**PROJECT AND TASK MANAGEMENT**

# Project Description:

The Task and Project Management System is a sophisticated and meticulously crafted database solution aimed at revolutionizing the way projects and tasks are organized, tracked, and collaboratively managed within dynamic work environments. This comprehensive system has been meticulously designed to cater to the diverse needs of both teams and individuals involved in a myriad of projects, offering a robust platform that excels in efficient task management, precise user assignments, meticulous dependency tracking, and seamless communication.

The Tasks Table, intricately connected to the Projects Table through foreign key references, forms the backbone of the system. It empowers users to manage individual tasks with finesse, offering fields for task name, description, due date, and status. The Task Dependencies Table complements this by facilitating the establishment of relationships between tasks. It ensures a logical workflow by capturing dependencies between tasks, fostering a seamless progression from one task to another.

User management is a pivotal aspect of the Task and Project Management System, addressed through the Users Table. This repository captures essential information about individuals involved in the projects, including user name, first name, last name, and email. The Assignments Table links users to specific tasks, enabling a clear understanding of who is responsible for each task. This not only enhances accountability but also facilitates effective collaboration among team members.

In the realm of categorization and organization, the Labels Table provides a structured approach to tagging tasks and projects. This feature enables users to classify items based on common themes, making it easier to search, filter, and manage information. The Task Labels and Project Labels Tables extend this capability by connecting tasks and projects to specific labels, offering a flexible and customizable approach to categorization.

In summary, the Task and Project Management System stands as a testament to efficiency, collaboration, and organization in project management. With its intricate database design and wealth of features, it not only simplifies the complexities of task and project tracking but also sets the stage for enhanced productivity and success in a dynamic and demanding work environment. This system is poised to empower teams and individuals to navigate the intricacies of project management with unparalleled ease and effectiveness.

# Objectives:

Efficient Project and Task Tracking: The system aims to provide a centralized platform for efficiently tracking and managing various projects and their associated tasks.

User Assignment: Users can be assigned tasks within projects, allowing for clear responsibility and accountability.

Task Dependencies: The system supports tracking dependencies between tasks, ensuring a logical flow of task completion.

User Engagement: Comments and labels are included to enhance user engagement and provide additional context to tasks and projects.

# Scope:

The system's scope includes:

Project Management: Creating and managing projects with details such as project name, description, start and end dates.

Task Management: Creating and managing tasks associated with projects, including details like task name, description, due date, and status.

User Management: Storing information about users, including user ID, username, first name, last name, and email.

Assignment Tracking: Associating tasks with users through the assignment table.

Task Dependencies: Tracking dependencies between tasks through the task dependencies table. Comments: Allowing users to add comments related to tasks or projects.

Labels: Categorizing tasks and projects with labels, facilitating prioritization.

# User Requirements:

User Registration: Users need to be registered with details such as user ID, username, first name, last name, and email.

Project Creation: Users should be able to create new projects, specifying details like project name, description, and start/end dates.

Task Assignment: Users can be assigned specific tasks within projects.

Dependency Management: The system allows the tracking of task dependencies, ensuring that tasks are completed in the correct sequence.

Commenting: Users can add comments related to tasks or projects.

Labeling: Tasks and projects can be associated with labels, such as "High Priority," "Medium Priority," or "Low Priority."

# Business Rules:

1. Every Project, tasks, comments and users should have their own unique id.
2. The Project Should have the start date and End date.
3. User has to enter the first name ,last name and email id.
4. There should be an due date for tasks by when that task has to be complete.
5. Projects can be assigned multiple labels, and each label can be associated with multiple projects.
6. Tasks can be assigned multiple labels, and each label can be associated with multiple tasks.
7. Each comment must be associated with a specific user.
8. Task assignments must correspond to valid tasks and users.
9. Tasks must have a status indicator (e.g., "Not Started," "In Progress," "Completed").
10. Labels must have unique names within the system.
11. Each comment must be associated with a specific user.

# Database Requirements:

The database should support the following:

Data Integrity: Enforce referential integrity for relationships between tables (e.g., foreign keys). Performance: Optimize database queries for efficient retrieval of project and task information. Scalability: Design the database to handle a growing number of projects, tasks, users, and assignments. Security: Implement secure user authentication and authorization mechanisms to protect sensitive data. Backup and Recovery: Establish a reliable backup and recovery strategy to prevent data loss.

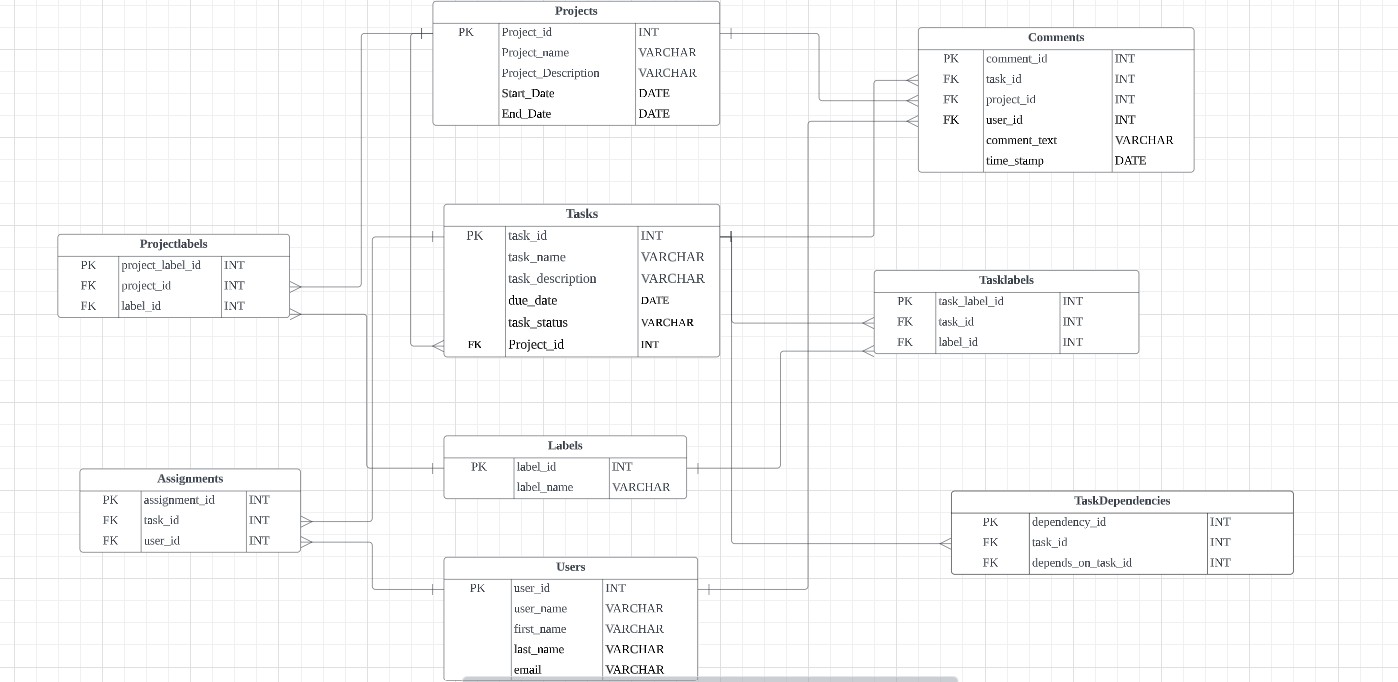
Concurrency Control: Handle concurrent access to ensure data consistency in a multi-user environment.

