

ADVANCED PYTHON PROGRAMMING

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SLOT: L7+L8+L27+L28

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Create 2 files in api folder in vs code:

ecommerce.py:

```
from fastapi import FastAPI, HTTPException, Request
from fastapi.middleware.cors import CORSMiddleware
from mangum import Mangum
import random

app = FastAPI(title="E-Commerce API", version="1.0")

# Add CORS middleware before any routes
app.add_middleware(
    CORSMiddleware,
    allow_origins=["*"],
    allow_credentials=True,
    allow_methods=["*"],
    allow_headers=["*"],
)

# --- API endpoint: E-Commerce ---
@app.post("/discount_vendor_info")
async def add_to_cart(request: Request):
    try:
        data = await request.json()
        print("Received data:", data)

        # Expecting { "product_id": 1, "name": "Product Name", "price": 499 }
        product_id = data.get("product_id")
        name = data.get("name")
        price = data.get("price")

        if not all([product_id, name, price]):
            raise HTTPException(status_code=400, detail="Missing product details")

        # Simulate discount and vendor
        discount = random.choice([0, 5, 10, 15, 20])
        vendor = random.choice(["TechWorld", "ShopEase", "ElectroMart", "MegaDeals"])

        if discount > 0:
            message = f"{discount}% discount available from {vendor} for {name}."
            return {"message": message}
        else:
            return {"message": "No discount available."}

    except Exception as e:
        return {"error": str(e)}"
```

```

else:
    message = f"No current discounts for {name}."

    return {"message": message}

except Exception as e:
    raise HTTPException(status_code=500, detail=f"Processing failed: {str(e)}")

```

```

# --- AWS Lambda handler ---
lambda_handler = Mangum(app)
requirement.txt:
# Core FastAPI app
fastapi
mangum
uvicorn

```

then in terminal run this

```
python -m pip install -r requirement.txt
```

```

● matlab@sjt318scope054:~/Documents/api$ python -m pip install -r requirement.txt
Defaulting to user installation because normal site-packages is not writeable
Collecting fastapi (from -r requirement.txt (line 2))
  Downloading fastapi-0.121.0-py3-none-any.whl.metadata (28 kB)
Collecting mangum (from -r requirement.txt (line 3))
  Downloading mangum-0.19.0-py3-none-any.whl.metadata (3.6 kB)
Collecting uvicorn (from -r requirement.txt (line 4))
  Downloading uvicorn-0.38.0-py3-none-any.whl.metadata (6.8 kB)
Collecting starlette<0.50.0,>=0.40.0 (from fastapi->-r requirement.txt (line 2))
  Downloading starlette-0.49.3-py3-none-any.whl.metadata (6.4 kB)
Requirement already satisfied: pydantic!=1.8,!>1.8.1,!>2.0.0,!>2.0.1,!>2.1.0,<3.0.0,>=1.7.4
in /opt/anaconda/lib/python3.13/site-packages (from fastapi->-r requirement.txt (line 2)) (2
.11.7)
Requirement already satisfied: typing-extensions>=4.8.0 in /opt/anaconda/lib/python3.13/site
-packages (from fastapi->-r requirement.txt (line 2)) (4.12.2)
Collecting annotated-doc>=0.0.2 (from fastapi->-r requirement.txt (line 2))

