

## React.js

1. What is the virtual DOM?

Answer: virtual Dom is a virtual representation of the real DOM. it is kept inside the memory and is synced with the real DOM.

2. What is the primary difference between the ES6 and ES5 standards?

Answer: In ES5 there is only one way to define a variable whereas, in ES6 there are two ways to define a variable.

3. How do you update the state of a component?

Answer: To update the state of a component with use `setState()` function and pass in an object.

4. What is PureComponent?

Answer: Pure components in react are the components which do not re-render when the value of the state has been changed/ updated.

5. What is `React.cloneElement`?

Answer: `React.cloneElement()` is a function which is used to create the clone of the given element.

6. What is the difference between `mapStateToProps()` and `mapDispatchToProps()` ?

Give an example.

Answer: `MapStateToProps()` is a function which is used to store data for our component.

7. How to add multiple middlewares to Redux?

8. What is wrong with this example, and how would you go -

```
class App extends React.Component {
  constructor(props) {
    super(props);
    this.state = {
      name: this.props.name || 'Anonymous'
    }
  }
  render() {
    return (
      <p>Hello {this.state.name}</p>
    );
  }
}
```

9. Can you explain the differences between all those ways. What happens when you click each of the buttons?

```
class App extends React.Component {

  constructor() {
    super();
```

```

    this.name = 'MyComponent';

    this.handleClick2 = this.handleClick1.bind(this);
  }

  handleClick1() {
    alert(this.name);
  }

  handleClick3 = () => alert(this.name);render() {
    return (
      <div>
        <button onClick={this.handleClick1()}>click 1</button>
        <button onClick={this.handleClick1}>click 2</button>
        <button onClick={this.handleClick2}>click 3</button>
        <button onClick={this.handleClick3}>click 4</button>
      </div>
    );
  }
}

```

**10. What's the issue with this component. Why? How would you go about fixing it?**

```

class App extends React.Component {state = { search: '' }handleChange = event =>
/**
 * This is a simple implementation of a "debounce" function,
 * which will queue an expression to be called in 250ms and
 * cancel any pending queued expressions. This way we can
 * delay the call 250ms after the user has stoped typing.
 */
clearTimeout(this.timeout);
this.timeout = setTimeout(() => {
  this.setState({
    search: event.target.value
  })
}, 250);
}render() {
  return (
    <div>
      <input type="text" onChange={this.handleChange} />
      {this.state.search ? <p>Search for: {this.state.search}</p> : null}
    </div>
  )
}

```

```
}  
}
```

**11. Why is props passed to the super() function in React?**

**Answer:** props is passed to the super () function to ensure that the react components's constructor gets called.

**12. What are the benefits of HOC?**

**Answer:** reuse of the code, State manipulation, props manipulation

**13. Why do we need a Router to React?**

**Answer:** for developing single page web application

**14. Give an example of class component and functional component.**

**15. Explain the purpose of "render()" in React. Give an example.**

**Answer:** render () is used to display specified HTML code

## **Node.js**

**1. What's the Event Loop?**

**Answer:** Event loop is responsible for sending new functions to track for processing.

**2. What are the advantages of using promises instead of callbacks?**

**Answer:** Using promises, we can get an object to decide the action that needs to be taken after the task completes.

**3. How do you create a simple server in Node.js that returns Hello World?**

**Answer:** var http = require ('http');

```
http.createServer(function req, res) {  
  res.writeHead (200, {"content-type": "text/plain" });  
  res.end(' hello world');  
});  
server. listen (5000);
```

**4. Which of the following statements is valid to import a module in file?**

a. var fs = require("fs");

b. var fs = import("fs");

c. package fs;

d. import fs;

**Answer:** a. var fs =require("fs");

**5. How to make node modules available externally?**

- a. module.expose
  - b. module.spread
  - c. module.export
- Answer: c. module.export

**6. Which of the following are Node.js stream types?**

- a. Duplex
  - b. Readable
  - c. Writable
  - d. All of the above
- Answer: d. all of the above