**Database Tables:** Project table Tasks table

Taskdependencies table Users table Assignments table Comments table

Labels table Tasklables table Projectlables table

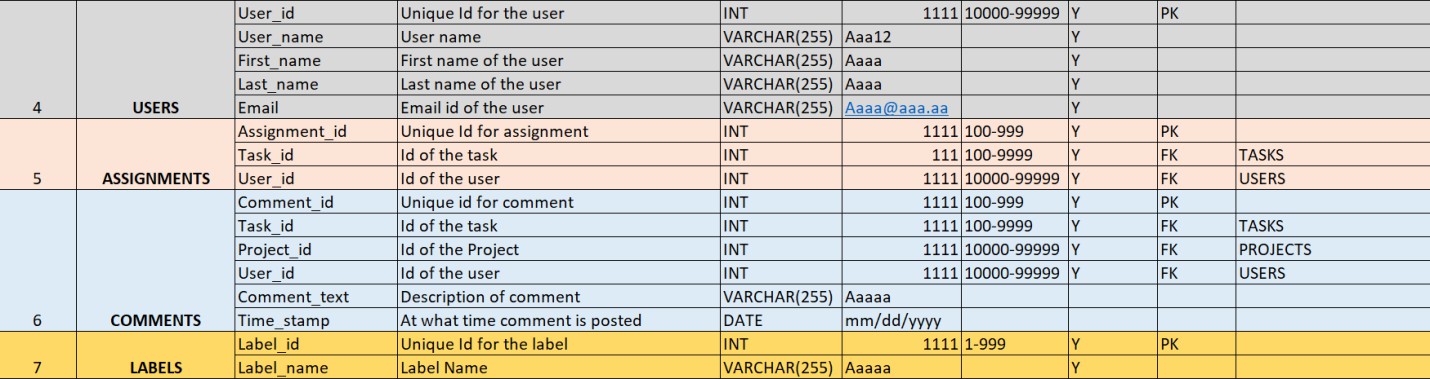
# Entity Relationship Diagram:

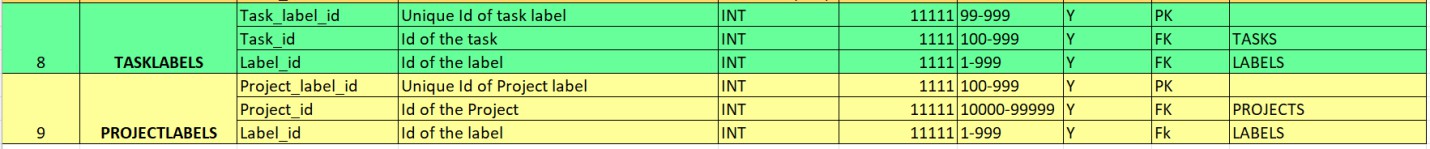


**Data Dictionary for above tables:**

Data dictionary provides the brief description of the data which we will enter into the tables. It lists all the attributes, keys and relationships among the tables.







**Queries and Operations**

**Section 1: Entity Generation and Data Entry: Create Database, Create Tables, and Insert Values to the Tables**

**Entity Generation and Data Entry for Projects table**

**Statements Explanation**

* project\_id: An integer column that serves as the primary key for the table.
* project\_name: A string column (NVARCHAR) that stores the name of the project. It cannot be NULL.
* project\_description: Another string column (NVARCHAR) to store a description of the project.
* start\_data: A date column to store the start date of the project.
* end\_data: A date column to store the end date of the project.

**Queries:**

--Creating projects table

--Stores information about various projects

CREATE TABLE PROJECTS (

project\_id INT PRIMARY KEY NOT NULL,

project\_name NVARCHAR (255) NOT NULL,

project\_description NVARCHAR (255),

start\_data DATE,

end\_data DATE

);

**Inserting data:**

INSERT INTO PROJECTS (project\_id, project\_name, project\_description, start\_data, end\_data)

VALUES

(100, 'Website Redesign', 'Redesign the company website for improved user experience.', '2023-01-15', '2023-03-15'),

(101, 'Product Launch', 'Launch a new product "Xenith" in the market with a marketing campaign.', '2023-02-01', '2023-04-01'),

(102, 'Market Research', 'Conduct in-depth market research to identify market trends and customer preferences.', '2023-03-10', '2023-05-10'),

(103, 'Office Renovation', 'Renovate the office space to create a modern and collaborative work environment.', '2023-04-20', '2023-06-20'),

(104, 'Sales Training', 'Provide intensive sales training to improve the skills of the sales team.', '2023-05-05', '2023-07-05'),

(105, 'IT Infrastructure Upgrade', 'Upgrade the companys IT infrastructure for improved performance and security.', '2023-06-15', '2023-08-15'),

(106, 'Customer Support Expansion', 'Expand the customer support team to provide better assistance to clients.', '2023-07-01', '2023-09-01'),

(107, 'Marketing Campaign', 'Launch a comprehensive marketing campaign to promote the companys products.', '2023-08-10', '2023-10-10'),

(108, 'Product Enhancement', 'Enhance existing product features based on customer feedback and market analysis.', '2023-09-25', '2023-11-25'),

(109, 'Quality Control Audit', 'Conduct a thorough quality control audit to ensure product quality and compliance.', '2023-10-05', '2023-12-05'),

(110, 'Financial Planning', 'Review and plan the companys financial strategy for the upcoming year.', '2023-11-10', '2024-01-10'),

(111, 'Employee Training', 'Provide training sessions to employees for skill development and career growth.', '2023-12-01', '2024-02-01'),

(112, 'Supply Chain Optimization', 'Optimize supply chain operations to reduce costs and improve efficiency.', '2023-01-15', '2023-03-15'),

(113, 'New Market Entry', 'Explore opportunities for entering a new international market and expand the customer base.', '2023-02-10', '2023-04-10'),

(114, 'Product Testing', 'Conduct rigorous testing of new product prototypes to ensure quality and reliability.', '2023-03-05', '2023-05-05'),

(115, 'Digital Transformation', 'Embark on a digital transformation journey to streamline business processes and enhance customer experiences.', '2023-04-20', '2023-06-20'),

(116, 'Customer Satisfaction Survey', 'Gather feedback from customers to identify areas for improvement and increase satisfaction.', '2023-05-01', '2023-07-01'),

(117, 'Data Security Enhancement', 'Enhance data security measures to protect customer data from cyber threats.', '2023-06-10', '2023-08-10'),

(118, 'Product Localization', 'Localize products for international markets to cater to diverse customer needs.', '2023-07-15', '2023-09-15'),

(119, 'Market Expansion Strategy', 'Develop a strategic plan to expand the company’s market reach and increase market share.', '2023-08-01', '2023-10-01'),

(120, 'Brand Identity Redesign', 'Redesign the companys brand identity to create a fresh and modern brand image.', '2023-09-10', '2023-11-10'),

(121, 'Green Initiative', 'Implement eco-friendly initiatives across company operations to promote sustainability.', '2023-10-05', '2023-12-05'),

(122, 'Supplier Relations Improvement', 'Strengthen relations with key suppliers to ensure a reliable supply chain.', '2023-11-15', '2024-01-15'),

(123, 'AI Integration', 'Integrate AI technology into existing systems to automate tasks and improve efficiency.', '2022-12-01', '2023-02-01'),

(124, 'New Product Research', 'Conduct research for the development of a new product line to meet emerging market demands.', '2022-01-10', '2022-03-10'),

(125, 'Customer Retention Program', 'Launch a program aimed at retaining existing customers and enhancing their loyalty.', '2022-02-15', '2022-04-15'),

(126, 'Employee Wellness Program', 'Implement a wellness program to promote the health and well-being of employees.', '2022-03-01', '2022-05-01'),

(127, 'Sustainability Initiatives', 'Take steps toward sustainability and reduce the companys carbon footprint.', '2022-04-10', '2022-06-10'),

(128, 'New Market Analysis', 'Analyze potential new markets to identify opportunities for expansion and growth.', '2022-05-05', '2022-07-05'),

(129, 'Online Sales Platform', 'Launch an online platform for direct sales to customers to increase accessibility.', '2022-06-20', '2022-08-20');

**Query:**

select \* from projects;

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**Entity Generation and Data Entry for Tasks table**

**Statements Explanation**

* task\_id: An integer column that serves as the primary key for the table.
* task\_name: A string column (NVARCHAR) that stores the name of the task.
* task\_description: Another string column (NVARCHAR) to store a description of the task.
* due\_date: A date column to store the due date of the task.
* task\_status: A string column (NVARCHAR) to store the status of the task.
* project\_id: An integer column that is a foreign key referencing the project\_id in the PROJECTS table.

