

DATABASE MANAGEMENT SYSTEM UE23CS351A

Experiential Learning (Orange problem)

Title : Database Management System for Version Control

Team ID : 11

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Github repo link: <https://github.com/VipulB05/github-clone>

Description about the statement:

The Version Control System (VCS) is a database-driven application designed to provide developers with comprehensive tools for effective source code management. The core purpose of the project is to establish a robust relational database foundation capable of accurately tracking code repositories, branches, file histories, and user contributions. The application allows users to create repositories, commit changes, manage branches, and handle pull requests. It utilizes stored procedures, functions, and triggers to centralize complex version control logic, manage data integrity (like commit counts), and enforce business rules (like protecting the main branch), ultimately giving developers a clear and actionable platform for collaborative software development.

User requirement specification:

User Roles

- Admin: Can monitor user data, repositories, and system-wide activity.
- User (Developer):
 - Can log in securely to view their personal dashboard.
 - Can create new repositories (public or private).
 - Can commit files, create branches, and open pull requests.
 - Can view real-time updates to commit counts, automatically handled by the database.

Functional Requirements

- **Authentication:**
 - The system must allow users to log in with valid credentials (email and password).
 - Invalid credentials should display an appropriate error message.
- **Dashboard Functionality:**
 - The **Admin Dashboard** should display all major tables (USER, REPO, COMMIT) with full CRUD (Create, Read, Update, Delete) capabilities.
 - The **User Dashboard** should display:
 - A list of their personal repositories.
 - A list of repositories they contribute to.
 - Sections to manage branches, commits, and pull requests.
- **Core Version Control Functionality:**
 - **Create Repository:** Users can create a new repository, specifying its name, description, and visibility (Public/Private).
 - **Create Branch:** Users can create a new branch from an existing branch (e.g., from main).
 - **Commit File:** Users can commit a file, which creates a new record in the FILE, COMMIT, and BRANCH_FILES tables.

- **Create Pull Request:** Users can create a pull request to merge one branch into another.
- **Database Operations Integration:**
 - **Trigger Integration:** After a new commit is inserted, the system must automatically update the CommitCount on the related BRANCH (using trigger_update_commit_count.sql).
 - **Stored Procedure Integration:** Users can create a new branch using the CreateNewBranch procedure.
 - **Function Integration:** The GetUserTotalCommits function can be used to dynamically fetch and display user statistics on their profile.

Non-Functional Requirements

- **Usability:** The interface should be clean, intuitive, and provide a clear visual distinction between repositories, branches, and commits. Navigation should be straightforward for all core tasks.
- **Performance:** Core operations (loading repositories, creating a branch, committing a file) should feel responsive. Database queries, especially for loading commit histories, must be optimized for speed.
- **Reliability:** Database triggers (e.g., `After_Commit_Insert`) must ensure data integrity, guaranteeing that metadata like `CommitCount` is always accurate and consistent.
- **Security:** User passwords must be hashed before being stored. The system must strictly enforce repository visibility, ensuring private repositories are *only* accessible to their owners (e.g., using logic from the `CheckUserRepoAccess` function).
- **Scalability:** The database schema must be designed to efficiently handle a large volume of users, repositories, and millions of commit and file records over time without significant degradation in performance.

User Interface Requirements

- **Main Window:** Provides role selection (e.g., Admin/User) or a primary login screen.
- **Login Window:** Takes user credentials (email/password) with clear validation and error messages (e.g., "Invalid email or password").
- **User Dashboard:** Contains a main navigation sidebar (to switch between Repositories, Profile, Settings) and a central area to display dynamic content.
- **Repository View:** Clearly displays a list of files, branches, and commits.
- **Scrollable Data Display:** All lists (repositories, commit history, file lists) must be scrollable and neatly formatted to handle many entries.
- **Pop-up Messages (Modals):** Used for confirmation (e.g., "Are you sure you want to delete this repository?") and for providing feedback on operations (e.g., "Branch 'feature/login' created successfully").

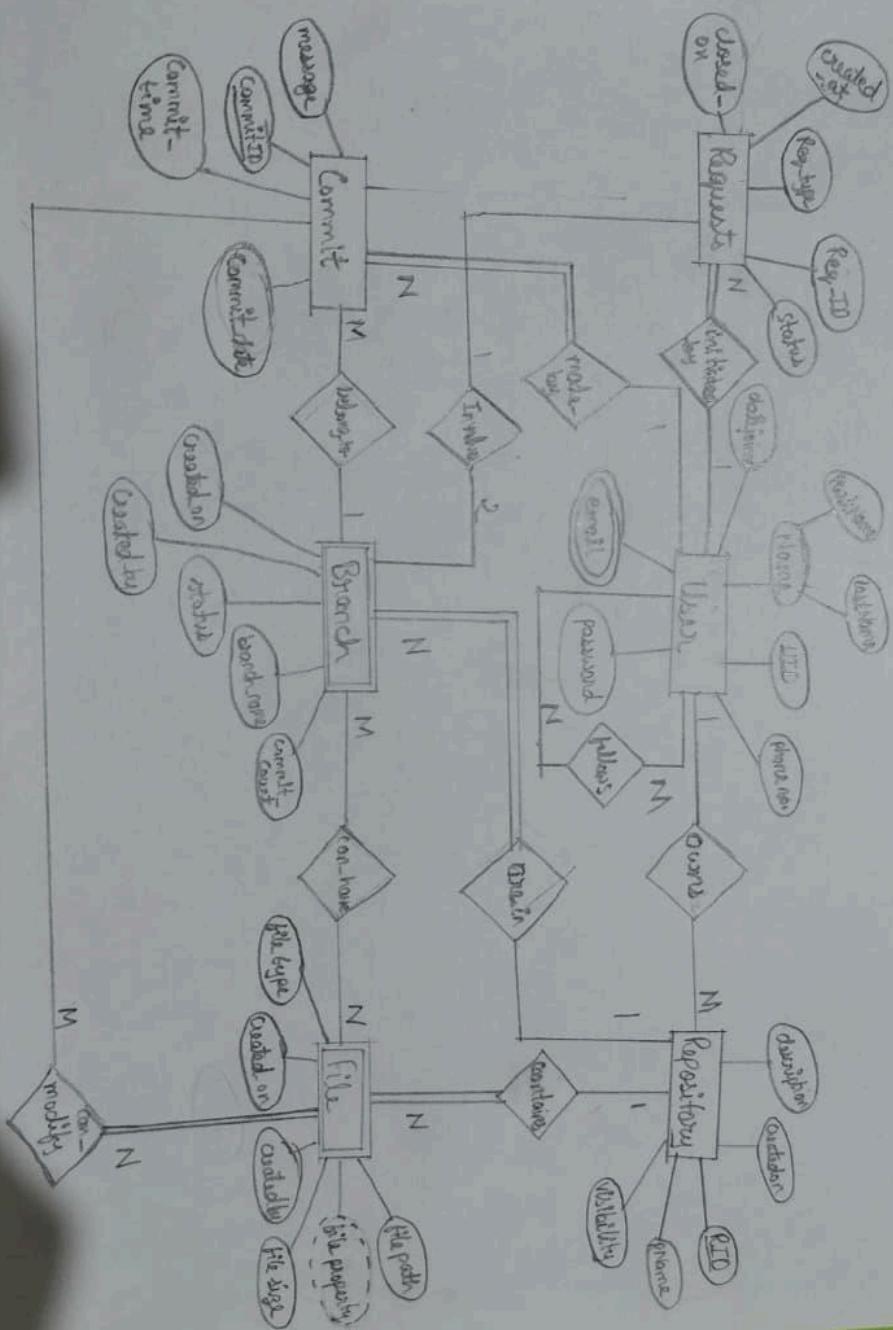
List of Software/Tools/Programming languages used:

Component	Requirement
Processor	Intel i3 or above
RAM	Minimum 4 GB
OS	Windows / macOS / Linux
Backend	MySQL 8.0 or above
Frontend	Python 3.10+, Streamlit
Libraries	mysql.connector, streamlit
IDE	Visual Studio Code or PyCharm

