LEARNING TRACKS

NETWORK FOUNDATIONS

NETWORK FOUNDATIONS

NETWORK ENGINEERING FUNDAMENTALS

- Network Introduction
  - Introduction to Networks
  - Introduction to Network Models
  - OSI in Action
  - Introduction to TP/IP
- Physical Layer
  - Cabling and Connectivity - Part 1 - Copper and Fiber
  - Cabling and Connectivity - Part 2 - Fiber and Wireless
- Ethernet Switching
  - Ethernet and MAC Address
  - L2 Device Learning and Forwarding
- Network Layer
  - Introduction to IPv4
  - What is a Subnet Mask?
  - IPv4 Classes
  - Unicast IPv4 Addresses
  - Default Gateway
  - Subnetting
- Network Protocols
  - DHCP
  - ICMP
  - ARP
  - ARP
  - NTP
- Transport Layer & Application Layer
  - Transport Layer Responsibilities
  - TCP vs UDP

ARISTA EOS FUNDAMENTALS

- EOS Overview
  - Consistent Networking with EOS
  - Introduction to Arista EOS
  - Accessing EOS
  - Introduction to Network Database (NetDB)
  - EOS Network Dataplane (NetDL)
  - Extensibility
  - The Secret Sauce of Arista EOS Quality
- Getting Started with EOS
  - Initial Switch Configurations
  - EOS Boating Process
  - CLI Configuration Modes
  - Interface Types
  - Interfaces and Ports
  - Configuration Checkpoints
  - Configuration Sessions
  - Lab - Introduction to EOS CLI
  - Lab - Setting up the Management Connectivity
  - Lab - Understanding and Working with Network Protocols

LAYER 2 SWITCHING FUNDAMENTALS

- Neighbor Discovery
  - Introduction to Neighbor Discovery
  - Lab - Configuring Neighbor Discovery in L2P
  - Lab - Creating a Network Diagram using L2P
- Virtual Local Area Networks (VLANs)
  - Introduction to VLANs
  - Introduction to Trunking Protocols 802.1Q
  - Configuring VLANs on a Single Switch
  - Configuring VLANs between two switches
  - Inter-VLAN Routing
  - Configuring Router on a Stick
  - Configuring Inter-VLAN Routing with SVIs
  - Lab - Configure VLANs
  - Lab - Configure Inter-VLAN Routing
- Spanning-Tree (STP)
  - Introduction to Spanning-Tree Protocol (STP)
  - STP Operation
  - STP Port States
  - STP Modes
  - Lab - Configure STP
- Link Aggregation Protocol
  - Introduction to Link Aggregation
  - Introduction to LACP
  - Introduction to MLAG
  - Lab - Configuring LACP and MLAG

LAYER 3 ROUTING FUNDAMENTALS

- Introduction to Routers
  - Introduction to Routers
  - Network Design with Routers
  - Lab - Configure L2 Addresses
- Routing
  - Why Routing
  - Routing Concepts
  - Introduction to Routing
  - Introduction to Dynamic Routing
  - Classful vs Classless Routing Protocols
  - Metric and Admin Distance
  - Distance Vector Protocols - RIP
  - OSPF Basics
  - Introduction to Link State Routing
  - Lab - Configure Routing Protocols
- Virtual Routing
  - Wide Area Network
  - Network Address Translation (NAT)

SUPPLEMENTAL

ADVANCED NETWORKING CONCEPTS

- Security
  - Introduction to Access Lists
  - ACL Types
  - Authentication, Authorization, Accounting (AAA)
  - Port Security
  - IP Source Guard and ARP Inspection
  - Lab - Access List
  - Lab - Authenticating AAA
- Quality of Service
  - Introduction to QoS
  - Classification and Marking Marking
  - Congestion Management
  - Congestion Avoidance
  - Lab - Configure QoS
- IPv6
  - Introduction to IPv6
  - IPv6 Address Types
  - Lab - Configure IPv6 Addresses
- Cloud Networking
  - Why Automation
  - Automation Methods
  - Automation Frameworks
  - Lab - Navigating CloudVision Portal

