**React JS**

React JS is an open source third party JavaScript library provided by Facebook. Using React JS we can create re-usable **component**. Component mainly help to create the view or part of the view page. Using React JS we can create SPA (Single Page Application).

**MPA SPA**

**In Single Page application we are loading only part of web page rather than whole DOM.**

In MPA

Index.html welcome.html

We can connect using

Hyperlink

Submit button

Using JavaScript function

Gmail

Inbox

Outbox

Send main

Span

Index.html

Header or div tag with id as header

Nav tag or div tag with id as nav

Link aboutus contactus feedback login

Main tag or div tag with id as main

Footer tag or div tag with id as footer

Header.html

Nav.html

Link aboutus contactus feedback login

Main tag or div tag with id as main

Footer.html

React JS

Angular Framework

Vue JS

**Node JS :** Node JS is run time environment for JavaScript file or JavaScript library or JavaScript framework. Before Node Js JavaScript was known as client side scripting language. But after node js JavaScript also known as client side as well as server side script language. With help of Node JS we can run JS file outside browser environment node Js provided lot of pre defined modules like http, fs, express, mongodb, mongoose, mysql which help to develop backend side application or programs.

MEAN Stack Mongo DB/ MySQL Express Angular Node JS

MERN Stack Mongo DB/ MySQL Express React JS Node JS

**Node Js toolkit**

npm (node package manager like mvn in maven)

npx (node package extension)

npm install -g modulename install globally

npm install modulename install locally

or

npx modulename we can use without installing

creating react js project with help of npx command

**npx create-react-app welcome-app**

npx : node package extension

create-react-app node js external module

welcome-app project name

after project created move inside a project folder using cd command

cd welcome-app

npm start this command is use to run the react js application

after compiled the project it will open in default browser with below URL as

<http://localhost:3000>

React Js Component. Component is use to control the view or part of the view page. Each component return DOM element using JSX concept(JavaScript extension or XML).

With help of JSX features we can write HTML code inside JavaScript function generally these function is known as component in React JS

Using React JS Component we are creating user defined tags.

In React JS we can create the component using

1. Function style
2. Class style
3. Arrow style

JS function

function Hello() {

return varibleName of type number, string, arrary or object.

}

React JS function (Component)

function Hello() {

return <div>Welcome to React JS </div>

}

In React JS by default App is consider as root component.

**React JS local variable**

We declare different types of local variable in React JS.

In React JS if we want to use or access any variable value in side JSX

{varibleName}

Component creation using

1. Function style
2. Class style
3. Arrow style

npx create-react-app different-types-of-componnets

React JS provide two type of variables.

1. State variable : state variable is use to describe the behaviour of component. state variable can be change (mutable variable). State variable are local to that component.
2. Props variable : props variable is use to share the data between one component to another component. props can’t be change (immutable variable).

React component mainly divided into 2 types.

1. State full component
2. State less component

Before React 16.x function component is known as state less component

Class style component is known as full components.

Before react 16.x we are not able to create the state variable in function component.

From 16.x version onward with help of react hook in function component also we can create state variable.

Creating state variable in function component

useState() : which help to create state variable in function component

syntax

import {useState} from ‘react’;

function MyComponent{

**let [variableName,setFunction]=useState(defaultValue); // state variable**

**let variableName= defaultValue; // local variable**

}

We can declare different types of state variable like number, string, Boolean, array type, object type, array object type etc.

npx create-react-app react-state-variable-app

cd react-state-variable-app

open the project in VS code

npm start