IT-ENCOR - Implementing Cisco Enterprise Network Core Technologies

Cisco - CCNP Enterprise - Networking

Durata:	Lingue:	Certificazione:
5 Giorni	**Italiano**	**Cisco Certified Network Professional Enterprise**

Descrizione del corso

The Implementing and Operating Cisco Enterprise Network Core Technologies (ENCOR) v1.0 course gives you the knowledge and skills needed to configure, troubleshoot, and manage enterprise wired and wireless networks. You'll also learn to implement security principles within an enterprise network and how to overlay network design by using solutions such as SD-Access and SD-WAN. This course helps you prepare to take the 350-401 ENCOR exam, the core exam to achieve the Cisco Certified Network Professional Enterprise certification. The 350-401 ENCOR exam will be available on February 24, 2020.

Programma

- Examining Cisco Enterprise Network Architecture
- Cisco Enterprise Architecture Model
- Campus LAN Design Fundamentals
- Traditional Multilayer Campus Layer Design
- Campus Distribution Layer Design
- Understanding Cisco Switching Paths
- Layer Switch Operation
- Investigate the CAM
- Control and Data Plane
- Cisco Switching Mechanisms
- Analyze Cisco Express Forwarding
- Implementing Campus LAN Connectivity
- Revisiting VLANs

ITCore Group

Via Balestra, 12
6900 Lugano (CH)
+41.091.9760019
www.itcoregroup.com

Via Lanino, 36
21047 Saronno (VA)
+39.02.84108669
www.itcoregroup.com

- Trunking with .Q
- Troubleshoot VLAN and Trunk Issues
- Inter-VLAN Routing
- Building Redundant Switched Topology
- Spanning-Tree Protocol Overview
- Spanning-Tree Protocol Operation
- Spanning-Tree Protocols Types and Features
- Tuning STP and Configuring RSTP
- Multiple Spanning Tree Protocol
- Configure Multiple Spanning Tree Protocol
- PortFast and BPDU Guard
- Implementing Layer Port Aggregation
- Need for EtherChannel
- EtherChannel Mode Interactions
- Layer EtherChannel Configuration Guidelines
- EtherChannel Load-Balancing Options
- Troubleshoot EtherChannel Issues
- Troubleshoot EtherChannel
- Understanding EIGRP
- EIGRP Features
- EIGRP Reliable Transport
- Establishing EIGRP Neighbor Adjacency
- EIGRP Metrics
- EIGRP Path Selection
- Explore EIGRP Load Balancing and Sharing
- EIGRP for IPv
- Compare EIGRP and OSPF Routing Protocols
- Implementing OSPF
- Describe OSPF
- The OSPF Process
- OSPF Neighbor Adjacencies
- Building a Link-State Database
- OSPF LSA Types
- Compare Single-Area and Multiarea OSPF
- OSPF Area Structure
- OSPF Network Types
- Implement Multiarea OSPF

- Optimizing OSPF
- OSPF Cost
- Implement OSPF Tuning
- OSPF Route Summarization
- OSPF Route Filtering Tools
- Apply OSPF Optimization
- Compare OSPFv and OSPFv
- Implement OSPFv
- Exploring EBGP
- Interdomain Routing with BGP
- BGP Operations
- Types of BGP Neighbor Relationships
- BGP Path Selection
- BGP Path Attributes
- Configure and Verify Single-Homed EBGP
- Implementing Network Redundancy
- Need for Default Gateway Redundancy
- Define FHRP
- Implementing HSRP
- HSRP Advanced Features
- Configure VRRP
- Cisco Switch High Availability Features
- Implementing NAT
- Define Network Address Translation
- NAT Address Types
- Explore NAT Implementations
- NAT Virtual Interface
- Implement NAT
- Introducing Virtualization Protocols and Techniques
- Server Virtualization
- Need for Network Virtualization
- Path Isolation Overview
- Introducing VRF
- Configure and Verify VRF
- Introducing Generic Routing Encapsulation
- Configure and Verify a GRE Tunnel
- Understanding Virtual Private Networks and Interfaces

- Site-to-Site VPN Technologies
- IPsec VPN Overview
- IPsec: IKE
- IPsec Modes
- IPsec VPN Types
- Cisco IOS VTI
- Configure Static VTI Point-to-Point Tunnels
- Understanding Wireless Principles
- Explain RF Principles
- Describe Watts and Decibels
- Describe Antenna Characteristics
- Describe IEEE Wireless Standards
- Identify Wireless Component Roles
- Examining Wireless Deployment Options
- Wireless Deployment Overview
- Describe Autonomous AP Deployment
- Describe Centralized Cisco WLC Deployment
- Describe FlexConnect Deployment
- Cloud Deployment and Its Effect on Enterprise Networks
- Describe the Cloud-Managed Meraki Solution
- Cisco Catalyst Series Controller Deployment Options
- Describe Cisco Mobility Express
- Understanding Wireless Roaming and Location Services
- Wireless Roaming Overview
- Mobility Groups and Domains
- Wireless Roaming Types
- Describe Location Services
- Examining Wireless AP Operation
- Universal AP Priming
- Explore the Controller Discovery Process
- Describe AP Failover
- Explain High Availability
- Explore AP Modes
- Understanding Wireless Client Authentication
- Authentication Methods
- Pre-Shared Key (PSK) Authentication
- .X User Authentication Overview

