

WEB TECHNOLOGIES

Set-up React Installation (npm)

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Set-up React Installation (npm) What is npm



NPM (Node Package Manager) is a package manager for NodeJS modules. It helps developers manage project dependencies, scripts, and third-party libraries. By installing NodeJS on your system, NPM is automatically installed and ready to use.

A package in NodeJS is a reusable module of code that adds functionality to your application. It can be anything from a small utility function to a full-featured library.

- Packages can be installed from the NPM registry.
- They are stored in the node_modules folder in your project.
- You can easily install, update, or remove packages with NPM commands.

Set-up React Installation (npm) Installing NODE JS



Install NodeJS and NPM

https://www.geeksforgeeks.org/installation-guide/install-node-js-windows-macos-linux/

During installation, make sure to add Node.js to your PATH to ensure that both Node.js and npm are accessible globally in the command line.

Confirm installation in Terminal/Command Prompt:

```
node -v
npm -v
```

Setting up React Project



1. Create React App (Traditional, now legacy)

```
npx create-react-app my-app
cd my-app
npm start
```

Then open http://localhost:3000/ to see your app.

1. Vite (Modern, very fast)

npm create vite@latest my-react-app -- --template react

Then open http://localhost:5173/ to see your app.

Replace my-react-app with your desired project name.

Setting up React Project



Install Project Dependencies

Move into your project directory:

Install all dependencies:

```
npm install
```

To install specific dependencies

Run

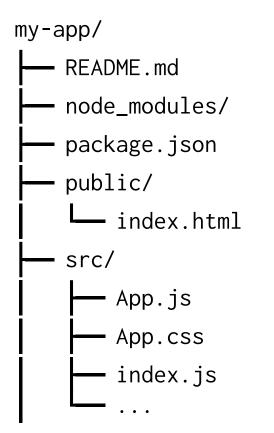
```
npm install <package-name>
```

Project Structure



Project Structure Overview

A new React app (created with Create React App) has this folder structure:



Not necessarily the same but similar to this structure.

Project Structure



node_modules/

- Contains all npm packages and dependencies your project uses
- Created by npm install
- You never edit files here directly!
- It can be safely deleted and restored using npm install.

package.json

- The heart of npm project setup
- Lists all dependencies the project needs (e.g. React, ReactDOM)
- Stores scripts (like start, build) and project metadata
- Allows easy sharing: cloning a project and running npm install sets up everything!

Setting up React Project



public/ Folder

- Contains static files served directly to the browser
- Most important: index.html the root HTML page
- Other files: favicon.ico (tab icon), manifest.json (PWA config), etc.
- You rarely need to edit these, except for branding or adding static assets

src/ Folder

- Where almost ALL your code lives: components, logic, styles, tests
- Contains files like:
 - App.js (Main component, the "root" of your app)
 - App.css (related styles)
 - index.js (entry point that renders your app)
 - Other components, assets, tests, etc.

Setting up React Project



App.js & index.js

App.js:

- Main React component.
- Build most of your app's logic and UI here (or import from other components).

index.js:

- Entry point for React.
- Imports App and renders it into the DOM via ReactDOM.render().

README.md & .gitignore

- README.md:
 - Project info, setup notes, usage instructions
- .gitignore:
 - Tells Git which files/folders to ignore (e.g., node modules/, build files)

Setting up React Project



Commonly Added Folders (as your app grows)

- components/ reusable UI parts
- pages/ for "screens"/routes in multi-page apps
- assets/ images, fonts, static assets
- hooks/ custom React Hooks
- contexts/ shared state with React Context API
- styles/ CSS or styling files
- utils/ helper functions

(You can organize as needed—there's no one "correct" way!)

Set-up React Installation (npm) Setting up React Project



Core npm Commands with Create React App

- npm start
 Starts development server (auto-reloads on file changes)
- npm run build
 Bundles app for production (creates /build folder)
- npm test
 Runs tests (if present, uses Jest by default)
- npm install <package>
 Installs additional packages (e.g., npm install axios)

PS : you'll majorly just be using npm start and npm install <package>



Do have a look into these links and explore more as well

- https://www.freecodecamp.org/news/how-to-install-react-a-step-by-step-guide/
- https://create-react-app.dev/docs/getting-started/
- https://www.geeksforgeeks.org/node-js/node-js-npm-node-package-manager/
- https://kinsta.com/knowledgebase/install-react/
- https://www.w3schools.com/react/react_getstarted.asp
- https://www.pluralsight.com/resources/blog/guides/npm-start-for-react-tutorial-project

On folder Structure

https://blog.webdevsimplified.com/2022-07/react-folder-structure/

https://www.robinwieruch.de/react-folder-structure/



THANK YOU

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