

Node.js Interview Questions for fresher

Topics : [Node js Interview Questions](#)

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Basics of Node.js:

1. What is Node.js?

- **Answer:** Node.js is a server-side JavaScript runtime built on the V8 JavaScript engine. It allows executing JavaScript code outside the browser.

2. Why is Node.js popular among developers?

- **Answer:** Node.js is popular for its non-blocking, event-driven architecture, which makes it efficient for handling concurrent operations.

3. How does Node.js handle asynchronous operations?

- **Answer:** Node.js uses callbacks, Promises, and async/await to handle asynchronous operations.

Node.js Modules:

4. What is a module in Node.js?

- **Answer:** A module is a reusable piece of code that encapsulates functionality. It can be included in other modules using `require()`.

5. How do you include a module in Node.js?

- **Answer:** Use the `require()` function, like `const myModule = require('myModule');`.

npm (Node Package Manager):

6. What is npm?

- **Answer:** npm is the Node Package Manager used for installing and managing packages in Node.js applications.

7. How do you install a package using npm?

- **Answer:** Use the command `npm install packageName` to install a package locally.

Add the -g flag for global installation.

Callbacks and Promises:

8. What is a callback function in Node.js?

- **Answer:** A callback is a function passed as an argument to another function to be executed later, often used in asynchronous operations.

9. Explain Promises in Node.js.

- **Answer:** Promises represent the eventual completion or failure of an asynchronous operation, providing a cleaner alternative to callbacks.

File System:

10. How do you read a file in Node.js?

- **Answer:** Use the `fs.readFile()` function to read a file asynchronously.

11. What is the purpose of `fs.readFileSync`?

- **Answer:** It reads a file synchronously, blocking the execution until the file is read.

Express.js:

12. What is Express.js?

- **Answer:** Express.js is a web application framework for Node.js, simplifying the creation of web applications.

13. How do you install Express.js?

- **Answer:** Use the command `npm install express` to install Express.js.

14. Explain routing in Express.js.

- **Answer:** Routing in Express.js defines how the application responds to different HTTP requests.

RESTful APIs:

15. What is RESTful architecture?

- **Answer:** RESTful architecture is a design pattern for building scalable and stateless web services using standard HTTP methods.

16. How do you handle parameters in a RESTful API using Express.js?

- **Answer:** Use `req.params` for route parameters and `req.query` for query parameters.

Asynchronous Programming:

17. What is the event loop in Node.js?

- **Answer:** The event loop is a core concept in Node.js that enables non-blocking, asynchronous execution.

18. Explain the difference between callbacks and Promises.

- **Answer:** Callbacks are functions passed as arguments, while Promises provide a more structured way to handle asynchronous operations.

MongoDB and Mongoose:

19. What is MongoDB?

- **Answer:** MongoDB is a NoSQL database that stores data in JSON-like BSON documents.

20. How do you connect to a MongoDB database using Node.js?

- **Answer:** Use the mongodb driver or Mongoose, an ODM for MongoDB.

Testing in Node.js:

21. What is testing, and why is it important in software development?

- **Answer:** Testing is the process of evaluating a system to identify any discrepancies between expected and actual results. It ensures software quality.

22. Name a testing framework for Node.js.

- **Answer:** Mocha is a popular testing framework for Node.js.

Security:

23. Why is input validation important for security in web applications?

- **Answer:** Input validation prevents malicious input and helps protect against security vulnerabilities like SQL injection and cross-site scripting (XSS).

Deployment:

24. How can you deploy a Node.js application?

- **Answer:** Node.js applications can be deployed on cloud platforms (e.g., Heroku, AWS, Azure), using containers (e.g., Docker), or on traditional servers.

General Programming Concepts:

25. What is the difference between let and const in JavaScript?

- **Answer:** let allows variable reassignment, while const declares a variable with a constant value that cannot be reassigned.

26. **Explain the concept of a callback function.**

- **Answer:** A callback function is a function passed as an argument to another function to be executed later, often used in asynchronous operations.

27. **What is the purpose of the return statement in a function?**

- **Answer:** The return statement is used to specify the value a function should return.

28. **What is a loop, and why are loops important in programming?**

- **Answer:** A loop is a programming structure that repeats a set of instructions. Loops are crucial for automating repetitive tasks and iterating over data.

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