

Exchange Online Administration and Troubleshooting

Enterprise Messaging, Security, Automation
and Hybrid Connectivity

DURATION	DELIVERY	LEVEL
5 Days	Instructor-Led Training	Intermediate to Advanced

A practical, scenario-driven course for professionals responsible for enterprise messaging operations, email security, administration, automation, and troubleshooting.

Course positioning

A proposed independent course designed around current Exchange Online administration needs. It is not an official Microsoft course code and is not represented as the designated successor to MS-203.

Course Overview

Exchange Online is a core component of modern enterprise messaging. This hands-on course develops the knowledge and practical skills required to administer, secure, monitor, automate, and troubleshoot Exchange Online environments.

Participants work through recipient and mailbox administration, permissions, mail flow, connectors, email protection, Exchange Online PowerShell, message investigations, hybrid architecture, and migration considerations. Practical exercises and incident-based scenarios reinforce skills used in day-to-day enterprise operations.

Learning Objectives

- Understand Exchange Online architecture and integration with Microsoft 365.
- Administer mailboxes, recipients, groups, and delegated permissions.
- Configure and troubleshoot mail flow, accepted domains, connectors, and transport rules.
- Investigate delivery issues using message trace, NDRs, headers, and administrative tools.
- Evaluate email protection capabilities and security configurations.
- Automate common administration and reporting tasks with Exchange Online PowerShell.
- Understand hybrid Exchange coexistence, migration prerequisites, and operational dependencies.
- Apply a repeatable methodology to enterprise messaging incidents.

Target Audience

- Microsoft 365 and Exchange Online Administrators
- Messaging and Email Security Engineers
- IT Infrastructure and Technical Support Professionals
- Professionals responsible for email operations, migration, and troubleshooting

Prerequisites

- Basic Microsoft 365 administration knowledge.
- Familiarity with email, SMTP, DNS, and email delivery concepts.
- Foundational understanding of Microsoft Entra ID and user administration.
- Basic Windows PowerShell knowledge; prior Exchange experience is beneficial.

Detailed Table of Contents

The following modules form the proposed course syllabus. Lab depth and sequencing can be adjusted to match the client's environment and learning objectives.

1. Exchange Online Architecture and Administration

- Introduction to Exchange Online and cloud-based messaging.
- Exchange Online architecture and service components.
- Integration with Microsoft 365 and Microsoft Entra ID.
- Exchange Admin Center navigation and administration.
- Administrative roles, role-based access control, and delegated administration.
- Organizational configuration, least privilege, and service boundaries.

Lab: Explore the Exchange Admin Center, review administrative roles, and inspect messaging configuration.

2. Recipient and Mailbox Management

- Recipient types; user, shared, room, and equipment mailboxes.
- Distribution groups, mail-enabled security groups, and Microsoft 365 groups.
- Mailbox delegation: Full Access, Send As, and Send on Behalf.
- Mailbox properties, quotas, aliases, email addresses, and recipient settings.
- Managing recipients through the Exchange Admin Center and PowerShell.

Lab: Create and configure mailboxes, manage recipients, assign delegation, and validate access.

3. Mailbox Policies, Organization Settings, and Compliance Foundations

- Mailbox and organizational messaging settings.
- Email address management and recipient lifecycle considerations.
- Archive mailboxes, retention concepts, retention labels, and Microsoft Purview.
- Litigation Hold, eDiscovery concepts, and mailbox auditing.
- Licensing dependencies and operational best practices.

Lab: Review mailbox settings, retention-related configuration, and mailbox management requirements.

4. Exchange Online Mail Flow Architecture

- Message transport and internal/external email delivery.
- Accepted domains and authoritative versus internal relay domains.
- Inbound and outbound mail-flow architecture.
- Exchange Online connectors and secure transport using TLS.
- Centralized mail transport and hybrid routing concepts.
- SPF, DKIM, and DMARC fundamentals.

Lab: Examine accepted domains and connectors, validate mail-flow settings, and investigate routing scenarios.

5. Mail-Flow Rules and Message Routing

- Creating and managing Exchange Online mail-flow rules.
- Rule conditions, exceptions, actions, priorities, and processing.
- Redirecting, rejecting, modifying, and disclaiming messages.
- Rule conflicts, exceptions, testing, and validation.
- Design considerations and administrative best practices.

Lab: Implement business-driven mail-flow rules and troubleshoot unexpected message handling.

6. Exchange Online Protection and Email Security

- Exchange Online Protection (EOP) and inbound/outbound protection.
- Anti-spam, anti-malware, anti-phishing, and impersonation controls.
- Microsoft Defender for Office 365 integration; Safe Links and Safe Attachments concepts.
- Quarantine, spoof intelligence, sender authentication, and Tenant Allow/Block List concepts.
- Preset security policies, incident investigation, and response workflows.
- Email security monitoring and operational best practices.

