

VMware VCAP DCA LAB Practical Training

Course Duration : **20Days**

Class Duration : **3hours per day (Fast Track Course duration 10days “ Per day 8 hours “)**

Course Fee Details

Classroom Training: - **₹ 25000**

Fast-Track Training: - **₹ 30000** -----(For Classroom Training only)

Online Training: - **₹ 35000**

❖ **Note:** - ★ ★ ★ VMware vSphere-5.x L2 and L3 Administration Training is prerequisite for This course. ★ ★ ★

Module-1 Implement and Manage Storage

- 1.1 Implement Complex Storage Solutions
- 1.2 Manage Complex Storage Solutions
- 1.3 Troubleshoot complex storage solutions

Module-2 Implement and Manage Networking

- 2.1 Implement and manage virtual standard switch (vSS) networks
- 2.2 Implement and manage virtual distributed switch (vDS) networks
- 2.3 Troubleshoot virtual switch solutions

Module-3 Implement and Manage Host Clusters

- 3.1 Implement and Maintain Complex VMware HA Solution
- 3.2 Implement and manage complex DRS solution
- 3.3 Troubleshoot vSphere clusters

Module-4 Manage Virtual Machines and vSphere Resource

- 4.1 Utilize Advanced vSphere Performance Monitoring Tools
- 4.2 Optimize Virtual Machine resource
- 4.3 Manage advanced virtual machine configuration
- 4.4 Configure and manage vSphere Replication

Module-5 Perform Operational Maintenance

- 5.1 Implement and Maintain Host Profiles
- 5.2 Utilize Update Manager for patches and upgrade
- 5.3 Manage vCenter inventory
- 5.4 Configure, manage, and analyze vSphere and SSO log file

Module-6 Secure a vSphere Environment

- 6.1 Manage authentication and end-user security
- 6.2 Manage SSL certificates

Module-7 Perform Scripting and Automation

- 7.1 Execute VMware Cmdlets and Customize Scripts Using PowerCLI
- 7.2 Utilize basic workflows using Orchestrator

1.1 Implement Complex Storage Solutions

- 1) Determine use cases for and configure VMware DirectPath I/O
- 2) Determine requirements for and configure NPIV
- 3) Understand use cases for Raw Device Mapping
- 4) Configure vCenter Server storage filters
- 5) Understand and apply VMFS Resignaturing
- 6) Understand and apply LUN masking using PSA-related commands
- 7) Configure Software iSCSI port binding
- 8) Configure and manage vSphere Flash Read Cache
- 9) Configure Datastore Clusters
- 10) Upgrade VMware storage infrastructure

1.2 Manage Complex Storage Solutions

- 1) Analyze I/O workloads to determine storage performance requirements
- 2) Identify and tag SSD and local devices
- 3) Administer hardware acceleration for VAAI
- 4) Configure and administer profile based storage
- 5) Prepare storage for maintenance
- 6) Apply space utilization data to manage storage resources
- 7) Provision and manage storage resources according to Virtual Machine requirements
- 8) Understand interactions between virtual storage provisioning and physical storage provisioning
- 9) Configure Datastore Alarms
- 10) Create and analyze Datastore alarms and errors to determine space availability

1.3 Troubleshoot complex storage solutions

- 1) Perform command line configuration of multipathing options
- 2) Change a multipath policy
- 3) Troubleshoot common storage issue

2.1 Implement and manage virtual standard switch (vSS) networks

- 1) Create and Manage vSS components
- 2) Create and Manage vmkernel ports on standard switches
- 3) Configure advanced vSS settings

2.3 Troubleshoot virtual switch solutions

- 1) Understand the NIC Teaming failover types and related physical network settings
- 2) Determine and apply Failover settings
- 3) Configure explicit failover to conform with VMware best practices
- 4) Configure port groups to properly isolate network traffic
- 5) Given a set of network requirements, identify the appropriate distributed switch technology to use
- 6) Configure and administer vSphere Network I/O Control
- 7) Use command line tools to troubleshoot and identify configuration items from an existing vDS

2.2 Implement and manage virtual distributed switch (vDS) networks

- 1) Determine use cases for and applying VMware DirectPath I/O
- 2) Migrate a vSS network to a hybrid or full vDS solution
- 3) Configure vSS and vDS settings using command line tools
- 4) Analyze command line output to identify vSS and vDS configuration details
- 5) Configure NetFlow
- 6) Determine appropriate discovery protocol
- 7) Determine use cases for and configure PVLANS
- 8) Use command line tools to troubleshoot and identify VLAN configuration

3.1 Implement and Maintain Complex VMware HA Solution

- 1) Calculate host failure requirements
- 2) Configure customized isolation response settings
- 3) Configure HA redundancy
 - a) Management Network
 - b) Datastore Heartbeat
 - c) Network partitions
- 4) Configure HA related alarms and monitor an HA cluster
- 5) Create a custom slot size configuration
- 6) Understand interactions between DRS and HA
- 7) Analyze vSphere environment to determine appropriate HA admission control policy
- 8) Analyze performance metrics to calculate host failure requirements
- 9) Analyze Virtual Machine workload to determine optimum slot size
- 10) Analyze HA cluster capacity to determine optimum cluster size

