React Introduction & History

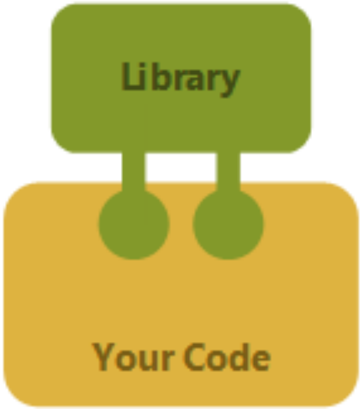
React JS Library

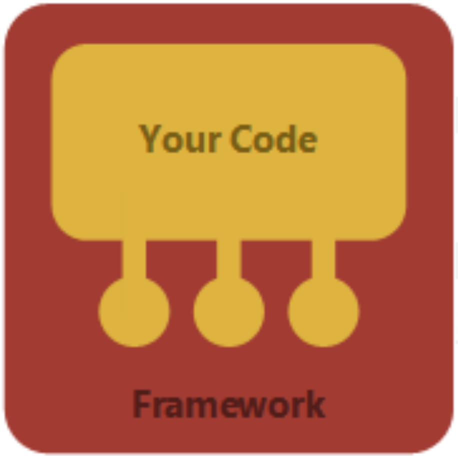
Built By: **Facebook (Meta)**

- React.js, more commonly known as React.
- Created by: **Jordan Walke** (Facebook engineer)
- Initial Release: May **2013**
- It is a free JavaScript library.
- It is reusable component based library.

Library vs Framework

- Frameworks and libraries are tools in software development.
- Frameworks provide a structured foundation for building applications, while libraries offer specific functionalities.





- **Frameworks** provide a structured foundation for building applications.
- Framework calls the code.
- E.g.: Angular, Django Spring etc.

- **Library** is a set of reusable functions.
- Code calls the library.
- E.g.: jQuery, React etc.

Why Use React?

