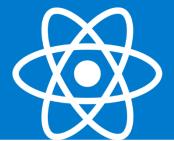


React JS

Hello React JS



What is React JS?

- React (JavaScript library) In computing, React (also known as React.js or ReactJS) is a JavaScript library for building user interfaces.
- It is maintained by Facebook and a community of individual developers and companies.
- **React** can be used as a base in the development of single-page or mobile applications.





React Vs React Native?

React Js and React Native both are Different.

React JS (Web Development)

- React JS is used to Create Website
- HTML + Css + JS + React JS

React Native (Mobile App Development)

- React Native is Used to Create Cross Platform Mobile App Development.
- Cross platform means is One App will run on Android and iOS.
- Android / iOS + React JS + React Native





Advantages of ReactJS

Component Creation

React enables the creation of module-like pieces of code called "Components".

Virtual DOM

 Considered the next biggest leap in web development since AJAX, the virtual DOM (short for Document Object Model) is the core reason why React enables the creation of fast, scalable web apps

Performance

 ReactJS is known to be a great performer. The reason behind this is that it manages a virtual DOM.

• One-way Data Binding:

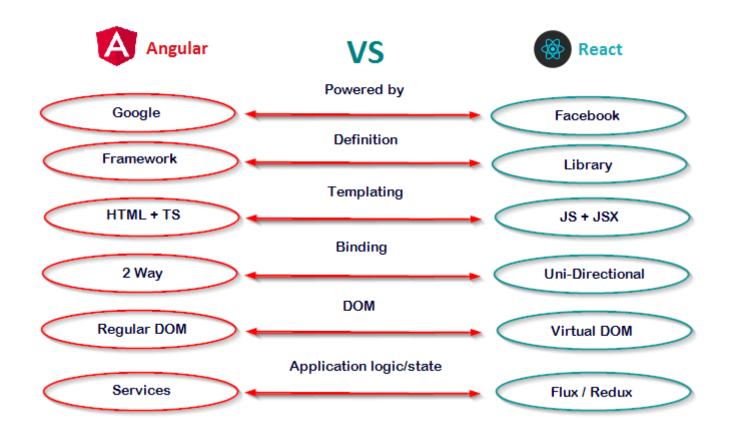
ReactJS follows unidirectional data flow or one-way data binding.

