React JS Interview Question

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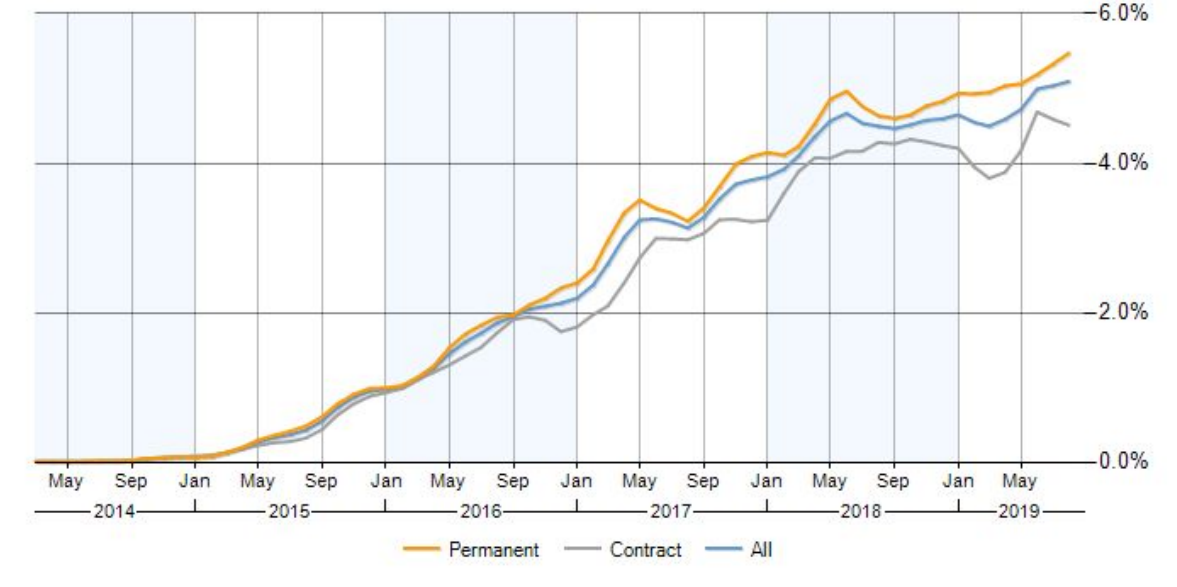
React JS Trend 2019

The image provides summary statistics for permanent job vacancies with a requirement for React skills. Included is a benchmarking guide to the salaries offered in vacancies that have cited React over the 6 months to 29 August 2019 with a comparison to the same period in the previous 2 years.



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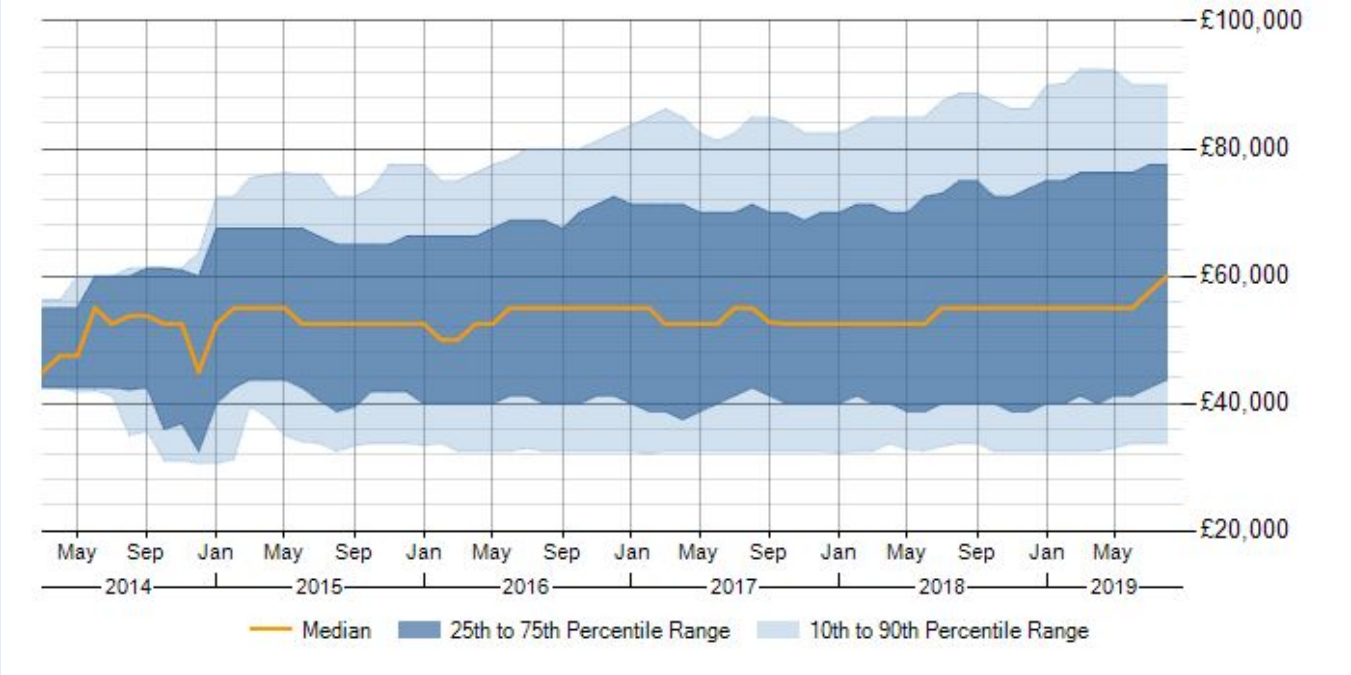
React JS Trend 2019

