



HPE Digital Learner Server Management Content Pack

HPE Digital Learner learning path

Learning path ID	CP002
Duration	25 hours
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This content pack provides information and skills related to implementing and managing HPE ProLiant servers using a suite of tools and utilities - from single server management, using embedded server management tools, iLO, and to managing the data center using HPE OneView. The course includes pointers to primary reference resources necessary to support HPE infrastructure.

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Audience

This content pack is recommended for system administrators, engineers and consultants who install, manage, and monitor HPE ProLiant servers, as well as customers planning a move to composable infrastructure.

Components

This content pack consists of 8 courses:

- HPE Gen11 - Server Management Rev. 23.31
- HPE iLO 5 Family Technical Training, Rev. 22.31
- HPE Redfish API and RESTful Interface Tool, Rev. 22.31
- HPE Smart Update Solution – SUM SUT and SPP, Rev. 22.31
- HPE Intelligent Provisioning Foundation, Rev. 22.31
- HPE UEFI ROM Foundation, Rev. 22.31
- iLO Amplifier Pack Foundation, Rev. 21.41
- HPE OneView for ProLiant DL/ML Servers, Rev. 21.31

Recommended learning

HPE recommends that students starting this content pack have general industry server experience and appreciate the need for infrastructure management.

Content Pack Objectives

By the end of the course, you should be able to:

- Identify and correctly position HPE ProLiant server embedded management tools
- Understand the function and proper use of iLO 5, UEFI ROM, agentless management, intelligent provisioning, active health systems viewer, SUM, SUT and SPP
- Demonstrate the skills to connect to and configure iLO 5, and use it to monitor server health and locate logs for server events
- Demonstrate the knowledge to install the HPE OneView appliance to manage and maintain firmware, implement compute and networking configurations, monitor the data center, and respond to issues.

Detailed learning path outline

HPE Gen11 – Server Management, Rev. 23.31

This self-paced, eLearning course introduces the wide range of server management tools HPE has implemented for HPE ProLiant Gen11 servers. This includes utilities for setup such as UEFI, HPE Smart Storage Administrator and Intelligent Provisioning, updating, and monitoring utilities such as HPE Service Pack for ProLiant (SPP), HPE Integrated Lights Out (HPE iLO) Amplifier Pack. For HPE ProLiant Gen11 servers, HPE OneView Integrated Lights Out (HPE iLO6), HPE GreenLake for Compute Ops Manager and OpenBMC are highlighted.

After completing this course, you should be able to identify the new features and enhancements offered by HPE Gen11 server management solutions.

- Module 1: Server Management
 - Server setup
 - Server provisioning
 - Server update
 - Ongoing management and monitoring
 - Scripting tools

- Module 2: Resources

HPE iLO 5 Family Technical Training, Rev. 22.31

This self-paced, eLearning course aims to be a thorough course on iLO technology itself and while covering the appropriate topics iLO 5 being the latest has been leveraged to teach the concepts and terminologies. Users will learn how to navigate through the web interface, be introduced to the ecosystem in which iLO 5 plays a central role, distinguish between license choices, and employ best practices for setting up roles and security. It will also let the learner examine and then practice more advanced tasks to secure your server and work with multiple servers and users. On completing this training, learners should not only be able to work on iLO 5 based systems but even older generations of iLO. Special addition to this course for some hands-on is the iLO 5 Simulator.

- Module 1: Product Overview
 - Describe HPE iLO and its benefits.
 - Identify the key features of HPE iLO 5.
 - Demonstrate how to navigate through the HPE iLO 5 web interface.
 - Discuss the different licensing tiers available for HPE iLO 5.
 - Learning Checks
- Module 2: Setup
 - Describe HPE iLO and its benefits.
 - Identify the key features of HPE iLO 5.
 - Demonstrate how to navigate through the HPE iLO 5 web interface.
 - Discuss the different licensing tiers available for HPE iLO 5.
 - Learning Check
- Module 3: Standard Usage of HPE iLO5
 - Describe the advanced license features of iLO 5 such as iLO Integrated Remote Console, iLO Virtual Media.
 - Explain how to monitor the health of a server from the system information page in iLO 5 web interfaces.
 - List the tasks iLO 5 will let you complete from the power and thermal menu.
 - Analyze the different security settings available to configure from the Security page of the iLO 5 web interface.
 - Recall how to update BIOS settings from Intelligent Provisioning section of iLO 5 web interface.
 - Define Agentless Management.
 - Learning Check

