Chapter 0: Introduction to Web APIs & FastAPI

What is an API?

An API (Application Programming Interface) allows two software systems to communicate. Think of it like a restaurant waiter: You (the user) place an order, the waiter (API) brings it to the kitchen (backend), and brings the result back.

What is a Web API?

A Web API works over the internet using HTTP. You send requests like GET or POST and receive responses, usually in JSON.

What is FastAPI?

FastAPI is a Python web framework that helps build fast and easy APIs. It's clean, fast, and automatically generates documentation.

Why Use FastAPI?

- Fast (built on ASGI)
- Uses Python type hints
- Auto-generates Swagger UI docs
- Ideal for ML/DL model deployment

How FastAPI Helps ML/DL Apps?

You can wrap ML models in APIs using FastAPI. The user sends data (like an image or text), FastAPI processes it using your model, and returns the prediction.

Tools You'll Learn

- Python
- FastAPI
- Uvicorn (server)
- Pydantic (data validation)
- Docker

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- GitHub

- Postman

- HuggingFace, OpenCV etc.

Fun API Test Task

Try visiting: https://jsonplaceholder.typicode.com/todos/1 in your browser. This is a real GET request to a public API.

Getting Ready for FastAPI

- Install Python and VSCode

- Create a folder for your projects

- Install FastAPI & Uvicorn using pip