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Student Name: Prabhas Shrestha

London Met ID: 22068184

College ID: NP01CP4A220341

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1. Introduction

LS Corporation, a growing mid-sized tech company, faced significant challenges due to disconnected project management tools, resulting in inefficient workflows, miscommunication between teams, and unclear project timelines. These issues delayed deliverables and strained client relationships. To address this, the company implemented an integrated project management platform to centralize data, simplify task assignments and enable real-time progress tracking, a strategic decision aimed at fostering collaboration, reducing operational bottlenecks and ensuring timely, successful project outcomes.

The system streamlines complexity through intuitive tools. Managers deconstruct projects into manageable tasks and milestones, assign responsibilities aligned with team capacity, and monitor progress in real-time. The primary objective of this project is to design and develop a web-based project management and team collaboration. By incorporating centralized milestone tracking and tools to manage tasks with dependencies and subtasks, the system provides a structural framework for organizing workflows. A dashboard serves as an overview hub, into all tasks, project, user and subtasks. This ensures seamless project oversight, eliminating inefficiencies and replacing complexity with transparency and actionable insights for informed decision-making.

This project serves as a transformative solution for LS Corporation, addressing inefficiencies in project management providing a structure, intuitive and collaborative platform. By integrating centralized task allocation, milestone tracking, and real-time progress monitoring the system enhances visibility and ensures seamless coordination among team members. The dashboard acts as a comprehensive hub, offering instant access to project details, user details and subtasks, thereby eliminating ambiguity and improving decision-making with automated tracking and streamlined workflows. This implementation not only fosters transparency and accountability but also empowers teams to work more efficiently, ensuring that projects are completed on schedule and with optimal outcomes.

2. Textual Analysis

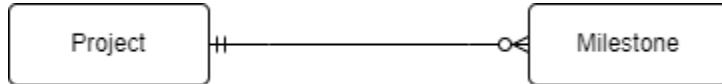


Figure 1: Figure showing Textual Analysis of Project and Milestone.

Description: One project can have multiple milestone or none. A milestone must belong to a single project.

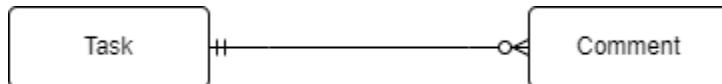


Figure 2: Figure showing Textual Analysis of Task and Comment.

Description: A Task can have multiple comments or none. A comment must be linked to a single Task.

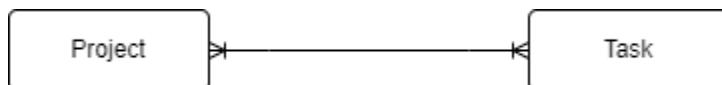


Figure 3: Figure showing Textual Analysis of Project and Task.

Description: A project is broken down to one or more tasks. A task must belong to one or more project.



Figure 4: Figure showing Textual Analysis of Task and Resource.

Description: A task may require multiple Resources or none. A resource can be utilized in multiple Tasks or none.

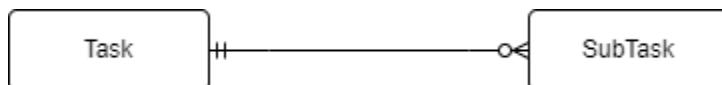


Figure 5: Figure showing Textual Analysis of Task and Sub Task.

Description: A task can have multiple Subtasks or none. A subtask must be linked to a single task.



Figure 6: Figure showing Textual Analysis of User and Comment.

Description: A user can comment on multiple Tasks or none. A comment must be made by a single user.



Figure 7: Figure showing Textual Analysis of User and Project.

Description: A user can be part of multiple Projects or none. A project must consist of at least one single user.

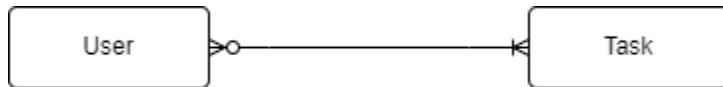


Figure 8: Figure showing Textual Analysis of User and Task.

Description: A user can be assigned to multiple Tasks or none. A task must have at least one user assigned.

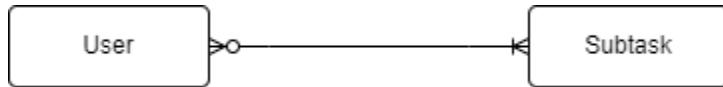


Figure 9: Figure showing Textual Analysis of User and Subtask.

Description: A user can be assigned to multiple Subtasks or none. A Subtask must have at least one user assigned.

3. ERD From Case Study

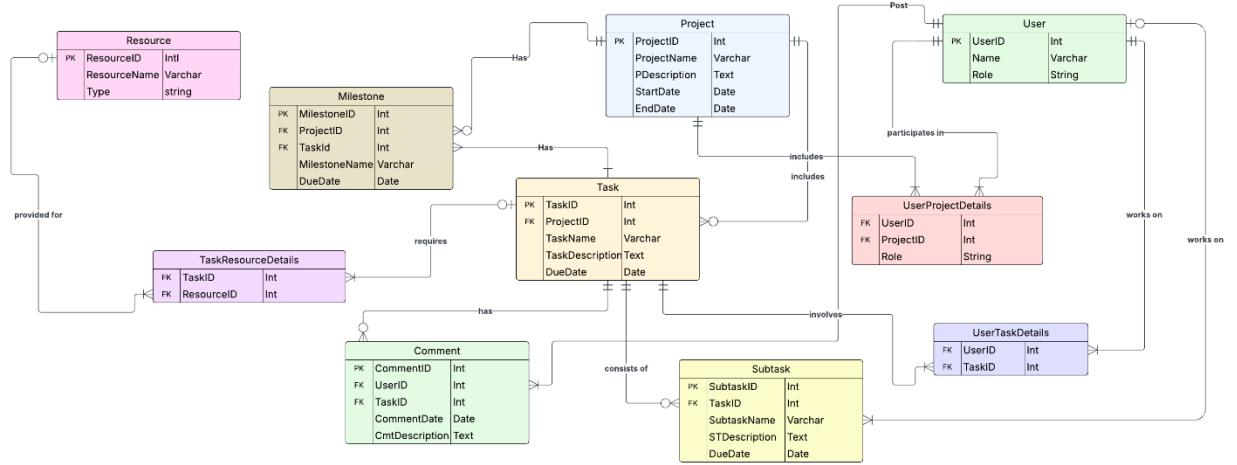


Figure 10: Figure showing ERD from case study.

This Entity-Relationship Diagram (ERD) REPRESENTS A project Management System where a Project consists of multiple Task, each of which may have Subtasks and be associated with milestones to track progress. Users participate in projects through UserProejctDetails and work on tasks via UserTaskDetails, ensuring role-based assignment. Users can post Comments on tasks for better communication. Additionally, Tasks may require multiples Resources, managed through TaskResourceDetails. This ERD provides a structured framework fir efficiently managing users, tasks, resources and project execution.

4. Normalization

The normalization for the give table is done below:

UNF: -

Users (UserId, User_Name, User_Email, User_Contact, {Project_Id, Project_Name, Project_StartDate, Project_DueDate, Project_Status}, {Task_Id, Task_Name, Task_StartDate, Task_DueDate, Task_Status})

1NF: -

While moving from UNF to 1NF, we remove repeating groups. In this table, Project_Id contains multiple values for a single user which violates 1NF rules as it is considered a

repeating group. Similarly, Task_Id contains multiple values for a single project. So, to achieve 1NF we separate Project_Id and related project details and Task_Id and its related details from the table into a new table.

Final Tables after 1NF:

Users1 (UserId, User_Name, User_Email, User_Contact)

Project1 (UserId*, Project_Id, Project_Name, Project_StartDate, Project_DueDate, Project_Status)

Task1 (Task_Id, UserId*, Project_Id*, Task_Name, Task_StartDate, Task_DueDate, Task_Status)

2NF: -

While moving from 1NF to 2NF, we remove partial dependency which exist only if table consist of composite primary key with at least one non-key attribute. Since, users1 table doesn't have composite primary key, there is no chance of having partial dependency. Thus, it is already in 2NF

Users2 (UserId, User_Name, User_Email, User_Contact)

Now For Project1:

UserId →

Project_Id → Project_Name, Project_StartDate, Project_DueDate (PFD)

Project_Id, UserId →

So now,

Project2 (Project_Id, Project_Name, Project_StartDate, Project_DueDate, Project_Status)

ProjectDetails2 (UserId*, Project_Id*)

Now, For Task1:

UserId →

Project_Id →

Task_Id → Task_Name, Task_StartDate, Task_DueDate, Task_Status (PFD)

Project_Id, UserId →

Task_Id, UserId →

Project_Id, Task_Id →

Project_Id, Task_Id, UserId →

So now,

Task2 (Task_Id, Task_Name, Task_StartDate, Task_DueDate, Task_Status)

TaskDetails2 (Task_Id*, UserId*, Project_Id*)

Final Tables after 2NF: -

Users2 (UserId, User_Name, User_Email, User_Contact)

Project2(Project_Id, Project_Name, Project_StartDate, Project_DueDate, Project_Status)

ProjectDetails2 (UserId*, Project_Id*)

Task2(Task_Id, Task_Name, Task_StartDate, Task_DueDate, Task_Status)

TaskDetails2 (Task_Id*, UserId*, Project_Id*)

3NF: -

While moving from 2NF to 3NF, we remove transitive dependency which exist only if table consist of at least two non-key attributes. Since, TaskDetails2, ProjectDetails2 table does not have any non-key attribute so, there is no chance of having transitive dependency. Thus, it is already in 3NF.

ProjectDetails3 (UserId*, Project_Id*)

TaskDetails3 (Task_Id*, UserId*, Project_Id*)

For Users2:

UserId → User_Name →

UserId → User_Email →

UserId → User_Contact →

Here, in Users2 table we checked for transitive dependency but could not find any. So, it remains the same in 3NF.

Users3 (UserId, User_Name, User_Email, User_Contact)

For Project2

Project_Id → Project_Name →

Project_Id → Project_StartDate →

Project_Id → Project_DueDate →

Project_Id → Project_Status →

Similarly, here, in Project2 table we checked for transitive dependency but could not find any. So, it remains the same in 3NF.

Project3 (Project_Id, Project_Name, Project_StartDate, Project_DueDate, Project_Status)

Finally, For Task2

Task_Id → Task_Name →

Task_Id → Task_StartDate →

Task_Id → Task_DueDate →

Task_Id → Task_Status →

Again, here, in Task2 table we checked for transitive dependency but could not find any.

So, it remains the same in 3NF.

Task3 (Task_Id, Task_Name, Task_StartDate, Task_DueDate, Task_Status)

Final tables after 3NF: -

Users3 (UserId, User_Name, User_Email, User_Contact)

Project3 (Project_Id, Project_Name, Project_StartDate, Project_DueDate, Project_Status)

Task3 (Task_Id, Task_Name, Task_StartDate, Task_DueDate, Task_Status)

ProjectDetails3 (UserId*, Project_Id*)

TaskDetails3 (Task_Id*, UserId*, Project_Id*)

5. Integration and Assumption

5.1. Integration of entities

The Final ERD organizes and normalizes the project management system ensuring data consistency and eliminating redundancy. The Project entity serves as the primary unit, with multiple associated components:

- Project contains multiple Tasks and Milestones.
- Tasks may have Subtasks and can require Resources.
- Users participate in projects via ProjectDetails and work on tasks through UserProjectTask.
- Users can also post Comments on tasks.
- Resources are assigned to tasks via ResourceDetails.

Many-to-many relationships are normalized using bridging tables:

- ProjectDetails links Users to Projects.

- UserProjectTask links Users to Tasks.
- ResourceDetails links Tasks to Resources.

5.2. Assumption of Integration

- A project must contain at least one Task.
- A Task must belong to a single or more Project.
- A User may participate in multiple Projects but may also be unassigned.
- A Milestone may be linked to a Project or Task.
- A Task may have multiple Subtasks or none.
- A Task may or may not require Resources.
- A User may or may not post comments on Task.

6. Final Erd

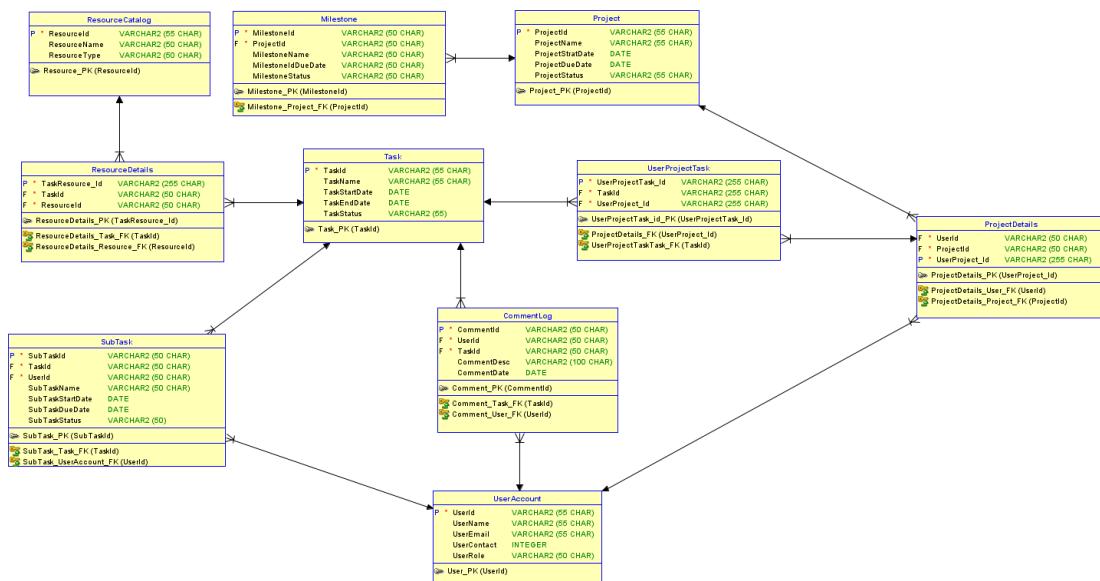


Figure 11: Figure showing Final Erd.

This ERD represents a project management system that organizes Projects, Tasks, Users, Milestones, Resources, Subtasks and Comments efficiently. A project consists of multiple Tasks, which can have Subtasks and Milestones to track progress. Users participate in projects through ProjectDetails and work on tasks via UserProjectTask. Task may require Resources which are managed through ResourceDetails. Additionally users

can post Comments on tasks for better communication. This structure proper role-based task assignment, collaboration and streamlined workflow management within the system.

7. Data Dictionary

7.1. Data Dictionary for Useraccount

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
UserId	Varchar	55	Primary Key			To uniquely identify each user	1
UserName	Varchar	55	Not Null			To store the user's full name	Prabhas Shrestha
UserEmail	Varchar	55	Unique			To store the user's unique email address	P@gmail.com
UserContact	Integer		Not Null			To store the user's contact number	9841142545
UserRole	Varchar	50	Not Null			To store the user's role	Admin

Table 1: Table showing Data Dictionary for Useraccount.

7.2. Data Dictionary for Project

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
ProjectId	VARCHAR	55	Primary Key			To uniquely identify each project	P1
ProjectName	VARCHAR	55	Not Null			To store the projects name	Website Redesign
ProjectStartDate	Date		Not Null			To store the project's start date	2024-11-14
ProjectEndDate	Date		Not Null			To store the project's end date	2025-12-17
ProjectStatus	VARCHAR	55	Not Null			To indicate the projects current status	Completed

Table 2: Table showing Data Dictionary for Project.

7.3. Data Dictionary for Task

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
TaskId	VARCHAR	55	Primary Key			To uniquely identify each task	T1
TaskName	VARCHAR	55	Not Null			To store the tasks name	Client presentation
TaskStartDate	Date		Not Null			To store the task's start date	2024-11-14
TaskEndDate	Date		Not Null			To store the task's end date	2025-12-17
TaskStatus	VARCHAR	55	Not Null			To indicate the tasks current status	Completed

Table 3: Table showing Data Dictionary for Task.

7.4. Data Dictionary for Subtask

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
SubtaskId	Varchar	50	Primary Key			To uniquely identify each subtask	S30
SubtaskName	Varchar	50	Not Null			To store the subtasks name	AI Model Performance Tuning
SubtaskStartDate	Date		Not Null			To store the subtask's start date	2024-11-14
SubtaskEndDate	Date		Not Null			To store the subtask's end date	2025-12-17
SubtaskStatus	Varchar	50	Not Null			To indicate the subtasks current status	Completed
TaskId	Varchar	50	Foreign Key	Task	TaskId	To store the task to which this subtask belongs	T1
UserId	Varchar	50	Foreign Key	Useraccount	UserId	To the user assigned to the subtask	1

Table 4: Table showing Data Dictionary for Subtask.

7.5. Data Dictionary for Milestone

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
MilestoneId	Varchar	50	Primary Key			To uniquely identify each milestone	MO30
MilestoneName	Varchar	50	Not Null			To store the milestones name	Data Warehouse Full Implementation
MilestoneDueDate	Date		Not Null			To store the milestone's due date	2024-11-14
MilestoneStatus	Varchar	50	Not Null			To indicate the milestones current status	Completed
ProjectId	Varchar	50	Foreign Key	Project	ProjectId	To store the project to which this record belongs.	P1

Table 5: Table showing Data Dictionary for Milestone.

7.6. Data Dictionary for ResourceCatalog

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
ResourceId	Varchar	55	Primary Key			To uniquely identify each Resource	R012
ResourceName	Varchar	50	Not Null			To store the Resources name	Video Conferencing Software
ResourceType	Varchar	50	Not Null			To store the Resources type	Software

Table 6: Table showing Data Dictionary for ResourceCatalog.

7.7. Data Dictionary for Resource Details

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
TaskResource_Id	Varchar	255	Primary Key			To uniquely identify each TaskResource	TR12
ResourceId	Varchar	50	Not Null	ResourceCatalog	ResourceId	To Store the resource allocated to the task	R012
TaskId	Varchar	50	Not Null	Task	TaskId	To Store the task allocated to this resource	T1

Table 7: Table showing Data Dictionary for Task Details.

7.8. Data Dictionary for CommentLog

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
CommentId	Varchar	50	Primary Key			To uniquely identify each Comment	C15
CommentDesc	Varchar	100	Not Null			To store the Comments description	Database setup completed, moving to next phase.
CommentDate	Date		Not Null			To store the Comment's date	2024-11-14
TaskId	Varchar	50	Foreign Key	Task	TaskId	To store the task to which this comment belongs	T1
UserId	Varchar	50	Foreign Key	Useraccount	UserId	To store the user who posted the comment	1

Table 8: Table showing Data Dictionary for CommentLog.

7.9. Data Dictionary for UserProjectTask

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
UserProjectTaskId	Varchar	255	Primary Key			To uniquely identify each userprojecttask	UPT1
TaskId	Varchar	255	Foreign Key	Task	TaskId	To store the task assigned to the user in the project.	T1
UserProject_Id	Varchar	255	Foreign Key	UserProject	UserProject_Id	To store the users project participation linked to the task	UP32

Table 9: Table showing Data Dictionary for UserProjectTask.

7.10. Data Dictionary for ProjectDetails

Column Name	Data Type	Size	Constraint	Reference Table	Reference Column	Description	Example Data
UserProject_Id	Varchar	255	Foreign Key	UserProject	UserProject_Id	To uniquely identify each userproject	UP32
UserId	Varchar	50	Foreign Key	Useraccount	UserId	To store the user who is assigned to the project	1
ProjectId	Varchar	50	Foreign Key	Project	ProjectId	To store the project to which this user is assigned	P1

Table 10: Table showing Data Dictionary for ProjectDetails

8. Script

```
CREATE TABLE commentlog (
    commentid VARCHAR2(50 CHAR) NOT NULL,
    commenttext CLOB,
    posteddate DATE,
    user_id NUMBER(10),
    project_id NUMBER(10)
);
```

```
userid    VARCHAR2(50 CHAR) NOT NULL,  
taskid    VARCHAR2(50 CHAR) NOT NULL,  
commentdesc VARCHAR2(100 CHAR),  
commentdate DATE  
);
```

```
ALTER TABLE commentlog ADD CONSTRAINT comment_pk PRIMARY KEY (  
commentid );
```

```
CREATE TABLE milestone (  
milestoneid    VARCHAR2(50 CHAR) NOT NULL,  
projectid      VARCHAR2(50 CHAR) NOT NULL,  
milestonename   VARCHAR2(50 CHAR),  
milestoneiddue date VARCHAR2(50 CHAR),  
milestonestatus  VARCHAR2(50 CHAR)  
);
```

```
ALTER TABLE milestone ADD CONSTRAINT milestone_pk PRIMARY KEY (  
milestoneid );
```

```
CREATE TABLE project (  
projectid      VARCHAR2(55 CHAR) NOT NULL,
```

```
projectname    VARCHAR2(55 CHAR),  
projectstratdate DATE,  
projectduedate  DATE,  
projectstatus   VARCHAR2(55 CHAR)  
);
```

```
ALTER TABLE project ADD CONSTRAINT project_pk PRIMARY KEY ( projectid );
```

```
CREATE TABLE projectdetails (  
    userid      VARCHAR2(50 CHAR) NOT NULL,  
    projectid   VARCHAR2(50 CHAR) NOT NULL,  
    userproject_id VARCHAR2(255 CHAR) NOT NULL  
);
```

```
ALTER TABLE projectdetails ADD CONSTRAINT projectdetails_pk PRIMARY KEY (  
    userproject_id );
```

```
CREATE TABLE resourcecatalog (  
    resourceid  VARCHAR2(55 CHAR) NOT NULL,  
    resourcename VARCHAR2(50 CHAR),  
    resourctype  VARCHAR2(50 CHAR)  
);
```

```
ALTER TABLE resourcecatalog ADD CONSTRAINT resource_pk PRIMARY KEY (resourceid );
```

```
CREATE TABLE resourcedetails (taskresource_id VARCHAR2(255 CHAR) NOT NULL,taskid      VARCHAR2(50 CHAR) NOT NULL,resourceid   VARCHAR2(50 CHAR) NOT NULL);
```

```
ALTER TABLE resourcedetails ADD CONSTRAINT resourcedetails_pk PRIMARY KEY ( taskresource_id );
```

```
CREATE TABLE subtask (subtaskid      VARCHAR2(50 CHAR) NOT NULL,taskid        VARCHAR2(50 CHAR) NOT NULL,userid        VARCHAR2(50 CHAR) NOT NULL,subtaskname    VARCHAR2(50 CHAR),subtaskstartdate DATE,subtaskduedate  DATE,subtaskstatus   VARCHAR2(50));
```

```
ALTER TABLE subtask ADD CONSTRAINT subtask_pk PRIMARY KEY ( subtaskid );
```

```
CREATE TABLE task (
    taskid      VARCHAR2(55 CHAR) NOT NULL,
    taskname    VARCHAR2(55 CHAR),
    taskstartdate DATE,
    taskenddate  DATE,
    taskstatus   VARCHAR2(55)
);
```

```
ALTER TABLE task ADD CONSTRAINT task_pk PRIMARY KEY ( taskid );
```

```
CREATE TABLE useraccount (
    userid      VARCHAR2(55 CHAR) NOT NULL,
    username    VARCHAR2(55 CHAR),
    useremail   VARCHAR2(55 CHAR),
    usercontact INTEGER,
    userrole    VARCHAR2(50 CHAR)
);
```

```
ALTER TABLE useraccount ADD CONSTRAINT user_pk PRIMARY KEY ( userid );
```

```
CREATE TABLE userprojecttask (
    userprojecttask_id VARCHAR2(255 CHAR) NOT NULL,
    taskid      VARCHAR2(255 CHAR) NOT NULL,
    userproject_id  VARCHAR2(255 CHAR) NOT NULL
);
```

```
ALTER TABLE userprojecttask ADD CONSTRAINT userprojecttask_id_pk PRIMARY
KEY ( userprojecttask_id );
```

```
ALTER TABLE commentlog
    ADD CONSTRAINT comment_task_fk FOREIGN KEY ( taskid )
        REFERENCES task ( taskid );
```

```
ALTER TABLE commentlog
    ADD CONSTRAINT comment_user_fk FOREIGN KEY ( userid )
        REFERENCES useraccount ( userid );
```

```
ALTER TABLE milestone
    ADD CONSTRAINT milestone_project_fk FOREIGN KEY ( projectid )
        REFERENCES project ( projectid );
```

```
ALTER TABLE userprojecttask  
    ADD CONSTRAINT projectdetails_fk FOREIGN KEY ( userproject_id )  
        REFERENCES projectdetails ( userproject_id );
```

```
ALTER TABLE projectdetails  
    ADD CONSTRAINT projectdetails_project_fk FOREIGN KEY ( projectid )  
        REFERENCES project ( projectid );
```

```
ALTER TABLE projectdetails  
    ADD CONSTRAINT projectdetails_user_fk FOREIGN KEY ( userid )  
        REFERENCES useraccount ( userid );
```

```
ALTER TABLE resourcedetails  
    ADD CONSTRAINT resourcedetails_resource_fk FOREIGN KEY ( resourceid )  
        REFERENCES resourcecatalog ( resourceid );
```

```
ALTER TABLE resourcedetails  
    ADD CONSTRAINT resourcedetails_task_fk FOREIGN KEY ( taskid )  
        REFERENCES task ( taskid );
```

```
ALTER TABLE subtask  
    ADD CONSTRAINT subtask_task_fk FOREIGN KEY ( taskid )
```

```
REFERENCES task ( taskid );
```

```
ALTER TABLE subtask
```

```
ADD CONSTRAINT subtask_useraccount_fk FOREIGN KEY ( userid )
```

```
REFERENCES useraccount ( userid );
```

```
ALTER TABLE userprojecttask
```

```
ADD CONSTRAINT userprojecttasktask_fk FOREIGN KEY ( taskid )
```

```
REFERENCES task ( taskid );
```

```
SQL> conn PrabhasShrestha22068184/prabhas1;  
Connected.  
SQL> |
```

Figure 12: Figure showing user Connection.

```

CREATE TABLE commentlog (
    commentid VARCHAR2(50 CHAR) NOT NULL,
    userid VARCHAR2(50 CHAR) NOT NULL,
    taskid VARCHAR2(50 CHAR) NOT NULL,
    commentdesc VARCHAR2(100 CHAR),
    commentdate DATE
);

ALTER TABLE commentlog ADD CONSTRAINT comment_pk PRIMARY KEY (commentid);

CREATE TABLE milestone (
    milestoneid VARCHAR2(50 CHAR) NOT NULL,
    projectid VARCHAR2(50 CHAR) NOT NULL,
    milestonename VARCHAR2(50 CHAR),
    milestoneiddue date,
    milestonestatus VARCHAR2(50 CHAR)
);

ALTER TABLE milestone ADD CONSTRAINT milestone_pk PRIMARY KEY (milestoneid);

CREATE TABLE project (
    projectid VARCHAR2(55 CHAR) NOT NULL,
    projectname VARCHAR2(55 CHAR),
    projectstartdate DATE,
    projectduedate DATE,
    projectstatus VARCHAR2(55 CHAR)
);

ALTER TABLE project ADD CONSTRAINT project_pk PRIMARY KEY (projectid);

CREATE TABLE projectdetails (
    userid VARCHAR2(50 CHAR) NOT NULL,
    projectid VARCHAR2(50 CHAR) NOT NULL,
    userproject_id VARCHAR2(255 CHAR) NOT NULL
);

ALTER TABLE projectdetails ADD CONSTRAINT projectdetails_pk PRIMARY KEY (userproject_id);

