Szkolenie: HPE
Managing HPE 3PAR StoreServ I: Management and Local Replication

Cel szkolenia:

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.

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 ProvisionedVirtual 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.

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Plan szkolenia:

- HPE 3PAR StoreServ I
  - Register here to access to the Pre-Study WBT course
- 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

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- 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

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- 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

Poziom trudności



Certyfikaty:

The participants will obtain certificates signed by HPE (course completion).

Prowadzący:

Authorized HPE Trainer.

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