# Software Architecture Diagrams

## Contents

# Client Portal Web Application

**Version:** 1.0
**Date:** 2025-10-26
**Author:** nizarLubbad

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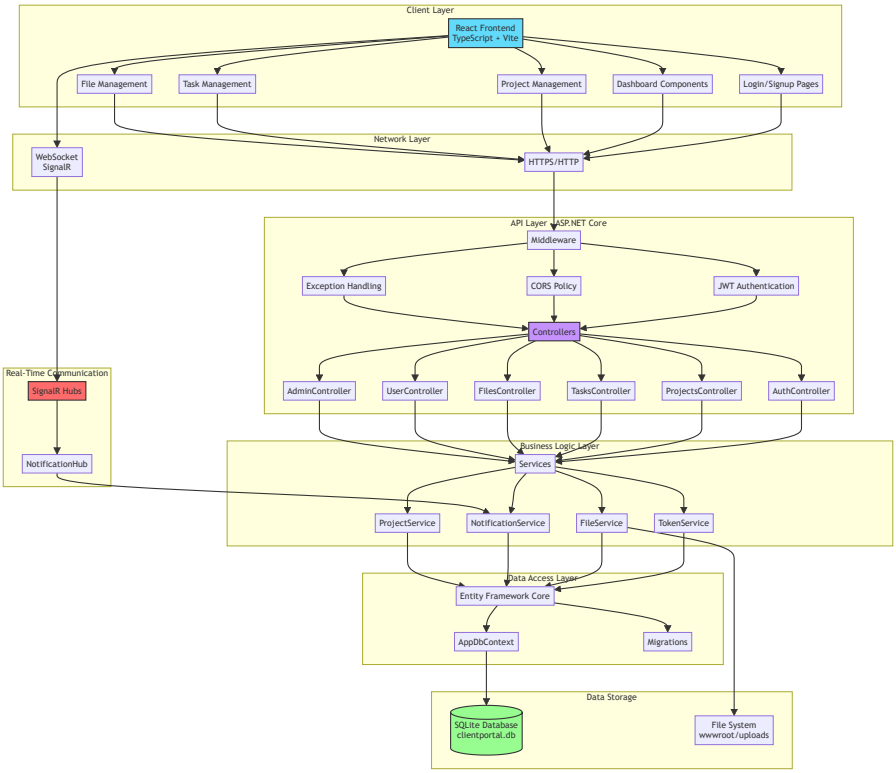
## 1. System Architecture Diagram

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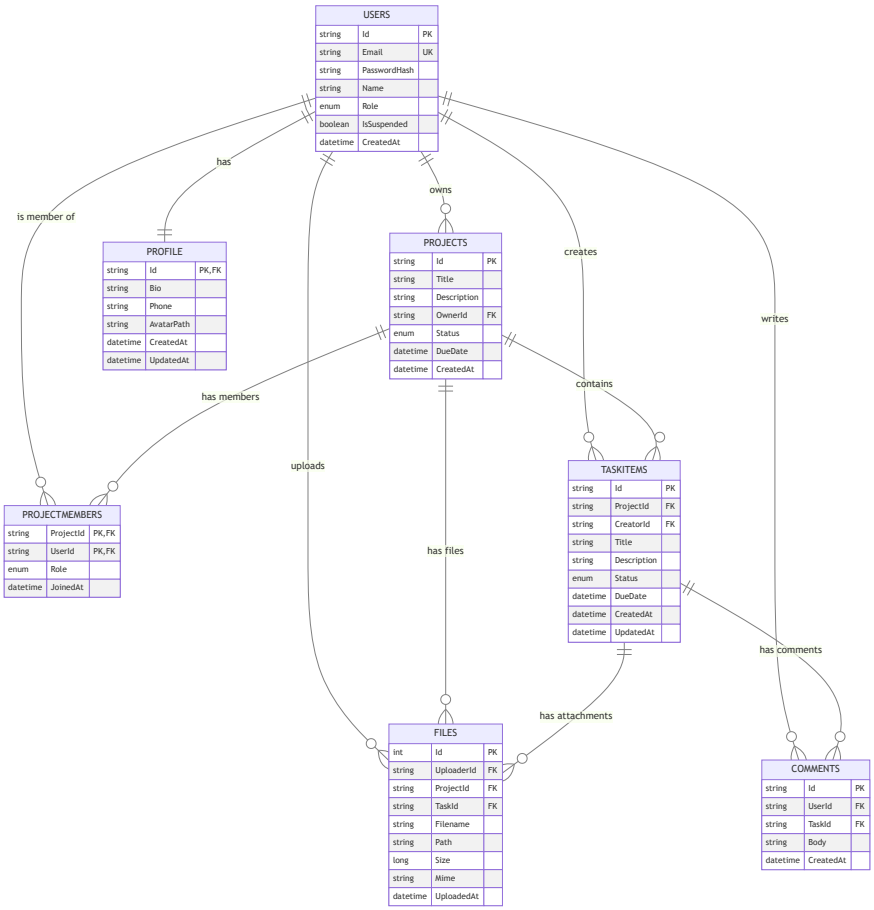
## 2. Database Entity Relationship Diagram (ERD)

