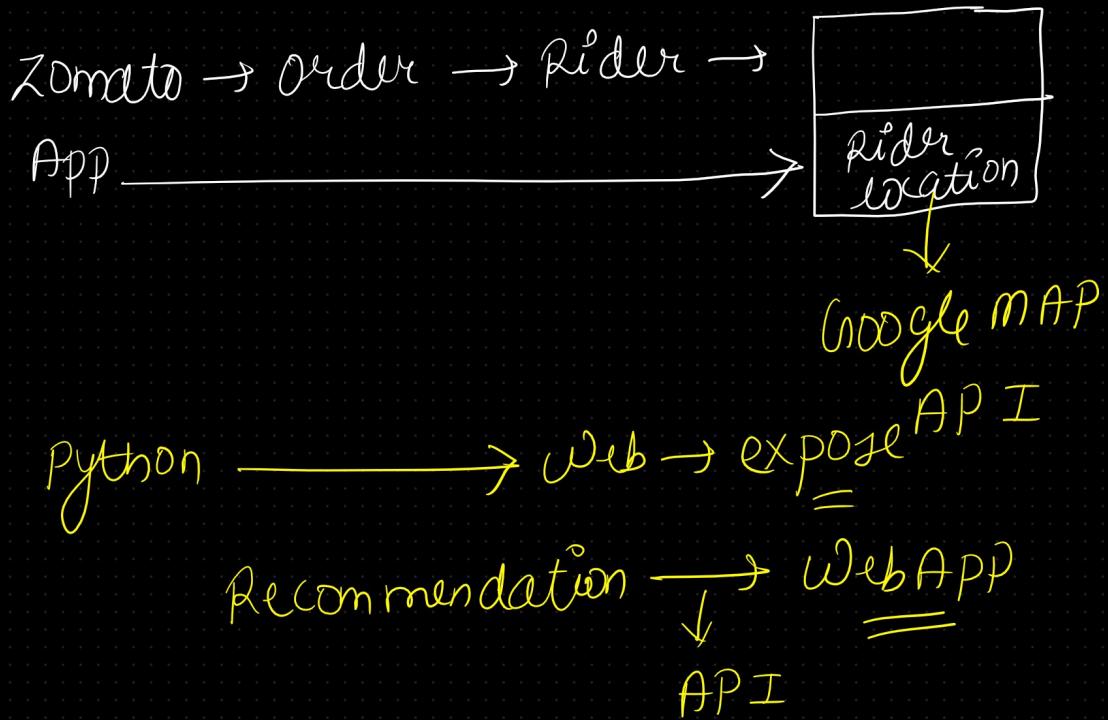


WEB API



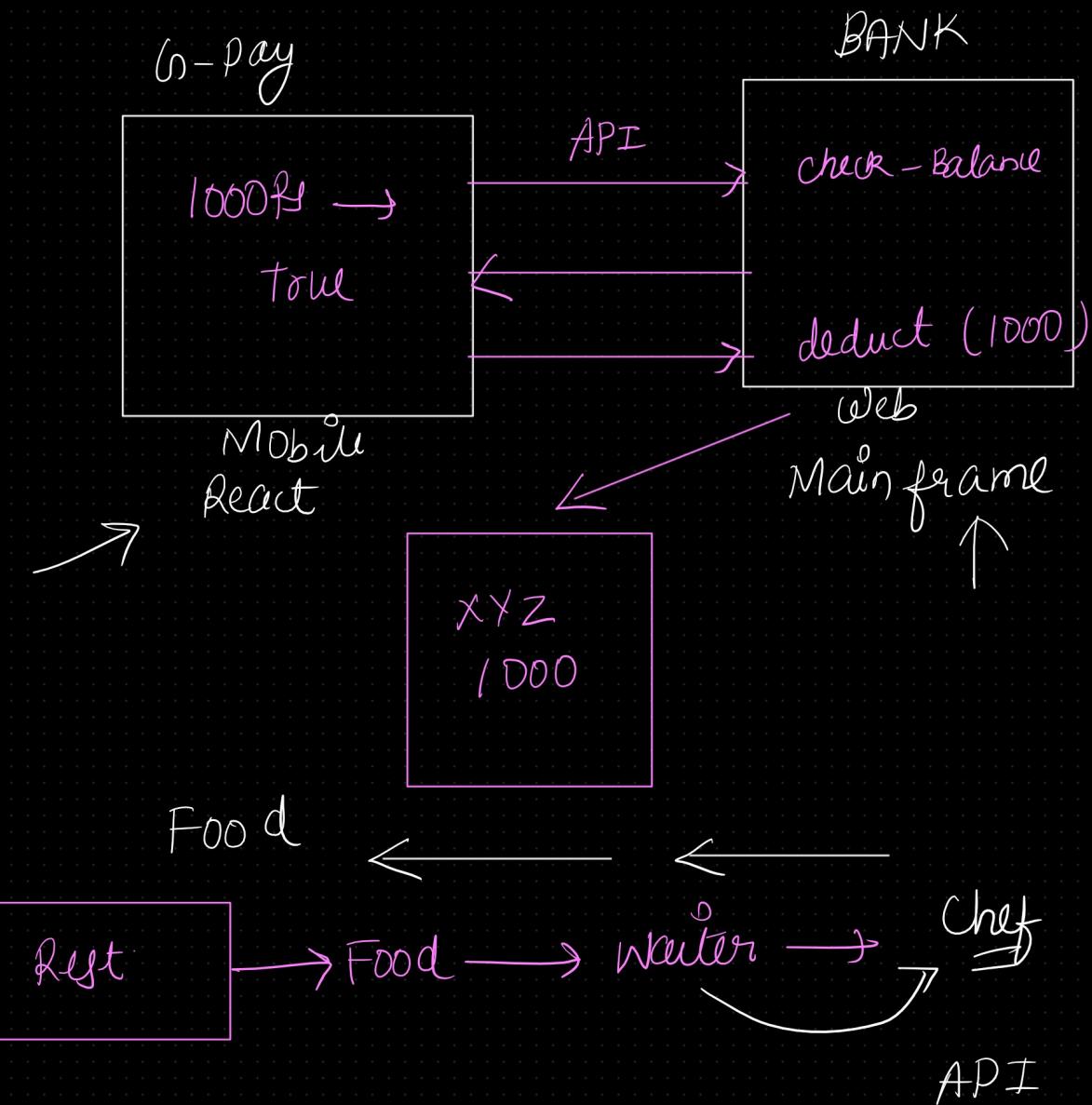
API: Application Programming Interface



Python → API → Web APP

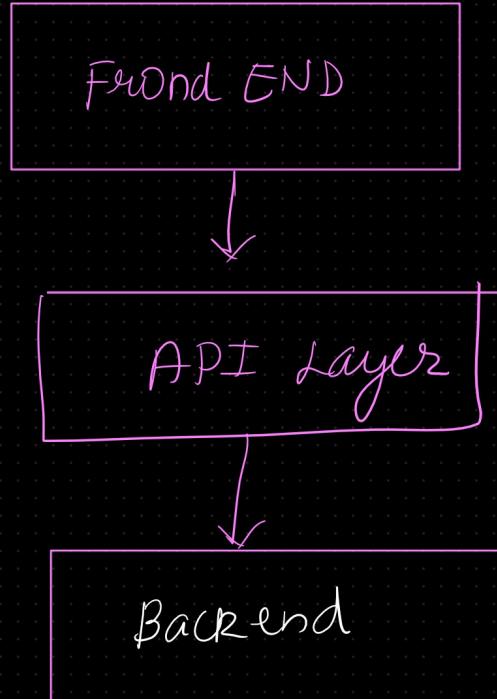
Data Science code [HTML, CSS, Java
Script, Angular, React]

→ API allows two software components to communicate with each other.



→ It the way of communication b/w two app where application may differ in their platforms or in their terms of technology.

Web Application



Types of API

(1)

SOAP

Simple Object Access Protocol

(2)

REST

Representational
state transfer

HTTP Vs HTTPS , TCP , SMTP

↳ Hyper text transfer protocol

↳ Seured

HTTP VS HTTPS



passwords: ABC

security

* * * → encrypted

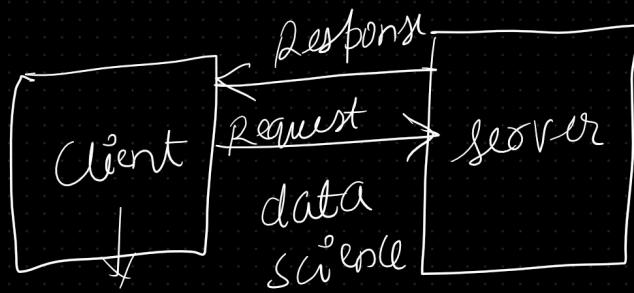
Web API

: → Web service is an API



Wrapped in HTTP.

