INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Cisco CCDA

Introduction to Network Design

- Overview of network design methodologies
- Understanding business and technical requirements
- Principles of hierarchical network design

Network Design Models

- Cisco Enterprise Architecture models
- Campus LAN and Enterprise Edge design
- Data Center design considerations

Network Infrastructure Design

- IPv4 and IPv6 addressing and subnetting
- VLAN design and implementation
- Layer 2 and Layer 3 design considerations

Network Security Design

- Security principles in network design
- Implementing security controls (Firewalls, ACLs, VPNs)
- Defense in Depth and Zero Trust principles

WAN Design

- WAN technologies and protocols (MPLS, Metro Ethernet, VPNs)
- Designing WAN topologies (Hub and Spoke, Full Mesh, Hybrid)
- QoS considerations for WAN design

Data Center Design

- Data Center architectures (Spine-Leaf, Multi-tier, Fabric)
- Storage and compute integration
- Virtualization and SDN considerations

Network Services Design

- DHCP and DNS design and implementation
- Network Time Protocol (NTP) considerations
- Network Management design (SNMP, NetFlow)

Wireless LAN Design

- WLAN technologies (802.11 standards, WLAN controllers)
- Site survey and RF design considerations
- Guest and BYOD WLAN design

Network Automation and Programmability

- Introduction to network automation and DevOps principles
- Using APIs for network programmability
- Cisco DNA Center and SD-WAN automation capabilities

Network Resiliency Design

- High availability and redundancy in network design
- Redundant topologies and failover mechanisms

- Disaster Recovery (DR) and Business Continuity (BC) considerations

Cloud and Virtualization Design

- Cloud service models (IaaS, PaaS, SaaS)
- Integrating public, private, and hybrid clouds
- Cloud security and compliance considerations

Network Design Validation and Optimization

- Network performance optimization techniques
- Network validation testing (Stress testing, Traffic analysis)
- Design review and documentation best practices

Case Studies and Real-World Scenarios

- Real-world network design challenges and solutions
- Industry-specific case studies
- Design considerations for specific business requirements

Cisco Design Tools and Resources

- Using Cisco design tools (Cisco Modeling Labs, Packet Tracer)
- Designing with Cisco Validated Designs (CVDs)
- Accessing Cisco documentation and support resources