- Module 4: Maintaining the Server
 - Explore different types of server updates and perform updates using Smart update manager (SUM).
 - Perform firmware flashing process.
 - List The steps to setup a server for updates.
 - Learning Check
- Module 5: Maintaining the Server students should be able to:
 - Explore different types of server updates and perform updates using Smart update manager (SUM).
 - Perform firmware flashing process.
 - List The steps to setup a server for updates.
 - Learning Check
- Module 6: Configuring HPE iLO 5
 - Describe the many layers of security access settings such as malware prevention, data encryption, secure update of firmware.
 - Differentiate between types of security available for HPE ProLiant Gen 10 and Gen 10 Plus servers.
 - Explain how to control access parameters such as setting user privileges, password, access rules, encryption of data, and so on.
 - Compare different security modes.
 - Identify the iLO security override switch located in the server.
 - Describe the different hardware-based security features.
 - Learning Check

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- Module 7: Exploring the Scripting Tools
 - List the scripting and command line tools available to manage the server.
 - Explain iLO Restful API and its functionalities.
 - List the features of iLO rest tool.
 - Identify multiple ways to configure and control iLO.
 - Learning Check
 - Module 8: iLO Federation - Configuration
 - Explain The usage and benefits of iLO service port.
 - Describe The Two situations where you might need to recover a lost license key.
 - List and explain The Two Types of system recovery.
 - Learning Check
 - Module 9: Responding to System Events
 - Recall the troubleshooting steps is you encounter any issues with the server operation.
 - Examine several sections of the IML Log.
 - Explain the usage of Diagnostics and its features in the iLO 5 web interface.
 - Demonstrate how to view the system health summary.
 - List the reasons why you need to download Active System Health (AHS) log.
 - Learning Check
 - Module 10: Troubleshoot and Recover
 - Explain the usage and benefits of iLO service port.
 - Describe the two situations where you might need to recover a lost license key.
 - List and explain the two types of system recovery.
 - Learning Check
 - Module 11: Resources and Simulator
 - iLO 5 – Simulation
 - Resources
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HPE Redfish API and RESTful Interface Tool, Rev. 22.31

This self-paced, eLearning covers the key features and functionality of Redfish API and RESTful Interface Tool. Topics include product overview, features, architecture, and functionality. This course also includes demo, guided lab activities to practice and explore the functionalities of Redfish API and RESTful Interface Tool. After completing this course, you should be able to identify the product's features.

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- Module 1: Product Overview
 - Definition of Redfish RESTful API.
 - Solution Design.
 - RESTful API tools available for server management.
 - What's new in iLO 5-RESTful API.
 - Learning Check
 - Module 2: Using Redfish API
 - Introduction to Redfish RESTful API.
 - Using the Redfish API.
 - HTTP Resource Operations and Status Codes.
 - Redfish API Authentication and Sessions.
 - Key differences: iLO 4 Redfish API and iLO 5 Redfish API
 - Learning Check
 - Module 3: Explore Redfish API
 - User Administration using Redfish API.
 - Used Cases Review.
 - iLO 5 Software/Firmware Update Service.
 - New features supported by iLO 5 Redfish API
 - Error messages and registries in Redfish API
 - RESTful Events and Event Service.
 - Learning Check
 - Module 4: Using iLO RESTful Interface Tool
 - Introduction to Redfish Interface Tool.
 - Install and Use RESTful API Tool.
 - Modes of Operation.
 - Commands for the RESTful Interface Tool.
 - Use Case Examples
 - iLO Commands Demo
 - Learning Check
 - Module 5: Rest API Operations
 - RESTful API extensions to Redfish and resource map.
 - Basics concepts of Redfish API.
 - JSON Data Sample.
 - Example Service Data Model.
 - Learning Check
 - Module 6: Resources
 - Support Websites
 - Demos/simulations covered in the training.
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HPE Smart Update Solution – SUM SUT and SPP, Rev. 22.31

This self-paced, eLearning provides you with the opportunity to develop a deeper understanding of HPE Smart Update Solution: SUM, SUT and SPP, so that as a user you can be up and running and understand the key features. Users will learn all the basics and concepts related to HPE Smart Update Solution that is SUM, SUT and SPP.