DATA CENTER

OPERATIONS

CLOUDVISION OVERVIEW & SETUP

- CloudVision Overview
  - Why CloudVision?
  - Approaches to Network Automation
  - Introduction to CloudVision
  - Topologies
- CloudVision Setup
  - CVP Clustering
  - CVP Cluster Node DVA Installation
  - CVKVM Installation
  - Upgrading CVaaS
  - CVP Backup and Restore
  - Getting Familiar with CVP Interface
  - CVP Tools
  - CVP Help Center
  - License Key Management with CVP
  - Lab - Navigating CVP

CLOUDVISION PROVISIONING

- Device Registration
  - Connecting Devices to CloudVision
  - Manual Provisioning
- Network Provisioning
  - Containers
  - Configuration Sources
  - Configlets and Assigning Config
  - Configlets
  - Tasks and Change Control
  - Assigning Configlets to Containers
  - Reconcile
  - Lab - Configlets
  - Snapshots and Staging
  - Redesigned Change Control UI
  - Workspaces
  - Lab - Change Control
  - Lab - Change Control
  - Image Management
  - Lab - Image Bundle Builder
  - Image Repository
- Zero Touch Provisioning
  - Zero Touch Provisioning (ZTP)
  - Deploying and Onboarding vEOS to CVP using ZTP
  - Deploying cEOS to CVP using ZTP
  - Replacing a Device using ZTP

LAYER 3 LEAF SPINE DESIGN

- L3LS Review
  - L3LS Review
  - L3LS Example
- L3LS Design
  - Introduction to L3LS Design
  - VXLAN and EVPN Importance in L3LS Design
  - Why BGP Underlay for L3LS Design

UNDERLAY ROUTING OPTIONS

- OSPF
  - OSPF
  - OSPF Overview
  - OSPF Operations
  - OSPF Communications
  - OSPF Messages
  - Lab - OSPF
- IS-IS
  - IS-IS Intro and Operations
  - IS-IS Command Modes
- Introduction to BGP
  - Introduction to BGP
  - BGP Functions and Facts
  - BGP Operation
  - BGP Peer Establishment
  - eBGP Underlay Configuration
- eBGP Underlay Configuration
  - L3LS eBGP Underlay Configuration
  - eBGP Load Balancing Configuration
  - Lab - Configuring Underlay Routing
- BGP Underlay Deployment Options
  - BGP with MLAG
  - Lab - Configure BGP
  - Lab - Implementing Underlay with eBGP

VXLAN DESIGN

- VXLAN Overview
  - Introduction to VXLAN
  - VXLAN Bridging Overview
- VXLAN Control Plane Options
  - ARP Refresher
  - VXLAN Static Control Plane
  - VXLAN MAC Control Plane
  - Configuring VXLAN HER
  - VXLAN Flood Lists
  - VXLAN EVPN Control Plane
  - Lab - Configure VXLAN Datapaths with HER
- VXLAN MAC Learning
  - Introduction to VXLAN with MLAG
  - Configuring VXLAN with MLAG
- MTU and Jumbo Frames
  - MTU and Jumbo Frames
  - Lab - Jumbo Frames
- Troubleshooting VXLAN
  - Troubleshooting VXLAN

EVPN OVERLAY

- eBGP Underlay Configuration
  - L3LS eBGP Underlay Configuration
  - eBGP Load Balancing Configuration
  - Lab - Configuring Underlay Routing
- BGP Underlay Deployment Options
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  - Troubleshooting VXLAN

