# Integrating Hybrid Clouds with Amazon Web Services

| Module | Lessons | Exercises |
|---|---|---|
| **Module 1:**<br>**Data Fabric Overview** | Lesson 1: Data Fabric<br><br>Lesson 2: Solutions for the Hybrid Cloud<br><br>Lesson 3: NetApp Public Cloud Products<br><br>Lesson 4: Cloud Storage<br><br>Lesson 5: Cloud Services and Analytics<br><br>Lesson 6: Cloud Controls | Exercise 1: Controlling Cloud Resources with CLI<br><br>Exercise 2: Controlling Cloud Resources with PowerShell Toolkit<br><br>Exercise 3: Controlling NetApp ONTAP (On-Premises) Resources with NetApp PowerShell Toolkit |
| **Module 2:**<br>**Public Cloud Essential Concepts** | Lesson 1: AWS Networking and Other Concepts<br><br>Lesson 2: AWS CloudFormation | Exercise 1: Configuring Resources in AWS with AWS CloudFormation<br><br>Exercise 2: Reviewing Resources in the AWS Console<br><br>Exercise 3: Verifying Connectivity to the EC2 Instances in Public and Private Subnets |
| **Module 3:**<br>**Connectivity from the Public Cloud to Other Networks** | Lesson 1: Amazon Web Services Virtual Public Cloud Connectivity to an On-Premises Network | Exercise 1: Connecting AWS VPC to Your On-Premises Network<br><br>Exercise 2: Configuring Your On-Premises DNS and Domain Controller for Your Amazon EC2 Instances |
| **Module 4:**<br>**NetApp Cloud Manager** | Lesson 1: NetApp Cloud Manager Overview | Exercise 1: Deploying a Connector |
| **Module 5:**<br>**NetApp Cloud Volumes ONTAP: Single-Node Architecture** | Lesson 1: Cloud Volumes ONTAP<br><br>Lesson 2: Cloud Volumes ONTAP Use Cases<br><br>Lesson 3: Cloud Volumes ONTAP Architecture<br><br>Lesson 4: Deploying Cloud Volumes ONTAP<br><br>Lesson 5: Cloud Volumes ONTAP Supported Features | Exercise 1: Deploying a Single-Node Cloud Volumes ONTAP Instance<br><br>Exercise 2: Accessing the SMB Share from an SMB Client<br><br>Exercise 3: Creating an NFS Volume and Accessing It from an NFS Client |
| **Module 6:**<br>**NetApp Cloud Volumes ONTAP: High-Availability Architecture** | Lesson 1: Highly Available Cloud Volumes ONTAP in AWS | Exercise 1: Deploying a Cloud Volumes ONTAP High-Availability Pair<br><br>Exercise 2: Connecting an SMB Client from Within the Same VPC<br><br>Exercise 3: Performing Failover and Failback of the High-Availability Pair of Nodes<br><br>Exercise 4: (Optional) Connecting an SMB Client from Outside the VPC Using a Transit Gateway |

| | | |
|---|---|---|
| **Module 7: Administration of NetApp Cloud Volumes ONTAP and NetApp Cloud Manager** | Lesson 1: Administering Cloud Volumes ONTAP<br><br>Lesson 2: Administering Cloud Manager | Exercise 1: Using Cloud Manager for Basic Administration of Cloud Volumes ONTAP<br><br>Exercise 2: Doing Basic Administration of Cloud Manager |
| **Module 8: Implementing Disaster Recovery with NetApp Cloud Volumes ONTAP** | Lesson 1: Disaster Recovery with NetApp Cloud Volumes ONTAP Overview | Exercise 1: Configuring and Managing Disaster Recovery in the Data Fabric |
| **Module 9: Data Tiering for NetApp Cloud Volumes ONTAP** | Lesson 1: Data Tiering for NetApp Cloud Volumes ONTAP Overview | Exercise 1: Tiering Backup Data to Amazon Simple Storage Service |
| **Module 10: Using NetApp Cloud Manager to Provision Persistent Storage for Kubernetes Clusters** | Lesson 1: Using NetApp Cloud Manager to Provision Persistent Storage for Kubernetes Clusters Overview | Demonstration videos provided |
| **Module 11: Using Integrated Services from NetApp Cloud Manager** | Lesson 1: Using Cloud Backup Service from Cloud Manager<br><br>Lesson 2: Using Cloud Sync from Cloud Manager<br><br>Lesson 3: Using Cloud Compliance from Cloud Manager<br><br>Lesson 4: Using Cloud Tiering Service from Cloud Manager | Demonstration videos provided |
| **Module 12: Sizing NetApp Cloud Volumes ONTAP** | Lesson 1: An Introduction to Sizing<br><br>Lesson 2: Capacity Sizing<br><br>Lesson 3: Performance Sizing<br><br>Lesson 4: Single Node versus High Availability<br><br>Lesson 5: Key Differences between Cloud Volumes ONTAP and On-Premises ONTAP Software<br><br>Lesson 6: Performance Tuning<br><br>Lesson 7: Frequently Seen Sizing Mistakes | Exercise 1: Exploring the TCO Calculator and Sizer Tools |