



BIG DIVE
DATA SCIENCE & ANALYTICS

WEB SERVICE
FOR DATA

Designed for

INTESA  SANPAOLO

AGENDA

/ WEB SERVICE INTRO

/ FLASK

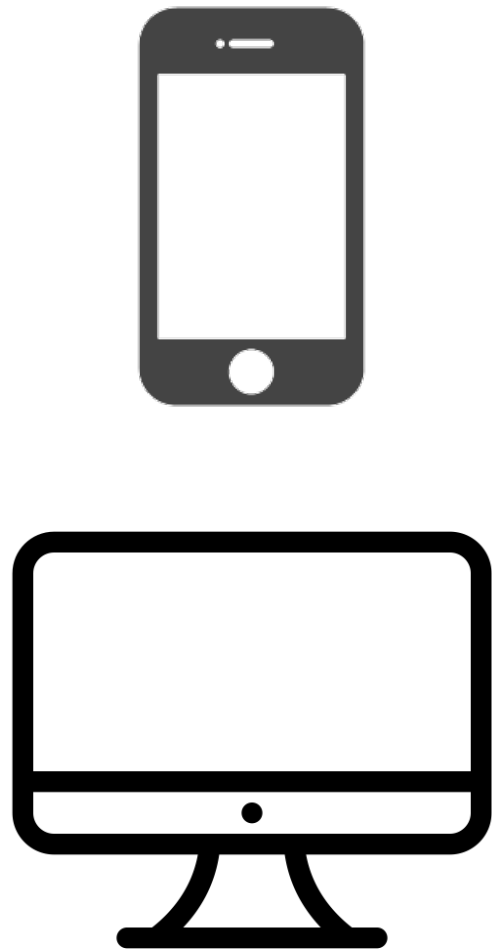
/ PYTHON PACKAGE

/ PACK THEM ALL!

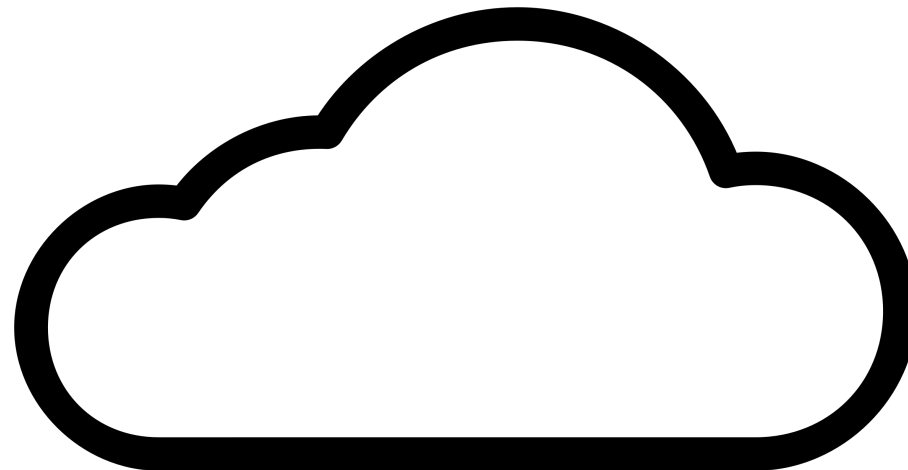
WEB SERVICE

How Internet Works?