**Queries:**

CREATE TABLE TASKS (

task\_id INT PRIMARY KEY NOT NULL,

task\_name NVARCHAR (255),

task\_description NVARCHAR (255),

due\_date DATE,

task\_status NVARCHAR (255),

project\_id INT,

CONSTRAINT FK\_projects\_projectid

FOREIGN KEY (project\_id)

REFERENCES PROJECTS (project\_id)

);

**Inserting Data:**

--Project 100 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(1, 'Design Website Mockups', 'Create mockups for the website redesign project.', '2023-02-20', 'Finished', 100);

-- Project 101 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(2, 'Product Launch Marketing Plan', 'Develop a marketing plan for the Xenith product launch.', '2023-03-05', 'Finished', 101),

(3, 'Product Packaging Design', 'Design packaging for the Xenith product.', '2023-03-30', 'Finished', 101);

-- Project 102 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(4, 'Market Research Survey', 'Conduct a customer survey for market research.', '2023-03-15', 'Finished',102),

(5, 'Data Analysis', 'Analyze survey data for market trends.', '2023-04-01', 'Finished', 102),

(6, 'Market Research Report', 'Compile a report on market research findings.', '2023-05-01', 'Finished', 102);

-- Project 103 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(7, 'Office Renovation Planning', 'Plan the renovation of the office space.', '2023-05-15', 'Finished', 103),

(8, 'Office Renovation Execution', 'Execute the office renovation project.', '2023-06-10', 'Finished', 103);

-- Project 104 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(9, 'Sales Team Training Program', 'Implement a training program for the sales team.', '2023-06-15', 'Finished', 104),

(10, 'Sales Performance Analysis', 'Analyze sales team performance.', '2023-07-01', 'Finished', 104);

-- Project 105 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(11, 'IT Infrastructure Assessment', 'Assess the current IT infrastructure for upgrade needs.', '2023-06-30', 'Finished', 105),

(12, 'Infrastructure Upgrade Planning', 'Plan the IT infrastructure upgrade.', '2023-07-15', 'Finished', 105),

(13, 'Infrastructure Upgrade Implementation', 'Implement the IT infrastructure upgrade.', '2023-08-01', 'Finished', 105);

-- Project 106 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(14, 'Customer Support Team Hiring', 'Recruit new team members for customer support.', '2023-07-15', 'Finished', 106),

(15, 'Customer Support Training', 'Provide training to new customer support team members.', '2023-08-05', 'Finished', 106),

(16, 'Customer Support Expansion Launch', 'Launch the expanded customer support team.', '2023-08-15', 'Finished', 106);

-- Project 107 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(17, 'Marketing Campaign Strategy', 'Develop a strategy for the marketing campaign.', '2023-09-10', 'Finished', 107);

-- Project 108 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(18, 'Product Enhancement Analysis', 'Analyze customer feedback and market analysis for product enhancement.', '2023-09-25', 'In Progress', 108),

(19, 'Product Enhancement Implementation', 'Implement product feature enhancements.', '2023-10-20', 'Planned', 108);

-- Project 109 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(20, 'Quality Control Audit Planning', 'Plan the quality control audit process.', '2023-10-05', 'In Progress', 109),

(21, 'Quality Control Audit Execution', 'Execute the quality control audit.', '2023-11-05', 'Not Started', 109),

(22, 'Quality Control Audit Report', 'Compile a report on the audit findings.', '2023-12-05', 'Planned', 109);

-- Project 110 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(23, 'Financial Data Analysis', 'Analyze financial data for planning.', '2023-11-10', 'In Progress', 110),

(24, 'Financial Strategy Planning', 'Plan the financial strategy for the upcoming year.', '2023-12-01', 'Not Started', 110);

-- Project 111 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(25, 'Employee Training Program Development', 'Develop the employee training program.', '2023-12-01', 'In Progress', 111),

(26, 'Employee Training Sessions', 'Conduct training sessions for employees.', '2024-01-15', 'Planned', 111);

-- Project 112 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(27, 'Supply Chain Analysis', 'Analyze supply chain operations for optimization.', '2023-01-15', 'Finished', 112),

(28, 'Supply Chain Optimization Implementation', 'Implement supply chain optimization strategies.', '2023-02-28', 'Finished', 112);

-- Project 113 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(29, 'New Market Entry Research', 'Research opportunities for entering a new international market.', '2023-03-10', 'Finished', 113);

-- Project 114 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(30, 'Product Testing Plan', 'Plan the testing of new product prototypes.', '2023-03-10', 'Finished', 114);

-- Project 115 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(31, 'Digital Transformation Planning', 'Plan the digital transformation journey.', '2023-05-01', 'Finished', 115);

-- Project 116 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(32, 'Customer Satisfaction Survey Preparation', 'Prepare for the customer satisfaction survey.', '2023-05-15', 'Finished', 116);

-- Project 117 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(33, 'Data Security Enhancement Assessment', 'Assess data security measures for enhancement.', '2023-06-15', 'Finished', 117),

(34, 'Data Security Enhancement Implementation', 'Implement data security enhancements.', '2023-07-20', 'Finished', 117);

-- Project 118 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(35, 'Product Localization Strategy', 'Develop a strategy for product localization.', '2023-08-15', 'Finished', 118);

-- Project 119 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(36, 'Market Expansion Strategy Development', 'Develop a strategy for market expansion.', '2023-08-15', 'Finished', 119);

-- Project 120 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(37, 'Brand Identity Redesign Planning', 'Plan the brand identity redesign project.', '2023-10-01', 'Not Started', 120);

-- Project 121 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(38, 'Green Initiative Implementation', 'Implement eco-friendly initiatives.', '2023-10-15', 'Not Started', 121);

-- Project 122 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(39, 'Supplier Relations Improvement Planning', 'Plan the supplier relations improvement project.', '2023-12-15', 'Not Started', 122);

-- Project 123 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(40, 'AI Integration Planning', 'Plan the integration of AI technology into existing systems.', '2022-12-15', 'Finished', 123);

-- Project 124 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(41, 'New Product Research', 'Conduct research for new product development.', '2022-01-20', 'Finished', 124);

-- Project 125 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(42, 'Customer Retention Program Strategy', 'Develop a strategy for the customer retention program.', '2022-03-28', 'Finished', 125);

-- Project 126 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(43, 'Employee Wellness Program Implementation', 'Implement the employee wellness program.', '2022-04-15', 'Finished', 126);

-- Project 127 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(44, 'Sustainability Initiatives Implementation', 'Implement sustainability initiatives.', '2022-05-01', 'Finished', 127);

-- Project 128 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(45, 'New Market Analysis', 'Analyze potential new markets for expansion.', '2022-06-20', 'Finished', 128);

-- Project 129 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(46, 'Online Sales Platform Development', 'Develop the online sales platform.', '2022-08-01', 'Finished', 129);

**Query:**

Select \* from TASKS;

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Description automatically generated**

**Entity Generation and Data Entry for User table**

**Statements Explanation**

* user\_id: An integer column that serves as the primary key for the table.
* user\_name: A string column (NVARCHAR) that stores the username of the user.
* first\_name: A string column (NVARCHAR) that stores the first name of the user.
* last\_name: A string column (NVARCHAR) that stores the last name of the user.
* email: A string column (NVARCHAR) that stores the email address of the user.

