NETWORK 667

Your Comprehensive Journey from Beginner to Advanced

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Program **Overview:**

The Basic Networking Course with AI offered by Craw Security, the premier Networking Training Institute in India, is designed to equip learners with the foundational skills and knowledge required to navigate the complex world of networking along with full AI fundamentals. This course lays the groundwork for understanding network infrastructure, network troubleshooting, protocols, and security principles essential for any aspiring IT professional.

Program **Features:**

- ✓ 60 hours of instructor-led training or Live VILT classes.
- ✓ Accredited by the FutureSkills Prime, Approved by the Government of India.
- ✓ The course will be in both English and Hindi mediums.
- ✓ Industry-leading cybersecurity experts with years of experience in penetration testing.
- ✓ Hands-on labs to learn with real-time problem-solving exercises.
- ✓ Cutting-edge curriculum to stay at the forefront of cybersecurity.
- ✓ Flexible Learning Options to choose from.

Delivery **Mode:**

Online Bootcamp / Offline Classroom Training / Corporate Training Facility

Prerequisites of **Basic Networking Course:**

Basic understanding of computer systems and the internet. In addition to this, no prior experience in networking is required, making this course ideal for beginners.

Target **Audience:**

- ✓ Students and recent graduates aiming to build a career in IT and network administration.
- ✓ Professionals from other fields seeking to transition into IT and networking roles.
- ✓ Anyone with a curiosity about how network systems work and how to manage them effectively.
- ✓ Anyone who is concerned about the integrity of their network infrastructure.

Key Learning **Outcomes:**

This Basic Networking Course with AI will help you:

- ✓ **Understand Networking Fundamentals:** Gain a comprehensive understanding of basic networking concepts, including the OSI and TCP/IP models, networking topologies, and the role of each layer in data communication.
- ✓ **Identify and Utilize Networking Devices:** Learn about different networking hardware such as routers, switches, hubs, and bridges, and understand their specific functions within a network.
- ✓ **Implement Network Protocols and Standards:** Understand and apply key network protocols (e.g., HTTP, FTP, SMTP) and standards essential for the creation and maintenance of functional networks.
- ✓ **Introduction of AI in Networking Technology**: Learners will hone their current networking knowledge with the basics of AI throughout the course curriculum wherever it can be implemented by highly trained instructors.

- **Configure Networks:** Acquire the skills to set up small to medium-sized networks, including configuring network devices, setting up WLANs (Wireless Local Area Networks), and managing IP addressing schemes.
- **Troubleshoot Network Issues:** Develop the ability to diagnose and resolve common network problems, enhancing network reliability and performance.
- **Ensure Network Security:** Understand basic network security principles and practices, including the use of firewalls, network security protocols, and the importance of secure network design.
- **IP Addressing and Subnetting:** Master IP addressing, including IPv4 and IPv6, and learn subnetting techniques to efficiently manage and segment networks and many more.

Certification **Alignment:**

Our Basic Networking Course with AI is genuinely accredited to FutureSkills Prime, a MeitY — NASSCOM, Digital Skilling Initiative, and approved by the Government of India. Moreover, Craw Security is a proud partner of FutureSkills Prime. Learners will get this certificate from FutureSkills Prime after participating in a dedicated exam.

Certification **Details & Criteria:**

Certification Details -
Upon successful completion of the course and passing the examination, participants will receive a certification from Craw Security. The examination assesses the participant's ability to apply basic networking techniques in a controlled environment. Specific criteria for certification include practical assessments and a theoretical exam.

About the **Exam:**

- **Number of Questions:** 30-35 Questions
- **Exam Test Duration:** 1 Hour
- **Test Format:** Multiple Choice Question (MCQ)
- **Exam Cost:** 600 Inclusive Taxes

Craw Security **Certification Criteria:**

- Attend 75% of classes and obtain 50% marks in the corresponding examination.
- Please note that there is an additional fee for the FutureSkills Prime exam related to this course.

