Implementing AOS-CX Switching

Category: Networking & Security | **Vendor:** HPE Aruba Networking

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Course Overview

This 5-day course prepares you for the updated AOS-CX switching-based ACP - Switching certification exam (Exam Code: HPE7-A08). Attending this course will teach you the advanced skills necessary to implement and operate enterprise-level HPE Aruba Networking switching solutions. You will build on the skills you learned at the Associate level to configure and manage modern, open standards-based networking solutions using HPE Aruba Networking AOS-CX routing and switching technologies. In this course, you will learn about AOS-CX switch technologies:

- Securing port access with HPE Aruba Networking Dynamic Segmentation
- Redundancy technologies such as Multiple Spanning Tree Protocol (MSTP)
- Link aggregation techniques, including Link Aggregation Protocol (LACP)
- Switch virtualization with HPE Aruba Networking Virtual Switching eXtension (VSX) and HPE Aruba Networking Virtual Switching Framework (VSF)

This course is approximately 50% lecture and 50% hands-on lab exercises.

About This Course

Intro to AOS-CX Switching

- AOS-CX switch overview
- Legacy management systems
- Modern management approach
- The REST API and URIs
- NAE and the Time-series database
- Dynamic Segmentation
- Always on POE

Virtual Output Queuing

- Virtual Switching eXtension
- Virtual switching technologies
- VSX components
- VSX synchronization
- Split brain scenarios

Layer 2 Optimization

- UDLD
- Private VLAN
- Basics of Spanning Tree Protocol
- RPVST+

Advanced OSPF

- OSPF overview
- Multi-area OSPF
- Route redistribution using ASBRs
- OSPF area types
- OSPF redundancy
- Additional OSPF features

Border Gateway Protocol

- BGP overview
- BGP neighbor connections
- BGP route advertisements
- BPG route selection metrics and tuning
- Controlling eBGP routes

Additional Layer 3 Features

- Virtual routing and forwarding (VRF)
- Policy-based routing
- ARP protection
- DHCP snooping
- IPsec and NAT

IGMP

- Multicast introduction
- IGMP overview

Multicast Routing

- PIM introduction
- PIM-DM
- PIM-SM
- PIM-SM build-up process
- BSR mechanism
- VSX and PIM

Access Control Lists

- ACL introduction and creation
- ACL application scenarios
- Applying ACLs
- Object groups
- Classification policies
- Restrictions and resource utilization

802.1X Authentication

- Authentication overview
- 802.1X authentication overview
- Configuring 802.1X on switch ports
- RADIUS attributes for the dynamic settings
- User roles overview
- Device fingerprinting overview

MAC Authentication

- MAC authentication overview
- MAC-auth with multiple clients
- MACsec overview

Dynamic Segmentation

- Dynamic Segmentation overview
- User-based tunneling
- Configuring UBT
- UBT with MC cluster
- Troubleshooting

REST API

- REST API introduction
- REST basic concepts
- Enabling the REST interface on an AOS-CX switch
- Sending requests to the REST API
- Accessing the REST API reference interface
- Use cases and resources

Quality of Service

- QoS overview

- Classifying traffic and applying policies
- LLDP-MED and device profiles

Network Analytics Engine (NAE)

- NAE overview
- NAE agents
- Agent actions

Troubleshooting

- Troubleshooting overview
- Troubleshooting principles
- Components of effective troubleshooting
- Need for a methodical approach
- Problem-solving methodology
- Network troubleshooting tools

Who Should Attend

Typical candidates for this course have experience in advanced level implementation and maintenance of wired solutions. They possess experience assessing and interpreting existing networks and network design documentation. They regularly troubleshoot, resolve issues, and perform ongoing support of large network environments. They have familiarity with wired network security best practices and perform duties independently with at least two years of experience working as a member of the team that supports maintaining multiple campus topologies, edge branches, and data center networks.

Prerequisites & Entry Requirements

General Prerequisites:

It is highly recommended that candidates already have some advanced knowledge of networking (routing, switching, and security). Candidates are encouraged to have taken the AOS-CX Switching Fundamentals (CXSF) course and achieved the ACA - Switching certification.

Please take this short self-assessment (https://quiz.computerdata.com/icx/icx.html) to make sure whether Implementing AOS-CX Switching is the right course for you.

Learning Outcomes

Upon successful completion of this course, participants will be able to:

After you successfully complete this course, expect to be able to:

- Compare AOS-CX switching models and describe features
- Use NAE and scripts to ease monitoring, troubleshooting of operational issues as well as sFlow traffic flows and port mirroring
- Describe VSX use cases, operation, and best practices for resiliency and scalability
- Describe and configure access control lists for improved security, protecting management traffic and ease troubleshooting
- Describe and deploy multiarea OSPF networks, virtual links and improved convergence times as well as security
- Establish, monitor, manipulate, and filter BGP route relationships, path selection and advertisements
- Describe multicast addressing, IGMP, and IGMP snooping
- Describe and implement Protocol Independent Multicast (PIM)- Dense mode (PIM-DM) and Sparse mode (PIM-SM)
- Describe the components of 802.1x authentication, implementing it on AOS-CX switch ports, and integrate it with HPE Aruba Networking ClearPass
- Implement RADIUS-based MAC authentication and device profiles
- Understand user-based tunneling and configure Dynamic Segmentation and PAPI
- Describe and implement various Quality of Service (QoS) mechanisms, including classifications, marking, queues and schedules
- Implement VRF to isolate routed traffic and manipulate traffic routing with Policy-Based Routing (PBR)
- Understand and configure captive portal configuration with ClearPass Guest and BYOD solutions

Detailed Course Outline

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Skills You Will Learn:

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Frequently Asked Questions

Q: What delivery options are available for Implementing AOS-CX Switching?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: How many CPD hours does this course provide?

The 5-day Implementing AOS-CX Switching course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Implementing AOS-CX Switching training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Implementing AOS-CX Switching?

Yes, we provide corporate training, dedicated training, and closed classes for Implementing AOS-CX Switching. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Implementing AOS-CX Switching, Aruba Switching OS CX, ICXS

Q: Why choose Nexus Human for Implementing AOS-CX Switching?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Implementing AOS-CX Switching training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

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