

Government Engineering College, Thrissur
CS333– Application Software Development Lab
Documentation -
Exp 1 & 2– DDL, DQL & DML commands

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Experiment 1

AIM

Creation of database using DDL Commands and write DQL queries to retrieve information from the database

Description

Creation of table using the DDL commands like CREATE DATABASE. Getting information about the database using DESCRIBE keyword. Here I have created the database for the Open PPM project. As explained in the introductory documentation Open PPM is Project Portfolio Management Tool for small IT companies

Output / Screenshots

(11 Pages)

```
mysql> create database ppm_db;  
Query OK, 1 row affected (0.00 sec)
```

```
mysql> use ppm_db;  
Database changed  
mysql> |
```

```
mysql> show databases;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| classicmodels |  
| mysql |  
| performance_schema |  
| phpmyadmin |  
| ppm |  
| ppm_db |  
| sys |  
| world |  
+-----+  
9 rows in set (0.00 sec)
```

```

mysql> CREATE TABLE Customers (
  ->   Name VARCHAR(200) NOT NULL,
  ->   ID INT NOT NULL UNIQUE AUTO_INCREMENT,
  ->   phone VARCHAR(14) NOT NULL,
  ->   email VARCHAR(200) NOT NULL,
  ->   fax VARCHAR(14), pAddress INT,
  ->   PRIMARY KEY (ID),
  ->   FOREIGN KEY (pAddress) REFERENCES Contacts(ID) Contact
  -> );
Query OK, 0 rows affected (0.33 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Contacts          |
| Customers         |
+-----+
2 rows in set (0.00 sec)

```

```

mysql> CREATE TABLE Customers (
  ->   Name VARCHAR(200) NOT NULL,
  ->   ID INT NOT NULL UNIQUE AUTO_INCREMENT,
  ->   phone VARCHAR(14) NOT NULL,
  ->   email VARCHAR(200) NOT NULL,
  ->   fax VARCHAR(14), pAddress INT,
  ->   PRIMARY KEY (ID),
  ->   FOREIGN KEY (pAddress) REFERENCES Contacts(ID) Contact
  -> );
Query OK, 0 rows affected (0.33 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Contacts          |
| Customers         |
+-----+
2 rows in set (0.00 sec)

```

```

mysql> ALTER TABLE Contacts ADD FOREIGN KEY (CustomerID) REFERENCES Customers(ID);
Query OK, 0 rows affected (0.72 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> CREATE TABLE Designations
-> (
-> ID INT NOT NULL UNIQUE AUTO_INCREMENT,
-> Grade VARCHAR(8) NOT NULL,
-> Designation VARCHAR(50) NOT NULL,
-> PRIMARY KEY (ID)
-> );
Query OK, 0 rows affected (0.34 sec)

```

```

mysql> CREATE TABLE Consultants
-> (
-> ID INT NOT NULL UNIQUE AUTO_INCREMENT,
-> name VARCHAR(200) NOT NULL,
-> phone VARCHAR(14) NOT NULL,
-> email VARCHAR(200) NOT NULL,
-> presentAddress VARCHAR(300) NOT NULL,
-> pAddress VARCHAR(200) NOT NULL,
-> designation INT NOT NULL,
-> highest_edu VARCHAR(100) NOT NULL,
-> experience INT NOT NULL DEFAULT 0,
-> PRIMARY KEY (ID),
-> FOREIGN KEY (`designation`) REFERENCES `Designations`(`ID`)
-> );
Query OK, 0 rows affected (0.45 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Consultants      |
| Contacts         |
| Customers        |
| Designations     |
+-----+
4 rows in set (0.00 sec)

