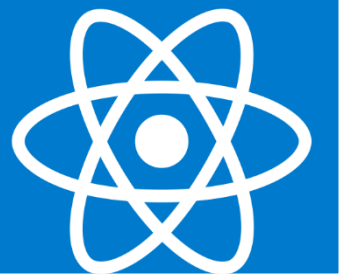
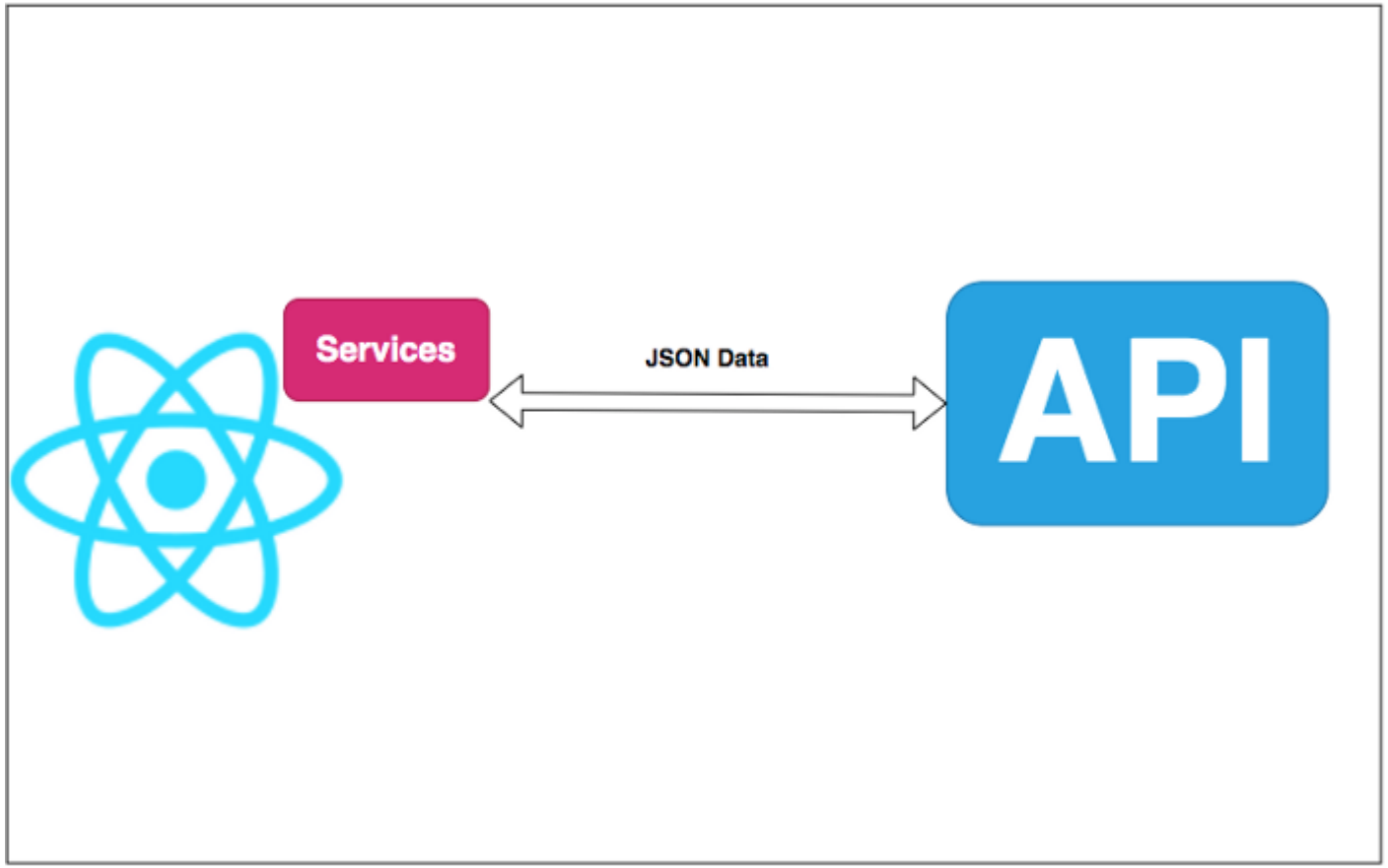
React JS

#React Notes

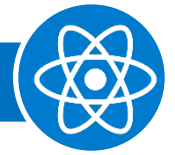
Axios




Services
JSON Data
API

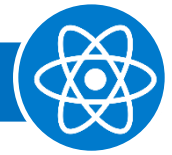
What is Axios ?

- Axios is a Javascript library used to make HTTP requests and it supports the Promise API that is native to JS ES6.
- If you are using React Fetch to make HTTP API calls in React then Axios is the other option that you can explore.
- You can make any HTTP calls using Axios in React.

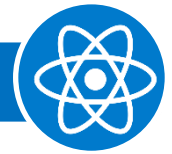


Con.

- Similar to fetch, Axios also provides you the facility to call GET, POST, PUT, PATCH, and DELETE requests.
- Axios also has more options and features to call the API as compared to fetch. One feature you can see in one sight is that it performs automatic transforms of JSON data.
- **If you use .fetch() there is a two-step process when handling JSON data.**



Axios	Fetch
Axios has url in request object.	Fetch has no url in request object.
Axios is a stand-alone third party package that can be easily installed.	Fetch is built into most modern browsers; no installation is required as such.
Axios enjoys built-in XSRF protection.	Fetch does not.
Axios uses the data property.	Fetch uses the body property.
Axios' data contains the object.	Fetch's body has to be stringified.
Axios request is ok when status is 200 and statusText is 'OK'.	Fetch request is ok when response object contains the ok property.
Axios performs automatic transforms of JSON data.	Fetch is a two-step process when handling JSON data- first, to make the actual request; second, to call the .json() method on the response.
Axios allows cancelling request and request timeout.	Fetch does not.
Axios has the ability to intercept HTTP requests.	Fetch, by default, doesn't provide a way to intercept requests.
Axios has built-in support for download progress.	Fetch does not support upload progress.
Axios has wide browser support.	Fetch only supports Chrome 42+, Firefox 39+, Edge 14+, and Safari 10.1+ (This is known as Backward Compatibilty).

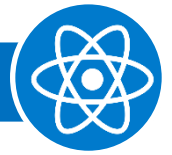


Basic Network Call using Axios

- Here is a small code snippet showing how to use Axios in the React Native project for the HTTP request. Here you can see that we have used axios with the get request with the ‘WEB URL’ and after that getting the response in a function using a callback.
- You will find a catch attached to it which will trigger a function in case of any failure.
- There is an additional finally callback which will trigger a function after the completion of API call.

```
axios.get('Web URL')
.then(function(response) {
   // handle response

}).catch(function(error) {
   // handle error
}).finally(function() {
   // always executes at the last of any API call
});
```



Website

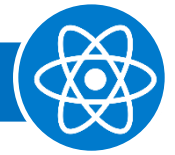
- https://www.npmjs.com/package/axios

- https://axios-http.com/docs/intro

Get Method with Parameters (QueryString)

```
// Make a request for a user with a given ID
axios.get('/user?ID=12345')
  .then(function (response) {
    // handle success
    console.log(response);
  })
  .catch(function (error) {
    // handle error
    console.log(error);
  })
  .finally(function () {
    // always executed
  });
```

```
// Optionally the request above could also be done as
axios.get('/user', {
    params: {
      ID: 12345
    }
  })
  .then(function (response) {
    console.log(response);
  })
  .catch(function (error) {
    console.log(error);
  })
  .finally(function () {
    // always executed
  });
```



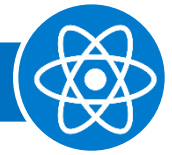
Performing multiple concurrent requests

Performing multiple concurrent requests

```
function getUserAccount() {
  return axios.get('/user/12345');
}

function getUserPermissions() {
  return axios.get('/user/12345/permissions');
}

Promise.all([getUserAccount(), getUserPermissions()])
  .then(function (results) {
    const acct = results[0];
    const perm = results[1];
  });
```



