**Kanban Task Management System**

**🚀 Overview**

The Kanban Task Management System is a Java-based console application designed to simplify task tracking and team management. By leveraging the Kanban methodology, it helps users organize work into clear categories, such as 'To Do,' 'Doing,' and 'Done.' With features like secure user registration, task handling, and reporting, it ensures an organized approach to managing tasks efficiently.

**📌 Features**

- \*\*User Registration & Authentication\*\*:  
 - Create user accounts with secure validation.  
 - Login system ensures protected access to task data.

- \*\*Task Management\*\*:  
 - Add, edit, and delete tasks with ease.  
 - Assign tasks to developers for better accountability.  
 - Automatically generate unique Task IDs for each task.

- \*\*Task Reporting\*\*:  
 - View detailed task summaries.  
 - Filter tasks by developer or status.  
 - Calculate and display total time spent on tasks.

- \*\*Interactive Console Interface\*\*:  
 - Intuitive menu navigation for a seamless user experience.

- \*\*Robust Input Validation\*\*:  
 - Ensures data integrity and prevents invalid inputs.

**🛠️ Tech Stack**

- \*\*Language\*\*: Java (JDK 11+)  
- \*\*Tools\*\*: Maven for project management and build automation  
- \*\*Testing\*\*: JUnit for unit testing  
- \*\*Version Control\*\*: Git and GitHub for repository management

**⚙️ Installation**

Follow these steps to set up the project:

1. \*\*Clone the Repository\*\*:

git clone <https://github.com/lulama-baloyi/Kanban-Task-Manager.git>  
cd Kanban-Task-Manager

2. \*\*Build the Project\*\*:

mvn clean install

3. \*\*Run the Application\*\*:

java -jar target/kanban-task-manager.jar

**📖 Usage Guide**

### 1. Start the Application  
Launch the application in your terminal to access the main menu.

### 2. User Registration  
- Enter a username and password.  
- Username must:  
 - Contain an underscore (\_).  
 - Be no more than 5 characters long.  
- Password must:  
 - Be at least 8 characters.  
 - Contain one uppercase letter, one digit, and one special character.

### 3. Login  
- Use the registered username and password to log in.  
- On successful login, you’ll be welcomed to the task management dashboard.

### 4. Manage Tasks  
- Add tasks with:  
 - A short description (max 50 characters).  
 - Developer details (first and last name).  
 - Estimated duration (in hours).  
- Tasks are automatically assigned a unique ID.

### 5. View Reports  
- Generate detailed summaries grouped by task status or developer.  
- Filter tasks based on criteria such as developer name or status.

### 6. Exit  
- Finalize your work and quit the application safely using the 'Quit' option.

**📸 Screenshots**

### Main Menu



### Task Creation



### Task Report



###sign up



**🚀 Upcoming Features**

- \*\*GUI Version\*\*: Introducing a graphical interface for an enhanced user experience.  
- \*\*Database Integration\*\*: Persistent task storage for long-term tracking.  
- \*\*CI/CD Pipeline\*\*: Automating testing and deployment with GitHub Actions.

**🛡️ License**

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**📬 Contact**

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