Lisbon School of Economics & Management
Universidade de Lisboa

LISBOA
UNIVERSIDADE DE LISBOA

INTERNET & WEB

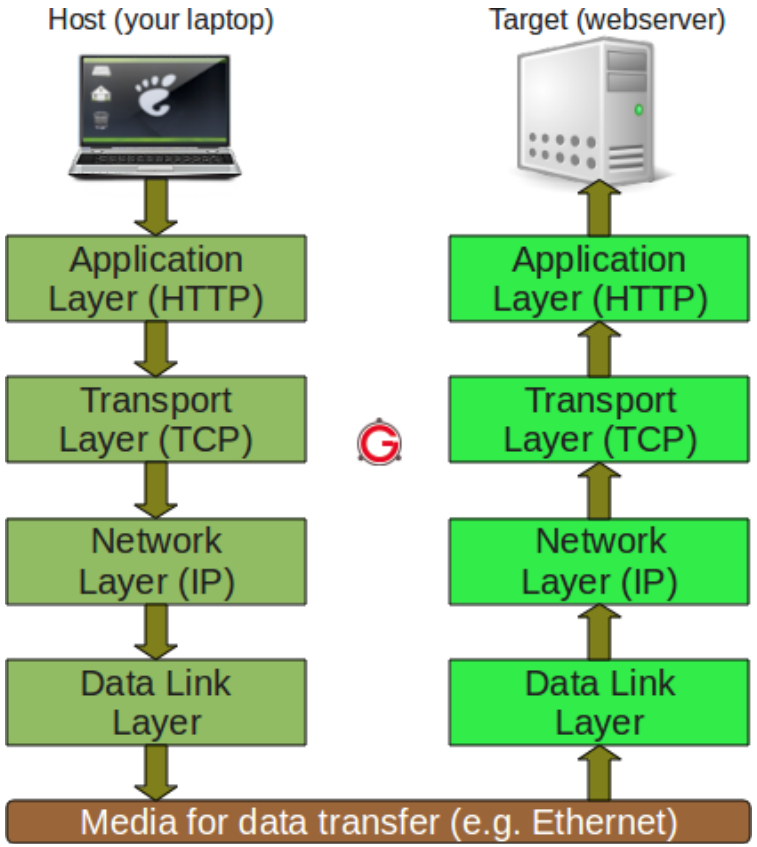
Carlos J. Costa/ João Tiago Aparício

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Protocolos

HTTP	**Hypertext Transfer Protocol** Application layer
TCP	**Transmission Control Protocol** Transport layer
IP	**Internet Protocol** Network layer
Ethernet	**Media for data transfer** Data link layer



DHCP

DHCP server (Dynamic Host Configuration Protocol)

