7EYES TECHNOLOGY
Empowering Your IT Future

Zero to Enterprise Windows Server Architect MasterModule (Hands-on Lab Program)

Module-1: Mastering Hyper-V Virtualization

- Installing Hyper-V
- Installing the Hyper-V Role and Management Tools
- Hyper-V Licensing
- Creating Virtual Machines in Hyper-V
- Basic Virtual Machine Management with Hyper-V Manager
- Generation 1 and Generation 2 VMs
- Managing Virtual Machines
- Virtual Machine Hardware Settings
- Integration Services
- Checkpoints
- Automatic Start and Stop Actions
- Working with Virtual Hard Disks
- Creating and Modifying Virtual Disks
- Hyper-V Virtual Networks
- External Virtual Switches
- Internal Virtual Switches
- Private Virtual Switches
- Configuring NIC Teaming
- Synthetic Versus Legacy Network Adapters
- Nested Virtualization

Module-2 and Module-3: Architecting the Modern Network: Deploying Active Directory and Hybrid Identity

- The Role of a Server Operating System
- Server: Hardware or Software?
- Server Operating Systems Versus Desktop Operating Systems
- Windows Server 2025 Roles and Features
- Windows Server 2025 Core Technologies
- Server Manager
- NTFS
- Microsoft Management Console
- Disk Management
- File and Printer Sharing
- Windows Networking Concepts
- Active Directory Domain Services
- PowerShell
- Discover Active Directory
- The Role of a Directory Service
- Active Directory Domain Services
- Overview of the Active Directory Structure
- Installing Active Directory

- Installing Additional Domain Controllers in a Domain
- Installing a New Domain in an Existing Forest
- Installing a DC with Install from Media
- The Active Directory Schema
- Recovering Objects with the Active Directory Recycle Bin
- Working with Forests, Trees, and Domains
- Active Directory Terminology
- The Role of Forests
- Understanding Domains and Trees
- Introducing Group Policies
- The Computer Configuration Node
- The User Configuration Node
- How Group Policies Are Applied
- Manage Active Directory Accounts
- Working with Organizational Units
- OU Delegation of Control
- Active Directory Object Permissions
- Managing User Accounts
- Creating and Modifying User Accounts
- Understanding Account Properties
- Using Contacts and Distribution Groups
- Managing Group Accounts
- Group Types
- Group Scope
- Nesting Groups
- Default Groups in a Windows Domain
- Working with Computer Accounts
- Creating Computer Accounts
- Managing Computer Accounts
- Working with Service Accounts
- Built-in Service Accounts
- Implementing Azure AD Connect
- Managing Azure AD Connect Health
- Azure AD Connect Cloud Sync
- Implementing Azure AD Cloud Sync
- Azure AD Domain Services

Module-4: Active Directory Infrastructure, Replication, and Global Management

- Understanding and Configuring Sites
- Site Components
- The Global Catalog and Universal Group Membership Caching
- Configuring Sites
- Active Directory Replication
- Active Directory Intrasite Replication
- Active Directory Intersite Replication
- SYSVOL Replication

- Managing Replication
- Working with Operations Master Roles
- Managing Operations Master Roles
- Adding a Subdomain
- Adding a Tree to an Existing Forest
- Configuring an Alternative UPN Suffix
- Configuring Multiforest Environments

Module-5: Administration, Remote Management, and DNS Infrastructure

- Working with Server Roles and Features
- Managing Server Roles in the GUI
- Managing Server Roles with PowerShell
- Managing Servers Remotely
- Adding Servers to Server Manager
- Enabling and Disabling Remote Management
- Using Windows Admin Center
- Installing Windows Admin Center on Windows 11
- Installing Windows Admin Center Gateway
- Configure DNS
- Introduction to Domain Name System
- The Structure of DNS
- The DNS Lookup Process
- DNS Server Roles
- Installing and Configuring DNS
- Creating DNS Zones
- Host (A and AAAA) Records
- Canonical Name (CNAME) Records
- Pointer (PTR) Records
- Mail Exchanger (MX) Records
- Service Location (SRV) Records
- Creating Dynamic DNS Records
- Creating Static DNS Records
- Start of Authority Records
- Name Server Records
- DNS Forwarders
- Root Hints
- Round Robin

Module-6: The DHCP Decoded: Managing, Configuring, and Troubleshooting IP Services

- Manage IP Addressing
- An Overview of Dynamic Host Configuration Protocol
- The DHCP Address Assignment Process
- Installing and Configuring DHCP
- DHCP Server Authorization

- DHCP Scopes
- Configuring Superscopes
- Configuring Multicast Scopes
- DHCP Options
- DHCP Server Options
- Configuring IPv4 Server Properties
- DHCP Name Protection
- Configuring Scope Properties
- Troubleshooting DHCP

Module-7: Data Foundations: Mastering Server Storage & File Services

- Configure Storage and File Services
- An Overview of Server Storage
- What Is Storage?
- Reasons for Storage
- Storage Access Methods
- Configuring Local Disks
- Disk Capacity and Speed
- Disk Interface Technologies
- Volumes and Disk Types
- Disk Formats
- The FAT File System
- The NTFS and ReFS File Systems
- File Sharing
- Creating Windows File Shares
- Creating Shares with File and Storage Services
- Default and Administrative Shares
- Accessing File Shares from Client Computers
- Network File System
- Securing Access to Files with Permissions
- Using File Server Resource Manager
- FSRM Quotas
- Using File Screens
- Using Distributed File System
- Installing and Configuring DFS
- Creating a Namespace

Module-8: High Availability & Cluster Lifecycle Management

- Implement High Availability—Part-1
- Deploying Failover Clusters
- How a Failover Cluster Works
- Requirements for a Failover Cluster
- Failover Cluster Installation
- Configuring Failover Clustering
- Implement High Availability—Part-2

- Managing Failover Clusters
- Re-Validating a Configuration
- Adding and Removing a Cluster Node
- Performing Cluster Operational Tasks
- Configuring Advanced Quorum Settings
- Updating and Upgrading a Cluster
- Backing up and Restoring a Cluster Configuration
- Managing Failover Clusters with Windows Admin Center

Module-9 and Module-10: Advanced Diagnostics and AD Lifecycle Management

- Monitor Windows Server
- Monitoring Windows Server Using Windows Server Tools
- Using Task Manager
- Using Resource Monitor
- Using Performance Monitor
- Monitoring Windows with Windows Admin Center
- Monitoring Windows with Event Logs
- Troubleshoot Windows Server and Active Directory
- Troubleshooting Windows Server Networking
- Troubleshooting On-Premises Windows Server Network Connectivity
- Active Directory Backup
- System State Backup
- Active Directory Restorations
- Active Directory Metadata Cleanup
- Working with Active Directory Snapshots
- Managing Replication
- SYSVOL Replication
- Monitoring Replication
- Troubleshooting Disk Encryption Issues
- Troubleshooting Storage Issues