Arista Academy Campus Operations Track

COURSE OVERVIEW

The Arista Academy Campus course equips network professionals with the knowledge and skills required to configure, troubleshoot, and manage Arista Layer 2 and 3 Campus network designs. You will explore key topics such as Arista Campus Architecture, CloudVision (CVP/CV-CUE), Layer 2 and 3 Wired Campus Networks, Wireless Fundamentals, Campus Wireless Deployment, and Campus Security. This course also includes hands-on labs to reinforce theoretical knowledge with practical application. This is a 5-day Instructor-Led Training (ILT).

The Campus track is divided into two distinct sub-tracks: Operations and Engineering. Operations focus on Day-2 tasks such as telemetry and troubleshooting, while Engineering concentrates on the design and architecture of L2 campus networks. Both tracks include hands-on labs with a focus on the distinct tasks for each of these roles.

WHO WILL BENEFIT FROM THIS COURSE?

Network engineers and administrators managing campus network infrastructure and responsible for troubleshooting and maintaining campus networks.

PREREQUISITES

- Solid understanding of Layer 2/3 network technologies and protocols
- Understanding of Spine/Leaf designs is a benefit

COURSE OBJECTIVES

- Understand and implement Arista's modern Layer 2 and 3 Campus network solutions.
- Configure and manage wired and wireless campus networks.
- CloudVision for network automation and management.
- Strengthen campus network security using Zero Trust principles.

COURSE OUTLINE

Campus operations with CloudVision

CloudVision overview
- Why CloudVision
- Approaches to network automation
- Introduction to CloudVision
- CVP implementation options

CloudVision setup

- CVP clustering
- CVP Multi-node OVA installation
- CVaaS initial onboarding
- Upgrading CVP
- CVP backup and restore
- Getting familiar with CVP interface
- CVP profiles
- CVP help center
- License key management using CVP
- Lab – Navigating CVP

CloudVision Provisioning

Device registration

- Connecting devices to CloudVision
- Manual onboarding

Network provisioning

- Containers
- Configuration sources
- Designed and running config
- Configlets
- Tasks and change control
- Applying configlets to containers
- Reconcile
- Lab – Configlets
- Snapshots and staging
- Redesigned change control UI
- Rollback
- Lab – Snapshots
- Lab – Change Control
- Image repository

Zero touch provisioning

- Zero touch provisioning (ZTP)
- Deploying and onboarding vEOS to CVP suing ZTP
- Zero Touch replacement (ZTR)
- Replacing a device using ZTR

CloudVision Campus Studios

Studios overview

- Introduction to Studios and Tags

- Workspaces
- Studio deployment and execution
- Lab – Using Studios
- Lab – Clean up Studios

Studios in action

- New Studios UI
- Static configuring Studio
- Management connectivity Studio
- Software management Studio
- Authentication Studio
- Mirroring Studio
- Provisioning new devices with ZTP and Studios
- Lab – Static configuration Studio

Operating L2LS Campus network with CVP Studios

- Onboarding devices to Studios
- Configure L2LS network using Studios
- Configure access interfaces
- Submit workspace and execute change control
- Managing L2LS campus gateway connectivity with
- Studios
- Add a new VLAN to L2LS campus
- Modifying VLAN settings in L2LS campus
- Connecting new host to L2LS campus
- Lab – Deploying L2 Campus with Studios

Campus Zero Touch operations

- CloudVision Campus dashboard overview
- CloudVision Campus Day 1 – Onboarding
- CloudVision Campus Day 2 – Provisioning and
- Diagnostics
- CloudVision endpoint analyzer
- Lab – Day 2 operations with L2 Campus Studios

