

What is React:

REACT STATS:

- Advantages of React
 - React Native
 - Mobile apps using Javascript frameworks
 - React Javascript
 - Javascript using the React library
 - It allows for the efficient rendering of large, complex user interfaces.
 - It is modular, which means that code can be easily reused and organized into independent, reusable components.
 - It is used by many large companies, including
 - Facebook
 - Instagram
 - Airbnb
 - Netflix
 - Tesla
 - Wix

React vs Scala:

Scala:

- Statically typed language: variable/expression is typed at compile time.
Type is specified at declaration. Easier to check for errors
- General purpose programming language:
- Object-oriented language:

React:

- Dynamically typed language:
 - variable/expression is typed at runtime
- Used for user interface and web applications:
- Component-based:
- Virtual DOM:
 - When react components are rendered, it creates a virtual representation of the component's user interface
 - Updates the Virtual Doms and then determines the fastest way to

- Unidirectional data flow:
 - Parent -> children flow of data
- Declarative:
 - Coded to describe how to look rather than how to implement

Similarities:

- Open source
- Designed to be highly modular and flexible

Similar concepts used in React

Callbacks

Def: a function that is passed as an argument to another function.

- Handling an `onClick` prop of button component:
 - When a button is clicked, a callback function is called.

Higher order functions

Def: Function that takes one or more functions as arguments or returns a function. React uses functions as values. For example, Assigning a function to a variable like a function where we do console.log and then assigning it to a variable

- Used to combine smaller, reusable functions into more complex ones. Makes the code more modular
- useRef
 - a higher-order function could be used to create a customized version of the hook that is tailored to a specific use case.
 - For example, a higher-order function could be used to create a version of the useRef hook that automatically attaches a ref to a specific element type, such as a <button> or <input> element.
- useState
 - Allows the component to manage its own state or internal data.
 - Can be used in higher-order functions to provide state management capabilities to components that are created or returned by the higher-order function.
- useEffect

- Allows the component to perform side effects, such as data fetching or subscriptions.
- Can create wrapped components

Abstract Data Type

- a type (or class) for objects whose behavior is defined by a set of values and a set of operations.
- Render function()
 - Uses **functions as values** and renders them into the html page (local host: 3000)