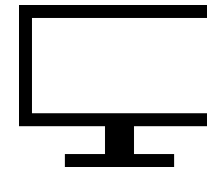
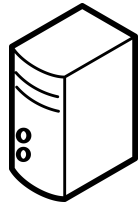
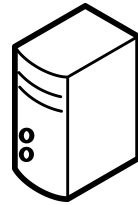


FULL STACK DATA FLOW

There and back again

two players - client and server

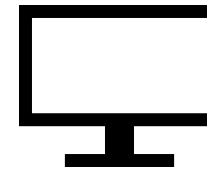




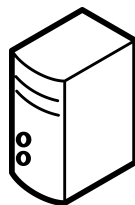
Server



“Internet”



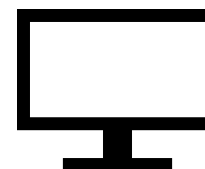
Client



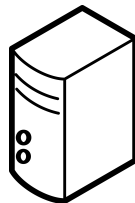
Server



“Internet”



Client



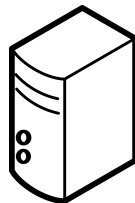
Server



“Internet”



Client



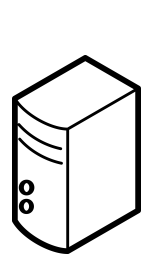
Server



“Internet”

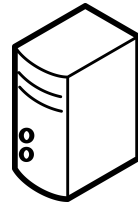


Client



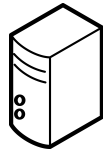


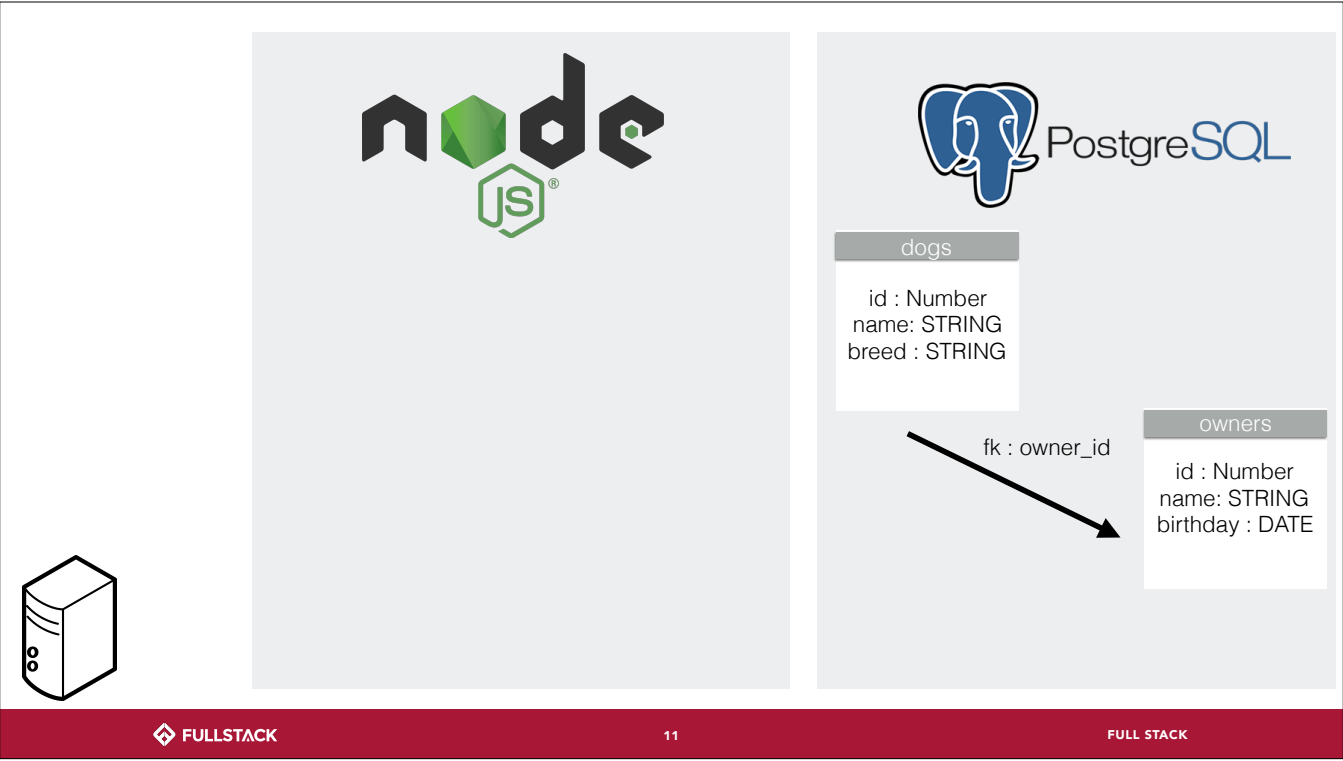
- **A JavaScript runtime built on Chrome's V8 JS engine**
- **Allows execution of JS on an operating system**

