TaskNexus - Project Documentation

1. Short Summary

TaskNexus is a project and task management web application built with Spring Boot and JSP. It helps teams manage projects, assign tasks, track progress, and collaborate through comments and file attachments.

Key Features:

- Project management with status tracking
- Task management with priorities and deadlines
- Team collaboration (comments and file attachments)
- Role-based access control
- Dashboard with statistics

Technology: Java 17, Spring Boot, Hibernate, MySQL, JSP, Bootstrap

2. List of User Roles

System-Level Roles

- **ROLE_ADMIN (Administrator)**
  - Full system access to all projects and tasks
- **ROLE_USER (Regular User)**
  - Base role for all authenticated users
  - Access depends on project assignments

Project-Specific Roles

- **PROJECT_MANAGER**
  - Full control over assigned project(s)
  - Assigned via project manager field

- **TEAM_MEMBER**
  - Collaborative access to assigned project(s)
  - Can view all tasks, create tasks, and collaborate on any task in the project
  - Added to project team members

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3. Tasks That Each User Role Can Perform

Administrator (ROLE_ADMIN)

- **User Management**
  - View, create, edit, delete users
  - Assign roles to users
- **Project Management**
  - View, create, edit, delete all projects
  - Assign project managers
  - Manage team members for any project
- **Task Management**
  - View, create, edit, delete all tasks
  - Assign tasks to users
  - Update task status
- **Collaboration**
  - Add comments, upload/download/delete attachments on any task
- **Dashboard**
  - View system-wide statistics

Project Manager (PROJECT_MANAGER)

- **Project Management (Their Projects Only)**
  - View and edit their projects
  - Manage team members
  - ❌ Cannot create or delete projects

- **Task Management (Their Projects)**
  - View, create, edit, delete tasks in their projects
  - Assign tasks to team members
  - Update task status
- **Collaboration (Their Projects)**
  - Add comments, upload/download/delete attachments
- **Dashboard**
  - View their project statistics

Team Member (TEAM_MEMBER)

- **Project Management (Their Projects)**
  - View project details
  - ❌ Cannot edit or delete projects
  - ❌ Cannot manage team members
- **Task Management (Their Projects)**
  - View and create tasks
  - Edit tasks assigned to them
  - Update status of assigned tasks
  - ❌ Cannot delete tasks
  - ❌ Cannot assign tasks
- **Collaboration (Their Projects)**
  - Add comments, upload/download attachments
  - Delete own attachments
- **Dashboard**
  - View "My Tasks" and project statistics

Users Assigned to Tasks

When a Team Member or Project Manager is assigned to a specific task, they gain:

- Edit permissions for that assigned task
- Ability to update task status
- Full collaboration (comments, attachments) on assigned task

Note: Task assignment is a property, not a role. Users must already be Team Members or Project Managers to be assigned to tasks.

