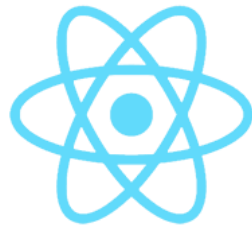


Front-End Development



React





#1 Learn Once, Write Anywhere



React






- React is a declarative, efficient, and flexible JavaScript library for building dynamic user interfaces.
- React is maintained by Facebook, Instagram & lot of developers community around the globe (it's open source!)
- More informations: <https://reactjs.org>

Top JS Front-End Frameworks 2019

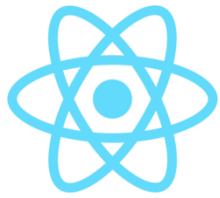
1		Vue.js A progressive, incrementally-ado...	+31.4k ★
2		React A declarative, efficient, and flexib...	+22.9k ★
3		Svelte Cybernetically enhanced web apps	+20.0k ★
4		Angular One framework. Mobile & desktop.	+12.0k ★
5		Omi Next Front End Framework	+3.8k ★

<https://risingstars.js.org/2019/en/#section-framework>

Top React Ecosystem 2019

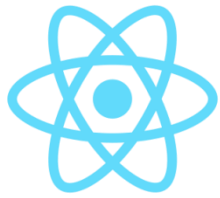
1		Ant Design A UI Design Language and React ...	+14.6k ★
2		Create React App Set up a modern web app by runn...	+13.5k ★
3		Gatsby Build blazing fast, modern apps a...	+11.5k ★
4		Next.js The React Framework	+10.6k ★
5		Material UI React components for faster and ...	+10.2k ★

<https://risingstars.js.org/2019/en/#section-react>



Advantages

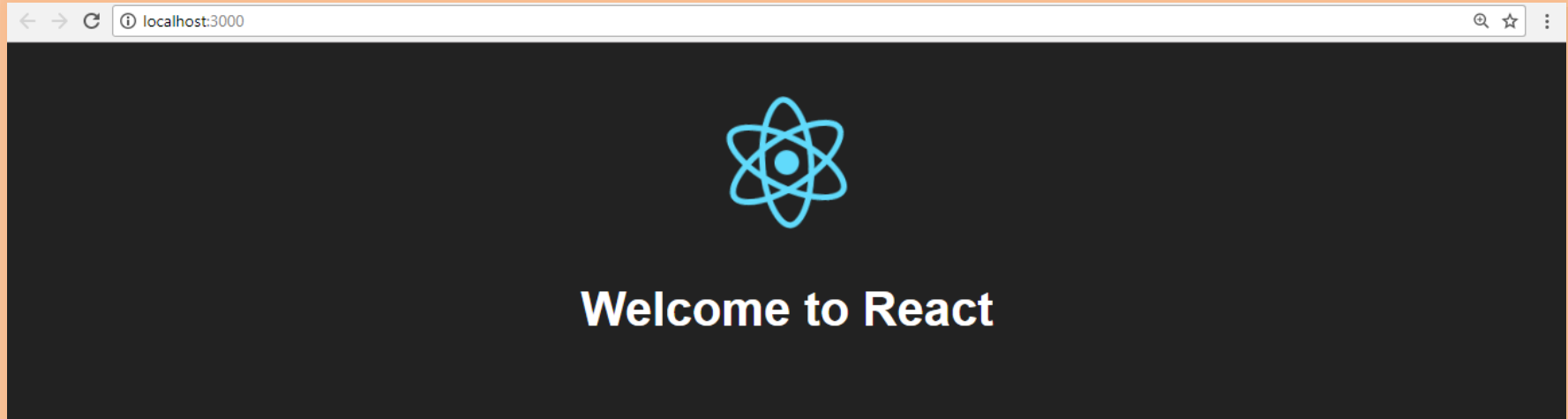
- Design simple declarative views for each state in an application.
- Encapsulated components.
- Dynamics properties & state.
- Light & faster virtual DOM.
- Independent of the rest of application.
- Can render on client or server.



Setup

- Open terminal, on project directory type:

```
$ npm install -g create-react-app  
$ create-react-app <namaProject>  
$ cd <namaProject>  
$ npm start
```



To get started, edit `src/App.js` and save to reload.

Take a look!

public/index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1, shrink-to-fit=no">
  <meta name="theme-color" content="#000000">
  <link rel="manifest" href="%PUBLIC_URL%/
manifest.json">
  <link rel="shortcut icon" href="%PUBLIC_URL%/
favicon.ico">
  <title>React App</title>
</head>
<body>
  <noscript>
    You need to enable JavaScript to run this app.
  </noscript>
  <div id="root"></div>
</body>
</html>
```

Take a look!
src/index.js

```
import React from 'react';  
import ReactDOM from 'react-dom';  
import './index.css';  
import App from './App';  
import registerServiceWorker from  
  './registerServiceWorker';
```

