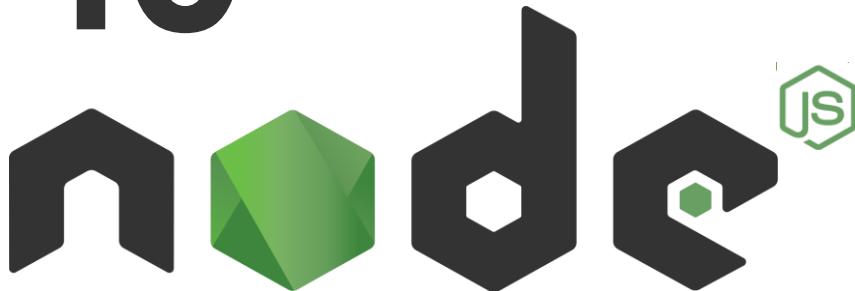


# 40



# INTERVIEW QUESTIONS

## The Key Concepts To Master



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# 40 node.js INTERVIEW QUESTIONS

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## 1. What is Node.js?

**Answer:** Node.js is a JavaScript engine used for executing JavaScript code outside the browser, commonly used to build scalable backend applications.

## 2. What is the difference between Node.js and JavaScript?

**Answer:** JavaScript is a scripting language, while Node.js is a runtime environment that allows JavaScript to run on the server side.

## 3. Is Node.js single-threaded?

**Answer:** Yes, Node.js is single-threaded but uses event-driven architecture and non-blocking I/O to handle multiple requests efficiently.

## 4. What kind of API function is supported by Node.js?

**Answer:** Node.js supports both synchronous (blocking) and asynchronous (non-blocking) API functions.

## 5. What is a module in Node.js?

**Answer:** A module in Node.js is a block of code that provides specific functionality, which can be reused across different parts of an application.



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## 6. What is npm and its advantages?

**Answer:** npm is the default package manager for Node.js, offering benefits like dependency management, version control, and a centralized repository.

## 7. What is middleware?

**Answer:** Middleware functions execute between the request and response cycle, performing tasks like logging, authentication, and data processing.

## 8. How does Node.js handle concurrency despite being single-threaded?

**Answer:** Node.js handles concurrency through asynchronous, non-blocking operations, allowing multiple tasks to run simultaneously within a single thread.

## 9. What is control flow in Node.js?

**Answer:** Control flow refers to the order in which code statements and functions are executed, managing asynchronous operations and error handling.

## 10. What do you mean by event loop in Node.js?

**Answer:** The event loop is a mechanism that processes asynchronous tasks in a single thread by continuously checking for and executing callback functions.



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## 11. What are the main disadvantages of Node.js?

**Answer:** Disadvantages include its single-threaded nature, preference for NoSQL databases, and rapid API changes that can cause instability.

## 12. What is REPL in Node.js?

**Answer:** REPL stands for Read, Evaluate, Print, and Loop; it's an interactive environment for executing Node.js code and debugging.

## 13. How to import a module in Node.js?

**Answer:** Use the `require()` function to import external modules, storing the result in a variable for use in the application.

## 14. What is the difference between Node.js and AJAX?

**Answer:** Node.js is a server-side runtime environment, while AJAX is a client-side technique for asynchronously updating parts of a web page.

## 15. What is package.json in Node.js?

**Answer:** `package.json` is a metadata file in Node.js that contains information about the project, such as dependencies, scripts, and version.



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## 16. What is the most popular Node.js framework used these days?

**Answer:** The most popular Node.js framework is Express.js, known for its scalability and minimalistic approach to building web applications.

## 17. What are promises in Node.js?

**Answer:** Promises in Node.js are objects that handle asynchronous operations, providing a cleaner alternative to callback functions.

## 18. What is event-driven programming in Node.js?

**Answer:** Event-driven programming synchronizes multiple events using event loops and callback functions to simplify program flow.

## 19. What is buffer in Node.js?

**Answer:** A buffer is a temporary storage space for binary data, allowing Node.js to handle raw data directly.

## 20. What are streams in Node.js?

**Answer:** Streams are objects used to handle continuous data flows, allowing for efficient reading and writing of data.



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## 21. Explain crypto module in Node.js.

**Answer:** The crypto module provides cryptographic functionality, such as encryption, decryption, and hashing of data.

## 22. What is callback hell?

**Answer:** Callback hell refers to the problematic situation caused by deeply nested callbacks, making code difficult to read and maintain.

## 23. Explain the use of timers module in Node.js.

**Answer:** The timers module allows execution of code after a specified delay or immediately in the next event loop cycle using functions like `setTimeout()` and `setImmediate()`.

## 24. What is the difference between `setImmediate()` and `process.nextTick()` methods?

**Answer:** `process.nextTick()` executes callbacks at the start of the next event loop, while `setImmediate()` executes them at the end of the current event loop.

## 25. What is the difference between `setTimeout()` and `setImmediate()` method?

**Answer:** `setTimeout()` schedules a callback after a specified delay, whereas `setImmediate()` executes it immediately after I/O events.



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## 26. What is the difference between spawn() and fork() method?

**Answer:** `spawn()` runs a new process from the command line, while `fork()` creates a new instance of the existing process to perform parallel tasks.

## 27. Explain the use of passport module in Node.js.

**Answer:** The passport module adds authentication features to applications, supporting various sign-in methods.

## 28. What is fork in Node.js?

**Answer:** Fork is a method to create child processes that allow parallel execution of tasks in Node.js.

## 29. What are the three methods to avoid callback hell?

**Answer:** To avoid callback hell, use `async/await`, promises, or generators.

## 30. What is body-parser in Node.js?

**Answer:** Body-parser is middleware that parses incoming request bodies in a middleware before handling it in Node.js applications.



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## 31. What is CORS in Node.js?

**Answer:** CORS stands for Cross-Origin Resource Sharing, allowing restricted resources on a web page to be requested from another domain.

## 32. Explain the tls module in Node.js.

**Answer:** The tls module provides an implementation of TLS and SSL protocols to establish secure network connections.

## 33. What is a cluster in Node.js?

**Answer:** A cluster allows Node.js to utilize multiple cores of a machine by creating child processes that share the same server port.

## 34. How to manage sessions in Node.js?

**Answer:** Sessions in Node.js can be managed using the `express-session` module, which stores session data on the server.

## 35. Explain the types of streams in Node.js.

**Answer:** Types of streams include readable, writable, duplex (both), and transform (modifies data) streams.



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## 36. How can we implement authentication and authorization in Node.js?

**Answer:** Use packages like Passport for authentication and JWT for managing tokens to implement security in Node.js applications.

## 37. Explain the packages used for file uploading in Node.js.

**Answer:** Multer is a popular middleware used for handling file uploads in Node.js.

## 38. How to handle database connection in Node.js?

**Answer:** Database connections in Node.js are managed using drivers like MySQL and libraries like Mongoose for MongoDB.

## 39. How to read command line arguments in Node.js?

**Answer:** Use the `process.argv` array to access command-line arguments passed when running a Node.js application.

## 40. What are child processes in Node.js?

**Answer:** Child processes allow Node.js to handle multiple tasks concurrently by creating subprocesses that can run independently.



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