Purpose: automatic IP address assignment to hosts on the network



DHCP

Commands to check the IP address of our computer

DOS / Windows

```
ipconfig
```

Linux / Mac

```
ifconfig
```

IP

1. **Computers have IP**
   Every host on a network has an address

2. **Private IP**
   Used inside local networks

3. **Public IP**
   Reachable on the Internet

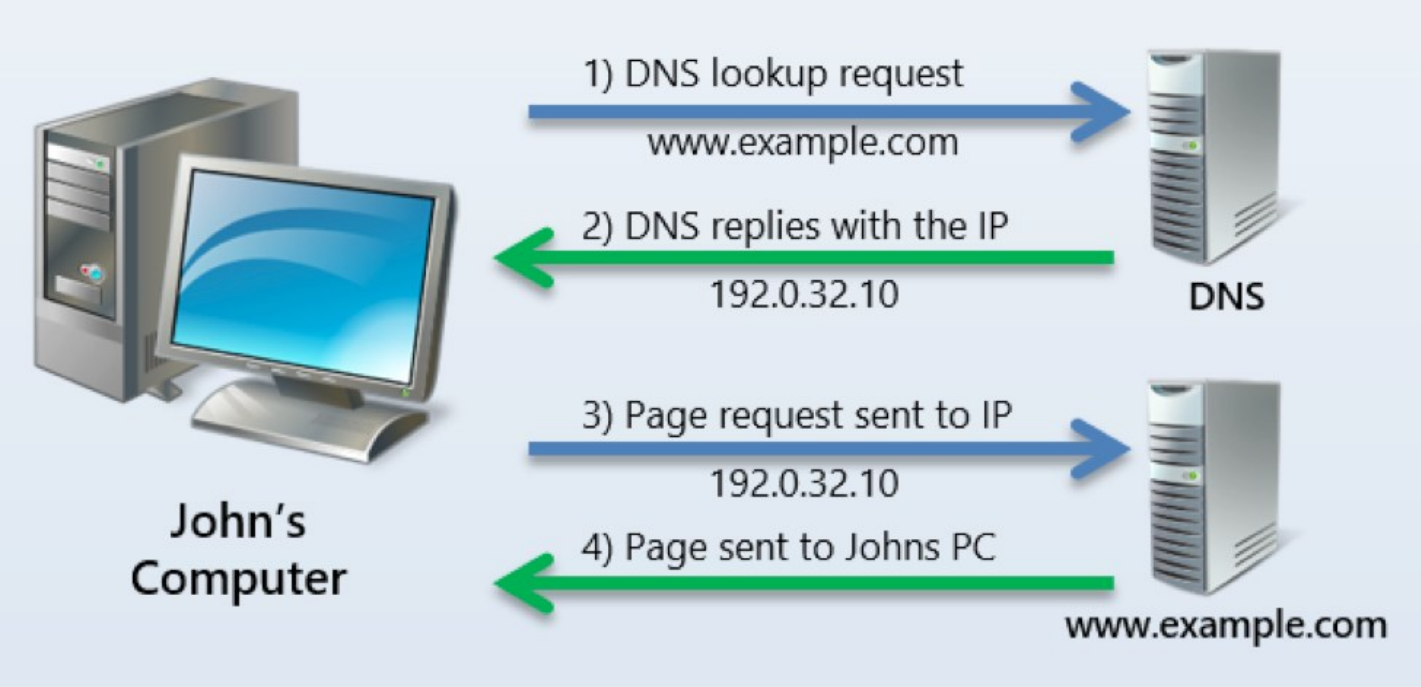
4. **Servers also have IP**
   Web servers are reached by their IP

Example `http://193.136.144.100/`

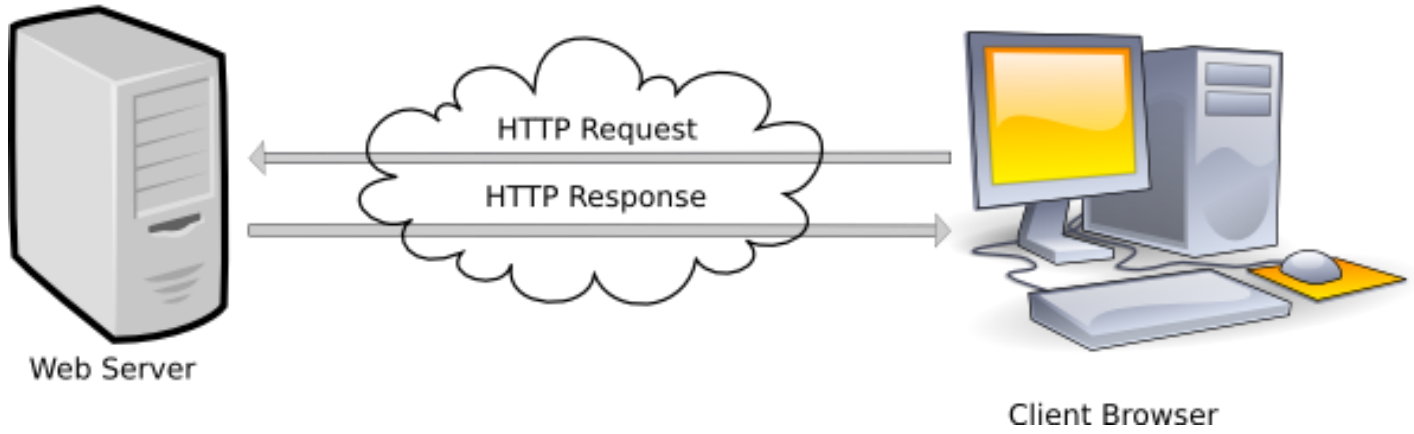
DNS

DNS (Domain Name System)

Translates domain names into IP addresses



HTTP



1

HTTP request

Typing the URL in the address bar

2

Request received

Program execution, database access...

