Installing and Remotely Connecting Using PowerShell

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Overview

Goal: Install PowerShell and Use PowerShell Remoting

- Install PowerShell on Windows
- Install PowerShell on Linux
- Install PowerShell on macOS
- Understand PowerShell Remoting
- Perform PowerShell Remoting Within Windows

Install PowerShell on Windows

PowerShell Install for Windows

1   **MSI package**
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/PowerShell-X.X.X-win-x64.msi

2   **ZIP package**
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/PowerShell-X.X.X-win-x64.zip

3   **.NET Global tools**
dotnet tool install --global PowerShell

4   **Windows Package Manager tool (Winget)**
winget install --id Microsoft.Powershell --source winget

5   **Microsoft Store package**
https://www.microsoft.com/store/apps/9MZ1SNWT0N5D

Install PowerShell on Linux

PowerShell Install for Linux

1 **Ubuntu**
https://packages.microsoft.com/config/ubuntu/XX.XX/packages-microsoft-prod.deb

2 **Debian**
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/powershell-lts_X.X.X-X.deb_amd64.deb

3 **Red Hat Enterprise**
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/powershell-lts-X.X.X-X.rh.x86_64.rpm

4 **.NET Global tool**
dotnet tool install --global PowerShell

5 **Snap Package**
sudo snap install powershell --classic

Install PowerShell on macOS

PowerShell Install for macOS

1 **Homebrew**
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
brew install --cask powershell

2 **Direct Download**
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/powershell-X.X.X-osx-x64.pkg
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/powershell-X.X.X-osx-arm64.pkg

3 **.NET Global tool**
dotnet tool install --global PowerShell

4 **Binary Archive**
https://github.com/PowerShell/PowerShell/releases/download/vX.X.X/powershell-X.X.X-osx-x64.tar.gz

Demo
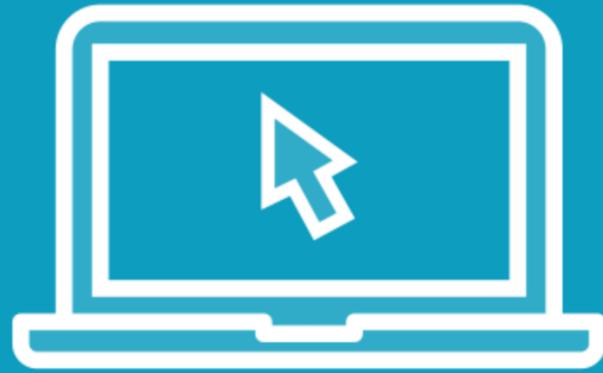
Install PowerShell on Windows

Install PowerShell on Linux

Install PowerShell on macOS

PowerShell Remoting

PowerShell Remoting
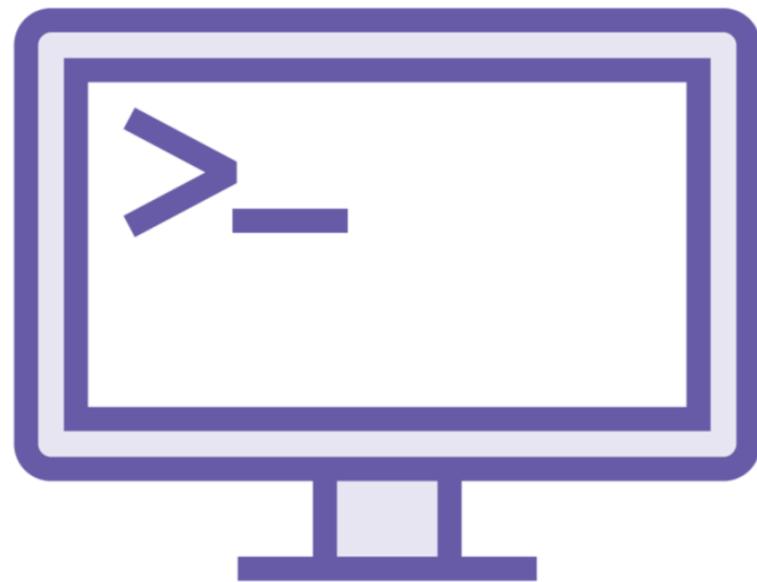
PowerShell Remoting Supports

- Windows Management Instrumentation (WMI)

- WS-Management (WSMan)

- Secure Shell Protocol (SSH)

For PowerShell 7 and higher Remote Procedure Call (RPC) is supported only in Windows

PowerShell Remoting over SSH

PowerShell 6 or higher Required

Install both SSH Client and Server

For Windows use OpenSSH

Install PowerShell from GitHub

PowerShell Remoting over SSH

```
# Install SSH service within Ubuntu Linux
sudo apt install openssh-client
sudo apt install openssh-server

# Modify the SSH Configuration
PasswordAuthentication yes
PubkeyAuthentication yes
Subsystem powershell /usr/bin/pwsh -sshs -NoLogo

# Restart SSH Service
sudo systemctl restart sshd.service

# Connect from Linux to Linux
$session = New-PSSession -HostName UBUNTU -UserName Trainer
Enter-PSSession $session
```

PowerShell Remoting Using WSMan

Enables a WinRM remote endpoint

Execution of either Enable-PSRemoting command or execute Install-PowerShellRemoting.ps1 script

Connect using standard remoting PowerShell commands

PowerShell Remoting Using WSMan

```powershell
# Execute PowerShell Command to Enable Remoting
Enable-PSRemoting -Force -SkipNetworkProfileCheck

# Execute PowerShell Script to Enable Remoting
Install-PowerShellRemoting.ps1

# Connect Using WSMan
$session = New-PSSession -HostName UBUNTU -UserName Trainer
Enter-PSSession $session
```
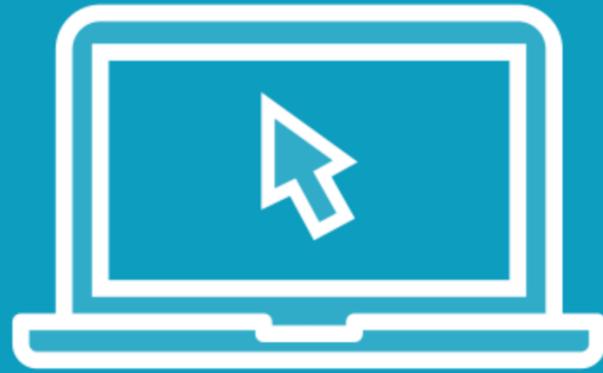
Summary

Goal: Install PowerShell and Use PowerShell Remoting

- Installed PowerShell on Windows
- Installed PowerShell on Linux
- Installed PowerShell on macOS
- Performed PowerShell Remoting Within Windows and Linux

Up Next:
Querying System Information and Logs Using PowerShell