



Full Stack Development

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What is Full Stack?

Full Stack Web Developer

A full stack web developer is a person who can develop both **client** and **server** software.

These developers aren't expert in everything but simply have the functional knowledge to finish and develop the entire product.

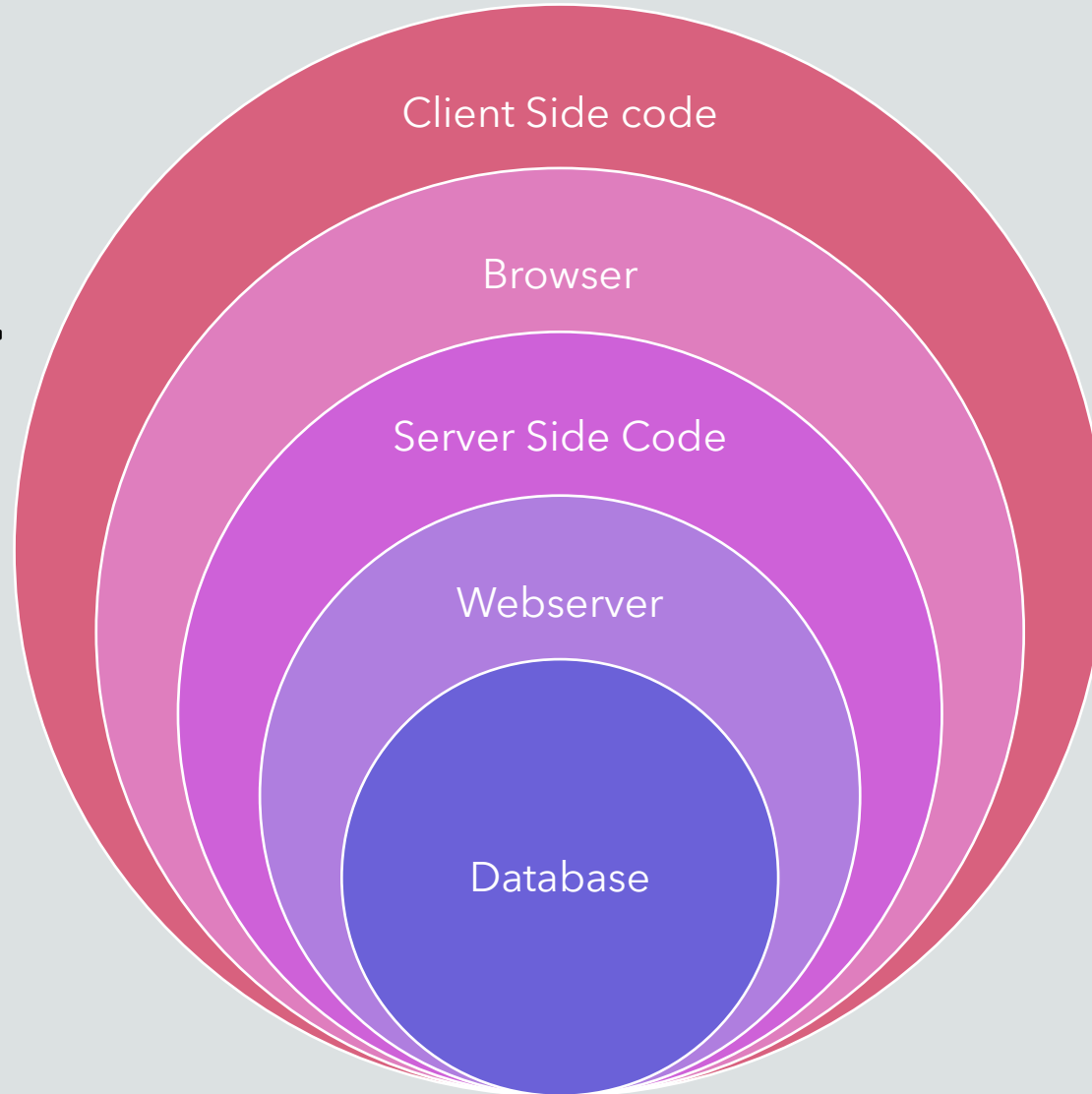
Frontend

Backend

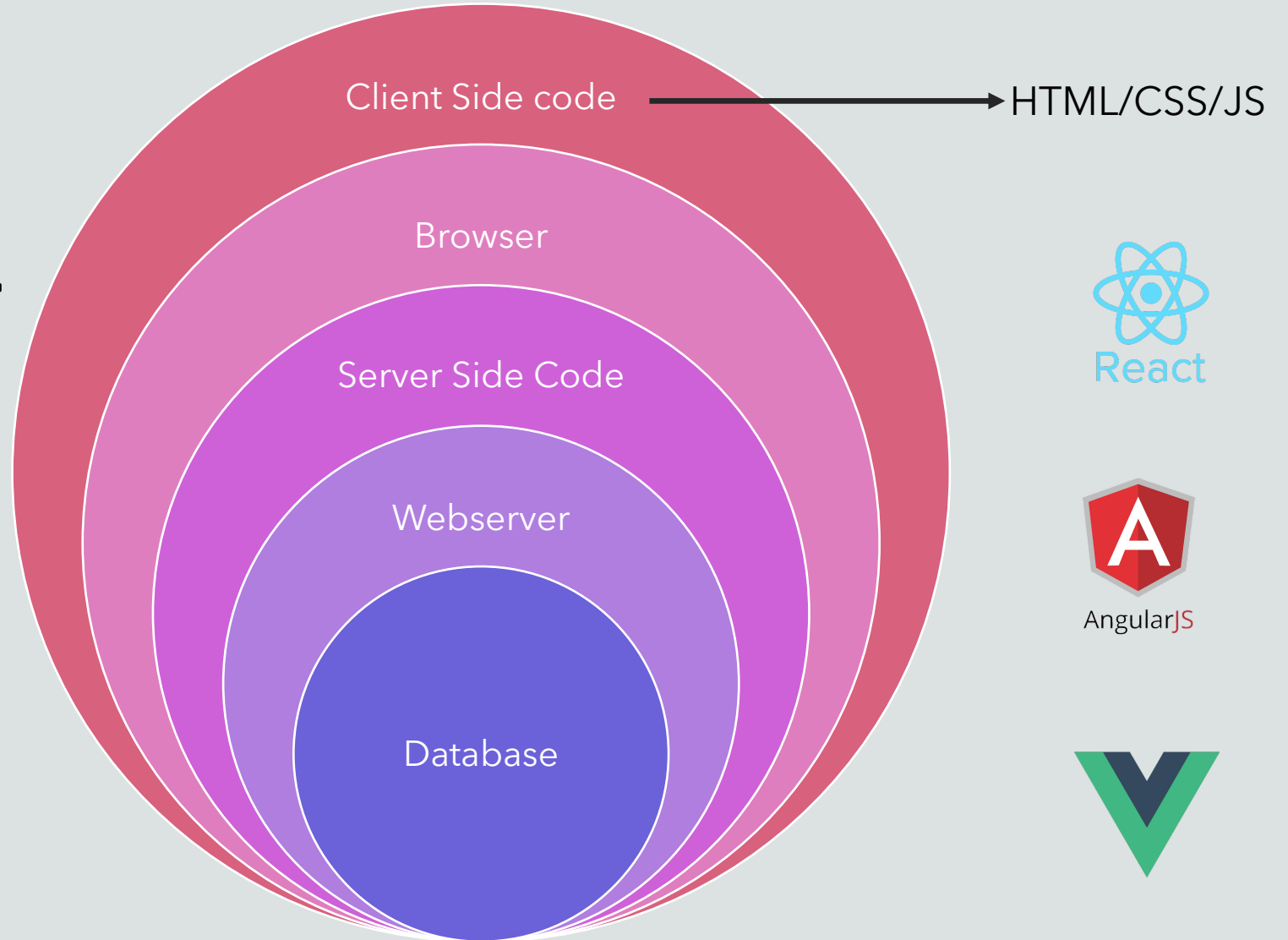
Frontend

Backend

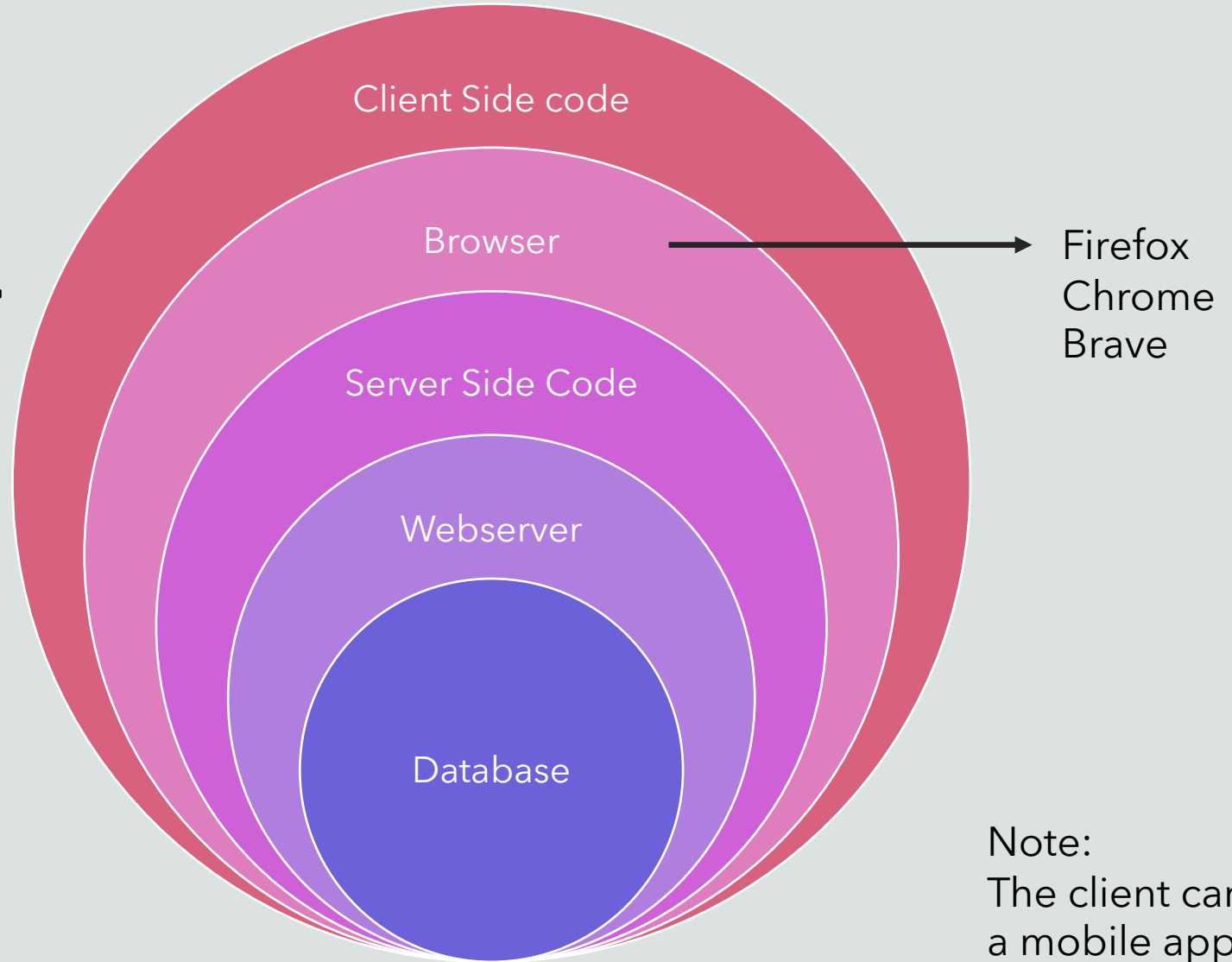
Layers in Full Stack Development



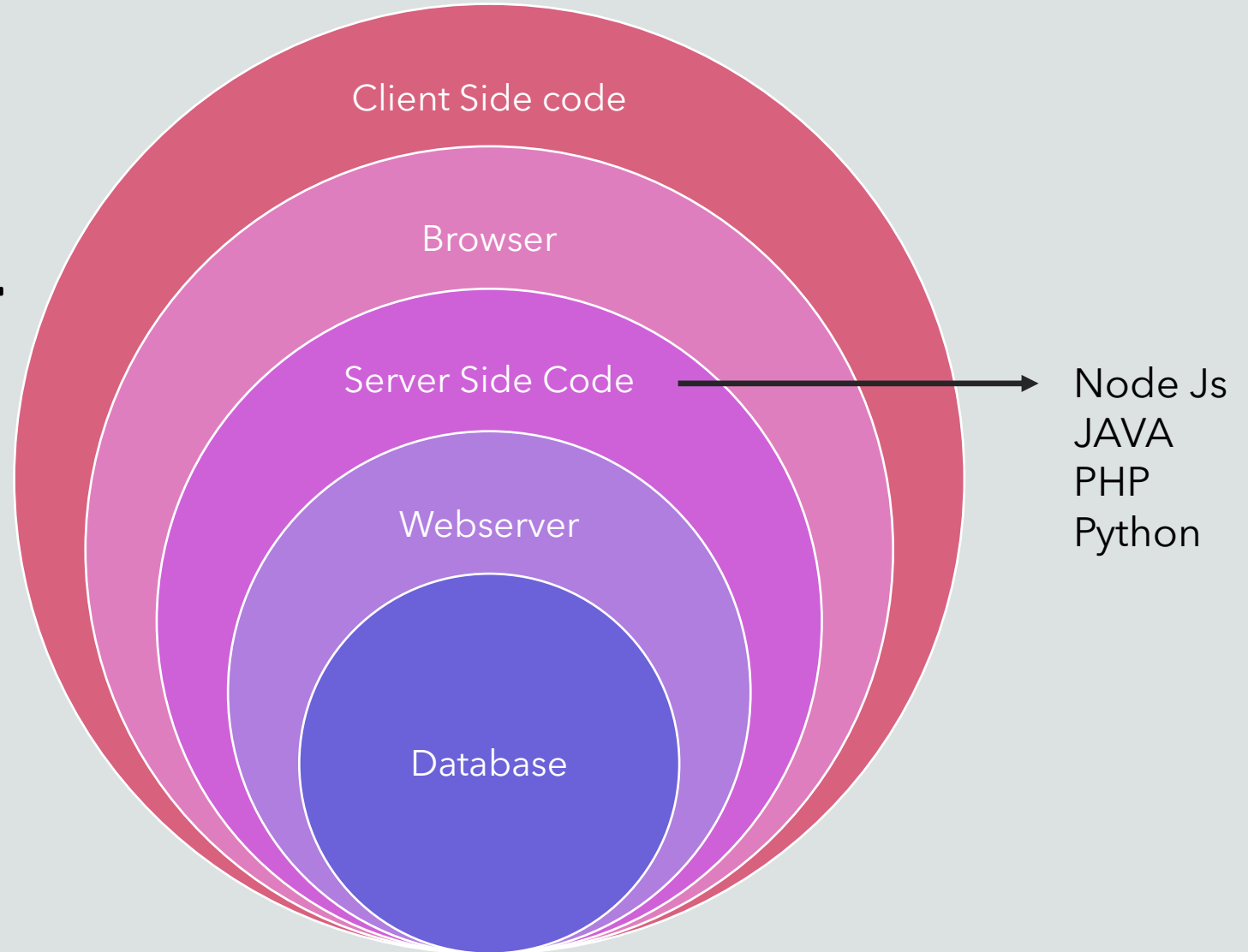
