

PowerShell 5.0 and Desired State Configuration



Purpose of the training

This is considered a skillset that all operations team need to master, and all developers should be familiar with the technology so they can develop DSC Resources to be used in deploying their software.



Benefits of completing the training

After completing this course, students will be able to:

- Understand Desired State Configuration.
- Understand that PowerShell handles both imperative and declarative language.
- Understand DSC requirements.
- Understand features added to version 4 of PowerShell.
- Understand features added to version 5 of PowerShell.
- Understand and execute updating the Help System.
- Understand management models.
- Understand and utilize MOF file creation workflow.
- Understand methodologies of configuration data.
- Understand functions and cmdlets available for DSC with WMF 5.0.
- Understand the basics of a DSC Pull Server.
- Understand how to get the parameters working for IntelliSense.
- Understand how to define a DSC configuration script.
- Understand how to utilize resources.
- Understand and utilize the Configuration keyword.
- Understand node filtering.
- Understand and utilize the DSC File Resource.
- Understand and utilize the DSC Archive Resource.
- Understand and utilize the DSC Environment Resource.
- Understand and utilize the DSC Group Resource.
- Understand and enable the Analytic Log.

- Understand and utilize the DSC Log Resource.
- Understand and utilize the DSC Registry Resource.
- Understand and utilize the DSC Script Resource.
- Understand and utilize the DSC Service Resource.
- Understand and utilize the DSC User Resource.
- Understand and utilize the DSC WindowsFeature Resource.
- Understand and utilize parameters.
- Understand both Push and Pull modes.
- Understand and utilize the LCM.
- Understand placing configurations and resources for distribution.
- Understand configuration drift.
- Understand and utilize the debugging feature.
- Understand how to utilize PowerShell.
- Understand and utilize the pipeline.
- Understand and utilize loops.
- Understand and utilize scripting.
- Understand and utilize functions.



Expected Listener Preparation

The students are expected to understand the basics of PowerShell either through attending the introductory courses by BlueBuffaloPress or having gained the experience through some other method.



Training Language

- Training: English
- Materials: English



Training Includes

- manual in electronic form available on the platform: <https://www.altkomakademia.pl/>
- access to Altkom Akademia's student portal



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Training agenda

1. Module 1: Course Overview
 - Introduction
 - Course Materials
 - Facilities
 - Prerequisites
 - What We'll Be Discussing
2. Module 2: PowerShell 5.0 Desired State Configuration Introduction
 - Understanding Desired State Configuration
 - Understanding DSC Metaphor
 - PowerShell is Imperative, or Declarative, or Both?
 - Exploring DSC from 30,000 Feet!
 - Examining Why to Put Effort into DSC (Or Inspire Me Dude)?
 - Understanding DSC Requirements
 - Examining PowerShell Version 4: DSC Features Added
 - Exploring PowerShell Version 5: DSC Improvements
3. Module 3: DSC Architecture
 - Taking a Preliminary Look
 - Updating the Help System
 - Exploring Management Models
 - Reviewing the MOF File Creation Workflow
 - Examining Methodologies of Configuration Data
 - Exploring Functions and Cmdlets Available for DSC with WMF 5.0
 - Understanding DSC Pull Server
4. Module 4: DSC Configuration Files
 - Preparing the Environment
 - Defining a DSC Configuration Script
 - Configuration Keyword
5. Module 5: DSC Resources
 - Examining File Resource
 - Exploring Archive Resource

- Examining Environment Resource
 - Exploring Group Resource
 - Examining Log Resource
 - Understanding Package Resource
 - Examining Registry Resource
 - Exploring Script Resource
 - Examining Service Resource
 - Exploring User Resource
 - Examining WindowsFeature Resource
 - Understanding PsDscRunAsCredential
6. Module 6: DSC Pull and Push Servers
- Discussing Parameters
 - Examining a Push Mode Example
 - Exploring the Pull Mode
 - Reviewing the Local Configuration Manager (LCM)
 - Placing Configurations and Resources for Distribution by the Pull Server
 - Discussing Configuration Drift
 - Debugging DSC in Version 5
7. Module 7: Appendix: 752552 PowerShell 5.0 Basics
- Introduction to PowerShell
 - Utilizing PowerShell
 - The Pipeline
 - Processing Data with Loops
 - Scripting and Functions