- PKI and .X Certificate-Based Authentication
- EAP-Transport Layer Security (EAP-TLS)
- Protected Extensible Authentication Protocol (PEAP)
- EAP-FAST
- Guest Access with Web Auth
- Configure Wireless Client Authentication in a Centralized Deployment
- Troubleshooting Wireless Client Connectivity
- Wireless Troubleshooting Tools Overview
- Spectrum Analysis
- Wi-Fi Scanning
- Packet Analysis
- Cisco AireOS GUI and CLI Tools
- Cisco Wireless Config Analyzer Express
- Common Wireless Client Connectivity Issues Overview
- Client to AP Connectivity
- WLAN Configuration
- Infrastructure Configuration
- Troubleshoot Wireless Client Connectivity Issues
- Introducing Multicast Protocols
- Multicast Overview
- Internet Group Management Protocol
- Multicast Distribution Trees
- IP Multicast Routing
- Rendezvous Point
- Introducing QoS
- Understand the Impact of User Applications on the Network
- Need for Quality of Service (QoS)
- Describe QoS Mechanisms
- Define and Interpret a QoS Policy
- Implementing Network Services
- Understanding Network Time Protocol (NTP)
- Logging Services
- Configure Syslog
- Simple Network Management Protocol (SNMP)
- Introducing NetFlow
- Flexible NetFlow
- Configure and Verify Flexible NetFlow

- Understanding Cisco IOS Embedded Event Manager (EEM)
- Configuring Cisco IOS Embedded Event Manager (EEM)
- Using Network Analysis Tools
- Troubleshooting Concepts
- Network Troubleshooting Procedures: Overview
- Network Troubleshooting Procedures: Case Study
- Basic Hardware Diagnostics
- Filtered Show Commands
- Troubleshoot Connectivity and Analyze Traffic with Ping, Traceroute, and Debug
- Cisco IOS IP SLAs
- Configure and Verify Cisco IP SLAs
- Switched Port Analyzer (SPAN) Overview
- Remote SPAN (RSPAN)
- Encapsulated Remote Switched Port Analyzer (ERSPAN)
- Cisco Packet Capture Tools Overview
- Implementing Infrastructure Security
- ACL Overview
- ACL Wildcard Masking
- Types of ACLs
- Configure Numbered Access Lists
- Use ACLs to Filter Network Traffic
- Apply ACLs to Interfaces
- Configure Named Access Lists
- Configure Standard and Extended ACLs
- Control Plane Overview
- Control Plane Policing
- Configure Control Plane Policing
- Implementing Secure Access Control
- Securing Device Access
- AAA Framework Overview
- Benefits of AAA Usage
- Authentication Options
- RADIUS and TACACS+
- Enabling AAA and Configuring a Local User for Fallback
- Configuring RADIUS for Console and VTY Access
- Configuring TACACS+ for Console and VTY Access

- Configure Authorization and Accounting
- Implement Local and Server-Based AAA
- Understanding Enterprise Network Security Architecture
- Explore Threatscape
- Intrusion Prevention Systems
- Virtual Private Networks
- Content Security
- Logging
- Endpoint Security
- Personal Firewalls
- Antivirus and Antispyware
- Centralized Endpoint Policy Enforcement
- Cisco AMP for Endpoints
- Firewall Concepts
- TrustSec
- MACsec
- Identity Management
- .X for Wired and Wireless Endpoint Authentication
- MAC Authentication Bypass
- Web Authentication
- Exploring Automation and Assurance Using Cisco DNA Center
- Need for Digital Transformation
- Cisco Digital Network Architecture
- Cisco Intent-Based Networking
- Cisco DNA Center
- Cisco DNA Assurance
- Cisco DNA Center Automation Workflow
- Cisco DNA Assurance Workflow
- Examining the Cisco SD-Access Solution
- Need for Cisco SD-Access
- Software-Defined Access Overview
- Cisco SD-Access Fabric Control Plane Based on LISP
- Cisco SD-Access Fabric Data Plane Based on VXLAN
- Cisco SD-Access Fabric Policy Plane Based on Cisco TrustSec
- Cisco SD-Access Fabric Components
- Role of Cisco ISE and Cisco DNA Center in SD-Access
- Cisco SD-Access Wireless Integration

- Traditional Campus Interoperating with Cisco SD-Access
- Understanding the Working Principles of the Cisco SD-WAN Solution
- Need for Software Defined Networking for WAN
- SD-WAN Components
- SD-WAN Orchestration Plane
- SD-WAN Management Plane
- SD-WAN Control Plane
- SD-WAN Data Plane
- SD-WAN Automation and Analytics
- Understanding the Basics of Python Programming
- Describe Python Concepts
- String Data Types
- Numbers Data Types
- Boolean Data Types
- Script Writing and Execution
- Analyze Code
- Writing and Troubleshooting Python Scripts
- Introducing Network Programmability Protocols
- Configuration Management
- Evolution of Device Management and Programmability
- Data Encoding Formats
- Explore JSON Objects and Scripts in Python
- Data Models
- Model Driven Programmability Stack
- Describe YANG
- REST
- NETCONF
- Explain NETCONF and YANG
- Describe the RESTCONF Protocol
- Cisco IOS XE and IOS XR Systems Overview
- Use NETCONF Via SSH
- Use RESTCONF with Cisco IOS XE Software
- Introducing APIs in Cisco DNA Center and vManage
- Application Programming Interfaces
- REST API Response Codes and Results
- REST API Security
- API in DNA-Center

- REST API in vManage