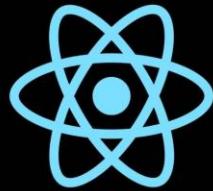


React JS



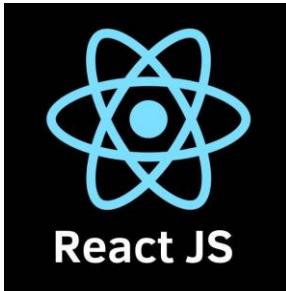
React JS

Welcome to React JS!

Build Fast, Interactive & Career-Defining Web Apps
with React JS

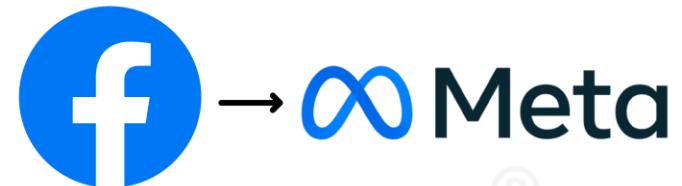
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What is React JS?



React JS Library

Built By: Facebook (Meta)

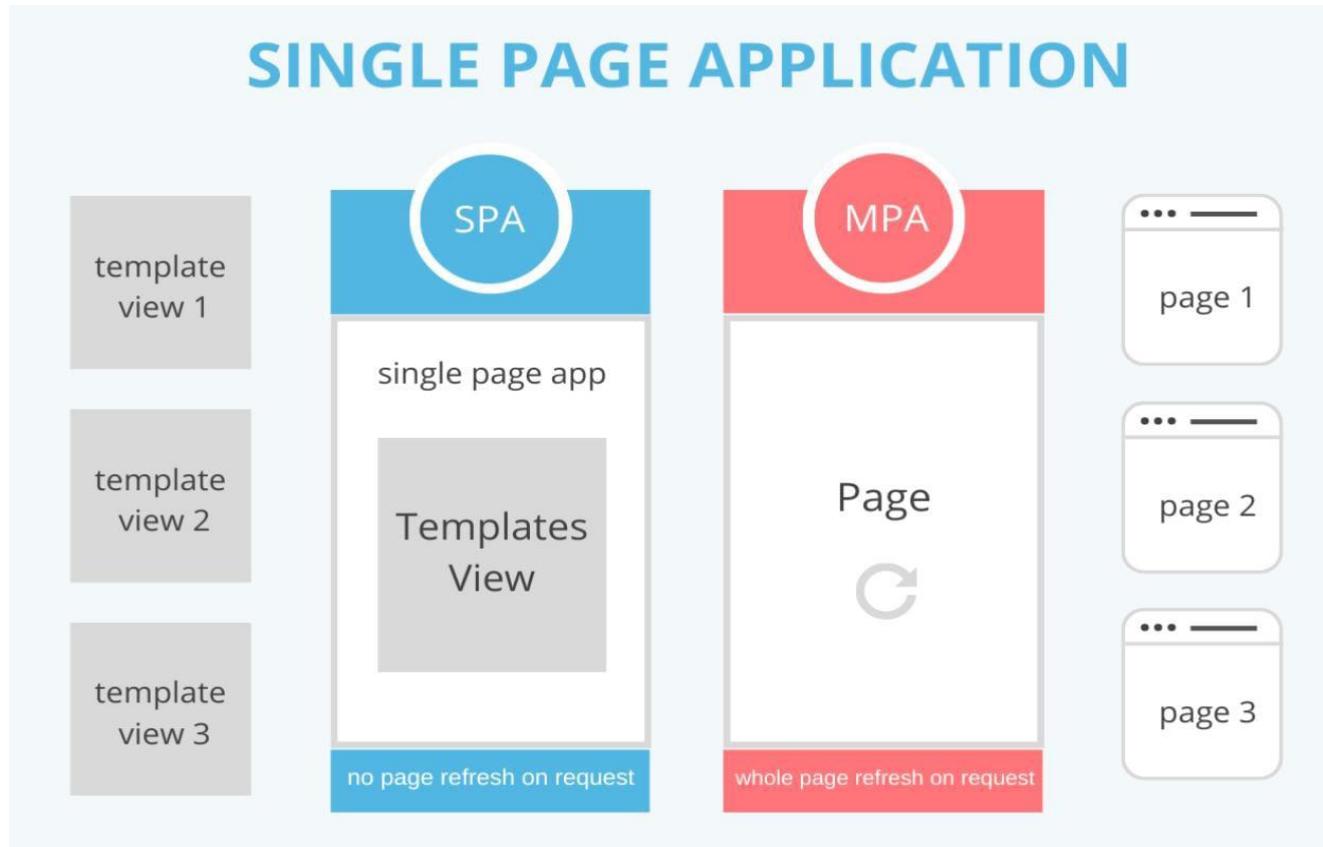


- React.js, more commonly known as React.
- Created by: **Jordan Walke** (Facebook engineer)
- Initiated in **2011** and First version came in **2013**.
- It is a free JavaScript library.
- React is Component-based architecture.
- React is like Lego blocks – you build UIs by combining small pieces!



Single Page App

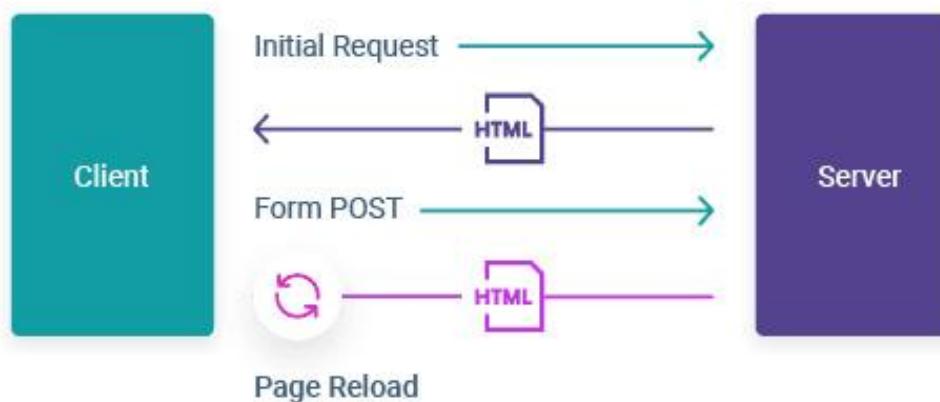
A **Single Page Application** is a Web Application that operates within a single HTML page, providing a more responsive and great user experience.



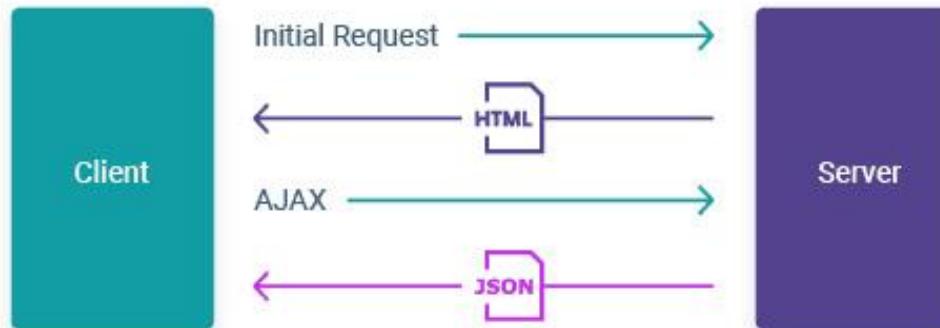
SPA Lifecycle



Multi-Page Lifecycle



SPA Lifecycle



Why React?



Most in-demand frontend library in job listings.

Easy to integrate with any backend (Node, Django, Spring, etc.)

Ease to maintain.

Fast loading time.

Top Websites Using React

- ◆ **Facebook** – React was built for it!
- ◆ **Instagram** – Fully built on React
- ◆ **Netflix** – Superfast UI performance
- ◆ **Airbnb** – Beautiful and interactive UI
- ◆ **WhatsApp Web** – Real-time updates with React
- ◆ **Zomato** – React for dynamic user dashboards
- ◆ **Flipkart, Amazon** – Product listing and filtering with React

Why the name React?



Because it helps your website "**react**" to changes in data — automatically and instantly!

When something changes (like a new message or like on a post), **React** updates the affected part of the webpage without reloading everything.

That's why it's called "**React**" — it **reacts** to changes in your app's data.

For Example:

Imagine you're using **Facebook**:

- You're chatting with a friend.
- Suddenly, friend send a message.
- The new message appears instantly — without refreshing the page.

