MOC 10750 A Monitoring and Operating a Private Cloud with System Center 2012

Course Summary

Description

This course describes how to monitor and operate a private cloud with Microsoft System Center 2012. This course focuses on how to manage and administer the private cloud, and it describes how you can monitor key infrastructure elements and applications that run within the private cloud. It does not discuss planning and implementation, which is covered in 10751A: Configuring and Deploying a Private Cloud with System Center 2012.

Objectives

At the end of this course, students will be able to:

- Describe the private cloud infrastructure.
- Configure and optimize business unit clouds.
- Deploy cloud services.
- Monitor private cloud services.
- Configure application performance monitoring.
- Operate and extend service management in the private cloud.
- Automate incident creation, remediation, and change requests.
- Implement problem management in the private cloud.
- Automate Self-Service provisioning.
- Protect the resources in the private cloud by using Data Protection Manager.
- Configure compliance in the private cloud.
- Configure SLAs, dashboards, and widgets.

Topics

- Introduction to the Private Cloud
- Configuring and Optimizing Business Unit Clouds
- Deploying Cloud Services
- Monitoring Private Cloud Services
- Configuring Application Performance Monitoring
- Operating and Extending Service Management in the Cloud
- Problem Management in the Cloud
- Automatic Incident Creation, Remediation and Change Requests
- Automating Self Service Provisioning
- Private Cloud Protection and Recovery
- Configuring Compliance in the Cloud
- Configuring SLAs, Dashboards and Widgets

Audience

This course is intended for datacenter administrators who are responsible for monitoring and protecting the private cloud infrastructure. It is also intended for solution architects who are responsible for designing private cloud architectures and extending existing private cloud solutions. The primary audience for this course is administrators who create service requests. The secondary audience includes datacenter administrators—who are responsible for providing provisioning for applications including configuring and deploying those applications—application/service business owners, and administrators who implement service requests.

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Course Summary (cont'd)

Prerequisites

This course describes how to monitor and operate a private cloud with System Center 2012. Because this is an extensive technical domain that includes several individual products and technologies, it is strongly recommended administrators have prerequisite knowledge in the following areas:

- Windows Server 2008 R2 experience
- Active Directory Domain Services (AD DS) knowledge
- Networking experience
- Working knowledge of previous versions of System Center products
- Knowledge of configuration of Microsoft SharePoint
- Hyper-V knowledge
- Knowledge of data center management processes
- Storage Area Network (SAN) Knowledge

Duration

Five days

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Course Outline

I. Introduction to the Private Cloud

This module gives students an overview of a private cloud infrastructure, including what it is, the business and technical drivers behind implementing it, and how they can use System Center 2012 to monitor and operate it. Students will understand the key concepts of a private cloud and verify key components of System Center 2012.

A. Overview of the Cloud Computing Model
B. Requirements for the Private Cloud
C. Operating a Private Cloud Infrastructure with System Center
D. Verifying the Health of the Private Cloud Infrastructure
E. Verifying the Health and Configuration of System Center
F. Verifying the Compliance of the Private Cloud Infrastructure

Lab : Verifying the Private Cloud Infrastructure

- Exercise 1: Verifying the Infrastructure
- Exercise 2: Verifying System Center Components
- Lab : Verifying the Compliance of the Private Cloud Infrastructure
- Exercise: Checking Compliance

II. Configuring and Optimizing Business Unit Clouds

In this module, students will learn how to configure a new business unit cloud within Virtual Machine Manager

A. Overview of System Center Virtual Machine Manager
B. Managing a Virtual Environment with Virtual Machine Manager
C. Creating Business Unit Clouds

Lab : Configuring and Optimizing Business Unit Clouds

- Exercise 1: Configuring Network Resources
- Exercise 2: Creating the Business Unit Cloud
- Exercise 3: Configuring Security for the Business Unit Cloud

III. Deploying Cloud Services

In this module, students will learn to deploy pre-packaged applications and create a new service template to deploy a service into the cloud.

A. Overview of Service Templates
B. VMM Machine Profiles
C. Configuring SQL Server Profiles
D. Configuring Application Profiles
E. Overview of Web Deploy Packages
F. Overview of Server App-V
G. Overview of Data Tier Application Packages

Lab : Importing and Deploying the Stock Trader Application

- Exercise 1: Configuring Prerequisites
- Exercise 2: Preparing the Stock Trader Service Template
- Exercise 3: Deploying the Service Template
- Exercise 4: Configuring the Application Profile
- Exercise 5: Configuring the SQL Server Profile
- Exercise 6: Creating a Service Template
- Exercise 7: Deploying a Service

IV. Monitoring Private Cloud Services

In this module, the students are given an overview of System Center Operations Manager. The students are also shown how Operations Manager is used to monitor the various services that underpin the private cloud. The students are then shown how to deploy agents to key service components running within the private cloud. Custom monitoring is then applied to these components which include the creation of a distributed application model to give a holistic view of the health of the private cloud infrastructure.

A. Overview of System Center Operations Manager
B. Agent Deployment in Operations Manager
C. Configuring Custom Monitoring
D. Monitoring the Network Infrastructure
E. Monitoring Distributed Applications

Lab : Monitoring Private Cloud Services

- Exercise 1: Deploying an Agent
- Exercise 2: Configuring Custom Monitoring
- Exercise 3: Creating a Distributed Application Model
- Exercise 4: Detecting and Recovering from a Failure

V. Configuring Application Performance Monitoring

This module gives students a deep insight into the Application Performance Monitoring (APM) feature of Operations Manager. A .NET application has been installed into the lab environment that will be used for this module. Students will learn to configure APM to monitor the performance and availability of this application. A break in the application is then instigated where students will see how Operations Manager detects and reports this with the Alerting and Diagnostics tools that are built into Operations Manager.