Easy to learn





Angular VS React



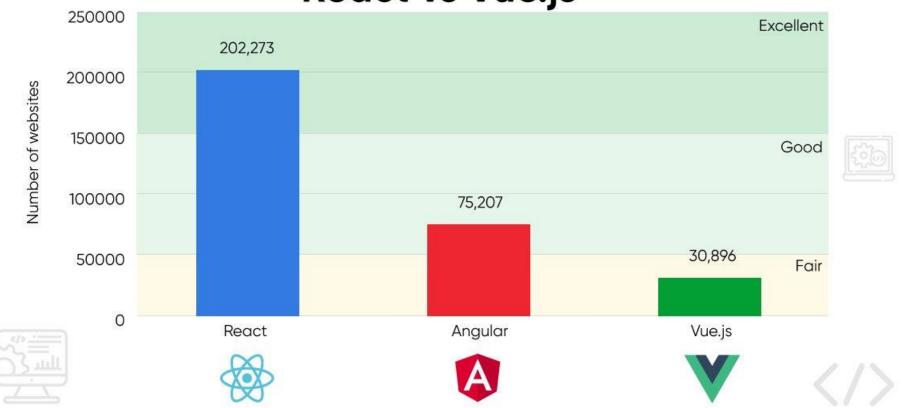






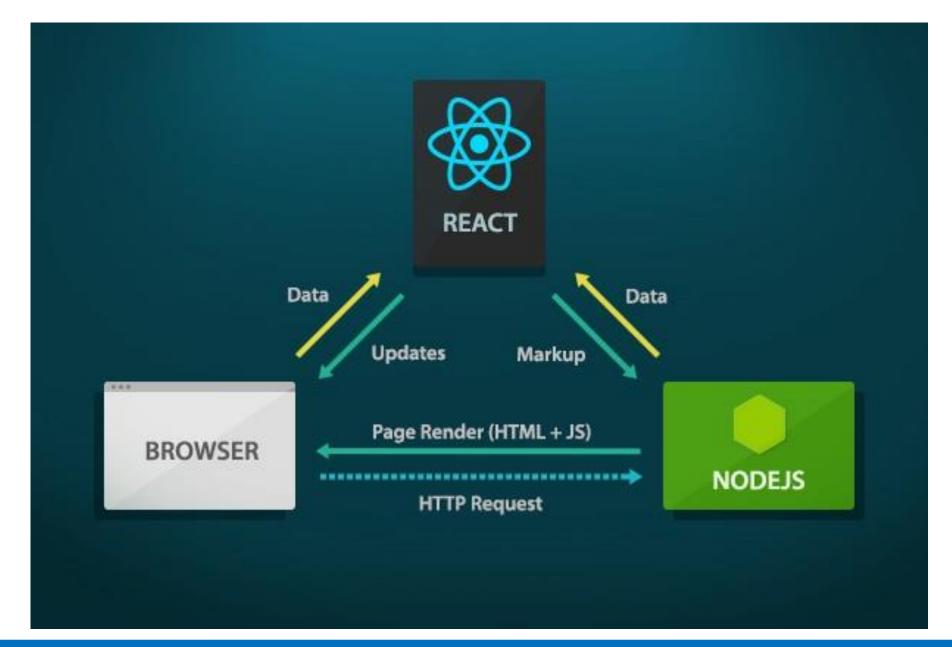
Popularity: Angular vs React vs Vue.js





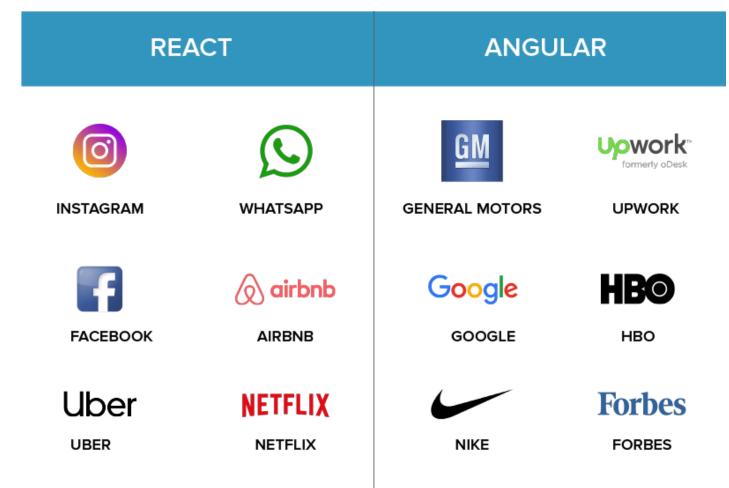














DROPBOX



SONY





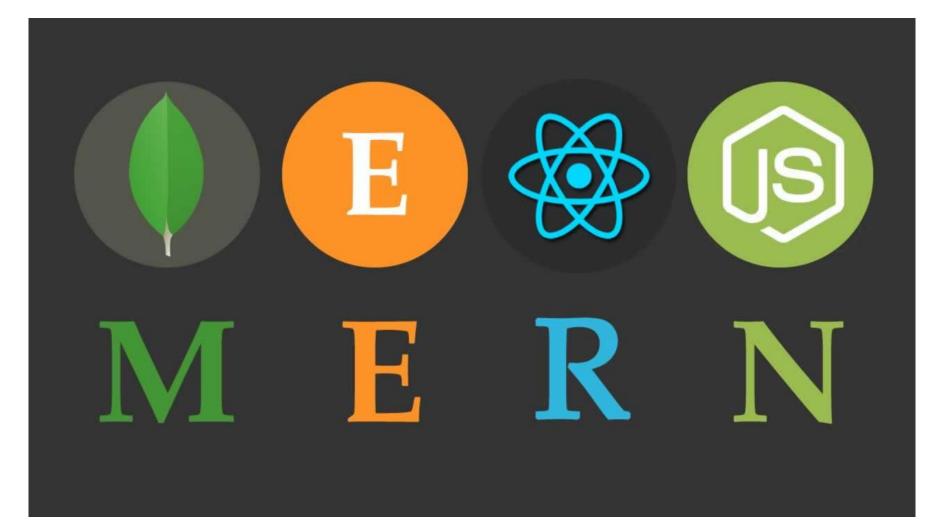
What is Mern Stack?

M: Mongo DB

E: Express JS

R: React JS

N: Node JS



www.akashsir.com





Version History

- 2010 The first signs of React
- 2013 The year of the Big Launch
- 2015 React is Stable

- Current Version :
- **18.2**





Website

https://reactjs.org/





Software Requirement

- Node JS
- VS Code
- React Developer Chrome Extension









Download Node JS

https://nodejs.org/en/download

Downloads

Latest Current Version: 18.6.0 (includes npm 8.13.2)

Download the Node.js source code or a pre-built installer for your platform, and start developing today.



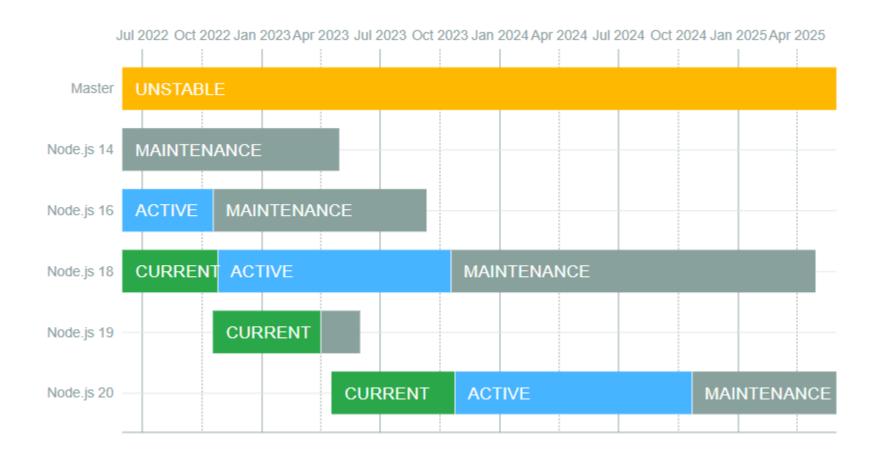
Additional Platforms





Node JS Version

https://nodejs.org/en/about/releases/







How to Install Node JS

- Download Setup
- Click Next Next Next Next.... ②
- Restart PC / Laptop.





