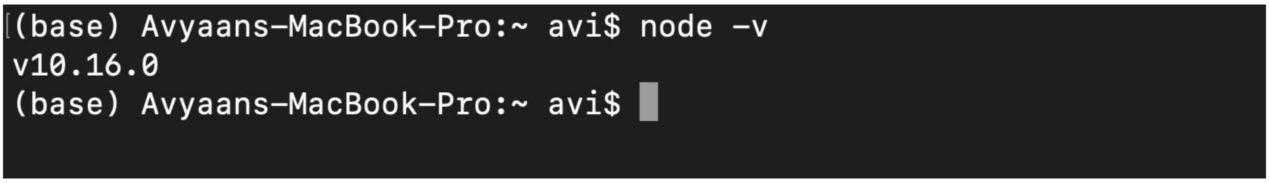
Module 2: Components and Styling the Application Layout

Demo Document 5

edureka!

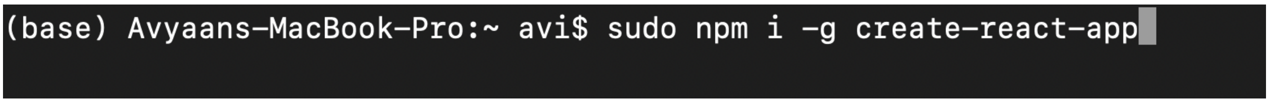
Build a Music Store Application using React Components

Step 1: To start with React make sure that you have Node.js in your system. Check node.js version using the command node -v.



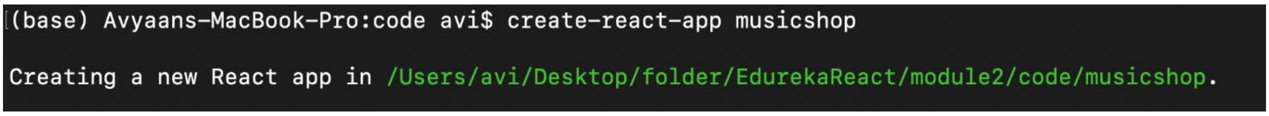
```
(base) Avyaans-MacBook-Pro:~ avi$ node -v
v10.16.0
(base) Avyaans-MacBook-Pro:~ avi$ 
```

Step 2: Install the package create-react-app globally using the command: npm i -g create-react-app.



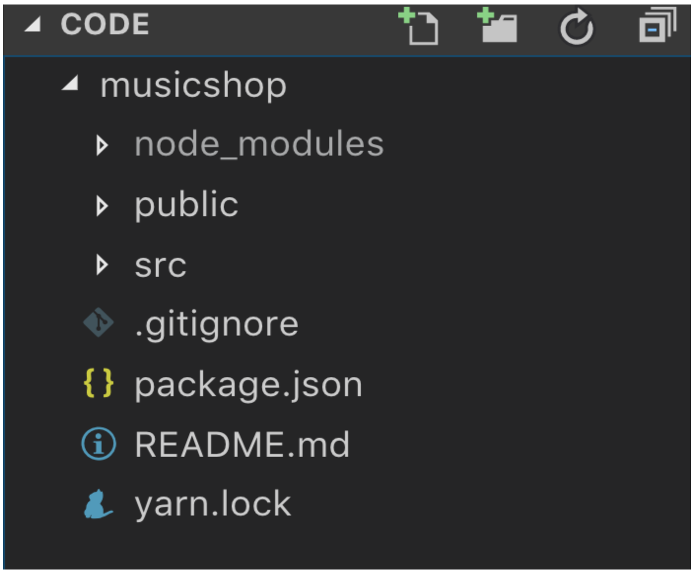
```
(base) Avyaans-MacBook-Pro:~ avi$ sudo npm i -g create-react-app
```

Step 3: Create your application using the command: create-react-app <name of the application> and after creation, navigate to the folder using the path mentioned below.



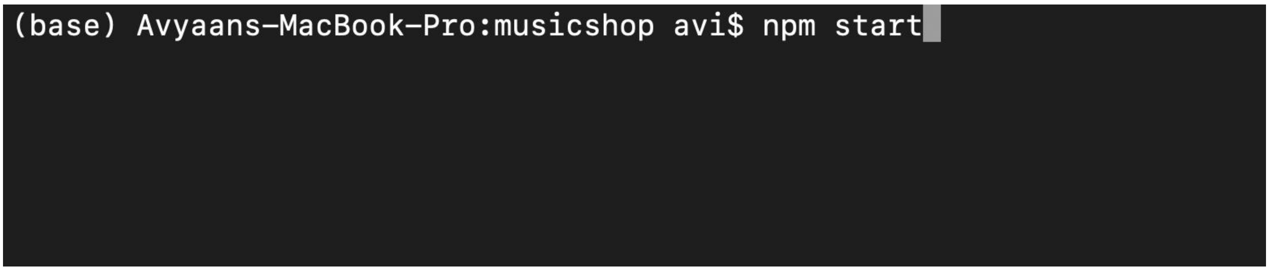
```
(base) Avyaans-MacBook-Pro:code avi$ create-react-app musicshop

Creating a new React app in /Users/avi/Desktop/folder/EdurekaReact/module2/code/musicshop.
```

Step 4: It will create a folder with below specified files, to start creating react application.



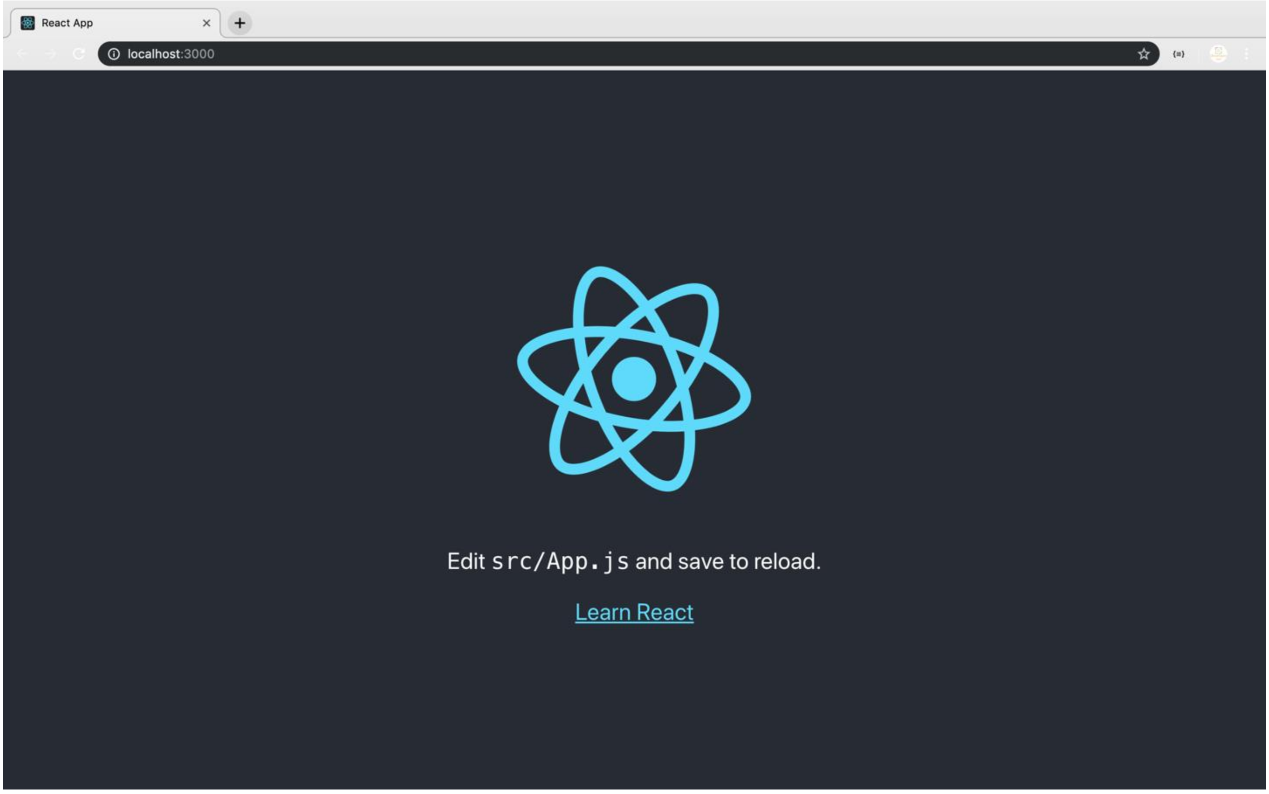
```
CODE
  musicshop
    node_modules
    public
    src
    .gitignore
    package.json
    README.md
    yarn.lock
```

Step 5: After navigating to the folder, start your application using the command: npm start. We will compile and run the application on localhost 3000



```
(base) Avyaans-MacBook-Pro:musicshop avi$ npm start
```

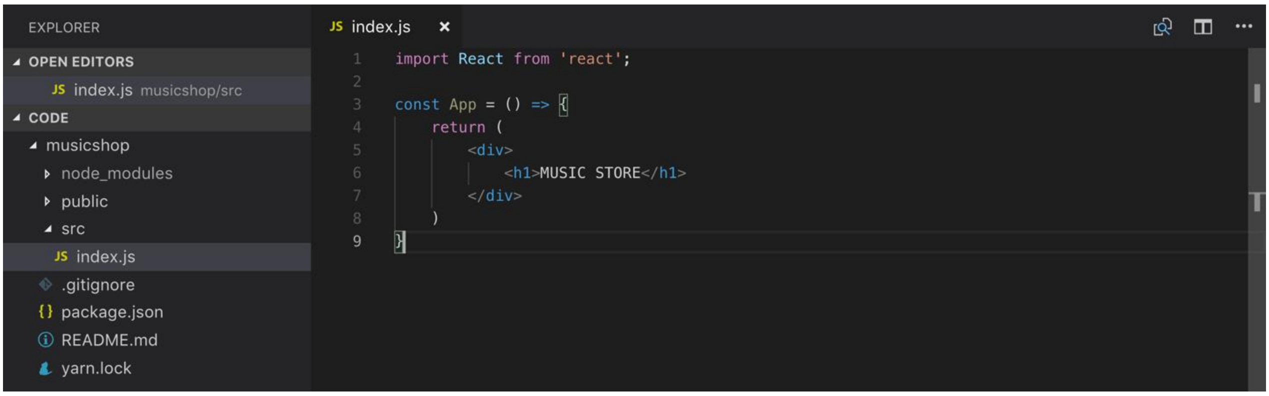
Step 6: Enter url http://localhost:3000 and default application will be running in the browser.



Edit `src/App.js` and save to reload.

