



# MAPPING DATA TO COMPONENTS



# ES6 - Map

*Map - Create a new array by doing something with each item in an array.*



```
JS index.js
1 var numbers = [3, 56, 2, 48, 5];
2
3 //Map -Create a new array by doing something with each item in an array
4
5 function double(x) {
6   return x * 2;
7 }
8 const newNumbers = numbers.map(double);
9
10 console.log(newNumbers);
11
```

The screenshot shows a code editor with the above JavaScript code. To the right, a browser window displays the URL <https://9d4dqk.csb.app/>. Below the browser, the console panel shows the output: `(5) [6, 112, 4, 96, 10]`, which is the result of applying the `double` function to each element of the `numbers` array using `map`.

# Another way of doing this is using forEach loop

```
11 // const newNumbers = numbers.map(function (x) {
12   var newNumbers = [];
13   numbers.forEach(function (x) {
14     newNumbers.push(x * 2);
15   });
16   console.log(newNumbers);
17
18 // const newNumbers = numbers.map(function (x) {
```

Problems 2 Console 0 React DevTools 0

Console was cleared

► (5) [6, 112, 4, 96, 10]

```
const newNumbers = numbers.map(function (x) {
  return x * 2;
});
console.log(newNumbers);
```

But using map function makes it concise and easy.