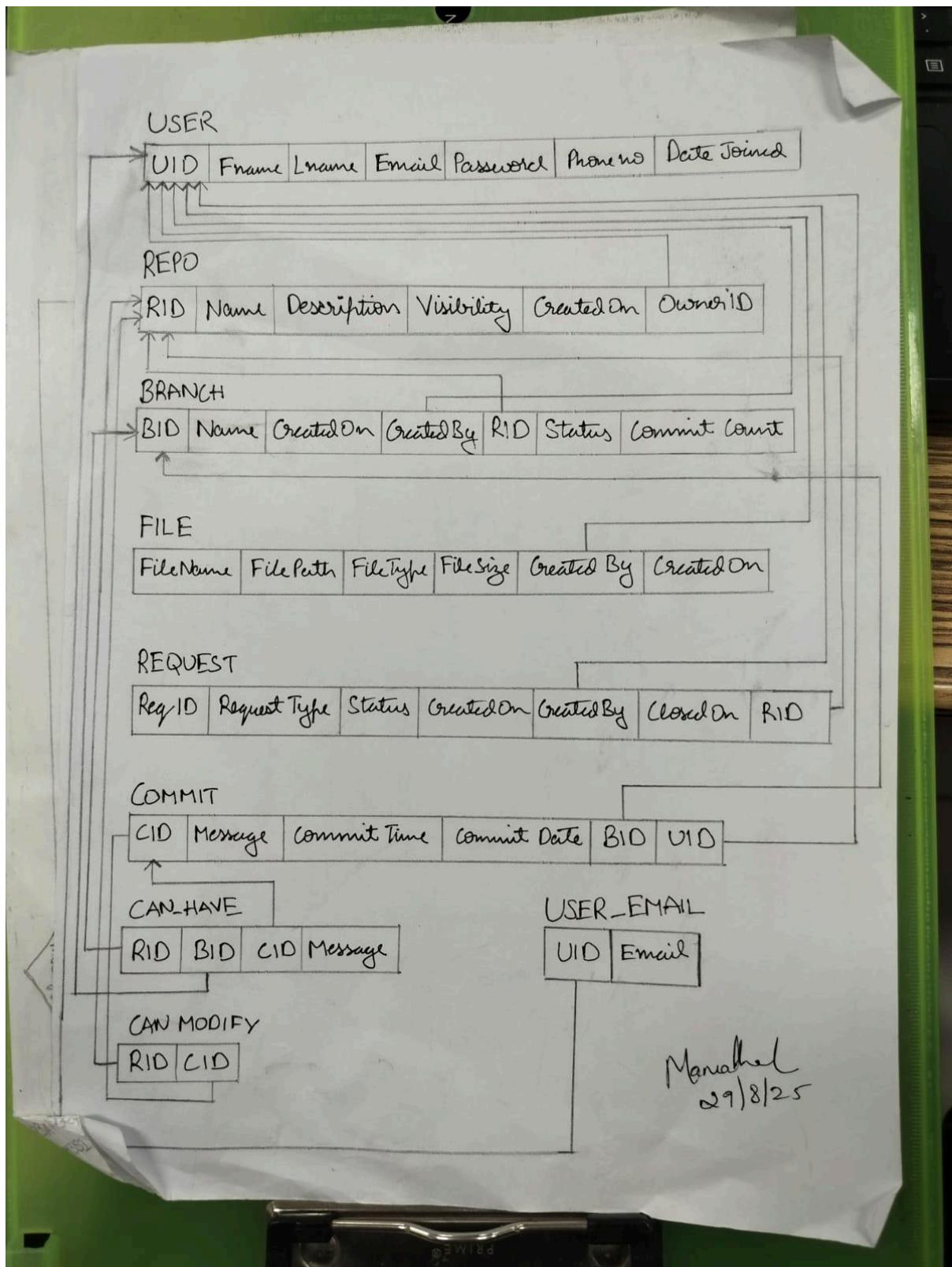
ER Diagram:

Version Control Management System

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Relational Schema:



DDL Commands:

```
CREATE TABLE `USER` (
    `UID` INT AUTO_INCREMENT PRIMARY KEY,
    `Fname` VARCHAR(100) NOT NULL,
    `Lname` VARCHAR(100),
    `Password` VARCHAR(255) NOT NULL, -- To store hashed passwords
    `Phoneno` VARCHAR(20),
    `DateJoined` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP
);
```

-- Represents a code repository owned by a user.

```
CREATE TABLE `REPO` (
    `RID` INT AUTO_INCREMENT PRIMARY KEY,
    `Name` VARCHAR(255) NOT NULL,
    `Description` TEXT,
    `Visibility` ENUM('Public', 'Private') NOT NULL DEFAULT 'Public',
    `CreatedOn` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    `OwnerId` INT NOT NULL,
    FOREIGN KEY (`OwnerId`) REFERENCES `USER`(`UID`) ON DELETE CASCADE
);
```

-- Represents a branch within a repository.

```
CREATE TABLE `BRANCH` (
    `BID` INT AUTO_INCREMENT PRIMARY KEY,
    `Name` VARCHAR(255) NOT NULL,
    `CreatedOn` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    `CreatedBy` INT NOT NULL,
    `RID` INT NOT NULL,
    `Status` VARCHAR(50) DEFAULT 'Active',
```

```
`CommitCount` INT DEFAULT 0,  
FOREIGN KEY (`CreatedBy`) REFERENCES `USER`(`UID`) ON DELETE CASCADE,  
FOREIGN KEY (`RID`) REFERENCES `REPO`(`RID`) ON DELETE CASCADE  
);
```

-- Stores metadata about individual files.

```
CREATE TABLE `FILE` (  
    `FID` INT AUTO_INCREMENT PRIMARY KEY,  
    `FileName` VARCHAR(255) NOT NULL,  
    `FilePath` TEXT NOT NULL,  
    `FileSize` INT, -- Size in bytes  
    `FileType` VARCHAR(50),  
    `CreatedBy` INT NOT NULL,  
    `CreatedOn` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,  
    FOREIGN KEY (`CreatedBy`) REFERENCES `USER`(`UID`) ON DELETE CASCADE  
);
```

-- Represents a specific commit made to a branch by a user.

```
CREATE TABLE `COMMIT` (  
    `CID` INT AUTO_INCREMENT PRIMARY KEY,  
    `Message` TEXT,  
    `CommitTime` TIME NOT NULL,  
    `CommitDate` DATE NOT NULL,  
    `BID` INT NOT NULL,  
    `UID` INT NOT NULL,  
    FOREIGN KEY (`BID`) REFERENCES `BRANCH`(`BID`) ON DELETE CASCADE,  
    FOREIGN KEY (`UID`) REFERENCES `USER`(`UID`) ON DELETE CASCADE  
);
```

-- Tracks pull/merge requests for a repository.

```
CREATE TABLE `REQUEST` (
    `ReqID` INT AUTO_INCREMENT PRIMARY KEY,
    `RequestType` VARCHAR(50), -- e.g., 'Pull', 'Merge'
    `Status` VARCHAR(50) DEFAULT 'Open',
    `CreatedOn` DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
    `CreatedBy` INT NOT NULL,
    `ClosedOn` DATETIME,
    `RID` INT NOT NULL,
    FOREIGN KEY (`CreatedBy`) REFERENCES `USER`(`UID`) ON DELETE CASCADE,
    FOREIGN KEY (`RID`) REFERENCES `REPO`(`RID`) ON DELETE CASCADE
);
```

-- Links users to their multiple email addresses.

```
CREATE TABLE `USER_EMAIL` (
    `UID` INT NOT NULL,
    `Email` VARCHAR(255) NOT NULL,
    PRIMARY KEY (`UID`, `Email`),
    FOREIGN KEY (`UID`) REFERENCES `USER`(`UID`) ON DELETE CASCADE
);
```

-- Creates a many-to-many relationship between branches and files.

```
CREATE TABLE `BRANCH_FILES` (
    `BID` INT NOT NULL,
    `FID` INT NOT NULL,
    PRIMARY KEY (`BID`, `FID`),
    FOREIGN KEY (`BID`) REFERENCES `BRANCH`(`BID`) ON DELETE CASCADE,
    FOREIGN KEY (`FID`) REFERENCES `FILE`(`FID`) ON DELETE CASCADE
);
```

-- Associative table linking repositories, branches, and commits.

```
CREATE TABLE `CAN_HAVE` (
    `RID` INT NOT NULL,
    `BID` INT NOT NULL,
    `CID` INT NOT NULL,
    `Message` TEXT,
    PRIMARY KEY (`RID`, `BID`, `CID`),
    FOREIGN KEY (`RID`) REFERENCES `REPO`(`RID`) ON DELETE CASCADE,
    FOREIGN KEY (`BID`) REFERENCES `BRANCH`(`BID`) ON DELETE CASCADE,
    FOREIGN KEY (`CID`) REFERENCES `COMMIT`(`CID`) ON DELETE CASCADE
);
```

-- Associative table linking repositories and commits.

```
CREATE TABLE `CAN MODIFY` (
    `RID` INT NOT NULL,
    `CID` INT NOT NULL,
    PRIMARY KEY (`RID`, `CID`),
    FOREIGN KEY (`RID`) REFERENCES `REPO`(`RID`) ON DELETE CASCADE,
    FOREIGN KEY (`CID`) REFERENCES `COMMIT`(`CID`) ON DELETE CASCADE
);
```