Check Node JS Installation

- Open Terminal and Type below command to check Versin
- node –v
- npm –v
- npx –v
- Node Package Manager
- Node Package Execute

```
Command Prompt
Microsoft Windows [Version 10.0.22621.755]
(c) Microsoft Corporation. All rights reserved.
C:\Users\akash>node -v
v18.12.0
C:\Users\akash>npm -v
8.19.2
C:\Users\akash>npx -v
8.19.2
C:\Users\akash>
```





NPM

- Node Package Manager
 - Which will help you to download and update Node JS Packages.
 - Npm will download package in local system.
- Node JS Package Search Engine
 - https://www.npmjs.com/





NPX

- Node Package Execute
 - It will execute package without downloading in local PC.



Extension VS Code and Chrome

- ESLint
 - https://marketplace.visualstudio.com/items?itemName=dbaeumer.vscode-eslint
- ES7+ React/Redux/React-Native snippets
 - https://marketplace.visualstudio.com/items?itemName=dsznajder.es7-react-js-snippets

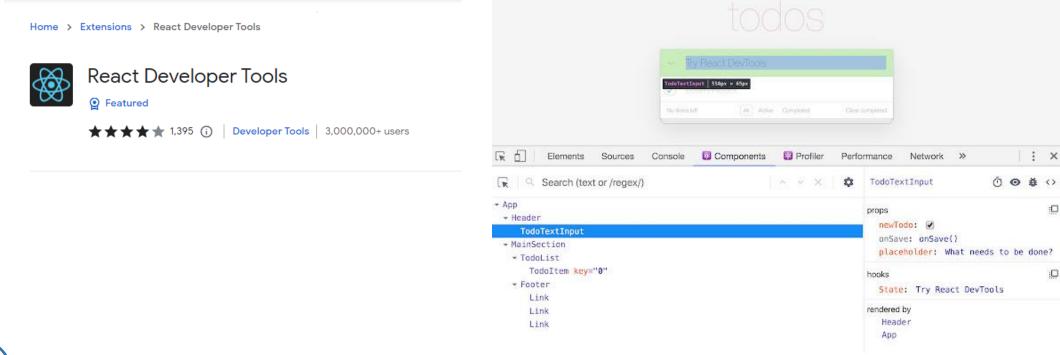
- Google Chrome React Developer
 - https://chrome.google.com/webstore/detail/react-developertools/fmkadmapgofadopljbjfkapdkoienihi?hl=en





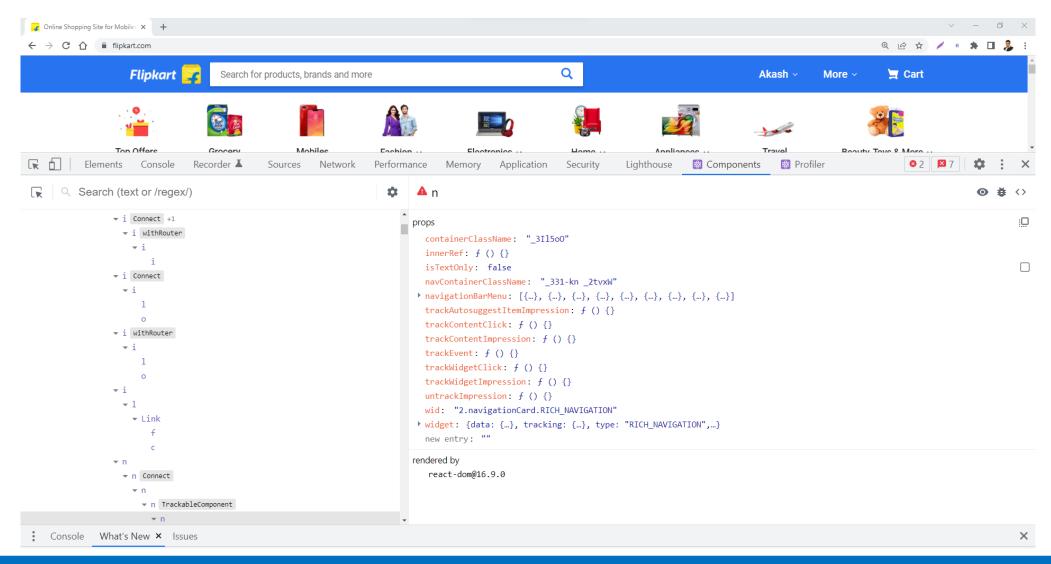
React Chrome Developer Tools

- React Developer Tools is a Chrome DevTools extension for the open-source React JavaScript library. It allows you to inspect the React component hierarchies in the Chrome Developer Tools.
- Download : https://chrome.google.com/webstore/detail/react-developer-tools/fmkadmapgofadopljbjfkapdkoienihi?hl=en