```

Figure 13: Figure showing the use of DDL Script in SQL developer (1).

```

CREATE TABLE resourcecatalog (
    resourceid VARCHAR2(55 CHAR) NOT NULL,
    resourcename VARCHAR2(50 CHAR),
    resourcetype VARCHAR2(50 CHAR)
);

ALTER TABLE resourcecatalog ADD CONSTRAINT resource_pk PRIMARY KEY (resourceid);

CREATE TABLE resourcedetails (
    taskresource_id VARCHAR2(255 CHAR) NOT NULL,
    taskid VARCHAR2(50 CHAR) NOT NULL,
    resourceid VARCHAR2(50 CHAR) NOT NULL
);

ALTER TABLE resourcedetails ADD CONSTRAINT resourcedetails_pk PRIMARY KEY (taskresource_id);

CREATE TABLE subtask (
    subtaskid VARCHAR2(50 CHAR) NOT NULL,
    taskid VARCHAR2(50 CHAR) NOT NULL,
    userid VARCHAR2(50 CHAR) NOT NULL,
    subtaskname VARCHAR2(50 CHAR),
    subtaskstartdate DATE,
    subtaskduedate DATE,
    subtaskstatus VARCHAR2(50)
);

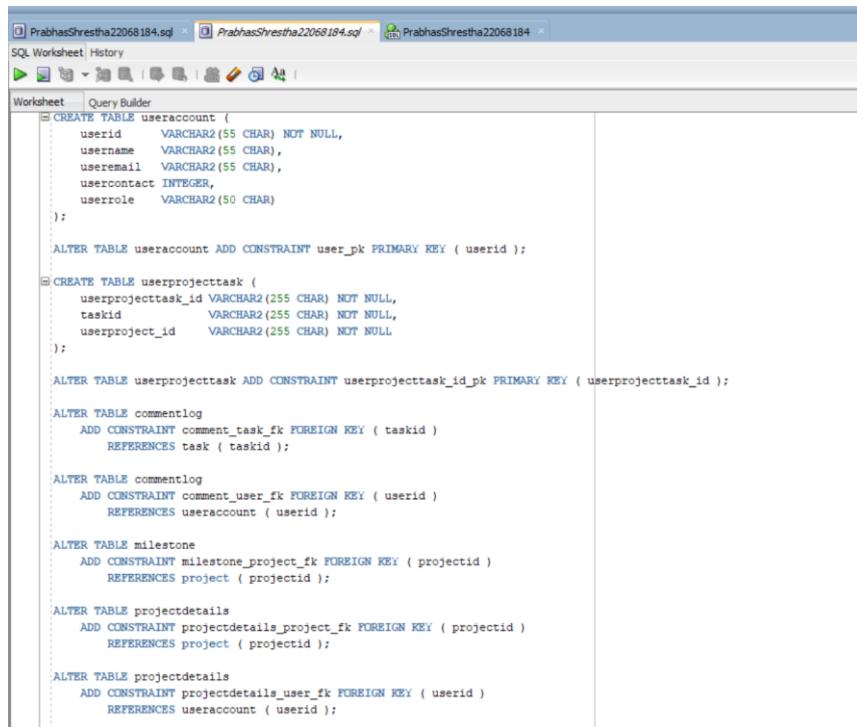
ALTER TABLE subtask ADD CONSTRAINT subtask_pk PRIMARY KEY (subtaskid);

CREATE TABLE task (
    taskid VARCHAR2(55 CHAR) NOT NULL,
    taskname VARCHAR2(55 CHAR),
    taskstartdate DATE,
    taskenddate DATE,
    taskstatus VARCHAR2(55 CHAR)
);

ALTER TABLE task ADD CONSTRAINT task_pk PRIMARY KEY (taskid);

```

Figure 14: Figure showing the use of DDL Script in SQL developer (2).



```

CREATE TABLE useraccount (
    userid      VARCHAR2(55 CHAR) NOT NULL,
    username    VARCHAR2(55 CHAR),
    useremail   VARCHAR2(55 CHAR),
    usercontact INTEGER,
    userrole    VARCHAR2(50 CHAR)
);

ALTER TABLE useraccount ADD CONSTRAINT user_pk PRIMARY KEY ( userid );

CREATE TABLE userprojecttask (
    userprojecttask_id VARCHAR2(255 CHAR) NOT NULL,
    taskid            VARCHAR2(255 CHAR) NOT NULL,
    userproject_id    VARCHAR2(255 CHAR) NOT NULL
);

ALTER TABLE userprojecttask ADD CONSTRAINT userprojecttask_id_pk PRIMARY KEY ( userprojecttask_id );

ALTER TABLE commentlog
    ADD CONSTRAINT comment_task_fk FOREIGN KEY ( taskid )
        REFERENCES task ( taskid );

ALTER TABLE commentlog
    ADD CONSTRAINT comment_user_fk FOREIGN KEY ( userid )
        REFERENCES useraccount ( userid );

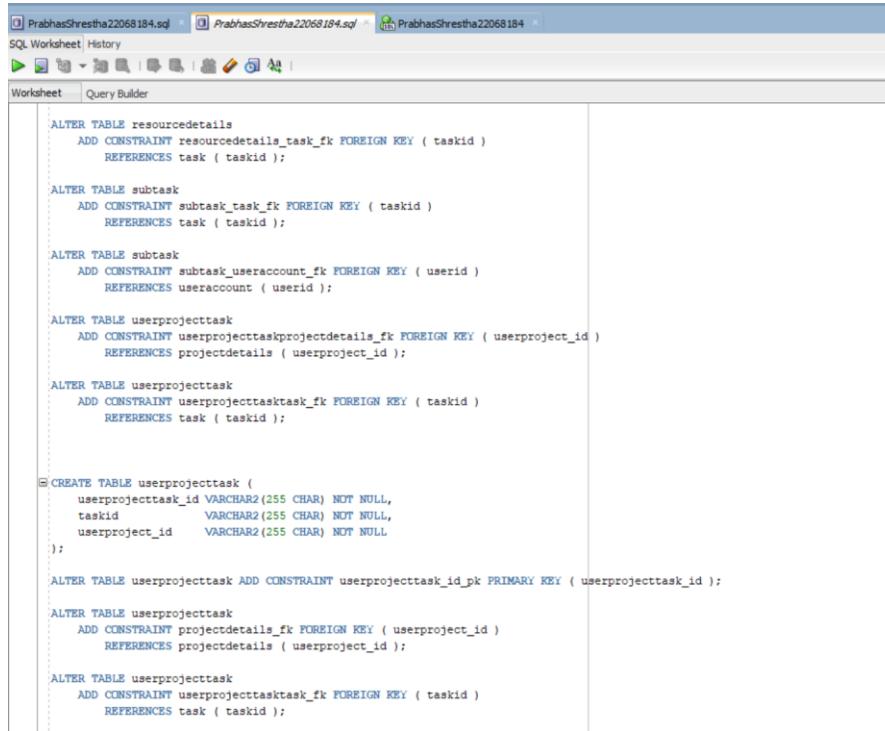
ALTER TABLE milestone
    ADD CONSTRAINT milestone_project_fk FOREIGN KEY ( projectid )
        REFERENCES project ( projectid );

ALTER TABLE projectdetails
    ADD CONSTRAINT projectdetails_project_fk FOREIGN KEY ( projectid )
        REFERENCES project ( projectid );

ALTER TABLE projectdetails
    ADD CONSTRAINT projectdetails_user_fk FOREIGN KEY ( userid )
        REFERENCES useraccount ( userid );

```

Figure 15: Figure showing the use of DDL Script in SQL developer (3).



```

ALTER TABLE resourcedetails
    ADD CONSTRAINT resourcedetails_task_fk FOREIGN KEY ( taskid )
        REFERENCES task ( taskid );

ALTER TABLE subtask
    ADD CONSTRAINT subtask_task_fk FOREIGN KEY ( taskid )
        REFERENCES task ( taskid );

ALTER TABLE subtask
    ADD CONSTRAINT subtask_useraccount_fk FOREIGN KEY ( userid )
        REFERENCES useraccount ( userid );

ALTER TABLE userprojecttask
    ADD CONSTRAINT userprojecttaskprojectdetails_fk FOREIGN KEY ( userproject_id )
        REFERENCES projectdetails ( userproject_id );

ALTER TABLE userprojecttask
    ADD CONSTRAINT userprojecttasktask_fk FOREIGN KEY ( taskid )
        REFERENCES task ( taskid );

CREATE TABLE userprojecttask (
    userprojecttask_id VARCHAR2(255 CHAR) NOT NULL,
    taskid            VARCHAR2(255 CHAR) NOT NULL,
    userproject_id    VARCHAR2(255 CHAR) NOT NULL
);

ALTER TABLE userprojecttask ADD CONSTRAINT userprojecttask_id_pk PRIMARY KEY ( userprojecttask_id );

ALTER TABLE userprojecttask
    ADD CONSTRAINT projectdetails_fk FOREIGN KEY ( userproject_id )
        REFERENCES projectdetails ( userproject_id );

ALTER TABLE userprojecttask
    ADD CONSTRAINT userprojecttasktask_fk FOREIGN KEY ( taskid )
        REFERENCES task ( taskid );

```

Figure 16: Figure showing the use of DDL Script in SQL developer (4).

```

SQL> SELECT table_name FROM user_tables;

TABLE_NAME
-----
COMMENTLOG
MILESTONE
PROJECT
PROJECTDETAILS
RESOURCECATALOG
RESOURCEDETAILS
SUBTASK
USERACCOUNT
USERPROJECTTASK
TASK

10 rows selected.

```

Figure 17: Figures showing the database creation.

9. Insert Statement

a) Useraccount Table

```

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('1', 'Prabhas Shrestha', 'prabhasshrestha00@gmail.com', 9801234567, 'System Administrator');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('2', 'Subhangi Khanal', 'subhangakhanal@gmail.com', 9812345678, 'Software Engineer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('3', 'Bibhav Gyawali', 'bibhavgyawali@gmail.com', 9823456789, 'Database Administrator');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('4', 'Shuvanjal Adikhari', 'shuvanjaladikhari@gmail.com', 9834567890, 'IT Manager');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('5', 'Binit Gyawali', 'binitgyawali@gmail.com', 9845678901, 'Frontend Developer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('6', 'Mahendra Khanal', 'mahendrakhanal@gmail.com', 9856789012, 'Backend Developer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('7', 'Badri Adikhari', 'badriadijkhari@gmail.com', 9867890123, 'Cyber Security Analyst');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('8', 'Biju Khanal', 'bijukhanal@gmail.com', 9878901234, 'Network Engineer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('9', 'Indira Banerji', 'indirabannerji@gmail.com', 9889012345, 'Cloud Engineer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('10', 'Samyukta Sharma', 'samyuktasharma@gmail.com', 9890123456, 'DevOps Engineer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('11', 'Sunita Lama', 'sunitalama@gmail.com', 9801122334, 'IT Support Specialist');

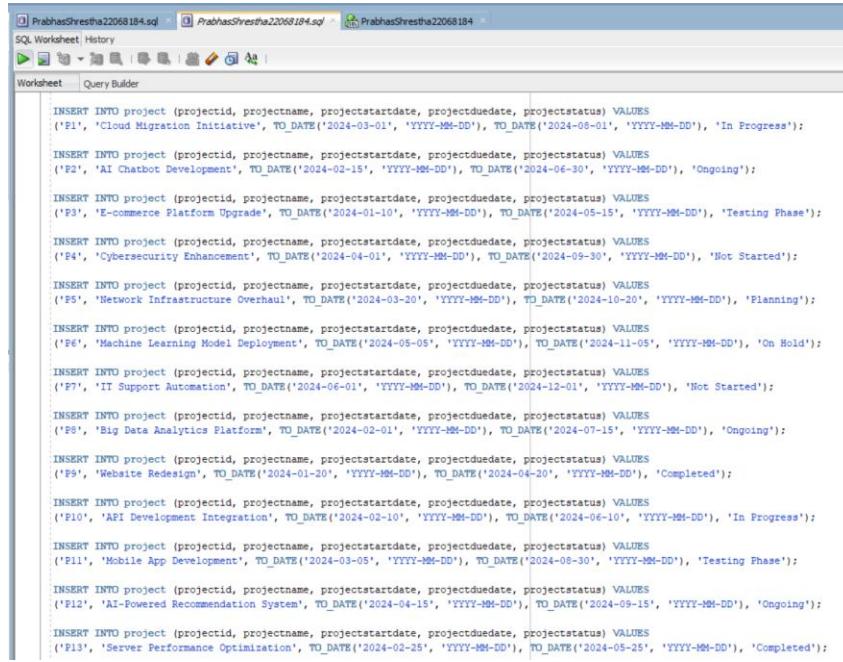
INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('12', 'Ramesh Thapa', 'ramersthapa@gmail.com', 9812233445, 'UI/UX Designer');

INSERT INTO useraccount (userid, username, useremail, usercontact, userrole) VALUES
('13', 'Prakash Rai', 'prakashrai@gmail.com', 9823344556, 'Software Tester');

```

Figure 18: Figure showing the process of inserting values into the UserAccount table.

b) Project Table



The screenshot shows a SQL WorkSheet window with three tabs: 'PrabhasShrestha22068184.sql', 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The central tab contains a large block of SQL code used to insert 15 rows of project data into a 'project' table. The code uses placeholder values like 'P1' through 'P15' for project IDs and various dates and statuses for the other fields.

```

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P1', 'Cloud Migration Initiative', TO_DATE('2024-03-01', 'YYYY-MM-DD'), TO_DATE('2024-06-01', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P2', 'AI Chatbot Development', TO_DATE('2024-02-15', 'YYYY-MM-DD'), TO_DATE('2024-06-30', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P3', 'E-commerce Platform Upgrade', TO_DATE('2024-01-10', 'YYYY-MM-DD'), TO_DATE('2024-05-15', 'YYYY-MM-DD'), 'Testing Phase');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P4', 'Cybersecurity Enhancement', TO_DATE('2024-04-01', 'YYYY-MM-DD'), TO_DATE('2024-09-30', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P5', 'Network Infrastructure Overhaul', TO_DATE('2024-03-20', 'YYYY-MM-DD'), TO_DATE('2024-10-20', 'YYYY-MM-DD'), 'Planning');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P6', 'Machine Learning Model Deployment', TO_DATE('2024-05-05', 'YYYY-MM-DD'), TO_DATE('2024-11-05', 'YYYY-MM-DD'), 'On Hold');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P7', 'IT Support Automation', TO_DATE('2024-06-01', 'YYYY-MM-DD'), TO_DATE('2024-12-01', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P8', 'Big Data Analytics Platform', TO_DATE('2024-02-01', 'YYYY-MM-DD'), TO_DATE('2024-07-15', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P9', 'Website Redesign', TO_DATE('2024-01-20', 'YYYY-MM-DD'), TO_DATE('2024-04-20', 'YYYY-MM-DD'), 'Completed');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P10', 'API Development Integration', TO_DATE('2024-02-10', 'YYYY-MM-DD'), TO_DATE('2024-06-10', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P11', 'Mobile App Development', TO_DATE('2024-03-05', 'YYYY-MM-DD'), TO_DATE('2024-08-30', 'YYYY-MM-DD'), 'Testing Phase');

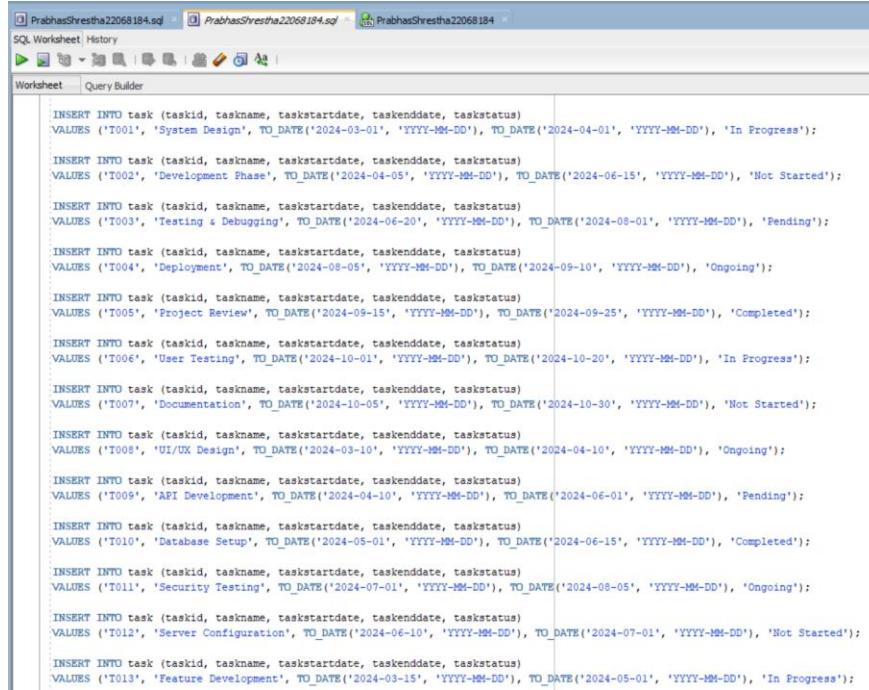
INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P12', 'AI-Powered Recommendation System', TO_DATE('2024-04-15', 'YYYY-MM-DD'), TO_DATE('2024-09-15', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO project (projectid, projectname, projectstartdate, projectduedate, projectstatus) VALUES
('P13', 'Server Performance Optimization', TO_DATE('2024-02-25', 'YYYY-MM-DD'), TO_DATE('2024-05-25', 'YYYY-MM-DD'), 'Completed');

```

Figure 19: Figure showing the process of inserting values into the Project table.

c) Task Table



The screenshot shows a SQL WorkSheet window with three tabs: 'PrabhasShrestha22068184.sql', 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The central tab contains a large block of SQL code used to insert 15 rows of task data into a 'task' table. The code uses placeholder values like 'T001' through 'T013' for task IDs and various dates and statuses for the other fields.

```

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T001', 'System Design', TO_DATE('2024-03-01', 'YYYY-MM-DD'), TO_DATE('2024-04-01', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T002', 'Development Phase', TO_DATE('2024-04-05', 'YYYY-MM-DD'), TO_DATE('2024-06-15', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T003', 'Testing & Debugging', TO_DATE('2024-06-20', 'YYYY-MM-DD'), TO_DATE('2024-08-01', 'YYYY-MM-DD'), 'Pending');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T004', 'Deployment', TO_DATE('2024-08-05', 'YYYY-MM-DD'), TO_DATE('2024-09-10', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T005', 'Project Review', TO_DATE('2024-09-15', 'YYYY-MM-DD'), TO_DATE('2024-09-25', 'YYYY-MM-DD'), 'Completed');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T006', 'User Testing', TO_DATE('2024-10-01', 'YYYY-MM-DD'), TO_DATE('2024-10-20', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T007', 'Documentation', TO_DATE('2024-10-05', 'YYYY-MM-DD'), TO_DATE('2024-10-30', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T008', 'UI/UX Design', TO_DATE('2024-03-10', 'YYYY-MM-DD'), TO_DATE('2024-04-10', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T009', 'API Development', TO_DATE('2024-04-10', 'YYYY-MM-DD'), TO_DATE('2024-06-01', 'YYYY-MM-DD'), 'Pending');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T010', 'Database Setup', TO_DATE('2024-05-01', 'YYYY-MM-DD'), TO_DATE('2024-06-15', 'YYYY-MM-DD'), 'Completed');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T011', 'Security Testing', TO_DATE('2024-07-01', 'YYYY-MM-DD'), TO_DATE('2024-08-05', 'YYYY-MM-DD'), 'Ongoing');

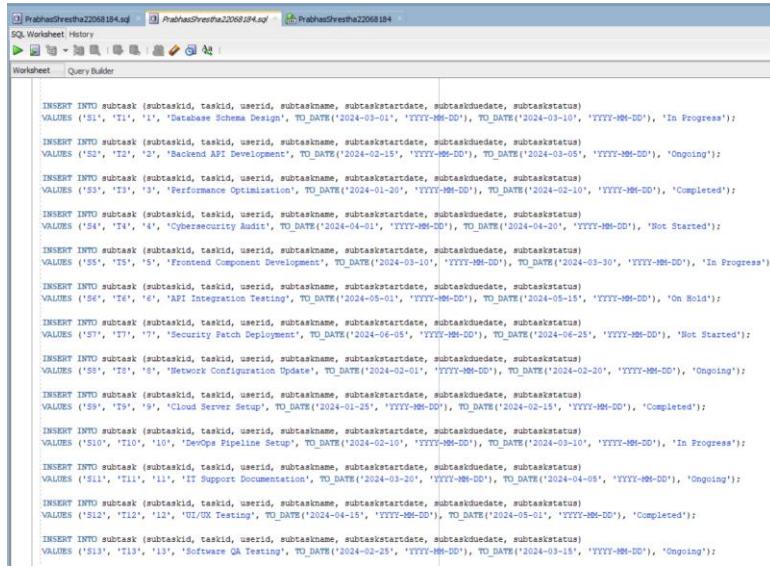
INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T012', 'Server Configuration', TO_DATE('2024-06-10', 'YYYY-MM-DD'), TO_DATE('2024-07-01', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO task (taskid, taskname, taskstartdate, taskenddate, taskstatus)
VALUES ('T013', 'Feature Development', TO_DATE('2024-03-15', 'YYYY-MM-DD'), TO_DATE('2024-05-01', 'YYYY-MM-DD'), 'In Progress');

```

Figure 20: Figure showing the process of inserting values into the Task table.

d) SubTask Table



```

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S1', 'T1', '1', 'Database Schema Design', TO_DATE('2024-03-01', 'YYYY-MM-DD'), TO_DATE('2024-03-10', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S2', 'T2', '2', 'Backend API Development', TO_DATE('2024-02-15', 'YYYY-MM-DD'), TO_DATE('2024-03-05', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S3', 'T3', '3', 'Performance Optimisation', TO_DATE('2024-01-20', 'YYYY-MM-DD'), TO_DATE('2024-02-10', 'YYYY-MM-DD'), 'Completed');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S4', 'T4', '4', 'Cybersecurity Audit', TO_DATE('2024-04-01', 'YYYY-MM-DD'), TO_DATE('2024-04-20', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S5', 'T5', '5', 'Frontend Component Development', TO_DATE('2024-03-10', 'YYYY-MM-DD'), TO_DATE('2024-03-30', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S6', 'T6', '6', 'API Integration Testing', TO_DATE('2024-05-01', 'YYYY-MM-DD'), TO_DATE('2024-05-15', 'YYYY-MM-DD'), 'On Hold');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S7', 'T7', '7', 'Security Patch Deployment', TO_DATE('2024-06-05', 'YYYY-MM-DD'), TO_DATE('2024-06-25', 'YYYY-MM-DD'), 'Not Started');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S8', 'T8', '8', 'Network Configuration Update', TO_DATE('2024-02-01', 'YYYY-MM-DD'), TO_DATE('2024-02-20', 'YYYY-MM-DD'), 'Ongoing');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S9', 'T9', '9', 'Cloud Server Setup', TO_DATE('2024-01-25', 'YYYY-MM-DD'), TO_DATE('2024-02-15', 'YYYY-MM-DD'), 'Completed');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S10', 'T10', '10', 'DevOps Pipeline Setup', TO_DATE('2024-02-10', 'YYYY-MM-DD'), TO_DATE('2024-03-10', 'YYYY-MM-DD'), 'In Progress');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S11', 'T11', '11', 'IT Support Documentation', TO_DATE('2024-03-20', 'YYYY-MM-DD'), TO_DATE('2024-04-05', 'YYYY-MM-DD'), 'Ongoing');

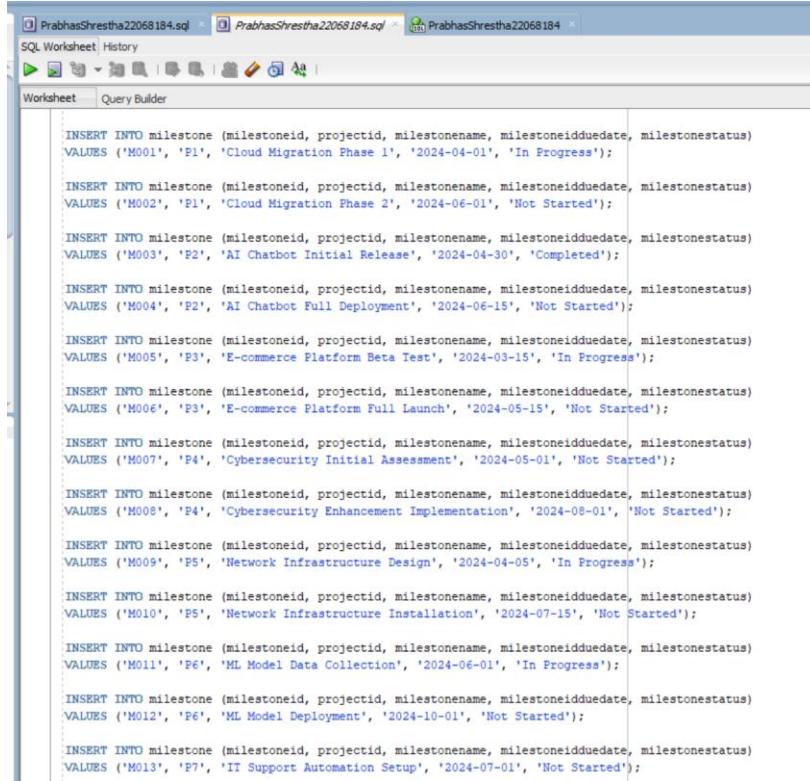
INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S12', 'T12', '12', 'UI/UX Testing', TO_DATE('2024-04-15', 'YYYY-MM-DD'), TO_DATE('2024-05-01', 'YYYY-MM-DD'), 'Completed');

INSERT INTO subtask (subtaskid, taskid, userid, subtaskname, subtaskstartdate, subtaskenddate, subtaskstatus)
VALUES ('S13', 'T13', '13', 'Software QA Testing', TO_DATE('2024-02-25', 'YYYY-MM-DD'), TO_DATE('2024-03-15', 'YYYY-MM-DD'), 'Ongoing');

```

Figure 21: Figure showing the process of inserting values into the SubTask table.

e) Milestone Table



```

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M001', 'P1', 'Cloud Migration Phase 1', '2024-04-01', 'In Progress');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M002', 'P1', 'Cloud Migration Phase 2', '2024-06-01', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M003', 'P2', 'AI Chatbot Initial Release', '2024-04-30', 'Completed');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M004', 'P2', 'AI Chatbot Full Deployment', '2024-06-15', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M005', 'P3', 'E-commerce Platform Beta Test', '2024-03-15', 'In Progress');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M006', 'P3', 'E-commerce Platform Full Launch', '2024-05-15', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M007', 'P4', 'Cybersecurity Initial Assessment', '2024-05-01', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M008', 'P4', 'Cybersecurity Enhancement Implementation', '2024-08-01', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M009', 'P5', 'Network Infrastructure Design', '2024-04-05', 'In Progress');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M010', 'P5', 'Network Infrastructure Installation', '2024-07-15', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M011', 'P6', 'ML Model Data Collection', '2024-06-01', 'In Progress');

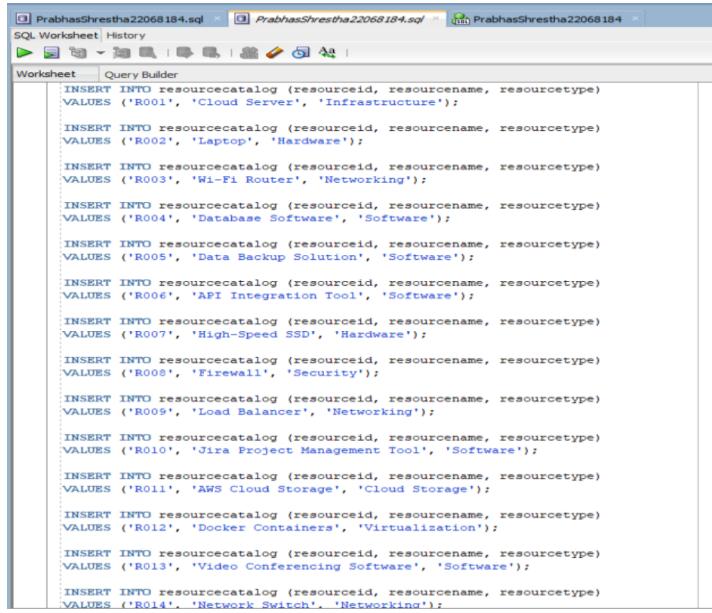
INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M012', 'P6', 'ML Model Deployment', '2024-10-01', 'Not Started');

INSERT INTO milestone (milestoneid, projectid, milestoneename, milestoneiddue date, milestonestatus)
VALUES ('M013', 'P7', 'IT Support Automation Setup', '2024-07-01', 'Not Started');

```

Figure 22: Figure showing the process of inserting values into the Milestone table.

f) ResourceCatalog Table



```

PrabhasShrestha22068184.sql PrabhasShrestha22068184.sql PrabhasShrestha22068184
SQL Worksheet History
Worksheet Query Builder

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R001', 'Cloud Server', 'Infrastructure');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R002', 'Laptop', 'Hardware');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R003', 'Wi-Fi Router', 'Networking');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R004', 'Database Software', 'Software');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R005', 'Data Backup Solution', 'Software');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R006', 'API Integration Tool', 'Software');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R007', 'High-Speed SSD', 'Hardware');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R008', 'Firewall', 'Security');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R009', 'Load Balancer', 'Networking');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R010', 'Jira Project Management Tool', 'Software');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R011', 'AWS Cloud Storage', 'Cloud Storage');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R012', 'Docker Containers', 'Virtualization');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R013', 'Video Conferencing Software', 'Software');

INSERT INTO resourcecatalog (resourceid, resourcename, resourcetype)
VALUES ('R014', 'Network Switch', 'Networking');

```

Figure 23: Figure showing the process of inserting values into the ResourceCatalog table.

