+33 (0)1 48 10 09 46
formation@ambient-it.net
140 Avenue Jean Lolive 93500 Pantin - France

Updated on 04/28/2026

Sign up

Aruba AOS-CX Switching Implementation (ICXS) Training

5 days (35 hours)

This 5-day course prepares you for the ACP - Switching certification exam based on the updated AOS-CX switching (Exam Code: HPE7-A08). Taking this course will teach you the advanced skills needed to implement and operate HPE Aruba Networking enterprise-class switching solutions.

During this training, you will build on the skills acquired at the Associate level to configure and manage modern, standards-based network solutions using HPE Aruba Networking AOS-CX routing and switching technologies. In this course, you will learn the following AOS-CX switching technologies:

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

This course consists of approximately 50% lectures and 50% hands-on lab exercises.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Compare AOS-CX switching models and describe their features
- Use NAE and scripts to facilitate monitoring and troubleshooting of operational issues, as well as sFlow traffic flows and port mirroring
- Describe VSX use cases, how it works, and best practices for resilience and scalability
- Describe and configure access control lists to improve security, protect management traffic, and facilitate troubleshooting

- Describe and deploy multi-zone OSPF networks and virtual links, and improve convergence times and security
- Establish, monitor, manipulate, and filter BGP route relationships, path selection, and announcements
- Describe multicast addressing, IGMP, and IGMP monitoring
- Describe and implement Protocol Independent Multicast (PIM) in Dense Mode (PIM-DM) and Sparse Mode (PIM-SM)
- Describe the components of 802.1x authentication, implement it on AOS-CX 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 scheduling
- Implement VRFs to isolate routed traffic and manage traffic routing with policy-based routing (PBR)
- Understand and configure a captive portal with ClearPass Guest and BYOD solutions

Target Audience

- Anyone with experience in the advanced implementation and maintenance of wired solutions.

Prerequisites

- Advanced networking knowledge

Curriculum for our Aruba AOS-CX Switching Fundamentals (CXSF) Training

[Day 1 - Morning]

Introduction to AOS-CX Switching

- Overview of AOS-CX Switches
- Legacy management systems
- Modern Management Approach
- The REST API and NAE URIs
- NAE and the chronological database
- Dynamic Segmentation
- Always-on POE

[Day 1 - Afternoon]

Virtual output queue

- Virtual switching extension
- Virtual Switching Technologies
- VSX components
- VSX Synchronization
- Split-brain scenarios

Layer 2 Optimization

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

[Day 2 - Morning]

Advanced OSPF

- OSPF Overview
- OSPF Multi-Zone
- Route Redistribution via ASBR
- Types of OSPF Zones
- OSPF Redundancy
- Additional OSPF Features

[Day 2 - Afternoon]

Border Gateway Protocol

- BGP Overview
- BGP Neighbor Connections
- BGP Route Advertisements
- Metrics and BGP Route Selection Adjustment
- eBGP Route Control

Additional Layer 3 Features

- Virtual Routing and Forwarding (VRF)
- Policy-based routing
- ARP protection
- DHCP filtering
- IPsec and NAT

[Day 3 - Morning]

IGMP

- Introduction to Multicast
- Overview of IGMP

Multicast Routing

- Introduction to PIM
- PIM-DM
- PIM-SM
- PIM-SM Build Process
- BSR Mechanism
- VSX and PIM

[Day 3 - Afternoon]

Access Control Lists (ACLs)

- Introduction to and Creation of ACLs
- ACL Application Scenarios
- Applying ACLs
- Object groups
- Classification Policies
- Resource Restrictions and Usage

802.1X Authentication

- Authentication Overview
- Overview of 802.1X Authentication
- Configuring 802.1X on Switch Ports
- RADIUS Attributes for Dynamic Settings
- Overview of User Roles
- Overview of Device Identification

[Day 4 - Morning] MAC

Authentication

- Overview of MAC Authentication
- MAC Authentication with Multiple Clients
- Overview of MACsec

[Day 4 - Afternoon] Dynamic

Segmentation

- Overview of Dynamic Segmentation
- User-Based Tunneling
- UBT Configuration
- UBT with MC Cluster
- Troubleshooting

REST API

- Introduction to the REST API
- REST Basics
- 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

[Day 5 - Morning]

Quality of Service (QoS)

- QoS Overview
- Traffic Classification and Policy Enforcement
- LLDP-MED and Device Profiles

[Day 5 - Afternoon]

Network Analysis Engine (NAE)

- NAE Overview
- NAE Agents
- Agent Actions

Troubleshooting

- Troubleshooting Overview
- Principles of Troubleshooting
- Components of Effective Troubleshooting
- The Need for a Methodical Approach
- Problem-Solving Methodology
- Network Troubleshooting Tools

Target Audience

This training is designed for both individuals and companies—large or small—that wish to train their teams in new advanced IT technologies or to acquire specific professional knowledge or modern methods.

Assessment upon enrollment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training program.