EVPN OVERLAY

- eVPN Fundamentals
  - Introduction to eVPN
  - eVPN Terminology
  - VRF Operation
  - eVPN Control Plane Part 1
  - MP-BGP Control Plane Part 1
  - Configuring MP-eBGP for eVPN
  - eVPN Route Type 2 (MAC-IP)
  - eVPN Route Type 5 (IP Prefix)
  - eVPN Route Type 3 (IMET)
  - Lab - L2EVPN
- eVPN Advanced Concepts
  - Introduction to Ethernet Segment
  - VLAN Aware Bundle Service Interface
  - Introduction to IRB
  - Symmetric IRB Overview
  - Symmetric IRB Data Plane
  - Configuring Symmetric IRB
  - Verifying Symmetric IRB
  - Lab - L3 EVPN Symmetric IRB
  - Lab - L3 EVPN Asymmetric IRB
- Active-Active Multihoming
  - Introduction to Active-Active Multihoming
  - Route Types 1 and ESI
  - Route Type 1 Ethernet Auto-Type 4
  - Active-Active Multihoming Configuration
  - Lab - EVPN Multihoming
- eVPN Design Best Practices
  - BGP Between MLAG peers and eBGP Multihop command
  - eBGP for Underlay and Overlay
- Build L3LS Campus with VXLAN and EVPN Using Studios
  - Configuring L3LS Campus with VXLAN and EVPN
  - Configuring L3LS Campus with VXLAN and eVPN Using Studios
  - Lab - Deploying L3LS Campus with VXLAN and eVPN Using Studios

ENGINEERING

LAYER 2 LEAF SPINE (L2LS) DESIGN OVERVIEW

- L2LS Architecture
  - Introduction to Layer 2 Leaf Spine Topologies
  - L2LS Design Overview
  - L2LS Architecture Plan for Performance, Redundancy, and Growth

LAYER 2 TECHNOLOGIES

- VLANs
  - VLAN Overview
  - Configuring Access and Trunk Ports
  - Introduction to Inter-VLAN Routing
  - Configuring Sub-Interfaces
  - Configuring SVIs
  - Lab - VLANs
- Spanning-Tree
  - Spanning-Tree Overview
  - Spanning-Tree Modes
  - Configuring STP on an Arista Switch
  - Troubleshooting STP on an Arista Switch
  - Lab - STP
- Link Aggregation Control Protocol (LACP)
  - LACP Overview
  - Configuring LACP
  - Troubleshooting LACP
- MLAG
  - MLAG Overview
  - Configuring MLAG
  - Troubleshooting MLAG
  - Lab - Troubleshooting MLAG
- Default Gateway Redundancy (FHRP)
  - FHRP Overview
  - Configuring VRRP
  - Configuring VARP

BUILDING L2LS FABRIC

- Build L2LS CC Network Using CLI
  - Configuring L2LS with vEOS
  - Configuring L2LS CC Network and VARP
- Build L2LS CC Network Using CVP Configlets
  - L2LS Design and Topology Overview
  - Configuring L2LS with CVP Configlets

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  - Configuring L3LS Campus with VXLAN and eVPN Using Studios
  - Lab - Deploying L3LS Campus with VXLAN and eVPN Using Studios

SUPPLEMENTAL

TROUBLESHOOTING L2 AND L3

- Troubleshooting L2 Networks
  - Troubleshooting Layer 2 Leaf Spine
  - Debugging Layer 2 with CVP
- Troubleshooting L3 Networks
  - Troubleshooting Layer 3 Leaf Spine
  - Debugging Layer 3 with CVP

TROUBLESHOOTING L3LS NETWORKS

- Troubleshooting EVPN BGP Neighborhoods
  - Troubleshooting EVPN Underlay Connectivity with CLI
  - Troubleshooting VXLAN MAC Address Mapping with CLI
  - Troubleshooting VXLAN Bridging Traffic Flows with CLI
  - Troubleshooting Ethernet VPN Control Plane Peering with CLI
  - Troubleshooting Virtual FlooD Lists in VXLAN Routing with CLI
  - Troubleshooting Fragmentation in VXLAN Routing with CLI
  - Troubleshooting Fragmentation in VXLAN Routing with CLI
  - Troubleshooting Virtual ARP/ Flapping in VXLAN Routing with CLI
- Troubleshooting eVPN VXLAN Networks
  - Troubleshooting Layer 3 Connectivity in EVPN VXLAN with CLI
  - Troubleshooting BGP Peering between MLAG Peers in eVPN VXLAN with CLI
  - Troubleshooting MAC Flapping in EVPN VXLAN with CLI
  - Troubleshooting Duplicate Traffic Flows in EVPN VXLAN EVPN with CLI
  - Troubleshooting Centralized Routing model Issues in VLANN EVPN
  - Troubleshooting Duplicate Traffic Flows in EVPN Multihoming environment
  - Troubleshooting Connectivity Issues in EVPN Multihoming environment