**Queries:**

CREATE TABLE USERS (

user\_id INT PRIMARY KEY,

user\_name NVARCHAR (255),

first\_name NVARCHAR (255),

last\_name NVARCHAR (255),

email NVARCHAR (255)

);

**Inserting Data:**

INSERT INTO USERS (user\_id, user\_name, first\_name, last\_name, email)

VALUES

(1, 'john\_doe', 'John', 'Doe', 'john.doe123@gmail.com'),

(2, 'jane\_smith', 'Jane', 'Smith', 'jane.smith987@gmail.com'),

(3, 'michael\_brown', 'Michael', 'Brown', 'michael.brown@gmail.com'),

(4, 'susan\_wilson', 'Susan', 'Wilson', 'susan.wilson1@gmail.com'),

(5, 'david\_jones', 'David', 'Jones', 'david.jones45@gmail.com'),

(6, 'linda\_jackson', 'Linda', 'Jackson', 'linda.jackson33@gmail.com'),

(7, 'robert\_smith', 'Robert', 'Smith', 'robert.smith98@gmail.com'),

(8, 'mary\_davis', 'Mary', 'Davis', 'mary.davis87@gmail.com'),

(9, 'william\_adams', 'William', 'Adams', 'william.adams56@gmail.com'),

(10, 'sarah\_martin', 'Sarah', 'Martin', 'sarah.martin@gmail.com'),

(11, 'peter\_wilson', 'Peter', 'Wilson', 'peter.wilson@gmail.com'),

(12, 'lisa\_miller', 'Lisa', 'Miller', 'lisa.miller@gmail.com'),

(13, 'james\_anderson', 'James', 'Anderson', 'james.anderson@gmail.com'),

(14, 'emily\_thomas', 'Emily', 'Thomas', 'emily.thomas@gmail.com'),

(15, 'daniel\_jackson', 'Daniel', 'Jackson', 'daniel.jackson34@gmail.com');

**Query:**

select \* from USERS;

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Description automatically generated**

**Entity Generation and Data Entry for Assignments table**

**Statements Explanation**

* assignment\_id: An integer column that serves as the primary key for the table.
* task\_id: An integer column that is a foreign key referencing the task\_id in the TASKS table. It represents the task to which the assignment is related.
* user\_id: An integer column that is a foreign key referencing the user\_id in the USERS table. It represents the user to whom the assignment is assigned.

**Queries:**

CREATE TABLE ASSIGNMENTS (

assignment\_id INT PRIMARY KEY,

task\_id INT,

user\_id INT,

CONSTRAINT FK\_TASKID\_ASSIGNMENTID

FOREIGN KEY (task\_id)

REFERENCES TASKS (task\_id),

CONSTRAINT FK\_USERID\_USERS

FOREIGN KEY (user\_id)

REFERENCES USERS(user\_id)

);

**Inserting Data:**

-- Assign tasks for Project 100 to users 1 and 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(1, 1, 1),

(2, 1, 2);

-- Assign tasks for Project 101 to users 3 and 4

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(3, 2, 3),

(4, 3, 4);

-- Assign tasks for Project 102 to users 5, 6, and 7

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(5, 4, 5),

(6, 5, 6),

(7, 6, 7);

-- Assign tasks for Project 103 to users 8 and 9

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(8, 7, 8),

(9, 8, 9);

-- Assign tasks for Project 104 to users 10 and 11

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(10, 9, 10),

(11, 10, 11);

-- Assign tasks for Project 105 to users 12, 13, and 14

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(12, 11, 12),

(13, 12, 13),

(14, 13, 14);

-- Assign tasks for Project 106 to users 15, 1, and 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(15, 14, 15),

(16, 15, 1),

(17, 16, 2);

-- Assign tasks for Project 107 to users 3

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(18, 17, 3);

-- Assign tasks for Project 108 to users 4 and 5

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(19, 18, 4),

(20, 19, 5);

-- Assign tasks for Project 109 to users 6, 7, and 8

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(21, 20, 6),

(22, 21, 7),

(23, 22, 8);

-- Assign tasks for Project 110 to users 9 and 10

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(24, 23, 9),

(25, 24, 10);

-- Assign tasks for Project 111 to users 11 and 12

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(26, 25, 11),

(27, 26, 12);

-- Assign tasks for Project 112 to users 13 and 14

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(28, 27, 13),

(29, 28, 14);

-- Assign tasks for Project 113 to users 15

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(30, 29, 15);

-- Assign tasks for Project 114 to users 1

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(31, 30, 1);

-- Assign tasks for Project 115 to users 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(32, 31, 2);

-- Assign tasks for Project 116 to users 3

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(33, 32, 3);

-- Assign tasks for Project 117 to users 4 and 5

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(34, 33, 4),

(35, 34, 5);

-- Assign tasks for Project 118 to users 6

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(36, 35, 6);

-- Assign tasks for Project 119 to users 7

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(37, 36, 7);

-- Assign tasks for Project 120 to users 8

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(38, 37, 8);

-- Assign tasks for Project 121 to users 9

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(39, 38, 9);

-- Assign tasks for Project 122 to users 10

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(40, 39, 10);

-- Assign tasks for Project 123 to users 11

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(41, 40, 11);

-- Assign tasks for Project 124 to users 12

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(42, 41, 12);

-- Assign tasks for Project 125 to users 13

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(43, 42, 13);

-- Assign tasks for Project 126 to users 14

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(44, 43, 14);

-- Assign tasks for Project 127 to users 15

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(45, 44, 15);

-- Assign tasks for Project 128 to users 1

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(46, 45, 1);

-- Assign tasks for Project 129 to users 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(47, 46, 2);

**Query:**

select \* from ASSIGNMENTS;

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Description automatically generated**

**Entity Generation and Data Entry for Labels table**

**Statements Explanation**

* label\_id: Unique identifier for each label (Primary Key).
* label\_name: Name of the label, with a maximum length of 255 characters.

**Queries:**

CREATE TABLE LABELS (

label\_id INT PRIMARY KEY,

label\_name NVARCHAR (255)

);

**Inserting Data:**

INSERT INTO LABELS (label\_id,label\_name)

VALUES (601,'important'),

(602,'Urgent'),

(603,'Priority');

select \* from LABELS;

UPDATE LABELS

SET label\_name = 'High Priority'

WHERE label\_name = 'Hight Priority';

UPDATE LABELS

SET label\_name = 'Medium Priority'

WHERE label\_name = 'Urgent';

UPDATE LABELS

SET label\_name = 'Low Priority'

WHERE label\_name = 'Lower Priority';

**Query:**

select \* from LABELS;

**A computer screen with text boxes

Description automatically generated**

**Entity Generation and Data Entry for Tasklabels table**

**Statements Explanation**

* task\_label\_id: Unique identifier for each task label association (Primary Key).
* task\_id: Foreign Key referencing the task\_id column in the TASKS table.
* label\_id: Foreign Key referencing the label\_id column in the LABELS table.

**Queries:**

CREATE TABLE TASKLABELS (

task\_label\_id INT PRIMARY KEY,

task\_id INT,

label\_id INT,

CONSTRAINT FK\_TASKID\_TASKLABLES

FOREIGN KEY (task\_id)

REFERENCES TASKS(task\_id),

CONSTRAINT FK\_LABELID\_TASKLABLES

FOREIGN KEY (label\_id)

REFERENCES LABELS(label\_id)

);

**Inserting Data:**

INSERT INTO TASKLABELS (task\_label\_id,task\_id,label\_id)

VALUES

(1,1,602),

(2,2,601),

(3,3,601),

(4,4,603),

(5,5,601),

(6,6,602),

(7,7,601),

(8,8,603),

(9,9,601),

(10,10,603),

(11,11,601),

(12,12,602),

(13,13,602),

(14,14,603),

(15,15,601),

(16,16,602),

(17,17,601),

(18,18,601),

(19,19,603),

(20,20,602),

(21,21,601),

(22,22,601),

(23,23,602),

(24,24,603),

(25,25,603),

(26,26,601),

(27,27,602),

(28,28,603),

(29,29,602),

(30,30,602),

(31,31,601),

(32,32,602),

(33,33,603),

(34,34,602),

(35,35,601),

(36,36,601),

(37,37,602),

(38,38,601),

(39,39,602),

(40,40,602),

(41,41,601),

(42,42,601),

(43,43,602),

(44,44,603),

(45,45,602),

(46,46,601);

**Query:**

SELECT \* from TASKLABELS;

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Description automatically generated**

**Entity Generation and Data Entry for ProjectLabels table**

**Statements Explanation**

* project\_label\_id: Unique identifier for each project label association (Primary Key).
* project\_id: Foreign Key referencing the project\_id column in the PROJECTS table.
* label\_id: Foreign Key referencing the label\_id column in the LABELS table.

**Queries:**

CREATE TABLE PROJECTLABELS (

project\_label\_id INT PRIMARY KEY,

project\_id INT,

label\_id INT,

CONSTRAINT FK\_projectid\_PROJECTLABELS

FOREIGN KEY (project\_id)

REFERENCES PROJECTS (project\_id),

CONSTRAINT FK\_LABELID\_PROJECTLABEL

FOREIGN KEY (label\_id)

REFERENCES LABELS (label\_id)

);

**Inserting Data:**

INSERT INTO PROJECTLABELS (project\_label\_id,project\_id,label\_id)

VALUES

(1,100,601),

(2,101,602),

(3,102,601),

(4,103,603),

(5,104,603),

(6,105,602),

(7,106,601),

(8,107,603),

(9,108,601),

(10,109,601),

(11,110,601),

(12,111,602),

(13,112,602),

(14,113,603),

(15,114,601),

(16,115,602),

(17,116,603),

(18,117,601),

(19,118,603),

(20,119,602),

(21,120,601),

(22,121,601),

(23,122,602),

(24,123,603),

(25,124,603),

(26,125,601),

(27,126,602),

(28,127,601),

(29,128,602),

(30,129,601);

**Query:**

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**Section 2: Data Retrieval and Analytical Reports**

**Overview:** Data retrieval and analytical reports play a pivotal role in the comprehensive project and task management database design. Data retrieval focuses on extracting specific information from the database, including task details, project overviews, and user assignments. Leveraging SQL queries, tasks can be sorted based on user, status, label, and dependencies, providing dynamic and customizable access to project data.

Analytical reports, on the other hand, transform raw data into actionable insights. Reports can range from project progress and task statuses to user workload analysis, offering a strategic view for decision-making. Visualization tools such as charts and graphs enhance the interpretation of data, presenting project timelines, completion percentages, and user workloads in a digestible format.

Automation is integrated for scheduled report generation and alerts, ensuring stakeholders stay informed of critical project developments. Security considerations involve implementing access controls to safeguard sensitive data, offering a balance between accessibility and confidentiality. In essence, the harmonious interplay of data retrieval and analytical reports empowers efficient project management, enabling stakeholders to navigate, understand, and act upon complex datasets for optimized decision-making.

**Data Analysis 1**

**Statement****:** List all projects with their associated tasks?

**SQL Query:**

SELECT P.project\_id, P.project\_name, T.task\_id, T.task\_name

FROM PROJECTS P

LEFT JOIN TASKS T ON P.project\_id = T.project\_id;

**Results and Screenshot:**

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Description automatically generated

**Data Analysis 2**

**Statement:** Find the tasks that are overdue.

**SQL Query:**

SELECT task\_id, task\_name, due\_date

FROM TASKS

WHERE due\_date < GETDATE() AND task\_status != 'Finished';

**Results and Screenshot:**

**A screenshot of a computer

Description automatically generated**

**Data Analysis 3**

**Statement:** Count the number of tasks in each project.

**SQL Query:**

SELECT project\_id, COUNT(task\_id) AS task\_count

FROM TASKS

GROUP BY project\_id;

**Results and Screenshot:**

**A computer screen with a white screen

Description automatically generated**

**Data Analysis 4**

**Statement:** List all the assignments with user details.

**SQL Query:**

SELECT A.assignment\_id, A.task\_id, A.user\_id, U.user\_name, U.first\_name, U.last\_name

FROM ASSIGNMENTS A

JOIN USERS U ON A.user\_id = U.user\_id;

**A screenshot of a computer

Description automatically generated**

**Data Analysis 5**

**Statement:** Find projects that have no assigned tasks.

**SQL Query:**

SELECT P.project\_id, P.project\_name

FROM PROJECTS P

LEFT JOIN TASKS T ON P.project\_id = T.project\_id

WHERE T.task\_id IS NULL;

**Results and Screenshot:**

**A computer screen with a white screen

Description automatically generated**

**Data Analysis 6**

**Statement:** Calculate the percentage of completed tasks for each project.

**SQL Query:**

SELECT P.project\_id, P.project\_name, COUNT(T.task\_id) AS total\_tasks,

SUM(CASE WHEN T.task\_status = 'Finished' THEN 1 ELSE 0 END) AS completed\_tasks,

(SUM (CASE WHEN T.task\_status = 'Finished' THEN 1 ELSE 0 END) / COUNT(T.task\_id)) \* 100 AS completion\_percentage

FROM PROJECTS P

LEFT JOIN TASKS T ON P.project\_id = T.project\_id

GROUP BY P.project\_id, P.project\_name;

**Results and Screenshot:**

**A computer screen shot of a computer screen

Description automatically generated**

**Data Analysis 7**

**Statement:** Find projects with high priority tasks.

**SQL Query:**

SELECT DISTINCT P.project\_id, P.project\_name

FROM PROJECTS P

JOIN TASKS T ON P.project\_id = T.project\_id

JOIN TASKLABELS TL ON T.task\_id = TL.task\_id

JOIN LABELS L ON TL.label\_id = L.label\_id

WHERE L.label\_name = 'High Priority';

**Results and Screenshot:**

**A computer screen with text

Description automatically generated**

**Data Analysis 8**

**Statement:** Retrieve all tasks along with their assigned users for a specific project.

**SQL Query:**

SELECT

t.task\_id,

t.task\_name,

t.task\_description,

t.due\_date,

t.task\_status,

u.user\_name

FROM

TASKS t

JOIN

ASSIGNMENTS a ON t.task\_id = a.task\_id

JOIN

USERS u ON a.user\_id = u.user\_id

WHERE

t.project\_id = 101;

**Results and Screenshot:**

**A computer screen with text

Description automatically generated**

**Data Analysis 9**

**Statement:** Retrieve tasks with their associated labels for a specific user.

**SQL Query:**

SELECT

t.task\_id,

t.task\_name,

t.task\_description,

l.label\_name

FROM

TASKS t

JOIN

TASKLABELS tl ON t.task\_id = tl.task\_id

JOIN

LABELS l ON tl.label\_id = l.label\_id

JOIN

ASSIGNMENTS a ON t.task\_id = a.task\_id

WHERE

a.user\_id = 3;

**Results and Screenshot:**

**A computer screen with a white screen

Description automatically generated**

**Data Analysis 10**

**Statement:** List all the projects along with count of tasks in each project.

**SQL Query:**

SELECT

p.project\_id,

p.project\_name,

COUNT(t.task\_id) AS task\_count

FROM

PROJECTS p

LEFT JOIN

TASKS t ON p.project\_id = t.project\_id

GROUP BY

p.project\_id, p.project\_name;

