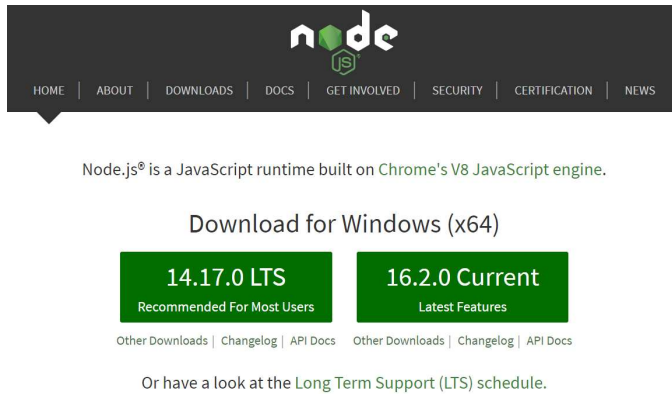


## Lab 9

### Part 1

#### 1. Install Node JS

Go to **nodejs.org** and download the latest nodejs version:



Install nodejs with the default values of the installer.

After the installation you can check if nodejs has installed by opening a terminal/prompt and type **node -v**

```
Command Prompt
Microsoft Windows [Version 10.0.19041.985]
(c) Microsoft Corporation. All rights reserved.

C:\Users\vedam>node -v
v14.17.0

C:\Users\vedam>
```

#### 2. Install Visual Studio Code

Go to <https://code.visualstudio.com/download> and download and install visual studio code.

Now we need to create a directory where we want to create our first react app. My directory is **C:\waa\reactworkspace**. Then go to the just created directory and type the command:

```
npx create-react-app lab9part1solution
```

A new react application is now created (this might take some time)

```
Command Prompt

}
Removing .git directory...

Success! Created lab9part1solution at C:\waa\workspacenew\lab9part1solution
Inside that directory, you can run several commands:

npm start
  Starts the development server.

npm run build
  Bundles the app into static files for production.

npm test
  Starts the test runner.

npm run eject
  Removes this tool and copies build dependencies, configuration files
  and scripts into the app directory. If you do this, you can't go back!

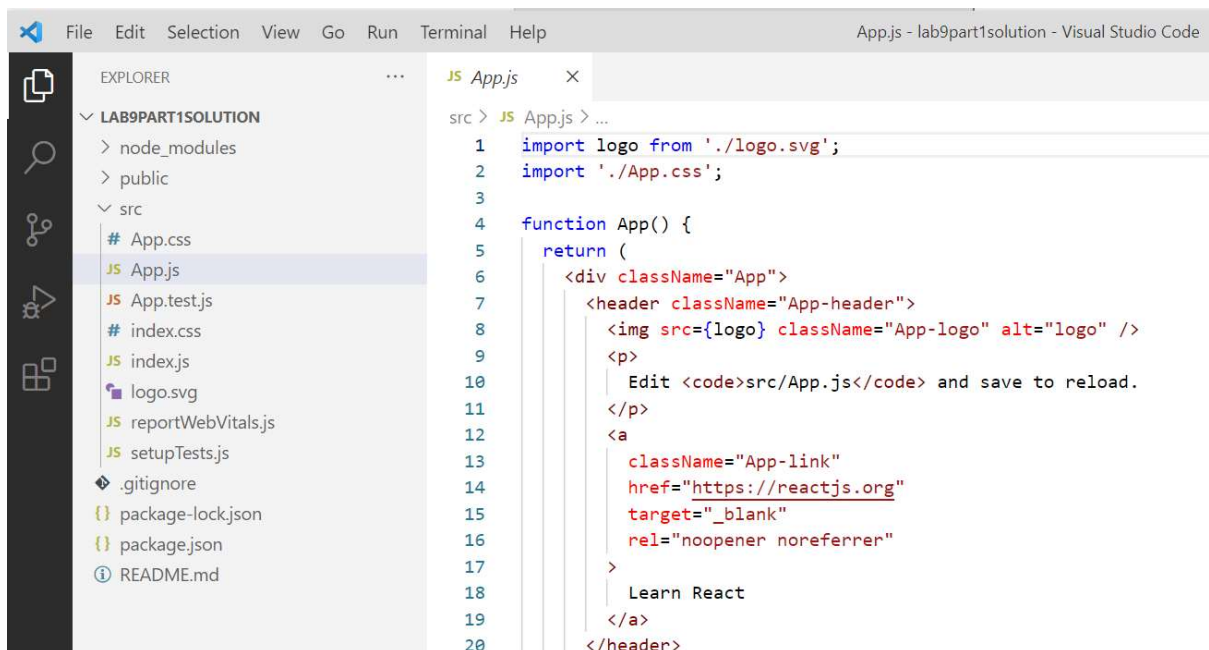
We suggest that you begin by typing:

cd lab9part1solution
npm start

Happy hacking!
```

When the project is created we are going to open this project in Visual studio code

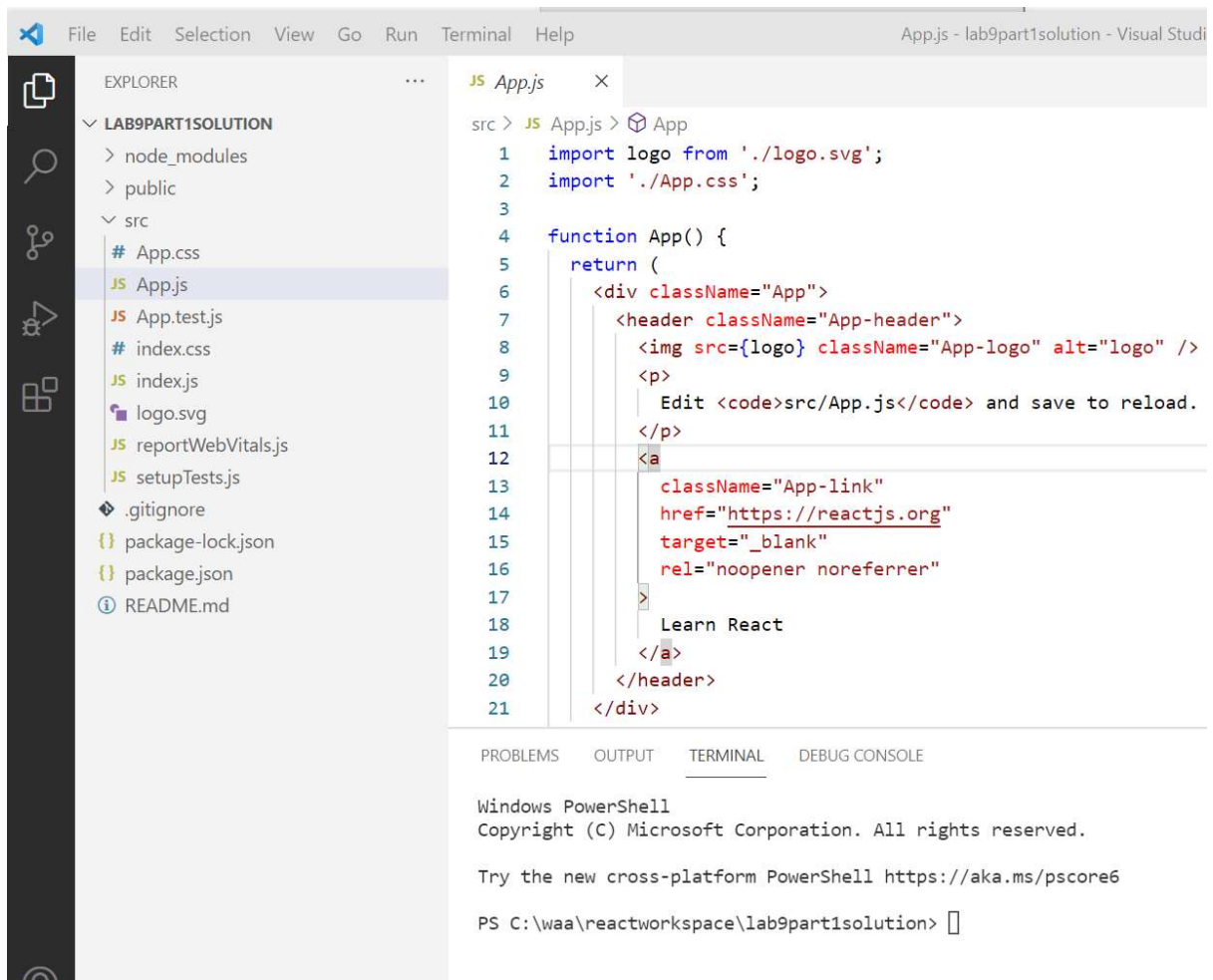
In Visual Studio Code, select **File->Open Folder** and select the folder **lab9part1solution**



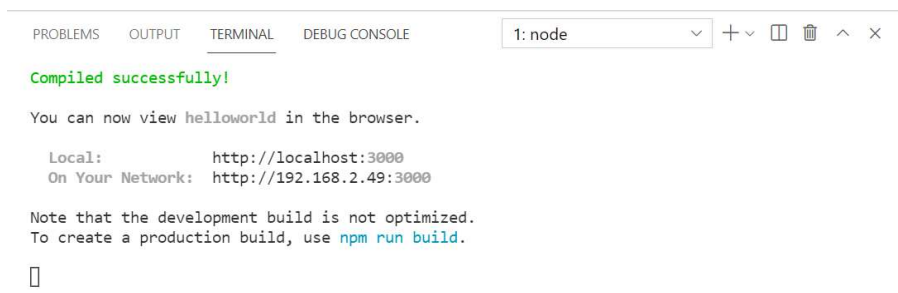
We see the generated project in Visual Studio.

Now we want to run our generated react app.

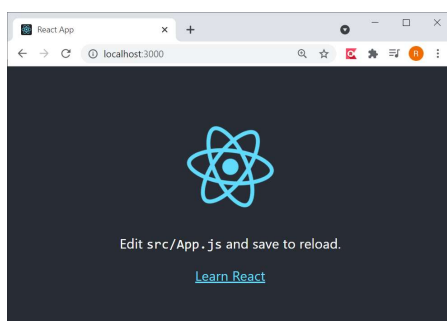
In Visual Studio click **Terminal-> New Terminal**. This will open a terminal window in Visual Studio.



We are already in the correct directory.  
Now type the command ***npm start*** in the terminal



This will automatically start our react application in the browser at localhost:3000