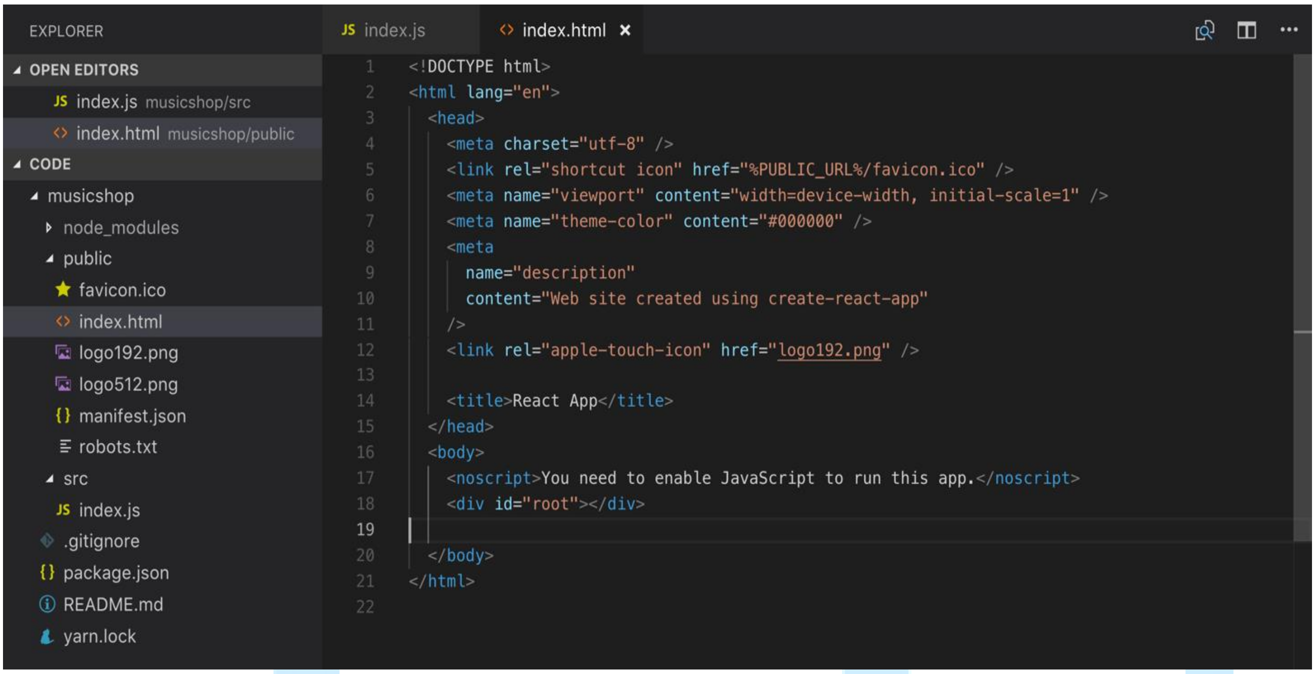
Learn React

Step 7: Remove everything from source (src) folder and create index.js, as mentioned below.



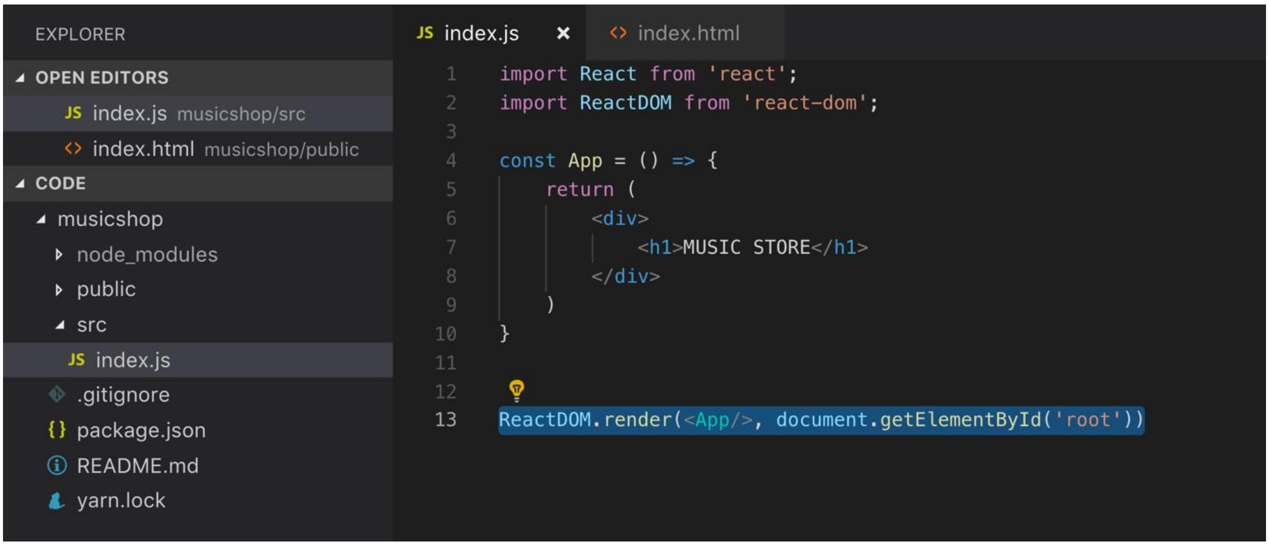
```
import React from 'react';

const App = () => {
    return (
        <div>
            <h1>MUSIC STORE</h1>
        </div>
    )
}
```

Step 8: In public folder there is a index.html file, it has a ***div*** tag with id ***root***, this is the container where all the content will be loaded.



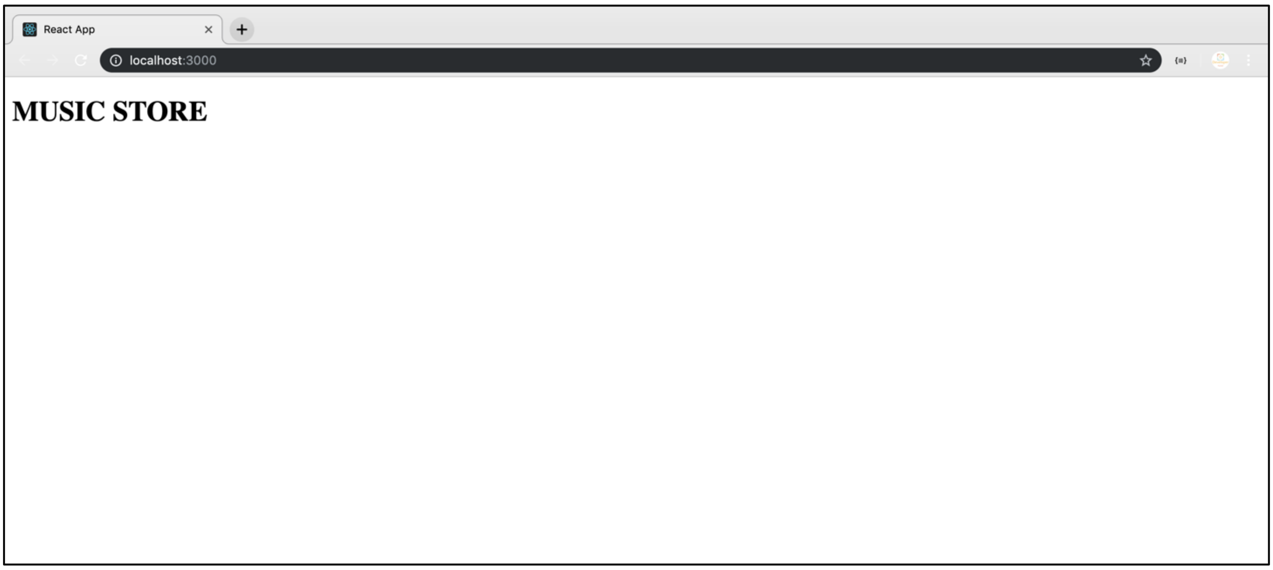
```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8" />
    <link rel="shortcut icon" href="%PUBLIC_URL%/favicon.ico" />
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <meta name="theme-color" content="#000000" />
    <meta
      name="description"
      content="Web site created using create-react-app"
    />
    <link rel="apple-touch-icon" href="logo192.png" />

    <title>React App</title>
  </head>
  <body>
    <noscript>You need to enable JavaScript to run this app.</noscript>
    <div id="root"></div>

  </body>
</html>
```

Step 9: With ***ReactDOM.render*** we will load everything inside ***root element.***