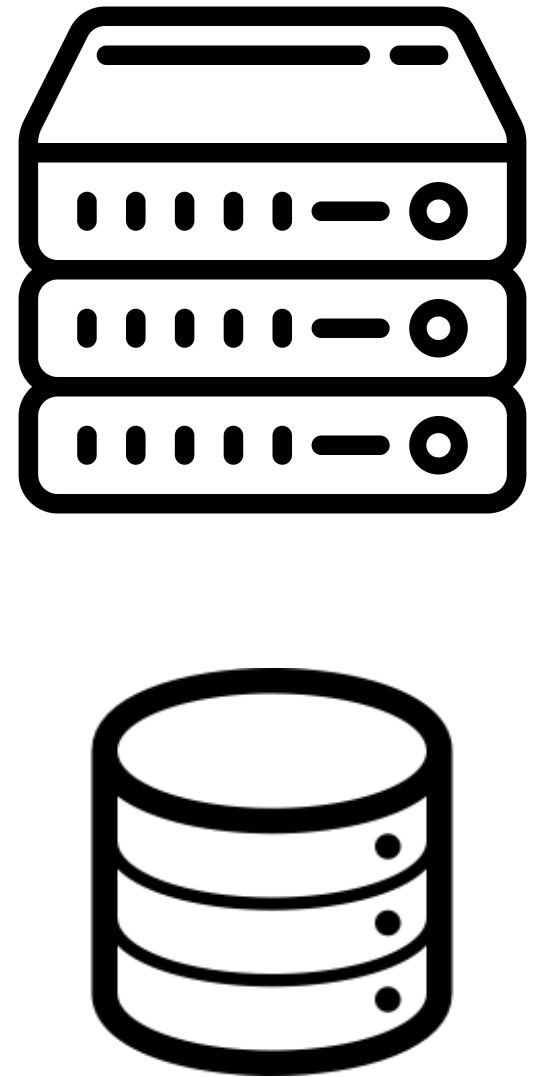
INTERNET TODAY



Client

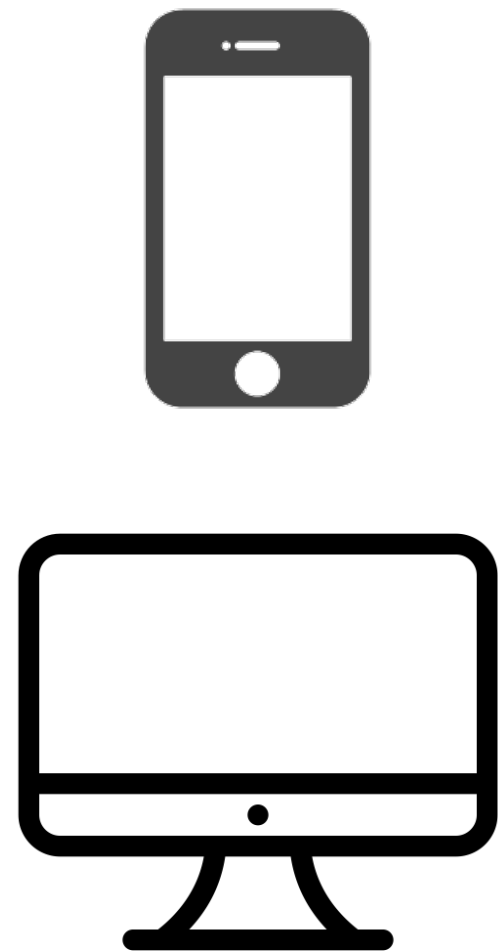


Internet



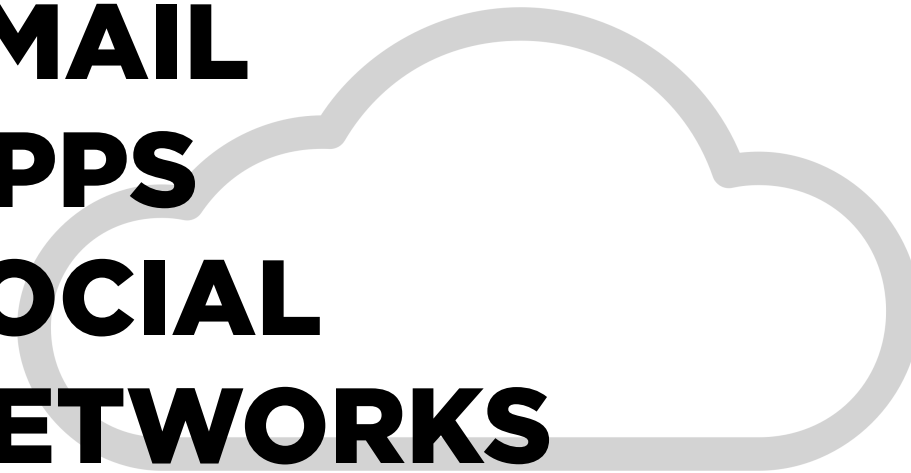
Server & Database

INTERNET TODAY



Client

**BROWSER
EMAIL
APPS
SOCIAL
NETWORKS
ETC..**

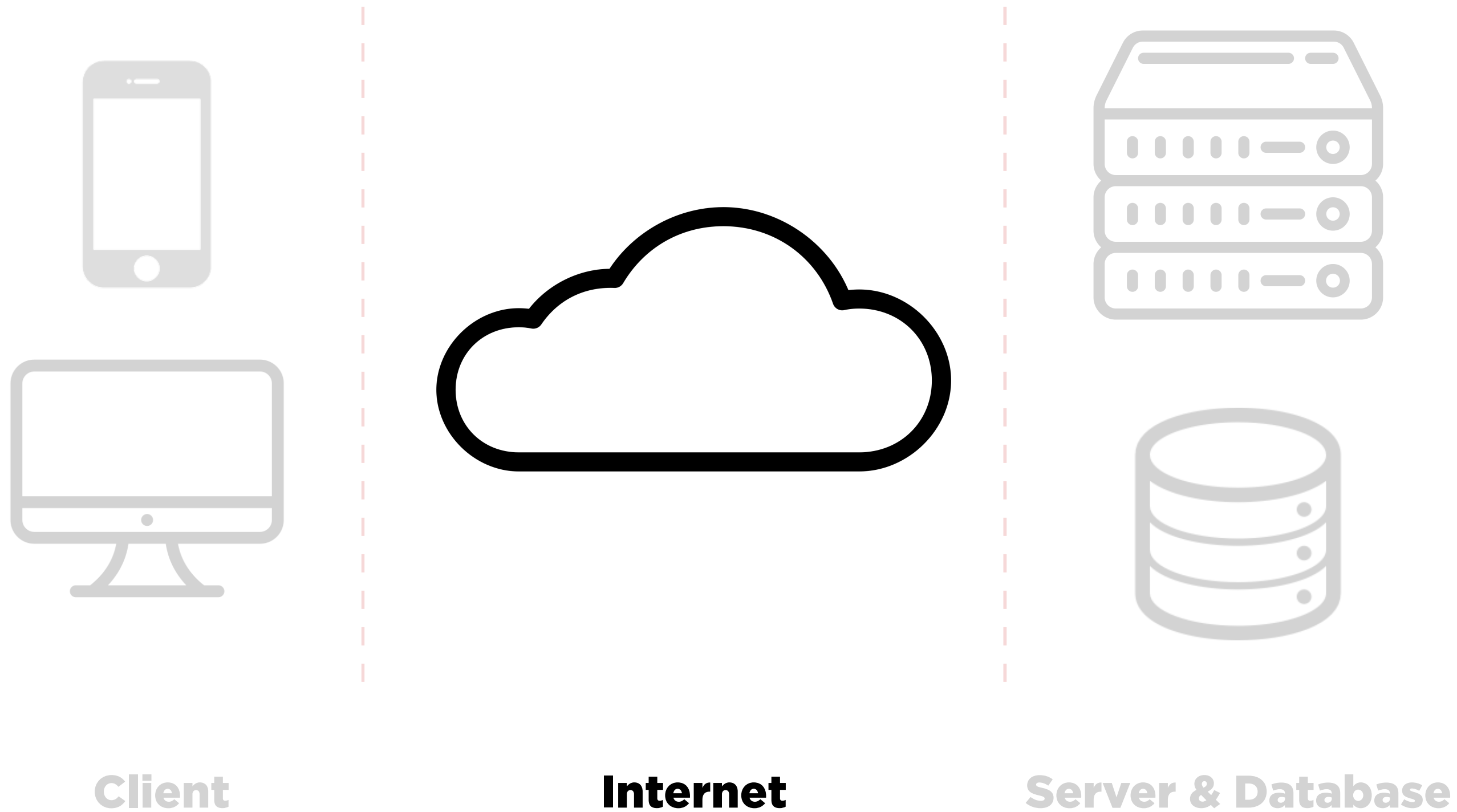


Internet

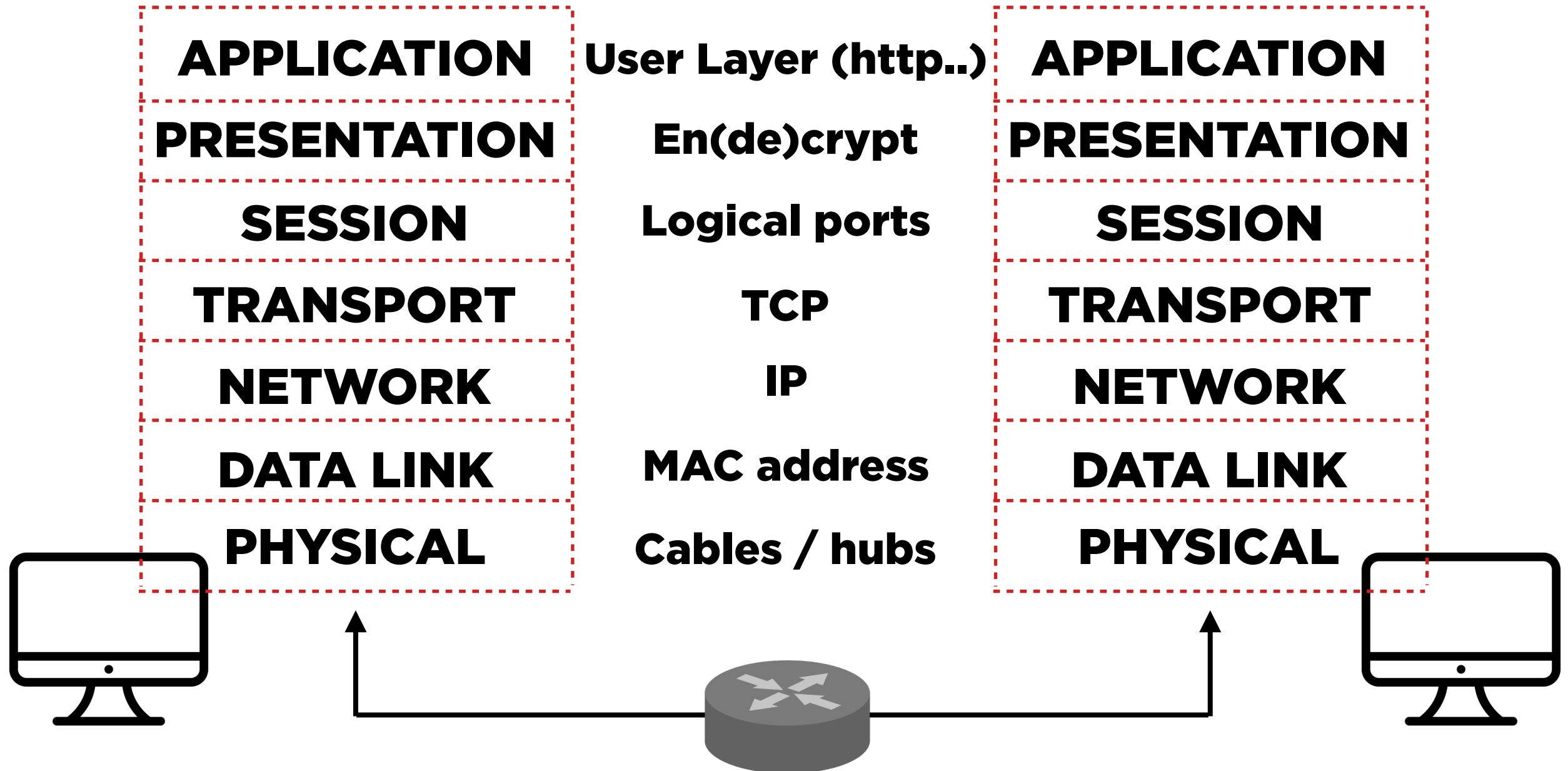


Server & Database

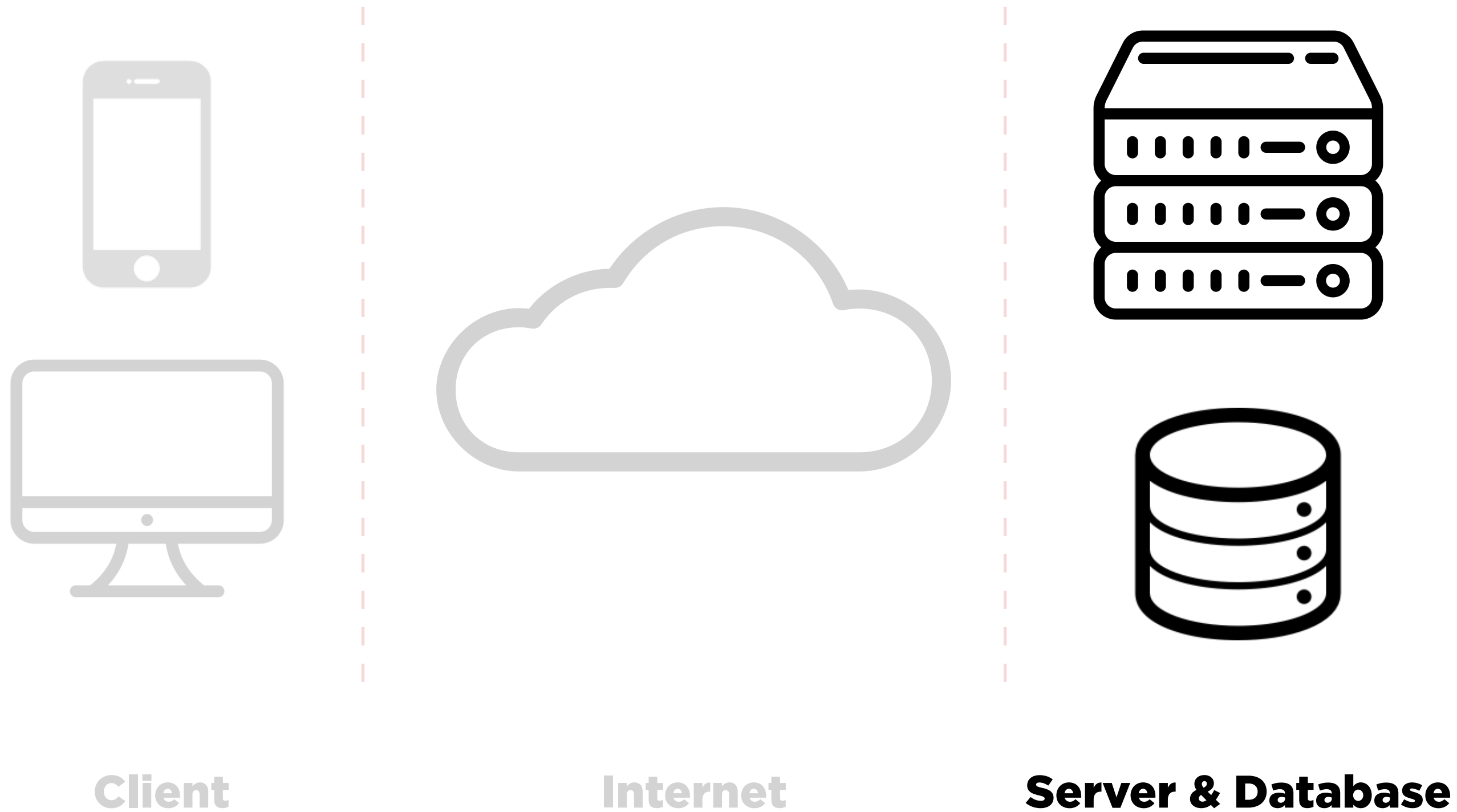
INTERNET TODAY



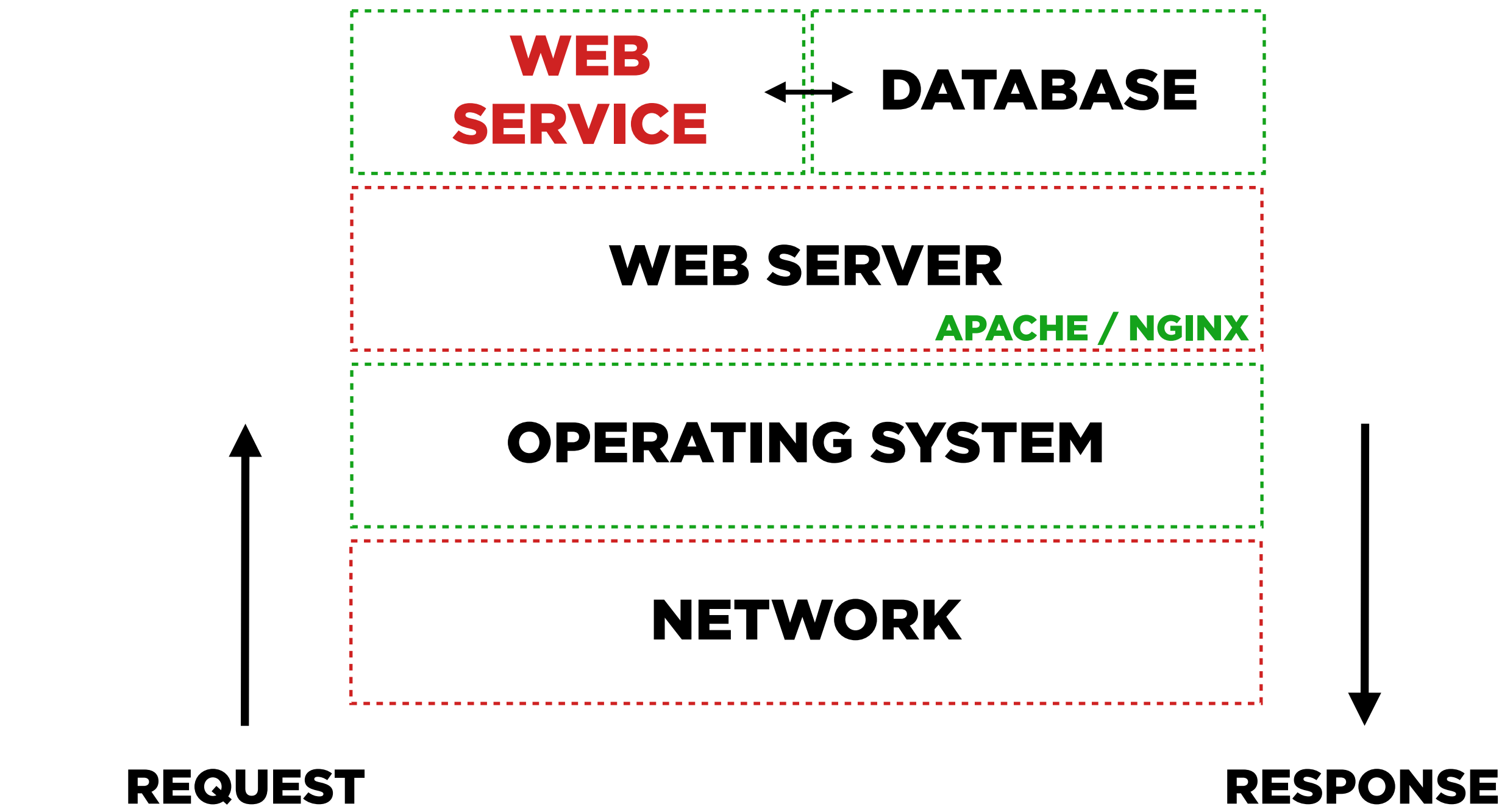
ISO / OSI STACK



