

Full Stack Developer – Important Interview Q&A;

JavaScript / React / Next.js

- Q: Difference between var, let, and const? A: var → function-scoped, hoisted; let → block-scoped, not hoisted; const → block-scoped, cannot be reassigned.
- Q: What is Virtual DOM? A: A lightweight copy of the real DOM. React updates it first and reconciles differences → faster performance.
- Q: How does Next.js handle routing? A: File-based routing from pages folder, dynamic routes with [param].js.

Node.js / Express

- Q: Sync vs Async in Node.js? A: Sync blocks execution; Async uses event loop, non-blocking I/O.
- Q: How does middleware work in Express? A: Functions executed in sequence, can modify req/res, call next().
- Q: What is event-driven architecture? A: Uses event loop + callbacks to handle async tasks efficiently.

Databases

- Q: SQL vs NoSQL? A: SQL = structured, relational; NoSQL = unstructured, flexible schema.
- Q: How to optimize a slow SQL query? A: Use indexes, avoid SELECT *, proper joins, check execution plan.
- Q: MongoDB vs Redis? A: MongoDB = document storage; Redis = caching, in-memory fast storage.

Cloud & DevOps

- Q: What is Docker? A: Tool to package apps with dependencies into containers, portable & consistent.
- Q: Horizontal vs Vertical scaling? A: Vertical = add CPU/RAM to server; Horizontal = add more servers.
- Q: What is CI/CD? A: Continuous Integration = auto build/test; Continuous Deployment = auto release.

System Design

- Q: How to design a chat app? A: WebSockets for real-time, DB for storage, Redis pub/sub for scaling, load balancer for traffic.
- Q: How to design a URL shortener? A: Generate hash, store in DB, cache hot URLs in Redis, redirect via lookup.

DSA / Problem Solving

- Q: First non-repeating char in string? A: Use hashmap/Counter to count chars, return first with count 1.
- Q: Reverse a linked list? A: Use prev, current, next pointers to reverse links iteratively.

Behavioral

- Q: Tell me about a challenging bug you solved? A: Explain bug → debugging process → solution → impact.
- Q: Why should we hire you? A: Highlight MERN + Cloud expertise, problem-solving, teamwork skills.