

# BNCA Basic NetApp Configuration and Administration

## Overview

The Basic NetApp Configuration and Administration course will get you started providing basic support and administrative tasks on NetApp(r) storage systems running the Data ONTAP(r) 8.0.1 7-Mode operating system. In this course you will learn how to perform basic administration tasks such as creating aggregates, volumes, qtrees, LUNS and managing administrative access

This course includes interactive labs where the students will perform skills taught in the course. By the end of this course you will be getting started on how to apply administrative tasks on NetApp(r) storage systems running the Data ONTAP(r) 8.0.1 7- Mode operating system

## Audience

This course is intended for those who provide basic configuration and administrative functions of the Data ONTAP operating system

## Skills Gained

### By the end of this course you should be able to

- Explain the basic features and functions of DATA ONTAP 8.0.1 7-Mode
- Access the My Support knowledge base to obtain hardware and software documentation
- Identify basic NetApp hardware components including storage system, shelves
- Getting started on the use of My AutoSupport features and other customer self support tools
- Describe how the WAFL file system processes read and write requests
- Connect to a NetApp storage system through the NetApp System Manager
- Getting started with Network administration on Data ONTAP
- Getting started on applying system administration tasks to manage and protect data
- Apply message logging and NetApp support features to maintain a NetApp storage system

## Prerequisites

Important Course Information Important Course Information Requirements: Requirements:

- Storage Fundamentals WBT
- Introduction to NetApp Products WBT

## Module 1 Getting Started with Data ONTAP

- List basic storage concepts such as aggregates, RAID groups, volumes, qtrees, and LUNs
- Describe Data ONTAP features such as Snapshot copies, unified storage, and storage efficiency
- Describe the similarities and differences between the 7-Mode and clustered Data ONTAP operating systems
- Use the CLI and GUI for administrative purposes

## Module 2 Hardware Basics

- Describe the NetApp storage system hardware platforms and the types of disks that they support
- Describe the hardware components of NetApp storage controllers

- Use OnCommand System Manager or the CLI to identify hardware components in Data ONTAP operating in 7-Mode and the clustered Data ONTAP operating system

### **Module 3 Creating and Managing Aggregates**

- Describe aggregates and RAID groups
- Create aggregates in Data ONTAP operating in 7-Mode
- Create aggregates in the clustered Data ONTAP operating system
- Manage aggregates

### **Module 4 Managing NAS Client Access**

- Configure NAS client access in Data ONTAP operating in 7-Mode
- Configure data storage virtual machines (SVMs\*) for NAS client access in clustered Data ONTAP
- Create FlexVol volumes and qtrees

### **Module 5 Managing SAN Client Connections**

- Describe SAN protocol implementation in Data ONTAP operating in 7-Mode and the clustered Data ONTAP operating system
- Use OnCommand System Manager to create iSCSI-attached LUNs
- Use NetApp SnapDrive for Windows to create and format iSCSI-attached LUNs
- Access and manage a LUN from a Windows host

### **Module 6 Managing Volumes**

- Explain the relationship between space guarantees, volumes, and aggregates
- Define thin provisioning and explain how it is used
- Define deduplication and describe the benefits that it provides
- Use OnCommand System Manager to set quotas

### **Module 7 Managing Snapshot Copies**

- Define the function of Snapshot copies
- Create and delete a Snapshot copy
- Create Snapshot policies in the clustered Data ONTAP operating system
- Restore a volume from a Snapshot copy
- Create FlexClone volume clones that are backed by Snapshot copies

### **Module 8 Steps to Certification**

- Recall the steps to NetApp Certification
- Lab Exercise
  - Lab 1-1 Enter Commands in the Data ONTAP CLI
  - Lab 1-2 Add a 7-Mode storage system to System Manager
  - Lab 1-3 Add a cluster to System Manager
  - Lab 1-4 Configure the SNMP public community name for clustered Data ONTAP
  - Lab 2-1 Use System Manager to investigate hardware components
  - Lab 2-2 Use CLI commands to investigate hardware components
  - Lab 3-1 Create an aggregate on a 7-Mode storage system
  - Lab 3-2 Creating an aggregate in clustered Data ONTAP
  - Lab 4-1 Configure the prerequisites for client access
  - Lab 4-2 Configure CIFS setup for a 7-Mode storage system
  - Lab 4-3 Enable the NFS protocol
  - Lab 4-4 Configure multiprotocol access on a 7-Mode storage system