CRUD operation Screenshots:

```
INSERT INTO `USER` (`Fname`, `Lname`, `Password`, `Phoneno`) VALUES
('Vipul', 'Bohra', 'pass123', '111-222-3333'),
('Sunit', 'Nair', 'pass456', '222-333-4444'),
('Vishnu', 'L', 'pass789', '333-444-5555'),
('Sohil', 'N', 'pass101', '444-555-6666'),
('YatharthAA', 'Aarush', 'pass151', '555-666-7777');

INSERT INTO `USER_EMAIL` ('UID', 'Email') VALUES
(1, 'vipul.b@example.com'),
(1, 'vbohra@work.com'),
(2, 'sumit.n@example.com');

INSERT INTO `REPO` ('Name', 'Description', 'Visibility', 'OwnerID') VALUES
('WebServer', 'A multi-threaded web server in Python.', 'Public', 1),
('MobileApp', 'A cross-platform mobile app.', 'Private', 1),
('DataAnalyzer', 'Scripts for parsing datasets.', 'Public', 2);

INSERT INTO `BRANCH` ('Name', 'CreatedBy', 'RID') VALUES
('main', 1, 1),
('feature/add-caching', 1, 1),
('main', 1, 2);

-- INSERT Files
INSERT INTO `FILE` ('FileName', 'FilePath', 'FileSize', 'FileType', 'CreatedBy') VALUES
('server.py', '/src/server.py', 5120, 'Python', 1),
('README.md', '/README.md', 1024, 'Markdown', 1),
('main.dart', '/lib/main.dart', 8192, 'Dart', 1);

-- INSERT Commits
INSERT INTO `COMMIT` ('Message', 'CommitTime', 'CommitDate', 'BID', 'UID') VALUES
('Initial commit: Setup web server structure', '10:00:00', '2024-01-11', 1, 1),
('Add request handler logic', '11:30:00', '2024-01-12', 1, 1),
('Initial commit for mobile app', '14:00:00', '2024-02-20', 3, 1),
('Add caching layer', '09:00:00', '2024-01-15', 2, 1);

-- INSERT Branch-File Associations
INSERT INTO `BRANCH_FILES` ('BID', 'FID') VALUES
(1, 1), (1, 2), (3, 3);

-- SELECT (Example READ)
SELECT Fname, Lname FROM USER WHERE UID = 1;

-- UPDATE (Example UPDATE)
UPDATE REPO SET Visibility = 'Private' WHERE RID = 1;

-- DELETE (Example DELETE)
DELETE FROM BRANCH WHERE Name = 'feature/add-caching';
```

Triggers, Procedures/Functions, Nested query, Join, Aggregate queries:

Triggers:

```
VipulBohra>show triggers;
+-----+-----+-----+-----+
| Trigger          | Event   | Table  | Statement
+-----+-----+-----+-----+
| Created          | sql_mode
| character_set_client | collation_connection | Database Collation |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Before_Branch_Delete | DELETE | branch | BEGIN
| IF OLD.Name = 'main' OR OLD.Name = 'master' THEN
| SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT = 'The main or master branch cannot be deleted.';
| END IF;
END
NS_TABLES_NO_ZERO_IN_DATE_NO_ZERO_DATE_ERROR_FOR_DIVISION_BY_ZERO_NO_ENGINE_SUBSTITUTION | BEFORE | 2025-10-07 10:11:04.24 | ONLY_FULL_GROUP_BY_STRICT_TRA
f8mb4_0990_aici |                                     | root@localhost | cp850                                | cp850_general_ci | ut
+-----+-----+-----+-----+
| Before_Repo_Delete | DELETE | repo | BEGIN
| DECLARE log_message TEXT;
| SET log_message = CONCAT('Repo deleted: Name=' , OLD.Name , ', OwnerID=' , OLD.OwnerID);
| INSERT INTO `AUDIT_LOG` ('Action', 'TableName', 'RecordID', 'LogDetails')
| VALUES ('DELETE', 'REPO', OLD.RID, log_message);
END | BEFORE | 2025-10-07 10:14:26.54 | ONLY_FULL_GROUP_BY_STRICT_TRANS_TABLES_NO_ZERO_IN_DATE_NO_ZERO_DATE_ERROR_FOR_DIVISION_BY_ZERO_NO_ENGINE_SUBSTITUTION
N | root@localhost | cp850                                | cp850_general_ci | utf8mb4_0990_aici |
+-----+-----+-----+-----+
2 rows in set (0.12 sec)
```

Functions:

```
VipulBohra>SHOW CREATE FUNCTION GetUserTotalCommits;
+-----+-----+-----+-----+-----+
| Function | sql_mode | character_set_client | collation_connection | Database Collation |
+-----+-----+-----+-----+-----+
| GetUserTotalCommits | ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' FUNCTION 'GetUserTotalCommits'(
+-----+-----+-----+-----+-----+
| in_UID INT | RETURNS int | SQL SECURITY INVOKER | DETERMINISTIC | BEGIN
+-----+-----+-----+-----+-----+
| DECLARE commit_count INT;
| SELECT COUNT(*) INTO commit_count FROM 'COMMIT' WHERE 'UID' = in_UID;
| RETURN commit_count;
| END | cp850 | cp850_general_ci | utf8mb4_8990_ai_ci |
+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

Procedures:

```
VipulBohra>SHOW CREATE PROCEDURE AddNewCommitWithFile;
+-----+-----+
| Procedures | sql_mode |
+-----+-----+
| Create Procedure | character_set_client | collation_connection | Database Collation |
+-----+-----+
| AddNewCommitWithFile | ONLY_FULL_GROUP_BY,STRICT_TRANS_TABLES,NO_ZERO_IN_DATE,NO_ZERO_DATE,ERROR_FOR_DIVISION_BY_ZERO,NO_ENGINE_SUBSTITUTION | CREATE DEFINER='root'@'localhost' PROCEDURE 'AddNewCommitWithFile'(
    IN in_UID INT,
    IN in_CID INT,
    IN in_CommitMessage TEXT,
    IN in_FilePath VARCHAR(255),
    IN in_FileSize INT,
    IN in_FileType VARCHAR(50)
) BEGIN
    DECLARE new_FID INT;
    DECLARE new_CID INT;
    INSERT INTO `FILE` ('FileName', 'FilePath', 'FileSize', 'FileType', 'CreatedBy')
    VALUES (in_FileName, in_FilePath, in_FileSize, in_FileType, in_UID);
    SET new_FID = LAST_INSERT_ID();
    INSERT INTO `COMMIT` ('Message', 'CommitTime', 'CommitDate', 'BID', 'UID')
    VALUES (in_CommitMessage, NOW(), CURDATE(), in_BID, in_UID);
    SET new_CID = LAST_INSERT_ID();
    INSERT INTO `BRANCH_FILES` ('BID', 'FID') VALUES (in_BID, new_FID);
    SELECT new_CID AS CommitID, new_FID AS FileID;
END | cp866_general_ci | utf8mb4_0900_ai_ci |
+-----+-----+
1 row in set (0.00 sec)
```

Nested Query:

```
VipulBohra>SELECT
->     Name,
->     OwnerID
-> FROM
->     REPO
-> WHERE
->     RID IN (
->         -- This is the nested query --
->         SELECT
->             RID
->             FROM
->                 BRANCH
->                 GROUP BY
->                     RID
->                     HAVING
->                         COUNT(BID) > 2
->     );
+-----+-----+
| Name | OwnerID |
+-----+-----+
| WebServer | 1 |
+-----+-----+
1 row in set (0.01 sec)
```

Aggregate Query:

```
VipulBohra>SELECT
->     U.Fname,
->     U.Lname,
->     COUNT(C.CID) AS TotalCommits
-> FROM
->     USER U
-> JOIN
->     COMMIT C ON U.UID = C.UID
-> GROUP BY
->     U.UID, U.Fname, U.Lname
-> ORDER BY
->     TotalCommits DESC;
+-----+-----+-----+
| Fname | Lname | TotalCommits |
+-----+-----+-----+
| Vipul | Bohra | 6 |
| Sumit | Nair | 3 |
| Vishnu | L | 2 |
| Sohil | N | 2 |
+-----+-----+-----+
4 rows in set (0.00 sec)
```

Code snippets for invoking the Procedures/Functions/Trigger:

Function:

```
VipulBohra>SELECT GetUserTotalCommits(1) AS VipulsTotalCommits;
+-----+
| VipulsTotalCommits |
+-----+
|      6 |
+-----+
1 row in set (0.01 sec)
```

Procedure:

```
VipulBohra>CALL CreateNewBranch(1, 'feature/login', 1, 2);
+-----+
| new_BID |
+-----+
|      17 |
+-----+
1 row in set (0.07 sec)

Query OK, 0 rows affected (0.07 sec)
```

Trigger:

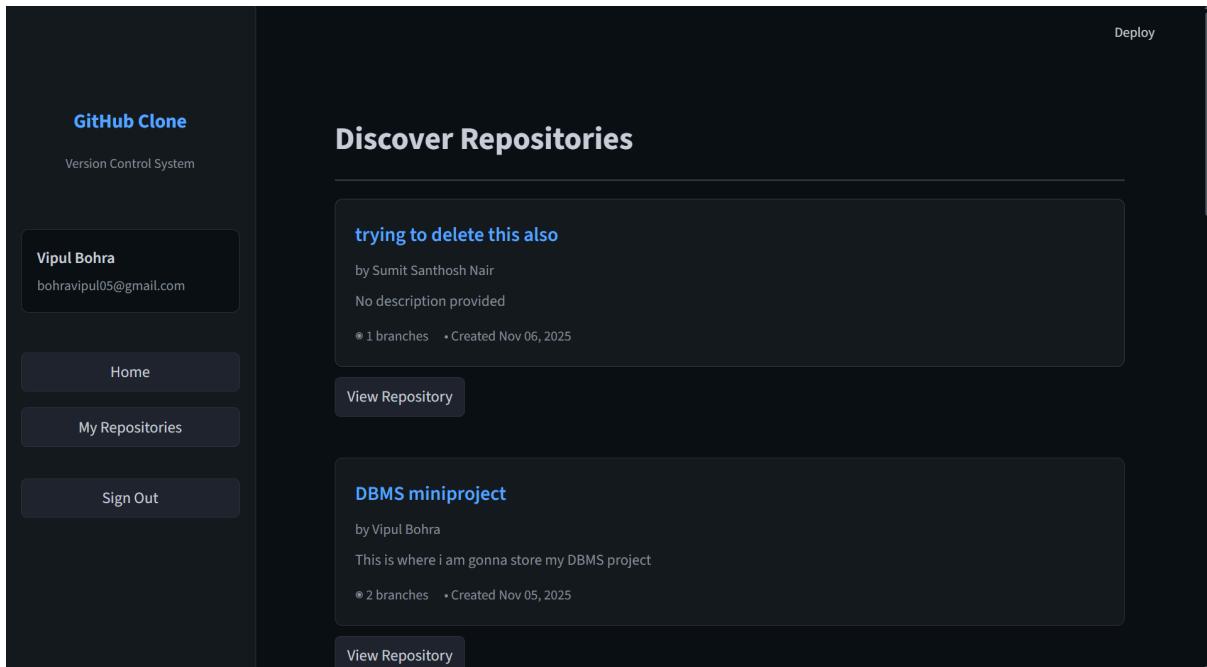
```
VipulBohra>SELECT * FROM AUDIT_LOG;
+-----+-----+-----+-----+-----+
| LogID | Action | TableName | RecordID | LogDetails           | Timestamp   |
+-----+-----+-----+-----+-----+
|    1 | DELETE | REPO     |      10 | Repo deleted: Name=Deleting a repo, OwnerID=6 | 2025-11-06 09:33:33 |
|    2 | DELETE | REPO     |      12 | Repo deleted: Name=Dbms demo, OwnerID=6       | 2025-11-10 09:09:24 |
|    3 | DELETE | REPO     |       9 | Repo deleted: Name=DBMS miniproject, OwnerID=6 | 2025-11-10 16:55:27 |
+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

