

# HPE Primera I: Management and Connectivity HM9Q5S

<b>HPE course number</b>	HM9Q5S
<b>Course length</b>	1 day
<b>Delivery mode</b>	ILT, VILT
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## Why HPE Education Services?

- IDC MarketScape Leader 7 years running for IT education and training\*
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The Managing HPE Primera Storage I course provides an overview of the HPE Primera portfolio. The course reviews how to perform common day-to-day management tasks with hands-on labs (HOL), including creating the right data efficient volumes on an all-flash HPE Primera array, and leveraging the power of HPE InfoSight.

The course prepares learners for deeper follow-on training from HPE, including the 2-day, HM9Q6S: Managing HPE Primera II course.

## Audience

Customers, administrators and channel partner sales or technical sales

## Prerequisites

- An understanding of general storage concepts including fibre channel technology and RAID
- Operator level functionality in a Windows environment

## Course objectives

After completing this course, the student should be able to:

- Discuss Primera hardware offerings
- Describe HPE Primera family features
- List management options
- Describe the HPE Primera Storage software portfolio
- Explain provisioning terminology
- Understand the concepts of chunklets and logical disks
- Explain the HPE Primera concepts of a common provisioning group (CPG)
- Explain thin provisioned virtual volumes (VV)
- Overview Primera data reduction technologies
- Prepare a host to access an HPE Primera storage array
- Create hosts in an HPE Primera storage array
- Explain how to add fibre channel (FC) ports to a host
- Explain the advantages of HPE Smart SAN for Primera
- Export virtual volumes (VV) to a host as VLUNs

\*Realize Technology Value with Training, IDC Infographic 2037, sponsored by Hewlett Packard Enterprise, 2019

- Unexport virtual volumes (VV) from a host
- Describe the advantages of host sets and volume sets
- Create and maintain host sets and volume sets
- Use SSMC and the CLI to create and manage host sets and volume sets
- Discuss the guidelines and rules regarding host sets and volume sets
- Describe app volume sets
- Describe the use of InfoSight to monitor Primera and its surroundings

## Detailed course outline

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### Module 1: Solution Overview:

- Part 1—Hardware
    - Primera technical specifications
    - HPE Primera hardware building blocks
    - Data-in-place upgrade
    - Primera persistency and high availability features
  - Part 2—Software and Features
    - Management options overview
    - Primera and 3PAR SSMC
    - HPE Primera storage management—HPE Primera UI
    - HPE Primera command line interface (CLI)
    - HPE Primera integration portfolio overview
    - Selected data protection and security features overview
    - HPE Primera leadership—replication
    - Peer persistence
    - HPE Cluster Extension CLX
    - VMware vSphere® disaster recovery with Site Recovery Manager
    - Sources of information
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### Module 2: Storage Concepts and Terminology

- HPE Primera OS virtualization—logical view
  - HPE Primera OS virtualization concepts
  - HPE Primera OS virtualization advantages
  - Chunklet concepts
  - System wide sparing
  - Logical disk concepts
  - HPE Primera high availability
  - CPG concepts
  - Virtual volume overview
  - Thin provisioning overview
  - HPE Primera data reduction overview
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### Module 3: Host Connectivity and Storage Allocation

- Host to HPE Primera front-end configuration—FC example
  - HPE Primera block I/O connectivity
  - HPE Primera Persistent Ports
  - HPE Primera WWN format
  - HPE Primera OS 4.x host OS support
  - HPE Primera implementation guide
  - Host HBAs and WWNs—commands/utilities
  - HPE Smart SAN for Primera
  - HPE Primera zoning overview
  - Adding hosts in SSMC—SMART SAN enabled
  - Making VLUNs visible to hosts
  - HPE Host Explorer
  - HPE LunInfo
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### Module 4: Host, Volume, and App Volume Sets

- Host sets and virtual volume sets overview and advantage
  - Virtual volume set—other use cases
  - Host sets and virtual volume sets— SSMC and CLI examples
  - App volume sets overview
  - App volume sets— SSMC examples
  - SSMC dashboard—top app vol sets
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**Module 5: HPE InfoSight Introduction**

- HPE InfoSight sees and predicts behind the scene
- Get the full picture with HPE Primera and InfoSight
- The AI process for HPE self-healing storage
- HPE Primera—dashboard
- HPE Primera—systems view
- HPE Primera—detailed systems view
- HPE Primera—system performance view
- HPE Primera—performance insights view
- HPE Primera—PDF report
- HPE InfoSight Cross-Stack Analytics for VMware environments

