KOENIG SOLUTIONS · COURSE OUTLINE

Reverse Engineering: IDA Pro & Assembly Debugging

Learn to analyse assembly language, binary executables and use IDA Pro to debug, reverse engineer and uncover vulnerabilities.

6
MODULES

27
TOPICS

COURSE OVERVIEW

This course introduces reverse engineering concepts and their applications before covering assembly language fundamentals, including compilers, registers, data structures, binary executables, IA-32 processor architecture and Windows architecture. It then examines reversing tools such as disassemblers, debuggers, decompilers and system monitoring tools, followed by working with IDA Pro, including its interface, database files and data displays. The course concludes with applying IDA to vulnerability analysis, password recovery and scripting, and demonstrates reverse engineering in action through debugging and anti-reversing techniques.

WHO THIS COURSE IS FOR

Reverse Engineers | **Security Analysts** | **Malware Analysts** | **Vulnerability Researchers** | **Software Debuggers**

LEARNING OBJECTIVES

- Explain reverse engineering concepts and their applications
- Describe assembly language elements such as registers and data structures
- Analyse binary executables and IA-32 processor architecture
- Compare reversing tools such as disassemblers, debuggers and decompilers
- Identify features of the IDA GUI and database files
- Apply IDA to vulnerability analysis and password recovery
- Develop IDA scripts to support reverse engineering tasks
- Assess debugging and anti-reversing techniques in practice

COURSE SYLLABUS

6 Modules, 27 Topics

01

Introduction

TOPICS

Introduction to reverse engineering · Applications of reverse engineering

02

Assembly Language

TOPICS

Introduction · Compilers · Registers · Data Structures · Binary Executables · IA-32 Processor Architecture · Windows Architecture

03

Reversing Tools

TOPICS

Offline and Live Code Analysis · Disassemblers · Debuggers · Decompilers · Classification Tools · Summary Tools · System Monitoring Tools

04

Starting with IDA

TOPICS

Introduction to IDA · Launching and Loading IDA · IDA database files · IDA GUI · IDA tips and tricks · IDA Data Displays

05

IDA Implementation in Reverse Engineering

TOPICS

Vulnerability Analysis · Password Recovery · IDA Scripting

06

Reverse Engineering in Action

TOPICS

Debugging · Anti-Reversing

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

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