100% Placement with **1 Year Cyber Security Course:**

There is a specialized set of Terms and Conditions for a 100% Placement Guarantee with **our 1 Year Cybersecurity Diploma** that needs to be fulfilled by each and every student who is willing to benefit from features from Craw Security. However, we have jotted down all the necessary T&Cs that need to be completed to take the advantage of 100% Placement Guarantee from the Department of Training & Placement by Craw Security:

- Attendance of 75% should be mandatory.
- Marks for internal exams should be 80% mandatory.
- Fees for 1 Year Cybersecurity Diploma Course should be properly paid.
- Candidate can apply for a job after completion of 6 modules.
- A candidate is applicable for Mock Interviews/PD Class after completion of 3 modules.
- Global certifications are required, if needed by companies for jobs.
- Candidate should be Graduate/Pursuing.
- One-time job Assistance/Placement will be provided, if the candidate misses any interview, Craw Placement Cell will not be liable to re-arrange the interview, and also Craw Academy will not be liable for any refund or future litigations or claims.

- ✓ Package as per candidate's skills or according to company norms.
- ✓ Ideal Candidates can apply for multiple jobs.
- ✓ The Post Placement Process will be provided by the Placement Cell, highly known as the Department of Training and Placement, which is as follows:
  1. Documentation
  2. Offer Letter
  3. Joining Date/ Timeline of Joining

What to Choose After this **Course:**

A person can choose the 1 Year Cybersecurity Diploma Course after the completion of this course or even switch the current course to this 12-course bundle of 1 Year Cybersecurity Diploma Course by Craw Security whose maximum courses are accredited to the FutureSkills Prime, a MeitY — NASSCOM, Digital Skilling Initiative, and approved by the Government of India.

Course **Curriculum:**

Module 01: Introduction to Networking

- ✓ Lesson 01: What is a Network?
- ✓ Lesson 02: Local Area Network (LAN)
- ✓ Lesson 03: Wide Area Network (WAN)
- ✓ Lesson 04: Type of Mode
- ✓ Lesson 05: Type of Communication

Module 02: OSI Model

- ✓ Lesson 01: What is OSI
- ✓ Lesson 02: Why we Need OSI
- ✓ Lesson 03: OSI Layers
- ✓ Lesson 04: TCP/UDP
- ✓ Lesson 05: 3 Way Hand Shake

Module 03: TCP/IP Model

- ✓ Lesson 01: What is TCP/IP
- ✓ Lesson 02: Why we Need TCP/IP Model
- ✓ Lesson 03: TCP/IP Layer

Module 04: Subnetting / Summarisation

- ✓ Lesson 01: Subnetting Explained
- ✓ Lesson 02: CIDR (Classless Inter-Domain Routing)
- ✓ Lesson 03: Create Subnets
- ✓ Lesson 04: Understanding Variable Length Subnet Masks (VLSM)
- ✓ Lesson 05: Private IP Addresses Explained

Module 05: Packet Flow in Same & Different Network

- ✓ Lesson 01: What is Domain Name System (DNS) and How Does it Work?
- ✓ Lesson 02: Map Hostnames to IP Addresses
- ✓ Lesson 03: Configure Cisco Device as DNS client
- ✓ Lesson 04: How to Configure a Cisco Router as a DNS Server?
- ✓ Lesson 05: no IP domain-lookup Command
- ✓ Lesson 06: ARP (Address Resolution Protocol) Explained
- ✓ Lesson 07: The ARP Table on a Cisco Router

Module 06: Information about Networking Device

✓ Lesson 01: Network Devices
✓ Lesson 02: Network Hubs Explained
✓ Lesson 03: Network Switch Explained
✓ Lesson 04: CSMA/CD
✓ Lesson 05: Collision & Broadcast Domain
✓ Lesson 06: How Switches Work
✓ Lesson 07: Layer 2 Switching
✓ Lesson 08: Network Router Explained
✓ Lesson 09: What Is Layer 3 Switch and How it Works in Our Network?

Module 07: IP / ICMP

✓ Lesson 01: ICMP (Internet Control Message Protocol)
✓ Lesson 02: Ping Explained
✓ Lesson 03: Extended Ping Command
✓ Lesson 04: Traceroute Explained
✓ Lesson 05: Traceroute Command
✓ Lesson 06: show processes Command

Module 08: APIPA

✓ Lesson 01: What is APIPA
✓ Lesson 02: Why we Need APIPA
✓ Lesson 03: APIPA (Automatic Private IP Addressing)

Module 09: Address Resolution Protocol

✓ Lesson 01: What is ARP
✓ Lesson 02: Why we Need ARP
✓ Lesson 03: Type of ARP

Module 10: Routing Protocols (Static & Dynamic)