- Module 1: Product Overview
 - Introducing HPE Smart Update Solution: SPP, SUM and iSUT
 - Reviewing the features of HPE Smart Update Solution: SPP, SUM and iSUT
 - How they come together in HPE Smart Update Solution: SPP, SUM and iSUT
 - Summary with SPP structure video demo
 - Learning Check
- Module 2: Software Management & Use
 - Downloading - getting software
 - Scenarios - local update
 - Offline update through iLO Virtual Media using an ISO image of SPP.
 - Localhost online update - SUM legacy method (Localhost Guided Update)
 - Management of baselines, nodes, and node groups
 - CLI modes for SUM
 - SUM standalone application
 - Scenarios - remote update
 - iSUT install and config.
 - Remote online update iLO Repository
 - Learning Check
- Module 3: Theory of Operation
 - Deploy SPP over network.
 - iLO 5 Repository & Install sets concepts.
 - SUT/iSUT roles in update methods
 - Linux SDR access methods
 - Learning Check
- Module 4: Other Use Cases
 - HPE Software Delivery Repository based updates on Linux - online.
 - Other SPP included utilities.
 - Install set feature in iLO.
 - Automation of SPP in HPE OneView
 - When to use OneView or iLO Amplifier Pack
 - Updating or flashing a particular component without using SUM
 - Learning Check
- Module 5: Troubleshooting and Known Issues
 - Typical troubleshooting workflow and Advisories tab with each SPP
 - Recognizing issues - Checking Activity and Reports
 - Messages due to enhancements and other changes
 - Gather logs utility and logs (AHS simulated 'Try-it' exercise)
 - clean-cache utility
 - Online help - troubleshooting sections
 - HPE Support Center & common issues and troubleshooting currently listed.
 - Learning Check
- Module 6: Resources and Demos
 - Support Websites
 - Demos/simulations covered in the training

HPE Intelligent Provisioning Foundation, Rev. 22.31

This self-paced, eLearning course introduces you to the capabilities of Intelligent Provisioning including deployment, setup, the everyday tasks for maintenance, tasks for server retirement, and information on troubleshooting.

- Module 1: Access
 - Features and functions
 - Milestones
 - Access methods
 - Tour
 - Learning Check
- Module 2: Deploy
 - Using the First-Time Setup Wizard
 - Deploying the server OS and related options
 - Deployment settings
 - Rapid Setup
 - Using iLO configuration utility
 - Using Smart Storage Administrator (SSA)
 - Learning Check
- Objectives: After completing this training, students should be able to:
 - Describe the HPE GreenLake for Compute Ops Management prerequisites
- Module 3: Use
 - Preferences
 - Updating Intelligent Provisioning
 - Upgrading or downgrading server firmware and drivers
 - Using USB key utility
 - Using BIOS/Platform Configuration (RBSU)
 - Using Secure Erase
 - Learning Check
- Module 4: Resources
 - Documentation
 - Demonstrations and simulations

HPE UEFI ROM Foundation, Rev. 22.41

This self-paced, eLearning course introduces you to the foundation & advanced concepts of UEFI ROM for HPE ProLiant Servers and HPE Synergy. Topics include product overview, features, architecture, and functionality. It also guided simulation & video demo to practice and explore UEFI System Utilities & UEFI Shell options. After completing this course, you should be able to identify the product's features.