```
ReactDOM.render(<App />,  
document.getElementById('root'));
```

```
registerServiceWorker();
```

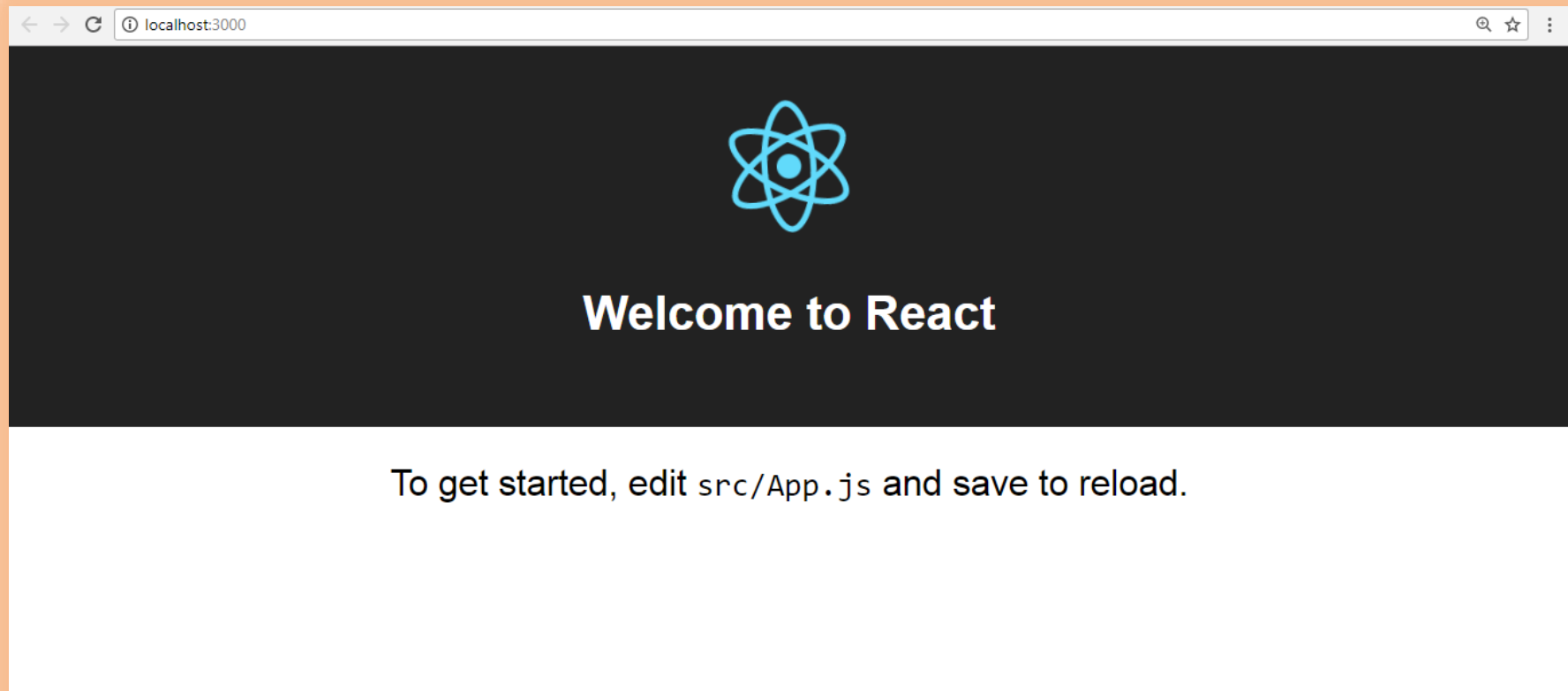
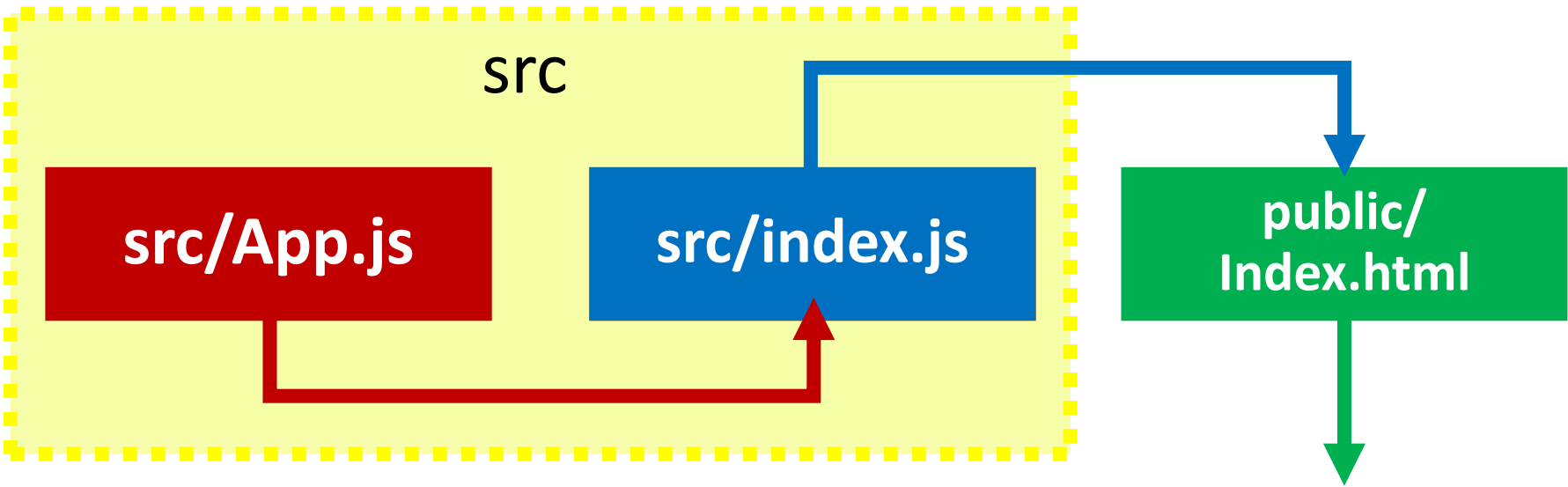