VipulBohra>DELETE FROM REPO WHERE RID = 8;
Query OK, 1 row affected (0.01 sec)

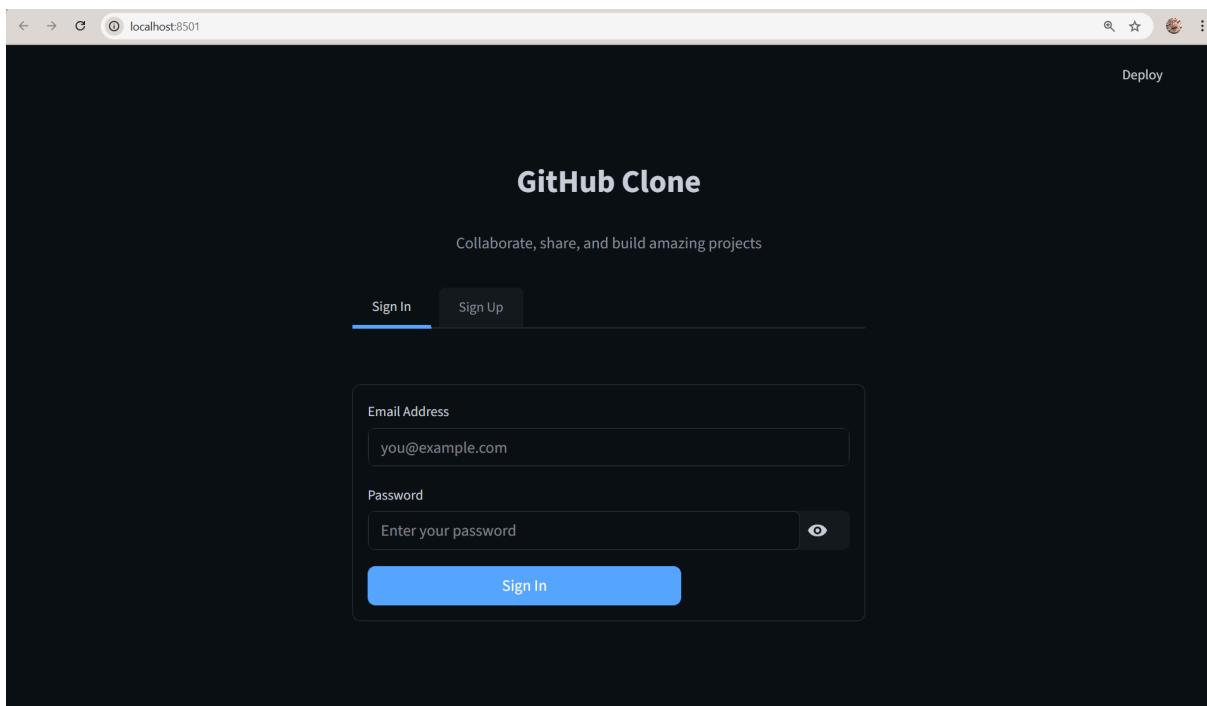
VipulBohra>SELECT * FROM AUDIT_LOG;
+-----+-----+-----+-----+-----+
| LogID | Action | TableName | RecordID | LogDetails           | Timestamp   |
+-----+-----+-----+-----+-----+
|    1 | DELETE | REPO     |      10 | Repo deleted: Name=Deleting a repo, OwnerID=6 | 2025-11-06 09:33:33 |
|    2 | DELETE | REPO     |      12 | Repo deleted: Name=Dbms demo, OwnerID=6       | 2025-11-10 09:09:24 |
|    3 | DELETE | REPO     |       9 | Repo deleted: Name=DBMS miniproject, OwnerID=6 | 2025-11-10 16:55:27 |
|    4 | DELETE | REPO     |       8 | Repo deleted: Name=ChatApp, OwnerID=5        | 2025-11-10 18:38:55 |
+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

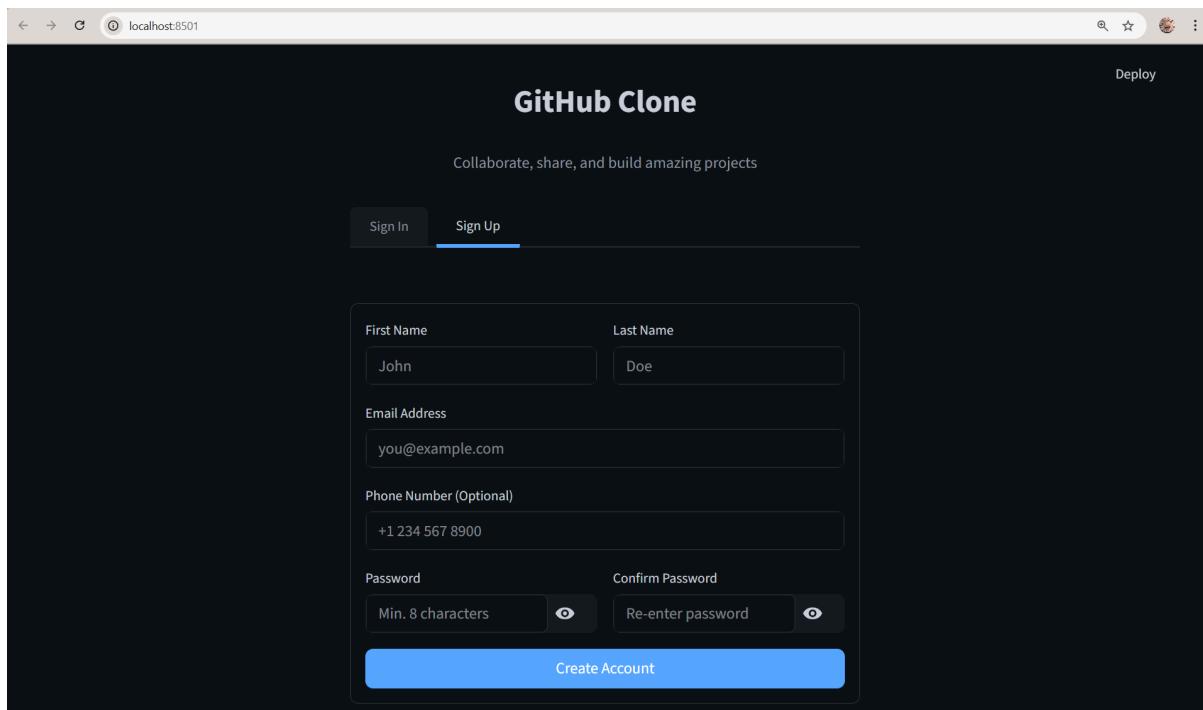
List of functionalities/features of the application and its associated screenshots using front end:

Main window



Login/Signup

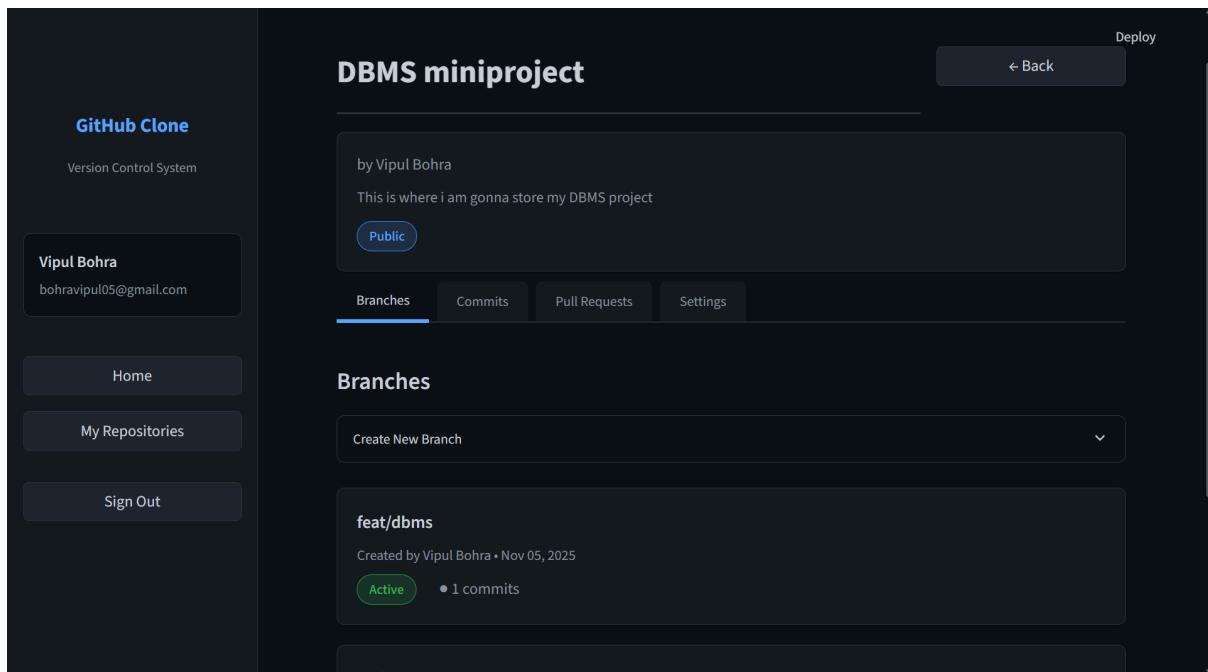




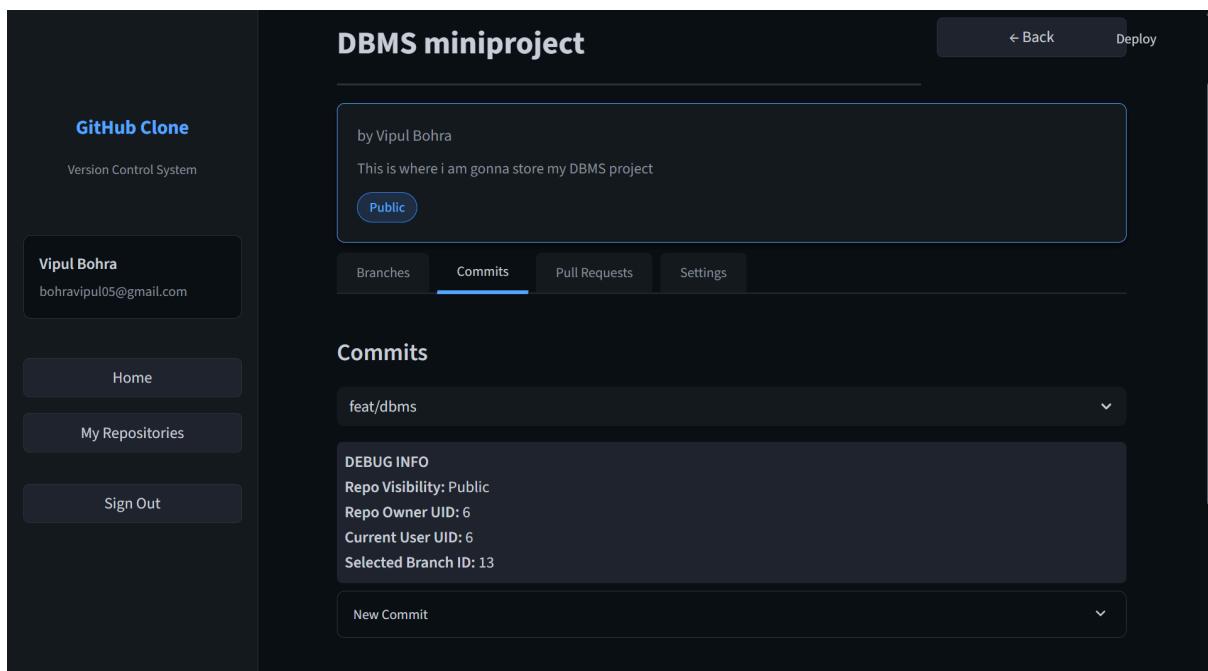
User Repo

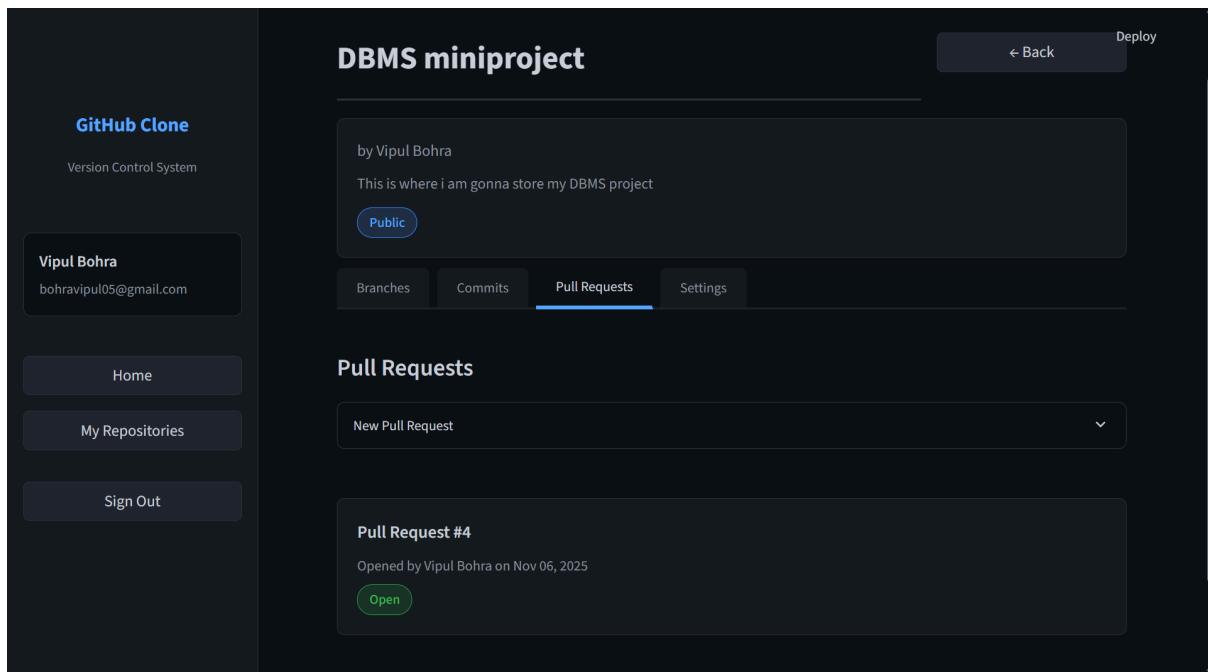
A screenshot of the "GitHub Clone" user profile page. On the left, a sidebar shows the user's name (Vipul Bohra) and email (bohravipul05@gmail.com). The main area is titled "My Repositories" and shows a single repository named "DBMS miniproject". The repository description is "This is where i am gonna store my DBMS project". It has a "Public" status button. To the right of the repository are two boxes: one showing "2 Branches" and another showing "1 Requests". A "View Repository" button is at the bottom. A "New Repository" button is in the top right corner. The URL in the address bar is "localhost:8501".

