DOCUMENTATION FOR FRONT END DEVELOPMENT ENVIRONMENT SETUP

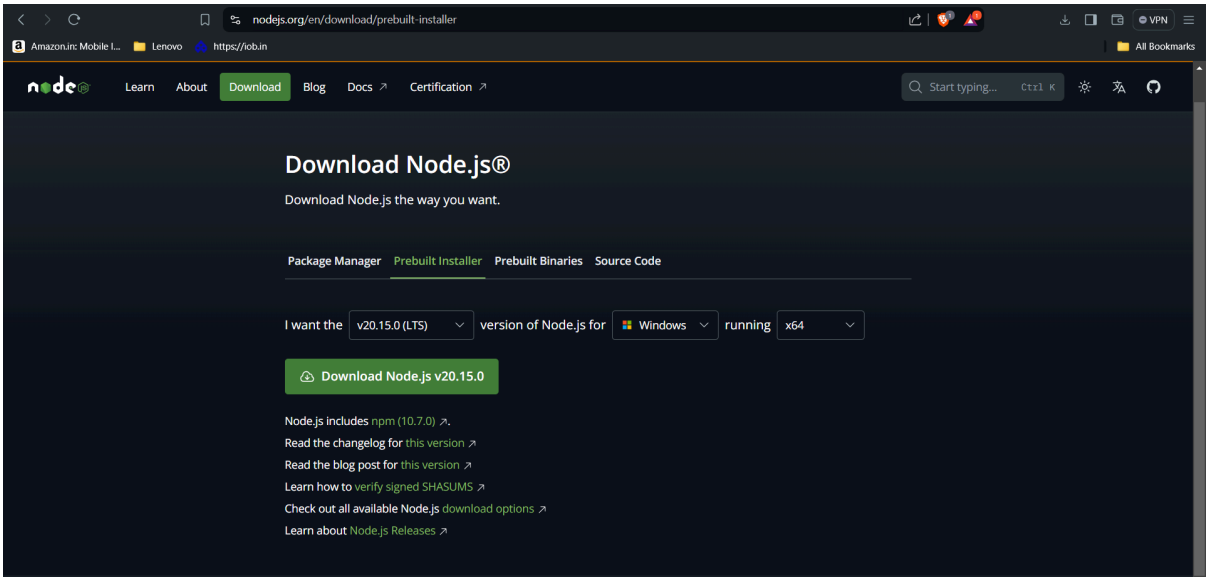
Installing and setting up nodeJs, react, and Tailwind CSS

1. NodeJs

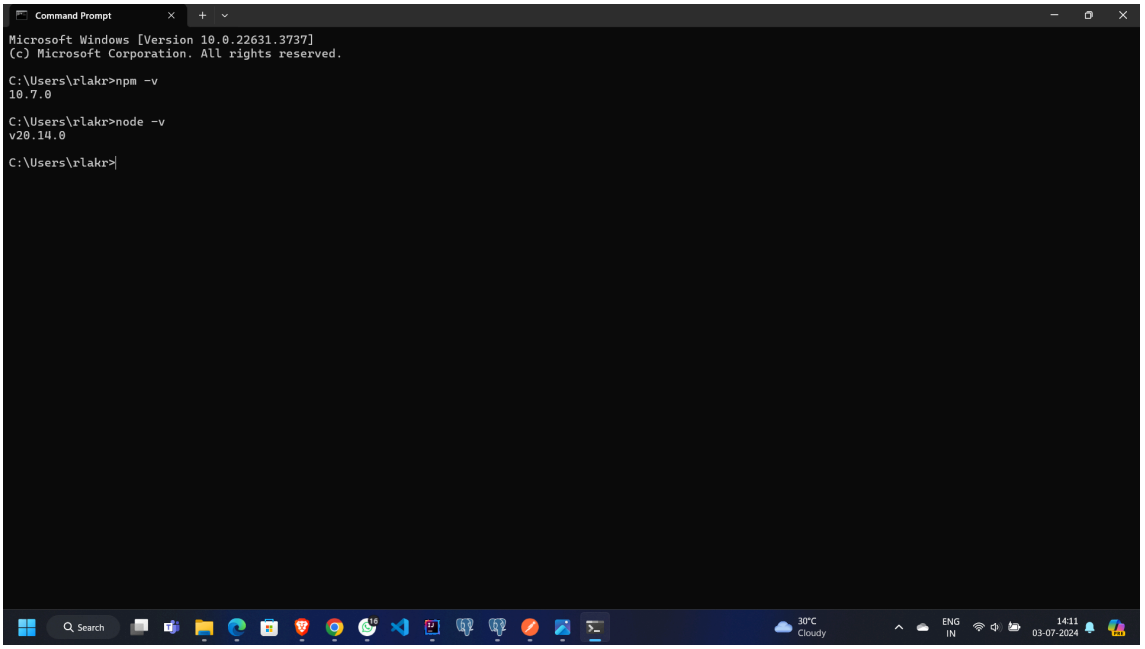
Node.js is a cross-platform, open-source JavaScript runtime environment that can run on Windows, Linux, Unix, macOS, and more. Node.js runs on the V8 JavaScript engine, and executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting. The ability to run JavaScript code on the server is often used to generate dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web-application development around a single programming language, as opposed to using different languages for the server- versus client-side programming.

