Build and Implement APIs with Python Training

Duration: **4 Day**

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Overview

The **Build and Implement APIs with Python** course teaches developers how to both consume external APIs and build professional API services using modern Python technologies.

Participants gain hands-on experience with **REST API Development**, **FastAPI**, **Django**, **GraphQL**, **SQLAlchemy**, **JWT Authentication**, **Web Scraping**, and **Concurrent Programming** techniques.

The course is highly practical and focused on real-world API development scenarios.

Prerequisites

Participants should have:

- General **Python Programming** knowledge
- Python Foundations or equivalent experience

Who Should Attend

- Python Developers
- Backend Developers
- Software Engineers
- Data Scientists
- API Developers
- Full Stack Developers

What You Will Learn

By the end of this course, participants will be able to:

- Consume and integrate API services
- Build professional **REST APIs**
- Work with JSON, CSV, YAML, and XML data
- Implement **JWT Authentication**
- Use **GraphQL** services
- Access databases using **SQLAlchemy**
- Build APIs with **FastAPI**
- Create API applications using **Django**
- Improve performance through **Concurrent Programming**

Outline

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1. Fetching Data

Data Serialization

- JSON
- CSV
- YAML
- XML

Python Requests Library

- HTTP Requests
- API Access
- Data Retrieval

Web Scraping

- Beautiful Soup
- HTML Parsing
- Pagination Handling

2. API Authentication

API Security and Authentication

- Header-Based Authentication
- API Keys
- JSON Web Tokens (JWT)

3. REST API Development

REST APIs

- HTTP Methods
- CRUD Operations
- API Design Best Practices
- Endpoint Design

4. GraphQL

GraphQL Development

- Queries
- Endpoints
- Data Retrieval
- GraphQL Tools

5. SQL and Database Access

SQLAlchemy

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- SQL Fundamentals
- SQLite
- ORM Development
- Database Integration

6. Concurrent Programming

Concurrent Programming in Python

- Asyncio
- Threading
- Multiprocessing
- Performance Optimization

7. FastAPI

FastAPI Development

- API Endpoints
- REST Services
- Pydantic Models
- File Uploads
- Redirects

8. Django for APIs

Django API Development

- Django Framework
- Django ORM
- Views
- Routing
- Django Ninja
- Secure API Endpoints