



CYBER SECURITY FUNDAMENTALS

COURSE OVERVIEW

- Get a basic understanding of Cyber Security
- Types of Cyber Attacks
- Basic Terminologies
- Networking
- Cyber defenses
- Basics of Windows OS/Linux OS
- VPN
- Firewalls

COURSE OBJECTIVE

At the end of this course, you will understand the following

- Fundamentals of Cyber Security
- Types of Threats
- Basic terminologies
- Basic Networking
- Cyber Defenses
- Windows/Linux OS Basics
- Python Scripting
- Types of Tracking
- Firewalls/VPN

SKILL YOU WILL LEARN

- Networking
- Hacking Fundamentals
- Firewalls
- Anti Virus
- Password Management
- IP address
- Internet Profiling

PROGRAM HIGHLIGHTS

- Instructor- Ajay Gautam
- Duration- 20 Hours
- Eligibility- Any graduate with a Science stream
- No. of Modules- 10
- Placement training- Yes
- Language-English
- Shareable certificate- Yes
- Webinar- Yes

PROGRAM SYLLABUS

Introduction To Cyber Security

- Why Cyber Security is Important ?
- Role of Cyber Security Engineer
- CIA Triad
- The Hacking Methodology
- The WhoIS Query
- Social Engineering
- Brute Force Attacks
- Phishing
- Bots and Botnets
- DoS and DDoS
- Ping Command
- Man in the Middle Attacks (MITM)

Cyber Security Building Blocks

- Malicious Codes and Terminologies
- Cybersecurity Breaches
- Penetration Testing and Methodologies
- Frameworks and Standards for Cybersecurity
- Hardware and Software Elements of Computer System

- Introduction to Networks and Reference Models
- OSI Layers
- Network Protocol
- IP Address and Subnet Classes
- Network Devices
- Packet Sniffing
- Sniffing Using Scapy
- Packet Spoofing
- Packet Spoofing Using Scapy

BASIC CONCEPTS OF VULNERABILITY

- Types of Hackers & Hacktivism
- Terminology
- Vulnerability Assessment & Pentesting
- Cyber Security Controls
- Cyber Security Policies
- CVE & CVSS

SECURITY BASICS

- Attacks & Threats
- Architecture & Design
- Implementation
- Operations & Incident Response
- Governance, Risk & Compliance
- Firewalls
- Encryption
- Biometrics
- Anti Virus
- Password Management
- What is Cyber Kill Chain ?
- Reconnaissance
- Weaponization
- Delivery
- Exploitation
- Installation, Command and control (C2)
- Actions on Objectives
- Exploitation on windows and linux

FUNDAMENTALS OF WINDOWS OPERATING SYSTEM

- Windows NT Architecture
- File System in Windows
- File Permission in windows
- Managing Memory
- Password Hashing & SAM
- Windows Processes
- Windows Registry
- Introduction to PowerShell
- Installing windows Operating system in Virtual Box

LINUX BASICS

- Overview of Operating System
- Working with Linux
- Linux Command Line Structure
- Sample Command Application
- Linux Directory Structure
- Flavours of Linux OS
- Linux File System & Directories
- Introduction to Kali Linux
- Installing Kali Linux in Virtual Box
- Managing Users & Groups
- Managing SSH in Kali Linux
- Hypervisors - Virtual Box, VM ware
- Tools Covered -- Python, Linux

PYTHON SCRIPTING

- Introduction to Python
- Python execution and installation
- Identifiers, variables and Datatypes
- Operators
- Python-Flow Controls
- Functions
- Python Classes
- Inheritance, Files
- Python - File Handling, API programming

- Python - important modules
- Project 1 - Port Scanner
- Project 2 - Keylogger

VIRTUAL PRIVATE NETWORK (VPN)

- Introduction
- Why VPN, Analogy and Tunneling

FIREWALLS

- Firewalls-Host-based, network-based and virtual
- Windows-Host Based Firewalls-Windows Firewall

HOW WE ARE TRACKED AND TARGETED ONLINE

- Types of Tracking
- IP Address
- 3rd Party Connections
- HTTP Referer
- Cookies and Scripts
- Super Cookies
- Browser Fingerprinting and
- Browser Volunteered Information
- Browser and Browser Functionality
- More Tracking
- Browsing in Incognito Mode
- Browser and Internet Profiling



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