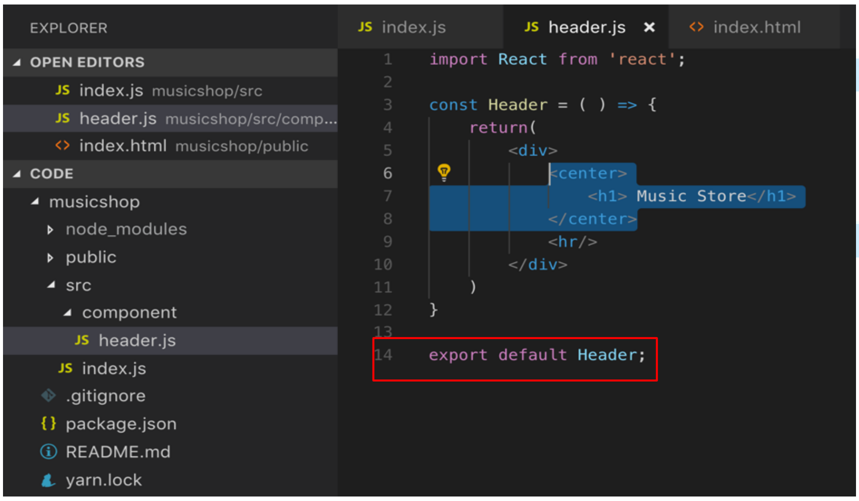
```javascript
import React from 'react';
import ReactDOM from 'react-dom';

const App = () => {
    return (
        <div>
            <h1>MUSIC STORE</h1>
        </div>
    )
}


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

Step 10: Check localhost:3000.



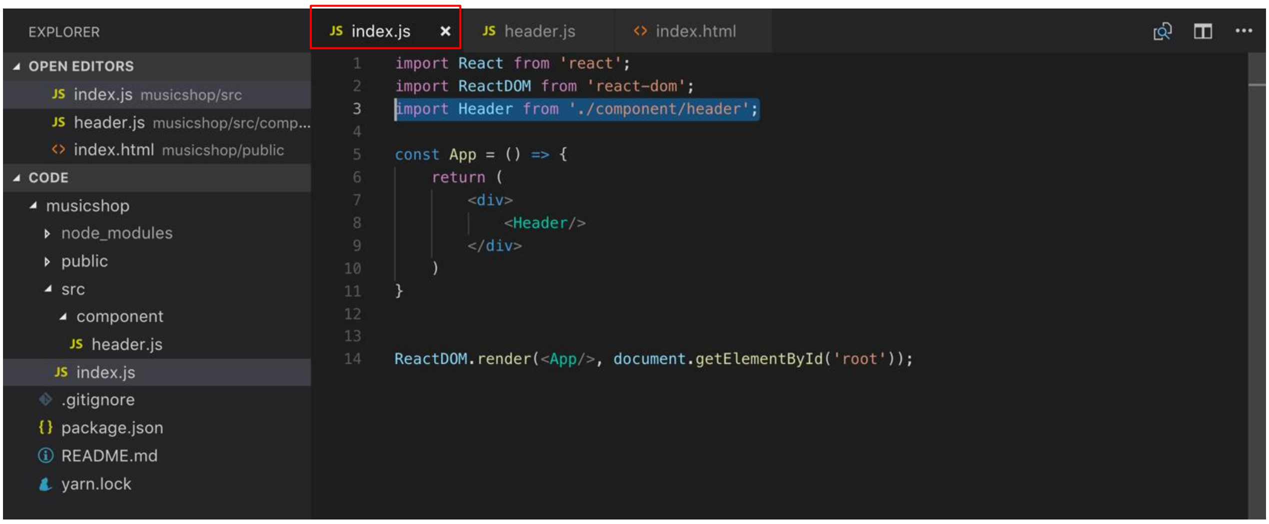
MUSIC STORE

Step 11: Create header.js for main page of our application. Add ***export*** method.



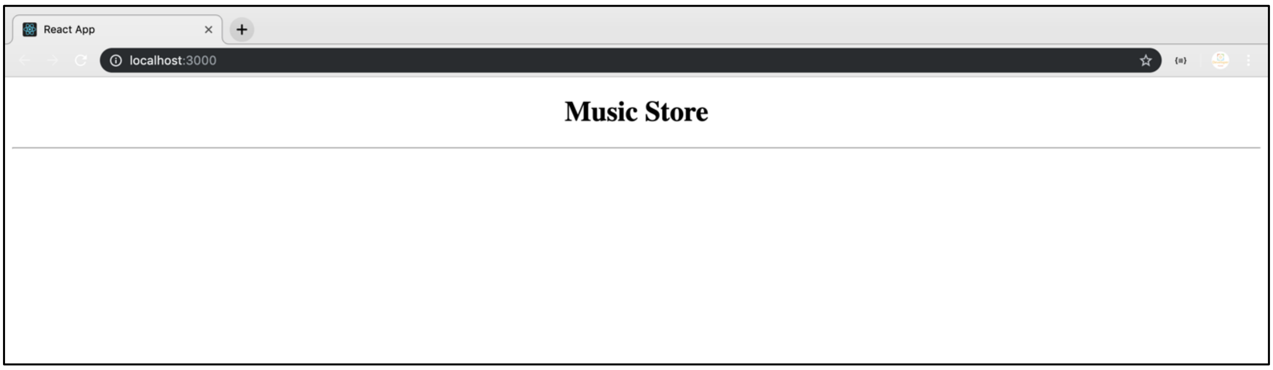
```
import React from 'react';

const Header = ( ) => {
    return(
        <div>
            <center>
                <h1> Music Store</h1>
            </center>
            <hr/>
        </div>
    )
}

export default Header;
```

Step 12: Include header in main file and use in the ***return*** statement.



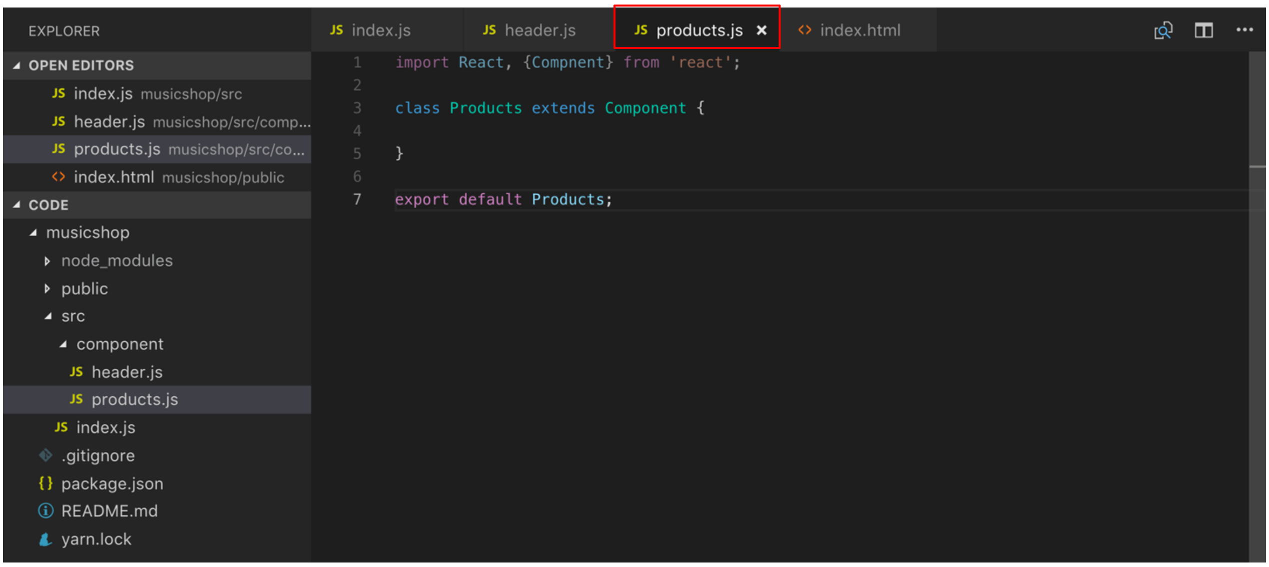
```
import React from 'react';
import ReactDOM from 'react-dom';
import Header from './component/header';

const App = () => {
    return (
        <div>
            <Header/>
        </div>
    )
}


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

Step 13: Refresh the browser to check the Header.



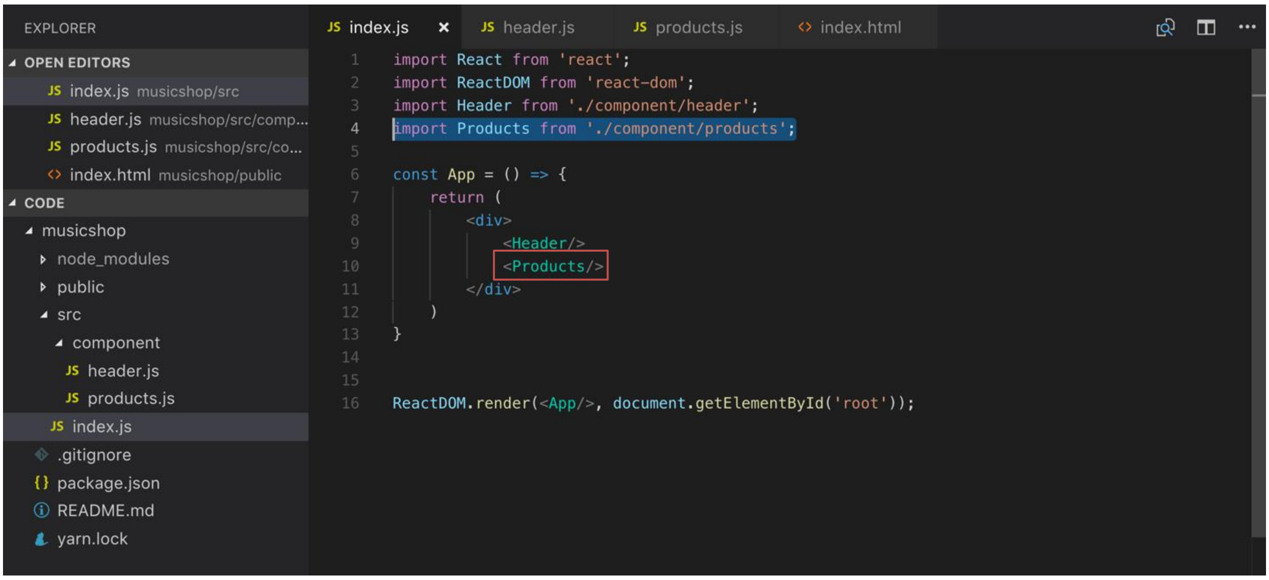
Music Store

Step 14: Create product component to display the products on the page.



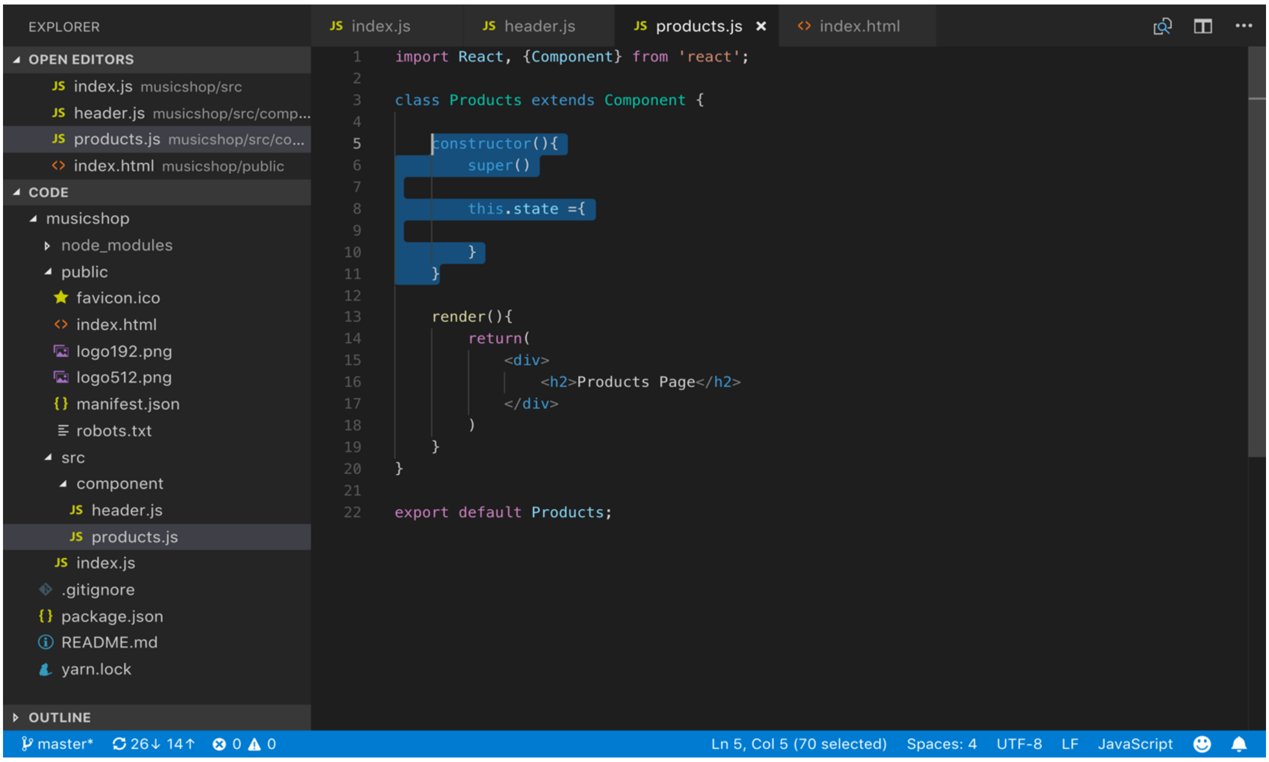
```
import React, {Compnent} from 'react';

class Products extends Component {

}

export default Products;
```

Step 14: Include product file in index.js file.