g) ResourceDetails Table



```

PrabhasShrestha22068184.sql PrabhasShrestha22068184.sql PrabhasShrestha22068184
SQL Worksheet History
Worksheet Query Builder

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR1', 'T1', 'R001');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR2', 'T1', 'R004');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR3', 'T2', 'R005');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR4', 'T2', 'R006');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR5', 'T3', 'R007');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR6', 'T3', 'R008');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR7', 'T4', 'R009');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR8', 'T4', 'R010');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR9', 'T5', 'R011');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR10', 'T5', 'R012');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR11', 'T6', 'R013');

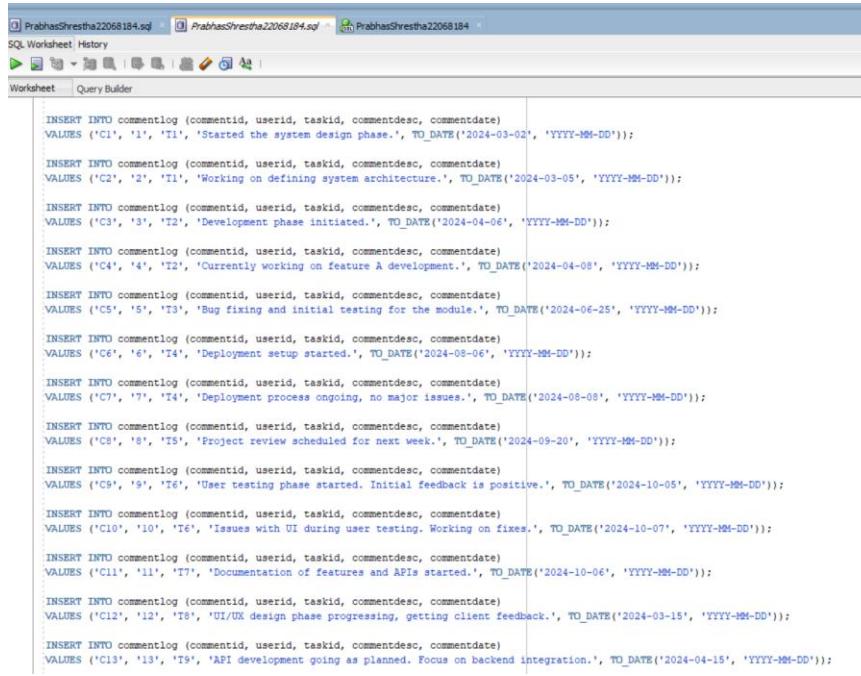
INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR12', 'T6', 'R014');

INSERT INTO resourcedetails (taskresource_id, taskid, resourceid)
VALUES ('TR13', 'T7', 'R015');

```

Figure 24: Figure showing the process of inserting values into the TaskDetails table.

h) CommentLog Table



```

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C1', '1', 'T1', 'Started the system design phase.', TO_DATE('2024-03-02', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C2', '2', 'T1', 'Working on defining system architecture.', TO_DATE('2024-03-05', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C3', '3', 'T2', 'Development phase initiated.', TO_DATE('2024-04-06', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C4', '4', 'T2', 'Currently working on feature A development.', TO_DATE('2024-04-08', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C5', '5', 'T3', 'Bug fixing and initial testing for the module.', TO_DATE('2024-06-25', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C6', '6', 'T4', 'Deployment setup started.', TO_DATE('2024-08-06', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C7', '7', 'T4', 'Deployment process ongoing, no major issues.', TO_DATE('2024-08-08', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C8', '8', 'T5', 'Project review scheduled for next week.', TO_DATE('2024-09-20', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C9', '9', 'T6', 'User testing phase started. Initial feedback is positive.', TO_DATE('2024-10-05', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C10', '10', 'T6', 'Issues with UI during user testing. Working on fixes.', TO_DATE('2024-10-07', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C11', '11', 'T7', 'Documentation of features and APIs started.', TO_DATE('2024-10-06', 'YYYY-MM-DD'));

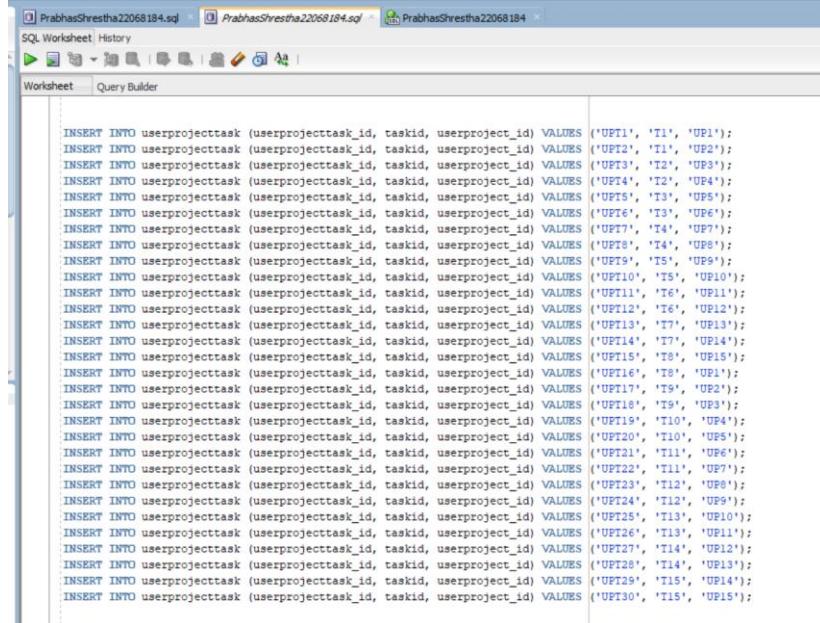
INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C12', '12', 'T8', 'UI/UX design phase progressing, getting client feedback.', TO_DATE('2024-03-15', 'YYYY-MM-DD'));

INSERT INTO commentlog (commentid, userid, taskid, commentdesc, commentdate)
VALUES ('C13', '13', 'T9', 'API development going as planned. Focus on backend integration.', TO_DATE('2024-04-15', 'YYYY-MM-DD'));

```

Figure 25: Figure showing the process of inserting values into the CommentLog table.

i) UserProjectTask Table



```

INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT1', 'T1', 'UP1');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT2', 'T1', 'UP2');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT3', 'T2', 'UP3');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT4', 'T2', 'UP4');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT5', 'T3', 'UP5');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT6', 'T3', 'UP6');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT7', 'T4', 'UP7');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT8', 'T4', 'UP8');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT9', 'T5', 'UP9');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT10', 'T5', 'UP10');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT11', 'T6', 'UP11');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT12', 'T6', 'UP12');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT13', 'T7', 'UP13');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT14', 'T7', 'UP14');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT15', 'T8', 'UP15');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT16', 'T8', 'UP1');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT17', 'T9', 'UP2');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT18', 'T9', 'UP3');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT19', 'T10', 'UP4');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT20', 'T10', 'UP5');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT21', 'T11', 'UP6');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT22', 'T11', 'UP7');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT23', 'T12', 'UP8');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT24', 'T12', 'UP9');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT25', 'T13', 'UP10');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT26', 'T13', 'UP11');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT27', 'T14', 'UP12');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT28', 'T14', 'UP13');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT29', 'T15', 'UP14');
INSERT INTO userprojecttask (userprojecttask_id, taskid, userproject_id) VALUES ('UPT30', 'T15', 'UP15');

```

Figure 26: Figure showing the process of inserting values into the UserProjectTask table.

j) ProjectDetails Table

```

INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('1', 'P1', 'UP1');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('2', 'P2', 'UP2');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('3', 'P3', 'UP3');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('4', 'P4', 'UP4');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('5', 'P5', 'UP5');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('6', 'P6', 'UP6');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('7', 'P7', 'UP7');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('8', 'P8', 'UP8');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('9', 'P9', 'UP9');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('10', 'P10', 'UP10');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('11', 'P11', 'UP11');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('12', 'P12', 'UP12');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('13', 'P13', 'UP13');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('14', 'P14', 'UP14');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('15', 'P15', 'UP15');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('16', 'P2', 'UP16');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('2', 'P3', 'UP17');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('3', 'P4', 'UP18');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('4', 'P5', 'UP19');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('5', 'P6', 'UP20');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('6', 'P7', 'UP21');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('7', 'P8', 'UP22');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('8', 'P9', 'UP23');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('9', 'P10', 'UP24');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('10', 'P11', 'UP25');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('11', 'P12', 'UP26');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('12', 'P13', 'UP27');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('13', 'P14', 'UP28');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('14', 'P15', 'UP29');
INSERT INTO projectdetails (userid, projectid, userproject_id) VALUES ('15', 'P1', 'UP30');

```

Figure 27: Figure showing the process of inserting values into the ProjectDetails table.

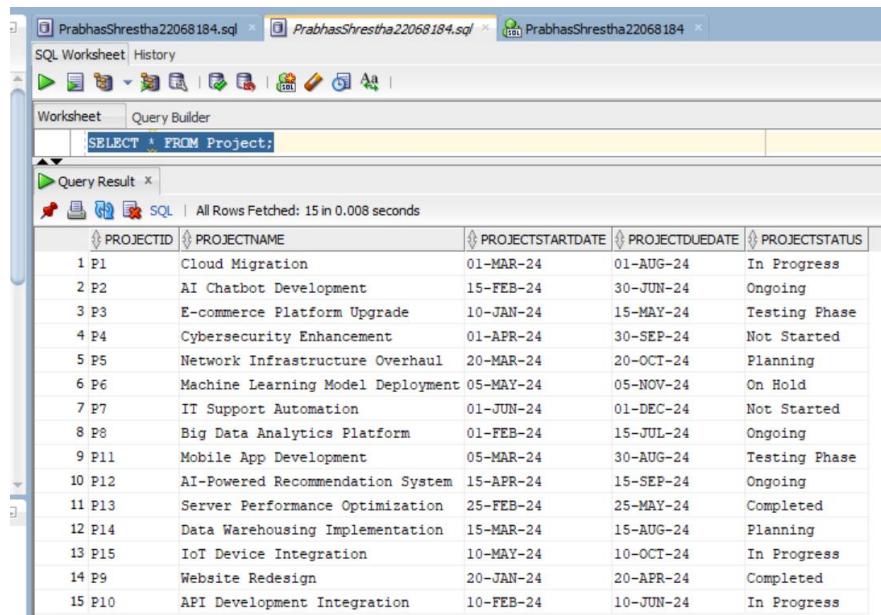
10. Select Statement

a) Useraccount Table

	USERID	USERNAME	USEREMAIL	USERCONTACT	USERROLE
1	1	Prabhas Shrestha	prabhasshrestha00@gmail.com	98012345678	System Administrator
2	2	Subhangi Khanal	subhangakhanal@gmail.com	98123456789	Software Engineer
3	3	Bibhav Gyawali	bibhavgyawali@gmail.com	98234567890	Database Administrator
4	4	Shuvanjal Adikhari	shuvanjhaladikhari@gmail.com	98345678901	IT Manager
5	5	Binit Gyawali	binitygyawali@gmail.com	98456789012	Frontend Developer
6	6	Mahendra Khanal	mahendrakhanal@gmail.com	98567890123	Backend Developer
7	7	Badri Adikhari	badriadikhari@gmail.com	98678901234	Cyber Security Analyst
8	8	Biju Khanal	bijukskhanal@gmail.com	98789012345	Network Engineer
9	9	Indira Basnet	indirabasnet@gmail.com	98890123456	Cloud Engineer
10	10	Samyukta Sharma	samyuktasharma@gmail.com	98901234567	DevOps Engineer
11	11	Sunita Lama	sunitalama@gmail.com	9801122334	IT Support Specialist
12	12	Ramesh Thapa	rameshthapa@gmail.com	9812233445	UI/UX Designer
13	13	Prakash Rai	prakashrai@gmail.com	9823344556	Software Tester
14	14	Nirajan Bhujel	nirajanbhujel@gmail.com	9834455667	Data Analyst
15	15	Kajal Magar	kajalmagar@gmail.com	9845566778	AI/ML Engineer
16	16	Bibhav Khanal	prabhasshrestha00@gmail.com	9822343213	Admin

Figure 28: Figure showing the displayed values of UserAccount table.

b) Project Table

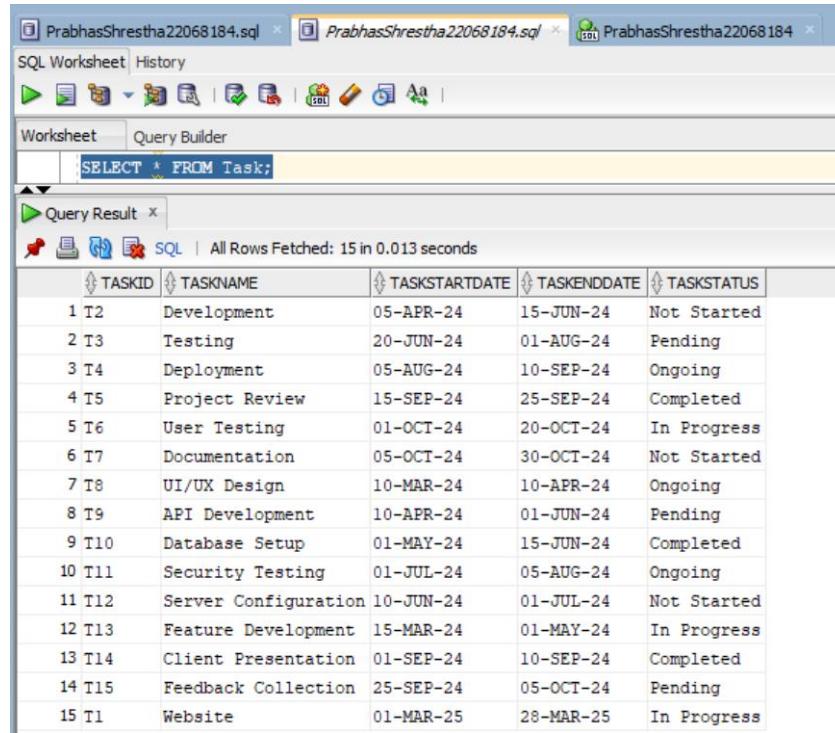


The screenshot shows a SQL worksheet interface with three tabs: 'PrabhasShrestha22068184.sql' (selected), 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The 'Worksheet' tab is active, displaying the query 'SELECT * FROM Project;'. Below the query, the 'Query Result' tab is open, showing the following data:

PROJECTID	PROJECTNAME	PROJECTSTARTDATE	PROJECTDUEDATE	PROJECTSTATUS
1 P1	Cloud Migration	01-MAR-24	01-AUG-24	In Progress
2 P2	AI Chatbot Development	15-FEB-24	30-JUN-24	Ongoing
3 P3	E-commerce Platform Upgrade	10-JAN-24	15-MAY-24	Testing Phase
4 P4	Cybersecurity Enhancement	01-APR-24	30-SEP-24	Not Started
5 P5	Network Infrastructure Overhaul	20-MAR-24	20-OCT-24	Planning
6 P6	Machine Learning Model Deployment	05-MAY-24	05-NOV-24	On Hold
7 P7	IT Support Automation	01-JUN-24	01-DEC-24	Not Started
8 P8	Big Data Analytics Platform	01-FEB-24	15-JUL-24	Ongoing
9 P11	Mobile App Development	05-MAR-24	30-AUG-24	Testing Phase
10 P12	AI-Powered Recommendation System	15-APR-24	15-SEP-24	Ongoing
11 P13	Server Performance Optimization	25-FEB-24	25-MAY-24	Completed
12 P14	Data Warehousing Implementation	15-MAR-24	15-AUG-24	Planning
13 P15	IoT Device Integration	10-MAY-24	10-OCT-24	In Progress
14 P9	Website Redesign	20-JAN-24	20-APR-24	Completed
15 P10	API Development Integration	10-FEB-24	10-JUN-24	In Progress

Figure 29: Figure showing the displayed values of Project table.

c) Task Table

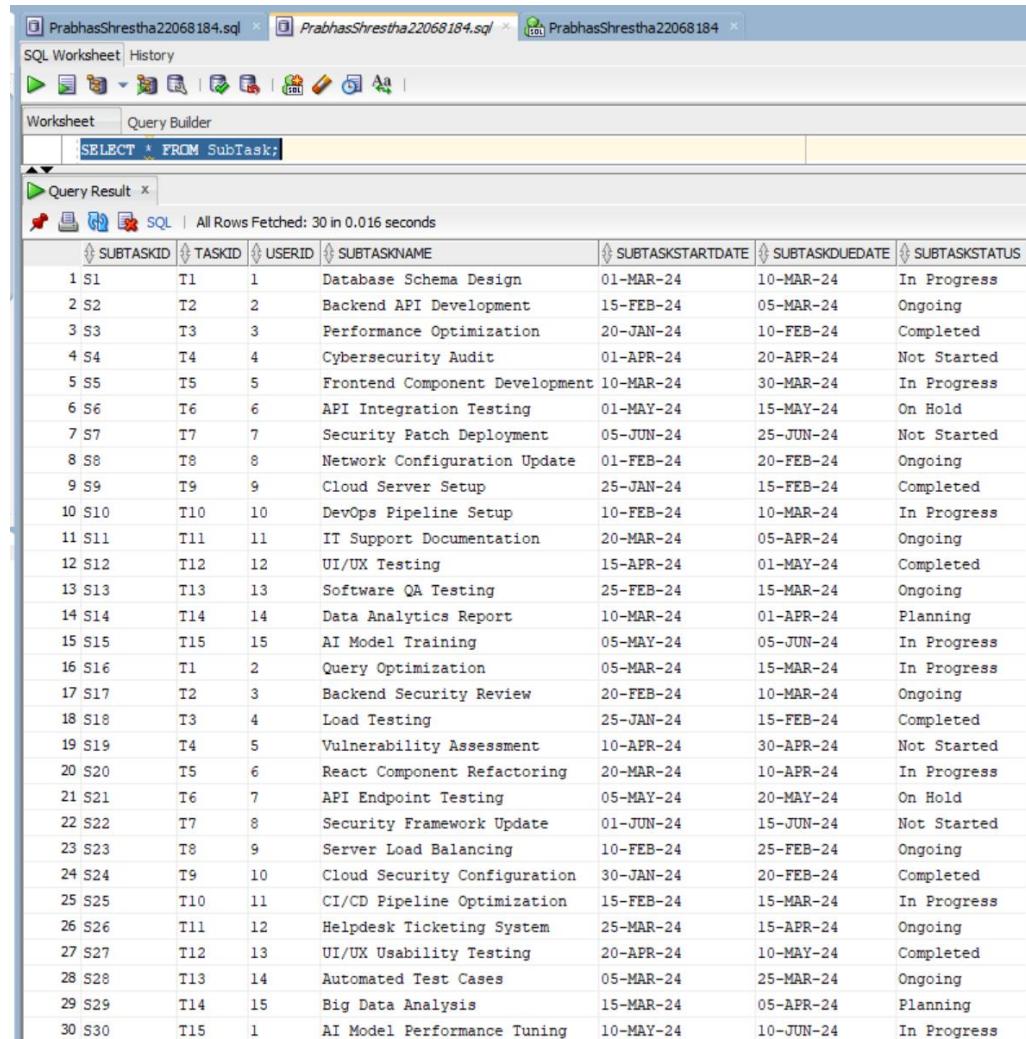


The screenshot shows a SQL worksheet interface with three tabs: 'PrabhasShrestha22068184.sql' (selected), 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The 'Worksheet' tab is active, displaying the query 'SELECT * FROM Task;'. Below the query, the 'Query Result' tab is open, showing the following data:

TASKID	TASKNAME	TASKSTARTDATE	TASKENDDATE	TASKSTATUS
1 T2	Development	05-APR-24	15-JUN-24	Not Started
2 T3	Testing	20-JUN-24	01-AUG-24	Pending
3 T4	Deployment	05-AUG-24	10-SEP-24	Ongoing
4 T5	Project Review	15-SEP-24	25-SEP-24	Completed
5 T6	User Testing	01-OCT-24	20-OCT-24	In Progress
6 T7	Documentation	05-OCT-24	30-OCT-24	Not Started
7 T8	UI/UX Design	10-MAR-24	10-APR-24	Ongoing
8 T9	API Development	10-APR-24	01-JUN-24	Pending
9 T10	Database Setup	01-MAY-24	15-JUN-24	Completed
10 T11	Security Testing	01-JUL-24	05-AUG-24	Ongoing
11 T12	Server Configuration	10-JUN-24	01-JUL-24	Not Started
12 T13	Feature Development	15-MAR-24	01-MAY-24	In Progress
13 T14	Client Presentation	01-SEP-24	10-SEP-24	Completed
14 T15	Feedback Collection	25-SEP-24	05-OCT-24	Pending
15 T1	Website	01-MAR-25	28-MAR-25	In Progress

Figure 30: Figure showing the displayed values of Task table.

d) SubTask Table

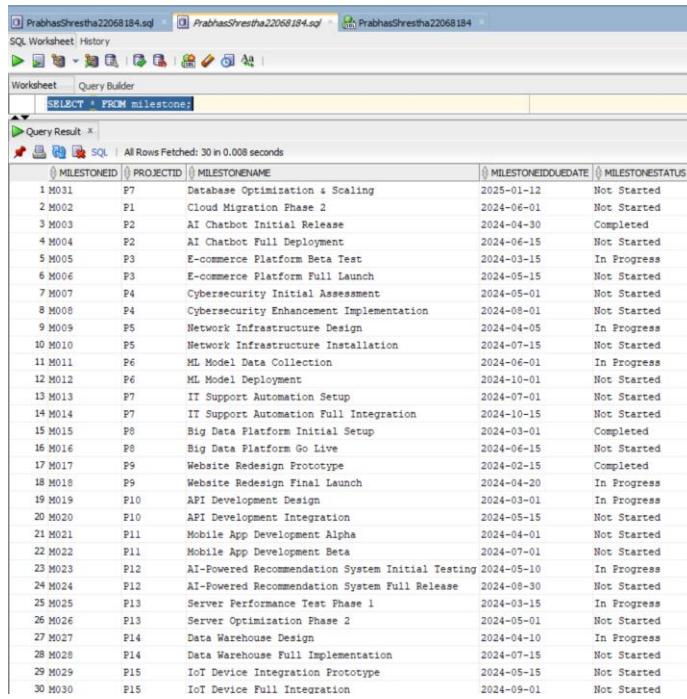


The screenshot shows a SQL worksheet interface with three tabs: 'PrabhasShrestha22068184.sql' (active), 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The active tab displays a query builder with the SQL command 'SELECT * FROM SubTask;'. Below the query is a 'Query Result' pane showing the output of the query. The result set contains 30 rows of data from the SubTask table, with columns: SUBTASKID, TASKID, USERID, SUBTASKNAME, SUBTASKSTARTDATE, SUBTASKDUEDATE, and SUBTASKSTATUS.

SUBTASKID	TASKID	USERID	SUBTASKNAME	SUBTASKSTARTDATE	SUBTASKDUEDATE	SUBTASKSTATUS
1 S1	T1	1	Database Schema Design	01-MAR-24	10-MAR-24	In Progress
2 S2	T2	2	Backend API Development	15-FEB-24	05-MAR-24	Ongoing
3 S3	T3	3	Performance Optimization	20-JAN-24	10-FEB-24	Completed
4 S4	T4	4	Cybersecurity Audit	01-APR-24	20-APR-24	Not Started
5 S5	T5	5	Frontend Component Development	10-MAR-24	30-MAR-24	In Progress
6 S6	T6	6	API Integration Testing	01-MAY-24	15-MAY-24	On Hold
7 S7	T7	7	Security Patch Deployment	05-JUN-24	25-JUN-24	Not Started
8 S8	T8	8	Network Configuration Update	01-FEB-24	20-FEB-24	Ongoing
9 S9	T9	9	Cloud Server Setup	25-JAN-24	15-FEB-24	Completed
10 S10	T10	10	DevOps Pipeline Setup	10-FEB-24	10-MAR-24	In Progress
11 S11	T11	11	IT Support Documentation	20-MAR-24	05-APR-24	Ongoing
12 S12	T12	12	UI/UX Testing	15-APR-24	01-MAY-24	Completed
13 S13	T13	13	Software QA Testing	25-FEB-24	15-MAR-24	Ongoing
14 S14	T14	14	Data Analytics Report	10-MAR-24	01-APR-24	Planning
15 S15	T15	15	AI Model Training	05-MAY-24	05-JUN-24	In Progress
16 S16	T1	2	Query Optimization	05-MAR-24	15-MAR-24	In Progress
17 S17	T2	3	Backend Security Review	20-FEB-24	10-MAR-24	Ongoing
18 S18	T3	4	Load Testing	25-JAN-24	15-FEB-24	Completed
19 S19	T4	5	Vulnerability Assessment	10-APR-24	30-APR-24	Not Started
20 S20	T5	6	React Component Refactoring	20-MAR-24	10-APR-24	In Progress
21 S21	T6	7	API Endpoint Testing	05-MAY-24	20-MAY-24	On Hold
22 S22	T7	8	Security Framework Update	01-JUN-24	15-JUN-24	Not Started
23 S23	T8	9	Server Load Balancing	10-FEB-24	25-FEB-24	Ongoing
24 S24	T9	10	Cloud Security Configuration	30-JAN-24	20-FEB-24	Completed
25 S25	T10	11	CI/CD Pipeline Optimization	15-FEB-24	15-MAR-24	In Progress
26 S26	T11	12	Helpdesk Ticketing System	25-MAR-24	15-APR-24	Ongoing
27 S27	T12	13	UI/UX Usability Testing	20-APR-24	10-MAY-24	Completed
28 S28	T13	14	Automated Test Cases	05-MAR-24	25-MAR-24	Ongoing
29 S29	T14	15	Big Data Analysis	15-MAR-24	05-APR-24	Planning
30 S30	T15	1	AI Model Performance Tuning	10-MAY-24	10-JUN-24	In Progress

Figure 31: Figure showing the displayed values of SubTask table.

e) Milestone Table



The screenshot shows a SQL worksheet interface with three tabs at the top: 'PrabhasShrestha22068184.sql' (selected), 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The main area displays a query result for the 'Milestone' table. The query is:

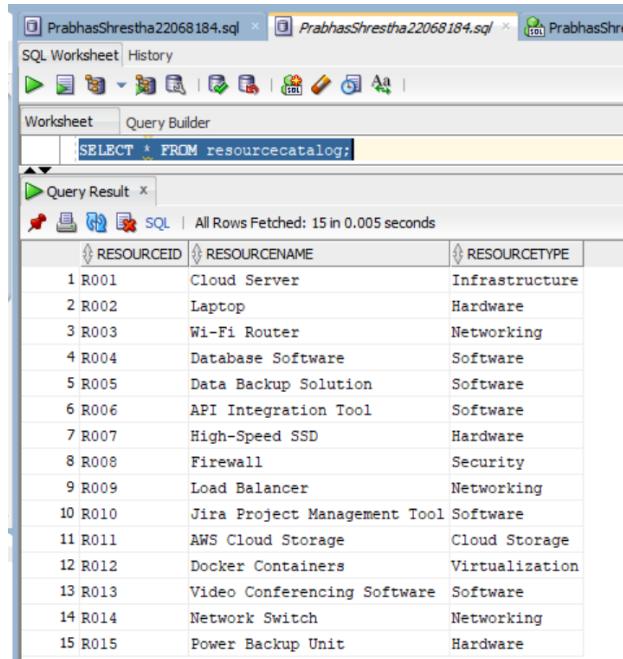
```
SELECT * FROM milestone;
```

The table has columns: MILESTONEID, PROJECTID, MILESTONENAME, DUEDATE, and MILESTONESTATUS. The data shows 30 rows of milestones across various projects, with due dates ranging from 2024-01-12 to 2024-09-01 and statuses like 'Not Started', 'Completed', and 'In Progress'.

MILESTONEID	PROJECTID	MILESTONENAME	DUEDATE	MILESTONESTATUS
1 M001	P7	Database Optimization & Scaling	2025-01-12	Not Started
2 M002	P1	Cloud Migration Phase 2	2024-06-01	Not Started
3 M003	P2	AI Chatbot Initial Release	2024-04-30	Completed
4 M004	P2	AI Chatbot Full Deployment	2024-06-15	Not Started
5 M005	P3	E-commerce Platform Beta Test	2024-03-15	In Progress
6 M006	P3	E-commerce Platform Full Launch	2024-05-15	Not Started
7 M007	P4	Cybersecurity Initial Assessment	2024-05-01	Not Started
8 M008	P4	Cybersecurity Enhancement Implementation	2024-08-01	Not Started
9 M009	P5	Network Infrastructure Design	2024-04-05	In Progress
10 M010	P5	Network Infrastructure Installation	2024-07-15	Not Started
11 M011	P6	ML Model Data Collection	2024-06-01	In Progress
12 M012	P6	ML Model Deployment	2024-10-01	Not Started
13 M013	P7	IT Support Automation Setup	2024-07-01	Not Started
14 M014	P7	IT Support Automation Full Integration	2024-10-15	Not Started
15 M015	P8	Big Data Platform Initial Setup	2024-03-01	Completed
16 M016	P8	Big Data Platform Go Live	2024-06-15	Not Started
17 M017	P9	Website Redesign Prototype	2024-02-15	Completed
18 M018	P9	Website Redesign Final Launch	2024-04-20	In Progress
19 M019	P10	API Development Design	2024-03-01	In Progress
20 M020	P10	API Development Integration	2024-05-15	Not Started
21 M021	P11	Mobile App Development Alpha	2024-04-01	Not Started
22 M022	P11	Mobile App Development Beta	2024-07-01	Not Started
23 M023	P12	AI-Powered Recommendation System Initial Testing	2024-05-10	In Progress
24 M024	P12	AI-Powered Recommendation System Full Release	2024-08-30	Not Started
25 M025	P13	Server Performance Test Phase 1	2024-03-15	In Progress
26 M026	P13	Server Optimization Phase 2	2024-05-01	Not Started
27 M027	P14	Data Warehouse Design	2024-04-10	In Progress
28 M028	P14	Data Warehouse Full Implementation	2024-07-15	Not Started
29 M029	P15	IoT Device Integration Prototype	2024-05-15	Not Started
30 M030	P15	IoT Device Full Integration	2024-09-01	Not Started

Figure 32: Figure showing the displayed values of Milestone table.

f) ResourceCatalog Table



The screenshot shows a SQL worksheet interface with three tabs at the top: 'PrabhasShrestha22068184.sql' (selected), 'PrabhasShrestha22068184.sql', and 'PrabhasShres'. The main area displays a query result for the 'resourcecatalog' table. The query is:

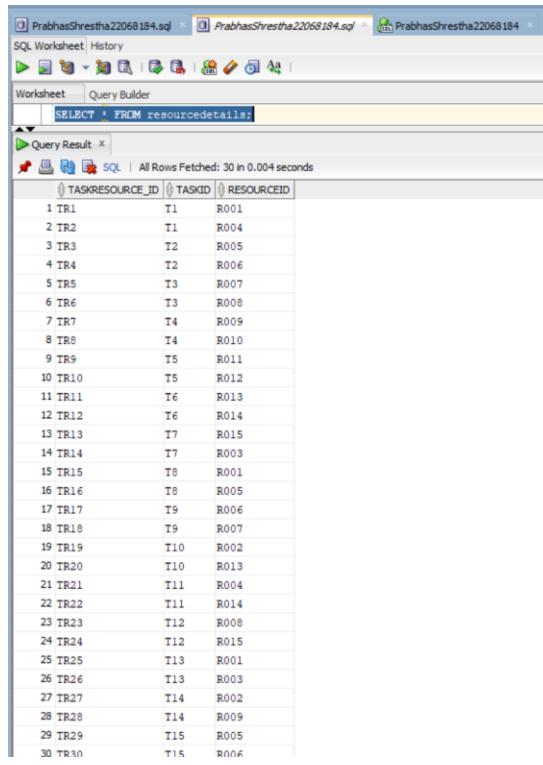
```
SELECT * FROM resourcecatalog;
```

The table has columns: RESOURCEID, RESOURCENAME, and RESOURCETYPE. The data shows 15 rows of resources categorized by type like Infrastructure, Software, and Hardware.

