

## COURSE OVERVIEW:

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VMware Horizon 7: Install, Configure, Manage (VICM710) v7.10 is a five-day hands-on course gives you the skills to deliver virtual desktops and applications through a single virtual desktop infrastructure platform. This course builds your skills in installing, configuring, and managing VMware Horizon<sup>®</sup> 7 through a combination of lecture and hands-on labs. You will learn how to configure and deploy pools of virtual machines, how to manage the access and security of the machines, and how to provide a customized desktop environment to end users.

## WHO SHOULD ATTEND:

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The primary audience for this course is as follows:

- Technical personnel who work in the IT departments of end-customer companies and people who are responsible for the delivery of remote or virtual desktop services.

## PREREQUISITES:

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The knowledge and skills that a learner should have before attending this course are as follows:

- Use VMware vSphere<sup>®</sup> Web Client to view the state of virtual machines, datastores, and networks
- Open a virtual machine console on VMware vCenter Server<sup>®</sup> and access the guest operating system
- Create snapshots of virtual machines
- Configure guest customization specifications
- Modify virtual machine properties
- Convert a virtual machine into a template
- Deploy a virtual machine from a template

Attendees should also have the following Microsoft Windows system administration experience:

- Configure Active Directory services, including DNS, DHCP, and time synchronization
- Restrict user activities by implementing Group Policy objects



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- Configure Windows systems to enable Remote Desktop Connections
- Build an ODBC connection to an SQL Server database

## COURSE OBJECTIVES:

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Upon completing this course, the learner will be able to meet these overall objectives:

- Recognize the features and benefits of VMware Horizon
- Install and configure VMware Horizon® Connection Server™
- Create and optimize Windows VMs to create VMware Horizon desktops
- Describe the purpose of Horizon Agent
- Compare the remote display protocols that are available in VMware Horizon
- Configure and manage the VMware Horizon® Client™ systems and connect the client to a VMware Horizon desktop
- Configure, manage, and entitle automated pools of full VMs
- Configure, manage, and entitle pools of instant-clone desktops and linked-clone desktops
- Install and configure View Composer
- Outline the steps and benefits for using TLS CA signed certificates in VMware Horizon environments
- Use the role-based delegation to administer a VMware Horizon environment
- Configure secure access to VMware Horizon desktops
- Understand and create Remote Desktop Services (RDS) desktops and application pools
- Install and configure App Volumes to deliver and manage applications
- Deploy VMware Dynamic Environment Manager™ for user and application management
- Install and configure a Just-in-Time Management Platform (JMP) server for managing JMP components
- Describe VMware Dynamic Environment Manager Smart Policies
- Use the command-line tools available in VMware Horizon to back up and restore the required VMware Horizon databases
- Manage the performance and scalability of a VMware Horizon deployment
- Identify the benefits of the Cloud Pod Architecture feature for large-scale VMware Horizon deployments



## COURSE OUTLINE:

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### Course Introduction

- Introductions and course logistics
- Course objectives

### Introduction to VMware Horizon

- Recognize the features and benefits of VMware Horizon
- Describe the conceptual and logical architecture of VMware Horizon
- Define a use case for your virtual desktop and application infrastructure
- Convert customer requirements to use case attributes

### Horizon Connection Server

- Recognize VMware Horizon reference architecture
- Identify the recommended system requirements for Horizon Connection Server
- Identify the recommended virtualization requirements for a Horizon® Connection Server™ instance
- Access Horizon Manager
- License VMware Horizon components
- Outline the steps for the initial configuration of Horizon Connection Server
- Describe the capabilities that Horizon Administrator provides for monitoring the health of a VMware Horizon deployment
- Use the dashboard to quickly focus on the details of a problem
- Access the settings and status of a pool
- Access the settings and status of a specific machine and the resources controlled by vCenter Server that the VM uses
- Identify the benefits of using the VMware Horizon Help Desk tool

### VMware Horizon Desktops

- Outline the process and choices to set up Windows VMware Horizon VMs
- Assign vCPUs and RAM to Windows VMs
- Create Windows VMs
- Configure VMware ESXi™ host virtual switches
- Optimize the performance of Windows VMs
- Outline the process and choices to set up Linux VMware Horizon VMs

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- Assign vCPUs and RAM to Linux VMs
- Create Linux VMs
- Optimize the performance of Linux VMs
- Compare the remote display protocols that are available in VMware Horizon
- Outline the steps to enable a machine for remote access from VMware Horizon® Client™
- Describe BLAST
- Describe the purpose of Horizon Agent
- List the steps to prepare a VM before installing Horizon Agent
- Outline the configuration choices when installing Horizon Agent
- Use the Horizon Skype for Business Virtualization Pack

## VMware Horizon Pools

- Identify the steps to set up a template for desktop pool deployment
- List the steps to add desktops to the Horizon Connection Server inventory
- Define user entitlement
- Describe how information found on the Users and Groups page is used to control and monitor VMware Horizon users
- Explain the hierarchy of global, pool-level, and user-level policies
- List the VMware Horizon Group Policy ADMX files