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Course Outline (cont'd)

A. Application Performance Monitoring
B. Advanced Monitoring in Application Performance Monitoring
C. Viewing Application Performance in Operations Manager

Lab : Configuring Application Performance Monitoring

- Exercise 1: Configuring Basic Monitoring in Application Performance Monitoring
- Exercise 2: Customizing the Performance Thresholds
- Exercise 3: Validating Monitoring
- Exercise 4: Updating the Distributed Application Model

VI. Operating and Extending Service Management in the Cloud

Students will learn about the core functionality of Service Manager and learn how to create and manage change requests, incidents, and release records. Students will also learn about the security model behind Service Manager so that they can customize and extend the integral functionality of the service.

A. Overview of Service Manager
B. Configuring Security and User Roles
C. Configuring Work Items
D. Configuring Incident Queues
E. Configuring Service Offerings

Lab : Operating and Extending Service Management in the Cloud

- Exercise 1: Configuring Security Roles
- Exercise 2: Configuring Notifications
- Exercise 3: Publishing an Incident Service Offering
- Exercise 4: Raising an Incident
- Exercise 5: Creating an Approving a Change Request
- Exercise 6: Creating an Assigning a Release Record

VII. Problem Management in the Cloud

Students will learn what problem management is and how they can use it within a service management framework. Additionally, students will understand its implementation as a manual feature of Service Manager. Finally, students will learn how to create a custom event monitor in Operations Manager and then use it to identify and route incidents and problems to Service Manager.

A. Overview of Problem Management
B. Creating Custom Rules

Lab : Automating Problem Management in the Cloud

- Exercise 1: Manually Creating a Problem Record
- Exercise 2: Creating a Custom Event Rule in Operations Manager
- Exercise 3: Configuring Automated Problem Record Creation

VIII. Automatic Incident Creation, Remediation and Change Requests

In this module, students will learn about Orchestrator and how it integrates with Operations Manager and Service Manager

A. Overview of System Center Orchestrator 2012
B. Integrating Orchestrator with Operations Manager and Service Manager

Lab : Automatic Incident Creation, Remediation, and Change Requests

- Exercise 1: Configuring SCOM and Service Manager Integration
- Exercise 2: Configuring the Service Affecting Incident
- Exercise 3: Automating Incident Remediation
- Exercise 4: Automating a Change Request

IX. Automating Self Service Provisioning

In this modules, students learn about automating self service provisioning using the System Center Cloud Service Process Pack, including the configuration items that are created and the request items that are contained in the System Center Cloud Service Process Pack.

A. Installing and Configuring the System Center Cloud Services Process Pack
B. Cloud Services Configuration Items
C. Cloud Services Request Items

Lab : Automating Self Service Provisioning

- Exercise 1: Configuring System Center Cloud Services Process Pack
- Exercise 2: Configuring Service Roles and Settings
- Exercise 3: Creating a Cloud Service Offering
- Exercise 4: Requesting and Updating Projects
- Exercise 5: Requesting and Updating a Cloud Service Capacity Pool
- Exercise 6: Decommissioning Capacity and Projects
- Exercise 7: Requesting and Updating a Cloud Service Virtual Machine

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X. Private Cloud Protection and Recovery

In this module students will learn how to protect the resources in the private cloud by using Data Protection Manager. They will also learn how to implement a recovery action by using Orchestrator to recover a database.

A. Protecting Data in the Private Cloud
B. Recovering Data in the Private Cloud

Lab : Private Cloud Protection and Recover

- Exercise 1: Configuring Protection of Key Service Data
- Exercise 2: Configuring the Automatic Protection and Recovery of the Server
- Exercise 3: Monitoring Protection and Recovery Status

XI. Configuring Compliance in the Cloud

In this module students will learn how to implement IT Governance, Risk Management, and Compliance (GRC) in a private cloud environment using System Center 2012. They will learn how to implement Software Update Compliance in Virtual Machine Manager to verify whether key private cloud infrastructure is correctly updated with the latest software updates and how they can implement the IT GRC Management Pack in Service Manager to check for compliance across key Service Components and remediate non-compliant items.

A. Implementing IT Governance, Risk Management, and Compliance (GRC)
B. Implementing Software Update Compliance

Lab : Configuring Compliance in the Cloud

- Exercise 1: Implementing Compliance
- Exercise 2: Creating Security Baselines

XII. Configuring SLAs, Dashboards and Widgets

In this module, students will be able to describe and use various methods for surfacing service and performance-related data from Operations Manager and Service Manager to SharePoint and Microsoft Excel.

A. Understanding Service Level Tracking in Operations Manager
B. Configuring and Deploying Widgets and Dashboards in Operations Manager
C. Publishing Real-Time State with Microsoft Visio
D. PerformancePoint Overview
E. Configuring Service Manager Analytics
F. Viewing Data with Excel

Lab : Configuring SLAs, Dashboards, and Widgets

- Exercise 1: Configuring Service Level Tracking and Widgets
- Exercise 2: Configuring Service Level Management
- Exercise 3: Configuring Analytics
- Exercise 4: Configuring Excel Analytics
- Exercise 5: Configuring PerformancePoint Analytics
- Exercise 6: Configuring Real-Time Visual Displays

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