

## Administering System Center 2012 Configuration Manager

**Length:** 5 Days

**About this Course:** This course describes how to configure and manage a System Center 2012 R2 Configuration Manager site and its associated site systems. The course focuses on day-to-day management tasks for System Center 2012 R2 Configuration Manager.

**Audience Profile:** The primary audience for this course is intended for IT Professionals who are responsible for configuring and managing endpoints in one or more System Center 2012 R2 Configuration Manager sites and all supporting systems. They have one to three years of experience managing and maintaining client computers, devices, and servers in medium to large enterprise organizations. Administrators may have previous Configuration Manager experience, or be new to the product.

**At Course Completion:** *After completing this course, students will be able to:*

- Describe the System Center 2012 R2 Configuration Manager feature set and manage and troubleshoot sites by using the Configuration Manager Console and associated toolset.
- Configure boundaries and boundary groups, configure discovery methods, manage user and device collections, and implement role-based administration.
- Describe the client deployment process, configure client deployment methods, configure the client agent settings, and monitor client status.
- Describe the inventory collection process, configure and manage hardware and software inventory, monitor inventory data flow, and use Asset Intelligence and Software Metering.
- Analyze data by creating queries and running reports.
- Create, deploy, and manage software packages and programs.
- Create and deploy applications by using the System Center 2012 R2 Configuration Manager application model.
- Configure multiple deployment types.
- Deploy and manage software updates.
- Integrate and implement Endpoint Protection by using System Center 2012 R2 Configuration Manager.
- Deploy operating systems by using the Configuration Manager infrastructure.
- Manage configuration items, baselines, and profiles to assess and configure settings for devices.
- Manage mobile devices by using System Center 2012 R2 Configuration Manager.
- Configure Wake On LAN, Power Management policies, and Remote Control.

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## COURSE CONTENT

### Module 1: Overview of System Center 2012 R2 Configuration Manager

In this module, you will learn about the basic features of System Center 2012 R2 Configuration Manager, the various types of sites, and the site system roles that you can deploy. System Center 2012 R2 Configuration Manager takes advantage of a redesign of several features in previous versions of Configuration Manager. This module covers the

enhancements and modifications made to the Configuration Manager console. You will explore the interface of the Configuration Manager console and learn how to navigate it to locate and use important features. Additionally, you will review the tools that are available for monitoring and troubleshooting Configuration Manager.

## Lessons

- Introduction to System Center 2012 R2 Configuration Manager
- Overview of the System Center 2012 R2 Configuration Manager Architecture
- Managing Configuration Manager by Using Configuration Manager Administration Tools
- Using Tools for Monitoring and Troubleshooting a Configuration Manager Site

### Lab : Performing Administration Tasks by Using Configuration Manager Tools

- Exploring the Configuration Manager Console
- Searching in the Configuration Manager Console
- Using Windows PowerShell with Configuration Manager

### Lab : Monitoring and Troubleshooting a Configuration Manager Site

- Managing Components by Using Configuration Manager Service Manager
- Monitoring Site and Component Status
- Reviewing Log Files by Using the Configuration Manager Trace Log Tool

### After completing this module, students will be able to:

- Describe the purpose and functionality of System Center 2012 R2 Configuration Manager.
- Describe the System Center 2012 R2 Configuration Manager architecture.
- Identify and locate the management features available in the Configuration Manager console.
- Identify and use the tools available to monitor and troubleshoot a Configuration Manager site.

## Module 2: Discovering and Organizing Resources

You can manage computer and user resources within a System Center 2012 R2 Configuration Manager environment only when Configuration Manager has discovered these resources and assigned them to a site. In this module, you will learn about boundaries and boundary groups that help create logical network locations that contain discovered computers based upon IP addresses or Active Directory sites. You can use these boundary configurations for client site assignment and for helping clients find content from associated site systems. You also will learn about the discovery processes that you can use to identify computers, users, and the network infrastructure within your network environment. You then will learn about collections that support logical groupings of resources. You use these groupings for management tasks such as targeting software updates, managing applications, or deploying compliance settings to resources.

Additionally, you will learn to implement role-based administration by using security roles, security scopes, and collections. Role-based administration determines both the tasks that an administrative user can perform, and the objects and resources on which the user can perform those tasks.

