



# ADMINISTERING MICROSOFT EXCHANGE SERVER 2016

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## Prerequisite

Before attending this course, students must have:

- A minimum two years of experience administering Windows Server, including Windows Server 2012 R2 or Windows Server 2016.
- A minimum two years experience working with active Directory Domain Services (AD DS). A minimum two years of experience working with name resolution including Domain Name System (DNS).
- Understanding of TCP/IP and networking concepts.
- Understanding of Windows Server 2012 R2 or later, and AD DS, including planning, designing, and deploying.
- Understanding of security concepts such as authentication and authorization.
- Understanding of Simple Mail Transfer Protocol (SMTP).
- Working knowledge of public key infrastructure (PKI) technologies, including Active Directory Certificate Services (AD CS).

## About Course

This 5-day instructor-led course teaches IT professionals how to administer and support Exchange Server 2016. Students will learn how to install Exchange Server 2016, and how to configure and manage an Exchange Server environment. The course covers how to manage mail recipients and public folders, including how to perform bulk operations using Exchange Management Shell. Students also will learn how to manage client connectivity, message transport and hygiene, how to implement and manage highly available Exchange Server deployments, and how to implement back up and disaster recovery solutions. The course also teaches students how to maintain and monitor an Exchange Server 2016 deployment. In addition, students will learn how to administer Exchange Online in an Office 365 deployment.

## Audience Profile

This course is primarily intended for people aspiring to become enterprise-level messaging administrators for Exchange Server 2016. IT generalists and help-desk professionals who want to learn about Exchange Server 2016 might also take this course. Students taking this course are expected to have at least two years of experience working in the IT field—typically in the areas of Windows Server administration, network administration, help desk, or system administration. They are not expected to have experience with previous Exchange Server versions.

The secondary audience for this course includes IT professionals who take this course as preparation material for exam 70-345: Designing and Deploying Microsoft Exchange Server 2016, or as part of the requirement for the MCSE: Microsoft Exchange Server 2016 certification.

## At Course Completion

After completing this course, students will be able to:

- Perform deployment and basic management of Exchange Server 2016.
- Manage Exchange Server 2016.
- Create and manage various recipient objects in Exchange Server 2016.
- Use Exchange Management Shell to create and manage various recipient objects in Exchange Server 2016, and perform various tasks to automate Exchange management procedures.
- Configure client connectivity to Exchange Server 2016, and manage Client Access services.
- Implement and manage high availability.
- Implement backup and disaster recovery for Exchange Server 2016.
- Configure message transport options.
- Configure message hygiene and security options.
- Implement and manage Exchange Online deployments.
- Monitor and troubleshoot Exchange Server 2016.
- Secure and maintain Exchange Server 2016.

## Module 1: Deploying Microsoft Exchange Server 2016

This module describes the key features and enhancements in Exchange Server 2016. The module also describes the deployment requirements and options for implementing Exchange Server 2016.

Lessons

- Overview of Exchange Server 2016
- Requirements and deployment options for Exchange Server 2016

Lab: Deploying Microsoft Exchange Server 2016

- Evaluating requirements and prerequisites for an Exchange Server 2016 installation
- Deploying Exchange Server 2016

After completing this module, students will be able to:

- Describe the features and functionality of Exchange Server 2016.
- Describe the requirements and deployment options for Exchange Server 2016.

## Module 2: Managing Microsoft Exchange Server 2016 servers

This module describes the built-in management tools that you can use to manage maintain and maintain Exchange Server 2016. The module also explains the features and functionality of a Mailbox server role and procedures for configuring a Mailbox server.

Lessons

- Exchange Server 2016 management
- Overview of the Exchange 2016 Mailbox server
- Configuring Mailbox servers

Lab: Configuring Mailbox servers

- Creating and configuring mailbox databases

After completing this module, students will be able to:

- Describe Microsoft Exchange Server 2016 management.
- Describe the Exchange Server 2016 Mailbox server role.
- Configure mailbox servers

## Module 3: Managing recipient objects

This module describes the types of recipient objects in Exchange Server 2016, and explains how to manage these objects. The module also describes how to manage address lists and policies on the Mailbox server role.

