PowerShell for SCCM Administrators – Course Outline

Total Duration: 5 Days (40 Hours)

Day 1: PowerShell Basics & SCCM Integration (8 Hours)

Module 1: Introduction to PowerShell for SCCM (2 Hours)

- Overview of PowerShell

- Installing and Configuring PowerShell for SCCM

- Understanding SCCM PowerShell Cmdlets

- Running SCCM Commands in PowerShell

- Using PowerShell ISE and VS Code for Scripting

Module 2: Connecting to SCCM via PowerShell (3 Hours)

- Importing the SCCM PowerShell Module

- Establishing a Connection to the SCCM Site Server

- Navigating SCCM WMI Namespace and SMS Provider

- Common SCCM PowerShell Cmdlets

- Hands-on Lab: Connecting to SCCM and running basic queries

Module 3: Managing SCCM Devices and Collections (3 Hours)

- Querying and Managing SCCM Collections

- Creating and Modifying Device & User Collections

- Adding and Removing Devices from Collections

- Managing Collection Membership Rules via PowerShell

- Hands-on Lab: Automating device collection creation

Day 2: Application & Update Management with PowerShell (8 Hours)

Module 4: Deploying Applications and Software Updates (4 Hours)

- Creating and Deploying Applications via PowerShell

- Managing Software Update Groups and Deployments

- Checking Deployment Status using PowerShell

- Automating Patch Management via PowerShell

- Hands-on Lab: Automating application deployment

Module 5: Managing SCCM Clients with PowerShell (4 Hours)

- Installing and Repairing SCCM Clients

- Checking Client Health and Status

- Running Client Actions Remotely

- Automating Client Remediation

- Hands-on Lab: Writing a script to check and fix SCCM client health

Day 3: Operating System Deployment & Reporting (8 Hours)

Module 6: Managing SCCM Operating System Deployments (OSD) (4 Hours)

- Creating and Managing Task Sequences

- Importing and Managing OS Images

- Assigning Deployment Packages via PowerShell

- Monitoring OSD Deployments with PowerShell

- Troubleshooting OSD with Logs and PowerShell

- Hands-on Lab: Automating OSD Task Sequence assignment

Module 7: Reporting and Querying SCCM Data (4 Hours)

- Running SCCM Queries using PowerShell

- Generating SCCM Reports with PowerShell

- Exporting Data to CSV, JSON, and HTML

- Creating Custom SCCM Dashboards with PowerShell

- Hands-on Lab: Automating SCCM data extraction

Day 4: Security, Automation, and Compliance (8 Hours)

Module 8: Security, Role-Based Access Control (RBAC), and Compliance (3 Hours)

- Managing SCCM Permissions with PowerShell

- Configuring Role-Based Access Control (RBAC)

- Monitoring SCCM Security and Compliance Policies

- Automating Compliance Baselines

- Hands-on Lab: Automating RBAC role assignments

Module 9: Automating SCCM Administration with PowerShell (5 Hours)

- Writing PowerShell Scripts for SCCM

- Using Loops and Conditional Logic for Automation

- Scheduling PowerShell Scripts in SCCM

- Implementing PowerShell Desired State Configuration (DSC)

- Best Practices for PowerShell Automation

- Hands-on Lab: Automating a real-world SCCM task

Day 5: Troubleshooting, Logging, and Final Project (8 Hours)

Module 10: Troubleshooting and Logging with PowerShell (4 Hours)

- Understanding SCCM Logs and PowerShell Logging

- Using PowerShell to Read and Parse SCCM Logs

- Debugging and Error Handling in PowerShell Scripts

- Troubleshooting SCCM Components with PowerShell

- Hands-on Lab: PowerShell-based troubleshooting