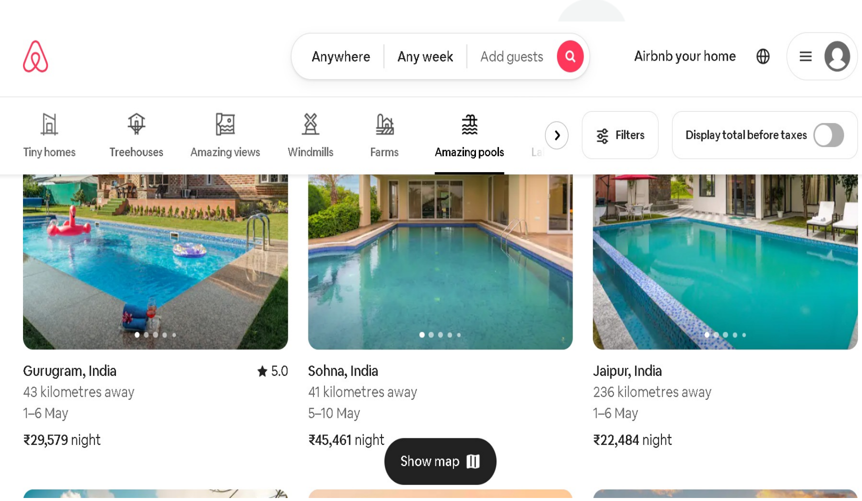
Reusable Components

Easy to maintain

Fast loading time

With React

With React



Anywhere | Any week | Add guests

Airbnb your home

Tiny homes · Treehouses · Amazing views · Windmills · Farms · Amazing pools

Filters

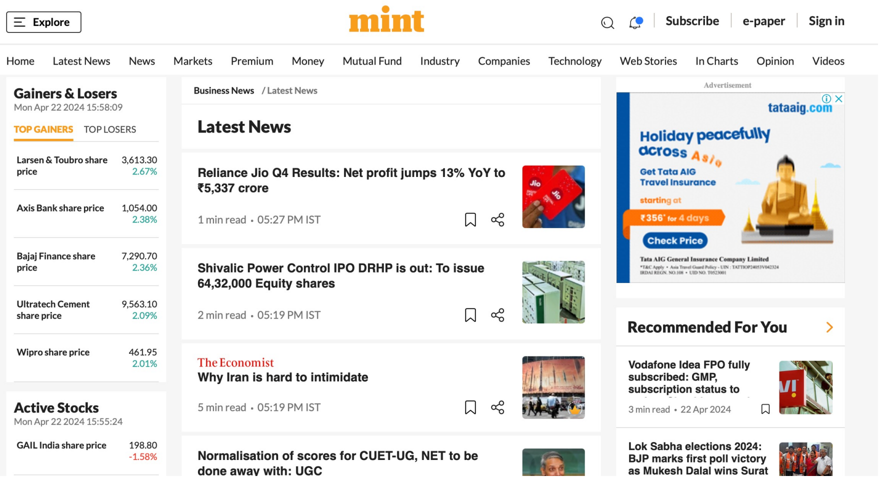
Display total before taxes

Gurugram, India ★ 5.0
43 kilometres away
1–6 May
₹29,579 night

Sohna, India
41 kilometres away
5–10 May
₹45,461 night

Jaipur, India
236 kilometres away
1–6 May
₹22,484 night

Show map



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Axis Bank share price	1,054.00 2.38%
Bajaj Finance share price	7,290.70 2.36%
Ultratech Cement share price	9,563.10 2.09%
Wipro share price	461.95 2.01%

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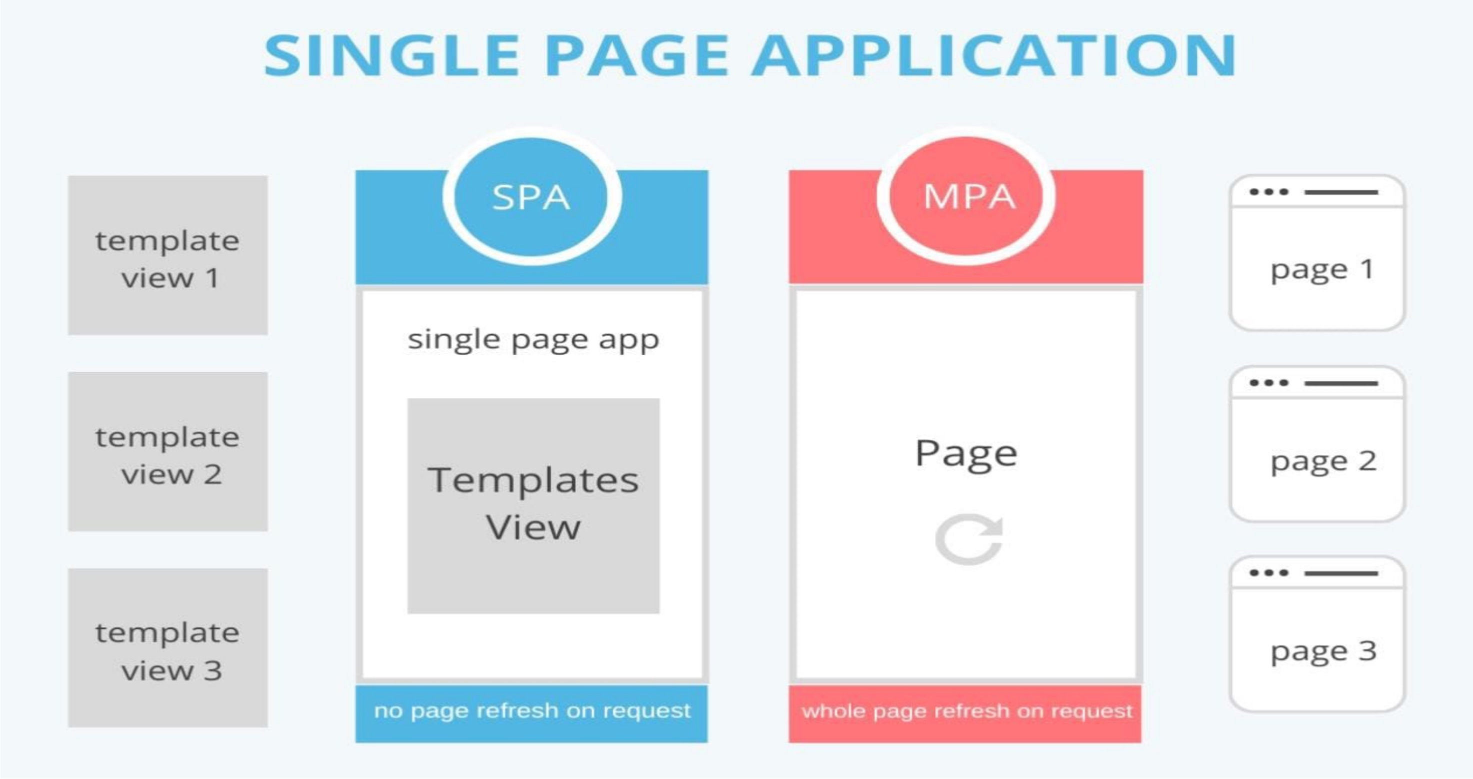
ReactJS based websites: Paypal, Dropbox, NETFLIX, Uber Eats, Twitter and many more.