## Lessons

- Configuring Boundaries and Boundary Groups
- Configuring Resource Discovery
- Configuring User and Device Collections
- Configuring Role-Based Administration

### Lab : Configuring Boundaries and Resource Discovery

- Configuring Boundaries and Boundary Groups
- Configuring Active Directory Discovery Methods

### Lab : Configuring User and Device Collections

- Creating Device Collections
- Creating a User Collection
- Configuring a Maintenance Window

Lab : Configuring Role-Based Administration

- Configuring a New Scope for Toronto Administrators
- Configuring a New Administrative User

After completing this module, students will be able to:

- Configure boundaries and boundary groups.
- Configure resource discovery.
- Configure user and device collections.
- Configure role-based administration.

### Module 3: Managing the Configuration Manager Client Agent

You can install the System Center 2012 R2 Configuration Manager client agent software on devices such as workstations, laptops, servers, and mobile devices. Then, you can manage these devices and perform operations such as reporting hardware and software inventory information, installing software, and configuring settings required for compliance. Configuration Manager provides several options for installing the client software. This module explains the supported operating systems and devices, the software requirements, and the different methods for installing the client software. After installing the client software, you can configure the client settings to perform routine management tasks. This module describes some of the default and custom client settings that you can configure. The module also describes how to monitor the operations and client health of the Configuration Manager client agent software by using alerts and the client health evaluator.

#### Lessons

- Overview of the Configuration Manager Client Agent
- Deploying Configuration Manager Client Agents

- Managing Client Settings in Configuration Manager
- Configuring and Monitoring Client Status

Lab : Deploying the Configuration Manager Client Agent

- Preparing the Site for Client Installation
- Deploying the Configuration Manager Client Agent by Using Client Push Installation

Lab : Managing Client Settings

- Configuring Client Settings

Lab : Configuring and Monitoring Client Status

- Configuring and Monitoring Client Communication and Health Status

After completing this module, students will be able to:

- Describe the requirements and considerations for installing the Configuration Manager client agent.
- Deploy the Configuration Manager client agent.
- Manage client settings.
- Configure and monitor client health.

### Module 4: Managing Inventory and Software Metering

The first feature that you likely will use in your Microsoft System Center 2012 R2 Configuration Manager implementation is inventory collection. Collecting hardware and software details provides a foundation that you can use with many other advanced features, such as application deployment. For example, you can use inventory details such as memory, operating system, IP address, or installed applications to identify clients that might need an upgrade, or as a basis for creating custom collections. To enhance standard inventory collection, you can implement the Asset Intelligence feature to provide additional data for reports and information about the software titles installed on specific clients.

Software metering provides a way to monitor and collect software usage data from your System Center 2012 R2 Configuration Manager clients. When you combine this data with software inventory and the

Asset Intelligence feature, this can help you determine a number of software-usage scenarios, so that you can plan software deployments and licensing.

### Lessons

- Overview of Inventory Collection
- Configuring Hardware Inventory
- Configuring Software Inventory
- Managing Inventory Collection
- Configuring Asset Intelligence
- Configuring Software Metering

Lab : Configuring and Managing Inventory Collection

- Configuring Hardware Inventory
- Configuring Software Inventory

Lab : Configuring and Managing Asset Intelligence

- Preparing the Site for Asset Intelligence
- Configuring Asset Intelligence
- Customizing Asset Intelligence
- Viewing Asset Intelligence Reports

Lab : Configuring Software Metering

- Configuring Software Metering

After completing this module, students will be able to:

- Describe inventory collection.
- Configure and collect hardware inventory.
- Configure and collect software inventory.
- Manage inventory collection.
- Configure Asset Intelligence.
- Configure software metering

### Module 5: Querying and Reporting Data

Microsoft System Center 2012 R2 Configuration Manager stores a large amount of data about the devices in your environment. You may not always want to perform all management tasks on all of the devices simultaneously. Therefore, to help you locate devices in your environment that meet specific criteria,

you can create queries. You then can use these queries to create collections or to find clients and install the Configuration Manager client on them. This module describes queries and the methods to create and run them. Additionally, you may want to run reports about your environment. To be able to run Configuration Manager reports, you have to install a reporting services point, which this module details.

