

## CXD-203: Managing App and Desktop Solutions with Citrix XenApp and XenDesktop 7.6

The Managing App and Desktop Solutions with Citrix XenApp and XenDesktop 7.6 course provides students with the skills required to effectively support a Citrix application and desktop virtualization solution in a Windows Server 2012 R2 environment.

During this course, students will learn how to successfully manage, monitor, support and troubleshoot a XenDesktop 7.6 solution, which includes growing the implementation to accommodate changes in the environment (adding new applications, new users, new desktops, and new policies) and troubleshooting common issues.

### Who should enroll in this course?

This course is recommended for Operators and Administrators that need to manage an existing XenApp or XenDesktop 7.6 solution.

### Preparatory Recommendations

Before taking this course, Citrix recommends that students have:

- An understanding of server, desktop and application virtualization concepts
- Experience with Windows Server 2012 R2, specifically:
  - Active Directory
    - Domains
    - Groups and User Accounts
    - Organizational Units
    - Group Policy Objects
- Experience with Windows 7 and Windows 8.1 user interfaces
- Basic storage knowledge (manage existing storage types, add new storage)
- Basics of Citrix licensing
- Familiarity with at least one hypervisor (XenServer, Hyper-V, or vSphere)
- Basic understanding of the different types of profiles (local, roaming, mandatory)
- Completed the following courses or can demonstrate equivalent knowledge:
  - CXA-104 Citrix XenApp 7.6: Overview

### Key Skills

Upon successful completion of this course, learners are able to:

- Understand the XenApp and XenDesktop 7.6 architecture, components, and communication
- Delegate administration and manage licenses
- Manage the XenApp and XenDesktop infrastructure
- Create and manage machine catalogs and Delivery Groups
- Manage StoreFront
- Create and manage policies and end-user profiles
- Manage sessions, sites, and end users with Director
- Manage printing
- Manage Provisioning Services

### Instructional Method

This course is offered as an instructor-led course with demonstrations and the practical application of concepts through hands-on exercises in a live lab environment, as well as simulations.

## Course Length

5 days

## Certification Preparation

In addition to field experience, this course prepares candidates for the Managing XenDesktop 7 Solutions exam. By passing the Managing Citrix XenDesktop 7 Solutions exam, candidates will gain the new Citrix Certified Associate – Apps and Desktops certification. Go [here](#) to learn more about the new Citrix Certifications.

## Lab Activities

ILT and vILT courses offer lab access during the duration of the course.

## Topic Outline

Provided is the topic outline for the Managing App and Desktop Solutions with Citrix XenApp and XenDesktop 7.6 course:

### Module 1: Understanding the Architecture of a XenApp and XenDesktop Solution

- XenApp or XenDesktop
- XenApp and XenDesktop Architecture Overview
- User Layer
  - Citrix Receiver
- Access Layer
  - Citrix NetScaler
  - Citrix StoreFront
  - Discussion Question
- Control Layer
  - Delivery Controller
  - Machine Creation Services
  - Citrix Provisioning Services
  - Hypervisor
  - Virtual Delivery Agent
  - Discussion Question
- Resource Layer
  - Applications
  - Operating System Image
  - Citrix Profile Management
  - Policies
  - Personal vDisk
- Management Layer
  - Citrix Studio
  - Citrix Director
  - Discussion Question
- XenApp and XenDesktop Sites
- Ports
- New Features
- Deprecated Features
- Discussion Question
- Reinforcement Exercise: XenDesktop 7 Components

### Module 2: Managing Licenses and Delegating Administration

- Managing Licenses in Studio
  - Discussion Question
  - Types of Licenses
  - Downloading, Allocating, and Importing a License File

- To Download, Allocate, and Import a License File
  - Discussion Question
  - Adding a License Administrator
    - To Add a License Administrator
- Managing Delegated Administration
  - Administrators
  - Roles
  - Scopes
    - To Add an Administrator
    - To Create a Custom Scope Using Studio
    - To Edit a Custom Scope
    - To Create a Custom Role
    - To Edit a Custom Role
    - To Edit an Administrator's Permissions
  - Running a Delegated Administration Report
    - To Run a Delegated Administration Report
  - Discussion Question
  - Using PowerShell
  - Discussion Question
- Monitoring Configuration Logs
  - To Display Configuration Log Content
    - To Generate Configuration Log Reports
    - To Change the Configuration Log Settings
  - Discussion Question
- Troubleshooting: Managing Licenses and Delegated Administration
- Reinforcement Exercise: Configuring Roles and Scopes

