

# Theory - Notes on React Development[FSRNL 38]

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## 1 Package.json

- Package.json serves as the blueprint for our project.
- It includes important information about your project, such as its name, version, and dependencies.
- Common commands used with npm (Node Package Manager) in the context of React development:
  1. `npm install react`: Installs the React library.
  2. `npm install react-dom`: Installs the React-DOM library, which is used for rendering React components in the DOM.

## 2 Dependencies

- Dependencies in package.json indicate that your code execution and functionality depend on specific libraries or packages.

## 3 Node Modules

- Node modules are directories containing all the modules and dependencies required for your project.

## 4 Handling Errors

- When encountering errors in your development process, it's important to remain calm and composed.
- Utilize resources like Stack Overflow to find solutions and guidance.
- Seeking help from more experienced developers or colleagues can be beneficial in resolving complex issues.

## 5 Webpacks

- Webpack is a widely used and highly configurable module bundler for modern web development. It's a critical tool that helps developers manage and optimize the assets and resources used in web applications. Here are some key aspects of Webpack:
- Module Bundler, Dependency Management, Dependency Management

## 6 Bundler

- A bundler is a fundamental tool in building a React application.
- It performs essential tasks, including:
  - Running your code during development.
  - Minifying your code for production to improve performance.
  - Enabling live reloading, so any changes you make are immediately reflected in your application.
  - Handling tasks such as image optimization to optimize the performance of your app.

## 7 Create-React-App

- Create-React-App is a popular tool for initializing and managing React applications.
- It uses a bundle called Webpack, which is a powerful bundler that handles various tasks during the development and build process.

## 8 Parcel Bundler

- Parcel bundler offers an out-of-the-box development experience for building web applications.
- You can install Parcel by using npm or another package manager.

## 9 NPM and NPX

- NPM (Node Package Manager) is used for installing packages and managing project dependencies.
- NPX is a package runner tool that comes with npm. It is used for executing packages or commands.

## 10 Starting a React App

- To create a new React app, use the command:

```
\texttt{\textcolor{darkblue}{npx create-react-app my-app}}
```

- When you run the development server using:

```
\texttt{\textcolor{darkblue}{npm start}}
```

it looks in the package.json for the "start" script and executes it, typically opening the app on port 3000.

## 11 Browserslist

- Browserslist is a configuration setting that defines which browsers your application supports.
- It helps exclude browsers with less than 0.2
- A typical Browserslist configuration might exclude Internet Explorer 11 or older versions.

## 12 Index.html and Index.js

- In a React application, the `index.html` and `index.js` files are linked as follows:
- In `index.html`, you typically have an element, often with the ID "root," where your React app will be rendered.
- In `index.js`, you use the `ReactDOM.render` method to render your React components into that root element, connecting your React code to the HTML page.