HPE SimpliVity System Administration (vSphere)
H0LP9S

This course provides information and hands-on exercises for management of HPE SimpliVity 380 and 2600. It also includes information and hands-on exercises for using HPE SimpliVity RapidDR software that simplifies and accelerates off-site disaster recovery through automation. The course covers a range of administration actions executed on HPE SimpliVity system with the SimpliVity VMware vSphere® and RapidDR user interface.

**Audience**
This course is intended for infrastructure administrators and system engineers who need to learn how to administer HPE SimpliVity 380 and 2600.

**Prerequisites**
HPE recommends that students attend the following courses or attain the following levels of experience before taking this class:
- Networking technologies
- VMware vSphere 6
- HPE ProLiant Servers

**Course objectives**
Upon completion of this training, the participant will be able to:
- Describe the HPE SimpliVity 380 and 2600 products’ physical characteristics and software architecture
- Use the HPE SimpliVity vSphere user interface for management tasks
- Use RapidDR to reduce service disruptions by automating remote site recovery

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*Realize Technology Value with Training, IDC Infographic 2017, Sponsored by HPE, October 2017*
# Detailed course outline

## Module 1: HPE SimpliVity Overview
- The data problem
- The evolution of hyperconvergence
- HPE SimpliVity use cases / key business challenges
  - Data center consolidation
  - Data protection and disaster recovery
  - VDI
  - ROBO
  - Hyperconvergence in a hybrid cloud
  - High performance All-Flash Storage
  - HPE SimpliVity 380 HyperGuarantee
- What is an HPE SimpliVity 380 system
  - HPE ProLiant DL380 Gen10
    - Models
    - Components
    - Management (including iLO)
- HPE SimpliVity system architecture
  - Node
  - Cluster
  - Federation
  - Global scale
- Arbiter
- HPE SimpliVity networks
  - Federation network
  - Management network
  - Storage network
  - Network configurations
  - Network security

## Module 2: HPE SimpliVity 2600
- HPE SimpliVity 2600 solution overview
- Hardware components of HPE SimpliVity 2600
- HPE SimpliVity 2600 data paths
- HPE SimpliVity 2600 configuration details

## Module 3: SimpliVity Data Virtualization Platform
- HPE SimpliVity Data Virtualization Platform (DVP)
  - Guaranteed data efficiency
  - Deduplication and compression
  - Built-in resiliency, backup and disaster recovery
  - Global VM-centric management and mobility
  - Data storage and VM cloning
  - Writing data
  - Remote backup
  - HPE SimpliVity RapidDR
    - Data virtualization platform deep dive
    - Data presentation layer
  - Data management layer
    - File system
    - Object store I/O write path
    - Cluster-level data management
    - Federation-level data management
    - Advantages
      - I/O and capacity reduction
      - Storage network
      - Faster backup, restore and clone
      - Reduced WAN bandwidth
      - Lower RPO and RTO

## Module 4: HPE SimpliVity Data Management
- HPE SimpliVity data paths
  - HPE OmniStack system architecture
  - Write I/O path
  - Read I/O path
  - Stretched clusters
- Data resiliency - How is data protected
  - Node-level resiliency
  - Cluster-level resiliency
  - Site-level protection
  - RAIN + RAID overview
  - Power resiliency
  - Hardware RAID
  - Preventing silent data corruption
  - Enterprise-grade server platform resiliency
  - HPE OmniStack Accelerator Card resiliency
- Effects of a failure (what happens to the data)
  - Failover of the OVC IP
  - OVC resiliency
  - Effects of a failure (what happens to the data)
  - Failover of the OVC IP
  - Recovering a failed OVC
- vCenter resiliency
  - Single and linked mode
- Data locality
  - Overview of data locality
  - Advantages of full data localization
  - Intelligent Workload Optimizer
  - Initial data placement
  - Integration with vSphere DRS
### Module 5: HPE SimpliVity User Interface Overview
- Getting started
- Features within the vSphere Web Client
- How to maneuver through the vSphere Web Client
- vCenter inventory list
- The SimpliVity Federation actions
- SimpliVity Federation home tab
- Topology tab
- Throughput tab
- Backup consumption tab
- About tab
- Inventory lists
- SimpliVity Federation home tab