**Results and Screenshot:**

**A computer screen with text

Description automatically generated**

**Appendix 1**

--Creating projects table

--Stores information about various projects

CREATE TABLE PROJECTS (

project\_id INT PRIMARY KEY NOT NULL,

project\_name NVARCHAR(255) NOT NULL,

project\_description NVARCHAR(255),

start\_data DATE,

end\_data DATE

);

---------------------------------------------------------------------------------------------------

--Creating tasks table

--Stores information about individual tasks within projects

CREATE TABLE TASKS(

task\_id INT PRIMARY KEY NOT NULL,

task\_name NVARCHAR(255),

task\_description NVARCHAR(255),

due\_date DATE,

task\_status NVARCHAR(255),

project\_id INT,

CONSTRAINT FK\_projects\_projectid

FOREIGN KEY (project\_id)

REFERENCES PROJECTS (project\_id)

);

--------------------------------------------------------------------------------------------------

--Creating Task Dependencies table

--Stores dependencies between tasks

CREATE TABLE TASKDEPENDENCIES(

dependency\_id INT PRIMARY KEY,

task\_id INT,

depends\_on\_task\_id INT,

CONSTRAINT FK\_TASKS\_TASKID

FOREIGN KEY (task\_id)

REFERENCES TASKS (task\_id),

CONSTRAINT FK\_TASKS\_DEPENDTASKID

FOREIGN KEY (depends\_on\_task\_id)

REFERENCES TASKS (task\_id)

);

---------------------------------------------------------------------------------------------------------------

--Creating Users table

--Stores information about users who will be assigned tasks

CREATE TABLE USERS(

user\_id INT PRIMARY KEY,

user\_name NVARCHAR(255),

first\_name NVARCHAR(255),

last\_name NVARCHAR(255),

email NVARCHAR(255)

);

--------------------------------------------------------------------------------------------------------------------

--Creating Assignments table

--Tracks task assignments to users

CREATE TABLE ASSIGNMENTS(

assignment\_id INT PRIMARY KEY,

task\_id INT,

user\_id INT,

CONSTRAINT FK\_TASKID\_ASSIGNMENTID

FOREIGN KEY (task\_id)

REFERENCES TASKS (task\_id),

CONSTRAINT FK\_USERID\_USERS

FOREIGN KEY (user\_id)

REFERENCES USERS(user\_id)

);

----------------------------------------------------------------------------------------------------------------------

--Creating Comments table

--Stores comments related to tasks or projects

CREATE TABLE COMMENTS(

comment\_id INT PRIMARY KEY,

task\_id INT,

project\_id INT,

user\_id INT,

comment\_text NVARCHAR(255),

time\_stamp DATE,

CONSTRAINT FK\_TASKID\_COMMENTS

FOREIGN KEY (task\_id)

REFERENCES TASKS (task\_id),

CONSTRAINT FK\_PROJECTID\_COMMENTS

FOREIGN KEY (project\_id)

REFERENCES PROJECTS (project\_id),

CONSTRAINT FK\_USERID\_COMMENTS

FOREIGN KEY (user\_id)

REFERENCES USERS (user\_id),

);

-----------------------------------------------------------------------------------------------------------

--Creating lables table

--stores tables that can be associated with tasks or projects

CREATE TABLE LABELS(

label\_id INT PRIMARY KEY,

label\_name NVARCHAR(255)

);

select \* from LABELS;

--------------------------------------------------------------------------------------------------------------

--Creating tasklabels and projectlabels tables

--Connects tasks and projects to lables

CREATE TABLE TASKLABELS(

task\_label\_id INT PRIMARY KEY,

task\_id INT,

label\_id INT,

CONSTRAINT FK\_TASKID\_TASKLABLES

FOREIGN KEY (task\_id)

REFERENCES TASKS(task\_id),

CONSTRAINT FK\_LABELID\_TASKLABLES

FOREIGN KEY (label\_id)

REFERENCES LABELS(label\_id)

);

SELECT \* FROM TASKLABELS;

-------------------------------------------------------------------------------------------------------------------

CREATE TABLE PROJECTLABELS(

project\_label\_id INT PRIMARY KEY,

project\_id INT,

label\_id INT,

CONSTRAINT FK\_projectid\_PROJECTLABELS

FOREIGN KEY (project\_id)

REFERENCES PROJECTS(project\_id),

CONSTRAINT FK\_LABELID\_PROJECTLABEL

FOREIGN KEY (label\_id)

REFERENCES LABELS(label\_id)

);

SELECT \* FROM

---------------------------------------------------------------------------------------------------

--inserting data into projects table

INSERT INTO PROJECTS (project\_id, project\_name, project\_description, start\_data, end\_data)

VALUES

(100, 'Website Redesign', 'Redesign the company website for improved user experience.', '2023-01-15', '2023-03-15'),

(101, 'Product Launch', 'Launch a new product "Xenith" in the market with a marketing campaign.', '2023-02-01', '2023-04-01'),

(102, 'Market Research', 'Conduct in-depth market research to identify market trends and customer preferences.', '2023-03-10', '2023-05-10'),

(103, 'Office Renovation', 'Renovate the office space to create a modern and collaborative work environment.', '2023-04-20', '2023-06-20'),

(104, 'Sales Training', 'Provide intensive sales training to improve the skills of the sales team.', '2023-05-05', '2023-07-05'),

(105, 'IT Infrastructure Upgrade', 'Upgrade the companys IT infrastructure for improved performance and security.', '2023-06-15', '2023-08-15'),

(106, 'Customer Support Expansion', 'Expand the customer support team to provide better assistance to clients.', '2023-07-01', '2023-09-01'),

(107, 'Marketing Campaign', 'Launch a comprehensive marketing campaign to promote the companys products.', '2023-08-10', '2023-10-10'),

(108, 'Product Enhancement', 'Enhance existing product features based on customer feedback and market analysis.', '2023-09-25', '2023-11-25'),

(109, 'Quality Control Audit', 'Conduct a thorough quality control audit to ensure product quality and compliance.', '2023-10-05', '2023-12-05'),

(110, 'Financial Planning', 'Review and plan the companys financial strategy for the upcoming year.', '2023-11-10', '2024-01-10'),

(111, 'Employee Training', 'Provide training sessions to employees for skill development and career growth.', '2023-12-01', '2024-02-01'),

(112, 'Supply Chain Optimization', 'Optimize supply chain operations to reduce costs and improve efficiency.', '2023-01-15', '2023-03-15'),

(113, 'New Market Entry', 'Explore opportunities for entering a new international market and expand the customer base.', '2023-02-10', '2023-04-10'),

(114, 'Product Testing', 'Conduct rigorous testing of new product prototypes to ensure quality and reliability.', '2023-03-05', '2023-05-05'),

(115, 'Digital Transformation', 'Embark on a digital transformation journey to streamline business processes and enhance customer experiences.', '2023-04-20', '2023-06-20'),

(116, 'Customer Satisfaction Survey', 'Gather feedback from customers to identify areas for improvement and increase satisfaction.', '2023-05-01', '2023-07-01'),

(117, 'Data Security Enhancement', 'Enhance data security measures to protect customer data from cyber threats.', '2023-06-10', '2023-08-10'),

(118, 'Product Localization', 'Localize products for international markets to cater to diverse customer needs.', '2023-07-15', '2023-09-15'),

(119, 'Market Expansion Strategy', 'Develop a strategic plan to expand the companys market reach and increase market share.', '2023-08-01', '2023-10-01'),

(120, 'Brand Identity Redesign', 'Redesign the companys brand identity to create a fresh and modern brand image.', '2023-09-10', '2023-11-10'),

(121, 'Green Initiative', 'Implement eco-friendly initiatives across company operations to promote sustainability.', '2023-10-05', '2023-12-05'),

(122, 'Supplier Relations Improvement', 'Strengthen relations with key suppliers to ensure a reliable supply chain.', '2023-11-15', '2024-01-15'),

(123, 'AI Integration', 'Integrate AI technology into existing systems to automate tasks and improve efficiency.', '2022-12-01', '2023-02-01'),

(124, 'New Product Research', 'Conduct research for the development of a new product line to meet emerging market demands.', '2022-01-10', '2022-03-10'),

(125, 'Customer Retention Program', 'Launch a program aimed at retaining existing customers and enhancing their loyalty.', '2022-02-15', '2022-04-15'),

(126, 'Employee Wellness Program', 'Implement a wellness program to promote the health and well-being of employees.', '2022-03-01', '2022-05-01'),

(127, 'Sustainability Initiatives', 'Take steps toward sustainability and reduce the companys carbon footprint.', '2022-04-10', '2022-06-10'),

(128, 'New Market Analysis', 'Analyze potential new markets to identify opportunities for expansion and growth.', '2022-05-05', '2022-07-05'),

(129, 'Online Sales Platform', 'Launch an online platform for direct sales to customers to increase accessibility.', '2022-06-20', '2022-08-20');

select \* from projects;

--DELETE FROM PROJECTS WHERE project\_id <31;

--DELETE FROM projects WHERE project\_id > 30;

------------------------------------------------------------------------------------------------------------

--Inserting data into tasks table

--Project 100 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(1, 'Design Website Mockups', 'Create mockups for the website redesign project.', '2023-02-20', 'Finished', 100);

-- Project 101 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(2, 'Product Launch Marketing Plan', 'Develop a marketing plan for the Xenith product launch.', '2023-03-05', 'Finished', 101),

(3, 'Product Packaging Design', 'Design packaging for the Xenith product.', '2023-03-30', 'Finished', 101);

-- Project 102 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(4, 'Market Research Survey', 'Conduct a customer survey for market research.', '2023-03-15', 'Finished',102),

(5, 'Data Analysis', 'Analyze survey data for market trends.', '2023-04-01', 'Finished', 102),

(6, 'Market Research Report', 'Compile a report on market research findings.', '2023-05-01', 'Finished', 102);

-- Project 103 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(7, 'Office Renovation Planning', 'Plan the renovation of the office space.', '2023-05-15', 'Finished', 103),

(8, 'Office Renovation Execution', 'Execute the office renovation project.', '2023-06-10', 'Finished', 103);

-- Project 104 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(9, 'Sales Team Training Program', 'Implement a training program for the sales team.', '2023-06-15', 'Finished', 104),

(10, 'Sales Performance Analysis', 'Analyze sales team performance.', '2023-07-01', 'Finished', 104);

-- Project 105 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(11, 'IT Infrastructure Assessment', 'Assess the current IT infrastructure for upgrade needs.', '2023-06-30', 'Finished', 105),

(12, 'Infrastructure Upgrade Planning', 'Plan the IT infrastructure upgrade.', '2023-07-15', 'Finished', 105),

(13, 'Infrastructure Upgrade Implementation', 'Implement the IT infrastructure upgrade.', '2023-08-01', 'Finished', 105);

-- Project 106 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(14, 'Customer Support Team Hiring', 'Recruit new team members for customer support.', '2023-07-15', 'Finished', 106),

(15, 'Customer Support Training', 'Provide training to new customer support team members.', '2023-08-05', 'Finished', 106),

(16, 'Customer Support Expansion Launch', 'Launch the expanded customer support team.', '2023-08-15', 'Finished', 106);

-- Project 107 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(17, 'Marketing Campaign Strategy', 'Develop a strategy for the marketing campaign.', '2023-09-10', 'Finished', 107);

-- Project 108 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(18, 'Product Enhancement Analysis', 'Analyze customer feedback and market analysis for product enhancement.', '2023-09-25', 'In Progress', 108),

(19, 'Product Enhancement Implementation', 'Implement product feature enhancements.', '2023-10-20', 'Planned', 108);

-- Project 109 with three tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(20, 'Quality Control Audit Planning', 'Plan the quality control audit process.', '2023-10-05', 'In Progress', 109),

(21, 'Quality Control Audit Execution', 'Execute the quality control audit.', '2023-11-05', 'Not Started', 109),

(22, 'Quality Control Audit Report', 'Compile a report on the audit findings.', '2023-12-05', 'Planned', 109);

-- Project 110 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(23, 'Financial Data Analysis', 'Analyze financial data for planning.', '2023-11-10', 'In Progress', 110),

(24, 'Financial Strategy Planning', 'Plan the financial strategy for the upcoming year.', '2023-12-01', 'Not Started', 110);

-- Project 111 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(25, 'Employee Training Program Development', 'Develop the employee training program.', '2023-12-01', 'In Progress', 111),

(26, 'Employee Training Sessions', 'Conduct training sessions for employees.', '2024-01-15', 'Planned', 111);

-- Project 112 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(27, 'Supply Chain Analysis', 'Analyze supply chain operations for optimization.', '2023-01-15', 'Finished', 112),

(28, 'Supply Chain Optimization Implementation', 'Implement supply chain optimization strategies.', '2023-02-28', 'Finished', 112);

-- Project 113 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(29, 'New Market Entry Research', 'Research opportunities for entering a new international market.', '2023-03-10', 'Finished', 113);

-- Project 114 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(30, 'Product Testing Plan', 'Plan the testing of new product prototypes.', '2023-03-10', 'Finished', 114);

-- Project 115 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(31, 'Digital Transformation Planning', 'Plan the digital transformation journey.', '2023-05-01', 'Finished', 115);

-- Project 116 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(32, 'Customer Satisfaction Survey Preparation', 'Prepare for the customer satisfaction survey.', '2023-05-15', 'Finished', 116);

-- Project 117 with two tasks

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(33, 'Data Security Enhancement Assessment', 'Assess data security measures for enhancement.', '2023-06-15', 'Finished', 117),

(34, 'Data Security Enhancement Implementation', 'Implement data security enhancements.', '2023-07-20', 'Finished', 117);

-- Project 118 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(35, 'Product Localization Strategy', 'Develop a strategy for product localization.', '2023-08-15', 'Finished', 118);

-- Project 119 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(36, 'Market Expansion Strategy Development', 'Develop a strategy for market expansion.', '2023-08-15', 'Finished', 119);

-- Project 120 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(37, 'Brand Identity Redesign Planning', 'Plan the brand identity redesign project.', '2023-10-01', 'Not Started', 120);

-- Project 121 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(38, 'Green Initiative Implementation', 'Implement eco-friendly initiatives.', '2023-10-15', 'Not Started', 121);

-- Project 122 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(39, 'Supplier Relations Improvement Planning', 'Plan the supplier relations improvement project.', '2023-12-15', 'Not Started', 122);

-- Project 123 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(40, 'AI Integration Planning', 'Plan the integration of AI technology into existing systems.', '2022-12-15', 'Finished', 123);

-- Project 124 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(41, 'New Product Research', 'Conduct research for new product development.', '2022-01-20', 'Finished', 124);

-- Project 125 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(42, 'Customer Retention Program Strategy', 'Develop a strategy for the customer retention program.', '2022-03-28', 'Finished', 125);

-- Project 126 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(43, 'Employee Wellness Program Implementation', 'Implement the employee wellness program.', '2022-04-15', 'Finished', 126);

-- Project 127 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(44, 'Sustainability Initiatives Implementation', 'Implement sustainability initiatives.', '2022-05-01', 'Finished', 127);