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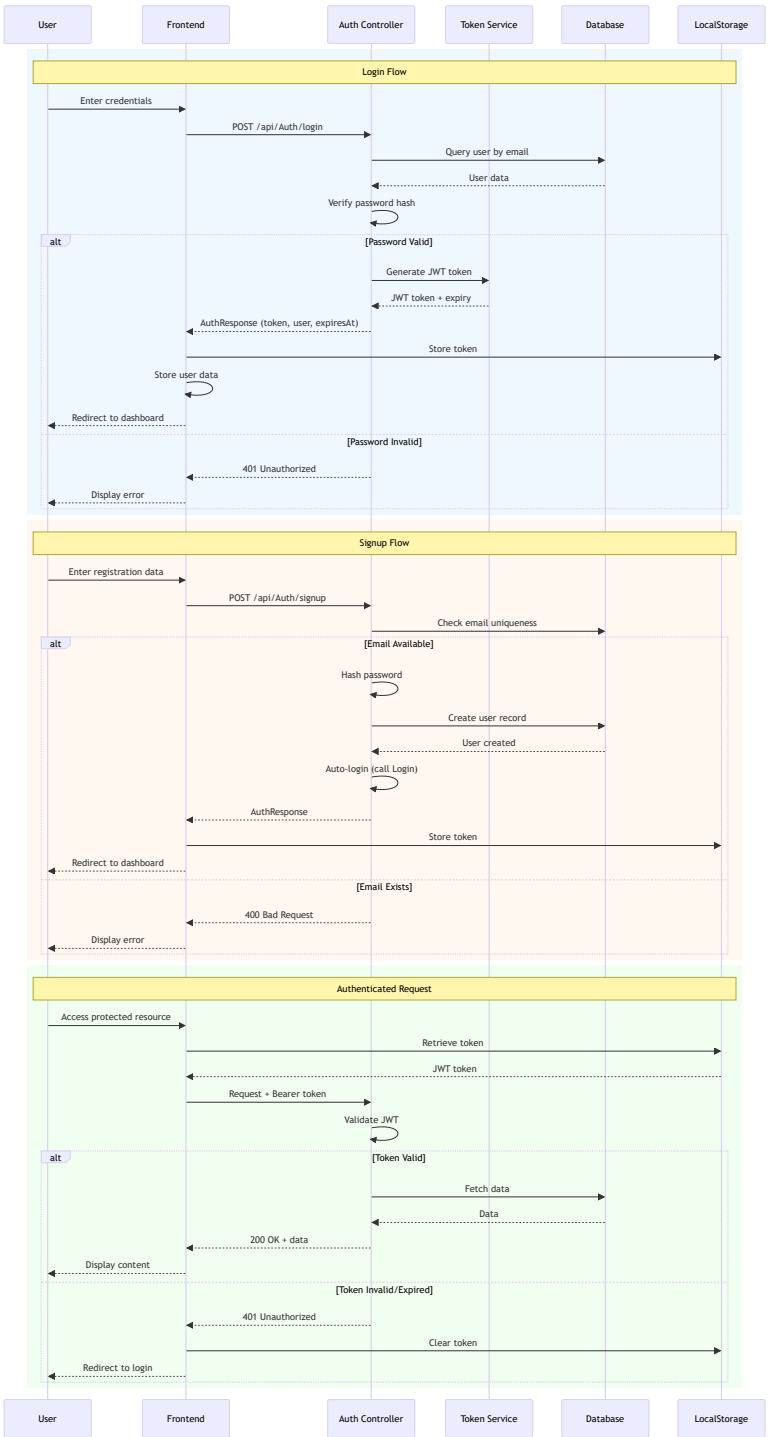