```

```

mysql> CREATE TABLE Projects
-> (
->   ID INT NOT NULL UNIQUE AUTO_INCREMENT,
->   Title VARCHAR(200) NOT NULL,
->   Description VARCHAR(300) NOT NULL,
->   CustomerID INT NOT NULL,
->   PM INT NOT NULL,
->   status INT NOT NULL,
->   estimated_effort DOUBLE(10, 2) NOT NULL DEFAULT 0,
->   estimated_cost DOUBLE(10, 2) NOT NULL DEFAULT 0,
->   pCompleted DOUBLE(5, 2) NOT NULL DEFAULT 0,
->   Start_Date DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->   Finish_Date DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->   PRIMARY KEY (ID),
->   FOREIGN KEY (CustomerID) REFERENCES Customers(ID),
->   FOREIGN KEY (PM) REFERENCES Consultants(ID)
-> );
Query OK, 0 rows affected (0.34 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Consultants      |
| Contacts         |
| Customers        |
| Designations     |
| Projects         |
+-----+
5 rows in set (0.00 sec)

```



```

mysql> CREATE TABLE Technology
-> (
->   ID INT NOT NULL UNIQUE AUTO_INCREMENT,
->   Technology VARCHAR(200) NOT NULL,
->   Version VARCHAR(10) NOT NULL,
->   ProjectID INT NOT NULL,
->   ConsultantID INT NOT NULL,
->   PRIMARY KEY (ID),
->   FOREIGN KEY (ProjectID) REFERENCES Projects(ID),
->   FOREIGN KEY (ConsultantID) REFERENCES Consultants(ID);
-> );
Query OK, 0 rows affected (0.37 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Consultants       |
| Contacts          |
| Customers         |
| Designations      |
| Project_Resources |
| Projects          |
| Technology        |
+-----+
7 rows in set (0.00 sec)

```

```

mysql> CREATE TABLE Project_Transaction
-> (
->   ID INT NOT NULL UNIQUE AUTO_INCREMENT,
->   Resource_ID INT NOT NULL,
->   Entry_Date DATETIME NOT NULL DEFAULT CURRENT_TIMESTAMP,
->   Effort_Spent DECIMAL(10, 2) NOT NULL DEFAULT 0,
->   Percentage_Completed DECIMAL(5, 2) NOT NULL DEFAULT 0,
->   ProjectID INT NOT NULL,
->   ConsultantID INT NOT NULL,
->   PRIMARY KEY (ID),
->   FOREIGN KEY (ProjectID) REFERENCES Projects(ID),
->   FOREIGN KEY (ConsultantID) REFERENCES Consultants(ID)
-> );
Query OK, 0 rows affected (0.37 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Consultants       |
| Contacts          |
| Customers         |
| Designations      |
| Project_Resources |
| Project_Transaction |
| Projects          |
| Technology        |
+-----+
8 rows in set (0.00 sec)

```

```

mysql>
mysql> CREATE TABLE Project_Resources
  -> (
  -> ID INT NOT NULL UNIQUE AUTO_INCREMENT,
  -> Project_ID INT NOT NULL,
  -> Resource_ID INT NOT NULL,
  -> Hourly_Rate DOUBLE(12, 2) NOT NULL DEFAULT 0,
  -> Estimate_Effort DOUBLE(12, 2) NOT NULL DEFAULT 0,
  -> Actual_Effort DOUBLE(12, 2) NOT NULL DEFAULT 0,
  -> Relative_Percentage_completed DOUBLE(5, 2) NOT NULL DEFAULT 0,
  -> ConsultantID INT NOT NULL,
  -> ProjectID INT NOT NULL,
  -> PRIMARY KEY (ID),
  -> FOREIGN KEY (ProjectID) REFERENCES Projects(ID),
  -> FOREIGN KEY (ConsultantID) REFERENCES Consultants(ID)
  -> );
Query OK, 0 rows affected (0.36 sec)

mysql> show tables;
+-----+
| Tables_in_ppm_db |
+-----+
| Consultants       |
| Contacts          |
| Customers         |
| Designations      |
| Project_Resources |
| Projects          |
+-----+
6 rows in set (0.00 sec)

