

MERN Stack Interview Questions and Answers (2025 Edition)

MongoDB

Q1: What is MongoDB and why is it used in MERN stack?

A: MongoDB is a NoSQL database that stores data in flexible, JSON-like documents. It is used in the MERN stack for its scalability, performance, and ease of working with JavaScript-based applications.

Q2: How is data stored in MongoDB?

A: Data is stored in collections as documents, where each document is a JSON object.

Q3: What is the difference between MongoDB and SQL databases?

A: SQL databases use structured schemas and tables, while MongoDB uses dynamic schemas and JSON-like documents.

Express.js

Q4: What is Express.js?

A: Express.js is a minimal and flexible Node.js web application framework that provides features to build web and mobile applications.

Q5: How do you define a route in Express?

A:

```
app.get('/route', (req, res) => {  
  res.send('Hello');  
});
```

Q6: What is middleware in Express?

A: Middleware are functions that execute during the request-response cycle. They can modify request/response objects, end the request, or call the next middleware.

React.js

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Q7: What is React and why is it used?

A: React is a front-end JavaScript library developed by Facebook for building user interfaces using components.

Q8: What is the virtual DOM?

A: The virtual DOM is a lightweight representation of the real DOM. React uses it to optimize UI rendering by comparing changes.

Q9: What are hooks in React?

A: Hooks are functions that let you use state and other React features in functional components (e.g., `useState`, `useEffect`).

Node.js

Q10: What is Node.js?

A: Node.js is a runtime environment that allows you to run JavaScript code on the server side.

Q11: What is the use of npm in Node.js?

A: npm is the Node.js package manager used to install libraries and manage dependencies.

Q12: How is asynchronous code handled in Node.js?

A: Using callbacks, promises, or `async/await`.

Full Stack / Integration

Q13: What is the role of each part in the MERN stack?

A:

- MongoDB: Database
- Express: Back-end framework
- React: Front-end framework
- Node.js: Server runtime

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Q14: How does front-end communicate with back-end in MERN?

A: Using HTTP requests (like fetch or axios) to REST APIs built with Express.

Q15: What is JWT and how is it used in MERN stack?

A: JSON Web Token (JWT) is used for user authentication by securely transmitting information between client and server.

Q16: How do you connect MongoDB with Node.js?

A: Using the mongoose library:

```
const mongoose = require('mongoose');  
mongoose.connect('mongodb://localhost:27017/dbname');
```

Q17: What are environment variables?

A: Used to store configuration settings securely (e.g., DB connection string) using .env files.

Bonus Questions

Q18: What is Redux and when should it be used?

A: Redux is a state management library for React. Use it for large applications with complex state logic.

Q19: What is CORS and how do you handle it?

A: Cross-Origin Resource Sharing (CORS) is a browser security feature. Handle it in Express using the cors package.

Q20: How do you deploy a MERN stack app?

A: Use platforms like Vercel (for frontend) and Render/Heroku (for backend). Ensure correct build, environment variables, and CORS setup.