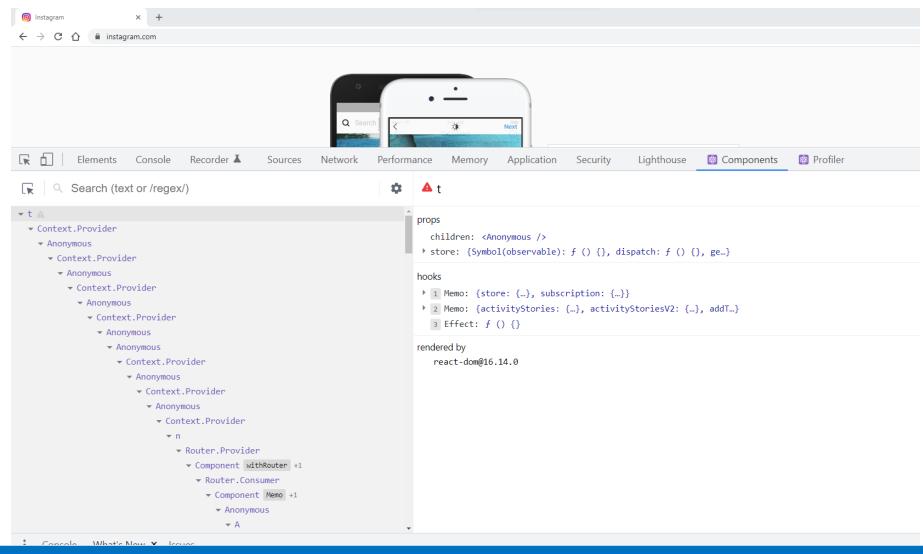


React Developer Tool



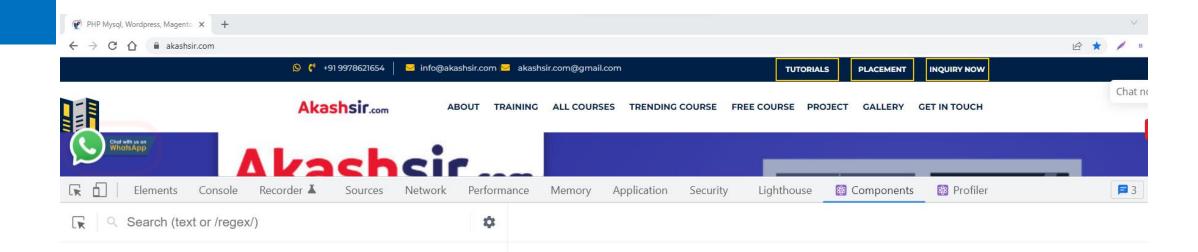








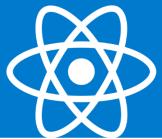








React Installation



There are 2 Ways to Create React App

- 1. Create Project Using NPX
 - npx create-react-app my-app

Note: NPX will Download and Create Project from Internet everytime

- 2. Download ReactApp and Create New Project using NPM
 - npm install -g create-react-app (Onetime Download Package)
 - create-react-app my-app (to Create Project We can use this command)
 - First Command will Download Package in PC
 - Second Command will Create Project



1.) Create React Project using Npx

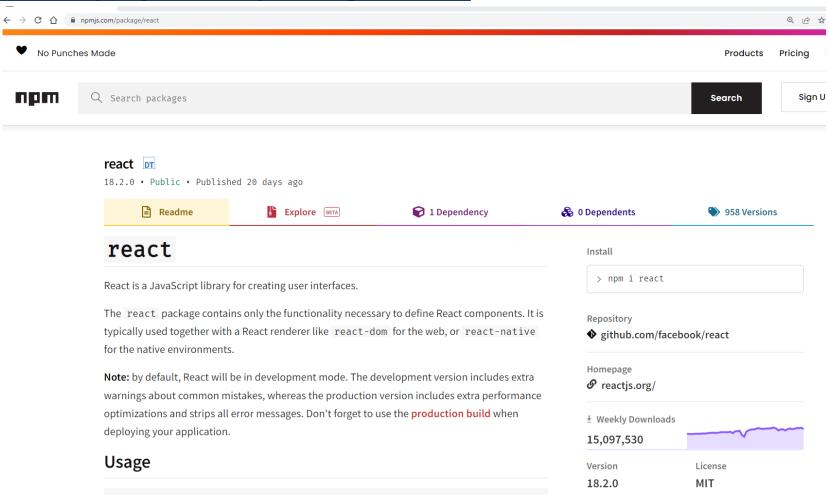
- npx create-react-app my-app
 - Myapp is a project name.
- cd my-app
- npm start





React Package

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

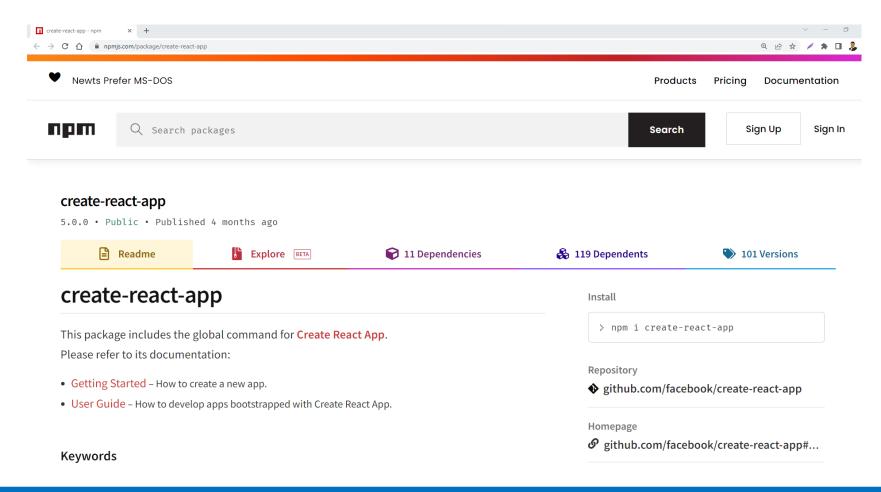






CRA - Create React App Package NPM

https://www.npmjs.com/package/create-react-app







2.) Create New Project using NPM

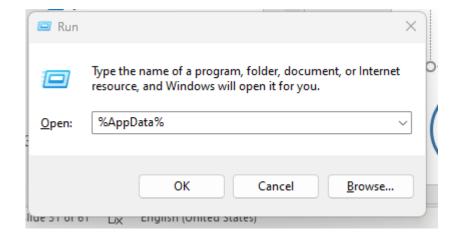
- Install one time
 - npm install -g create-react-app
- Create New Project
 - create-react-app my-app
- Navigate to Folder
 - cd my-app
- Run Project
 - npm start