Post API Using Parameter (Body Data)

Performing a `POST` request

```
axios.post('/user', {
    firstName: 'Fred',
    lastName: 'Flintstone'
  })
  .then(function (response) {
    console.log(response);
  })
  .catch(function (error) {
    console.log(error);
  });
```

axios API

Requests can be made by passing the relevant config to `axios`.

axios(config)

```
// Send a POST request
axios({
  method: 'post',
  url: '/user/12345',
  data: {
    firstName: 'Fred',
    lastName: 'Flintstone'
  }
});
```

Post API Form Data with Body Parameter

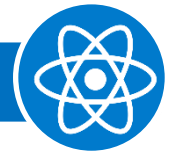
Using `multipart/form-data` format

FormData

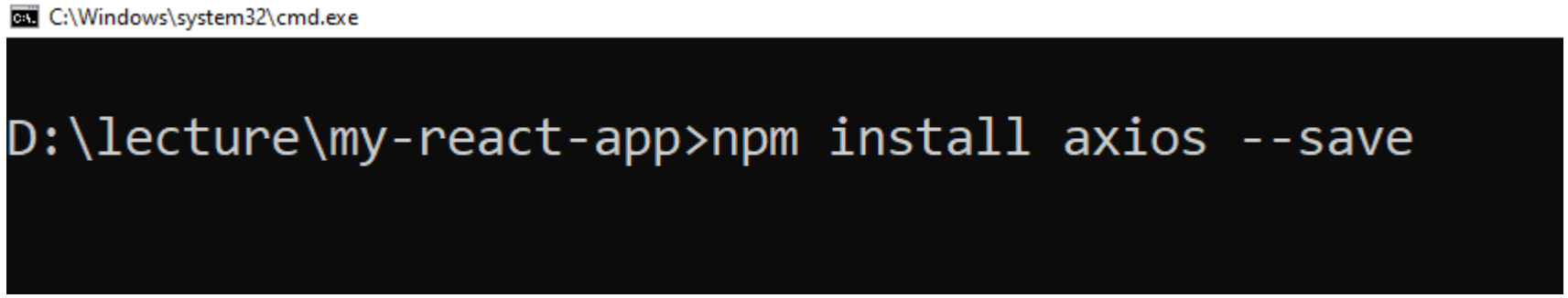
To send the data as a `multipart/formdata` you need to pass a formData instance as a payload. Setting the `Content-Type` header is not required as Axios guesses it based on the payload type.

```
const formData = new FormData();
formData.append('foo', 'bar');

axios.post('https://httpbin.org/post', formData);
```

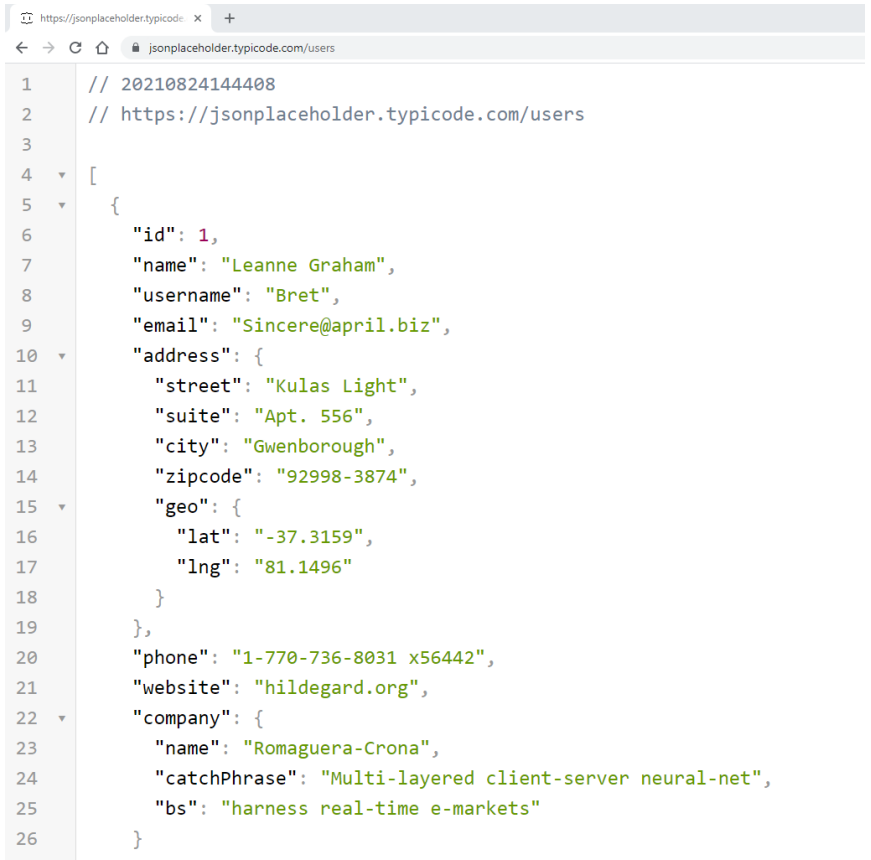


Install Axios

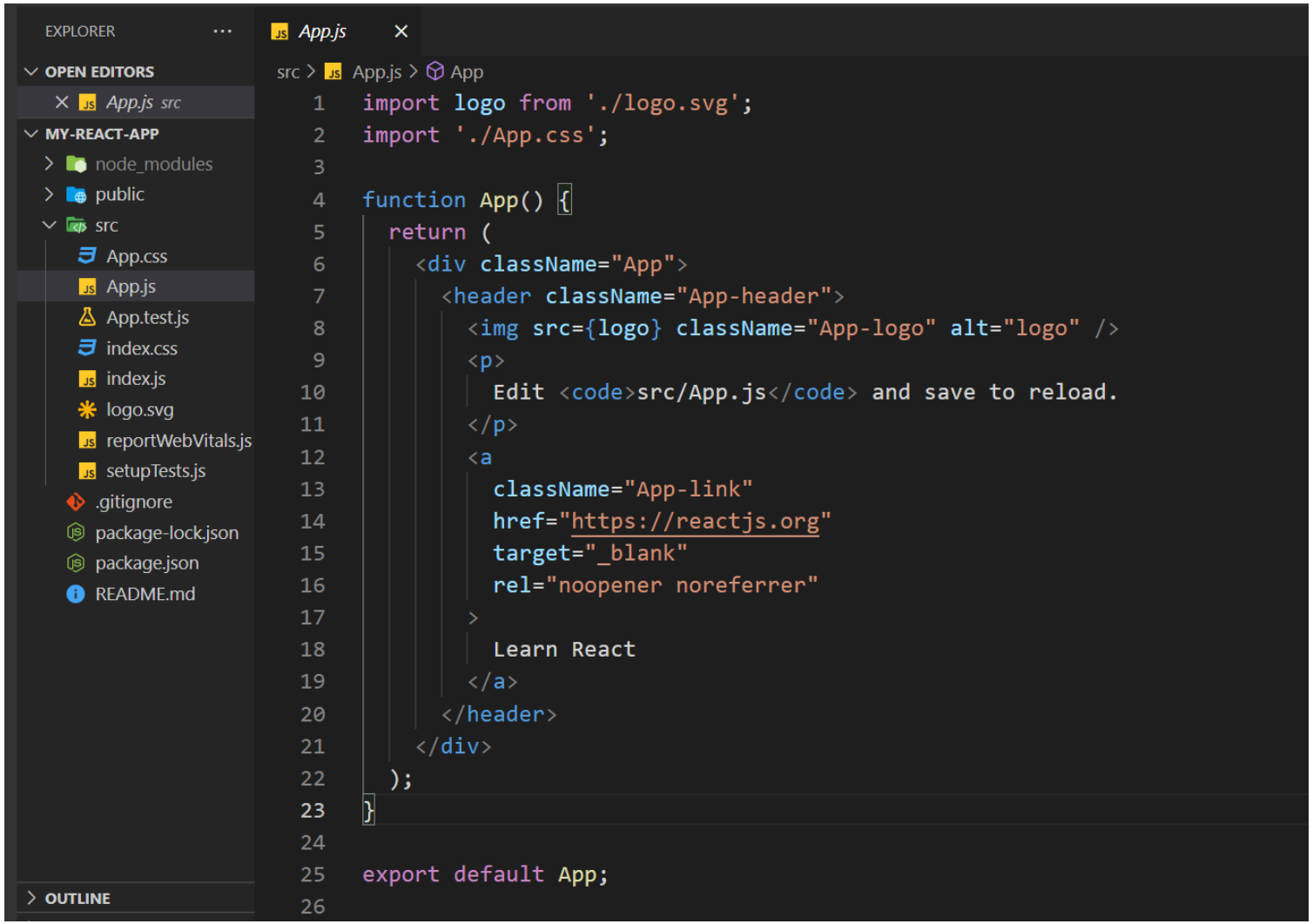


API Data

- URL : https://jsonplaceholder.typicode.com/users
- Method : Get
- Response : Array

