

## **Section 1 – Introduction**

Course Introduction

Basics of Information Security

Ethical Hacking Basics

Home Lab Setup

Hacking Lab Walkthrough



## **Section 2 – Understanding the Cyber Kill Chain**

Introduction

Footprinting & Reconnaissance

Weaponization

Delivery

Exploitation and Installation

Command and Control

Actions on Objectives

## **Section 3 - Virtual Lab Environment**

Creating a Virtual Install of Kali Linux Using VMWare

Creating a Virtual Install of Kali Linux Using VirtualBox

Anonymity – Remaining Anonymous While Hacking Online

Remaining Anonymous Online Using TOR and Proxychains

Setup Free VPN Using Kali Linux

Using Anonsurf on Kali Linux to Stay Anonyms

## **Section 4 - Gathering Information**

Information Gathering Using Maltego

Information Gathering Using Metagoofil

Gathering Information using whois Lookup

## **Section 5 - Code Execution Vulnerabilities**

What are they? & How to Discover & Exploit Basic Code Execution Vulnerabilities

Exploiting Advanced Code Execution

Security – Fixing Code Execution vulnerabilities



## **Section 6 - Local File Inclusion Vulnerabilities (LFI)**

What are they? And How to Discover & Exploit Them

Gaining Shell Access From LFI Vulnerabilities

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## **Section 7 - Remote File Inclusion Vulnerabilities (RFI)**

Configuring PHP Settings

Discovery & Exploitation

Exploiting Advanced Remote File Inclusion Vulnerabilities

## **Section 8 - NMap**

Introduction to Nmap

Nmap Scripting Engine(NSE)

Scanning for WannaCry Ransomware

## **Section 9 - Scanning for Vulnerabilities Using NESSUS**

Installing NESSUS Using DOCKER

Scanning for Vulnerabilities Using Nessus

Using your Nessus Scan Results

## **Section 10 - Scanning for Vulnerabilities Using OpenVAS**

Installing OpenVAS Using Docker

Scanning for Vulnerabilities Using OpenVAS

## **Section 11 - Exploiting Windows XP**

Using Metasploit to Launch DOS Attack Against Windows XP

Establishing A VNC Shell Using Meterpreter

Using Meterpreter to backdoor Windows XP

Exploiting Vulnerable Applications on Windows XP SP2

Hacking Windows XP via MS11-006 Windows Shell Graphics Processing



## **Section 12 - NetCat**

Using Netcat to Exploit Server 2008

## **Section 13 - Exploiting Linux**

Installing Metasploitable2 Using Virtual Box

Installing Metasploitable2 Using VMWare

LAB - This is SPARTA!

Learning to Hack Linux Using Metasploitable2

Exploring Endpoint Attack

Exploit Using Social Engineering Toolkit(SET)

## **Section 14 - BASH Scripting for pentesters**

Introduction to BASH Scripting

Creating a BASH Script for Scanning Vulnerable Ports

Lab – Linux BASH Shell Scripting – Task Scheduling

## **Section 15 - Password Cracking**

Password Cracking Using Medusa

Passwords Cracking Using Mimikatz

## **Section 16 - Introduction**

WIFI Hacking Introduction

Wireless Introduction

Introduction to Wi-Fi Technology

Overview of Aircrack-NG Suite for Wi-Fi Hacking Tools

Airodump-ng Tool and Capture WPS/WPA2 Handshake

Generate Possible Password List by crunch Tool

## **Section 17 - WiFi Password Cracking**

Crack WPA2 PSK Passwords Using Aircrack Ng Tool

How Wi-Fi password Cracked by using Cowpatty Tool

How to Make your own HASH and Crack WPA Password Using Cowpatty

Wifi password Cracked by using Hashcat Tool

How to crack wifi password by Fern Wifi Cracker Tool

Crack Wifi Password Usinf gerix Tool

Hostpad-WpE Wifi Password Craker Tool

How Wifite Tool Used to crack Wifi Password

Convert CAP file to HCCAP format Decrypt WiFi CAP file using john the Ripper Tool

Crack WiFi Password by Using Aircrack and Crunch in Airgeddon tool

Hack WPA/WPA2/WPS with Reaver

## **Section 18 - Wireless Deauthentication**

Kickout the connected Wifi Devices Using Netattack2 Tool

Beacon Flooding by using MDK3

## **Section 19 - Install WAMP**

Install WAMP,the Apache, PHP and MYSQL stack for hosting the demo web server

## **Section 20 - Install Mutlidae**

Install Mutlidae II, a free, open Source, deliberately vulnerable web-app

## **Section 21 - Install Burp Suite**

## **Section 22 - An integrated platform for security testing of websites**

Troubleshooting Burp: Cannot Load HTTPS Websites

## **Section 23 - SQL Injection – Attack and Defenses**

Hacking Techniques and Defenses

## **Section 24 - OS Command Injection- Attack and Defenses**

Hacking Techniques and Defenses



## **Section 25 - JSON Injection**

JSON Injection Attack using Reflected XSS Technique and Defense Measures

## **Section 26 - Cookie Manipulation**

Cookie Manipulation Attack and Defense

## **Section 27 - Username Enumeration Attack and Defenses**

## **Section 28 - Brute Force Attack Technique and Defenses**

## **Section 29 - Cross Site Scripting**

Cross Site Scripting (Reflected XSS using HTML Context)

