The REACT Journey

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I hope you already started with React, and following a simple counter project with mosh. React Tutorial for Beginners [React js]

This is you TASK 5, with an AIM to install necessary packages required for your future learnings, getting familiar with components and state.

First, make sure you have Node.js installed on your development machine.

What is Node.js you ask?
Node.js is a runtime environment for your JavaScript application. You see, before Node it was not possible to run JavaScript applications outside of a browser.
Node utilizes chrome V8 Engine at its core to provide an environment to run your application on any machine, provided it has node installed.
So, install Node.js V12 (LTS) if you haven't already from here. https://nodejs.org/en/download/

Once it is done, check the installation by running **node --version** on your terminal and it should return v12.x.x
With Node comes **NPM(Node Package Manager)**: it is a most popular package manager available out there. More on that here https://docs.npmjs.com/about-npm/

You can check your npm installation by running **npm --version** on your terminal and it should return v6.x.x

Now, Let's create your first react project. [reference React Tutorial for Beginners [React js] **]**

1) create a new project folder, Open vs code at that folder.

Simple way is open terminal inside your project folder, and give **code .** Command.

2) Create a new react app with **npm i -g create-react-app**

With this you can have your React app installed from npm package create-react-app like below

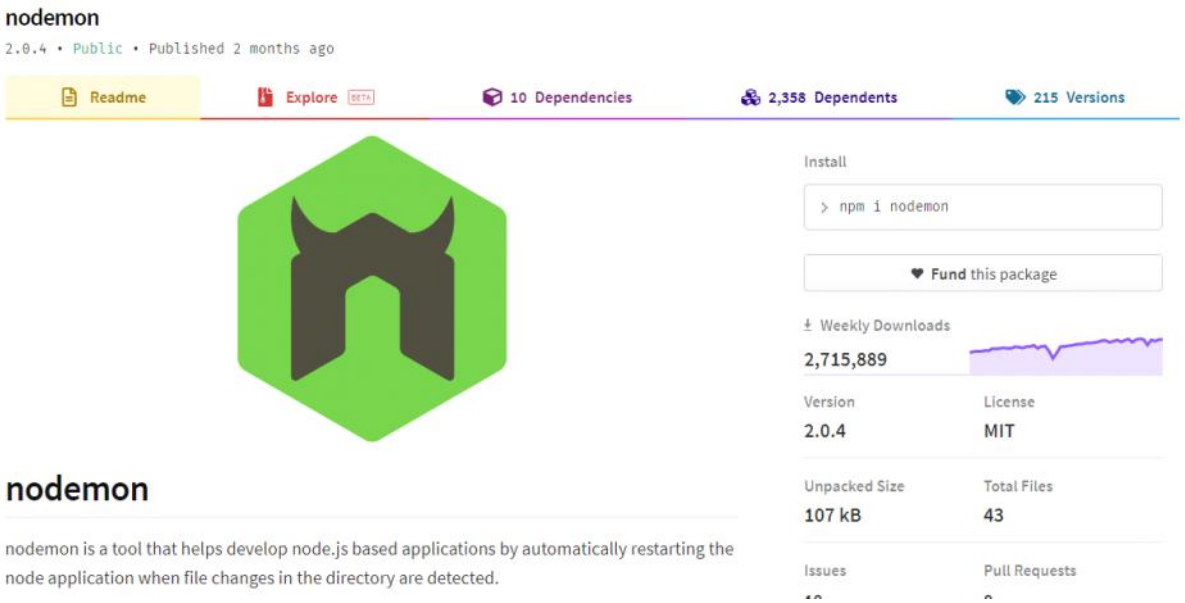
3) In your terminal write **create-react-app Your_App_Name**

Above will create a New folder containing all your app files.
Creating a react app with create-react-app also installs all necessary packages required for development. They include,
A development server: you can start it with **npm start** from your project folder. (make sure to cd to it)
WebPack: it's a tool which bundles your files together, that bundle is passed to Babel
Babel: A Modern JavaScript compiler used to compile Modern javascript code(JSX : combination of JavaScript and XML, your components are made of JSX , this is what is unique about react, with this we have markups of a component as well as javascript logic in a single file(called a component)) to a code which browsers can understand.
and more.

For development, we won't be interacting directly with Webpack and Babel, but know that they are behind your npm start command.

After this, you should get to a problem, which is "Every time you update something in your app, you have to kill your terminal running your development server and do npm start again. Don't do this. After some iterations you will throw your laptop. Use nodemon.

4) **Install nodemon** :
   install like any other npm package. [go to npmjs.com, serach for a package you are looking for, find installation command at the right hand side. Below is nodemon package page at npmjs.com]



Once this is installed, you should be able to do ctrl+s (saving your changed file in vscode) and changes will reflect in your browser. And your laptop Is saved.

5) Install vscode helping extensions to make your journey easier.
   - Simple react snippets by burk holland
   - Prettier by esben peterson [make sure to Enable "Format On Save" in vscode. File -> preferences->settings-> search for it]

   Note: Add other extensions once you know what they are used for and how to use them, it can get confusing. Always Read about packages, know how to use it, before installing them.

6) **Install Bootstrap**: https://www.npmjs.com/package/bootstrap
free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components

Note: there are many other options like material UI, our aim is to master REACT and libraries like these are useful to not focus on the design part. We are going with bootstrap as it's easy to use for all and have an excellent documentation.
Bootstrap documentation for your reference: https://getbootstrap.com/docs/4.5/getting-started/introduction/

TASK 6: Render a list into a table. We will implement all CRUD (Create, Read, Update, Delete) operations Against JsonPlaceHolder https://jsonplaceholder.typicode.com/
It's a popular website to test your REST APIs against. Now, many people argue that this is a backend programming, But I strongly disagree. Doing this, is in no way a backend programming. This is basically calling backend services from your react client.

More on REST APIs here What is a REST API?

How to do this task? [Reference How to use Axios with React]

- **Step 1:** render a list of integers or a string form a local array.
- **Step 2**: render a table, with column names with bootstrap.
- **Step 3**: render a list of objects to table.
- **Step 4:** Perform CRUD with JSONPlaceholder API EndPoints. [Use Axios(Recommmended), FetchAPI, jQuery to send http requests]
- **Step 5:** render a list read from JSONPlaeholder to your React Table.

Make sure you do compete TASK 6 before going for your college exam.