

Introduction to React.js

- React.js is a **JavaScript** library developed by **Facebook** to create **user interfaces**.
- We use React to build **single-page applications**.
- In React, we can create **reusable components**, making our work easier to develop the UI.
 - `npm create vite@latest my-react-app`
 - `npm install`
 - `npm run dev`

```
import React from 'react';
```

```
function App() {  
  return <h1>Hello, React!</h1>;  
}  
  
export default App;
```

What is a Single Page Application?

A single-page application is an application where clicking on any tab, nav menu, or other links **does not reload the entire application**, only the content of the body is reloaded for the new section.

Like we have two tabs on youtube movies and songs when I switch to songs from the movie so it will not reload the whole application it just reload the body content of songs section

What is a Component in React?

A component in React is an independent, reusable piece of code that we can use multiple times. For example, if I create a component for a red button, I can use it anywhere in the application. This way, we can create many components that help make application development easier.

There are two types of components: class and functional :

```
// src/RedButton.jsx
import React from 'react';

function RedButton() {
  return <button style={{ backgroundColor: 'red' }}>Click Me</button>;
}

export default RedButton;

// src/App.jsx
import React from 'react';
import RedButton from './RedButton';

function App() {
  return (
    <div>
      <RedButton />
      <RedButton />
    </div>
  );
}

export default App;
```

What is JSX?

JSX is a combination of HTML and JavaScript, which means we can write HTML-like code inside a JavaScript file.

```
// src/App.jsx
import React from 'react';

function App() {
  const name = 'Shaaz';
  return <h1>Hello, {name}!</h1>;
}

export default App;
```

Rules of JSX :

- Wrap JSX in a single element::

```
// src/App.jsx
function App() {
  return (
    <div>
      <h1>Hello, World!</h1>
    </div>
  );
}
```

- Use a ternary operator instead of if-else:

```
// src/App.jsx
function App({ isLoggedIn }) {
  return
    <div>{isLoggedIn ?
      <h1>Welcome Back!</h1> : <h1>Please Sign
      In</h1>}
    </div>;
}
```

- Use {} to embed JavaScript expressions:

```
// src/App.jsx
function App() {
  const name = 'Shaaz';
  return <h1>Hello, {name}!</h1>;
}
```