NetApp - Integrating Hybrid Clouds with Amazon Web Services

Code:	IHCNADF
Length:	3 days
URL:	View Online

Skills Gained

- This course focuses on enabling you to do the following:
- Describe how NetApp technologies can be used to build your data fabric
- Configure an AWS VPC and connect it to an on-premises data center with VPN Internet Protocol security (IPsec)
- Describe Cloud Volumes ONTAP architecture
- Install Cloud Manager Connector and deploy Cloud Volumes ONTAP
- Explain basic system administration tasks with Cloud Manager
- Copy data between NetApp ONTAP system and NetApp Cloud Volumes ONTAP for AWS for disaster recovery
- Use data tiering to Amazon S3 for Cloud Volumes ONTAP
- Use Cloud Volumes ONTAP as persistent storage for Kubernetes containers
- Identify performance and sizing options for Cloud Volumes ONTAP

Who Can Benefit

- Administrators, Operators, Architects, Implementation Engineers

Prerequisites

- For a successful learner experience, we recommend that you have knowledge of the following concepts before you attend the course.
- Cloud computing concepts:
- Cloud characteristics, Service delivery methods, Cloud deployment models
- Networking concepts and definitions:
- Classless Inter-Domain Routing (CIDR)/Network address translation (NAT)
- AWS concepts:
- AWS VPC, subnets, Internet Gateway, NAT Gateway, route tables, security groups, Amazon EC2, and Amazon Simple Storage Service (Amazon S3)

- ONTAP Cluster Administration and Data Protection Bundle (CDOTDP9)

Course Details

Follow On Courses

- OnCommand Insight: Business Insights (OCIBI)
- OnCommand Insight: Intelligent Operation (OCIIO)

Integrating Hybrid Clouds with Amazon Web Services

Module 1: Data Fabric Overview

- Module 1: Data Fabric Overview
- Data fabric
- Solutions for the hybrid cloud
- NetApp Public Cloud Products
- Cloud Storage
- Cloud Services and Analytics
- Cloud Controls
- Module 2: Public Cloud Essential Concepts
- AWS Networking and Other Concepts
- AWS Cloud Formation
- Module 3: Connectivity from the Public Cloud to Other Networks
- Amazon Web Services Virtual Public Cloud Connectivity to an On-Premises Network
- Module 4: NetApp Cloud Manager
- NetApp Cloud Manager Overview
- Module 5: NetApp Cloud Volumes ONTAP: Single-Node Architecture
- Cloud Volumes ONTAP
- Cloud Volumes ONTAP Use Cases
- Cloud Volumes ONTAP Architecture
- Deploying Cloud Volumes ONTAP
- Cloud Volumes ONTAP Supported Features
- Module 6: NetApp Cloud Volumes ONTAP: High-Availability Architecture
- Highly Available Cloud Volumes ONTAP in AWS
- Module 7: Administration of NetApp Cloud Volumes ONTAP and NetApp Cloud Manager
- Administering Cloud Volumes ONTAP
- Administering Cloud Manager
- Module 8: Implementing Disaster Recovery with NetApp Cloud Volumes ONTAP
- Disaster Recovery with NetApp Cloud Volumes ONTAP Overview
- Module 9: Data Tiering for NetApp Cloud Volumes ONTAP
- Data Tiering for NetApp Cloud Volumes ONTAP Overview
- Module 10: Using NetApp Cloud Manager to Provision Persistent Storage for Kubernetes Clusters
- Using NetApp Cloud Manager to Provision persistent Storage for Kubernetes Clusters Overview

- Module 11: Using Integrated Services from NetApp Cloud Manager
- Using Cloud Backup Service from Cloud Manager
- Using Cloud Sync from Cloud Manager
- Using Cloud Compliance from Cloud Manager
- Using Cloud Tiering Service from 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 Cloud Volumes ONTAP and On-Premises ONTAP software
- Performance Tuning
- Frequently Seen Sizing Mistakes
- Labs:
- Controlling cloud resources with CLI
- Controlling cloud resources with Powershell Toolkit
- Controlling NetApp ONTAP (On-Premises) Resources with NetApp Powershell Toolkit
- Configuring Resources in AWS with AWS CloudFormation
- Reviewing Resources in the AWS Console
- Verifying Connectivity to the EC2 instances in Public and Private Subnets
- Connecting AWS VPC to Your On-Premises Network
- Configuring your On-Premises DNS and Domain Controller for your Amazon EC2 Instances
- Deploying a connector
- Deploying a Single-Node Cloud Volumes ONTAP Instance
- Accessing the SMB Share from an SMB Client
- Creating an NFS Volume and Accessing It from an NFS Client
- Deploying a Cloud Volumes ONTAP High-Availability Pair
- Connecting an SMB Client from Within the Same VPC
- Performing Failover and Failback of the High-Availability Pair of Nodes
- (Optional) Connecting an SMB Client from Outside the VPC Using a Transit Gateway
- Using Cloud Manager for Basic Administration of Cloud Volumes ONTAP
- Doing Basic Administration of Cloud Manager
- Configuring and Managing Disaster Recovery in the Data Fabric
- Tiering Backup Data to Amazon Simple Storage Service
- Exploring the TCO Calculator and Sizer Tools

Module 2: Networking for the Hybrid Cloud

- NPS networking architecture
- Best practices to implement networking
- Switch configurations for Layer 3 environment

Module3: AWS Virtual Private Cloud and Connectivity

- AWS regions and availability zones
- VPC
- Security groups
- AWS storage
- VPN connectivity options

Module 4: Azure Virtual Network and Connectivity

- Azure geographies and regions
- VNet
- Azure storage types
- AWS features vs Azure features

Module 5: Design and Implement Data Fabric Solution

- Oncommand Cloud Manager
- ONTAP Cloud Software
- Use cases and references
- Data Fabric solution for cloud backup
- Cloud agility
- ONTAP Select software
- Advantages
- vNAS for VMware vSAN
- ONTAP Select deployment
- NetApp Hybrid Cloud Labs
- Managing the Data Fabric
- OnCommand Management portfolio
- Addendum: Operationalize NPS
- How to operationalize NPS for cloud
- Data layout
- Latency

Module 6: NetApp Cloud Sync Service

- Overview
- Benefits

Module 7: Data Fabric Solution for Cloud Backup

- Overview
- Architecture
- Features
- StorageGRID Webscale software

- Deployment options
- SnapCenter Software

Labs:

- Minilabs for AWS and Azure
- Prepare jump host for PowerShell and CLI
- Configure AWS VPC resources
- Operationalize on-premises to cloud connectivity
- Configure Azure VNet to on-premises VPN connectivity
- Use Cloud Manager to deploy ONTAP Cloud
- Manage the Data Fabric workflow
- Configure AltaVault
- Test AltaVault cloud agility
- Reinforce skills with Cloud Sync service

Schedule (as of 4)

Date	Location

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