TROUBLESHOOTING NETWORKS WITH CVP

- Troubleshooting Network Topologies
  - Troubleshooting Configlets with CVP
  - Troubleshooting Interfaces and Links with CVP
  - Troubleshooting Layer 1 Issues with CVP
  - Troubleshooting Layer 2 Issues with CVP
  - Troubleshooting Layer 3 Issues with CVP
  - Troubleshooting Configlet Assignments and Change Control with CVP
  - Troubleshooting Image Management with CVP
  - Troubleshooting Asymmetric Routing with CVP
  - Troubleshooting Duplicate Traffic Flows in EVPN VXLAN with CVP
  - Troubleshooting Centralized Routing model Issues in VLANN EVPN with CVP
  - Troubleshooting Duplicate Traffic Flows in EVPN Multihoming environment with CVP
  - Troubleshooting Connectivity Issues in EVPN Multihoming environment with CVP

MULTICAST IN EVPN FABRICS

- Multi Source Multicast with eVPN Orchestration
  - Introduction to Multicast
  - VTEP Multicast Replication and BUM Traffic
  - IGMP Querier Placement and Flooding
  - Introduction to Multicast Routing
  - Distributed Multicast (PIM and SMA)
  - Demo - Multicast with eVPN OTAA
- EVPN IGMP Snooping Proxy
  - eVPN Multicast Solution Overview
  - Multicast Source Discovery and Signaling Plane
  - eVPN OSA with PIM Transport Part 1
  - eVPN OSA with PIM Transport Part 2
  - Multicast Source Discovery and Signaling Plane
  - Advanced Deployment Models with eVPN OSA
  - Topic Overview and Agenda
  - Multicast Review
  - Multicast Routing Models
  - Demo - Exploring EVPN Functionality
  - Demo - Exploring EVPN OSA
  - EVPN Multicast - PIM Transport Model Overview
  - Demo - EVPN Multicast PIM Transport Model
  - Demo - EVPN Multicast PIM Transport Model
  - Demo - PIM EVPN Gateway - PIM
  - PIM EVPN to EVPN Gateway Overview - EBG
  - Demo - PIM EVPN to EVPN Gateway - EBG

HIERARCHICAL EVPN GATEWAYS FOR DCI

- Hierarchical EVPN for Scaling and DCI
  - Introduction to EVPN Gateways
  - Hierarchical EVPN Gateways
  - Demo - EVPN GW with IP VPN (VRF-Lite Interconnect)
  - Demo - EVPN GW with EVPN VXLAN Interconnect - Layer 2
  - Demo - EVPN GW with EVPN VXLAN Interconnect - Layer 3

CONFIGURING EVPN DCI NETWORK WITH STUDIOS

- Provisioning Multi-Domain EVPN VXLAN Fabrics with Studios
  - Topology Overview
  - Accept and Reconcile Devices
  - Configuring Underlay Routing Studio Package
  - Importing Topology Studio Package
- Build Underlay and Overlay Inside DC
  - Building Underlay Routing Using Studio (Leaves Enterprise Routing)
  - Configuring Common Settings on All Devices
  - Building the Underlay
  - Configuring EVPN Overlay
  - Build Underlay and Overlay Inside DC
  - Building Underlay Routing Using Studio (Leaves Enterprise Routing)
  - Configuring Common Settings on All Devices
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- Build Underlay and Overlay Inside DC
  - Building Underlay Routing Using Studio (Leaves Enterprise Routing)
  - Configuring Common Settings on All Devices
  - Building the Underlay
  - Configuring EVPN Overlay
- Configure DCI Overlay
  - Configure DCI Overlay
  - Configure DCI Overlay
  - Active-Active Multihoming
  - Configuring Active-Active Multihoming Studio Package
  - Configuring EVPN Services Common Settings
  - Configuring EVPN Services Internal VRF
  - Configuring EVPN Services Tenant VRF
  - Configuring Hosts and Timing Settings
  - Interface Tagging and Descriptions
  - Tagging Ethernet Ports
  - Tagging Ethernet Ports for MLAG in EVPN
  - Tagging Ethernet Ports for MLAG
  - Port Mirroring
  - Tagging
- Arista Network Event Management (ANX)
  - ANX - CLI Scheduler
  - ANX - Event Monitor
  - ANX - Overview
  - Lab - ANX
- Troubleshooting EOS Hardware & Software
  - Troubleshooting hardware and addressing
  - TPP and physical errors
  - Arista EOS health checks and CLAC V/F
  - Hardware troubleshooting
  - Memory and Flash Errors
  - TCPdump and tPDP
  - Installing Extensions
  - Recovery Procedures
- Advanced Event Management (AEM)
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  - Installing Extensions
  - Recovery Procedures
- Configuring L3LS CC Network with CVP Studios
  - Configuring L3LS using Studios
  - Configuring eVPN Services Inter Interfaces and External Networks using Studios
  - Lab - Building L3LS, EVPN and MLAG in DC with Studios