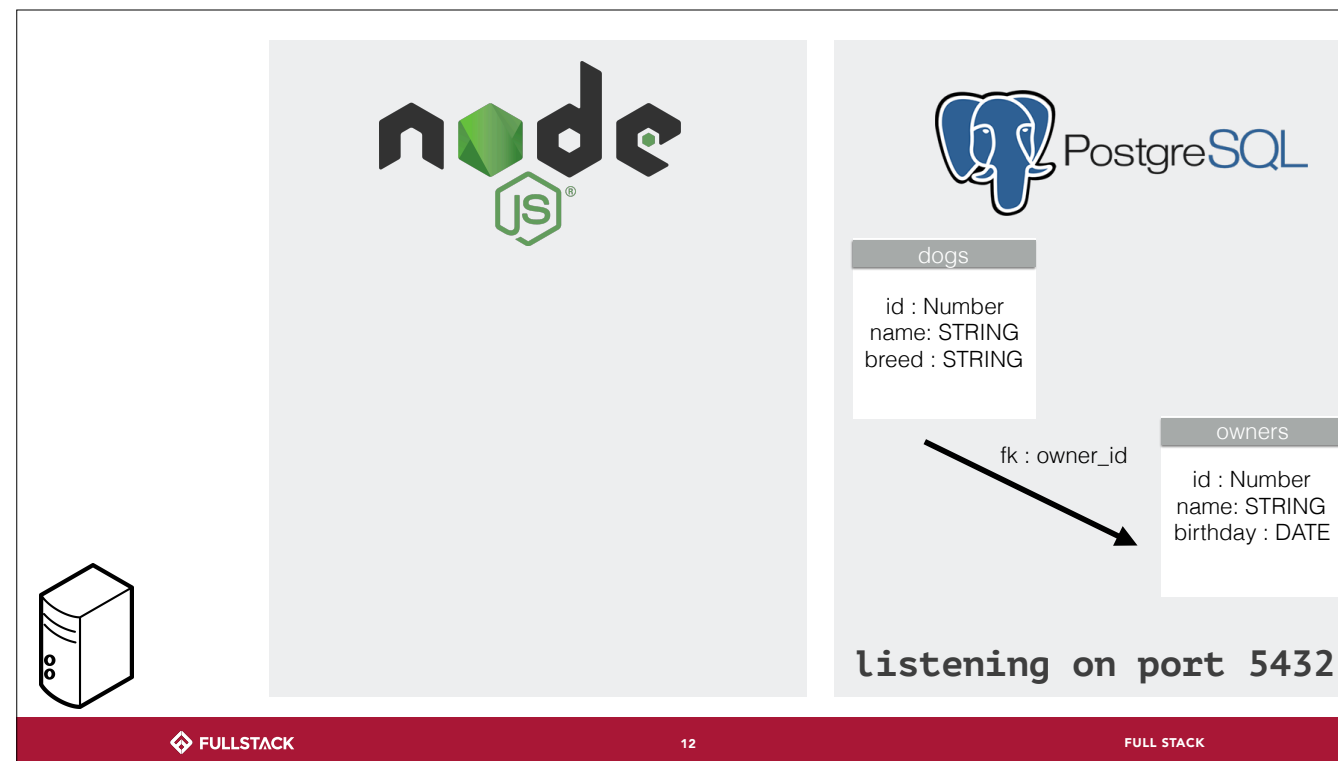


- **An open source, object-relational database system**

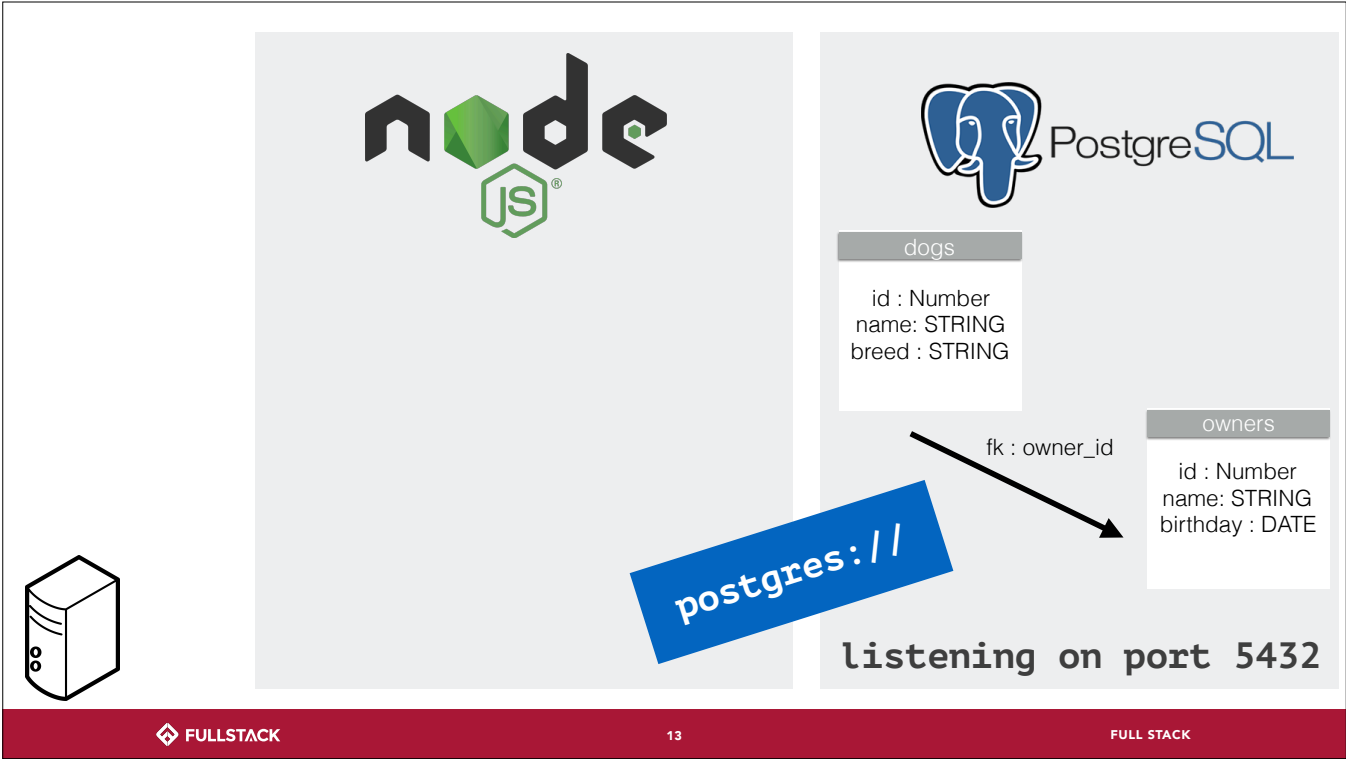










not exposed to the internet





express



dogs

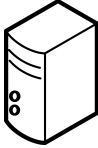
id : Number
name: STRING
breed : STRING


owners

id : Number
name: STRING
birthday : DATE

fk : owner_id

listening on port 5432



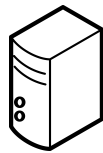
 FULLSTACK

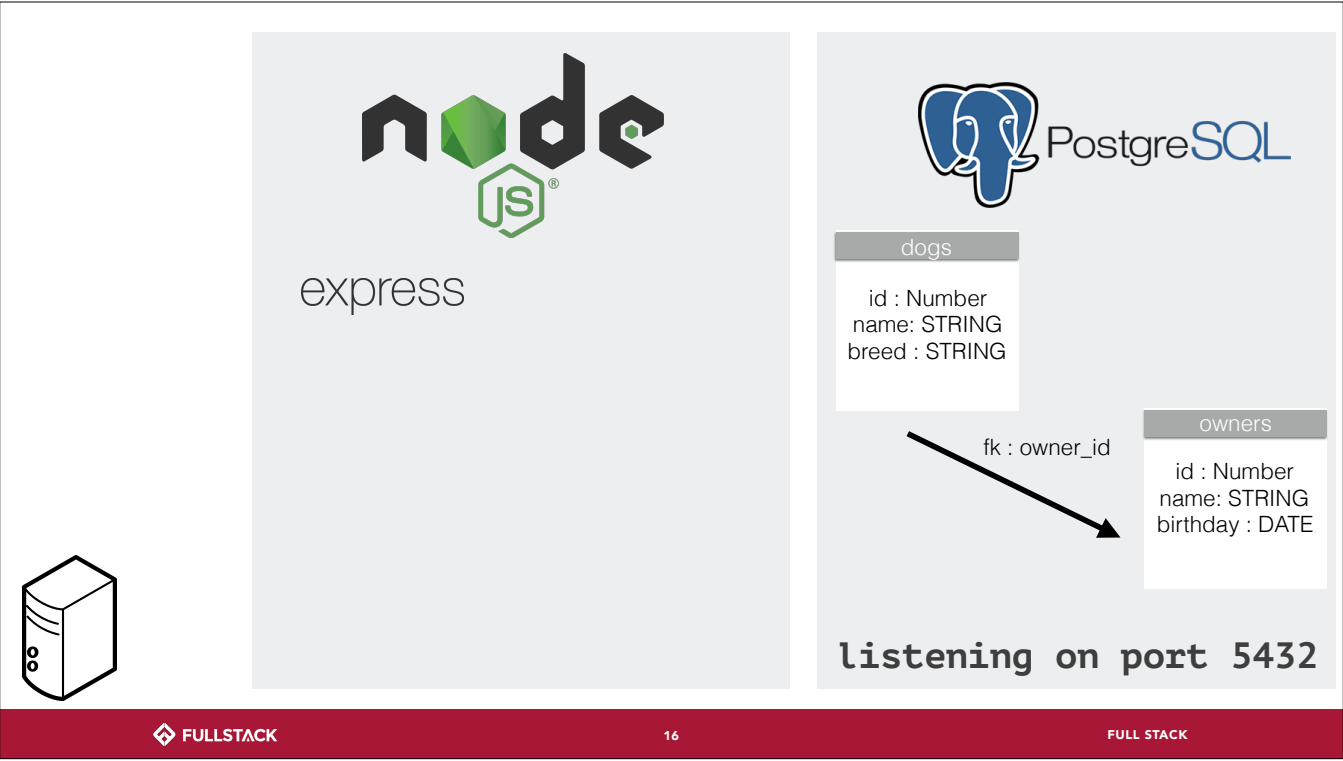
14

FULL STACK

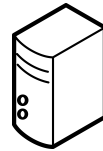
express

- **A application written with Node.js**
- **Provides a framework for writing web servers**





server/
index.js



dogs
id : Number
name: STRING
breed : STRING

owners
id : Number
name: STRING
birthday : DATE

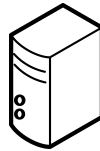
fk : owner_id

listening on port 5432

server/
index.js



express



listening on port 8080



dogs

id : Number
name: STRING
breed : STRING

owners

id : Number
name: STRING
birthday : DATE

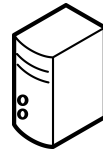
fk : owner_id

listening on port 5432

server/
index.js



express



http://

listening on port 8080



dogs

id : Number
name: STRING
breed : STRING

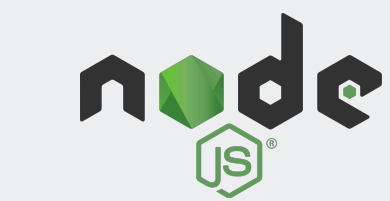
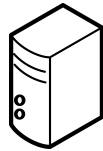
owners

id : Number
name: STRING
birthday : DATE

fk : owner_id

listening on port 5432

```
server/  
  index.js  
public/  
  index.html  
  style.css
```



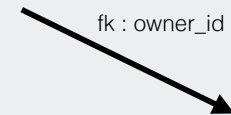
express

listening on port 8080



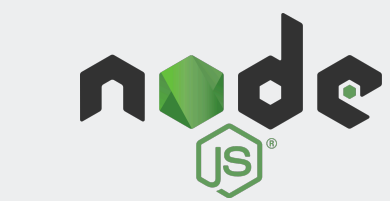
dogs
id : Number
name: STRING
breed : STRING

owners
id : Number
name: STRING
birthday : DATE



listening on port 5432

```
server/  
  index.js  
public/  
  index.html  
  style.css
```



express

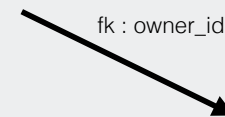


listening on port 8080



dogs
id : Number
name: STRING
breed : STRING

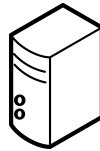
owners
id : Number
name: STRING
birthday : DATE



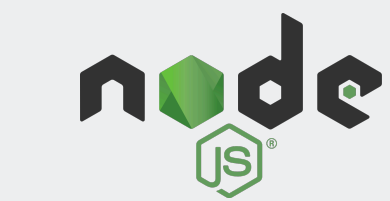
listening on port 5432



- **A application written with Node.js**
- **Provides a framework for interacting with a database from a Node application**



```
server/  
  index.js  
public/  
  index.html  
  style.css
```



express



listening on port 8080



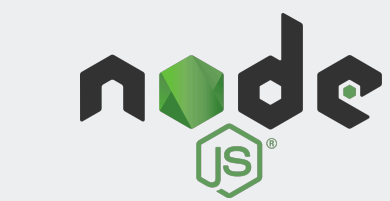
dogs
id : Number
name: STRING
breed : STRING

owners
id : Number
name: STRING
birthday : DATE

fk : owner_id

listening on port 5432

```
server/  
  index.js  
  db.js  
public/  
  index.html  
  style.css
```



