



## CCNA

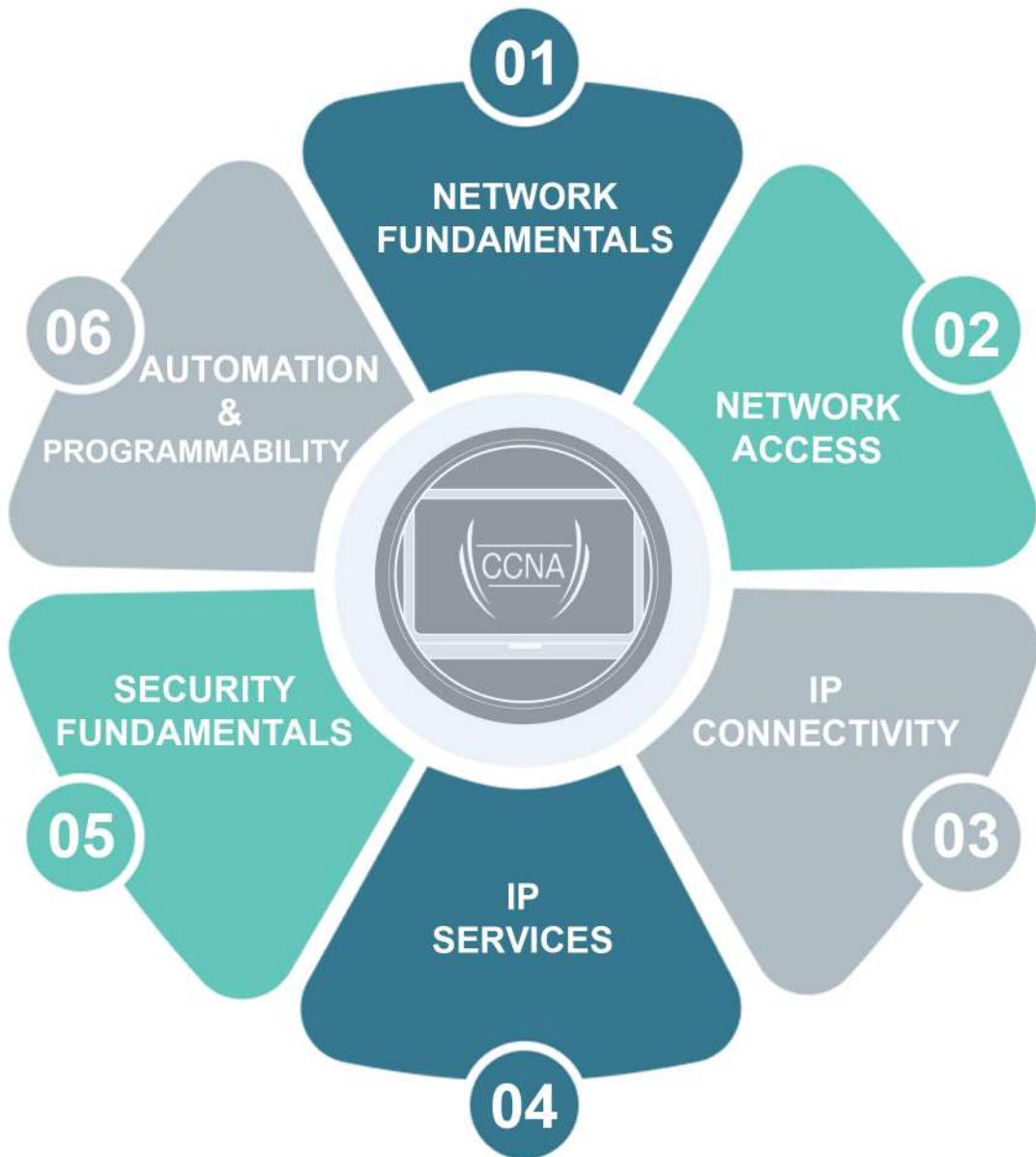


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# CCNA

Cisco Certified Network Associate, abbreviated as CCNA is a certificate course offered by CISCO, a giant in the networking industry. CCNA is essentially meant to evaluate and improve the networking knowledge of the learners. This certificate course validates the holder's ability at installing, securing, operating and troubleshooting any issue within an enterprises network.