Layers in Full Stack Development



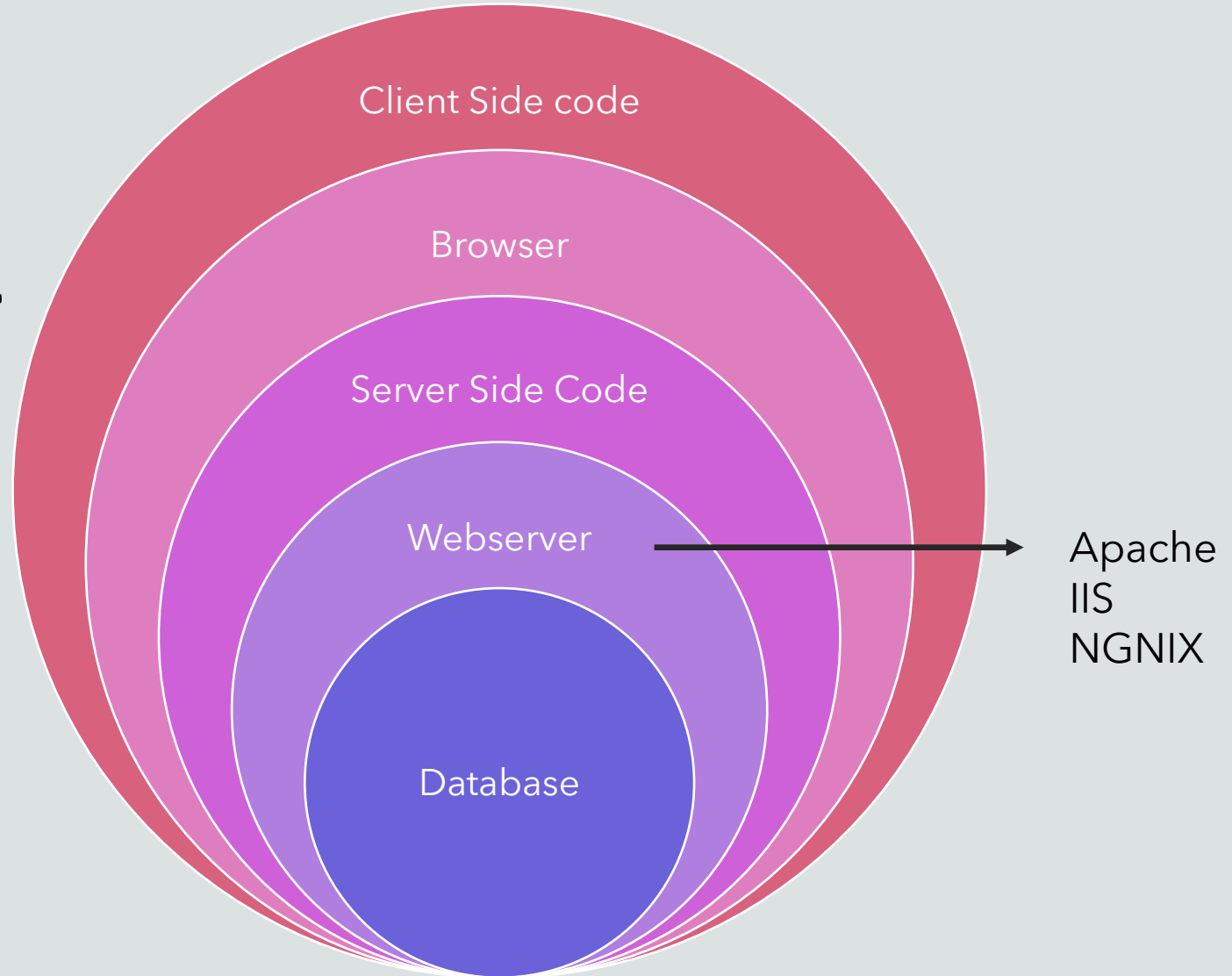
Layers in Full Stack Development



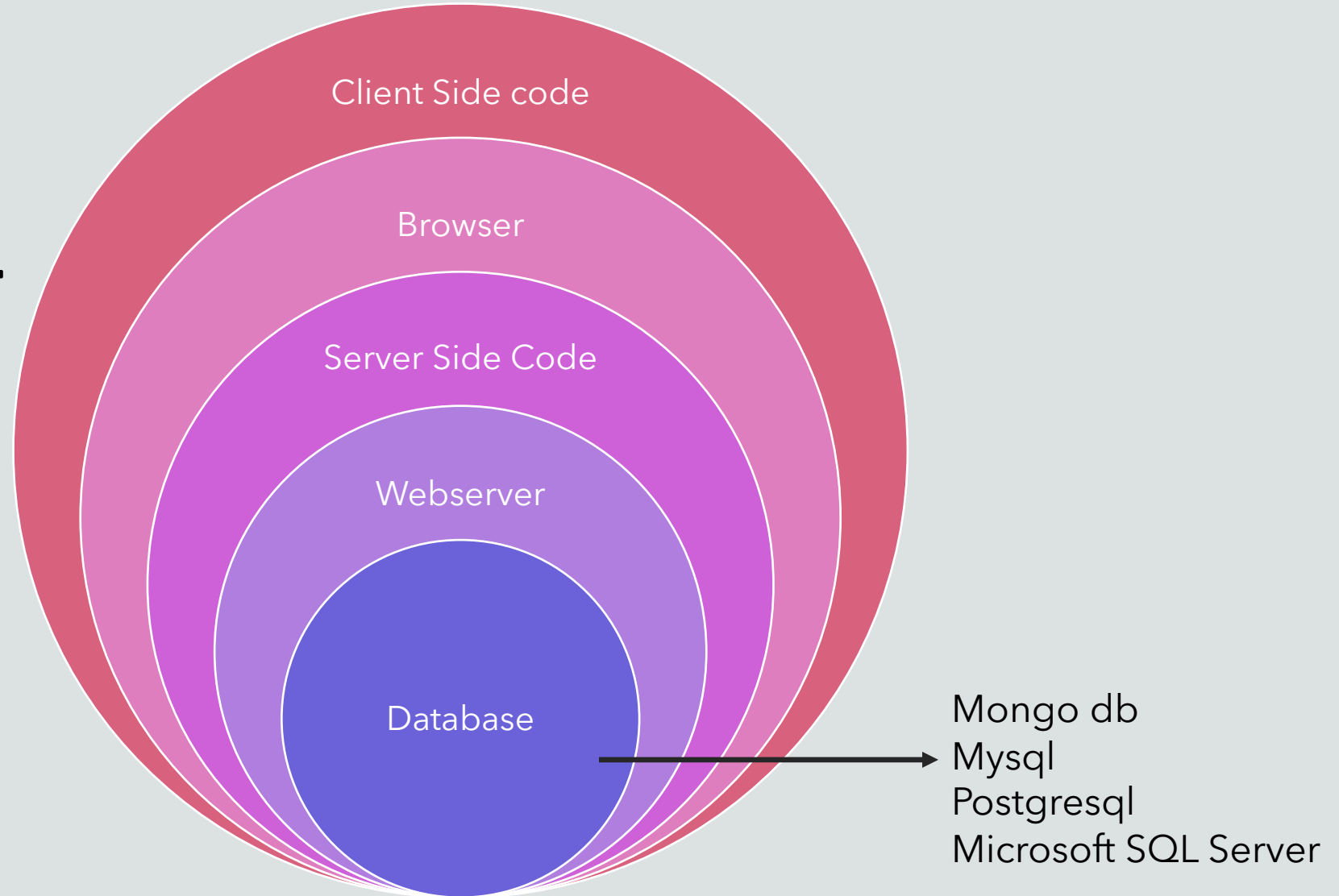
Layers in Full Stack Development



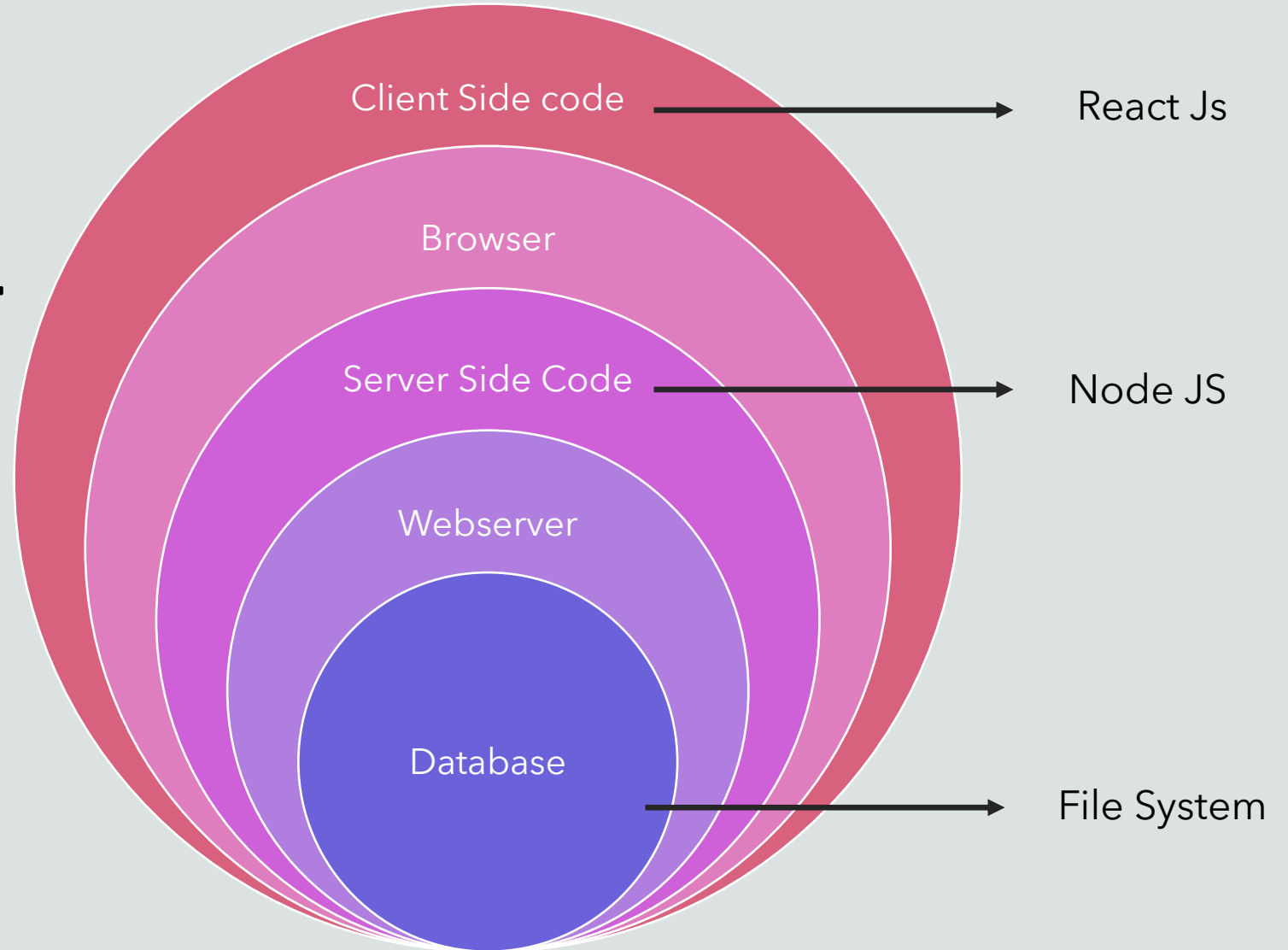
Layers in Full Stack Development



Layers in Full Stack Development



