



# Deploying Windows Desktops and Enterprise Applications

OD20695C; On-Demand, Video-based

## Course Description

This course describes how to assess operating system and application deployment options, determine the most appropriate deployment strategy, and then implement a deployment solution for Windows devices and apps that meets your environment's needs. Solutions that this course details include operating system deployment scenarios ranging from high-touch solutions to zero-touch solutions. It also discusses the technologies that you use to implement these solutions, including the MDT and Configuration Manager.

## Course Objectives

After completing this course, students will be able to:

- Assess the network environment to support operating system and application deployment tasks
- Identify the most appropriate operating system deployment strategy based upon organizational requirements
- Assess application compatibility issues and identify mitigation solutions to ensure that applications function successfully after an operating system deployment
- Describe and configure strategies to migrate user state during operating system deployments
- Determine the most appropriate image management strategy to support operating system and application deployments
- Describe and use the tools provided in the Windows ADK to prepare for and support automated deployment strategies
- Identify solutions to support PXE-initiated and multicast solutions when performing operating system deployment tasks
- Configure an operating system deployment strategy by using the MDT
- Configure an operating system deployment strategy using Configuration Manager
- Integrate the MDT with Configuration Manager to support operating system deployment procedures
- Implement volume license activation and configuration settings for client computers
- Customize and deploy Microsoft Office 2016 to an enterprise network environment, and describe how to use the Windows ICD

## Audience

This five-day course is for IT professionals who deploy, manage, and maintain PCs, devices, and apps across medium, large, and enterprise organizations. Typically, this course's audience has a desktop support background, and have worked as *Enterprise Desktop Administrators*. A significant portion of this audience uses or intends to use Configuration Manager to manage and deploy PCs, devices, and enterprise applications. The Enterprise Desktop Administrator also might use several tools, including the Windows ADK and the MDT to support assessment, operating system, and application deployment tasks. Additionally, this course is for individuals who are interested in taking the MCSE exam 70695: *Deploying Windows Desktops and Enterprise Applications*.

## Prerequisites

Before attending this course, students must have:

- System administrator–level working knowledge of Networking fundamentals, including common networking protocols, topologies, hardware, media, routing, switching, and addressing
- Microsoft Active Directory Domain Services (AD DS) principles and fundamentals of AD DS management
- Installation, configuration, and troubleshooting for Windows-based personal computers
- Basic concepts of Public Key Infrastructure (PKI) security
- Basic understanding of scripting and Windows PowerShell syntax
- Basic understanding of Windows Server roles and services

Desired:

- Basic understanding of the management tasks that you can perform by using Configuration Manager

## Course Outline

### **Module 1: Assessing the network environment for supporting operating system and application deployment**

This module examines how you can create a deployment strategy by using life-cycle information, deployment tools and technologies, and licensing and activation information. It also explains how to plan and effectively perform preparation tasks for deploying Windows 10 client operating systems.

#### Lessons

- Overview of the enterprise desktop life cycle
- Assessing readiness for a desktop deployment by using Configuration Manager
- Assessing deployment readiness by using MAP

## **Lab: Assessing the network environment for supporting operating system and application deployment**

- Collecting hardware and application inventory by using Configuration Manager
- Using MAP to determine infrastructure readiness

After completing this module, students will be able to:

- Describe the enterprise desktop life cycle
- Assess an environment's readiness for a desktop deployment by using Configuration Manager
- Assess an environment's deployment readiness by using MAP

## **Module 2: Determining operating system deployment strategies**

This module describes the tools and strategies that are available to help you perform a successful operating system deployment. It also explains how to identify the most appropriate operating system deployment strategy for your environment, based upon organizational requirements.

