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React Js.

What are the features of React ?

→ JSX - JSX is a syntax extension to Javascript.

Components : building block of any react application.

Virtual Dom - React keeps a lightweight representation of the real Dom in the memory.

One-way data binding :- React's one-way data binding keeps everything modular & fast.

High performance - React updates only those components that have changed rather than updating all the components at once.

What is JSX ?

→ JSX is a syntax extension of Javascript. It is used with React to describe what the user interface should look like. By using JSX, we can write HTML structures in the same file that contains Javascript code.

Can't web browsers read JSX directly ?

→ web browsers cannot read JSX directly. This is because they are built to only read regular JS objects and JSX is not a regular Javascrip object.

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for a web browser to read a JSX file, the file needs to be transformed into a regular javascript object, for this we use Babel.

What is the virtual Dom?

→ Dom stands for document object model. The Dom represents an HTML document with a logical tree structure. Each branch of the tree ~~need~~ ends in a node, and each node contains objects.

React keeps a lighweight representation of the real Dom in the memory, and that is known as the virtual Dom.

why use React instead of other frameworks, like Angular?

→ • Easy creation of dynamic applications:- React makes it easier to create dynamic web applications because it provides less coding and provides more functionalities.

• Improved performance : React uses virtual Dom, which makes web applications perform faster.

• Reusable components :- components are the building blocks of any React application, and a single app usually consists of multiple components.

Unidirectional data flow - This means that when designing a React app, we often nest child components whithin parent components.

Dedicated tools for easy debugging - facebo has released a chrome extension that we can use to debug React applications.

What is the difference between the ES6 & ES5 standards ?

→ ES5	ES6
ES5 is the fifth edition of the ESMA script (a trademarked scripting language speeification defined by ECMA international.	ES6 is the sixth edition of the ECM script (a trademarke scripting language specification defined by ECMA international
• It was introduced in 2009	It was introduced in 2015.
• ES5 supports primitive data types that are string number boolean, null & undefined.	• In ES6, there are some additions to Javascript data types. It introduced a new primitive data type 'symbol' for supporting unique values.
• we could only define the variables by using the var keyword.	• there are two new ways to define variabl that are let and const

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How do you create an event in React ?

→

```
class simple extends React Component {
 work () {
  alert ("Good work!");
 }
render () {
 return (
  <button onclick = {this. work} > Do
Some work ! </button>);
}}
```

What is React

→ is Not a framework, it is a Javascript liabrary.

- building a user interfaces. Focus on UI
- created and maintained by facebook.
- Component based architecture. - Header, sidenav, maincomponent, Footer.
- seamlessly integrate react into any of your applications.
- portion of your page or a complete page or even an entire application itself.
- React native for mobile applications.

prerequisits - HTML, CSS and JavaScript fundamentals

- Javascript - 'this' keyword, filter, map and reduce.
- ES6 - let & const, arrow functions, template literals, default parameters, object literals

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rest and spread operators and destructurin assignment.

Create - react-App
npx
npx create-react-app <project_name>
npm package name.

npx is an npm package runner which gets installed when you install node in that

- What is prop drilling in React

→ Sometimes while developing React Applicatio there is a need to pass data from a component that is higher in the hierarchy to a component that is deeply nested. To pass data between such components, we pass props from a source component and keep passing the prop to the next component in the hierarchy till we reach the deeply nested component.
The disadvantage of using prop drilling is that the components that should otherwise be not aware of the data have access to the data.

What is React Hooks ?

→ React Hooks are the built-in functions that permit developers for using the state & lifecycle methods within React components. These are newly added features made available in React 16.8 version. Each lifecycle of a component is having 3 phases which include mount, unmount & update. Along with that, components have properties & states. Hooks will allow using these methods by developers for improving the reuse of code with higher flexibility navigating the component tree.

Using Hook, all features of React can be used without writing class components. For e.g, before React version 16.8, it required a class component for managing the state of a component. But now using the useState hook, we can keep the state in a functional component.

What are props in React ?

→ The props in React are the inputs to a component of React. They can be single-valued or objects having a set of values that will be passed to components of React during creation by using a naming convention that almost looks similar to HTML-tag attributes. We can say that props are the data passed from a parent component into a child component.

- The main purpose of props is to provide different component functionali such as :

- Passing custom data to the React componen
- using through this.props.reactProp inside render() method of component.
- Triggering state changes.

Q. Explain React state & props.

→ Props are Immutable, Has better performance, can be passed to child components.

State are owned by its component, Locally scoped, writeable/mutable, has setState() method to modify properties changes to state can be asynchronous, can only be passed as props.

React state - Every component in react has a built-in state object, which contain all the property values that belong to that component.

In other words, the state object controls the behaviour of a componen Any change in the property values of the state object leads to the re-render of the component.

What are the differences between controlled and uncontrolled components ?

→ Controlled component :- In a controlled component, the value of the input element is controlled by React. We store the state of the input element inside the code, and by using event-based callbacks, any changes made to the input element will be reflected inthe code as well.

Uncontrolled component :. In an uncontrolled component, the value of the input element is handled by the Dom itself. Input elements inside Uncontrolled components work just like normal HTML input from elements.

The state of the input element is handled by the Dom. Whenever the value of the input element is changed, event-based callbacks are not called. Basically, react does not perform any action when there are changes made to the input element.