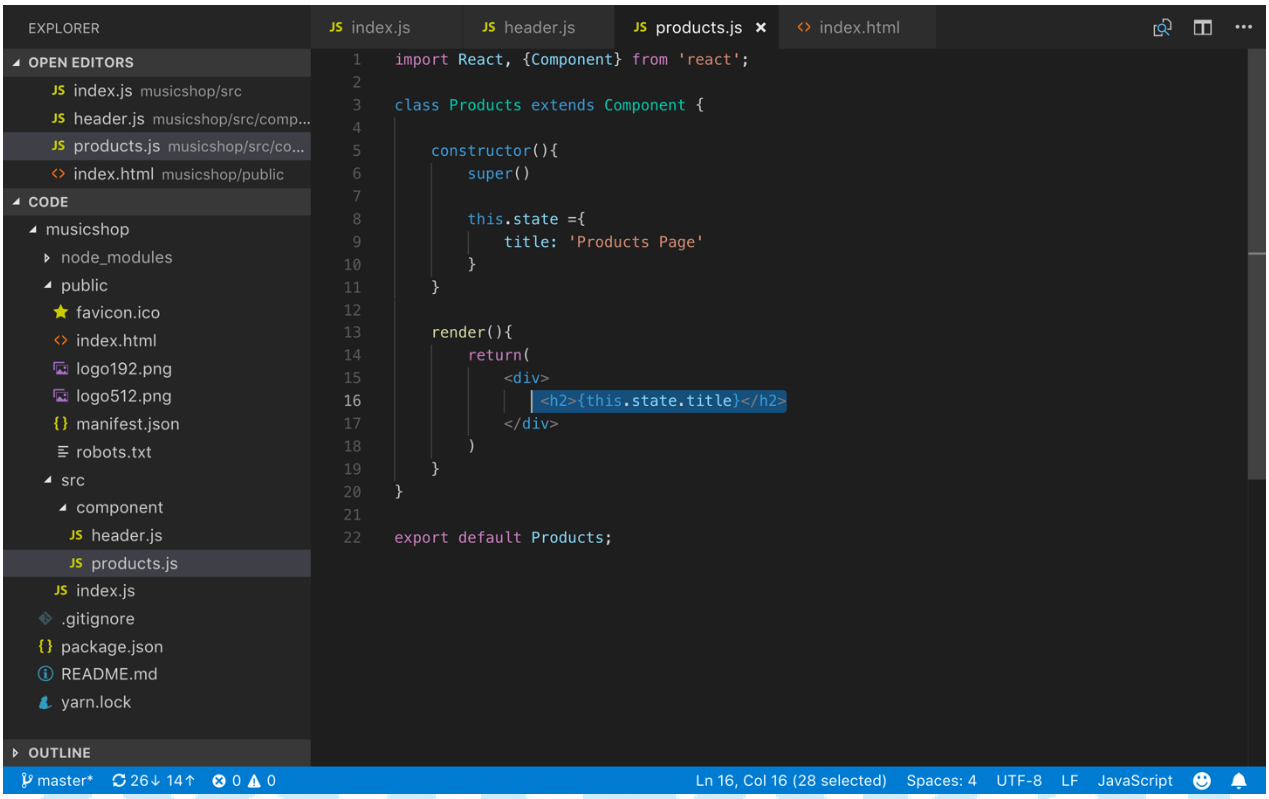
```
import React from 'react';
import ReactDOM from 'react-dom';
import Header from './component/header';
import Products from './component/products';

const App = () => {
    return (
        <div>
            <Header/>
            <Products/>
        </div>
    )
}


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

Step 15: Write product file with a ***class-based function*** to add ***constructor*** and define the ***state variable.***



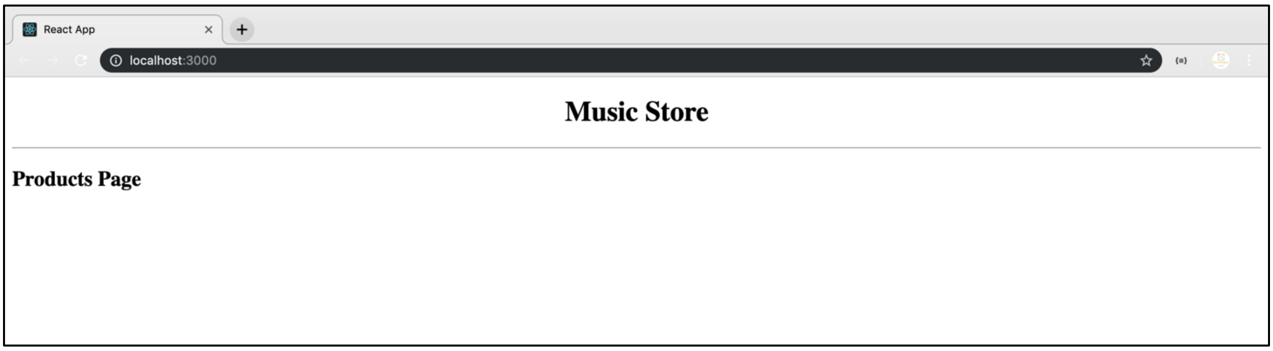
```
import React, {Component} from 'react';

class Products extends Component {

    constructor(){
        super()

        this.state ={

        }
    }

    render(){
        return(
            <div>
                <h2>Products Page</h2>
            </div>
        )
    }
}

export default Products;
```

Step 16: In the state variable, add variable “title” and can bind the value in h2 tag.



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

class Products extends Component {

    constructor(){
        super()

        this.state ={
            title: 'Products Page'
        }
    }

    render(){
        return(
            <div>
                <h2>{this.state.title}</h2>
            </div>
        )
    }
}

export default Products;
```

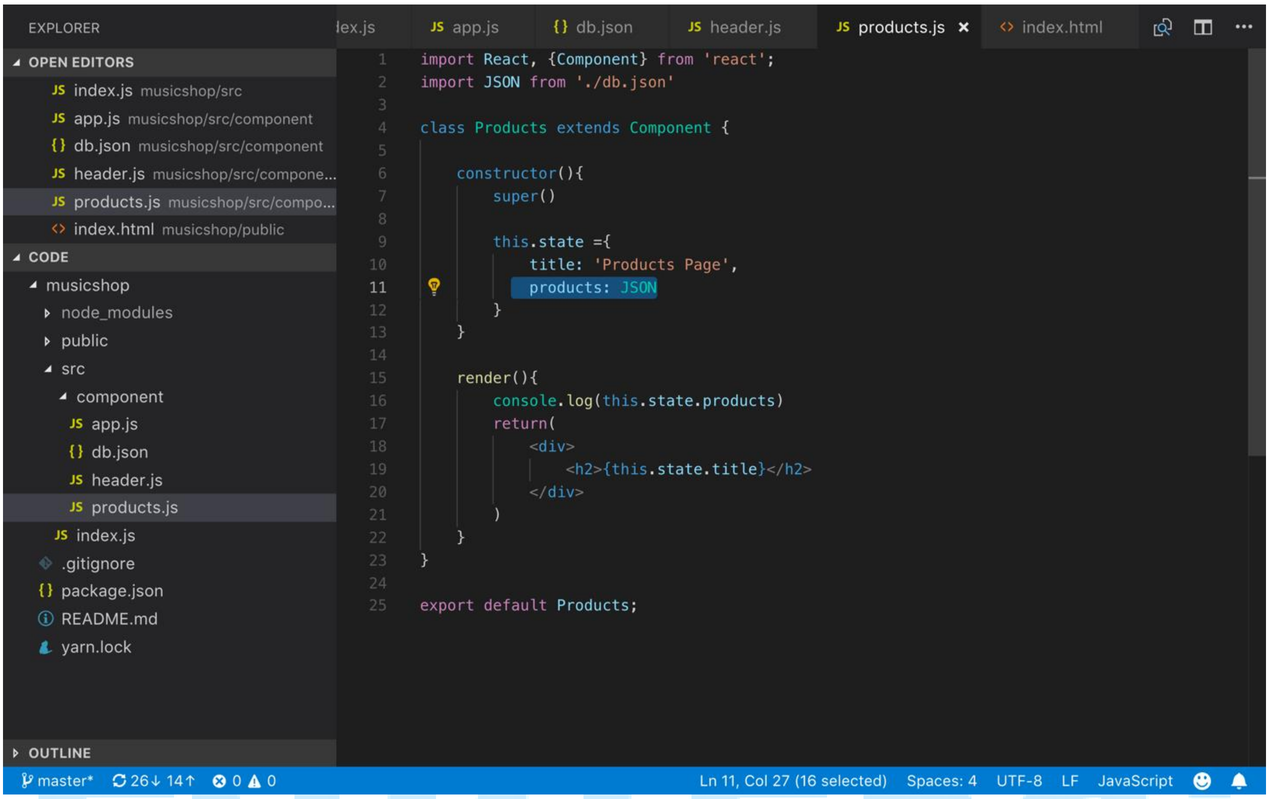
Step 17: Now on running the application you can see the state binding, verify the output as mentioned below.



