



Enterprise Computing Solutions - Education Services

TRAINING OFFERING

Du kan nå oss her

Postboks 6562 ETTERSTAD, 0606 Oslo, Norge

Email: kurs.ecs.no@arrow.com

Phone: +47 22 02 81 00



Cluster Administration & Data Protection

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

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

			<ul style="list-style-type: none">• 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	
<ul style="list-style-type: none">• Supported ONTAP cluster configurations• Setting up a cluster• Administration interfaces		Exercises Exploring ONTAP management UIs	<ul style="list-style-type: none">• Access control• ONTAP licensing• Policies and schedules• NetApp ONTAP network review• Network ports• Network traffic segregation• LIFs• Nondisruptive LIF configuration• Network security	
	Managing ONTAP clusters			
	Managing ONTAP administrators			
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		
<ul style="list-style-type: none">• Drives, RAID, and aggregates• Advanced Disk Partitioning• Flash Cache and Flash Pool features• FabricPool aggregates• Managing physical storage• Exploring RAID-TEC• Creating a Flash Pool aggregate• Creating a FabricPool aggregate		Managing physical storage		
		Exploring RAID-TEC		
		Creating a Flash Pool aggregate		
	Exercises Creating a FabricPool aggregate		Module 6: Logical Storage Management	
		Managing data volumes		
	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		
		Configuring NVMe in a storage VM		
<ul style="list-style-type: none">• Use NAS protocols to access data• Use SAN protocols to access data• Use object protocols to access data		Configuring the S3 protocol in a storage VM		
	Exercises Managing NAS storage VMs		Module 8: Data Protection	
<ul style="list-style-type: none">• Manage Snapshot copies• Restore data from a Snapshot copy• Back up and replicate data• Compliance• Storage encryption• Ransomware protection• Thin provisioning• Deduplication and compression• Flash efficiency• Logical space reporting• Volume and file clones• Data collection, monitoring, and automation tools• Backing up and restoring your cluster configuration• Upgrading your cluster• Recommended practices for performance• Technical support		Managing Snapshot copies		
		Encrypting a volume		
	Exercises Enabling anti-ransomware protection		Module 9: Storage Efficiency	
		Managing storage efficiency		
	Exercises Managing FlexClone volumes		Module 10: Cluster Maintenance	
		Exercises Installing and configuring Active IQ Config Advisor		
		<ul style="list-style-type: none">• Data protection introduction• ONTAP data protection solutions		
2 day Data Protection	Module 0: Welcome and Getting Started	• ONTAP management solutions	Exercises	
			<ul style="list-style-type: none">• 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			
<ul style="list-style-type: none">• 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

- 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
- MetroCluster fundamentals
- MetroCluster operations
- Consistency group management
- SnapMirror Business Continuity introduction
- SnapMirror Business Continuity configuration
- Failover operations and failure scenarios

Module 7: ONTAP Business Continuity Solutions

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
22 Jul 2024	Virtual Classroom (CET / UTC +1)	CEDT	English	Instructor Led Online		kr48,250.00
19 Aug 2024	Virtual Classroom (CET / UTC +1)	CEDT	English	Instructor Led Online		kr48,250.00
23 Sep 2024	Virtual Classroom (CET / UTC +1)	CEDT	English	Instructor Led Online		kr48,250.00
07 Oct 2024	Virtual Classroom (CET / UTC +1)	CEDT	English	Instructor Led Online		kr48,250.00
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

Tilleggsinformasjon

Denne treningen er også tilgjengelig som trening på stedet. Kontakt oss for å finne ut mer.