

# 7-Day Comprehensive Node.js Backend Interview Guide

This guide is designed to prepare you for Node.js backend interviews at startups and large companies. Follow it strictly and you will be interview-ready in 7 days.

## Day 1 – Node.js Core Fundamentals

- Node.js architecture and single-threaded model
- Event loop phases and execution order
- `process.nextTick` vs `setImmediate`
- Async programming, promises, error handling
- Coding: basic HTTP server, async functions
- Algorithms: palindrome, frequency maps

## Day 2 – Express.js & API Design

- RESTful API principles
- Middleware vs controllers
- Centralized error handling
- Validation using Joi or Zod
- Coding: CRUD REST API
- Algorithms: Two Sum, anagrams

## Day 3 – Databases (MongoDB + SQL Basics)

- MongoDB schema design
- Embedding vs referencing
- Indexes and performance
- Transactions and consistency
- Aggregation pipelines
- Algorithms: merge arrays, duplicates

## Day 4 – Authentication, Authorization & Security

- JWT authentication flow
- Access vs refresh tokens
- Role-based access control
- Password hashing with `bcrypt`
- Common security threats
- Algorithms: sliding window problems

## Day 5 – System Design & Scalability

- Designing scalable backend systems
- Load balancing and caching

- Rate limiting and logging
- Database optimization strategies
- Algorithms: binary search, parentheses validation

## Day 6 – Testing, Performance & Debugging

- Unit and integration testing
- Jest testing basics
- Performance bottlenecks
- Monitoring and logging
- Algorithms: LRU cache, Fibonacci

## Day 7 – Mock Interviews & Final Revision

- Behavioral interview questions
- Explaining projects clearly
- System design walkthroughs
- Algorithm revision
- Mock interview simulations

## Final Notes

Practice daily, explain your answers out loud, and focus on clarity and trade-offs. This guide, combined with real project experience, will prepare you for professional Node.js backend interviews.