Music Store

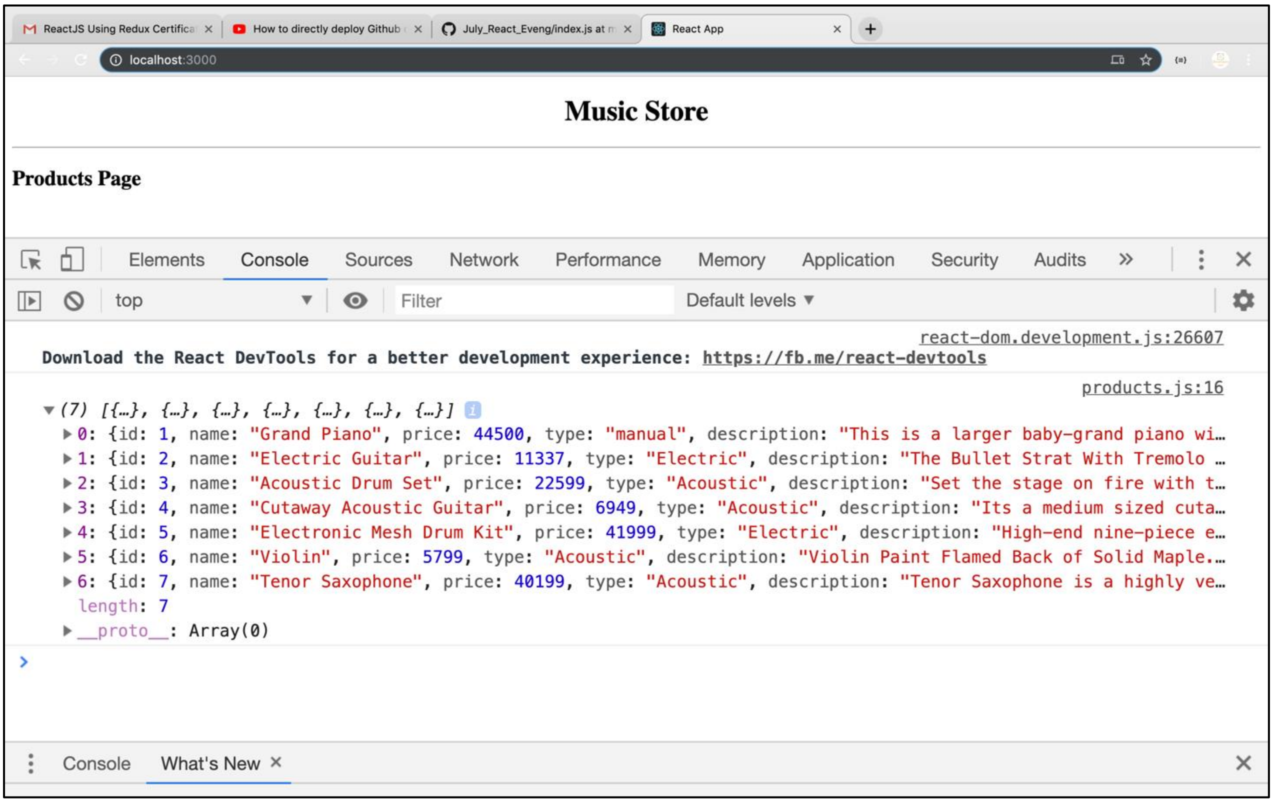
Products Page

Step 18: Now add a ***JSON*** file to the ***state*** section.



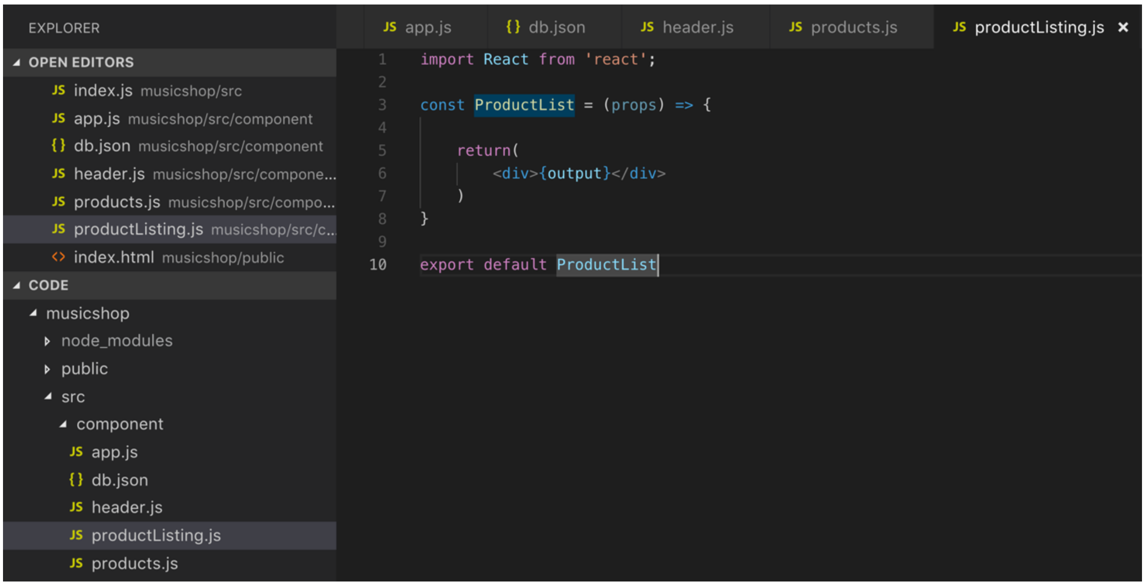
```
import React, {Component} from 'react';
import JSON from './db.json'

class Products extends Component {

    constructor(){
        super()

        this.state ={
            title: 'Products Page',
            products: JSON
        }
    }

    render(){
        console.log(this.state.products)
        return(
            <div>
                <h2>{this.state.title}</h2>
            </div>
        )
    }
}

export default Products;
```

Step 19: Now in the browser we can see the data in console.



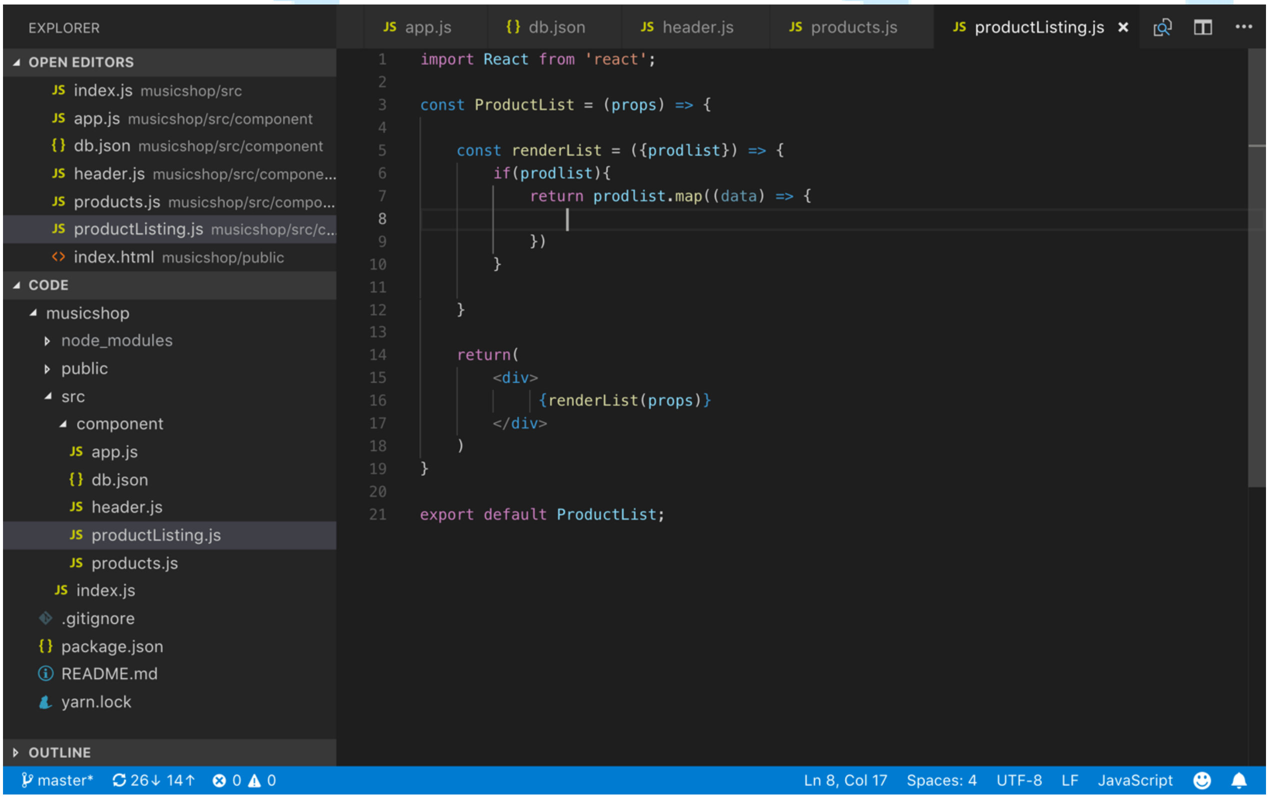
```
react-dom.development.js:26607
Download the React DevTools for a better development experience: https://fb.me/react-devtools
                                                                          products.js:16
▼(7) [{…}, {…}, {…}, {…}, {…}, {…}, {…}]
  ▶0: {id: 1, name: "Grand Piano", price: 44500, type: "manual", description: "This is a larger baby-grand piano wi…
  ▶1: {id: 2, name: "Electric Guitar", price: 11337, type: "Electric", description: "The Bullet Strat With Tremolo …
  ▶2: {id: 3, name: "Acoustic Drum Set", price: 22599, type: "Acoustic", description: "Set the stage on fire with t…
  ▶3: {id: 4, name: "Cutaway Acoustic Guitar", price: 6949, type: "Acoustic", description: "Its a medium sized cuta…
  ▶4: {id: 5, name: "Electronic Mesh Drum Kit", price: 41999, type: "Electric", description: "High-end nine-piece e…
  ▶5: {id: 6, name: "Violin", price: 5799, type: "Acoustic", description: "Violin Paint Flamed Back of Solid Maple.…
  ▶6: {id: 7, name: "Tenor Saxophone", price: 40199, type: "Acoustic", description: "Tenor Saxophone is a highly ve…
   length: 7
  ▶__proto__: Array(0)
>
```

Step 20: Create a new ***function-based*** component to display data.