CAMPUS

OPERATIONS

WIRED

CLOUDVISION OVERVIEW & SETUP

- CloudVision Overview
  - Why CloudVision?
  - Approaches to Network Automation
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  - Lab - Navigating CVP

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  - Connecting Devices to CloudVision
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  - Reconcile
  - Lab - Configlets
  - Snapshots and Staging
  - Redesigned Change Control UI
  - Workspaces
  - Lab - Snapshots
  - Lab - Change Control
  - Lab - Change Control
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  - Lab - Image Bundle Builder
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  - Zero Touch Provisioning (ZTP)
  - Deploying and Onboarding vEOS to CVP using ZTP
  - Deploying cEOS to CVP using ZTP
  - Replacing a Device using ZTP

CLOUDVISION STUDIOS

- Studios Overview
  - Introduction to Studios and Topologies
  - Studio Deployment and Execution
  - Lab - Using Studios
- Studios in Action
  - Lab - Configuration Studio
  - Lab - Configuration Studio
  - Management connectivity studio
  - Management connectivity Studio
  - Authentication Studio
  - Mirroring Studio
  - Lab - Studio Troubleshooting with Studios
  - Provision New Devices with a ZTPR Studio
  - Lab - Static Configuration Studio
- Configuration Studio Using Configlets
  - Configuring L2LS using studios
  - Configuring EVPN Services, Hosts, Interfaces, and External Networks using Studios
  - Lab - Building L2LS, EVPN, MLAG in DC with Studios
  - Lab - Day Two Operations with Studios

MONITORING WITH CVP

- Monitoring Devices with CVP
  - Compliance Concepts
  - Device Input Power
  - Device Health in Datafeed Search
  - Lab - Monitoring Campus with Network Hierarchy
- Dashboards
  - Dashboards
  - Dashboard Enhancements
  - Customizable Dashboard Framework
  - Device Connectivity Health Panel Dashboard
  - Compliance Event Dashboard
  - Lab - Monitoring Campus with CVP Studios
  - Dashboard Tasks Layout
  - Exporting and Importing Dashboard
- Events
  - Event Groups
  - Compliance Events
  - Configlet Audit Events
  - Configlet Assignment Events
  - Lab - Monitoring Campus with Network Hierarchy
- Topology
  - Introduction to Topology
  - Topology Icons and Settings
  - Custom Topology Hierarchies
  - Live Topology Overview
  - Lab - Topology

EOS OPS: UPGRADE, MONITOR, TROUBLESHOOT

- EOS Network and Upgrades
  - Introduction to EOS Upgrades
  - Standard Upgrades in Smart Upgrade
  - Upgrading EOS with CLI
  - Upgrading EOS with CVP
  - MLAG ISSU Upgrade and Reload with CLI
  - Chassis Upgrade and Reload
  - Chassis Upgrade and Reload with CVP
- EOS Monitoring Tools
  - SNMP
  - sFlow
  - Watch and Diff Commands
  - Latency Analyzer (LANZ)
  - Logging
- Advanced Event Management (AEM)
  - AEM - CLI Scheduler
  - AEM - Event Monitor
  - AEM - Overview
  - Lab - AEM
- EOS Hardware Troubleshooting
  - System and Software Troubleshooting
  - Lab - Troubleshooting
  - Arista EOS Health Checks - CLI and CVP
  - Hardware Troubleshooting
  - Memory and Flash Errors
  - TCPdump and tPDP
  - Installing Extensions
  - Recovery Procedures

