

**Tutorial No. 09**

**Title: Study of React page setup, React Elements, React components**

**Batch:**

**Roll No.:**

**Tutorial No:9**

**Aim:** To showcase the functionality of react components , hooks and props.

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**Resources needed:** VS Code, Node.js ,Web Browser , npm

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**Theory:**

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## **React JS**

React is a declarative, efficient, and flexible JavaScript library for building user interfaces. It lets you compose complex UIs from small and isolated pieces of code called components". We use components to tell React what we want to see on the screen. When our data changes, React will efficiently update and re-render our components. React does not manipulate the browser's DOM directly. Instead, React creates a virtual DOM in memory, where it does all the necessary manipulating, before making the changes in the browser DOM.

## **Setting up a React Environment**

First of all you need to download NodeJs for your operating system version.

<https://nodejs.org/en/download/>

npm(node packet manager once you download NodeJs

Then follow the following commands:

**1) run the command** "C:\Users\Your Name>npm install -g create-react-app"

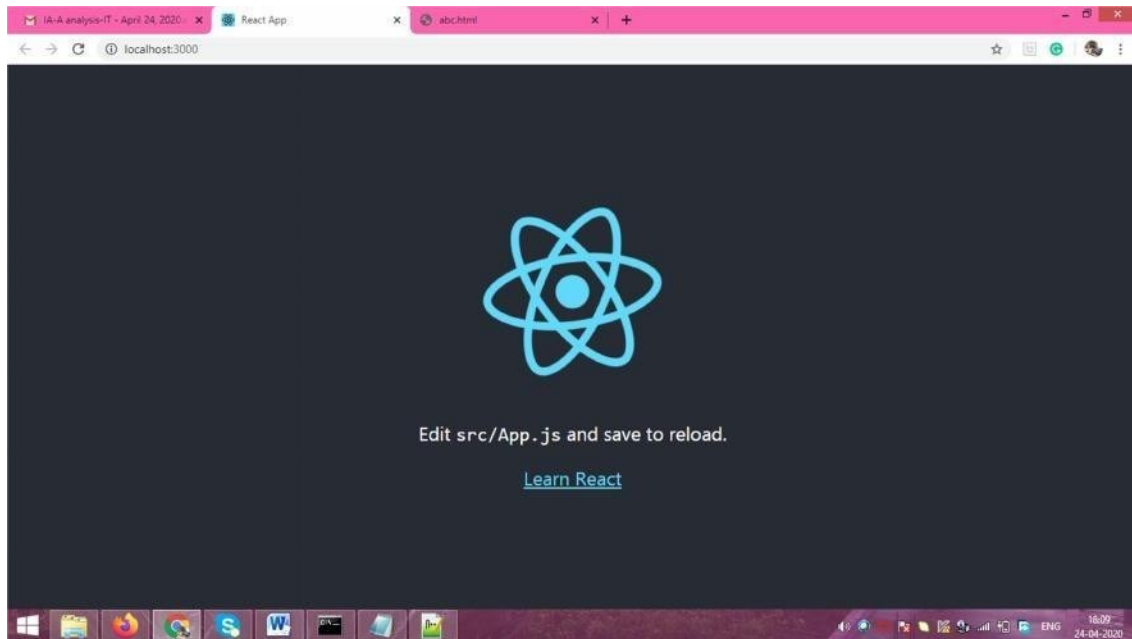
**2) run the command to create an application name helloworld**

"C:\Users\Your Name>npx create-react-app Helloworld"

**3) run this command to get to the current directory** "C:\Users\Your Name>cd helloworld"

**4) run this command to start the react application** "C:\Users\Your Name\helloworld >npm start"

A new browser window will pop up with your newly created React App! If not, open your browser and type localhost:3000 in the address bar.



## Modify the React Application

Look in the helloworld directory, and you will find a src folder. Inside the src folder there is a file called App.js, open it and make changes to any HTML part. You will be able to see the change on the newly opened browser

### App.js File

```
import React, { Component } from 'react';
import logo from './logo.svg';
import './App.css';

class App extends Component {
  render() {
    return (
      <div className="App">
        <header className="App-header">
          <img src={logo} className="App-logo" alt="logo" />
          <p>
            Edit <code>src/App.js</code> and save to reload.
          </p>
        </div>
        <p> Hi </p>
        <a
          className="App-link"
          href="https://reactjs.org"
        >
```

```

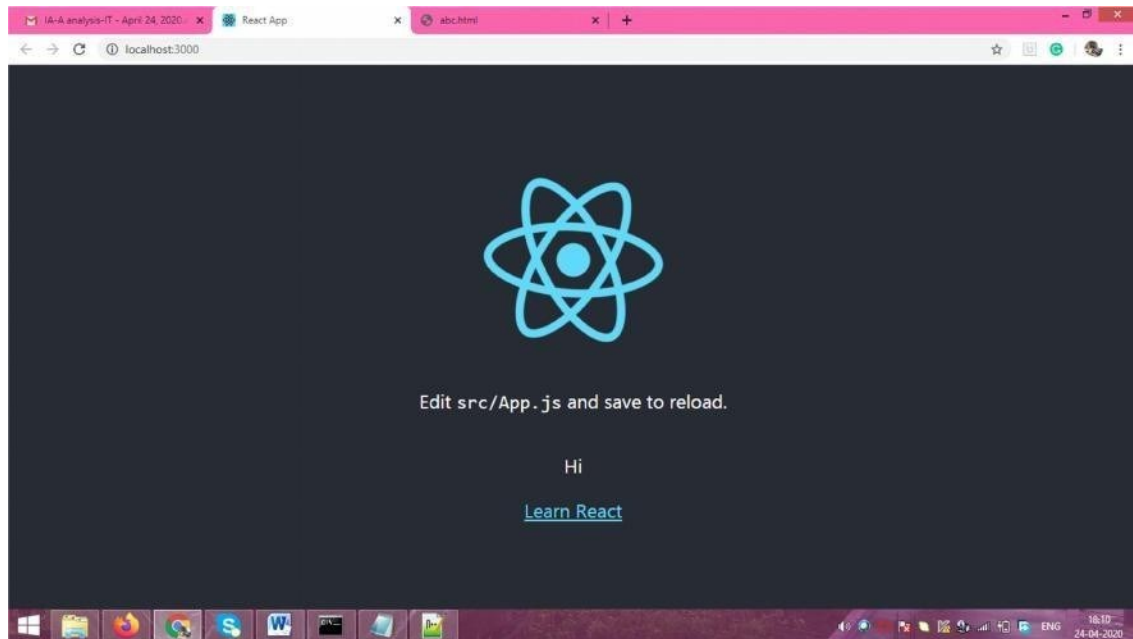
        target="_blank"
        rel="noopener noreferrer"
      >
        Learn React
      </a>
    </header>
  </div>
);
}
}

```

**export default App;**

in the file “Hi” is added inside paragraph tag.

The result browser screen is as follows



Activity:

- Explain React Components and how it is created and used.
- Explain Hooks and show an example for the same .

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**Results:**

**Conclusion: (Conclusion to be based on the outcomes achieved)**

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**Grade: AA / AB / BB / BC / CC / CD /DD**

Signature of faculty in-charge with date

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**References:**

**Books/ Journals/ Websites:**

- <http://www.w3schools.com>
- <https://react.dev/learn/thinking-in-react>