express



listening on port 8080

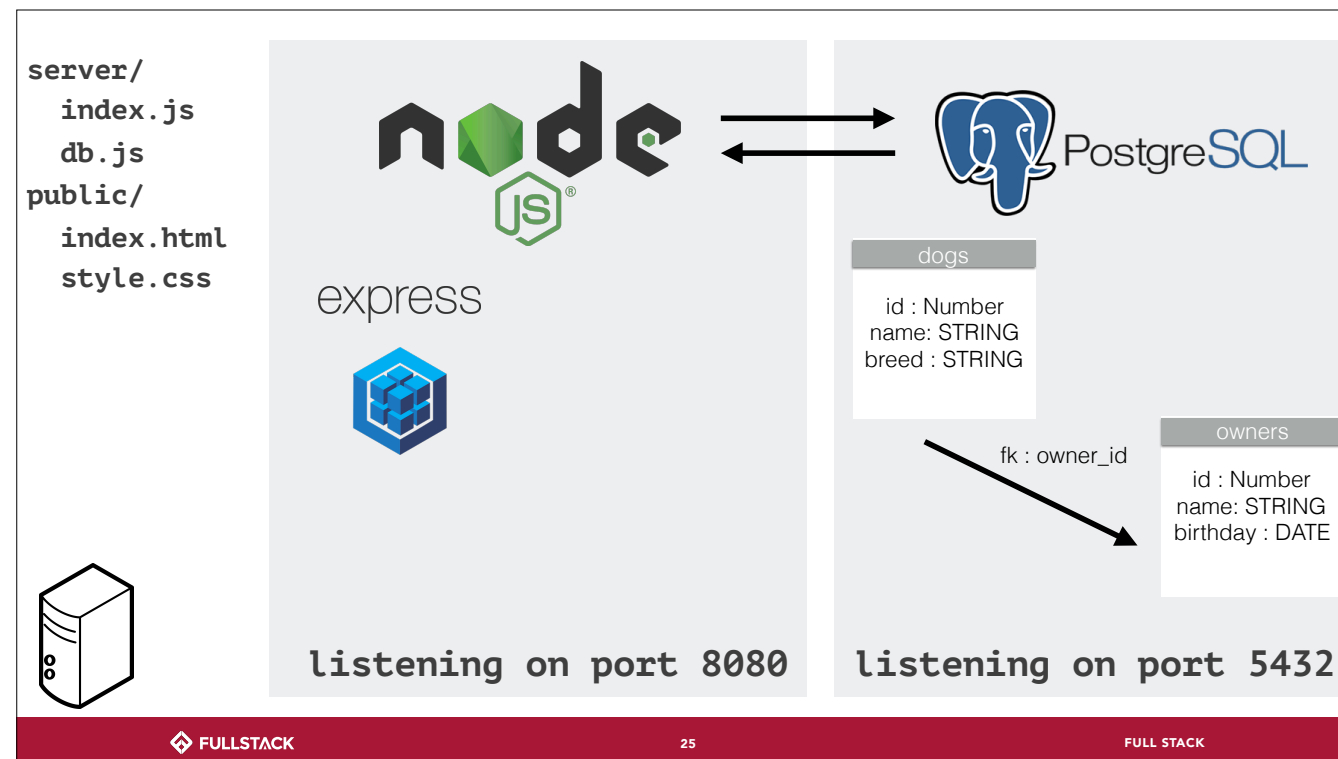


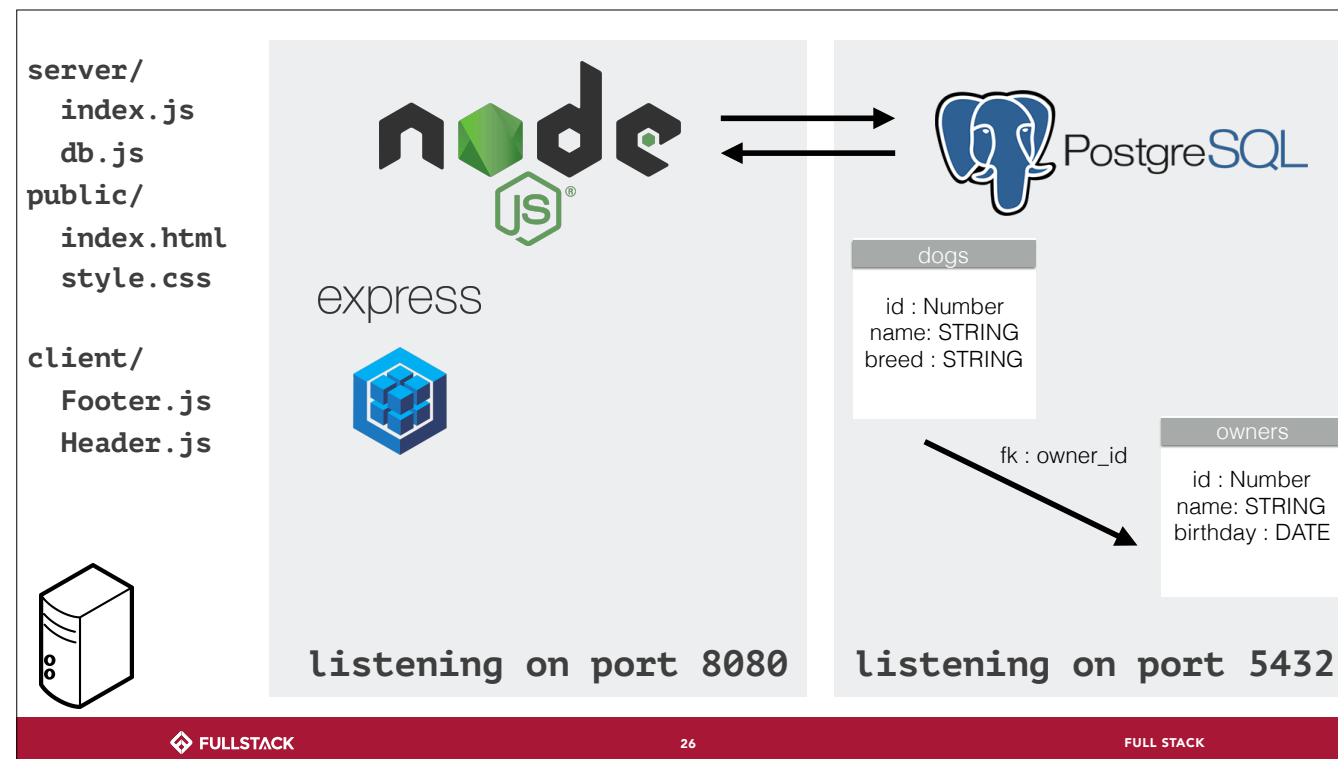
dogs
id : Number
name: STRING
breed : STRING

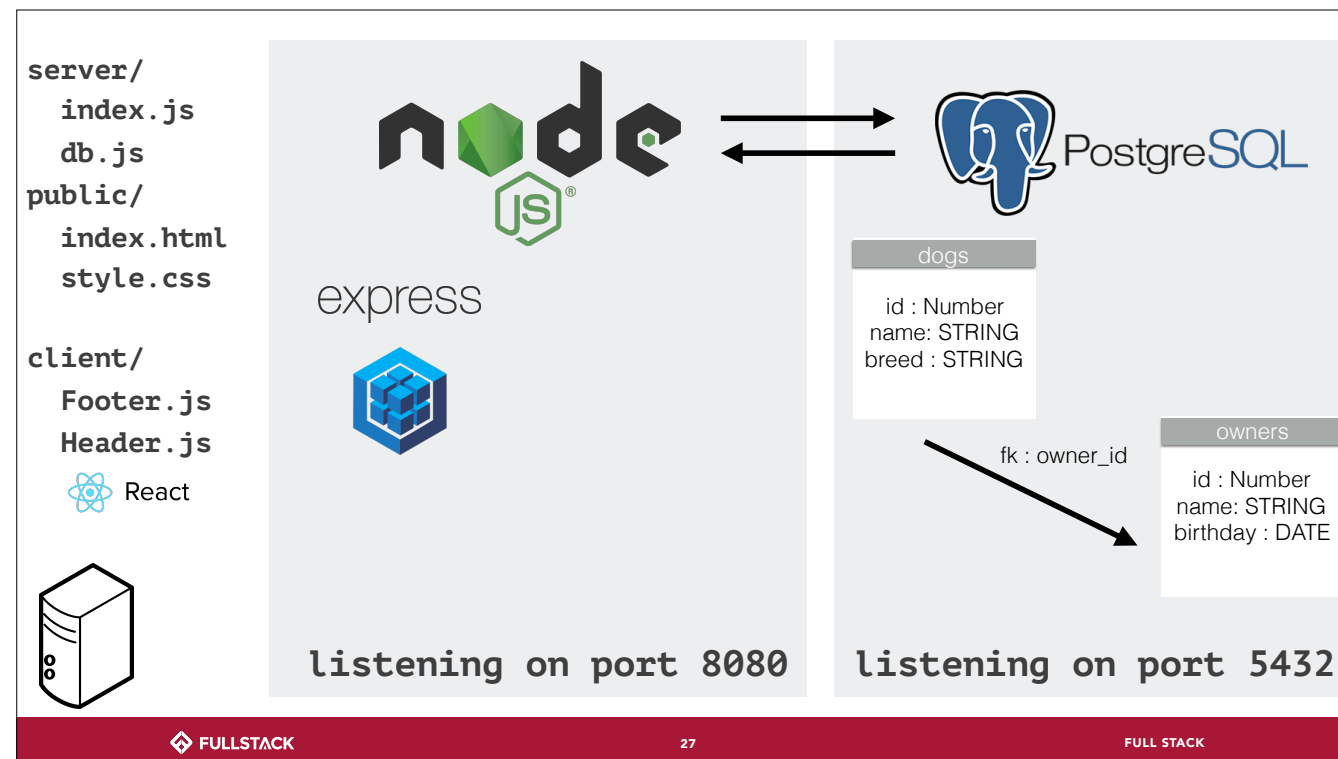
owners
id : Number
name: STRING
birthday : DATE


fk : owner_id


listening on port 5432








 React



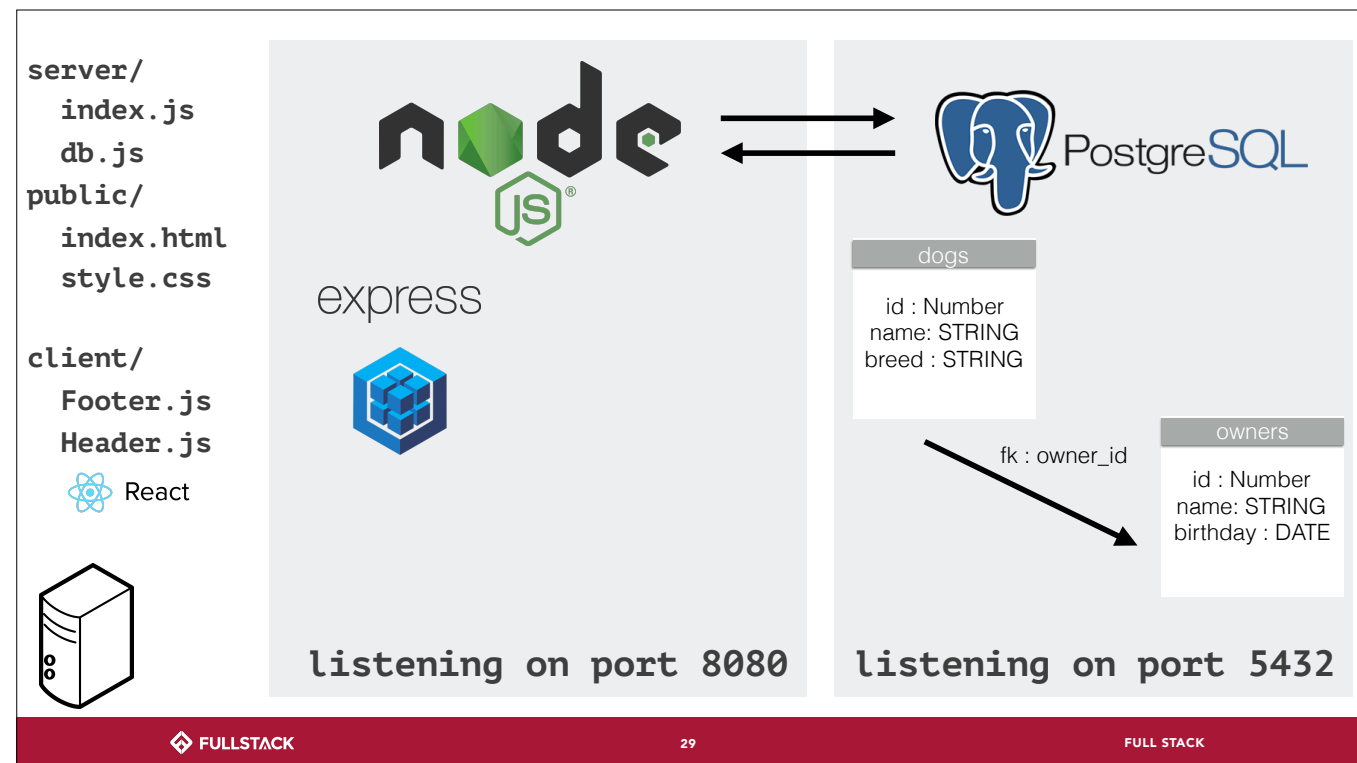
- **A JavaScript library for building user interfaces**
- **Executed on a browser (usually)**
- **...But avails itself of special syntax not recognized by browsers (JSX)**