**Appendix 1: HPE Primera On-Node Management**

- Discovering the HPE Primera array
- HPE Primera initial setup
- Checking hardware
- Creating user on the array and configuring the network
- Initializing the array
- Configuring date/time, Infosight and system support contact
- InfoSight
- Enabling remote support data scrubbing
- First time login
- Primera UI dashboard—overview, alerts, and tasks
- On-node management performance dashboard
- Customer self-update option
- Customer self-repair option

**Appendix 2: What's New in HPE Primera**

- NVMe Drives
- iSCSI
- Provisioning in the HPE Primera UI
- Customer self-install
- HPE Primera customer self-update
- Customer self-repair
- SSMC 3.7 enhancements
- Infosight update
- HPE Primera Welcome Center
- HPE Primera cabling tool

## Detailed lab outline

<b>Lab 0: vLabs Access</b>	<ul style="list-style-type: none"> <li>• Task 1: Accessing the vLab</li> </ul>	
<b>Lab 1: Working with SSMC and CLI</b>	<ul style="list-style-type: none"> <li>• Exercise 1: Reviewing the SSMC GUI and online help</li> <li>• Exercise 2: Reviewing the dashboard and changing output views</li> <li>• Exercise 3: Accessing the SSMC settings screen</li> <li>• Exercise 4: Adding a user</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise 5: Working with the SSMC activity screen</li> <li>• Exercise 6: SSMC hardware introduction</li> <li>• Exercise 7: Launching the CLI</li> </ul>
<b>Lab 2: Storage Configuration</b>	<ul style="list-style-type: none"> <li>• Exercise 1: Log in to SSMC</li> <li>• Exercise 2: Working with CPGs in SSMC</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise 3: Working with virtual volumes (VV) in SSMC <ul style="list-style-type: none"> <li>– Exercise 3-1: Creating thin provisioned virtual volumes</li> <li>– Exercise 3-2: Creating thin volumes (TPVV) with data reduction enabled</li> <li>– Exercise 3-3: Creating multiple virtual volumes using a count</li> <li>– Exercise 3-4: Displaying/editing/removing virtual volumes</li> </ul> </li> <li>• Exercise 4: Working with VVs using the CLI</li> </ul>
<b>Lab 3: Host Configuration and Storage Allocation</b>	<ul style="list-style-type: none"> <li>• Exercise 1: Identify the HBA type (Windows)</li> <li>• Exercise 2: Determining host port WWNs</li> <li>• Exercise 3: Adding a host using HBA WWNs in SSMC <ul style="list-style-type: none"> <li>– Exercise 3-A: Adding a host using Host Explorer in SSMC</li> <li>– Exercise 3-B: Adding a host manually using HBA WWNs in SSMC</li> </ul> </li> <li>• Exercise 4: Export/unexport VLUNs in SSMC</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise 5: Windows host configuration formatting and mounting VLUNs</li> <li>• Exercise 6: Online virtual volume increase</li> <li>• Exercise 7: Working with default reports</li> <li>• Exercise 8: Working with HPE LUNInfo for HPE Primera and HPE 3PAR</li> <li>• Exercise 9: Working with hosts and storage using the CLI</li> </ul>
<b>Lab 4: Host, Volume and App Volume Sets</b>	<ul style="list-style-type: none"> <li>• Exercise 1: Working with host sets and virtual volume sets <ul style="list-style-type: none"> <li>– Exercise 1-1: Working with host sets in SSMC</li> <li>– Exercise 1-2: Working with virtual volume sets in SSMC</li> <li>– Exercise 1-3: Export virtual volume sets to hosts sets in SSMC</li> <li>– Exercise 1-4: Unexport virtual volume sets from hosts sets in SSMC</li> <li>– Exercise 1-5: Delete virtual volume sets and hosts sets in SSMC</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Exercise 2: Working with app volume sets using SSMC</li> <li>• Exercise 3: Working with host sets and volume sets using CLI</li> </ul>
<b>Lab 5: Using InfoSight</b>	<ul style="list-style-type: none"> <li>• Exercise 1: Logging in and dashboard</li> <li>• Exercise 2: Access InfoSight support</li> <li>• Exercise 3: Array overview</li> <li>• Exercise 4: Physical disk details</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise 5: Reports</li> <li>• Exercise 6: InfoSight scenarios (optional) <ul style="list-style-type: none"> <li>– Exercise 6-1: Health check</li> <li>– Exercise 6-2: Planning for growth</li> <li>– Exercise 6-3: Using InfoSight to troubleshoot</li> </ul> </li> </ul>

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