Enterprise Computing Solutions - Education Services

TRAINING OFFERING

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Cluster Administration and Data Protection

CODE:	LENGTH:	PRICE:
NEP_OT-CLU-DPA	40 Hours (5 days)	€4,750.00

Description

This 5 day course comprises the ONTAP Cluster Administration followed by the 2 day ONTAP Data Protection Administration courses.

The first 3 days teaches the basic administration tasks of a NetApp® ONTAP® 9.12 cluster. You use the clustershell and NetApp ONTAP System Manager to manage cluster storage and network resources. The course explains the configuration of basic data protection and data efficiency functions and common cluster maintenance tasks .

Students spend the final 2 days learning about key concepts and techniques for protecting data on NetApp® ONTAP based storage systems. You learn about the data protection solutions that are integrated in ONTAP software. You also learn about tools to manage ONTAP data protection features.

In the hands-on exercises, you use NetApp ONTAP System Manager and the ONTAP CLI to perform key data protection tasks. This course is updated for ONTAP 9.12.1 software.

Objectives

• Define ONTAP cluster components
• Describe the role of a storage VM (storage virtual machine, also known as SVM) in the NetApp storage architecture
• Configure an ONTAP cluster
• Configure and manage storage resources
• Configure and manage networking resources
• Create and configure a storage VM
• Create, manage, and protect NetApp FlexVol® volumes
• Implement storage efficiency features
• Manage ONTAP administrator access and user accounts
• Maintain NetApp storage systems
• Describe and distinguish the data protection features in ONTAP software
• Administer the appropriate ONTAP data protection feature to address your data protection concern
• Configure NetApp SnapMirror® relationships for disaster recovery and data backup
• Demonstrate SVM DR
• Illustrate NDMP-enabled operations to back up NAS data to tape
• Integrate the cloud-based data protection solutions that complement your ONTAP based storage systems
• Structure NetApp MetroCluster™ components and functionality
• Illustrate NetApp SnapMirror Business Continuity components and functionality

Audience

NetApp Administrators, Architects and Operators

Prerequisites

Completion of the following web based training modules accessed free of charge via the NetApp Learning Centre

- ONTAP Cluster Fundamentals
- ONTAP NAS Fundamentals
- ONTAP SAN Fundamentals

Please contact us for further support as required.. **Contact Us**

Programme

• ONTAP deployment options
• The ONTAP cluster
• Storage VMs
3 day Cluster Administration **Module 1: NetApp ONTAP 9 Clusters** • Software-defined storage **Module 2: Cluster Setup**
Module 3: Cluster Management
• Supported ONTAP cluster configurations
• Setting up a cluster
• Administration interfaces **Exercises** Exploring ONTAP management UIs • Policies and schedules
• Access control
• ONTAP licensing
• NetApp ONTAP network review
• Network ports
• Network traffic segregation
• LIFs
Managing ONTAP clusters
• Nondisruptive LIF configuration
Managing ONTAP administrators
• Network security
Exercises Configuring multi-admin verification **Module 4:Network management** • Routing management **Exercises**
Managing physical and logical network resources
Managing virtual network resources **Module 5:Physical Storage Management**
• Drives, RAID, and aggregates Managing physical storage
• Advanced Disk Partitioning Exploring RAID-TEC
• Flash Cache and Flash Pool features Creating a Flash Pool aggregate
• FabricPool aggregates **Exercises** Creating a FabricPool aggregate **Module 6: Logical Storage Management**
• Managing physical storage
• Exploring RAID-TEC
• Creating a Flash Pool aggregate Managing data volumes
• Creating a FabricPool aggregate **Exercises** Creating a FlexGroup volume **Module 7: Data Access**
Configuring the NFS protocol in a storage VM
Configuring the SMB protocol in a storage VM
Configuring iSCSI in a storage VM
• Use NAS protocols to access data Configuring NVMe in a storage VM
• Use SAN protocols to access data Configuring the S3 protocol in a storage VM
• Use object protocols to access data **Exercises** Managing NAS storage VMs **Module 8: Data Protection**
• Manage Snapshot copies
• Restore data from a Snapshot copy
• Back up and replicate data
• Compliance Managing Snapshot copies
• Storage encryption Encrypting a volume
• Ransomware protection **Exercises** Enabling anti-ransomware protection **Module 9: Storage Efficiency**
• Thin provisioning
• Deduplication and compression
• Flash efficiency
• Logical space reporting Managing storage efficiency
• Volume and file clones **Exercises** Managing FlexClone volumes **Module 10: Cluster Maintenance**
• Data collection, monitoring, and automation tools
• Backing up and restoring your cluster configuration
• Upgrading your cluster
• Recommended practices for performance
• Technical support **Exercises** Installing and configuring Active IQ Config Advisor
• Data protection introduction
• ONTAP data protection solutions
2 day Data Protection **Module 0: Welcome and Getting Started** • ONTAP management solutions **Exercises**
• SnapMirror overview
• Configuring SnapMirror relationships
• Guidelines for intercluster networking
Checking the exercise equipment **Module 1: SnapMirror Fundamentals** • Cluster and storage VM peering **Exercises**
Configuring cluster peering and storage VM peering **Module 2: SnapMirror for Disaster Recovery and Backup**
• SnapMirror for FlexVol volumes
• SnapMirror configuration considerations
• SnapMirror for disaster recovery
• SnapMirror for backup
• Interaction between SnapMirror and other ONTAP features
• S3 SnapMirror
• FabricPool **Exercises**

• Using SnapMirror to mirror FlexVol volumes
• Performing SnapMirror disaster recovery
• Configuring SnapMirror for unified replication
• Restoring data from a Snapshot copy
• Configuring cluster and storage VM peering for a cascade relationship (optional)
• Configuring a cascade relationship(optional)

• SnapMirror Synchronous
• Configuring SnapMirror Synchronous for disaster recovery

Module 3: SnapMirror Synchronous for Disaster Recovery • Additional SnapMirror Synchronous configuration

Exercises Configuring a SnapMirror Synchronous relationship **Module 4: Storage VM Disaster Recovery (SVM DR)**

• SVM DR introduction
• SVM DR requirements and configuration
• SVM data mobility **Exercises** Configuring storage VM data recovery

• NDMP fundamentals
• NDMP topologies

Module 5: ONTAP Backup and Archive Solutions • NDMP management **Module 6: Cloud-based Data Protection**

• SnapMirror Cloud
• Cloud Volumes ONTAP
• Data protection with NetApp BlueXP **Module 7: ONTAP Business Continuity Solutions**
• MetroCluster fundamentals
• MetroCluster operations
• Consistency group management
• SnapMirror Business Continuity introduction
• SnapMirror Business Continuity configuration
• Failover operations and failure scenarios

Test and Certification

This course supports part of the following NetApp certifications:

- NetApp Certified Storage Installation Engineer (NCSIE)
- NetApp Certified Data Administrator (NCDA)

Session Dates

Date	Location	Time Zone	Language	Type	Guaranteed	PRICE
19 Aug 2024	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
23 Sep 2024	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
07 Oct 2024	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
11 Nov 2024	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00
16 Dec 2024	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00
13 Jan 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00
17 Feb 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00
17 Mar 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00
07 Apr 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
19 May 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
16 Jun 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
14 Jul 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
18 Aug 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
15 Sep 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
13 Oct 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		€4,750.00
10 Nov 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00
15 Dec 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		€4,750.00

Additional Information

This training is also available as onsite training. Please contact us to find out more.