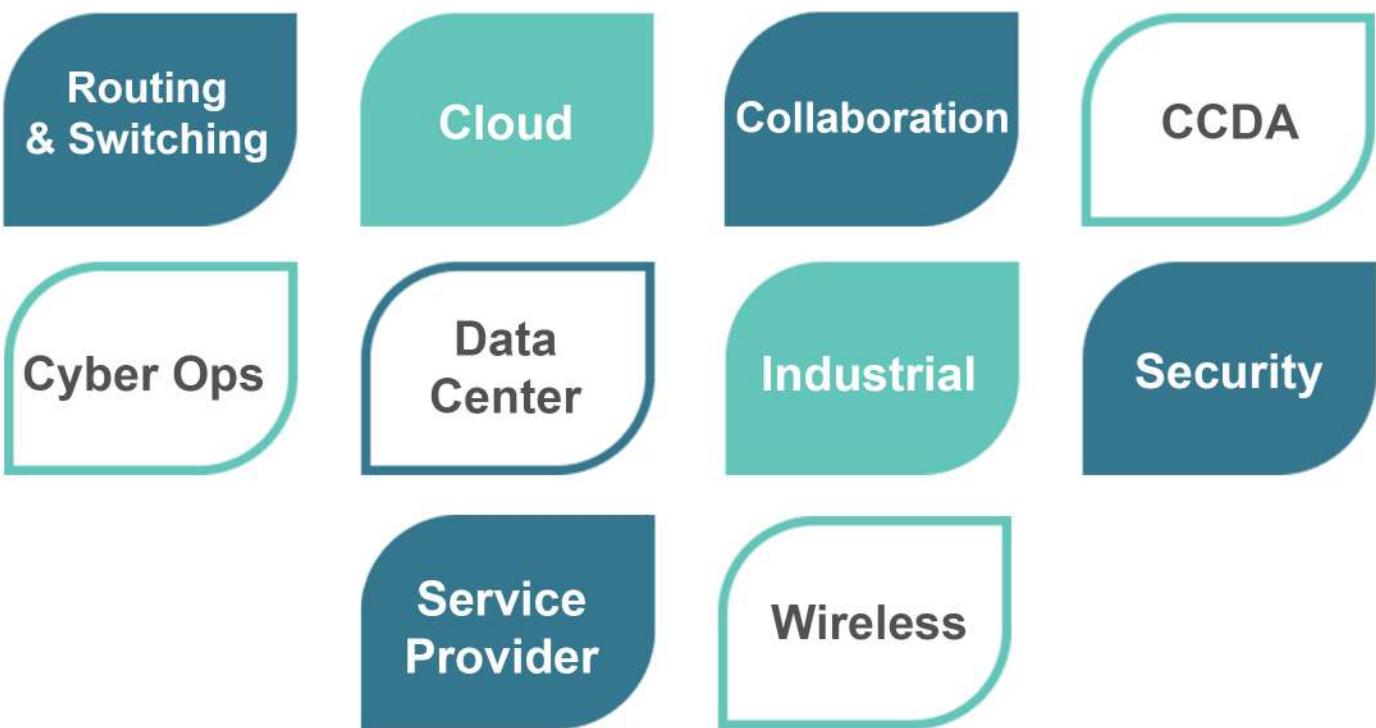
## CCNA comprises of:



## JOB PROFILES for CCNA graduates include:

- System Engineer
- Technical Support Engineer
- Network Support Engineer
- Network Administrator
- Network Engineers
- Cyber Security Engineer
- Security Engineer
- Network Security Engineer

## TYPES OF CCNA CERTIFICATIONS:



## Salary:

The average salary for a CCNA certification holders in India is Rs. 421,327.