Interaction with repo

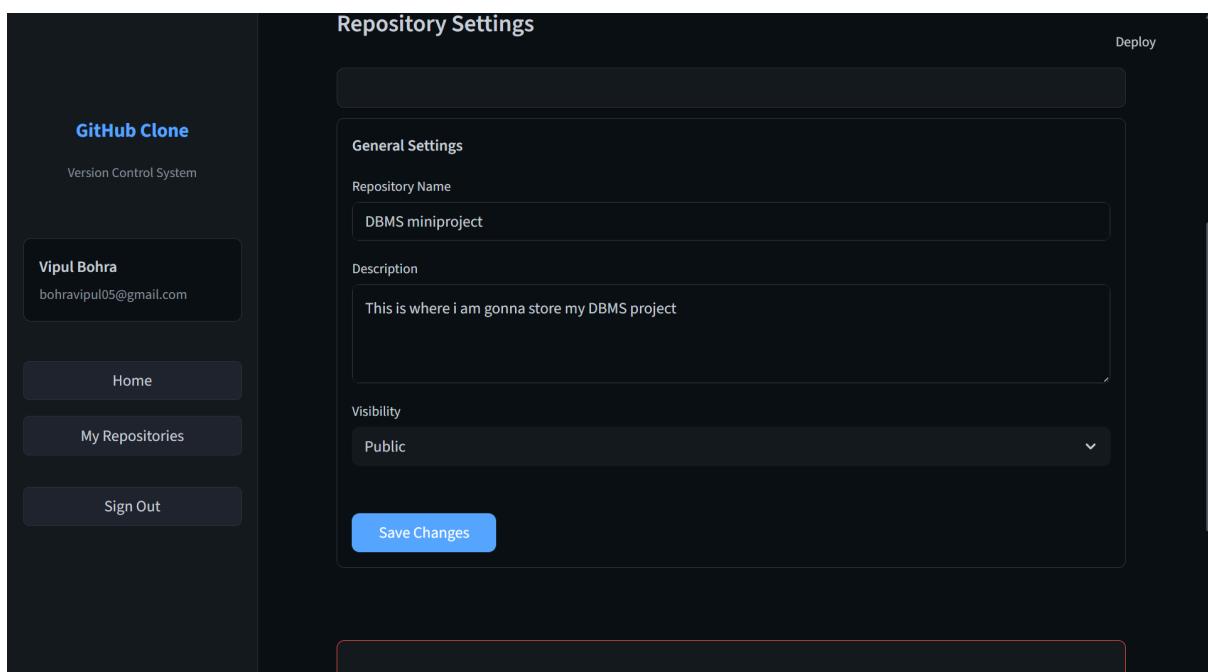


Committing & Pull Requests

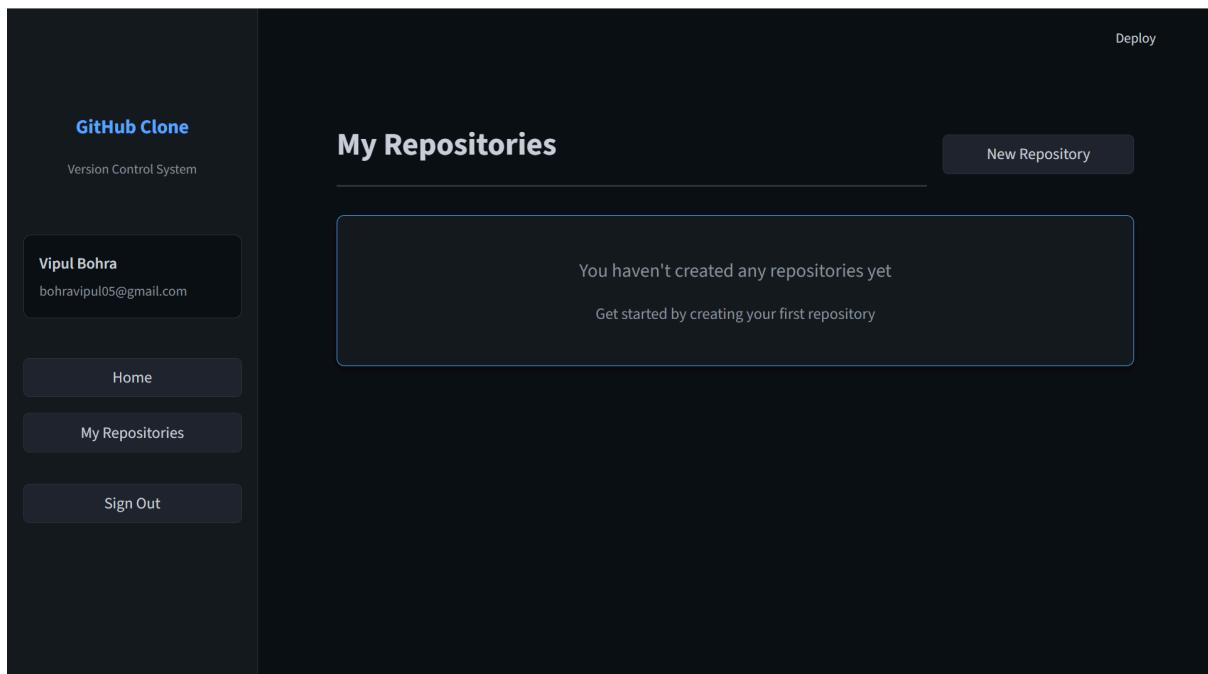
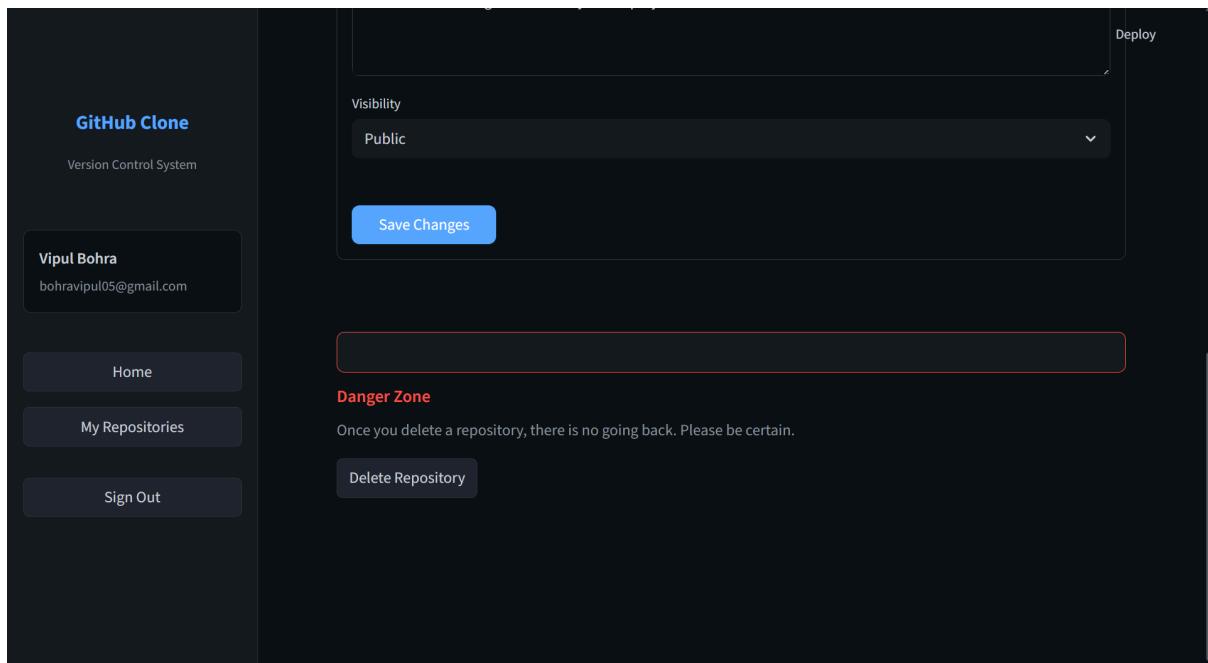




Repo Settings



Repo Deletion



MySQL file:

```
-- MySQL dump 10.13 Distrib 8.0.43, for Win64 (x86_64)

-- 

-- Host: localhost      Database: vcms

-- 
-- Server version 8.0.43
```

```
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;

/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;

/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;

/*!50503 SET NAMES utf8 */;

/*!40103 SET @OLD_TIME_ZONE=@@TIME_ZONE */;

/*!40103 SET TIME_ZONE='+00:00' */;

/*!40014 SET @OLD_UNIQUE_CHECKS=@@UNIQUE_CHECKS, UNIQUE_CHECKS=0 */;

/*!40014 SET @OLD_FOREIGN_KEY_CHECKS=@@FOREIGN_KEY_CHECKS,
FOREIGN_KEY_CHECKS=0 */;

/*!40101 SET @OLD_SQL_MODE=@@SQL_MODE, SQL_MODE='NO_AUTO_VALUE_ON_ZERO'
*/;

/*!40111 SET @OLD_SQL_NOTES=@@SQL_NOTES, SQL_NOTES=0 */;

-- 

-- Table structure for table `audit_log` 

-- 

DROP TABLE IF EXISTS `audit_log`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `audit_log` (
    `LogID` int NOT NULL AUTO_INCREMENT,
    `Action` varchar(50) DEFAULT NULL,
    `TableName` varchar(50) DEFAULT NULL,
    `RecordID` int DEFAULT NULL,
    `LogDetails` text,
    `Timestamp` datetime DEFAULT CURRENT_TIMESTAMP,
    PRIMARY KEY (`LogID`)
)
```

```
) ENGINE=InnoDB AUTO_INCREMENT=5 DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

-- 
-- Dumping data for table `audit_log`


LOCK TABLES `audit_log` WRITE;

/*!40000 ALTER TABLE `audit_log` DISABLE KEYS */;

INSERT INTO `audit_log` VALUES (1,'DELETE','REPO',10,'Repo deleted: Name=Deleting a repo, OwnerID=6','2025-11-06 09:33:33'),(2,'DELETE','REPO',12,'Repo deleted: Name=Dbms demo, OwnerID=6','2025-11-10 09:09:24'),(3,'DELETE','REPO',9,'Repo deleted: Name=DBMS miniproject, OwnerID=6','2025-11-10 16:55:27'),(4,'DELETE','REPO',8,'Repo deleted: Name=ChatApp, OwnerID=5','2025-11-10 18:38:55');

/*!40000 ALTER TABLE `audit_log` ENABLE KEYS */;

UNLOCK TABLES;

-- 
-- Table structure for table `branch`


DROP TABLE IF EXISTS `branch`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!40101 SET character_set_client = utf8mb4 */;

CREATE TABLE `branch` (
    `BID` int NOT NULL AUTO_INCREMENT,
    `Name` varchar(255) NOT NULL,
    `CreatedOn` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
```

```
`CreatedBy` int NOT NULL,  
 `RID` int NOT NULL,  
 `Status` varchar(50) DEFAULT 'Active',  
 `CommitCount` int DEFAULT '0',  
 PRIMARY KEY (`BID`),  
 KEY `CreatedBy` (`CreatedBy`),  
 KEY `RID` (`RID`),  
 CONSTRAINT `branch_ibfk_1` FOREIGN KEY (`CreatedBy`) REFERENCES  
 `user` (`UID`) ON DELETE CASCADE,  
 CONSTRAINT `branch_ibfk_2` FOREIGN KEY (`RID`) REFERENCES `repo`  
 (`RID`) ON DELETE CASCADE  
) ENGINE=InnoDB AUTO_INCREMENT=18 DEFAULT CHARSET=utf8mb4  
COLLATE=utf8mb4_0900_ai_ci;  
  
/*!40101 SET character_set_client = @saved_cs_client */;  
  
--  
-- Dumping data for table `branch`  
--  
  
LOCK TABLES `branch` WRITE;  
  
/*!40000 ALTER TABLE `branch` DISABLE KEYS */;  
  
INSERT INTO `branch` VALUES (1,'main','2025-10-03  
19:55:07',1,1,'Active',2),(2,'feature/add-caching','2025-10-03  
19:55:07',1,1,'Active',1),(3,'main','2025-10-03  
19:55:07',1,2,'Active',1),(4,'develop','2025-10-03  
19:55:07',2,2,'Active',1),(5,'main','2025-10-03  
19:55:07',2,3,'Active',1),(6,'main','2025-10-03  
19:55:07',3,4,'Active',1),(7,'main','2025-10-03  
19:55:07',1,5,'Active',1),(8,'main','2025-10-03  
19:55:07',4,6,'Active',1),(9,'main','2025-10-03  
19:55:07',2,7,'Active',1),(10,'feature/payment-gateway','2025-10-03  
19:55:07',4,7,'Active',1),(15,'main','2025-11-06  
09:35:50',7,11,'Active',0),(17,'feature/login','2025-11-10  
18:30:29',2,1,'Active',0);
```

```

/*!40000 ALTER TABLE `branch` ENABLE KEYS *;*/

UNLOCK TABLES;

--


-- Table structure for table `branch_files`


--



DROP TABLE IF EXISTS `branch_files`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `branch_files` (
  `BID` int NOT NULL,
  `FID` int NOT NULL,
  PRIMARY KEY (`BID`, `FID`),
  KEY `FID` (`FID`),
  CONSTRAINT `branch_files_ibfk_1` FOREIGN KEY (`BID`) REFERENCES `branch` (`BID`) ON DELETE CASCADE,
  CONSTRAINT `branch_files_ibfk_2` FOREIGN KEY (`FID`) REFERENCES `file` (`FID`) ON DELETE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;



--


-- Dumping data for table `branch_files`


--



LOCK TABLES `branch_files` WRITE;

/*!40000 ALTER TABLE `branch_files` DISABLE KEYS */;

INSERT INTO `branch_files` VALUES
(1,1), (2,1), (17,1), (1,2), (2,2), (17,2), (1,3), (2,3), (3,3), (4,3), (5,3), (17