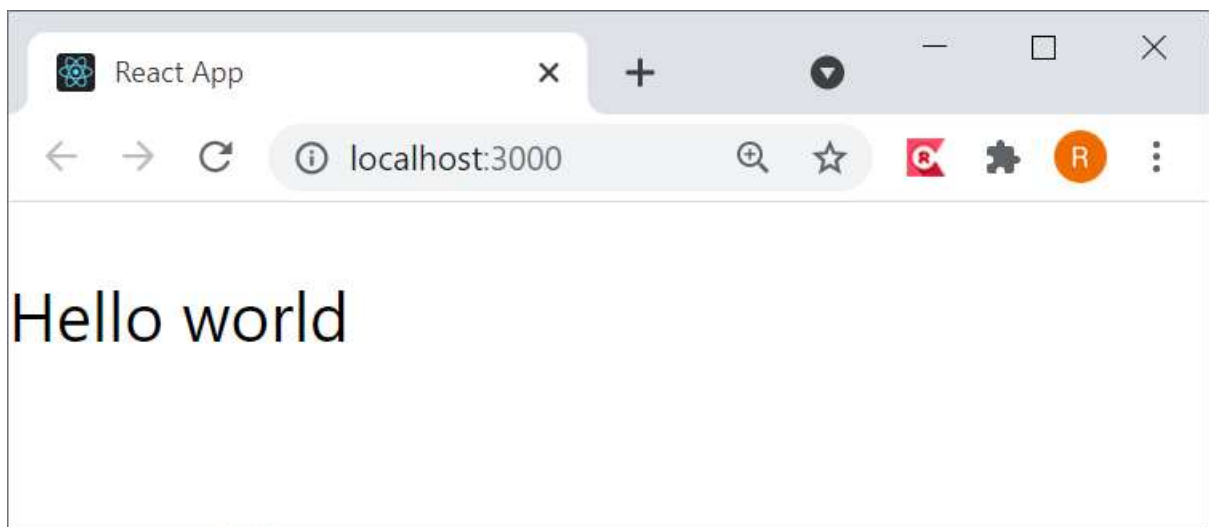
Now we are going to change the content of our application. In Visual Studio edit the file App.js as follows:

```
import './App.css';

function App() {
  return (
    <div>
      <header>
        <p>
          Hello world
        </p>
      </header>
    </div>
  );
}

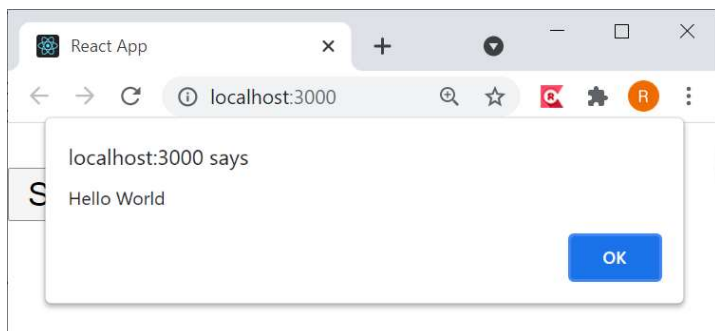
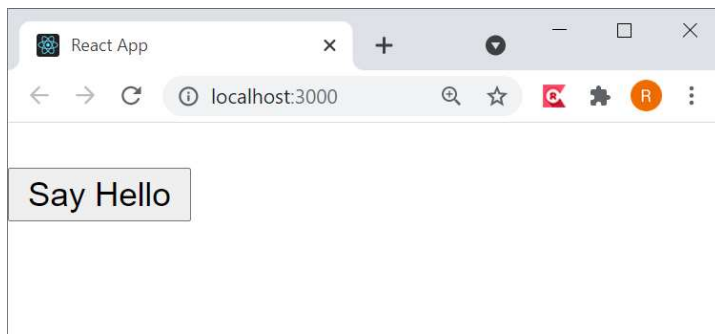
export default App;
```

When we save the App.js file you see that the change is immediate reflected in the browser:



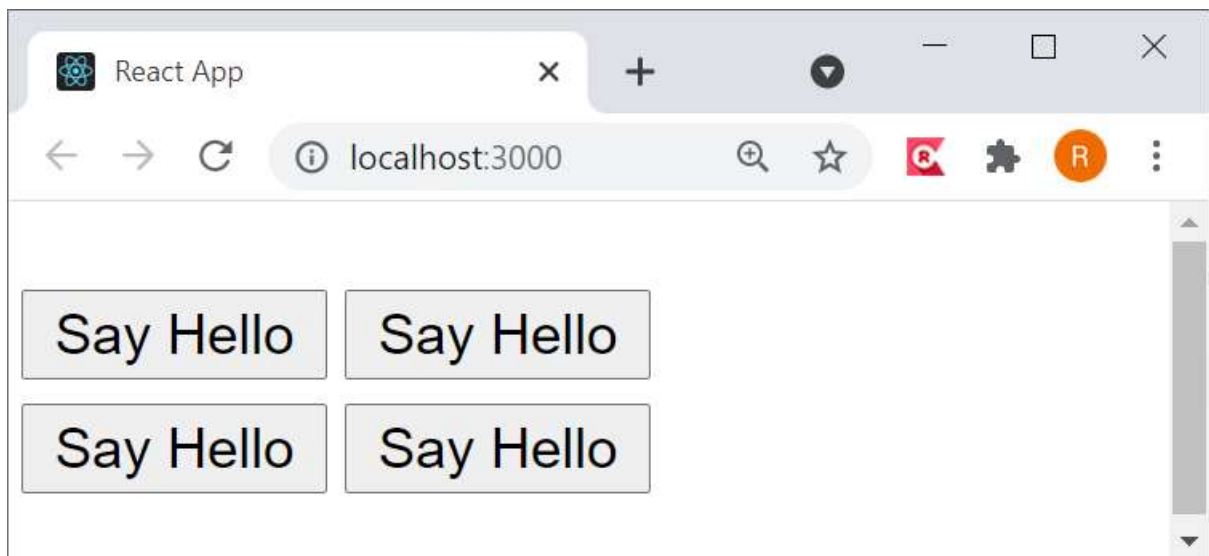
## Part 2

Write a React application with a component that contains a button. When you click the button an alert should be shown:



Make sure the Button is in a separate component file, not is App.js.