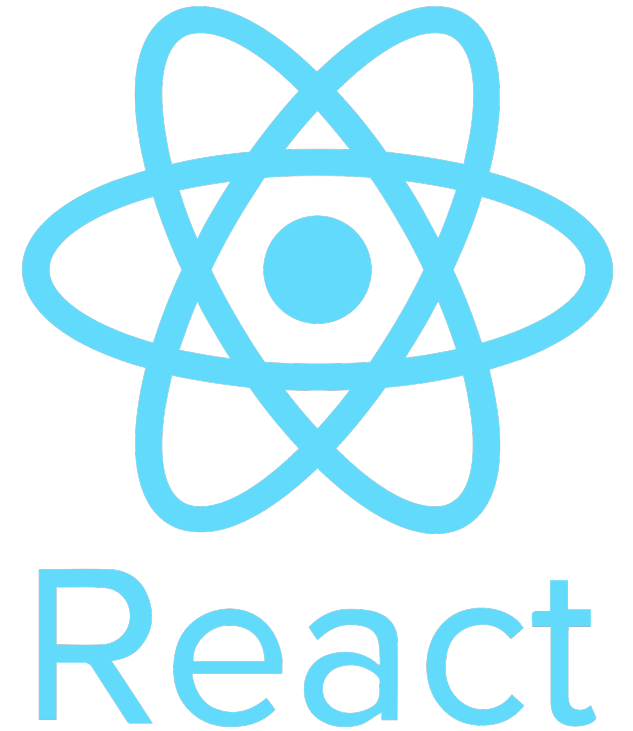
Layers in Full Stack Development



Let's start with React

React is a JavaScript library for building user interfaces.

Why react is needed?

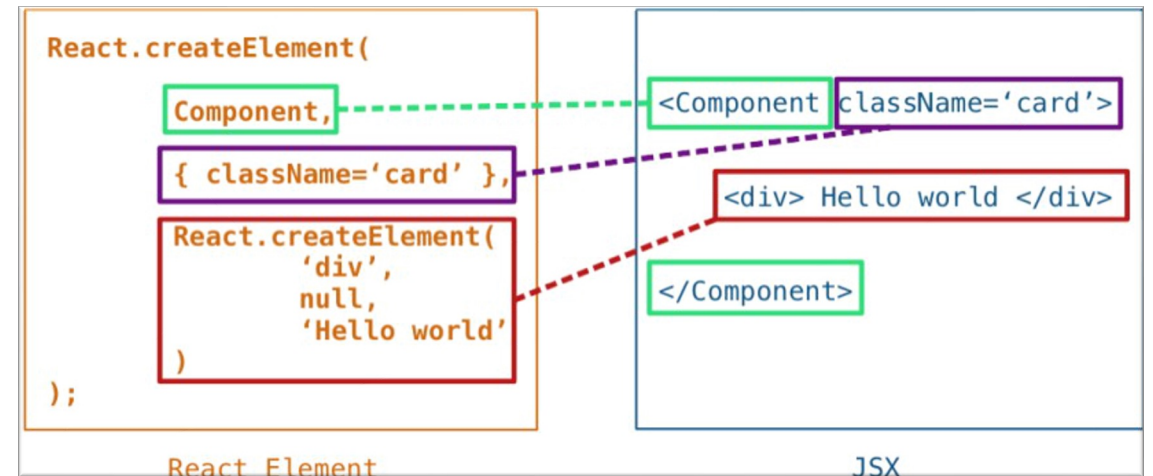


React

JSX / React element

What is JSX?

- It is Javascript meant to imitate JSX
- Minimize the developer effort to define UI structure
- Who else use JSX
- Vue, Solid js, Preact ...



React 1 Installation

Installation...

Note: Node JS is a dependency

Create react app

```
npx create-react-app simple-app
```

```
cd simple-app
```

```
npm start
```

Types of Components

```
function Welcome(props) {  
  return <h1>Hello, {props.name}</h1>;  
}
```

Functional Component

```
class Welcome extends React.Component {  
  render() {  
    return <h1>Hello, {this.props.name}</h1>;  
  }  
}
```

Class Component

React 2 Components

What is a component?

- Reusable pieces of UI
- Accept arbitrary inputs called **Props**
- Returns React element describing the Html to paint on screen

React 3

Handling Events

How to attach event to the components?

- React events are named using camelCase, rather than lowercase.
- With JSX you pass a function as the event handler, rather than a string.