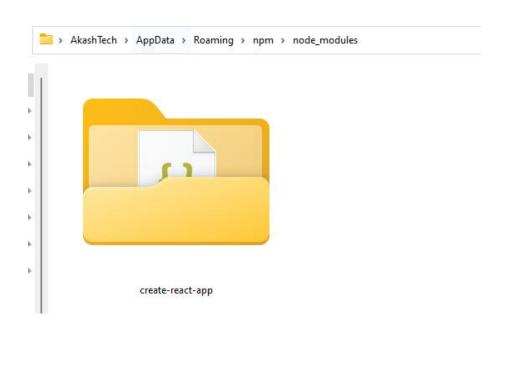




NPM Package Location

- Open Run Box (Win + R)
- %AppData%
- Roaming -> npm





• C:\Users\AkashTech\AppData\Roaming\npm\node_modules





Open CMD

```
Microsoft Windows [Version 10.0.18363.778]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Users\Akash>
```





Download Package

```
C:\Users\91997>npm i create-react-app -g
```

```
C:\Users\91997>npm i create-react-app -g
npm WARN deprecated tar@2.2.2: This version of tar is no longer supported, and
will not receive security updates. Please upgrade asap.

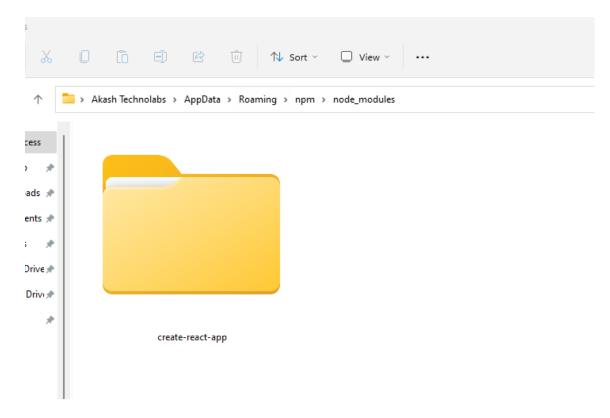
added 67 packages, and audited 68 packages in 7s
```





Global Folder Path

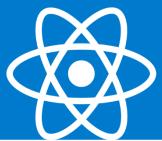
- Create-react-App Package will be Store in Local Folder
 - C:\Users\AkashTech\AppData\Roaming\npm\node_modules



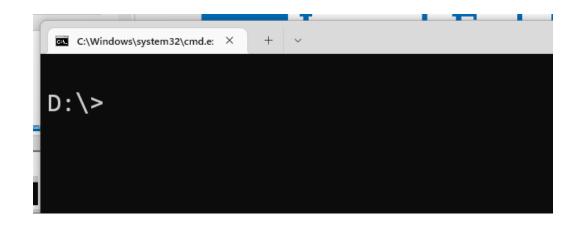


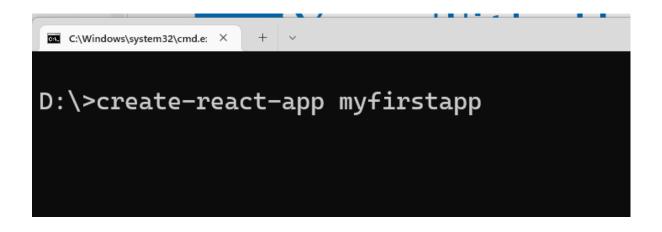


Create New Project



Goto D Drive & Create New Project









It will Start Downloading





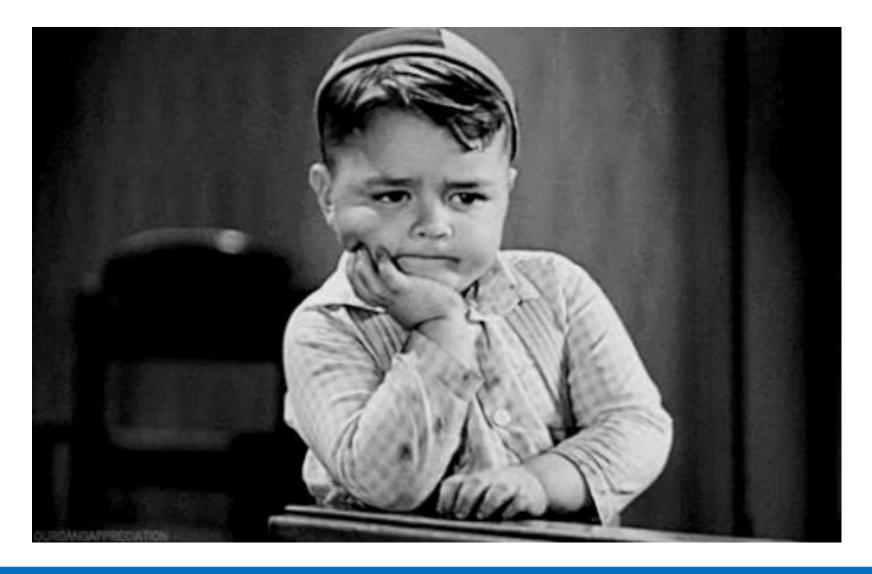
Don't Do this ©







Wait Wait & Watch.. ©





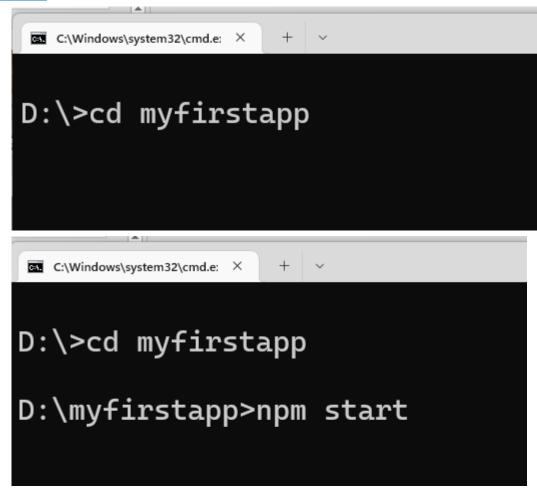


```
C:\Windows\system32\cmd.e: X + V
Success! Created myfirstapp at D:\myfirstapp
Inside that directory, you can run several commands:
  npm start
    Starts the development server.
  npm run build
    Bundles the app into static files for production.
  npm test
    Starts the test runner.
  npm run 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 myfirstapp
  npm start
Happy hacking!
```





Change Directory and Run Project







Project Run

- cd myfirstapp
- npm start

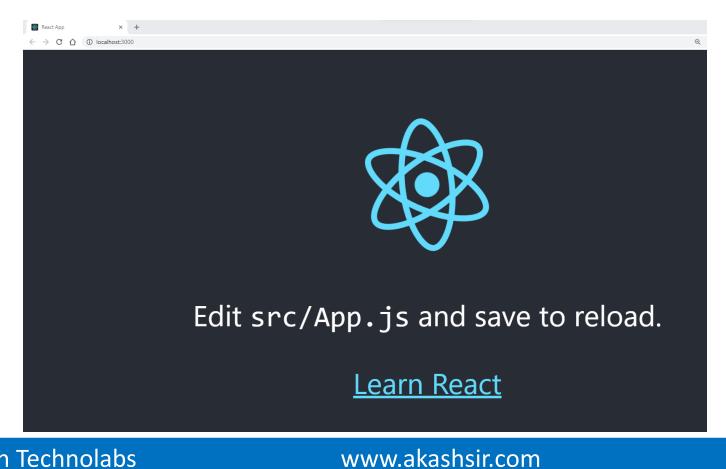
```
× + ~
 Windows PowerShell
D:\>cd myfirstapp
D:\myfirstapp>npm start
 myfirstapp@0.1.0 start
> react-scripts start
(node:14956) [DEP_WEBPACK_DEV_SERVER_ON_AFTER_SETUP_MIDDLEWARE] DeprecationWarning: 'onAfterSe
tupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
(Use `node --trace-deprecation ...` to show where the warning was created)
(node:14956) [DEP_WEBPACK_DEV_SERVER_ON_BEFORE_SETUP_MIDDLEWARE] DeprecationWarning: 'onBefore
SetupMiddleware' option is deprecated. Please use the 'setupMiddlewares' option.
Starting the development server...
Compiled successfully!
You can now view myfirstapp in the browser.
                    http://localhost:3000
  Local:
  On Your Network: http://192.168.1.3:3000
Note that the development build is not optimized.
To create a production build, use npm run build.
webpack compiled successfully
```