ENGINEERING

WIRED

ARISTA CAMPUS ARCHITECTURE

- Arista Cognitive Campus Network Overview
  - Arista Cognitive Campus Network Overview
- Arista Campus Architecture Overview
  - Campus Network Design Considerations
  - Arista Universal Cloud Network Architecture
  - Campus Fabric Architecture
  - Campus Fabric Overview
- Campus Network Design Options
  - Campus Network Design Options
  - Campus Fabric Design Options
  - Design 1: L2LS with Internal Gateway
  - Design 1: L2LS
  - Design 2: L3LS with VRF-Lite
  - Design 3: L3LS
  - Design 4: L3LS with Borderleafs
  - Design 5: L3LS with VXLAN EVPN
  - Design 6: L3LS with VXLAN EVPN and Borderleafs
  - Campus Fabric Design
  - Campus Fabric Design Options
  - Campus Fabric Design
  - Campus Fabric Design Options
  - Campus Fabric Design Options
- Access Control Overview
  - Access Control Overview
  - Cognitive Port
  - Stateful Switchover (SSO)
  - Software Defined Networks (SDN)
- Access Control
  - Access Control Overview
  - DMAC Manipulation
  - MLAG vs SMAG
  - DMAC Manipulation

BUILDING A L2 WIRED CAMPUS NETWORK

- VLANs and Trunk Ports
  - VLAN Overview
  - Configuring Access and Trunk Ports
  - Configuring Trunk Interfaces
  - Configuring Sub-Interfaces
  - Configuring SVIs
  - Configuring Routed VLANs
  - Lab - Configuring VLANs
- STP
  - Spanning-Tree Overview
  - STP Enhancements
  - Configuring STP on an Arista Switch
  - Troubleshooting STP on an Arista Switch
  - Lab - Configuring MSTP
- Link Aggregation
  - LACP Overview
  - Configuring LACP
- MLAG
  - MLAG Overview
  - Configuring MLAG
  - Troubleshooting MLAG
  - Lab - Troubleshooting MLAG
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  - FHRP Overview
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- Hierarchical EVPN for Scaling and DCI
  - Introduction to EVPN Gateways
  - Hierarchical EVPN Gateways
  - Demo - EVPN GW with IP VPN (VRF-Lite Interconnect)
  - Demo - EVPN GW with EVPN VXLAN Interconnect - Layer 2
  - Demo - EVPN GW with EVPN VXLAN Interconnect - Layer 3

CONFIGURING EVPN DCI NETWORK WITH STUDIOS

- Provisioning Multi-Domain EVPN VXLAN Fabrics with Studios
  - Topology Overview
  - Accept and Reconcile Devices
  - Configuring Underlay Routing Studio Package
  - Importing Topology Studio Package
- Build Underlay and Overlay Inside DC
  - Building Underlay Routing Using Studio (Leaves Enterprise Routing)
  - Configuring Common Settings on All Devices
  - Building the Underlay
  - Configuring EVPN Overlay
- Build Underlay and Overlay Inside DC
  - Building Underlay Routing Using Studio (Leaves Enterprise Routing)
  - Configuring Common Settings on All Devices
  - Building the Underlay
  - Configuring EVPN Overlay
- Configure DCI Overlay
  - Configure DCI Overlay
  - Configure DCI Overlay
  - Active-Active Multihoming
  - Configuring Active-Active Multihoming Studio Package
  - Configuring EVPN Services Common Settings
  - Configuring EVPN Services Internal VRF
  - Configuring EVPN Services Tenant VRF
  - Configuring Hosts and Timing Settings
  - Interface Tagging and Descriptions
  - Tagging Ethernet Ports
  - Tagging Ethernet Ports for MLAG in EVPN
  - Tagging Ethernet Ports for MLAG
  - Port Mirroring
  - Tagging
- Arista Network Event Management (ANX)
  - AEM - CLI Scheduler
  - AEM - Event Monitor
  - AEM - Overview
  - Lab - AEM
- Troubleshooting EOS Hardware & Software
  - System and Software Troubleshooting
  - Lab - Troubleshooting
  - Arista EOS Health Checks - CLI and CVP
  - Hardware Troubleshooting
  - Memory and Flash Errors
  - TCPdump and tPDP
  - Installing Extensions
  - Recovery Procedures

