



**CISCO**™

**CISCO-CCNA Enterprise (200-301)**

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## About Training Basket

At Training Basket, we take pride in ourselves for maintaining our position in the technology-training ecosystem as the top quality-training provider in "Specialized Technologies" and thus being able to get the best placement package available for our students in blue chip companies. Training Basket not only teaches the students, but also undertake corporate workshops and conduct seminars in various engineering colleges. We conduct programmes to promote the build-up of adequate and industry ready IT professionals for development and distribution of knowledge and grasp out to the larger association through continuation, at the state, national and international levels.

Training Basket team works at delivering the best technical training and facilities. We provoke new knowledge by alluring in cutting-edge research and to bolster students and expert expansion by offering IT industry high demand training programs.

In addition, global technology leaders like Red Hat and Times of India (TSW) have chosen Training Basket as their Master Certified Training partner to deliver their authentic, certified training, to enterprises and IT professionals across India.

## About CISCO

CISCO SYSTEMS INC. IS THE WORLDWIDE LEADER in networking for the Internet. ... Cisco's networking solutions connect people, computing devices and computer networks, allowing people to access or transfer information without regard to differences in time, place or type of computer system.

## About CCNA Enterprise (200-301)

CCNA exam – 200-301 Cisco certification program will be drastically changed from Feb. 24, 2020. There will no longer be multiple different CCNA exams and certifications – only a single, comprehensive exam will be available. The new exam's code is 200-301 CCNA and its full name is Implementing and Administering Cisco Networking Technologies. According to Cisco, the new exam "covers a broad range of fundamentals based on the latest technologies, software development skills, and job roles".

## Under the new rules, the following certifications will all be replaced by the new

<ul style="list-style-type: none"><li>• CCNA: CCNA Cloud</li><li>• CCNA Data Center</li><li>• CCNA Routing and Switching</li><li>• CCNA Service Provider</li><li>• CCDA (Cisco Certified Design Associate)</li></ul>	<ul style="list-style-type: none"><li>• CCNA Collaboration</li><li>• CCNA Industrial</li><li>• CCNA Security</li><li>• CCNA Wireless</li></ul>
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## CISCO-CCNA Enterprise (200-301)

Course Duration : 60 Hours

**Exam Description:** CCNA Exam v1.0 (CCNA 200-301) is a 120-minute exam associated with the CCNA certification. This exam tests a candidate's knowledge and skills related to network fundamentals, network access, IP connectivity, IP services, security fundamentals, and automation and programmability. The course, Implementing and Administering Cisco Solutions (CCNA), helps candidates prepare for this exam.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. To better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

### 1.0 Network Fundamentals

- 1.1 Explain the role and function of network components
  - 1.1.a Routers
  - 1.1.b L2 and L3 switches
  - 1.1.c Next-generation firewalls and IPS
  - 1.1.d Access points
  - 1.1.e Controllers (Cisco DNA Center and WLC)
  - 1.1.f Endpoints
  - 1.1.g Servers

### 1.2 Describe characteristics of network topology architectures

- 1.2.a 2 tier
- 1.2.b 3 tier
- 1.2.c Spine-leaf
- 1.2.d WAN
- 1.2.e Small office/home office (SOHO)
- 1.2.f On-premises and cloud

### 1.3 Compare physical interface and cabling types

- 1.3.a Single-mode fiber, multimode fiber, copper
- 1.3.b Connections (Ethernet shared media and point-to-point)
- 1.3.c Concepts of PoE

### 1.4 Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed)

### 1.5 Compare TCP to UDP

### 1.6 Configure and verify IPv4 addressing and subnetting

### 1.7 Describe the need for private IPv4 addressing

### 1.8 Configure and verify IPv6 addressing and prefix

## **1.9 Compare IPv6 address types**

- 1.9.a Global unicast
- 1.9.b Unique local
- 1.9.c Link local
- 1.9.d Anycast
- 1.9.e Multicast
- 1.9.f Modified EUI 64

## **1.10 Verify IP parameters for Client OS (Windows, Mac OS, Linux)**

## **1.11 Describe wireless principles**

- 1.11.a Nonoverlapping Wi-Fi channels
- 1.11.b SSID
- 1.11.c RF
- 1.11.d Encryption

## **1.12 Explain virtualization fundamentals (virtual machines)**

## **1.13 Describe switching concepts**

- 1.13.a MAC learning and aging
- 1.13.b Frame switching
- 1.13.c Frame flooding
- 1.13.d MAC address table

## **2.0 Network Access**

### **2.1 Configure and verify VLANs (normal range) spanning multiple switches**

- 2.1.a Access ports (data and voice)
- 2.1.b Default VLAN
- 2.1.c Connectivity

### **2.2 Configure and verify interswitch connectivity**

- 2.2.a Trunk ports
- 2.2.b 802.1Q
- 2.2.c Native VLAN

### **2.3 Configure and verify Layer 2 discovery protocols (Cisco Discovery Protocol and LLDP)**

### **2.4 Configure and verify (Layer 2/Layer 3) EtherChannel (LACP)**

### **2.5 Describe the need for and basic operations of Rapid PVST+ Spanning Tree Protocol and identify basic operations**

- 2.5.a Root port, root bridge (primary/secondary), and other port names
- 2.5.b Port states (forwarding/blocking)
- 2.5.c PortFast benefits

### **2.6 Compare Cisco Wireless Architectures and AP modes**

### **2.7 Describe physical infrastructure connections of WLAN components (AP, WLC, access/trunk ports, and LAG)**

2.8 Describe AP and WLC management access connections (Telnet, SSH, HTTP, HTTPS, console, and TACACS+/RADIUS)

2.9 Configure the components of a wireless LAN access for client connectivity using GUI only such as WLAN creation, security settings, QoS profiles, and advanced WLAN settings

