

# 70-247: Configuring & Deploying a Private Cloud with System Center 2012

## Course Overview

This course teaches students about understanding the Private Cloud, using VMM to deploy the Cloud, working with the Private Cloud infrastructure, virtual applications, components of the Private Cloud, a First Business Unit Cloud, Private Cloud infrastructure, monitoring the Private Cloud, service management for the Cloud, Private Cloud Service Catalog, security for the Cloud, and automation in the Private Cloud.

<b><u>Course Introduction</u></b>	3m
Course Introduction	
<b><u>Module 01 - Understanding the Private Cloud</u></b>	1h 15m
Lesson 1: Understanding the Private Cloud	
Cloud Comparisons	
Comparing the Private and Public Clouds	
Benefits of the Private Cloud with Microsoft	
Using System Center 2012	
Lesson 2: Preparing to Deploy the Cloud	
Major Business Needs	
Service Identification	
Management Process Automation	
Lesson 3: Components of the Private Cloud	
Looking at the Data Center Environment	
High Availability	
Scalability	
BCP	
DRP	
Lesson 4: System Center 2012 Components	
What is VMM?	
Orchestrator	
Service Manager	
Operations Manager	
DPM	
Lesson 5: Using Hyper-V with VMM	
Cluster Requirements	
Hyper-V Cluster Creation	
Using VMM for Clusters	
Did it Deploy?	
Demo - Preparing the Private Cloud Infrastructure	
Demo - Creating a Host Group	
Demo - Creating a RunAs Account	
Demo - Creating a User Role	
Module 01 Review	

## **Module 02 - Using VMM to Deploy the Cloud**

1h 22m

Lesson 1: VMM Architecture

VMM Architecture

Private Cloud Infrastructure

VMs and the Services Tab

VMM Jobs

VMM Libraries

VMM Manager Settings

Deploying VMs in VMM

Lesson 2: Install and/or Upgrade VMM

Minimum Requirements for Installing VMM

What to Plan For

Upgrading Earlier Versions of VMM

Making the VMM Highly Available

Lesson 3: Host Groups

Understanding Host Groups

Placement Rules

Power Optimization

Dynamic Optimization

Host Reservations

Storage

Networks

Lesson 4: Understanding Security

Service Accounts

Run As Account

User Roles in VMM

Lesson 5: What's New with VMM R2

VMM R2 Networking

VMs and the Cloud

Demo - Reviewing the Hosts

Demo - Library Shares

Demo - Preparing the Cloud Infrastructure

Demo - Verifying Roles

Demo - Deploying a New Virtual Machine

Module 02 Review

## **Module 03 - Working With the Private Cloud Infrastructure**

59m

Lesson 1: PXE and Update Servers

PXE Server Architecture

Update Management in the VMM

Lesson 2: Bare Metal Hyper-V Host Servers

Installing the PXE Server for Integration

Bare Metal Deployment

The Host Profile

Adding the PXE Server Role

Adding Resource Wizard

Lesson 3: Configuring the Update Server Role

Server Updates

Using WSUS

Adding and Managing the Update Server to VMM

Lesson 4: The Update Baseline  
Preparing for the Update Baseline  
Check for Compliance  
Choosing Remediation for Non-Compliance  
Demo - Configuring a PXE Server  
Demo - Creating a Host Profile  
Demo - Creating an Update Server  
Demo - Update Baseline  
Module 03 Review

### **Module 04 - Virtual Applications**

55m

Lesson 1: Dynamic Application Deployment  
Describing Dynamic Application Deployment  
Using the Web Deployment Tool  
What is Server Application Virtualization?  
Lesson 2: Server Application Virtualization Overview  
Server App-V Basics  
Scenarios for Server App-V  
Definitions  
What is Sequencing?  
The Server App-V Package  
What's Different Between Server App-V and App-V?  
Lesson 3: Web Deployment Packages  
The Web Deployment Process  
Creating Web Deployment Packages  
Lesson 4: Configuring Server App-V Components  
Requirements  
Cmdlets  
Best Practices  
Lesson 5: Sequencing and Deploying Virtual Apps  
Creating a Server App-V Package  
Sequencer Cmdlets and the Server App-V Agent  
Testing the Package  
Protecting the Server App-V Package  
Demo - Configuring Virtual Application Delivery  
Module 04 Review

### **Module 05 - Components of the Private Cloud**

1h 11m

Lesson 1: SQL Server Profiles  
Using VMM for SQL Installation  
Preparing and Deploying the Image  
SQL Server Profile  
Service Templates to Complete Deployment  
Lesson 2: OS Profiles  
Guest OS Profiles  
General Settings for Guest OS Profiles  
Roles and Features  
Network Settings  
Scripting Guest OS Profiles  
Lesson 3: Application Profiles

Overview of Application Profiles  
Making a Profile  
Deploying the Profile  
Lesson 4: Hardware Profiles  
Hardware Profile Overview  
Compatibility and General Settings  
Network Adapter Settings  
Bus Configuration  
Advanced Settings  
Lesson 5: VM Templates  
Overview of VM Templates  
How to Create a VM Template  
Configuration  
Lesson 6: Self-Service User Role  
User Roles  
Considerations for Self-Service User Roles  
Quotas  
Creating a Self-Service User Role  
Demo - Installing SQL Server  
Demo - Creating Private Cloud Building Blocks  
Module 05 Review

