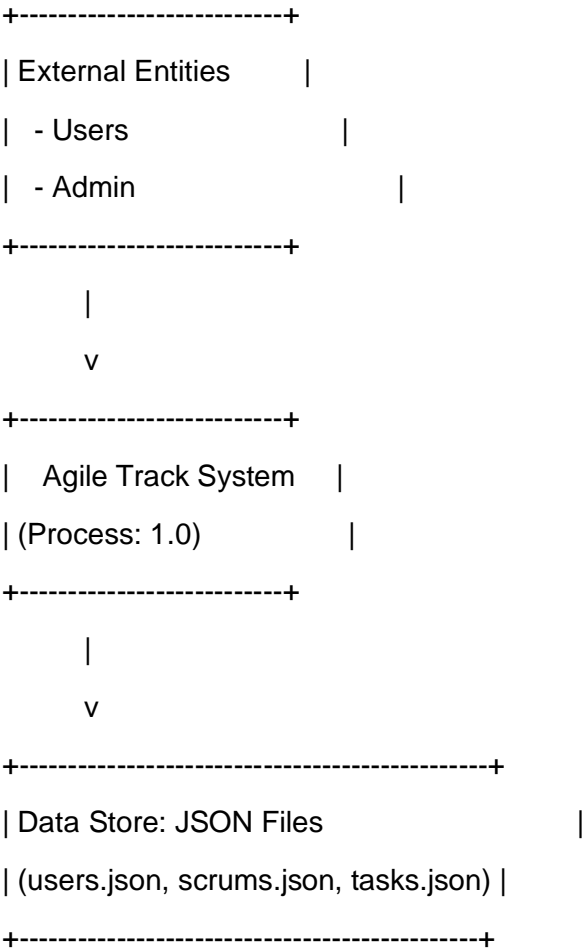# Data Flow Diagram (DFD) for Agile Track System

The "**Agile Track System**" is a Single Page Application (SPA) designed to streamline task management and team collaboration within agile frameworks. This platform allows users and administrators to log in, view tasks assigned to users, and track progress across various scrum teams.

Level 0 DFD (Context Diagram)

At the highest level, the Agile Track System is represented as a single process interacting with external entities and data stores.

```
+-------------------------+
| External Entities       |
|   - Users               |
|   - Admin               |
+-------------------------+
        |
        v
+-------------------------+
|    Agile Track System   |
| (Process: 1.0)          |
+-------------------------+
        |
        v
+----------------------------------------+
| Data Store: JSON Files                 |
| (users.json, scrums.json, tasks.json)  |
+----------------------------------------+
```

Explanation:

External Entities:

- Users Can only view assigned tasks.

- Admin: Has full control, including managing users, assigning tasks, and project handling.
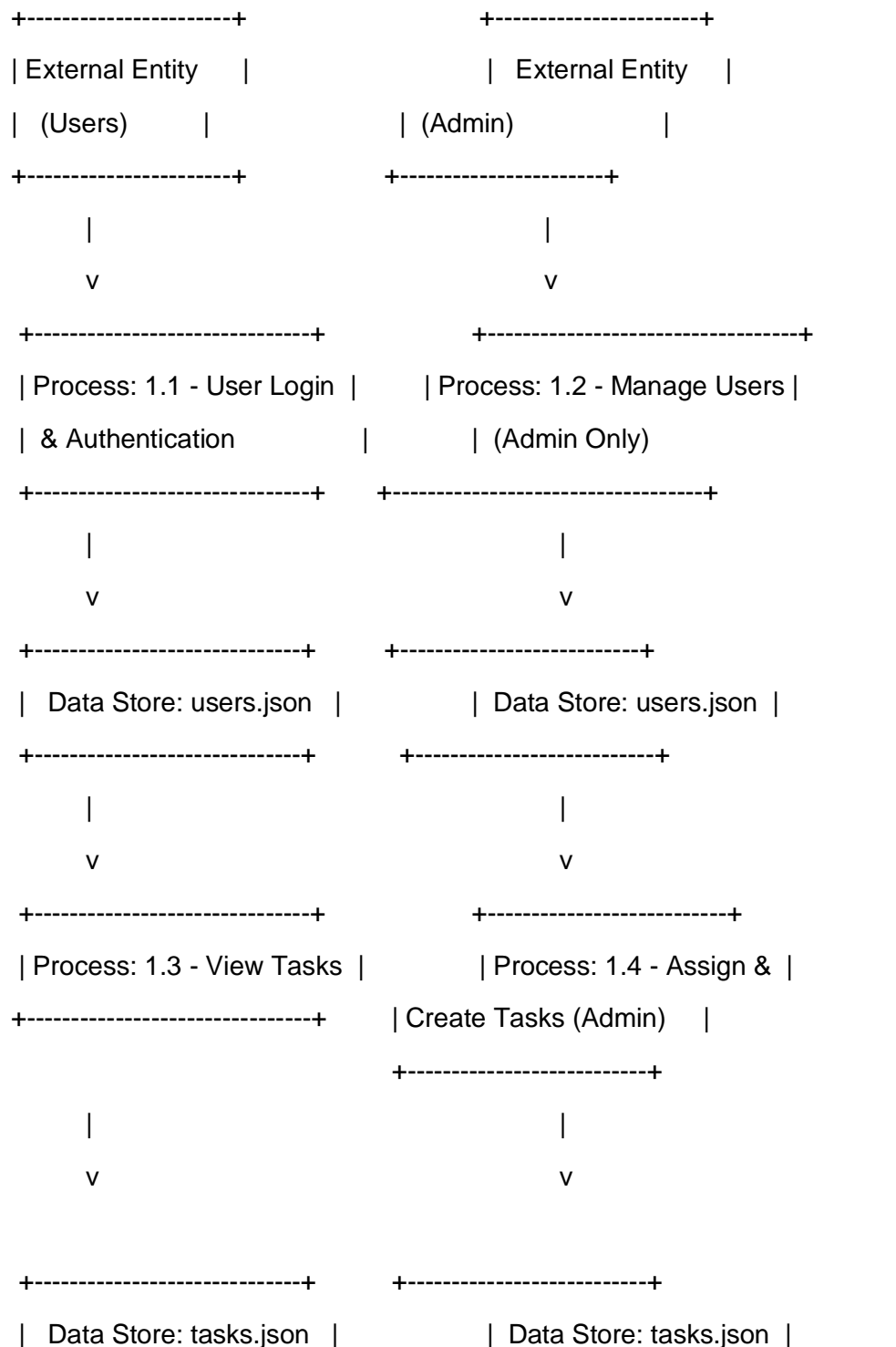
Main Process:

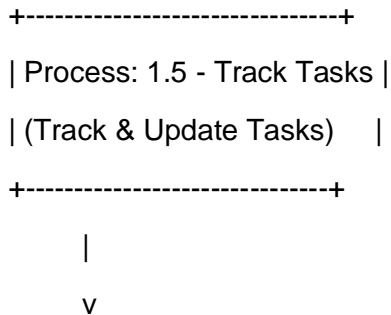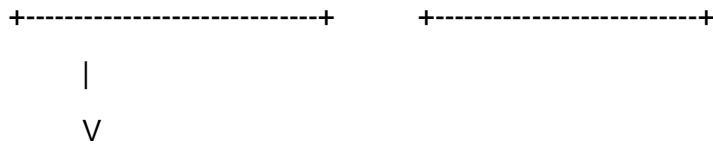- The Agile Track System manages authentication, user management, and task tracking.

Data Store (JSON files):

- All data (Users, Scrums, and Tasks) is stored in JSON files:

Level 1 DFD (Decomposition of Process 1.0)

Breaking down the Agile Track System into multiple processes:

```
+----------------------+              +----------------------+
| External Entity      |              |  External Entity     |
|  (Users)        |              |  (Admin)             |
+----------------------+              +----------------------+
        |                                    |
        v                                    v
+-----------------------------+       +-----------------------------------+
| Process: 1.1 - User Login   |       | Process: 1.2 - Manage Users |
|  & Authentication        |       |    (Admin Only)                   |
+-----------------------------+       +-----------------------------------+
        |                                    |
        v                                    v
+-----------------------------+       +--------------------------+
|  Data Store: users.json   |       |  Data Store: users.json  |
+-----------------------------+       +--------------------------+
        |                                    |
        v                                    v
+-----------------------------+       +-------------------------+
| Process: 1.3 - View Tasks   |       | Process: 1.4 - Assign &  |
+-----------------------------+       | Create Tasks (Admin)     |
                                      +--------------------------+
        |                                    |
        v                                    v


+-----------------------------+       +-------------------------+
|  Data Store: tasks.json   |       |  Data Store: tasks.json  |
```

```
+--------------------------+        +------------------------+
        |
        V


    +-----------------------------+
    | Process: 1.5 - Track Tasks |
    | (Track & Update Tasks)     |
    +-----------------------------+
        |
        v
    +---------------------------+
    |   Data Store: tasks.json  |
    +---------------------------+
```

Explanation:

1.1 - User Login & Authentication

- Users & Admin enter credentials.

- The system checks users.json to verify credentials.

- If valid, the user is logged in and redirected to their dashboard.

1.2 - Manage Users

- Admin can create new users (Users or other admins).

- New user details are stored in users.json.

- The system assigns default permissions based on the role.

1.3 - View Tasks

- Users can only view tasks assigned to them.

- The system fetches tasks from tasks.json based on the logged-in User's ID.

1.4 - Assign & Create Tasks

- Admins create new tasks and assign them to employee.

- Task details are stored in tasks.json.

- Users cannot edit or delete tasks, only view them.

1.5 - Track & Update Tasks

- Admin update the status of their tasks (e.g., To-Do, In Progress, Completed).

- The system modifies the task status in tasks.json.

- Admin can track the progress of all assigned tasks.

Data Flow:

1. Users log in and authenticate via the Json file.
2. Admin manage scrums and tasks using the scrums.json.
3. Users update task progress in the tasks.json.
4. Reports and task summaries are generated based on stored data