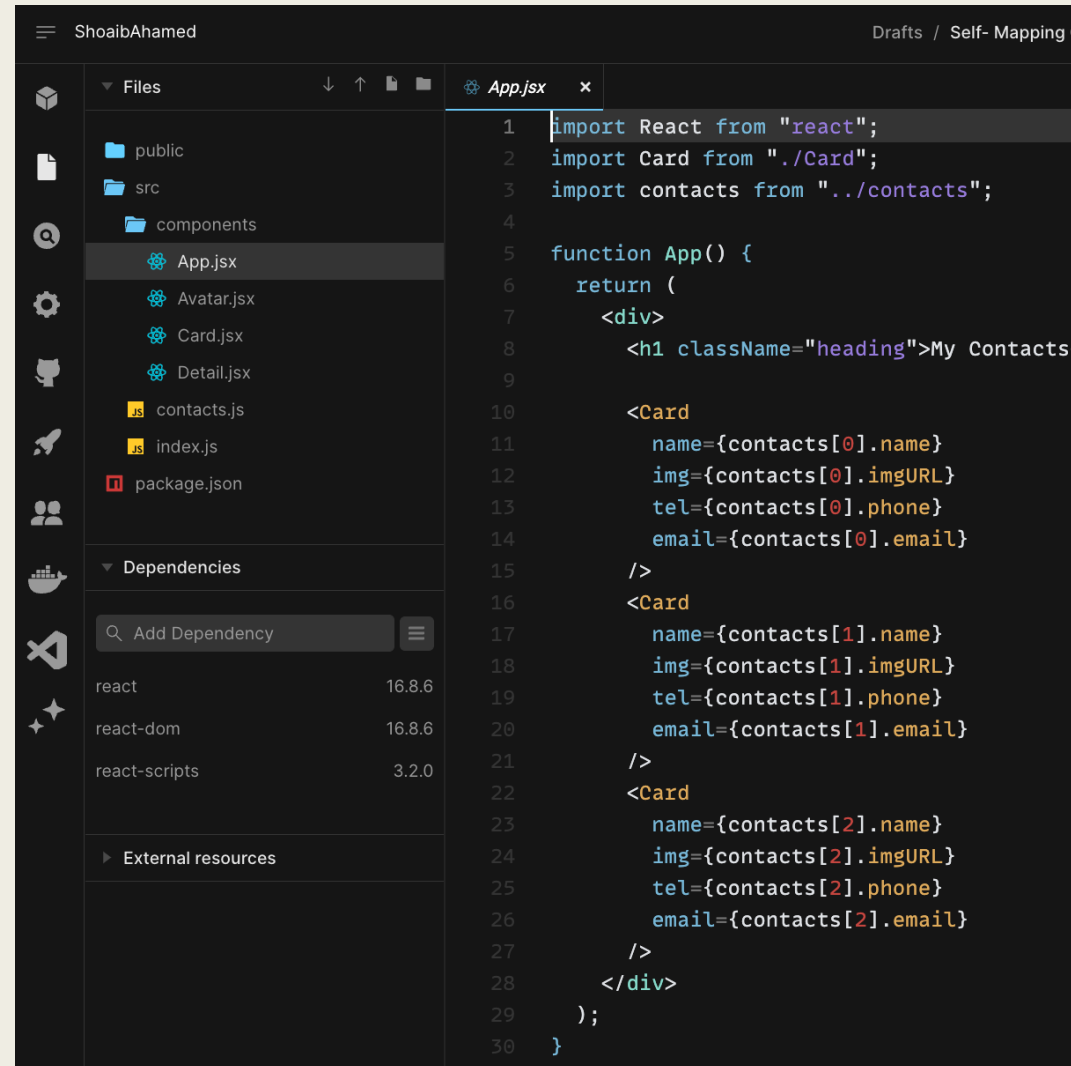
# How to map data in react components

Codesandbox - <https://codesandbox.io/s/students-mapping-components-forked-vd7vpx?file=/src/index.js>

# Check the App.jsx and contacts.js file in the directory.

- App.JSX has very [repetitive code](#).
- In APP.JSX file we have card components and we are passing different custom props which comes from our contacts.js file.
- Looking at contacts[0], contacts[1] contacts[2], we understand [it can be benefited from using a loop](#).
- We will learn about mapping those data into the custom components.
- By mapping data, we don't have create multiple cards!
- contacts.js has an array of JS objects with similar properties with different values.

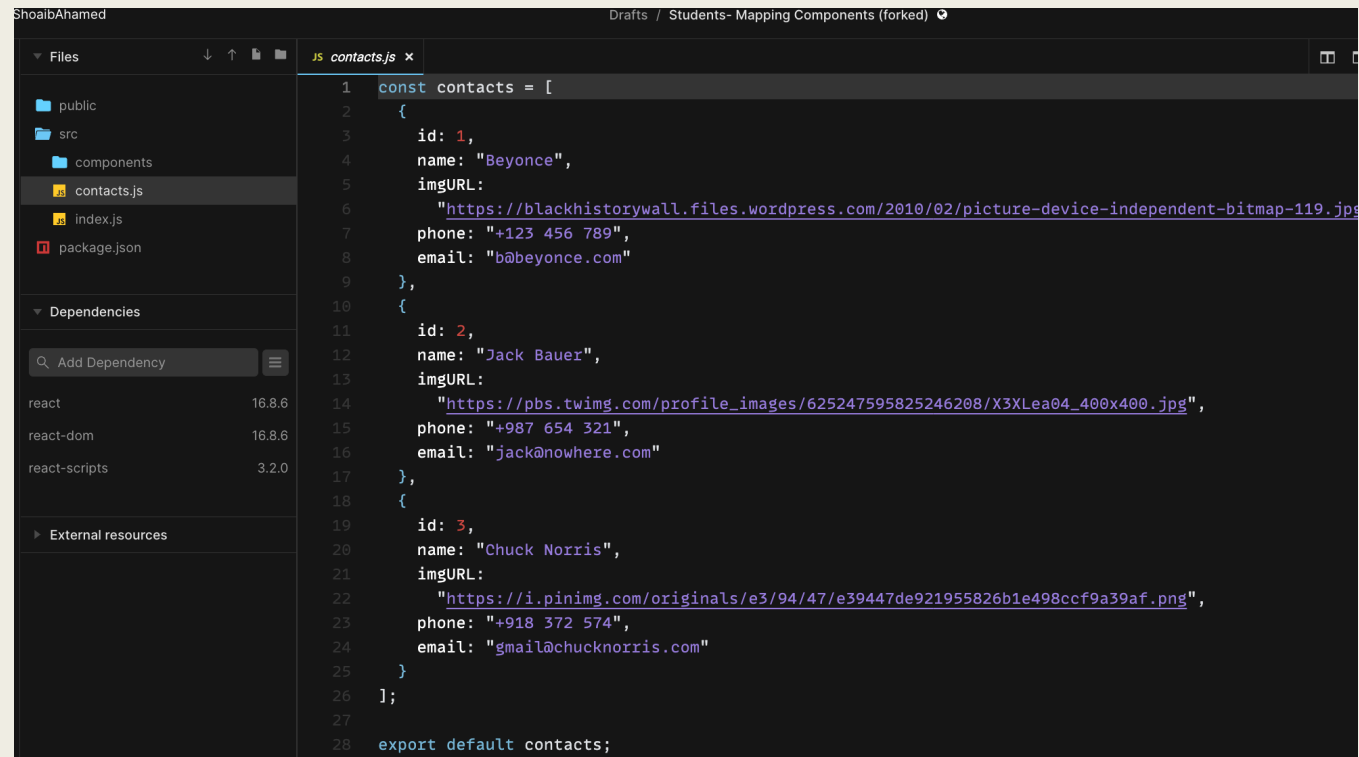
# App.JSX



```
1 import React from "react";
2 import Card from "./Card";
3 import contacts from "../contacts";
4
5 function App() {
6   return (
7     <div>
8       <h1 className="heading">My Contacts</h1>
9
10      <Card
11        name={contacts[0].name}
12        img={contacts[0].imgURL}
13        tel={contacts[0].phone}
14        email={contacts[0].email}
15      />
16      <Card
17        name={contacts[1].name}
18        img={contacts[1].imgURL}
19        tel={contacts[1].phone}
20        email={contacts[1].email}
21      />
22      <Card
23        name={contacts[2].name}
24        img={contacts[2].imgURL}
25        tel={contacts[2].phone}
26        email={contacts[2].email}
27      />
28    </div>
29  );
30 }
```

