**React**

**Day 9th**

**React Installation:**

React installation using **create react app** CLI.

**What is NPX?**

NPX stands for Node Package Extended means without installing packages we can execute application. It is installing as well as executing the command. This is used to create react app or any node modules files.

**What is NPM??**

NPM stands for Node Package Manager and it is used to install the packages not for executing the packages.

**Installation steps**

1. Npm install -g create-react-app
2. Create-react-app –version
3. Create-react-app projectName

**What is react-Scripts**

The react-scripts package is a set of scripts from the create-react-app starter pack which helps you kick off projects without configuring. The react-scripts start command sets up the development environment and starts a server as well as hot module reloading.

In the past, creating react-app was a painful process. You had to slog through a lot of configuration, especially with webpack and babel, before you could get your hands dirty and develop something meaningful.

Fortunately today we have create-react-app, a handy module that comes with an outstanding configuration, and a scripts command called react-scripts that makes it much easier to build react applications.

**Start**

This command is used to start your development server. This is starting react app. Using `npm start`.

React uses Node.JS on development to open the app on <http://localhost:3000>, thus the start script enables you to start the webpack development server.

This command will not only start the development server, but it will also react and display the latest version each time a change occurs with the webpack’s hot module replacement (HMR) feature. In addition, it will show lint errors in the terminal if it fails to start the server in the form of meaningful error messages.

**Build**

It converts static file to browser. Whenever we are running the command like `npm run build` then it will automatically create a build folder in the root for production purpose.

React is modular, which is why you can create several files or components if you want to. These separate files need to be merged or bundled into one to be precise. That’s one of the major benefits of the build script.

The other is performance as you know, development mode is not optimized for production environments. And react uses the build script to ensure that the finished project is bundled, minified and optimized with best practices for deployment.

**Test**

This command is used to test your react application and it is using a testing library named `**jest**`. It is specially for testing not for development purpose.

Create react app uses jest as a test runner. The test script enables you to launch the test runner in interactive watch mode that lets you control jest with your keyboard.

The test script can be run on the terminal with the following command ‘npm test’

The default react template comes with one predefined test case for the sample application interface. Open the src/app.test.js file and find the following sample test case.

**Eject**

This command provides us to do custom modification or custom configuration (webpack). If you run this command your default configuration will be lost.

The create react app documentation categorizes this script as a “one way operation” and warns that “once you eject, you can’t go back!” create react app comes with an excellent configuration that helps you build your react app with the best practices in mind to optimize it.

However we may have to customize the prebuilt react scripts with additional configurations in some advanced scenarios. The eject scripts gives you full control over the react app configuration. For example, you can customize the webpack or babel configuration according to a specific need by ejecting the react app.

Running the eject script will remove the single build dependency from your project. That means it will copy the configuration files and the transitive dependencies as dependencies in the package.json file. If you do that, you’ll have to ensure that the dependencies are installed before building your project.