RESOURCEID	RESOURCENAME	RESOURCETYPE
1 R001	Cloud Server	Infrastructure
2 R002	Laptop	Hardware
3 R003	Wi-Fi Router	Networking
4 R004	Database Software	Software
5 R005	Data Backup Solution	Software
6 R006	API Integration Tool	Software
7 R007	High-Speed SSD	Hardware
8 R008	Firewall	Security
9 R009	Load Balancer	Networking
10 R010	Jira Project Management Tool	Software
11 R011	AWS Cloud Storage	Cloud Storage
12 R012	Docker Containers	Virtualization
13 R013	Video Conferencing Software	Software
14 R014	Network Switch	Networking
15 R015	Power Backup Unit	Hardware

Figure 33: Figure showing the displayed values of ResourceCatalog table.

g) ResourceDetails Table

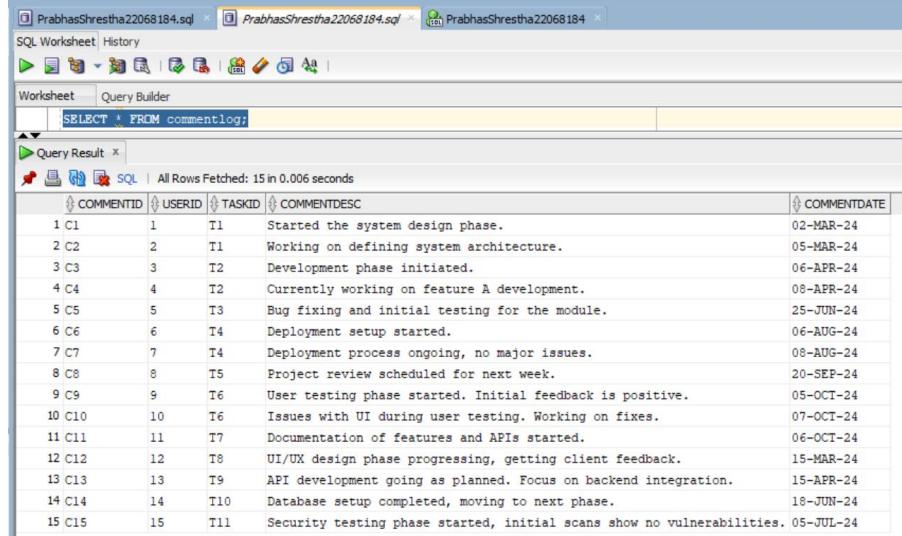


The screenshot shows the SQL Server Management Studio interface with three tabs at the top: 'PrabhasShrestha22068184.sql', 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The 'Query Builder' tab is selected. A query 'SELECT * FROM resourcedetails;' is entered in the query editor. The results are displayed in a table titled 'Query Result'.

	TASKRESOURCE_ID	TASKID	RESOURCEID
1	TR1	T1	R001
2	TR2	T1	R004
3	TR3	T2	R005
4	TR4	T2	R006
5	TR5	T3	R007
6	TR6	T3	R008
7	TR7	T4	R009
8	TR8	T4	R010
9	TR9	T5	R011
10	TR10	T5	R012
11	TR11	T6	R013
12	TR12	T6	R014
13	TR13	T7	R015
14	TR14	T7	R003
15	TR15	T8	R001
16	TR16	T8	R005
17	TR17	T9	R006
18	TR18	T9	R007
19	TR19	T10	R002
20	TR20	T10	R013
21	TR21	T11	R004
22	TR22	T11	R014
23	TR23	T12	R008
24	TR24	T12	R015
25	TR25	T13	R001
26	TR26	T13	R003
27	TR27	T14	R002
28	TR28	T14	R009
29	TR29	T15	R005
30	TR30	T15	R006

Figure 34: Figure showing the displayed values of TaskDetails table.

h) CommentLog Table

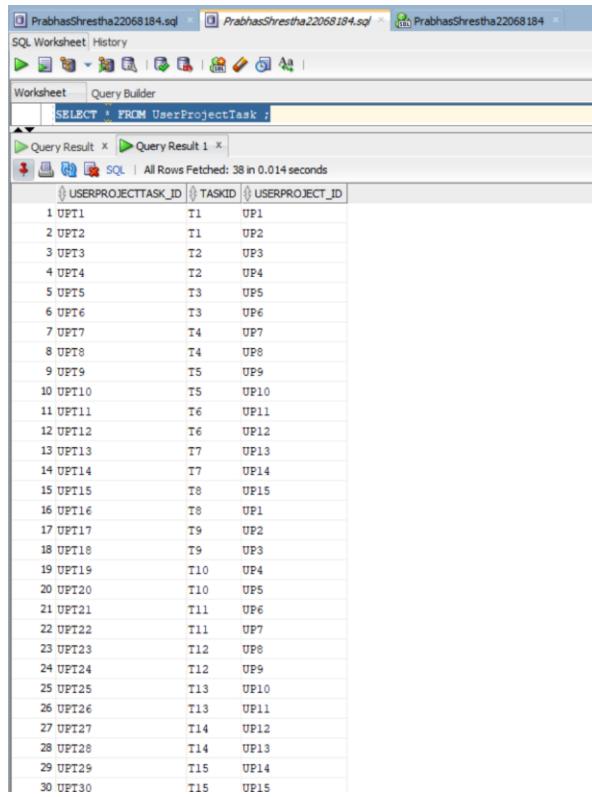


The screenshot shows the SQL Server Management Studio interface with three tabs at the top: 'PrabhasShrestha22068184.sql', 'PrabhasShrestha22068184.sql', and 'PrabhasShrestha22068184'. The 'Query Builder' tab is selected. A query 'SELECT * FROM commentlog;' is entered in the query editor. The results are displayed in a table titled 'Query Result'.

	COMMENTID	USERID	TASKID	COMMENTDESC	COMMENTDATE
1	C1	1	T1	Started the system design phase.	02-MAR-24
2	C2	2	T1	Working on defining system architecture.	05-MAR-24
3	C3	3	T2	Development phase initiated.	06-APR-24
4	C4	4	T2	Currently working on feature A development.	08-APR-24
5	C5	5	T3	Bug fixing and initial testing for the module.	25-JUN-24
6	C6	6	T4	Deployment setup started.	06-AUG-24
7	C7	7	T4	Deployment process ongoing, no major issues.	08-AUG-24
8	C8	8	T5	Project review scheduled for next week.	20-SEP-24
9	C9	9	T6	User testing phase started. Initial feedback is positive.	05-OCT-24
10	C10	10	T6	Issues with UI during user testing. Working on fixes.	07-OCT-24
11	C11	11	T7	Documentation of features and APIs started.	06-OCT-24
12	C12	12	T8	UI/UX design phase progressing, getting client feedback.	15-MAR-24
13	C13	13	T9	API development going as planned. Focus on backend integration.	15-APR-24
14	C14	14	T10	Database setup completed, moving to next phase.	18-JUN-24
15	C15	15	T11	Security testing phase started, initial scans show no vulnerabilities.	05-JUL-24

Figure 35: Figure showing the displayed values of CommentLog table.

i) UserProjectTask Table



The screenshot shows a SQL worksheet interface with three tabs at the top: 'PrabhasShrestha22068184.sql' (selected), 'PrabhasShrestha22068184.sqf', and 'PrabhasShrestha22068184'. The 'Worksheet' tab is active, displaying a 'Query Builder' window with the following SQL query:

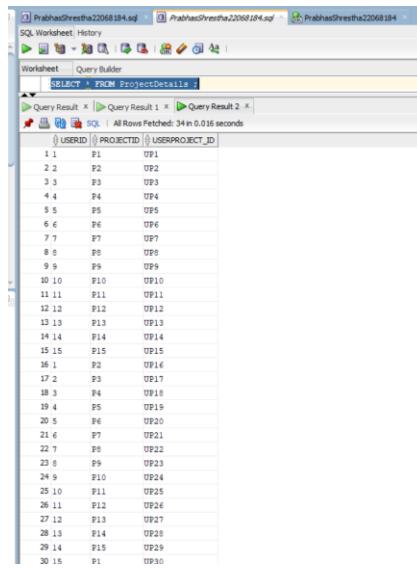
```
SELECT * FROM UserProjectTask ;
```

The results are shown in a 'Query Result' table with three columns: USERPROJECTTASK_ID, TASKID, and USERPROJECT_ID. The data consists of 38 rows, each containing a unique ID and corresponding values for TASKID and USERPROJECT_ID.

USERPROJECTTASK_ID	TASKID	USERPROJECT_ID
1	UPT1	T1 UP1
2	UPT2	T1 UP2
3	UPT3	T2 UP3
4	UPT4	T2 UP4
5	UPT5	T3 UP5
6	UPT6	T3 UP6
7	UPT7	T4 UP7
8	UPT8	T4 UP8
9	UPT9	T5 UP9
10	UPT10	T5 UP10
11	UPT11	T6 UP11
12	UPT12	T6 UP12
13	UPT13	T7 UP13
14	UPT14	T7 UP14
15	UPT15	T8 UP15
16	UPT16	T8 UP1
17	UPT17	T9 UP2
18	UPT18	T9 UP3
19	UPT19	T10 UP4
20	UPT20	T10 UP5
21	UPT21	T11 UP6
22	UPT22	T11 UP7
23	UPT23	T12 UP8
24	UPT24	T12 UP9
25	UPT25	T13 UP10
26	UPT26	T13 UP11
27	UPT27	T14 UP12
28	UPT28	T14 UP13
29	UPT29	T15 UP14
30	UPT30	T15 UP15

Figure 36: Figure showing the displayed values of UserProjectTask table.

j) ProjectDetails Table



The screenshot shows a SQL worksheet interface with three tabs at the top: 'PrabhasShrestha22068184.sql' (selected), 'PrabhasShrestha22068184.sqf', and 'PrabhasShrestha22068184'. The 'Worksheet' tab is active, displaying a 'Query Builder' window with the following SQL query:

```
SELECT * FROM ProjectDetails ;
```

The results are shown in a 'Query Result' table with three columns: USERID, PROJECTID, and USERPROJECT_ID. The data consists of 34 rows, each containing a unique ID and corresponding values for PROJECTID and USERPROJECT_ID.

USERID	PROJECTID	USERPROJECT_ID
1	P1	UP1
2	P2	UP2
3	P3	UP3
4	P4	UP4
5	P5	UP5
6	P6	UP6
7	P7	UP7
8	P8	UP8
9	P9	UP9
10	P10	UP10
11	P11	UP11
12	P12	UP12
13	P13	UP13
14	P14	UP14
15	P15	UP15
16	P2	UP16
17	P3	UP17
18	P4	UP18
19	P5	UP19
20	P6	UP20
21	P7	UP21
22	P8	UP22
23	P9	UP23
24	P10	UP24
25	P11	UP25
26	P12	UP26
27	P13	UP27
28	P14	UP28
29	P15	UP29
30	P1	UP30

Figure 37: Figure showing the displayed values of ProjectDetails table.

11.Forms

11.1. Home Page

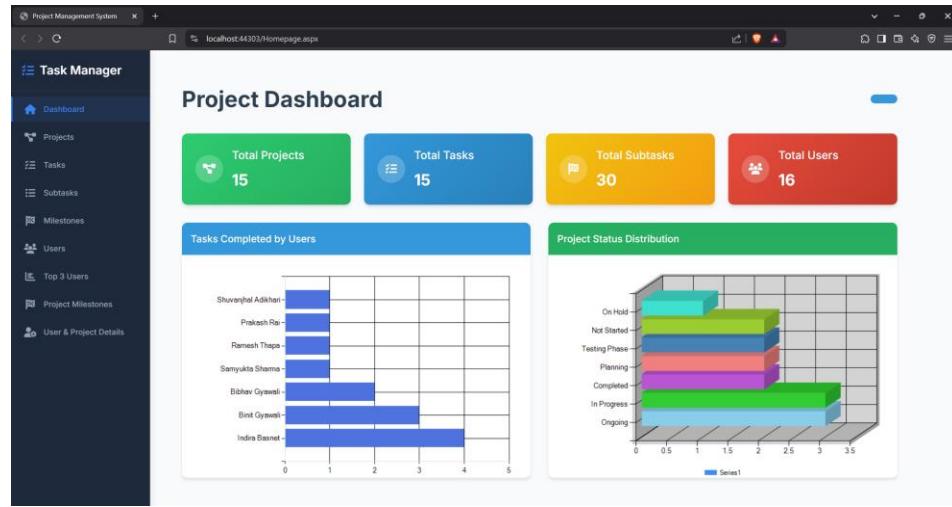


Figure 38: Figure showing the systems homepage.

11.2. Complex Form and Queries

11.2.1. SQL Queries

11.2.1.1. User Project

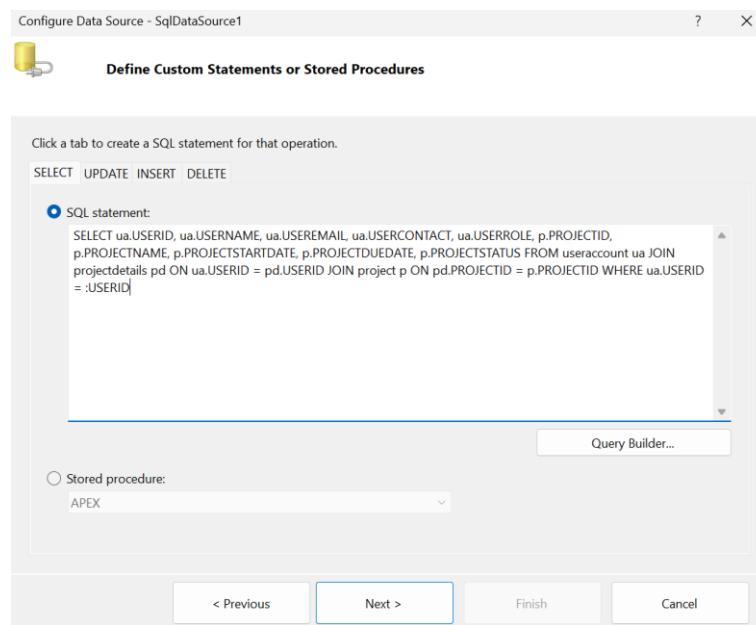


Figure 39: Figure showing the query of user project table.

11.2.1.2 Project Milestone

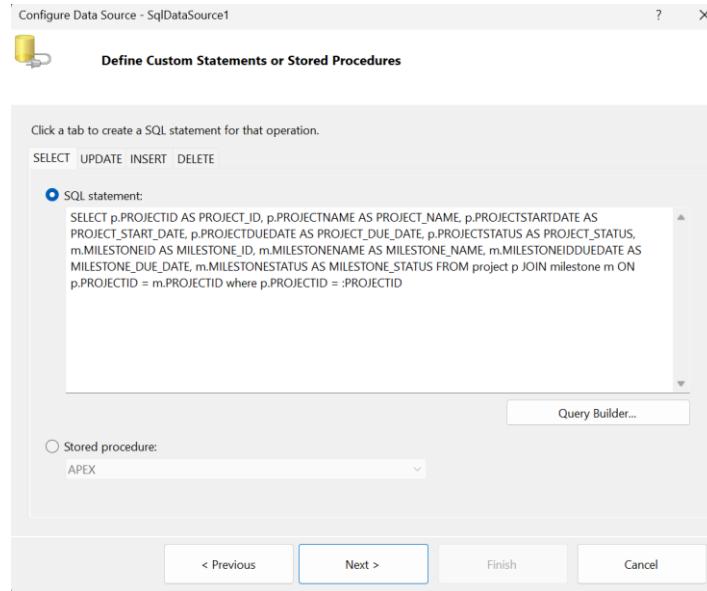


Figure 40: Figure showing the query of project milestone table.

11.2.1.3 Top Performer

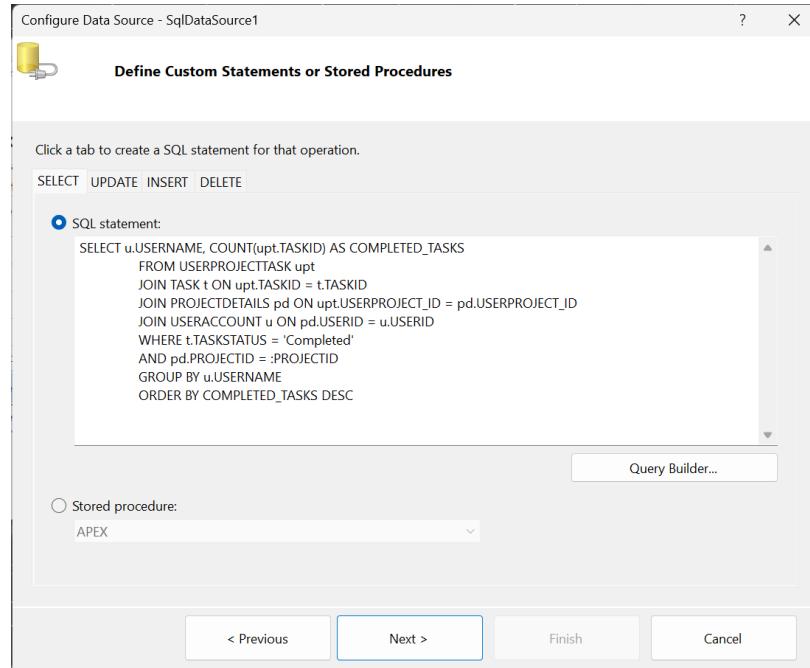


Figure 41: Figure showing the query of top performer for each project.

11.2.2. Complex Form

11.2.2.1. User Project Form

The screenshot shows a web application interface titled "User Project Details". On the left, there is a sidebar menu under "Task Manager" with options like Dashboard, Projects, Tasks, Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The "User & Project Details" option is currently selected. The main content area has a header "User Project Details" with a subtitle "View projects assigned to users". Below this is a section titled "Select User" with a dropdown menu showing "Prabhas Shrestha". Underneath is a section titled "User Projects" containing a table with the following data:

USER ID	NAME	EMAIL	CONTACT	ROLE	PROJECT ID	PROJECT NAME	START DATE	DUUE DATE	STATUS
1	Prabhas Shrestha	prabhasshrestha000@gmail.com	9801234567	System Administrator	P1	Cloud Migration	03/01/2024	08/01/2024	In Progress
1	Prabhas Shrestha	prabhasshrestha000@gmail.com	9801234567	System Administrator	P2	AI Chatbot Development	02/15/2024	06/30/2024	Ongoing

Figure 42: Figure showing the complex form of user project table.

11.2.2.2. Project Milestone Form

The screenshot shows a web application interface titled "Project Milestones". The sidebar menu is identical to Figure 42. The main content area has a header "Project Milestones" with a subtitle "Track project milestones and their status". Below this is a section titled "Milestone Overview" with a dropdown menu showing "Cloud Migration". Underneath is a table with the following data:

PROJECT ID	PROJECT NAME	START DATE	DUUE DATE	PROJECT STATUS	MILESTONE ID	MILESTONE NAME	MILESTONE DUE DATE	MILESTONE STATUS
P1	Cloud Migration	3/1/2024 12:00:00 AM	8/1/2024 12:00:00 AM	In Progress	M002	Cloud Migration Phase 2	2024-06-01	Not Started

Figure 43: Figure showing the complex form of project milestone table.

11.2.2.3. Top Performer Form

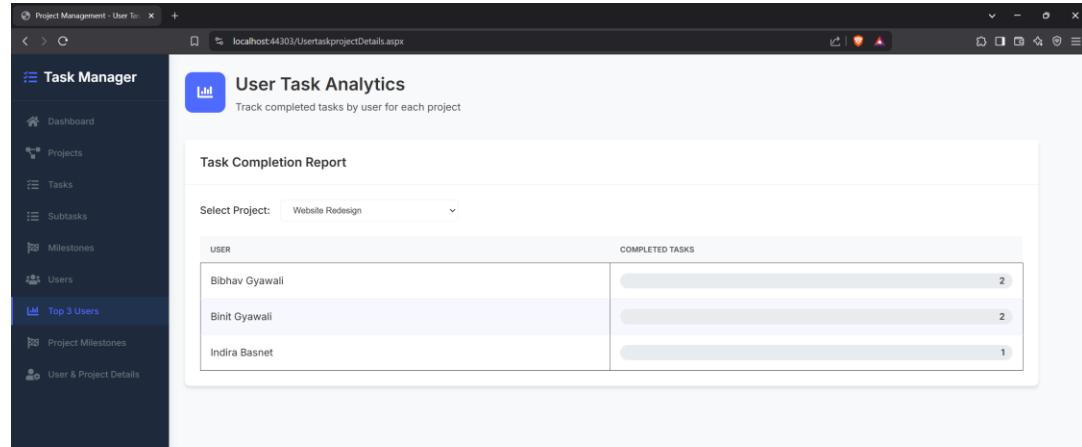


Figure 44: Figure showing the complex form of top performer for each project.

11.3. Simple Form

11.3.1. UserAccount

ACTIONS	ID	NAME	EMAIL	CONTACT	ROLE
	1	Prabhas Shrestha	prabhasshrestha00@gmail.com	9801234567	System Administrator
	2	Subhangi Khanal	subhangakhanal@gmail.com	9812345678	Software Engineer
	3	Bibhav Gyawali	bibhavgyawali@gmail.com	9823456789	Database Administrator
	4	Shuvanjal Adikari	shuvanjaladikari@gmail.com	9834567890	IT Manager
	5	Binit Gyawali	binitgyawali@gmail.com	9845678901	Frontend Developer
	6	Mahendra Khanal	mahendrakhanal@gmail.com	9856789012	Backend Developer
	7	Badri Adikari	badriadikari@gmail.com	9867890123	Cyber Security Analyst
	8	Biju Khanal	biju.khanal@gmail.com	9878901234	Network Engineer

Figure 45: Figure showing simple web forms of useraccount.

11.3.2. Project

ACTIONS	ID	PROJECT NAME	START DATE	DU DATE	STATUS
	P1	Cloud Migration	03/01/2024	08/01/2024	In Progress
	P2	AI Chatbot Development	02/15/2024	06/30/2024	Ongoing
	P3	E-commerce Platform Upgrade	01/10/2024	05/15/2024	Testing Phase
	P4	Cybersecurity Enhancement	04/01/2024	09/30/2024	Not Started
	P5	Network Infrastructure Overhaul	03/20/2024	10/20/2024	Planning
	P6	Machine Learning Model Deployment	05/05/2024	11/05/2024	On Hold
	P7	IT Support Automation	06/01/2024	12/01/2024	Not Started
	P8	Big Data Analytics Platform	02/01/2024	07/15/2024	Ongoing

Figure 46: Figure showing simple web forms of project.

11.3.3. Tasks

ACTIONS	ID	TASK NAME	START DATE	END DATE	STATUS
	T2	Development	04/05/2024	06/15/2024	Not Started
	T3	Testing	06/20/2024	08/01/2024	Pending
	T4	Deployment	08/05/2024	09/10/2024	Ongoing
	T5	Project Review	09/15/2024	09/25/2024	Completed
	T6	User Testing	10/01/2024	10/20/2024	In Progress
	T7	Documentation	10/05/2024	10/30/2024	Not Started
	T8	UI/UX Design	03/10/2024	04/10/2024	Ongoing
	T9	API Development	04/10/2024	06/01/2024	Pending

Figure 47: Figure showing simple web forms of task.

11.3.4. SubTask

ACTIONS	ID	SUB TASK NAME	TASK	ASSIGNED TO	START DATE	DUUE DATE	STATUS
	S1	Database Schema Design	Website	Prabhas Shrestha	03/01/2024	03/10/2024	In Progress
	S2	Backend API Development	Development	Subhangi Khanal	02/15/2024	03/05/2024	Ongoing
	S3	Performance Optimization	Testing	Bibhav Gyawali	01/20/2024	02/10/2024	Completed
	S4	Cybersecurity Audit	Deployment	Shuvanjal Adikari	04/01/2024	04/20/2024	Not Started
	S5	Frontend Component Development	Project Review	Binit Gyawali	03/10/2024	03/30/2024	In Progress
	S6	API Integration Testing	User Testing	Mahendra Khanal	05/01/2024	05/15/2024	On Hold
	S7	Security Patch Deployment	Documentation	Badri Adikari	06/05/2024	06/25/2024	Not Started

Figure 48: Figure showing simple web forms of Subtask.

11.3.5. Milestone

ACTIONS	ID	MILESTONE NAME	PROJECT	DUE DATE	STATUS
	M001	Database Optimization & Scaling	IT Support Automation	2025-01-12	Not Started
	M002	Cloud Migration Phase 2	Cloud Migration	2024-06-01	Not Started
	M003	AI Chatbot Initial Release	AI Chatbot Development	2024-04-30	Completed
	M004	AI Chatbot Full Deployment	AI Chatbot Development	2024-06-15	Not Started
	M005	E-commerce Platform Beta Test	E-commerce Platform Upgrade	2024-03-15	In Progress
	M006	E-commerce Platform Full Launch	E-commerce Platform Upgrade	2024-05-15	Not Started
	M007	Cybersecurity Initial Assessment	Cybersecurity Enhancement	2024-05-01	Not Started

Figure 49: Figure showing simple web forms of Milestone.

11.3.6. ResourceCatalog

	RESOURCENAME	RESOURCEID
Edit Delete	Cloud Server	R001
Edit Delete	Laptop	R002
Edit Delete	Wi-Fi Router	R003
Edit Delete	Database Software	R004
Edit Delete	Data Backup Solution	R005
Edit Delete	API Integration Tool	R006
Edit Delete	High-Speed SSD	R007
Edit Delete	Firewall	R008
Edit Delete	Load Balancer	R009
Edit Delete	Jira Project Management Tool	R010
Edit Delete	AWS Cloud Storage	R011
Edit Delete	Docker Containers	R012
Edit Delete	Video Conferencing Software	R013
Edit Delete	Network Switch	R014
Edit Delete	Power Backup Unit	R015

RESOURCENAME:

RESOURCEID:

[Insert](#) [Cancel](#)

Figure 50: Figure showing simple web forms of ResourceCatalog.

11.3.7. TaskDetails

	RESOURCEID	TASKID	TASKRESOURCE_ID
Edit Delete	R001	T1	TR1
Edit Delete	R004	T1	TR2
Edit Delete	R005	T2	TR3
Edit Delete	R006	T2	TR4
Edit Delete	R007	T3	TR5
Edit Delete	R008	T3	TR6
Edit Delete	R009	T4	TR7
Edit Delete	R010	T4	TR8
Edit Delete	R011	T5	TR9
Edit Delete	R012	T5	TR10
Edit Delete	R013	T6	TR11
Edit Delete	R014	T6	TR12
Edit Delete	R015	T7	TR13
Edit Delete	R003	T7	TR14
Edit Delete	R001	T8	TR15
Edit Delete	R005	T8	TR16
Edit Delete	R006	T9	TR17
Edit Delete	R007	T9	TR18
Edit Delete	R002	T10	TR19
Edit Delete	R013	T10	TR20
Edit Delete	R004	T11	TR21
Edit Delete	R014	T11	TR22
Edit Delete	R008	T12	TR23
Edit Delete	R015	T12	TR24
Edit Delete	R001	T13	TR25
Edit Delete	R003	T13	TR26
Edit Delete	R002	T14	TR27
Edit Delete	R009	T14	TR28
Edit Delete	R005	T15	TR29
Edit Delete	R006	T15	TR30

RESOURCEID:

 TASKID:

 TASKRESOURCE_ID:

[Insert](#) [Cancel](#)

Figure 51: Figure showing simple web forms of TaskDetails.