3

Response to the request

The server sends the response back

4

Received response

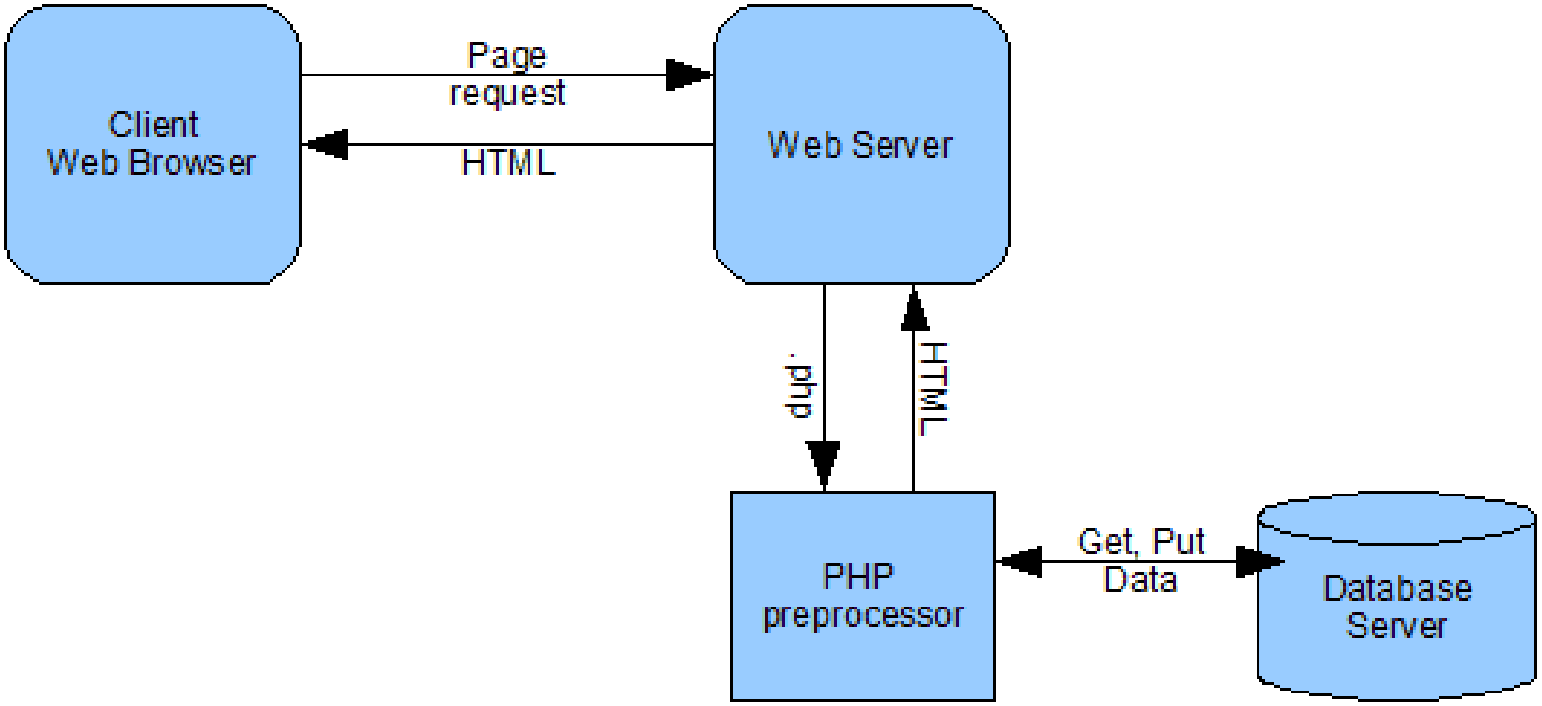
Text files, images, etc.