-- Project 128 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(45, 'New Market Analysis', 'Analyze potential new markets for expansion.', '2022-06-20', 'Finished', 128);

-- Project 129 with one task

INSERT INTO TASKS (task\_id, task\_name, task\_description, due\_date, task\_status, project\_id)

VALUES

(46, 'Online Sales Platform Development', 'Develop the online sales platform.', '2022-08-01', 'Finished', 129);

select \* from TASKS;

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--Inserting data into user table

INSERT INTO USERS (user\_id, user\_name, first\_name, last\_name, email)

VALUES

(1, 'john\_doe', 'John', 'Doe', 'john.doe123@gmail.com'),

(2, 'jane\_smith', 'Jane', 'Smith', 'jane.smith987@gmail.com'),

(3, 'michael\_brown', 'Michael', 'Brown', 'michael.brown@gmail.com'),

(4, 'susan\_wilson', 'Susan', 'Wilson', 'susan.wilson1@gmail.com'),

(5, 'david\_jones', 'David', 'Jones', 'david.jones45@gmail.com'),

(6, 'linda\_jackson', 'Linda', 'Jackson', 'linda.jackson33@gmail.com'),

(7, 'robert\_smith', 'Robert', 'Smith', 'robert.smith98@gmail.com'),

(8, 'mary\_davis', 'Mary', 'Davis', 'mary.davis87@gmail.com'),

(9, 'william\_adams', 'William', 'Adams', 'william.adams56@gmail.com'),

(10, 'sarah\_martin', 'Sarah', 'Martin', 'sarah.martin@gmail.com'),

(11, 'peter\_wilson', 'Peter', 'Wilson', 'peter.wilson@gmail.com'),

(12, 'lisa\_miller', 'Lisa', 'Miller', 'lisa.miller@gmail.com'),

(13, 'james\_anderson', 'James', 'Anderson', 'james.anderson@gmail.com'),

(14, 'emily\_thomas', 'Emily', 'Thomas', 'emily.thomas@gmail.com'),

(15, 'daniel\_jackson', 'Daniel', 'Jackson', 'daniel.jackson34@gmail.com');

select \* from USERS;

-------------------------------------------------------------------------------------------------------------------------------

-- Sample INSERT statements for creating assignments based on tasks and assigning them to users

-- You can modify this code to create assignments as needed

-- Assign tasks for Project 100 to users 1 and 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(1, 1, 1),

(2, 1, 2);

-- Assign tasks for Project 101 to users 3 and 4

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(3, 2, 3),

(4, 3, 4);

-- Assign tasks for Project 102 to users 5, 6, and 7

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(5, 4, 5),

(6, 5, 6),

(7, 6, 7);

-- Assign tasks for Project 103 to users 8 and 9

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(8, 7, 8),

(9, 8, 9);

-- Assign tasks for Project 104 to users 10 and 11

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(10, 9, 10),

(11, 10, 11);

-- Assign tasks for Project 105 to users 12, 13, and 14

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(12, 11, 12),

(13, 12, 13),

(14, 13, 14);

-- Assign tasks for Project 106 to users 15, 1, and 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(15, 14, 15),

(16, 15, 1),

(17, 16, 2);

-- Assign tasks for Project 107 to users 3

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(18, 17, 3);

-- Assign tasks for Project 108 to users 4 and 5

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(19, 18, 4),

(20, 19, 5);

-- Assign tasks for Project 109 to users 6, 7, and 8

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(21, 20, 6),

(22, 21, 7),

(23, 22, 8);

-- Assign tasks for Project 110 to users 9 and 10

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(24, 23, 9),

(25, 24, 10);

-- Assign tasks for Project 111 to users 11 and 12

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(26, 25, 11),

(27, 26, 12);

-- Assign tasks for Project 112 to users 13 and 14

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(28, 27, 13),

(29, 28, 14);

-- Assign tasks for Project 113 to users 15

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(30, 29, 15);

-- Assign tasks for Project 114 to users 1

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(31, 30, 1);

-- Assign tasks for Project 115 to users 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(32, 31, 2);

-- Assign tasks for Project 116 to users 3

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(33, 32, 3);

-- Assign tasks for Project 117 to users 4 and 5

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(34, 33, 4),

(35, 34, 5);

-- Assign tasks for Project 118 to users 6

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(36, 35, 6);

-- Assign tasks for Project 119 to users 7

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(37, 36, 7);

-- Assign tasks for Project 120 to users 8

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(38, 37, 8);

-- Assign tasks for Project 121 to users 9

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(39, 38, 9);

-- Assign tasks for Project 122 to users 10

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(40, 39, 10);

-- Assign tasks for Project 123 to users 11

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(41, 40, 11);

-- Assign tasks for Project 124 to users 12

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(42, 41, 12);

-- Assign tasks for Project 125 to users 13

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(43, 42, 13);

-- Assign tasks for Project 126 to users 14

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(44, 43, 14);

-- Assign tasks for Project 127 to users 15

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(45, 44, 15);

-- Assign tasks for Project 128 to users 1

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(46, 45, 1);

-- Assign tasks for Project 129 to users 2

INSERT INTO ASSIGNMENTS (assignment\_id, task\_id, user\_id)

VALUES

(47, 46, 2);

select \* from ASSIGNMENTS;

-----------------------------------------------------------------------------------------------------------------------

--Inserting data into lables table

INSERT INTO LABELS (label\_id,label\_name)

VALUES (601,'important'),

(602,'Urgent'),

(603,'Priority');

select \* from LABELS;

UPDATE LABELS

SET label\_name = 'High Priority'

WHERE label\_name = 'Hight Priority';

UPDATE LABELS

SET label\_name = 'Medium Priority'

WHERE label\_name = 'Urgent';

UPDATE LABELS

SET label\_name = 'Low Priority'

WHERE label\_name = 'Lower Priority';

---------------------------------------------------------------------------------------------------------------------------

--Inserting data into task labels table

INSERT INTO TASKLABELS (task\_label\_id,task\_id,label\_id)

VALUES

(1,1,602),

(2,2,601),

(3,3,601),

(4,4,603),

(5,5,601),

(6,6,602),

(7,7,601),

(8,8,603),

(9,9,601),

(10,10,603),

(11,11,601),

(12,12,602),

(13,13,602),

(14,14,603),

(15,15,601),

(16,16,602),

(17,17,601),

(18,18,601),

(19,19,603),

(20,20,602),

(21,21,601),

(22,22,601),

(23,23,602),

(24,24,603),

(25,25,603),

(26,26,601),

(27,27,602),

(28,28,603),

(29,29,602),

(30,30,602),

(31,31,601),

(32,32,602),

(33,33,603),

(34,34,602),

(35,35,601),

(36,36,601),

(37,37,602),

(38,38,601),

(39,39,602),

(40,40,602),

(41,41,601),

(42,42,601),

(43,43,602),

(44,44,603),

(45,45,602),

(46,46,601);

SELECT \* from TASKLABELS;

---------------------------------------------------------------------------------------------------------------

--Inserting data into projectslabels

INSERT INTO PROJECTLABELS ( project\_label\_id,project\_id,label\_id)

VALUES

(1,100,601),

(2,101,602),

(3,102,601),

(4,103,603),

(5,104,603),

(6,105,602),

(7,106,601),

(8,107,603),

(9,108,601),

(10,109,601),

(11,110,601),

(12,111,602),

(13,112,602),

(14,113,603),

(15,114,601),

(16,115,602),

(17,116,603),

(18,117,601),

(19,118,603),

(20,119,602),

(21,120,601),

(22,121,601),

(23,122,602),

(24,123,603),

(25,124,603),

(26,125,601),

(27,126,602),

(28,127,601),

(29,128,602),

(30,129,601);

SELECT \* FROM PROJECTLABELS;