✓ Lesson 01: Routing Protocols
✓ Lesson 02: Comparing Internal Routing Protocols (IGPs)
✓ Lesson 03: Administrative Distance & Metric
✓ Lesson 04: Equal Cost Multi-Path (ECMP) Explanation & Configuration
✓ Lesson 05: Understanding Loopback Interfaces and Loopback Addresses
✓ Lesson 06: passive-interface Command

Module 11: Static - Next Hop / Exit Interface

✓ Lesson 01: What is IP Routing?
✓ Lesson 02: Local Routes and How they Appear in the Routing Table
✓ Lesson 03: Connected, Static, & Dynamic Routes
✓ Lesson 04: Floating Static Route - Explanation and Configuration
✓ Lesson 05: Default Static Route
✓ Lesson 06: Create a Static Host Route

Module 12: Dynamic - RIP / EIGRP / OSPF & BGP

✓ Lesson 01: OSPF Overview
✓ Lesson 02: Differences Between OSPF and EIGRP
✓ Lesson 03: Cisco Bandwidth Command vs Clock Rate and Speed Commands
✓ Lesson 04: OSPF Cost - OSPF Routing Protocol Metric Explained

- ✓ Lesson 05: OSPF Configuration
- ✓ Lesson 06: Designated & Backup Designated Router

Module 13: WAN Technologies

- ✓ Lesson 01: Wide Area Network
- ✓ Lesson 02: Cisco VPN - What is VPN (Virtual Private Network)?
- ✓ Lesson 03: WAN Connection Types - Explanation and Examples
- ✓ Lesson 04: Leased Line Definition, Explanation, and Example
- ✓ Lesson 05: Multiprotocol Label Switching (MPLS) Explained & Configured

Module 14: What is NAT

- ✓ Lesson 01: Static NAT
- ✓ Lesson 02: Dynamic NAT
- ✓ Lesson 03: Port Address Translation (PAT) Configuration

Module 15: ACL

- ✓ Lesson 01: What are ACLs?
- ✓ Lesson 02: Types of ACLs
- ✓ Lesson 03: Configuring Standard ACLs
- ✓ Lesson 04: Configuring Extended ACLs
- ✓ Lesson 05: Configuring Named ACLs

Module 16: Dynamic Host Configuration Protocol

- ✓ Lesson 01: DHCP & DNS
- ✓ Lesson 02: Configure Cisco Router as DHCP Server
- ✓ Lesson 03: DHCP Relay Agent
- ✓ Lesson 04: Configure Cisco Router as a DHCP Client
- ✓ Lesson 05: APIPA (Automatic Private IP Addressing)

Module 17: Telnet & SSH

- ✓ Lesson 01: What is Telnet & SSH
- ✓ Lesson 02: Why we Need Telnet & SSH
- ✓ Lesson 03: Telnet & SSH
- ✓ Lesson 04: Setting Up Telnet
- ✓ Lesson 05: Setting Up SSH

Module 18: Load Balancing Protocol

- ✓ Lesson 01: What is Network Redundancy and What are its Benefits?
- ✓ Lesson 02: Cisco First Hop Redundancy Protocol (FHRP) Explained
- ✓ Lesson 03: Cisco Hot Standby Router Protocol (HSRP) Explained
- ✓ Lesson 04: Cisco Hot Standby Router Protocol (HSRP) Configuration
- ✓ Lesson 05: Cisco Hot Standby Router Protocol (HSRP) Preempt Command

Module 19: Layers 2 Protocols

- ✓ Lesson 01: What is Layer 2
- ✓ Lesson 02: Why we Need Layer 2 Protocol
- ✓ Lesson 03: CDP
- ✓ Lesson 04: LLDP

Module 20: VLAN

- ✓ Lesson 01: What is a VLAN?
- ✓ Lesson 02: Configuring Access & Trunk Ports
- ✓ Lesson 03: Configuring Voice VLANs
- ✓ Lesson 04: Configuring Allowed VLANs
- ✓ Lesson 05: Cisco Dynamic Trunking Protocol (DTP) Explained
- ✓ Lesson 06: What is VTP?
- ✓ Lesson 07: VTP Modes
- ✓ Lesson 08: VTP Configuration

Module 21: Different Types of STP

- ✓ Lesson 01: Network Bridge Explained
- ✓ Lesson 02: How STP Works
- ✓ Lesson 03: Electing the Root Switch in STP
- ✓ Lesson 04: Spanning Tree Priority: Root Primary and Root Secondary
- ✓ Lesson 05: Selecting STP Root Port
- ✓ Lesson 06: Selecting STP Designated Port (DP)