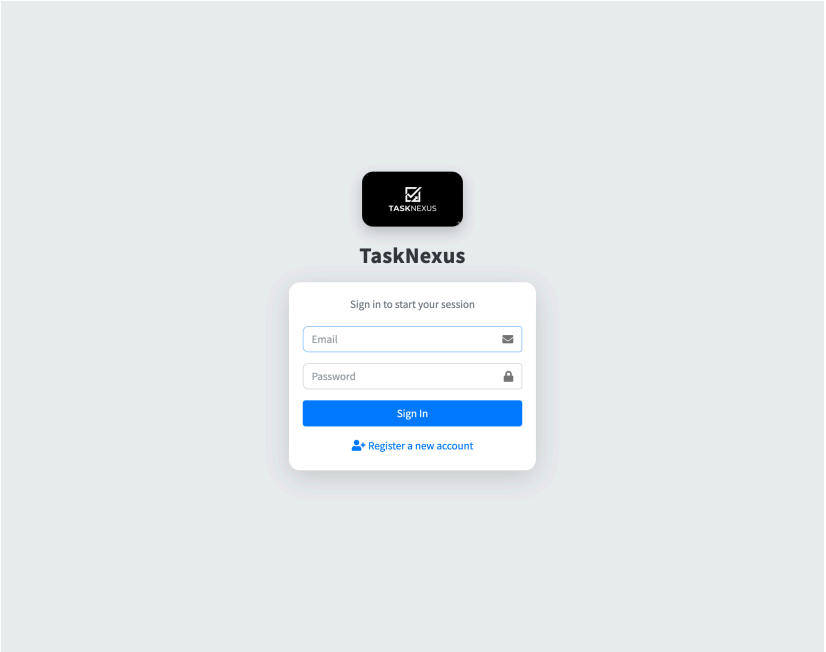
4. Permission Matrix Summary

Action	Admin	Project Manager	Team Member
User Management			
Manage Users	✅	❌	❌
Project Management			
Create Projects	✅	❌	❌
View Projects	✅ All	Their Projects	Their Projects
Edit Projects	✅ All	Their Projects	❌
Delete Projects	✅	❌	❌
Manage Team	✅ All	Their Projects	❌
Task Management			
Create Tasks	✅ All	Their Projects	Their Projects
View Tasks	✅ All	Their Projects	Their Projects
Edit Tasks	✅ All	Their Projects	Assigned Tasks Only
Delete Tasks	✅ All	Their Projects	❌
Assign Tasks	✅	Their Projects	❌
Collaboration			
Comments/Attachments	✅ All	Their Projects	Their Projects

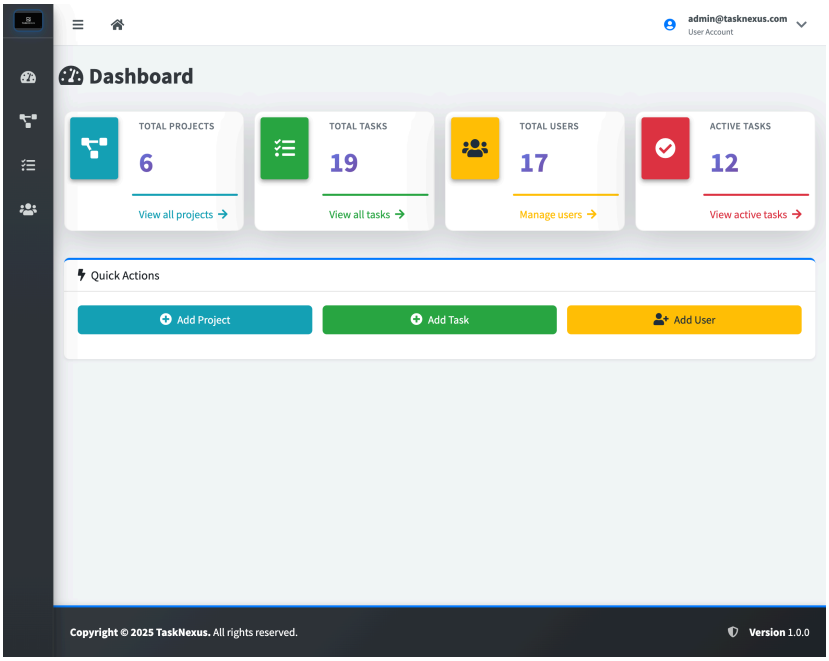
5. Key Screenshots

The following screenshots showcase the main features and pages of TaskNexus. All screenshots were captured with the sidebar collapsed for better content visibility.

