

Using NetApp Cloud Manager in Microsoft Azure (UNCMMAZ)

Modality: Virtual Classroom

Duration: 3 Days

NATU: 38 Units

About this Course:

In this course, you learn how to implement a hybrid cloud solution using your data fabric powered by NetApp®. The public cloud that will be used is Microsoft Azure. You learn how to connect Microsoft Azure virtual cloud environment and on-premises data centers. You get hands-on experience with Cloud Manager and NetApp Cloud Volumes ONTAP deployment. You get experience using Cloud Manager to move and manage the storage in the cloud. You learn how to tier data to object storage in Azure. You take a closer look at some cloud data services that are integrated into Cloud Manager. You also learn how to use Cloud Volumes ONTAP as persistent storage for Kubernetes containers.

Course Objectives:

This course focuses on enabling you to do the following:

- Describe the data fabric.
- Explain the functionality of cloud data services.
- Configure a Microsoft Azure Virtual Network (VNet) and connect it to an on-premises data center using a VPN Internet Protocol Security
- Describe Cloud Volumes ONTAP architecture.
- Install Cloud Manager and deploy Cloud Volumes ONTAP.
- Learn some basic administrative tasks using Cloud Manager.
- Replicate data between a NetApp ONTAP system in on-premises and Cloud Volumes ONTAP in Microsoft Azure for disaster recovery.
- Use data tiering to Microsoft Azure Blob storage for Cloud Volumes ONTAP.
- Learn about some cloud data services like NetApp Cloud Compliance service and NetApp Cloud Backup Service that are integrated into Cloud Manager.
- Learn how to use Cloud Volumes ONTAP as persistent storage for Kubernetes containers.
- Explain the performance and sizing options for Cloud Volumes ONTAP.

Audience:

- NetApp employees, partners and customers

Prerequisites:

- Basic networking knowledge
- Cloud Volumes ONTAP fundamentals
- General understanding of Microsoft Azure architecture

Course Outline:

Module 1: Data Fabric Overview

- Data Fabric
- Solutions for the Hybrid Cloud
- NetApp Public Cloud Products
- Cloud Storage
- Cloud Data Services
- Cloud Controls
- Cloud Analytics

Module 2: Networking and other concepts

- Azure Networking and Other Concepts

Module 3: Connectivity from the Public Cloud to Other Networks

- Microsoft Azure VNET Connectivity to an On-Premises Network

Module 4: NetApp Cloud Manager

Module 5: NetApp Cloud Volumes ONTAP

- NetApp Cloud Volumes ONTAP
- NetApp Cloud Volumes ONTAP Architecture
- NetApp Cloud Volumes ONTAP Supported Features

Module 6: NetApp Cloud Volumes ONTAP- High-Availability Architecture

- Highly Available NetApp Cloud Volumes ONTAP in Azure

Module 7: Administration of NetApp Cloud Volumes ONTAP and NetApp Cloud Manager

- Administering Cloud Volumes ONTAP
- Administering NetApp Cloud Manager

Module 8: Implementing Disaster Recovery with NetApp Cloud Volumes ONTAP

Module 9: Data Tiering for NetApp Cloud Volumes ONTAP

Module 10: Using NetApp Cloud Manager to Provision Persistent Storage for Kubernetes Clusters

Module 11: Using Integrated Services from NetApp Cloud Manager

- Using NetApp Cloud Compliance Service from NetApp Cloud Manager
- Using NetApp Cloud Backup Service from NetApp Cloud Manager

Module 12: Sizing NetApp Cloud Volumes ONTAP

- An Introduction to Sizing
- Capacity Sizing
- Performance Sizing
- Single Node versus High Availability
- Key Differences between NetApp Cloud Volumes ONTAP and On-Premises ONTAP software
- Performance Tuning
- Frequently Seen Sizing Mistakes

Labs:

- Ensure connectivity to an ONTAP cluster
- Ensure that required licenses are installed on the ONTAP clusters
- Ensure pfSense is running.
- Verify you can log into your assigned AWS and Azure accounts, set password for these accounts.
- Use Azure CLI commands to control AWS resources (az instead of AzureRM)
- Configure the Azure PowerShell to access your Azure account
- Install NetApp PowerShell and execute NetApp PowerShell commands
- Configure Azure environment for Customer Data Center Connectivity using terraform scripts.
- Use UI to explore all the networking elements created by the PowerShell scripts.
- Establish VPN between Azure VNET and on-premises (using Console)
- Deploy Cloud Manager from the Market place in Azure. Register it with Cloud Central
- Deploy Cloud Volumes ONTAP (single node) using API (in an existing RG). Configure with NFS and SMB volume. Connect NAS Clients
- Deploy Cloud ONTAP HA (Azure) using PowerShell scripts in a pre-created RG.
- Fail over from one node to its partner.
- Verify Data Access
- Use Cloud Manager
- Use Cloud Manager to Discover On Premises ONTAP Clusters