



## 5G Application Programming Interfaces Training

A deep dive into the role of **5G APIs** within the **Service-Based Architecture (SBA)** of the 5G Core Network. This course focuses on the use of **RESTful APIs**, emphasizing their application for service communication between network functions in 5GC. It provides insights into the **HTTP/2 protocol**, API principles, and specific **use case scenarios**, including PDU session establishment and subscriber data management.

### Audience

Telecom professionals with knowledge of **LTE System Engineering** or equivalent.

## Module 1: 5G API Introduction

- RESTful APIs and their principles.
- Introduction to **Service-Based Architecture (SBA)**.
- **SBI Protocol Stack**: Understanding HTTP/2.
- Standardization of **5G SBI APIs**.

## Module 2: Applying REST to 5G Core

- How RESTful APIs enable communication between 5GC Network Functions.
- **Service Registration and Discovery** in SBA.
- Understanding the **NEF** (Network Exposure Function).
- Role of RESTful APIs in integrating external applications.

## Module 3: 5G API Use Cases

### Use Case 1: PDU Session Establishment

- API roles in:
  - **Service Registration**.
  - **Service Discovery**.
  - Establishing a **PDU session**.

### Use Case 2: Subscriber Data Management

- Registering to the **AMF**.
- **Subscriber Data Acquisition**.
- **Data Subscription** processes.

## Module 4: API Optimization and Troubleshooting

- Enhancements for 5G APIs (e.g., HTTP/2 efficiencies).
- Common API issues in **PDU sessions** and **subscriber management**.
- Methods for **debugging and troubleshooting** API failures.
- Best practices for RESTful API integration in the 5G Core.

## Module 5: Real-World Applications and Future Trends

- **API integration** in enterprise and industrial 5G use cases.
- Leveraging APIs for **IoT**, **Network Slicing**, and external platforms.
- Introduction to 3GPP **Release 17+ features** for API evolution.
- Future trends: APIs and **5G/6G convergence**