

Szkolenie: HPE
Fast Track for Deploying HPE FlexFabric Comware Technologies

FORMA SZKOLENIA	MATERIAŁY SZKOLENIOWE	CENA	CZAS TRWANIA
Stacjonarne	Tradycyjne	7800 PLN NETTO*	5 dni
Stacjonarne	Tablet CTAB	8400 PLN NETTO*	5 dni
Metoda dlearning	Tradycyjne	7800 PLN NETTO*	5 dni
Metoda dlearning	Tablet CTAB	8400 PLN NETTO*	5 dni

* (+VAT zgodnie z obowiązującą stawką w dniu wystawienia faktury)

LOKALIZACJE

Kraków - ul. Tatarska 5, II piętro, godz. 9:00 - 16:00

Warszawa - ul. Bielska 17, godz. 9:00 - 16:00

Cel szkolenia:

This course gives network engineers an opportunity to plan for and implement networks utilizing HPE Comware devices. Participants will work HPE IRF, IMC, ACLs, QoS, OSPF, BGP, and Multicast technologies. This course covers basic and advanced topics; learner will experience both theory and hands on real hardware through lab exercises over five days.

The learner will configure and monitor Comware devices using open standard technologies. You will work with Layer 2 technologies, such as Multiple Instance Spanning Tree (MSTP) and Link Aggregation (Trunks). You will also learn about Layer 3 technologies, such as static routes, Open Shortest Path First (OSPF) with Multi-Area implementations, and Border Gateway Protocol (BGP), along with Multicast solutions leveraging Protocol independent Multicast (PIM) both dense and sparse modes.

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

- Protect devices with local and remote authentication using telnet, SSH, web, and SNMP access
- Navigate the HPE Comware CLI and manage the flash file system
- Upgrade the Comware switch operating system
- Configure VLANs on HPE Comware switches
- Configure a Comware switch for DHCP server and DHCP relay
- Configure multiple spanning tree and apply STP security features
- Differentiate between static and dynamic Link Aggregation
- Configure and troubleshoot Link Aggregation on HPE switches
- Implement and deploy HPE IRF with MAD technologies to protect your network

- Configuring and managing HPE Comware devices with HPE IMC
- Configure, design, and deploy Access Control Lists (ACLs)
- Configure, design, and deploy Open Shortest Path First (OSPF), in multi-area, and work with external routes
- Configure, design, and deploy Border Gateway Protocol (BGP)
- Configure, design, and deploy Quality of Service (QoS)
- Configure, design, and deploy Multicast (Protocol Independent Multicast Dense Mode and Spare mode) along with IGMP technologies

Audience:

This course is intended for network or systems administrators, network engineers, and consultants who plan to deploy HPE Comware 7 switches into a new or existing network

Plan szkolenia:

- Introduction-SME
 - Welcome to Fast Track for Deploying HPE FlexNetwork Comware Technologies!
 - Course schedule
 - Introductions
- Basic Setup-SME
 - Accessing the console of an HPE Comware switch
 - Levels of access and privilege levels
 - CLI introduction and navigation
 - Basic configuration
 - Interface configuration
 - Troubleshooting
- Protecting Management Access
 - Applying password protection to local and remote authentication
 - Associating user roles with password and scheme authentication
 - Implementing remote management with telnet, SSH, web, and SNMP access
- Management of Software and Configuration Files
 - Understanding the boot up process of the HPE switches
 - Understanding how to use the flash file system on the HPE switches
 - Upgrading the operating systems on the HPE switches
 - Managing configuration files on the HPE switches
- VLANs
 - Reviewing VLANs and the various types of VLAN