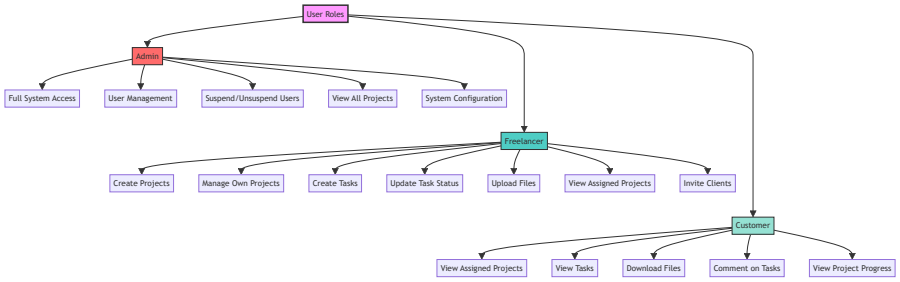
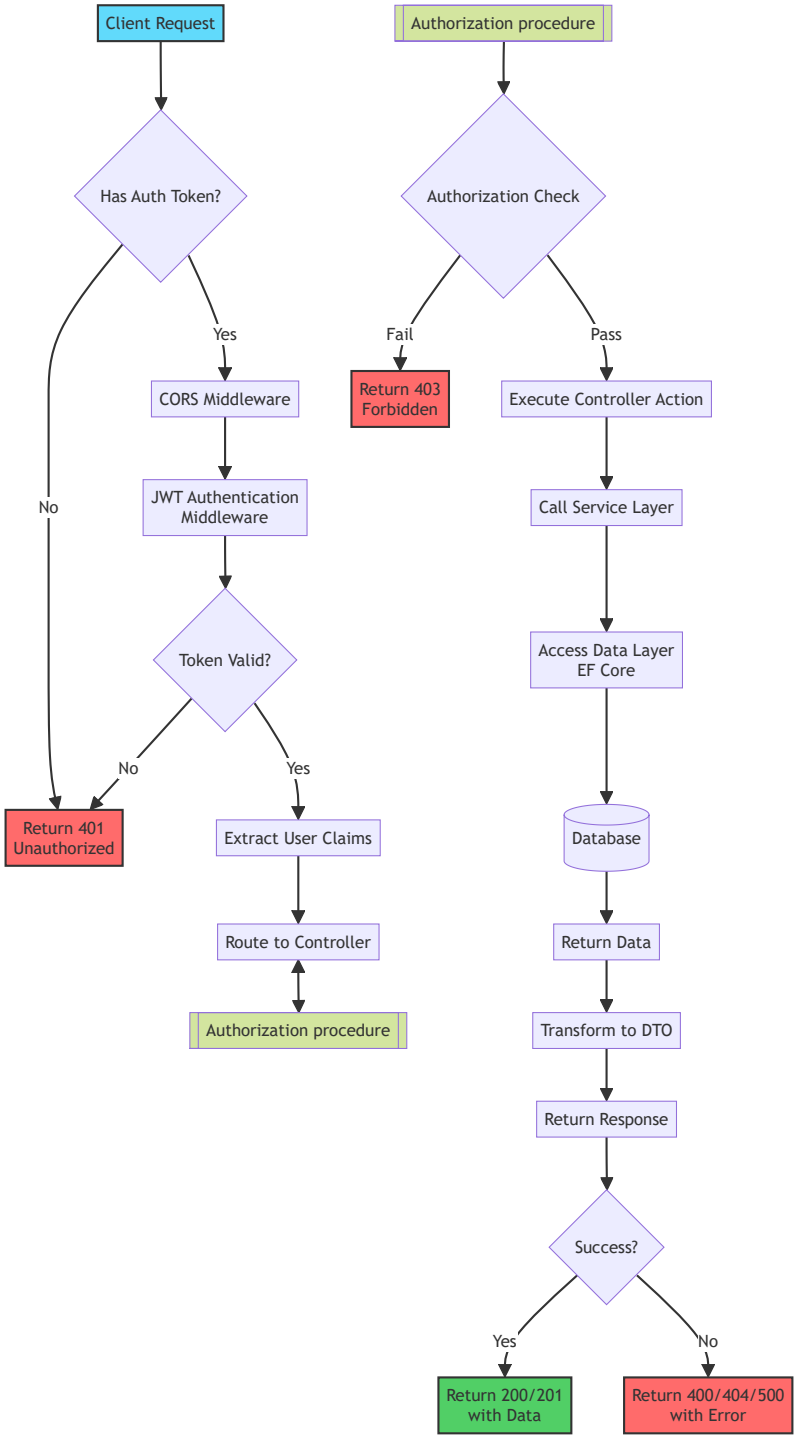
## 3. Authentication Flow Diagram