Lab: Review protection policies, investigate suspicious messages, inspect quarantine workflows, and assess email authentication.

7. Exchange Online PowerShell Administration

- Connecting securely to Exchange Online PowerShell.
- Authentication, permissions, cmdlets, and administrative workflows.
- Retrieving mailbox and recipient information.
- Managing mailbox properties and permissions.
- Bulk administration, filtering, sorting, pipelines, and report export.
- Variables, loops, error handling, validation, and secure scripting.

Lab: Connect to Exchange Online, perform administration, generate mailbox reports, and automate bulk tasks.

8. Message Tracking, Monitoring, and Troubleshooting

- Message trace and interpretation of trace events.
- Investigating delayed, rejected, and undelivered messages.
- Non-delivery reports (NDRs), SMTP response codes, and restrictions.
- Connector, routing, transport-rule, quarantine, and filtering investigations.
- Mailbox access and permission troubleshooting.
- Message headers, diagnostic information, reports, and service health.
- Structured troubleshooting and incident escalation.

Lab: Trace failed deliveries, interpret NDRs, and identify configuration-related issues.

9. Exchange Hybrid Architecture and Coexistence

- Exchange Server and Exchange Online coexistence concepts.
- Hybrid architecture, directory synchronization dependencies, and Hybrid Configuration Wizard overview.
- Inbound/outbound hybrid mail flow, connectors, and transport security.
- On-premises recipient management and remote mailboxes.
- Free/busy sharing, calendar coexistence, and hybrid migration endpoints.
- Troubleshooting common hybrid messaging issues.

Lab: Review hybrid architecture and dependencies, then troubleshoot representative hybrid scenarios.

10. Exchange Online Migration and Transition Planning

- Migration approaches: cutover, staged, and hybrid concepts.
- Remote move migrations, prerequisites, readiness assessments, and endpoints.
- Mailbox migration planning, batches, monitoring, and troubleshooting.
- Migration failures, synchronization issues, DNS, mail flow, and coexistence.
- Post-migration validation, rollback considerations, and transition planning.

Lab: Review migration requirements, inspect migration batches/endpoints where available, and troubleshoot scenarios.

11. Calendar, Client Connectivity, and Messaging Operations

- Calendar administration, resource booking, delegation, and sharing.
- Outlook connectivity, authentication, and Autodiscover fundamentals.
- Outlook on the web and mobile access considerations.
- Mailbox access and synchronization troubleshooting.
- Operational support procedures and incident escalation.

Lab: Configure resource mailbox settings and investigate calendar and client-connectivity scenarios.

12. Enterprise Troubleshooting Workshop and Best Practices

- Structured troubleshooting for end-to-end mail-flow failures.
- Suspicious email delivery, permissions, transport rules, and connector incidents.
- PowerShell-based diagnostics and configuration reviews.
- Least-privilege administration and security best practices.
- Operational checklists, troubleshooting runbooks, and recurring incident analysis.

Capstone: Investigate a simulated incident involving delivery failures, permissions, transport configuration, and email protection.

Recommended Delivery Approach

The course combines instructor-led explanation, guided demonstrations, hands-on configuration, PowerShell practice, and scenario-based troubleshooting.

Learning Activity	Suggested Allocation
Concepts and architecture	30%
Instructor demonstrations	20%
Hands-on administration and configuration	30%
Troubleshooting scenarios and review	20%

Recommended Lab Environment

- Microsoft 365 tenant with Exchange Online enabled.
- Appropriate administrative roles and permissions.
- Exchange Online PowerShell and test users/recipients.
- Permissions to review mail-flow and security configurations.
- Microsoft Defender for Office 365 capabilities where appropriately licensed.
- An on-premises Exchange lab and supporting infrastructure for hybrid-specific exercises, if required.

Licensing and Environment Notes

Some security capabilities require additional Microsoft 365 or Microsoft Defender licensing. Hybrid and migration labs may require an on-premises Exchange environment, directory synchronization, DNS and connectivity prerequisites, and appropriate tenant permissions. Lab exercises should be aligned with the available environment.

Five-Day Scope Consideration

The syllabus spans 12 modules. For a five-day delivery, the instructor should prioritize core Exchange Online administration, mail flow, security, PowerShell, and troubleshooting. Advanced hybrid and migration labs may be delivered as guided demonstrations or scheduled as an extended option, depending on client requirements.

Course Outcome

Participants will be better prepared to administer Exchange Online, maintain reliable mail flow, investigate messaging incidents, implement appropriate email security controls, automate routine tasks, and understand the technical considerations of hybrid Exchange environments and mailbox migrations.

This is a proposed training curriculum, not an official Microsoft course or certification. Course scope, labs, and duration should be confirmed with the client before delivery.