This chart provides the 3-month moving average for salaries quoted in permanent IT jobs citing React.



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Interview Question

Let us start by taking a look at some of the most frequently asked React JS interview questions:

React JS Interview Question

Q1. What is React?

- React is a front-end JavaScript library developed by Facebook in 2011.
- It follows the component based approach which helps in building reusable UI components.
- It is used for developing complex and interactive web and mobile UI.
- Even though it was open-sourced only in 2015, it has one of the largest communities supporting it.

React JS Interview Question

Q2. What are the features of React?

Major features of React are listed below:

- It uses the virtual DOM instead of the real DOM.
- It uses server-side rendering.
- It follows uni-directional data flow or data binding.

React JS Interview Question

Q3. List some of the major advantages of React.

Some of the major advantages of React are:

- It increases the application's performance
- It can be conveniently used on the client as well as server side
- Because of JSX, code's readability increases
- React is easy to integrate with other frameworks like Meteor, Angular, etc
- Using React, writing UI test cases become extremely easy

React JS Interview Question

Q4. What are the limitations of React?

Limitations of React are listed below:

- React is just a library, not a full-blown framework
- Its library is very large and takes time to understand
- It can be little difficult for the novice programmers to understand
- Coding gets complex as it uses inline templating and JSX

React JS Interview Question

Q5. How React works? How Virtual-DOM works in React?

React creates a virtual DOM. When state changes in a component it firstly runs a “diffing” algorithm, which identifies what has changed in the virtual DOM. The second step is reconciliation, where it updates the DOM with the results of diff.

The HTML DOM is always tree-structured — which is allowed by the structure of HTML document. The DOM trees are huge nowadays because of large apps.

The Virtual DOM is an abstraction of the HTML DOM. It is lightweight and detached from the browser-specific implementation details.

React JS Interview Question

Q6. Differentiate between Real DOM and Virtual DOM.

Real DOM	Virtual DOM
1. It updates slow.	1. It updates faster.
2. Can directly update HTML.	2. Can’t directly update HTML.
3. Creates a new DOM if element updates.	3. Updates the JSX if element updates.
4. DOM manipulation is very expensive.	4. DOM manipulation is very easy.
5. Too much of memory wastage.	5. No memory wastage.

React JS Interview Question

Q7. What is JSX?

JSX is a syntax extension to JavaScript and comes with the full power of JavaScript. JSX produces React “elements”. You can embed any JavaScript expression in JSX by wrapping it in curly braces.

For example, below is the syntax for a basic element in React with JSX and its equivalent without it.

```
const element = (
  <h1 className="greeting">
    Hello, world!
  </h1>
);
```

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Equivalent of the above using React.createElement

```
const element = React.createElement(
  'h1',
  {"className": "greeting"},
  'Hello, world!'
);
```

React JS Interview Question

Q8. What is React.createClass?

React.createClass allows us to generate component “classes.” But with ES6, React allows us to implement component classes that use ES6 JavaScript classes. The end result is the same — we have a component class. But the style is different. And one is using a “custom” JavaScript class system (createClass) while the other is using a “native” JavaScript class system.

React JS Interview Question

When using React's createClass() method, we pass in an object as an argument. So we can write a component using createClass that looks like this:

```
import React from 'react';

const Contacts = React.createClass({
  render() {
    return (
      <div></div>
    );
  }
});

export default Contacts;
```

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Using an ES6 class to write the same component is a little different. Instead of using a method from the react library, we extend an ES6 class that the library defines, Component.

```
import React from 'react';

class Contacts extends React.Component({
  constructor(props) {
    super(props);
  }
  render() {
    return (
      <div></div>
    );
  }
}

export default Contacts;
```

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React JS Interview Question

Q9. How is React different from Angular?

TOPIC	REACT	ANGULAR
1. ARCHITECTURE	Only the View of MVC	Complete MVC
2. RENDERING	Server-side rendering	Client-side rendering
3. DOM	Uses virtual DOM	Uses real DOM
4. DATA BINDING	One-way data binding	Two-way data binding
5. DEBUGGING	Compile time debugging	Runtime debugging
6. AUTHOR	Facebook	Google

React JS Interview Question

Q10. What are the differences between a class component and functional component?