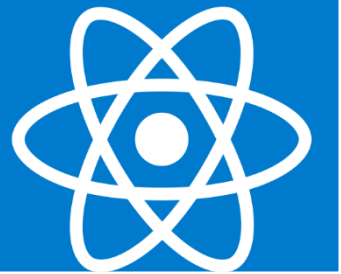


Default Code



API Calling in React

Fetch Data and Display in React



Get API call & print Response in console

App.js M

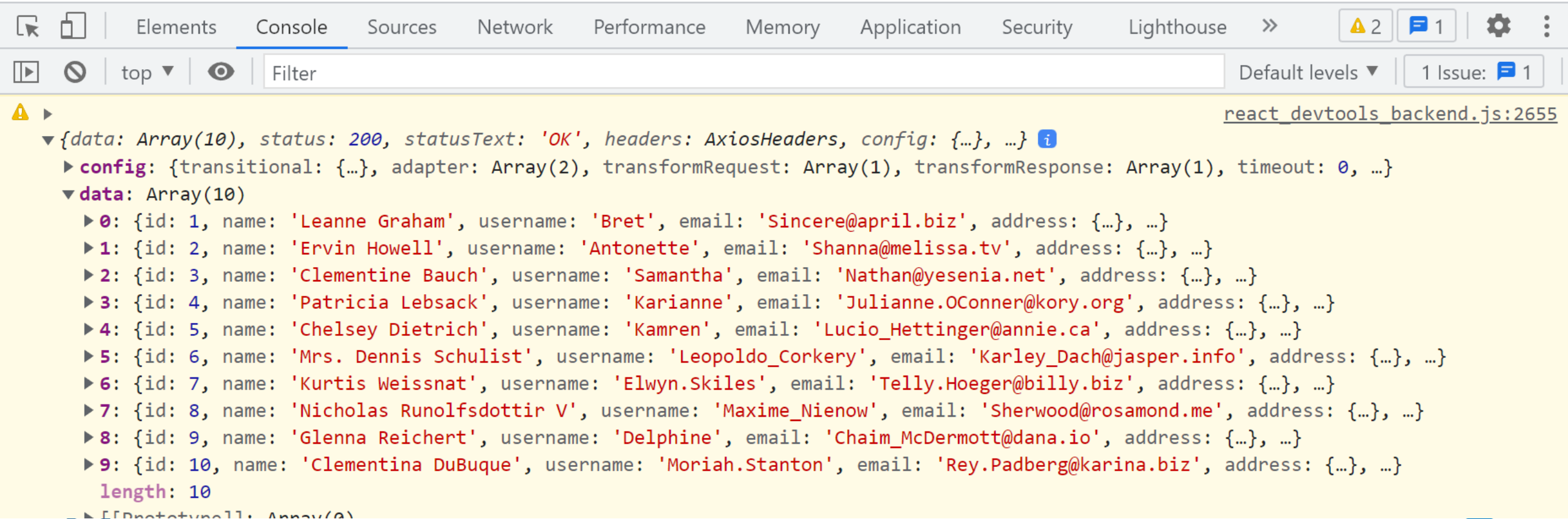
src > App.js > default

```
1   import React from 'react';
2   import axios  from 'axios';
3   class App extends React.Component {
4       constructor(props) {
5           super(props);
6           this.state = {  };
7       }
8       componentDidMount() {
9           axios.get('https://jsonplaceholder.typicode.com/users')
10          .then(res=>{
11              console.warn(res);
12          })
13      }
14      render() {
15          return (
16              <div>
17                  <h1>Axios Get API Call</h1>
18              </div>
19          );
20      }
21  }
22  export default App;
```

```
import React from 'react';
import axios  from 'axios';
class App extends React.Component {
        constructor(props) {
                super(props);
                this.state = {  };
        }
        componentDidMount() {
                axios.get('https://jsonplaceholder.typicode.com/users')
                .then(res=>{
                        console.warn(res);
                })
         }
        render() {
                return (
                        <div>
                                <h1>Axios Get API Call</h1>
                        </div>
                );
        }
}
export default App;
```

