

PowerShell DSC: Introduction

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What is DSC?

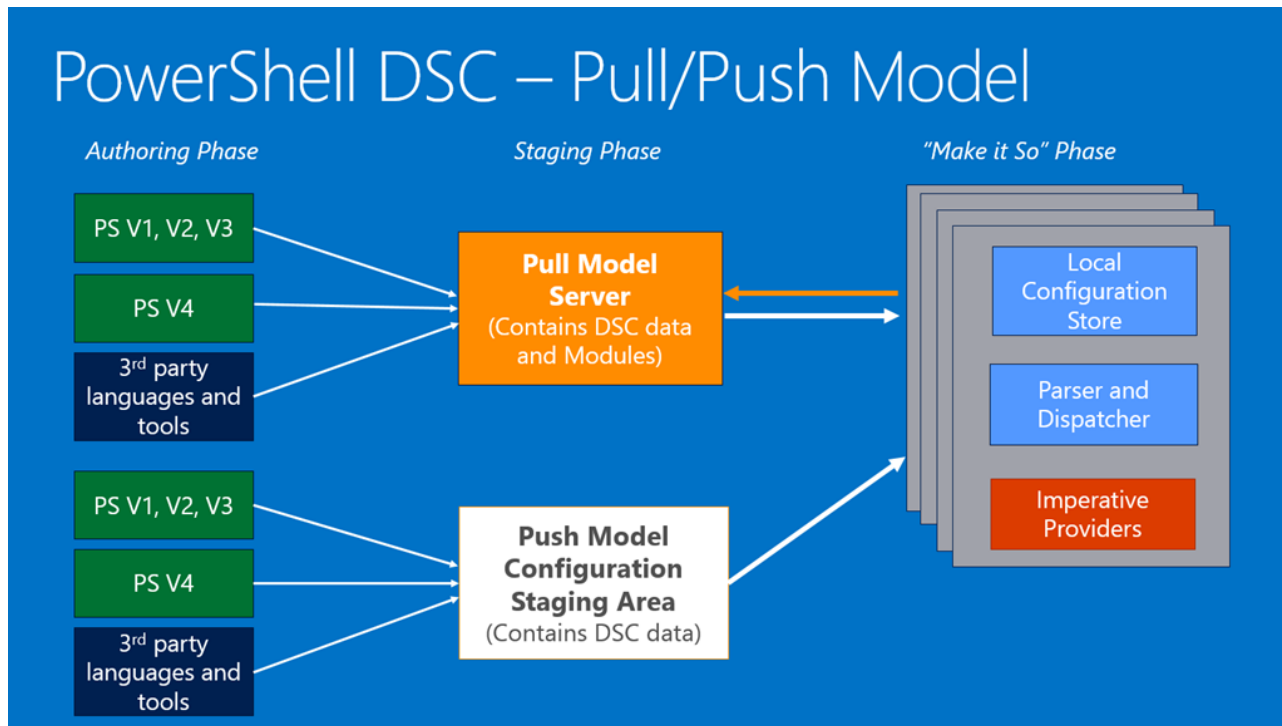
“Desired State Configuration is Microsoft’s technology, introduced in Windows Management Framework 4.0, for declarative configuration of systems”

[The DSC Book](#)

“DSC is a distributed, heterogeneous, configuration management platform”

[Jeffrey Snover](#)

How does DSC work?



[introducing-powershell-desired-state-configuration-dsc](#)

Configuration

```
1 Configuration WebAppConfig
2 {
3     Node localhost
4     {
5         WindowsFeature ASP
6         {
7             Ensure = "Present"
8             Name = "Web-Asp-Net45"
9         }
10
11        Environment AddInetSrvFodlerToPath
12        {
13            Ensure = "Present"
14            Name = "Path"
15            Path = $true
16            Value = "C:\windows\System32\inetsrv"
17            DependsOn = "[WindowsFeature]ASP"
18        }
19    }
20 }
21
22 WebAppConfig
```

Managed Object Format(MOF)

```
1 instance of MSFT_RoleResource as $MSFT_RoleResource1ref
2 {
3     ResourceID = "[WindowsFeature]ASP";
4     Ensure = "Present";
5     SourceInfo = "C:\\Users\\Sergey\\Desktop\\Untitled1.ps1::5::9::WindowsFeature";
6     Name = "Web-Asp-Net45";
7     ModuleName = "PSDesiredStateConfiguration";
8     ModuleVersion = "1.0";
9 };
10
11 instance of MSFT_EnvironmentResource as $MSFT_EnvironmentResource1ref
12 {
13     ResourceID = "[Environment]AddInetSrvFodlerToPath";
14     Path = True;
15     Ensure = "Present";
16     Value = "C:\\Windows\\System32\\inetsrv";
17     SourceInfo = "C:\\Users\\Sergey\\Desktop\\Untitled1.ps1::11::9::Environment";
18     Name = "Path";
19     ModuleName = "PSDesiredStateConfiguration";
20     ModuleVersion = "1.0";
21     DependsOn = {"[WindowsFeature]ASP"};
22 };
23
24 instance of OMI_ConfigurationDocument
25 {
26     Version="1.0.0";
27     Author="Sergey";
28     GenerationDate="05/03/2015 21:00:44";
29     GenerationHost="SHCHEGRIKOVICH";
30 };
```

DSC Resources

- [Built-In](#)
- [DSC Resource Kit Wave](#)
- [Community](#)

xActiveDirectory

xDnsServer

xWebAdministration

xAzure

xMySQL

cFailOverCluster

xChrome

[xJEA](#)

WindowsProcess

Class-defined DSC resources – WMF 5.0

Class-defined DSC resources

```
1  enum Ensure
2  {
3      Absent
4      Present
5  }
6
7  [DscResource()]
8  class ResourceName
9  {
10     [DscResourceKey()][string] $IPAddress
11
12     [DscResourceKey()][string] $HostName
13
14     [Ensure] $Ensure
15
16     #Set function similar to Set-TargetResource
17     [void] Set() { }
18
19     #Test function similar to Test-TargetResource
20     [bool] Test() { return $true; }
21
22     #Get function similar to Get-TargetResource
23     [Hashtable] Get() { return [hashtable]::new(); }
24 }
25
```

Demo

- Configuration for IIS
- Basic cmdlets and structure
- Pull server
- Configuration for WebServer

Win 2012 R2 / WMF 5.0 / xPSDesiredStateConfiguration

DSC is awesome, but ...

- Process
- DSC is a framework
- xResources

Summary

- DSC is **Powershell** language extension
- Fast start
- DSC is a framework
- Built in support of password encryption
- DSC is the future

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