



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 class is a combination of the 3 day Cluster Administration Class and the 2 day Data Protection Class.

Cluster Administration

Learn the basic administration tasks of a NetApp® ONTAP® 9.14 cluster. Use the clustershell and NetApp ONTAP System Manager to manage cluster storage and network resources. Discover how to configure basic data protection and data efficiency functions and common cluster maintenance tasks.

Data Protection

Explore key concepts and techniques for protecting data on NetApp® ONTAP® based storage systems. Learn about the data protection solutions that are integrated in ONTAP software and examine the tools to manage ONTAP data protection features. In the hands-on exercises, use NetApp ONTAP System Manager and the ONTAP CLI to perform key data protection tasks.

This course is updated for ONTAP 9.14.1 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 both networking and storage 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
- Manage 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 storage VM disaster recovery (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 SnapMirror active sync components and functionality

Audience

- Administrators
- Architects
- Operators

Prerequisites

ONTAP Cluster Fundamentals, NAS and SAN Fundamentals elearning is required. This is available free of charge via the NetApp Learning Center - please contact us via the link below if further support is required..

[Contact Us](#)

Programme

- ONTAP deployment options
- The ONTAP cluster
- Storage VMs

Module 1: NetApp ONTAP 9 Clusters • Software-defined storage **Module 2: Cluster Setup**

Supported ONTAP cluster configurations

Setting up a cluster

Administration interfaces

ONTAP licences

Policies and Schedules

Deploying an ONTAP cluster

Exploring ONTAP management UIs

Exercises Configuring ONTAP Clusters

- Drives, RAID, and aggregates
- Advanced Disk Partitioning
- Flash Cache and Flash Pool features
- FabricPool aggregates
- Flexible volumes
- Moving storage resources
- FlexGroup volumes

Module 3: Physical Storage Management

Managing physical storage

Exercises Exploring RAID-TEC

Module 4: Logical Storage Management

Managing data volumes

Exercises Creating a FlexGroup volume

- Thin provisioning
- Deduplication and compression
- Flash efficiency

Managing storage efficiency

Module 5: Storage Efficiency

• Volume and file clones

Exercises Managing FlexClone volumes

- ONTAP network review
- Network ports
- Network traffic segregation
- Logical network interfaces
- Nondisruptive LIF configuration
- Network security

Managing physical and logical network resources

Module 6: Network Management

• Routing management

Exercises Managing virtual network resources

- Use NAS protocols to access data
- Use the NFS protocol to access data
- Use the SMB protocol to access data

Monitoring with ONTAP File System Analytics

Configuring the NFS protocol in a storage VM

Configuring the SMB protocol in a storage VM

Module 7: NAS Data Access

• Use the S3 protocol to access data

Exercises Configuring the S3 protocol in a storage VM

- Use SAN protocols to access data
- Use the iSCSI protocol to access data
- Use the FC protocol to access data

Configuring iSCSI in a storage VM

Module 8: SAN Data Access

• Use the NVMe protocol to access data

Exercises Configuring NVMe in a storage VM

- Manage Snapshot copies
- Restore data from a Snapshot copy
- Back up and replicate data

Module 9: Data Protection

• Compliance

Exercises Managing Snapshot copies

- Access control
- Storage encryption

Module 10: ONTAP Security

• Ransomware protection

Exercises Managing ONTAP Administrators

- Data collection, monitoring, and automation tools
- Upgrading your cluster

Module 11: Cluster maintenance

• Technical support

Exercises

- Introduction to SnapMirror
- Configuring SnapMirror relationships
- Guidelines for intercluster networking

Installing and configuring Active IQ Config Advisor

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
- Consistency group management

Module 7: ONTAP Business Continuity Solutions

- Introduction to SnapMirror active sync
- SnapMirror active sync configuration
- Failover operations and failure scenarios
- MetroCluster fundamentals

Session Dates

| Date | Location | Time Zone | Language | Type | Guaranteed | PRICE |
|-------------|-------------------------------|-----------|----------|-----------------------|------------|-----------|
| 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.