

Accelerated NCDA Boot Camp Data ONTAP 7-Mode (ANCDABC87)

Module 1 NCDA Overview

- Identify the skills and knowledge that NetApp Certified Data Management Administrator (NCDA) certification verifies
- Describe the benefits of certification
- Explain the key concepts of Data ONTAP operating in 7-mode

Module 2 NFS Overview

- Define NFS
- Differentiate between NFS protocol versions
- Recognize the differences between stateless and stateful protocols
- Describe how the storage system acts as an NFS file server
- List the requirements of NFS

Module 3 NFS Setup

- Configure NFS on a NetApp® storage system
- Configure a storage system to perform IP to host-name resolution
- Add Network Information Server (NIS) to manage users, groups, and name-to-IP resolution
- Configure a storage system to centrally manage users and groups
- Configure PC-NFS and WebNFS environments to extend the reach of NFS

Module 4 Exports and Mounts

- Identify exportable resources
- Export and unexport resources to clients, subnets, and netgroups
- Manage exports with the exportfs command
- Create mount points and mount exported resources on a client
- Monitor the usage of exported resources
- Explain how to monitor exports with access cache

Module 5 CIFS Overview

- Describe basic CIFS terminology and CIFS versions
- Describe the role of the Data ONTAP storage system within Windows environments:
 - Microsoft® Windows® workgroup
 - Non-Windows workgroup
 - Windows domains
- Describe host name resolution
- Describe user authentication and authorization

Module 6 CIFS Workgroups

- License CIFS on a storage system
- Join a storage system to a Microsoft® Windows® workgroup environment using the CIFS setup command
- Review the results of CIFS setup

- Manage newly created configuration files for a CIFS workgroup environment

Module 7 CIFS Shares and Sessions

- Display the list of shared resources available on the storage system
- Configure a client machine to access a storage system share
- Identify users and hosts that are connected to the storage system in CIFS sessions
- Add, modify, and delete shares

Module 8 CIFS Access Control

- Create and manage local users for a storage system
- Create and manage local users for a storage system
- Create local group and local users for that group
- Use the CLI (command-line interface), NetApp® System Manager, and Microsoft® tools to add, delete, and modify access permissions for shares
- Use Microsoft tools to add, delete, and modify access permissions for files and folders

Module 9 CIFS Domains

- Terminate the CIFS service to prepare for CIFS domain configuration
- Reconfigure the CIFS service for a Windows® domain
- Identify the resulting files
- Create domain users and add the domain users to a local storage system group
- Configure preferred domain controllers (DCs)

Module 10 NAS Multiprotocol

- Describe security styles and how they affect file permissions
- Determine and verify user mappings for CIFS users that access UNIX® volumes and qtrees and mixed volumes and qtrees
- Determine and verify user mappings for UNIX users that are access New Technology File System (NTFS) volumes and qtrees and mixed volumes and qtrees
- Describe the WAFL (Write Anywhere File Layout) Credential Cache

Module 11 NAS Troubleshooting

- Locate options and configuration files that might be misconfigured on the storage system
- Test for Domain Name System (DNS) resolution on both the storage system and the client
- Use client-side tools to test the client configuration
- Use storage system and client tools to isolate network system blockages
- Recognize typical error messages and list the commands to identify their sources

Module 12 SAN Overview

- Describe the differences between network-attached storage (NAS) and storage area network (SAN)
- List the protocols to implement a SAN environment
- Define a LUN, initiator, and target
- Describe ports, worldwide node names (WWNNs), and worldwide port names (WWPNs)
- Implement a SAN

Module 13 iSCSI Connectivity

- Describe multiple-path implementation with iSCSI connectivity
- Configure network ports on Windows® and NetApp® systems
- Identify the node name (WWNN) on Windows and NetApp systems

- Configure and verify multiple-path iSCSI connectivity between Windows and NetApp systems

Module 14 FC Connectivity

- Implement multiple paths with Fibre Channel (FC) connectivity
- Configure FC ports on Windows® and Data ONTAP systems
- Describe the commands and utilities to identify worldwide node names (WWNNs) and worldwide port names (WWPNs) on Windows® and Data ONTAP systems

Module 15 LUN Access

- Describe the steps that are required to enable a Windows® Server initiator to access a LUN on a storage system

Module 16 Availability Features

- Describe the features that you can use to ensure system availability
- Explain RAID-DP functionality
- Define SyncMirror
- Define the high-availability controller configuration
- Describe a stretch MetroCluster environment
- List the basic steps to implement a stretch MetroCluster
- Describe a fabric-attached MetroCluster environment
- List the basic steps to implement a fabric-attached MetroCluster

Module 17 Managing Snapshot Copies

- Describe the functions and benefits of Snapshot and SnapRestore technologies
- Use the storage system CLI and NetApp System Manager interfaces to manage Snapshot copies
- Manage and reclaim space used by Snapshot copies
- Use Snapshot copies to restore lost data

Module 18 SnapMirror Technology

- Explain the SnapMirror Async, Sync, and Semi-Sync modes of operation
- Describe how volume SnapMirror and qtree SnapMirror software replicate data
- Configure SnapMirror software
- Perform advanced SnapMirror operations
- Explain SnapMirror performance impact

Module 19 Managing SnapVault Technology

- Describe SnapVault® components and benefits
- Configure SnapVault software on primary and secondary systems
- Administer a SnapVault backup on primary and secondary systems
- Describe the application-consistent backup operations
- Restore data from secondary system to primary system

Module 20 Open Systems SnapVault

- Describe how Open Systems SnapVault® integrates with Data ONTAP® SnapVault
- Describe Open Systems SnapVault advanced features
- Configure and administer Open Systems SnapVault
- Perform Open Systems SnapVault backup and restore operations
- Troubleshoot and resolve Open Systems SnapVault transfer failures

Module 21 Storage Efficiency

- Utilize FlexClone technology to create efficient copies of volumes, files, and LUNs
- Use deduplication and compression to manage data growth

Module 22 Performance and Data Collections Tools

- Use Data ONTAP operating system commands and tools to capture performance data
- Describe Data ONTAP tools that can affect performance
- Use the reallocate command to maintain performance
- Use recommended techniques to optimize Data ONTAP configuration for SAN and NAS