WIRELESS

WIRELESS FUNDAMENTALS

- Wireless Signalling Basics
  - Introduction to Radio Frequency Waves and Signals
  - Radio Frequency Wave Properties
  - Radio Frequency Signal Attenuation
- Measuring Wireless Signals
  - Measuring Signal Strength
  - Signal Quality
  - Radiation Power Measurements
- Representing Data in Radio Frequency Waves
  - Modulation
  - OSSI vs OFDM
  - OFDMA
- MIMO Basics
  - Radio Frequency Channels
  - 802.11 Standards
  - 802.11 Frame Structure
  - 802.11 Frames
  - Wireless Client Association
  - Wireless Client Authentication
  - Wireless Frame Exchanges
- 802.11 Standards Enhancements
  - 802.11 MAC Security
  - 802.11k Radio Resource Measurement
  - 802.11r Fast Roaming
  - 802.11v Wireless Network Management
  - 802.11w Protected Management Frames
  - 802.11ax QoS
- Wireless Client Authentication
  - Wireless Client Authentication
  - Wireless Client Authentication
- Wireless Client Association
  - Wireless Client Association
  - Wireless Frame Exchanges
- 802.11 Standards Enhancements
  - 802.11 MAC Security
  - 802.11k Radio Resource Measurement
  - 802.11r Fast Roaming
  - 802.11v Wireless Network Management
  - 802.11w Protected Management Frames
  - 802.11ax QoS

DEPLOYING CAMPUS WIRELESS NETWORKS

- Campus Wireless Network Overview
  - Traditional Campus Wireless Architecture
  - Arista Campus Wireless Architecture
- Campus Wireless Data Plane
  - CV-CUE Overview
  - Deploying CV-CUE
  - Navigating CV-CUE - Part 1
  - Navigating CV-CUE - Part 2
  - Using Checkpoints in CV-CUE
  - Lab - Navigating CV-CUE
- Deploying Access Points
  - Onboarding Access Points to CV-CUE
  - Configuring Network Profiles
  - Configuring Port Profiles
  - Configuring Radio Profiles
  - Configuring Radio Profiles
  - Configuring Tunnel Interfaces and Remote APs
- Configuring Wireless Client Access
  - Exploring Wireless Client Authentication
  - Understanding Types of SSID Security
  - Configuring Wireless Client Access
  - Configuring a WLAN with 802.1X
  - Configuring a WLAN with 802.1x
  - Lab - Configuring Basic SSID Settings
- Configuring Advanced Enterprise SSID Settings
  - Optimizing Wireless Client Access
  - Optimizing RF Settings for SSIDs
  - Enabling Traffic Shaping & QoS
  - Wireless QoS
  - WPS Overview
  - Configuring WPS Settings

MANAGING WIRELESS OPERATIONS

- Introduction to CV-CUE
  - Introduction to CV-CUE
- CV-CUE Operations
  - CV-CUE Features Overview
  - Using Wireless Troubleshooting
  - Auto RRM Threat Detection and Prevention
  - Auto Network Assurance
  - Using Packet Capture
  - Introduction to BLE and Monitoring
  - BLE Functions and Facts
  - BLE Operation
  - BLE Route Advertisement
- Wireless Client Troubleshooting
  - L3LS eBGP Underlay Configuration
  - eBGP Load Balancing Configuration
  - Lab - Configuring Underlay Routing
- BGP Underlay Deployment Options
  - BGP with MLAG
  - Lab - Configure BGP
  - Lab - Implementing Underlay with eBGP
- VXLAN Overview
  - Introduction to VXLAN
  - VXLAN Bridging Overview
- VXLAN Control Plane Options
  - ARP Refresher
  - VXLAN Static Control Plane
  - VXLAN MAC Control Plane
  - Configuring VXLAN HER
  - VXLAN Flood Lists
  - VXLAN EVPN Control Plane
  - Lab - Configure VXLAN Datapaths with HER
- VXLAN MAC Learning
  - Introduction to VXLAN with MLAG
  - Configuring VXLAN with MLAG
- MTU and Jumbo Frames
  - MTU and Jumbo Frames
  - Lab - Jumbo Frames
- Troubleshooting VXLAN
  - Troubleshooting VXLAN

