

Implementing HPE MSA Storage Solutions U4226S

HPE course number	U4226S
Course length	2 days
Delivery mode	ILT, VILT
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HPE MSA hybrid storage solutions provide the entry-point for SAN storage supported by HPE ProLiant servers. HPE MSA storage offers a portfolio of arrays, drives, and options that deliver a common set of features enabling flash-ready hybrid storage systems designed to deliver hands-free, affordable application acceleration for demanding SMB workloads. This course provides in-depth knowledge about HPE MSA storage virtualization capabilities and is perfectly set to equip storage administrators with the tools they need to optimize management, implementation, monitoring and maintenance functions on the HPE MSA storage solution.

Audience

HPE MSA customers (current or potential)

Prerequisites

- Basic knowledge of Storage Area Networks (SAN) is recommended.
- Familiarity with Microsoft Windows Server 2012 or higher is an added benefit.

Course objectives

After completing this course, you should be able to:

- Explain positioning, benefits, and features of the HPE MSA family of products
- Implement HPE MSA virtual storage provisioning
- Navigate and utilize the HPE MSA Storage Management Utility (SMU)
- Use HPE MSA virtualized storage features
- Execute operations via the HPE MSA command line interface (CLI)
- Perform maintenance and support tasks on MSA systems

Detailed course outline

Module 0: Course Overview	<ul style="list-style-type: none"> • Learning objectives • Introductions 	<ul style="list-style-type: none"> • Course prerequisites • Agenda
Module 1: MSA Family Product Overview	<ul style="list-style-type: none"> • List the current HPE MSA array generations and models • Explain the use cases for implementing HPE MSA storage solution • Describe the controller architecture and features that are included with HPE MSA 	<ul style="list-style-type: none"> • Categorize the various HPE MSA controller models and list their supported configurations • Identify the connectivity options for various MSA controllers
Module 2: MSA Virtual Storage	<ul style="list-style-type: none"> • Explain the management/monitoring capabilities built-in to the Storage Management Utility (SMU) version 3 and version 4 • Discuss MSA virtual storage terminology that is part of storage provisioning <ul style="list-style-type: none"> – Page – Disk group – Tier – Pool – Read cache 	<ul style="list-style-type: none"> • Recall the benefits of MSA-DP+ RAID • Describe MSA virtual storage automated tiering mechanism • Implement MSA virtual storage tier affinity
Module 3: Data Protection on MSA Storage	<ul style="list-style-type: none"> • Explain how MSA fault tolerance is implemented for disk or controller failures • Discuss the MSA snapshot feature and illustrate the Redirect on Write (RoW) mechanism 	<ul style="list-style-type: none"> • Explain the volume copy feature and its implementation specifics • List the capabilities that are available through the MSA Remote Snapshot Replication feature
Module 4: MSA Maintenance and Support	<ul style="list-style-type: none"> • Describe the maintenance tasks to be performed on disk groups and volumes • List the ways to track activities and monitor the health status of the MSA • Explain the procedure to save log files for troubleshooting complex issues 	<ul style="list-style-type: none"> • Get the URL for the MSA Health Check tool • Discuss the options to set up notifications from MSA • Explain the firmware update process on MSA

Detailed lab outline

Lab 0: Accessing the Lab Environment

Lab 1: Configure MSA Virtual Storage with SMU v3

- Task 1: Verify the management IP address of the HPE MSA storage systems
- Task 2: Launch HPE Storage Management Utility (SMU) v3
- Task 3: Create disk groups using SMU v3
- Task 4: Create volumes and map to hosts using SMU v3
- Task 5: Install MPIO and initialize the disks in Windows Disk Management
- Task 6: Map volumes to iSCSI hosts

Lab 2: Configure MSA Virtual Storage with SMU v4

- Task 1: Initialize the MSA Gen6 via Out of Box Experience (OOBE)
- Task 2: Storage Management Utility (SMU) V4
- Task 3: Configure pools and disk groups in SMU v4
- Task 4: Provision volumes and attach to hosts in SMU v4

Lab 3: Data Protection

- Task 1: Create snapshots for data protection using SMU v3
- Task 2: Use snapshots for data recovery in SMU v3
- Task 3: Create snapshots for data protection using SMU v4
- Task 4: Use snapshots for data recovery in SMU v4
- Task 5: Copy volumes or snapshots for data protection

Lab 4: MSA Maintenance and Support

- Task 1: General system health and event logs
- Task 2: Set up alert notifications
- Task 3: Download system logs for troubleshooting
- Task 4: Perform a firmware upgrade

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