CyberCamp

CYB101

Cybersecurity Academy Bootcamp

CyberCamp - The trusted source for cybersecurity training and certifications, driven by world-class Israeli experts.

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Course Description

CYB101: Cybersecurity Academy Bootcamp

CyberCamp's training provides a wide knowledge base and a set of powerful tools for each learner, enabling graduates to start functioning in a variety of junior security positions. Through building a personal lab and practicing tens of real-world challenges during the course, learners will acquire invaluable skills to give them a strong base for becoming distinguished security professionals, delivering unmatched value to corporations that employ them.

Target Audience

- Anyone pursuing a career as a cybersecurity professional.

Prerequisites

- English level: B2, C1, or C2
- Passing the CyberCamp Online Admission Test
- STEM Diploma or Degree (Science, Technology, Engineering, and Mathematics) - Recommended

Certification

After successfully completing this training, participants will be entitled to the **CyberCamp Certified Security Professional** certificate.

This program provides hands-on training and preparation for the following industry certifications:

- **CompTIA A+**
- **CompTIA Network+**
- **CompTIA Security+**
- **CompTIA CySA+**

Participants can take the exams independently after the course ends.

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Training Objectives

By the end of this course, participants will:

- Get a solid technical foundation in the fields of **Linux, Windows, Networking, Host and Network Security, Web Application Security,** and **Incident Response.**
- Gain knowledge of administering SIEM solutions.
- Gain knowledge of SOC processes, technologies, and workflows.
- Be able to recognize attacker tools, tactics, and procedures to identify indicators of compromise (IOCs).
- Be able to monitor and analyze logs and alerts from a variety of different technologies (IDS/IPS, end-point protection, servers, and hosts).
- Be able to utilize a set of security tools for analyzing networks and protecting systems.
- Be able to gather detailed information about devices in a network.
- Be able to discover and mitigate MITM attacks.
- Be able to discover and mitigate web application vulnerabilities.

Job Roles

At the end of the course, graduates will be ready to start the following job roles at a junior level:

- Security/SOC Analyst
- Security Engineer/Architect
- System Administrator
- Threat Intelligence Analyst
- Cybersecurity Consultant
- Technical Security Manager

Computer Requirements

- CPU: 64-bit Intel i5/i7
- RAM: 8 GB RAM minimum
- Hard Drive Free Space: 100 GB Free space

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- Operating System: Windows / macOS / Linux
- Webcam and microphone

Training Outline

Module - Introduction

- Course Overview and Goals

Module - Setting Up a Personal Lab

- What is Virtualization?
- Virtualization Software Overview
  - Creating a Virtual Machine
  - Creating and Using Snapshots
- Installing Kali as a Virtual Machine
- Installing Windows as a Virtual Machine
- Creating a Linux Cloud Server

Module - Linux Administration and Security

- Introduction to UNIX/Linux
  - The Kernel
  - The Shell
  - The Terminal
  - Linux Distributions
- Command Line Basics
  - man pages
  - Directories
  - Files
  - **Bonus: Problem Solving Methodology**
- File Contents
- Linux File Tree
- Shell Expansion
  - Commands and Arguments
  - Control Operators
- Shell variables
  - Shell Embedding and Options

    - Shell History
    - File Globbing
- Pipes and Commands
    - I/O Redirection
    - Filters
    - Basic Unix Tools
        - Command Line Challenge
    - Regular Expressions
        - Regular Expressions Challenge
- Command-Line Environment
    - tmux
    - vim
    - **Bonus: Touch Typing**
    - **Bonus: Mouseless Computer Control**
- Bash Scripting
    - Introduction
    - Loops
    - Parameters
- Local User Management
    - Introduction to Users
    - User Management
    - User Passwords
    - User Profiles
    - Groups
- File Security
    - Standard File Permissions
    - Advanced File Permissions
    - Access Control Lists
    - File Links
- Processes
    - Introduction
    - Process Priorities
    - Background Jobs
- Linux System Administration
    - Scheduling
    - Logging

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- Memory Management
- Resource Monitoring
- Package Management

Module - Windows Administration and Security

- Introduction to Windows
- Command Line Basics
- Batch Scripting
- Windows Registry
- Permissions
- Workgroup
- Powershell
- Sysinternals Suite
- Windows Domain and Active Directory Security
  - Kerberos Enumeration
  - Using Hashcat to Crack Hashes
  - Pass the Hash

Module - Computer Networking Fundamentals

- Introduction to Networking
  - The OSI Model
  - Key Networking Terms
- Packet Sniffing with Wireshark
- Advanced Wireshark Filtering and Analysis
  - Identifying Malicious Content and Streams
  - Extracting and Repairing Content from PCAP files
- Physical Layer
- Data Link Layer
  - MAC
  - ARP
  - Ethernet
- Network Layer
  - Network Addresses
    - IP (IPv4, IPv6)
  - Network Masks