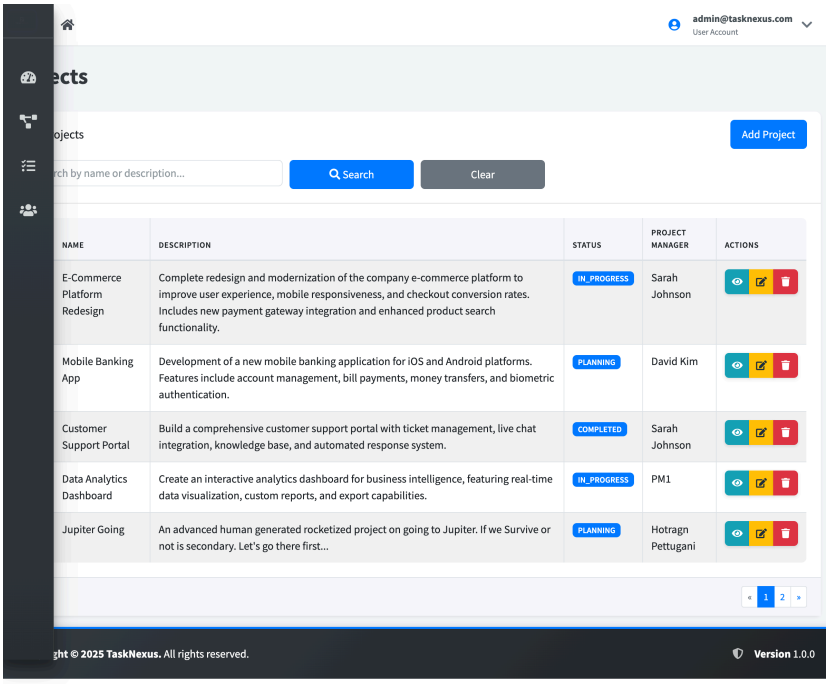
1. **Login Page** (`/login`)



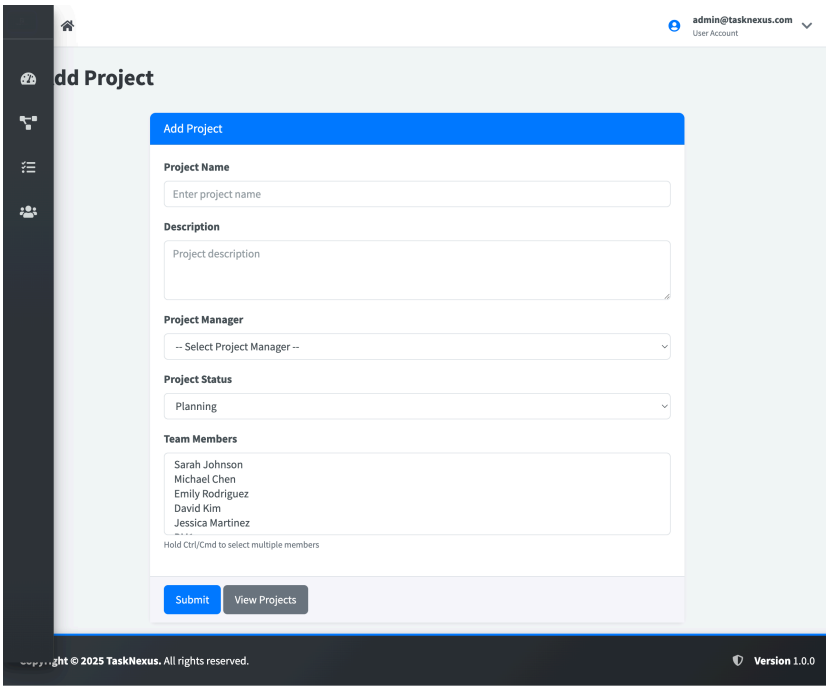
2. **Dashboard - Admin View** (`/page`)