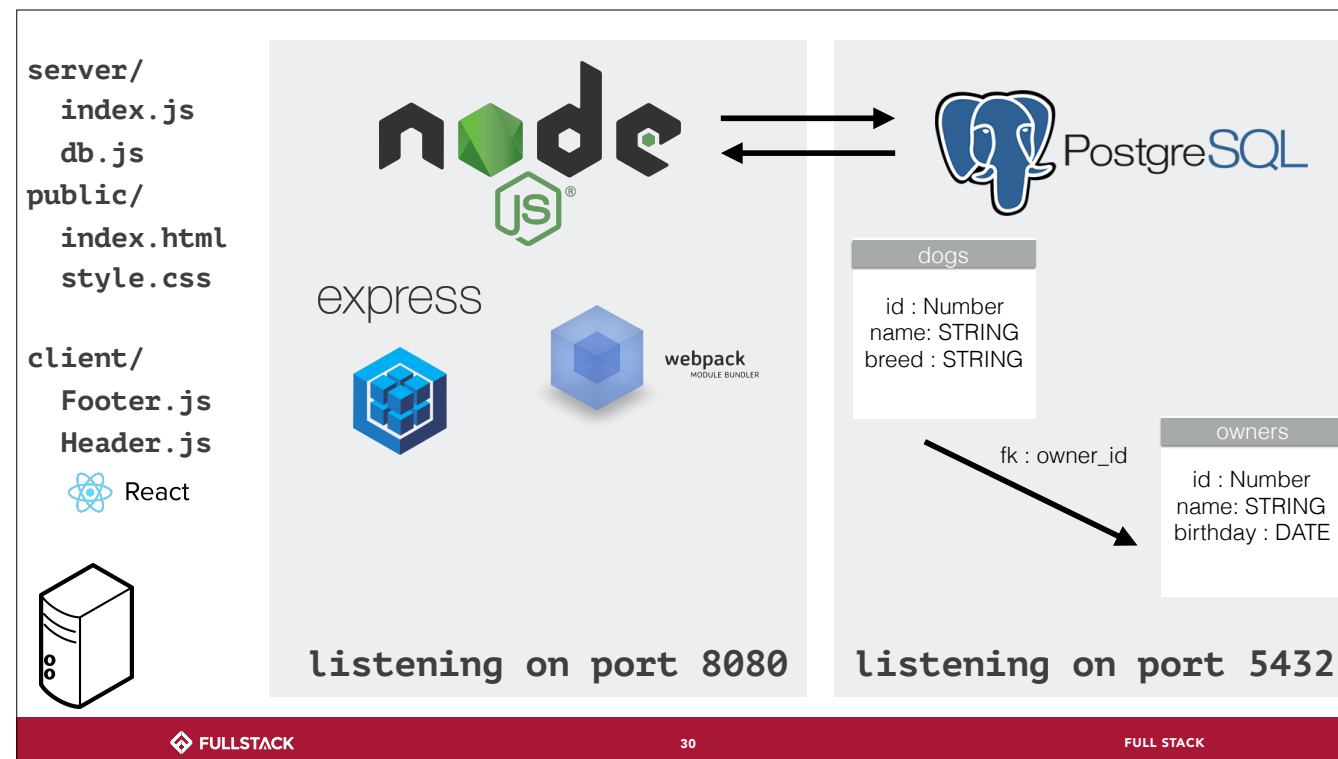
 FULLSTACK

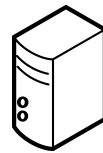
28

FULL STACK

*usually - React is actually flexible and can be used on the server, and in other environments as well, but for now we're just interested in its use on the browser

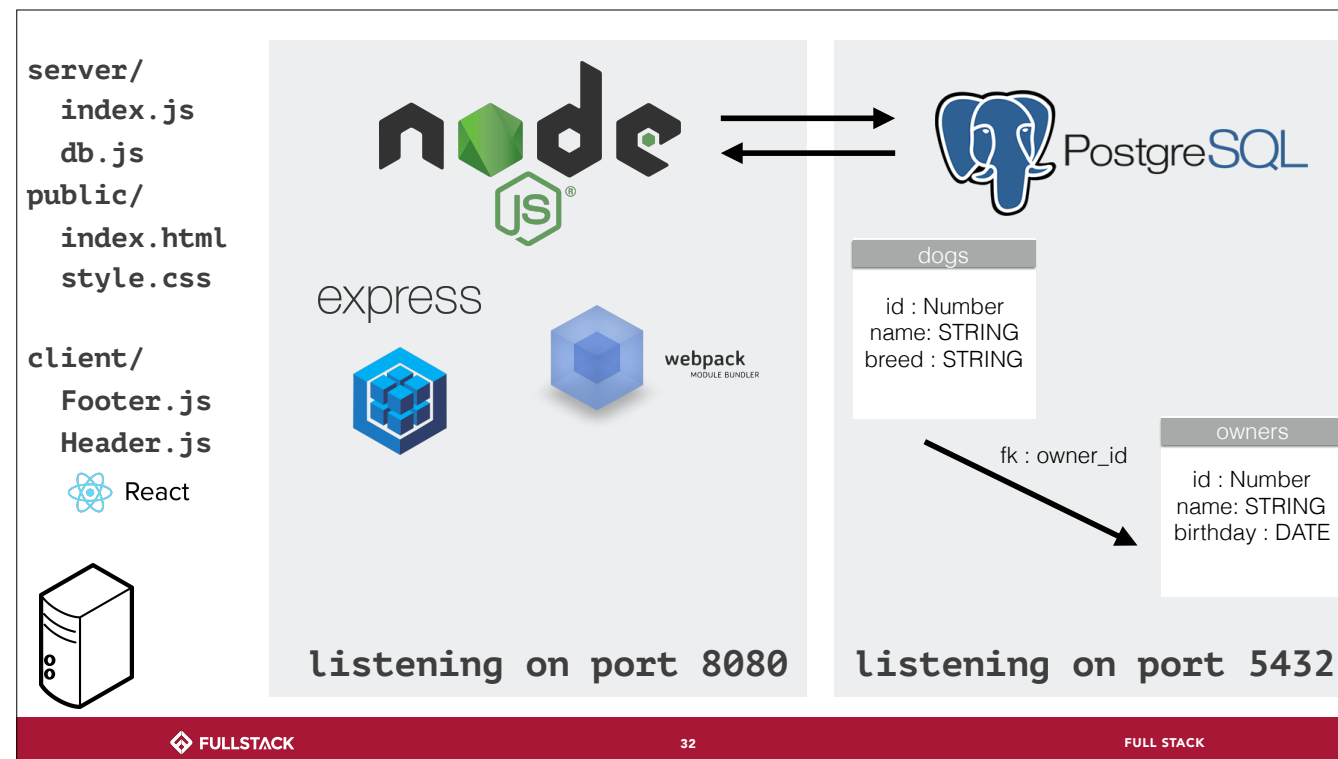


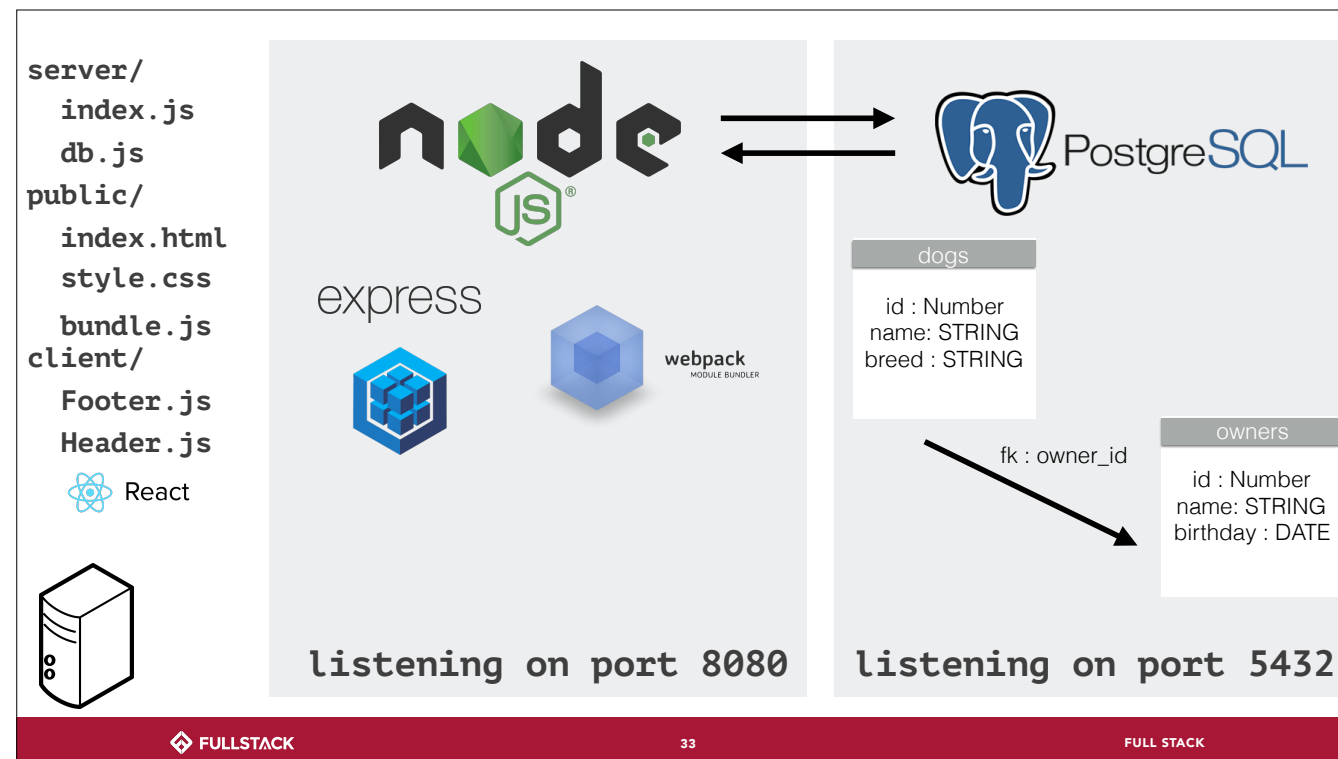


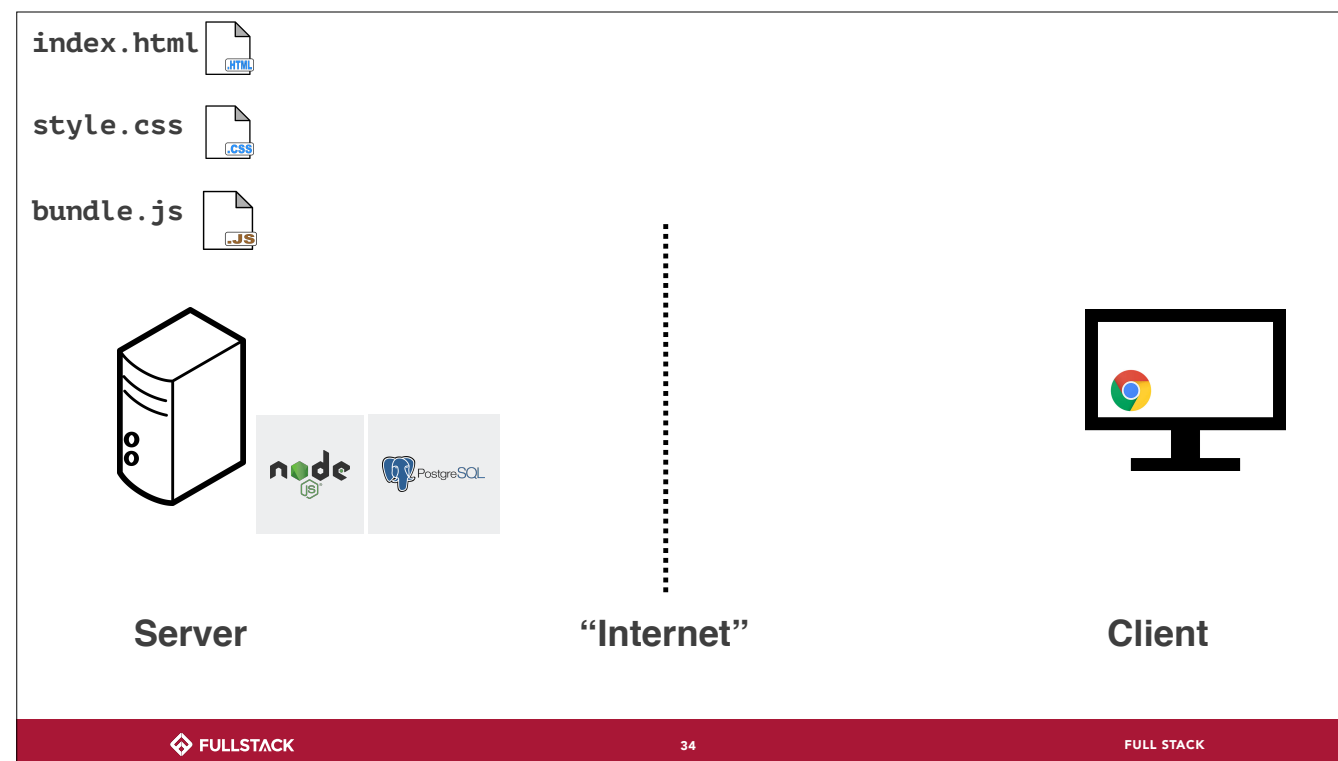


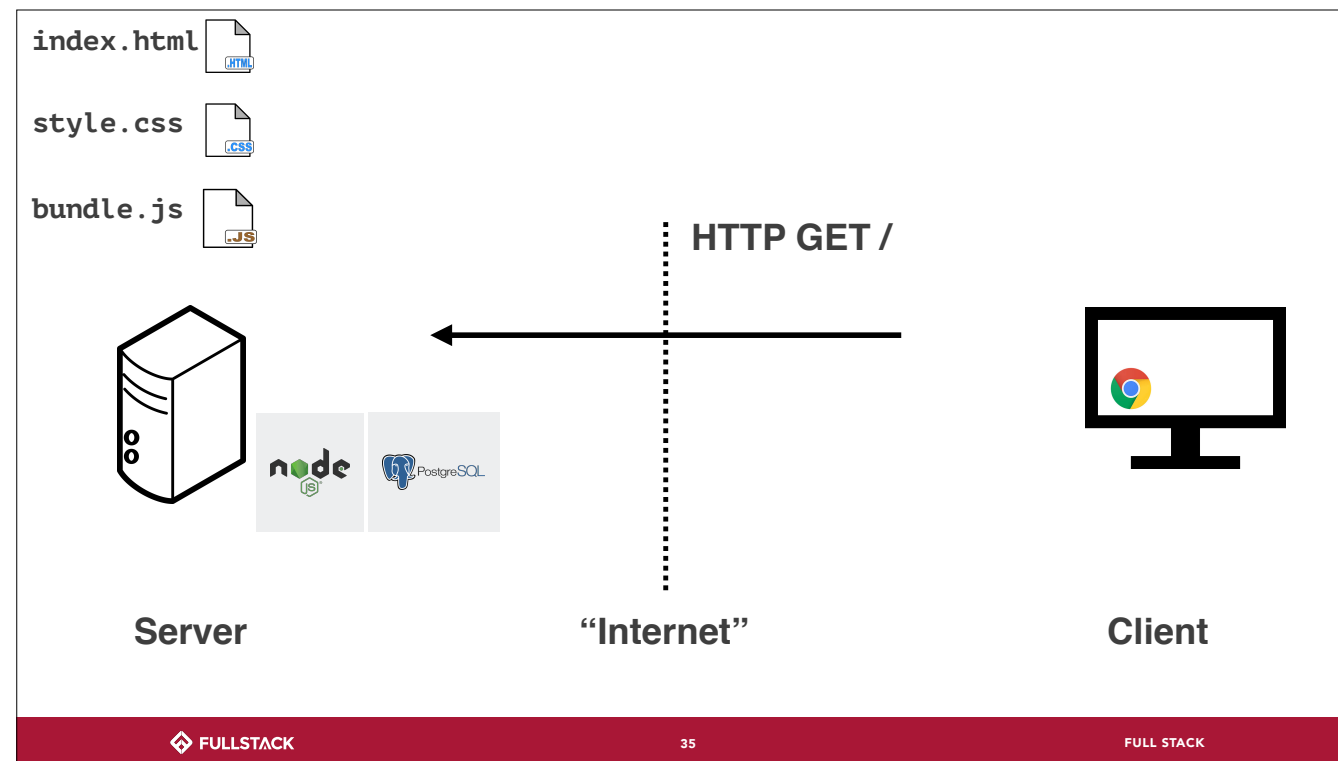
webpack
MODULE BUNDLER

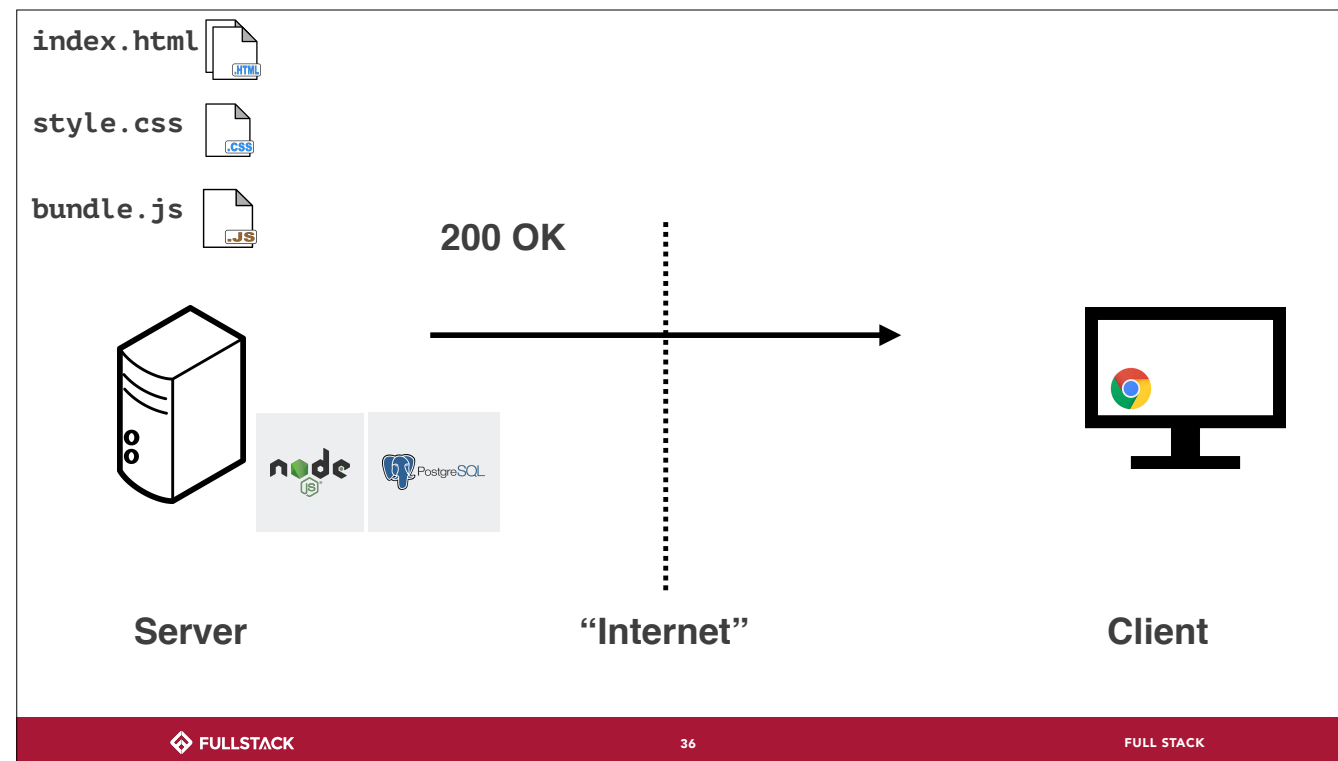
- A application written with Node.js
- Takes many .js files and “bundles” them into one