5

Code interpretation

The browser interprets the code

Web Server/DB Server



Browser

- Make HTTP request
- Interpret answers (HTML, CSS, Javascript)
- Render and Show on the screen
- It also has development tools



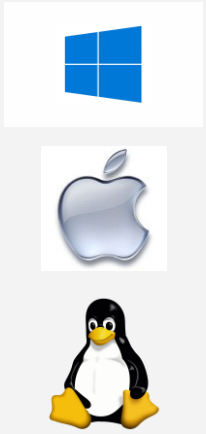
XAMPP



X

Cross-platform

Windows · macOS · Linux



A

Apache

Web server



M

MariaDB

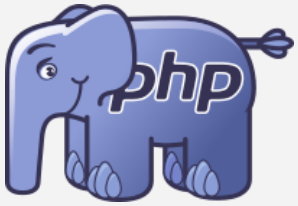
(or MySQL) Database



P

PHP

Scripting language



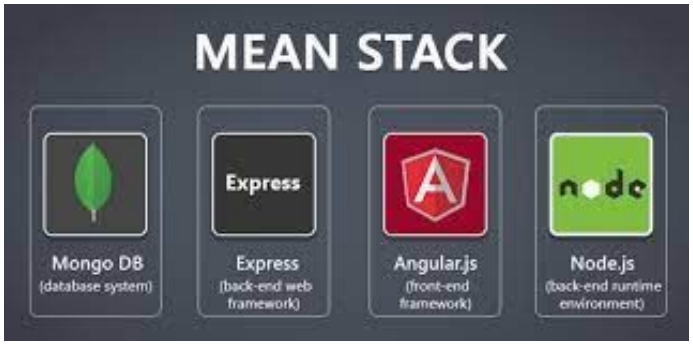
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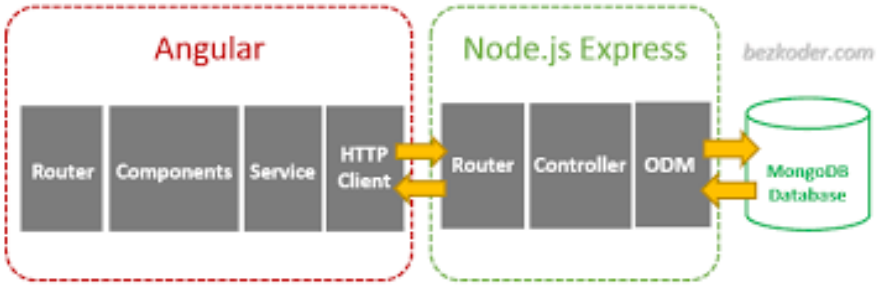
Perl

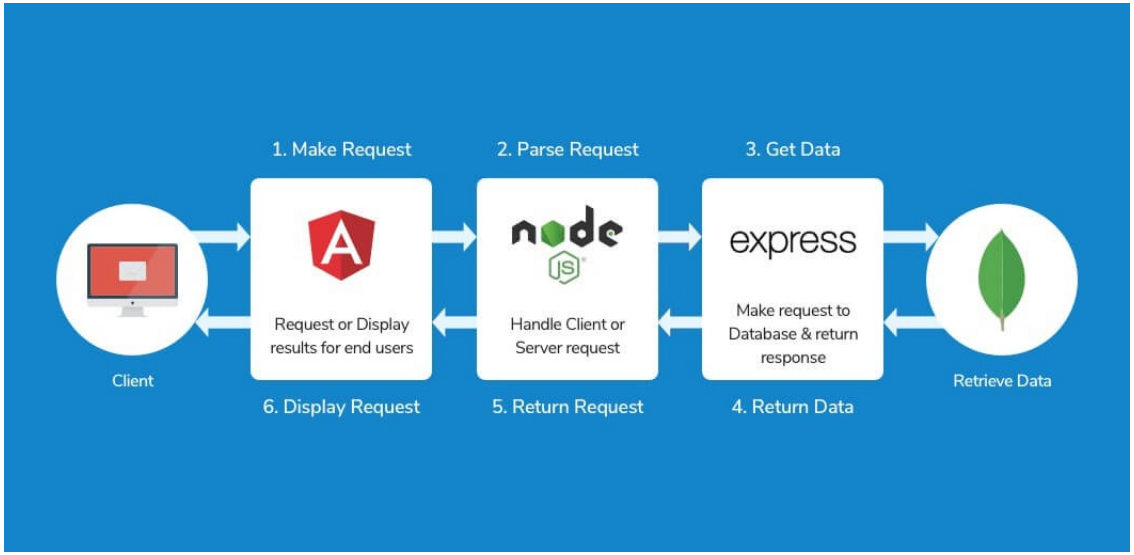
Scripting language



Mean Stack


MEAN STACK
Mongo DB
(database system)
Express
(back-end web framework)
Angular.js
(front-end framework)
Node.js
(back-end runtime environment)