Lessons

- Exchange Server 2016 recipients
- Managing Exchange Server recipients
- Configuring address lists and policies

Lab: Managing Exchange Server recipients and public folders

- Managing recipients
- Managing public folder mailboxes

Lab: Managing Exchange Server email address lists and policies

- Managing email-address policies
- Managing address lists and address book policies

After completing this module, students will be able to:

- Describe the different Microsoft Exchange Server 2016 recipients.
- Manage Exchange Server 2016 recipients.
- Configure address lists and policies.

## Module 4: Managing Microsoft Exchange Server 2016 and recipient objects by using Exchange Management Shell

This module provides an overview of the Exchange Management Shell, and describes how to use it to manage Exchange Server 2016 configuration and recipient objects.

### Lessons

- Overview of the Exchange Management Shell
- Managing Exchange Server 2016 by using Exchange Management Shell
- Managing Exchange Server 2016 by using Exchange Management Shell scripts

Lab: Managing Exchange Server and recipient objects by using Exchange Management Shell

- Using Exchange Management Shell to manage recipients
- Using Exchange Management Shell to manage Exchange Server

After completing this module, students will be able to:

- Explain the Exchange Management Shell cmdlets that you can use to configure and manage Microsoft Exchange Server 2016.
- Manage Exchange Server and recipient objects by using the Exchange Management Shell.
- Manage Exchange Server and recipient objects by using the Exchange Management Shell scripts.

## Module 5: Implementing client connectivity

This module describes how to configure and manage Client Access Services in Exchange Server 2016. The module also explains the options for configuring client connectivity, Microsoft Outlook on the web, and mobile messaging.

### Lessons

- Configuring client access services in Exchange Server 2016
- Managing client services
- Client connectivity and publishing of Exchange Server 2016 services
- Configuring Outlook on the web
- Configuring mobile messaging on Exchange Server 2016

Lab: Deploying and configuring client access services on Exchange Server 2016

- Configuring certificates for client access
- Configuring client access options
- Configuring custom MailTips

Lab: Deploying and configuring client access services on Exchange Server

- Configuring Exchange Server 2016 for Outlook
- Configuring Outlook on the web
- Configuring Microsoft Exchange ActiveSync

After completing this module, students will be able to:

- Configure client access services in Microsoft Exchange Server 2016.
- Manage client services.
- Describe client connectivity and publishing of Exchange Server 2016 services.
- Configure Microsoft Outlook on the web.
- Configure mobile messaging on Exchange Server 2016.

## Module 6: Managing high availability in Exchange Server 2016

This module describes the high availability options built into Exchange Server 2016. The module also explains how to configure high availability for Mailbox databases and Client Access services.

Lessons

- High availability on Exchange Server 2016
- Configuring highly available mailbox databases
- Configuring high availability of Client Access services.

Lab: Implementing DAGs

- Creating and configuring a database availability group

Lab: Implementing and testing high availability

- Deploying a high availability solution for client access services
- Testing the high availability configuration

After completing this module, students will be able to:

- Describe the high availability options in Exchange Server 2016.
- Configure highly available mailbox databases.
- Configure highly available client access services.

## Module 7: Implementing disaster recovery for Microsoft Exchange Server 2016

This module describes the backup and recovery options in Exchange Server 2016 and explains the factors you must consider when you use these options.

Lessons

- Implementing Exchange Server 2016 backup
- Implementing Exchange Server 2016 recovery

Lab: Backing up Exchange Server 2016

- Backing up Exchange Server 2016

Lab: Implementing disaster recovery for Exchange Server 2016

- Restoring Exchange Server 2016 data
- Restore an Exchange Server DAG member (optional)

After completing this module, students will be able to:

- Explain how to implement Microsoft Exchange Server 2016 backup.
- Explain how to implement Exchange Server 2016 recovery.

## Module 8: Configuring and managing message transport

This module provides an overview of message transport, and describes how to configure message transport. The module also describes how to configure transport rules and DLP policies to manage message transport.

Lessons

- Overview of message transport
- Configuring message transport
- Managing transport rules

Lab: Configuring message transport

- Configuring message transport
- Troubleshooting message delivery
- Configuring a disclaimer transport rule
- Configuring a DLP policy for financial data

After completing this module, students will be able to:

- Describe message transport.
- Configure message transport.
- Manage transport rules.

