Reverse Engineering

Duration: 40 Hours (5 Days)

Overview

The Reverse Engineering course is designed to equip learners with the skills necessary to analyze and understand the inner workings of software without having access to the source code. Through this reverse engineering training, participants will gain a profound knowledge of how applications are built and executed at the lowest levels.Module 1 introduces the concept of reverse engineering and its practical applications. Module 2 delves into Assembly Language, which is crucial for understanding compiled code. Learners will explore Compilers, Registers, Data Structures, Binary Executables, processor, and Windows Architecture.Module 3 introduces reversing tools like Disassemblers and Debuggers, while Module 4 and Module 5 focus on the Interactive Disassembler (IDA) and its implementation in reverse engineering tasks such as Vulnerability Analysis and Password Recovery.Finally, Module 6 puts all the learned techniques into practice, emphasizing Debugging and Anti-Reversing Measures. This reverse engineering training course is a comprehensive journey for those looking to master the art of reverse engineering, making them adept at software analysis and security assessments.

Audience Profile

Koenig Solutions' Reverse Engineering course offers an in-depth journey into software analysis, vulnerability identification, and systems architecture.

- Software Security Analysts
- Malware Analysts
- Penetration Testers
- Cybersecurity Experts
- Software Developers interested in security
- System Architects
- IT Professionals seeking to understand reverse engineering
- Digital Forensics Experts
- Ethical Hackers
- Quality Assurance testers focusing on security
- Reverse Engineering Hobbyists
- Individuals preparing for security certifications

Course Syllabus

Course Content:

Module:1 - Introduction

- 1 Introduction to reverse engineering
- 2 Applications of reverse engineering

Module:2 - Assembly Language

- 1 Introduction
- 2 Compilers

- 3 Registers
- 4 Data Structures
- 5 Binary Executables
- 6 IA - 32 Processor Architecture
- 7 Windows Architecture

Module:3 - Reversing Tools

- 1 Offline and Live Code Analysis
- 2 Disassemblers
- 3 Debuggers
- 4 Decompilers
- 4 Classification Tools
- 5 Summary Tools
- 6 System Monitoring Tools

Module:4 - Starting with IDA

- 1 Introduction to IDA
- 2 Launching and Loading IDA
- 3 IDA database files
- 4 IDA GUI
- 5 IDA tips and tricks
- 6 IDA Data Displays

Module:5 - IDA implementation in Reverse Engineering

- 1 Vulnerability Analysis
- 2 Password Recovery
- 3 IDA Scripting

Module:6 - Reverse Engineering in Action

- 1 Debugging
- 2 Anti - Reversing