



## **PG Certification Program in CYBER SECURITY**

- Practical Training
- Training From Expert Trainer
- Interview Preparation
- Complete Placement Assistance





# ABOUT US

**Infobyte Computers** offers a high-quality learning experience in the field of IT training to train students on brand new technologies and train them to deliver the desired results with commercially relevant and re-organized technical skills.

The probability of achieving your dream job will keep on increasing day by day once you complete a course in

**Infobyte Computers** We also focus on improving soft skills in terms of communication, leadership, teamwork, external

appearance, and attitude which helps everyone to be

professional in all the aspects of their career.



**25%**

**Theory**



**75%**

**Practicals**

# **CYBER SECURITY**

## **TOPICS**

- **CCNA**
- **BASIC TO ADVANCE KALI LINUX**
- **CEHv12**
- **NETWORK PENTESTING**
- **WEB-APPLICATION PENTESTING**
- **ACTIVE DIRECTORY PENTESTING**
- **API PENTESTING**
- **MOBILE PENTESTING**
- **CLOUD SECURITY**
- **CYBER LAW**
- **AWS**

# ABOUT CCNA 200-301 CERTIFICATION

**Infobyte Computers** CCNA course will help you to improve yourself about networking basics, switching & routing technologies, IPv4 and IPv6. You will learn, how to configure a small network with CISCO switches and routers. This CCNA course in Thane will help you to become a professional. If you are a beginner at networking technologies, our CCNA certification program is great for you! You will get the certification easily with this CCNA course and you can begin your career in the networking industry.



# BENEFITS

- Career Growth - Higher Pay & Position
- Encourages professional Development
- Enriches self-image and Reputation
- Enhances professional Credibility.
- Abundant Job Opportunities
- Used In Many Industries
- Global Recognition
- Secure and Flexible
- 50+ Case Studies
- 50+ Projects



# CCNA CONTENT

## 1 Network Fundamentals

### 1.Explain the role and function of network components

- a. Routers
- b. L2 and L3 switches
- c. Next-generation firewalls and IPS
- d. Access points
- e. Controllers (Cisco DNA Center and WLC)
- f. Endpoints
- g. Servers

### 2.Describe characteristics of network topology architectures

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

3. Compare physical interface and cabling types
  - a. Single-mode fiber, multimode fiber, copper
  - b. Connections (Ethernet shared media and point-to-point)
  - c. Concepts of PoE
4. Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed)
5. Compare TCP to UDP
6. Configure and verify IPv4 addressing and subnetting
7. Describe the need for private IPv4 addressing
8. Configure and verify IPv6 addressing and prefix
9. Compare IPv6 address types
  - a. Global unicast
  - b. Unique local
  - c. Link-local
  - d. Anycast
  - e. Multicast
  - f. Modified EUI 64
10. Verify IP parameters for Client OS (Windows, Mac OS, Linux)

11. Describe wireless principles
  - a. Nonoverlapping Wi-Fi channels
  - b. SSID
  - c. RF
  - d. Encryption
12. Explain virtualization fundamentals (virtual machines)
  - 1.12 Explain virtualization fundamentals (virtual machines)

## **2 Network Access**

1. Configure and verify VLANs (normal range) spanning multiple switches
  - b. Access ports (data and voice)
  - c. Default VLAN
  - d. Connectivity
2. Configure and verify interswitch connectivity
  - b. 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)



4. Configure and verify (Layer 2/Layer 3) EtherChannel (LACP)
5. Describe the need for and basic operations of Rapid PVST+ Spanning Tree Protocol and identify

basic operations

- a. Root port, root bridge (primary/secondary), and other port names
  - b. Port states (forwarding/blocking)
  - c. PortFast benefits
6. Compare Cisco Wireless Architectures and AP modes
  7. Describe physical infrastructure connections of WLAN components (AP, WLC, access/trunk ports, and LAG)
  8. Describe AP and WLC management access connections (Telnet, SSH, HTTP, HTTPS, console, and TACACS+/RADIUS)
  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 IP

### Connectivity

1. Interpret the components of the routing table
  - a. Routing protocol code
  - b. Prefix
  - c. Network mask
  - d. Next hop
  - e. Administrative distance
  - f. Metric
  - g. Gateway of last resort
2. Determine how a router makes a forwarding decision by default
  - a. Longest match
  - b. Administrative distance
  - c. Routing protocol metric
3. Configure and verify IPv4 and IPv6 static routing
  - a. Default route
  - b. Network route
  - c. Host route
  - d. Floating static

