

## Data ONTAP SAN Implementation

Course Code: SANIMP

Duration: 3 days

Instructor-led Training (ILT) | Virtual Instructor-led Training (VILT)

### OVERVIEW

In this course you will learn the installation process for ONTAP 9 Data Management Software for a SAN environment. The course provides information about block-level protocols, including FC, FCoE, NVMe, and iSCSI, on Microsoft Windows Server, Linux and VMware ESXi host operating systems.

The learning will be reinforced through hands-on guided labs. The course materials include a lab workbook that will serve as an on-the-job reference guide.

### SKILLS COVERED

- Define and Describe SANs using iSCSI, FC, FCoE and NVMe protocols
- Discuss FC switch fabric, LUN masking and zoning
- Create and configure Storage Virtual Machines to use FC and iSCSI protocols
- Configure Microsoft Windows Server, Red Hat Enterprise Linux, VMware ESX, and NetApp Data ONTAP systems for iSCSI connectivity
- Configure Microsoft Windows Server, Red Hat Enterprise Linux, VMware ESX, and NetApp Data ONTAP systems for FC connectivity
- Create and access a LUN from Windows Server and Red Hat Server
- Troubleshoot SAN connectivity issues

### WHO SHOULD ATTEND?

Professionals who implement SAN solutions that use NetApp storage systems

### PRE-REQUISITES

Certification as a NetApp Data Management Administrator

Completion of two courses:

- ONTAP SAN Fundamentals WBT (OSFWBT)
- Either NA-D7ADM or ONTAP 9 Cluster Administration (ONTAP9ADM) or NetApp CDOTDP9

### MODULES

#### Module 1: ONTAP SAN Fundamentals

- Implementing iSCSI, FCP, and FCoE SAN in ONTAP
- SAN Architecture
- IMT
- SAN Scalability and Maximums

#### Module 2: ONTAP SAN Resource Provisioning

- IP SAN Configurations
- FC SAN Configurations
- LUN Provisioning

#### Module 3: ONTAP iSCSI Configuration Concepts

- iSCSI Configuration Recommendations
- iSCSI Feature Overview
- iSCSI Configuration Workflow

#### Module 4: ONTAP FC Configuration Concepts

- FC Configuration Recommendations
- FC and FCoE Zoning
- Cisco Switches
- Brocade Switches

#### Module 5: High-Performance and Scalable Network Storage Using NVMe over Fabrics

- NVMe
- NVMe-oF
- NVMe Integration into ONTAP

#### **Module 6: Host Integration**

- Host Considerations
- Windows Hosts
- Linux and UNIX Hosts
- LUN Offset

#### **Module 7: Windows IP SAN Connectivity**

- Configuring a Windows Host for iSCSI
- iSCSI Configuration

#### **Module 8: Linux IP SAN Connectivity**

- Linux iSCSI Configuration
- Linux iSCSI Implementation

#### **Module 9: Windows FC SAN Connectivity**

- Configure a Windows Host for FC
- Identify the WWNN and WWPN on a Windows Host
- Implement and Verify Multipath FC Connectivity between a Windows Host and ONTAP Software

#### **Module 10: Linux FC SAN Connectivity**

- Configure a Linux Host for FC
- Identify WWPNs on a Linux Host
- Implement and Verify Multipath FC Connectivity between a Linux Host and ONTAP Software