

Basic NetApp Configuration and Administration (BNCA)

Who should attend

NetApp customers, IT generalists, and academic alliance students

Prerequisites

A basic knowledge of storage networking

Course Objectives

- List the steps to create and configure a cluster
- Identify the methods to manage a cluster
- Describe IPspaces, broadcast domains, and subnets
- Describe SVM benefits, components, and features
- Describe FlexVol volumes and efficiency features
- Describe methods to access files in a cluster

Course Content

This two-day course provides a technical overview of the features and benefits of NetApp ONTAP 9 data-management software. The course enables you to explain the architecture and functionality of an ONTAP cluster. You will also be introduced to basic administration, configuration and management of an ONTAP cluster. Through hands-

on exercises, you will learn how to create a cluster, aggregates, storage virtual machines (SVMs), LIFs, FlexVol volumes and Snapshot copies.

Detailed Course Outline

Module 1: ONTAP Cluster Fundamentals: Clusters

- Cluster components
- ONTAP 9 software
 - Cluster
 - Nodes
 - High-Availability pairs
 - Networks
 - Ports and logical interfaces
- ONTAP storage architecture
 - Physical Storage
 - Aggregates
 - Logical storage
 - SVM with FlexVol volumes
- Cluster configurations
- ONTAP 9 software deployments
 - All Flash FAS and FAS
 - FlexPod solution
 - FlexArray virtualization
 - ONTAP Select
 - NetApp Prostate Storage (NPS)
 - ONTAP Cloud
- Supported cluster configuration
 - Single node
 - 2-node switchless
 - Multimode switched
 - MetroCluster
- Create a cluster

Module 2: ONTAP Cluster Fundamentals: Management

- Administrators
 - Cluster administrators
 - SVM administrators
- Accessing the cluster
 - Command line interface (CLI)
 - OnCommand System Manager
- Managing clusters
- Clustershell
- System manager dashboard
- OnCommand Management portfolio
- Configuring clusters
- Managing cluster access
 - User accounts
 - Access method
 - User role
- Predefined SVM roles
- Monitoring clusters
 - AutoSupport
 - OnCommand portfolio

Module 3: ONTAP Cluster Fundamentals: Networking

- Management and data networks
- Ports and logical interfaces
 - Physical ports
 - Interface groups
 - VLANs
 - Network ports
- IPspaces
 - Components
 - Broadcast domains
 - Subnets
- Network interfaces
 - Data LIFs

Module 4: ONTAP Cluster Fundamentals: Storage Virtual Machines

- Data SVM
 - Benefits

- Considerations
- SVM with FlexVol volumes
- FlexGroup volume
- Root volume
- Administration
- FlexVol volumes
- Snapshot technology
- Volume efficiency
 - Deduplication
 - Data compression
 - Inline data compaction
- Moving volumes
- Cloning volumes
- SVM setup workflow
- Editing an SVM
- Configuring SVMs

Module 5: ONTAP NAS Fundamentals

- NAS
 - Overview
 - FlexVol volume
 - Controlling file access
- SVM namespace
 - Root volume and junctions
 - Namespace architecture
 - Namespace protection
- NFS protocol
 - Overview
 - Configure NFS file access
 - UNIX file permissions
- SMB protocol
 - Overview
 - Configure SMB file access

Module 6: ONTAP SAN Fundamentals

- SAN
 - Overview
 - Protocols: FC, iSCSI FCoE
- SCSI concepts
- LUN
- IP SAN nodes and ports
- Implementing a SAN
 - Steps

- Interoperability matrix tool
- Host utilities
- IP SAN
 - Architecture
 - Configurations
- IP SAN target configuration
- IP SAN initiator configuration
- LUN access steps
 - Preparation
 - Thick provisioning
 - Thin provisioning
 - Configuration decision
 - Create a LUN
 - Initiator group
 - Map a LUN
 - Verification
- Window multipath driver overview

Labs:

- Navigating the NetApp OnCommand System Manager
- Updating NetApp Oncommand System Manager administration settings
- Synchronize the system time for Windows domain
- Assign an NTP server to the cluster
- Networking ports
- IPspaces
- Network interfaces
- Components and features
- FlexVol volumes
- Volume move
- Creating and managing SVMs
- Explore ONTAP NAS configuration
- Explore SMB client configuration
- Explore the NFS client configuration
- Explore ONTAP IP SAN configuration
- Explore the iSCSI client configuration