Module 22: Ether-Channel (L2)

- ✓ Lesson 01: What is Ether Channel and Why Do We Need It?
- ✓ Lesson 02: Ether Channel Port Aggregation Protocol (PAgP)
- ✓ Lesson 03: Ether Channel Link Aggregation Control Protocol (LACP)
- ✓ Lesson 04: Multi chassis Ether Channel (MEC) and MEC Options
- ✓ Lesson 05: Cisco Layer 3 Ether Channel - Explanation and Configuration

Module 23: Port Security

- ✓ Lesson 01: Cisco Console Port Security
- ✓ Lesson 02: Exec-timeout Command
- ✓ Lesson 03: Encrypt Local Usernames and Passwords

Basic Networking Course with AI Modules

Module 01: Introduction to Networking and AI Integration

Basics of Networking:-
- What is networking?
- Types of networks (LAN, WAN, MAN, etc.)
- Introduction to the OSI and TCP/IP models
- Key networking devices (routers, switches, firewalls)

Role of AI in Networking:-
- Use cases of AI in network optimization
- AI-driven network monitoring and troubleshooting

Module 02: Network Fundamentals

CCNA Core Concepts:-
- IP addressing and subnetting
- VLANs and trunking
- Routing and switching basics

AI-Assisted Learning Tools:-
- Subnet calculators with AI guidance
- Interactive routing simulators

Module 03: Routing and Switching

Static and Dynamic Routing:-
• Static routing configuration
• Dynamic protocols: RIP, EIGRP, OSPF
(introduction and
configuration)
• Advanced OSPF configurations (multi-area)
Switching Concepts:-
• MAC address tables
• STP and EtherChannel
• Inter-VLAN routing
AI for Optimization:-
• AI-based route optimization
• Automated troubleshooting for routing loops
or misconfigurations

Module 04: Access Control and Security

Access Control Lists (ACLs):-
• Standard vs. extended ACLs
• Configuration and testing ACLs
Network Security:-
• Firewall basics
• Securing routers and switches

AI in Security:-
• AI-based intrusion detection systems
• Network behavior analysis

Module 05: IP Services and Automation

DHCP and DNS:-
• Configuration and troubleshooting
• Integration into larger networks
NAT (Network Address Translation):-
• Static, dynamic, and PAT
AI and Automation:-
• Basics of network automation with Python
• AI-driven configuration management

Module 06: Advanced Routing Concepts

EIGRP:-
• Concepts and configuration
• EIGRP vs. OSPF (pros and cons)
Redistribution:-
• OSPF and EIGRP route redistribution
• Filtering routes using ACLs

Module 07: Network Monitoring and Troubleshooting

Troubleshooting Tools:-
• Ping, Traceroute, Telnet, SSH
• Packet analysis with Wireshark
AI for Troubleshooting:-
• Predictive analytics for network health
• Automated fault detection and resolution

Module 08: APIPA

• Simulated network scenarios with AI
guidance
• Configuring OSPF, EIGRP, and ACLs with
real-time feedback
• AI tools to optimize lab performance

Module 09: Address Resolution Protocol

Designing and deploying a network with:-
• VLANs, OSPF/EIGRP routing
• ACLs for security
• AI monitoring tools
• Real-world scenarios and troubleshooting

Module 10: Routing Protocols (Static & Dynamic)

• Preparing for the CCNA certification exam
• Career paths in AI-driven networking

About us:

Craw Security is India's leading cybersecurity and AI training institute, dedicated to developing the next generation of cybersecurity professionals. With a focus on practical, hands-on training, we offer a wide range of courses tailored to all skill levels. Our mission is to enhance the cybersecurity posture of individuals and organizations worldwide.

For more information, please visit our course page website:
https://www.craw.in/basic-networking-course-in-delhi/

Contact us:

Craw Cyber Security Private Limited, India (Head Office)

1st Floor, Plot no. 4, Lane no. 2, Kehar Singh Estate, Westend Marg, Behind Saket Metro Station, Said-ula-jab, New Delhi – 110030, India

Email id: training@craw.in | info@craw.in
Contact Number: +91 9513805401
Connect on WhatsApp: +91 8448897124

Visit our website: www.craw.in | www.crawsecurity.com
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