# Advanced Automated Administration with Windows PowerShell (10962)

**Duration:** 3 Days

**US Price:** $895

**Delivery Option:** Attend via MOC On-Demand

## Description

This is a Microsoft Official Course (MOC) and includes Microsoft courseware and hands-on labs. This course will teach students how to automate administrative tasks using Windows PowerShell 5.1. Students will learn core scripting skills such as creating advanced functions, writing controller scripts, and handling script errors. Students will learn how to works with Windows PowerShell Workflow, the REST API and XML and JSON formatted data files, Students will also learn how to use new administration tools such Desired State Configuration (DSC) and Just Enough Administration (JEA) to configure and secure servers. In addition, this course provides scripting guidance for developers who support development environments and deployment processes.

This course is intended for IT professionals who are experienced in general Windows Server and Windows Client administration. Students should have a foundational knowledge of Windows PowerShell, which they can obtain by taking the course Automating Administration with PowerShell (10961).

## Prerequisites

Before attending this course, students must have:

- Experience with Windows networking technologies and implementation.
- Experience with Windows Server administration, maintenance and troubleshooting.
- Experience with Windows Client administration, maintenance and troubleshooting.
- Experience with using Windows PowerShell to run commands and to create basic non-modularized scripts, equivalent to attending the Automating Administration with PowerShell (10961) course.

## About MOC On-Demand

Microsoft Official Courses On-Demand (MOC On-Demand) uses a combination of streaming video, text, lab exercises and assessment checks throughout the course. MOC On-Demand courses are available for 90 days and recommend the following system requirements:

- Browser: Current version of Internet Explorer, Microsoft Edge, Google Chrome or Firefox
- Internet: Broadband Internet connection of over 4Mbps
- Screen Resolution: 1280 x 1024 or higher

# Course Overview

## Module 1: Creating Advanced Functions

This module explains how to parameterize a command into an advanced function.

### Lessons

- Converting a command into an advanced function
- Creating a script module
- Defining parameter attributes and input validation
- Writing functions that accept pipeline input
- Producing complex pipeline output
- Documenting functions by using comment-based help
- Supporting -WhatIf and -Confirm

### Labs

- Converting a command into an advanced function
- Creating a script module
- Defining parameter attributes and input validation
- Writing functions that accept pipeline input
- Producing complex pipeline output
- Documenting functions by using comment-based help
- Supporting -WhatIf and -Confirm

## Module 2: Using Microsoft .NET Framework and REST API in Windows PowerShell

This module explains how to use Microsoft .NET Framework and REST API to supplement functionality that Windows PowerShell commands provide.

### Lessons

- Using Microsoft .NET Framework in Windows PowerShell
- Using REST API in Windows PowerShell

### Labs

- Using Microsoft .NET Framework in Windows PowerShell
- Using REST API in Windows PowerShell

# Module 3: Writing Controller Scripts

This module explains how to combine advanced functions that perform a specific task and a controller script that provides a user interface or automates a business process.

### Lessons

- Introducing controller scripts
- Writing controller scripts that display a user interface
- Writing controller scripts that produce reports

### Labs

- Writing controller scripts that display a user interface
- Writing controller scripts that implement a text-based menu
- Writing functions to be used in the controller script
- Writing a controller script that produces HTML reports

# Module 4: Handling Script Errors

This module explains how to perform basic error handling in scripts.

### Lessons

- Understanding error handling
- Handling errors and timeouts in a script

### Lab

- Handling errors in a script

# Module 5: Using XML, JSON and Custom-Formatted Data

This module explains how to read, manipulate, and write data in XML and JSON format.

**Lessons**

- Reading, manipulating and writing XML-formatted data
- Reading, manipulating and writing JSON-formatted data
- Reading and manipulating custom-formatted data

**Labs**

- Testing the provided tools
- Updating an XML inventory document

# Module 6: Enhancing Server Management with Desired State Configuration and Just Enough Administration

This module explains how to write Desired State Configuration (DSC) configuration files, deploy those files to servers, and monitor servers' configurations. This module also explains how to restrict administrative access with Just Enough Administration (JEA).

**Lessons**

- Understanding Desired State Configuration
- Creating and deploying a DSC configuration
- Implementing Just Enough Administration

**Labs**

- Creating and deploying a DSC configuration
- Configuring and using JEA

# Module 7: Analyzing and Debugging Scripts

This module explains how to use native Windows PowerShell features to analyze and debug existing scripts.

**Lessons**

- Debugging in Windows PowerShell
- Analyzing and debugging an existing script

**Lab**

- Analyzing and debugging an existing script

# Module 8: Understanding Windows PowerShell Workflow

This module explains the features of the Windows PowerShell Workflow technology.

## Lessons

- Understanding Windows PowerShell Workflow

## Lab

- Creating and running a Windows PowerShell Workflow

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