

Windows Server 2025 Administration (16 Hours)

This course provides a practical overview of Windows Server 2025, including its new features, installation options, and core administrative tools. Students will learn to configure server roles, manage users and networks, and secure and monitor system performance.

By course completion, students will be able to deploy, manage, and maintain Windows Server 2025 in real-world environments. Key topics include virtualization with Hyper-V, storage solutions, security, disaster recovery, and automation with PowerShell.

Who Should Attend

This online training course is intended for server administrators who need to learn more about core administration components and technologies in Windows Server 2025.

Skills Learned

After completing this online training course, students will be able to:

- Deploy and configure Windows Server 2025 using various installation methods
- Manage and maintain user accounts, groups, and permissions effectively
- Implement centralized management with Windows Admin Center
- Configure and manage networking components, including DHCP, DNS, and IP Address Management (IPAM)
- Apply network security by configuring Windows Firewall and VPN solutions
- Implement and manage storage solutions using NTFS, ReFS, Storage Spaces, and Storage Replica
- Deploy and manage virtual machines and virtual networks using Hyper-V
- Configure advanced virtualization features such as live migration and resource control
- Secure Windows Server environments using Windows Defender, Credential Guard, and Device Guard
- Implement privileged access management using JIT and JEA methods
- Set up auditing, monitoring, and threat response systems
- Plan, configure, and maintain high availability solutions, including failover clustering
- Develop and test effective backup and disaster recovery strategies
- Monitor, analyze, and optimize server performance using built-in tools and automation
- Automate routine administrative tasks with PowerShell

Course Outline

01. Introduction to Windows Server 2025

- New Changes to Windows Server 2025
- Overview of Windows Server 2025
- Editions and Licensing Options
- What's New in Windows Server 2025
- Feature Deprecation and Removal

02. Installation and Deployment

- System Requirements and Compatibility
- Deployment Options
- Performing a Clean Installation
- Upgrading from Previous Versions
- Post-Installation Configuration

03. Core Administration and Management

- Introduction & Server Environment
- Navigating the Server Interface
- Configuring Server Roles and Features
- Managing User Accounts, Groups, and Permissions
- Group Policy Fundamentals
- Centralized Management with Windows Admin Center

04. Networking Configuration and Management

- Introduction to Windows Server Networking Concepts
- Configuring Basic Network Settings and Connectivity
- Implementing and Managing DHCP Services
- Configuring and Managing DNS in Windows Server
- IP Address Management (IPAM) Fundamentals
- Introduction to Software-Defined Networking (SDN)
- Network Security Essentials: Configuring Windows Firewall
- Implementing VPN Solutions in Windows Server

05. Storage Solutions and Management

- Overview of Storage in Windows Server 2025
- Comparing NTFS and ReFS File Systems
- Introduction to Storage Spaces: Concepts and Use Cases
- Creating and Configuring Storage Spaces

- Building and Managing Storage Pools
- Creating, Formatting, and Resizing Volumes
- Enabling and Configuring Data Deduplication
- Monitoring and Managing Deduplication Efficiency
- Introduction to Storage Replica for High Availability
- Setting Up and Testing Storage Replica (Synchronous & Asynchronous)
- Storage Maintenance, Monitoring, and Best Practices

06. Virtualization with Hyper-V

- Introduction to Virtualization and Hyper-V Concepts
- Understanding Hyper-V Architecture and Components
- Installing the Hyper-V Role on Windows Server
- Configuring Hyper-V Host Settings and Storage Locations
- Creating and Configuring Virtual Machines (VMs)
- Managing VM Settings, Checkpoints, and Snapshots
- Configuring Virtual Networking and Virtual Switches
- Managing Network Isolation and VLANs in Hyper-V
- Advanced Hyper-V Features: Live Migration and Resource Control

07. Security and Compliance

- Introduction to Windows Server Security Architecture
- Configuring Windows Defender and Built-in Security Features
- Implementing Credential Guard for Credential Protection
- Implementing Device Guard for Application Control
- Securing Administrator Accounts and Privileged Access
- Applying Just-In-Time (JIT) and Just Enough Administration (JEA)
- Configuring Security Auditing Policies and Event Logging
- Using Compliance and Security Baseline Tools
- Monitoring and Responding to Threats with Windows Security Tools
- Integrating Alerts, Reporting, and Incident Response Workflows

08. High Availability and Disaster Recovery

- Introduction to High Availability and Disaster Recovery Concepts
- Planning and Preparing for Failover Clustering
- Configuring and Managing Failover Clusters
- Performing Cluster OS Rolling Upgrades
- Implementing Backup Strategies and Technologies
- Performing System and Data Restore Operations
- Developing a Disaster Recovery Plan and Testing Scenarios

09. Performance Monitoring and Optimization

- Introduction to Server Performance Monitoring Concepts
- Using Performance Monitor and Resource Monitor Effectively
- Monitoring System Health with Task Manager and Event Viewer
- Analyzing and Troubleshooting Common Performance Issues
- Managing and Optimizing Server Resources (CPU, Memory, Disk, Network)
- Configuring and Managing Windows Updates for Performance Stability
- Automating Updates and Maintenance Tasks for Optimization

10. Advanced Features and Tools

- Exploring Advanced Roles and Capabilities in Windows Server 2025
- Configuring Network Controller with Failover Clustering
- Understanding Active Directory DC Locator and Performance Optimization
- Managing Deprecated and Removed Features in Windows Server 2025
- Automating Server Management with PowerShell Basics