To install and setup Node :

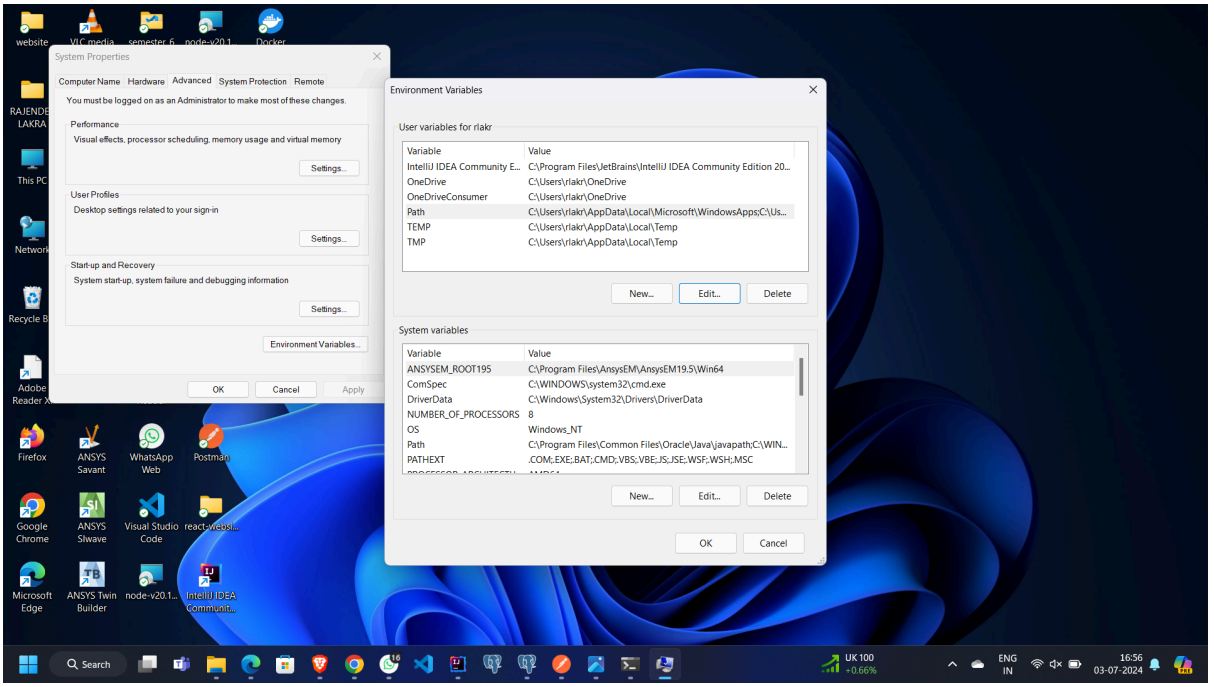
(i) Go to https://nodejs.org/en/download/prebuilt-installer and install the correct version of the node prebuilt installer as per your machine specifications.



(ii) Check if npm and node are correctly installed:



(iii) Add NodeJs to path: copy the path where nodeJs and npm are installed. Go to system Properties>environment Variables>click on path>Edit>paste the path>click OK.



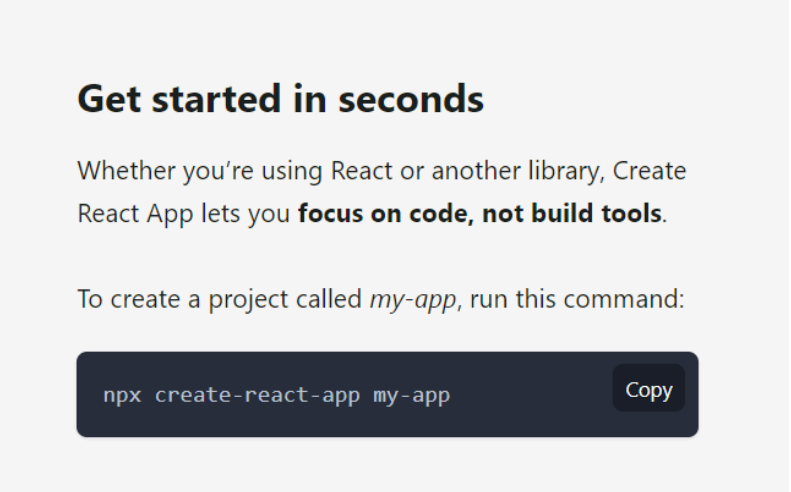
2. ReactJs

React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library[4][5] for building user interfaces based on components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies.[6][7][8]

React can be used to develop single-page, mobile, or server-rendered applications with frameworks like Next.js. Because React is only concerned with the user interface and rendering components to the DOM, React applications often rely on libraries for routing and other client-side functionality.[9][10] A key advantage of React is that it only rerenders those parts of the page that have changed, avoiding unnecessary rerendering of unchanged DOM elements.