EXPLORER
OPEN EDITORS
index.js musicshop/src
app.js musicshop/src/component
db.json musicshop/src/component
header.js musicshop/src/compone...
products.js musicshop/src/compo...
productListing.js musicshop/src/c...
index.html musicshop/public
CODE
musicshop
node_modules
public
src
component
app.js
db.json
header.js
productListing.js
products.js
app.js
db.json
header.js
products.js
productListing.js ×

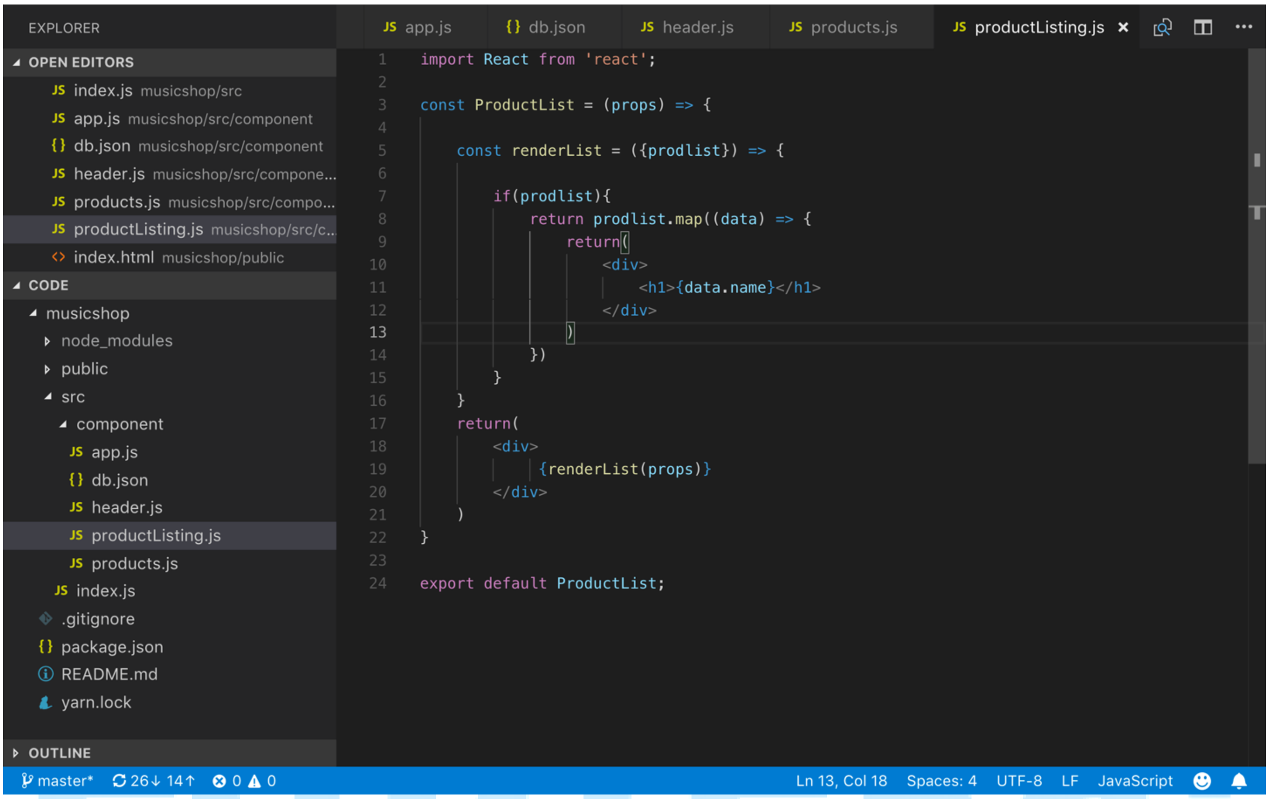
```
import React from 'react';

const ProductList = (props) => {

    return(
        <div>{output}</div>
    )
}

export default ProductList
```

Step 21: Pass the data as props to ***renderList*** object.



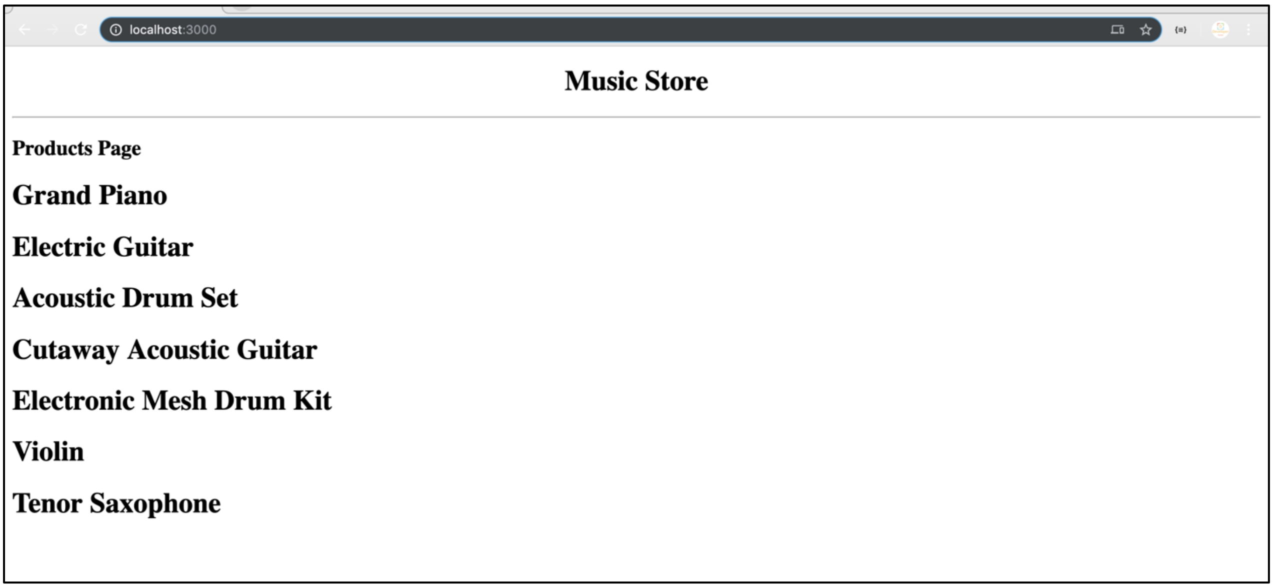
```
import React from 'react';

const ProductList = (props) => {

    const renderList = ({prodlist}) => {
        if(prodlist){
            return prodlist.map((data) => {

            })
        }

    }

    return(
        <div>
            {renderList(props)}
        </div>
    )
}

export default ProductList;
```

Step 22: Use JavaScript ***map*** operator to ***iterate date*** and display ***name*** from the data using ***return statement***.



```
import React from 'react';

const ProductList = (props) => {

    const renderList = ({prodlist}) => {

        if(prodlist){
            return prodlist.map((data) => {
                return(
                    <div>
                        <h1>{data.name}</h1>
                    </div>
                )
            })
        }
    }
    return(
        <div>
            {renderList(props)}
        </div>
    )
}

export default ProductList;
```

Step 23: Save the work and check the browser to see the data on the page.