4. Configure and verify single area OSPFv2
  - a. Neighbor adjacencies
  - b. Point-to-point
  - c. Broadcast (DR/BDR selection)
  - d. Router ID
5. Describe the purpose of first hop redundancy protocol

### **3 IP Services**

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

## 5 Security Fundamentals

1. Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
2. Describe security program elements (user awareness, training, and physical access control)
3. Configure device access control using local passwords
4. Describe security password policies elements, such as management, complexity, and password alternatives (multifactor authentication, certificates, and biometrics)
5. Describe remote access and site-to-site VPNs
6. Configure and verify access control lists
7. Configure Layer 2 security features (DHCP snooping, dynamic ARP inspection, and port security)
8. Differentiate authentication, authorization, and accounting concepts
9. Describe wireless security protocols (WPA, WPA2, and WPA3)
10. Configure WLAN using WPA2 PSK using the GUI

## 6 Automation and Programmability

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

**And Many More...**

# Basic to Advanced Kali

## Linux

- Basic to Advanced Kali Linux
- Open Source v/s Closed Source
- What is Linux and Linux Kernel?
- About Kali Linux and its Specifications
- Install Kali Linux & Virtualization Technology
- Basic Understanding of Linux
- Troubleshoot Issues of Kali Linux Old Versions
- Useful Commands
- Analysis of ls Command
- Analysis of cd Command
- Helping Yourself and Getting Help in Kali Linux
- Configuration Files in Kali Linux
- Passwd File Analysis
- Permissions in Linux
- Managing Network in Kali Linux
- Macchanger (change mac address for hide yourself)
- Staying Anonymous with ProxyChains
- Virtual Private Network (VPN) Setup

# CEHv12 CONTENT

- Introduction to Ethical Hacking
- Lab Setup
- Kali Linux
- Foot Printing and Reconnaissance
- Scanning Networks
- Enumeration
- Vulnerability Analysis
- System Hacking
- Malware threats
- Sniffing
- Social Engineering
- Denial-of-service
- Session Hijacking
- Evading IDS, Firewalls & Honeypots
- Hacking Web servers
- Hacking web Application

- IoT for hacking & OT platforms
- Cloud Computing
- Cryptography
- Steganography



# ADVANCE PENETRATION

## TESTING

### □ NETWORK SECURITY PENTESTING

- INTRODUCTION OF PENTESTING
- Ports and Service Exploitation
- Detecting Live Systems and Analyzing Results
- Nmap Advance Port Scan
- Metasploit
- Dictionary & Passwords Attacks
- FTP Penetration Testing
- SSH Penetration Testing
- Telnet Penetration Testing
- SMTP Penetration Testing
- DNS & DHCP Penetration Testing
- NetBIOS & SMB Penetration Testing
- MySQL Penetration Testing
- Credential Dumping
- BIND SHELL REVERSE SHELL
- DOS Attack Penetration Testing

- Network Vulnerability Assessment Tool
- All About CTF
- Beginner level CTF LAB
- INTERMEDIATE LEVEL CTF LAB
- HARDLEVEL CTF LAB

## ☐ **Linux Privilege Escalation**

- Introduction
- What is Privilege Escalation?
- Enumeration
- Automated Enumeration Tools
- Privilege Escalation: Kernel Exploits
- Privilege Escalation: Sudo
- Privilege Escalation: SUID
- Privilege Escalation: Capabilities
- Privilege Escalation: Cron Jobs
- Privilege Escalation: PATH
- Privilege Escalation: NFS
- Capstone Challenge

## □ Windows PrivEsc

- Registry Escalation - Autorun
- Registry Escalation - AlwaysInstallElevated
- Service Escalation - Registry
- Service Escalation - Executable Files
- Privilege Escalation - Startup Applications
- Service Escalation - DLL Hijacking
- Service Escalation - binPath
- Service Escalation - Unquoted Service Paths
- Potato Escalation - Hot Potato
- Password Mining Escalation - Configuration Files
- Password Mining Escalation - Memory
- Privilege Escalation - Kernel Exploits

Many more .....

# WEB APPLICATION PENTESTING

- Introduction to Web Application Pentesting
- Web Server Configuration
- Web Application Lab Setup
- Burpsuite Installation and proxy setup
- Web Application Penetration Testing
- Tools
- Web Hacking Methodology
- Footprinting
- Server Footprinting
- Port Footprinting
- Service Footprinting
- Banner Grabbing or Footprinting
- WAF Detection
- Hidden Content Footprinting
- Load Balancer Detection
- Web Application Analyze

- A1 Injection Flaws
- A2 Broken Authentication
- A3 Sensitive Data Exposure
- A4 XML External Entities (XXE)
- A5 Broken Access Control
- A6 Security Misconfiguration
- A7 Cross-Site Scripting (XSS)
- A8 Insecure Deserialization
- A9 Using Components with Known Vulnerabilities
- A10 Insufficient Logging & Monitoring
- Other Web Application Threats
- Solving Web-CTF Machine

## □ **LIVE BUG BOUNTY**

- HackerOne
- Bugcrowd
- Open Bug Bounty
- Vulnerability Lab

Many more .....