- Compiles special syntax like JSX into browser-safe JS













```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



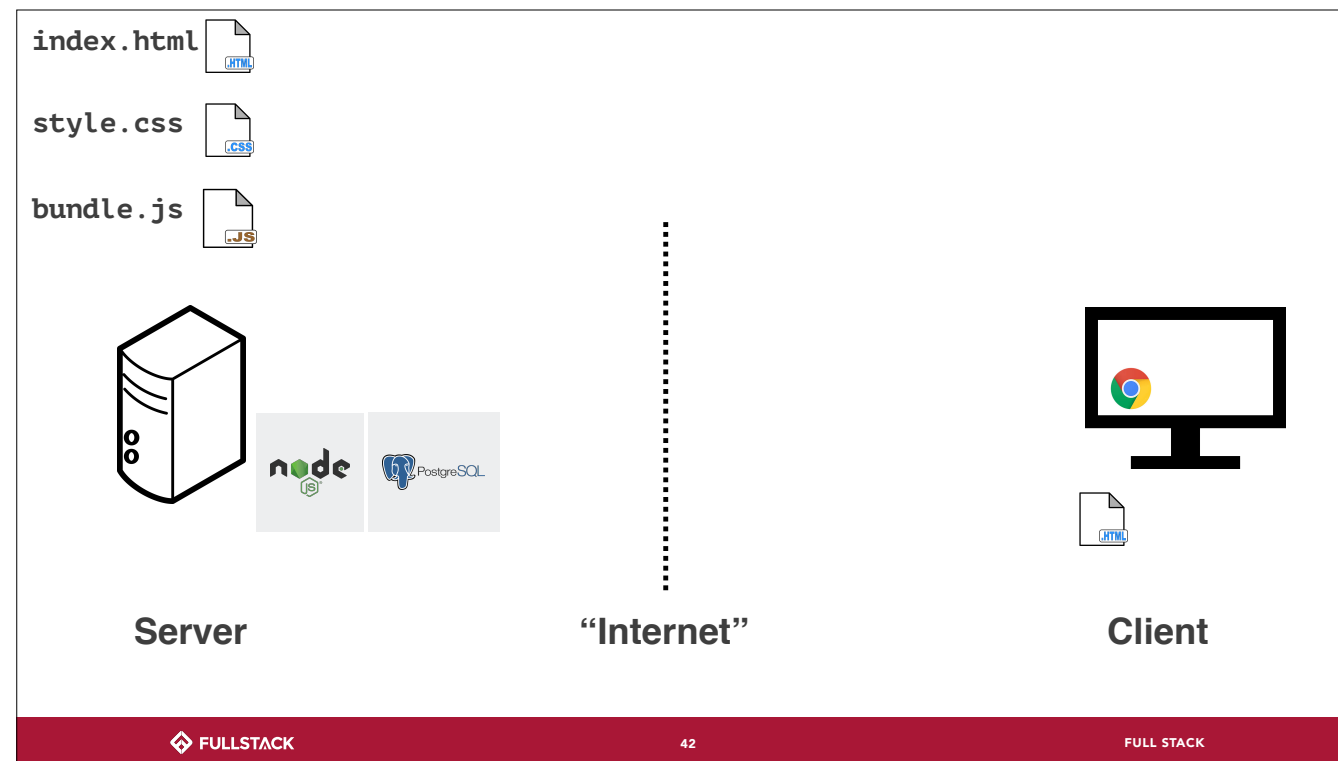
```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```

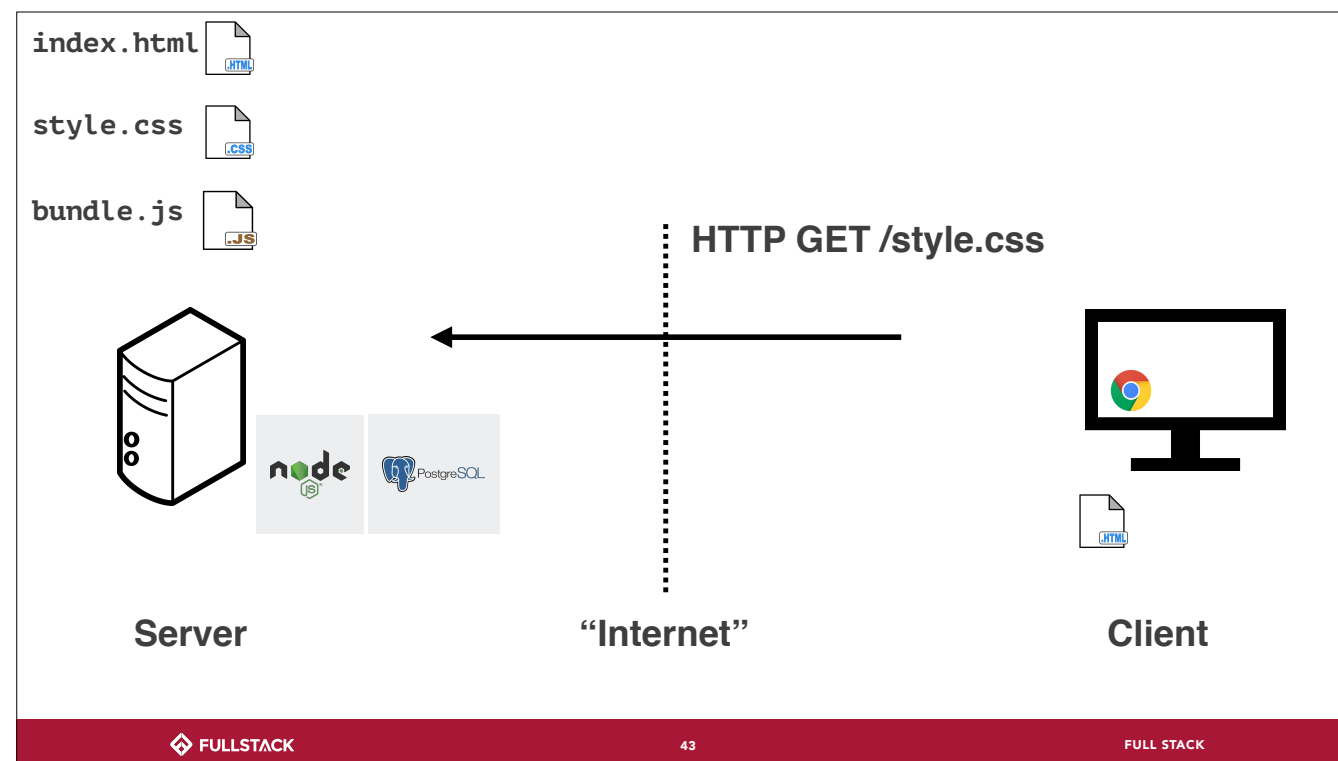


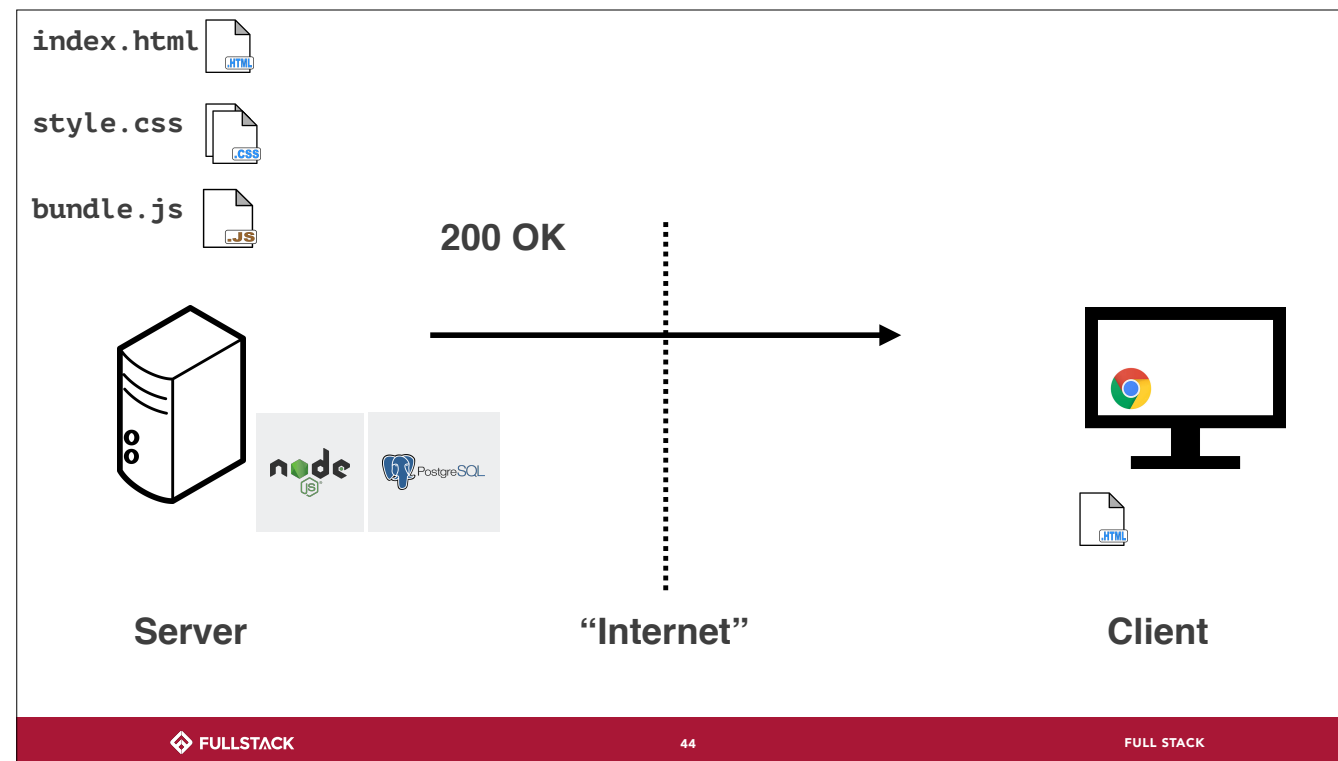
```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```