Project will Run on Port No 3000

- http://localhost:3000/
- http://127.0.0.1:3000/







- local server
- **3000**

- local ip
- **3000**

- react server ip
- IP will be change

















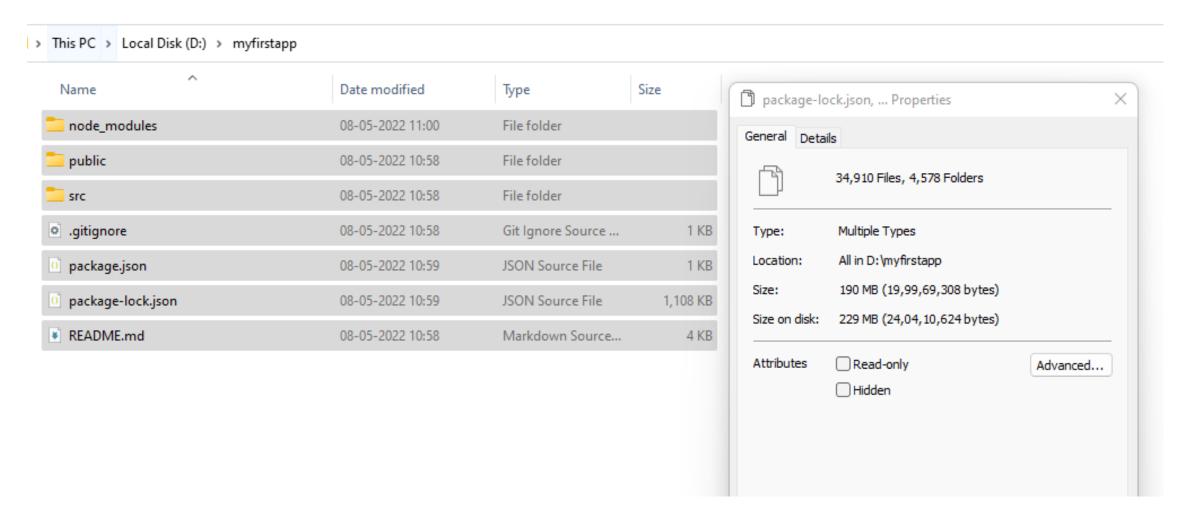




Directory Structure



Directory Size







Open VS Code

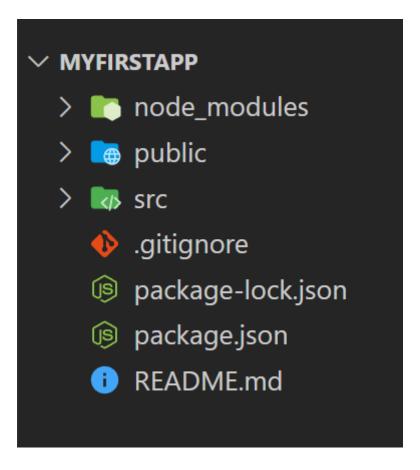
```
C:\Windows\system32\cmd.e: × + v

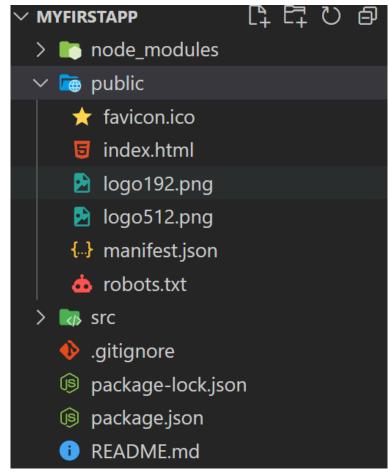
D:\myfirstapp>code .
```

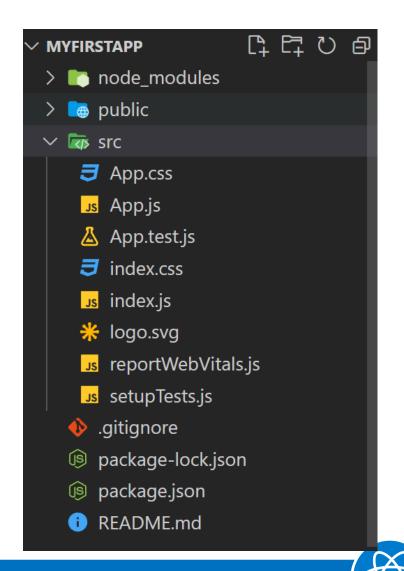




Directory Structure









Directory

- node_modules: where all the 3rd-party dependencies (libraries) are stored.
 We never have to touch this.
- public: where we have public assets of our app such as index.html, logo, images, etc.
- src: where we have the source code of our React app.
- Webpack for bundling our JavaScript files,
- **Babel** to compile the modern JavaScript code into code that most browsers can understand,
- **ESLint** for linting our JavaScript code, which basically means making sure there are no syntactical issues and the code is clean and consistently formatted.





Index.js

```
Js index.js
 EXPLORER
                                    src > Js index.js > ...
∨ MYFIRSTAPP
                                           import React from 'react';
                                      1
 > node_modules
                                           import ReactDOM from 'react-dom/client';
 > a public
                                           import './index.css';

✓ key src

                                           import App from './App';
     3 App.css
                                           import reportWebVitals from './reportWebVitals';
     Js App.js
     App.test.js
                                           const root = ReactDOM.createRoot(document.getElementById('root'));
                                           root.render(
     index.css
                                             <React.StrictMode>
     Js index.js
                                     10
                                               <App />
     * logo.svg
                                             </React.StrictMode>
                                     11
     Js reportWebVitals.js
                                           );
                                     12
     Js setupTests.js
                                     13
    • .gitignore
                                           // If you want to start measuring performance in your app, pass a function
                                     14
                                           // to log results (for example: reportWebVitals(console.log))
    package-lock.json
                                     15
                                           // or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vitals
                                     16
    package.json
                                           reportWebVitals();
                                     17

    README.md

                                     18
```





App.js

```
Js App.js
                                               ×
  EXPLORER
                                   src > Js App.js > ...

✓ MYFIRSTAPP

                                           import logo from './logo.svg';
 > node modules
                                           import './App.css';
 > 🧓 public
 ∨ ksrc
                                           function App() {
     ∃ App.css
                                            return (
     Js App.js
                                               <div className="App">
     👃 App.test.js
                                                 <header className="App-header">
     ∃ index.css
                                                   <img src={logo} className="App-logo" alt="logo" />
     Js index.js
                                                     Edit <code>src/App.js</code> and save to reload.
     * logo.svg
                                     11
     Js reportWebVitals.js
     setupTests.js
                                     13
                                                     className="App-link"
    .gitignore
                                                     href="https://reactjs.org"
                                                     target="_blank"
    package-lock.json
                                                     rel="noopener noreferrer"
    package.json
    README.md
                                                     Learn React
                                                   </a>
                                                 </header>
                                               </div>
                                            );
 OUTLINE
                                          export default App;
> TIMELINE
```





