REMOTE WORK MANAGEMENT

TABLES CREATED:

Table: Projects

Field Name	Data Type	Primary Key	Description
project_id	INT	Yes	Unique identifier for each project
project_name	VARCHAR(100)	No	Name of the project
description	TEXT	No	Description of the project
start_date	DATE	No	Start date of the project
end_date	DATE	No	End date of the project
created_at	TIMESTAMP	No	Date and time when the project was created
updated_at	TIMESTAMP	No	Date and time when the project was last updated

Table: teams

Field Name	Data Type	Primary Key	Description
team_id	INT	Yes	Unique identifier for each team
team_name	VARCHAR(100)	No	Name of the team
description	TEXT	No	Description of the team
created_at	TIMESTAMP	No	Date and time when the team was created
updated_at	TIMESTAMP	No	Date and time when the team was last updated
project_id	INT	No	ID of the project to which the team belongs, references projects table

Table: roles

Field Name	Data Type	Primary Key	Description
role_id	VARCHAR(20)	Yes	Unique identifier for each role
role_name	VARCHAR(20)	No	Name of the role

Table: tasks

Field Name	Data Type	Primary Key	Not Null	Default	Description

task_id	INT	Yes	Yes	AUTO_INCREMENT	Unique identifier for each task
task_name	VARCHAR(100)	No	Yes		Name of the task
description	TEXT	No	No	NULL	Description of the task
due_date	DATE	No	No	NULL	Deadline for completing the task
status	VARCHAR(20)	No	No	NULL	Current status of the task
priority	VARCHAR(20)	No	No	NULL	Priority level of the task
created_at	TIMESTAMP	No	No	CURRENT_TIMESTAMP	Date and time when the task was created
updated_at	TIMESTAMP	No	No	CURRENT_TIMESTAMP	Date and time when the task was last updated
team_id	INT	No	No		ID of the team to which the task is assigned
role_id	VARCHAR(20)	No	No		Role ID associated with the task
assign_id	VARCHAR(45)	No	No		Assignment ID
assign_date	VARCHAR(45)	No	No		Date of assignment
user_id	INT	No	No		ID of the user assigned to the task

Table: users

Field Name	Data Type	Primary Key	Description
user_id	INT	Yes	Unique identifier for each user
username	VARCHAR(50)	No	Username of the user
email	VARCHAR(100)	No	Email address of the user
password	VARCHAR(100)	No	Password of the user (hashed)

role_id	VARCHAR(20)	No	Role ID of the user, references roles table
created_at	TIMESTAMP	No	Date and time when the user was created
updated_at	TIMESTAMP	No	Date and time when the user was last updated
team_id	INT	No	ID of the team to which the user belongs, references teams table

Relationships between Tables:

- **One-to-Many Relationships**:
  - Users (user_id) -> Tasks (user_id)
  - Projects (project_id) -> Teams (project_id)
  - Teams (team_id) -> Tasks (team_id)
- **Many-to-One Relationships**:
  - Tasks(user_id) -> Users(user_id)
  - Tasks (team_id) -> Teams (team_id)
  - Tasks (role_id) -> Roles (role_id)
  - Users (team_id) -> Teams (team_id)
  - Users (role_id) -> Roles (role_id)

Description:

The schema represents a work management system with entities such as projects, teams, roles, tasks, users, and assignments. Each project can have multiple teams associated with it, and each team can have multiple tasks assigned to it. Users are associated with teams and roles, and tasks are assigned to users through assignments. The schema allows for effective management and tracking of tasks within projects and teams, with roles defining the permissions and responsibilities of users.

Normalisation:

- **First Normal Form (1NF)**:
  - Each table contains atomic values in its columns, and there are no repeating groups. For example, the `tasks` table has atomic values like `task_name`, `description`, `due_date`, etc.
- **Second Normal Form (2NF)**:
  - In the schema, each non-key attribute is dependent on the entire primary key. For example, in the `tasks` table, attributes like `task_name`, `description`, `due_date`, `status`, and `priority` are all functionally dependent on the `task_id` primary key.
- **Third Normal Form (3NF)**:

- In the schema, non-key attributes are not transitively dependent on the primary key. For example, in the `tasks` table, the `team_id` attribute is dependent on the `task_id` primary key, and the `role_id` attribute is dependent on the `task_id` primary key.

ER DIAGRAM

roles
- 🔑 role_id VARCHAR(20)
- ◇ role_name VARCHAR(20)
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tasks
- 🔑 task_id INT
- ◇ task_name VARCHAR(100)
- ◇ description TEXT
- ◇ due_date DATE
- ◇ status VARCHAR(20)
- ◇ priority VARCHAR(20)
- ◇ created_at TIMESTAMP
- ◇ updated_at TIMESTAMP
- ◇ team_id INT
- ◇ role_id VARCHAR(20)
- ◇ assign_id VARCHAR(45)
- ◇ assign_date VARCHAR(45)
- ◇ user_id INT
- ◇ taskscol VARCHAR(45)
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users
- 🔑 user_id INT
- ◇ username VARCHAR(50)
- ◇ email VARCHAR(100)
- ◇ password VARCHAR(100)
- ◇ role_id VARCHAR(20)
- ◇ created_at TIMESTAMP
- ◇ updated_at TIMESTAMP
- ◇ team_id INT
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teams
- 🔑 team_id INT
- ◇ team_name VARCHAR(100)
- ◇ description TEXT
- ◇ created_at TIMESTAMP
- ◇ updated_at TIMESTAMP
- ◇ project_id INT
- ◇ teamscol VARCHAR(45)
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projects
- 🔑 project_id INT
- ◇ project_name VARCHAR(100)
- ◇ description TEXT
- ◇ start_date DATE
- ◇ end_date DATE
- ◇ created_at TIMESTAMP
- ◇ updated_at TIMESTAMP
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