```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```





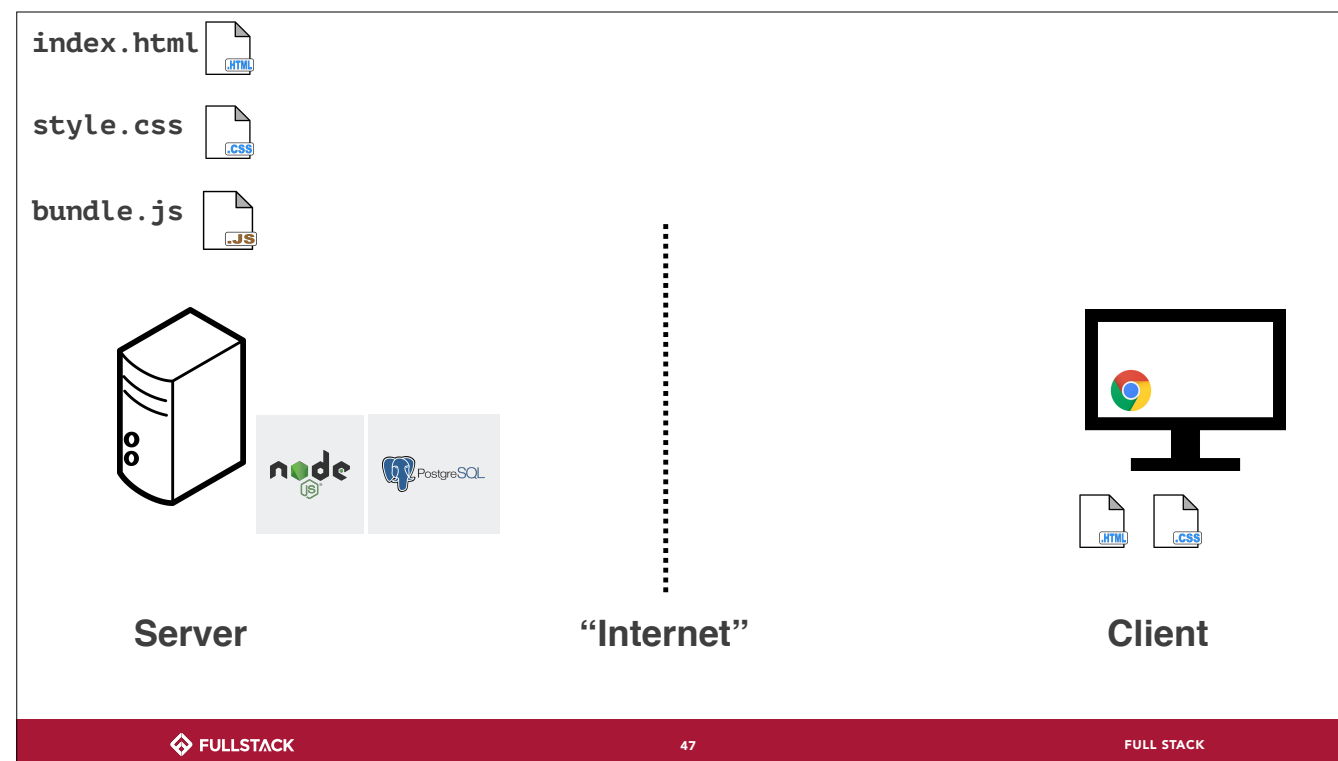


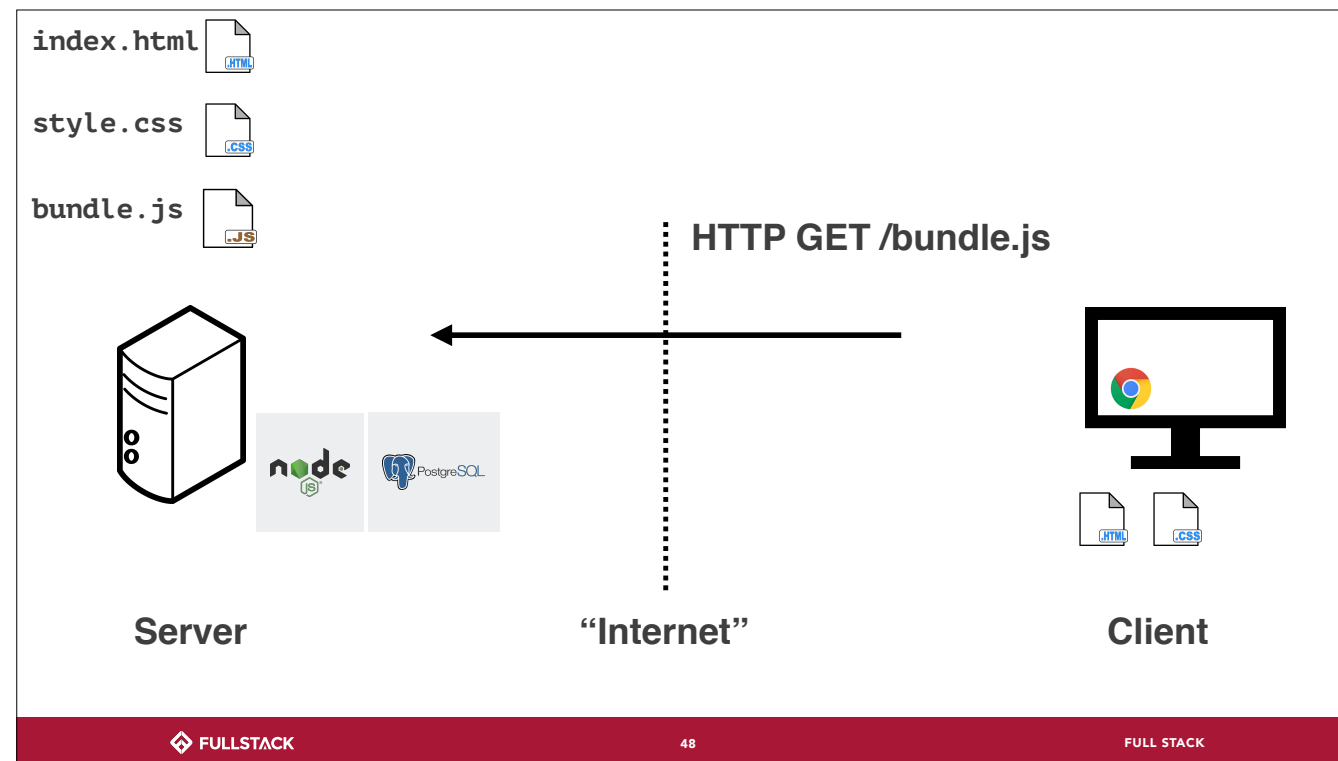


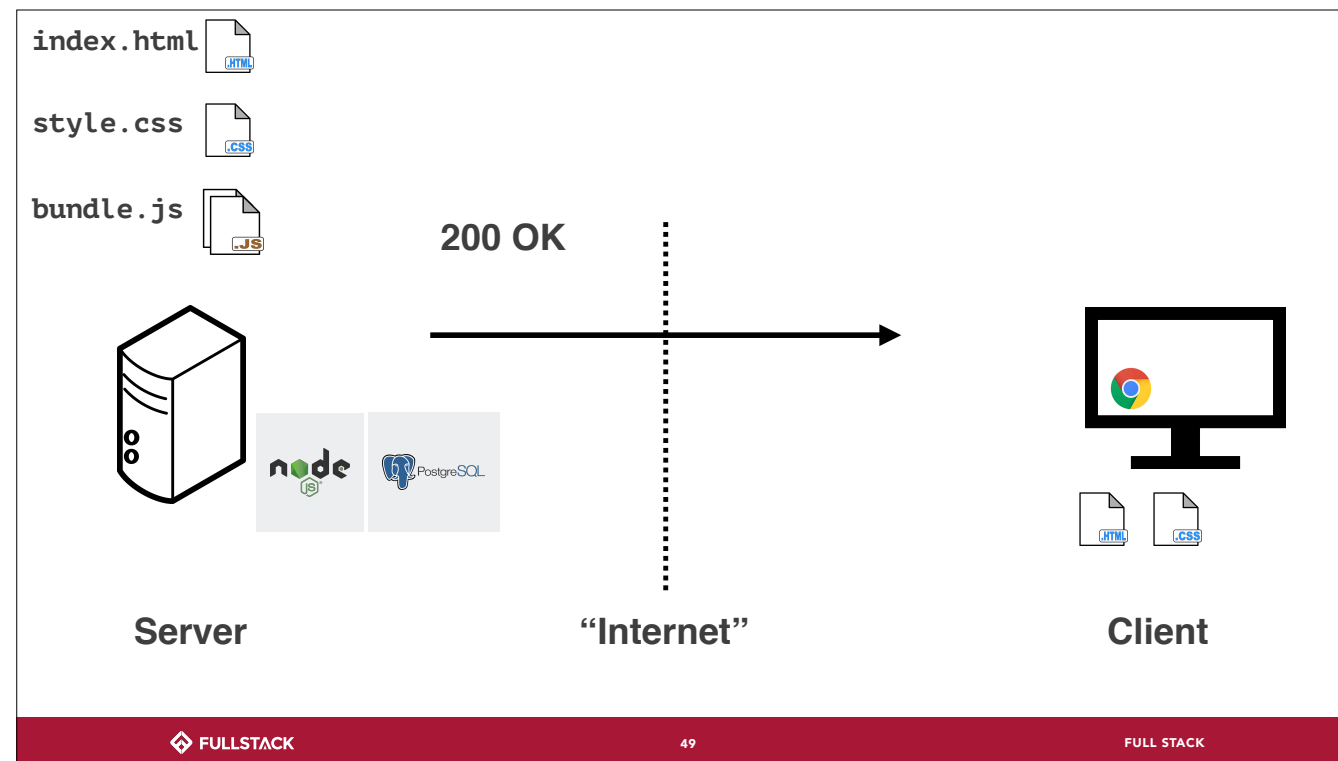
```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```