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    - Routing
    - ICMP
- Transport Layer
    - TCP
    - UDP
- Session and Presentation Layer
    - Logical Ports
- Application Layer
    - Socket Programming - TCP/UDP Client and Server
    - DHCP, DNS, FTP, HTTP, HTTPS, SNMP, SSH, Telnet, TLS/SSL
- Networking Conclusion - A Journey of a Packet
- Working with Scapy and Impacket

Module - Cybersecurity Governance and Risk

- Cybersecurity Governance
- Risk Evaluation
- Security Frameworks
    - NIST Cybersecurity Framework
    - ISO 27001 (Information Security Management)
- Compliance
    - PCI-DSS
    - HIPAA
    - EU GDPR
    - NIS Directive

Module - Enterprise Network Security

- Introduction - Cyber Attack Process
    - MITRE ATT&CK Framework
    - Cyber Kill Chain
- Network Anonymity
    - Proxy Servers
    - proxychains
    - Tor
- Network Attack Detection and Prevention
    - Denial-of-Service Attacks

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    - MITM Attacks
        - IP Spoofing
        - ARP Spoofing
        - DNS Spoofing
        - Bypassing HTTPS (Protocol Downgrade Attacks)
        - Javascript Code Injection
    - Detecting ARP Poisoning Attacks
    - Detecting Suspicious Network Activity
    - Preventing MITM Attacks
- Firewalls
    - Next-Generation Firewalls
    - Web Application Firewalls (WAF)
    - iptables Refresher
- IDS/IPS
    - SNORT
    - Suricata
- Techniques for Evading IDS/IPS

Module - Digital Forensics and Incident Response

- The SOC - Security Operations Center
    - Modern SOC Components: People, Processes, and Technology
        - SOC Ethics
        - SIEM, EDR, and SOAR
    - SOC Analyst - A Daily Overview
    - Identity and Access Management
    - Data Loss Prevention (DLP)
    - Workplace Security Awareness
- Incident Response
    - Preparing for an Incident
    - Incident Response Lifecycle
- Digital Forensics
    - **Team challenge: Windows Image Forensic Investigation**
        - Toolkit: Autopsy, RegRipper, FTK Imager
- Security Logging and Monitoring
    - Local and Centralized Logging
    - Security Information and Event Management (SIEM)

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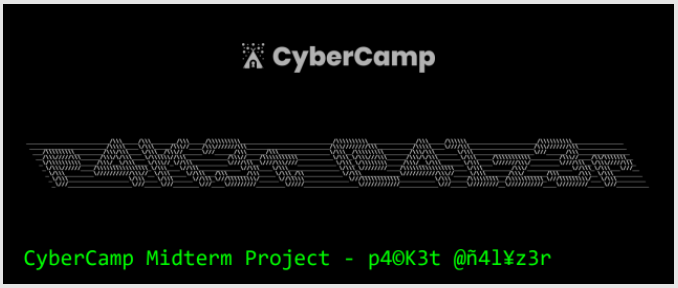
        - Installing and Configuring Splunk on a Windows Server
        - Transformation Commands
        - Reports, Dashboards, and Alerts
        - Detecting Ransomware with Splunk

Module - Real-World Project

- **Building an Intrusion Detection System from Scratch**
    - Working with Scapy (Packet manipulation tool)



Module - Web Application Security

- Introduction to Web Applications
    - Web Servers
    - Web Application Architecture
    - Web Application Technologies
- Client-Side Development - HTML, CSS, and Javascript
    - HTML5
        - Tags
        - Nesting Elements - Hierarchy
        - HTML Attributes
        - Forms
    - DOM - Document Object Model
    - CSS3
    - JavaScript
        - Manipulating the DOM
        - Ajax
        - jQuery
- Server-Side Development
    - Common Server Side Programming Languages

        - PHP
            - Variables, Loops, Functions, and Classes
            - Object Serialization
            - PHP and HTTP
            - Dangerous PHP Functions
            - Sessions
            - Using PDOs to Connect to a Database
    - Databases Introduction
        - Relational / SQL
        - Non-Relational / NoSQL
- Creating a CRUD Web Application
- Web Application Reconnaissance Tools
- OWASP Top 10
    - Information Disclosure
    - SQL Injection
    - Broken Authentication
    - Path Traversal
    - Command Injection
    - Design and Implementation Vulnerabilities
    - Local/Remote File Inclusion
    - XSS - Cross-Site Scripting
    - Server-Side Request Forgery (SSRF)
    - Cross-Site Request Forgery (CSRF)
    - Sensitive Data Exposure
    - XXE - XML External Entities
    - Broken Access Control
    - Security Misconfigurations
    - Insecure Deserialization
    - Using Components with Known Vulnerabilities
    - Clickjacking
    - Cross-Origin Resource Sharing (CORS)
- OWASP Open SAMM
- Discovering Vulnerabilities Automatically
    - ZAP, Nikto, w3af

Module - Job Preparation

- Networking
- LinkedIn Profile
- Personal Portfolio Website
- Resume Preparation
- Interview Preparation
- Job Search Strategy
- Continuous Learning Resources

Module - Final Exam and Certification

- Final Evaluation Exam and Certification
- Course Conclusion
- Graduation

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