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Introduction to FastAPI

FastAPI: The Future of Fast and Efficient Web APIs

DEFINITION

> FastAPI is a modern web framework for building APIs with Python, designed for speed and simplicity. It leverages Python type hints to provide automatic validation and documentation.

KEY CONCEPTS

Asynchronous Support

FastAPI is built on Starlette, allowing for asynchronous programming, which enhances performance.

Automatic Documentation

It automatically generates interactive API documentation using Swagger UI and ReDoc.

Data Validation

FastAPI uses Pydantic for data validation, ensuring that incoming data meets specified types and constraints.

Dependency Injection

FastAPI supports dependency injection, making it easy to manage components and services within your application.

Path and Query Parameters

It allows easy handling of path and query parameters, enhancing the flexibility of API endpoints.

EXAMPLES

→ Create a simple RESTful API for a to-do list.

→ Implement user authentication with JWT tokens.

→ Serve machine learning models as APIs.

MEMORY TIPS

★ Remember 'Fast' in FastAPI for its speed and efficiency.

★ Think of 'Auto' in Automatic Documentation for built-in API docs.

★ Use 'Pydantic' as a reminder of data validation.

COMMON MISTAKES

✗ Neglecting to define data models, leading to validation errors.

✗ Forgetting to use async/await for asynchronous routes.

✗ Overcomplicating dependency injection instead of using FastAPI's simple methods.

QUICK RECAP

FastAPI is a high-performance web framework for building APIs with Python. It emphasizes speed, automatic documentation, and data validation, making it an excellent choice for developers.