Create a React Component Using React Features:

Start by setting up a new React project using create-react-app or your preferred setup. Within this project, create your React component. Make sure to import useState and useEffect from React, and utilize these features within your component.

Cmd : npx create-react-app sample

Run : npm start

App.js

```
import Content from './Components/Content';
import './App.css';
import Header from './Components/Header';
function App() {
  return (
    <>
    <Header />
    <Content />
    </>
  );
}
export default App;
```

Header.js

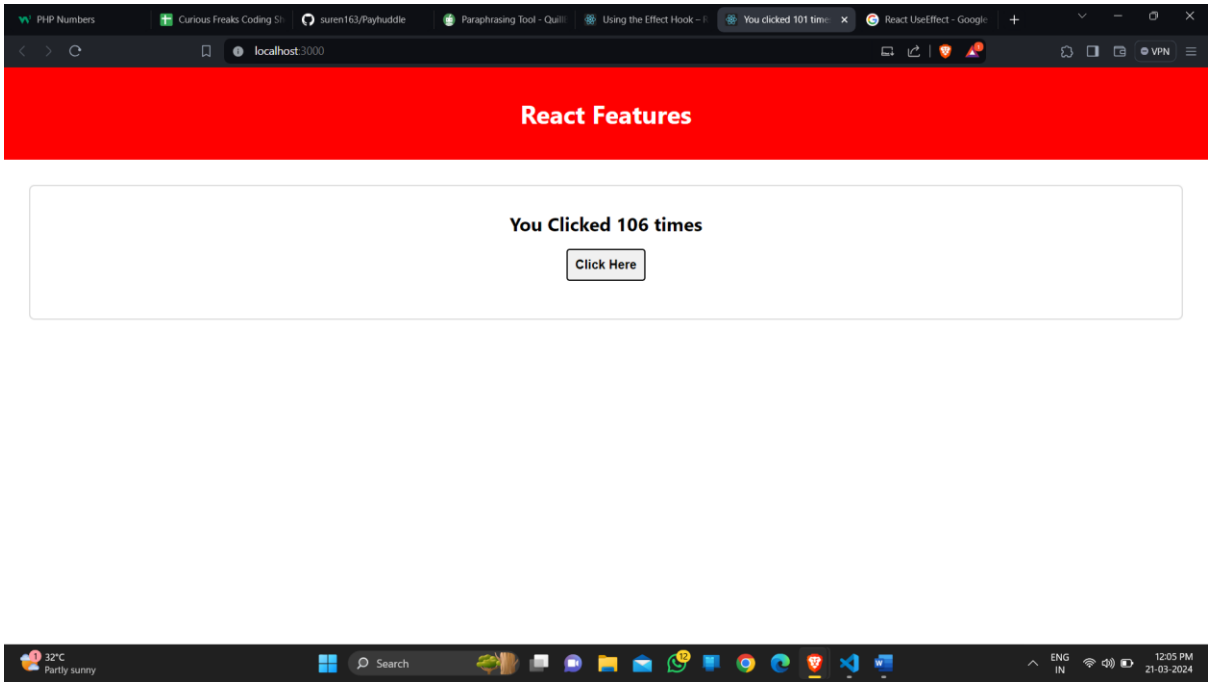
```
import React from 'react'
const Header = () => {
  return (
    <div className='header'>
```

```
        <h1>React Features</h1>
    </div>
  )
}
export default Header
```

Content.js

```
import React, { useEffect, useState } from 'react'
const Content = () => {
  const[count, setCount] = useState(99);
  useEffect(()=>{
    console.log(`You Clicked ${count} times`);
  })
  const handleClick = () =>{
    setCount(count+1);
  }
  return (
    <div className='content'>
      <div className='sub-content'>
      You Clicked {count} times
      </div>
      <button className='btn'
onClick={()=>{handleClick()}}>Click Here</button>
    </div>
  )
}
export default Content
```

Output:



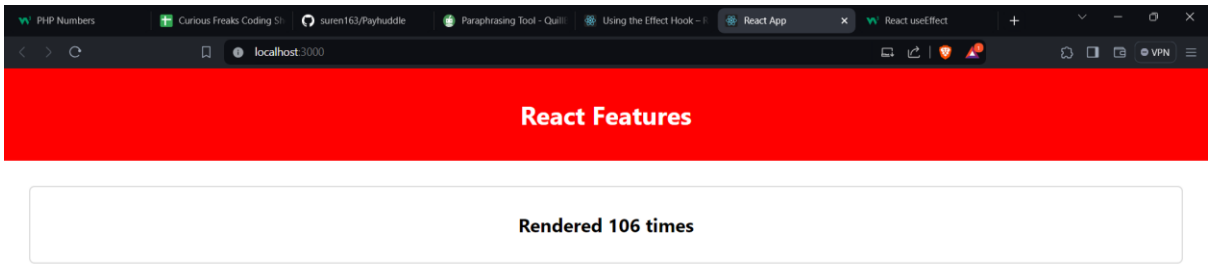
Automatic Time render: time = 1sec

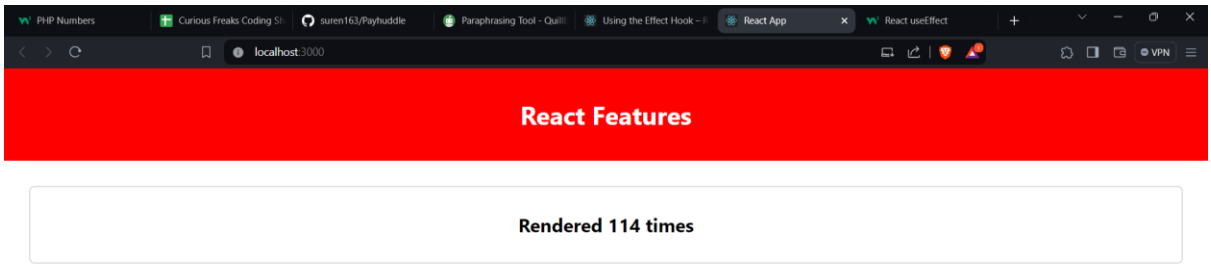
Content.js

```
import React, { useEffect, useState } from 'react'
const Content = () => {
  const[count, setCount] = useState(99);
  useEffect(()=>{
    setTimeout(()=>{
      setCount(count+1);
    },1000)
  })
  return (
    <div className='content'>
      <div className='sub-content'>
      You Clicked {count} times
      </div>
```

```
    </div>
  )
}
export default Content
```

Output:





To create a component and publish into the npmjs

Steps to publish…

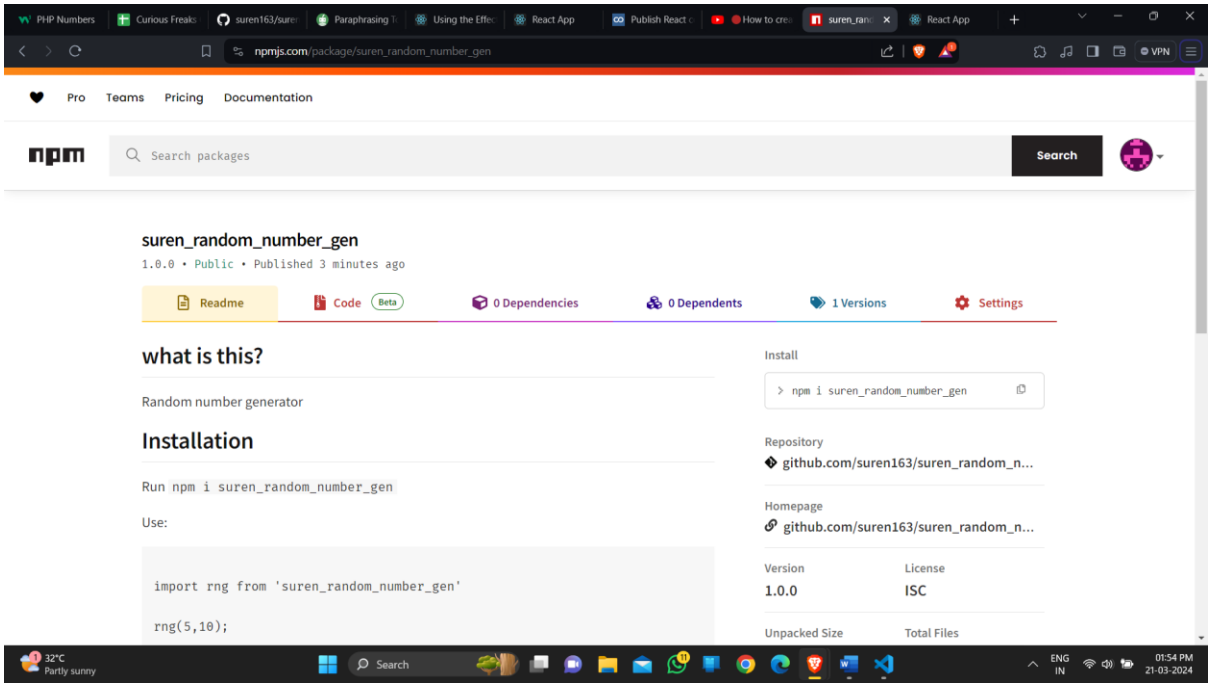
- To create a component or function to upload into the npm.