```

```

Database changed
mysql> show tables;
+-----+
| Tables_in_open_ppm |
+-----+
| ConsultantTechnologies |
| Consultants             |
| Contacts                |
| Customers               |
| Designations            |
| Project_Resources       |
| ProjectTechnologies     |
| ProjectTransaction      |
| Projects                |
| Technology              |
+-----+
10 rows in set (0.00 sec)

```



```
mysql> describe Consultants;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID | int(11) | NO | PRI | NULL | auto_increment |
| TechID | int(11) | NO | MUL | NULL | |
| ConsultantID | int(11) | NO | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

Here is the output displaying the schema.

```
mysql> describe Consultants;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID | int(11) | NO | PRI | NULL | auto_increment |
| name | varchar(200) | NO | | NULL | |
| phone | varchar(14) | NO | | NULL | |
| email | varchar(200) | NO | | NULL | |
| presentAddress | varchar(300) | NO | | NULL | |
| pAddress | varchar(200) | NO | | NULL | |
| designation | int(11) | NO | | NULL | |
| highest_edu | varchar(100) | NO | | NULL | |
| experience | int(11) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
9 rows in set (0.00 sec)
```

Here is the output displaying the schema.

```
mysql> describe Contacts;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| Contact_Person | varchar(200) | NO | | NULL | |
| ID | int(11) | NO | PRI | NULL | auto_increment |
| phone | varchar(14) | NO | | NULL | |
| mobile | varchar(14) | NO | | NULL | |
| Email | varchar(200) | NO | | NULL | |
| profile_desc | varchar(300) | NO | | NULL | |
| CustomerID | int(11) | NO | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)
```

Here is the output displaying the schema.

```
mysql> describe Customers;
```

| Field | Type | Null | Key | Default | Extra |
|----------|--------------|------|-----|---------|----------------|
| Name | varchar(200) | NO | | NULL | |
| ID | int(11) | NO | PRI | NULL | auto_increment |
| phone | varchar(14) | NO | | NULL | |
| email | varchar(200) | NO | | NULL | |
| fax | varchar(14) | YES | | NULL | |
| pAddress | int(11) | YES | MUL | NULL | |

6 rows in set (0.01 sec)

```
mysql> describe Designations;
```

| Field | Type | Null | Key | Default | Extra |
|-------------|-------------|------|-----|---------|----------------|
| ID | int(11) | NO | PRI | NULL | auto_increment |
| Grade | varchar(8) | NO | | NULL | |
| Designation | varchar(50) | NO | | NULL | |

3 rows in set (0.00 sec)

```
mysql> describe Project_Technologies;
```

| Field | Type | Null | Key | Default | Extra |
|-----------|---------|------|-----|---------|----------------|
| ID | int(11) | NO | PRI | NULL | auto_increment |
| ProjectID | int(11) | NO | MUL | NULL | |
| TechID | int(11) | NO | MUL | NULL | |

3 rows in set (0.00 sec)

```
mysql> describe Project_Resources;
```

| Field | Type | Null | Key | Default | Extra |
|-------------------------------|--------------|------|-----|---------|----------------|
| ID | int(11) | NO | PRI | NULL | auto_increment |
| Project_ID | int(11) | NO | MUL | NULL | |
| Resource_ID | int(11) | NO | MUL | NULL | |
| Hourly_Rate | double(12,2) | NO | | 0.00 | |
| Estimate_Effort | double(12,2) | NO | | 0.00 | |
| Actual_Effort | double(12,2) | NO | | 0.00 | |
| Relative_Percentage_completed | double(5,2) | NO | | 0.00 | |

7 rows in set (0.00 sec)