**7. What is the default scope of Node.js application?**

- a. Global
  - b. Local
  - c. Public
  - d. Private
- ANswer: b. local

**8. Which module is used to serve static files in Node.js?**

- a. static
  - b. node-static
  - c. http
  - d. node-http
- Answer: b. node-static

**9. REPL stands for.**

- a. Research Eval Program Learn
  - b. Read Eval Print Loop
  - c. Read Earn Point Learn
  - d. Read Eval Point Loop
- Answer: b. Read Eval Print Loop

**10. Which of the following code print the platform of operating system?**

- a. console.log('platform : ' + os.platform());
  - b. console.log('platform : ' + os.platform());
  - c. console.log('platform : ' + os.getPlatform());
  - d. None of the above.
- Answer: b. console.log ('platform: '+os.platform());

**MongoDB**

1 What makes MongoDB the best?

- Answer: 1. highly scalable  
2. reliable

2 How to do transactions/locking in MongoDB?

3 When and to what extent does data get extended to multi-slice?

Answer: when there is more than one lump time data gets extended to many slices.

4 Compare MongoDB with Couchbase and CouchbaseDB.

5 When do we use a namespace in MongoDB?

6 If you remove an object attribute, is it deleted from the database?

Answer: yes

7 How can we move an old file into the moveChunk directory?

8 Explain the situation when an index does not fit into RAM.

Answer: if the value increments with every insert.

9 How does MongoDB provide consistency?

Answer: MongoDB is strongly consistent. if we do a write operation and then do a read, assuming the write was successful we will always be able to read.

10 Why is MongoDB not chosen for a 32-bit system?

Answer: MongoDB storage engine uses memory mapped files and 32-bit system is limited to only 2GB of data.

11 How does Journaling work in MongoDB?

12 How can you isolate the cursors from intervening with the write operations?

Answer: we can isolate the cursors from intervening by using snapshot () function.

13 Define MongoDB.

Answer: MongoDB is an open source database. it is used as an alternative to relational database. it can manage, store or retrieve the information.

14 Explain the replica set.

Answer: Replica set is a group of instances that maintain the same data sets.

15 What are the key features of MongoDB?

Answer: 1. Stability  
2. data availability  
3. load balancing  
4. sharing

16 What is CRUD?

Answer: CRUD operations are create, read, update and delete documents in mongoDB.

17 What is Sharding?

Answer: sharding means distributing data across multiple hosts.

18 What is Aggregation in MongoDB?

Answer: Aggregation groups the data from multiple documents and operate on them in many ways.

19 Define Namespace in MongoDB.

Answer: Namespace in MongoDB is a combination of the database name and the name of the index.

## MySQL

1 How do you create a table using MySQL? Please write syntax.

Answer: create table <table-name> (column1 datatype, column2 datatype..)

2 How do you Insert Data Into MySQL? Please write syntax.

Answer: INSERT into <table-name> ( column1, column2..) values ( value1, value2..)

3 How do you remove a column from a database?

Answer: ALTER TABLE <table-name> DROP COLUMN column-name; table-name

4 How to add columns in MySQL?

Answer: ALTER TABLE <table-name>ADD new-column-name column-definition [FIRST/ AFTER column-name]; table-name.

5 How to create an Index in MySQL?

Answer : create INDEX index-name on table-name (column1, column2..)

6 How to Delete Data From a MySQL Table?

Answer: DELETE from table-name WHERE condition

7 How do you create and execute views in MySQL?

Answer: 1. To create a view:

Create view view-name as select-columns from table-name where conditions;

8 What are the Numeric Data Types in MySQL?

Answer: integer, decimal, numeric, float

9 What are the Temporal Data Types in MySQL?

Answer: date, time, datetime, timestamp, year

10 How do you create and execute views in MySQL?

Answer: to create view:

Create view view-name as select columns from table-name where condition;