INTERNET TODAY



SERVER & DATABASE



What about
REQUEST?

HTTP REQUEST

/ **DNS** to translate HOSTNAME to IP address

/ We use **HTTP** Protocol: package composed by **HEADER** and **BODY**



Metadata of the request

Content of the request

/ **HTTP Methods**
(most common)



GET
POST
PUT
DELETE

HTTP REQUEST EXAMPLE

/ Inspect the HTTP GET (from browser)
https://www.intesasanpaolo.com

/ 264 HTTP Requests just for the landing page!

The screenshot shows the 'Headers' tab of a web browser's developer tools. The 'General' section displays the request URL as https://www.intesasanpaolo.com/, the method as GET, and the status code as 200 OK. The 'Response Headers' section lists various headers including Accept-Ranges, Cache-Control, Connection, Content-Encoding, Content-Length, Content-Type, Date, ETag, Keep-Alive, Set-Cookie, Vary, and X-Frame-Options. The 'Request Headers' section lists Accept, Accept-Encoding, Accept-Language, Connection, and Host.

× Headers Preview Response Cookies Timing

▼ General

Request URL: https://www.intesasanpaolo.com/
Request Method: GET
Status Code: 200 OK
Remote Address: 193.41.198.216:443
Referrer Policy: origin

▼ Response Headers view source

Accept-Ranges: bytes
Cache-Control: no-cache
Connection: Keep-Alive
Content-Encoding: gzip
Content-Length: 25309
Content-Type: text/html; charset=UTF-8
Date: Wed, 15 Nov 2017 11:04:23 GMT
ETag: "256d6"
Keep-Alive: timeout=2, max=100
Set-Cookie: TS0108408c=014f3a238d5785d4220ffa5113d50ba908114a0802b1e3cd58c20a84de7a7a6504be0e59e66b9e89d04a8ac3ff216052b2c0a5be52; Path=/; Secure; HTTPOnly
Vary: User-Agent
X-Frame-Options: SAMEORIGIN

▼ Request Headers view source

Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8
Accept-Encoding: gzip, deflate, br
Accept-Language: it-IT,it;q=0.9,en-US;q=0.8,en;q=0.7,es;q=0.6,nl;q=0.5,de;q=0.4,fr;q=0.3
Connection: keep-alive
Host: www.intesasanpaolo.com

Ok Thanks Alex, you rock!