11.3.8. CommentLog

	USERID	COMMENTID	TASKID	COMMENTDESC	COMMENTDATE
Edit Delete	1	C1	T1	Started the system design phase.	3/2/2024 12:00:00 AM
Edit Delete	2	C2	T1	Working on defining system architecture.	3/5/2024 12:00:00 AM
Edit Delete	3	C3	T2	Development phase initiated.	4/6/2024 12:00:00 AM
Edit Delete	4	C4	T2	Currently working on feature A development.	4/8/2024 12:00:00 AM
Edit Delete	5	C5	T3	Bug fixing and initial testing for the module.	6/25/2024 12:00:00 AM
Edit Delete	6	C6	T4	Deployment setup started.	8/6/2024 12:00:00 AM
Edit Delete	7	C7	T4	Deployment process ongoing, no major issues.	8/8/2024 12:00:00 AM
Edit Delete	8	C8	T5	Project review scheduled for next week.	9/20/2024 12:00:00 AM
Edit Delete	9	C9	T6	User testing phase started. Initial feedback is positive.	10/5/2024 12:00:00 AM
Edit Delete	10	C10	T6	Issues with UI during user testing. Working on fixes.	10/7/2024 12:00:00 AM
Edit Delete	11	C11	T7	Documentation of features and APIs started.	10/6/2024 12:00:00 AM
Edit Delete	12	C12	T8	UI/UX design phase progressing, getting client feedback.	3/15/2024 12:00:00 AM
Edit Delete	13	C13	T9	API development going as planned. Focus on backend integration.	4/15/2024 12:00:00 AM
Edit Delete	14	C14	T10	Database setup completed, moving to next phase.	6/18/2024 12:00:00 AM
Edit Delete	15	C15	T11	Security testing phase started, initial scans show no vulnerabilities.	7/5/2024 12:00:00 AM

USERID: [▼](#)

COMMENTID:

TASKID: [▼](#)

COMMENTDESC:

COMMENTDATE:

[Insert](#) [Cancel](#)

Figure 52: Figure showing simple web forms of CommentLog.

11.3.9. UserProjectTask

Edit	UP3	T2	UPT3
Edit	UP4	T2	UPT4
Edit	UP5	T3	UPT5
Edit	UP6	T3	UPT6
Edit	UP7	T4	UPT7
Edit	UP8	T4	UPT8
Edit	UP9	T5	UPT9
Edit	UP10	T5	UPT10
Edit	UP11	T6	UPT11
Edit	UP12	T6	UPT12
Edit	UP13	T7	UPT13
Edit	UP14	T7	UPT14
Edit	UP15	T8	UPT15
Edit	UP1	T8	UPT16
Edit	UP2	T9	UPT17
Edit	UP3	T9	UPT18
Edit	UP4	T10	UPT19
Edit	UP5	T10	UPT20
Edit	UP6	T11	UPT21
Edit	UP7	T11	UPT22
Edit	UP8	T12	UPT23
Edit	UP9	T12	UPT24
Edit	UP10	T13	UPT25
Edit	UP11	T13	UPT26
Edit	UP12	T14	UPT27
Edit	UP13	T14	UPT28
Edit	UP14	T15	UPT29
Edit	UP15	T15	UPT30
Edit	UP31	T14	UPT33
Edit	UP1	T001	UPT31
Edit	UP31	T10	UPT32
Edit	UP32	T10	UPT34
Edit	UP33	T14	UPT35
Edit	UP32	T14	UPT36
Edit	UP33	T14	UPT37
Edit	UP32	T14	UPT38

USERPROJECT_ID:

 TASKID:

 USERPROJECTTASK_ID:

[Insert](#) [Cancel](#)

Figure 53: Figure showing simple web forms of UserProjectTask.

11.3.10. ProjectDetails

	USERPROJECT_ID	PROJECTID	USERID
Edit Delete	UP1	P1	1
Edit Delete	UP2	P2	2
Edit Delete	UP3	P3	3
Edit Delete	UP4	P4	4
Edit Delete	UP5	P5	5
Edit Delete	UP6	P6	6
Edit Delete	UP7	P7	7
Edit Delete	UP8	P8	8
Edit Delete	UP9	P9	9
Edit Delete	UP10	P10	10
Edit Delete	UP11	P11	11
Edit Delete	UP12	P12	12
Edit Delete	UP13	P13	13
Edit Delete	UP14	P14	14
Edit Delete	UP15	P15	15
Edit Delete	UP16	P2	1
Edit Delete	UP17	P3	2
Edit Delete	UP18	P4	3
Edit Delete	UP19	P5	4
Edit Delete	UP20	P6	5
Edit Delete	UP21	P7	6
Edit Delete	UP22	P8	7
Edit Delete	UP23	P9	8
Edit Delete	UP24	P10	9
Edit Delete	UP25	P11	10
Edit Delete	UP26	P12	11
Edit Delete	UP27	P13	12
Edit Delete	UP28	P14	13
Edit Delete	UP29	P15	14
Edit Delete	UP30	P1	15
Edit Delete	UP32	P2	9
Edit Delete	UP33	P9	5
Edit Delete	UP31	P9	3
Edit Delete	UP34	P9	8

USERPROJECT_ID:

PROJECTID: [▼](#)

USERID: [▼](#)

[Insert](#) [Cancel](#)

Figure 54: Figure showing simple web forms of ProjectDetails.

12. User manual

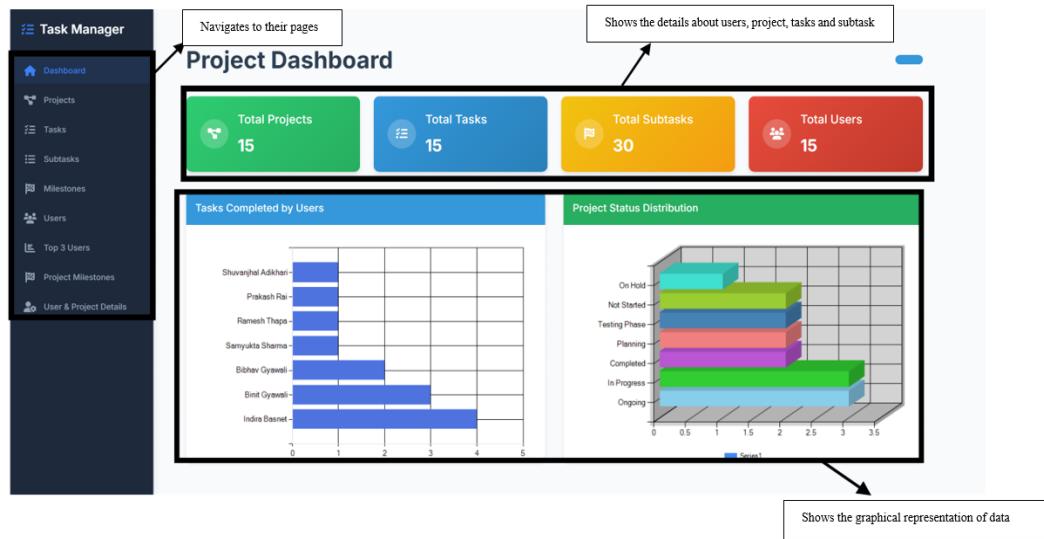


Figure 55: Figure showing user Manual for homepage.

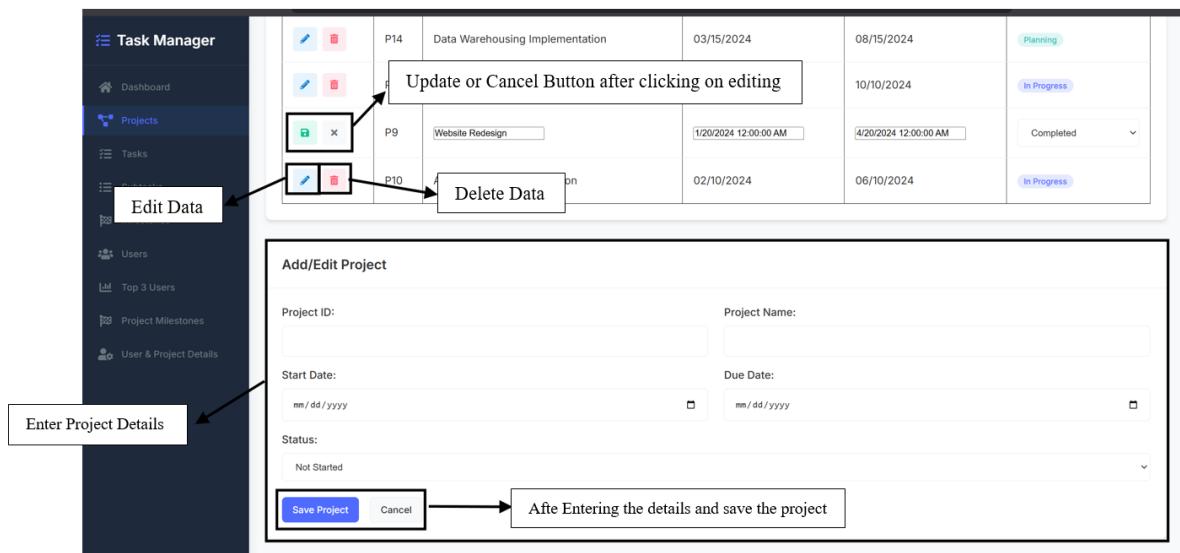


Figure 56: Figure showing user Manual for project page.

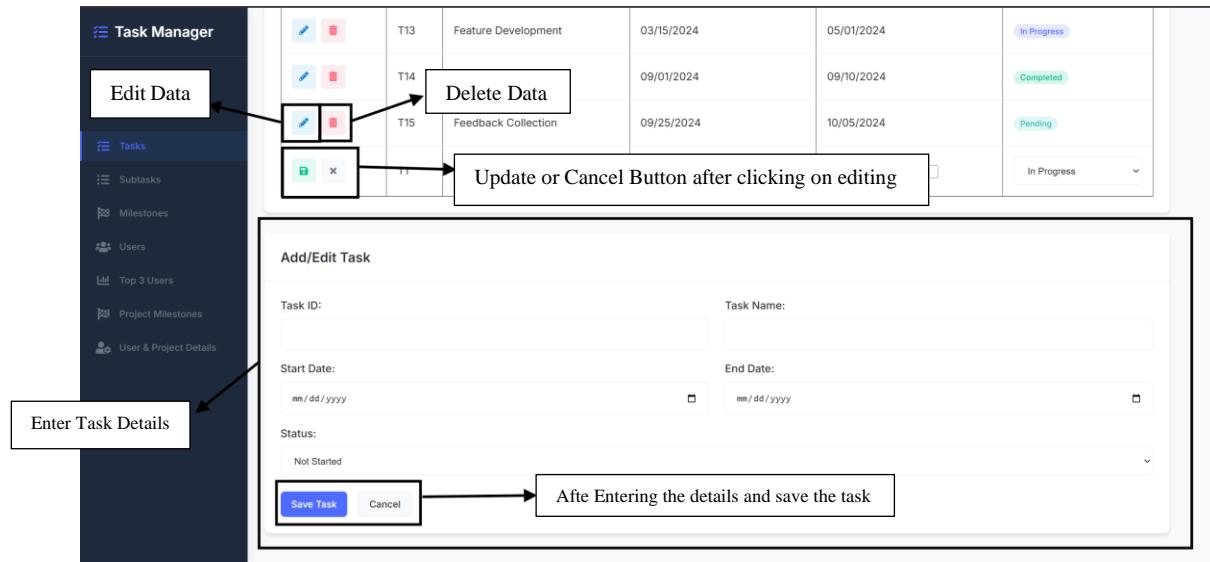


Figure 57: Figure showing user Manual for task page.

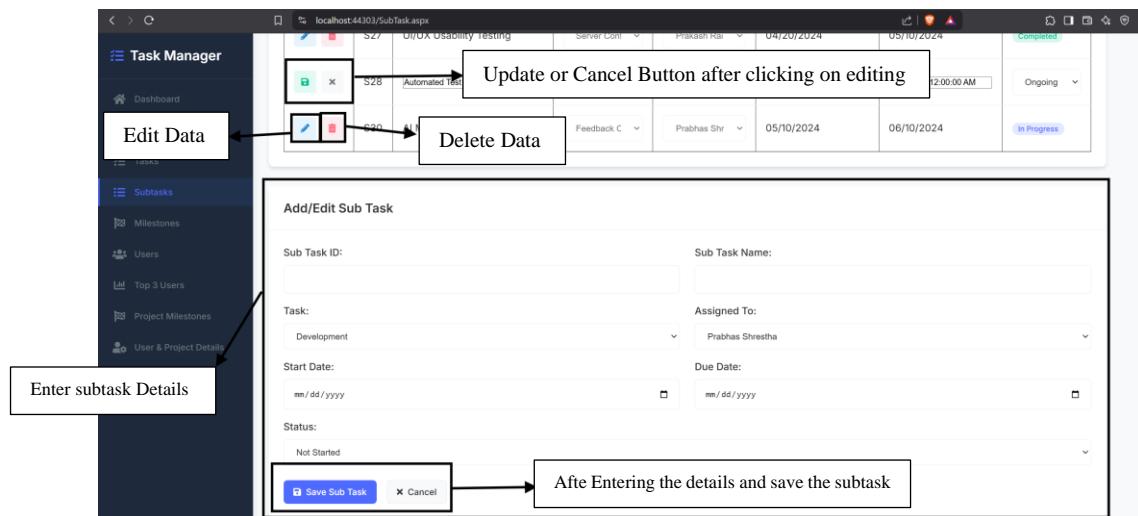


Figure 58: Figure showing user Manual for subtask page.

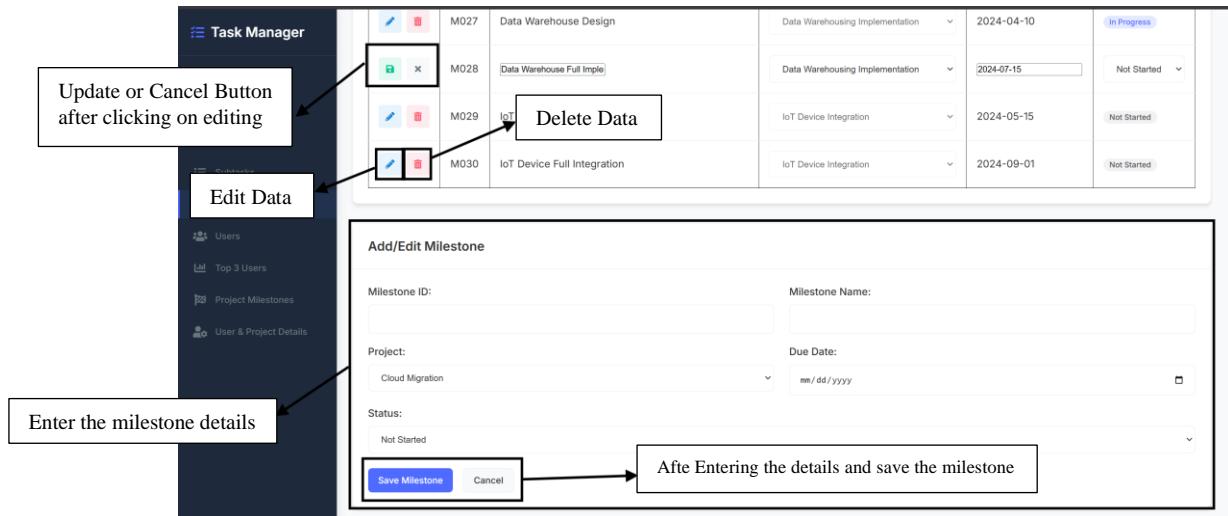


Figure 59: Figure showing user Manual for milestone page.

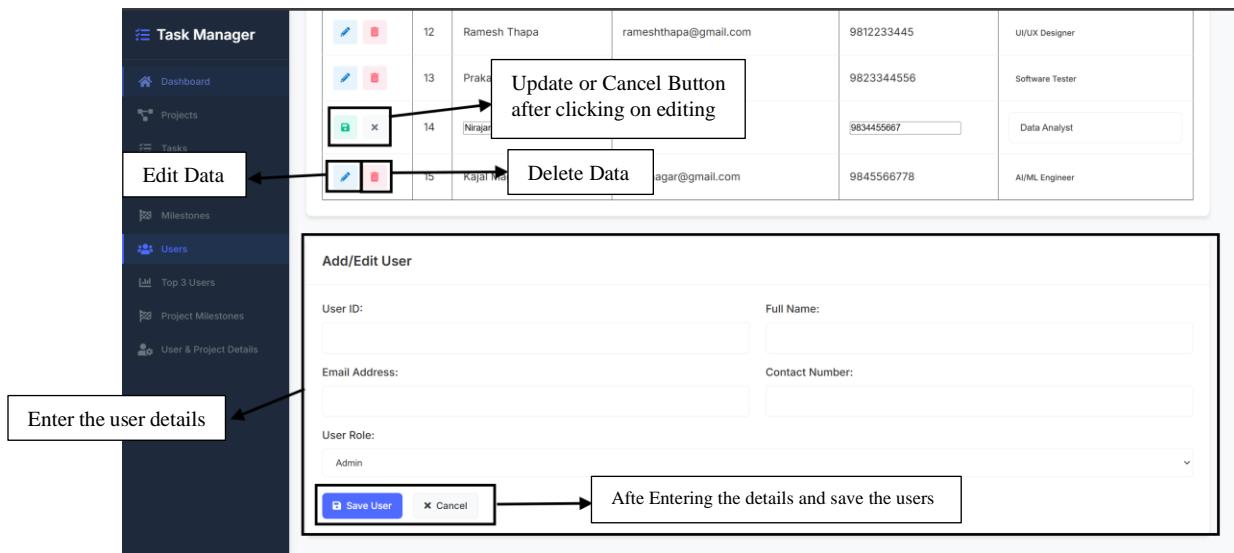


Figure 60: Figure showing user Manual for Users page.

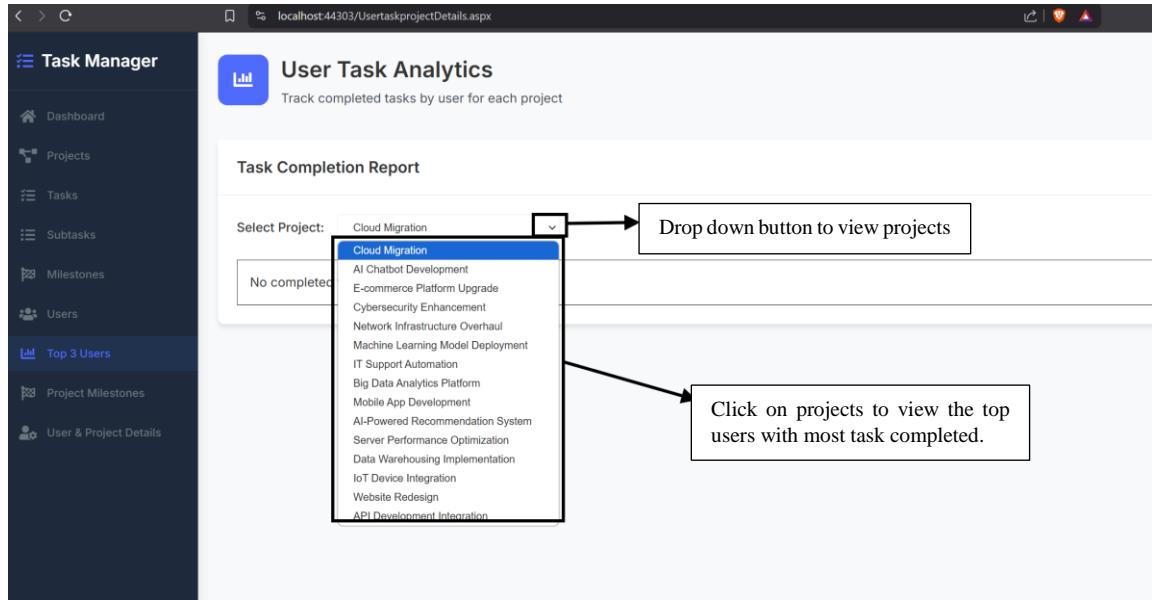


Figure 61: Figure showing user Manual for Top 3 user page.

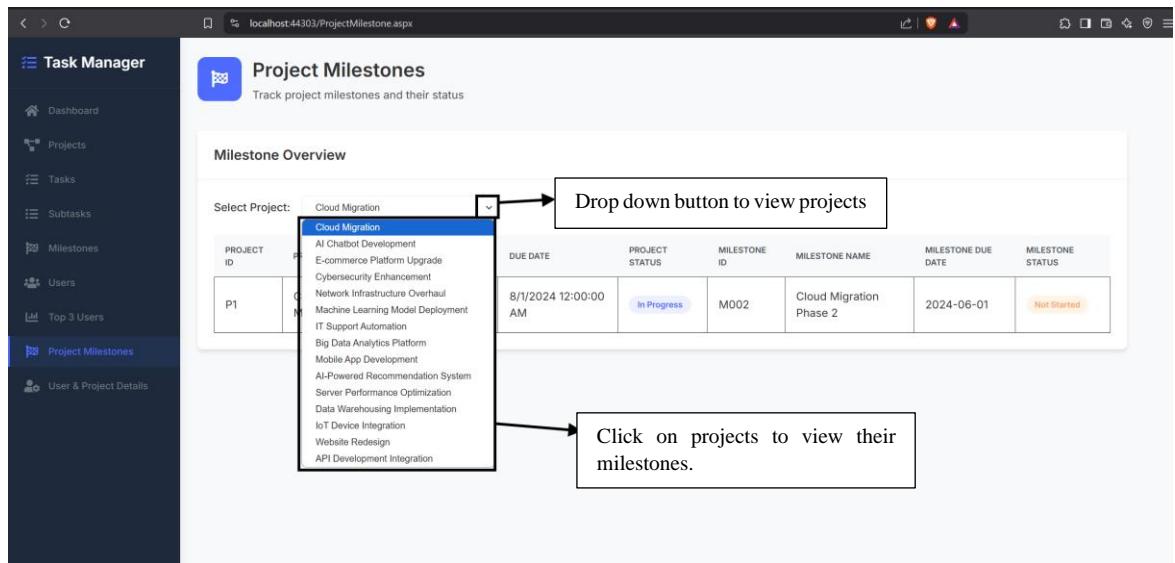
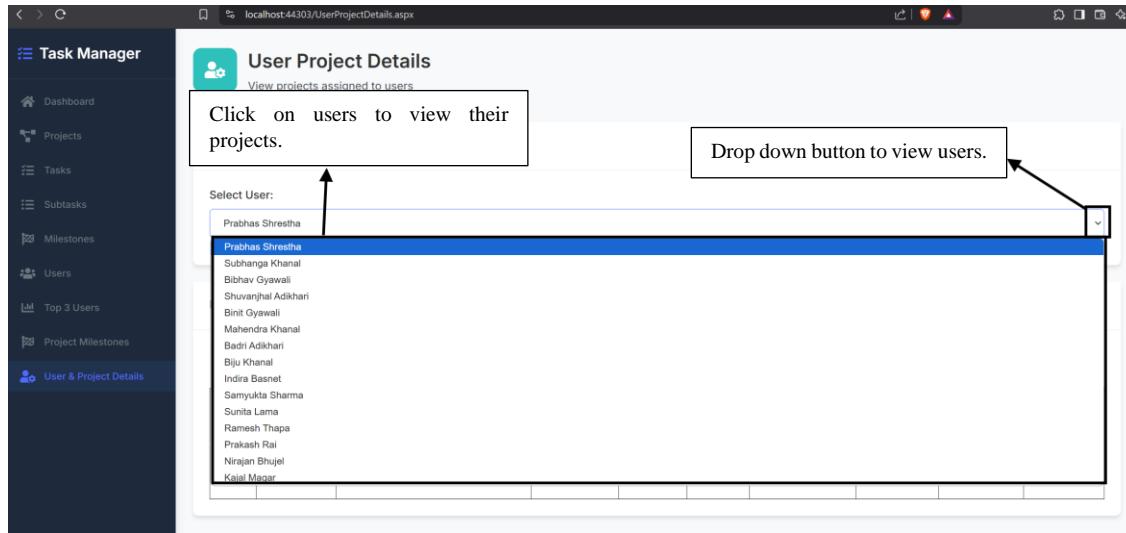


Figure 62: Figure showing user Manual for project milestone page.



13. Testing

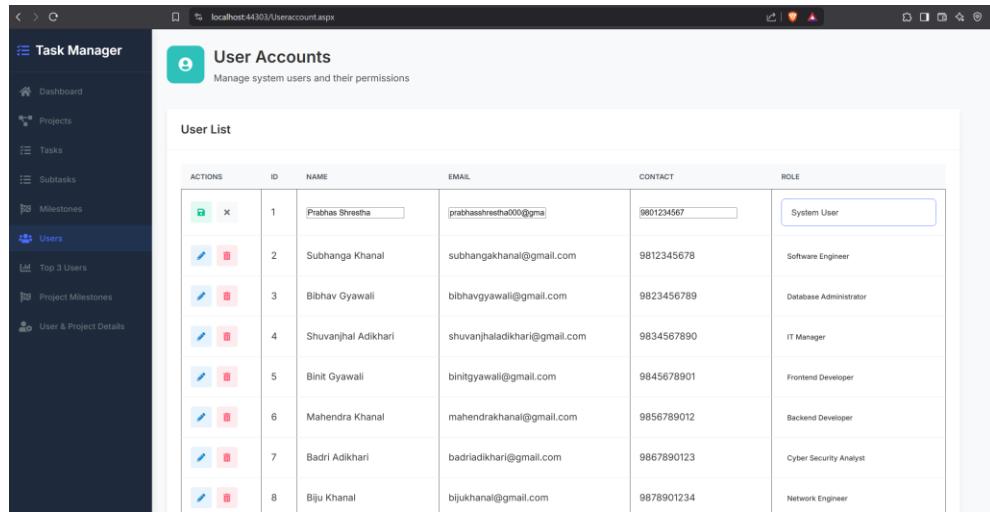
13.1 Simple Forms

13.1.1. Useraccount

a) Editing

User List					
ACTIONS	ID	NAME	EMAIL	CONTACT	ROLE
	1	Prabhas Shrestha	prabhasshrestha00@gmail.com	9801234567	System Administrator
	2	Subhangi Khanal	subhangakhanal@gmail.com	9812345678	Software Engineer
	3	Bibhav Gyawali	bibhavgyawali@gmail.com	9823456789	Database Administrator
	4	Shuvanjal Adikhar	shuvanjaladikhar@gmail.com	9834567890	IT Manager
	5	Binit Gyawali	binitgyawali@gmail.com	9845678901	Frontend Developer
	6	Mahendra Khanal	mahendrakhanal@gmail.com	9856789012	Backend Developer
	7	Badri Adikhar	badriadikhar@gmail.com	9867890123	Cyber Security Analyst
	8	Biju Khanal	bijuhanal@gmail.com	9878901234	Network Engineer

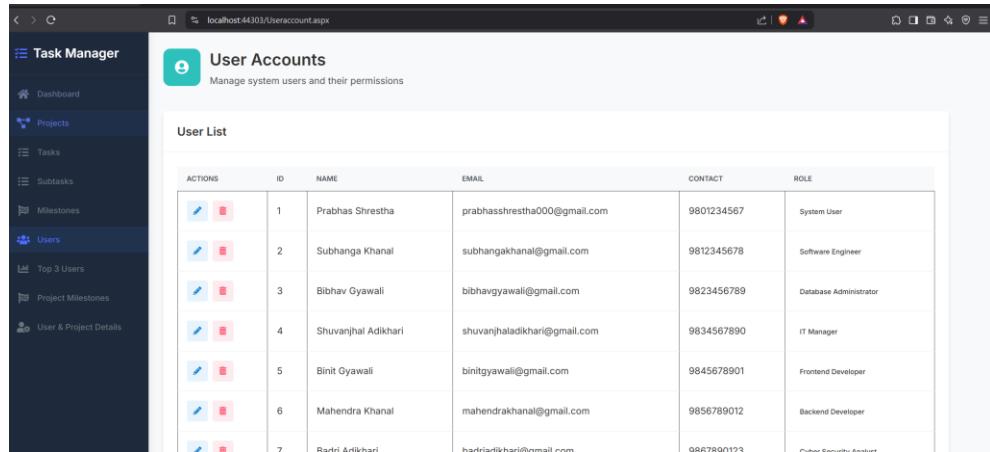
Figure 63: Figure showing useraccount form before editing.



