

## BACKEND DEVELOPMENT QUESTION BANK

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**Q1 What is Node.js? Why is it single-threaded?**

**Q2 How Node.js works internally? (Event Loop explanation)**

**Q3 What is the Event Loop? Explain its phases.**

**Q4 Difference between Node.js and JavaScript in the browser**

**Q5 What are blocking vs non-blocking operations?**

**Q6 What is asynchronous programming in Node.js?**

**Q7 What is a V8 engine?**

**Q8 Difference between setTimeout, setImmediate, and process.nextTick() ?**

**Q9 What are callbacks? Callback hell?**

**Q10 What are Promises?**

**Q11 Difference between Promise and async/await ?**

**Q12 How does async/await work internally?**

**Q13 What are streams in Node.js? Types of streams?**

**Q14 Difference between streams and buffers ?**

**Q15 Why are streams important in Node.js?**

**Q16 What is middleware in Express?**

**Q17 Types of middleware?**

**Q18 Difference between req.params, req.query, and req.body?**

**Q19 What is REST API?**

**Q20 How do you secure APIs in Node.js?**

**Q21 How to read/write a file in Node.js?**

**Q22 Difference between synchronous and asynchronous FS methods?**

**Q23 What is CORS?**

**Q24 What is JWT? What is an access token and refresh token and why do we need these ?**

**Q25 What are worker threads in node.js ?**

**Q26 How Node.js handles multiple requests with a single thread?**

**Q27 What is mvc and mcs pattern and how are controllers different from service ?**

**Q28 What is indexing horizontal scaling and vertical scaling replication sharding partition and normalization specialization generalization ?**

**Q29 explains some common attack csrf xss ddos and sql injection how to resolve these attacks ?**

**Q30 What is a webhook ?**

**Q31 some common status code in the backend ?**

**Q32 What is rest api ?**

**Q33 What is migration in a sql database ? and what is orm and they help in sql database ?**

**Q34 What is sql vs no sql ?**

**Q35 What is acid property ?**

**Q36 How to optimize your backend and apis and make it more scalable, maintainable and testable ?**

**Q37 What is the socket ?**

**Q38 What is room and broadcast namespace ?**

**Q39 What is the adapter in the socket ?**

**Q40 What is socket vs websocket ?**

**Q41 What is the socket handle connection fallback?**

**Q42 explain the socket io handshake process ?**

**Q43 How to handle large-scale socket io applications ?**

**Q44 What is the primary key and foreign key ?**

**Q45 What is clustering in node.js ?**