



ONTAP Cluster Administration and Data Protection Bundle (CDOTDP9)

ID CDOTDP9 Price 4,490.— €(excl. tax) Duration 5 days

Course Overview

This 5 day course comprises the [ONTAP Cluster Administration \(ONTAP9ADM\)](#) followed by the 2 day [ONTAP Data Protection Administration \(DATAPROT9\)](#) courses.

The first 3 days uses lecture and hands-on exercises to teach the basic administration tasks of an ONTAP 9.16 cluster. You use the cluster shell and OnCommand System Manager to manage storage and network resources. ONTAP Cluster Administration is an intermediate course in a comprehensive learning path for NetApp customers, partners and employees.

Students spend the final 2 days Exploring key concepts and techniques for protecting data on NetApp® ONTAP® based storage systems. Learning about the data protection solutions that are integrated in ONTAP software and examining 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 9.16.1 software.

Who should attend

- Network Engineers
- Channel Partners
- System Engineers
- NetApp Customers

Prerequisites

Completion of the following web based training modules:

- ONTAP Cluster Fundamentals (web-based training [WBT])
- ONTAP NAS Fundamentals (WBT)
- ONTAP SAN Fundamentals (WBT)
- ONTAP Data Protection Fundamentals (WBT)

Course 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 NetApp ONTAP software
- Administer the correct 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

Detailed Course Outline

ONTAP9ADM:

Module 1: NetApp ONTAP 9 Clusters

- ONTAP deployment options
- The ONTAP cluster
- Storage VMs
- Software-defined storage

Module 2: Cluster Setup



- Supported ONTAP cluster configurations
- Setting up a Cluster
- Administration Interfaces
- ONTAP licenses
- Policies and schedules

Module 3: Physical storage management

- Drives, RAID, and aggregates
- Advanced Disk Partitioning
- Flash Cache and Flash Pool features
- FabricPool aggregates

Module 4: Logical storage management

- Flexible volumes
- Moving storage resources
- FlexGroup volumes
- FlexCache volumes

Module 5: Storage efficiency

- Thin provisioning
- Deduplication and compression
- Flash efficiency
- Volume and file clones

Module 6: Network management

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

Module 7: NAS Data Access

- Use NAS protocols to access data
- Use the NFS protocol to access data
- Use the SMB protocol to access data
- Use the S3 protocol to access data

Module 8: SAN data access

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

Module 9: Data protection

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

Module 10: ONTAP security

- Access control
- Storage encryption
- Ransomware protection

Module 11: Cluster maintenance

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

ONTAP9ADM Labs:

- [list]
- Deploying an ONTAP cluster
- Exploring ONTAP management UIs
- Managing physical storage
- Exploring RAID-TEC
- Managing data volumes
- Creating a FlexGroup volume
- Managing storage efficiency
- Managing FlexClone volumes
- Managing physical and logical network resources
- Managing virtual network resources
- Monitoring with ONTAP File System Analytics
- Configuring the NFS protocol in a storage VM
- Configuring the SMB protocol in a storage VM
- Configuring the S3 protocol in a storage VM
- Configuring iSCSI in a storage VM
- Configuring NVMe in a storage VM
- Managing Snapshot copies
- Managing ONTAP administrators
- Installing and configuring Active IQ Config Advisor

ONTAP Data Protection

Module 1: SnapMirror Fundamentals

- SnapMirror overview
- Configuring SnapMirror relationships
- Guidelines for Intercluster networking
- Cluster 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

- Configuring SVM DR

Module 3: SnapMirror Synchronous for disaster recovery

- SnapMirror Synchronous
- Configuring SnapMirror Synchronous for disaster recovery
- Additional SnapMirror Synchronous configuration

Module 4: Storage VM Disaster Recovery (SVM DR)

- SVM DR introduction
- SVM DR requirements and configuration
- SVM data mobility

Module 5: ONTAP backup and archive solutions

- NDMP fundamentals
- NDMP topologies
- NDMP management

Module 6: Cloud-based data protection

- SnapMirror cloud
- Cloud Volumes ONTAP
- Data protection with NetApp BlueXP

Module 7: ONTAP business continuity solutions

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

ONTAP Data Protection Labs:

- Configuring cluster peering and Storage VM peering
- Using SnapMirror software 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
- Configuring a cascade relationship
- Configuring a SnapMirror synchronous relationship

About Fast Lane



Fast Lane is a global, award-winning specialist in technology and business training as well as consulting services for digital transformation. As the only global partner of the three cloud hyperscalers- Microsoft, AWS and Google- and partner of 30 other leading IT vendors, Fast Lane offers qualification solutions and professional services that can be scaled as needed. More than 4,000 experienced Fast Lane professionals train and advise customers in organizations of all sizes in 90 countries worldwide in the areas of cloud, artificial intelligence, cyber security, software development, wireless and mobility, modern workplace, as well as management and leadership skills, IT and project management.

Fast Lane Services

- ✓ High End Technology Training
- ✓ Business & Soft Skill Training
- ✓ Consulting Services
- ✓ Managed Training Services
- ✓ Digital Learning Solutions
- ✓ Content Development
- ✓ Remote Labs
- ✓ Talent Programs
- ✓ Event Management Services

Training Methods

- ✓ Classroom Training
- ✓ Instructor-Led Online Training
- ✓ FLEX Classroom – Classroom & Online Hybrid
- ✓ Onsite & Customized Training
- ✓ E-Learning
- ✓ Blended & Hybrid Learning
- ✓ Mobile Learning

Technologies & Solutions

- ✓ Digital Transformation
- ✓ Artificial Intelligence
- ✓ Cloud
- ✓ Networking
- ✓ Cyber Security
- ✓ Wireless & Mobility
- ✓ Modern Workplace
- ✓ Data Center



Worldwide Presence
with high-end training centers
around the globe



Multiple Awards
from vendors such as AWS,
Microsoft, Cisco, Google, NetApp,
VMware



Experienced SMEs
with over 19.000 combined
certifications

Germany

Fast Lane Institute for Knowledge
Transfer GmbH

Tel. +49 40 25334610

info@flane.de / www.flane.de

Austria

ITLS GmbH

(Partner of Fast Lane)

Tel. +43 1 6000 8800

info@itls.at / www.itls.at

Switzerland

Fast Lane Institute for Knowledge
Transfer (Switzerland) AG

Tel. +41 44 8325080

info@flane.ch / www.flane.ch