

React Interview Question

1. Which of the following concepts is/are key to ReactJS?

ReactJS focuses on **Model part** when considering MVC(Model, View, Controller)?

1. Component-oriented design
2. Event delegation mode

2. What's difference between state and props(Properties)

1. Use **state** to store the data your **current page** needs in your controller-view. State of a component can be updated using this.setState().
2. Use **props** to pass data & event handlers down to your **child components**.

Props (needs to updated to achieve dynamic UI updates)

1. are immutable (which lets React do fast reference checks)
2. are used to **pass data down from your view-controller**
(your top level component)
3. **have better performance** (use this to pass data to child components)

State (used to pass the data from parent to child)

1. should be managed in your **view-controller** (your top level component)
2. is mutable
3. has worse performance
4. **should not be accessed from child components** pass it down with props instead

Conditions	State	Props
1. Receive initial value from parent component	Yes	Yes
2. Parent component can change value	No	Yes
3. Set default values inside component	Yes	Yes
4. Changes inside component	Yes	No
5. Set initial value for child components	Yes	Yes
6. Changes inside child components	No	Yes

States vs Props

3. What is JSX?

JSX is a shorthand for **JavaScript XML**. This is a type of file used by React which utilizes the expressiveness of JavaScript along with **HTML like template syntax**. This makes the HTML file really easy to understand. This file makes applications robust and boosts its performance.

```
1. <div class='box' id='content'>
2.   <div class='title'>Hello</div>
3.   <button>Click</button>
4. </div>
```

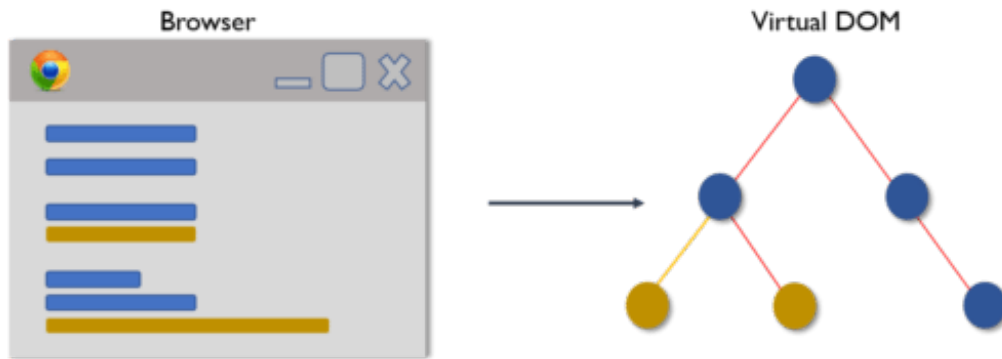
每个 DOM 元素的结构都可以用 JavaScript 的对象来表示。你会发现一个 DOM 元素包含的信息其实只有三个：标签名(tag)，属性(attrs)，子元素(children)。

```
1. {
2.   tag: 'div',
3.   attrs: { className: 'box', id: 'content' },
4.   children: [
5.     {
6.       tag: 'div',
7.       arrrts: { className: 'title' },
8.       children: ['Hello']
9.     },
10.    {
11.      tag: 'button',
12.      attrrs: null,
13.      children: ['Click']
14.    }
15.  ]
16. }
```

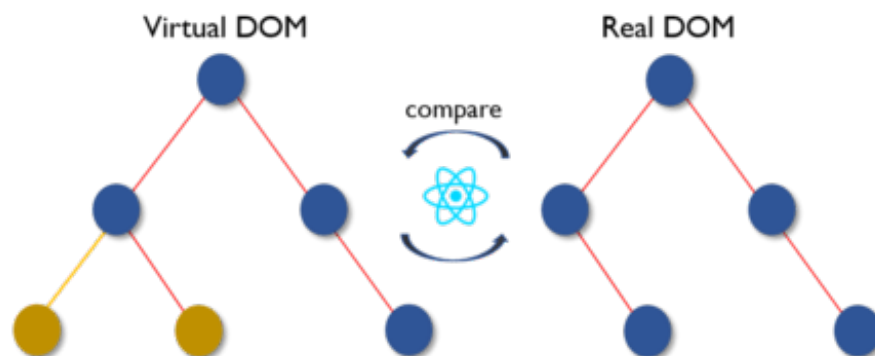
4. What do you understand by Virtual DOM? Explain its working.

React' s render function creates a node tree out of the React components. It then updates this tree in response to the mutations in the data model which is caused by various actions done by the user or by the system.

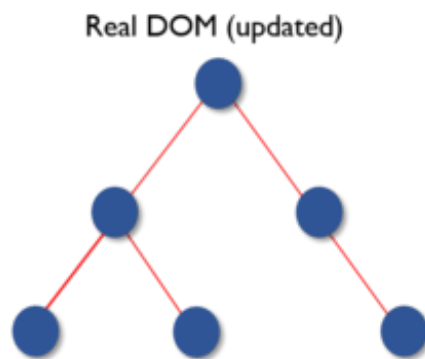
1. Whenever any underlying data changes, the entire UI is **re-rendered** in **Virtual DOM representation**.



- Then the difference between the **previous DOM representation** and the **new one** is calculated.



- Once the calculations are done, the real DOM will be **updated** with only the things that **have actually changed**



5. What do you understand from “In React, everything is a component.” Components are the **building blocks** of a React application’s UI. These components split up the **entire UI into small independent and reusable pieces**. Then it renders each of these components independent of each other without affecting the rest of the UI.

6. Explain the purpose of `render()` in React.

Each React component must have a **`render()` mandatorily**. It returns a single React element which is the representation of the **native DOM component**.

If more than one HTML element needs to be **rendered**, then they must be grouped together inside one enclosing tag such as **<form,group,div>** etc. This function must be kept pure i.e., it must return the same result each time it is invoked.

7. Differentiate between stateful and stateless components.

Stateful Component	Stateless Component
1. Stores info about component's state change in memory	1. Calculates the internal state of the components
2. Have authority to change state	2. Do not have the authority to change state
3. Contains the knowledge of past, current and possible future changes in state	3. Contains no knowledge of past, current and possible future state changes
4. Stateless components notify them about the requirement of the state change, then they send down the props to them.	4. They receive the props from the Stateful components and treat them as callback functions.

8. What are the different phases of React component' s lifecycle?

There are three different phases of React component' s lifecycle:

1. **Initial Rendering Phase:** This is the phase when the component is about to start its life journey and make its way to the DOM.
2. **Updating Phase:** Once the component gets added to the DOM, it can potentially update and re-render only when a prop or state change occurs. That happens only in this phase.
3. **Unmounting Phase:** This is the final phase of a component' s life cycle in which the component is destroyed and removed from the DOM.

9. What is an event in React?

In React, events are the **triggered reactions** to **specific actions** like **mouse hover, mouse click, key press, etc.** Handling these events are similar to handling events in **DOM elements**. But there are some syntactical differences like:

1. Events are named using camel case instead of just using the lowercase.
2. Events are passed as functions instead of strings.

The **event argument** contains a set of **properties**, which are specific to an event. Each

event type contains its own properties and behavior which can be accessed via its event handler only.