localhost:3000

Axios Get API Call



Fetch & Assign Data to State

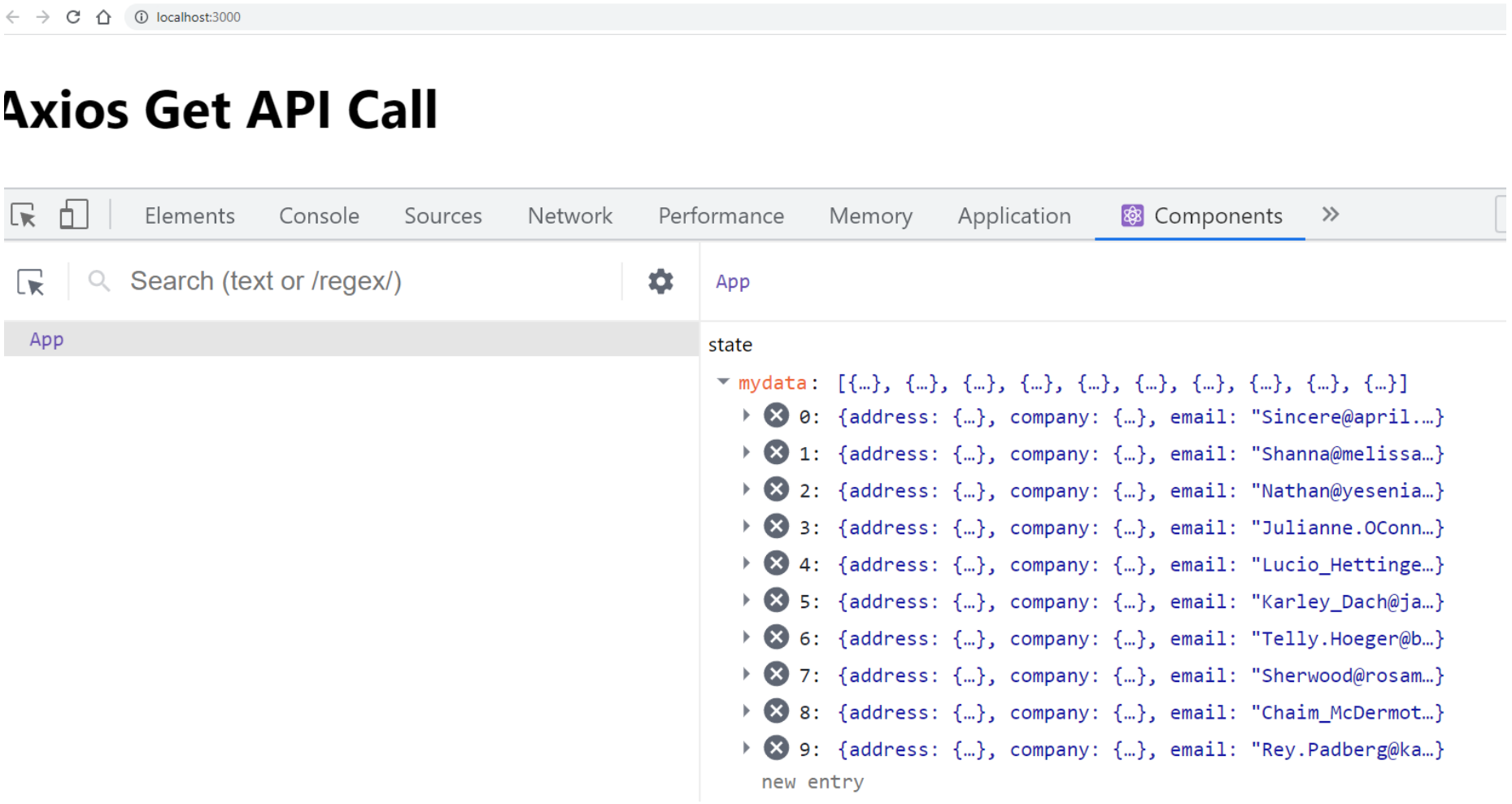
App.js M

src > App.js > default

```
1   import React from 'react';
2   import axios  from 'axios';
3   class App extends React.Component {
4       constructor(props) {
5           super(props);
6           this.state = { mydata : [] };
7       }
8       componentDidMount() {
9           axios.get('https://jsonplaceholder.typicode.com/users')
10          .then(res=>{
11                  console.warn(res);
12                  this.setState({mydata: res.data})
13          })
14      }
15      render() {
16          return (
17              <div>
18                  <h1>Axios Get API Call</h1>
19              </div>
20          );
21      }
22  }
23  export default App;
```

```
import React from 'react';
import axios  from 'axios';
class App extends React.Component {
        constructor(props) {
                super(props);
                this.state = { mydata : [] };
        }
        componentDidMount() {
                axios.get('https://jsonplaceholder.typicode.com/users')
                .then(res=>{
                                console.warn(res);
                                this.setState({mydata: res.data})
                })
        }
        render() {
                return (
                        <div>
                                <h1>Axios Get API Call</h1>
                        </div>
                );
        }
}
export default App;
```

Debug Data React Developer Tool



Print JSON as String

```
1  import React from 'react';
2  import axios from 'axios';
3  class Add extends React.Component {
4      constructor(props) {
5          super(props);
6          this.state = { mydata:[] };
7      }
8      componentDidMount() {
9          axios.get("https://jsonplaceholder.typicode.com/users")
10         .then(res=>{
11             const a = res.data;
12             this.setState({ mydata:a});
13         })
14      }
15     render() {
16         return (
17             <>
18             {JSON.stringify(this.state.mydata)}
19             </>
20         );
21     }
22 }
23 export default Add;
```

Fetch vs Axios

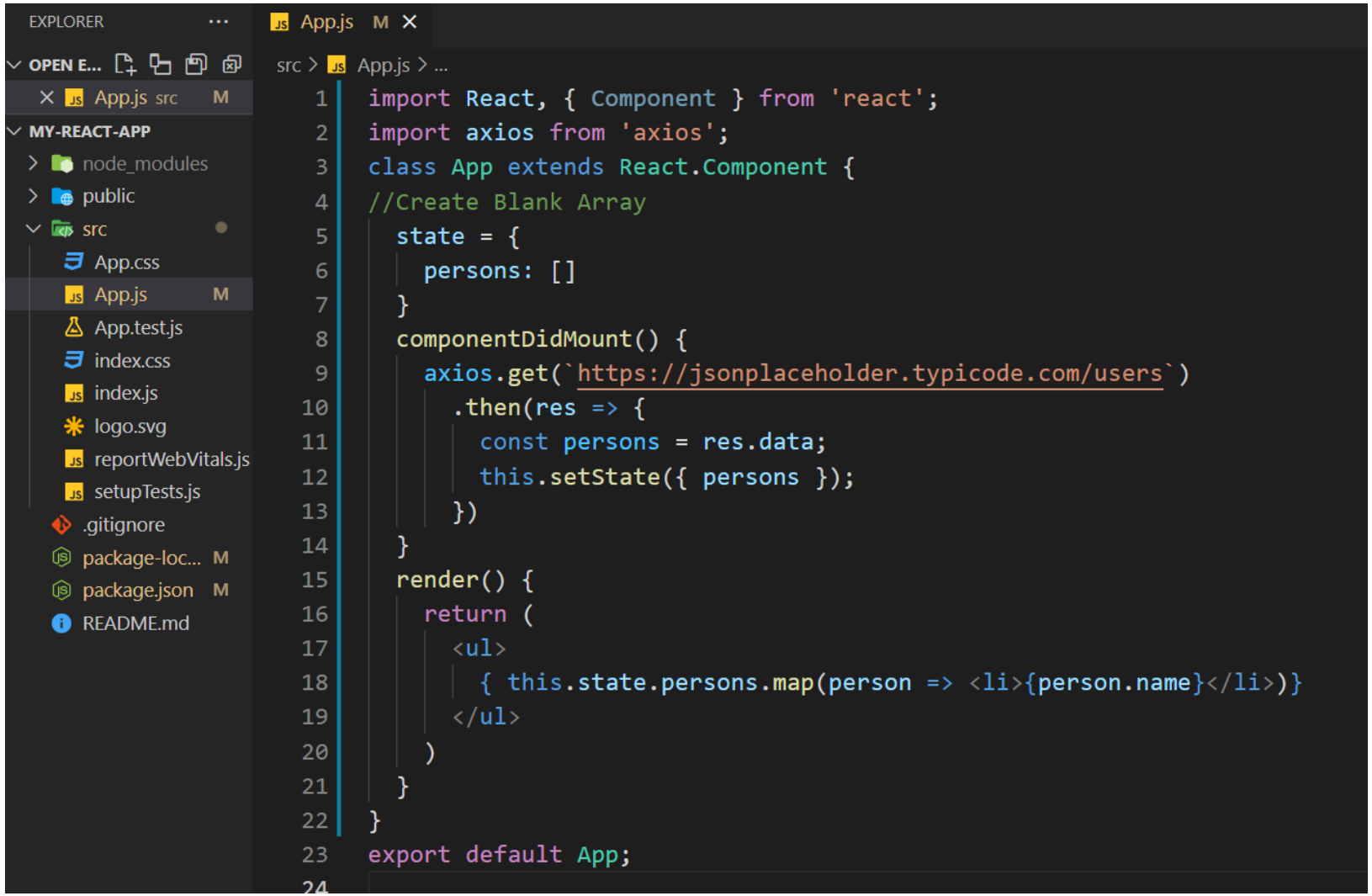
```jsx
import React from 'react'
class App extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      mydata : [] //Blank Array
     };
  }
  componentDidMount(){
    fetch('https://jsonplaceholder.typicode.com/users')
    .then(response => response.json())
    .then(response =>{
      this.setState({mydata: response}); //JSON Response assign in Array
    });
  }
  render() {
    return (
      <div>
        Api Call <br/>
        {/* Print Array Data using Map */}
        {this.state.mydata.map(values => (
          <li>Name : {values.name} | Email :{values.email} </li>
        ))}
      </div>
    );
  }
}
export default App;
```

App.js M

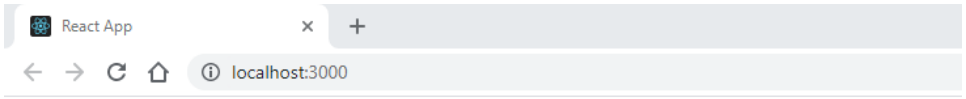
src > App.js > ...

```jsx
import React, { Component } from 'react';
import axios from 'axios';
class App extends React.Component {
//Create Blank Array
  state = {
    persons: []
  }
  componentDidMount() {
    axios.get(`https://jsonplaceholder.typicode.com/users`)
      .then(res => {
        const persons = res.data;
        this.setState({ persons });
      })
  }
  render() {
    return (
      <ul>
        { this.state.persons.map(person => <li>{person.name}</li>)}
      </ul>
    )
  }
}
export default App;
```