Index.html

```
■ index.html ×
 EXPLORER
/ MYFIRSTAPP
                                  public > ⑤ index.html > ⊘ html > ⊘ body
                                         <!DOCTYPE html>
 > node modules
                                         <html lang="en">

✓ □ public

                                           <head>
    ★ favicon.ico
                                             <meta charset="utf-8" />
    index.html
                                             <link rel="icon" href="%PUBLIC URL%/favicon.ico" />
    logo192.png
                                             <meta name="viewport" content="width=device-width, initial-scale=1" />
    logo512.png
                                             <meta name="theme-color" content="#000000" />
     manifest.json
                                               name="description"
    robots.txt
                                               content="Web site created using create-react-app"
 > Rs src
   • .gitignore
                                             <link rel="apple-touch-icon" href="%PUBLIC_URL%/logo192.png" />
   package-lock.json
   package.json
                                               manifest.json provides metadata used when your web app is installed on a

    README.md

                                               user's mobile device or desktop. See https://developers.google.com/web/fundamentals/web-app-manifest/
                                             <link rel="manifest" href="%PUBLIC URL%/manifest.json" />
                                               Notice the use of %PUBLIC URL% in the tags above.
                                               It will be replaced with the URL of the `public` folder during the build.
                                               Only files inside the `public` folder can be referenced from the HTML.
                                               Unlike "/favicon.ico" or "favicon.ico", "%PUBLIC URL%/favicon.ico" will
                                               work correctly both with client-side routing and a non-root public URL.
                                               Learn how to configure a non-root public URL by running `npm run build`.
                                             <title>React App</title>
                                           </head>
                                             <noscript>You need to enable JavaScript to run this app./noscript>
> OUTLINE
                                             <div id="root"></div>
                                    31
 TIMELINE
```





Package.json

Stores meta data of third party library

```
package.json X
/ MYFIRSTAPP
                                  package.json > ...
 > node modules
                                          "name": "myfirstapp",
 > 🏮 public
                                          "version": "0.1.0",
 > ksrc
                                          "private": true.
   • .gitignore
                                          "dependencies": {
   package-lock.json
                                            "@testing-library/jest-dom": "^5.16.4",
   package.json
                                            "@testing-library/react": "^13.2.0",
                                            "@testing-library/user-event": "^13.5.0",
   README.md
                                            "react": "^18.1.0",
                                            "react-dom": "^18.1.0",
                                            "react-scripts": "5.0.1",
                                            "web-vitals": "^2.1.4"
                                          ▶ Debug
                                          "scripts": {
                                            "start": "react-scripts start",
                                            "build": "react-scripts build",
                                            "test": "react-scripts test",
                                            "eject": "react-scripts eject"
                                          "eslintConfig": {
                                            "extends":
                                              "react-app",
                                              "react-app/jest"
                                          "browserslist": {
                                            "production": [
                                              ">0.2%",
                                              "not dead",
                                              "not op_mini all"
> OUTLINE
```



React-script port no 3000

```
File Edit Selection View Go Run Terminal Help
                                                                  start.js - myapp - Visual Studio Code
                                   JS start.js X
                                   node_modules > react-scripts > scripts > JS start.js > ...

∨ OPEN EDITORS

                                          const createDevServerConfig = require('../config/webpackDevServer.config');
                                          const useYarn = fs.existsSync(paths.yarnLockFile);
    > react-dom
                                          const isInteractive = process.stdout.isTTY;
    > ii react-error-overlay
                                          // Warn and crash if required files are missing

✓ 

react-scripts

                                          if (!checkRequiredFiles([paths.appHtml, paths.appIndexJs])) {
                                             process.exit(1);
     > if config
     > 📹 lib
     > node modules
                                          / Tools like Cloud9 rely on this.
     const DEFAULT PORT = parseInt(process.env.PORT, 10) || 3000;
     > 🕵 utils
                                          const HOST = process.env.HOST || '0.0.0.0';
        JS build.is
        JS eject.js
                                          if (process.env.HOST) {
        JS init.js
                                             console.log(
        JS start.js
                                               chalk.cyan(
        JS test.is
                                                  `Attempting to bind to HOST environment variable: ${chalk.yellow(
     > 🖷 template
                                                   chalk.bold(process.env.HOST)
     > ii template-typescript
       1 LICENSE
                                             console.log(
   > ii read-pkg
                                                `If this was unintentional, check that you haven't mistakenly set it in your shell.`
   > iii read-pkg-up
 > OUTLINE
                                             console.log(
 > TIMELINE
                                                `Learn more here: ${chalk.yellow('https://bit.ly/CRA-advanced-config')}`
 > NPM SCRIPTS
```





Run Project in Browser

By Default Project will Run on Port No 3000

http://localhost:3000





Port No

- By Default React Project will Run on Port no 3000
- If you run multiple project same time then it will change port no automatically.





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www.aptutorials.com
https://www.youtube.com/user/Akashtips











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www.akashsir.com



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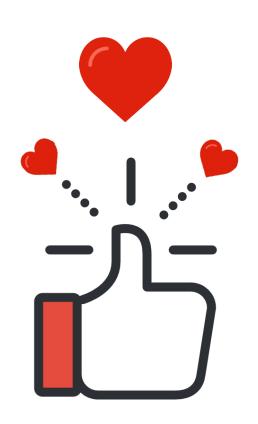
Just Dial

https://www.justdial.com/Ahmedabad/Akash-Technolabs-Navrangpura-Bus-Stop-Navrangpura/079PXX79-XX79-170615221520-S5C4 BZDET



Sulekha

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





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