# ACTIVE DIRECTORY

# PENTESTING

- INTRODUCTION
- Why AD Enumeration
- Credential Injection
- Enumeration through Microsoft Management Console
- Enumeration through Command Prompt
- Enumeration through PowerShell
- Enumeration through Bloodhound
- Conclusion

# API PENTESTING

- INTRODUCTION TO API
- Hands-On API Testing with Postman
- Set Up API Testing Labs
- Analyze GET Requests

- Query Parameters in API
- Path Parameter in API Analysis Your API Calls
- Analysis POST Calls
- Analysis PUT Calls
- Analysis DELETE Calls
- Automating API Tests in Postman
- Postman Collections Validating APIs with Postman
- Requests Sharing Code Between Tests in Postman
- Mocking with Postman
- Running the collection using Newman
- Build Better APIs with Postman API
- API Debugging
- API Monitoring
- Use Postman API Advanced Practices in Postman
- Data Driven Testing with Postman
- Postman Proxy Importing Existing API
- Validate API Schema with tv4

# Mobile Application Security

## Testing

### **Module 1**

- 1 Introduction of Genymotion 2 Creating devices on Emulator
- 3 Setting up the burp proxy
- 4 Installation of Root Certificate
- 5 Introduction of Burp Proxy
- 6 Traffic Analysis with Burp
- 7 Introduction of adb

### **Module 2**

- 1 Android Architecture
- 2 Android Security Model
- 3 Android Application Development Cycle
- 4 Major Components of Android
- 5 Android Application Components
- 6 Android Startup Process

### **Module 3**



- 3 Decompile with Apkeasy Tool
- 4 Weak Server Side Controls
- 5 Insecure Data Storage
- 6 Hardcoding Issues
- 7 Detection of Insecure Logging
- 8 Database Insecure Storage
- 9 Reading Temporary Files 10 SQL Injection in Android 11 Web View Vulnerability
- 12 Access-Related Issues
- 13 Authorization Bypass
- 14 Understanding and Exploitation of Content Providers
- 15 Input Validation leading to DOS Attack
- 16 Root Detection Bypass
- 17 SSL Pinning Bypass
- 18 Inspection of Certificate and Signing SchemaReport Preparation
- IOS Penetration Basics

**And Many More...**

# **CLOUD SECURITY**

## **Introduction to Cloud Security**

1. Platform and Infrastructure Security in the Cloud
2. Application Security in the Cloud
3. Data Security in the Cloud
4. Operation Security in the Cloud
5. Penetration Testing in the Cloud
6. Incident Detection and Response in the Cloud
7. Forensics Investigation in the Cloud
8. Business Continuity and Disaster Recovery in the Cloud
9. Governance, Risk Management, and Compliance in the Cloud
10. Standards, Policies, and Legal Issues in the Cloud

## Top Tools Covered in the Certified Cloud Security Engineer (C|CSE)



- AWS IAM
- AWS KMS
- AWS VPC
- Web Application Firewall
- Cloud Front
- Amazon RDS
- Amazon Backup
- Amazon Inspector
- AWS Cloud Trial
- CloudWatch
- Cloud Data Fusion
- Amazon Macie
- AWS Security Hub
- AWS Trusted Advisor



- Microsoft Defender for Cloud
- Azure Active Directory
- Azure Monitor
- Network Watcher
- Azure Storage Analytics
- Azure Policy
- ScoutSuite
- Azure Blueprints
- Cloud Security Suite
- PowerZure



- App Engine Firewall
- Cloud Identity
- Cloud Monitoring
- Security Command Center
- Web Application and API protection
- Google Cloud Armor
- Cloud Security Scanner
- GCP-IAM-Privilege-Escalation
- Secrets Manager
- Chronicle Detect
- Cloud Key Management

# **CYBER LAW**

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## **1 Fundamentals of Cyber Law**

- a. Jurisprudence of Cyber Law
- b. Overview of Computer and Web Technology
- c. Electronic Governance - the Indian perspective
- d. Overview of General Laws and Procedures in India