3.3 Troubleshoot vSphere clusters

- 1) Configure EVC using appropriate baseline
- 2) Create and manage DRS and DPM alarms
- 3) Properly size virtual machines and clusters for optimal DRS efficiency
- 4) Properly apply virtual machine automation levels based upon application requirement

3.2 Implement and manage complex DRS solution

- 1) Explain DRS / storage DRS affinity and anti-affinity rules
- 2) Identify required hardware components to support Distributed Power Management (DPM)
- 3) Identify EVC requirements, baselines and components
- 4) Understand the DRS / storage DRS migration algorithms, the Load Imbalance Metrics, and their impact on migration recommendations
- 5) Properly configure BIOS and management settings to support DPM
- 6) Test DPM to verify proper configuration
- 7) Configure appropriate DPM Threshold to meet business requirements
- 8) Configure EVC using appropriate baseline
- 9) Change the EVC mode on an existing DRS cluster
- 10) Create DRS and DPM alarms
- 11) Configure applicable power management settings for ESXi hosts
- 12) Properly size virtual machines and clusters for optimal DRS efficiency
- 13) Properly apply virtual machine automation levels based upon application requirements
- 14) Create and administer ESXi host and Datastore Clusters
- 15) Administer DRS / Storage DRS

4.1 Utilize Advanced vSphere Performance Monitoring Tools

- 1) Configure **esxstop/resxstop** custom profiles
- 2) Determine use cases for and apply **esxstop/resxstop** Interactive, Batch and Replay modes
- 3) Use **vscsiStats** to gather storage performance data
- 4) Use esxstop/resxstop to collect performance data
- 5) Given **esxstop/resxstop** output, identify relative performance data for capacity planning purpose

4.2 Optimize Virtual Machine resource

- 1) Tune Virtual Machine memory configurations
- 2) Tune Virtual Machine networking configurations
- 3) Tune Virtual Machine CPU configurations
- 4) Tune Virtual Machine storage configurations
- 5) Calculate available resources
- 6) Properly size a Virtual Machine based on application workload
- 7) Modify large memory page settings
- 8) Understand appropriate use cases for CPU affinity
- 9) Configure alternate virtual machine swap location

4.3 Manage advanced virtual machine configuration

- 1) Tune Virtual Machine disk controller configurations
- 2) Configure .vmx file for advanced configuration scenarios
- 3) Identify pre-requisites for Hot Add features
- 4) Configure VMware Fault Tolerance
- 5) Upgrade virtual machine hardware and VMware Tool

4.4 Configure and manage vSphere Replication

- 1) Configure and manage a vSphere Replication infrastructure
- 2) Configure and manage vSphere Replication of virtual machines
- 3) Troubleshoot vSphere Replication

5.1 Implement and Maintain Host Profiles

- 1) Use Profile Editor to edit and/or disable policies
- 2) Create sub-profiles
- 3) Use Host Profiles to deploy vDS
- 4) Use Host Profiles to deploy vStorage policies
- 5) Import/Export Host Profiles
- 6) Manage Answer Files

5.2 Utilize Update Manager for patches and upgrade

- 1) Install and configure Update Manager Download Service
- 2) Configure a shared repository
- 3) Configure smart rebooting
- 4) Manually download updates to a repository
- 5) Perform orchestrated vSphere upgrades
- 6) Create and modify baseline groups
- 7) Troubleshoot Update Manager problem areas and issues
- 8) Generate database reports using MS Excel or MS SQL
- 9) Upgrade vApps using Update Manager
- 10) Utilize Update Manager PowerCLI to export baselines for testing
- 11) Utilize the Update Manager Utility to reconfigure vUM setting

5.3 Manage vCenter inventory

- 1) Apply vSphere tags
- 2) Search vSphere inventory
- 3) Troubleshoot the vSphere inventory infrastructure

5.4 Configure, manage, and analyze vSphere and SSO log file

- 1) Generate vCenter Server and ESXi log bundles
- 2) Use esxcli system syslog to configure centralized logging on ESXi hosts
- 3) Test centralized logging configuration
- 4) Analyze log entries to obtain configuration information
- 5) Analyze log entries to identify and resolve issues
- 6) Install and configure VMware syslog Collector and ESXi Dump Collector

6.1 Manage authentication and end-user security

- 1) Add/Edit Remove users/groups on an ESXi host
- 2) Customize SSH settings for increased security
- 3) Enable ESXi lockdown mode
- 4) Enable strong passwords and configure password policies
- 5) Identify methods for hardening virtual machines
- 6) Analyze logs for security-related messages
- 7) Manage Active Directory integration