```
import React, { Component } from 'react';
import logo from './logo.svg';
import './App.css';
```

```
class App extends Component {
  render() {
    return (
      <div className="App">
        <header className="App-header">
          <img src={logo} className="App-logo" alt="logo" />
          <h1 className="App-title">Welcome to React</h1>
        </header>
        <p className="App-intro">
          To get started, edit src/App.js
          and save to reload.
        </p>
      </div>
    );
  }
}
```

```
export default App;
```

Take a look!
src/App.js



src/App.js

Components

```
import React, { Component } from 'react';

class App extends Component {
  render() {
    return (
      <h1>Selamat datang!</h1>
    );
  }
}

export default App;
```



src/App.js

Components

```
import React, { Component } from 'react';
```

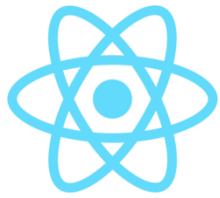
```
class App extends Component {  
  render() {  
    return (  
      <h1>Selamat datang!</h1>  
    );  
  }  
}
```

Component

JSX

```
export default App;
```

- JSX is an XML/HTML-like syntax used by React that extends ECMAScript so that XML/HTML-like text can co-exist with JavaScript/React code.



JSX

- JSX is a syntax extension to JavaScript, that produces React “elements”.
- React doesn't require using JSX, but most people find it helpful as a visual aid when working with UI inside the JavaScript code.

- Return render on a Component must be only **one tag parent!**

src/App.js

Components

```
import React, { Component } from 'react';

class App extends Component {
  render() {
    return (
      <div>
        <h1>Selamat datang!</h1>
        <h1>Apa kabar?</h1>
      </div>
    );
  }
}

export default App;
```



src/App.js

JSX Insert var

```
import React, { Component } from 'react';

class App extends Component {
  render() {
    var nama = 'Andi';
    return (
      <h1>Selamat datang {nama} !</h1>
    );
  }
}

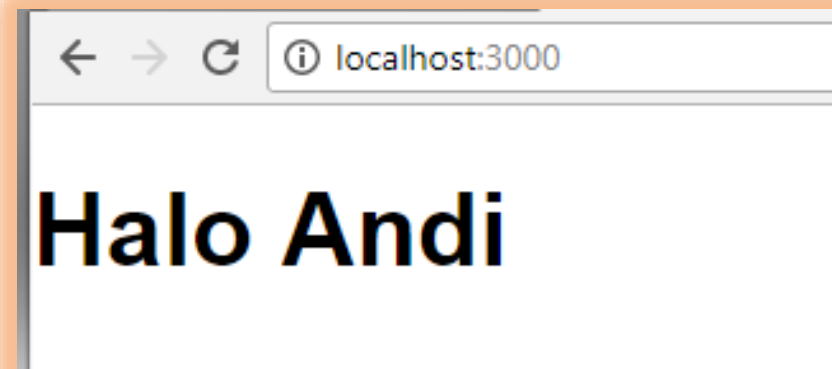
export default App;
```



src/App.js

JSX constructor

```
import React, { Component } from 'react';  
class App extends Component {  
  constructor(){  
    super();  
    this.nama = 'Andi';  
  }  
  render() {  
    return (  
      <h1>HaLo {this.nama}</h1>  
    );  
  }  
}  
export default App;
```



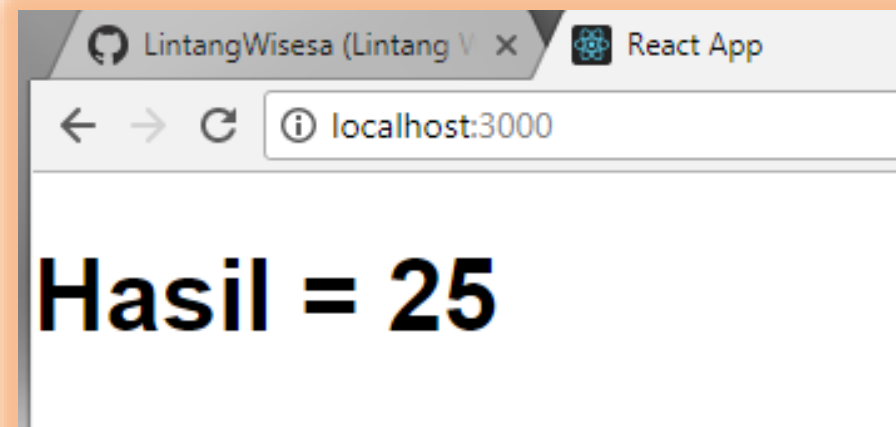
src/App.js

JSX Insert function

```
import React, { Component } from 'react';

class App extends Component {
  hitung(x){
    return x*x;
  };
  render() {
    return (
      <h1>Hasil = {this.hitung(5)}</h1>
    );
  }
}

export default App;
```



```
import React, { Component } from 'react';  
class App extends Component {  
  render() {  
    function namaFull(id) {  
      return id.nama + ' ' + id.marga;  
    }  
    const id = {  
      nama: 'Andi',  
      marga: 'Hasibuan'  
    };  
    return (  
      <h1>Halo {namaFull(id)}</h1>  
    );  
  }  
}  
export default App;
```



A screenshot of a web browser window. The address bar shows 'localhost:3000'. The main content area displays the text 'Halo Andi Hasibuan' in a large, bold, black font.

Halo Andi Hasibuan