EVPN OVERLAY

- eVPN Fundamentals
  - Introduction to eVPN
  - eVPN Terminology
  - VRF Operation
  - eVPN Control Plane Part 1
  - MP-BGP Control Plane Part 1
  - Configuring MP-eBGP for eVPN
  - eVPN Route Type 2 (MAC-IP)
  - eVPN Route Type 5 (IP Prefix)
  - eVPN Route Type 3 (IMET)
  - Lab - L2EVPN
- eVPN Advanced Concepts
  - Introduction to Ethernet Segment
  - VLAN Aware Bundle Service Interface
  - Introduction to IRB
  - Symmetric IRB Overview
  - Symmetric IRB Data Plane
  - Configuring Symmetric IRB
  - Verifying Symmetric IRB
  - Lab - L3 EVPN Symmetric IRB
  - Lab - L3 EVPN Asymmetric IRB
- Active-Active Multihoming
  - Introduction to Active-Active Multihoming
  - Route Types 1 and ESI
  - Route Type 1 Ethernet Auto-Type 4
  - Active-Active Multihoming Configuration
  - Lab - EVPN Multihoming
- eVPN Design Best Practices
  - BGP Between MLAG peers and eBGP Multihop command
  - eBGP for Underlay and Overlay
- Build L3LS Campus with VXLAN and EVPN Using Studios
  - Configuring L3LS Campus with VXLAN and EVPN
  - Configuring L3LS Campus with VXLAN and eVPN Using Studios
  - Lab - Deploying L3LS Campus with VXLAN and eVPN Using Studios

SECURITY

SECURING THE CAMPUS NETWORK

- Zero Trust Overview
  - Why Zero Trust Security
  - Zero Trust Overview
  - Zero Trust Stages
  - Challenges with Zero Trust Implementation
  - Arista Zero Trust Solution
- Security Basics
  - Security Basics Overview
  - Port Security
  - IP Lockdown
  - IP Source Guard
  - Dynamic ARP Inspection
  - AAA Overview
  - RADIUS and RADIUS Proxy
  - Encryption and PKI
  - Lab - Encryption
  - Lab - Deploying Control Plane ACLs
  - Lab - Segmentation Using Private VLAN

NETWORK ACCESS CONTROL WITH AGNI

- AGNI Overview
  - Why Do You Need NAC?
  - Introduction to AGNI
- AGNI Deployment
  - AGNI Deployment Options
  - Configuring AGNI Deployment Options
  - Load Balancing Across an AGNI Node Group
  - AGNI Failover Scenarios
  - Upgrading AGNI Nodes
  - Navigating AGNI
- AGNI Node Operations
  - Navigating AGNI Node Operations
  - AGNI Cluster Operations
- Configuring AGNI
  - AGNI Configuration Workflow
  - Integrating AGNI with Concourse Applications
  - Configuring Identity Providers
  - Adding Users and User Groups
  - Adding Access Devices
  - Configuring Network Profiles for Access Devices
  - Configuring AGNI NAC Policies
- User and Device Onboarding
  - Onboarding Devices and Endpoints Manually
  - Onboarding Using Certificate Based Authentication
  - Onboarding Using MAC Authentication
  - Onboarding Using VPSK
- Guest Onboarding
  - Guest Onboarding Overview
  - Lab - Onboarding Guest Users Using Guestbook
- Monitoring and Troubleshooting in AGNI
  - Monitoring User and Device Sessions

SEGMENTATION WITH MSS

- MSS Overview
  - Introduction to MSS
- MSS Campus Design
  - Campus Network Deployment Options
  - Design 1: Incremental Insertion of MSS in Brownfield bridged-based wireless
  - Design