```

```
uvicorn ECommerce_API:app --reload
```

```

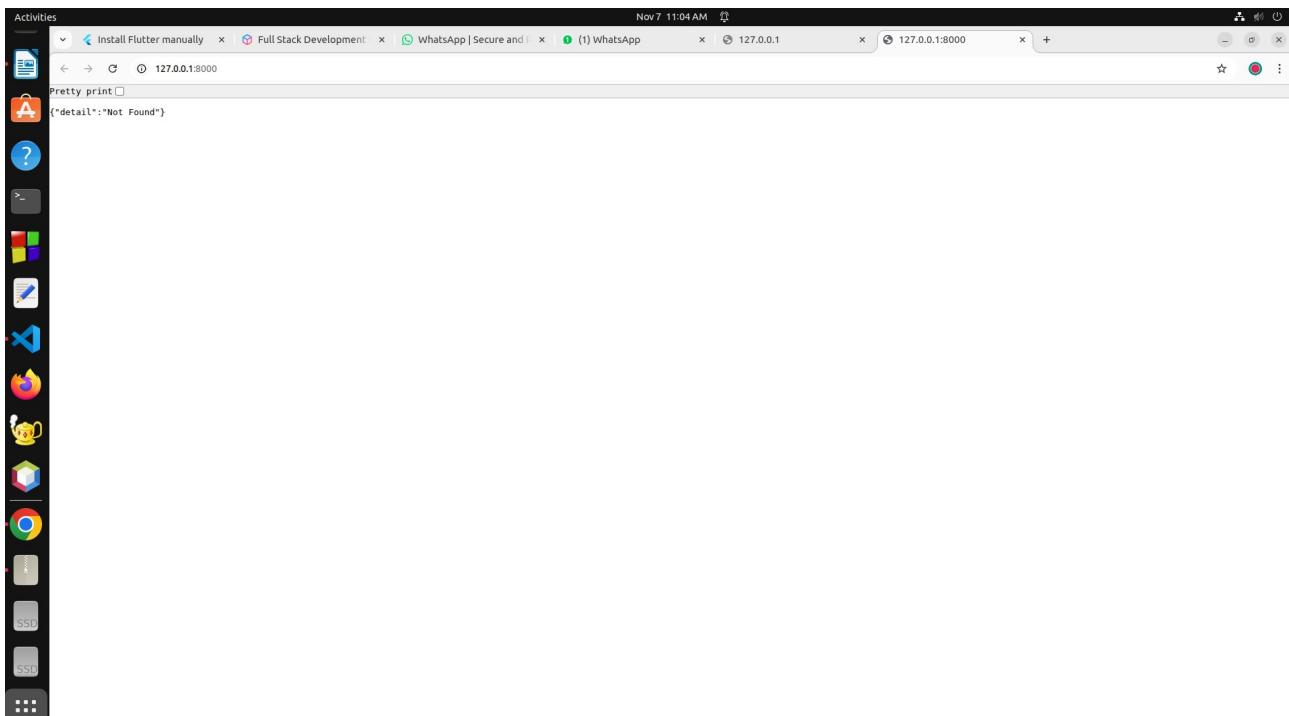
● matlab@sjt318scope054:~/Documents/api$ uvicorn ECommerce_API:app --reload
INFO:     Will watch for changes in these directories: ['/home/matlab/Documents/api']
INFO:     Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
INFO:     Started reloader process [20368] using StatReload
ERROR:    Error loading ASGI app. Could not import module "ECommerce_API".

^CINFO:     Stopping reloader process [20368]

```

here i got error so i in comments i changed Ecommerce_API to ecommerce_api because this is my file name

```
Stopping reloader process [21577]
○ matlab@sjt318scope054:~/Documents/api$ uvicorn ecommerce_api:app --reload
INFO:     Will watch for changes in these directories: ['/home/matlab/Documents/api']
INFO:     Uvicorn running on http://127.0.0.1:8000 (Press CTRL+C to quit)
INFO:     Started reloader process [21575] using StatReload
INFO:     Started server process [21577]
INFO:     Waiting for application startup.
INFO:     Application startup complete.
INFO: 127.0.0.1:41306 - "GET / HTTP/1.1" 404 Not Found
INFO: 127.0.0.1:41306 - "GET /favicon.ico HTTP/1.1" 404 Not Found
```



type this command in new terminal with the website running in other terminal

```
curl -X 'POST' \
'http://127.0.0.1:8000/discount_vendor_info' \
-H 'accept: application/json' \
-d '{ "product_id": 1, "name": "Product Name", "price": 499 }'
```

A screenshot of a terminal window in VS Code. The terminal tab is selected at the top. The command entered is:

```
curl -X 'POST' \
'http://127.0.0.1:8000/discount_vendor_info' \
-H 'accept: application/json' \
-d '{ "product_id": 1, "name": "Product Name", "price": 499 }'
{"message":"5% discount available from ShopEase for Product Name."}
```

The output shows the response message: "5% discount available from ShopEase for Product Name." The terminal prompt "18scope054:~/Documents/api\$" is visible at the bottom.

A screenshot of the E-Commerce API Swagger interface. The URL is `127.0.0.1:8000/docs#/default/add_to_cart_discount_vendor_info_post`. The request method is `POST` for the endpoint `/discount_vendor_info`.

Parameters: No parameters.

Responses:

- Curl**:

```
curl -X 'POST' \
'http://127.0.0.1:8000/discount_vendor_info' \
-H 'accept: application/json' \
-d '{ "product_id": 1, "name": "Product Name", "price": 499 }'
```
- Request URL**: `http://127.0.0.1:8000/discount_vendor_info`
- Server response**:

Code 500 **Details**: Error: Internal Server Error
Response body:

```
{ "detail": "Processing failed: Expecting value: line 1 column 1 (char 0)" }
```

Response headers:

```
access-control-allow-credentials: true
access-control-allow-origin: *
content-length: 73
```

in the url add /docs then you get this

