



## Aspect Training

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YOUR COURSE, YOUR WAY - MORE EFFECTIVE IT TRAINING

# Windows PowerShell InDepth

**Duration: 5 days**

## Overview:

Nowadays PowerShell is the preferred scripting environment for many Microsoft products and technologies. It allows system administrators as well as developers to control Windows Servers, to manage Active Directory and Exchange and to configure SharePoint on premises and Online and other Cloud Services.

This course will get you acquainted with all the different features of Windows PowerShell. You will learn how to customize the PowerShell environment to your needs and how to automate and script administration, configuration, monitoring and deployment of Windows based servers and applications with out of the box cmdlets and custom scripts.

## Prerequisites:

This course is intended for:

System Administrators or System Engineers who are responsible for the management and configuration of multiple Windows Servers and Microsoft applications.

Developers interested in automation of test environments, interfacing with C#, embedding PowerShell in their application.

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## Topics:

### 1 - Welcome to Windows PowerShell

What is PowerShell?

Brushing up on objects

Installing and Starting PowerShell

PowerShell versus VBS

### 2 - The basics

Windows PowerShell basics

Concepts and terminology

Parsing and PowerShell

Pipelines and commands

Formatting and output

Working with objects

PowerShell ISE

### **3 - Operators and Expressions**

Arithmetic Operators

Assignment Operators

Comparison Operators

Wildcards and regular expressions

Logical and Bitwise Operators

### **4 - Customizing the PowerShell environment**

Windows PowerShell Profiles

PowerShell drives

Working with Modules and Snap-Ins

PowerShell Web Access

### **5 - Security**

Securing the PowerShell environment

Signing scripts

Writing secure scripts

### **6 - Using Script Flow Statements**

Foreach and For

While “do while “do until

If- Switch

Break - Continue

### **7 - PowerShell Remoting**

PowerShell Remoting Overview

PowerShell Remoting Sessions

Import/Export Remoting Sessions

Remote Session Security

### **8 - Managing the Windows environment**

Local Processes and Services

Collecting information about computers

Working with printers

Performing networking tasks

Working with files and folders

Working with registry keys

## **9 - Error Handling in PowerShell**

Debugging options

Error Handling

## **10 - PowerShell Advanced Configurations**

Workflows

Scheduled jobs

Just Enough Administration

Package Management

## **11 - Desired State Configuration**

Desired State Configuration Overview

Creating a Configuration

Deploy a Configuration: Push or Pull

Automate Web Server Deployment with DSC

## **12 - Advanced Scripting**

Functions

Creating a PowerShell Module

Advanced Parameter Configuration

Proxy Functions

## **13 - Managing Active Directory**

Getting Active Directory domain information

Accessing the Active Directory service

Creating users

Updating user properties

Creating and managing other objects

Bulk changes

## **14 - Managing Microsoft Applications with PowerShell**

IIS - Create web components, Update Configuration Settings

SQL - Invoke-SQLcmd, Create SQL Databases

SharePoint On-Prem and Online

Exchange On-Prem and Online