### Lessons

- Introduction to Queries
- Managing Queries
- Configuring SQL Server Reporting Services

Lab : Creating and Running Queries

- Creating Data Queries
- Creating Subselect Queries
- Creating Status Message Queries

Lab : Configuring Reporting

- Configuring a Reporting Services Point

After completing this module, students will be able to:

- Describe data and status message queries.
- Configure and manage data and status message queries.
- Configure and manage Microsoft SQL Server Reporting Services in Configuration Manager.

### Module 6: Managing Software Distribution and Deployment by Using Packages and Programs

Traditionally, Microsoft Systems Management Server 2003 and Microsoft System Center Configuration Manager 2007 product lines utilized packages and programs for deploying software. System Center 2012 Configuration Manager introduced the concept of applications, which provides a new software deployment model that is more flexible than the conventional packages and programs. However, this did not eliminate the need to use packages and programs.

- Deploy programs to Configuration Manager clients.

Typically, you will deploy software to computers running Windows and Apple OS X by using applications. However, you can still use packages and programs in many situations for Windows-based computers. For example, you can deliver content to Windows-based clients to support running scripts. Additionally, you can use packages and programs to deploy content to Linux and UNIX-based computers.

This module is the first of many that focus on software deployment. This module describes how to manage software by using packages and programs, while subsequent modules cover the application-management model.

#### Lessons

- Configuring Software Deployment
- Configuring Packages and Programs
- Distributing Content to Distribution Points
- Deploying Programs to Configuration Manager Clients

Lab : Managing Software Deployment by Using Packages and Programs

- Preparing the Infrastructure for Software Deployment
- Creating a Package and Configuring Programs
- Distributing Content to a Distribution Point
- Deploying a Program to Configuration Manager Clients

After completing this module, students will be able to:

- Describe the software deployment process and configure software deployment settings.
- Configure packages and programs.
- Distribute content to distribution points.

#### Module 7: Creating and Deploying Applications

The System Center 2012 R2 Configuration Manager application deployment model enhances the capabilities of packages and programs for delivery of software to Windows operating systems, the Mac operating system (Mac OS X), and mobile devices. When deploying to Windows, System Center 2012 R2 Configuration Manager, in addition to packages and programs, uses Configuration Manager applications. These applications are best for deploying installer-based software, such as Windows installations that are .msi-file based. This is because they provide a more intelligent software deployment model.

With the Configuration Manager application deployment model, you can create a single deployment for Windows-based clients and mobile device clients that provide different installation options depending on specifically defined conditions. For example, you can install an application locally on user's primary devices and deploy a virtual version of the application when they are on other devices, all through the same deployment. You can do this by using features such as requirements and dependencies. Additional features, such as state-based reporting and detection methods, can help you create intelligent deployments.

In this module, you will learn about the application model and the basics for creating, deploying, and managing applications with Configuration Manager. You will also learn how to use Configuration Manager Software Center and Configuration Manager Application Catalog to install available applications

#### Lessons

- Overview of Application Management
- Creating Applications
- Deploying Applications
- Managing Applications

Lab : Creating and Deploying Applications

- Installing and Configuring the Application Catalog Roles

- Creating Applications that Use Requirements
- Deploying Applications

Lab : Managing Application Supersedence and Removal

- Configuring Application Supersedence and Removal
- Uninstalling the Excel Viewer Application

After completing this module, students will be able to:

- Describe application management in Configuration Manager.
- Create applications.
- Deploy applications.
- Manage applications.

### Module 8: Deploying Additional Application Types

Windows 8 has introduced a new application type named the Windows Store app, which is designed specifically to run on devices running Windows 8. Windows Store apps have a new .appx extension, which facilitates your installation to multiple device types across the Internet and within your enterprise. Microsoft System Center 2012 R2 Configuration Manager allows you to install Windows Store apps to devices running Windows 8 either by linking to Windows Store apps or by installing .appx files directly.

In many cases, you might want your users to have access to an application that is not installed directly on their computer. Microsoft Application Virtualization (App-V) allows you to install applications in an isolated, nonpermanent environment on a Windows-based computer. Managing virtualized applications with System Center 2012 R2 Configuration Manager is similar to managing other applications.