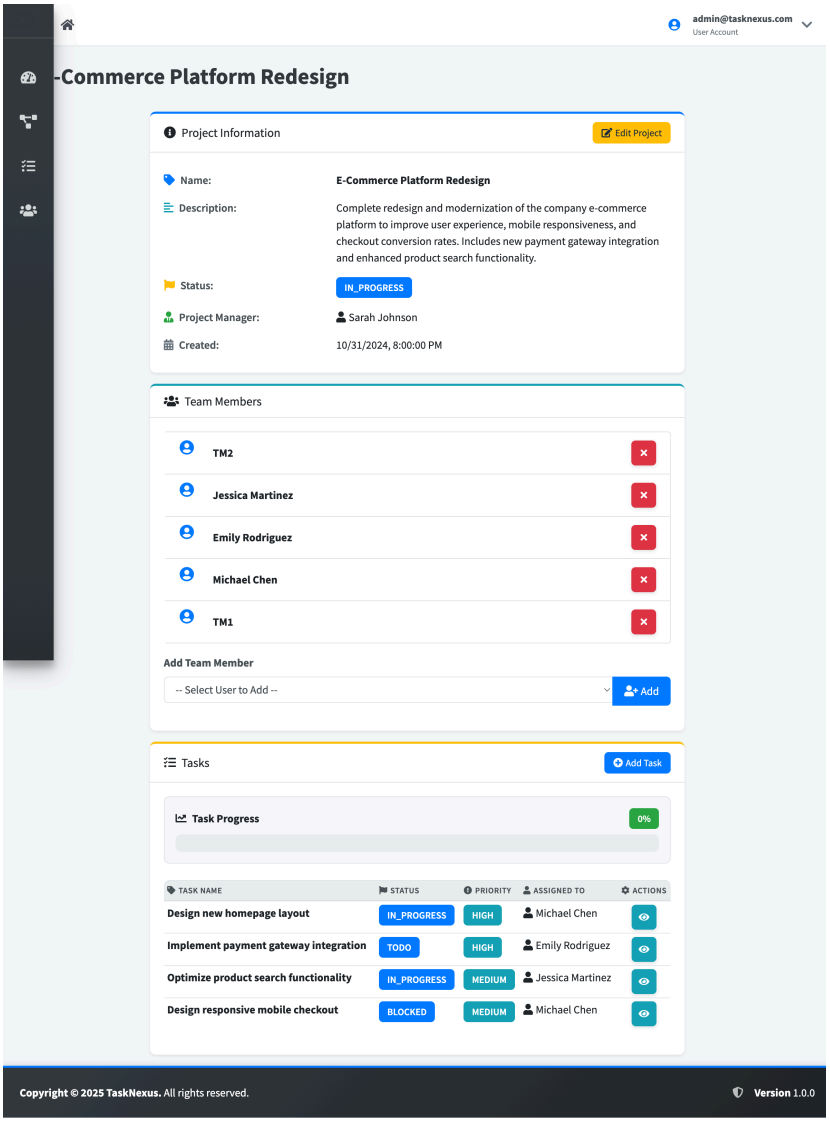
3. **Projects List** (`/viewProject`)



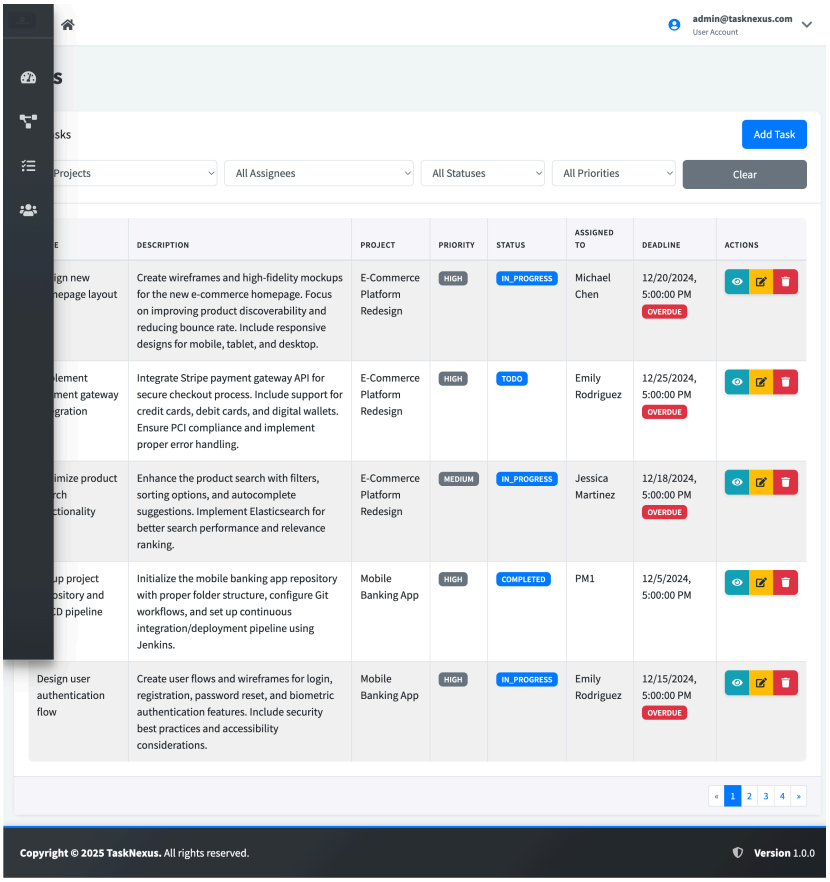
4. **Add/Edit Project** (`/addProject`)