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.



Creating React based Web App

Without NodeJS

- **Use following CDNs:**

```
<script src="https://unpkg.com/react@16/umd/react.development.js"></script>
<script src="https://unpkg.com/react-dom@16/umd/react-dom.development.js"></script>
<script src="https://unpkg.com/babel-standalone@6.26.0/babel.js"></script>
```

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)

- **Open terminal or command prompt at project folder**
- **Write the following command (npm/npx** command can be upercase)
  - **npx install -g create-react-app** [do this only once]
  - **npx create-react-app** project_name
  - **cd** project_name
- **To Run:**
  - **npm** start

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).

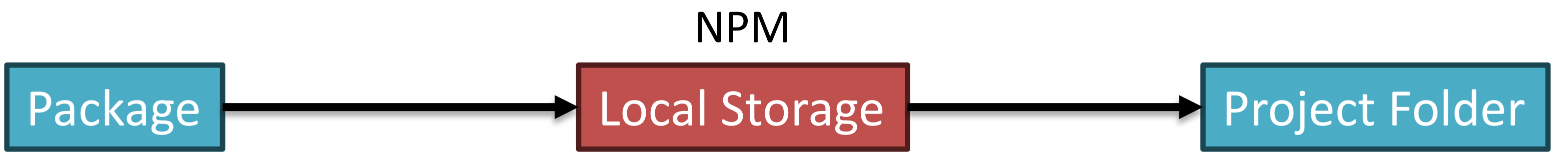
- **Make sure, Node installed on computer**
- **Open terminal or command prompt at project folder**
- **Write the following command** (**npm** command can be upercase)
    - **npm create vite@latest project_name** (No Uppercase and space)
    - **use arrow keys to navigate to React**
    - **use arrow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



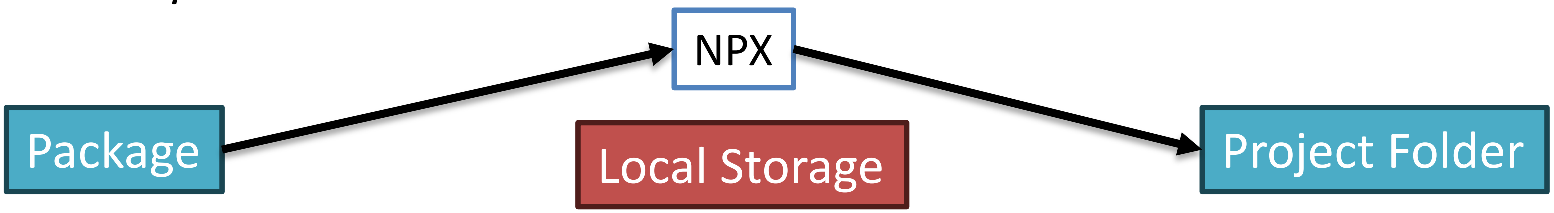
It is like download and play the games (or songs) in computer.