The screenshot shows a code editor interface for a project named "ShoaibAhamed". The left sidebar displays a file explorer with a "Files" section containing folders like "public", "src", and "components", and files like "App.jsx", "Avatar.jsx", "Card.jsx", "Detail.jsx", "contacts.js", "index.js", and "package.json". Below the file explorer is a "Dependencies" section showing installed packages: "react" (16.8.6), "react-dom" (16.8.6), and "react-scripts" (3.2.0). The main editor area shows the code for "App.jsx", which imports React, Card, and contacts, and defines an App function that returns a JSX element rendering a list of contact cards.

# Contacts.js :



```
1 const contacts = [
2   {
3     id: 1,
4     name: "Beyonce",
5     imgURL:
6       "https://blackhistorywall.files.wordpress.com/2010/02/picture-device-independent-bitmap-119.jpg",
7     phone: "+123 456 789",
8     email: "b@beyonce.com"
9   },
10  {
11    id: 2,
12    name: "Jack Bauer",
13    imgURL:
14      "https://pbs.twimg.com/profile_images/625247595825246208/X3XLea04_400x400.jpg",
15    phone: "+987 654 321",
16    email: "jack@nowhere.com"
17  },
18  {
19    id: 3,
20    name: "Chuck Norris",
21    imgURL:
22      "https://i.pinimg.com/originals/e3/94/47/e39447de921955826b1e498ccf9a39af.png",
23    phone: "+918 372 574",
24    email: "gmail@chucknorris.com"
25  }
26 ];
27
28 export default contacts;
```