In this module, you will learn about managing deployments on unconventional applications. This module describes how to install Windows Store apps and virtualized applications.

#### Lessons

- Deploying Windows Store Apps by Using System Center 2012 R2 Configuration Manager

- Deploying Virtual Applications by Using System Center 2012 R2 Configuration Manager

Lab : Deploying Windows Store Apps by Using System Center 2012 R2 Configuration Manager

- Configuring Support for Sideloaded Windows Store Apps
- Configure a Windows Store App
- Deploying Windows Store Apps to Users

Lab : Deploying Virtual Applications by Using System Center 2012 R2 Configuration Manager

- Configuring Support for App-V
- Creating and Deploying Virtual Applications

After completing this module, students will be able to:

- Deploy Windows Store apps by using System Center 2012 R2 Configuration Manager
- Deploy virtual applications by using System Center 2012 R2 Configuration Manager

### Module 9: Deploying and Managing Software Updates

For many organizations, maintaining software updates is a priority, and is at the top of administrators' network-management tasks. Software update management helps ensure that computer devices maintain operational efficiency, and helps maintain the stability of the network infrastructure.

By using the software updates feature in Configuration Manager, you can implement an end-to-end management process for the complex task of identifying, deploying, and monitoring software updates to your Configuration Manager clients.

#### Lessons

- Overview of the Software Updates Feature
- Preparing a Configuration Manager Site for Software Updates
- Managing Software Updates
- Configuring Automatic Deployment Rules

- Monitoring and Troubleshooting Software Updates

Lab : Configuring the Site for Software Updates

- Configuring and Synchronizing the Software Update Point

Lab : Deploying and Managing Software Updates

- Determining Software Update Compliance
- Deploying Software Updates to Clients
- Configuring Automatic Deployment Rules

After completing this module, students will be able to:

- Describe how the software updates feature integrates with System Center 2012 R2 Configuration Manager.
- Prepare a Configuration Manager site for software updates.
- Configure a site for software updates.
- Manage the evaluation and deployment of software updates.
- Configure automatic deployment rules.
- Monitor and troubleshoot software updates.

### Module 10: Implementing Endpoint Protection by Using System Center 2012 R2 Configuration Manager

System Center 2012 R2 Configuration Manager provides a number of security-related features that you can use to help protect client computers from malware threats and configure specific Windows Firewall settings for clients. Based on System Center 2012 Endpoint Protection functionality, Endpoint Protection in Configuration Manager 2012 supports the deployment, management, and monitoring of antimalware policies and Windows Firewall settings on client computers.

#### Lessons

- Overview of Endpoint Protection in Configuration Manager
- Configuring and Monitoring Endpoint Protection Policies

Lab : Implementing Endpoint Protection

- Configuring the Endpoint Protection Point and Client Settings

- Configuring and Deploying Endpoint Protection Policies

- Monitoring Endpoint Protection

After completing this module, students will be able to:

- Describe how to use Endpoint Protection to detect and remediate malware and security vulnerabilities.
- Configure, deploy, and manage Endpoint Protection policies.

### Module 11: Managing Operating Systems Deployment

You can use the operating system deployment feature in System Center 2012 R2 Configuration Manager to create hard drive images that you can deploy to unmanaged computers and those that Configuration Manager manages. There are several scenarios in which you can deploy operating systems by using Configuration Manager, including when you are working with new systems or when you are upgrading existing ones. Operating system deployment uses both Configuration Manager and Windows components to manage and deliver operating system images. You can configure settings on a reference computer prior to capturing an image of its hard drive or by using task sequences that Configuration Manager creates after you deploy the image to a target system.