```
import React, { Component } from 'react';  
class App extends Component {  
  render() {  
    function login(x) {  
      const udahLogIn = x;  
      if (udahLogIn) {  
        return 'Anda sudah Login';  
      }  
      return 'Anda belum Login';  
    }  
    return (  
      <div>  
        <h1>Selamat datang!</h1>  
        <h1>{login(false)}</h1>  
      </div>  
    );  
  }  
}  
export default App;
```

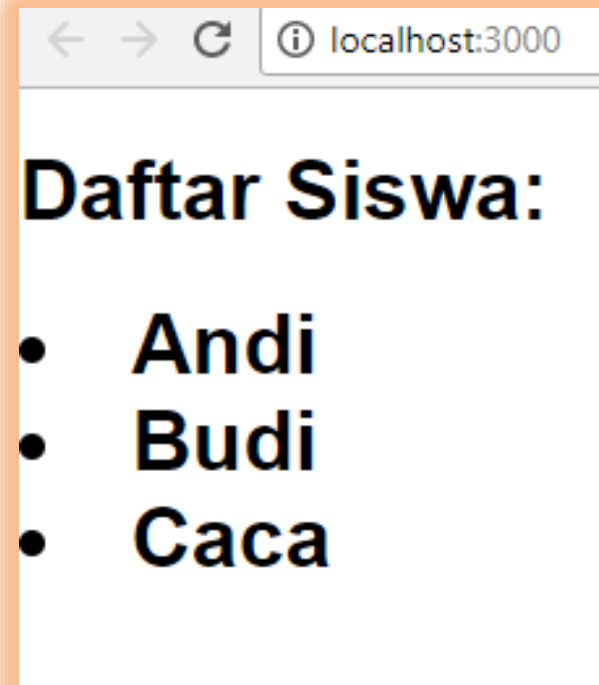


localhost:3000

Selamat datang!

Anda belum Login

```
import React, { Component } from 'react';
class App extends Component {
  render() {
    const siswa = ['Andi', 'Budi', 'Caca'];
    const listSiswa = siswa.map((siswa) =>
      <li>{siswa}</li>
    );
    return (
      <div>
        <h1>Daftar Siswa:</h1>
        <ul><h1>{listSiswa}</h1></ul>
      </div>
    );
  }
}
export default App;
```

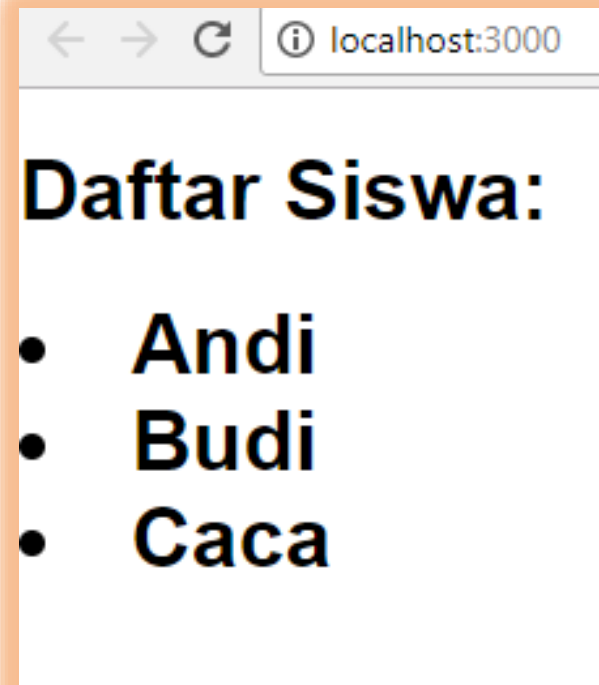


Keys help React identify which items have changed, are added, or are removed. **Keys** should be given to the elements inside the array to give the elements a stable identity.

src/App.js

Keys

```
import React, { Component } from 'react';
class App extends Component {
  render() {
    const siswa = ['Andi', 'Budi', 'Caca'];
    const listSiswa = siswa.map((siswa, index) =>
      <li key={index}>{siswa}</li>
    );
    return (
      <div>
        <h1>Daftar Siswa:</h1>
        <ul><h1>{listSiswa}</h1></ul>
      </div>
    );
  }
}
export default App;
```



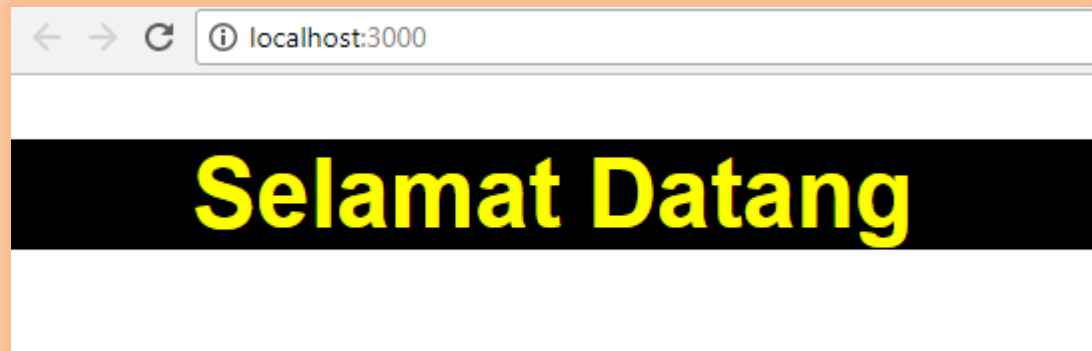
src/App.js

JSX Inline CSS #1