React can be added to your projects by using command “create-react-app”. This will install and setup react and all the dependencies needed.

For instance you can use npm (comes installed with node):



3. Tailwind CSS

Tailwind CSS is an open-source CSS framework. The main feature of this library is that, unlike other CSS frameworks like Bootstrap, it does not provide a series of predefined classes for elements such as buttons or tables. Instead, it creates a list of "utility" CSS classes that can be used to style each element by mixing and matching.[4][5]

For example, in other traditional systems, there would be a class `message-warning` that would apply a yellow background color and bold text. To achieve this result in Tailwind, one would have to apply a set of classes created by the library: `bg-yellow-300` and `font-bold`.

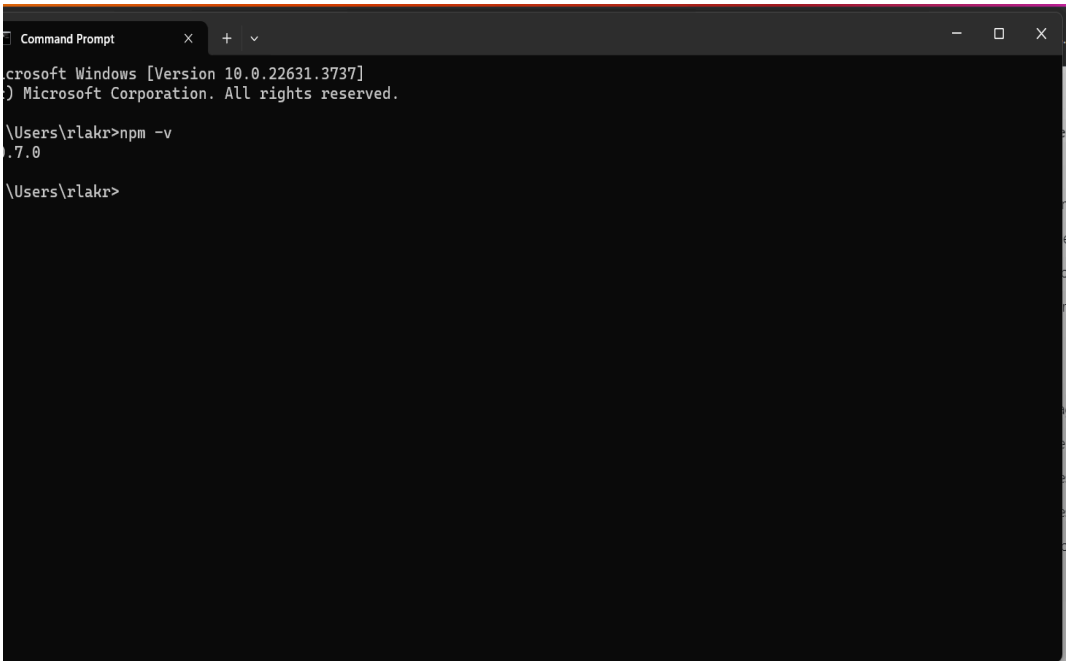
To add tailwind to your project:

1) Go to https://tailwindcss.com/docs/guides/nextjs and follow the given instructions.
2) Create the config file as instructed and import the required dependencies.

4. Package manager : (npm, yarn or other)

Npm (Node Package Manager) : npm comes preinstalled with the NodeJs installation. To check if npm is installed on your computer. Enter the following command in the command prompt :

>npm -v



Yarn : **Yarn** is one of the main JavaScript package managers,[3][4] developed in 2016 by Sebastian McKenzie of Meta (formerly Facebook) for the Node.js JavaScript runtime environment. An alternative to the npm package manager, Yarn was created as a collaboration of Facebook (now Meta), Exponent (now Expo.dev), Google, and Tilde (the company behind Ember.js) to solve consistency, security, and performance problems with large codebases.

To install yarn :

(i) Go to https://classic.yarnpkg.com/lang/en/docs/install/#windows-stable

(ii) You can install yarn via npm using,

```
npm install --global yarn
```

But you may have to manually add yarn to path in the environment variables.

(iii) Yarn provides other alternative ways to install yarn like using an installer, chocolatey etc.

(iv) After installing, check the yarn installation :

Check installation

Check that Yarn is installed by running:

```
yarn --version
```