#### Lessons

- Overview of Operating System Deployment
- Preparing a Site for Operating System Deployment
- Building and Capturing a Reference Operating System Image
- Deploying an Operating System

Lab : Preparing the Environment for Operating System Deployment

- Managing the Site System Roles Used to Support Operating System Deployment
- Managing Packages to Support Operating System Deployment

Lab : Building and Capturing a Reference Image

- Creating a Build and Capture Task Sequence
- Capturing the Reference Computer

Lab : Performing an In-Place Upgrade

- Creating a Task Sequence to Deploy an Image
- Deploying an Image

After completing this module, students will be able to:

- Describe the terminology, components, and scenarios used to deploy operating systems by using System Center 2012 R2 Configuration Manager.
- Describe how to prepare a site for operating system deployment.
- Describe how to build and capture a reference operating system image.
- Describe the process used to deploy an operating system image.

**Module 12: Managing Compliance Settings and Profiles**

One of the more difficult tasks that information technology (IT) administrators face is to ensure that all the systems in their organization use, and retain, an optimal configuration at all times. IT administrators and team members must have confidence that the systems' configurations are correct, regardless of whether they are monitoring changes to servers or documenting compliance requirements. The compliance settings feature can play a key role in documenting existing configurations, in quickly discovering systems that have undesired configuration changes, and in automatically remediating some undesired configurations.

This module will detail the compliance settings feature, and how you can use it to manage your systems.

**Lessons**

- Overview of Compliance Settings
- Configuring Compliance Settings

- Viewing Compliance Results

Lab : Managing Compliance Settings

- Managing Configuration Items and Baselines
- Viewing Compliance Settings Reports
- Configuring Remediation in Compliance Settings
- Using Compliance Information to Create Collections

After completing this module, students will be able to:

- Describe the compliance settings feature.
- Configure the compliance settings feature.
- View compliance results.

**Module 13: Mobile Device Management Using System Center 2012 R2 Configuration Manager**

Increasingly, users are using mobile devices not only to retrieve their email messages and synchronize calendar appointments, but also to work on files and documents outside of the office. Additionally, more and more users are utilizing important line-of-business (LOB) applications that enable them to be productive whenever and wherever work calls. These users often use mobile devices for tasks that they might previously have performed only on desktop computers. Therefore, many organizations are considering the management of mobile devices in ways that they previously reserved for desktop computers. In this module, you will learn about performing mobile device management by using the Microsoft Exchange Server connector for Microsoft System Center 2012 R2 Configuration Manager. You will also learn how you can integrate Windows Intune with Configuration Manager for mobile device management.

**Lessons**

- Overview of Mobile Device Management
- Managing Mobile Devices by Using the Windows Intune Connector
- Deploying Applications to Mobile Devices

Lab : Managing Mobile Devices Enrolled By Windows Intune

- Preparing Windows Intune and Understanding the Configuration Manager Prerequisites
- Integrating Configuration Manager with Windows Intune

- Enrolling a Stand-Alone Windows 8.1 Device

After completing this module, students will be able to:

- Explain the functionality of the Exchange Server connector.
- Describe the functionality of Windows Intune.
- Configure the Windows Intune connector for System Center 2012 R2 Configuration Manager.
- Enroll mobile devices for management by Configuration Manager.
- Deploy applications to mobile devices.

#### **Module 14: Configuring Wake On LAN, Power Management, and Remote Control**

Managing client computers remotely is an integral part of managing a network efficiently and is a key feature in System Center 2012 R2 Configuration Manager. Typically, it is not feasible, logistically or financially, to travel to a client workstation to perform minor repairs or assist with software issues. Additionally, you may not always want to have computers running before you deploy software applications or updates. To help reduce energy costs and environmental impact, you may want to monitor and implement corporate-wide power management policies that you can use to control the state of client computers. There also may be situations in which you need to reconfigure BIOS settings on remote computers, or turn on or off remote computers. System Center 2012 R2 Configuration Manager supports various types of remote-management tasks by using Wake On LAN, power-management policies, Remote Control, and out of band management features.

#### **Lessons**

- Configuring Wake On LAN
- Overview of Out of Band Management

- Configuring Power Management Settings
- Configuring Remote Control

Lab : Configuring Power Management Settings

- Applying a Power Management Plan

Lab : Configuring Remote Control

- Configuring the Remote Tools Client Settings and Permissions
- Managing Desktops by Using Remote Control

After completing this module, students will be able to:

- Configure the Configuration Manager Wake On LAN feature.
- Describe out of band management.
- Configure power-management settings.
- Configure Remote Control features.