## Types of Networks:

- 
- The diagram shows eight types of networks, each associated with a number and a brief description:
- 01 LAN - Local Area Network
  - 02 WAN - Wide Area Network
  - 03 WLAN - Wireless Local Area Network
  - 04 MAN - Metropolitan Area Network
  - 05 SAN - Storage Area Network
  - 06 CAN - Campus Area Network
  - 07 PAN - Personal Area Network
  - 08 DAN - Desk Area Network

## Popular Skills and Market Demand

NETWORK SECURITY  
ENGINEER



NETWORK  
ENGINEER



CLOUD  
ENGINEER



CLOUD SECURITY  
ENGINEER



CYBER SECURITY  
ENGINEER



SYSTEMS  
ENGINEER



## Why CCNA?

- CCNA is a great career path, especially for students with Btech/BCA/MCA background.
- CCNA certification validates that a candidate has the right skillset to handle any networking job responsibilities.
- It gives an individual a career boost as a networking professional and provides better work opportunities.
- Appraisals are a common benefit of the certification, with salaries often doubling in the case of skilled professionals.

## WHY CHOOSE BADATYA?

Meticulously designed industry - oriented course curriculum.



Industry experienced and qualified trainers.



Theoretic and practical training,  
50+ case studies.



100% Placement Assurance



Help with Interview Preparation and Profile Building



Flexible class schedules and customisable courses



## FAQ's

### How many times can I take the CCNA exams and how long is the certification valid for?

According to the policies, a student can retake the CCNA examination after 5 calendar days, while the minimum time between two examination attempts online, is 48 hours. The CCNA certification is valid for 3 years. Each time recertification requirements are met, the certification 'active' status will be extended for an additional three years.

### What will I receive post completion of my Course at Badatya ?

After completing the course, the individual shall receive a Course Completion Certificate by Badatya to vouch for the skills and knowledge the student has gained in the course term.

# **CCNA - CURRICULUM**

## **MODULE 01 – CCNA Routing and Switching**

- Exploring the network .....
- Configuring a network operating system .....
- Application layer .....
- Transport layer .....
- Network protocols .....
- Network communications .....
- Network layer .....
- IP addressing .....
- Subnetting IP networks .....
- Network access .....
- Ethernet .....

## **MODULE 02 - Network Fundamentals**

- Explain the role and function of network components ..
  - Routers .....
  - Layer 2 switches .....
  - Layer 3 switches .....
  - Next-generation firewalls .....
  - IPS .....
  - Access points .....
  - Controllers -Cisco DNA Center .....
  - Controllers -WLC .....
  - Endpoints .....
  - Servers .....
  - PoE .....
- Describe characteristics of network topology architectures ..
  - Two-tier .....
  - Three-tier .....
  - Spine-leaf .....
  - WAN .....
  - Small office/home office (SOHO) .....
  - On-premise and cloud .....
- Compare physical interface and cabling types ..
  - Single-mode fiber .....
  - multimode fiber .....
  - copper .....
  - Connections- Ethernet shared media .....
  - Connections - point-to-point.....
- Identify interface and cable issues .....

# CCNA - CURRICULUM

- Errors .....
- mismatch duplex .....
- speed .....
- Compare TCP to UDP .....
- Configure and verify IPv4 addressing .....
- Subnetting .....
- Describe the need for private IPv4 addressing .....
- Configure IPv6 addressing and prefix .....
- Verify IPv6 addressing and prefix .....
- Describe IPv6 address types ..
  - Unicast (global, unique local, and link local) .....
  - Anycast .....
  - Multicast .....
  - Modified EUI 64 .....
- Verify IP parameters for Client OS ..
  - Windows .....
  - Mac OS .....
  - Linux .....
- Describe wireless principles .....
- Explain virtualization fundamentals ..
  - server virtualization .....
  - containers .....
  - VRFs .....
- Describe switching concepts .....

