



Hewlett Packard Enterprise

Course Datasheet

BladeSystem Fast Track

Course length – 5 days

Delivery mode – Instructor Led Training (ILT)

Register – [Click here to go to HPE Learning Portal](#)

This 5-day course provides an overview of HPE ProLiant Gen9 capabilities, enabling technologies and changes in administration. Core administrative tools and differences from previous HPE ProLiant generations are among the new capabilities discussed. Also provides instruction on HPE BladeSystem administration and HPE Virtual Connect.

Discussion of the portfolio overview ensures an understanding of components, configurations, and solutions and helps students identify, manage, and configure HPE Virtual Connect components. Identify the distinctions between the Gen9 server & previous HPE ProLiant generations. This course also covers topic on how to install, manage, configure, and update the HPE OneView Appliance. An architectural overview ensures a high level understanding of the associated managed equipment: c-Class enclosures, Virtual Connect Ethernet, FlexFabric, and Fibre Channel components. Participants will explore HPE OneView management of Gen9 and previous HPE ProLiant generations inc. Gen6 and rack-mounted ProLiant systems.

Audience

- System administrators, engineers and consultants who will manage and monitor the HPE ProLiant BladeSystem c-Class environment
- New HPE BladeSystem customers or past customers who purchased Gen9 or earlier HPE c-Class servers
- System Administrators, engineers and consultants who will plan and manage the HPE Virtual Connect environment and/ or the HPE OneView Converged Management for the Software Defined Infrastructure

Prerequisites

HPE recommends that participants have attained the following credentials or levels of experience before taking this course:

- Introduction to HPE ProLiant Servers (HE643S) or similar experience is recommended
- A basic understanding of hypervisor environments (VMware ESXi or Microsoft Hyper-V) and familiarity with general networking terminology and basic network concepts.

Learning objectives

After completing this course, the participant will be able to:

- Explore the functional architecture of the ProLiant BL c-Class environment, including management infrastructure (Insight Display, Onboard Administrator and iLO Management Engine), power and cooling and servers.
- Review the HPE c-Class BladeSystem Portfolio and equipment capabilities.
- Introduce Virtual Connect (basic concepts)

- Identify the HPE BladeSystem Virtual Connect Ethernet, Fibre Channel, and Flex-Fabric modules.
- Understand and configure Virtual Connect components.
- Access the VC Manager.
- Configure a VC Domain (including profiles, networks, and storage connectivity).
- Plan and complete firmware updates. Perform a failover of a Remote Copy Group (RCG)

Course Outline

HPE BladeSystem Administration

Module 1: HPE BladeSystem Portfolio Introduction

- Identify resources for information about the current HPE c-Class BladeSystem portfolio
- Differentiate the two types of HPE BladeSystem enclosures
- Identify HPE Server Blades
- Discuss enclosure connectivity
- Discuss HPE Infrastructure Management and Services

Module 2: HPE BladeSystem c-Class Enclosures

- Describe the HPE BladeSystem c-Class enclosures
- Describe the c-Class enclosure structure
- Explain c-Class enclosure signal midplane and power backplane
- Explain how to access the Onboard Administrator
- Define the enclosure numbering scheme

Module 3: HPE BladeSystem Enclosure Management

- List the initial steps involved in setting up the c7000 enclosure using the:
- HPE Insight Display Initial Setup Wizard
- HPE Onboard Administrator First Time Setup Wizard
- Describe the OA enclosure high availability
- Identify the OA configuration options
- Describe the OA command line interface

Module 4: HPE c-Class Power and Cooling

- Explain how to configure power for an HPE BladeSystem c-Class enclosure
- Explain how to control and view power consumption in a c-Class enclosure to configure its efficiency
- Explain c-Class Power Management
- Describe HPE Intelligent Location and Power Discovery services
- Describe the structural cooling components and features of c-Class enclosures