**Module 06 - A First Business Unit Cloud**

33m

Lesson 1: What is Private Cloud Computing  
The Business Unit Cloud  
Resources  
Capacity  
Capabilities  
Lesson 2: Installing and Configuring App Controller  
App Controller Overview  
Installing the App Controller  
Connecting VMM to the App Controller  
Lesson 3: Creating and Managing Services and Service Templates  
Describing a Service  
Service Templates  
Working with Service Templates  
Deployment Configurations  
Service Template Settings  
Lesson 4: Changes with App Controller 2012 R2  
Changes with App Controller 2012 R2  
Demo - Deploying and Accessing the Private Cloud  
Module 06 Review

**Module 07 - Private Cloud Infrastructure**

1h 33m

Lesson 1: Operations Manager Components  
Architecture  
Minimum Requirements  
Monitoring Cloud Components  
The Agent  
Security for the Agent

Securing User Access  
Lesson 2: Upgrading  
Types of Server Upgrades  
Upgrading a Distributed Topology  
Side-by-Side Upgrade  
Lesson 3: Notifications  
Channels  
Subscribers  
Subscriptions  
Lesson 4: Management Packs  
Management Packs  
Downloading and Installing Management Packs  
Tuning  
Making Your Own Management Pack  
Lesson 5: Putting It All Together  
Putting It All Together  
Lesson 6: What's New Operations Manager 2012 R2  
Fabric Monitoring  
Microsoft Monitoring Agent  
Integrating OM with Development Processes (DevOps)  
Support for IPv6  
System Center Advisor  
Demo - Deploying Agents  
Demo - Installing Management Packs  
Demo - Installing Operations Manager  
Module 07 Review

**Module 08 - Monitoring the Private Cloud**

48m

Lesson 1: Using SharePoint  
Using Dashboard in SharePoint  
Installing and Configuring the SC OM Web Part  
Lesson 2: Templates for Monitoring  
Installing and Configuring the SC OM Web Part  
Monitoring Database Performance  
Port Availability  
Processes  
Windows Services  
Web Applications  
.NET Applications  
Lesson 3: Watching a Distributed App  
Distributed Applications  
Creating a Distributed Application  
Templates  
Demo - Creating Custom Monitoring  
Module 08 Review

**Module 09 - Service Management for the Cloud**

57m

Lesson 1: What is Service Manager  
Service Manager Components  
Prerequisites

Deployment Options  
Security  
Lesson 2: Understanding Work Items  
Change Management  
Release Management  
Incident Management  
Problem Management  
Service Requests  
Knowledge Management  
Lesson 3: Connectors  
AD Connectors  
SC CM Connectors  
SC OM Connectors  
Orchestrator Connector  
VMM Connector  
Lesson 4: Notifications  
Channels  
Subscriptions  
Templates  
Demo - Configuring Service Manager Basic Settings  
Module 09 Review

**Module 10 - Private Cloud Service Catalog**

14m

Lesson 1: Private Cloud Service Catalog  
Service Catalog  
Creating Request Offerings  
Process Pack  
Cloud Services Process Pack  
Cloud Services Process Pack Reporting  
Lesson 2: Service Level Management  
Service Level Management  
Calendar Items  
Demo - Configuring the Storage Pool  
Module 10 Review

**Module 11 - Security for the Cloud**

1h 2m

Lesson 1: Planning DPM Deployment  
Considerations for DPM Deployment  
Selecting a Backup Method  
Storage Requirements  
Security Requirements  
Software Requirements  
Hardware, Network, and Scaling Requirements  
Lesson 2: DPM Technologies  
Components  
Protection Process  
Files and Applications  
Lesson 3: Upgrading DPM  
Upgrading to DPM 2012  
In-Place Upgrade

Side-by-Side Upgrade  
Lesson 4: Configuring DPM for the Private Cloud  
Storage  
Agents for Trusted Domains  
Agents for Untrusted Domains  
Deploying Agents on the Untrusted Domains  
Using DPM Protection Agents with Certificate Authentication  
Deploying DPM Protection Agents using Certificate Authentication  
Lesson 5: Configuring Application Protection for the Private Cloud  
Protection Groups  
SQL Protection  
Protecting the Private Cloud  
Item-Level Recovery  
Cluster Shared Volume Protection  
Self-Service Recovery  
Lesson 6: Restoring Applications to the Private Cloud  
Recovering SQL Data  
Self-Service SQL Server Data Recovery  
VM Recovery  
Item-Level Recovery on Hyper-V  
Lesson 7: What's New with DPM 2012 R2  
Windows Azure Backup  
Linux Virtual Machine Backup  
Demo - Automating the Private Cloud  
Module 11 Review

**Module 12 - Automation in the Private Cloud**

40m

Lesson 1: Orchestrator Architecture  
Orchestrator Overview  
Architecture  
Integration Packs for Automation  
Orchestrator Requirements  
Lesson 2: Deployment and Configuration of Orchestrator  
Orchestrator Deployment Tasks  
Deploying Integration Packs  
Configuring Orchestrator Security  
The Console and Runbook Designer  
Lesson 3: Using Runbooks  
Working with Runbooks  
Standard Activities  
Workflow  
Parameters, Computer Groups, Global Settings  
Designing Runbooks  
Lesson 4: Using Integration Packs  
Integration with SC 2012  
Demo - Installing the Cloud Service Process Pack  
Module 12 Review  
Course Closure

**Total Duration: 11h 34m**