

Task Management System Specification

1. System Overview

A responsive web application for task management with:

Secure user authentication

Real-time task operations

Category-based organization

Cross-device synchronization

2. User Authentication

Process:

User registers via frontend form (username: 3-30 chars, password: min 8 chars)

Backend validates and stores credentials (with password hashing)

User logs in to receive JWT token

Frontend Components:

Login/registration forms with validation messages

Automatic redirect to dashboard after auth

Security:

Tokens stored securely in frontend

All subsequent API requests include JWT

3. Task Management

Task Creation:

User fills form (title, optional description/priority/due date/category)

Frontend validates inputs

Backend processes and stores task (ensuring ownership)

Task Operations:

Viewing: Frontend displays user-specific tasks from /tasks endpoint

Editing: Partial updates sent via PATCH requests

Deletion: Confirmation dialog before DELETE request

Search:

Frontend sends queries to /tasks/search

Backend returns case-insensitive matches

4. Category System

Workflow:

User creates categories via frontend (name + optional color)

Backend validates and stores categories

Categories appear in task forms/dashboard filters

Integration:

Frontend pulls categories from /categories endpoint

Tasks display category tags visually

5. System Performance

Speed:

Backend responds within 300ms

Frontend renders in under 1 second

Responsiveness:

Real-time UI updates via API polling/WebSockets

Loading indicators during operations

6. Security & Compatibility

Protections:

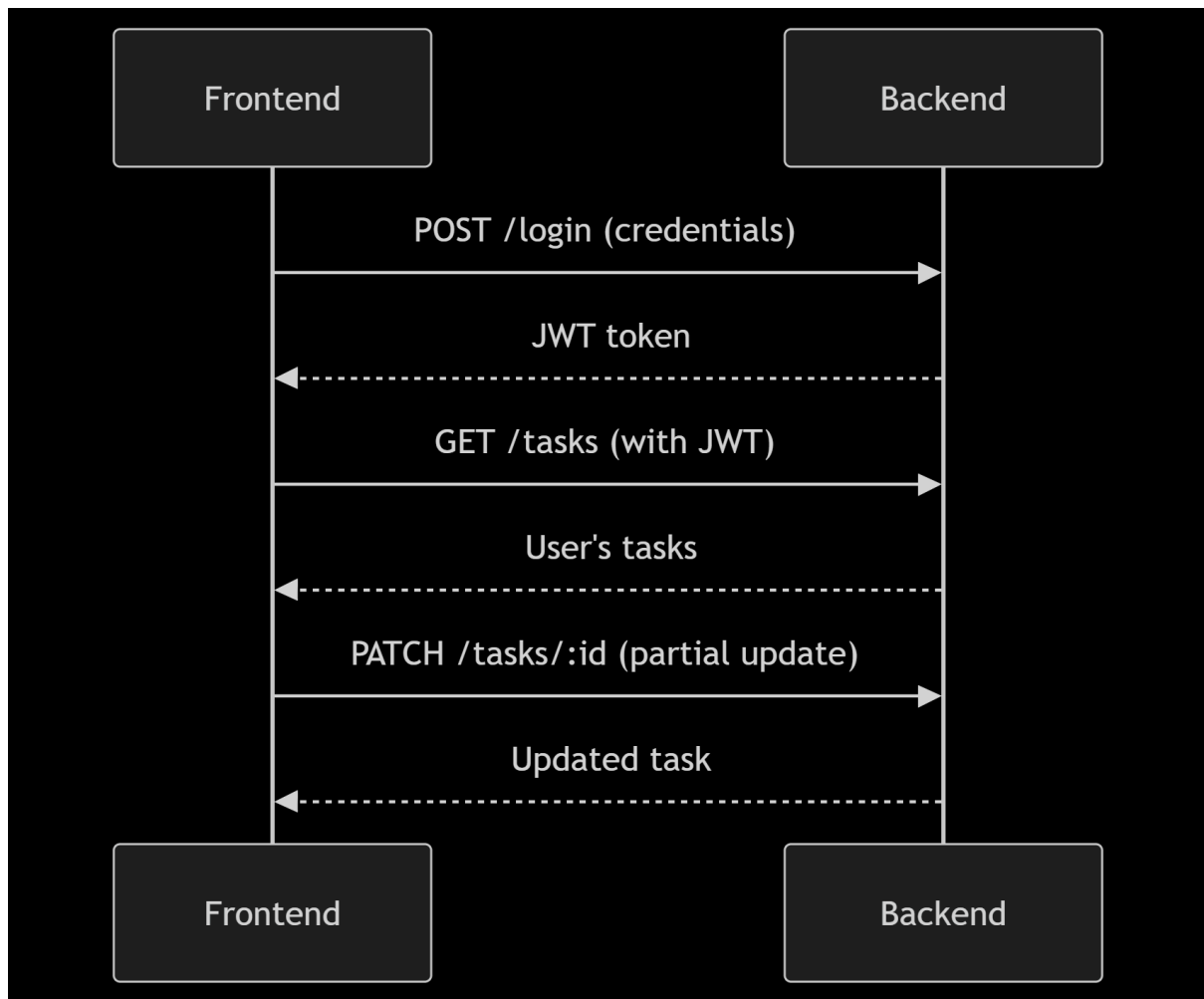
Frontend guards against XSS/CSRF

Backend enforces ownership checks

Support:

All modern browsers (Chrome/Firefox/Safari)

Mobile and desktop layouts



8. UI/UX Elements

Dashboard:

Task creation form

Sortable/filterable task list

Category management panel

Feedback:

Form validation errors

Operation success notifications

Loading spinners during API calls