



# ANGULAR

**2/4/5/6/7/8/10/13/14**

BATCH TYPE: WEEKDAYS/ WEEKENDS

MODE OF TRAINING: CLASSROOM/ ONLINE/  
CORPORATE TRAINING



## **Module 1: Introduction to Virtualization and Hyper-V (2 Hours)**

### **Understanding Virtualization**

- What is Virtualization? Types and Benefits
- Virtualization vs. Physical Environments
- Overview of Virtualization Technologies (Hyper-V, VMware, etc.)

### **Introduction to Hyper-V**

- Features and Benefits of Hyper-V
- Editions and Licensing for Hyper-V in Windows Server
- Hyper-V System Requirements and Architecture

## **Module 2: Installing and Configuring Hyper-V (3 Hours)**

### **Installing Hyper-V Role**

- Installing and Enabling the Hyper-V Role
- Configuring Hyper-V Host Settings
- Configuring and Managing Hyper-V Virtual Switches

### **Configuring Hyper-V Host Settings**

- Configuring Hyper-V Settings and Virtual Switch Manager
- Understanding Hyper-V Virtual Networks: Internal, External, Private
- Configuring Network Settings for VMs

## **Module 3: Creating and Managing Virtual Machines (3 Hours)**

### **Creating Virtual Machines (VMs)**

- Creating VMs Using Hyper-V Manager
- Configuring VM Hardware Settings (CPU, Memory, Storage)
- Installing Guest Operating Systems

## **Managing Virtual Machines**

- Creating and Managing VM Snapshots and Checkpoints
- Importing, Exporting, and Cloning VMs
- Dynamic Memory and Smart Paging Configuration

## **Module 4: Virtual Storage and Networking (3 Hours)**

### **Managing Virtual Storage**

- Types of Virtual Disks (VHD, VHDX) and Their Differences
- Configuring Virtual Hard Disks and Pass-through Disks
- Using Hyper-V Storage Features: Differencing Disks, Shared VHDX

### **Configuring Virtual Networks**

- Creating and Configuring Virtual Networks
- Understanding Hyper-V Network Virtualization
- Configuring NIC Teaming, VLANs, and Bandwidth Management

## **Module 5: Hyper-V High Availability and Disaster Recovery (3 Hours)**

### **Implementing Hyper-V High Availability**

- Configuring Hyper-V Replica for Disaster Recovery
- Implementing Live Migration and Quick Migration
- Configuring Failover Clustering for Hyper-V

### **Disaster Recovery and Backup Solutions**

- Configuring Backup and Restore for Hyper-V Hosts and VMs
- Using Windows Server Backup and Third-Party Backup Solutions
- Understanding Hyper-V Replica Configuration and Failover

## **Module 6: Hyper-V Virtual Machine Security (3 Hours)**

### **Securing Hyper-V Environment**

- Best Practices for Securing Hyper-V Hosts and VMs
- Implementing Secure Boot and Shielded VMs
- Configuring Host Guardian Service (HGS)

### **Implementing Network Security**

- Configuring Hyper-V Virtual Network Security
- Implementing Network Isolation and Virtual LANs (VLANs)
- Configuring and Using Windows Defender Application Guard

## **Module 7: Advanced Hyper-V Features and Management (3 Hours)**

### **Advanced Hyper-V Features**

- Implementing Hyper-V Containers
- Nested Virtualization: Scenarios and Configuration
- Using PowerShell for Hyper-V Management

### **Managing Hyper-V with System Center Virtual Machine Manager (SCVMM)**

- Overview of SCVMM and Its Features
- Managing Hyper-V Hosts and VMs with SCVMM
- Configuring Private Clouds and Services

## **Module 8: Hyper-V Performance Monitoring and Optimization (3 Hours)**

### **Performance Monitoring and Resource Optimization**

- Monitoring Hyper-V Performance Using Performance Monitor
- Configuring Resource Metering for VMs
- Best Practices for Hyper-V Performance Optimization

## **Troubleshooting Hyper-V Issues**

- Troubleshooting Hyper-V Host and VM Issues
- Resolving Network and Storage Issues in Hyper-V
- Using Event Viewer and Logs for Diagnostics

## **Module 9: Hyper-V and Azure Integration (3 Hours)**

### **Hybrid Cloud with Hyper-V and Azure**

- Overview of Azure Hybrid Services
- Implementing Azure Site Recovery for Hyper-V
- Integrating Hyper-V with Azure Backup

### **Migrating VMs to Azure**

- Preparing Hyper-V VMs for Azure Migration
- Using Azure Migrate for VM Migration
- Configuring Hybrid Network Connectivity

## **Module 10: Hyper-V Best Practices and Real-World Scenarios (2 Hours)**

### **Hyper-V Best Practices**

- Best Practices for Hyper-V Deployment and Configuration
- Optimizing VM Performance and Resource Allocation
- Implementing Security and Compliance Best Practices

### **Real-World Use Cases and Scenarios**

- Case Studies of Hyper-V Implementations
- Planning and Designing Hyper-V Environments
- Handling Common Issues and Their Resolutions

## **Module 11: Hands-On Labs and Capstone Project (5 Hours)**

### **Hands-On Labs**

- Lab 1: Installing and Configuring Hyper-V

- Lab 2: Creating and Managing VMs and Virtual Networks
- Lab 3: Configuring High Availability and Disaster Recovery
- Lab 4: Implementing Hyper-V Security Features

### **Capstone Project**

- Designing a Hyper-V Environment Based on a Given Scenario
- Implementing VMs, Storage, and Networking Configurations
- Presenting the Design and Key Configurations

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TRIVANDRUM)