```

```
,3),(3,4),(4,4),(4,5),(5,6),(6,7),(6,8),(7,9),(8,10),(9,11),(10,11),(2,13);

/*!40000 ALTER TABLE `branch_files` ENABLE KEYS */;

UNLOCK TABLES;

-- 

-- Table structure for table `can_have` 

-- 

DROP TABLE IF EXISTS `can_have`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `can_have` (

  `RID` int NOT NULL,
  `BID` int NOT NULL,
  `CID` int NOT NULL,
  `Message` text,
  PRIMARY KEY (`RID`, `BID`, `CID`),
  KEY `BID` (`BID`),
  KEY `CID` (`CID`),
  CONSTRAINT `can_have_ibfk_1` FOREIGN KEY (`RID`) REFERENCES `repo`(`RID`)
    ON DELETE CASCADE,
  CONSTRAINT `can_have_ibfk_2` FOREIGN KEY (`BID`) REFERENCES `branch`(`BID`)
    ON DELETE CASCADE,
  CONSTRAINT `can_have_ibfk_3` FOREIGN KEY (`CID`) REFERENCES `commit`(`CID`)
    ON DELETE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

-- 
```

```
-- Dumping data for table `can_have`  
--  
  
LOCK TABLES `can_have` WRITE;  
  
/*!40000 ALTER TABLE `can_have` DISABLE KEYS */;  
  
INSERT INTO `can_have` VALUES (1,1,1,'Initial commit: Setup web server  
structure'),(1,1,2,'Add request handler logic'),(1,2,12,'Add caching  
layer implementation'),(2,3,3,'Initial commit for mobile  
app'),(2,4,4,'Add task data model'),(3,5,5,'Initial commit for data  
analyzer'),(4,6,6,'Initial commit for game engine'),(5,7,7,'Initial  
commit for blog'),(6,8,8,'Initial commit for learning  
platform'),(7,9,9,'Initial commit for e-commerce site'),(7,10,10,'Add  
payment gateway integration');  
  
/*!40000 ALTER TABLE `can_have` ENABLE KEYS */;  
  
UNLOCK TABLES;  
  
--  
  
-- Table structure for table `can_modify`  
  
--  
  
DROP TABLE IF EXISTS `can_modify`;  
  
/*!40101 SET @saved_cs_client      = @@character_set_client */;  
  
/*!50503 SET character_set_client = utf8mb4 */;  
  
CREATE TABLE `can_modify` (  
    `RID` int NOT NULL,  
    `CID` int NOT NULL,  
    PRIMARY KEY (`RID`, `CID`),  
    KEY `CID` (`CID`),  
    CONSTRAINT `can_modify_ibfk_1` FOREIGN KEY (`RID`) REFERENCES `repo`(`RID`)  
        ON DELETE CASCADE,  
    CONSTRAINT `can_modify_ibfk_2` FOREIGN KEY (`CID`) REFERENCES  
        `commit`(`CID`) ON DELETE CASCADE
```

```
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

-- 
-- Dumping data for table `can_modify`


LOCK TABLES `can_modify` WRITE;

/*!40000 ALTER TABLE `can_modify` DISABLE KEYS */;
INSERT INTO `can_modify` VALUES
(1,1),(1,2),(2,3),(2,4),(3,5),(4,6),(5,7),(6,8),(7,9),(7,10),(1,12);
/*!40000 ALTER TABLE `can_modify` ENABLE KEYS */;

UNLOCK TABLES;

-- 
-- Table structure for table `commit`


DROP TABLE IF EXISTS `commit`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!40101 SET character_set_client = utf8mb4 */;

CREATE TABLE `commit` (
  `CID` int NOT NULL AUTO_INCREMENT,
  `Message` text,
  `CommitTime` time NOT NULL,
  `CommitDate` date NOT NULL,
  `BID` int NOT NULL,
  `UID` int NOT NULL,
  PRIMARY KEY (`CID`),
  KEY `BID` (`BID`),
  KEY `UID` (`UID`)
);
```

```
KEY `BID` (`BID`),
KEY `UID` (`UID`),
CONSTRAINT `commit_ibfk_1` FOREIGN KEY (`BID`) REFERENCES `branch`(`BID`) ON DELETE CASCADE,
CONSTRAINT `commit_ibfk_2` FOREIGN KEY (`UID`) REFERENCES `user`(`UID`) ON DELETE CASCADE
) ENGINE=InnoDB AUTO_INCREMENT=17 DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

-- 
-- Dumping data for table `commit`
-- 

LOCK TABLES `commit` WRITE;

/*!40000 ALTER TABLE `commit` DISABLE KEYS */;

INSERT INTO `commit` VALUES (1,'Initial commit: Setup web server structure','10:00:00','2024-01-11',1,1),(2,'Add request handler logic','11:30:00','2024-01-12',1,1),(3,'Initial commit for mobile app','14:00:00','2024-02-20',3,1),(4,'Add task data model','15:00:00','2024-02-21',4,2),(5,'Initial commit for data analyzer','16:00:00','2024-03-25',5,2),(6,'Initial commit for game engine','18:00:00','2024-04-10',6,3),(7,'Initial commit for blog','10:00:00','2024-05-15',7,1),(8,'Initial commit for learning platform','11:00:00','2024-06-01',8,4),(9,'Initial commit for e-commerce site','14:00:00','2024-06-10',9,2),(10,'Add payment gateway integration','17:00:00','2024-06-12',10,4),(12,'Add caching layer implementation','09:00:00','2024-01-15',2,1),(13,'Add user authentication','10:30:00','2025-10-08',3,1),(16,'This is a test commit to fire the trigger','18:32:08','2025-11-10',1,3);

/*!40000 ALTER TABLE `commit` ENABLE KEYS */;

UNLOCK TABLES;

--
```

```
-- Table structure for table `file`


--



DROP TABLE IF EXISTS `file`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `file` (
  `FID` int NOT NULL AUTO_INCREMENT,
  `FileName` varchar(255) NOT NULL,
  `FilePath` text NOT NULL,
  `FileSize` int DEFAULT NULL,
  `FileType` varchar(50) DEFAULT NULL,
  `CreatedBy` int NOT NULL,
  `CreatedOn` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
  PRIMARY KEY (`FID`),
  KEY `CreatedBy` (`CreatedBy`),
  CONSTRAINT `file_ibfk_1` FOREIGN KEY (`CreatedBy`) REFERENCES `user`(`UID`) ON DELETE CASCADE
) ENGINE=InnoDB AUTO_INCREMENT=14 DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;



--



-- Dumping data for table `file`



--



LOCK TABLES `file` WRITE;

/*!40000 ALTER TABLE `file` DISABLE KEYS */;

INSERT INTO `file` VALUES
(1,'server.py','/src/server.py',5120,'Python',1,'2025-10-03')
```

```
19:55:18'), (2, 'handler.py', '/src/handler.py', 2048, 'Python', 1, '2025-10-0
3 19:55:18'), (3, 'README.md', '/README.md', 1024, 'Markdown', 1, '2025-10-03
19:55:18'), (4, 'main.dart', '/lib/main.dart', 8192, 'Dart', 1, '2025-10-03
19:55:18'), (5, 'task_model.dart', '/lib/models/task.dart', 1536, 'Dart', 2, '
2025-10-03
19:55:18'), (6, 'parser.py', '/scripts/parser.py', 4096, 'Python', 2, '2025-10
-03 19:55:18'), (7, 'main.cpp', '/src/main.cpp', 10240, 'C++', 3, '2025-10-03
19:55:18'), (8, 'player.h', '/include/player.h', 2048, 'C++', 3, '2025-10-03
19:55:18'), (9, 'index.html', '/public/index.html', 3072, 'HTML', 1, '2025-10-
03
19:55:18'), (10, 'api.js', '/src/api.js', 6144, 'JavaScript', 4, '2025-10-03
19:55:18'), (11, 'checkout.js', '/src/checkout.js', 4096, 'JavaScript', 2, '20
25-10-03
19:55:18'), (12, 'server.js', '/server.js', 3584, 'JavaScript', 5, '2025-10-03
19:55:18'), (13, 'cache.py', '/src/cache.py', 1800, 'Python', 1, '2025-10-03
19:55:18');

/*!40000 ALTER TABLE `file` ENABLE KEYS */;

UNLOCK TABLES;

-- 
-- Table structure for table `repo` 

-- 

DROP TABLE IF EXISTS `repo`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;
/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `repo` (
    `RID` int NOT NULL AUTO_INCREMENT,
    `Name` varchar(255) NOT NULL,
    `Description` text,
    `Visibility` enum('Public','Private') NOT NULL DEFAULT 'Public',
    `CreatedOn` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
    `OwnerID` int NOT NULL,
    PRIMARY KEY (`RID`),
    INDEX `OwnerID`(`OwnerID`)
);
```

```

KEY `OwnerID` (`OwnerID`),
      CONSTRAINT `repo_ibfk_1` FOREIGN KEY (`OwnerID`) REFERENCES `user`(`UID`)
      ON DELETE CASCADE
) ENGINE=InnoDB AUTO_INCREMENT=13 DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;
/*!40101 SET character_set_client = @saved_cs_client */;

-- 
-- Dumping data for table `repo`
-- 

LOCK TABLES `repo` WRITE;

/*!40000 ALTER TABLE `repo` DISABLE KEYS */;

INSERT INTO `repo` VALUES (1,'WebServer','A multi-threaded web server
in Python.','Public','2025-10-03 19:54:54',1),(2,'MobileApp','A
cross-platform mobile application for task
management.','Private','2025-10-03
19:54:54',1),(3,'DataAnalyzer','Scripts for parsing and analyzing large
datasets.','Public','2025-10-03 19:54:54',2),(4,'GameEngine','A simple
2D game engine built with C++.','Public','2025-10-03
19:54:54',3),(5,'PersonalBlog','Source code for my personal blog
website.','Public','2025-10-03 19:54:54',1),(6,'LearningPlatform','An
online platform for interactive courses.','Private','2025-10-03
19:54:54',4),(7,'ECommerceSite','A full-featured e-commerce website
backend.','Private','2025-10-03 19:54:54',2),(11,'trying to delete this
also ','','Public','2025-11-06 09:35:50',7);

/*!40000 ALTER TABLE `repo` ENABLE KEYS */;

UNLOCK TABLES;

-- 
-- Table structure for table `request`
-- 

DROP TABLE IF EXISTS `request`;