#### Module 9: Configuring antivirus, antispam, and malware protection

This module describes the key features and functionality of an Edge Transport server role in Exchange Server 2016. The module also explains how to configure message security by implementing an antivirus and antispam solution.

##### Lessons

- Deploying and managing an Edge Transport server for message security
- Implementing an antivirus solution for Exchange Server 2016
- Implementing an antispam solution for Exchange Server 2016

##### Lab: Configuring message security

- Configuring and testing EdgeSync
- Configuring antivirus, antispam, and malware protection features on Exchange Server 2016

After completing this module, students will be able to:

- Deploy and manage an Edge Transport server role for message security.
- Implement an antivirus solution for Microsoft Exchange Server 2016.
- Implement an antispam solution for Exchange Server 2016.

## Module 10: Implementing and managing Microsoft Exchange Online deployments

This module describes the key features of Exchange Online and Office 365. The module also describes how to manage and migrate to Exchange Online.

##### Lessons

- Overview of Exchange Online and Office 365
- Managing Exchange Online
- Implementing the migration to Exchange Online

##### Lab: Managing Exchange Online

- Managing Exchange Online

After completing this module, students will be able to:

- Provide an overview of Exchange Online and Office 365.
- Manage Exchange Online.
- Implement a migration to Exchange Online.

## Module 11: Monitoring and troubleshooting Microsoft Exchange Server 2016

This module describes how to monitor and troubleshoot Exchange Server 2016. The module explains how to collect and analyze performance data for various Exchange Server recipients and objects. The module also describes how to troubleshoot database issues, connectivity issues, and performance issues.

##### Lessons

- Monitoring Exchange Server 2016
- Troubleshooting Exchange Server 2016

##### Lab: Monitoring and troubleshooting Exchange Server 2016

- Monitoring Exchange Server
- Troubleshooting database availability
- Troubleshooting client access services

After completing this module, students will be able to:

- Monitor Exchange Server 2016.
- Troubleshoot Exchange Server 2016.

## Module 12: Securing and maintaining Exchange Server 2016

This module describes how to maintain and update an Exchange Server organization. The module explains how to plan and configure administrative security and administrative auditing in Exchange Server 2016.

Lessons

- Securing Exchange Server with role-based access control (RBAC)
- Configuring audit logging on Exchange Server 2016
- Maintaining Exchange Server 2016

Lab: Securing and maintaining Exchange Server 2016

- Configuring Exchange Server permissions
- Configuring audit logging
- Maintaining updates on Exchange Server 2016.

After completing this module, students will be able to:

- Configure RBAC on Microsoft Exchange Server 2016.
- Configure options related to user and administrator audit logging.
- Maintain and update Exchange Server 2016.



# DESIGNING AND DEPLOYING MICROSOFT EXCHANGE SERVER 2016

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## Prerequisite

Before attending this course, students must have:

- A+ certification or equivalent knowledge.
- Network+ certification or equivalent knowledge.
- Completed Course 2028A, Basic Administration of Microsoft Windows 2000, or have equivalent knowledge of administrative tasks.

In addition to professional experience, students who attend this training should already have the following technical knowledge:

- Attended course 20345-1A: Administering Exchange Server 2016, or have equivalent knowledge.
- Minimum two years of experience working with any version of Exchange Server.
- Minimum of six months of experience working with Exchange Server 2013 or Exchange Server 2016.
- Minimum of two years of experience administering the Windows Server 2012 R2.
- Minimum two years of experience working with Active Directory Domain Services (AD DS).
- Minimum of two years of experience working with name resolution, including Domain Name System (DNS).
- Experience working with certificates, including public key infrastructure (PKI) certificates.
- Experience working with Windows Powershell.

## About This Course

This course provides experienced Exchange Server administrators with the knowledge to design and implement an Exchange Server 2016 messaging environment. Students will learn how to design and configure advanced components in an Exchange Server 2016 deployment such as site resiliency, advanced security, compliance, archiving, and discovery solutions. In addition, students will learn about coexistence with other Exchange organizations or Exchange Online, and migration from previous versions of Exchange Server. The course will provide guidelines, best practices, and considerations that will help students optimize their Exchange Server deployment.