### Module 6: HPE SimpliVity Clusters and Datastores
- Clusters
  - Exploring clusters
  - Customizing SimpliVity table data
  - Viewing capacity
  - Viewing performance
  - Searching backups
- Datastores
  - SimpliVity datastores overview
  - Creating a SimpliVity datastore
  - Modifying a SimpliVity datastore
  - Configuring ESXi access nodes
  - Configuration steps
  - NFS settings
  - Verifying HPE SimpliVity datastore access

### Module 7: HPE SimpliVity Backups
- SimpliVity backups
  - Overview
  - Manual backup
  - Application consistent backups
  - Managing backups
    - Backups view
    - Rename backup
    - Copy backup
    - Cancel backup
    - Backup retention time
    - Export backups
    - Delete backups
  - Backup policies
    - SimpliVity backup policy overview
    - Backup frequency
    - Fixed default backup policy
    - Locking a policy-based backup
    - Creating backup policies and backup policy rules
    - Edit backup policy
    - Rename backup policy
    - Delete backup policy
    - Add backup policy
    - Apply backup policy
## Module 8: Other HPE SimpliVity Features

- **Hosts**
- **Virtual machines**
- **HPE SimpliVity restore**
  - SimpliVity restore overview
  - Finding a backup
  - Creating a new virtual machine
  - Replacing an existing virtual machine
- **SimpliVity File Level Restore**
  - Permissions and security
  - Limits
  - Partitions
  - Restoring files steps
- **SimpliVity clone**
  - SimpliVity clone overview
  - SimpliVity clone a virtual machine
  - VAAI and VMware clone
- **SimpliVity move**
  - SimpliVity move overview
  - SimpliVity move a virtual machine
- **VM templates**
- **Moving an HPE SimpliVity node between clusters**
- **HPE OmniStack Virtual Controller (OVC) shut down**
  - Safe shut down preparation
  - Other safe shut down considerations

## Module 9: Extending HPE SimpliVity

- **REST API**
  - REST overview
  - HPE SimpliVity REST API functions
  - HPE SimpliVity REST API examples
- **HPE SimpliVity CLI**
  - Prerequisites for using the CLI
  - Access through the Virtual Controller Console
  - Access through a terminal emulator
  - CLI command privileges
  - CLI command format and examples
- **HPE SimpliVity RapidDR**
  - What is RapidDR and how does it work?
  - RapidDR requirements
  - RapidDR configuration guidelines

## Module 10: HPE SimpliVity Services and Support

- **HPE SimpliVity support plans**
  - Accessing support
  - Accessing updates
  - Customer self-repair
  - Remote support
- **HPE SimpliVity 380 and 2600 hardware services**
  - HPE OmniWatch
  - Support capture file
- **Alarm and events overview**
Detailed lab outline

**SimpliVity Overview**
- Accessing the HPE vLabs environment
- HPE SimpliVity user interface
- HPE SimpliVity Federation home page
- Backup policies

**Clusters**
- Monitor tab
- Top contributors
- Manage tab
- Related objects tab

**Datastores**
- Online resize
- Set default backup policy
- Delete datastore
- Manage standard ESXi hosts
- Additional datastore information

**Virtual Machines**
- Backup virtual machine
- Search backups
- Restore virtual machine
- Replace existing virtual machine
- Restore files
- Rename backup
- Copy backup
- Lock backup
- Set retention time
- Calculate unique backup size
- Export backups
- Delete backup

**Clone and Move**
- Clone virtual machine
- Move virtual machine

**Creating and using HPE SimpliVity VM Templates**

**Using HPE SimpliVity CLI**

**Using HPE SimpliVity REST API through PowerShell**

**Using HPE SimpliVity RapidDR**

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HOLPS.B01, July 2019