```
import React, { Component } from 'react';

class App extends Component {
  render() {
    return (
      <div style={{color: 'yellow', background: 'black'}}>
        <center>
          <h1>Selamat Datang</h1>
        </center>
      </div>
    );
  }
}

export default App;
```



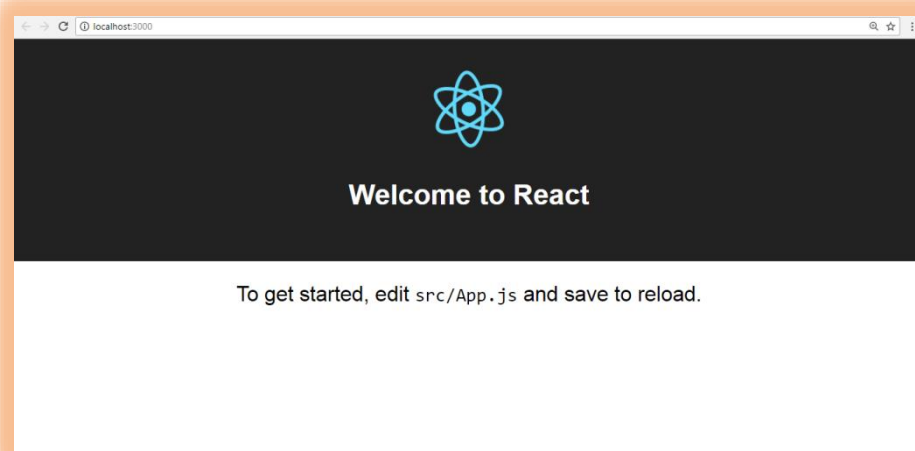
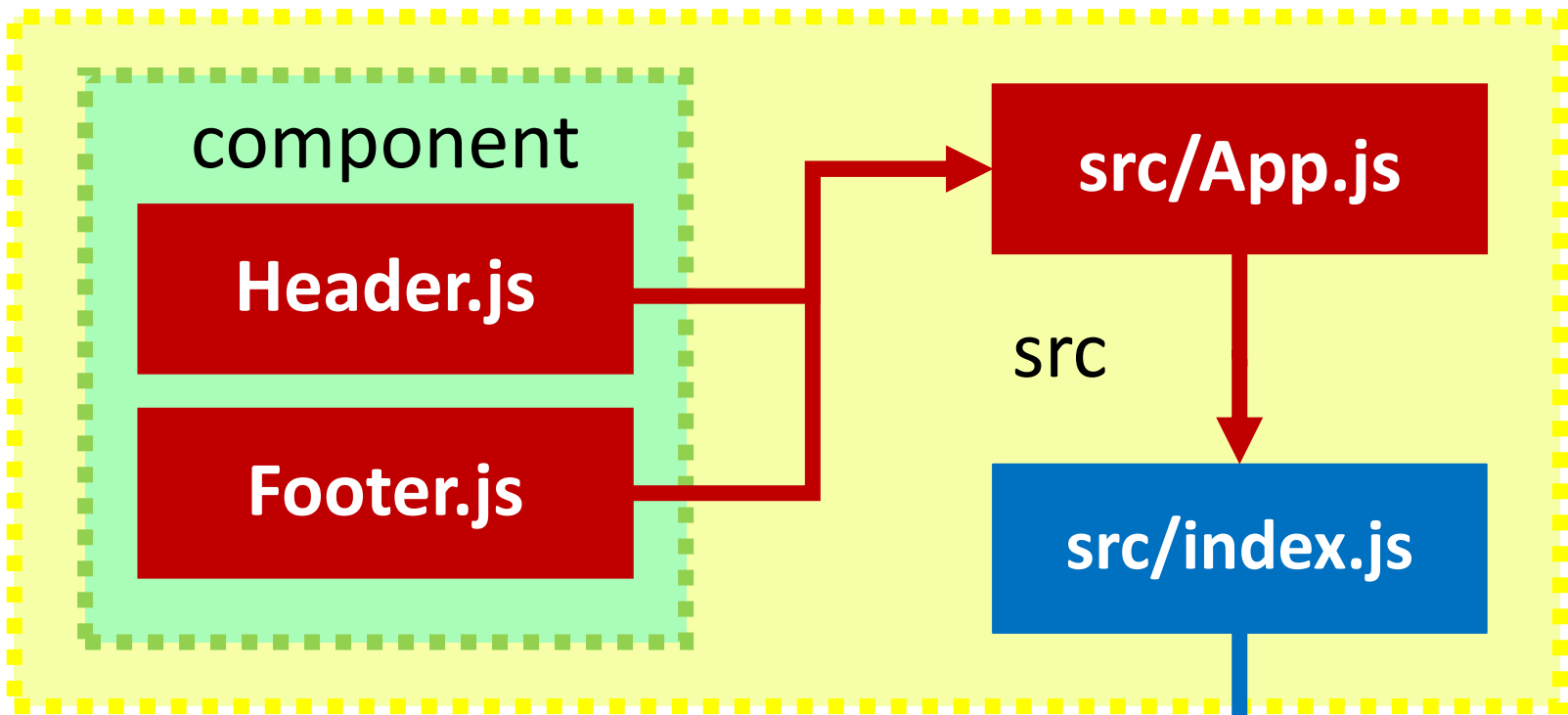
src/App.js

JSX Inline CSS #2