Class components allows us to use additional features such as local state and lifecycle hooks. Also, to enable our component to have direct access to our store and thus holds state.

When our component just receives props and renders them to the page, this is a ‘stateless component’, for which a pure function can be used. These are also called dumb components or presentational components.

React JS Interview Question

Q11. What is the difference between state and props?

The state is a data structure that starts with a default value when a Component mounts. It may be mutated across time, mostly as a result of user events.

Props (short for properties) are a Component's configuration. Props are how components talk to each other. They are received from above component and immutable as far as the Component receiving them is concerned. A Component cannot change its props, but it is responsible for putting together the props of its child Components. Props do not have to just be data — callback functions may be passed in as props.

React JS Interview Question

Q12. What are controlled components?

In HTML, form elements such as <input>, <textarea>, and <select>typically maintain their own state and update it based on user input. When a user submits a form the values from the aforementioned elements are sent with the form. With React it works differently. The component containing the form will keep track of the value of the input in it's state and will re-render the component each time the callback function e.g. onChange is fired as the state will be updated. A form element whose value is controlled by React in this way is called a "controlled component".

React JS Interview Question

Q13. What are the different phases of React component's lifecycle?

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

- **Initial Rendering Phase:** This is the phase when the component is about to start its life journey and make its way to the DOM.
- **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.
- **Unmounting Phase:** This is the final phase of a component's life cycle in which the component is destroyed and removed from the DOM.

React JS Interview Question

Q14. What is Redux?

The basic idea of Redux is that the entire application state is kept in a single store. The store is simply a javascript object. The only way to change the state is by firing actions from your application and then writing reducers for these actions that modify the state. The entire state transition is kept inside reducers and should not have any side-effects.

Redux is based on the idea that there should be only a single source of truth for your application state, be it UI state like which tab is active or Data state like the user profile details.

React JS Interview Question

Q15. What is render() in React? And explain its purpose?

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>, etc. This function must be kept pure i.e., it must return the same result each time it is invoked.

React JS Interview Question

Q16. What are controlled and uncontrolled components in React?

This relates to stateful DOM components (form elements) and the difference:

- A Controlled Componentis one that takes its current value through props and notifies changes through callbacks like onChange. A parent component “controls” it by handling the callback and managing its own state and passing the new values as props to the controlled component. You could also call this a “dumb component”.

React JS Interview Question

Q17. Explain the components of Redux.

Redux is composed of the following components:

- **Action**— Actions are payloads of information that send data from our application to our store. They are the only source of information for the store. We send them to the store using store.dispatch(). Primarly, they are just an object describes what happened in our app.

React JS Interview Question

Redux is composed of the following components:

- **Reducer—** Reducers specify how the application's state changes in response to actions sent to the store. Remember that actions only describe what happened, but don't describe how the application's state changes. So this place determines how state will change to an action.

React JS Interview Question

Redux is composed of the following components:

- **Store —** The Store is the object that brings Action and Reducer together. The store has the following responsibilities: Holds application state; Allows access to state via getState(); Allows state to be updated viadispatch(action); Registers listeners via subscribe(listener); Handles unregistering of listeners via the function returned bysubscribe(listener).

React JS Interview Question

Q18. What is the difference between React Native and React?

React is a JavaScript library, supporting both front end web and being run on the server, for building user interfaces and web applications.

On the other hand, React Native is a mobile framework that compiles to native app components, allowing us to build native mobile applications (iOS, Android, and Windows) in JavaScript that allows us to use ReactJS to build our components, and implements ReactJS under the hood.

React JS Interview Question

Q19. What are the advantages of Redux?

Advantages of Redux are listed below:

- **Predictability of outcome** – Since there is always one source of truth, i.e. the store, there is no confusion about how to sync the current state with actions and other parts of the application.
- **Maintainability** – The code becomes easier to maintain with a predictable outcome and strict structure.
- **Developer tools** – From actions to state changes, developers can track everything going on in the application in real time.

React JS Interview Question

Q20. List down the advantages of React Router.

Few advantages are:

- Just like how React is based on components, in React Router v4, the API is ‘All About Components’. A Router can be visualized as a single root component (<BrowserRouter>) in which we enclose the specific child routes (<route>).

React JS Interview Question

Few advantages are:

- No need to manually set History value: In React Router v4, all we need to do is wrap our routes within the <BrowserRouter> component.

- The packages are split: Three packages one each for Web, Native and Core. This supports the compact size of our application. It is easy to switch over based on a similar coding style.

React JS Interview Question

I hope this set of React Interview Questions and Answers will help you in preparing for your interviews. All the best!

If you want to get trained in React and wish to develop interesting UI's on your own, then check out the ReactJS with Redux Certification Training by MildainTrainings, a trusted online learning company with a network of more than 50,000 satisfied learners spread across the globe.

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Thank You

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