VMware vSphere : Operate, Scale and Secure (V8)

Course Overview: VMware vSphere Operations

1. Course Introduction

- **Introductions and Course Logistics:** Overview of participants, course schedule, and logistics.
- **Course Objectives:** Define the key learning outcomes and skills participants will acquire by the end of the course.

2. Virtual Machine Operations

- **Recognize the Role of a VMware Tools™ Repository:** Understanding the significance of the repository for VMware Tools.
- **Configure a VMware Tools Repository:** Steps to set up and manage the repository.
- **Recognize the Backup and Restore Solution for VMs:** Overview of strategies for backing up and restoring virtual machines.
- **Identify the Components in the VMware vSphere® Replication™ Architecture:** Understanding the architecture and components involved in vSphere Replication.
- **Deploy and Configure vSphere Replication and VMware Site Recovery™ Instances:** Hands-on practice in deploying and configuring replication instances.
- **Recover Replicated VMs:** Techniques for recovering VMs that have been replicated.

3. vSphere Cluster Operations

- **Create and Manage Resource Pools in a Cluster:** How to effectively create and manage resource pools.
- **Describe How Scalable Shares Work:** Understanding the functionality and benefits of scalable shares.
- **Describe the Function of the vCLS:** Overview of the vCenter Cluster Service (vCLS) and its role in cluster operations.
- **Recognize Operations That Might Disrupt the Healthy Functioning of vCLS VMs:** Identifying actions that could impact vCLS operations.

4. Network Operations

- **Configure and Manage vSphere Distributed Switches:** Steps for configuring and managing distributed switches.
- **Describe How VMware vSphere® Network I/O Control Enhances Performance:** Understanding the benefits of Network I/O Control.
- **Explain Distributed Switch Features Such as Port Mirroring and NetFlow:** Overview of key distributed switch features and their use cases.
- **Define vSphere Distributed Services Engine:** Understanding the architecture and purpose of the Distributed Services Engine.

- **Describe the Use Cases and Benefits of VMware vSphere® Distributed Services Engine™:** Practical applications and advantages of utilizing the Distributed Services Engine.

5. Storage Operations

- **Discuss vSphere Support for NVMe and iSER Technologies:** Overview of support for NVMe and iSER within vSphere.
- **Describe the Architecture and Requirements of vSAN Configuration:** Understanding the components and requirements for configuring vSAN.
- **Describe Storage Policy-Based Management:** Overview of managing storage policies within vSphere.
- **Recognize Components in the VMware vSphere® Virtual Volumes™ Architecture:** Identifying key components within the Virtual Volumes architecture.
- **Configure Storage I/O Control:** Steps to configure and manage Storage I/O Control.

6. vCenter and ESXi Operations

- **Create a vCenter Backup Schedule:** Best practices for scheduling vCenter backups.
- **Recognize the Importance of vCenter High Availability:** Understanding the significance of high availability in vCenter operations.
- **Explain How vCenter Server High Availability Works:** Overview of the high availability mechanism for vCenter Server.
- **Use Host Profiles to Manage ESXi Configuration Compliance:** Techniques for using host profiles to ensure configuration compliance.
- **Recognize the Benefits of Using Configuration Profiles:** Understanding the advantages of configuration profiles for ESXi management.
- **Use the vSphere Client and Command Line to Manage Certificates:** Managing certificates using both graphical and command-line interfaces.

7. vSphere Monitoring

- **Monitor Key Factors That Can Affect a Virtual Machine's Performance:** Identifying performance metrics and monitoring strategies.
- **Describe the Factors That Influence vCenter Performance:** Understanding the elements that can impact vCenter's performance.
- **Use vCenter Tools to Monitor Resource Use:** Practical use of vCenter tools for resource monitoring.
- **Create Custom Alarms in vCenter:** How to set up custom alarms for proactive monitoring.
- **Describe the Benefits and Capabilities of VMware Skyline™:** Overview of VMware Skyline and its monitoring benefits.
- **Recognize Uses for VMware Skyline Advisor™ Pro:** Understanding the use cases for the Skyline Advisor Pro.

8. vSphere Security and Access Control

- **Recognize Strategies for Securing vSphere Components:** Best practices for securing vCenter, ESXi hosts, and VMs.

- **Describe vSphere Support for Security Standards and Protocols:** Overview of supported security standards within vSphere.
- **Describe Identity Federation and Recognize Its Use Cases:** Understanding identity federation and its applications in vSphere.
- **Configure Identity Federation to Allow vCenter to Use an External Identity Provider:** Steps for setting up identity federation with external providers.

9. vSphere Trusted Environments and VM Encryption

- **Configure ESXi Host Access and Authentication:** Techniques for configuring access and authentication for ESXi hosts.
- **Describe Virtual Machine Security Features:** Overview of security features available for virtual machines.
- **Describe the Components of a VM Encryption Architecture:** Understanding the architecture involved in VM encryption.
- **Create, Manage, and Migrate Encrypted VMs:** Practical steps for managing and migrating encrypted VMs.
- **List VM Encryption Events and Alarms:** Identifying events and alarms associated with VM encryption.
- **Describe the Benefits and Use Cases of vSphere Trust Authority:** Overview of vSphere Trust Authority and its applications.