

# MASTERING CYBER SECURITY

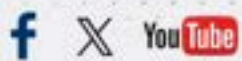
**COMPLETE CYBER SECURITY COURSE**



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# INTRODUCTION TO CYBERSECURITY

## 1. Importance of Cybersecurity:

- ▶ Data Protection
- ▶ Preventing Cyberattacks
- ▶ National Security

## 2. Types of Cybersecurity Threats:

- ▶ Malware
- ▶ Phishing
- ▶ Ransomware

## 3. Cybersecurity Measures and Best Practices

- ▶ Firewalls and Antivirus Software
- ▶ Encryption
- ▶ Regular Software Updates

## 4. Career Opportunities in Cybersecurity

- ▶ Cybersecurity Analysts
- ▶ Ethical Hackers
- ▶ Security Consultants

## 5. Legal and Ethical Aspects

- ▶ Data Protection Laws
- ▶ Ethical Hacking

# NETWORK AND SYSTEM SECURITY

## 1. Network Security Overview

## 2. Types of Network Security Measures

- ▶ Firewalls
- ▶ Intrusion Detection and Prevention Systems (IDPS)

## 3. Types of System Security Measures

- ▶ Operating System Security
- ▶ Anti-malware Software
- ▶ Backup and Recovery

## 4. Network and System Security Best Practices

- ▶ Defense in Depth: Regular
- ▶ Security Audits: Incident
- ▶ Response Plan: Role-Based
- ▶ Access Control:

## 5. Emerging Technologies in Network and System Security

- ▶ Blockchain
- ▶ Machine Learning and AI

# **DATA PROTECTION AND CRYPTOGRAPHY - DATA PROTECTION**

## **1. Importance of Data Protection**

- ▶ Privacy Compliance
- ▶ Customer Trust
- ▶ Preventing Data Breaches

## **2. Data Protection Measures**

- ▶ Encryption
- ▶ Access Controls
- ▶ Regular Audits and Monitoring

# **CRYPTOGRAPHY**

## **1. Types of Cryptography**

- ▶ Symmetric Encryption
- ▶ Asymmetric Encryption (Public-Key Cryptography)
- ▶ Hash Functions

## **2. Uses of Cryptography**

- ▶ Secure Communication:
- ▶ Digital Signatures:
- ▶ Authentication:
- ▶ Key Exchange

## **3. Challenges in Cryptography**

- ▶ Quantum Computing
- ▶ Key Management

#### **4. Future Trends in Cryptography**

- ▶ Post-Quantum Cryptography
- ▶ Homomorphic Encryption

## **WEB SECURITY AND ETHICAL HACKING - WEB SECURITY**

### **1. Secure Web Protocols**

- ▶ HTTPS
- ▶ SSL/TLS

### **2. Common Web Vulnerabilities**

- ▶ Cross-Site Scripting (XSS)
- ▶ Cross-Site Request Forgery (CSRF)
- ▶ SQL Injection

### **3. Security Best Practices**

- ▶ Input Validation
- ▶ Session Management
- ▶ Content Security Policy (CSP)

# **ETHICAL HACKING**

## **1. Definition of Ethical Hacking**

## **2. Responsibilities of Ethical Hackers**

- Authorized Access
- Identifying Vulnerabilities
- Reporting

## **3. Common Ethical Hacking Techniques**

- Scanning and Enumeration
- Vulnerability Assessment
- Social Engineering

## **4. Certifications in Ethical Hacking**

- Certified Ethical Hacker (CEH)
- Offensive Security Certified Professional (OSCP)

## **5. Ethical Hacking Tools**

- Nmap
- Metasploit
- Burp Suite

# **CYBERSECURITY BEST PRACTICES AND FUTURE TRENDS**

- 1. Strong Authentication**
- 2. Regular Software Updates and Patch Management**
- 3. Data Encryption**
- 4. Network Security**
- 5. Incident Response Plan**
- 6. Regular Security Audits and Penetration Testing**

## **FUTURE TRENDS IN CYBERSECURITY**

- 1. Zero Trust Security Model**
- 2. Artificial Intelligence (AI) and Machine Learning (ML) in Cybersecurity**
- 3. Cloud Security Posture Management (CSPM)**
- 4. IoT Security**
- 5. Ransomware Mitigation**
- 6. Cybersecurity Regulations and Compliance**

## **ASSESSMENT AND ACTIVITIES**

- ▶ Certified Ethical Hacker (CEH) Offensive Security Certified
- ▶ Professional (OSCP)

*Thank You*