

Build API using FastAPI

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How Web Works and HTTP

- Type

→ URL

Schema:// SubD.SecD.TLD/path/resources

https://www.facebook.com/user/1

→ Query : XXX

- DNS Lookup

→ Cache Layers

OS, Browser, Router ...

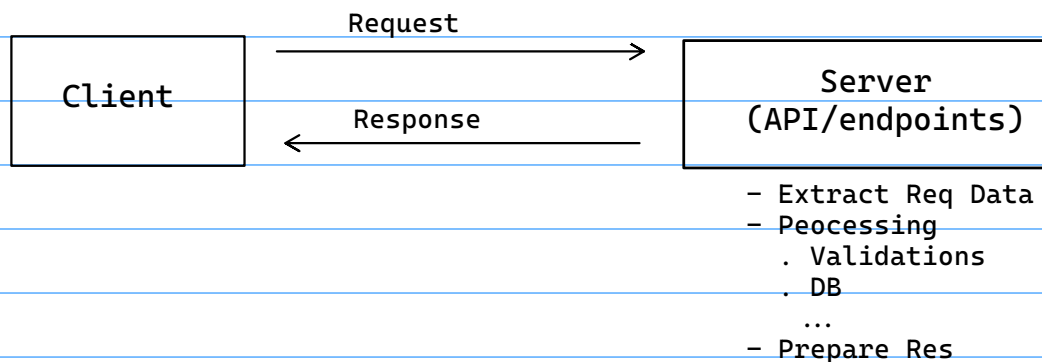
→ Recursive Search

Root nameserver, TLS , SecD, then SubD nameserver

. Now we have the IP of server

- Connection

- Req/Res life cycle



- Payload

- Request

→ Data:

Body, Path params, Query params, files, Cookies, ...

*3 Blocks of payload
Info
Headers

Data

→ Info:

- Path/endpoint : /user
- Methods : get, post , put, delete, ...
- Headers

- Response

→ Data

→ Info

- Headers
- Status code
 - . 1xx : Informational Res
 - . 2xx : Successful Res
 - . 3xx : Redirectional Res
 - . 4xx : Client Errors
 - . 5xx : Server Errors

- Security Model of WEB

→ Same-Origin policy

- Origins: Schema, Domain, Port

→ CORS (Cross-Origin resource sharing)

FastAPI

FastAPI Snippet(Psудо code)

```
app = FastAPI(doc metadata)
router = APIRouter(doc metadata)
app.include_router(router, doc metadata)

class ResModel(BaseModel):
    user: str
    email: str

@app.router.method("/route", Path Configuration )
def funcName(Fun Operations) # Validations, Metadata, ...
    # Python functionalities ...
    # Response

unicorn.run(Server Config)
```

Build API in setps

- Create Server
- Create basic Arc: Router, Config, DS, Schema, ...
- Add needed Middlewares
- Add needed Config : lint, scripts, ...
- Add basic Swagger metadata
- ...

Resources

- How web work:
 - <https://github.com/vasanthk/how-web-works>
 - <https://developer.mozilla.org/en-US/docs/Web/HTTP>
- FastApi
 - Doc: <https://fastapi.tiangolo.com/>
 - Video: <https://www.youtube.com/watch?v=tLKKmouUams>
- Backend roadmap: <https://roadmap.sh/backend>
- Design
 - <https://cloud.google.com/apis/design>
 - <https://www.youtube.com/watch?v=BiTN9pG4xbM>
 - <https://12factor.net/>
- Articles
 - <https://www.geeksforgeeks.org/get-post-requests-using-python/>
 - <https://fastapi.tiangolo.com/tutorial/static-files/>
 - <https://fastapi.tiangolo.com/tutorial/request-files/>