The screenshot shows a web application interface titled "User Accounts" under the "Task Manager" sidebar. The sidebar includes links for Dashboard, Projects, Tasks, Subtasks, Milestones, Users (which is currently selected), Top 3 Users, Project Milestones, and User & Project Details. The main content area displays a "User List" table with columns: ACTIONS, ID, NAME, EMAIL, CONTACT, and ROLE. The table contains 8 rows of user data:

ACTIONS	ID	NAME	EMAIL	CONTACT	ROLE
	1	Prabhas Shrestha	prabhashrestha000@gmail.com	9801234567	System User
	2	Subhangi Khanal	subhangikhanal@gmail.com	9812345678	Software Engineer
	3	Bibhav Gyawali	bibhavgyawali@gmail.com	9823456789	Database Administrator
	4	Shuvanjal Adikari	shuvanjhaladikari@gmail.com	9834567890	IT Manager
	5	Binit Gyawali	binitgyawali@gmail.com	9845678901	Frontend Developer
	6	Mahendra Khanal	mahendrakhanal@gmail.com	9856789012	Backend Developer
	7	Badri Adikari	badriadikari@gmail.com	9867890123	Cyber Security Analyst
	8	Biju Khanal	biju.khanal@gmail.com	9878901234	Network Engineer

Figure 64: Figure showing useraccount form during editing.

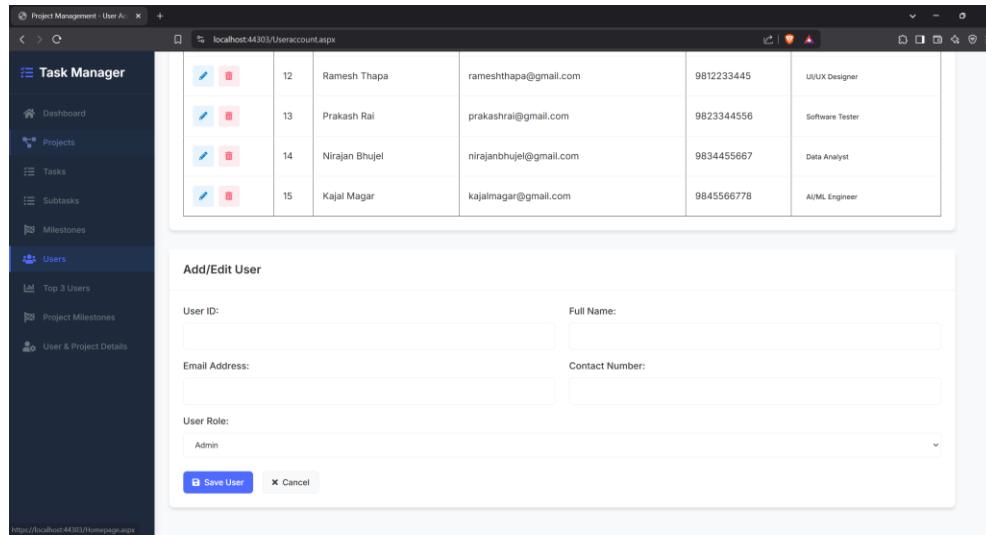


This screenshot is identical to Figure 64, showing the "User Accounts" page with the same user list and sidebar. The difference is that the last row of the table now shows a different contact number: "9887890123" instead of "9878901234".

ACTIONS	ID	NAME	EMAIL	CONTACT	ROLE
	1	Prabhas Shrestha	prabhashrestha000@gmail.com	9801234567	System User
	2	Subhangi Khanal	subhangikhanal@gmail.com	9812345678	Software Engineer
	3	Bibhav Gyawali	bibhavgyawali@gmail.com	9823456789	Database Administrator
	4	Shuvanjal Adikari	shuvanjhaladikari@gmail.com	9834567890	IT Manager
	5	Binit Gyawali	binitgyawali@gmail.com	9845678901	Frontend Developer
	6	Mahendra Khanal	mahendrakhanal@gmail.com	9856789012	Backend Developer
	7	Rati Adikari	ratiaidikari@gmail.com	9887890123	Cyber Security Analyst
	8	Biju Khanal	biju.khanal@gmail.com	9878901234	Network Engineer

Figure 65: Figure showing useraccount form after editing.

b) Inserting New Value

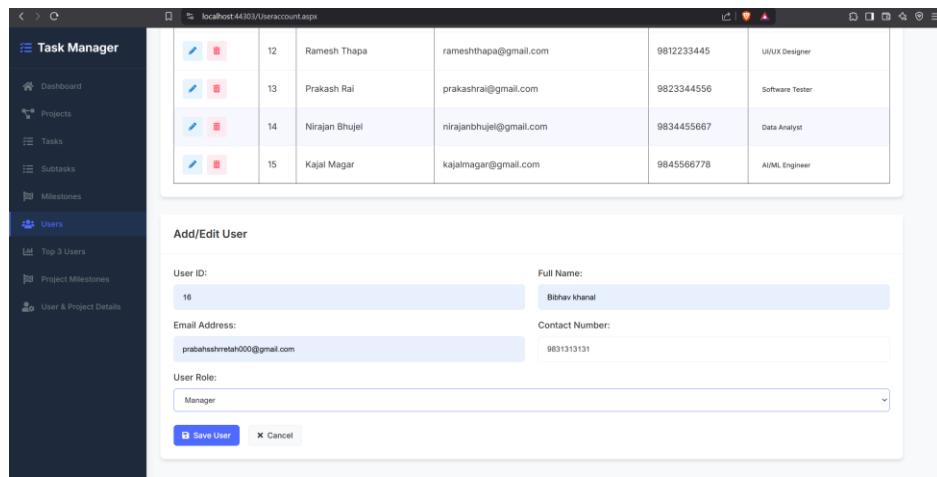


The screenshot shows a web application interface for 'Project Management - User Accounts'. On the left, a dark sidebar menu titled 'Task Manager' includes 'Dashboard', 'Projects', 'Tasks', 'Subtasks', 'Milestones', and 'Users' (which is currently selected). Under 'Users', there are links for 'Top 3 Users', 'Project Milestones', and 'User & Project Details'. The main content area displays a table of existing user accounts:

User ID	Full Name	Email Address	Contact Number	User Role
12	Ramesh Thapa	rameshthapa@gmail.com	9812233445	UI/UX Designer
13	Prakash Rai	prakashrai@gmail.com	9823344556	Software Tester
14	Nirajan Bhujel	nirajanbhujel@gmail.com	9834455667	Data Analyst
15	Kajal Magar	kajalmagar@gmail.com	9845566778	AI/ML Engineer

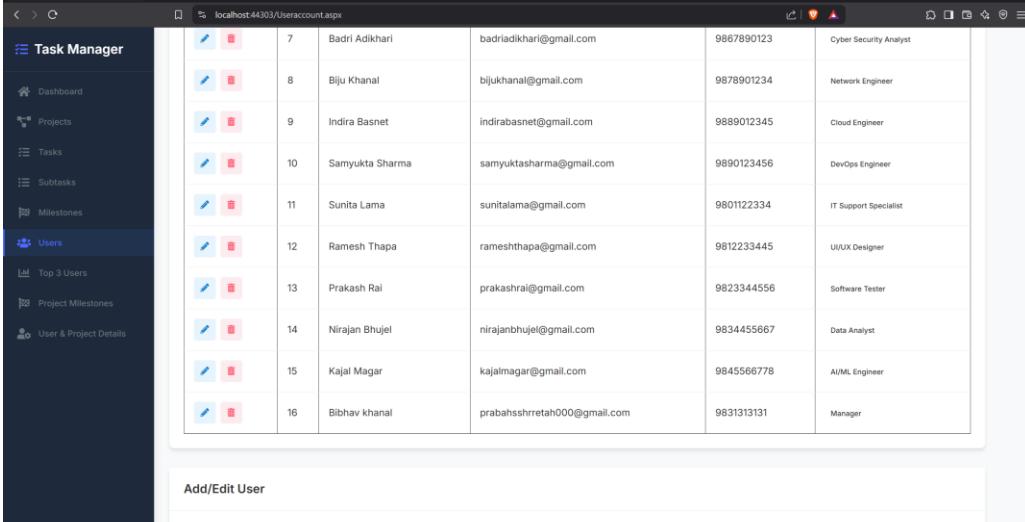
Below the table, a modal window titled 'Add/Edit User' is open. It contains fields for 'User ID' (set to 16), 'Full Name' (Bibhav Khanal), 'Email Address' (prabhastreah200@gmail.com), 'Contact Number' (9831313131), and 'User Role' (Manager). At the bottom of the modal are 'Save User' and 'Cancel' buttons.

Figure 66: Figure showing useraccount form before inserting new value.



This screenshot shows the same web application interface as Figure 66, but the 'User ID' field in the 'Add/Edit User' modal has been populated with the value '16'. All other fields ('Full Name', 'Email Address', 'Contact Number', and 'User Role') remain the same as in Figure 66. The modal is still open over the user account table.

Figure 67: Figure showing useraccount form during inserting new value.

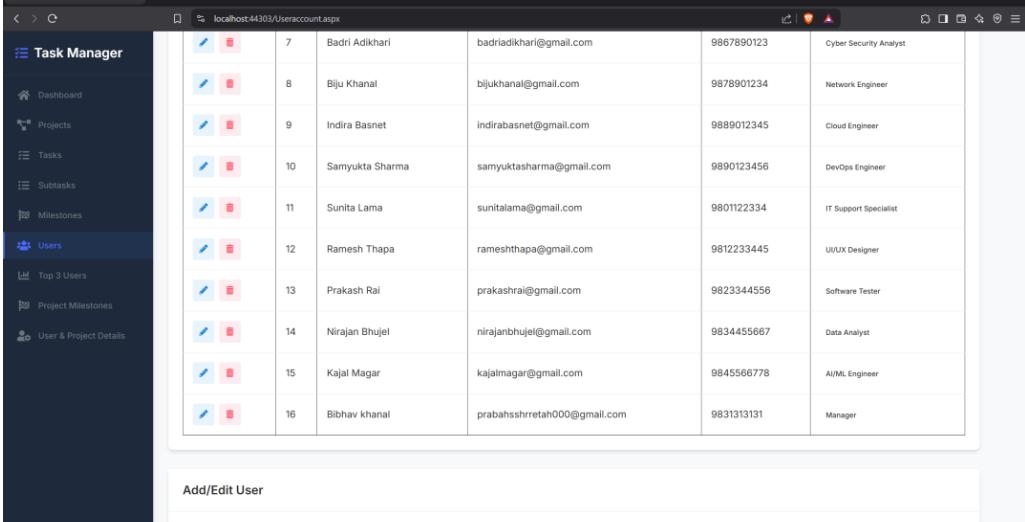


The screenshot shows a web application interface titled "Useraccount.aspx" running on "localhost:44303". The left sidebar contains a "Task Manager" navigation menu with options like Dashboard, Projects, Tasks, Subtasks, Milestones, and Users. The "Users" option is selected. The main content area displays a table of 16 user entries. Each entry includes a row number, name, email, phone number, and job title. At the bottom of the table is a button labeled "Add/Edit User".

		7	Badri Adikari	badriadihari@gmail.com	9867890123	Cyber Security Analyst
		8	Biju Khanal	bijukhanal@gmail.com	9878901234	Network Engineer
		9	Indira Basnet	indirabasnet@gmail.com	9889012345	Cloud Engineer
		10	Samyukta Sharma	samyuktasharma@gmail.com	9890123456	DevOps Engineer
		11	Sunita Lama	sunitalam@gmail.com	9801122334	IT Support Specialist
		12	Ramesh Thapa	rameshthapa@gmail.com	9812233445	UI/UX Designer
		13	Prakash Rai	prakashrai@gmail.com	9823344556	Software Tester
		14	Nirajan Bhujel	nirajanbhujel@gmail.com	9834455667	Data Analyst
		15	Kajal Magar	kajalmagar@gmail.com	9845566778	AI/ML Engineer
		16	Bibhav khanal	prabhshshretah00@gmail.com	9831313131	Manager

Figure 68: Figure showing useraccount form after inserting new value.

c) Deleting



This screenshot is identical to Figure 68, showing the "Useraccount.aspx" page with a list of 16 users. The difference is that the last row (Bibhav khanal) is highlighted with a yellow background, indicating it is selected for deletion. The "Add/Edit User" button is located at the bottom of the table.

		7	Badri Adikari	badriadihari@gmail.com	9867890123	Cyber Security Analyst
		8	Biju Khanal	bijukhanal@gmail.com	9878901234	Network Engineer
		9	Indira Basnet	indirabasnet@gmail.com	9889012345	Cloud Engineer
		10	Samyukta Sharma	samyuktasharma@gmail.com	9890123456	DevOps Engineer
		11	Sunita Lama	sunitalam@gmail.com	9801122334	IT Support Specialist
		12	Ramesh Thapa	rameshthapa@gmail.com	9812233445	UI/UX Designer
		13	Prakash Rai	prakashrai@gmail.com	9823344556	Software Tester
		14	Nirajan Bhujel	nirajanbhujel@gmail.com	9834455667	Data Analyst
		15	Kajal Magar	kajalmagar@gmail.com	9845566778	AI/ML Engineer
		16	Bibhav khanal	prabhshshretah00@gmail.com	9831313131	Manager

Figure 69: Figure showing useraccount form before deleting.

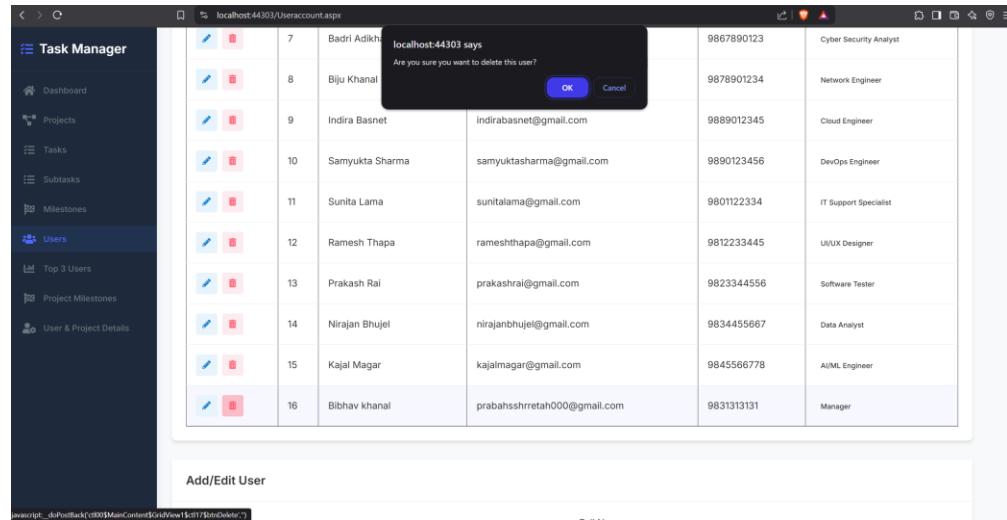


Figure 70: Figure showing useraccount form during deleting.

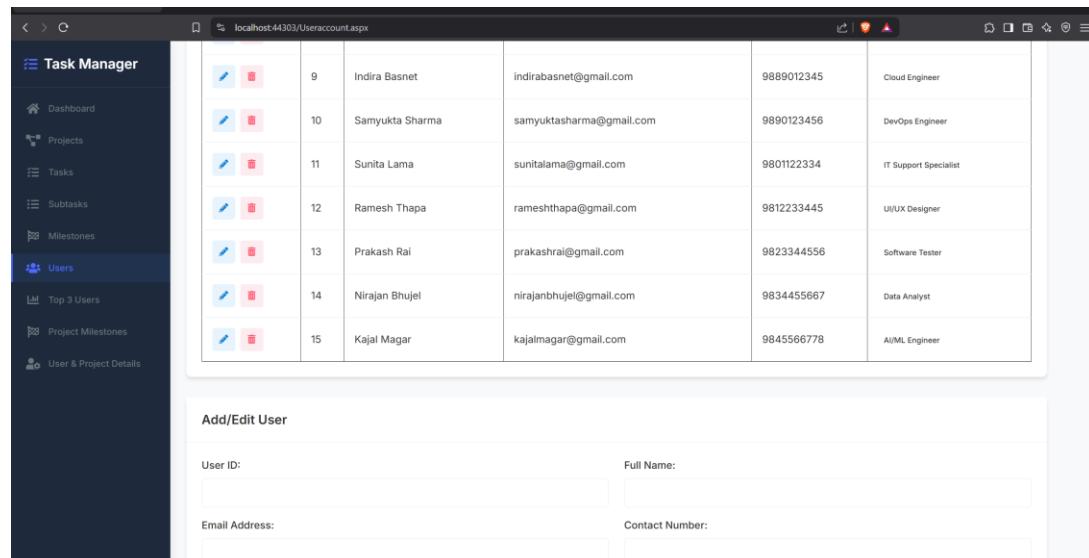


Figure 71: Figure showing useraccount form after deleting.

13.1.2. Project

a) Editing

ACTIONS	ID	PROJECT NAME	START DATE	DUUE DATE	STATUS
	P1	Cloud Migration	03/01/2024	08/01/2024	In Progress
	P2	AI Chatbot Development	02/15/2024	06/30/2024	Ongoing
	P3	E-commerce Platform Upgrade	01/10/2024	05/15/2024	Testing Phase
	P4	Cybersecurity Enhancement	04/01/2024	09/30/2024	Not Started
	P5	Network Infrastructure Overhaul	03/20/2024	10/20/2024	Planning
	P6	Machine Learning Model Deployment	05/05/2024	11/05/2024	On Hold
	P7	IT Support Automation	06/01/2024	12/01/2024	Not Started
	P8	Big Data Analytics Platform	02/01/2024	07/15/2024	Ongoing

Figure 72: Figure showing project form before editing.

ACTIONS	ID	PROJECT NAME	START DATE	DUUE DATE	STATUS
	P1	Cloud Migration	01/01/2024 12:00:00 AM	01/01/2024 12:00:00 AM	In Progress
	P2	AI Chatbot Development	02/15/2024	06/30/2024	Ongoing
	P3	E-commerce Platform Upgrade	01/10/2024	05/15/2024	Testing Phase
	P4	Cybersecurity Enhancement	04/01/2024	09/30/2024	Planning
	P5	Network Infrastructure Overhaul	03/20/2024	10/20/2024	On Hold
	P6	Machine Learning Model Deployment	05/05/2024	11/05/2024	Not Started
	P7	IT Support Automation	06/01/2024	12/01/2024	Not Started

Figure 73: Figure showing project form during editing.

ACTIONS	ID	PROJECT NAME	START DATE	DUUE DATE	STATUS
	P1	Cloud Migration	03/01/2024	08/01/2024	On Hold
	P2	AI Chatbot Development	02/15/2024	06/30/2024	Ongoing
	P3	E-commerce Platform Upgrade	01/10/2024	05/15/2024	Testing Phase
	P4	Cybersecurity Enhancement	04/01/2024	09/30/2024	Not Started
	P5	Network Infrastructure Overhaul	03/20/2024	10/20/2024	Planning
	P6	Machine Learning Model Deployment	05/05/2024	11/05/2024	On Hold
	P7	IT Support Automation	06/01/2024	12/01/2024	Not Started
	P8	Big Data Analytics Platform	02/01/2024	07/15/2024	Ongoing

Figure 74: Figure showing project form after editing.

b) Inserting

Add/Edit Project

Project ID:	Project Name:
Start Date:	Due Date:
mm/dd/yyyy	mm/dd/yyyy
Status:	
Not Started	

Save Project Cancel

Figure 75: Figure showing project form before inserting new value.

The screenshot shows a web-based Task Manager application. On the left is a dark sidebar with navigation links: Dashboard, Projects (selected), Tasks, Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The main content area has a header 'localhost:44303/Projects.aspx'. Below the header is a table with four rows of project data:

	P14	Data Warehousing Implementation	03/15/2024	08/15/2024	Planning
	P15	IoT Device Integration	05/10/2024	10/10/2024	In Progress
	P9	Website Redesign	01/20/2024	04/20/2024	Completed
	P10	API Development Integration	02/10/2024	06/10/2024	In Progress

Below the table is a modal dialog titled 'Add/Edit Project' containing the following fields:

- Project ID: P20
- Project Name: Recipe Makaer
- Start Date: 03/29/2025
- Due Date: 03/25/2025
- Status: In Progress

At the bottom of the modal are 'Save Project' and 'Cancel' buttons.

Figure 76: Figure showing project form during inserting new value.

This screenshot is identical to Figure 76, showing the same Task Manager application interface. The table now includes the newly added project row:

	P15	IoT Device Integration	05/10/2024	10/10/2024	In Progress
	P9	Website Redesign	01/20/2024	04/20/2024	Completed
	P10	API Development Integration	02/10/2024	06/10/2024	In Progress
	P20	Recipe Makaer	03/29/2025	03/25/2025	In Progress

The 'Add/Edit Project' modal is still open, showing the same data as Figure 76, indicating that the insertion process is still in progress.

Figure 77: Figure showing project form after inserting new value.

c) Deleting

The screenshot shows a web-based application titled 'Task Manager'. On the left, there is a sidebar with navigation links: Dashboard, Projects, Tasks, Subtasks, Milestones, Users, Project Milestones, and User & Project Details. The 'Projects' link is currently selected. The main area displays a table of projects:

ID	Name	Start Date	Due Date	Status
P15	IoT Device Integration	05/10/2024	10/10/2024	In Progress
P9	Website Redesign	01/20/2024	04/20/2024	Completed
P10	API Development Integration	02/10/2024	06/10/2024	In Progress
P20	Recipe Makaer	03/29/2025	03/25/2025	In Progress

Below the table, there is an 'Add/Edit Project' form:

Project ID:

Project Name:

Start Date: mm/dd/yyyy

Due Date: mm/dd/yyyy

Status: Not Started

Figure 78: Figure showing project form before deleting.

The screenshot shows the same 'Task Manager' application. A confirmation dialog box is overlaid on the page, asking 'Are you sure you want to delete this project?'. The dialog has 'OK' and 'Cancel' buttons.

The main area shows the project list table:

ID	Name	Start Date	Due Date	Status
P15	IoT Device Integration	05/10/2024	10/10/2024	In Progress
P9	Website Redesign	01/20/2024	04/20/2024	Completed
P10	API Development Integration	02/10/2024	06/10/2024	In Progress
P20	Recipe Makaer	03/29/2025	03/25/2025	In Progress

The 'Add/Edit Project' form is still visible at the bottom of the screen.

Figure 79: Figure showing project form during deleting.

The screenshot shows a web-based project management application. On the left is a dark sidebar with navigation links: Dashboard, Projects, Tasks, Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The main area has a header 'localhost:44303/Projects.aspx'. Below the header is a table with four rows of project data:

P14	Data Warehousing Implementation	03/15/2024	08/15/2024	Planning
P15	IoT Device Integration	05/10/2024	10/10/2024	In Progress
P9	Website Redesign	01/20/2024	04/20/2024	Completed
P10	API Development Integration	02/10/2024	06/10/2024	In Progress

Below the table is a modal window titled 'Add/Edit Project'. It contains fields for 'Project ID' (P16), 'Project Name' (Project X), 'Start Date' (mm/dd/yyyy), 'Due Date' (mm/dd/yyyy), and a dropdown 'Status' (Not Started). At the bottom of the modal are 'Save Project' and 'Cancel' buttons.

Figure 80: Figure showing project form after deleting.

13.1.3. Task

a) Editing

The screenshot shows a web-based task management application. The sidebar is identical to Figure 80. The main area has a header 'localhost:44303/Task.aspx'. Below the header is a table titled 'Task List' with eight rows of task data:

ACTIONS	ID	TASK NAME	START DATE	END DATE	STATUS
	T2	Development	04/05/2024	08/15/2024	Not Started
	T3	Testing	06/20/2024	08/01/2024	Pending
	T4	Deployment	08/05/2024	09/10/2024	Ongoing
	T5	Project Review	09/15/2024	09/25/2024	Completed
	T6	User Testing	10/01/2024	10/20/2024	In Progress
	T7	Documentation	10/05/2024	10/30/2024	Not Started
	T8	UI/UX Design	03/10/2024	04/10/2024	Ongoing

Figure 81: Figure showing task form before editing.

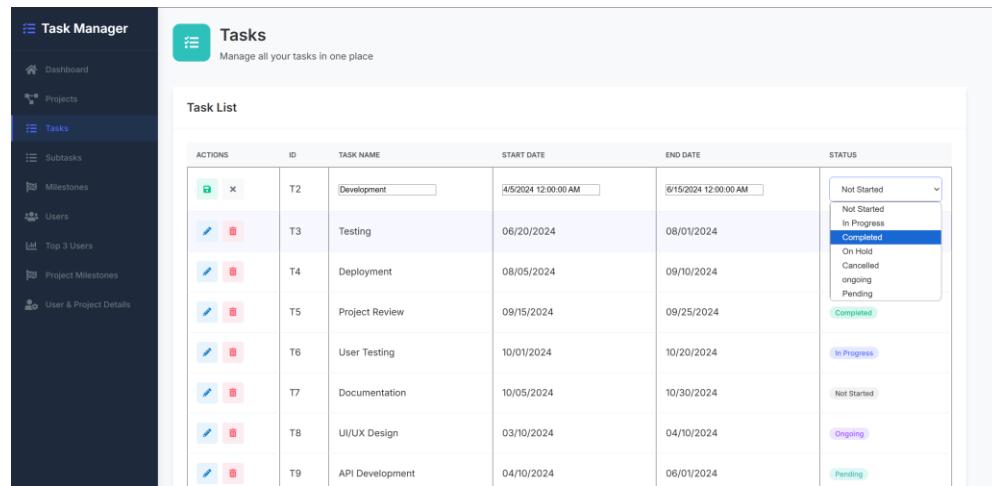


Figure 82: Figure showing task form during editing.

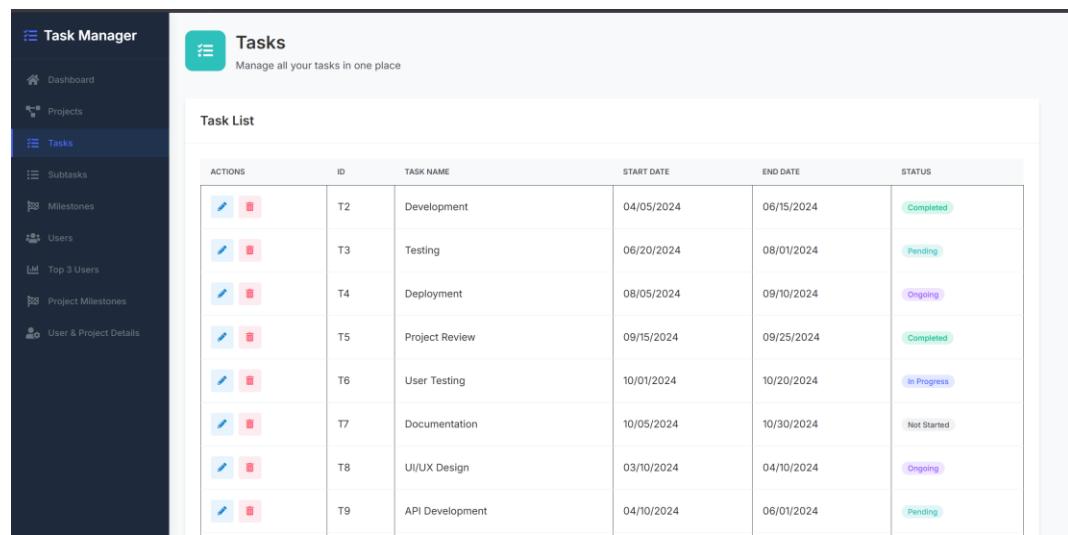


Figure 83: Figure showing task form after editing.

b) Inserting

The screenshot shows a web-based Task Manager application. On the left is a dark sidebar with navigation links: Dashboard, Projects, Tasks (selected), Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The main content area displays a table of tasks:

	Task ID	Description	Start Date	End Date	Status
	T13	Feature Development	03/15/2024	05/01/2024	In Progress
	T14	Client Presentation	09/01/2024	09/10/2024	Completed
	T15	Feedback Collection	09/25/2024	10/05/2024	Pending
	T1	Website	03/01/2025	03/28/2025	In Progress

Below the table is an 'Add/Edit Task' form:

Task ID: T16
Task Name: Website Creation
Start Date: 04/05/2025
End Date: 04/12/2025
Status: Pending

Buttons: Save Task, Cancel

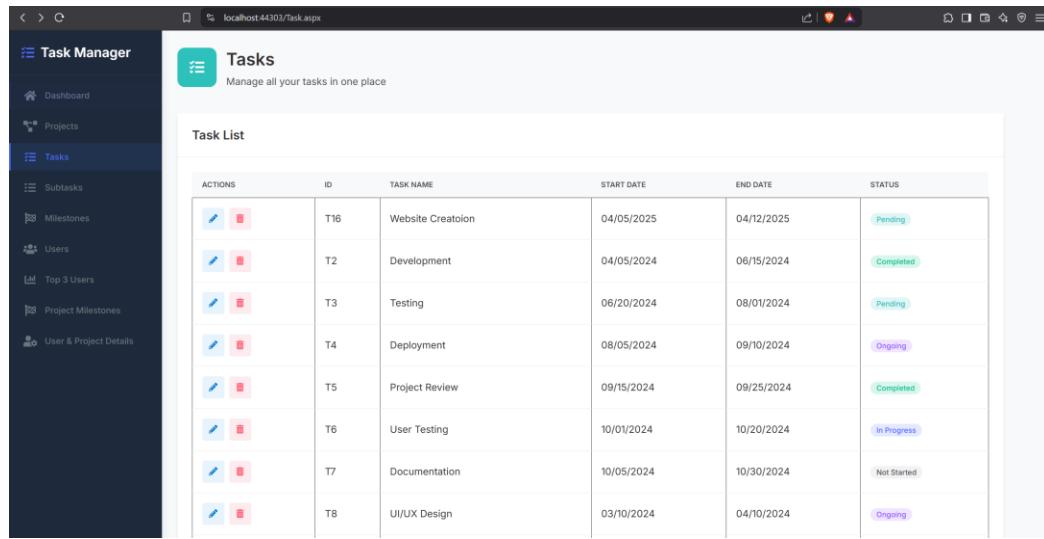
Figure 84: Figure showing task form before inserting.

