



Enterprise Computing Solutions - Education Services

## TRAINING OFFERING

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# Managing HPE 3PAR StoreServ I: Management and local replication

<b>CODE:</b>	<b>LENGTH:</b>	<b>PRICE:</b>
HPE_HK902S	24 Hours (3 days)	kr18,000.00

## Description

The Managing HPE 3PAR StoreServ I course is designed for the new or entry-level HPE 3PAR administrator. The goal of the class is to acquaint the 3PAR administrator with the most common day-to-day tasks and best practices associated with administration of the 3PAR array. The levels of provisioning storage are emphasized.

This training reflects the newest release of the HPE 3PAR OS: 3.3.1. The course is approximately 50% lecture and 50% hands-on labs using HPE 3PAR arrays. NOTE: Hosts used in the lab environment are MS Windows.

## Objectives

At the conclusion of this course, the student should be able to:

- Explain the numbering schemes for the HPE 3PAR hardware components: controllers, ports, and physical disks
- Use the StoreServ Management Console (SSMC) GUI and the CLI to perform administrative tasks
- Create and work with a Common Provisioning Group (CPG)
- Administer Virtual Volumes using the SSMC and the CLI
- Understand the advantages of Thin Provisioning and create a Thin Provisioned Virtual Volume (TPVV)
- Understand the advantages of Dedup and Compression for storage allocated from SSDs
- Export and un-export virtual volumes from hosts
- Use HPE 3PARinfo to analyze luns presented to hosts
- Use Host Explorer to simplify addition of hosts
- Use Host Sets and Volume Sets to simplify provisioning storage
- Create a Snapshot and promote (restore) from a Snapshot
- Create a Clone and promote a Clone
- Convert a Virtual Volume (i.e. from fully provisioned to thin provisioned or thin provisioned to thin dedup or vice versa)
- Use the SSMC reporting feature to monitor capacity and performance

## Audience

HPE 3PAR administrators who desire training on basic concepts and best practices needed to administer the array.

## Prerequisites

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

## Programme

HPE 3PAR Solution Introduction and Review

- HPE 3PAR Hardware Current models
- Hardware overview for the 7000, 8000, and 20000 models: controllers, drive cages, and disks
- Controller port number naming conventions for the 7000, 8000, and 20000 models
- Disk number naming convention for disks in the HPE 3PAR arrays
- ASIC chip functionality
- HPE 3PAR virtual storage architecture benefits
- Big Picture HPE 3PAR component connectivity
- SSMC GUI introduction and functionality overview
- HPE 3PAR CLI overview and introduction

## Storage Concepts and Terminology

- HPE 3PAR provisioning terminology
- HPE 3PAR concept of a disk chunklet and Logical Disk (LD)
- HPE 3PAR concept of a Common Provisioning Group (CPG)
- HPE 3PAR Virtual Volumes (VV) types: full provisioning and thin provisioning
- HPE 3PAR provisioning terminology
- HPE 3PAR concept of a disk chunklet and Logical Disk (LD)
- HPE 3PAR concept of a Common Provisioning Group (CPG)
- HPE 3PAR Virtual Volumes (VV) types: full provisioning and thin provisioning

## Storage Configuration

- CPGs using SSMC and the CLI
- Working with virtual volume templates
- Working with fully provisioned and thin provisioned volumes using SSMC and the CLI

## Host Connectivity and Storage Allocation

- How to prepare a host to access an HPE 3PAR storage array
- HPE 3PAR Port Persistence
- Adding hosts in an HPE 3PAR storage array
- Adding FC ports to a host
- Export virtual volumes to hosts as VLUNs
- Unexport VVs/VLUNs from a host
- Using SSMC and CLI to work with hosts and storage
- Working with Smart SAN
- Use Host Explorer to add hosts and explore host details
- Use HPE 3PARInfo to gather storage information

## Host Sets and Virtual Volume Sets

- Host and virtual volume sets advantages
- Host and virtual volume sets use cases
- Creating and maintaining host and volume sets using SSMC and the CLI
- Host and volume sets guidelines and rules

## Thin Features: A Deep Dive

- Benefits of the Zero Detection/Thin Persistence
- Zero Detection use cases
- Space reclamation: UNMAP and other utilities
- Compaction ratio explanation and thin overprovisioning
- Thin provisioning: seeing what is allocated vs. used by a host
- Online Virtual Volume conversion: converting volumes from full to thin or thin to full using SSMC and the CLI
- Compacting a CPG to free up space

## Adaptive Data Reduction for Flash: Dedup and Compression

- Thin Dedup: saving space using deduplication and dedup detail
- Thin Dedup: what to dedup: good candidates and bad candidates
- Compression and how it works
- Compression: what to compress--good candidates and bad candidates
- Data Packing: packing data for space and cost savings
- DECO: Dedup and Compression together
- Working with Dedup and Compression using the SSMC GUI and the CLI
- Performing a Dedup Estimate and a Compression Estimate
- Seeing if Dedup and Compression are working
- Analyzing Adaptive Data Reduction ratios: Dedup ratio, Compression ratio and overall Data Reduction ratio
- Online Virtual Volume conversion: converting volumes to thin-dedup, compressed or DECO

## Snapshots and Clones

- Snapshots and Clones: benefits
- Creating, exporting, unexporting, and deleting a snapshot
- Rules and relationships regarding snapshots
- Restore from a snapshot
- Scheduling the creation of a snapshot
- Using the Virtual Lock feature to delete outdated snapshots
- Resynchronize a clone to a base volume
- Promote a clone to a base volume
- Use SSMC and the CLI to manage snapshots and clones
- Reporting: Performance and Capacity
- The on-node database: the .srdata database volume
- Using SSMC reports to analyze capacity needs and trends
- Using SSMC reports to analyze performance
- Using SSMC default reports and creating custom reports
- Scheduling and emailing reports
- Using the Excel client
- Using the CLI stat commands to analyze performance and capacity
- Using the CLI sr\* commands to analyze performance and capacity

## Session Dates

På begäran, [kontakta oss](#)

## Ytterligare information

Denna utbildning finns också som utbildning på plats. Kontakta oss för mer information.