Load Data Using Get Method

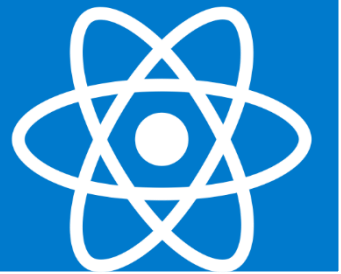


Output



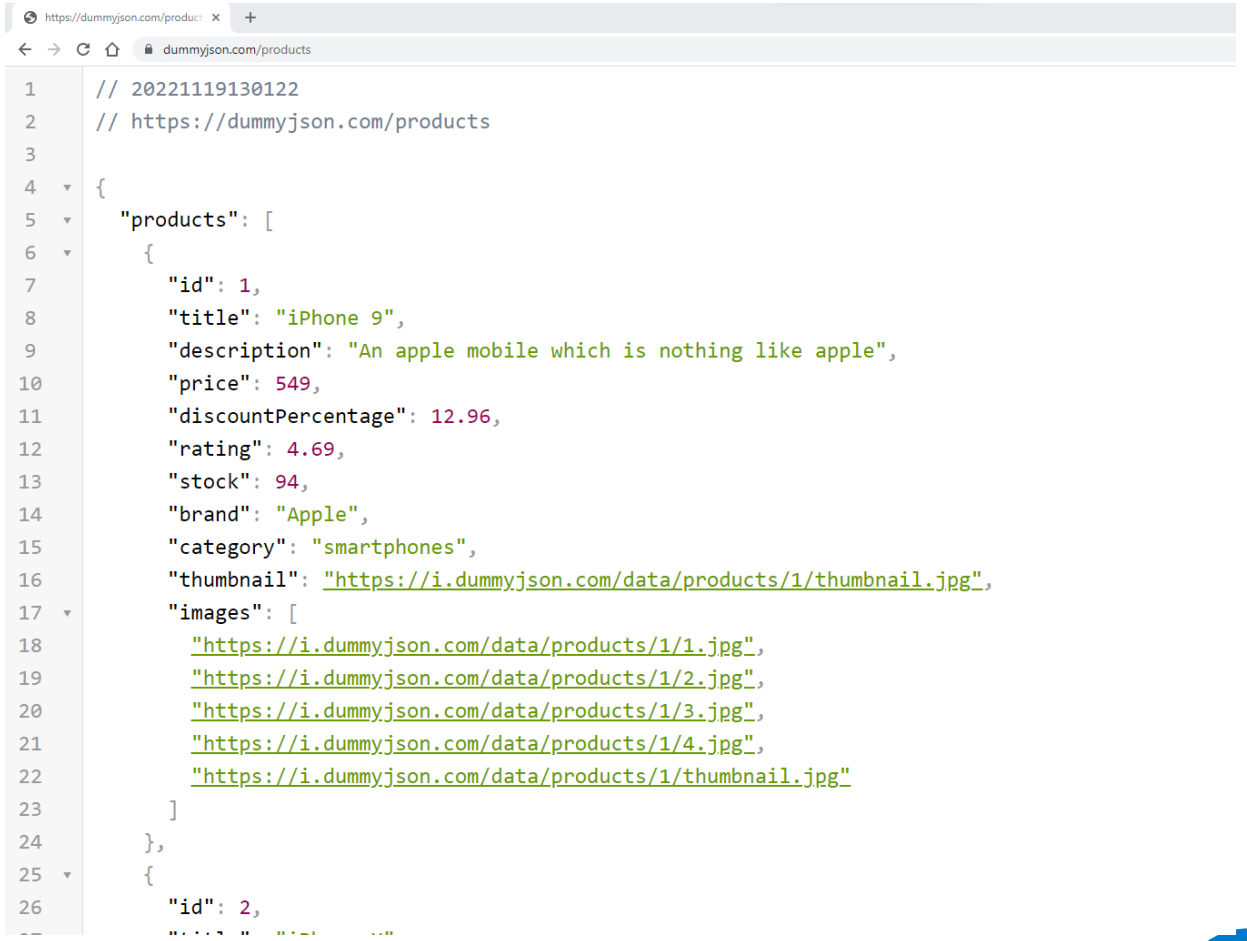
- Leanne Graham
- Ervin Howell
- Clementine Bauch
- Patricia Lebsack
- Chelsey Dietrich
- Mrs. Dennis Schulist
- Kurtis Weissnat
- Nicholas Runolfsdottir V
- Glenna Reichert
- Clementina DuBuque

Api with Object Array



API with Object

- URL : https://dummyjson.com/products
- Method : Get
- Response : Object[Array]



