

### APPLIACTION SECURITY

# PENETRATION TESTING

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### **Networking Essentials**

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**Network Topologies and Type** 

**Introduction to Computer Network** 

- IP Addressing
- Subnet Mask, Subnetting and CIDR VLSM, Wild Card, Summarization
- **Networking Models**
- **OSI Model** Networking Device, Cabling, Network Simulator Tools
- **Packet Flow**
- **ARP and ICMP**
- **Ether Channel**

**DHCP** Configuration

Routing - Static and Dynamic

**Remote Service Configuration** 

Static Routing - Next HOP IP & Exit Interface

Dynamic Routing - RIP, EIGRP, & OSPF

L2 Protocols - CDP, VLAN, STP, DTP, VTP

**ACLs** 

**Port Security** 

**Switching** 

#### Introduction to Linux Setting up Lab

Kali Linux

- **Exploring Kali**
- **Sudo Overview**
- Navigating the File System **Basic Commands**
- Creating, Viewing and Editing Text Files
- **Managing Users and Group**
- - **Python Programming**
- **Sevices and Demons** Log Analysis

**Process Management** 

File Prvileges / Permissions

**Archiving Files** 

**Linux Networking** 

- **Debain Package Management Road Ahead - Towards Penetration Testing**

#### Introduction

- Set up Variables and Data Types
- **Numbers**
- **String Formatting Booleans and Operators**
- **Tuples** Lists
- **Dictionaries**
- Sets Conditionals
- Loops
- Comprehensions **Function and Code Reuse**

**Reading and Writing Files** 

**Exception and Error Handling** 

Lambdas

**User Input** 

- The Python Package Manner **Python Virtual Environment**
- Introduction to Sys
- Introduction to Requests Introduction to Pwntools
- **Projects**

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#### **Linux Refresher Introduction to Information Security** Introduction to Ethical Hacking

Foot printing / Information Gathering

**Ethical Hacking** 

Scanning **Enumeration** 

**Vulnerbaility Analysis** 

**Networking Refresher** 

- System Hacking Malware and Threats
- **Sniffing Social Engineering**
- Web Application Security
- **Hacking Web Applications SQL** Injection
- **Hacking Wireless Network Hacking Mobile Platforms**

Denial of Service

Session Hijacking

IDS, IPS, and Firewalls **Hacking Web Servers** 

- Introduction to IOT **Introduction to Cloud Computing**
- Cryptography and Steganography
- Introduction to Web Application Security **Advance Web Application Attacks**

## Authentication and Session Management

- **Mobile Application Security**
- **Introduction to Android Penetration Testing**

Setting up the Environment Reconnaissance and Scanning

**Exploitation Techniques** 

- **Setting Up Android Penetration Testing Environment Android Penetration Testing Methodologies** Lab Setup Design
- Android Attack Surface Logical Security Threats Owasp Mobile Top 10 Setup Android Debug Bridge Utility (adb)

**Traditional Android Penetration Testing Report** 

Traditional Android PT Approach & Guidelines

Android Attack Surface - Client-Side Vulnerabilities

Android Attack Surface - Server-Side Vulnerabilities

Reporting and Remediation

**Practical Application** 

Recape and Review

Legal and Ethical Consideration

- **Vulnerable Android Application Source Code Review**
- Signing an Android Applications Manually **Android Code Obfuscation & Code Protection** Adding Malicious Code to Android Apps

**Debugging Detection** 

**Root Detection** 

Structure an Android Application Package (APK)

Reversing an Android application using dex2jar

Reversing an Android application using apktools

- **VM Detection** iOS Application Basic Standards

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