



Enterprise Computing Solutions - Education Services

## TRAINING OFFERING

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**Du kan nå oss her**

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# Cluster Administration & Data Protection

CODE:	LENGTH:	PRICE:
NEP_OT-CLU-DPA	40 Hours (5 days)	kr48,250.00

## 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**

**Exercises** Managing FlexClone volumes

- Volume and file clones
- 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**

**Exercises** Managing virtual network resources

- Routing management
- 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**

**Exercises** Configuring the S3 protocol in a storage VM

- Use the S3 protocol to access data
- 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**

**Exercises** Configuring NVMe in a storage VM

- Use the NVMe protocol to access data
- Manage Snapshot copies
- Restore data from a Snapshot copy
- Back up and replicate data

**Module 9: Data Protection**

**Exercises** Managing Snapshot copies

- Compliance
- Access control
- Storage encryption

**Module 10: ONTAP Security**

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

**Module 11: Cluster maintenance**

**Exercises**

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

Installing and configuring Active IQ Config Advisor **Module 1: SnapMirror Fundamentals**

**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
11 Nov 2024	Virtual Classroom (CET / UTC +1)	CET	English	Instructor Led Online		kr48,250.00
16 Dec 2024	Virtual Classroom (CET / UTC +1)	CET	English	Instructor Led Online		kr48,250.00
13 Jan 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		kr48,250.00
17 Feb 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		kr48,250.00
17 Mar 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		kr48,250.00
07 Apr 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
19 May 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
16 Jun 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
14 Jul 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
18 Aug 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
15 Sep 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
13 Oct 2025	Virtual Classroom (GMT / UTC)	BST	English	Instructor Led Online		kr48,250.00
10 Nov 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		kr48,250.00
15 Dec 2025	Virtual Classroom (GMT / UTC)	GMT	English	Instructor Led Online		kr48,250.00

**Tilleggsinformasjon**

Denne treningen er også tilgjengelig som trening på stedet. [Kontakt oss for å finne ut mer.](#)