

MERN Stack Practical Interview Test

Total Time: 3 Hours

Experience Level: 2–4 Years

Tech Stack: MERN + TypeScript + Socket.io

Objective

Build a minimal Task Management application with authentication, role-based access control (RBAC), and light real-time functionality using Socket.io. The focus is on working code, clean structure, and correct access control rather than UI perfection.

Technology Stack

Backend: Node.js, Express.js, TypeScript, MongoDB, Socket.io, JWT Authentication

Frontend: React, TypeScript, Socket.io Client

Roles & Permissions

Admin

- Create tasks
- Assign tasks to users
- View all tasks

User

- View only assigned tasks
- Update task status

Core Features

Authentication (Approx. 30 Minutes)

- Login API
- JWT-based authentication
- Authentication middleware

Note: Seeded or hardcoded users are allowed.

Task Management – Backend (Approx. 60 Minutes)

Task Fields:

- title
- status: todo | in-progress | done
- assignedTo (User ID)

Required APIs:

- POST /tasks – Admin only
- GET /tasks – Admin gets all tasks, User gets only assigned tasks
- PATCH /tasks/:id/status – Assigned user only

Socket.io (Approx. 20–30 Minutes)

- Emit task:assigned event when Admin assigns a task
- Assigned user receives a real-time notification

Frontend (Approx. 60 Minutes)

- Login page
- Task list page
- Role-based UI rendering
- Admin can create and assign tasks
- User can update task status
- Display real-time notification when a task is assigned

Submission Guidelines

- GitHub repository link
- README with setup instructions
- Sample .env file