## MODULE 03 – NETWORK ACCESS

- Configure and verify VLANs (normal range) spanning multiple switches.....
  - Access ports (data and voice) .....
  - Default VLAN .....
  - Connectivity .....
- Configure and verify inter-switch connectivity ..
  - Trunk ports .....
  - 802.1Q .....
  - Native VLAN .....
- Configure and verify Layer 2 discovery protocols (Cisco Discovery Protocol and LLDP) .....
- Configure and verify (Layer 2/Layer 3) Ether Channel (LACP) .....
- Interpret basic operations of Rapid PVST+ Spanning Tree Protocol ..
  - Root port .....
  - Root bridge (primary/secondary) .....
  - Other port names .....

# CCNA - CURRICULUM

- Port states (forwarding/blocking) .....
- PortFast .....
- Describe Cisco Wireless Architectures and AP modes .....
- Describe physical infrastructure connections of WLAN components (AP, WLC, access/trunk ports, and LAG) .....
- Describe AP and WLC management access connections (Telnet, SSH, HTTP, HTTPS, console, and TACACS+/RADIUS) .....
- Interpret the wireless LAN GUI configuration for client connectivity, such as WLAN creation, security settings, QoS profiles, and advanced settings .....

## MODULE 04 - IP Connectivity

- Interpret the components of routing table .....
- Routing protocol code .....
- Prefix .....
- Network mask .....
- Next hop .....
- Administrative distance .....
- Metric .....
- Gateway of last resort .....
- Determine how a router makes a forwarding decision by default.....
  - Longest prefix match .....
  - Administrative distance .....
  - Routing protocol metric .....
- Configure and verify IPv4 and IPv6 static routing .....
- Default route .....
- Network route .....
- Host route .....
- Floating static .....
- Configure and verify single area OSPFv2 .....
- Neighbor adjacencies .....
- Point-to-point .....
- Broadcast (DR/BDR selection) .....
- Router ID .....
- Describe the purpose, functions, and concepts of first hop redundancy protocols

## MODULE 05 - IP Services

# CCNA - CURRICULUM

- Configure and verify inside source NAT using static and pools .....
- Configure and verify NTP operating in a client and server mode .....
- Explain the function of SNMP in network operations .....
- Describe the use of syslog features including facilities and levels .....
- Configure and verify DHCP client and relay .....
- Explain the forwarding per-hop behavior (PHB) for QoS, such as classification, marking, queuing, congestion, policing, and shaping .....
- Configure network devices for remote access using SSH .....
- Describe the capabilities and function of TFTP/FTP in the network.....

## MODULE 06- Security Fundamentals

- Define key security concepts ..
  - Threats .....
  - Vulnerabilities .....
  - Exploits .....
  - mitigation techniques .....
- Describe security program elements ..
  - user awareness .....
  - training .....
  - physical access control .....
- Configure and verify device access control using local passwords .....
- Describe security password policies elements..
  - Management .....
  - Complexity .....
  - password alternatives (multifactor authentication, certificates, and biometrics) ..
- Describe IPsec remote access and site-to-site VPNs .....
- Configure and verify access control lists .....
- Configure and verify Layer 2 security features ..
  - DHCP snooping .....
  - dynamic ARP inspection .....
  - port security .....
- Compare authentication, authorization, and accounting concepts .....
- Describe wireless security protocols ..
  - WPA .....
  - WPA2 .....
  - WPA3 .....

# CCNA - CURRICULUM

## MODULE 07 - Automation and Programmability

- Explain how automation impacts network management .....
  - Compare traditional networks with controller-based networking .....
  - Describe controller-based, software defined architecture (overlay, underlay, and fabric) ..
    - Separation of control plane and data plane .....
    - Northbound and Southbound APIs .....
  - Compare traditional campus device management with Cisco DNA Center enabled device management .....
  - Describe characteristics of REST-based APIs ..
    - CRUD .....
    - HTTP verbs .....
    - data encoding .....
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# ABOUT BADATYA



1st Rank Institute  
in Delhi NCR



59,000+ Students



90% Students Enrol  
from references



Certified Industry  
Experts



500+ Training  
Partners



300+ Recruiting  
Partners

## Year wise Placement



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