

## Cisco CCNA Bootcamp

### Obiettivi

Al completamento del corso lo studente sarà in grado di:

- Configurare ed installare dispositivi di rete quali router e switch (Network Management)
- Diagnosticare e risolvere malfunzionamenti di rete (Network Troubleshooting)
- Analizzare ed implementare strategie di base dei sistemi di sicurezza di rete (Network Security)

### Target

Si rivolge a chi desidera affrontare l'esame di certificazione per ottenere la qualifica Cisco Certified Network Associate o semplicemente ottenere una preparazione pratica esercitandosi su simulatori capaci di ricreare perfettamente un ambiente reale.

### Date

7-11 maggio 2018

### N. partecipanti

15

### Responsabile:

Stefano Bovina

### Segreteria organizzativa:

CNAF

### Docenti:

Davide Vampiri (Overnet)

### Streaming:

Sì  No

### Sede:

Dipartimento di fisica e astronomia , Viale Berti pichat 6./2 Bologna . Sala riunioni secondo piano

## PROGRAMMA

### Module 1: Building a Simple Network

- Identify the components of a computer network
- Describe network characteristics
- Host-to-host communications
- OSI reference model
- TCP/IP protocol suite
- Peer-to-Peer Communications
- Encapsulation and De-Encapsulation
- Local area networks (LAN) components
- Cisco IOS software features, functions and modes
- Switch installation and configuration
- Ethernet LAN connection and frame structure
- Troubleshoot common switch network issues

### Module 2: Establishing Internet Connectivity

- Describe IPv4 and its addressing scheme
- Describe subnets, subnetting, and the role of subnet masks
- Describe the role of VLSM
- Describe the TCP/IP transport layer functions
- TCP vs. UDP analogy and characteristics
- Functions and roles of a router
- Cisco router configuration
- Host-to-host communications across switches and routers
- Static routing operations, benefits and configurations
- ACL operation and configurations
- Configure internet access using DHCP clients on Cisco routers
- Configure and verify NAT
- Configure and verify PAT

### Module 3: Implementing Scalable Medium-Sized Networks

- Enterprise network design
- VLAN introduction and creation
- Configure an 802.1Q Trunk
- VLAN Trunking protocol
- VLAN design
- Redundancy in LAN
- Spanning-Tree operation and protocols
- EtherChannel protocols



- Options and purpose for inter-VLAN routing
- DHCP server operation and configuration
- Layer 3 redundancy
- FHRP
- HSRP
- RIPv2 operation and configuration

#### Module 4: Introducing IPv6

- IPv6 features and addresses
- Describe ICMPv6
- Routing types for IPv6
- Configure and implement static routes

#### Module 5: Troubleshooting Basic Connectivity

- Troubleshoot IPv4 network connectivity
- Use SPAN for troubleshooting
- Troubleshoot IPv6 network connectivity

#### Module 6: Implementing Network Device Security

- Implement a basic security configuration
- Device hardening
- Port security
- Access layer threat mitigation techniques

#### Module 7: Implementing an EIGRP-Based Solution

- EIGRP features, path selection, and composite metric
- Implement EIGRP for IPv6
- Troubleshoot EIGRP issues

#### Module 8: Implementing a Scalable OSPF-Based Solution

- OSPF overview and features
- OSPF area structure
- Single-area and multiarea OSPF
- OSPFv3 for IPv6
- Troubleshoot multiarea OSPF

#### Module 9: Implementing Wide-Area Networks

- WAN topology and connectivity options
- Managed VPS
- WAN devices
- Point-to-Point protocols
- GRE tunnels



## Module 10: Network Device Management

Configure Syslog

Configure SNMP

Switch stacking

Cloud computing and its effect on enterprise network

Cisco APIC-EM

Intelligent WAN (IWAN)

QoS concepts

Managing Cisco devices

Locating and loading Cisco IOS image files

Managing device configuration files licensing