Music Store

Products Page

Grand Piano

Electric Guitar

Acoustic Drum Set

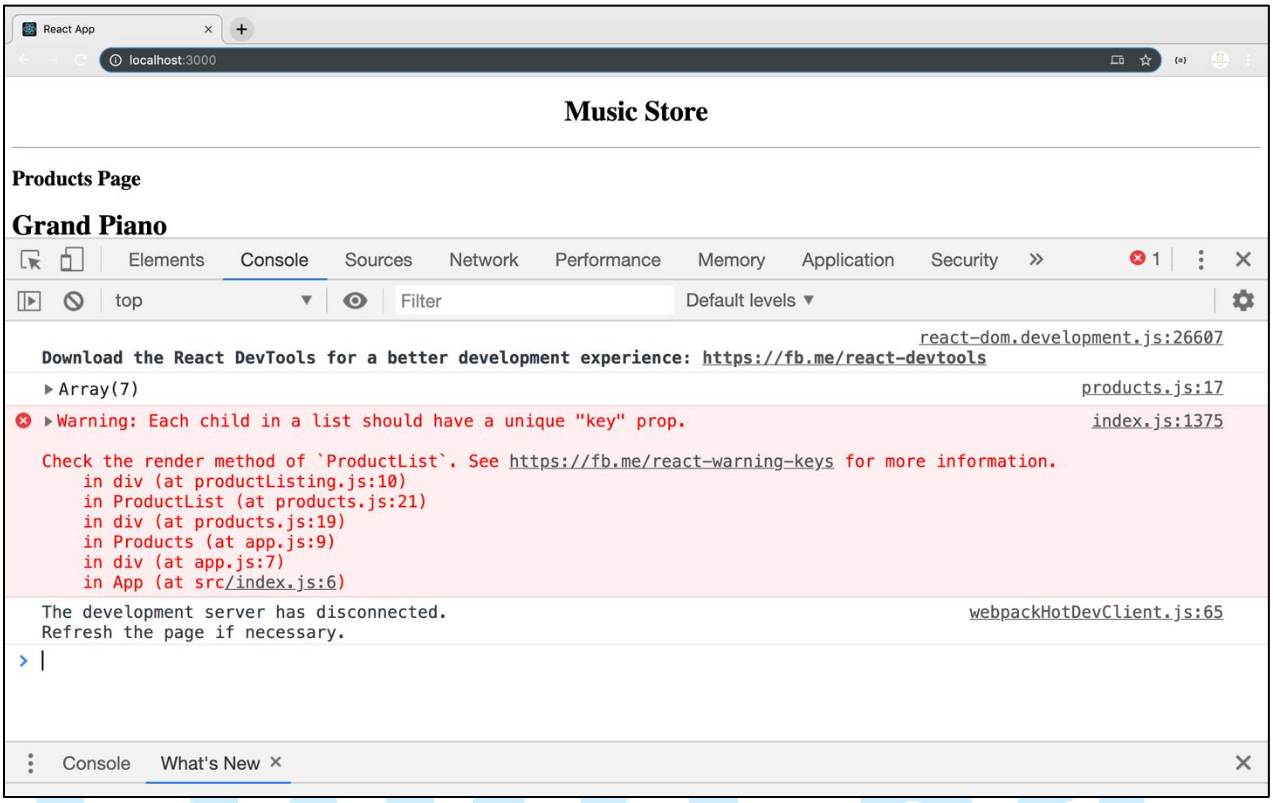
Cutaway Acoustic Guitar

Electronic Mesh Drum Kit

Violin

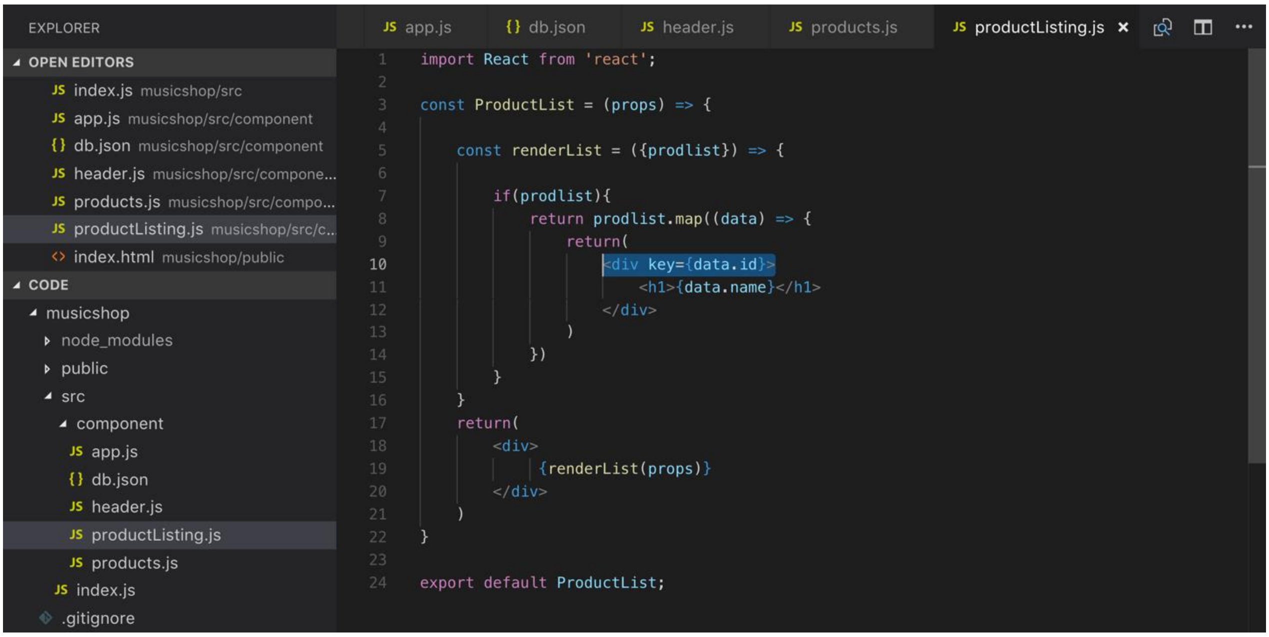
Tenor Saxophone

Step 24: On checking console panel we will find out a warning key regarding unique identifier.



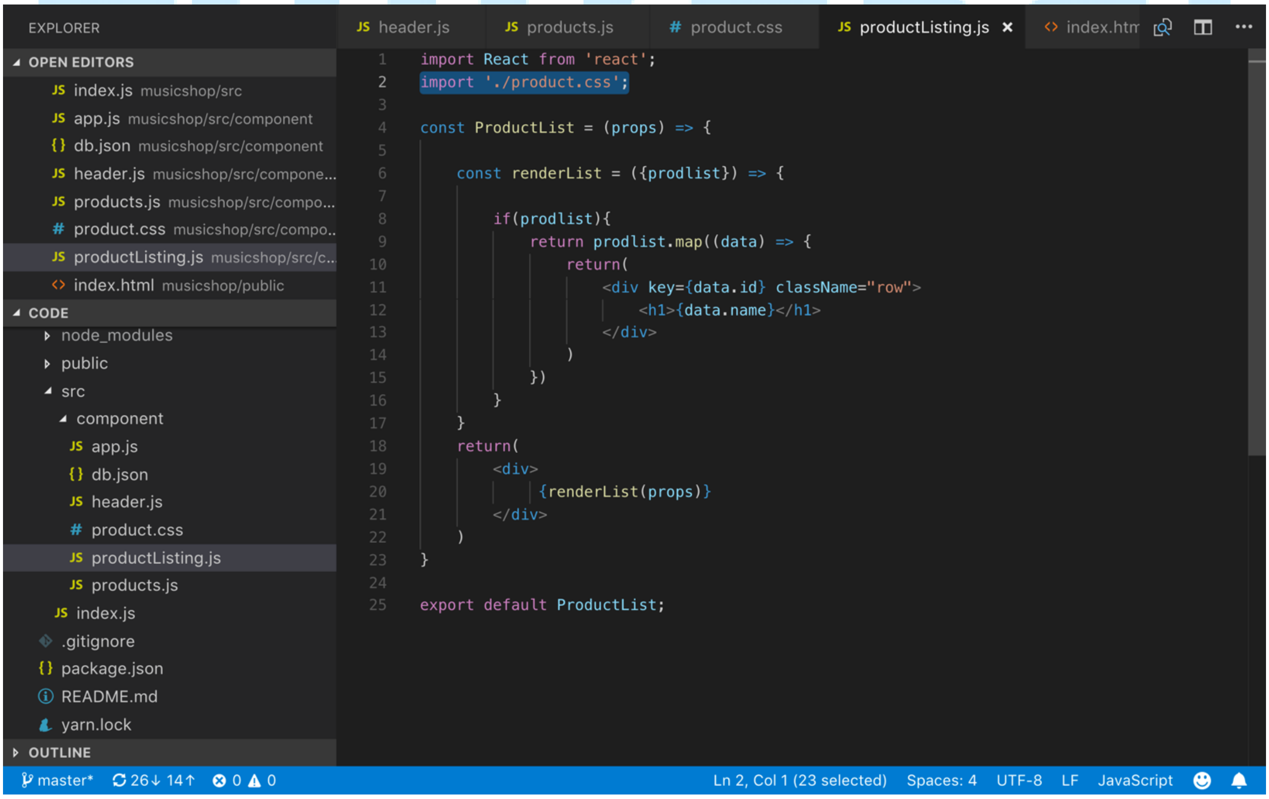
```
                                                              react-dom.development.js:26607
Download the React DevTools for a better development experience: https://fb.me/react-devtools
▶ Array(7)                                                                  products.js:17
▶ Warning: Each child in a list should have a unique "key" prop.           index.js:1375

Check the render method of `ProductList`. See https://fb.me/react-warning-keys for more information.
    in div (at productListing.js:10)
    in ProductList (at products.js:21)
    in div (at products.js:19)
    in Products (at app.js:9)
    in div (at app.js:7)
    in App (at src/index.js:6)
The development server has disconnected.                          webpackHotDevClient.js:65
Refresh the page if necessary.
>
```

Step 25: To resolve this error add key for the unique identifier. Add a unique value in the main tag as a key.



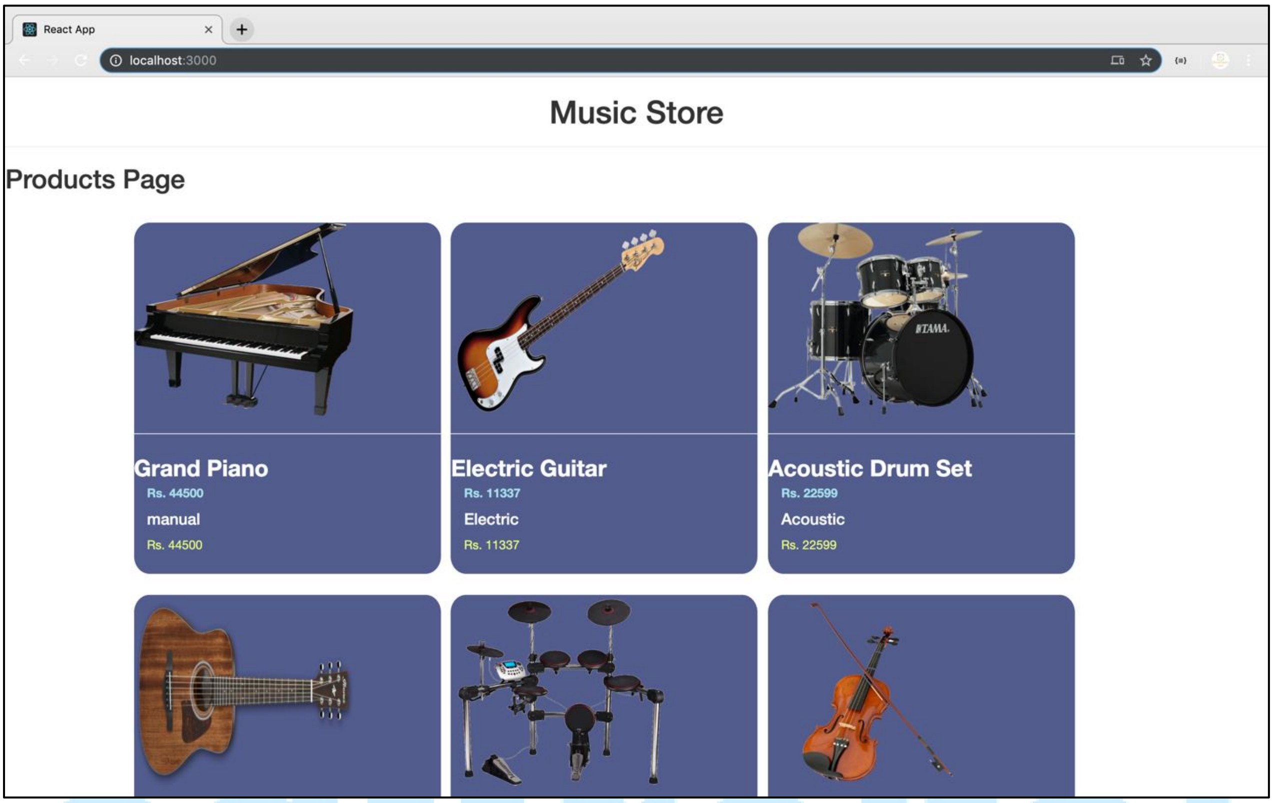
```
import React from 'react';

const ProductList = (props) => {

    const renderList = ({prodlist}) => {

        if(prodlist){
            return prodlist.map((data) => {
                return(
                    <div key={data.id}>
                        <h1>{data.name}</h1>
                    </div>
                )
            })
        }
    }
    return(
        <div>
            {renderList(props)}
        </div>
    )
}

export default ProductList;
```

Step 26: Create a separate CSS file and import file directly, in order to add a class, add a “ClassName” property.



```
import React from 'react';
import './product.css';

const ProductList = (props) => {

    const renderList = ({prodlist}) => {

        if(prodlist){
            return prodlist.map((data) => {
                return(
                    <div key={data.id} className="row">
                        <h1>{data.name}</h1>
                    </div>
                )
            })
        }
    }
    return(
        <div>
            {renderList(props)}
        </div>
    )
}

export default ProductList;
```

Step 27: Check the browser with below output.