Object Array API

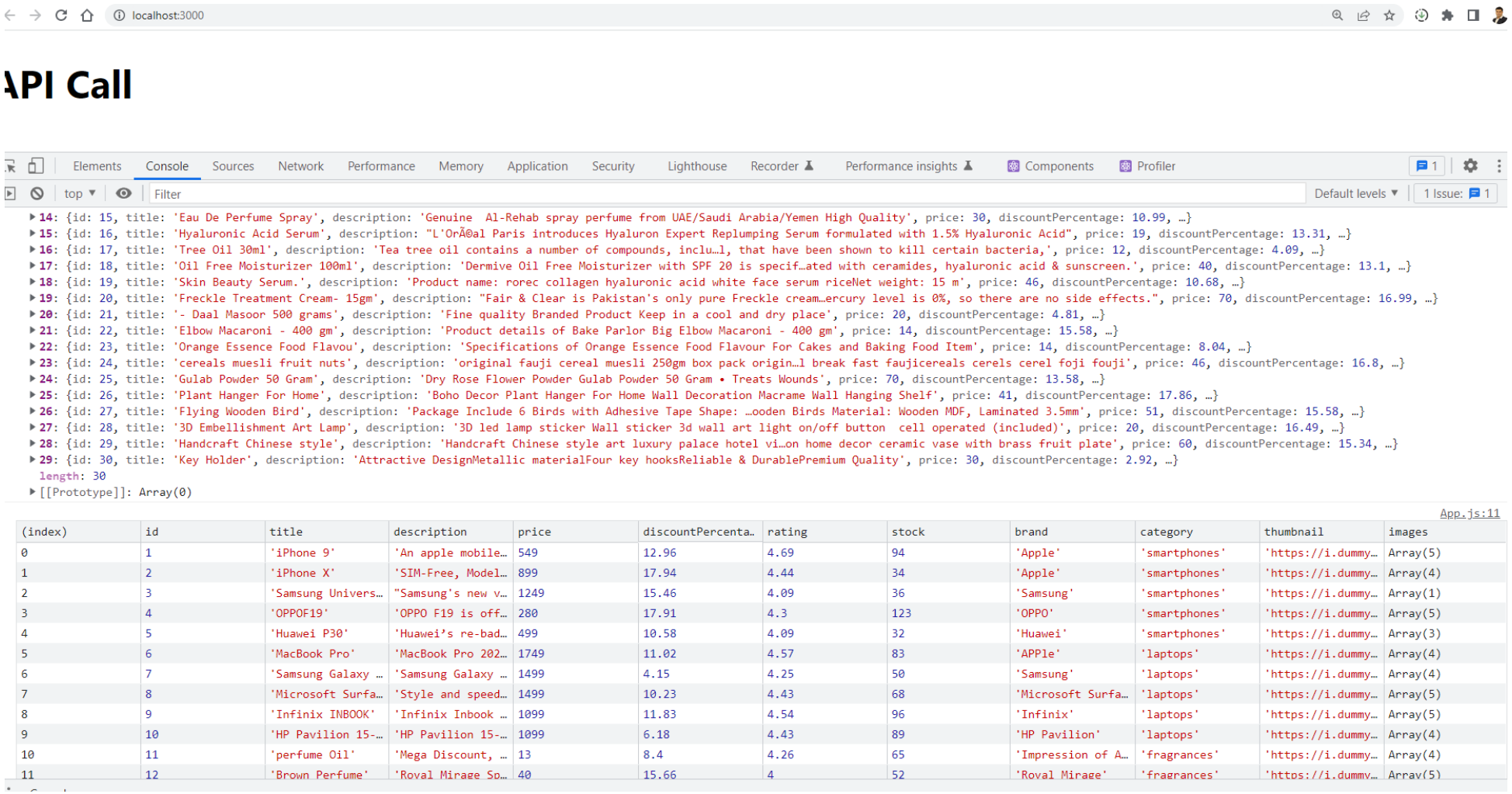
App.js M

src > App.js > default

```
1  import axios from "axios";
2  import React from 'react'
3  class App extends React.Component {
4    constructor(props) {
5      super(props);
6      this.state = { mydata:[] };
7    }
8    componentDidMount() {
9      axios.get("https://dummyjson.com/products")
10     .then((result) => {
11       console.table(result.data.products);
12     }).catch((err) => {
13       console.warn("Error in API Calling" + err.message);
14     });
15   }
16   render() {
17     return (
18       <div>
19         <h1>API Call </h1>
20       </div>
21     );
22   }
23 }
24 export default App;
```

```
import axios from "axios";
import React from 'react'
class App extends React.Component {
 constructor(props) {
  super(props);
  this.state = { mydata:[] };
 }
 componentDidMount() {
  axios.get("https://dummyjson.com/products")
  .then((result) => {
     console.table(result.data.products);
  }).catch((err) => {
     console.warn("Error in API Calling" + err.message);
  });
 }
 render() {
  return (
   <div>
    <h1>API Call </h1>
   </div>
  );
 }
}
export default App;
```

Console.table(Array Print)



Store Api Response in State Array

App.js M

src > App.js > default

```
import axios from "axios";
import React from 'react';
class App extends React.Component {
  constructor(props) {
    super(props);
    this.state = {mydata:[] };
  }
  componentDidMount() {
    axios.get("https://dummyjson.com/products")
      .then((result) => {
        //console.table(result.data.products);
        //Assign API Result in Array
        this.setState({ mydata: result.data.products });

      }).catch((err) => {
        console.warn("Error in API Calling" + err.message);
      });
  }
  render() {
    return (
     <div>
      <h1>API Call</h1>
     </div>
    );
  }
}
export default App;
```

Print Response as String

App.js M

src > App.js > default

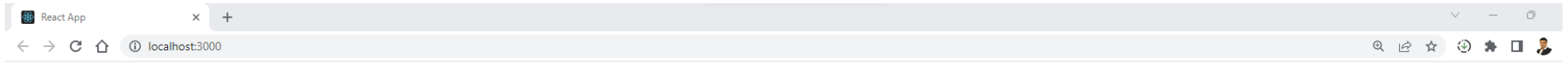
```
import axios from "axios";
import React from 'react';
class App extends React.Component {
  constructor(props) {
    super(props);
    this.state = {mydata:[] };
  }
  componentDidMount() {
    axios.get("https://dummyjson.com/products")
      .then((result) => {
        //console.table(result.data.products);
        //Assign API Result in Array
        this.setState({ mydata: result.data.products });

      }).catch((err) => {
        console.warn("Error in API Calling" + err.message);
      });
  }
  render() {
    return (
      <div>
        <h1>API Call</h1>
        {JSON.stringify(this.state.mydata)}
      </div>
    );
  }
}
export default App;
```


```
import axios from "axios";
import React from 'react';
class App extends React.Component {
 constructor(props) {
  super(props);
  this.state = {mydata:[] };
 }
 componentDidMount() {
  axios.get("https://dummyjson.com/products")
   .then((result) => {
    //console.table(result.data.products);
    //Assign API Result in Array
    this.setState({ mydata: result.data.products });

   }).catch((err) => {
    console.warn("Error in API Calling" + err.message);
   });
 }
 render() {
  return (
   <div>
    <h1>API Call</h1>
    {JSON.stringify(this.state.mydata)}
   </div>
  );
 }
}
export default App;
```

Output



API Call

[{"id":1,"title":"iPhone 9","description":"An apple mobile which is nothing like
apple","price":549,"discountPercentage":12.96,"rating":4.69,"stock":94,"brand":"Apple","category":"smartphones","thumbnail":"https://i.dummyjson.com/data/products/1/thumbnail
["https://i.dummyjson.com/data/products/1/1.jpg","https://i.dummyjson.com/data/products/1/2.jpg","https://i.dummyjson.com/data/products/1/3.jpg","https://i.dummyjson.com/
{"id":2,"title":"iPhone X","description":"SIM-Free, Model A19211 6.5-inch Super Retina HD display with OLED technology A12 Bionic chip with
...","price":899,"discountPercentage":17.94,"rating":4.44,"stock":34,"brand":"Apple","category":"smartphones","thumbnail":"https://i.dummyjson.com/data/products/2/thumbnail.jpg"
["https://i.dummyjson.com/data/products/2/1.jpg","https://i.dummyjson.com/data/products/2/2.jpg","https://i.dummyjson.com/data/products/2/3.jpg","https://i.dummyjson.com/
{"id":3,"title":"Samsung Universe 9","description":"Samsung's new variant which goes beyond Galaxy to the
Universe","price":1249,"discountPercentage":15.46,"rating":4.09,"stock":36,"brand":"Samsung","category":"smartphones","thumbnail":"https://i.dummyjson.com/data/products/3/thu
["https://i.dummyjson.com/data/products/3/1.jpg"]},{"id":4,"title":"OPPOF19","description":"OPPO F19 is officially announced on April
2021.","price":280,"discountPercentage":17.91,"rating":4.3,"stock":123,"brand":"OPPO","category":"smartphones","thumbnail":"https://i.dummyjson.com/data/products/4/thumbnail.
["https://i.dummyjson.com/data/products/4/1.jpg","https://i.dummyjson.com/data/products/4/2.jpg","https://i.dummyjson.com/data/products/4/3.jpg","https://i.dummyjson.com/
{"id":5,"title":"Huawei P30","description":"Huawei's re-badged P30 Pro New Edition was officially unveiled yesterday in Germany and now the device has made its way to the
UK.","price":499,"discountPercentage":10.58,"rating":4.09,"stock":32,"brand":"Huawei","category":"smartphones","thumbnail":"https://i.dummyjson.com/data/products/5/thumbnail.j
["https://i.dummyjson.com/data/products/5/1.jpg","https://i.dummyjson.com/data/products/5/2.jpg","https://i.dummyjson.com/data/products/5/3.jpg"]},{"id":6,"title":"MacBook
Pro","description":"MacBook Pro 2021 with mini-LED display may launch between September,
November","price":1749,"discountPercentage":11.02,"rating":4.57,"stock":83,"brand":"APPle","category":"laptops","thumbnail":"https://i.dummyjson.com/data/products/6/thumbnai
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{"id":7,"title":"Samsung Galaxy Book","description":"Samsung Galaxy Book S (2020) Laptop With Intel Lakefield Chip, 8GB of RAM
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{"id":8,"title":"Microsoft Surface Laptop 4","description":"Style and speed. Stand out on HD video calls backed by Studio Mics. Capture ideas on the vibrant
touchscreen.","price":1499,"discountPercentage":10.23,"rating":4.43,"stock":68,"brand":"Microsoft
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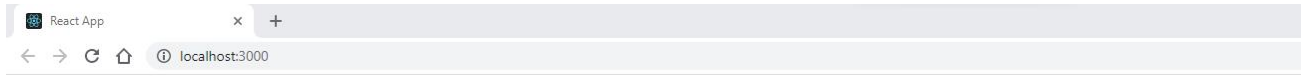


Product Listing

ID	Title	Price	Image
1	iPhone 9	549	
2	iPhone X	899	
3	Samsung Universe 9	1249	
4	OPPOF19	280	
5	Huawei P30	499	