In `App.jsx`, comment out all the cards and then create a `createCard()` function and pass it to `contacts.map()`

```
import contacts from "../contacts";

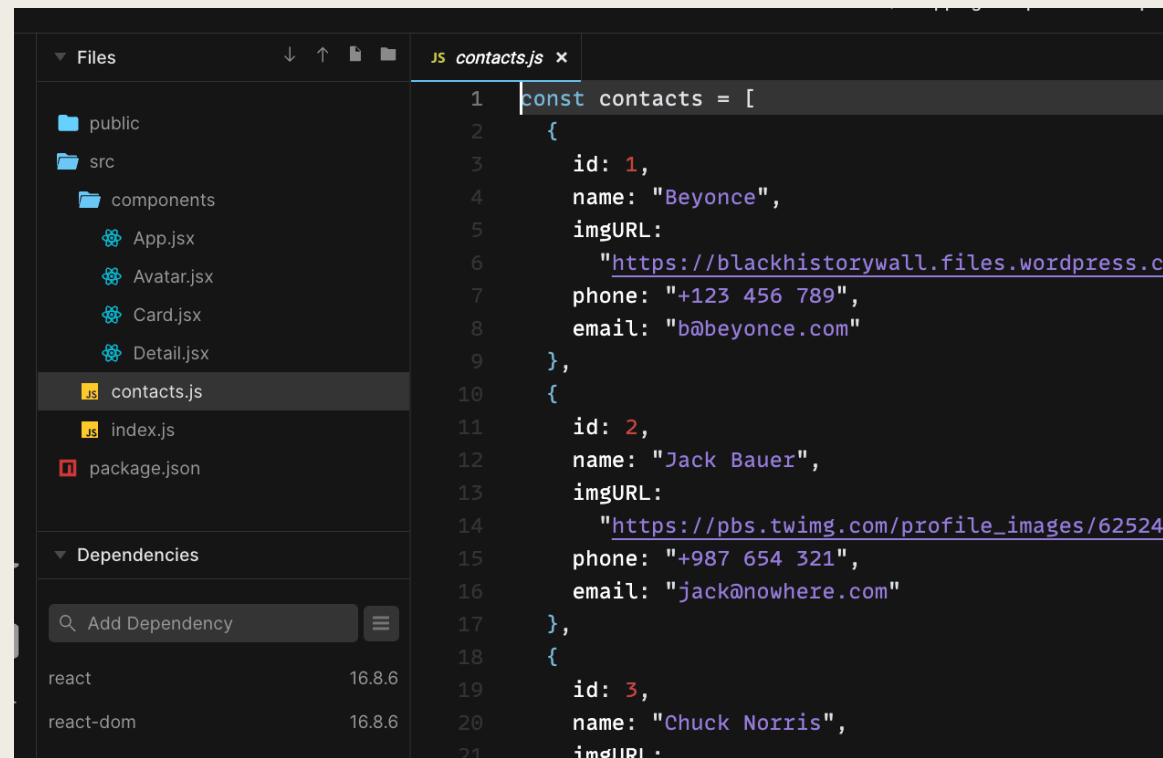
function createCard(contact) {
  return (
    <Card
      key={contact.id}
      name={contact.name}
      img={contact.imgURL}
      tel={contact.phone}
      email={contact.email}
    />
  );
}
```

```
<div>
  <h1 className="heading">My Contacts</h1>
  {contacts.map(createCard)}

  {/* <Card
    name={contacts[0].name}
  */}
```



# contacts.js has id property



```
1 const contacts = [
2   {
3     id: 1,
4     name: "Beyonce",
5     imgUrl:
6       "https://blackhistorywall.files.wordpress.c
7     phone: "+123 456 789",
8     email: "b@beyonce.com"
9   },
10  {
11    id: 2,
12    name: "Jack Bauer",
13    imgUrl:
14      "https://pbs.twimg.com/profile_images/62524
15    phone: "+987 654 321",
16    email: "jack@nowhere.com"
17  },
18  {
19    id: 3,
20    name: "Chuck Norris",
21    imgUrl:
```

# Note -

- React creates virtual DOM and in order to efficiently render the components using a loop such as map function, we have to give those components a property that's called key. [This key property values has to be unique\(string/number\).](#)

# Research and learn the following -

- [Filter](#)
- [Map](#)
- [Reduce](#)
- [Find](#)
- [FindIndex](#)
- [Substring](#)

# Assignment -

- Go here - <https://codesandbox.io/s/students-mapping-components-practice-forked-l9w3r4?file=/src/index.js>
- Your goal is create components, create props and mapping data to the components. Notice the emojipedia.js file in the directory

// 1. Create Entry component

// 2. Entry Component will need props to replaces hard coded data in App.jsx

//3. Map through the emojipedia array and render Entry components. Don't forget to import.

- Learning React Dev tools - <https://www.youtube.com/watch?v=rb1GWqCJid4&t=3s>