```
import React, { Component } from 'react';
class App extends Component {
  render() {
    var styles = {
      color: 'yellow',
      background: 'black',
    };
    return (
      <div style={styles}>
        <center>
          <h1>Selamat Datang</h1>
        </center>
      </div>
    );
  }
}
export default App;
```

← → ↻ ⓘ localhost:3000

Selamat Datang



src/component/Header.js

```
import React, { Component } from 'react';
```

```
class Header extends Component {  
  render() {  
    return (  
      <div>  
        <ul>  
          <li>Beranda</li>  
          <li>Tentang</li>  
          <li>Kontak</li>  
        </ul>  
      </div>  
    );  
  }  
}  
export default Header;
```

src/component/Footer.js

```
import React, { Component } from 'react';

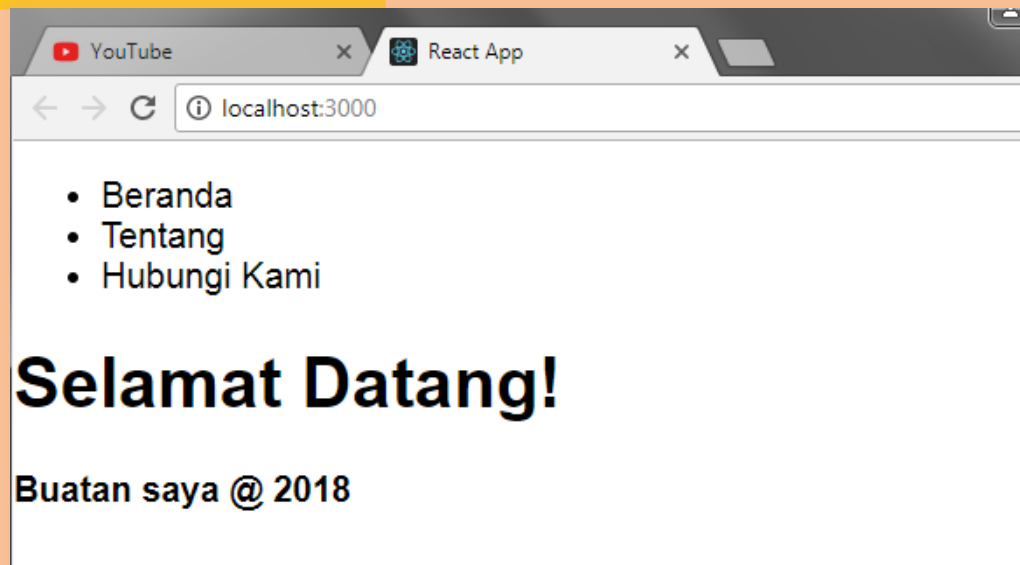
class Footer extends Component {
  render() {
    return (
      <div>
        <h4>Buatan saya @ 2018</h4>
      </div>
    );
  }
}