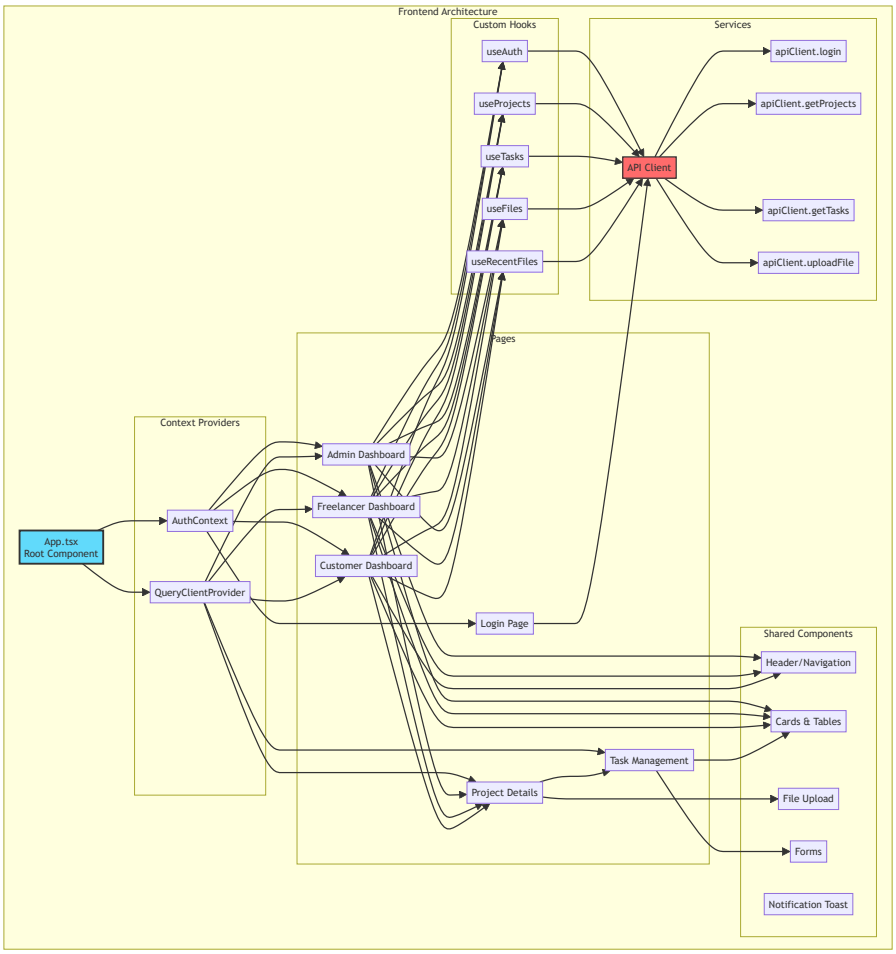
## 4. User Role Hierarchy



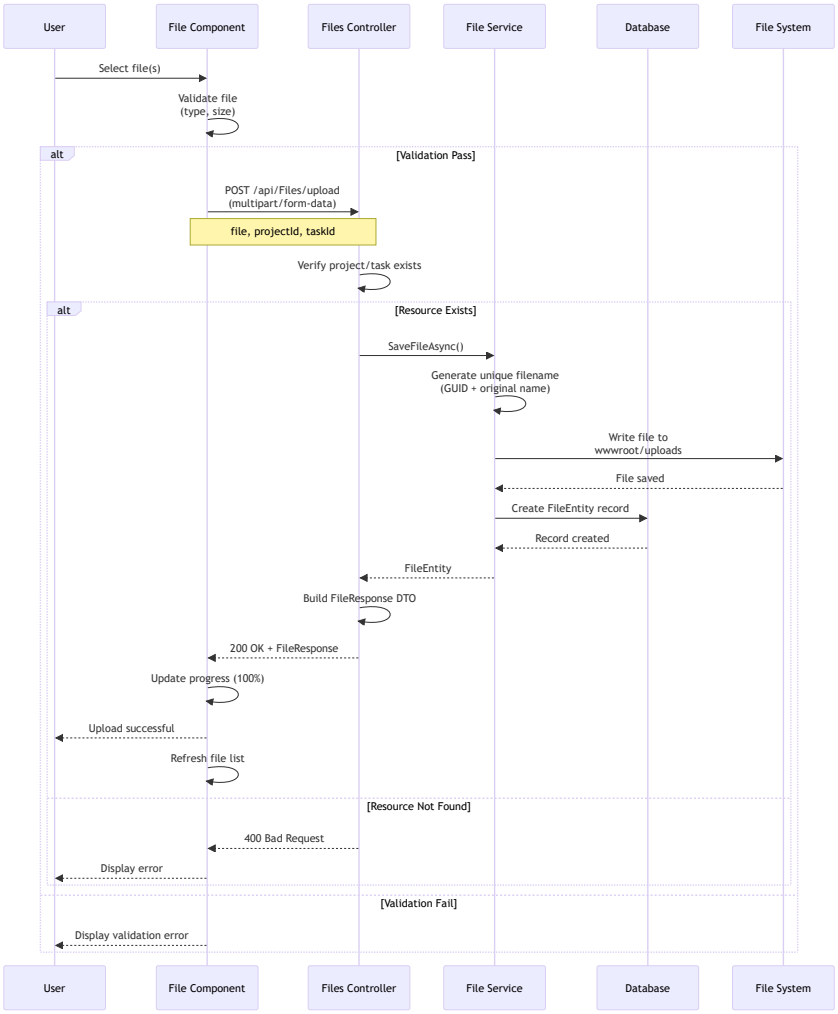
## 5. API Request Flow



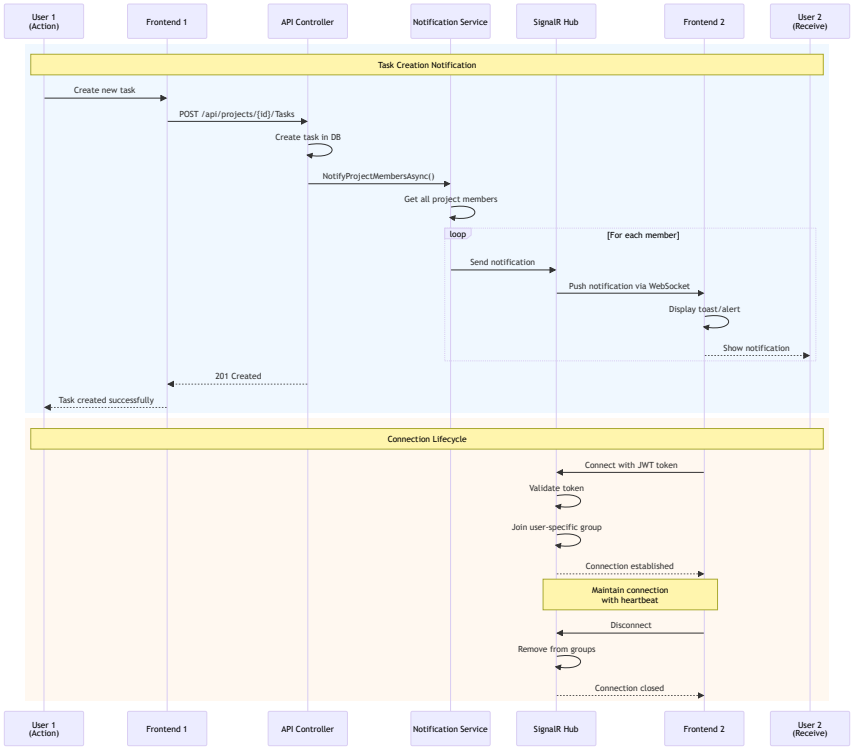
## 6. Component Architecture



# 7. File Upload Flow



## 