Music Store

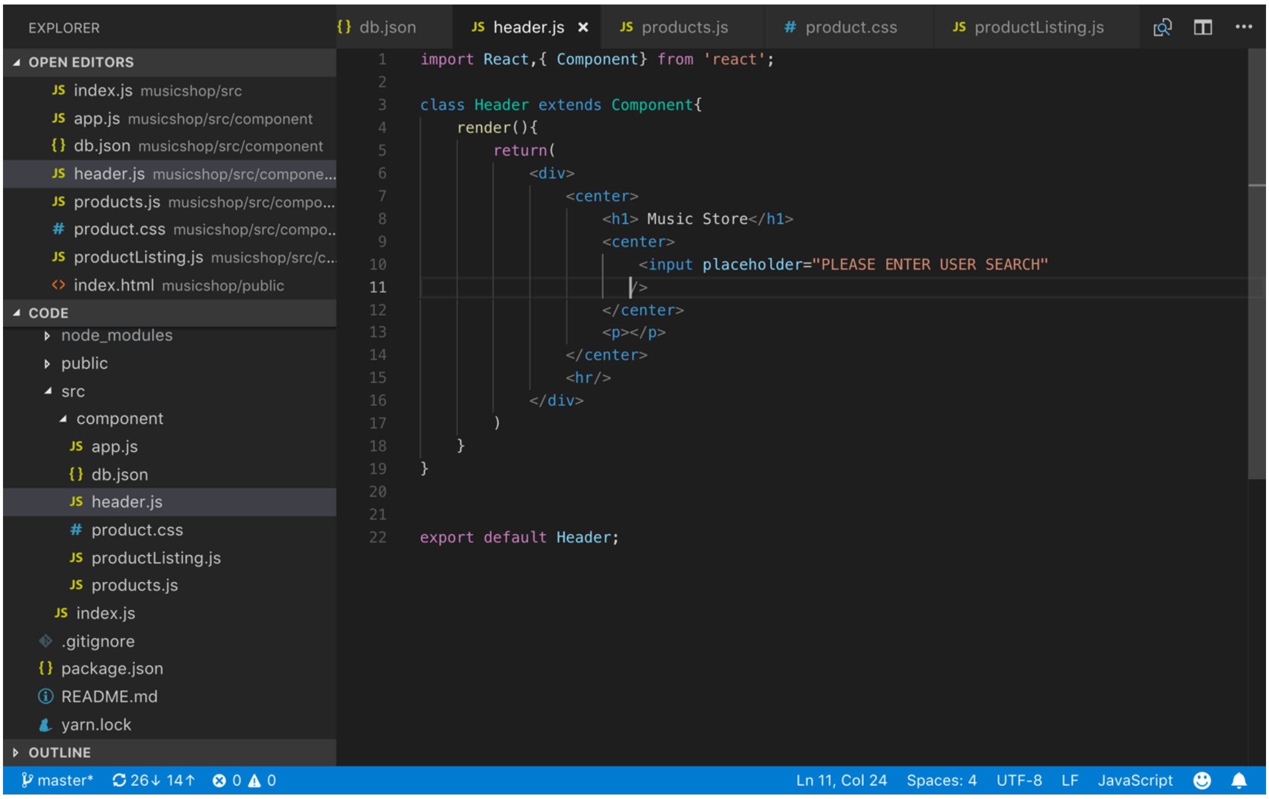
Products Page

Grand Piano
Rs. 44500
manual
Rs. 44500

Electric Guitar
Rs. 11337
Electric
Rs. 11337

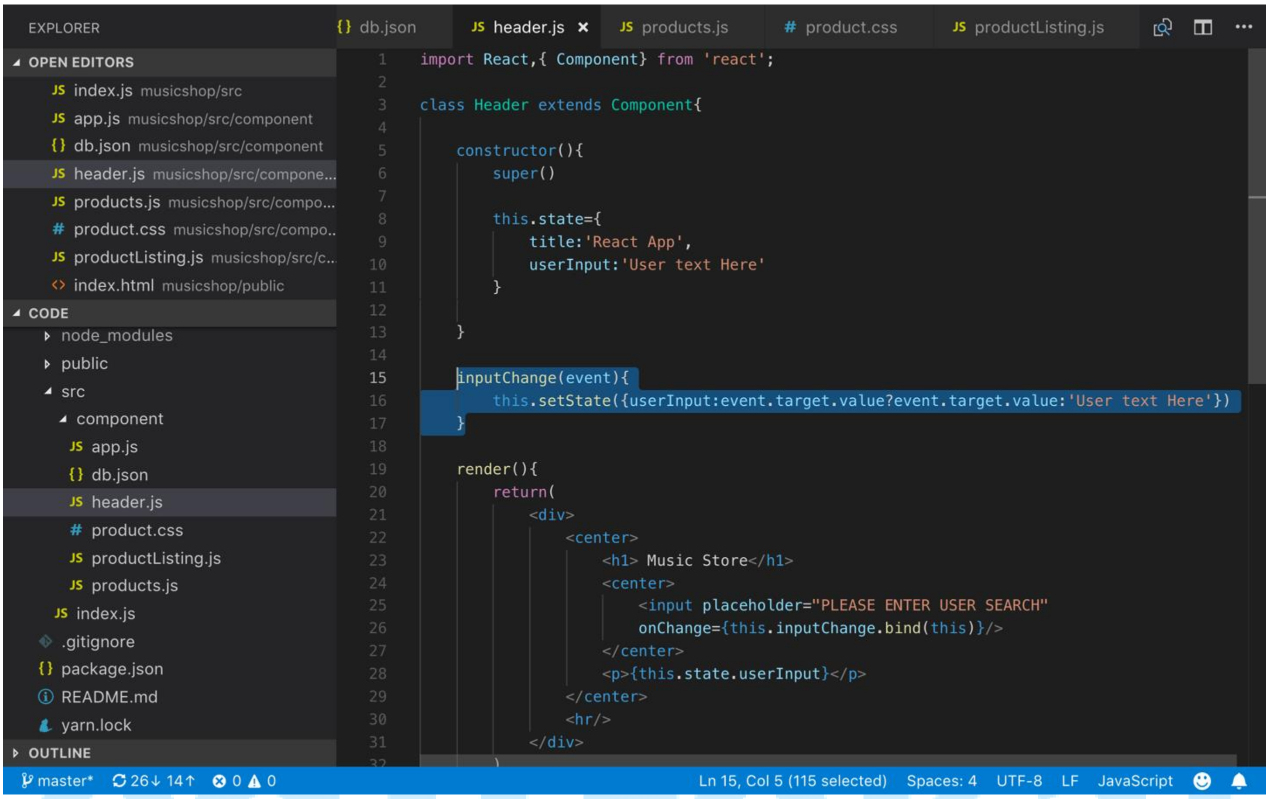
Acoustic Drum Set
Rs. 22599
Acoustic
Rs. 22599

Step 28: To work with the ***event,*** create the ***form*** and add ***input box***.



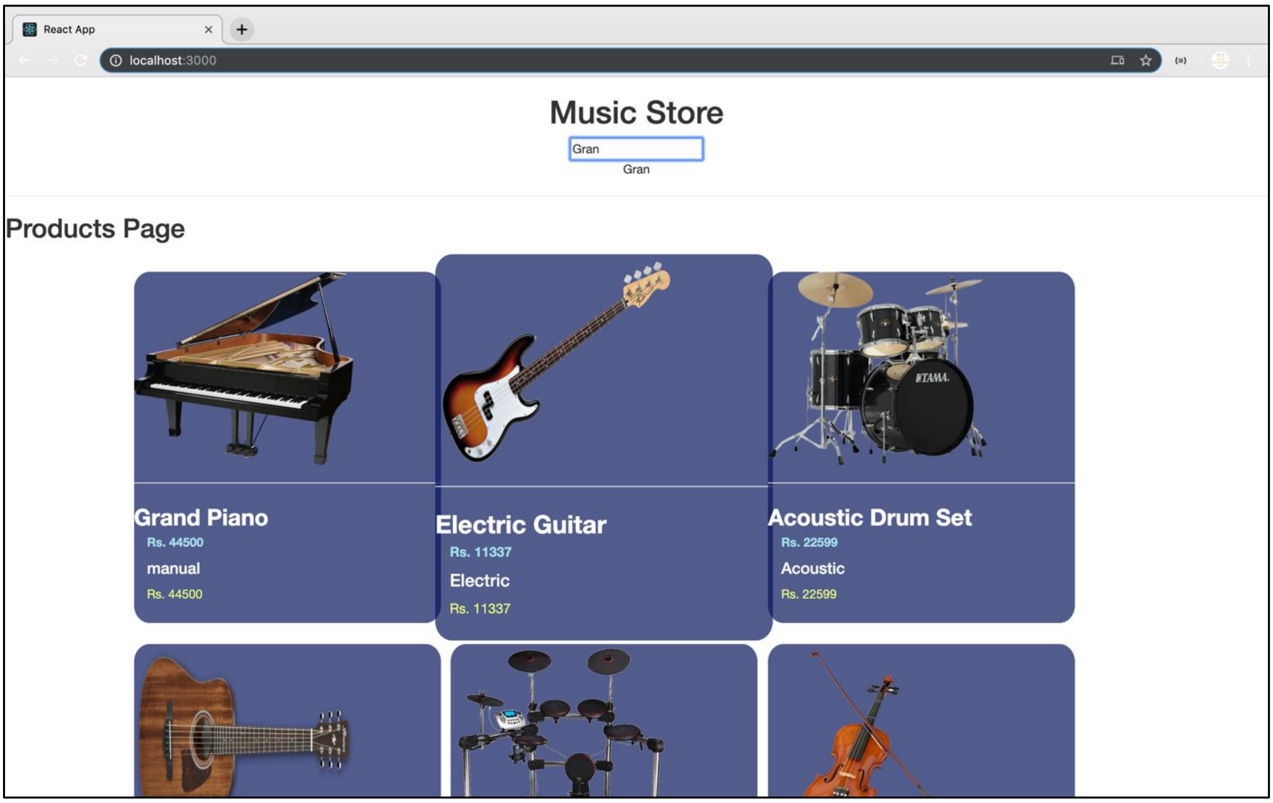
```
import React,{ Component} from 'react';

class Header extends Component{
    render(){
        return(
            <div>
                <center>
                    <h1> Music Store</h1>
                    <center>
                        <input placeholder="PLEASE ENTER USER SEARCH"
                        />
                    </center>
                    <p></p>
                </center>
                <hr/>
            </div>
        )
    }
}


export default Header;
```

Step 29: Bind the event of input to receive the target value, and later set it in the state.



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

class Header extends Component{

    constructor(){
        super()

        this.state={
            title:'React App',
            userInput:'User text Here'
        }

    }

    inputChange(event){
        this.setState({userInput:event.target.value?event.target.value:'User text Here'})
    }

    render(){
        return(
            <div>
                <center>
                    <h1> Music Store</h1>
                    <center>
                        <input placeholder="PLEASE ENTER USER SEARCH"
                        onChange={this.inputChange.bind(this)}/>
                    </center>
                    <p>{this.state.userInput}</p>
                </center>
                <hr/>
            </div>
        )
```

Step 30: Check the browser, you can see the data binding with event and state.



Music Store

Gran

Gran

Products Page

Grand Piano
Rs. 44500
manual
Rs. 44500

Electric Guitar
Rs. 11337
Electric
Rs. 11337

Acoustic Drum Set
Rs. 22599
Acoustic
Rs. 22599

Conclusion:

We have successfully created a Music Store Application using React Components.