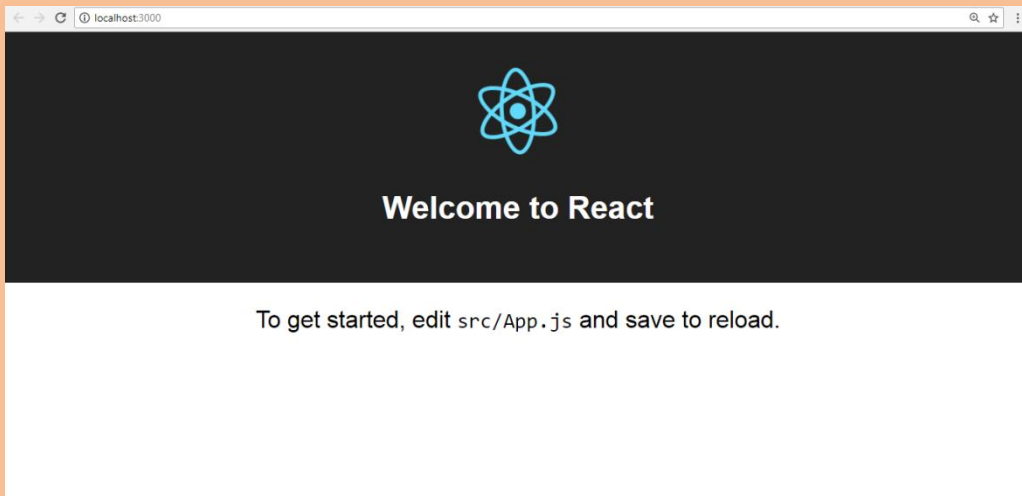
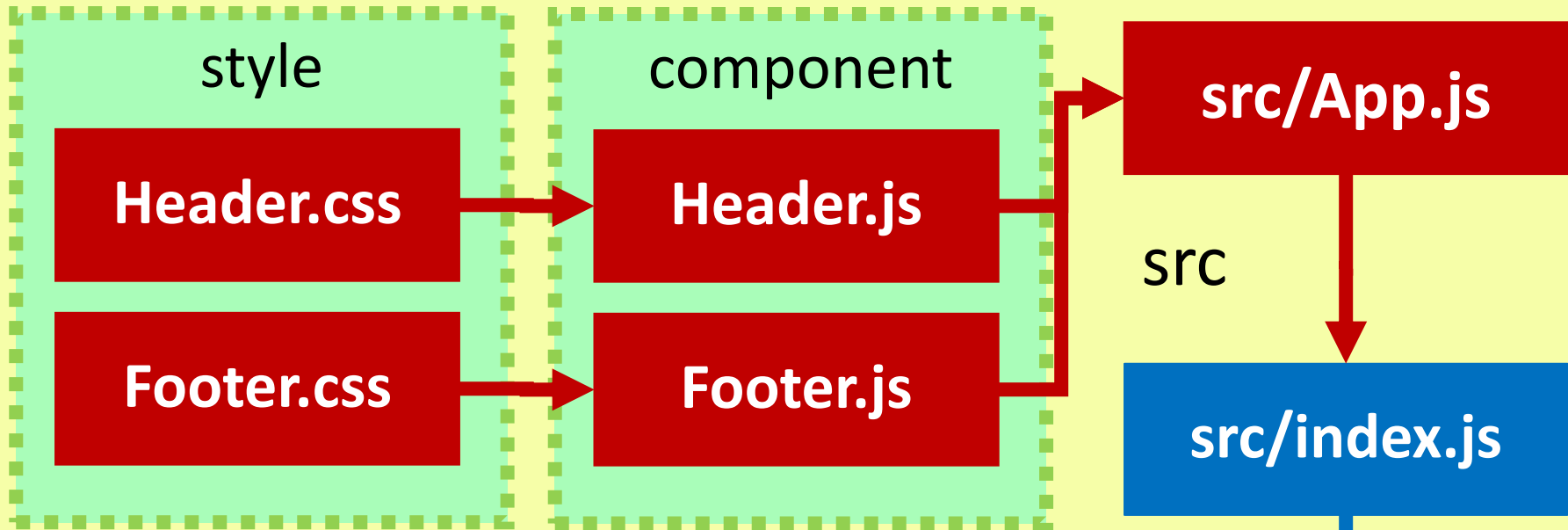
export default Footer;
```

```
import React, { Component } from 'react';  
import Header from './component/Header';  
import Footer from './component/Footer';
```

```
class App extends Component {  
  render() {  
    return (  
      <div>  
        <Header />  
        <h1>Selamat Datang!</h1>  
        <Footer />  
      </div>  
    );  
  }  
}  
export default App;
```

src/App.js





src/style/Header.css

```
.Header{  
    background-color: pink;  
    text-align: center  
}
```

```
.ul_Header{  
    color: blue  
}
```

src/component/Header.js

```
import React, { Component } from 'react';
import './style/Header.css';