8. Real-Time Notification Flow

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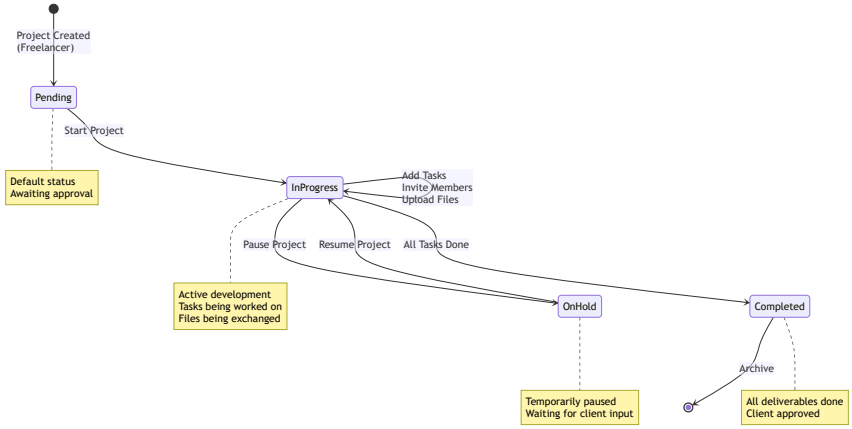
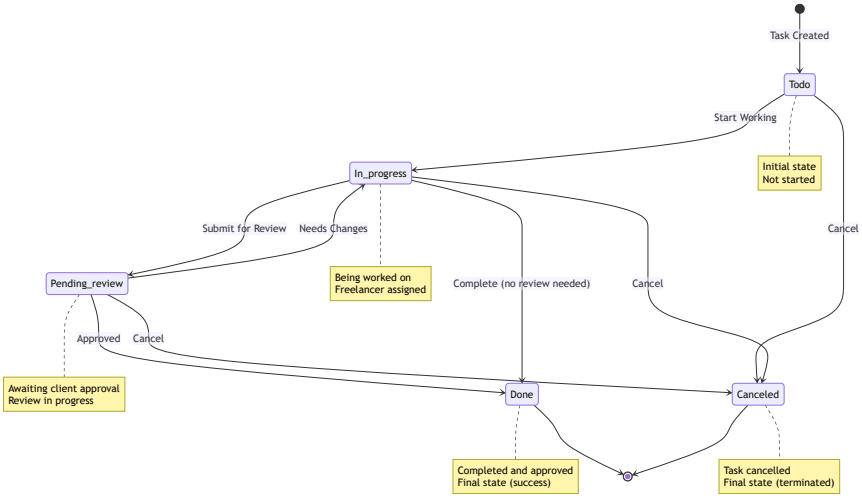
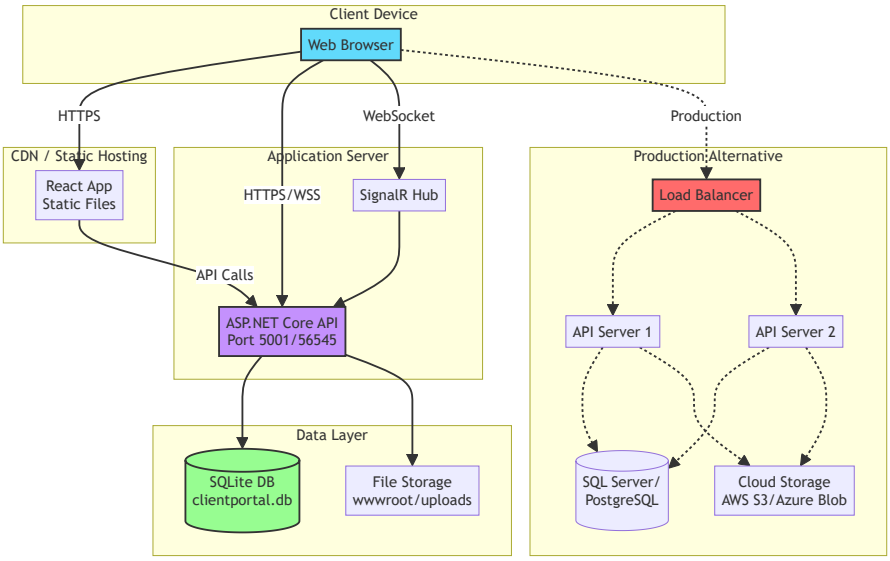
## 9. Project Workflow Diagram



