■ Technical Interview Questions & Answers

Q: What is Node.js and why is it used?

A: Node.js is a JavaScript runtime built on Chrome's V8 engine. It is used for building fast, scalable, server-side applications because it supports non-blocking I/O and handles many requests efficiently.

Q: What is the difference between require() and import?

A: require() is used in CommonJS modules (older). import is used in ES6 modules (modern JavaScript).

Q: How does Express.js handle routing?

A: Express.js uses routes to define how the server responds to requests.

Q: What is middleware in Express.js? Can you give an example?

A: Middleware is a function that executes before reaching the final route handler. Example: app.use((req,res,next)=>{ console.log('Request Time:', Date.now()); next(); });

Q: How do you secure an API in Node.js?

A: Use JWT authentication, input validation, Helmet middleware, rate limiting, and HTTPS.

Q: What is JWT and how does it work?

A: JSON Web Token (JWT) is used for authentication. User logs in → server generates JWT → client stores token → sends token → server verifies.

Q: Difference between synchronous and asynchronous programming in Node.js?

A: Synchronous = blocking, line by line execution. Asynchronous = non-blocking, uses callbacks, promises, async/await.

Q: What is the difference between INNER JOIN and LEFT JOIN?

A: INNER JOIN returns only matching rows. LEFT JOIN returns all rows from left table + matching rows from right.

Q: How do you create a foreign key relationship in MySQL?

A: Example: CREATE TABLE Orders (id INT PRIMARY KEY, user_id INT, FOREIGN KEY(user_id) REFERENCES Users(id));

Q: What is indexing and why is it important?

A: Indexing makes searching faster in a table, like an index in a book.

Q: Difference between WHERE and HAVING in SQL?

A: WHERE is used before grouping (row-level filtering). HAVING is used after GROUP BY (group-level filtering).

Q: What is Laravel used for?

A: Laravel is a PHP framework used to build web applications quickly with MVC architecture, built-in security, and database management.

Q: What are Laravel migrations?

A: Migrations are version control for your database. You can create/update tables using PHP code instead of raw SQL.

Q: What is the difference between GET, POST, PUT, and DELETE requests?

A: GET = fetch data, POST = create new data, PUT = update existing data, DELETE = delete data.

Q: How do you handle file uploads in Laravel?

A: Use request()->file() and store() method.

Q: What is an API?

A: API is a way for applications to communicate with each other.

Q: What is REST API and its key principles?

A: REST API is stateless, client-server, uses HTTP methods, and resource-based URLs.

Q: What is the difference between var, let, and const in JavaScript?

A: var = function-scoped, let = block-scoped (reassignable), const = block-scoped (not reassignable).

Q: What is AJAX and where have you used it?

A: AJAX = Asynchronous JavaScript and XML, updates webpage without reloading. Example: fetching data in student system.

Q: What is Git and why do we use it?

A: Git is a version control system. It tracks changes, allows collaboration, and rollback to previous versions.