### **Module 3: Managing and Monitoring the Hypervisor**

- Architecture Overview
- Creating a Virtual Machine from an ISO
  - Creating a Virtual Machine
    - To Create a Virtual Machine From an ISO
    - To Install a Windows OS onto a Virtual Machine
  - Installing XenServer Tools
    - To Install XenServer Tools on a Virtual Machine
  - Generalizing the Virtual Machine
    - To Generalize the Virtual Machine
  - Creating a Template
    - To Create a Template from a Virtual Machine
- Managing Virtual Machines within a Hypervisor
  - Creating a Virtual Machine
    - To Create a Virtual Machine Using XenCenter
  - Taking a Snapshot
    - To Take a Snapshot in XenCenter
  - Discussion Question
  - Restoring a Virtual Machine From Sysprep
    - To Restore a Virtual Machine from Sysprep
  - Copying a Virtual Machine
    - To Copy a Virtual Machine Using XenCenter
  - Discussion Question
  - Reverting to a Snapshot
    - To Revert to a Snapshot in XenCenter
  - Discussion Question
- Adjusting Virtual Machine or Template Resources
  - Adding Storage to a Virtual Machine or Template
    - To Add Storage to a Virtual Machine or Template in XenCenter
  - Adjusting the Storage Allocated to a Virtual Machine

- To Adjust the Storage Allocated to a Virtual Machine in XenCenter
  - Adjusting the Memory Allocated to a Virtual Machine or Template
    - To Adjust Virtual Machine or Template Memory Allocations in XenCenter
  - Adjusting vCPUs Allocated to a Virtual Machine or Template
    - To adjust the vCPUs allocated to a Virtual Machine or Template in XenCenter
    - To Remove a Virtual NIC in XenCenter
  - Managing a Virtual NIC
    - To Remove a Virtual NIC in XenCenter
    - To Add a Virtual NIC in XenCenter
    - To Adjust a Virtual NIC in XenCenter
    - To Activate or Deactivate a Virtual NIC in XenCenter
  - Discussion Question
- Configuring and Customizing Alerts
  - To Configure and Customize Alerts in XenCenter
  - Discussion Question
- Troubleshooting: Managing and Monitoring Hypervisors
- Reinforcement Exercise 1: Creating a Virtual Machine Template
- Reinforcement Exercise 2: Completing the Setup Process After a Sysprep

## Module 4: Managing Desktops and Applications

- Architecture Overview
- Connecting to Resources
- Managing Machine Catalogs
- To Create New Resource Settings
- Using Machine Creation Services
- Discussion Question
- Creating a Machine Catalog for Server Desktops and Hosted Applications
  - Installing the Virtual Delivery Agent
    - To Install and Configure the VDA on a Server OS
    - To Install and Configure the VDA on a Desktop OS
  - Creating a Machine Catalog for Windows Server
    - Using a Virtual IP Address
    - To Create a Server OS Machine Catalog
  - Creating a Machine Catalog for Windows Desktop
    - To Create a Desktop OS Machine Catalog
  - Discussion Question
- Managing Delivery Groups
  - To Create a Delivery Group for Application Delivery
  - Discussion Question
    - To Create a Delivery Group for Anonymous User Access
    - To Create a Delivery Group for User Desktops
  - Organizing Applications in Folders
    - To Organize Applications in Folders
  - Securing Connections
- Managing Resources
  - To Add Machines to a Machine Catalog
  - To Perform an Update to the Master Image Virtual Machine
  - To Update the Desktops in a Machine Catalog
  - Managing Active Directory Accounts
    - To Manage Active Directory Accounts
  - Managing Power for Machines in a Desktop OS Delivery Group
    - To Manage Power for Machines in a Desktop OS Delivery Group
    - To Reallocate Machines in a Delivery Group
    - To Shut Down and Restart Desktops
  - Enabling and Disabling Maintenance Mode
    - To Enable and Disable Maintenance Mode
  - Removing Desktops from Delivery Groups

- To Remove Desktops from Delivery Groups
  - Deleting a Delivery Group
    - To Delete a Delivery Group
  - Deleting Machines from a Machine Catalog
    - To Delete Machines from a Machine Catalog
    - To Delete a Machine Catalog
- Troubleshooting: Managing Desktops and Applications
- Reinforcement Exercise: Delivering Server Desktops

## Module 5: Managing StoreFront

- StoreFront Architectural Overview
  - StoreFront Components
  - StoreFront Communication
  - Discussion Question
- StoreFront Management Console
- Creating a New Store
  - To Create and Add a New Store
- Creating Anonymous User Stores
  - To Create a Store for Anonymous User Access
- Hiding a Store
  - To Hide a Store
  - Discussion Question
- Managing Authentication
  - Configuring Authentication
    - To Configure Authentication Methods
  - Discussion Question
- Enabling End Users to Change Their Passwords
  - To Enable End Users to Change Expired Passwords
- Managing Delivery Controllers
  - Adding Delivery Controllers
    - To Add Delivery Controllers
    - To Remove Delivery Controllers
  - Discussion Question
- Removing a Store
  - To Remove a Store
  - Discussion Question
- Troubleshooting: Managing StoreFront
- Reinforcement Exercise: Creating and Configuring a New Store

## Module 6: Managing Policies and Profiles

- Policy Precedence (Studio vs. Group Policy Objects)
- Creating Policies Using Studio
  - Unfiltered Policy
  - Using a Policy Template in Studio
    - To Create a Policy from a Template
    - To Create a Policy Using Studio
  - Applying a Policy Using Studio
    - To Apply a Policy
  - Editing a Policy Using Studio
    - To Edit a Policy
  - Prioritizing Policies Using Studio
    - To Prioritize a Policy
  - Discussion Questions
    - To Create a Computer Template in Studio
  - Exporting a Policy Template Using Studio
    - To Export a Policy Template

