NodeJS

RECAP

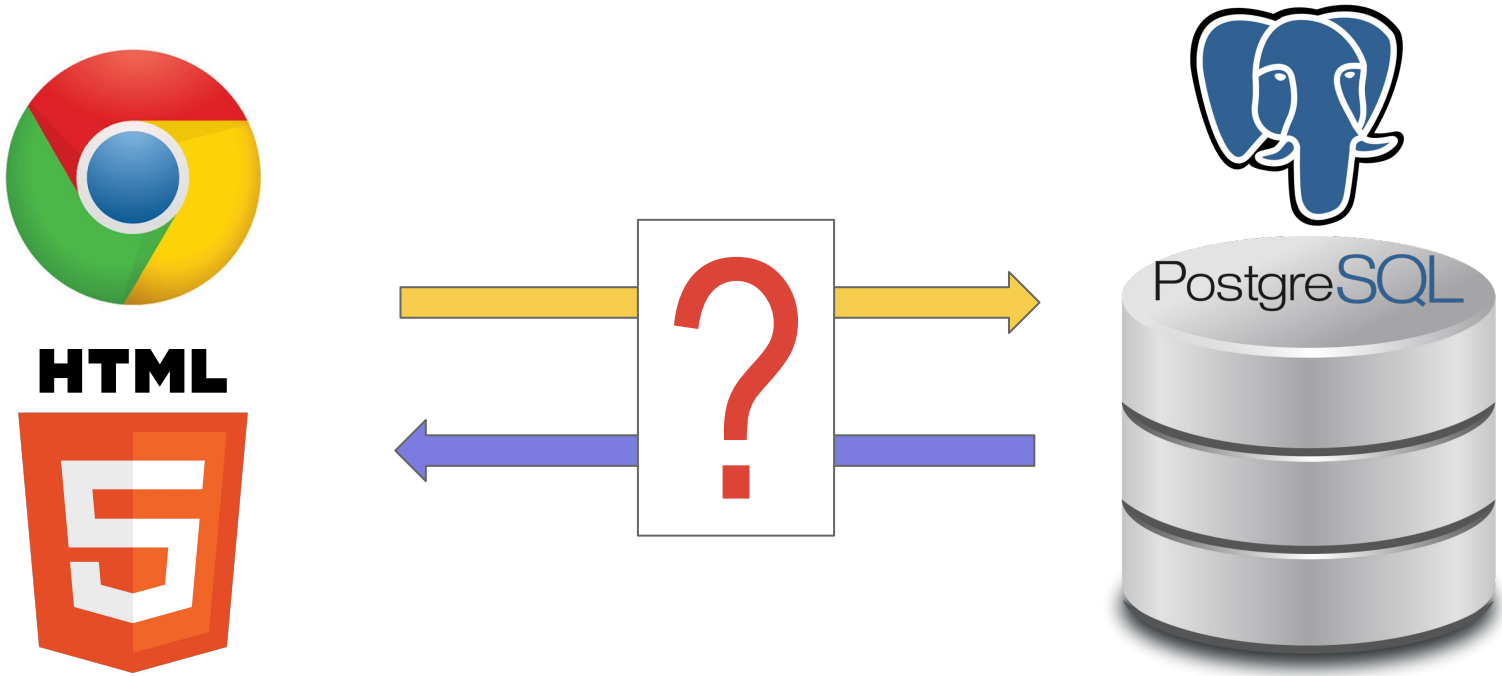
HTML/CSS

- Used to render a UI on a web-browser.
- One can create controls to display data.
- Data to be displayed is **always Hard-coded** into the HTML file.

Relational DataBases

- Used to persist/store data in tabular form.
- Allows for fast access of data.
- One can also process the data super easily and quickly using SQL.

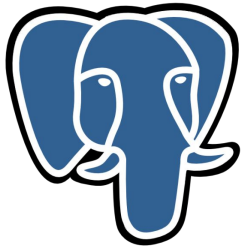
How do you connect the two?



...So that the data in DB is Displayed on the Browser!

Answer: Node Js

HTML



PostgreSQL

Node Js

- Facilitates communication between a browser and a Database.
- Can be used to display data stored in a DB on a browser.
- Can also be used to edit the data in a DB.
- This way one can display **dynamic persisted data** on a browser!

So how Do they Actually Communicate?

Step 1 - Client Makes an HTTP GET Request

Client

(Data inside the Request)

Give me AN HTML page containing all the items in the store.

HTTP GET Request to URL

../store

Server

Step 2 - Server Talks to the DB

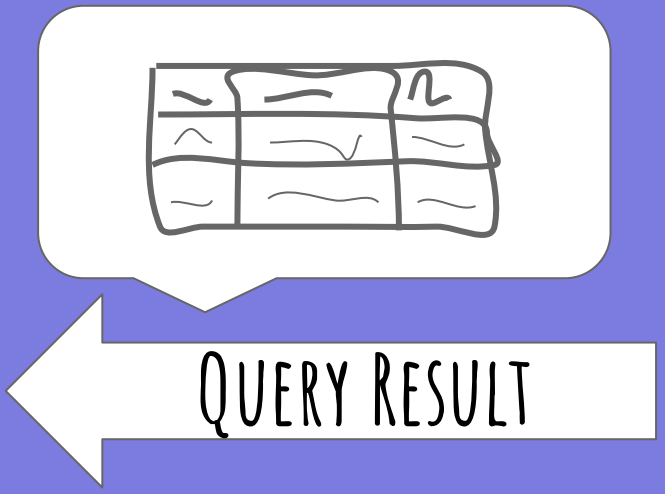
Select * from Store;

SQL Query

Server

DataBase

Step 3 - DB Responds with Rows



Query Result

Server

DataBase

Step 4 - Server Responds to Client with HTML


```
<html>
<body>
    <p> Apple </p>
    <p> $4.00 </p>
</body>
</html>
```

HTTP Response

Client

Server

Step 5 - Browser Renders the HTML

Client

Home | Add New Item | List all item

Store listing

Name	Quantity	Price
Apple	52	4
lemon	97	0.1
orange	50	0.2
Namer	2	30

What if the Client wants to Update Data in the 'Store'?

Step 1 - Client Makes an HTTP POST Request

(Data inside the Request)

Update the Price of the item called Apple to $12

HTTP POST Request to URL

../store/Apple

Client

Server

Step 2 - Server Tells DB To Run an Update Query

Update Store Set
Price = 12 where
sname = 'Apple';

SQL Query

Server

DataBase

Step 3 - DB Responds with status of Execution

✔

Success

Query Status

Server

DataBase

Step 4 - Server Responds to Client with HTML


```
<html>
<body>
    <p> Apple </p>
    <p> $12.00 </p>
</body>
</html>
```

HTTP Response

Client

Server

Step 5 - Browser Renders the HTML

Client

Home | Add New Item | List all item

Store listing

Data updated successfully!

Name	Quantity	Price
Apple	52	12
lemon	97	0.1
orange	50	0.2
Namer	2	30

Heads up While going about the lab exercises

- The **version of Node Js** installed **is >= v6.0**
- Double check the code you copy paste from the PDF.
- Double check the name of the file that a code snippet has to be pasted into.
- Create the right directory structure and put the files into the right directories.