## 10. Task Status State Machine

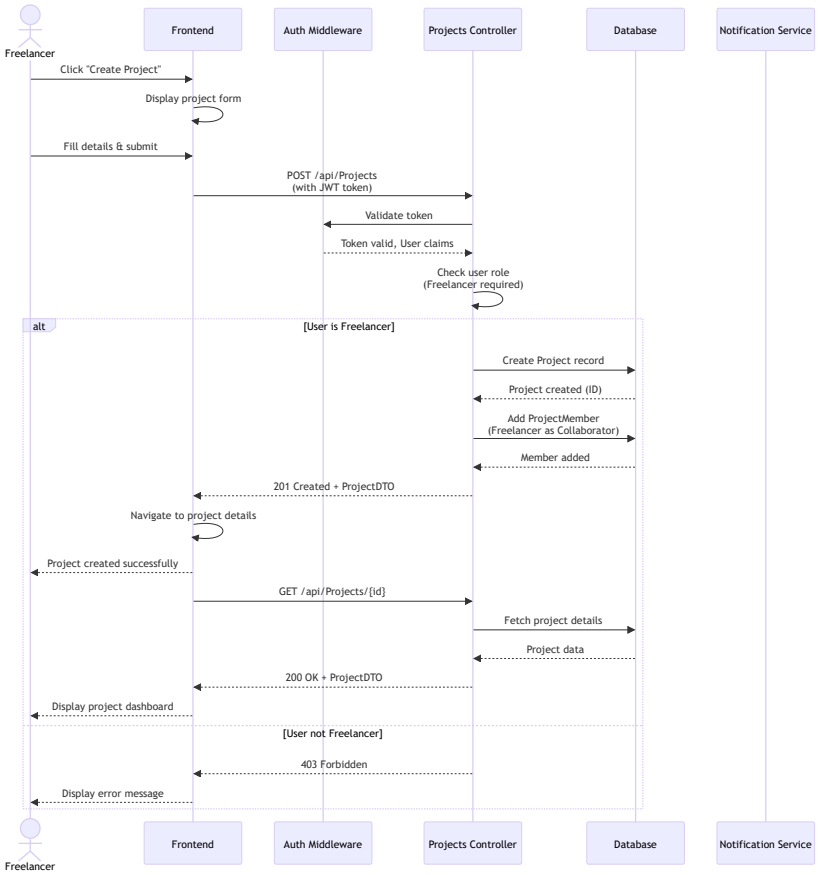



## 11. Deployment Architecture

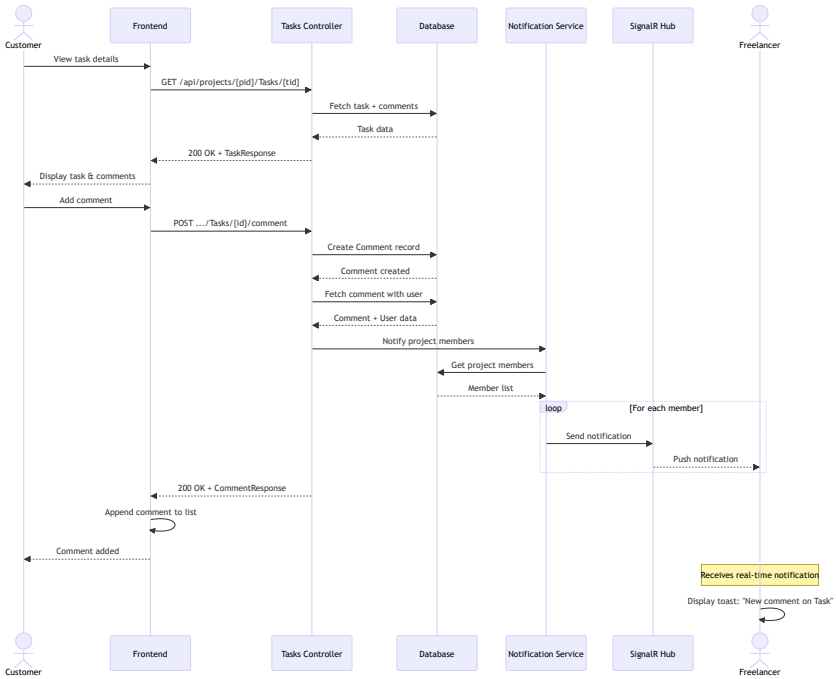


# 12. Sequence Diagrams

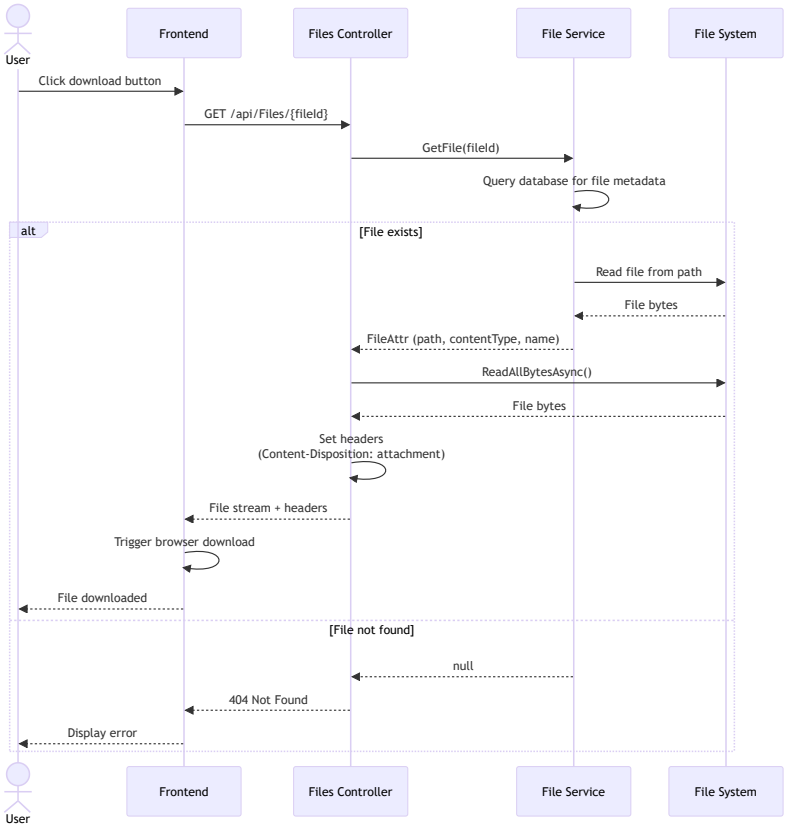
## 12.1 Complete Project Creation Flow



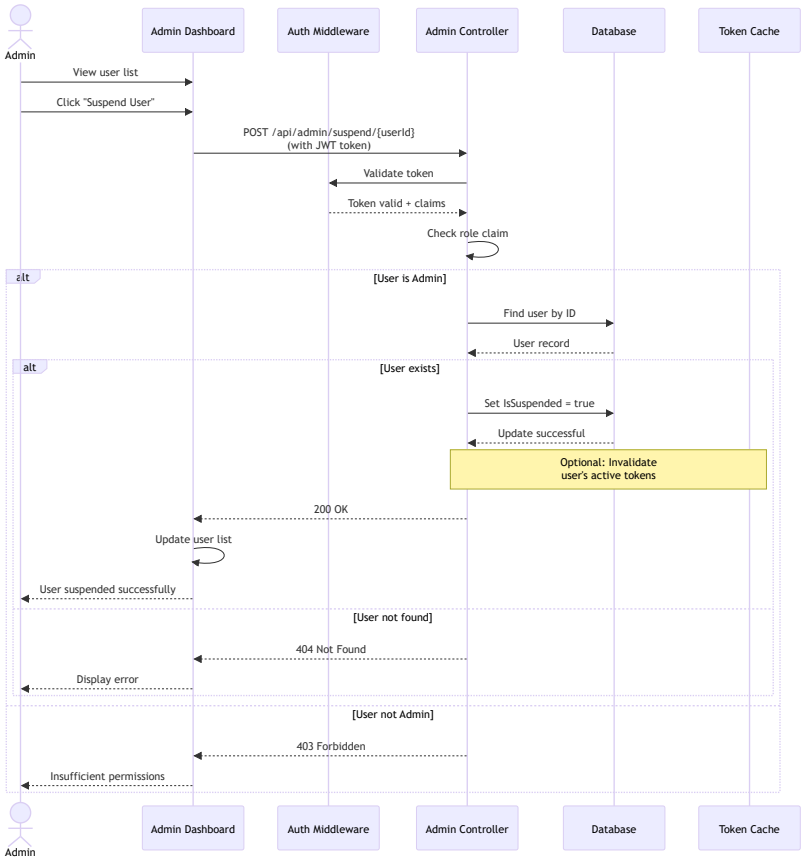
