NETAPP LEARNING SERVICES

Integrating Hybrid Clouds with Microsoft Azure

Delivery: ILT and VILT | Duration: 2 days | Training Units: 24

Course Description

In this course, you learn to implement a hybrid cloud solution with Microsoft Azure by using NetApp® Cloud Volumes ONTAP®. You connect an Azure Virtual Network (VNet) and an on-premises data center to unify your infrastructure. You use NetApp BlueXP™ (formerly Cloud Manager) to move data and manage storage in the hybrid cloud. You learn how NetApp cloud services are integrated into BlueXP to provide persistent storage for Kubernetes containers and enhance data protection, security, and compliance. You also learn to optimize the capacity and performance of Cloud Volumes ONTAP.

Audience

NetApp employees, partner, and customer storage administrators of any experience level

Job Role

Administrators, operators, architects, and implementation engineers

Prerequisites

- *Integrating Hybrid Clouds Foundation (STRSW-ILT-IHCF)*
- **Cloud computing concepts:** Cloud characteristics, service delivery methods, and cloud deployment models
- **Networking concepts and definitions:** Classless Inter-Domain Routing (CIDR) and network address translation (NAT)
- **Azure concepts:** Subscriptions, VNet, virtual machines (VMs), Azure storage accounts, and Azure Blob storage

Objectives

This course focuses on enabling you to do the following:

- Configure a VNet and connect it to an on-premises data center with VPN Internet Protocol security (IPsec)
- Describe Cloud Volumes ONTAP architecture
- Install a connector and deploy Cloud Volumes ONTAP
- Explain basic system administration tasks with BlueXP
- Copy data between an ONTAP based system and Cloud Volumes ONTAP for Azure for disaster recovery
- Use data tiering to Azure Blob storage for Cloud Volumes ONTAP
- Use Cloud Volumes ONTAP as persistent storage for Kubernetes containers
- Identify performance and sizing options for Cloud Volumes ONTAP

Course Content

This course includes the following modules, lessons, and exercises:

Module 1: Public cloud essential concepts	Lesson 1: Azure networking and other concepts Lesson 2: Terraform introduction	Exercise 1: Controlling cloud resources with CLI Exercise 2: Controlling cloud resources with PowerShell Exercise 3: Controlling NetApp ONTAP (on-premises) resources with NetApp PowerShell Toolkit Exercise 4: Configuring resources in Azure by using Terraform Exercise 5: Reviewing resources by using Azure Portal Exercise 6: Verifying connectivity to the VMs in front-end and back-end subnets
Module 2: Connectivity from the public cloud to other networks	Lesson 1: Microsoft Azure VNet connectivity to an on-premises network	Exercise 1: Connecting Azure VNet to an on-premises network Exercise 2: Configuring on-premises DNS for Azure VMs Exercise 3: (Optional) Joining an Azure VM to Active Directory in the on-premises environment
Module 3: Deploying a connector	Lesson 1: Review a connector	Exercise 1: Deploying a connector
Module 4: NetApp Cloud Volumes ONTAP	Lesson 1: NetApp Cloud Volumes ONTAP architecture review Lesson 2: Deploying Cloud Volumes ONTAP Lesson 3: Highly available NetApp Cloud Volumes ONTAP in Azure	Exercise 1: Deploying a single-node Cloud Volumes ONTAP instance Exercise 2: Creating an NFS volume and accessing it from an NFS client Exercise 3: Creating an SMB volume and accessing it from an SMB client Exercise 4: Deploying a Cloud Volumes ONTAP high-availability pair
Module 5: Administration of NetApp Cloud Volumes ONTAP	Lesson 1: Administering Cloud Volumes ONTAP	Exercise 1: Using BlueXP for basic administration of Cloud Volumes ONTAP Exercise 2: Doing basic administration of BlueXP

Module 6: **Data protection**	Lesson 1: Data protection Lesson 2: Administering Cloud Volumes ONTAP	Exercise 1: Configuring and managing ransomware protection Exercise2: Configuring and Managing Disaster Recovery in the Data Fabric
Module 7: **Tiering**	Lesson 1: **Tiering in Azure**	Exercise 1: Tiering backup data to Azure Blob storage

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