It works on my PC, but..

**How can I retrieve information
with a phone app?**

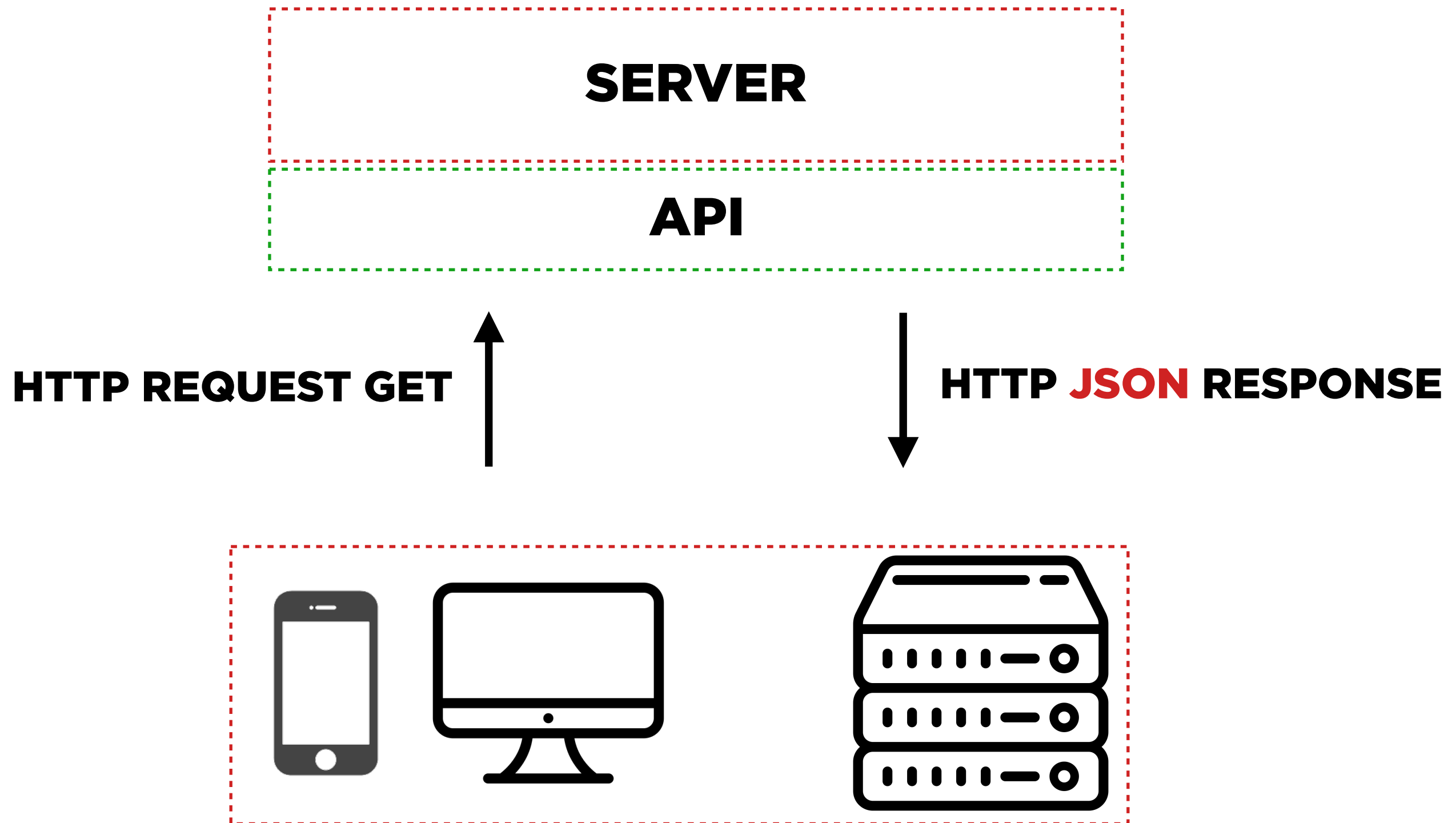
or..