### **3.0 IP Connectivity**

3.1 Interpret the components of routing table

3.1.a Routing protocol code

3.1.b Prefix

3.1.c Network mask

3.1.d Next hop

3.1.e Administrative distance

3.1.f Metric

3.1.g Gateway of last resort

### **3.2 Determine how a router makes a forwarding decision by default**

3.2.a Longest match

3.2.b Administrative distance

3.2.c Routing protocol metric

### **3.3 Configure and verify IPv4 and IPv6 static routing**

3.3.a Default route

3.3.b Network route

3.3.c Host route

3.3.d Floating static

### **3.4 Configure and verify single area OSPFv2**

3.4.a Neighbor adjacencies

3.4.b Point-to-point

3.4.c Broadcast (DR/BDR selection)

3.4.d Router ID

### **3.5 Describe the purpose of first hop redundancy protocol**

### **4.0 IP Services**

4.1 Configure and verify inside source NAT using static and pools

4.2 Configure and verify NTP operating in a client and server mode

4.3 Explain the role of DHCP and DNS within the network

4.4 Explain the function of SNMP in network operations

4.5 Describe the use of syslog features including facilities and levels

4.6 Configure and verify DHCP client and relay

4.7 Explain the forwarding per-hop behavior (PHB) for QoS such as classification, marking, queuing, congestion, policing, shaping

4.8 Configure network devices for remote access using SSH

4.9 Describe the capabilities and function of TFTP/FTP in the network

## **5.0 Security Fundamentals**

- 5.1 Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
- 5.2 Describe security program elements (user awareness, training, and physical access control)
- 5.3 Configure device access control using local passwords
- 5.4 Describe security password policies elements, such as management, complexity, and password alternatives (multifactor authentication, certificates, and biometrics)
- 5.5 Describe remote access and site-to-site VPNs
- 5.6 Configure and verify access control lists
- 5.7 Configure Layer 2 security features (DHCP snooping, dynamic ARP inspection, and port security)
- 5.8 Differentiate authentication, authorization, and accounting concepts
- 5.9 Describe wireless security protocols (WPA, WPA2, and WPA3)
- 5.10 Configure WLAN using WPA2 PSK using the GUI

## **6.0 Automation and Programmability**

- 6.1 Explain how automation impacts network management
- 6.2 Compare traditional networks with controller-based networking
- 6.3 Describe controller-based and software defined architectures (overlay, underlay, and fabric)
  - 6.3.a Separation of control plane and data plane
  - 6.3.b North-bound and south-bound APIs
- 6.4 Compare traditional campus device management with Cisco DNA Center enabled device management
- 6.5 Describe characteristics of REST-based APIs (CRUD, HTTP verbs, and data encoding)
- 6.6 Recognize the capabilities of configuration management mechanisms Puppet, Chef, and Ansible
- 6.7 Interpret JSON encoded data



**Q: Why should I choose Training Basket over other training providers?**

Ans. Training Basket provides a unique amalgamation of quality, convenience, flexibility and cost. Training Basket has some of the best trainers in the industry. Our trainers excel not just in depth and width of knowledge, but also in their patience and ability to explain difficult concepts in simple terms.

Training Basket has made serious investments with long-term vision for ensuring good environmental factor for studies by first buying their own suites in the prestigious iThum Towers in NOIDA, Sec-62. This lets us configure our labs and classroom suited best to our student's comfort and focused studies.

**Q: What is the criterion for availing the Training Basket job assistance program?**

Ans: All Training Basket students who have successfully completed their training in any of our courses are directly eligible for placement assistance.

**Q: Which are the companies that Training Basket has placed students in the past?**

Ans: We have exclusive tie ups with MNC's like Ericsson, Cisco, Cognizant, Tech Mahindra, MEON, Bingo, Genpact etc.

**Q: Do I need a prior industry experience in getting an interview opportunity?**

Ans: There is no need to have prior opportunity for getting an interview call. The successful completion of any industry level technology training at Training Basket is like an industry experience. This training makes you confident to clear interviews and we also conduct in-house mock interviews on our online assessment platform where we assess our student's skills by testing their code online or industry specific assessment before sending them for interviews.

**Q: How does Training Basket assist in placement?**

Ans: You will be guided on creating an attractive template based resume. You will get opportunity to attend free personality development program and mock interviews conducted by our SME's to boost your confidence for real interviews. Plus you will be given our level assessment platform where we assess our student's skills by testing their code online or industry specific assessment.

**Q: If I don't clear in first attempt, will I get another chance?**

Ans: Yes, for sure. Your resume will be active on our job portal and will be visible to all our associates and clients. Training Basket will continue to send your resume to future job requirements matching your profile till you land a job.

**Q: Does Training Basket Guarantee job through it's job assistance program ?**

Ans: Training Basket does not guarantee job placement but it will continue to assist you on best efforts basis to place you in it's affiliated companies' network.

# COMPANIES WHERE OUR STUDENTS ARE PLACED

**Tech  
Mahindra**



**Source Soft Solutions**  
We only believe in the best

**Chi Networks™**

**ADS-eVER**

**MEON**  
DELIVERING GREAT SURFACES

**BioMax™**



**Bingo**  
Change • Innovate • Lead

**Dimensions**  
Five Dimensions Infotech

**WTS Webtech Solutions**

**HCL**

**IBM**

**Infosys**

**accenture**

**HUAWEI**

**Reliance  
Jio Infocomm**

**pinga™ solutions**

**DATA BRIDGE**  
MARKET RESEARCH

**CoreIP**  
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**Shailers**  
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