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*



Package

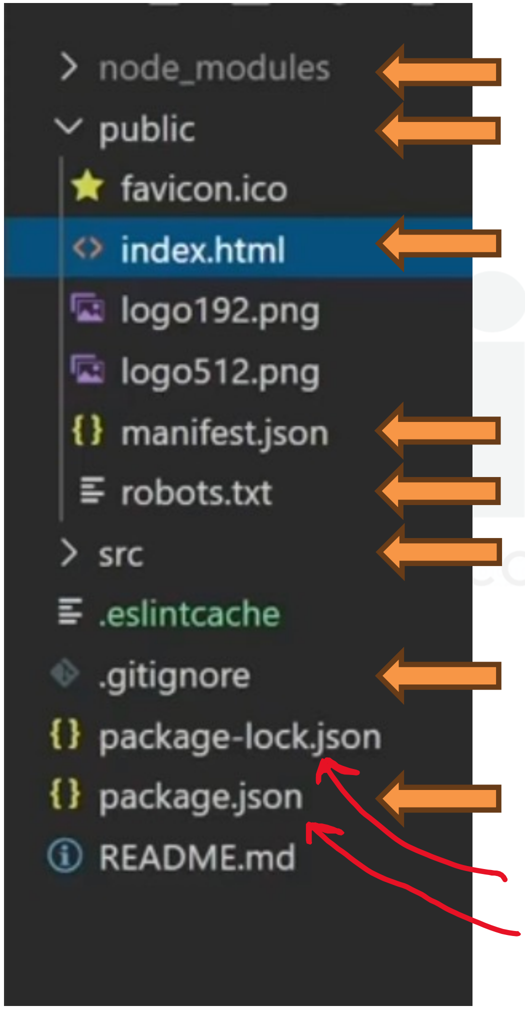
NPX

Local Storage

Project Folder

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

Directory Structure of React App



```
> node_modules
v public
    favicon.ico
    index.html
    logo192.png
    logo512.png
    manifest.json
    robots.txt
> src
  .eslintcache
  .gitignore
  package-lock.json
  package.json
  README.md
```

Contains all modules , means predefined functions

Contains HTML kind info like favicon etc.

Welcome page

Meta file and contains icons , color theme etc.

Used for Google search engine.

Source Code, where we do all changes.

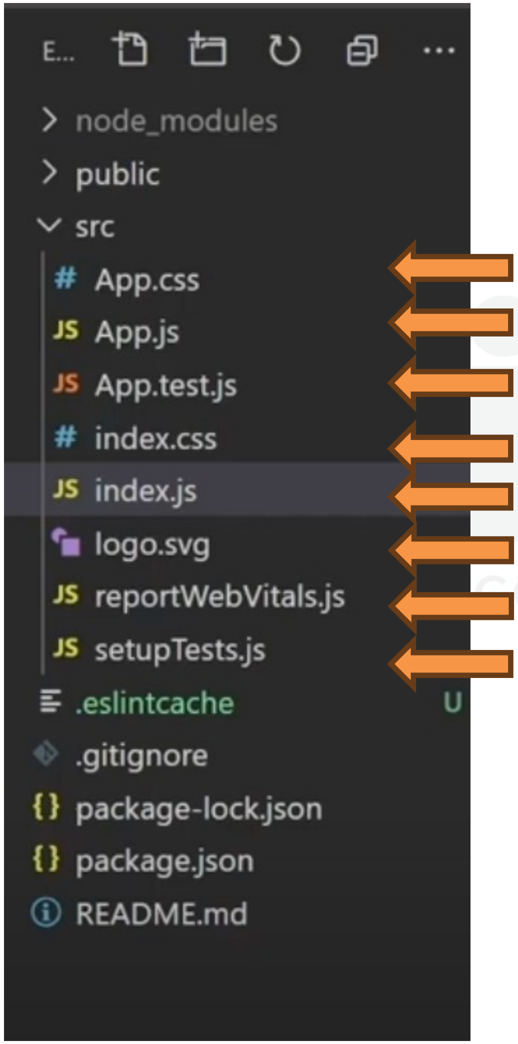
Related to git

Contains all app info and all dependencies and version info.

Detailed

Not Much Detailed

Directory Structure of React App



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

Contains CSS code

Contains JS code

Used for Testing

Contains CSS code

Entry point for React

Image file

Performance report file

Testing case file