6.2 Manage SSL certificates

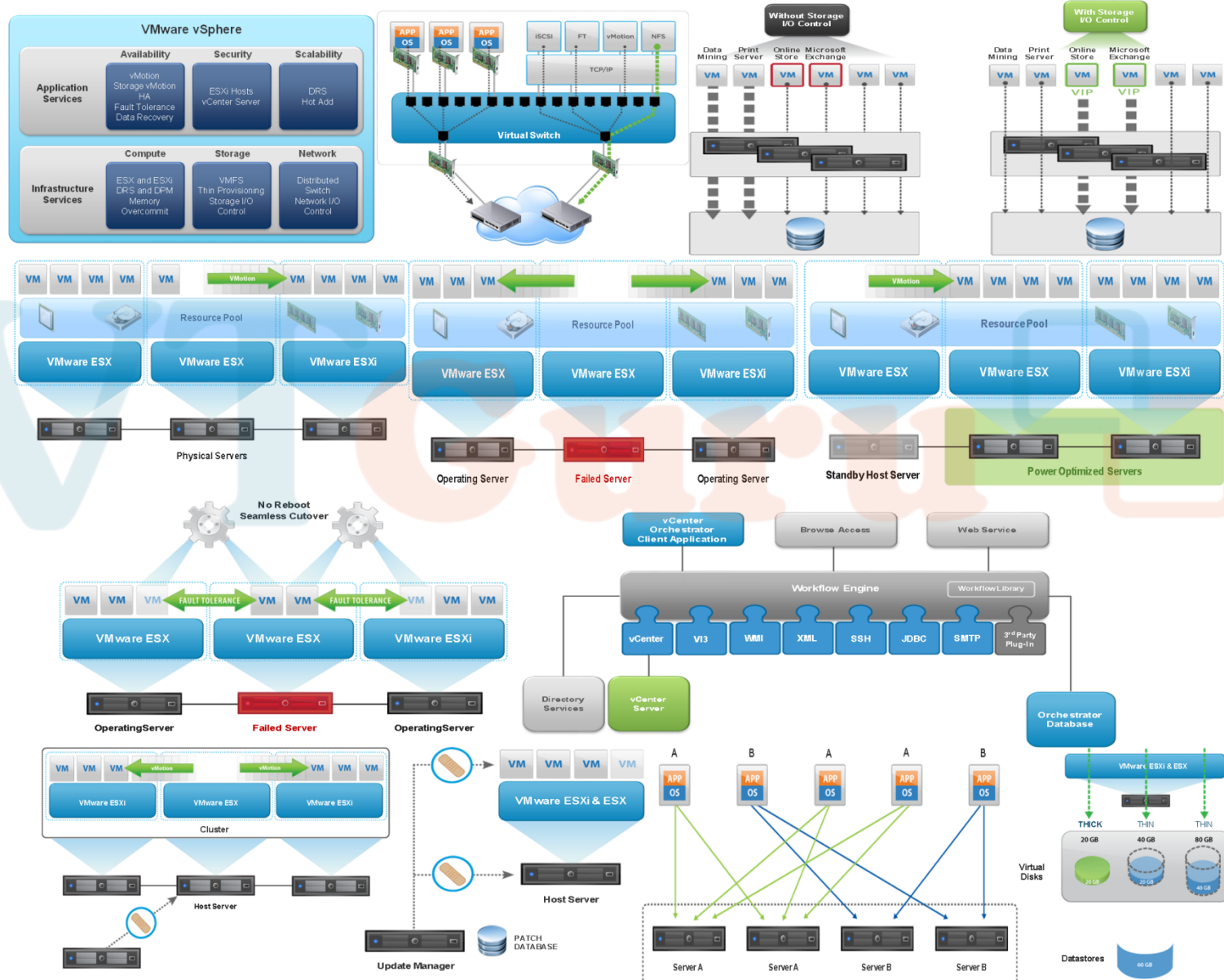
- 1) Enable/Disable certificate checking
- 2) Generate ESXi host certificates
- 3) Replace default certificate with CA-signed certificate
- 4) Configure SSL timeouts
- 5) Configure vSphere Authentication Proxy

7.1 Execute VMware Cmdlets and Customize Scripts Using PowerCLI

- 1) Identify vSphere PowerCLI requirements
- 2) Identify Cmdlets concepts
- 3) Identify environment variables usage
- 4) Install and configure vSphere PowerCLI
- 5) Install and configure Update Manager PowerShell Library
- 6) Use basic and advanced Cmdlets to manage VMs and ESXi Hosts
- 7) Use Web Service Access Cmdlets
- 8) Use Datastore and Inventory Providers
- 9) Given a sample script, modify the script to perform a given action

7.2 Utilize basic workflows using Orchestrator

- 1) Configure and manage vCenter Orchestrator
- 2) Add Orchestrator to vCenter
- 3) Create basic vCenter management workflows
- 4) Troubleshoot existing workflows
- 5) Import/export package



❑ This Course designed for VMware VCAP DCA Exam Preparation

❖ Terms & Conditions

❖ He/She must have VMware vSphere-5.x L2 & L3 Administration Knowledge.

❑ Target Audience

- VMware Admin
- System administrators of (Windows, Linux, Unix, MAC ...etc.)
- Systems engineers
- Storage administrators
- Network administrators
- Network Security administrators ...etc.

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