Code With Mohsin

🔧 uv Python Package Kya Hai?

uv ek next-generation Python package manager hai jo `pip`, `pip-tools`, aur `virtualenv` ka alternative hai – lekin bahut zyada fast aur efficient hai.

✅ Features:

1. **High performance: Bahut tezi se packages install karta hai (`pip` se bhi faster).**

2. **Dependency resolution: Complex dependencies ko efficiently handle karta hai.**

3. **No Python needed for installation: Iska binary version hota hai jo directly run hota hai.**

4. **Safe & reliable: Deterministic installs (har system pe same results).**

`uv pip install <package-name>`

virtual environment

`uv venv <env-folder-name>`

🚀 FastAPI Kya Hai?

FastAPI ek modern, high-performance web framework hai Python ke liye jo APIs banane ke liye use hota hai

> "FastAPI: Fast (high-performance), web framework for building APIs with Python 3.7+ based on standard Python type hints."

✅ Key Features:

Feature	Detail
🔥 Fast	Bahut hi high performance (almost like Node.js and Go).
✅ Type hints support	TypeScript jaisa feel deta hai Python mein.
📄 Auto documentation	Swagger UI aur Redoc docs auto-ban jaate hain.

🧪 Validation	Request/response data automatic validate hoti hai.
🔄 Asynchronous support	`async/await` ke saath kaam karta hai.
🔐 OAuth2, JWT support	Security features pehle se hi built-in hain.

pip install fastapi

pip install "uvicorn[standard]"

```python
# main.py
from fastapi import FastAPI

app = FastAPI()

@app.get("/")
def read_root():
    return {"message": "Welcome to FastAPI!"}

@app.get("/hello/{name}")
def read_item(name: str):
    return {"Hello": name}
```

📚 Use Cases:

- **Backend for web apps**

- **Mobile app APIs**

- **Microservices**

- **AI/ML model deployment**