Cross Site Scripting (Reflected XSS using JavaScript)

## **Section 30 - Storage Cross Site Scripting Attack – XSS Defenses**

## **Section 31 - Insecure Direct Object Reference**

IDOR and Defense Using File Tokens

IDOR and Defense Using URL Tokens

## **Section 32 - Directory Browsing/Travel Threat Demonstration**

## **Section 33 - XXE – XML External Entity Attack**

## **Section 34 - User Agent Manipulation or Spoofing Attack**

## **Section 35 - Security miss-configuration Attack Defenses(DIR Browsing,XXE, User Agent)**



## **Section 36 - Sensitive Data Exposure Vulnerability(HTML/CSS/JS Comments)**

Hidden/Secret URL Vulnerability and Defenses

## **Section 37 - HTML 5 Web Storage Vulnerability and Defense**

## **Section 38 - Role Based Access Vulnerability and Defense**

## **Section 39 - CSRF – Cross Site Request Forgery Attack**

## **Section 40 - Entropy Analysis for CSRF Token**

## **Section 41 - CVSS- Common Vulnerability Scoring System**

## **Section 42 - Unvalidated URL Redirect Attack and Prevention code sample**

## **Section 43 - Weaponizing**

Preparing your Android Device

NetHunter Preview and Lab Overview

## **Section 44 - Information Gathering**

Discovering Wireless Networks-Wardriving

Preparing Your Device to crack Wifi Keys/Password – WEP/WPA/WPA2

Network Mapping – Discovering Devices Connected to the Network

Discovering open ports

## **Section 45 - Spying**

Introduction

MITM(Man in the Middle) Methods

## **Section 46 - Spying MITM Method 1 – Bad USB Attack**

What is the Bad USB Attack & How to Launch it

Sniffing Data & Capturing Passwords

Bypassing HTTPS

DNS Spoofing

## **Section 47 - Spying MITM Method 2 – ARP Poisoning**

What is ARP Poisoning

ARP Poisoning and Sniffing Data Using arpspoof

ARP Poisoning & Sniffing Data ZAnti2

Intercepting Downloaded Files

Replace Images & Injecting JavaScript Code

## **Section 48 - Spying MITM Method 3 – Fake Access Point (Honey Pot)**

Fake Access Point Theory

Configuring Access Point settings

Launching The Fake Access Point

Sniffing data Sent over the access Point

## **Section 49 - Detection & Protection**

Detecting ARP Poisoning Attacks

Detecting Suspicious Activity in the Network & Solutions to ARP Poisoning

## **Practice Modules**

## **CTF – Easy Beginner Level – Basic Pentest**

Basic Pentest Walkthrough

Capture the Flag - Basic Pentesting

Capture the Flag - Basic Pentesting II

## **CTF – Beginner to Intermediate Level – DeRPnStiNK**

LAB – DeRPnStiNK Walkthrough

Capture the Flag – DeRPnStiNK

Capture the Flag – DeRPnStiNK II

## **CTF – Beginner to Intermediate Level – Stapler**

LAB – Stapler Walkthrough

Capture the Flag – Stapler

Capture the Flag – Stapler II

Capture the Flag – Stapler III

## **CTF – Intermediate Level – Mr.Robot**

LAB-Mr.Robot Walkthrough

Capture the Flag Mr. Robot Part I

Capture the Flag Mr. Robot Part II

Capture the Flag Mr. Robot Part III

## **Capture the Flag Walkthrough – Toppo**

Capture the flag Walkthrough – Toppo

Lab Preparation

Recon, Enumeration, Gaining Access, Post Exploitation

## **Capture the Flag Walkthrough – Lampiao**

Capture the flag Walkthrough – Lampiao

Lab Preparation

Recon, Enumeration, Gaining Access,





Exploitation, Privilege, Elevation

**Capture the Flag Walkthrough – DC-1**

Capture the flag Walkthrough – DC-1

Lab Preparation

Recon, Enumeration, Gaining Access

Exploitation, Privilege, Elevation



**Capture the Flag Walkthrough – SickOS1.1**

Capture the flag Walkthrough – SickOS 1.1

Lab Preparation

Recon, Enumeration, Gaining Access, Post Exploitation