In old days (before React), this needed complex manual code to update the UI. React made it **automatic, fast, and easy**.

React vs Others



Feature	React	Angular	Vue
Learning Curve	Easy	Steep	Easy
Backed by	Meta (FB)	Google	Community
Flexibility	High	Medium	Medium
Performance	High	High	High
Used by	FB, IG, Netflix	Google, PayPal	Alibaba

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Creating React based Web App



- **Install VS Code**
- **Install NodeJS** (check by node -v)
- **Create a folder for React Projects**

Using CRA (Create React App) [Deprecated - v19]

- **Open terminal or command prompt at project folder**
- **Write the following command (npm/npx command can be uppercase)**
 - **Check npx command working:** `npx -v`
 - If any error message comes like npx-ps1 command, Then run following steps:
 - Open Powershell with run as administration.
 - Run this command: Set-ExecutionPolicy RemoteSigned
 - Type y. [That's all, close powershell]
 - **npx create-react-app@latest project_name** [this project name can not uppercase]
 - **cd project_name**
 - **npm start**

1. `npx create-react-app my-app`

- This uses the **default version** of create-react-app that your system.
- If you've previously used CRA, it may use a **cached or older version**.
- Might **not include the latest features or templates**.

2. `npx create-react-app@latest my-app`

- This **explicitly tells npm to use the latest version** of create-react-app.
- Ensures you get **all the latest updates, bug fixes, and improvements**.
- Recommended when you want to start a project using the **most recent setup**

Creating React based Web App



Using Vite

Vite is a very fast, reliable and customizable tool for modern web projects. It also has the same features as create-react-app (CRA).

- **Make sure, Node installed on computer**
- **Open terminal or command prompt at project folder**
- **Write the following command** (`npm` command can be uppercase)
 - `npm create vite@latest project_name` (No Uppercase and space)
 - **use arrow keys to navigate to React**
 - **use arrow keys to navigate to Java Script**
 - `cd project_name`
 - `npm install`
 - `npm run dev`

What is NPM?



NPM stands for Node Package Manager.

NPM is a package management that is used to install, uninstall, and update JavaScript packages on your workstation.

- It is a default package manager for Node projects.
- NPM is installed when NodeJS is installed on a machine.
- It comes with a command-line interface (CLI) used to interact with the online database of NPM.
- Whenever you want to use a package again and again for multiple projects, use npm.
- To check whether or not NPM is installed on your machine:
 - `npm -v`



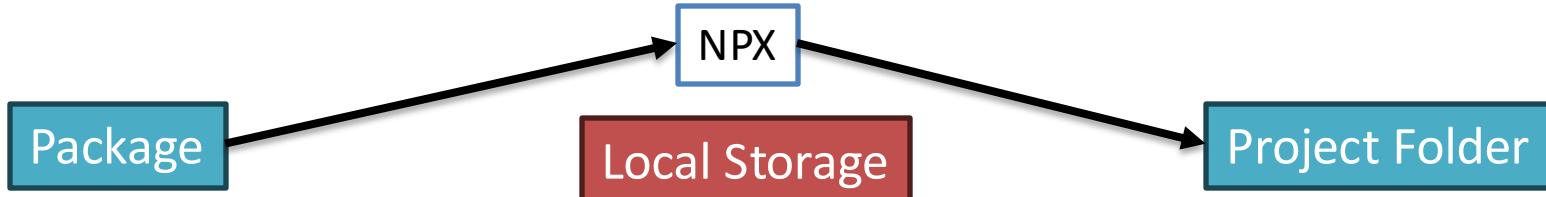
It is like download and play the games (or songs) in computer.

What is NPX?

NPX stands for Node Package Execute.

