

Week 1

Week 1

Join the github classroom assignment with the following link:

<https://classroom.github.com/a/KOc7f0j5>

Once you join your repository will be created [https://github.com/blueprint-learn/week1-techteam-
sp26-
{github-username}](https://github.com/blueprint-learn/week1-techteam-sp26-
{github-username})

You will get an email with access to your repo

Clone your repo

```
git clone https://github.com/blueprint-learn/week1-techteam-sp26-  
{github-username}.git
```

Goal for today

By the end of this class, you will understand what an API is **and** you will have written and run a real backend service.

Set expectations

- This is *not* web dev with HTML
- This is backend infrastructure
- What we build today looks simple, but it's the same pattern used by Netflix, Stripe, AWS, etc.

1. What Is an API?

Core idea

- API = *contract* between a client and a server
- You ask for data → server responds with data

```
Client (browser / app / script)
```

```
|
```

```
    | HTTP request
    v
API Server
    |
    | JSON response
    v
Client
```

Key clarification

- APIs don't care *who* the client is
- Browser, mobile app, another server — all the same

Examples

- Instagram feed
- Spotify playlists
- Google Maps directions

2. REST & HTTP Basics

REST (high-level)

- Everything is a *resource*
- Each resource has a URL

HTTP Methods

Method	Meaning
GET	Read data
POST	Create data
PUT	Update data
DELETE	Remove data

HTTP Response

- Status code (200, 404, etc.)
- Body (usually JSON)

```
{
  "id": 3,
  "name": "Notebook",
  "price": 5.99
}
```

```
}
```

Important

- JSON \neq Python dictionary (but very similar)

3. Live Demo Setup

```
pip3 install -r requirements.txt
```

Minimal app

```
from fastapi import FastAPI

app = FastAPI()

@app.get("/")
def root():
    return {"message": "Hello World"}
```

Run the app

```
uvicorn app.main:app --reload
```

4. Endpoints & Path Parameters

```
@app.get("/items/{item_id}")
def read_item(item_id: int):
    return {"item_id": item_id}
```

- Automatic validation
- Type validation

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