## 12.2 Task Comment and Notification Flow



## 12.3 File Download Flow



## 12.4 Admin User Suspension Flow

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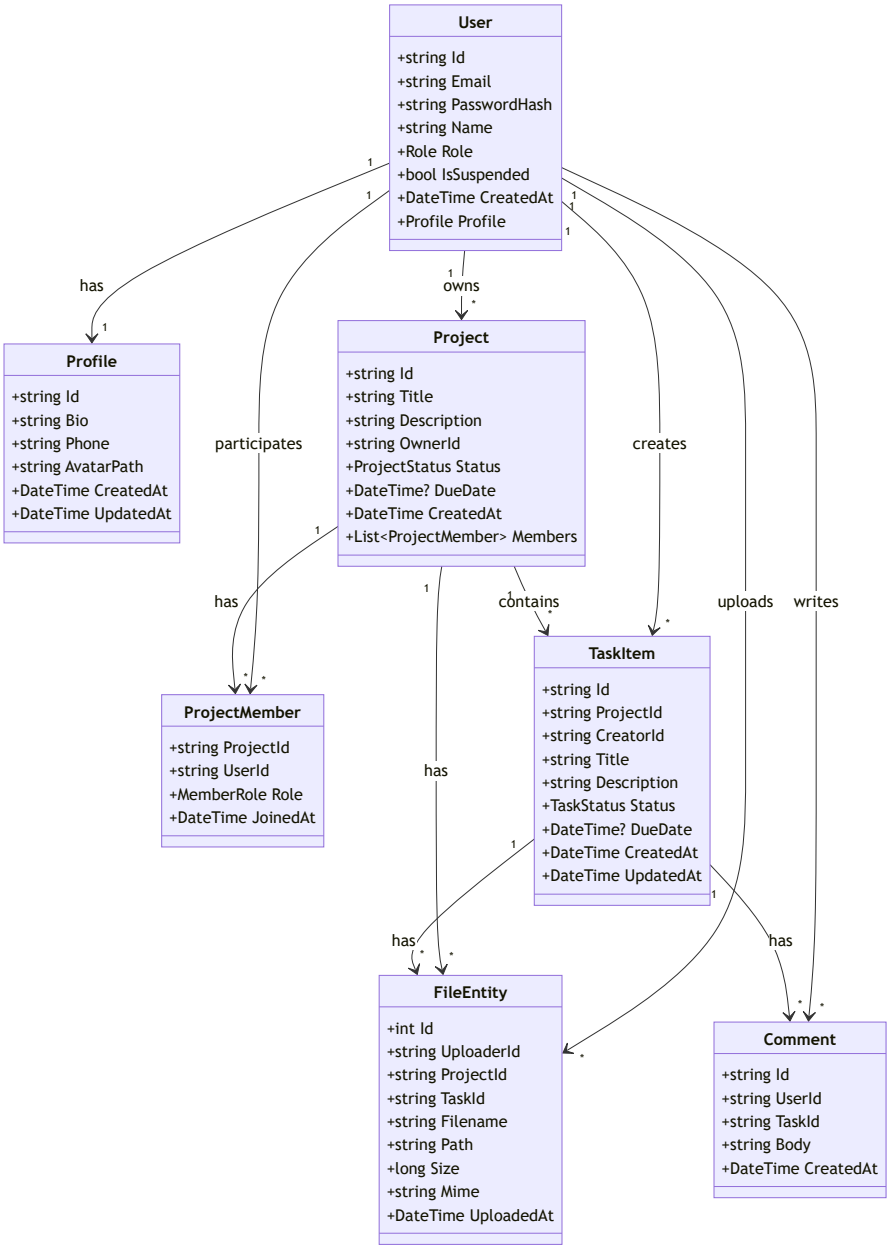
## Class Diagram