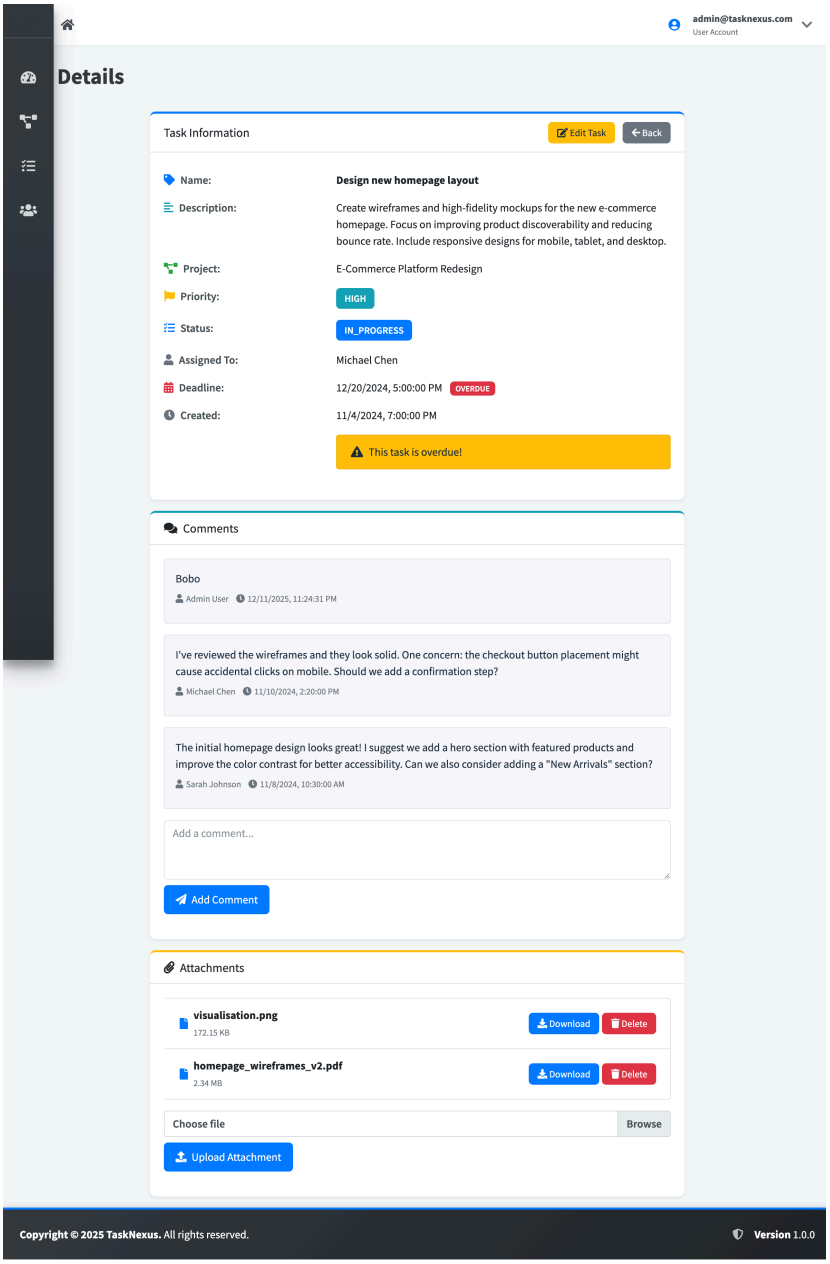
5. **Project Detail** (`/project/{projectId}`)