Q) HTTP Methods → GET, POST, PUT,
PATCH, DELETE



google

Web
page

web API → http → Response

③ All web service are API but API's
are not web service.

(4.) A web service needs a network while API doesn't need a network for its operation.

Feature	API	Web API
Scope	Any communication between software components	Communication over the web ✓
Protocol	Any, including custom protocols	Primarily HTTP ✓
Focus	Data or functionality within applications	Data or services on web servers ✓
Examples	Operating system APIs, internal database APIs ✓	Google Maps API, Twitter API, Facebook Graph API

web service → network →

web API

↓
http
=

SOAP VS REST

HTTP, SMTP, TCP/IP

HTTP ✓

XML

JSON, XML

< body>

Less secure

Secure

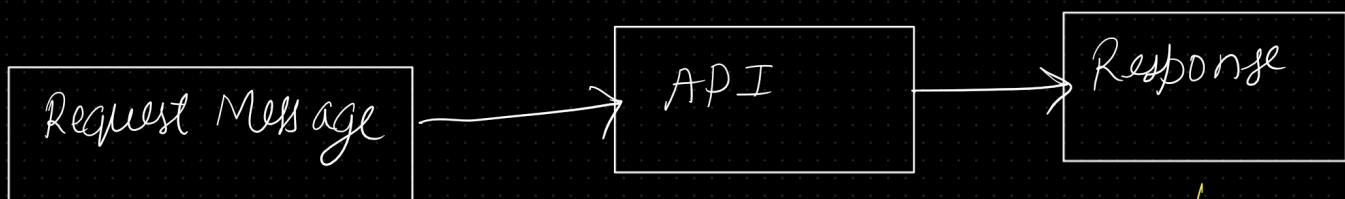
Feature	SOAP	REST
Design	Structured, function-oriented	Data-driven, resource-oriented
Data format	XML	Flexible (JSON, XML, etc.)
Complexity	More complex	Simpler
Performance	Slower, higher bandwidth	Faster, lower bandwidth
Security	Built-in features	Relies on HTTP security
Use cases	Enterprise applications, security	Web & mobile, modern APIs

HTTPS

Outlook

Salesforce → CRM
 Microsoft → SOAP

Rest API HTTP Method



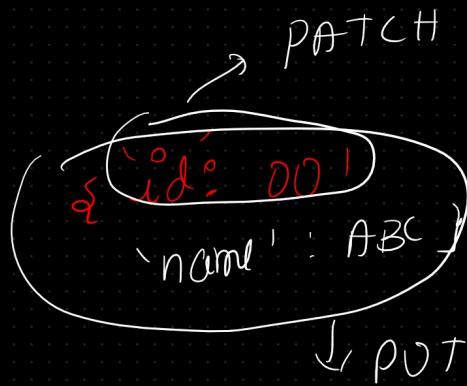
HTTP Method

- ① GET
- ② POST
- ③ PUT
- ④ PATCH
- ⑤ DELETE

↓
 Response
 status
 ↓
 status code
 ↓
 200, 201

HTTP method	Description
GET	Retrieve an existing resource.
POST	Create a new resource.
PUT	Update an existing resource.
PATCH	Partially update an existing resource.
DELETE	Delete a resource.

service



Code	Meaning	Description
200	OK	The requested action was successful.
201	Created	A new resource was created.
202	Accepted	The request was received, but no modification has been made yet.
204	No Content	The request was successful, but the response has no content.
400	Bad Request	The request was malformed.
401	Unauthorized	The client is not authorized to perform the requested action.
404	Not Found	The requested resource was not found.
415	Unsupported Media Type	The request data format is not supported by the server.
422	Unprocessable Entity	The request data was properly formatted but contained invalid or missing data.
500	Internal Server Error	The server threw an error when processing the request.



Code range	Category
2xx	Successful operation
3xx	Redirection
4xx	Client error
5xx	Server error