This screenshot shows the same Task Manager application after a new task has been added. The task list now includes:

	Task ID	Description	Start Date	End Date	Status
	T13	Feature Development	03/15/2024	05/01/2024	In Progress
	T14	Client Presentation	09/01/2024	09/10/2024	Completed
	T15	Feedback Collection	09/25/2024	10/05/2024	Pending
	T1	Website	03/01/2025	03/28/2025	In Progress
	T16	Website Creation	04/05/2025	04/12/2025	Pending

The 'Add/Edit Task' form is still visible at the bottom of the screen, showing the newly added task details.

Figure 85: Figure showing task form during inserting.

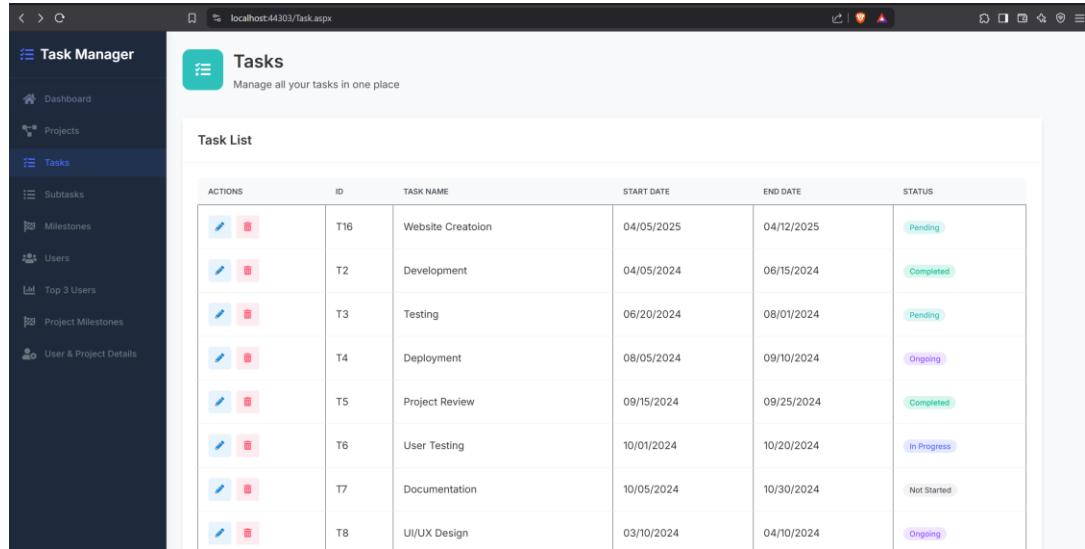


The screenshot shows a web-based Task Manager application. On the left is a dark sidebar with navigation links: Dashboard, Projects, Tasks (selected), Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The main content area has a header 'Tasks' with the sub-instruction 'Manage all your tasks in one place'. Below is a 'Task List' table with columns: ACTIONS, ID, TASK NAME, START DATE, END DATE, and STATUS. The table contains eight rows of task data.

ACTIONS	ID	TASK NAME	START DATE	END DATE	STATUS
	T16	Website Creation	04/05/2025	04/12/2025	Pending
	T2	Development	04/05/2024	06/15/2024	Completed
	T3	Testing	06/20/2024	08/01/2024	Pending
	T4	Deployment	08/05/2024	09/10/2024	Ongoing
	T5	Project Review	09/15/2024	09/25/2024	Completed
	T6	User Testing	10/01/2024	10/20/2024	In Progress
	T7	Documentation	10/05/2024	10/30/2024	Not Started
	T8	UI/UX Design	03/10/2024	04/10/2024	Ongoing

Figure 86: Figure showing task form after inserting.

c) Deleting



This screenshot is identical to Figure 86, showing the same task list after the new task 'Website Creation' was added. The table structure and data are the same, reflecting the state of the application before any tasks are deleted.

ACTIONS	ID	TASK NAME	START DATE	END DATE	STATUS
	T16	Website Creation	04/05/2025	04/12/2025	Pending
	T2	Development	04/05/2024	06/15/2024	Completed
	T3	Testing	06/20/2024	08/01/2024	Pending
	T4	Deployment	08/05/2024	09/10/2024	Ongoing
	T5	Project Review	09/15/2024	09/25/2024	Completed
	T6	User Testing	10/01/2024	10/20/2024	In Progress
	T7	Documentation	10/05/2024	10/30/2024	Not Started
	T8	UI/UX Design	03/10/2024	04/10/2024	Ongoing

Figure 87: Figure showing task form before deleting.

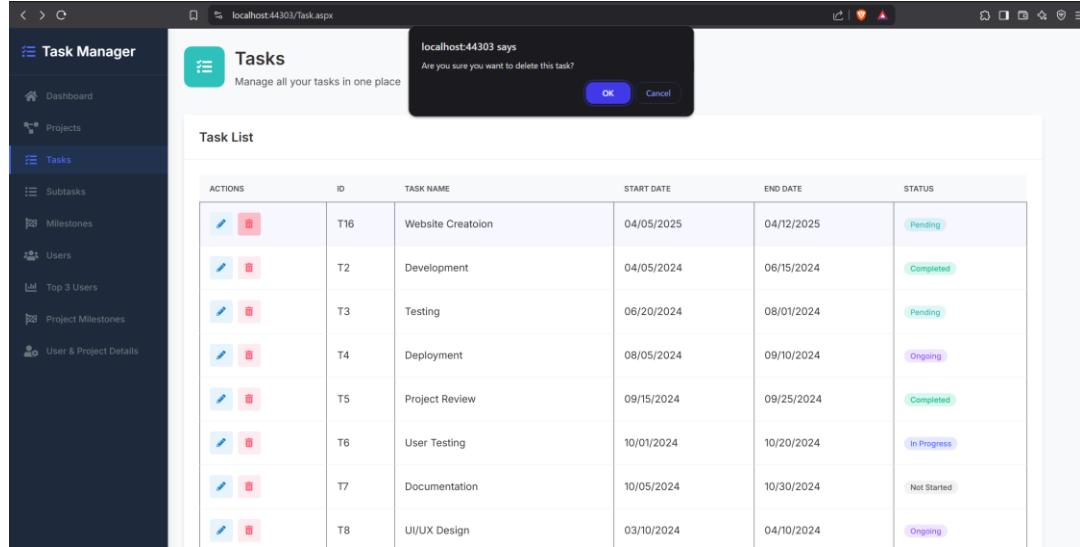


Figure 88: Figure showing task form during deleting.

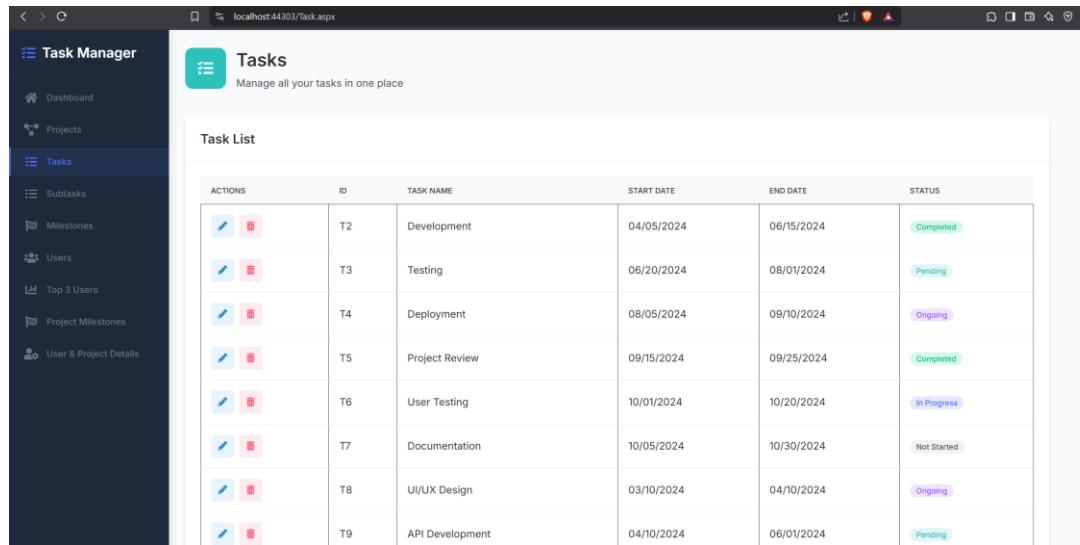


Figure 89: Figure showing task form after deleting.

13.1.4. SubTask

a) Editing

ACTIONS	ID	SUB TASK NAME	TASK	ASSIGNED TO	START DATE	DUe DATE	STATUS
	S1	Database Schema Design	Website	Prabhas Shrestha	03/01/2024	03/10/2024	In Progress
	S2	Backend API Development	Development	Subhangi Khanal	02/15/2024	03/05/2024	Ongoing
	S3	Performance Optimization	Testing	Bibhav Gyawali	01/20/2024	02/10/2024	Completed
	S4	Cybersecurity Audit	Deployment	Shuvanjal Adikari	04/01/2024	04/20/2024	Not Started
	S5	Frontend Component Development	Project Review	Binit Gyawali	03/10/2024	03/30/2024	In Progress
	S6	API Integration Testing	User Testing	Mahendra Khanal	05/01/2024	05/15/2024	On Hold
	S7	Security Patch Deployment	Documentation	Badri Adikari	06/05/2024	06/25/2024	Not Started

Figure 90: Figure showing subtask form before editing.

ACTIONS	ID	SUB TASK NAME	TASK	ASSIGNED TO	START DATE	DUe DATE	STATUS
	S1	Database Schema Design	UI/UX Desig	Bibhav Gyav	3/1/2024 12:00:00 AM	3/10/2024 12:00:00 AM	Completed
	S2	Backend API Development	Developme	Subhangi K	02/15/2024	03/05/2024	Ongoing
	S3	Performance Optimization	Testing	Bibhav Gyav	01/20/2024	02/10/2024	Completed
	S4	Cybersecurity Audit	Deployment	Shuvanjal Adikari	04/01/2024	04/20/2024	Not Started
	S5	Frontend Component Development	Project Rev	Binit Gyawali	03/10/2024	03/30/2024	In Progress
	S6	API Integration Testing	User Testin	Mahendra Ki	05/01/2024	05/15/2024	On Hold
	S7	Security Patch Deployment	Documenta	Badri Adikha	06/05/2024	06/25/2024	Not Started

Figure 91: Figure showing subtask form during editing.

The screenshot shows a web application interface titled "Sub Tasks". The left sidebar contains navigation links for Dashboard, Projects, Tasks, and Subtasks. The main content area is titled "Sub Task List" and displays a table with the following data:

ACTIONS	ID	SUB TASK NAME	TASK	ASSIGNED TO	START DATE	DUUE DATE	STATUS
	S1	Database Schema Design	UI/UX Design	Bibhav Gyawali	03/01/2024	03/10/2024	Completed
	S2	Backend API Development	Development	Subhangi Khanal	02/15/2024	03/05/2024	Ongoing
	S3	Performance Optimization	Testing	Bibhav Gyawali	01/20/2024	02/10/2024	Completed
	S4	Cybersecurity Audit	Deployment	Shuvanjal Adikari	04/01/2024	04/20/2024	Not Started
	S5	Frontend Component Development	Project Review	Binit Gyawali	03/10/2024	03/30/2024	In Progress
	S6	API Integration Testing	User Testing	Mahendra Khanal	05/01/2024	05/15/2024	On Hold
	S7	Security Patch Deployment	Documentation	Badri Adikari	06/05/2024	06/25/2024	Not Started

Figure 92: Figure showing subtask form after editing.

b) Inserting

The screenshot shows a modal dialog titled "Add/Edit Sub Task". The form fields are as follows:

- Sub Task ID: S27
- Sub Task Name: UI/UX Usability Testing
- Task: Development
- Assigned To: Prakash Rai
- Start Date: 04/20/2024
- Due Date: 05/10/2024
- Status: Completed

Below the form, there are buttons for "Save Sub Task" and "Cancel".

Figure 93: Figure showing subtask form before inserting.

Add/Edit Sub Task

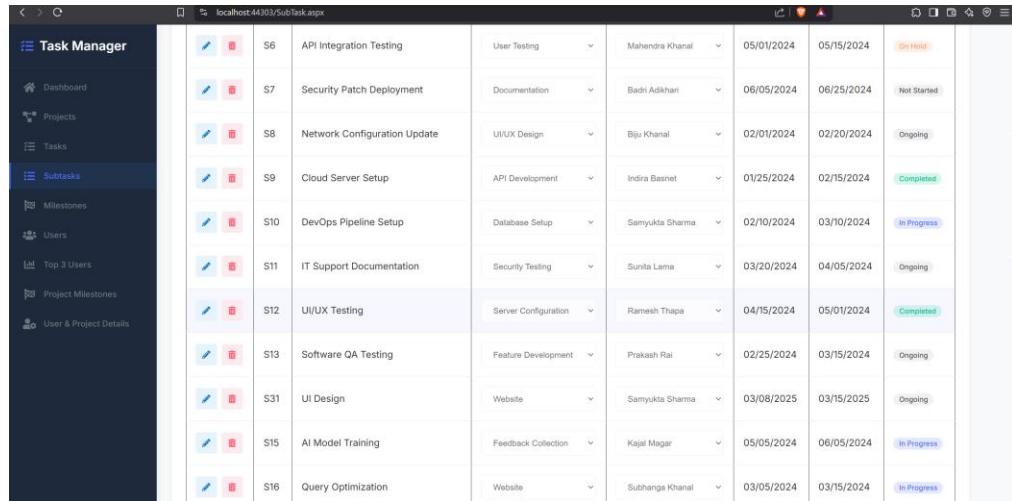
Sub Task ID:	S31	Sub Task Name:	UI Design
Task:	Website	Assigned To:	Samyukta Sharma
Start Date:	03/08/2025	Due Date:	03/15/2025
Status:	Ongoing		

Figure 94: Figure showing subtask form during inserting.

		S6	API Integration Testing	User Testing	Mahendra Khanal	05/01/2024	05/15/2024	On Hold
		S7	Security Patch Deployment	Documentation	Badi Adikari	06/05/2024	06/25/2024	Not Started
		S8	Network Configuration Update	UI/UX Design	Biju Khanal	02/01/2024	02/20/2024	Ongoing
		S9	Cloud Server Setup	API Development	Indira Basnet	01/25/2024	02/15/2024	Completed
		S10	DevOps Pipeline Setup	Database Setup	Samyukta Sharma	02/10/2024	03/10/2024	In Progress
		S11	IT Support Documentation	Security Testing	Sunita Lama	03/20/2024	04/05/2024	Ongoing
		S12	UI/UX Testing	Server Configuration	Ramesh Thapa	04/15/2024	05/01/2024	Completed
		S13	Software QA Testing	Feature Development	Prajkash Rai	02/25/2024	03/15/2024	Ongoing
		S31	UI Design	Website	Samyukta Sharma	03/08/2025	03/15/2025	Ongoing
		S15	AI Model Training	Feedback Collection	Kajal Magar	05/05/2024	06/05/2024	In Progress
		S16	Query Optimization	Website	Subhangi Khanal	03/05/2024	03/15/2024	In Progress

Figure 95: Figure showing subtask form after inserting.

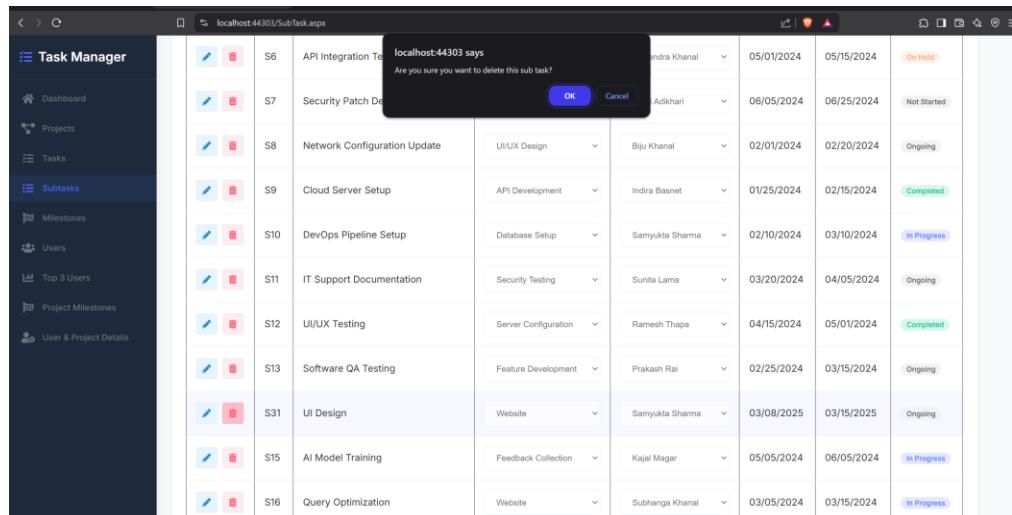
c) Deleting



The screenshot shows a web-based Task Manager application. On the left is a dark sidebar with navigation links: Dashboard, Projects, Tasks, Subtasks (which is currently selected), Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The main content area displays a table of subtasks:

	SID	Description	Category	Owner	Start Date	End Date	Status
	S6	API Integration Testing	User Testing	Mahendra Khanal	05/01/2024	05/15/2024	On Hold
	S7	Security Patch Deployment	Documentation	Badi Adikhan	06/05/2024	06/25/2024	Not Started
	S8	Network Configuration Update	UI/UX Design	Biju Khanal	02/01/2024	02/20/2024	Ongoing
	S9	Cloud Server Setup	API Development	Indira Basnet	01/25/2024	02/15/2024	Completed
	S10	DevOps Pipeline Setup	Database Setup	Samyukta Sharma	02/10/2024	03/10/2024	In Progress
	S11	IT Support Documentation	Security Testing	Sunita Lama	03/20/2024	04/05/2024	Ongoing
	S12	UI/UX Testing	Server Configuration	Ramesh Thapa	04/15/2024	05/01/2024	Completed
	S13	Software QA Testing	Feature Development	Prakash Rai	02/25/2024	03/15/2024	Ongoing
	S31	UI Design	Website	Samyukta Sharma	03/08/2025	03/15/2025	Ongoing
	S15	AI Model Training	Feedback Collection	Kajal Magar	05/05/2024	06/05/2024	In Progress
	S16	Query Optimization	Website	Subhangi Khanal	03/05/2024	03/15/2024	In Progress

Figure 96: Figure showing subtask form before deleting.



The screenshot shows the same Task Manager application interface as Figure 96. A confirmation dialog box is overlaid on the page, centered over the row for subtask S7. The dialog box contains the text "localhost-44303 says: Are you sure you want to delete this sub task?". It has two buttons: "OK" and "Cancel".

Figure 97: Figure showing subtask form during deleting.

		S9	Cloud Server Setup	API Development	Indira Basnet	01/25/2024	02/15/2024	Completed	
		S10	DevOps Pipeline Setup	Database Setup	Samyukta Sharma	02/10/2024	03/10/2024	In Progress	
		S11	IT Support Documentation	Security Testing	Sunita Lama	03/20/2024	04/05/2024	Ongoing	
		S12	UI/UX Testing	Server Configuration	Ramesh Thapa	04/15/2024	05/01/2024	Completed	
		S13	Software QA Testing	Feature Development	Prakash Rai	02/25/2024	03/15/2024	Ongoing	
		S15	AI Model Training	Feedback Collection	Kajal Magar	05/05/2024	06/05/2024	In Progress	
		S16	Query Optimization	Website	Subhangi Kharal	03/05/2024	03/15/2024	In Progress	
		S17	Backend Security Review	Development	Bibhav Gyawali	02/20/2024	03/10/2024	Ongoing	
		S18	Load Testing	Testing	Shuvanjal Adikarni	01/25/2024	02/15/2024	Completed	
		S19	Vulnerability Assessment	Deployment	Binit Gyawali	04/10/2024	04/30/2024	Not Started	
		S20	React Component Refactoring	Project Review	Mahendra Khanal	03/20/2024	04/10/2024	In Progress	

Figure 98: Figure showing subtask form after deleting.

13.1.5. Milestone

a) Editing

Milestone List					
ACTIONS	ID	MILESTONE NAME	PROJECT	DUE DATE	STATUS
	M031	Database Optimization & Scaling	IT Support Automation	2025-01-12	Not Started
	M002	Cloud Migration Phase 2	Cloud Migration	2024-06-01	Not Started
	M003	AI Chatbot Initial Release	AI Chatbot Development	2024-04-30	Completed
	M004	AI Chatbot Full Deployment	AI Chatbot Development	2024-06-15	Not Started
	M005	E-commerce Platform Beta Test	E-commerce Platform Upgrade	2024-03-15	In Progress
	M006	E-commerce Platform Full Launch	E-commerce Platform Upgrade	2024-05-15	Not Started

Figure 99: Figure showing milestone form before editing.

ACTIONS	ID	MILESTONE NAME	PROJECT	DUe DATE	STATUS
	M031	Database Optimization & S.	IT Support Automation	2025-01-12	Not Started
	M002	Cloud Migration Phase 2	Cloud Migration	2024-06-01	Not Started
	M003	AI Chatbot Initial Release	AI Chatbot Development	2024-04-30	Completed
	M004	AI Chatbot Full Deployment	Network Infrastructure Overhaul	2024-06-15	Not Started
	M005	E-commerce Platform Beta Test	Machine Learning Model Deployment	2024-03-15	In Progress
	M006	E-commerce Platform Full Launch	IT Support Automation	2024-05-15	Not Started
	M007	Cybersecurity Initial Assessment	Big Data Analytics Platform	2024-05-01	Not Started

Figure 100: Figure showing milestone form during editing.

ACTIONS	ID	MILESTONE NAME	PROJECT	DUe DATE	STATUS
	M031	Database Optimization & Scaling	Website Redesign	12-JAN-25	Not Started
	M002	Cloud Migration Phase 2	Cloud Migration	2024-06-01	Not Started
	M003	AI Chatbot Initial Release	AI Chatbot Development	2024-04-30	Completed
	M004	AI Chatbot Full Deployment	AI Chatbot Development	2024-06-15	Not Started
	M005	E-commerce Platform Beta Test	E-commerce Platform Upgrade	2024-03-15	In Progress
	M006	E-commerce Platform Full Launch	E-commerce Platform Upgrade	2024-05-15	Not Started
	M007	Cybersecurity Initial Assessment	Cybersecurity Enhancement	2024-05-01	Not Started

Figure 101: Figure showing milestone form after editing.

b) Inserting

The screenshot shows the 'Milestone' section of the Task Manager application. On the left, a sidebar menu includes 'Dashboard', 'Projects', 'Tasks', 'Subtasks', 'Milestones' (which is selected and highlighted in blue), 'Users', 'Top 3 Users', 'Project Milestones', and 'User & Project Details'. The main content area displays a table of existing milestones:

	Milestone ID	Milestone Name	Category	Due Date	Status
	M027	Data Warehouse Design	Data Warehousing Implementation	2024-04-10	In Progress
	M028	Data Warehouse Full Implementation	Data Warehousing Implementation	2024-07-15	Not Started
	M029	IoT Device Integration Prototype	IoT Device Integration	2024-05-15	Not Started
	M030	IoT Device Full Integration	IoT Device Integration	2024-09-01	Not Started

Below the table is an 'Add/Edit Milestone' form:

Milestone ID: M031
Milestone Name: IoT Device Integration

Project: Website Redesign
Due Date: 03/29/2025

Status: In Progress

Buttons: Save Milestone, Cancel

Figure 102: Figure showing milestone form before inserting.

The screenshot shows the 'Milestone' section of the Task Manager application. The interface is identical to Figure 102, but the 'Status' dropdown has been changed to 'In Progress'. The rest of the form fields remain the same.

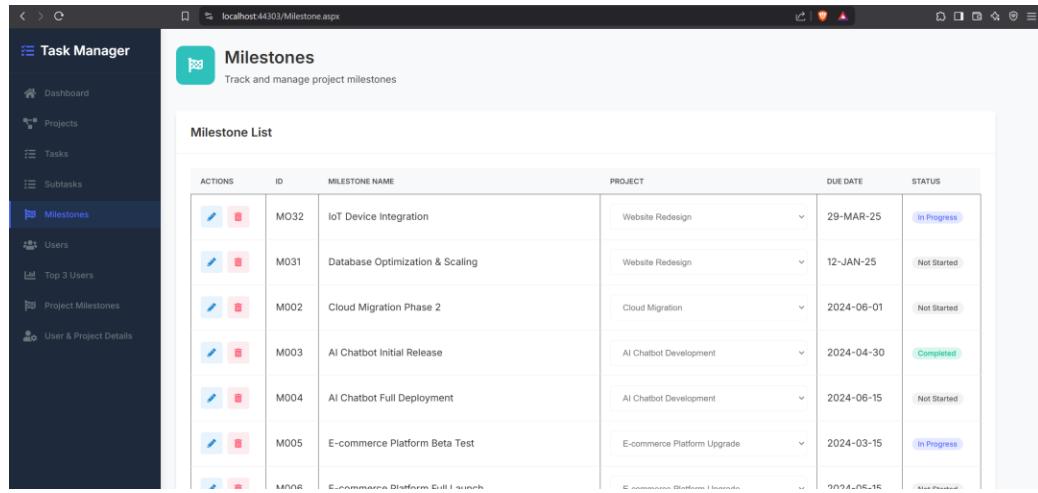
Milestone ID: M032
Milestone Name: IoT Device Integration

Project: Website Redesign
Due Date: 03/29/2025

Status: In Progress

Buttons: Save Milestone, Cancel

Figure 103: Figure showing milestone form during inserting.

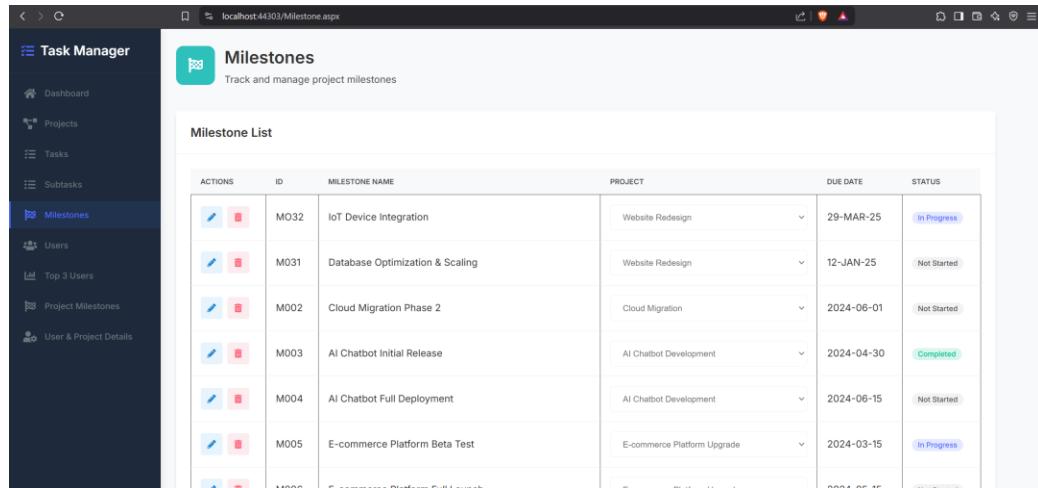


The screenshot shows a web-based project management application titled "Task Manager". The left sidebar contains navigation links: Dashboard, Projects, Tasks, Subtasks, **Milestones**, Users, Top 3 Users, Project Milestones, and User & Project Details. The main content area is titled "Milestones" with the sub-header "Track and manage project milestones". Below this is the "Milestone List" table.

ACTIONS	ID	MILESTONE NAME	PROJECT	DUUE DATE	STATUS
	M032	IoT Device Integration	Website Redesign	29-MAR-25	In Progress
	M031	Database Optimization & Scaling	Website Redesign	12-JAN-25	Not Started
	M002	Cloud Migration Phase 2	Cloud Migration	2024-06-01	Not Started
	M003	AI Chatbot Initial Release	AI Chatbot Development	2024-04-30	Completed
	M004	AI Chatbot Full Deployment	AI Chatbot Development	2024-06-15	Not Started
	M005	E-commerce Platform Beta Test	E-commerce Platform Upgrade	2024-03-15	In Progress
	M006	E-commerce Platform Full Launch	E-commerce Platform Upgrade	2024-06-15	Not Started

Figure 104: Figure showing milestone form after inserting.

c) Deleting



This screenshot is identical to Figure 104, showing the "Milestone List" table with six rows of data. The last row, "E-commerce Platform Full Launch", has a status of "Not Started".