### **Lessons**

- Understanding tools and strategies you can use for operating system deployment
- Using the High Touch with Retail Media deployment strategy
- Using the High Touch with a Standard Image deployment strategy
- Using a lite touch deployment strategy
- Using a zero touch deployment strategy
- Alternative deployment strategies for Windows desktops

### **Lab: Determining operating system deployment strategies**

- Identifying operating system deployment strategies for a small network
- Identifying operating system deployment strategies for a medium-sized network
- Identifying operating system deployment strategies for an enterprise network
- Installing the Windows ADK

After completing this module, students will be able to:

- Describe the tools and strategies that are available for an effective operating system deployment
- Deploy operating systems by using the High Touch with Retail Media strategy
- Deploy operating systems by using the High Touch with a Standard Image strategy
- Deploy operating systems by using the lite touch strategy
- Deploy operating systems by using the zero touch strategy
- Describe alternative deployment strategies for Windows desktops

## Module 3: Assessing application compatibility

This module describes the process for addressing common application compatibility issues that you might experience during a new operating system deployment. The module also explains how to use the ACT to help inventory, analyze, and mitigate application compatibility issues.

### Lessons

- Diagnosing application compatibility issues
- Mitigating application compatibility issues
- Using ACT to address application compatibility issues

### Lab: Assessing application compatibility

- Analyzing applications for potential compatibility issues
- Mitigating application compatibility issues

After completing this module, students will be able to:

- Describe how to diagnose application compatibility issues
- Explain the solutions available for mitigating application compatibility issues
- Resolve application compatibility issues with the ACT

## Module 4: Planning and implementing user state migration

This module introduces user state migration, and the tools and methods that are useful in the planning and implementation of a user state migration in the Windows software environment.

### Lessons

- Overview of user state migration
- Overview of USMT 10.0
- Planning user state migration
- Migrating user state by using USMT

### Lab: Planning and implementing user state migration

- Planning for user state migration
- Creating and customizing USMT XML files
- Capturing and restoring a user state by using the USMT

After completing this module, students will be able to:

- Describe user state migration
- Identify the features of USMT 5.0
- Plan user state migration

- Migrate user state by using the USMT

## **Module 5: Determining an image management strategy**

This module provides the information that you need to manage images to support operating system and application deployments. Specifically, the module describes the image formats and strategies for managing images.

### **Lessons**

- Overview of the Windows image file format
- Overview of image management

### **Lab: Determining an image management strategy**

- Assessing business requirements to support an image management strategy

After completing this module, students will be able to:

- Describe the purpose and benefits of the Windows image file format
- Determine image management

## **Module 6: Preparing for deployments by using the Windows ADK**

This module describes how Windows Setup installs the Windows operating system. It explains how to use the tools in the Windows ADK to prepare for and support automated deployment strategies. It also explains how to use the Windows Preinstallation Environment (Windows PE) to prepare boot images.

### **Lessons**

- Overview of the Windows setup and installation process
- Preparing boot images by using Windows PE
- Using Windows SIM and Sysprep to automate and prepare an image installation
- Capturing and servicing a reference image using DISM
- Using the Windows ICD

### **Lab: Preparing the imaging and Windows PE environment**

- Configuring a custom Windows PE environment

### **Lab: Building a reference image by using Windows SIM and Sysprep**

- Building custom answer files by using Windows SIM
- Installing a reference computer by using a custom answer file
- Customizing your image in audit mode, and preserving the profile changes by using Sysprep

### **Lab: Capturing and servicing a reference image**

- Capturing a reference system image

### **Lab: Using the Windows ICD**

- Create a provisioning package
- Create a Windows 10 deployment package

After completing this module, students will be able to:

- Describe the Windows installation process
- Describe how to use and customize Windows PE
- Use Windows System Image Manager (SIM) and Sysprep to automate and prepare images
- Capture and service a reference image

## **Module 7: Supporting PXE-initiated and multicast operating system deployments**

This module introduces the architecture of network boot, Pre-Boot EXecution Environment (PXE)initiated operating system deployments, multicasting operating system delivery, and the Windows Deployment Services (Windows DS) functionality in Windows Server 2012 R2.

