

Enabling PowerShell Remoting



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Overview



Understand PowerShell Remoting

Review the PowerShell Remoting options

How to enable PowerShell Remoting



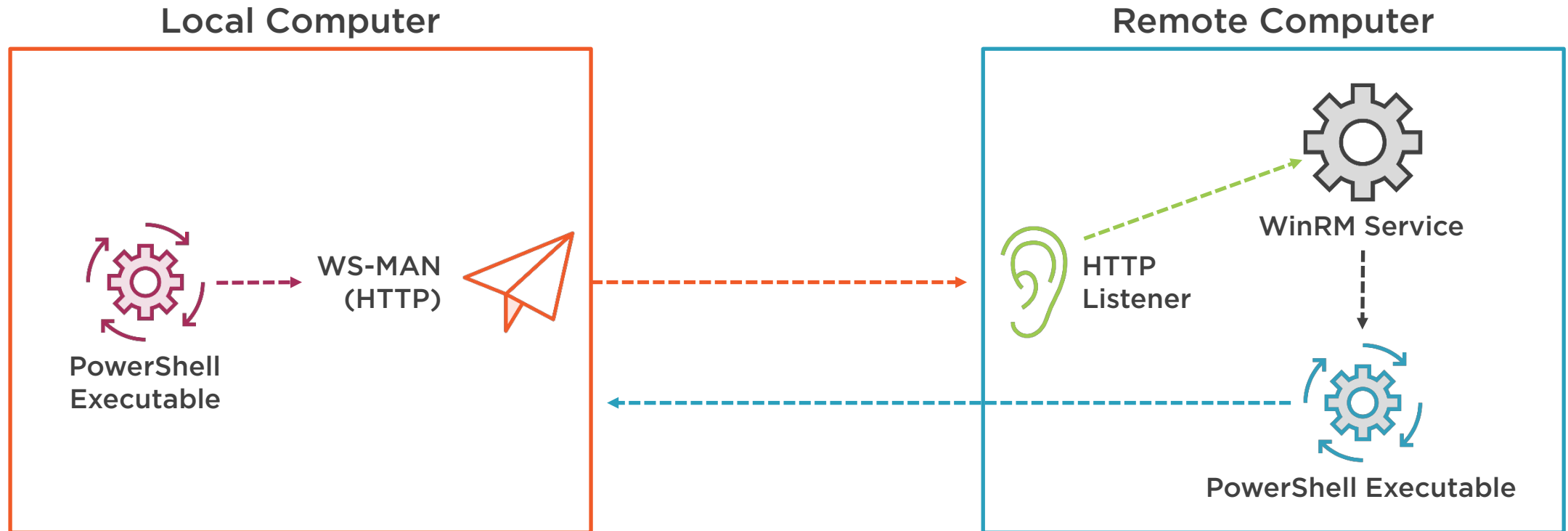
What is PowerShell Remoting?



PowerShell feature allowing
Administrators to execute
commands on remote
systems



PowerShell Remoting



PowerShell Remoting



Connect



Authenticate



Execute
Commands



Return Output



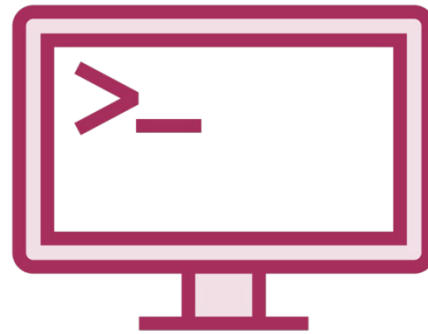
Why use PowerShell Remoting?



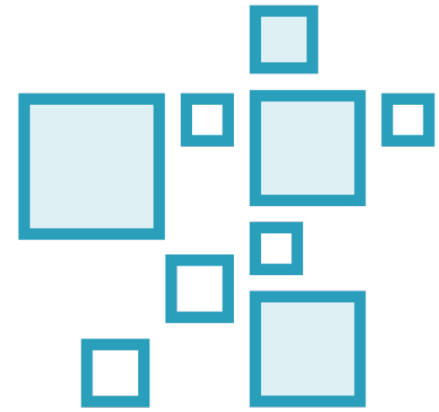
Benefits of PowerShell Remoting



Execute Single or Multiple Commands against Remote Machine



Allows Execution of either Commands or Scripts



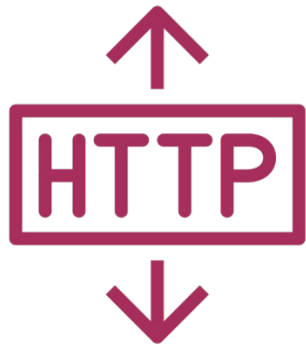
Can Execute Commands against Multiple Machines Simultaneously

