



Modules

Learnings covered in this Unit



Module overview



Where to find and install modules.

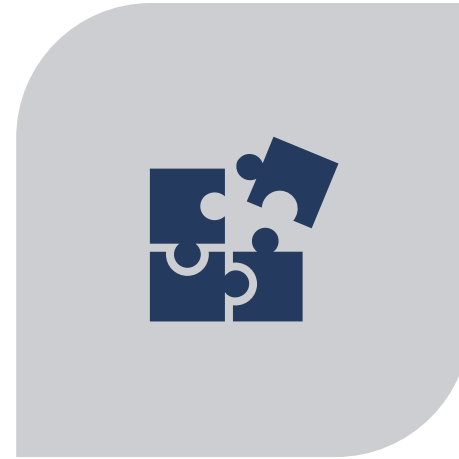


PowerShellGet and the PSGallery

Module Overview



A **PACKAGE** THAT CONTAINS
POWERSHELL **COMMANDS**



COMBINES **FUNCTIONS** AND
CMDLETS FOR A PRODUCT OR
FEATURE INTO ONE
COLLECTION

Modules



Each module typically contains commands to work with a specific product or feature.



Modules are automatically loaded from any of the locations stored in the **\$env:PSModulePath** environment variable.



Get-Module -ListAvailable shows all installed modules.

Module Auto-Loading

- Beginning in PowerShell **3.0**, PowerShell imports modules **automatically** when you run any command in an **installed** module.
- Controlled with **\$PSModuleAutoloadingPreference** automatic variable.
 - The default value is **All**.

```
PS> $PSModuleAutoLoadingPreference = "None"
```

```
PS> Get-VM
```

```
Get-VM : The term 'Get-VM' is not recognized as the name of a cmdlet, function, script file, or operable program. Check the spelling of the name, or if a path was included, verify that the path is correct and try again.
```

```
At line:2 char:1
```

```
PS> $PSModuleAutoLoadingPreference = "All"
```

```
PS> Get-VM
```

Name	State	CPUUsage(%)	MemoryAssigned(M)	Uptime	Status	Version
----	-----	-----	-----	-----	-----	-----
testvm	off	0	0	00:00:00	operating normally	9.0

Explicitly Importing Modules

- Modules can be explicitly imported using **Import-Module**.
- Useful to import a **specific version** of a module on a system that has multiple versions of that module installed.
- Import by **name** or using a fully qualified **path**.

```
PS> Get-Module Pester -ListAvailable
```

```
Directory: C:\Program Files\WindowsPowerShell\Modules
```

ModuleType	Version	Name	ExportedCommands
-----	-----	----	-----
Script	5.0.3	Pester	{Invoke-Pester, Describe, Context, It...}
Script	4.8.0	Pester	{Describe, Context, It, Should...}
Script	3.4.0	Pester	{Describe, Context, It, Should...}

```
PS> Import-Module Pester -Version 4.8.0
```

Demonstration

Module auto-loading and
explicitly importing modules



How to find and install modules

PowerShell Gallery

<https://www.powershellgallery.com>

- **Microsoft-hosted** PowerShell Repository for the **community**, to share and distribute their work
- Search and install:
 - Modules
 - Workflow
 - DSC
 - Scripts
 - Functions



4,354	349,254,169	26,630
Unique Packages	Total package downloads	Total packages

PowerShellGet

- PowerShell **5+** includes a Suite of cmdlets to **search** and **download** modules from the **PowerShell Gallery**
- **Find-Module** allows you to search for modules
- **Install-Module** will install those modules on your system in your default module path

```
PS> Find-Module Pester
```

Version	Name	Repository	Description
-----	----	-----	-----
5.0.3	Pester	PSGallery	Pester provides a framework for...

```
PS> Install-Module Pester
```

*PowerShellGet is covered more in depth in the PowerShell: IT Management workshop.

Manually Installing modules

You can download a module from an external source such as **github** or even an internal **fileshare**.

To **autoload** the entire module folder must be copied to a folder defined in **\$env:PSModulePath**

The **default location** for user built modules is:
C:\ProgramFiles\WindowsPowerShell\Modules

Demonstration

Installing Modules manually
and via the PowerShell Gallery



Questions?



