

Day 1: Introduction to Digital & Forensic Data Analysis

- Fundamentals of Digital Forensics
 - Types of Digital Evidence (Disk, Memory, Network, Cloud)
 - Forensic Investigation Lifecycle
 - Identification
 - Preservation
 - Collection
 - Examination
 - Analysis
 - Reporting
 - Legal & Compliance Aspects
 - Chain of Custody
 - Evidence Handling Procedures
 - Overview of Forensic Tools
 - FTK Imager
 - Autopsy
 - EnCase
 - Lab: Evidence Acquisition using FTK Imager
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Day 2: Disk & File System Forensics

- Disk Structures and Storage Concepts
 - File Systems Deep Dive
 - NTFS, FAT, exFAT
 - File Metadata Analysis
 - Deleted File Recovery Techniques
 - File Carving Methods
 - Timeline Analysis (MAC times)
 - Identifying Suspicious Files & Hidden Data
 - Lab:
 - Disk Image Analysis
 - Recover Deleted Files
 - Timeline Creation
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Day 3: Memory & Malware Forensics

- Memory Forensics Fundamentals
- RAM Acquisition Techniques
- Analyzing Memory Dumps
- Detecting Malware Artifacts in Memory
- Process & DLL Analysis
- Registry Forensics
- Indicators of Compromise (IOCs)

- Lab:
 - Memory Analysis using Volatility
 - Detecting Suspicious Processes
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Day 4: Network & Log Forensics

- Network Forensics Fundamentals
 - Packet Capture Analysis (PCAP)
 - Protocol Analysis (HTTP, DNS, TCP/IP)
 - Log Analysis Techniques
 - Windows Event Logs
 - Firewall & IDS Logs
 - SIEM Basics for Forensics
 - Correlating Logs & Network Data
 - Lab:
 - Wireshark Analysis
 - Log Correlation & Attack Detection
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Day 5: Advanced Forensic Analysis & Reporting

- Cloud & Email Forensics Basics
- Insider Threat Investigations
- Data Exfiltration Detection Techniques
- Anti-Forensics & Evasion Techniques
- Automation in Forensic Analysis (Python basics)
- Forensic Reporting & Documentation
 - Structuring Reports
 - Presenting Evidence in Court
- Case Study: End-to-End Incident Investigation
- Final Lab:
 - Full Forensic Investigation Scenario
 - Report Preparation & Presentation