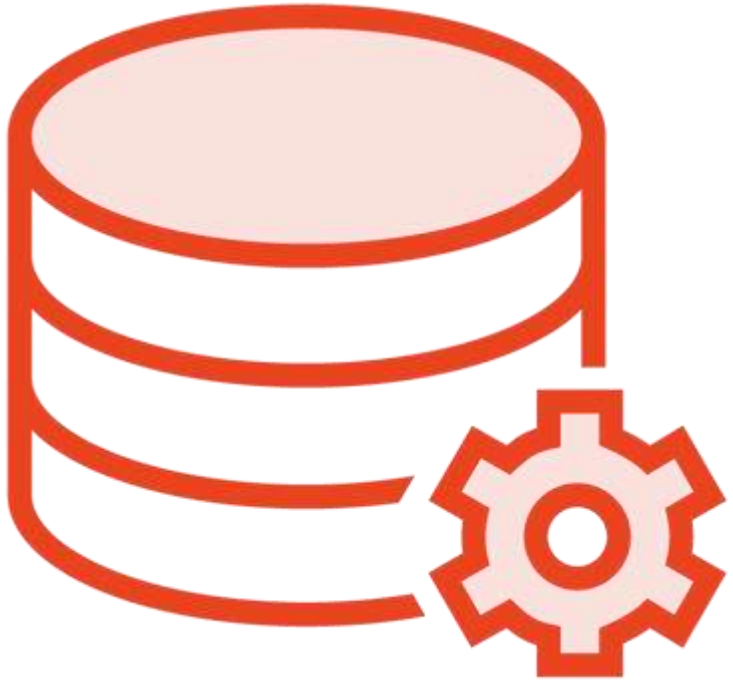
Using a Pull Server

Jeff Hicks
Author/Teacher

@jeffhicks | https://jdhitsolutions.com/blog

The Pull Server Scenario



You have more than a few servers to manage

You want a centralized source

- Configurations
- DSC Resources

You don't (or can't) set up a push framework

Servers can pull configurations and resources from a centralized server

Good for less than 500 nodes

Pull Server Requirements

Install the DSC-Service feature

Centralized share

- IIS web server
  - https recommended
- File share

Configure the LCM RefreshMode

Copy configurations and resources to the pull server

Microsoft recommends Azure Automation DSC

Demo

Setting Up a Pull Server

```
PS C:\> PulledConfig -output C:\DSC\PulledConfig


    Directory: C:\DSC\PulledConfig


Mode                 LastWriteTime         Length Name
----                 -------------         ------ ----
-a----        10/22/2021  10:47 AM           4742 Localhost.mof
```

Deploying a Configuration

The MOF file needs to be renamed with a GUID
This will be the configuration ID

```
PS C:\> $id = New-Guid
```

Deploying a Configuration

Create a GUID

```
$id = New-Guid
$new = Join-Path -path C:\dsc\PulledConfig -ChildPath "$id.mof"
Rename-Item C:\dsc\PulledConfig\Localhost.mof -NewName $new
```

Deploying a Configuration

Rename the file

```
$id = New-Guid
$new = Join-Path -path C:\dsc\PulledConfig -ChildPath "$id.mof"
Rename-Item C:\dsc\PulledConfig\Localhost.mof -NewName $new
New-DscChecksum -Path $New -OutPath C:\dsc\PulledConfig -Force
```

Deploying a Configuration

Create a checksum
Use –Force to overwrite existing checksum files

```
$s = New-PSSession -computername SRV2
Copy-Item -path C:\dsc\PulledConfig\* -Destination 'C:\Program
Files\WindowsPowerShell\DscService\Configuration' -ToSession $s -Force
```

Deploying a Configuration

Copy the files to the pull server
Use whatever mechanism you want

```
PS C:\> Get-Module networkingdsc -ListAvailable


    Directory: C:\Program Files\WindowsPowerShell\Modules


ModuleType Version    Name                                ExportedCommands
---------- -------    ----                                ----------------
Manifest   8.2.0      NetworkingDsc
```

Deploying Resources

Need to create a zip file: ModuleName_ModuleVersion.zip
NetworkingDSC_8.2.0.zip
https://docs.microsoft.com/powershell/scripting/dsc/pull-server/package-upload-resources?view=powershell-5.1

Be careful with zip file structure. You may need to exclude the version folder.

```
PS C:\ModuleExports> dir *.zip | Foreach-Object {
  New-DscChecksum -path $_.fullname -OutPath . –Force
}
```

Deploying Resources

Each zip file needs a checksum

```
$s = New-PSSession -computername SRV2
Copy-Item -path C:\ModuleExports\* -Destination "C:\Program
Files\WindowsPowerShell\DscService\Modules" -ToSession $s -Force
```

Deploying Resources

Copy files to the pull server
Technically, you can configure nodes in push mode to pull DSC resources

Demo

Deploying Configurations and Resources

```
[DSCLocalConfigurationManager()]
Configuration PullLCM {
    Param([string]$Computername, [string]$ID)

   Node $Computername {
    Settings {
      RefreshMode          = 'Pull'
      ConfigurationID      = $ID
      RefreshFrequencyMins = 30
      RebootNodeIfNeeded   = $true
      ConfigurationMode    = “ApplyAndAutoCorrect"
    }

  ConfigurationRepositoryWeb SRV2 {
   ServerURL = 'http://SRV2:8080/PSDSCPullServer.svc'
   AllowUnsecureConnection = $true
    }

  ResourceRepositoryWeb SRV2 {
   ServerURL = 'http://SRV2:8080/PSDSCPullServer.svc'
   AllowUnsecureConnection = $true
      }
    }
}
```

- Configuration ID is the GUID used for the MOF
- Look for new configs every 30 minutes (minimum setting)

- Where to download configurations
- In production you should use SSL

- Where to download DSC resources

```
$id = (Get-ChildItem C:\dsc\PulledConfig\*.mof).BaseName
```

Configure the LCM

My LCM configuration needs the ID
You may need a way to track MOFs and IDs

```
$id = Get-ChildItem C:\dsc\PulledConfig\*.mof).BaseName
PullLCM -computername SRV1 -ID $id -OutputPath C:\DSC\PullLCM
```

Configure the LCM

My LCM configuration needs the ID
You may need a way to track MOFs and IDs
Create the meta.mof

```
$id = Get-ChildItem C:\dsc\PulledConfig\*.mof).BaseName
PullLCM -computername SRV1 -ID $id -OutputPath C:\DSC\PullLCM
Set-DscLocalConfigurationManager -Path C:\dsc\PullLCM -Verbose -Force
```

Configure the LCM

My LCM configuration needs the ID
You may need a way to track MOFs and IDs
Create the meta.mof
Push the meta.mof to the node

Demo

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