```

```

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `request` (
    `ReqID` int NOT NULL AUTO_INCREMENT,
    `RequestType` varchar(50) DEFAULT NULL,
    `Status` varchar(50) DEFAULT 'Open',
    `CreatedOn` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
    `CreatedBy` int NOT NULL,
    `ClosedOn` datetime DEFAULT NULL,
    `RID` int NOT NULL,
    PRIMARY KEY (`ReqID`),
    KEY `CreatedBy` (`CreatedBy`),
    KEY `RID` (`RID`),
    CONSTRAINT `request_ibfk_1` FOREIGN KEY (`CreatedBy`) REFERENCES `user` (`UID`) ON DELETE CASCADE,
    CONSTRAINT `request_ibfk_2` FOREIGN KEY (`RID`) REFERENCES `repo` (`RID`) ON DELETE CASCADE
) ENGINE=InnoDB AUTO_INCREMENT=5 DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

-- 
-- Dumping data for table `request`
-- 

LOCK TABLES `request` WRITE;

/*!40000 ALTER TABLE `request` DISABLE KEYS */;

INSERT INTO `request` VALUES (1,'Pull','Open','2025-10-03
19:56:54',2,NULL,2),(2,'Pull','Closed','2025-10-03
19:56:54',4,NULL,7),(3,'Pull','Open','2025-10-03 19:56:54',1,NULL,1);

/*!40000 ALTER TABLE `request` ENABLE KEYS */;
```

```
UNLOCK TABLES;

-- 
-- Table structure for table `user`


-- 
-- 
-- 

DROP TABLE IF EXISTS `user`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `user` (
    `UID` int NOT NULL AUTO_INCREMENT,
    `Fname` varchar(100) NOT NULL,
    `Lname` varchar(100) DEFAULT NULL,
    `Password` varchar(255) NOT NULL,
    `Phoneno` varchar(20) DEFAULT NULL,
    `DateJoined` datetime NOT NULL DEFAULT CURRENT_TIMESTAMP,
    PRIMARY KEY (`UID`)
) ENGINE=InnoDB AUTO_INCREMENT=8 DEFAULT CHARSET=utf8mb4
COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

-- 
-- Dumping data for table `user`


-- 
-- 
-- 

LOCK TABLES `user` WRITE;

/*!40000 ALTER TABLE `user` DISABLE KEYS */;

INSERT INTO `user` VALUES
(1,'Vipul','Bohra','hashed_password_1','111-222-3333','2024-01-10
09:00:00'),(2,'Sumit','Nair','hashed_password_2','222-333-4444','2024-0
```

```

2-15
11:30:00'), (3, 'Vishnu', 'L', 'hashed_password_3', '333-444-5555', '2024-03-
20
14:00:00'), (4, 'Sohil', 'N', 'hashed_password_4', '444-555-6666', '2024-04-0
5
16:45:00'), (5, 'YatharthAA', 'Aarush', 'hashed_password_5', '555-666-7777',
'2024-05-12
18:20:00'), (6, 'Vipul', 'Bohra', 'a8ac1586c3b935fec79d09395cd24faaa7cb4f1a
a954db8b1d7e6944920cf954', '+917795213241', '2025-11-05
14:10:35'), (7, 'Sumit
Santhosh', 'Nair', '720baa820ff71219c479005c903b140e23010b09c4e5a1a07e637
7fad1438a3a', '+91 81528 73333', '2025-11-06 09:35:11');

/*!40000 ALTER TABLE `user` ENABLE KEYS */;

UNLOCK TABLES;

--


-- Table structure for table `user_email`


--



DROP TABLE IF EXISTS `user_email`;

/*!40101 SET @saved_cs_client      = @@character_set_client */;

/*!50503 SET character_set_client = utf8mb4 */;

CREATE TABLE `user_email` (
    `UID` int NOT NULL,
    `Email` varchar(255) NOT NULL,
    PRIMARY KEY (`UID`, `Email`),
    CONSTRAINT `user_email_ibfk_1` FOREIGN KEY (`UID`) REFERENCES `user`(`UID`)
        ON DELETE CASCADE
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_0900_ai_ci;

/*!40101 SET character_set_client = @saved_cs_client */;

--


-- Dumping data for table `user_email`
```

```
--  
  
LOCK TABLES `user_email` WRITE;  
  
/*!40000 ALTER TABLE `user_email` DISABLE KEYS */;  
  
INSERT INTO `user_email` VALUES  
(1,'vbohra@work.com'),(1,'vipul.b@example.com'),(2,'sumit.n@example.com'  
(3,'vishnu.l@example.com'),(4,'sohil.n@example.com'),(5,'yatharth.a@example.com'),  
(6,'bohravipul05@gmail.com'),(7,'sumitnair731@gmail.com')  
;  
  
/*!40000 ALTER TABLE `user_email` ENABLE KEYS */;  
  
UNLOCK TABLES;  
  
/*!40103 SET TIME_ZONE=@OLD_TIME_ZONE */;  
  
  
/*!40101 SET SQL_MODE=@OLD_SQL_MODE */;  
  
/*!40014 SET FOREIGN_KEY_CHECKS=@OLD_FOREIGN_KEY_CHECKS */;  
  
/*!40014 SET UNIQUE_CHECKS=@OLD_UNIQUE_CHECKS */;  
  
/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;  
  
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;  
  
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;  
  
/*!40111 SET SQL_NOTES=@OLD_SQL_NOTES */;  
  
  
-- Dump completed on 2025-11-10 18:55:30
```

Github repo link: <https://github.com/VipulB05/github-clone>