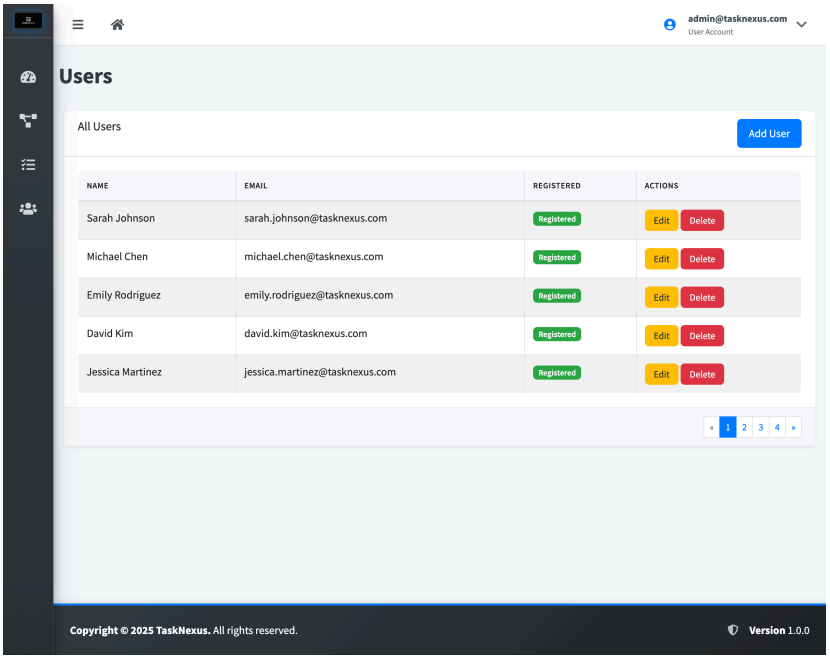
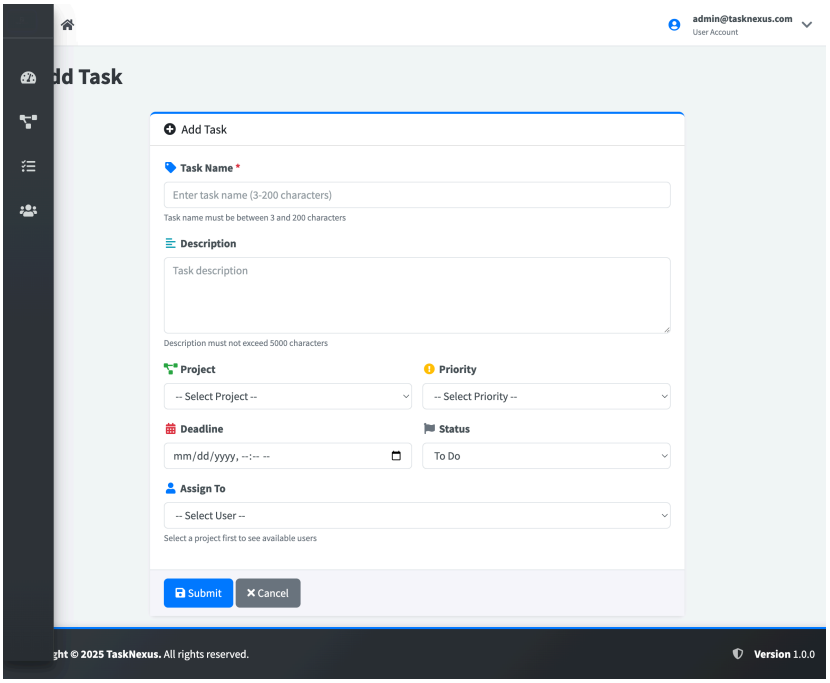
6. **Tasks List** (`/viewTask`)



7. **Task Detail** (`/task/{taskId}`)



8. **User Management - Admin** (`/viewUser`)



9. **Add/Edit Task** (`/addTask`)