Operating L3LS Campus network with CVP Studios

- Configuring L3LS Campus with CVP Studios
- Configuring L2LS Campus with VXLAN and eVPN using Studios
- Adding new access pods to L3LS Campus
- Adding new spines to L3LS Campus
- Adding new VRFs to L3LS Campus
- Add new VLANs to L3LS Campus
- Modifying VRF and VLAN settings for L3LS Campus
- Changing underlay protocol in L3LS Campus
- Connecting new hosts to L3LS Campus
- Lab – Deploying L3LS Campus with VXLAN and eVPN using Studios
- Lab – Day 2 operations with L3 Campus Studios

Monitoring Campus with CVP

Monitoring devices with CVP
- Network hierarchy
- Compliance overview
- Device input power
- 802.1x details in endpoint search
- Lab – Monitoring Campus with network hierarchy

Dashboards
- Dashboards overview
- Dashboards enhancements
- Device connectivity health panel dashboard
- Compliance counts dashboard
- Syslog filters dashboard
- Dashboard tabs layout
- Exporting and importing dashboards

Events
- Events overview
- Event groups
- Compliance events
- Config sanity check events
- Lab – Dashboards and Events

Topology
- Introduction to topology
- Topology icons and settings
- Custom topology hierarchies
- User defined topology filters
- Lab - Topology

EOS Operations upgrades

EOS reloads and upgrades
- Understanding EOS upgrades
- Standard upgrade vs smart system upgrade
- Upgrading EOS with CLI
- Upgrading EOS with CVP
- MLAG ISSU upgrade and reload with CLI
- Chassis upgrade and reload
- MLAG upgrade and reload with CVP

EOS monitoring tools
- SNMP
- sFLow

- Watch and Diff commands
- Latency Analyzer (LANZ)
- Port mirroring

Advanced Event Management (AEM)

- AEM – CLI scheduler
- AEM – Event monitor
- AEM – Event manager
- Lab - AEM

Troubleshooting EOS hardware and software

- System and software troubleshooting
- SFP and physical errors
- Arista EOS health checks – CLI and CVP
- Hardware troubleshooting
- Memory and flash errors
- Tcpdump and Iperf
- Installing extensions
- Recovery procedures

Managing Wireless operations

Introduction to CV-CUE

- Introducing CV-CUE

CV-CUE operations overview

- CV-CUE features overview
- Wired and wireless monitoring
- Auto Wi-Fi threat detection and prevention
- Auto network assurance
- Auto issue locationing
- Auto client connectivity troubleshooting
- Auto client and network performance issue troubleshooting
- Auto Application troubleshooting
- Lab – Navigating CV-CUE

Device firmware update in CV-CUE

- Hitless AP upgrades

CV-CUE AIOps

- Explore overview dashboard
- Analyze app experience using the overview dashboard
- Explore feed dashboard
- Perform operations with Cognitive maps
- Map view persona-based workflows
- Floor plan coverage and throughput SLA

Wi-Fi visibility with CV-CUE
- Reactive and proactive troubleshooting
- Monitor Wi-Fi with CUE dashboard
- Monitor clients with CUE
- Monitor Access Points and RFs with CUE
- Monitor Wi-Fi with Cognitive maps and alerts
- Proactive Wi-Fi monitoring with client connectivity test
- Monitor Wi-Fi with Map views and feed
- View and Compare configuration checkpoints
- Lab – Monitoring wireless clients
- Lab – Monitoring access points

Wi-Fi visibility with CloudVision
- Monitor devices with CloudVision campus health dashboard
- Telemetry between CVP and CV-CUE

Troubleshoot Wi-Fi issues with CV-CUE
- Proactive network assurance
- Troubleshoot wrong PSK issue
- Troubleshoot RADIUS access reject issue
- Troubleshoot No DHCP IPv4 address issue
- Troubleshoot Low RSSI and low data rate issues
- Troubleshoot high retry rate issue
- Troubleshoot DNS failures IPv4 issue
- Troubleshot Rogue AP issue
- Day in the life of CV-CUE network operator
- Lab – Client connectivity test
- Lab – Troubleshoot Client connectivity issues

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