- Understanding when to use each of the three VLAN port types
- Configure VLANs and assign IP addresses to VLAN interfaces
- Implementing basic routing on directly connected VLANs
- Verify connectivity within and between VLANs
- IP Services
 - Implementing DHCP server and DHCP relay on Comware switches
 - Implementing secure NTP on Comware switches
 - Understanding and configuring basic logging options
 - Implementing DNS to resolve names to addresses
- Spanning Tree Protocol
 - Overview of pre-2004 IEEE 802.1D standard
 - Overview of RSTP
 - Overview of PVST+
 - Overview and configuration of MSTP on Comware switches
 - Configuration of STP security features on Comware switches
- Link Aggregation
 - Reviewing problems with STP and load sharing with STP
 - Introducing link aggregation
 - Comparing and contrasting the different link aggregation types
 - Configuring and verifying link aggregation on Comware switches
- IP Routing
 - VLANs and routing
 - Static routing
 - Dynamic routing with RIP
 - Dynamic routing with OSPF
 - Single area OSPF configuration
- Intelligent Resilient Framework (IRF)
 - Understanding the technologies and concepts involving IRF
 - Understanding the advantages that IRF provides
 - Describing a split stack and how the Multi-Active Detection (MAD) protocol deals with this problem
 - Configuring a simple IRF topology
 - Verifying and troubleshooting an IRF topology Detailed course outline Course data sheet Page 4
- Introduction to Intelligent Management Center (IMC)
 - Understand the components of IMC
 - Understand how to install IMC

- Understand how to access IMC
- Implement a basic configuration using IMC
- Access Control Lists (ACLs)
 - Define ACL and identify the criteria by which ACLs select traffic
 - Configure ACLs on HPE Comware based switches to select given traffic
 - Apply static ACLs to interfaces to meet the needs of a particular scenario
 - Examine an ACL configuration and determine the action taken on specific packets
- Quality of Service
 - Configure HPE switches to honor the appropriate QoS marks applied by other devices
 - Create a QoS policy that assigns a specified class of traffic to a priority queue
 - Select and implement an appropriate strategy for queue scheduling
 - Implement traffic policing policies that enforce the negotiated committed information rate (CIR), committed burst size (CBS), peak information rate (PIR), and excessive burst size (EBS) for a specified class of traffic
 - Respond to congestion in advance by applying the appropriate traffic shaping and Weighted Random Early Detection (WRED) policies
 - Determine the QoS mark that an HPE switch will assign to specific outbound traffic and, if necessary, adjust the mark
- Advanced Open Shortest Path First
 - Deploy HPE products in single-area and multiple-area OSPF systems
 - Use area definitions and summaries to create efficient and scalable, multiple-area designs
 - Advertise routes to external networks in a variety of OSPF environments
 - Promote fast, effective convergence during a variety of failover situations
 - Use virtual links as required to establish nondirect connections to the backbone
 - Implement OSFP authentication
- Exterior Border Gateway Protocol
 - Establish and monitor eBGP sessions between your routers and Internet Service Provider (ISP) routers
 - Advertise an IP block to multiple ISP routers
 - Filter BGP routes as required for a dual-homed ISP connection
 - Configure a BGP router to advertise a default route in OSPF or to redistribute and aggregate BGP routes, as appropriate
- IP Multicast
 - Route multicast traffic using Protocol Independent Multicast-Dense Mode (PIM-DM) or Protocol Independent Multicast-Sparse Mode (PIM-SM)
 - Select and configure rendezvous points (RPs) based on particular environmental needs such as redundancy and efficient operation

- Minimize unnecessary multicast flooding
- Apply advanced controls such as source-specific multicasting (SSM) and administrative scopes to a PIM-SM deployment
- Appendix A: Converged Infrastructure
 - FlexFabric
 - FlexCampus
 - FlexBranch
 - FlexManagement
 - Software-Defined Networks (SDN)
- Appendix B: Basic Network Design Concept
 - Understanding the differences between the access, distribution, and core layers
 - Comparing and contrasting a two-tier versus three-tier design
 - Choosing appropriate links for connections
 - Implementing the appropriate redundant solution
 - Understanding IP addressing special needs
 - Understanding good practices in OSPF designs

Wymagania:

This course is recommended for students who need to deploy HPE FlexFabric technologies based on Comware. It does not require completion of any previous HPE networking courses

- Network experience is required

Poziom trudności



Certyfikaty:

After completing the course, participants receive a certificate of completion of an authorized HP course.

Prowadzący:

Authorized HPE Trainer.