

Lab – CCIE Enterprise Wireless



Online Course



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Course Modules

1. Radio Frequency and Standards

- IEEE 802.11 standards and protocols
- RF Design / Site survey
- Define the tasks/goals for a preliminary site survey
- Conduct the site survey
- Determine AP quantity, placement and antenna type
- Indoor and outdoor RF deployments
- Coverage
- Throughput
- Voice
- Location
- High Density / Very High Density
- RF operational models
- Radio resource management (Auto-RF, manual, hybrid, etc)
- Channel use (Co-channel, radar, non-WiFi interference, etc)
- Power level, overlap
- RF profiles
- Data rates
- RX-SOP
- Clean Air and EDRRM
- Air Time Fairness (ATF)

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2. Enterprise Wired Campus

- Layer 2 technologies to support wireless deployments
- VLANs
- STP
- Etherchannel
- CDP, LLDP
- Data/Ctrl plane tchnlgs to suprt a SD-Access wireless deplymnt
- VXLAN and LISP
- VRFs
- AP powering options
- IPv4 and IPv6 connectivity
- Subnetting
- Static and inter-VLAN routing
- PIM
- Basic IGMP (including IGMP snooping)
- MLD
- QoS on the switching infrastructure
- MQC
- MLS QoS
- Services to support a wireless deployment
- DNS
- DHCPv4 / DHCPv6
- NTP, SNTP
- SYSLOG
- SNMP



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3. Enterprise Wireless Network

- WLC interfaces and ports
- Lightweight APs
- AP modes
- AP Logging
- AP CLI troubleshooting
- AP level configuration settings
- WLC discovery and AP join process
- AP join profile
- High availability, redundancy, and resilience
- SSO
- N+1, N+N
- Patching and rolling upgrades for IOS-XE
- ISSU
- Wireless segmentation with profiles and groups
- RF profiles
- AP groups
- Flex groups
- Site tag
- RF tag
- Policy tag
- Flex Connect and Office Extend
- All controller deployment models
- Mesh
- WGB on IOS and on COS APs



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- Controller Mobility
- L2/L3 roaming
- Multicast optimization
- Mobility group scaling
- Inter-OS controller mobility
- Mobility anchoring
- Mobility encryption

4. Wireless Security and Identity Management

- Secure management access and control plane
- Device administration with TACACS+/RADIUS
- CPU ACLs
- Management via wireless and dynamic interface
- Password policies
- AP authorization
- Identity management
- Basic PKI for dot1X and WebAuth
- Internal and external identity sources
- Identity PSK
- Wireless security and Network access policies
- Client authentication and authorization
- Client profiling and provisioning



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- RADIUS attributes
- CoA
- ACLs
- L2/L3 security
- Certificates
- Local policies
- Guest management
- Local web authentication
- Central web authentication
- Basic sponsor policy
- Access Point switchport authentication
- MAB
- 802.1X
- NEAT
- Switchport macros
 - TrustSec for SD-Access Wireless
- SGTs
- SGACLs
- Intrusion detection and prevention features
- Rogue policies
- MFP
- Standards and custom signatures
- Client exclusion policies
- Switchport tracing



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5. Wireless business application and services

- QoS policies
- QoS profiles
- EDCA
- WMM
- Bi-Directional Rate Limiting
- Admission control
- QoS maps
- FastLane
- AVC and NetFlow
- Client roaming optimization
- Band Select
- Load Balancing
- 802.11r and Adaptive Fast Transition
- 802.11k/v
- Wireless Multicast
- Multicast modes in the controllers
- Multicast snooping
- Multicast direct
- Multicast VLAN
- mDNS
- mDNS proxy
- Service discovery (both classic deployment & Wide Area Bonjour)
- Service filtering



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For Enquiry: +91 8680961847

- Cisco DNA Center
- Wireless Automation
- Day 0 - Provisioning
- SWIM
- Application policies
- Security policies
- Operate Maps
- Assurance
- Network health and WLC/AP 360
- Client health and client 360
- Application experience
- Sensors
- iPCAP and on demand captures
- Network telemetry
- SD Access
- Fabric enabled wireless
- SDA policy and segmentation



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