NETAPP UNIVERSITY

Fast Path Onboarding Part 1

Offered by Customer Success Services, Learning and Performance

COURSE DESCRIPTION
This self-paced course provides an introduction to NetApp® core technologies. Through demonstrations and simulations students will apply basic theory and knowledge of NetApp products to configure NetApp environments and will learn how to troubleshoot and resolve typical customer issues. This course is divided into multiple chapters, each covering a different technology area. Each chapter has multiple modules.

DELIVERY TYPE
Web-based training (WBT)

DURATION
24 hours

AUDIENCE
NetApp Customer Success Services support engineers or NetApp Field Service Engineers who provide installation, configuration or support services for NetApp customers.

TRAINING UNITS
None

PREREQUISITES
- Introduction to NetApp Products
- Basic knowledge of TCP/IP networking
- Background in either UNIX® or Windows® system administration

OBJECTIVES
By the end of this course you should be able to discuss, configure, monitor, use and troubleshoot issues in the NetApp core functionalities:
- Data ONTAP® 7G, WAFL® and Snapshot™ technology
- Aggregates, Volumes and Qtrees
- Storage Controller and Storage Subsystem
- Networking, Name Services, NFS, CIFS, and Multiprotocol

Chapter 1: Troubleshoot Basic Data ONTAP Issues
- Describe the Data ONTAP architecture and the role each component plays
- Use Data ONTAP management interfaces to access the controller
- Run Setup to configure the storage system and troubleshoot setup issues
- Use Data ONTAP commands, options, and configuration files to configure the controller
- Secure the storage system using SSH and SSL
- Prepare an upgrade plan and upgrade Data ONTAP

Chapter 2: Troubleshoot Basic WAFL Issues
- Discuss WAFL and Snapshot technology in a NetApp environment:
  - Diagram the WAFL file system structure, identify key WAFL activities and define a consistency point
  - Define NetApp Snapshot technology and how it works
- Manage snapshots and troubleshoot snapshot issues:
  - Use snapshot schedules
  - Manage existing snapshots and recover data from snapshots
  - Analyze snap space usage
  - Troubleshoot snapshot scheduling issues and apply corrective action

Chapter 3: Troubleshoot Basic Aggregate and Volume Issues
- Discuss NetApp aggregates and FlexVol® flexible volumes
- Manage aggregates and troubleshoot aggregate space issues
- Manage volumes and Qtrees
- Discuss and implement NetApp controller space management solutions
  - Discuss NetApp space management and configure space management policies
  - Identify volume sizing and space utilization issues
- Manage FlexClone® volumes and troubleshoot FlexClone issues
- Use deduplicated flexible volumes and troubleshoot deduplication issues
Chapter 4: Troubleshoot Basic Storage Controller Issues
- Identify major components for the FAS2000, FAS3000 and FAS6000 series systems
- Identify which components are FRUs and which are also hot swappable
- Identify problems using LEDs, commands and log files
- Generate and upload cores
- Describe the normal and netboot boot processes
- Use BMC, RLM/RSA and Service Processor to perform system management and troubleshooting

Chapter 5: Troubleshoot Basic Storage Subsystem Issues
- Describe the storage system architecture including NetApp RAID4 and RAID-DP
- Identify and describe the different disk types and models and how RAID groups work with mixed disk types and speeds
- Identify best practices around disk management
- Identify and troubleshoot failed, broken, and bypassed disks and troubleshoot reconstruction errors
- Describe Maintenance Center
- Describe FCAL and SAS theory and architecture
- Discuss FCAL- and SAS-based implementations including shelf types, interoperability, MPHA, and hot shelf additions
- Troubleshoot FCAL and SAS storage issues
- Identify storage best practices

Chapter 6: Troubleshoot Networking Issues
- Describe networking in a NetApp storage environment:
  - Discuss ethernet and IP networking in a NetApp environment
  - Define how IP addressing, subnet masking, and IP gateways are used in IP networking
- Configure, monitor, and manage storage controller network interfaces
- Build storage controller virtual interfaces
- Manage routes in a NetApp storage environment
- Troubleshoot network issues in a NetApp storage environment:
  - Create a methodology for troubleshooting controller and client network issues
  - Troubleshoot network issues

Chapter 7: Troubleshoot Name Service Issues
- Discuss the NetApp name services implementation:
  - Define name services and discuss the name services that are supported on the NetApp storage controller
  - Define what a netgroup is and identify what its purpose is in a NetApp storage environment
- Configure, manage, and troubleshoot DNS name services
- Configure, manage, and troubleshoot NIS name services and local netgroups
- Configure and manage LDAP name services

Chapter 8: Troubleshoot NFS Issues
- Discuss NFS in a NetApp storage environment
- Configure NFS on the storage controller
- Create exports on the storage controller
- Create mounts to storage controller NFS exports
- Manage exports and the access cache
- Troubleshoot NFS storage controller and client issues

Chapter 9: Troubleshoot CIFS Issues
- Discuss CIFS in a NetApp environment
- Setup and configure CIFS in a NetApp environment
- Monitor and manage the CIFS configuration
- Create and manage CIFS shares
- Work with CLI & GUI tools to manage CIFS resources
- Setup and manage local users and groups
- Setup and use the storage system auditing feature
- Troubleshoot CIFS issues

Chapter 10: Troubleshoot Multiprotocol Issues
- Discuss the NetApp multiprotocol access solutions
- Configure user mapping in a multiprotocol environment
- Configure and manage multiprotocol access
- Use Data ONTAP commands and tools for managing multiprotocol mappings
- Understand special considerations for root and administrators in a multiprotocol environment
- Troubleshoot multiprotocol access issues:
  - Define a methodology for troubleshooting multiprotocol issues
  - Troubleshoot multiprotocol issues

PRICING AND CANCELLATION POLICY
For pricing and cancellation information, see the NetApp University LearningCenter.

NOTE: If you are registering for this course with an Authorized Learning Partner, review the partner’s pricing and cancellation policy.