerv4Scope -name "PacktLabNet" -StartRange 10.0.0.50 -EndRange 10.0.0.100 -SubnetMask 255.255.255.0
    h. Set-DhcpServerv4OptionValue -DnsDomain corp.packtlab.com -DnsServer 10.0.0.1
    i. Add-DhcpServerInDC -DnsName dc.corp.packtlab.com
    j. New-ADUser -SamAccountName SysAdmin -AccountPassword (read-host "Set user password" assecurestring) -name "SysAdmin" -enabled $true -PasswordNeverExpires $true -ChangePasswordAtLogon $false
    k. Add-ADPrincipalGroupMembership -Identity "CN=SysAdmin,CN=Users,DC=corp,DC=packtlab,DC=com" -MemberOf "CN=Enterprise Admins,CN=Users,DC=corp,DC=packtlab,DC=com","CN=Domain Ad mins,CN=Users,DC=corp,DC=packtlab,DC=com"
    l. Get-ADPrincipalGroupMembership sysadmin

7. Configure Server 2016 as APP (Run these commands on virtual machine APP in PowerShell console)
    a. New-NetIPAddress 10.0.0.3 -InterfaceAlias "Ethernet" -PrefixLength 24
    b. Set-DnsClientServerAddress -InterfaceAlias "Ethernet" -ServerAddresses 10.0.0.1
    c. Add-Computer -NewName APP -DomainName corp.packtlab.com
    d. Restart-Computer
    e. New-Item -path c:\networkfiles -type directory
    f. Write-Output "This is a test network file." | out-file c:\networkfiles\test.txt
    g. New-SmbShare -name files -path c:\networkfiles -changeaccess CORP\SysAdmin

8. Configure CLIENT and Test (Run these commands on virtual machine CLIENT in PowerShell console)
    a. Add-Computer -NewName CLIENT -DomainName corp.packtlab.com
    b. Restart-Computer
    c. Log into CLIENT as SysAdmin
    d. Open file explorer and go to \\app\
    e. You should see a folder named Files, open it and then the file test.txt

You now have a Windows Server lab that you created with PowerShell!

Using similar commands with a few changes such as IP addresses and hostnames you can add more virtual machines if you choose.