**How can I let my server speaks with
other servers?**

THE ANSWER

API

HTTP & API



JSON

<https://www.intesasanpaolo.com/content/dam/vetrina/mock/banks-list.json>

```
[
  - {
    abi: "03069",
    name: "Intesa Sanpaolo"
  },
  - {
    abi: "06385",
    name: "Cassa di Risparmio in Bologna"
  },
  - {
    abi: "06160",
    name: "Banca CR Firenze"
  },
  - {
    abi: "06010",
    name: "Cassa dei Risparmi di Forlì e della Romagna"
  },
  - {
    abi: "06340",
    name: "Cassa di Risparmio del Friuli Venezia Giulia"
  },
  - {
    abi: "01010",
    name: "Banco di Napoli"
  },
  - {
    abi: "06260",
    name: "Cassa di Risparmio di Pistoia e della Lucchesia"
  },
  - {
    abi: "06225",
    name: "Cassa di Risparmio del Veneto"
  }
]
```


Call a **JSON API
with **PYTHON**
(Demo on Notebook)**

Alex
what an amazing teacher you are!

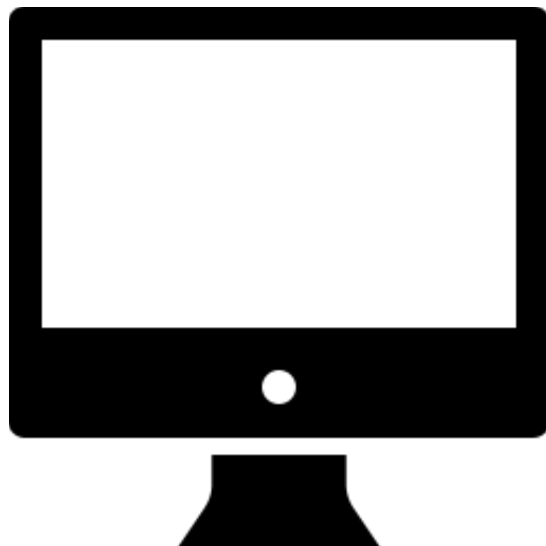
So far, so good!

But...
How can I create my own
Server Application?!?

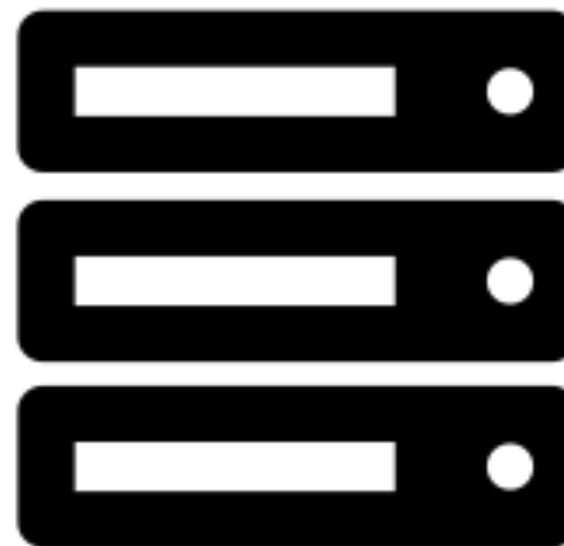
DEMO WOW!

WEB SERVICE

BACKEND



FRONTEND



WEB SERVICE

/ HTML

/ CSS

/ JS

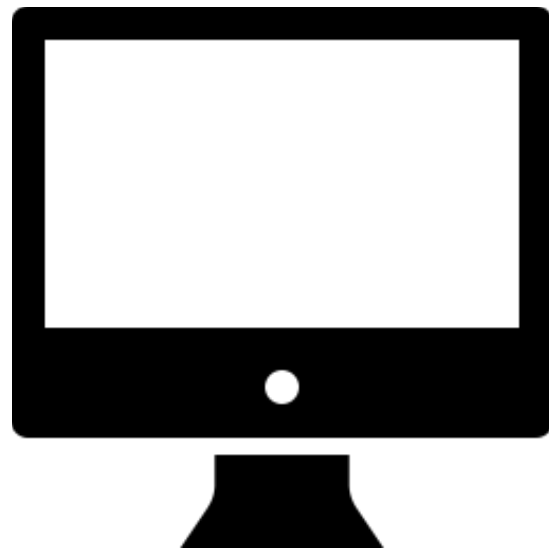
**/ Js Frameworks
such D3**

FRONTEND



WEB SERVICE

BACKEND



PYTHON Frameworks

/ **Flask**

/ **Django**

/ **Turbogears**

/ **...**

FLASK

Python micro framework

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THANKS!