



College of Engineering, Construction and Living Sciences
Bachelor of Information Technology
IN608: Intermediate Application Development Concepts
Level 6, Credits 15
Practical 18 React 3: State & Lifecycle Methods

Due Date: 28/09/2020 at 5pm

In this practical, you will complete a series of tasks covering today's lecture. This practical is worth 1% of the final mark for the IN608: Intermediate Application Development Concepts course.

Before you start, in your practicals repository, create a new branch called **18-practical**.

Task

Create a React app called `practical18state`. `cd` to `practical18state` & install the following packages:

- Axios - `npm i axios`
- Bootstrap - `npm i bootstrap`
- He - `npm i he`
- React spinners - `npm i react-spinners`
- Reactstrap - `npm i reactstrap`

Optionally, you can install all of them at once, i.e., `npm i axios bootstrap he react-spinners reactstrap`.

Create a directory called `components`. Move `App.js` into `components`. Create a file called `OpenTDB.js`. In `OpenTDB.js`, create a function based component called `OpenTDB`. In `OpenTDB`, declare the following constructor:

```
const [error, setError] = useState(null)
const [isLoading, setIsLoaded] = useState(false)
const [data, setData] = useState([])
```

Below the constructor, declare the following `useEffect`:

```
useEffect(() => {
  axios.get('https://opentdb.com/api.php?amount=5&type=boolean').then(
```

```
(response) => {  
  setIsLoaded(true)  
  setData(response.data.results)  
},  
(error) => {  
  setIsLoaded(true)  
  setError(error)  
}  
)  
}, [])
```

What is happening?

You are using a promise based HTTP package called **axios** to request data from an API endpoint using the **GET** HTTP method. **then()** method is called & returns a **Promise**. It takes up to two arguments: callback functions for the success and failure cases of the **Promise**. In our case, if success, set the state of **isLoaded** to **true** & **data** to the response contents from the API request. If failure, set the state of **isLoaded** to **true** & **error** to error message.

In **render()**, if there is an error display the **error** state's message. If **isLoaded** is **false**, display a loading spinner using **react-spinners**. If **isLoaded** is **true**, return a **reactstrap** table containing the **data**. To use **reactstrap**, you must declare the following in **index.js**:

```
import 'bootstrap/dist/css/bootstrap.min.css'
```

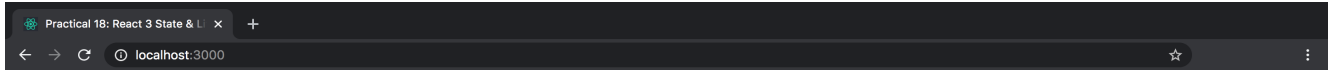
This is just a reference to a minified CSS file in the **bootstrap** package. You will notice some questions contain HTML entities. Encoding works slightly different in React & you need to use **he** to do this. If there is no **data**, display the message **No data available**. in the **reactstrap** table. This message should span four table columns.

In **App.js**, call the **OpenTDB** component. Your **App.js** file should look like the following:

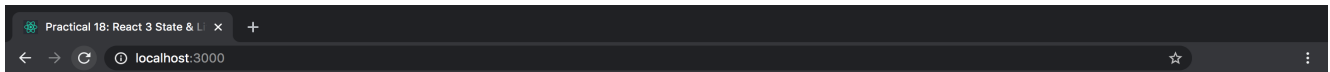
```
import React from 'react'  
import OpenTDB from './OpenTDB'  
  
function App() {  
  return (  
    <div className='container'>  
      <OpenTDB />  
    </div>  
  )  
}  
  
export default App
```

Expected Output

Run the command **npm start** then navigate to <http://localhost:3000/>

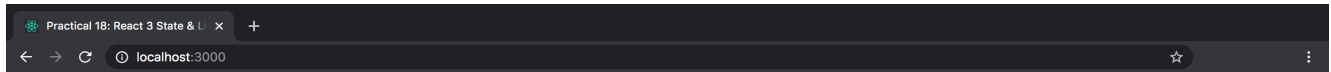


Loading data...please wait...



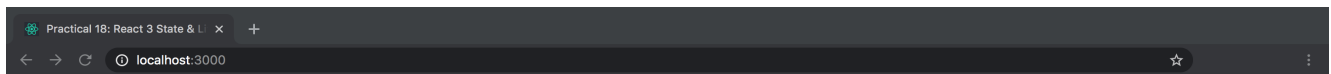
OpenTDB API - True or False

Category	Difficulty	Question	Answer
Science & Nature	Medium	Hippopotomonstrosesquippedaliophobia is the irrational fear of long words.	True
Geography	Medium	Israel is 7 hours ahead of New York.	True
Entertainment: Video Games	Medium	"Metal Gear Solid 3: Snake Eater" takes place on Shadow Moses Island.	False
Science: Gadgets	Medium	The Western Electric Model 500 telephone uses tone dialing to dial phone numbers.	False
Science: Mathematics	Medium	A 'Millinillion' is a real number.	True



OpenTDB API - True or False

Category	Difficulty	Question	Answer
No data available.			



Error: Network Error

Deployment link: <https://int-app-dev-practical-18.herokuapp.com/>

Resources

- [OpenTDB API](#)

- [Axios](#)
- [Bootstrap](#)
- [He](#)
- [React spinners](#)
- [Reactstrap](#)