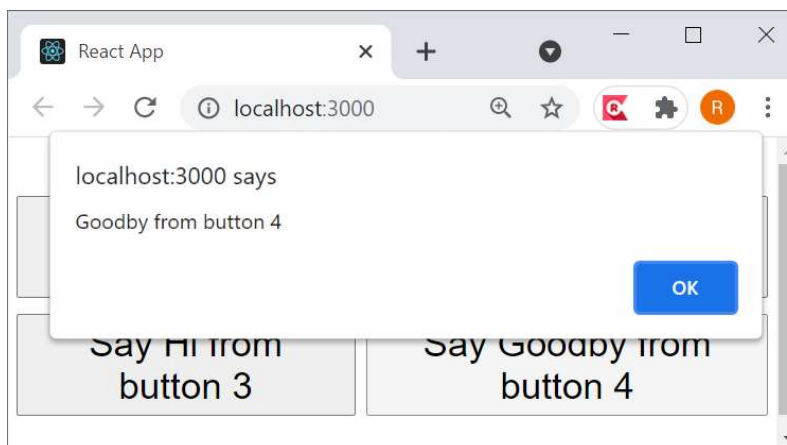
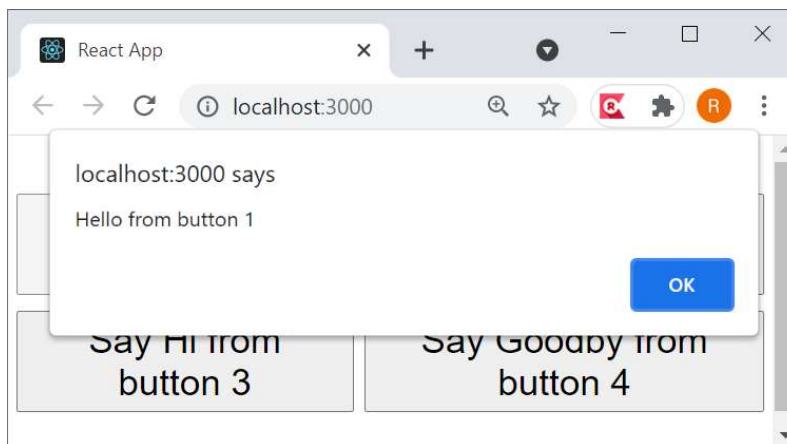
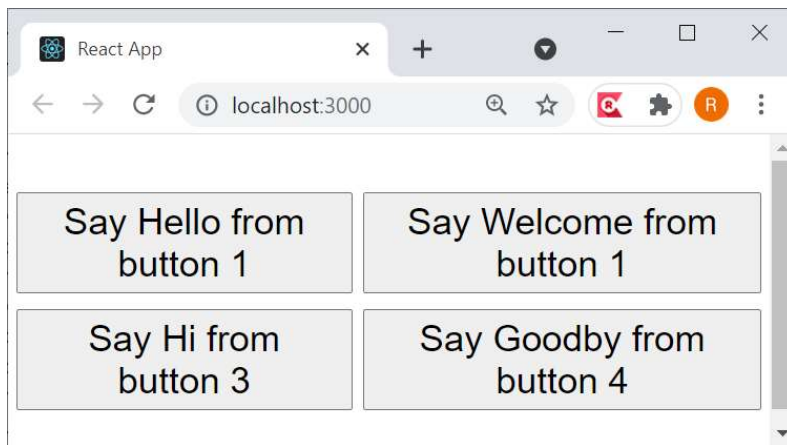
Then modify the application so that the one single button component is shown 4 times:



Every button click will show the same alert message.

