

INFO 153/253A

Lab - Assignment 2

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Today's Agenda

- Part 1 – Set up a React project with Vite
- Part 2 – Create your first component

Set up a React project with Vite

```
# Create new Vite project with React template
npm create vite@latest task-manager-react -- --template react

# Navigate to project directory
cd task-manager-react

# Install dependencies
npm install

# Start development server
npm run dev
```

What are Node, npm, and Vite?

1. Node

- a. A runtime environment that lets you run JavaScript outside the browser
- b. <https://nodejs.org/en/download>

2. Node Package Manager (NPM)

- a. The tool that installs and manages external libraries.
- b. Comes with Node by default

3. Vite

- a. A fast build tool that helps you quickly create and run React projects
- b. Key features
 - i. Hot Module Replacement (live update)
 - ii. Lightweight development server
 - iii. Minimal Setup

Inside the Project Folder

```
task-manager-react/  
├── index.html           # Root HTML file (in root, not public/)  
├── package.json  
├── vite.config.js  
└── src/  
    ├── main.jsx        # Entry point (not index.js!)  
    ├── App.jsx         # Main component  
    ├── App.css  
    └── components/  
        ├── TaskList.jsx  
        ├── TaskItem.jsx  
        ├── TaskForm.jsx  
        └── TaskCounter.jsx
```

Inside the Project Folder

1. **Package.json**

- a. Contains metadata about your project: name, version, scripts, and dependencies
- b. npm uses this file to know what to install and how to run your project

2. **Vite.config.js**

- a. Controls how Vite runs and builds your project
- b. You usually don't need to edit it early on, but later you can add plugins, aliases, or other settings

3. **Node_modules**

- a. A folder automatically created by npm
- b. Stores all external libraries (React, Vite, etc.)
- c. You never edit this directly

Understanding the Structure

1. **index.html** – The Main HTML File
 - a. The page your browser first loads
 - b. React will take over the `<div id="root">` inside it

```
<body>
  <div id="root"></div>
  <script type="module" src="/src/main.jsx"></script>
</body>
</html>
```

Understanding the Structure

2. **main.js** – The Entry Point

- a. The starting point of your React app
- b. Connects React to the HTML file (<div id="root">)
- c. Renders the App component to the page

```
ReactDOM.createRoot(document.getElementById('root')).render(  
  <React.StrictMode>  
    <App />  
  </React.StrictMode>,  
)
```


Understanding the Structure

3. **App.jsx** – The Root Component

- a. The main component that defines what appears on the screen
- b. Other components will later be imported and used here

```
function App() {  
  return <h1>Hello React + Vite!</h1>  
}  
  
export default App
```