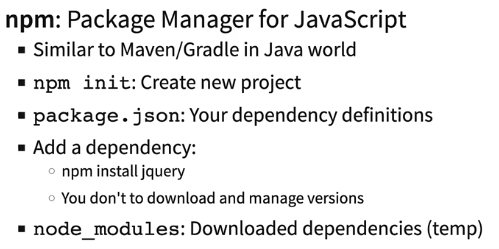
**React**



**Imp React Commands**

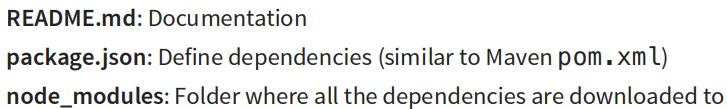
**npm start**: Runs the app in development mode Recommendation: Use Google Chrome.

**npm test**: Run unit tests (Junit ki tarah)

**npm run build**: Build a production deployable unit Minified Optimized for performance.

**npm install** **[dependency name]:** Add a dependency to the project.

**React Folder Structure**

****.

**Note:**

**Index.html in public folder is the first file which is loaded in browser.**

**Every Javascript file is a called Module. In each Module, we create component (Function ya Class Component) and we pass this component to index.js which passes it to index.html.**

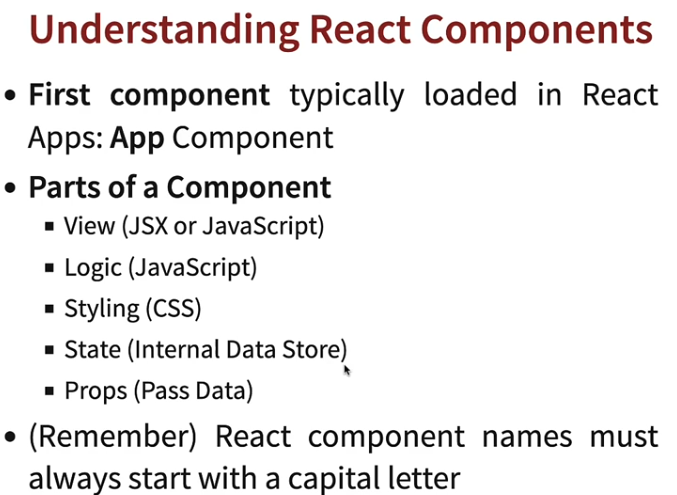
**App component is the first component which is passed to index.js which passes it to index.html by default.**

**index.css pure application ka styling file ka kaam krta hai but** **if we want for specific Component aage next pg pe dekh className tag se refer kr rahe hai to the CSS file of that Component.**

**consider Component name is App.js then we can write unit test in App.test.js.**

**Ye sb src folder me krte hai.**

**Why Buid Application using Component? Components are modular (diff files jinhe ek jagah laake ek logic product bana sake).**



**Function Component and Class Component**

**Function component** => returns a jsx file which will be displayed to the end user.

**Class Component** => render function creater inside a class and inside that function return jsx file.

Must import Component from ‘react’ and extend class with Component.

**Note**: **className** tag me we mention the name of the CSS file.

**Use Function Component only:**

**Reason:** Before node version 17, **state** (aage padhenge iske baare) sirf Class Compo ke paas tha, Function ke paas nhi.

But now due to introduction of Hooks **state** ka access function ke paas bhi hai.

**Note: Yaha ek hi module me diff components create kiya hai, usually ek component ek hi module me create krte hai.**

**Phir us module ki jarurat jis module me pade vaha import krte hai and then jo App function call me kiya hai vo krte hai . Aage aur samjhega**

**React uses JSX (Javascript XML) stricter than HTML for view presentation.**

Isme sirf top level tag allowed i.e. ek tag ke andar saare tagshone chahiye. RHS dekh.

Wrapping into a shared parent is must.

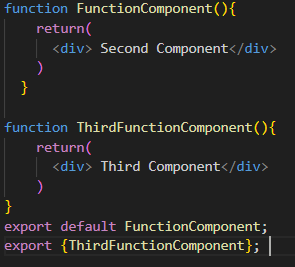
inside a **<div>…. </div>** tag ya phir **<>….. </>** empty wrapper.

Agar top level nhi to error

Browser cannot interpret JSX file so they internally uses Babel which converts JSX to JS and browser interprets that JS.

It is best Practice to have one component in a single module. Still we can have multiple components in a class.

**About Imports**

Make sure to have only 1 default export baaki saare normal export.

Key Diff => Now it we import from this module, by default only FunctionComponent will be imported.

Since default export is FunctionComponent.

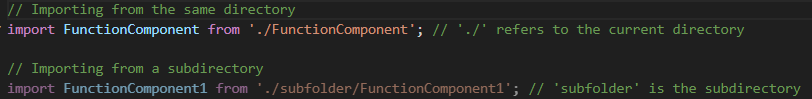
Note: We have named the import as FunctionComponent. We can name it anything.

This is known as **Default Import**

To import non default Component, mention that Component name inside **{}**

Make sure Component and Import name same ho. This is Known as **Named Export**

Importing from same vs sub directory.