For example, the HTML:

```
<button onclick="activateLasers()">
  Activate Lasers
</button>
```

is slightly different in React:

```
<button onClick={activateLasers}>
  Activate Lasers
</button>
```

React 4

State

- What Is 'State' in ReactJS?
 - A component's memory.
 - A component's state can change over time
 - Whenever state changes, the component re-renders.

Ex: CounterApp

React 5

LifeCycle methods

Initialization

setup props and state

Constructor()

Mounting

ComponentWillMount()

Render()

componentDidMount()

Updation

Props

componentWillRecieveProps()

shouldComponentUpdate()

componentWillUpdate()

render()

componentDidUpdate()

states

shouldComponentUpdate()

componentWillUpdate()

render()

componentDidUpdate()

Unmounting

componentWillUnmount()

React Hooks

useState()

The state hook

useEffect()

The side effect hook

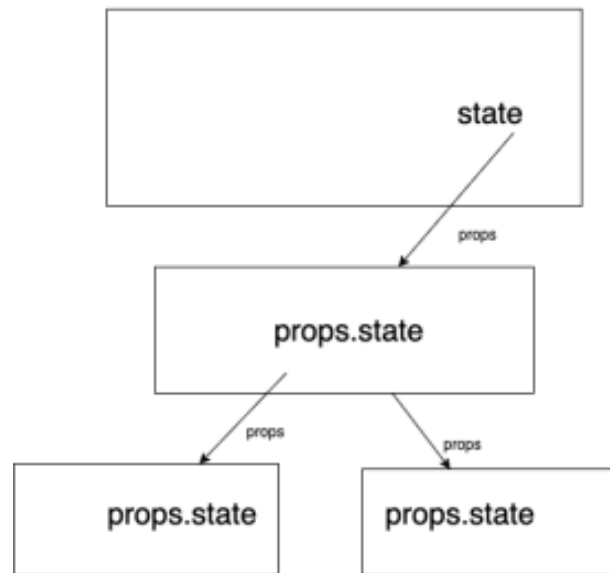
Eg: Odd or even app

React Context

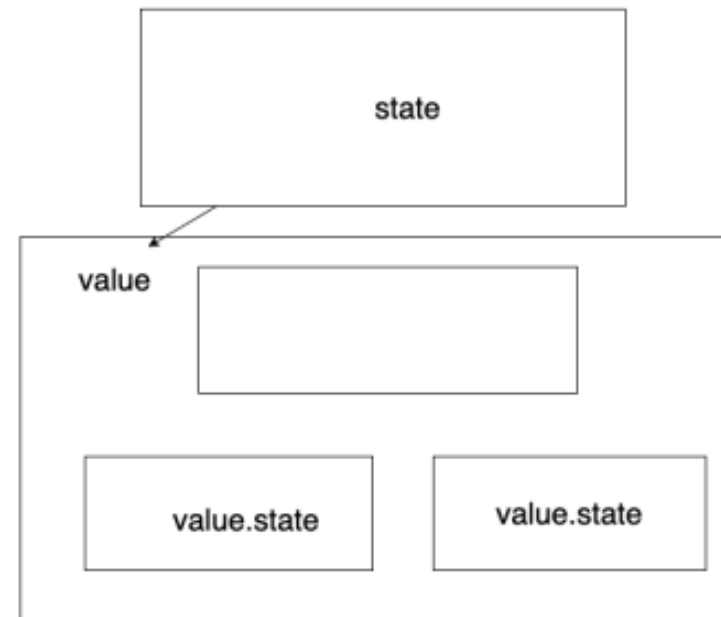
Provides a way to avoid props drilling into the component tree


Example: [Context sandbox](#)

Without Context API



With Context API





NodeJS

Node.js is a back-end JavaScript runtime environment, runs on the V8 JavaScript Engine, and executes JavaScript code outside a web browser.

Node 1

Installation..

`npm init`

Simple node JS code



CURD - API



Create - POST



Update - PATCH



Read - GET



Delete -DELETE

Express

Express JS is a Node.js framework designed to build API's web applications cross-platform mobile apps quickly and make node js easy.

Installation..



Simple Get and React integration

- Simple GET API - route
- Fetch it from React
- Display it in React app





fetch()

The global **fetch()** method starts the process of fetching a resource from the network, returning a promise which is fulfilled once the response is available.

The promise resolves to the [Response](#) object representing the response to your request.

Using file as DB

Simple form example on using file as DB

- Insert value to file
- Get Value from file

Questions ?



Thank You

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Arul Valan Cibi

GitHub repo link <https://github.com/praveenn77/workshop-w1>

