

# Lawful Intercept, Call Data Records (CDR) Analysis & Geolocation Analysis

**Duration:** 10 Days (8 Hours per Day)

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## 1: Introduction to Lawful Interception (LI) & Legal Framework

- **Understanding Lawful Interception & Intelligence Gathering**
- **International & National Legal Frameworks** (ITU, ETSI, Nigerian Regulations)
- **Ethical & Privacy Considerations in Lawful Interception**
- **Interception Mechanisms & Network-Based Surveillance**

## 2: Telecommunications Networks & Data Flows

- **Telecom Network Fundamentals** (2G, 3G, 4G, 5G, VoIP)
- **How Calls, SMS & Data Traffic are Routed**
- **Understanding IMSI, IMEI, MSISDN & Their Intelligence Use**
- **Role of Telecom Providers in Interception**
- **✂ Practical:** Mapping Call Flows with Open-Source Tools (**Wireshark, Gephi**)

## 3: Call Data Records (CDR) Analysis – Fundamentals

- **Structure & Components of CDR Data**
- **Identifying Call Patterns & Communication Networks**
- **Extracting Intelligence from CDR Logs**
- **✂ Practical:** Analyzing Sample CDR Logs using Open-Source Tools (**Pandas, NetworkX**)

## 4: Advanced Call Data Records (CDR) Analysis

- **Link Analysis & Social Network Mapping**
- **Detecting Anomalies & Suspicious Call Behavior**
- **Correlation of CDR Data with OSINT & Digital Traces**
- **✂ Practical:** CDR Analysis using **Maltego CE, SpiderFoot, Neo4j**

## 5: Geolocation Analysis – Fundamentals

- **Introduction to Geolocation in Intelligence**
- **Cell Tower Triangulation & Tower Dump Analysis**
- **GPS vs. GSM-Based Tracking**

- **Using Open-Source Geolocation Data for Analysis**
- **✂ Practical: Geolocation Mapping with QGIS, OpenCellID, Google Earth Pro**

#### **6: Advanced Geolocation Techniques**

- **Geospatial Intelligence (GEOINT) & Data Interpretation**
- **Wi-Fi & Bluetooth Tracking Methods**
- **IMEI & IMSI Identification for Tracking**
- **✂ Practical: Advanced Geolocation using H3 Geospatial Indexing, Kibana**

#### **7: Digital Surveillance & Cyber Threat Intelligence**

- **Intercepting Online Communications & Metadata Analysis**
- **Social Media Intelligence (SOCMINT) & Digital Footprinting**
- **Data Fusion for Intelligence Correlation**
- **✂ Practical: Digital Surveillance using OSINT Framework, TheHarvester, Recon-ng**

#### **8: Encrypted Communications & Dark Web Analysis**

- **Challenges in Monitoring Encrypted Messaging Apps**
- **Dark Web & TOR Network Overview**
- **Monitoring Dark Web Marketplaces for Threats**
- **✂ Practical: Dark Web Analysis using Tor, OnionSearch, Ahmia**

#### **9: Intelligence Data Processing & Visualization**

- **Structuring Intelligence Reports from LI Data**
- **Data Visualization Techniques for CDR & Geolocation Data**
- **Creating Graphs & Networks for Better Analysis**
- **✂ Practical: Data Visualization using Kibana, Gephi**

#### **10: Final Review & Practical Implementation**

- **Review of Lawful Intercept, CDR & Geolocation Techniques**
- **Integration of Open-Source Tools for Intelligence Operations**
- **Legal & Compliance Aspects in Operational Use**
- **✂ Practical: Combining Open-Source Intelligence Tools for Analysis**