

KOENIG SOLUTIONS • COURSE OUTLINE

55133A: PowerShell for System Center Configuration Manager Administrators

Learn to manage, automate and troubleshoot SCCM using PowerShell, from device collections to OS deployment and reporting.

5 Days

40 HOURS

10

MODULES

43

TOPICS

9

HANDS-ON ACTIVITIES

COURSE OVERVIEW

This course covers using PowerShell to administer System Center Configuration Manager, beginning with connecting to the SCCM site server and managing devices and collections. It then addresses deploying applications and software updates, managing SCCM clients, and handling operating system deployments and task sequences. Later modules cover querying and reporting SCCM data, configuring role-based access control and compliance baselines, and automating administration tasks with scripts and Desired State Configuration. The course concludes with troubleshooting SCCM components using PowerShell logging and error handling.

WHO THIS COURSE IS FOR

SCCM Administrators

System Administrators

IT Operations Engineers

Endpoint Management Engineers

LEARNING OBJECTIVES

- Connect to an SCCM site server using PowerShell
- Manage SCCM device and user collections
- Deploy applications and software updates via PowerShell
- Automate SCCM client installation and remediation
- Manage operating system deployments and task sequences
- Generate SCCM reports and export data via PowerShell
- Configure role-based access control and compliance baselines
- Automate SCCM administration and troubleshoot using logs

10 Modules, 43 Topics

DAY 1

PowerShell Basics & SCCM Integration

8 hours

01

2 hours

Introduction to PowerShell for SCCM

TOPICS

- 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

02

3 hours

Hands-on Lab

Connecting to SCCM via PowerShell

TOPICS

- Importing the SCCM PowerShell Module
- Establishing a Connection to the SCCM Site Server
- Navigating SCCM WMI Namespace and SMS Provider
- Common SCCM PowerShell Cmdlets

03

3 hours

Hands-on Lab

Managing SCCM Devices and Collections

TOPICS

- Querying and Managing SCCM Collections
- Creating and Modifying Device & User Collections
- Adding and Removing Devices from Collections
- Managing Collection Membership Rules via PowerShell

04

4 hours

Hands-on Lab

Deploying Applications and Software Updates

TOPICS

- Creating and Deploying Applications via PowerShell
- Managing Software Update Groups and Deployments
- Checking Deployment Status using PowerShell
- Automating Patch Management via PowerShell

05

4 hours

Hands-on Lab

Managing SCCM Clients with PowerShell

TOPICS

Installing and Repairing SCCM Clients · Checking Client Health and Status · Running Client Actions Remotely · Automating Client Remediation

06

4 hours

Hands-on Lab

Managing SCCM Operating System Deployments (OSD)

TOPICS

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

07

4 hours

Hands-on Lab

Reporting and Querying SCCM Data

TOPICS

- Running SCCM Queries using PowerShell
- Generating SCCM Reports with PowerShell
- Exporting Data to CSV, JSON, and HTML
- Creating Custom SCCM Dashboards with PowerShell

08

3 hours

Hands-on Lab

Security, Role-Based Access Control (RBAC), and Compliance

TOPICS

- Managing SCCM Permissions with PowerShell
- Configuring Role-Based Access Control (RBAC)
- Monitoring SCCM Security and Compliance Policies
- Automating Compliance Baselines

09

5 hours

Hands-on Lab

Automating SCCM Administration with PowerShell

TOPICS

- 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

10

4 hours

Hands-on Lab

Troubleshooting and Logging with PowerShell

TOPICS

- 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

Practise What You Learn

#	MODULE	ACTIVITY
02	Connecting to SCCM via PowerShell	Connecting to SCCM and running basic queries
03	Managing SCCM Devices and Collections	Automating device collection creation
04	Deploying Applications and Software Updates	Automating application deployment
05	Managing SCCM Clients with PowerShell	Writing a script to check and fix SCCM client health
06	Managing SCCM Operating System Deployments (OSD)	Automating OSD Task Sequence assignment
07	Reporting and Querying SCCM Data	Automating SCCM data extraction
08	Security, Role-Based Access Control (RBAC), and Compliance	Automating RBAC role assignments
09	Automating SCCM Administration with PowerShell	Automating a real-world SCCM task
10	Troubleshooting and Logging with PowerShell	PowerShell-based troubleshooting

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

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Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

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