### **Lessons**

- Overview of PXE-initiated and multicast operating system deployments
- Installing and configuring the Windows DS environment

### **Lab: Configuring Windows DS to support PXE and multicast operating system deployments**

- Planning the Windows DS environment
- Installing and configuring the Windows DS server role

After completing this module, students will be able to:

- Identify solutions to support PXE-initiated and multicast solutions when performing operating system deployment tasks
- Install and configure the Windows DS environment

## **Module 8: Implementing operating system deployment by using the MDT**

This module describes the components of the MDT, and how you can configure an operating system deployment strategy by using the MDT.

## Lessons

- Planning for the MDT environment
- Implementing MDT 2013 Update 2
- Integrating Windows DS with MDT

### Lab: Operating system deployment using the MDT

- Planning for the MDT environment
- Installing MDT 2013 Update 2, and addressing MDT prerequisites
- Creating and configuring the deployment share
- Deploying and capturing a reference operating system image

After completing this module, students will be able to:

- Describe the MDT components and process for a lite-touch deployment strategy
- Install and configure the MDT environment
- Describe how you configure Windows DS to integrate with MDT 2013 Update 2

## Module 9: Managing operating system deployment

This module provides an overview of operating system deployments, and explains how to use Configuration Manager to configure an operating system deployment strategy.

## Lessons

- Overview of operating system deployment
- Preparing a site for operating system deployment
- Deploying an operating system

### Lab: Preparing the site for operating system deployment

- Managing the site system roles used to support operating system deployment
- Managing packages to support operating system deployment

### Lab: Deploying operating system images for bare-metal installations

- Preparing the operating system image
- 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 Configuration Manager
- Describe how to prepare a site for operating system deployment

- Describe the process used to deploy an operating system image

## **Module 10: Integrating MDT and Configuration Manager for operating system deployment**

This module explains how to integrate the MDT with Configuration Manager to support operating system deployment procedures. It also describes the benefits of integrating the MDT with Configuration Manager.

### **Lessons**

- Integrating deployment tools with Configuration Manager
- Integrating MDT with Configuration Manager

### **Lab: Integrating MDT and Configuration Manager for operating system deployment**

- Integrating MDT and Configuration Manager
- Creating an MDT boot image
- Creating and deploying an MDT task sequence by using Configuration Manager

### **Lab: Configuring UDI**

- Creating a UDI task sequence
- Deploying Windows 10 by using a UDI task sequence

After completing this module, students will be able to:

- Integrate deployment tools with Configuration Manager
- Integrate MDT with Configuration Manager

## **Module 11: Activating clients and managing additional configuration settings**

This module describes volume license activation solutions. It also explains how to implement volume license activation and configuration settings for client computers.

### **Lessons**

- Solutions for volume license activation
- Determining additional client configuration settings

### **Lab: Configuring additional settings for computer clients**

- Planning for Windows 10 customization
- Creating a common Windows Start menu and custom power plan
- Creating a client preferences GPO

After completing this module, students will be able to:

- Explain the solutions for volume license activation
- Configure additional settings for client computers

## **Module 12: Deploying Office 2016**

This module explains how to customize and deploy Microsoft Office 2016 to deploy Office 2016 by using Office 365, and manage Office 2016 settings

### **Lessons**

- Methods for deploying Microsoft Office 2016 editions
- Customizing Office deployments
- Deploy Office 2016 by using Office 365
- Managing Office settings
- Introducing Windows Store for Business
- Distributing apps by using Windows Store for Business

### **Lab: Deploying Microsoft Office 2016 by using the Office Customization Tool**

- Using the Microsoft Office Customization Tool (OCT) to customize a Microsoft Office 2016 deployment
- Deploying a customized version of Office 2016

After completing this module, students will be able to:

- Identify the editions of, and deployment methods for, Office 2016.
- Customize an Office 2016 deployment
- Deploy Office 2016 by using Office 365
- Manage Office 2016 settings after deployment
- Provide an overview of the Windows Store for Business
- Describe the methods you can use to deploy apps by using the Windows Store for Business