## **2 E-commerce- Legal issues**

- a. Digital Signatures and the Indian Law
- b. Electronic Contracts
- c. The UNCITRAL Model law on Electronic Commerce

## **3 Intellectual Property Issues and Cyberspace - The Indian Perspective**

- a. Overview of Intellectual Property related Legislation in India
- b. Copyright law & Cyberspace
- c. Trademark law & Cyberspace
- d. Law relating to Semiconductor Layout & Design

## **4 Cyber crime and Digital Evidence - the Indian Perspective**

- a. Penalties & Offences under the Information Technology Act, 2000
- b. Offences under the Indian Penal Code, 1860
- c. Issues relating to investigation and adjudication of cyber crimes in India
- d. Digital evidence

**And Many More...**



## **1. Introduction to AWS**

- What Is Cloud Computing?
- AWS Fundamentals
- AWS Cloud Computing Platform

## **2. Amazon Simple Storage Service (Amazon S3) and Amazon Glacier Storage**

- Introduction
- Object Storage versus Traditional Block and File Storage Amazon
- Simple Storage Service (Amazon S3) Basics Buckets
- Amazon S3 Advanced Features
- Amazon Glacier
- Summary

## **3. AWS Identity and Access Management (IAM)**

- Principals
- Authentication
- Authorization Other
- Key Features
- Summary

## **4. Amazon Elastic Compute Cloud (Amazon EC2) and Amazon Elastic Block**

- Store (Amazon EBS)
- Introduction
- Amazon Elastic Compute Cloud (Amazon EC2)
- Amazon Elastic Block Store (Amazon EBS)
- Summary

## **5. Amazon Virtual Private Cloud (Amazon VPC)**

- Introduction
- Amazon Virtual Private Cloud (Amazon VPC)
- Subnets
- Route Tables
- Internet Gateways
- Dynamic Host Configuration Protocol (DHCP) Option Sets
- Elastic IP Addresses (EIPs)
- Elastic Network Interfaces (ENIs)
- Endpoints
- Peering Security Groups
- Network Access Control Lists (ACLs)

## 6. Network Address Translation (NAT)

### Gateways

- Private Gateways (VPGs),
- Customer Gateways (CGWs), and
- Virtual Private Networks (VPNs)
- Summary

## Instances and NAT

## 7. Elastic Load Balancing, Amazon CloudWatch, and Auto Scaling

- Introduction
- Elastic Load Balancing,
- Application Load Balancing
- Amazon CloudWatch
- Auto Scaling
- Summary

## 8. Databases and AWS

- Database Primer
- Amazon Relational Database Service (Amazon RDS)
- Amazon Redshift
- Amazon DynamoDB
- Summary



## **9. SQS, SWF, and SNS**

- Amazon Simple Queue Service (Amazon SQS)
- Amazon Simple Workflow Service (Amazon SWF)
- Amazon Simple Notification Service (Amazon SNS)
- Summary

## **10. Domain Name System (DNS) and Amazon Route 53**

- Domain Name System (DNS)
- Amazon Route 53 Overview
- Summary

## **11. Amazon ElastiCache**

- Introduction
- In-Memory Caching
- Amazon ElastiCache
- Summary

## **12. Additional Key Services**

- Introduction
- Aws Lambda
- Aws CloudFront
- Redshift
- Kinesis
- ECS
- Directory Services
- Storage and Content Delivery
- Security
- DevOps

## **13. Security on AWS**

- Introduction
- Shared Responsibility Model
- AWS Compliance Program

**And Many More...**

# **WHY INFOBYTE COMPUTERS?**

- We have huge amount of skilled students ready to work in industry
- We have 6500 sq. ft office area
- We value our clients
- When you choose us, you'll feel the benefit of 10 years' experience of working.
- We take the work seriously, but not ourselves. We're not prickly, precious or pretentious.
  - For us, it's all about what adds value for you and your business. Above all, we want our words to work for you.
- We provide full consultations
- We have track record of success
- We are always available
- We track our results

# **CAREER OPPORTUNITIES**

- Incident Response Analyst
- Cybersecurity Consultant
- Information Security Analyst
- Ethical Hacker
- Penetration Tester
- Security Engineer
- Cybersecurity Manager
- Security Architect
- Chief Information Security Officer

**And Many More...**



# OUR RECRUITERS



*and Many*

# **FACILITIES** **OFFERED**

- Practical Training on Live Projects
- Complete Placement Assistance
- Interview Preparation
- Global Certification
- Fully functional labs
- Online / Offline Training
- Study Materials
- Expert Level Industry Recognized Training