## VMware Horizon Client Options

- Describe the requirements for a Horizon Client installation on a Windows system
- Explain USB redirection and options
- Describe the shared folders option
- Describe the different clients and their benefits
- Discuss the benefits of the Virtual Printing feature
- Explain the architecture of the Virtual Printing feature
- List the steps to install the Virtual Printing feature
- Configure the Virtual Printing feature
- Discuss the benefits of the location-based printing feature
- Identify use cases where location-based printing is desirable
- List the client system parameters that can be used to assign a printer



## Creating Automated Desktop Pools

- Describe how an automated pool operates
- Compare dedicated-assignment and floating-assignment pools
- Outline the steps to create an automated pool

## Configuring and Managing Linked-Clone Desktop Pools

- Describe VMware linked-clone technology
- Explain why both a parent VM and a snapshot must be used to create linked clones
- Outline the system requirements for View Composer
- Describe the relationship between a vCenter Server instance and a View Composer instance
- Identify the View Composer objects in a vCenter Server inventory
- Describe the preparation required for installing View Composer
- Outline the steps to install View Composer
- Outline the necessary steps to set up an automated desktop pool that uses linked clones
- Compare the purpose of parent and replica VMs
- Describe the additional steps that are required for linked clones that are not necessary for other automated pools
- Discuss the merits of using tiered storage for replica and linked clones
- Compare the benefits of vSAN and tiered storage
- Compare the recompose, refresh, and rebalance management operations for linked clones
- Describe the management operations for persistent disks

## Creating and Managing Instant-Clone Desktop Pools

- Describe instant clones
- List the advantages of instant clones
- Differentiate between View Composer linked clones and instant clones
- Describe the different types of instant-clone VMs
- Recognize the use of folders in delegating pool administration
- Explain how instant clones work
- Describe instant clone desktop pools
- Determine the requirements for an instant-clone desktop pool
- Identify the steps used to create an instant clone



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- Set up an automated pool of instant clones
- Enable instant clones and authorize a VMware Horizon administrator account for use by ClonePrep
- Update the image of an instant-clone desktop pool using the push image operation

## VMware Horizon Authentication and Certificates

- Compare the authentication options that Horizon Connection Server supports
- Explain the purpose of roles and privileges in VMware Horizon
- Explain how folders are used to delegate pool administration
- Describe a permission and its components
- Outline the steps to create a Horizon administrator
- List the management options for permissions and folders
- Outline the steps to create a custom role
- List some of the best practices for configuring Horizon Administrator
- Describe the purpose of using TLS certificates for VMware Horizon
- Outline the benefits of using TLS certificates signed by a CA
- Outline the steps to set up TLS certificates

## Managing VMware Horizon Security

- Compare tunnels and direct connections for client access to desktops
- Identify the benefits of using VMware Unified Access Gateway™ in the DMZ
- Identify the tunnel endpoints when the security gateway is not used
- Describe a direct connection in a VMware Horizon environment
- List the advantages of direct connections
- Describe how direct connections are enabled
- Discuss the benefits of using Unified Access Gateway
- List the two-factor authentication options that are supported by Unified Access Gateway
- Describe the situations in which you might deploy Unified Access Gateway with one, two, or three network interfaces



## Profile Management Using User Environment Manager

- Identify the VMware Dynamic Environment Manager functional areas and their benefits
- Prepare infrastructure for VMware Dynamic Environment Manager
- Outline the steps that are required to install and configure VMware Dynamic Environment Manager components
- Manage user personalization and application configurations using the VMware Dynamic Environment Manager management console and application profiler
- Outline the VMware Horizon Smart Policies available when using VMware Dynamic Environment Manager in the Horizon environment

## Creating RDS Desktop and Application Pools

- Explain how App Volumes works
- Identify the features and benefits of App Volumes
- Identify the interface elements of App Volumes
- Install and configure App Volumes

## Provisioning and Managing Application Using App Volumes

- Explain how App Volumes works
- Identify the features and benefits of App Volumes
- Identify the interface elements of App Volumes
- Install and configure App Volumes

## Just-in-Time Management Platform and VMware Horizon

- Identify the benefits of Just-in-Time Management Platform (JMP)
- List the JMP and Horizon 7 components
- Install and configure a JMP server
- Identify App Volumes deployment considerations
- Identify VMware Dynamic Environment Manager deployment considerations

## Command-Line Tools and Backup Options

- Describe key Horizon Connection Server features that are available as command-line options with the vdmadmin command
- Explain the purpose of kiosk mode for client systems and how it is configured
- Explain why you limit the domains that Horizon Connection Server displays to users as they attempt to authenticate



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- Identify the log locations for each VMware Horizon component
- Collect Horizon Client and Horizon Agent log files
- Describe the backup options for VMware Horizon databases
- Explain the potential problems related to not synchronizing databases
- Outline solutions to handle orphaned linked clones

## VMware Horizon Performance and Scalability

- Describe the purpose of a replica connection server
- Compare a replica server to a standard connection server
- Explain how multiple Horizon Connection Server instances in a pod maintain synchronization
- List several best practices for multiserver deployment in a pod
- Describe how a load-balancing capability might improve VMware Horizon performance
- Describe the benefits of the Cloud Pod Architecture feature for large-scale VMware Horizon deployments
- Establish a session with a desktop machine in a different pod by logging in to a local Horizon Connection Server instance
- Compare the purpose of the global LDAP instance and the local LDAP instance
- Describe the purpose of interpod communication and the View Interpod API (VIPA)
- Create global entitlements for accessing Horizon Desktops