

FastAPI Basics

This project is designed to help you learn the basics of FastAPI by building simple web APIs. It includes creating basic GET routes, handling path parameters, and query parameters.

Project Overview

The project provides the following two basic endpoints:

1. GET `/`: Returns a greeting message.
2. GET `/items/{item_id}`: Takes a path parameter `item_id` and an optional query parameter `query`, then returns them in a JSON response.

Installation Guide

Step 1: Install uv (Universal Virtual Environment)

Use PowerShell (for Windows):

```
powershell -ExecutionPolicy ByPass -c "irm https://astral.sh/uv/install.ps1 | iex"
```

Step 2: Create a Project Directory and Navigate to It

```
uv init fastapi-basics
```

```
cd fastapi-basics
```

Step 3: Create and Activate the Virtual Environment

```
uv venv
```

```
.venv\Scripts\activate
```

Step 4: Install Dependencies

```
uv add "fastapi[standard]"
```

```
uv add --dev pytest pytest-asyncio
```

Sample pyproject.toml:

```
[project]
```

```
name = "fastapi-basics"
```

```
version = "0.1.0"
```

```
description = "FastAPI project for learning HTTP routes and parameters."
```

```
readme = "README.md"
```

```
requires-python = ">=3.13"
```

```
dependencies = ["fastapi[standard]>=0.115.12"]
```

```
[dependency-groups]
```

```
dev = ["pytest>=8.3.5", "pytest-asyncio>=0.26.0"]
```

Step 5: Run the FastAPI Application

```
uv run uvicorn main:app --host 0.0.0.0 --port 8000 --reload
```

Alternative:

```
fastapi dev main.py
```

API Endpoints

GET ``/``: Returns greeting

GET ``/items/{item_id}``: Accepts optional query string

Interactive Docs:

Swagger UI: <http://localhost:8000/docs>

ReDoc: <http://localhost:8000/redoc>

Project Structure:

- main.py
- README.md
- pyproject.toml

Conclusion:

This project introduces key FastAPI concepts including routing, path and query parameters, and auto-generated documentation.