XCELERATE TRAINING INSTITUTE

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TELECOMMUNICATION

Telecom CDR (Call Detail Record) Decoding and Analysis

DURATION	LANGUAGE	FORMAT
10 days	**English**	**Classroom / Online**

Upcoming dates

Dates	Venue	Format	Fee
3 – 14 May 2027	Live online	Online (live)	**€2,000**
14 – 25 Jun 2027	Madrid	Classroom	**€7,200**
8 – 19 Nov 2027	Live online	Online (live)	**€2,000**

Register or ask a question

Online: x8ti.com/course/telecom-cdr-call-detail-record-decoding-and-analysis/

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Telecom CDR (Call Detail Record) Decoding and Analysis

Introduction

This course by Xcelerate Training Institute focuses on the critical role of Call Detail Records (CDRs) in the telecommunications industry. It provides a comprehensive understanding of CDR decoding, analysis, and its impact on billing and revenue generation. The course covers telecom fundamentals, network architecture, and billing systems to equip participants with the necessary skills to effectively analyze CDR data.

Learning Objectives

Upon completion, participants will be able to decode and analyze CDRs, understand telecom billing processes, and identify potential revenue opportunities. They will also gain insights into network security and fraud prevention related to CDR data.

Training Methodology

The course employs a combination of theoretical instruction and practical exercises to enhance learning. Participants will engage in interactive discussions, case studies, and hands-on activities to apply their knowledge.

Benefits for Your Organisation

Organizations investing in this course can expect improved billing accuracy, enhanced fraud detection, and optimized revenue generation through effective CDR analysis.

Benefits for You

Individuals will develop expertise in CDR decoding and analysis, expanding their career opportunities in the telecommunications industry.

Who Should Attend

This course is designed for professionals working in billing, revenue management, fraud prevention, and network operations within the telecommunications sector.

Course Outline

Introduction to CDRs

What are Call Detail Records?

- Definition and purpose of CDRs
- Importance in telecommunications

Types of CDRs

- Voice, SMS, data, and other record types

Regulatory and Compliance Considerations

- Legal requirements for CDR retention
- Privacy and data protection regulations

CDR Structure and Formats

CDR Fields and Attributes

- Common fields (e.g., caller, receiver, timestamps, duration)
- Optional fields and custom attributes

Formats and Standards

- Different encoding formats (e.g., CSV, XML, JSON)
- Overview of telecom standards (3GPP, ITU)

CDR Generation and Collection

How CDRs are Generated

- Overview of telecom network elements (e.g., switches, routers)
- Triggers for CDR generation

CDR Collection Mechanisms

- Techniques for collecting CDRs from various systems
- Real-time vs. batch processing

CDR Decoding Techniques

Data Parsing and Transformation

- Tools and languages for parsing CDRs (e.g., Python, R)
- Using regular expressions for field extraction

Data Cleaning and Validation

- Handling incomplete or erroneous records
- Techniques for ensuring data integrity

Analyzing CDR Data

Exploratory Data Analysis (EDA)

- Techniques for initial data exploration
- Visualizing CDR data using tools (e.g., pandas, Matplotlib)

Key Metrics and KPIs

- Understanding important metrics (e.g., ARPU, churn rate)
- Calculating and interpreting KPIs from CDRs

Advanced Analysis Techniques

Pattern Recognition and Anomaly Detection

- Identifying unusual patterns or fraudulent activity
- Machine learning approaches for anomaly detection

Customer Behavior Analysis

- Segmenting users based on CDR data
- Predictive modeling for customer retention

CDR Reporting and Visualization

Creating Reports from CDR Data

- Tools for report generation (e.g., SQL, BI tools)
- Best practices for effective reporting

Data Visualization Techniques

- Visualizing trends and patterns in CDRs
- Tools for creating dashboards (e.g., Tableau, Power BI)

Practical Applications of CDR Analysis

Revenue Assurance

- Using CDRs to detect revenue leakage

Network Optimization

- Analyzing CDRs for capacity planning and resource allocation

Fraud Detection and Prevention

- Case studies on fraud detection using CDR analysis

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Registration Form

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Preferred dates: ..... Venue or online: .....

Duration: 10 days Language: .....

Please complete and email this form to us, or register online. We confirm your place and send the invoice within one working day.

Delegate information

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Official email: ..... Personal email: .....

Company information

Company name: .....

Address: .....

City / country: ..... VAT / tax number: .....

Person responsible for training & development

Full name (Mr / Ms / Dr / Eng): .....

Position: ..... Telephone / mobile: .....

Email: .....

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