```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```

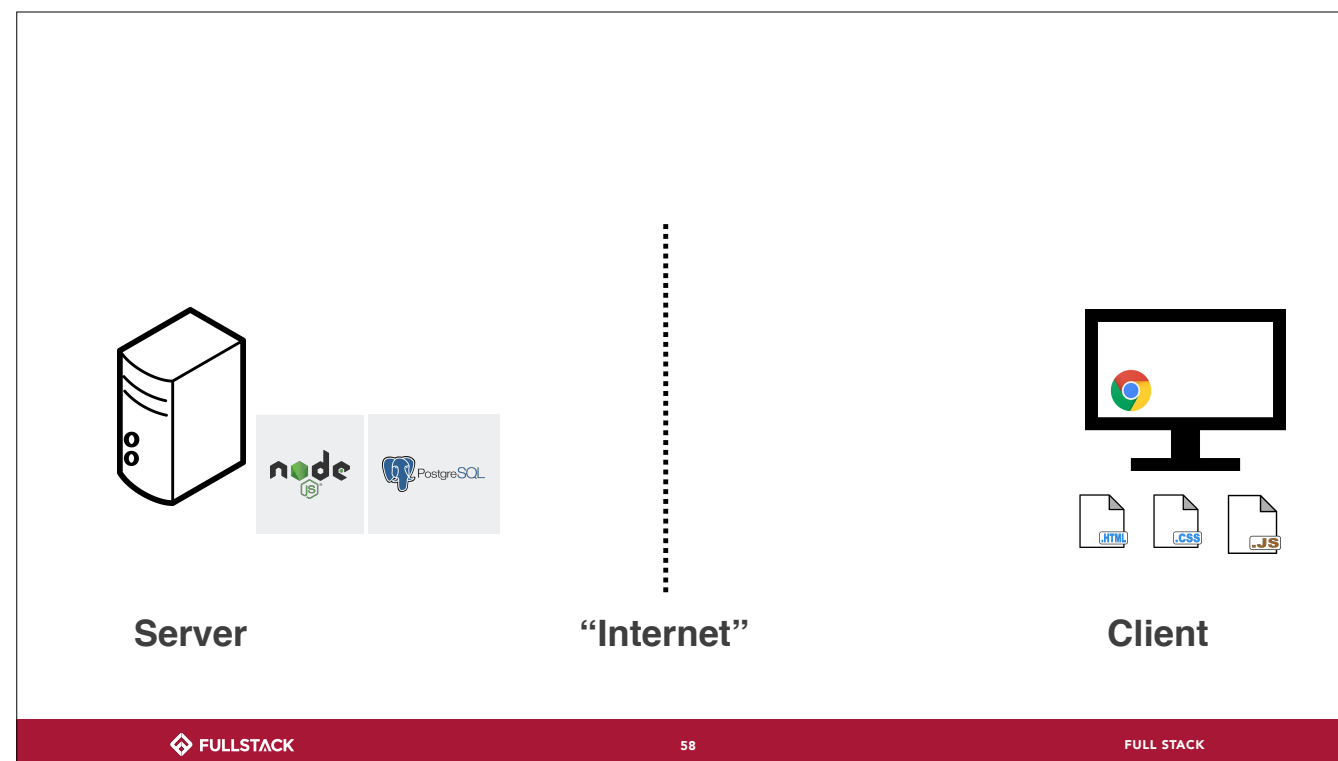


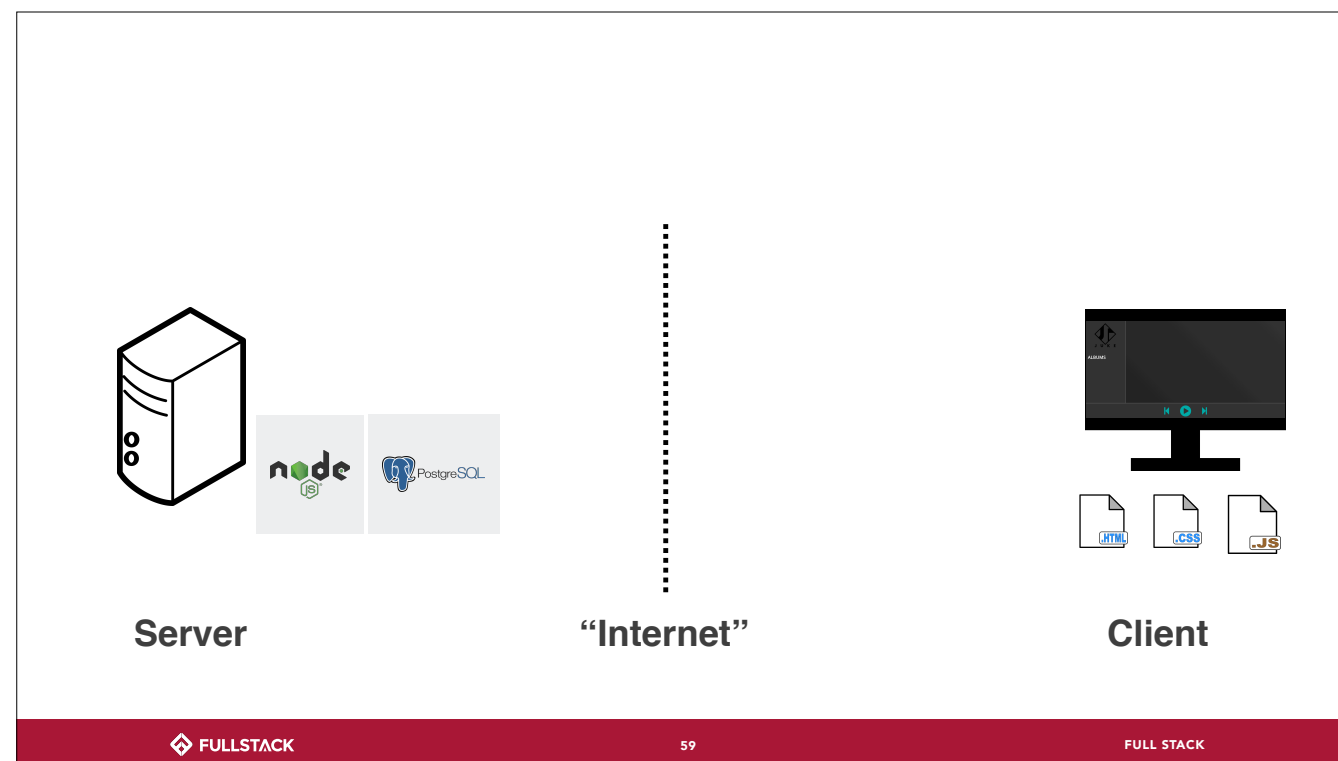
```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```

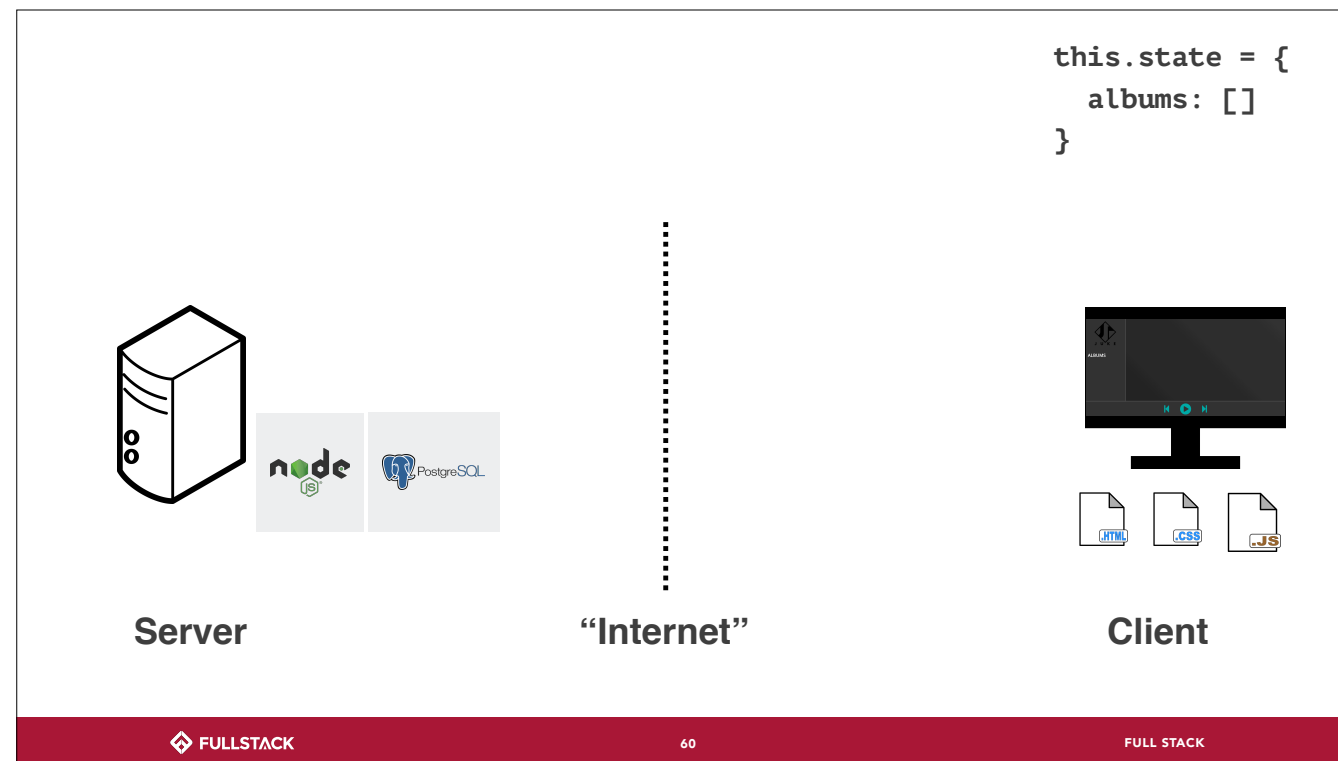



```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="/style.css" />
    <script defer src="/bundle.js"></script>
  </head>
  <body>
    <div id="app"></div>
  </body>
</html>
```

Time to execute this bundle.js file!







This is our initial render and state, now we can make Ajax calls in `componentDidMount`