- Importing a Policy Template Using Studio
    - To Import a Policy Template
  - Running the Resultant Set of Policy (RSOP)
    - To Create the RSOP Using the Group Policy Management Console
- Creating Policies Using Group Policy
  - Creating and Applying a Group Policy Object
    - To Create a GPO
  - Editing a Group Policy Object
    - To Edit a Policy
  - Using a User Template with Group Policy
    - To Use a User Template
  - Discussion Question
  - Importing a Policy Template with Group Policy
    - To Import a Policy Template
  - Exporting a Policy Template with Group Policy
    - To Export a Policy Template
  - Prioritizing a Policy Using Group Policy
    - To Change the Priority of a Policy
  - Discussion Question
- Troubleshooting: Managing Policies
- Managing End-User Profiles
  - Configuring Folder Redirection
    - To Configure Folder Redirection
  - Managing Profile Settings Using Citrix Policies
    - To Manage Profile Settings Using Citrix Policies
  - Resolving Conflicting Profiles
    - To Resolve Conflicting Profiles
  - Streaming End-User Profiles
    - To Stream End-User Profiles
  - Discussion Question
- Troubleshooting: Profile Management
- Reinforcement Exercise 1: Working with Policies
- Reinforcement Exercise 2: Working with Profiles

## **Module 7: Managing and Monitoring Sessions, Sites, and End Users with Director**

- Director Overview
  - To Monitor an End-User Session
  - To Access Director
- Monitoring within the Director Dashboard
  - Monitoring Infrastructure
    - To Monitor the Infrastructure
  - Monitoring Connected Sessions
    - To Monitor Connected Sessions
  - Monitoring Logon Duration Averages
    - To Monitor Logon Duration Averages
  - Monitoring Machine and End-User Connection Failures
    - To Monitor End-User Connection Failures
- Monitoring and Managing End-User Sessions
  - Viewing End-User Sessions
    - To View End-User Sessions
  - Searching for an End User
    - To Search for an End User
  - Monitoring End-User Applications
    - To Monitor End-User Applications
  - Monitoring End-User Machine Processes
    - To Monitor End-User Machine Processes

- Managing an End User's Machine Power Status
  - To Manage an End User's Machine Power Status
- Enabling or Disabling Maintenance Mode
  - To Enable or Disable Maintenance Mode
- Resetting an End-User Profile
  - To Reset an End-User Profile
- Discussion Question
- Monitoring HDX Channels
  - To Monitor HDX Channels
- Sending a Message to an End User
  - To Send a Message to an End User
- Shadowing an End-User Session
  - To Shadow an End-User Session
- Disconnecting an End-User Session
  - To Disconnect an End-User Session
- Logging an End User Off
  - To Log an End User Off
- Discussion Question
- Monitoring Historical Trends
  - To Monitor Historical Trends
- Troubleshooting: Managing Sites, Sessions, and End Users with Director
- Reinforcement Exercise: Using Director

## Module 8: Managing Printing

- Print Management Process
- Default Printing Behavior
- Configuring Client Printing
  - Modifying Client Printer Auto-Creation
    - To Modify Client Printer Auto-Creation Behavior
  - Discussion Question
  - Adding Session Printers
    - To Add Session Printers
- Managing Printer Drivers
  - Automatic Installation of In-Box Printer Drivers
    - To Configure the Automatic Installation of Printer Drivers
  - Configuring Printer Driver Mapping and Compatibility
    - To Configure Printer Driver Mapping and Compatibility
  - Universal Printer Driver
  - Controlling Universal Printing Behavior
- Optimizing Printing Performance
  - To Configure Printing Optimization
- Discussion Question
- Setting Up and Managing the Universal Print Server
  - To Set Up and Manage the Universal Print Server
- Troubleshooting: Managing Printing
- Reinforcement Exercise: Managing Printing

## Module 9: Managing Provisioning Services

- Citrix Provisioning Services
- Machine Creation Services or Provisioning Services
- Provisioning Services Overview and Architecture
- Discussion Question
- Navigating the Provisioning Services Console
  - To Navigate the Provisioning Services Console
- To Create a Provisioning Services Master Virtual Machine
- To Install the Virtual Delivery Agent (VDA)

- Creating the vDisk
- To Convert the Hard Drive of the Master Target Device to a vDisk
- Setting the vDisk Mode
  - To set the vDisk Mode
- Creating the Machine Catalog
  - To Create a Diskless Target Device Template
  - To Create the Machine Catalog
- Discussion Question
- To Assign a Machine Catalog to a Delivery Group
- Discussion Question
- To Update a vDisk
- Promoting Updated Versions
  - To Promote Updated vDisk Versions
- Discussion Question
- VHD Chain of Differencing Disks
- Merging VHD Differencing Disks
  - To Merge VHD Differencing Disks
- Troubleshooting: Provisioning Services
- Reinforcement Exercise: Provisioning Services