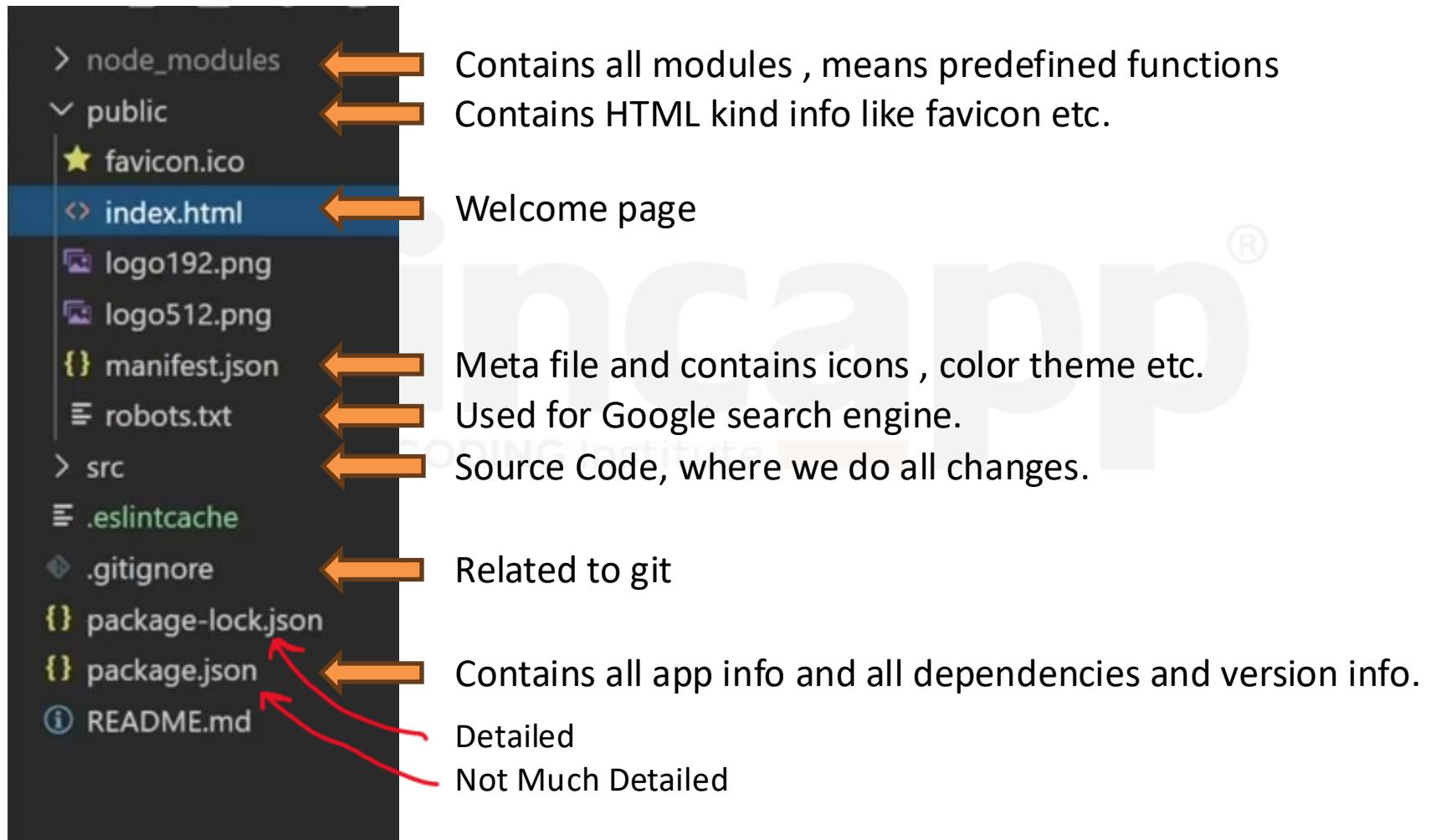
NPX is a package executer that is used to directly execute JavaScript packages without installing packages.

- It is simply an NPM package runner.
- NPX is installed automatically with NPM version 5.2.0 and above.
- Whenever you want to use a package once for a project, use npx.
- To check whether or not NPX is installed on your machine, you can run the following command on the terminal:
 - `npx -v`



It is like play the games (or songs) online.

Directory Structure of React App



Directory Structure of React App



The screenshot shows a file explorer window with the following directory structure:

- node_modules
- public
- src
 - App.css
 - App.js
 - App.test.js
 - index.css
 - index.js
 - logo.svg
 - reportWebVitals.js
 - setupTests.js
- .eslintcache
- .gitignore
- package-lock.json
- package.json
- README.md

- App.css → Contains CSS code
- App.js → Contains JS code
- App.test.js → Used for Testing
- index.css → Contains CSS code
- index.js → Entry point for React
- logo.svg → Image file
- reportWebVitals.js → Performance report file
- setupTests.js → Testing case file