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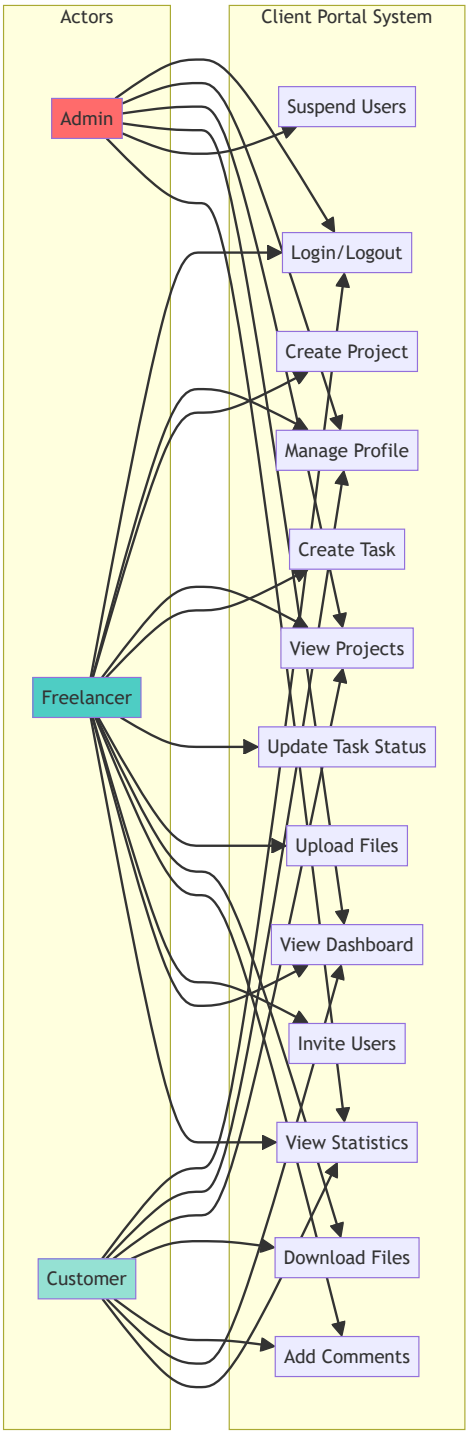
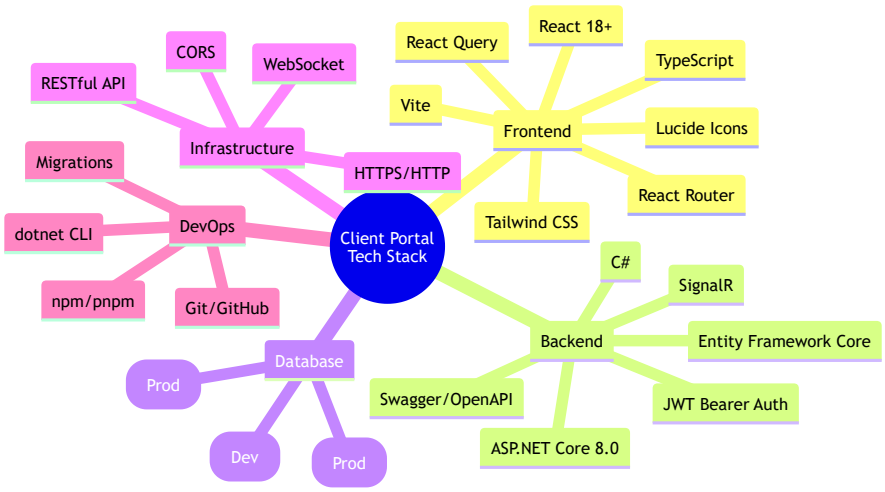
## Use Case Diagram



## Technology Stack Diagram




## Summary

These diagrams provide comprehensive visual documentation for:

**System Architecture** - High-level overview of all components
**Database Design** - Entity relationships and schema
**Authentication** - Security flow and token management
**User Roles** - Permission hierarchy
**API Flow** - Request/response lifecycle
**Component Structure** - Frontend architecture
**File Handling** - Upload/download processes
**Real-Time** - SignalR notification flow
**Workflows** - Project and task lifecycles
**Deployment** - Production architecture options
**Sequence Diagrams** - Detailed interaction flows
**Class Diagram** - Domain model structure
**Use Cases** - Role-based functionality

### How to Use These Diagrams

1. **For Development:** Use sequence diagrams to understand feature implementation
2. **For Documentation:** Include in technical specifications and onboarding materials

3. **For Presentations:** Use architecture diagrams to explain system design
4. **For Database:** Reference ERD when writing queries or migrations
5. **For Testing:** Use state machines to create test cases

### Rendering These Diagrams

These Mermaid diagrams can