

Cisco Certified Network Professional (CCNP) Enterprise

Course Outline

Module 1: Core Network Technologies

- **IPv4 and IPv6 Architecture:** Learn about dual-stack capabilities, enabling seamless communication across diverse network environments.
- **Quality of Service (QoS):** Configure QoS settings to prioritize data flow and maintain network efficiency.
- **Switching Techniques:** Gain knowledge in switching between hardware and software solutions for optimized performance.
- **Routing Protocols:** Master essential routing protocols, ensuring effective data routing and network traffic management.
- **Network Redundancy:** Set up redundancy measures to enhance network reliability and reduce downtime.

Module 2: Enterprise Virtualization

- **Virtual Machines:** Understand the deployment and management of virtual machines within a network environment.
- **Virtual Switches:** Learn to create and configure virtual switches for better data path division and control.
- **Hypervisors:** Gain insights into hypervisor types and their role in virtualization infrastructure.
- **Network Segmentation:** Implement network segmentation to separate and secure virtual networks.
- **Resource Allocation:** Manage resources within virtual environments to optimize network performance.

Module 3: Advanced Infrastructure Setup

- **Wireless Network Configuration:** Configure wireless networks to support mobility and connectivity.
- **Network Time Protocol (NTP):** Set up and maintain NTP for accurate timekeeping across network devices.
- **NAT and PAT Configuration:** Enable NAT/PAT to allow multiple devices on a local network to share a single IP address.
- **Communication Protocols:** Master protocols like TCP/IP and UDP for efficient data transfer.
- **Device Configuration Management:** Learn best practices for maintaining and updating network device configurations.

Module 4: Network Assurance and Troubleshooting

- **Performance Monitoring:** Use network monitoring tools to assess performance and troubleshoot issues.
- **Fault Detection:** Implement diagnostic procedures for quick fault detection and resolution.
- **Configuration Verification:** Ensure configurations meet network standards for optimal functionality.

- **Network Diagnostics Tools:** Use tools like Ping, Traceroute, and SNMP for problem-solving.
- **Optimization Techniques:** Apply techniques to optimize bandwidth, reduce latency, and enhance user experience.

Module 5: Enterprise Security and Automation

- **Security Protocols:** Implement security protocols to protect data integrity and network infrastructure.
- **Access Control:** Set up access controls and authentication methods to secure network access.
- **Threat Detection and Response:** Utilize tools and strategies to detect and respond to network threats.
- **Automation Scripting:** Automate routine tasks and configuration updates to streamline network management.
- **Policy Compliance:** Ensure network configurations align with compliance policies and standards.