**CSS to Component**

1. **Using style attribute**

Inside the Component create an object and use that object wherever needed using style attribute

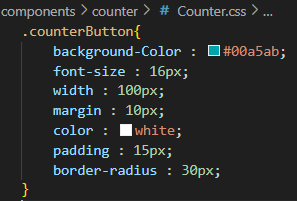
Eg,



This way of CSS styling is not recommened.

1. **Using className attribute**

Create css file vaha specify css properties and import in the module.

Below Counter.css file Imported Counter.css file in a module and used className tag in button which is refering to class **counterButton** which is present in the css file.

Note the difference in syntax of Css styling using both tags

Css file have multiple classes (obviously)

**States**

In very simple words, state in React is like a box where you can store data that a component needs and can change over time.

For example, if you have a counter that starts at zero and increases every time you click a button, the current number (like 1, 2, 3, etc.) is stored in the state. When the state changes, React automatically updates what you see on the screen

**For functional Components useState provides state**

 import it in the module.

useState takes a default value as a parameter and returns an array. Index 1 => value Index 2 => Function which will update our value as required.

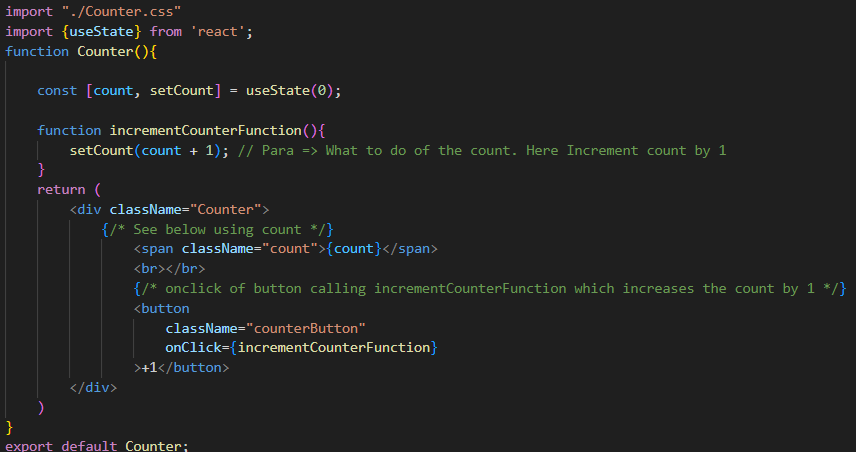
Here we passed 0 as default value.

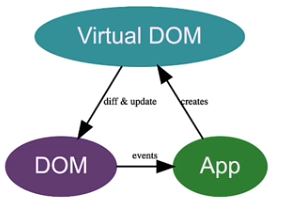
If we console.log this we get this as output. Array with value and function



This way we can store the value and function in a separate variable.

Using setCount to change dynamic value count.

Code eg, Onclicking button 0 increases count by 1

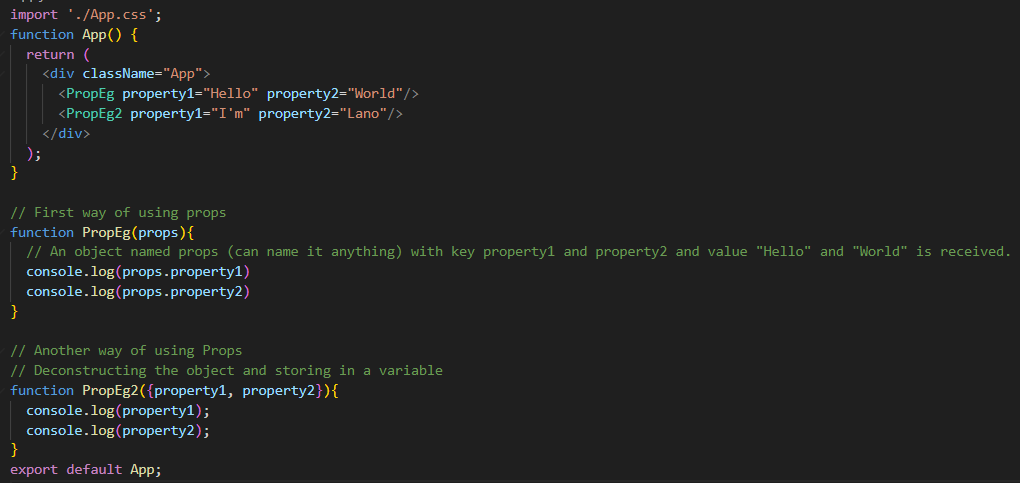
What Happpens Internally.

When we create React project React creates Virtual DOM in memory and when we run the project again creates another version of Virtual DOM and compares both version, sees the changes and update the changed part and passes to the DOM

**Properties (ya bol le props)**

In React, properties (or props) are like arguments that you pass to a component. Props are read-only, meaning the child component can use them but cannot change them.

Basic Eg of props,



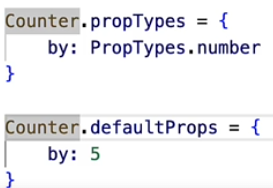
****If want to pass a number pass inside **{}**

**Setting Constraints to props**

**First Import PropTypes**

****

**Now Inside a module but outside the component,**



**Counter** is the Component Name

**by** is the name given to props .

Here we are saying number hi receive krna khuch aur receive kiya to warning dena.

If Component call se khuch pass na ho to pass 5 to the props

Eg,