## Audience Profile

This course is intended for IT professionals who are experienced messaging administrators, messaging architects, or consultants. This course is designed for professionals in an enterprise environment who are responsible for designing and deploying Exchange Server 2016 solutions, including environments that contain previous versions of Exchange Server or Exchange Online. Students are expected to have experience with Exchange Server 2016 or previous versions of Exchange Server.

This course is also intended as preparation material for IT professionals who are looking to take the 70-345: Designing and Deploying Microsoft Exchange Server 2016 exam as part of the requirement for the MCSE: Microsoft Exchange Server 2016 certification.

## At Course Completion

After completing this course, students will be able to:

- Plan for Exchange Server deployments.
- Plan and deploy Exchange Server 2016 Mailbox services.
- Plan and deploy message transport.
- Plan and deploy client access.
- Design and implement high availability.

- Maintain Exchange Server 2016.
- Design messaging security.
- Design and implement message retention.
- Design messaging compliance.
- Design and implement messaging coexistence.
- Upgrade to Exchange Server 2016.
- Plan a hybrid Exchange Server deployment.

## Module 1: Planning Exchange Server 2016 deployments

This module explains the requirements and considerations for planning an Exchange Server deployment.

### Lessons

- New features in Exchange Server 2016
- Gathering business requirements for an Exchange Server 2016 deployment
- Planning for an Exchange Server deployment
- Designing a Unified Messaging (UM) deployment

### Lab: Planning Exchange Server 2016 deployments

- Evaluating an existing messaging infrastructure
- Identifying requirements
- Discussion: Deployment design for Exchange Server 2016

After completing this module, students will be able to:

- Describe the new features in Exchange Server 2016.
- Describe how to gather business requirements for an Exchange Server 2016 deployment.
- Plan for an Exchange Server 2016 deployment.
- Design a UM deployment.

## Module 2: Planning and deploying Exchange Server 2016 Mailbox services

This module explains how to plan and deploy Exchange Server hardware, virtualization, mailbox databases, and public folders.

### Lessons

- Planning Exchange Server hardware requirements
- Planning Exchange Server for virtualization and Microsoft Azure integration
- Planning and implementing public folders

### Lab: Planning and implementing Exchange virtualization, mailbox databases, and public folders

- Planning for virtualization
- Planning for mailbox databases
- Implementing mailbox databases
- Planning and implementing public folders

After completing this module, students will be able to:

- Plan for the Exchange Server hardware requirements.
- Plan Exchange Server for virtualization and Azure integration.
- Plan and implement public folders.

## Module 3: Planning and deploying message transport

This module explains how to plan and implement mail routing internally from and to the Internet, and transport-related tasks in the organization.

### Lessons

- Designing message routing
- Designing transport services
- Designing the message-routing perimeter
- Designing and implementing transport compliance

### Lab: Planning and deploying message transport

- Planning for a redundant and secure message transport
- Planning for transport compliance

- Implementing transport compliance

After completing this module, students will be able to:

- Design message routing.
- Design transport services.
- Design message routing in a perimeter network.
- Design and implement transport compliance.

## Module 4: Planning and deploying client access

This module explains how to plan for client connectivity and client access in Exchange Server 2016. This module also describes how to implement Microsoft Office Online Server, and the coexistence of SharePoint 2016 with Exchange.

Lessons

- Planning for Exchange Server 2016 clients
- Planning for client access
- Planning and implementing Office Online Server
- Planning and implementing coexistence of SharePoint 2016 with Exchange
- Designing external client access

Lab: Planning and deploying client access solutions

- Planning and configuring namespaces
- Planning and configuring client access services options
- Planning and deploying Office Online Server
- Planning and implementing reverse proxy

After completing this module, students will be able to:

- Plan for Exchange 2016 Server clients.
- Plan for client access.
- Plan and implement Office Online Server.
- Plan and implement SharePoint 2016 and with Exchange Server 2016 coexistence.
- Design external client access.

## Module 5: Designing and implementing high availability

This module explains how to design and implement a highly available solution for Exchange Server 2016.