Api Code

App.js M

src > App.js > App

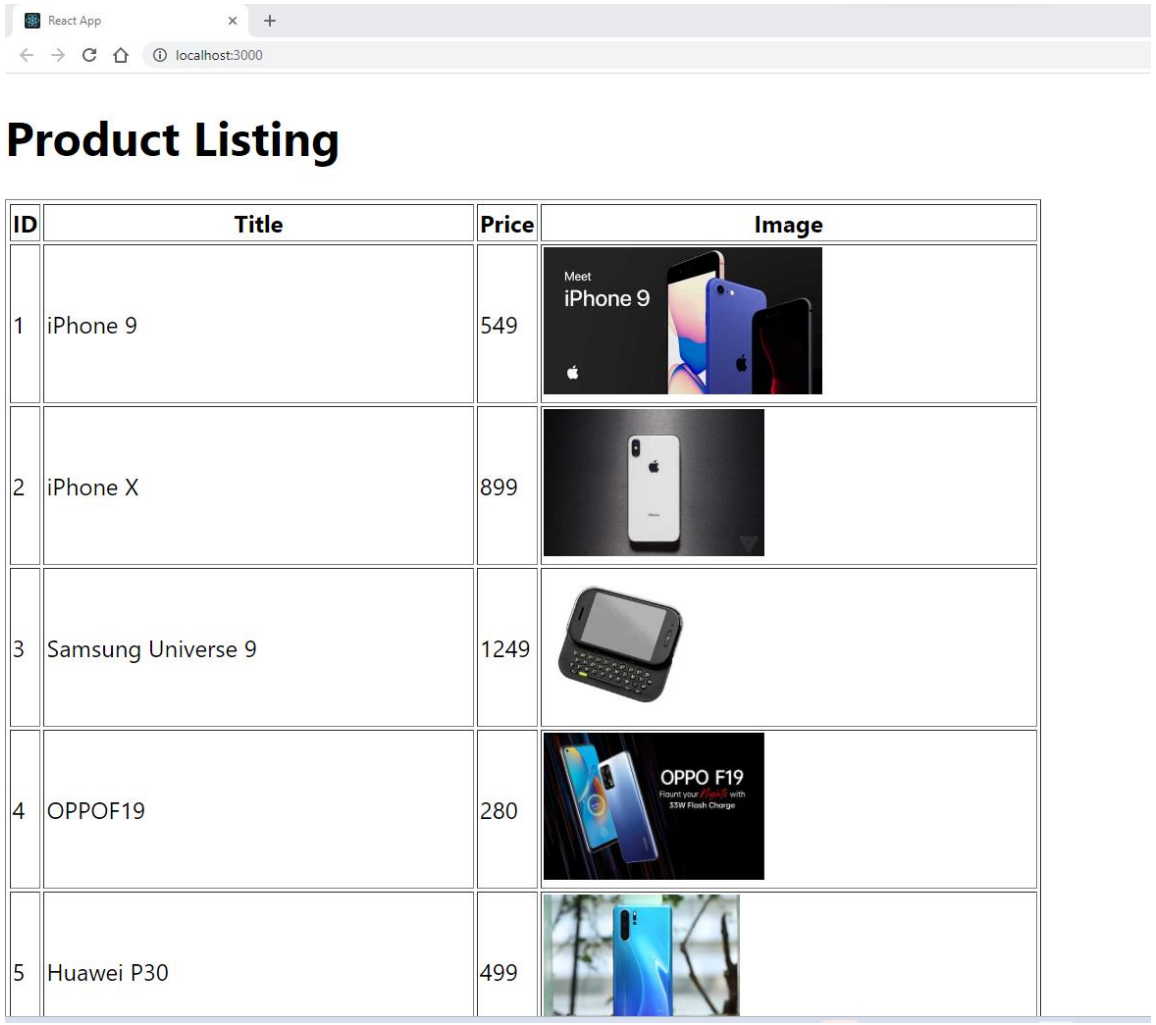
```
1  import axios from "axios";
2  import React from 'react';
3  class App extends React.Component {
4    constructor(props) {
5      super(props);
6      this.state = { mydata: [] };
7    }
8    componentDidMount() {
9      axios.get("https://dummyjson.com/products")
10       .then((result) => {
11         //console.table(result.data.products);
12         //Assign API Result in Array
13         this.setState({ mydata: result.data.products });
14       }).catch((err) => {
15         console.warn("Error in API Calling" + err.message);
16       });
17   }
18
```

App.js M

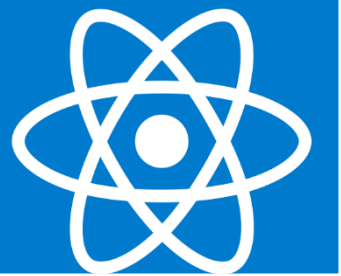
src > App.js > App

```
18
19   render() {
20     return (
21       <React.Fragment>
22         <h1>Product Listing</h1>
23         <table border='1'>
24           <tr>
25             <th>ID</th>
26             <th>Title</th>
27             <th>Price</th>
28             <th>Image</th>
29           </tr>
30           {this.state.mydata.map((myproduct, index) => {
31             return (
32               <tr key={index}>
33                 <td>{index + 1}</td>
34                 <td>{myproduct.title}</td>
35                 <td>{myproduct.price}</td>
36                 <td><img alt={myproduct.thumbnail} height="100" src={myproduct.thumbnail}/></td>
37               </tr>
38             )
39           })}
40         </table>
41       </React.Fragment>
42     );
43   }
44 }
45 export default App;
```

Output


React App
localhost:3000
Product Listing
ID
Title
Price
Image
1
iPhone 9
549
Meet
iPhone 9
2
iPhone X
899
3
Samsung Universe 9
1249
4
OPPOF19
280
OPPO F19
5
Huawei P30
499

Custom API Call



API with Object

- URL : https://akashsir.in/myapi/crud/todo-list-api.php
- Method : Get
- Response : Object[Array]

API Call

Add.js

src > Add.js > Add > componentDidMount

```
1   import React from 'react';
2   import axios from 'axios';
3   class Add extends React.Component {
4       constructor(props) {
5           super(props);
6           this.state = { mydata:[] };
7       }
8       componentDidMount() {
9           axios.get("https://akashsir.in/myapi/crud/todo-list-api.php")
10          .then(res=>{
11              const a = res.data.todo_list;
12              this.setState({ mydata:a});
13          })
14      }
```

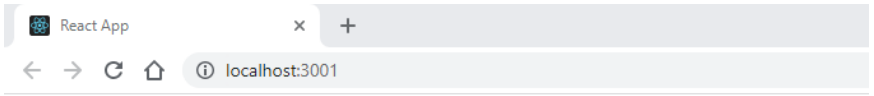
Code

```
15
16      render() {
17          return (
18              <>
19                  <h2>Display</h2>
20                  <table border='1'>
21                      <thead>
22                          <tr>
23                              <th>ID</th>
24                              <th>Title</th>
25                              <th>Details</th>
26                          </tr></thead>
27                      <tbody>
28                          {this.state.mydata.map((values, i) =>
29                              <>
30                                  <tr key={i} >
31                                      <td key={values.todo_id}>{values.todo_id}</td>
32                                      <td>{values.todo_title}</td>
33                                      <td>{values.todo_details}</td>
34                                  </tr>
35                              </>
36                          )}
37                      </tbody>
38                  </table>
39              </>
40          );
41      }
42  }
43  export default Add;
```

Code

```
import axios from 'axios';
class Add extends React.Component {
   constructor(props) {
      super(props);
      this.state = { mydata: [] };
   }
   componentDidMount() {
      axios.get("https://akashsir.in/myapi/crud/todo-list-api.php")
         .then(res => {
            const a = res.data.todo_list;
            this.setState({ mydata: a });
         })
   }
```

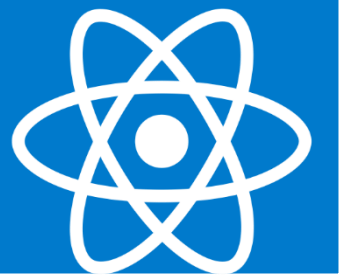
```
render() {
      return (
         <>
            <h2>Display</h2>
            <table border='1'>
               <thead>
                  <tr>
                     <th>ID</th>
                     <th>Title</th>
                     <th>Details</th>
                  </tr></thead>
               <tbody>
                  {this.state.mydata.map((values, i) =>
                     <>
                        <tr key={i} >
                           <td key={values.todo_id}>{values.todo_id}</td>
                           <td>{values.todo_title}</td>
                           <td>{values.todo_details}</td>
                        </tr>
                     </>
                  )}
               </tbody>
            </table>
         </>
      );
   }
}
export default Add;
```



