

# CCNA COURSE SYLLABUS

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## Hi Folks,

Oranium Tech introducing some amazing content on CCNA. Looking for a professional platform to learn the CCNA Course in Chennai? Join Oranium Tech! Struts Training in Chennai at Oranium Tech delivers the students with a comprehensive learning experience of the CCNA Framework, Architecture, and its Lifecycle in real-time practices under the mentorship of Expert Professionals. By the end of the CCNA training program at Oranium Tech, you will become well-versed with its Environment, Setup, Configurations, Database Actions, Interceptors, Types Conversion, Tags, Themes, Templates, Exceptional Handling, and Validations.

### 1) Operation of IP Data Networks

- Functions of Routers, Switches, Bridges and Hubs
- OSI and TCP/IP models
- Data flow between two hosts across a network

### 2) LAN Switching Technologies

- Identify basic switching concepts
- Configure and verify initial switch configuration
- Switch operation (ping, telnet and ssh)
- Identify enhanced switching technologies
- Configure and verify VLANs / Trunking
- Configure and verify PVSTP operation
- Root bridge election / STP Modes

### 3) IP Routing Technologies

- Describe basic routing concepts
- Describe the boot process of Cisco IOS routers
- Configure and verify basic Router configuration
- Configure and verify interface (serial and Ethernet)
- Configure and verify Static & Default routing

- Manage Cisco IOS Files
- Differentiate methods of routing and routing protocols
- Configure and verify OSPF (single area)
- Configure and verify EIGRP (single AS)
- InterVLAN routing (Router on a stick)
- Configure SVI interfaces

#### 4) IP Services

- Configure and verify DHCP (IOS Router)
- ACL (Types, Features & Applications of ACLs)
- Configure and verify ACL
- identify the basic operation of NAT
- Configure and verify NAT
- Configure and verify NTP as a client
- Recognize High availability (FHRP, VRRP, HSRP & GLBP)
- Configure and verify Syslog.
- Describe SNMP v2 & v3

#### 5) WAN Technologies

- Configure and verify Frame Relay on Cisco routers
- Identify different WAN Technologies
  - Metro Ethernet, VSAT, Cellular 3G & 4G
  - ISDN, DSL, Frame relay, MPLS, VPN & Cable

#### 6) IP addressing (IPv4 / IPv6)

- Private and public IP addresses for IPv4
- IPv6 addressing scheme
- IPv4 addressing scheme using VLSM and summarization
- IPv6 in conjunction with IPv4 such as (dual stack)
- Describe IPv6 addresses
  - Global unicast
  - Multicast
  - Link local
  - Unique local
  - eui 64
  - Auto configuration
  -

## 7) Network Device Security

- Configure and verify network device security
  - Enable secret vs to enable
  - Disable telnet
- Configure and verify Switch Port Security
  - Sticky MAC / MAC address limitation
  - Static/dynamic
  - Violation modes (Err disable/Shutdown)

## 8) Troubleshooting

- Utilize net flow data
- Troubleshoot and Resolve VLAN problems
- Identify and correct common network problems
- Troubleshoot and Resolve trunking problems
- Troubleshoot and Resolve STP
- Troubleshoot and Resolve routing issues
- Troubleshoot and Resolve OSPF problems
- Troubleshoot and Resolve EIGRP problems
- Troubleshoot and Resolve interVLAN
- Troubleshoot and Resolve ACL issues
- Troubleshoot and Resolve WAN implementation issues
- Monitor Net Flow statistics
- Troubleshoot etherchannel problems

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