Now modify the button component so that:

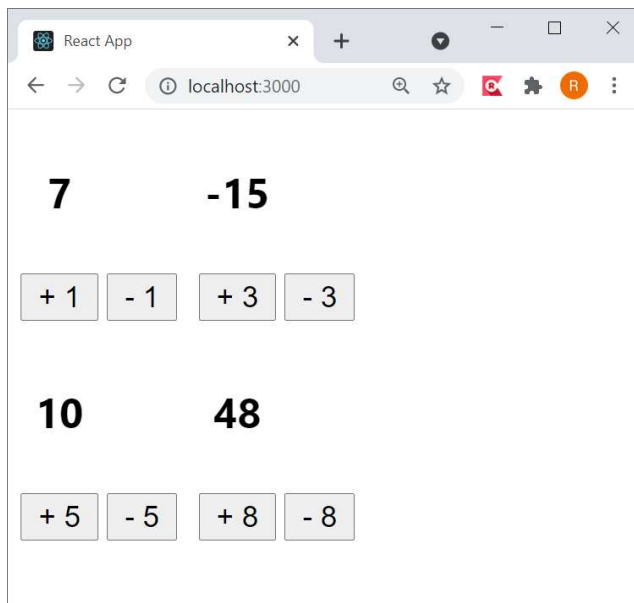
1. Every button has a different text.
2. Every button click shows a different message:



Make sure you implement this with only 1 component, not 4 separate components.

### Part 3

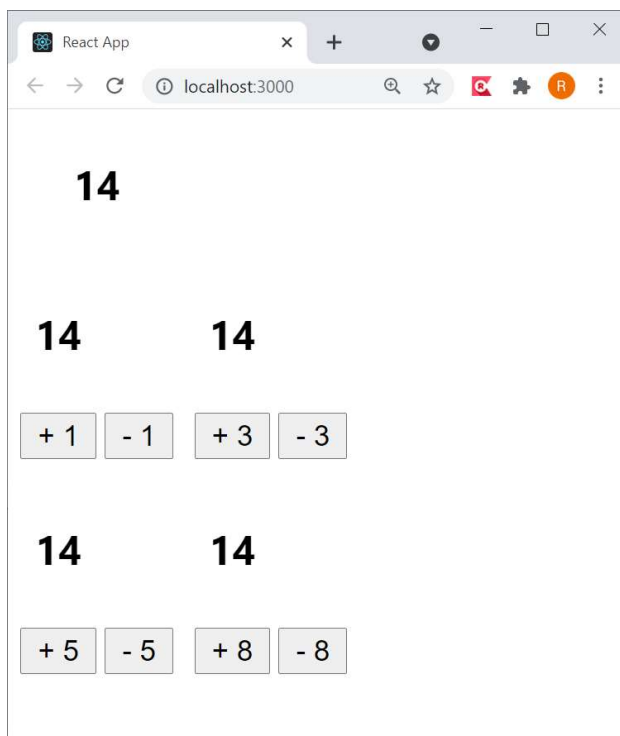
Write a React application that shows 4 individual counter components with its own countervalue:



Make sure that for this page you use only 1 counter component and not 4.

### Part 4

Now modify the solution of part 3 so that there is only one counter value that is shown at the top of the page, and also in the individual counter components:



### **What to hand in?**

1. For every part of the lab, create a zip file with only App.js and all other necessary .js files for this lab. So you will submit 4 zip files, for every part 1 zip file with only .js files in it. Do not send a zip of the whole directory because that is a large file.
2. Write a readme.txt file with the following content:
  - a) Status of the lab. Describe here if you finished all parts of the lab or not. If you did not finish the lab, describe which parts are finished, and which parts not. Describe clearly why some parts are not finished.
  - b) Write the following statement and sign with your name:

***I hereby declare that this submission is my own original work and to the best of my knowledge it contains no materials previously published or written by another person. I am aware that submitting solutions that are not my own work will result in an NC for the course.***

***[your name as signature]***

Submit your files in sakai as your solution of the lab.