Angular
Router
Components
Service
HTTP Client
Node.js Express
Router
Controller
ODM
MongoDB Database
bezkoder.com


1. Make Request
2. Parse Request
3. Get Data
Client
Request or Display results for end users
Handle Client or Server request
express
Make request to Database & return response
Retrieve Data
6. Display Request
5. Return Request
4. Return Data

.NET







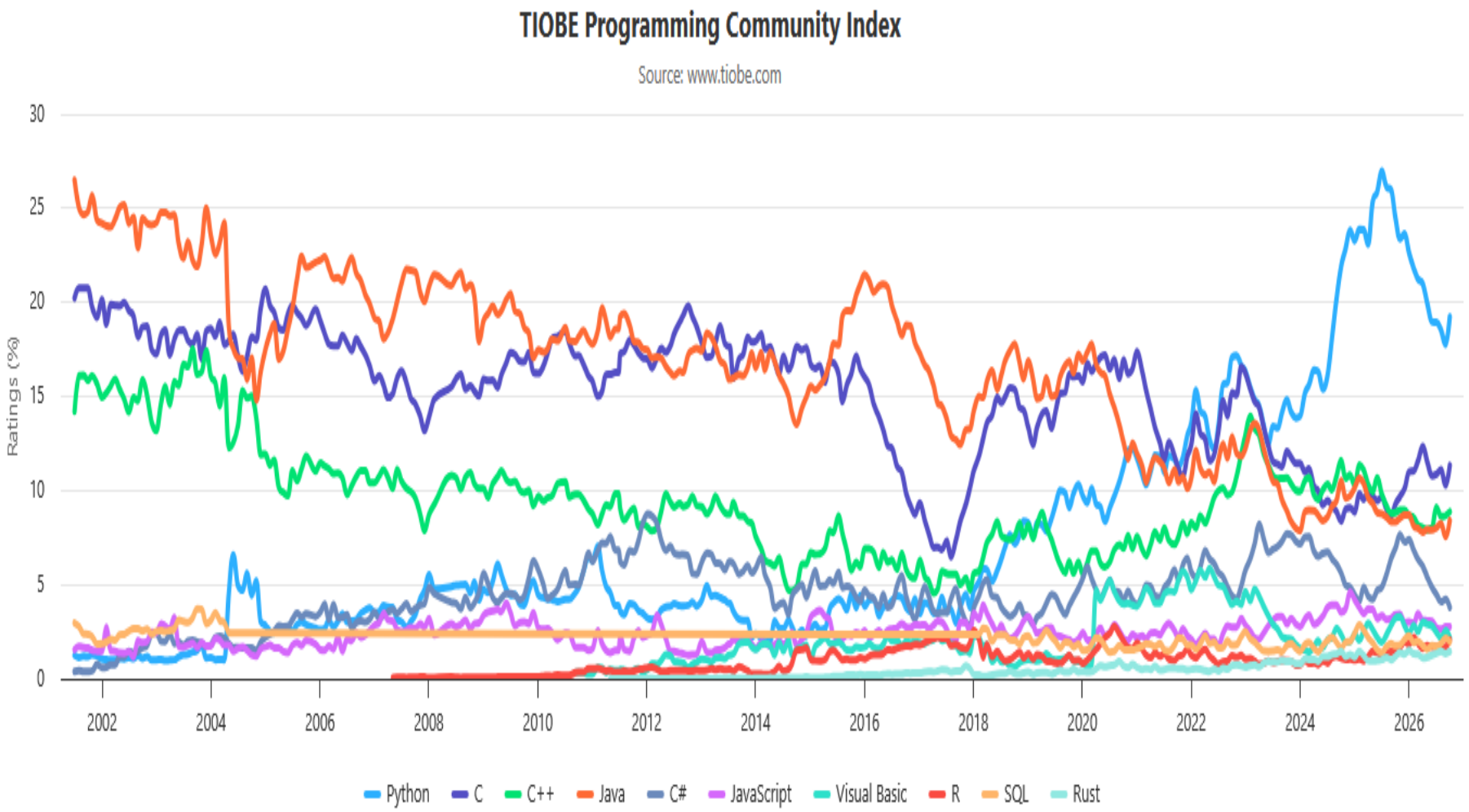




Java Web Application



Python Importance over time



Python Web Frameworks



Python: Django vs Flask