Enabling PowerShell Remoting



PowerShell Remoting Connections

PowerShell Remoting is Primarily designed for connecting and managing remote devices within an Active Directory environment



HTTP

Windows 10 Default
Option



HTTPS

Requires IT to acquire,
provision, and manage
Certificates. Complicated
Option



SSH

Available since
PowerShell Core (version
6 or higher). Allows
Cross-platform
connecting



Enable PowerShell Remoting using WS-MAN

Enable over HTTP

`Set-WSManQuickConfig`

Enable over HTTPS

`Set-WSManQuickConfig -UseSSL`

Enable Remoting

`Enable-PSRemoting -Force`

Enable Remoting with no Network Profile Check

`Enable-PSRemoting -Force -SkipNetworkProfileCheck`



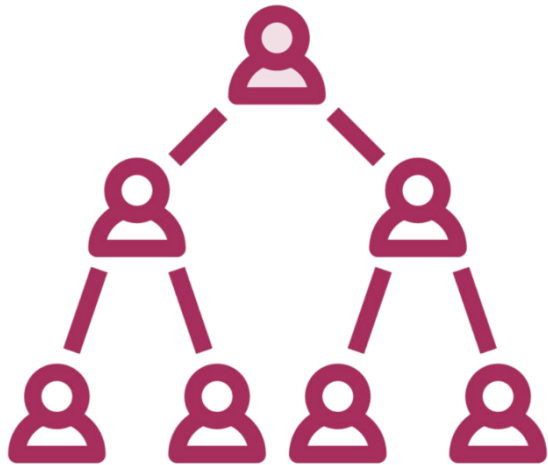
Enable PowerShell Remoting using WS-MAN



To enable PowerShell Remoting for Non-Administrators, local security groups can be used

- Define Active Directory Security Group
- Add Group to the Remote Management Users Group locally

Enable PowerShell Remoting using WS-MAN



To enable PowerShell Remoting on multiple machines, Group Policy should be used

- Open Group Policy Management
- Use the Computer Configuration option
- Navigate to the Windows Remote Management (WinRM) settings
- Set the Allow option for the WinRM Service

Enable PowerShell Remoting using SSH



Install Latest
version of
PowerShell



Install Latest
OpenSSH



Define the SSH
Configuration



Restart SSH
Service

Prepare Windows 10 for SSH Remoting

Install OpenSSH Client and Server

```
Add-WindowsCapability -Online -Name OpenSSH.Client
```

```
Add-WindowsCapability -Online -Name OpenSSH.Server
```

Set the SSH Server Service to start Automatically

```
Set-Service -Name sshd -StartupType "Automatic"
```

```
Start-Service -Name sshd
```

Install and Import Microsoft's PowerShell Remoting Module

```
Install-Module -Name Microsoft.PowerShell.RemotingTools
```

```
Import-Module -Name Microsoft.PowerShell.RemotingTools
```

Enable SSH Remoting and Restart the Service

```
Enable-SSHRemoting -Verbose
```

```
Restart-Service -Name sshd
```



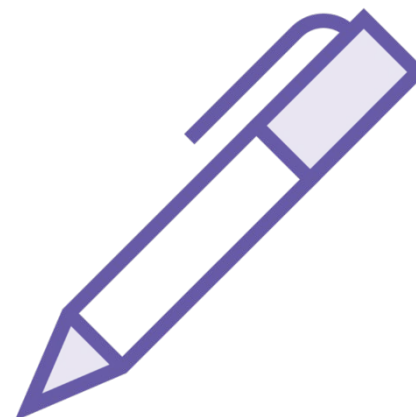
Enable PowerShell Remoting using SSH (Linux)



Install Latest
version of
PowerShell



Install Latest
OpenSSH Server



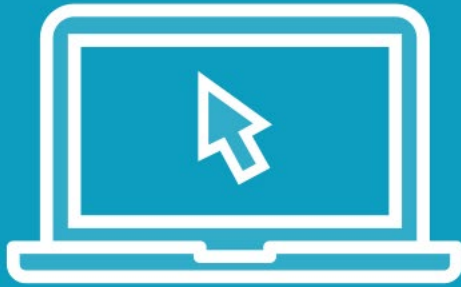
Define the SSH
Configuration



Restart SSH
Service



Demo



Enable PowerShell Remoting

- WS-MAN
- SSH

Review Group Policy creation for PowerShell Remoting



Summary



Reviewed PowerShell Remoting

Understood why you should use PowerShell Remoting

Enabled PowerShell Remoting using WS-MAN and SSH

Reviewed the Group Policy configuration for PowerShell Remoting



Up Next:

Creating and Managing Remote PowerShell Sessions