Lessons

- Planning high availability for Exchange Server 2016
- Planning for load balancing
- Planning for site resilience

Lab: Designing and implementing site resiliency

- Creating a lag database copy
- Recovering data from a lagged database copy
- Implementing site resilience
- Validating site resilience

After completing this module, students will be able to:

- Plan high availability for an Exchange Server 2016 deployment.
- Plan for load balancing in an Exchange Server 2016 deployment.
- Plan for site resilience in an Exchange Server 2016 deployment.

## Module 6: Maintaining Exchange Server 2016

This module explains how to maintain Exchange Server 2016 using Managed Availability and Desired State Configuration (DSC).

Lessons

- Using Managed Availability to improve high availability
- Implementing DSC

Lab: Maintaining Exchange Server 2016

- Using Windows PowerShell to investigate and configure Managed Availability
- Implementing DSC

After completing this module, students will be able to:

- Describe and configure Managed Availability in Exchange Server 2016.
- Describe and implement DSC in Exchange Server 2016.

## Module 7: Designing messaging security

This module explains how to plan for messaging security and design and implement Active Directory Rights Management Services (AD RMS) and Azure RMS in an Exchange Server organization.

Lessons

- Planning messaging security
- Designing and implementing AD RMS and Azure RMS integration

Lab: Designing messaging security

- Implementing AD RMS
- Integrating AD RMS with Exchange Server
- Creating a message transport rule to protect email
- Protecting an email with AD RMS

After completing this module, students will be able to:

- Plan messaging security.
- Design and implement AD RMS and Azure RMS integration.

## Module 8: Designing and implementing message retention

This module explains how to plan for archiving and message retention.

Lessons

- Overview of messaging records management and archiving
- Designing In-Place Archiving
- Designing and implementing message retention

Lab: Designing and implementing message retention

- Designing message retention and archiving
- Implementing message retention and archiving

After completing this module, students will be able to:

- Describe messaging records management and archiving.
- Design In-Place Archiving
- Design and implement message retention.

## Module 9: Designing messaging compliance

This module explains how to plan for and implement several Exchange features to help minimize data loss and monitor email traffic and content.

Lessons

- Designing and implementing data loss prevention
- Designing and implementing In-Place Hold
- Designing and implementing In-Place eDiscovery

Lab: Designing and implementing messaging compliance

- Designing messaging compliance
- Implementing data loss prevention
- Implementing In-Place eDiscovery
- Comparing messaging policy and compliance options

After completing this module, students will be able to:

- Design and implement data loss prevention.
- Design and implement In-Place Hold.
- Design and implement In-Place eDiscovery.

## Module 10: Designing and implementing messaging coexistence

This module explains how to plan and implement federation, design coexistence between Exchange organizations, and design and move mailboxes between different forests and Exchange organizations.

Lessons

- Designing and implementing federation
- Designing coexistence between Exchange organizations
- Designing and implementing cross-forest mailbox moves

Lab: Implementing messaging coexistence

- Implementing message-routing coexistence
- Migrating user mailboxes

After completing this module, students will be able to:

- Design and implement federation.
- Design the coexistence between Exchange Server organizations.
- Design and implement cross-forest mailbox moves.

## Module 11: Upgrading to Exchange Server 2016

This module explains how to plan and implement an upgrade from previous Exchange Server 2013 or Exchange Server versions to Exchange Server 2016.

Lessons

- Planning an upgrade from previous Exchange Server versions
- Implementing the upgrade from previous Exchange Server versions

Lab: Upgrading from Exchange Server 2013 to Exchange Server 2016

- Documenting the Exchange Server 2013 organization
- Deploying Exchange Server 2016
- Upgrading from Exchange Server 2013 to Exchange Server 2016
- Removing Exchange Server 2013

After completing this module, students will be able to:

- Plan an upgrade to Exchange Server 2016.
- Implement the upgrade to Exchange Server 2016.

## Module 12: Planning a hybrid Exchange Server deployment

This module explains how to plan and implement a hybrid deployment for Exchange Server 2016.

### Lessons

- Basics of a hybrid deployment
- Planning and implementing a hybrid deployment
- Implementing advanced functionality for hybrid deployments

Lab: Designing the integration with Exchange Online

- Designing the integration with Exchange Online

After completing this module, students will be able to:

- Describe the basics of a hybrid deployment.
- Plan and implement a hybrid deployment.
- Implement advanced functionality for hybrid deployments.