Module 5: HPE BladeSystem c-Class Blade Servers

- Describe the HPE BladeSystem I/O technologies on the system board:
- FlexibleLOM
- Mezzanines
- USB and SD cards
- Describe the features and components of: storage blades, tape blades, expansion blades
- Identify c-Class Integrity servers and their requirements
- Manage certain options of your server blades from the OA GUI
- Describe the server iLO interaction with the OA

Module 6: HPE BladeSystem c-Class Connectivity Options

- Describe the HPE BladeSystem c-Class interconnect module architecture
- List the BladeSystem c-Class interconnect modules
- Ethernet
- Fiber Channel
- InfiniBand
- SAS
- Describe the mezzanine cards and slots available in the BladeSystem c-Class server blades
- Explain the enclosure signal pathing
- Describe the port mapping for HPE BladeSystem enclosures
- c7000
- c3000
- Explain the HPE Virtual Connect technology

Module 7: HPE BladeSystem c-Class firmware

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- Determine what firmware is embedded in various components in the enclosure and how to update it
- Explain how to access the SPP, SUM and supporting documentation
- Define the interdependencies and update best practices for HPE enclosure components
- Describe how to update the firmware for the HPE OA
- Explain how to use SUM for enclosure-based firmware management and software updates
- Explain how to update the firmware on HPE Blade servers
- Explain how to update the firmware on Integrity servers

Module 8: Configuring the Enclosure Using Scripting

- Review the OA CLI access
- HPE iLO scripting via the Onboard Administrator (HPONCFG)
- Introduce PowerShell OA configuration commands
- Introduce PowerShell iLO configuration commands
- Discuss OA CLI scripting

Module 9: Course Closing

- Closing the course
- Learning Objectives
- Participant Learning Goals
- Training from HPE Education Services
- HPE Education Services
- HPE Certification and Learning Program
- Concepts
- HE646 Course Objectives Review
- Energizers
- Conversations
- Eye on Blades Blog: Trends in Infrastructure
- HPE BladeSystem for Client Virtualization
- HPE Discover Conference
- Case Studies
- HPE Server Customer Case Studies

HP Virtual Connect

Module 1: Virtual Connect overview

- Review recent Firmware releases
- Access Virtual Connect documents and support.
- Introduce the current Virtual Connect modules.
- Outline Virtual Connect default behaviors.
- Review the c-Class management signal paths and stacking link requirements.
- Explain fundamental Virtual Connect technologies.
- Introduce Virtual Connect as a Layer 2 bridge.
- Introduce common Virtual Connect terms.

Module 2: The Virtual Connect Manager

- List basic requirements for accessing and managing Virtual Connect functionality.
- Configure Virtual Connect Manager Local User accounts.
- Explain Virtual Connect Logical Flow for an Initial Setup.
- Investigate Virtual Connect Failover and Configuration Backup.
- Review Administrator Password Recovery

Module 3: HPE Virtual Connect Ethernet

- Investigate the current Virtual Connect Ethernet modules.
- Understand and identify primary/secondary module placement.
- Recognize uplink port status error conditions.
- Introduce the Ethernet concepts and protocols used with Virtual Connect.
- Introduce the concept of Physical Functions (Adapter FlexNICs).
- Introduce VLAN tagging and addressing.
- An appendix addresses FlexFabric 20/40 F8 cabling and older hardware

Module 4: HPE Virtual Connect Fibre Channel

- Identify Virtual Connect Fibre Channel modules and functions.
- Introduce the HPE Virtual Connect Fibre Channel 16Gb 24-Port module and the N_Port trunking feature.
- Understand NPIV and why HPE uses this technology.

- Review the Fibre Channel Logon sequence (FLOGI).
- Investigate Virtual Connect Fibre Channel login distribution and re-distribution.

Module 5: The Virtual Connect FlexFabric Technology

- Detail the FlexFabric modules, adapters, and FCoE capabilities.
- Describe VSAN support and configuration.
- Introduce Virtual Connect to 3PAR SAN connectivity.