Display

ID	Title	Details
1	Todo 1	Todo detail 1
2	Todo 2	Todo detail 2
3	Todo 3	Todo detail 3
4	Todo 4	Todo detail 4

Hooks



Hooks

```
import React,{useState,useEffect} from 'react';
import axios from 'axios';
function Display2(){

   const [mydata,setData] = useState([]);

   useEffect(() =>{
      axios.get("https://akashsir.in/myapi/crud/todo-list-api.php")
      .then(res => {
         console.log(res.data);
         setData(res.data.todo_list);
      })
   },[])
```

Code

Display2.js

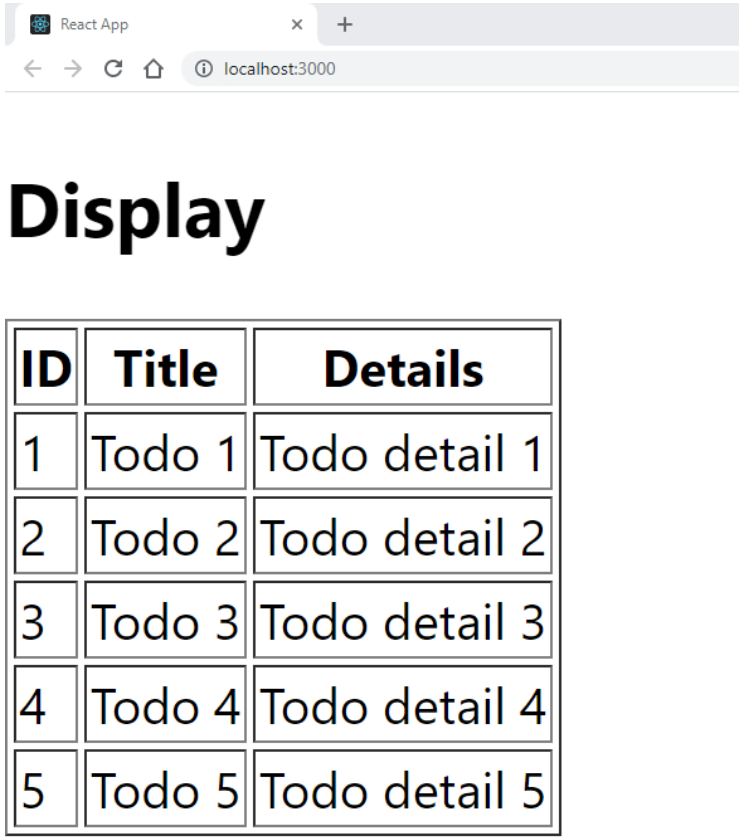
src > Display2.js > Display2

```
14
15          return (
16              <>
17                  <h2>Display</h2>
18                  <table border='1'>
19                      <thead>
20                          <tr>
21                              <th>ID</th>
22                              <th>Title</th>
23                              <th>Details</th>
24                          </tr></thead>
25                      <tbody>
26                          {mydata.map((values, i) =>
27                              <>
28                                  <tr key={i} >
29                                      <td key={values.todo_id}>{values.todo_id}</td>
30                                      <td>{values.todo_title}</td>
31                                      <td>{values.todo_details}</td>
32                                  </tr>
33                              </>
34                          )}
35                      </tbody>
36                  </table>
37              </>
38          );
39
40  }
41  export default Display2;
```

```
return (
        <>
          <h2>Display</h2>
          <table border='1'>
            <thead>
              <tr>
                <th>ID</th>
                <th>Title</th>
                <th>Details</th>
              </tr></thead>
            <tbody>
              {mydata.map((values, i) =>
                <>
                  <tr key={i} >
                    <td key={values.todo_id}>{values.todo_id}</td>
                    <td>{values.todo_title}</td>
                    <td>{values.todo_details}</td>
                  </tr>
                </>
              )}
            </tbody>
          </table>
        </>
    );

}
export default Display2;
```

Output


React App
localhost:3000
Display
ID
Title
Details
1
Todo 1
Todo detail 1
2
Todo 2
Todo detail 2
3
Todo 3
Todo detail 3
4
Todo 4
Todo detail 4
5
Todo 5
Todo detail 5

Task Call Below API and Print Data in React

- https://jsonplaceholder.typicode.com/users
- https://fakestoreapi.com/products (With Image)
- https://reqres.in/api/users
- https://dummyjson.com/quotes
- https://dummyjson.com/products (With Image)
- https://gorest.co.in/public/v2/users

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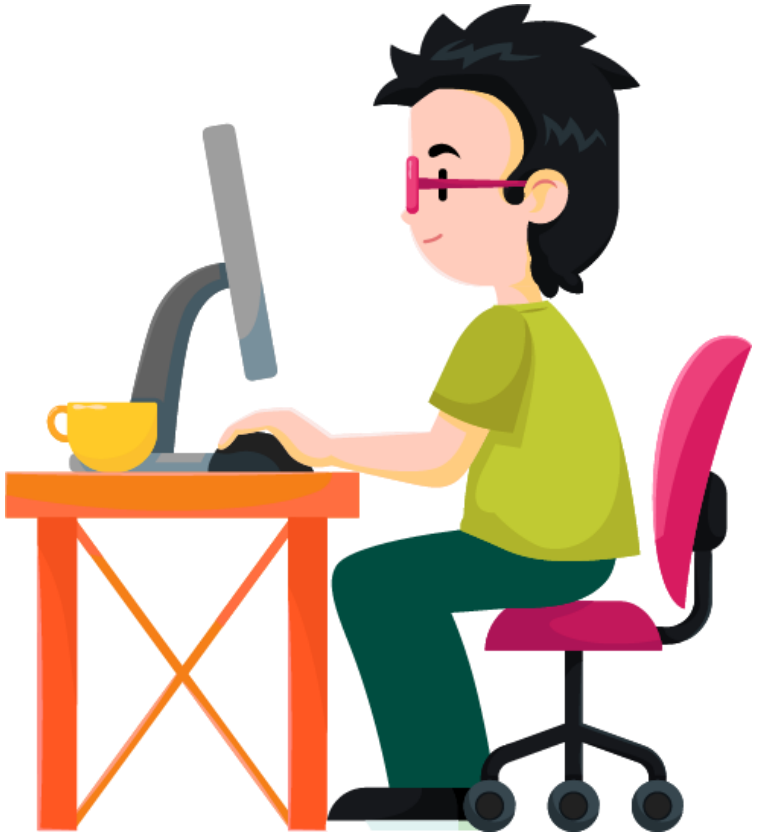

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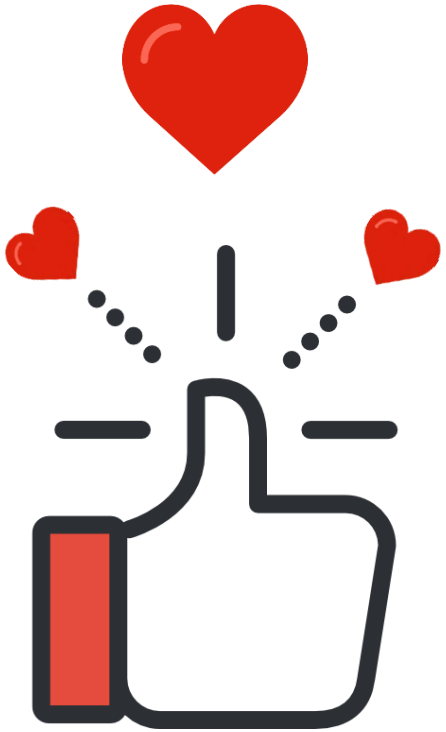
https://www.sulekha.com/akash-technolabs-navrangpura-ahmedabad-contact-address/ahmedabad



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