ACTIONS	ID	MILESTONE NAME	PROJECT	DUUE DATE	STATUS
	M032	IoT Device Integration	Website Redesign	29-MAR-25	In Progress
	M031	Database Optimization & Scaling	Website Redesign	12-JAN-25	Not Started
	M002	Cloud Migration Phase 2	Cloud Migration	2024-06-01	Not Started
	M003	AI Chatbot Initial Release	AI Chatbot Development	2024-04-30	Completed
	M004	AI Chatbot Full Deployment	AI Chatbot Development	2024-06-15	Not Started
	M005	E-commerce Platform Beta Test	E-commerce Platform Upgrade	2024-03-15	In Progress
	M006	E-commerce Platform Full Launch	E-commerce Platform Upgrade	2024-06-15	Not Started

Figure 105: Figure showing milestone form before deleting.

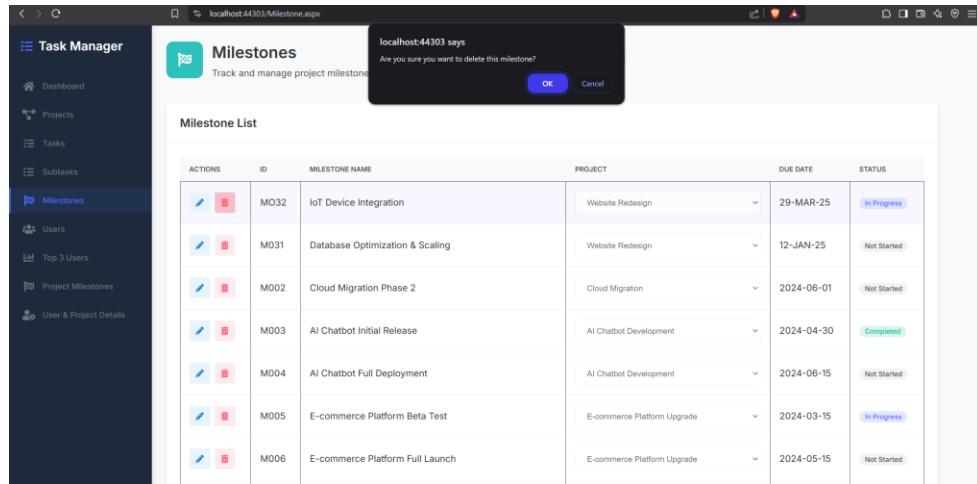


Figure 106: Figure showing milestone form during deleting.

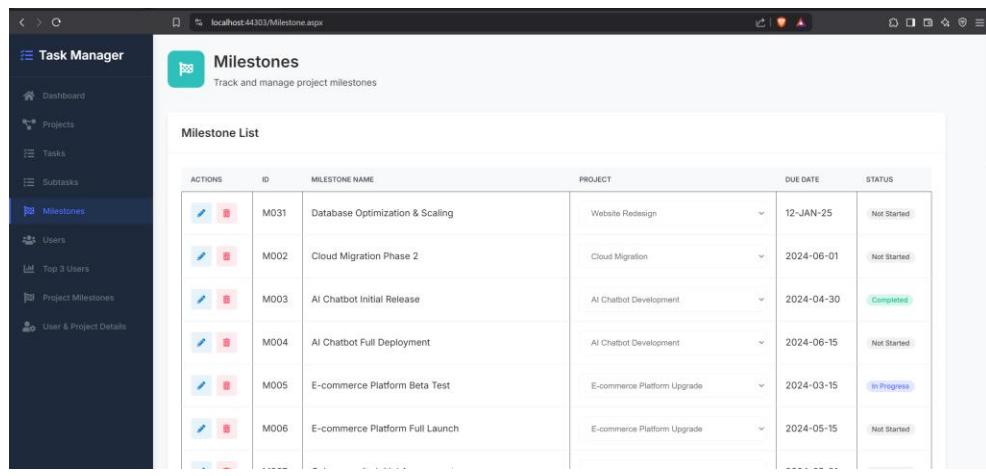


Figure 107: Figure showing milestone form after deleting.

13.2. Complex Forms

13.2.1. Top Performer

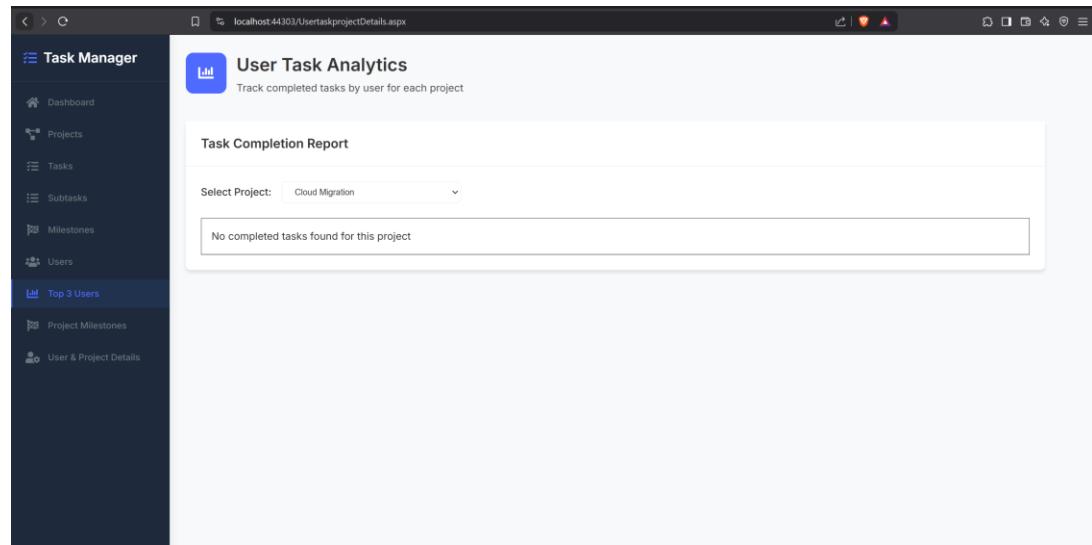


Figure 108: Figure showing the result for no tasks and before filtering.

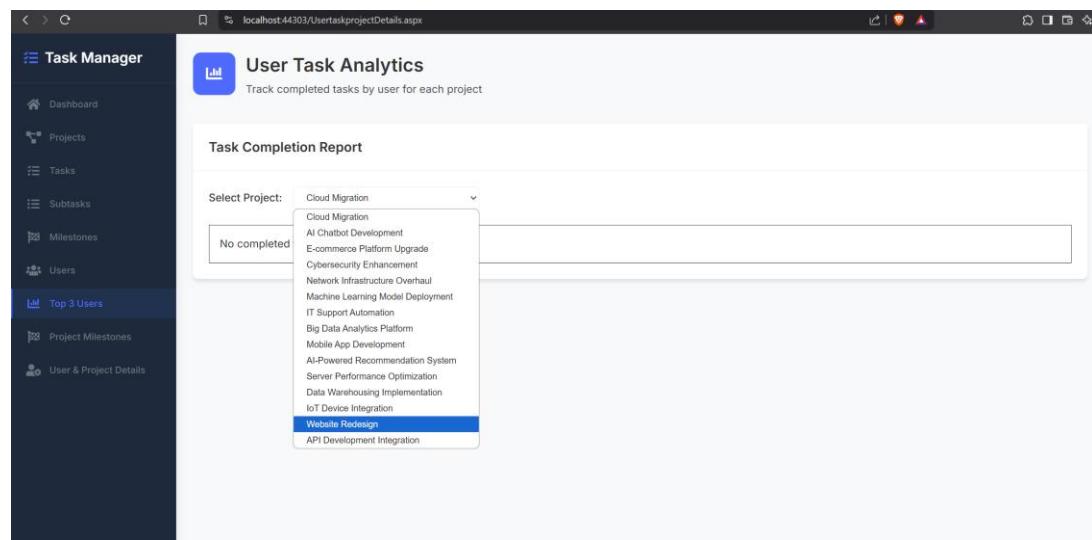


Figure 109: Figure showing user task during filtering.

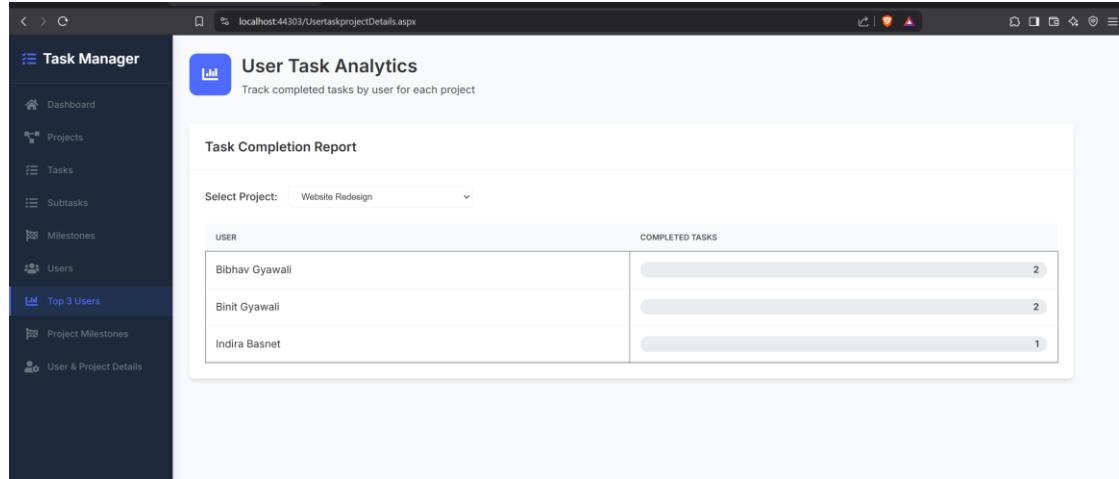


Figure 110: Figure showing result of top 3 performers.

13.2.2. Project Milestone

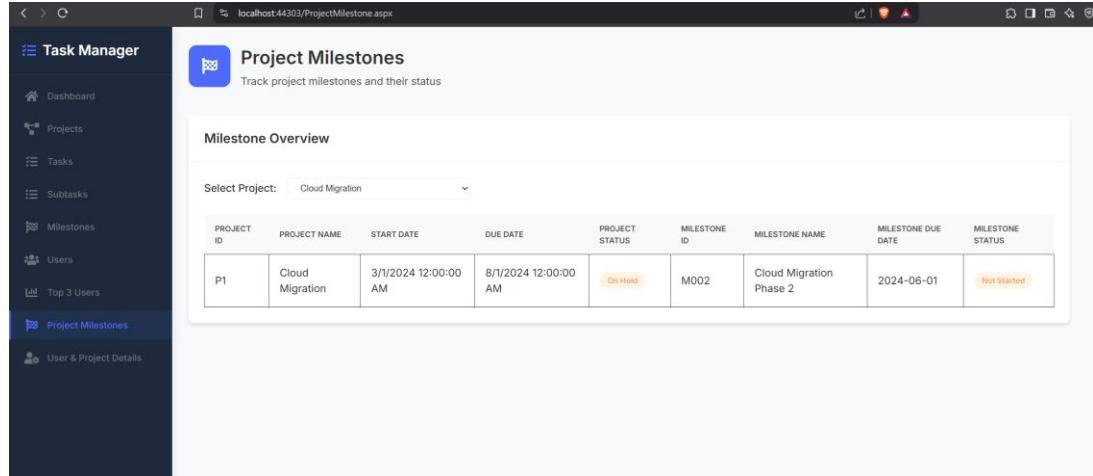


Figure 111: Figure showing project milestone before filtering.

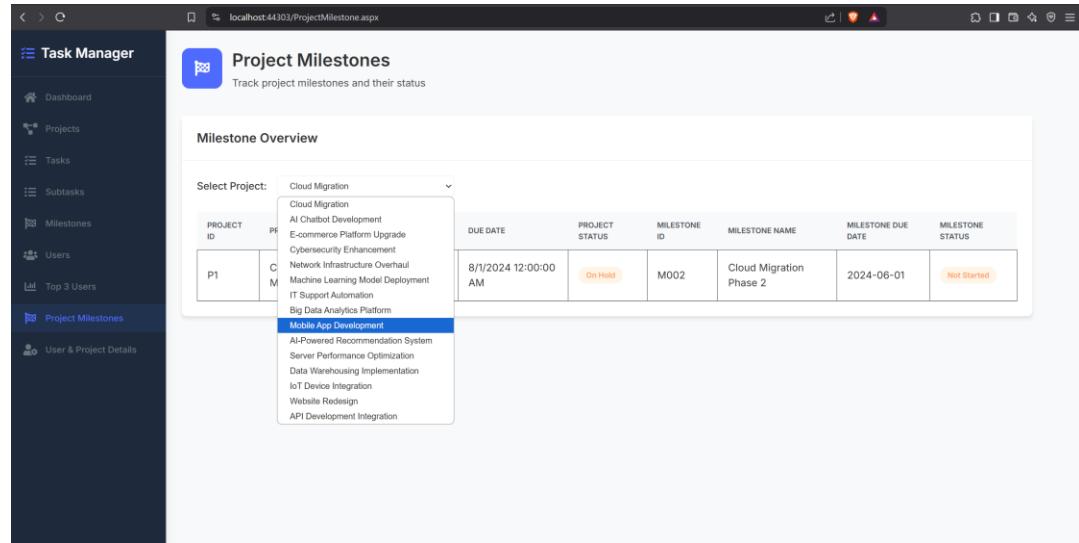


Figure 112: Figure showing project milestone during filtering.

The screenshot shows the same web application interface as Figure 112, but the "Select Project:" dropdown is now set to "Mobile App Development". The main content area displays a table with the following data:

PROJECT ID	PROJECT NAME	START DATE	DUE DATE	PROJECT STATUS	MILESTONE ID	MILESTONE NAME	MILESTONE DUE DATE	MILESTONE STATUS
P11	Mobile App Development	3/5/2024 12:00:00 AM	8/30/2024 12:00:00 AM	Testing Phase	M021	Mobile App Development Alpha	2024-04-01	Not Started
P11	Mobile App Development	3/5/2024 12:00:00 AM	8/30/2024 12:00:00 AM	Testing Phase	M022	Mobile App Development Beta	2024-07-01	Not Started

Figure 113: Figure showing project milestone after filtering.

13.2.3. User Project

The screenshot shows a web application interface titled "User Project Details". On the left, there is a sidebar menu with options like Dashboard, Projects, Tasks, Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The "User & Project Details" option is currently selected. The main content area has a header "User Project Details" with the sub-instruction "View projects assigned to users". Below this is a section titled "Select User" with a dropdown menu containing "Prabhas Shrestha". The next section is titled "User Projects" and contains a table with the following data:

USER ID	NAME	EMAIL	CONTACT	ROLE	PROJECT ID	PROJECT NAME	START DATE	DUUE DATE	STATUS
1	Prabhas Shrestha	prabhasshrestha000@gmail.com	9801234567	System User	P1	Cloud Migration	03/01/2024	08/01/2024	On Hold
1	Prabhas Shrestha	prabhasshrestha000@gmail.com	9801234567	System User	P2	AI Chatbot Development	02/15/2024	06/30/2024	Ongoing

Figure 114: Figure showing user project details page before filtering.

The screenshot shows the same web application interface as Figure 114, but the "Select User" dropdown menu is now open, displaying a list of user names. The list includes: Prabhas Shrestha, Subhangi Khanal, Bibek Gyawali, Shuvangshu Adikhar, Binit Gyawali, Mahendra Khanal, Badi Adikhar, Biju Khanal, Indira Basnet, Samyukta Sharma, Sunita Lam, Ramesh Thapa, Prakash Rai, Nirajan Bhujel, Kajal Magar. The user "Prabhas Shrestha" is highlighted in the dropdown list.

Figure 115: Figure showing user project details page during filtering.

The screenshot shows a web application interface titled "User Project Details". On the left, there is a sidebar with a dark theme containing navigation links: Dashboard, Projects, Tasks, Subtasks, Milestones, Users, Top 3 Users, Project Milestones, and User & Project Details. The main content area has a title "User Project Details" with a subtitle "View projects assigned to users". Below this, a section titled "Select User" contains a dropdown menu with the option "Badri Adikhari". Underneath, a section titled "User Projects" displays a table with two rows of project data. The columns are labeled: USER ID, NAME, EMAIL, CONTACT, ROLE, PROJECT ID, PROJECT NAME, START DATE, DUE DATE, and STATUS. The first row corresponds to the selected user, and the second row is for another user named Badri Adikhari.

USER ID	NAME	EMAIL	CONTACT	ROLE	PROJECT ID	PROJECT NAME	START DATE	DUe DATE	STATUS
7	Badri Adikhari	badriadihari@gmail.com	9867890123	Cyber Security Analyst	P7	IT Support Automation	06/01/2024	12/01/2024	Not Started
7	Badri Adikhari	badriadihari@gmail.com	9867890123	Cyber Security Analyst	P8	Big Data Analytics Platform	02/01/2024	07/15/2024	Ongoing

Figure 116: Figure showing user project details page after filtering.

13.3. Failure Test Case

a) Missing Data Source for Dropdown

The image shows a failure test case where an error occurs due to a missing data source for the dropdown while adding a milestone for project. As a result, the dropdown appears blank, preventing users from adding a milestone for the project.

The screenshot shows a web application interface for adding or editing a milestone. On the left, there is a sidebar with a dark theme containing navigation links: Home, Projects, Tasks, Subtasks, Milestones, and Project Details. The main content area has a header "Add/Edit Milestone". Below this, there are several input fields: "Milestone ID" (MO32), "Milestone Name" (sdasdasdas), "Project" (a dropdown menu that is currently empty), "Due Date" (03/25/2025), and "Status" (In Progress). At the bottom, there are "Save Milestone" and "Cancel" buttons.

Figure 117: Figure showing error when no data source was applied in the dropdown.

The image shows the configuration of data source to retrieve information for the dropdown menu. A SQL statement is defined to select projectId and projectName from the project table. This step ensures that the dropdown is properly populated with projects data, preventing the issue where the dropdown appears blank due to a missing data source.

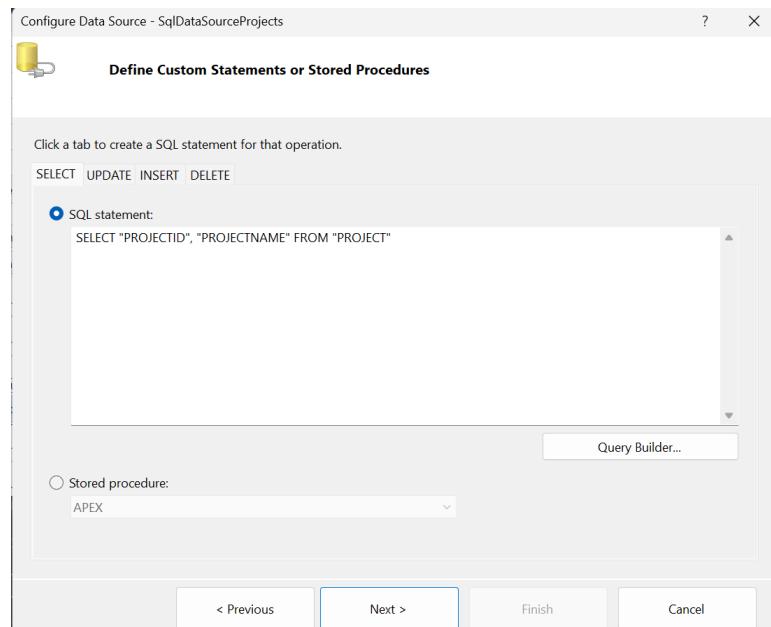


Figure 118: Figure showing onfiguration of the data source for the project dropdown.

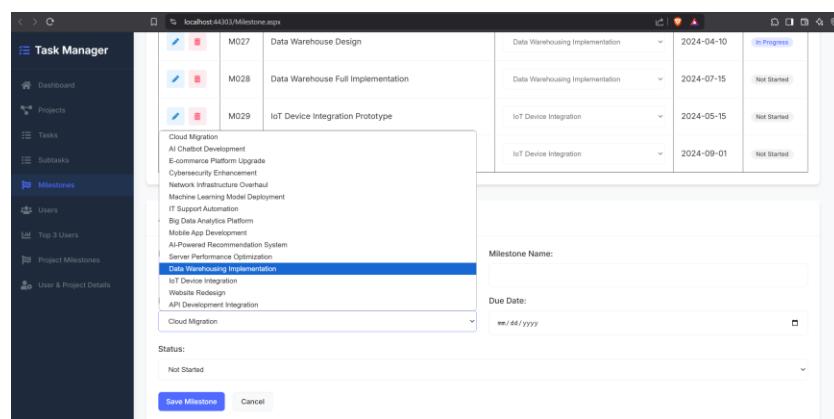


Figure 119: Figure showing the error being sucessfully implemented.

b) SQL Query Error Due to Invalid Character

The image shows a failure test case when an error occurs while executing an SQL query during data source configuration. The error message indicated that the query contains an invalid character which is a semi colon, preventing successful execution. To resolve the issue, the images display the process of removing the semi colon present in the query

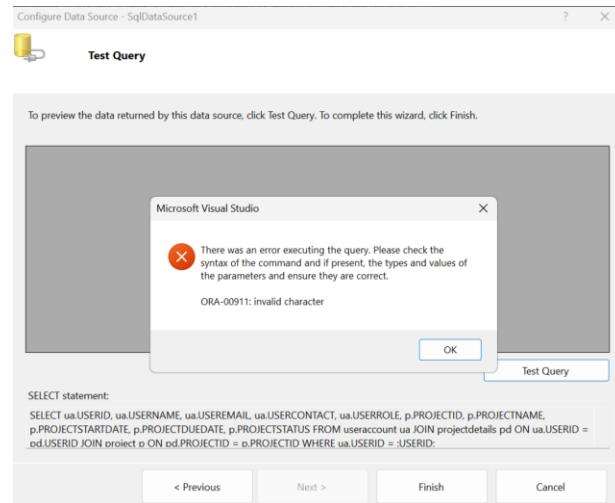


Figure 120: Figure showing SQL query execution error due to an invalid character.

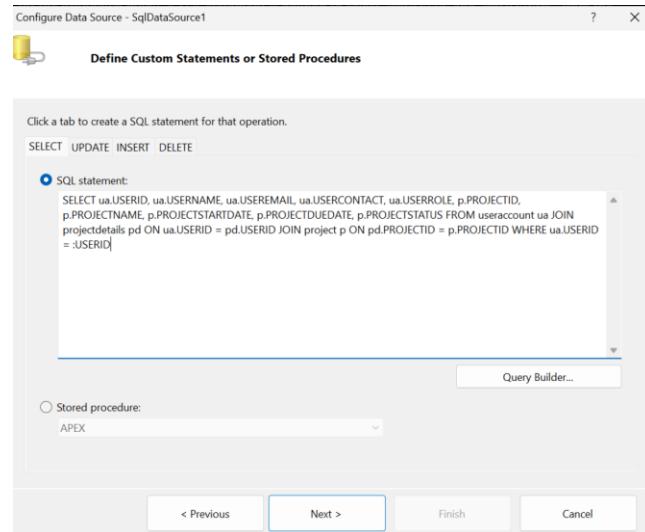


Figure 121: Figure showing the presence of a semi colon.

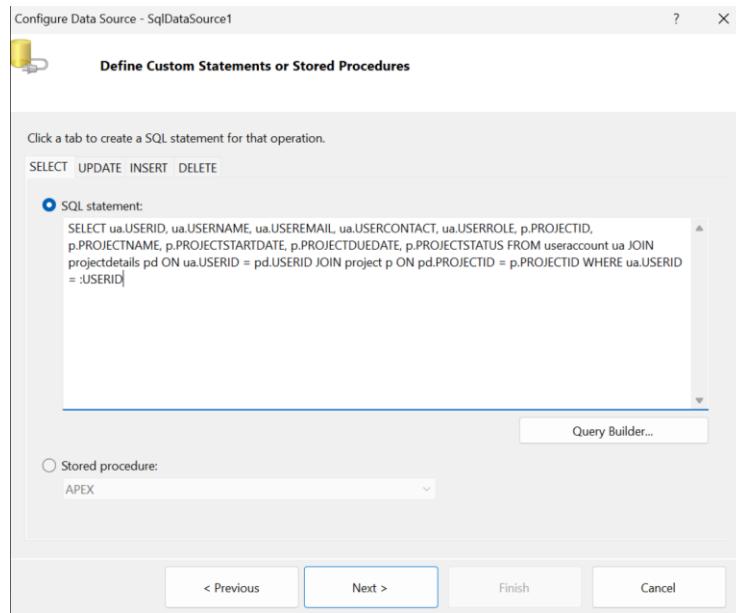


Figure 122: Figure showing the process of removing the semi colon.

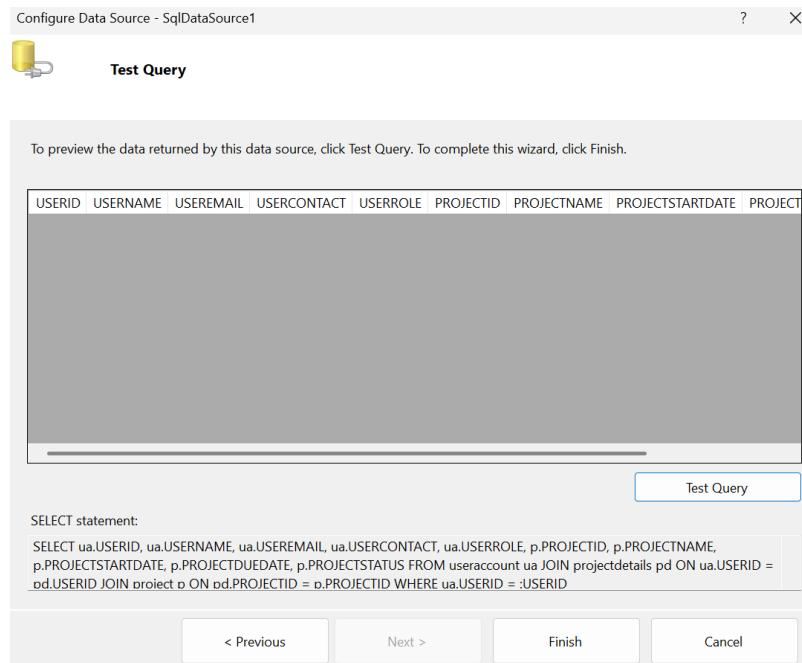


Figure 123: Figure showing the error being successfully resolved.

14.Further Discussion

The completion of this coursework provided valuable experience in data and web development, particularly in structuring and implementing a project management system. This project required the integration of multiple concepts, including entity-relationship modelling, normalization, SQL scripting and web form development. The systematic approach to designing and developing a web-based application facilitated a clear understanding of database management, query optimization and front-end development with the help of web forms.

Throughout this coursework, the following five key tools and techniques were learned and applied:

1. Entity-relationship Diagram (ERD) - The creation of an ERD helped visualize the relationships between different entities in the project management system. This tool allowed for efficient database design, ensuring that data was structured properly and minimizing redundancy.
2. Normalization - The normalization process was crucial in eliminating data anomalies and ensuring database efficiency. By following the normalization steps (1NF, 2NF AND 3NF), a well-structured database was designed that maintained data integrity and reduced redundancy.
3. Web Form Development – The implementation of web forms helped in connecting with the database. Both simple and complex forms were created to allow users to input and retrieve data efficiently, Complex forms, required integrating SQL queries to filter and display relevant information dynamically
4. Data Modeler for Script Generation – The use of data modeler was essential in creating the ERD and generating the database automatically. This helped to streamlined the database design process ensuring consistency and reducing manual errors when defining relationships and constraints.
5. SQL Developer Usage – SQL Developer was utilized for executing queries, managing database connections, and debugging SQL scripts efficiently. This tool provided an intuitive interface for interacting with database, enabling structured testing and query optimization.

15. Conclusion

The completion of this project marks a significant step in understanding and implementing a structured approach to data and web development. The integrated project management system development for LS Corporation successfully addresses the inefficiencies in a task management, collaboration, and milestone tracking. By leveraging key concepts such as Entity-Relationship Diagrams (ERD), normalization, SQL scripting, and web form development, the system ensures streamlined workflows, improved data integrity and enhanced real-time project oversight.

The project demonstrated the importance of efficient database design through normalization techniques (1NF, 2NF AND 3NF), reducing redundancy and ensuring data consistency. Additionally, the use of SQL queries for data retrieval and modification provided valuable insights into query optimization and structured data handling. The implementation of simple and complex web forms further enhances user interaction with the system, enabling dynamic data entry and retrieval.

Through this coursework, practical skills in database modelling, script generation, and debugging were refined, reinforcing the connection between theoretical knowledge and real-world application. The structured approach taken in designing, testing and implementing the system ensures that LS Corporation can now manage projects efficiently, improving coordination among team members and ensuring timely project completion.

Moving forward, this project can be expanded by integrating advanced features such as automated notifications, real-time analytics, and AI-driven project recommendations to further enhance the efficiency of project management. Overall, the successful execution of this system highlights the critical role of database-driven web applications.