Module 6: HPE Virtual Connect vNets

- Outline the Virtual Connect ports.
- Investigate Virtual Connect Networking definitions and terminology.
- Configure vNets and VLANs.
- Investigate Advanced Virtual Connect VLAN tagging.
- Describe the Tunneling and Mapping Modes.
- Outline the Link Layer Discovery role in Virtual Connect.
- Introduce Link Aggregation Control Protocol
- Demonstrate basic Virtual Connect Ethernet networks.
- Discuss Teaming and Bonding modes with Virtual Connect.
- Compare Active/Standby and Active/ Active network designs.

Module 7: The Virtual Connect Profile

- Outline Virtual Connect Flex-Port Assignments.
- Explore Virtual Connect Bandwidth Allocation
- Investigate profile inheritance, and migration.
- Manage and configure profiles.
- Use the CLI Pool-Specified function to capture MAC and WWN addresses.
- Implement the Proliant Gen9 UEFI Boot Options.

Module 8: Virtual Connect Manager Advanced Features

- Build Multi-Enclosure Domains.
- Investigate partially stacked Domains
- Configure Native VLANs.
- Explain the role of Smartlink.
- Monitor Virtual Connect from an external utility.
- Introduce and configure the Federal Information Processing Standard 140-2
- Understand Network Loop Detection technologies embedded in Virtual Connect.

Module 9: Advanced Virtual Connect Networking for the System Administrator

- Advanced Virtual Connect Networking Features
- Review LACP advanced features.

HPE OneView V2 Quick Start

Module 1: The Rationale for HPE OneView

- Introduce Composable Infrastructure and how OneView plays a central role in this multi-year vision of the datacenter.

Module 2: HPE OneView, your ramp to Composable Infrastructure

- Outline the fundamental OneView Architecture.

Module 3: HPE OneView Monitoring and Reporting

- Inventory
- Power and Cooling Management

Module 4: HPE BladeSystem Integration with OneView

- Introduce the c7000 BladeSystem enclosure, and its basic features.

Module 5: Installing HPE OneView

- Review the best practice setup sequence
- Review the HPE OneView supported hardware and firmware, and review the configuration limits

Module 6: OneView Appliance Deployment on a Hypervisor host

- Step through the HPE OneView deployment on a VMware ESXi host
- Configure OneView on first access
- Introduce address pools

Module 7: HPE OneView Structure and Networks

- Network Sets, Uplink Sets and SAN
 - Explain the OneView resource model
 - Describe OneView Networks, Network Sets, and Uplink Sets
 - Configure Fibre Channel and Fibre Channel over Ethernet connections
 - Take volume snapshots and make clones

Module 8: Migrating Enclosures and Servers into OneView

- Walk through the enclosure import and the firmware update process

Module 9: HPE OneView Server Profiles

- OneView Profile templates
- Managing changes inherited from a template
- Attach to 3PAR Storage Volumes

Module 10: OneView Firmware and Licensing

- Explore the new driver and firmware update tools.
- OneView 2.0 has a new driver and firmware update architecture: Server Update Tools. The SUT works in conjunction with the Smart Update Manager to enable online updates. The combination of SUT and SUM is able to update Windows, Linux and VMware Environments.

Module 11: HPE OneView Licensing

- Clarify HPE OneView Licensing

Module 12: HPE Technology Services

- For clients looking to deploy OneView immediately, to upgrade from existing HPE software or efficiently manage a server blade or IT infrastructure environment, HPE offers support and professional services to build and maintain your OneView environment.

Module 13: Introduce OneView Supporting Utilities and Plugins

- Insight Control Server Provisioning (ICsp)
- OneView Management Pack for SCOM

Note: If using HF385E / HF385A1 for H0DG8S HPE BladeSystem Fast Frack course, then the dollar value of the course will be redeemed rather than the number of days.