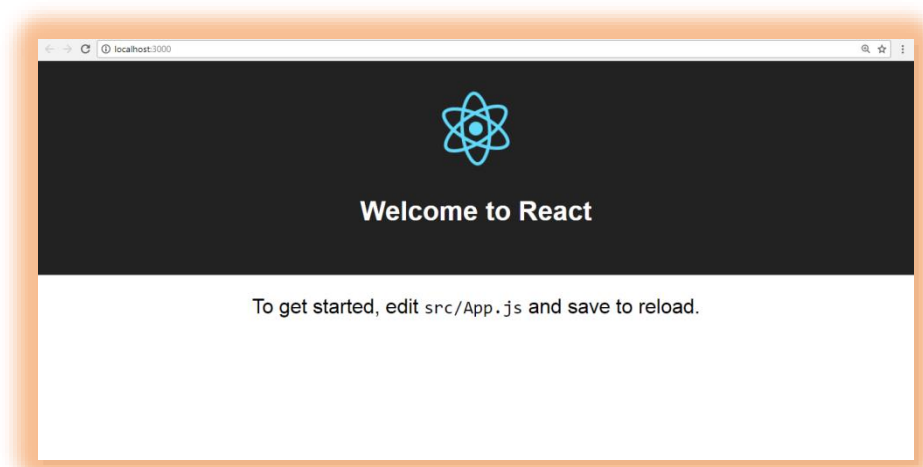
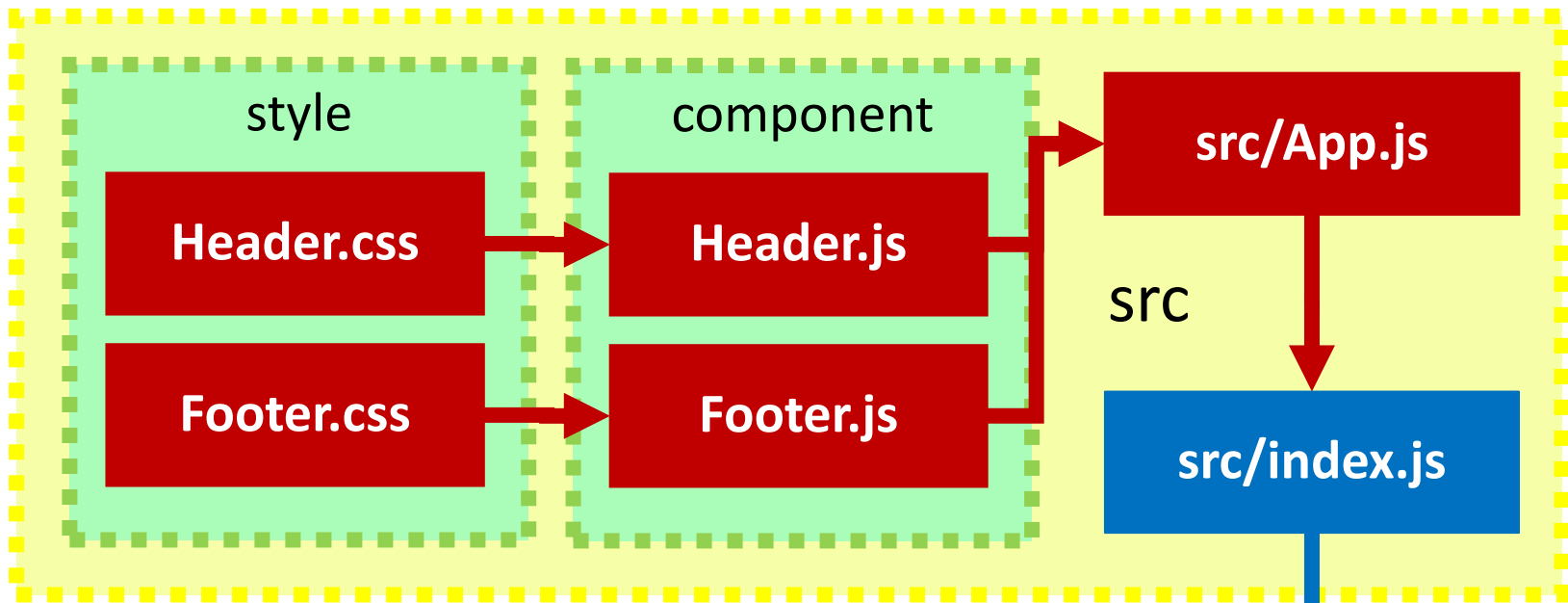
class Header extends Component {
  render() {
    return (
      <div className="Header">
        <ul className="ul_Header">
          <li>Beranda</li>
          <li>Tentang</li>
          <li>Kontak</li>
        </ul>
      </div>
    );
  }
}
export default Header;
```

- Beranda
- Tentang
- Hubungi Kami

Selamat Datang!

Buatan saya @ 2018

Adding Bootstrap



public/index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width,
initial-scale=1, shrink-to-fit=no">
  <meta name="theme-color" content="#000000">
  <link rel="manifest" href="%PUBLIC_URL%/
manifest.json">
  <link rel="shortcut icon" href="%PUBLIC_URL%/
favicon.ico">
```

***<insert jQuery & Bootstrap
CDN Link here!>***

```
    <title>React App</title>
</head>
```


src/component/Footer.js

```
import React, { Component } from 'react';
```

```
class Footer extends Component {
```

```
  render() {
```

```
    return (
```

```
      <div>
```

```
        <h4>Buatan saya @ 2018</h4>
```

```
        <button className="btn btn-success">
```

```
          Daftar
```

```
        </button>
```

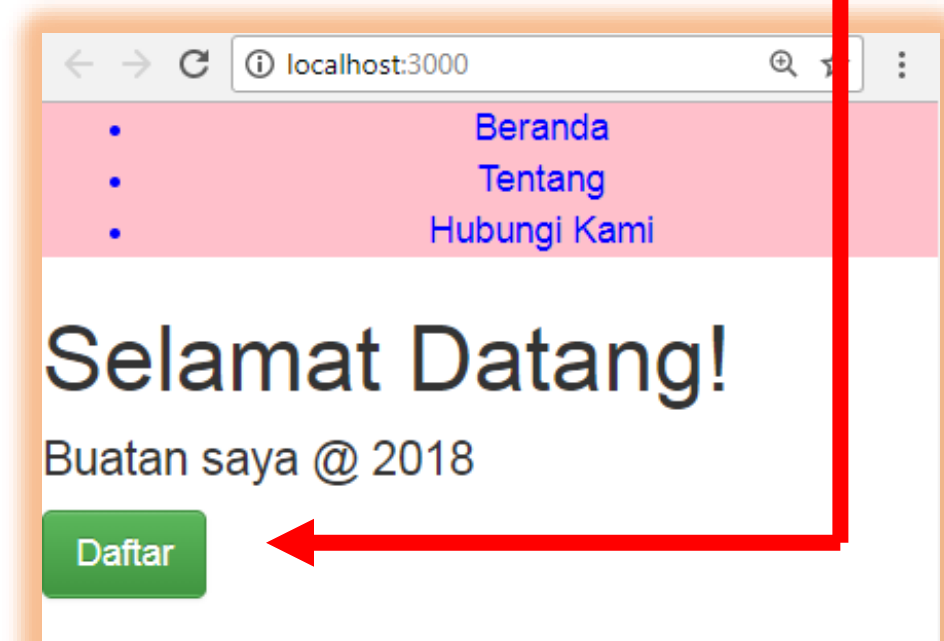
```
      </div>
```

```
    );
```

```
  }
```

```
}
```

```
export default Footer;
```



Front-End Development



React

#1 Learn Once, Write Anywhere