- Lab 4-5 Create a volume in Data ONTAP operating in 7-Mode
- Lab 4-6 Create qtrees on a 7-Mode storage system
- Lab 4-7 Create shares for CIFS clients on a 7-Mode storage system
- Lab 4-8 Export volumes and qtrees in Data ONTAP operating in 7-Mode
- Lab 4-9 Client-side task – map a drive to a 7-Mode from a Windows client
- Lab 4-10 Client-side task – mount volumes on a storage system from a Linux client
- Lab 4-11 Create a Vserver
- Lab 4-12 Configure data LIFs and CIFS setup
- Lab 4-13 Set up the Vserver management LIF
- Lab 4-14 Add host records in DNS for the SVM
- Lab 4-15 Enable the NFS protocol for a Data ONTAP cluster
- Lab 4-16 Set up name mapping for multiprotocol access
- Lab 4-17 Create volumes on the Vserver
- Lab 4-18 Create qtrees
- Lab 4-19 Mount volumes and qtrees into the Vserver namespace
- Lab 4-20 Create CIFS shares
- Lab 4-21 Change volume security styles
- Lab 4-22 Manage export policies
- Lab 4-23 Client-side task – map a drive to a share from a Windows client
- Lab 4-24 Client-side task – mount from a Linux client
- Lab 5-1 Enable iSCSI in Data ONTAP operating in 7-Mode
- Lab 5-2 Create volumes and qtrees that is suitable as containers for LUNs
- Lab 5-3 Configure SnapDrive Transport Protocol Settings
- Lab 5-4 Use the SnapDrive Management tool to establish iSCSI sessions
- Lab 5-5 Use SnapDrive to create a LUN on a Data ONTAP storage system
- Lab 5-6 Add the iSCSI protocol to be allowed on the SVM
- Lab 5-7 Create an iSCSI data LIF
- Lab 5-8 Start the iSCSI service on the Vserver
- Lab 5-9 Create volumes and qtrees that are suitable as containers for LUNs
- Lab 5-10 Configure SnapDrive for Windows Transport protocol settings
- Lab 5-11 Establish an iSCSI session with the SnapDrive iSCSI management tool
- Lab 5-12 Use SnapDrive to create a LUN on a clustered Data ONTAP SVM
- Lab 6-1 Enable storage efficiency for a FlexVol volume in 7-Mode Data ONTAP
- Lab 6-2 Run a deduplication operation in 7-Mode Data ONTAP
- Lab 6-3 Configure storage efficiency policies in clustered Data ONTAP
- Lab 6-4 Enable storage efficiency on Flexvol volumes in clustered Data ONTAP
- Lab 6-5 Run a deduplication operation in clustered Data ONTAP manually
- Lab 6-6 Assign multiple aggregates to a Vserver
- Lab 6-7 Move FlexVol volumes
- Lab 7-1 Create Snapshot copies of a volume on the Data ONTAP storage system CLI
- Lab 7-2 Create Snapshot copies of a volume on the clustered Data ONTAP CLI
- Lab 7-3 Create Snapshot copies using OnCommand System Manager
- Lab 7-4 Schedule Snapshot copies in 7-Mode and clustered Data ONTAP
- Lab 7-5 Restore a volume from a Snapshot copy in 7-Mode Data ONTAP
- Lab 7-6 Restore a volume from a Snapshot copy in clustered Data ONTAP
- Lab 7-7 Create a FlexClone volume clone on a 7-Mode storage system
- Lab 7-8 Create a FlexClone volume clone on a clustered Data ONTAP SVM

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