- Module 1: Product Overview
 - Module overview
 - UEFI defined
 - Legacy BIOS versus UEFI
 - System Utilities versus RBSU
 - Tour of the pre-boot environment
 - Key takeaways
 - Learning check
- Module 2: Theory of Operation
 - Module overview
 - UEFI history
 - Value proposition backed by technology.
 - System ROM design
 - UEFI compared to BIOS
 - UEFI classes
 - Key takeaways
 - Learning check
- Module 3: UEFI Use & Configure
 - UEFI System Utilities
 - BIOS/Platform Configuration
 - UEFI Shell
 - Learning Check
- Module 4: Troubleshoot & Resolve
 - Module overview
 - Embedded UEFI Diagnostics
 - Modes for Embedded UEFI Diagnostics
 - Noncompatible settings
 - Troubleshooting scenarios
 - Key takeaways
 - Learning check
- Module 5: Repair
 - Module overview
 - Connecting to the server
 - Boot mode set in System Utilities
 - Embedded Flexible LOM configuration.
 - Embedded Applications
 - UEFI variables
 - Video options
 - Restore server defaults.
 - Key takeaways
 - Learning check

iLO Amplifier Pack Foundation, Rev. 21.41

This course provides the required knowledge to install and configure the HPE iLO Amplifier Pack software for the first time. Topics cover the main features, architecture, and functionality of this solution. Directions are also provided to perform typical configuration and upgrade tasks.

- Module 1: Product Overview
 - Product description
 - iLO Amplifier Pack key features
 - Product positioning
- Module 2: Software Install and Configure
 - Installing iLO Amplifier Pack
 - Configuring iLO Amplifier Pack
- Module 3: Software Management and Use
 - Dashboard overview
 - Managing servers
 - Deploying firmware and drivers
 - Server recovery management
 - HPE InfoSight for Servers management
 - Managing iLO Amplifier Pack appliance
- Module 4: Theory of Operation
 - iLO Amplifier Pack architecture
 - Server firmware update communication flow
 - Server System Restore flow
 - HPE InfoSight communication flow
 - HPE InfoSight eRS architecture
- Module 5: Troubleshoot and Resolve
 - Troubleshooting iLO Amplifier Pack overview
 - Monitoring jobs
 - Viewing and configuring alerts
 - Resolving iLO Amplifier Pack common issues
 - Resolving vLCM HSM plugin common issues
 - Resolving HPE InfoSight connectivity issues
 - Resolving AHS download errors
 - Retrieving iLO Amplifier Pack support logs
 - Resetting the iLO Amplifier Pack appliance
- Module 6: Resources

HPE OneView for ProLiant DL/ML Servers, Rev.21.31

This course presents HPE OneView management features for HPE ProLiant DL and ML Servers. During the course, students learn how to deploy, configure, and use HPE OneView to manage HPE ProLiant DL/ML Servers. Students also learn how to use HPE OneView Global Dashboard to monitor resources from several HPE OneView Management instances. Hands-on practice labs in a simulated HPE OneView environment are included to help students better understand and retain HPE OneView knowledge.

- Module 1 - Introduction to HPE OneView
 - Module 2 - HPE OneView Appliance Installation and Configuration
 - Module 3 - Configuring Storage for HPE ProLiant DL Servers
 - Module 4 - Server and Profile Management
 - Module 5 - HPE OneView Maintenance and Support
 - Module 6 - Datacenter Management and HPE OneView Global Dashboard
- Hands-on experiences:
- Lab Exercise 1: Adding an SPP to HPE OneView
 - Lab Exercise 2: Managing and Configuring Storage Components in HPE OneView
 - Lab Exercise 3: Adding Rack Server for Management and Monitoring
 - Lab Exercise 4: Preparing a Server Profile Template and Server Profile for a DL System
 - Lab Exercise 5: Modifying the Server Profile Template and Server Profile for a DL System
 - Lab Exercise 6: Creating a Support Dump and Backing Up HPE OneView
 - Lab Exercise 7: Creating HPE OneView Reports
 - Lab Exercise 8: Configuring Security in HPE OneView
 - Lab Exercise 9: Configuring Datacenter Components
 - Lab Exercise 10: Using HPE Global Dashboard

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