- In cmd, npm init (for setting the config).
    - Package name
    - Version
    - Entry point
    - Git repository
    - Keywords
    - Author
    - License

- In cmd, **npm login** to login your npm account by using username and password.
- To create a Readme.md (Optional)
- In cmd, **npm publish**
- After publishing, To install the package on your project by using a necessary command.

Example : Random number Generator

https://www.npmjs.com/package/suren_random_number_gen



To Create a function and use the function on the other Project:

In Cmd : npm init (or) npm init -y

- Package name
- Version
- Entry point
- Git repository
- Keywords
- Author
- License

- Then, In the index.js

  Code:

  ```
  const random_number_gen =  (min=0, max=1000)=>{
      return Math.round(Math.random()* (max-min) +
      min);
  }
  export default random_number_gen;
  ```

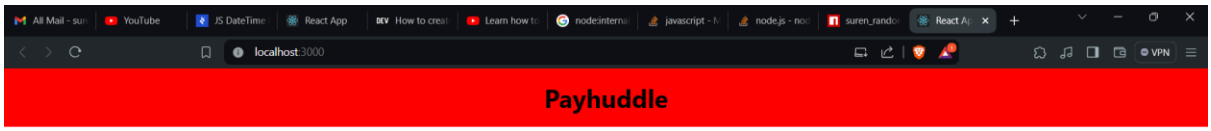
- To create a link by using the command, **npm link** (Creating symbolic link).
- Inside the project, **npm link <package_name>** (Then, the package is automatically downloaded on the node module folder)
- Finally, import the package and use it.
  - import random_number_gen from 'random-number'
- To call the function by using the function name.
  - {random_number_gen()}

Example Program:

```
import React from 'react'
import random_number_gen from 'random-number'
const App = () => {
  return (
    <>
```

```
<div style={{backgroundColor:'red',
fontSize:'2rem',
textAlign:'center',padding:'1rem',fontWeight:'bold'}}>
    Payhuddle
    </div>
    <div style={{fontSize:'2rem',
textAlign:'center',padding:'1rem',fontWeight:'bold'}}>
      {random_number_gen()}
    </div>
    </>
  )
}
export default App
```

Output:



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To create a Component for Packaging:

Steps:

Files:

- .babelrc
- Webpack.config.js
- Package.json

- To create a folder name (myComponent).In terminal npm init (or) npm init -y
- To install the webpack and necessary (Babel) loaders

Cmd => npm install --save-dev webpack webpack-cli babel-loader @babel/core @babel/preset-env @babel/preset-react

Inside the **package.json**:

```
{
  "name": "mycomponent",
  "version": "1.0.0",
  "description": "Reusable Component",
  "main": "dist/index.js",
  "scripts": {
    "build": "webpack --mode production"
  },
  "author": "Surendhar",
  "license": "ISC",
  "dependencies": {
    "react": "^17.0.2",
    "react-dom": "^17.0.2"
  },
  "devDependencies": {
```

```
    "@babel/core": "^7.16.7",
    "@babel/preset-env": "^7.16.7",
    "@babel/preset-react": "^7.24.1",
    "babel-loader": "^8.2.2",
    "webpack": "^5.68.0",
    "webpack-cli": "^4.9.1"
  }
}
```

Create a src/index.js:

Index.js:

```
import React from 'react';
import 'bootstrap/dist/js/bootstrap.bundle.min.js';
const MyComponent = ({text}) => {
    return (
        <div>
            <h1>Welcome to MyComponent!</h1>
            <p>Use the Component on the Other
Projects</p>
            <button className='btn btn-
primary'>{text}</button>
        </div>
    );
};
export default MyComponent;
```

Setup the **webpack.Config.js (_Write it manually_)**

```
const path = require('path');
module.exports = {
  entry: './src/index.js',
  output: {
    path: path.resolve(__dirname, 'dist'),
    filename: 'index.js',
    libraryTarget: 'commonjs2',
  },
  module: {
    rules: [
      {
        test: /\.(js|jsx)$/,
        exclude: /node_modules/,
        use: {
          loader: 'babel-loader',
          options: {
            presets: ['@babel/preset-env',
'@babel/preset-react'],
          },
        },
      },
    ],
  },
};
```

.babelrc

```
{
    "presets": [
      "@babel/preset-env",
      "@babel/preset-react"
    ]
  }
```

- To build the component, **npm run build** the (dist) folder will be created automatically.
- Create a link by using the command,
  Inside the component => npm link
- To install the component on your project
  Inside the project => npm link <package name>
  mycomponent

On the Other Project Code:

App.js

```
import './App.css';
import MyComponent from 'mycomponent';(from node modules)
function App() {
  const text = "Click Here"
  return (
    <div className="App">
    <MyComponent
      text={text}
      />
      </div>
```

```
  );
}
export default App;
```

Output: