

Military Database Management System

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Description:

System will serve for military management purposes.

The motivation and goal is to keep track of personnel, equipment, vehicles and missions across multiple bases.

Entites & Relationships

Relationships

- **Military Member** has **one or more Specialties**. **Specialty** can belong to 0 or N members.
- **Military Member** has **one Rank**. **Rank** can belong to 0 or N members.
- **Military Member** has 0 or 1 supervisor (recursive relationship with another member).
- **Military Member** can manage one or more **Missions**. Each **Mission** is managed by one **Military Member** (must be sergeant or higher rank).
- **Military Base** IS-A **Personnel facility** or **Storage facility**.
- **Military Member** belongs to 0 or 1 **Military Base (Storage facility)**. **Military Base (Personnel facility)** has 0 or N **Military Members**.
- **Military Base** is located in **one Location**. **One Location** can have 0 or N **Military Bases**.
- One or more **Military Members** can participate in a **Mission**.
- **Vehicle** is assigned to **one Military Base (Storage facility)**. **Military Base (Storage facility)** can have multiple **Vehicles**.
- **Equipment** originates from **one Military Base (Storage facility)**. **Military Base (Storage facility)** can have multiple **Equipment**.
- **Military Member** can use 0 or N **Equipment**, **Equipment** can be used by 0 or 1 **Military Member**.
- **Military Member** can use 0 or 1 **Vehicle**, **Vehicle** can be used by 0 or 1 **Military Member**.

Entities

1. Military Member

- `soldier_id` (unique member identifier)
- `first_name`
- `last_name`
- `rank_id` (references **Rank**)
- `date_of_joining`
- `base_id` (references **Military Base (Personnel facility)**) - might be null

2. Rank

- `rank_id` (unique identifier)
- `name` (e.g., soldier, sergeant, captain)
- `description` (optional)

3. Specialty

- `specialty_id` (unique identifier)
- `name` (e.g., pilot, tank operator, medic, mechanic, ...)
- `description` (optional)

4. Military Base

- `base_id` (unique identifier)
- `name`
- `type` (**Personnel facility** or **Storage facility**)
- `location_id` (references **Location**)

5. Location

- `location_id`
- `country`
- `city`

6. Equipment

- `equipment_id`
- `equipment_type_id` (references **Equipment Type**)
- `status` (functional, broken)
- `base_id` (references **Military Base (Storage facility)**)

7. Equipment Type

- `equipment_type_id`
- `type` (e.g., weapon, communication device, uniform, etc.)

8. Vehicle

- `vehicle_id`
- `vehicle_type_id` (references **Vehicle Type**)

- `base_id` (references **Military Base (Storage facility)**)

9. Vehicle Type

- `vehicle_type_id`
- `model_name`
- `name` (e.g., aircraft, tank, helicopter, transporter, etc.)

10. Mission

- `mission_id`
 - `name`
 - `description` (mission objective)
 - `start_date`
 - `end_date`
 - `status` (planned, active, completed, cancelled)
 - `commander_id` (references **Military Member**) ; Only Rank allowed: Sergeant or higher
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1. Command Assignment (Gerund)

- `command_assignment_id`
- `soldier_id`
- `base_id`
- `start_date`
- `end_date`

2. Member Specialty (Gerund)

- `member_specialty_id`
- `soldier_id`
- `specialty_id`

3. Equipment Stored At (Gerund)

- `equipment_assignment_id`
- `equipment_id` (references **Equipment**)
- `base_id` (references **Military Base (Storage facility)**)
- `assigned_date`

4. Vehicle Stored At (Gerund)

- `vehicle_assignment_id`
- `vehicle_id` (references **Vehicle**)
- `base_id` (references **Military Base (Storage facility)**)
- `assigned_date`

5. Reporting Hierarchy (Recursion)

- `reporting_hierarchy_id`
- `soldier_id`
- `supervisor_id`

6. Mission Member (Gerund)

- `mission_member_id`
- `mission_id` (references **Mission**)
- `soldier_id` (references **Military Member**)

7. Equipment Using (Gerund)

- `equipment_using_id`
- `equipment_id` (references **Equipment**)
- `soldier_id` (references **Military Member**)
- `status` (using, repairing)
- `start_date`
- `end_date`

8. Vehicle Using (Gerund)

- `vehicle_using_id`
- `vehicle_id` (references **Vehicle**)
- `soldier_id` (references **Military Member**)
- `status` (using, repairing)
- `start_date`
- `end_date`