```

mysql> describe Projects;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID | int(11) | NO | PRI | NULL | auto_increment |
| Title | varchar(200) | NO | | NULL | |
| Description | varchar(300) | NO | | NULL | |
| CustomerID | int(11) | NO | MUL | NULL | |
| PM | int(11) | NO | MUL | NULL | |
| status | int(11) | NO | | NULL | |
| estimated_effort | double(10,2) | NO | | 0.00 | |
| estimated_cost | double(10,2) | NO | | 0.00 | |
| pCompleted | double(5,2) | NO | | 0.00 | |
| Start_Date | datetime | NO | | CURRENT_TIMESTAMP | |
| Finish_Date | datetime | NO | | CURRENT_TIMESTAMP | |
+-----+-----+-----+-----+-----+-----+
11 rows in set (0.01 sec)

```

Here is the output displaying the schema.

```

mysql> describe Project_Transaction;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID | int(11) | NO | PRI | NULL | auto_increment |
| Resource_ID | int(11) | NO | MUL | NULL | |
| Entry_Date | datetime | NO | | CURRENT_TIMESTAMP | |
| Effort_Spent | decimal(10,2) | NO | | 0.00 | |
| Percentage_Completed | decimal(5,2) | NO | | 0.00 | |
| ProjectID | int(11) | NO | MUL | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.00 sec)

```

Here is the output displaying the schema.

```

mysql> describe Technology;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID | int(11) | NO | PRI | NULL | auto_increment |
| Technology | varchar(200) | NO | | NULL | |
| Version | varchar(10) | NO | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

Here is the output displaying the schema.

Experiment 2

AIM

Performing DML Commands like Insertion, deletion, Modification, Altering and updating based on conditions.

Description

Insertion, Deletion, Modification etc.. on the table created in the Exp 1. Here we will be using the SQL Commands like INSERT, DELETE, UPDATE, ALTER on the tables to query the data from the tables created in the first part of this project.

Output / Screenshots

(7 Pages)

```
mysql> show tables;
+-----+
| Tables_in_open_ppm |
+-----+
| Consultant_Technologies |
| Consultants |
| Contacts |
| Customers |
| Designations |
| Project_Resources |
| Project_Technologies |
| Project_Transaction |
| Projects |
| Technology |
+-----+
10 rows in set (0.00 sec)
```



```
mysql> INSERT INTO `Designations` (`ID`, `Grade`, `Designation`) VALUES
  -> (1, '1', 'CEO'),
  -> (2, '2', 'Accounts Manager'),
  -> (3, '2', 'Design Manager'),
  -> (4, '2', 'Project Manager'),
  -> (5, '2', 'Marketing Manager'),
  -> (6, '3', 'Web Developer'),
  -> (7, '1', 'CFO'),
  -> (8, '3', 'Android Developer'),
  -> (9, '3', 'Data Analyst');
Query OK, 9 rows affected (0.05 sec)
Records: 9 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Designations;
+-----+-----+-----+
| ID | Grade | Designation |
+-----+-----+-----+
| 1 | 1 | CEO |
| 2 | 2 | Accounts Manager |
| 3 | 2 | Design Manager |
| 4 | 2 | Project Manager |
| 5 | 2 | Marketing Manager |
| 6 | 3 | Web Developer |
| 7 | 1 | CFO |
| 8 | 3 | Android Developer |
| 9 | 3 | Data Analyst |
+-----+-----+-----+
9 rows in set (0.00 sec)
```

```
mysql> INSERT INTO `Consultants` (`ID`, `name`, `phone`, `email`, `presentAddress`, `pAddress`, `highest_edu`, `experience`, `designation`) VALUES
  -> (1, 'Petey Cruiser', '410763981007', 'peter@gmail.com', '405 Fulton Court Attleboro, MA 02703', '405 Fulton Court Attleboro, MA 02703', 'BTech
CSE', 0, 1),
  -> (2, 'Anna Sthesia', '10105525611', 'anna@gmail.com', '47 Glenridge St.\r\nHuntersville, NC 28078', '47 Glenridge St.\r\nHuntersville, NC 28078',
'CA', 20, 2),
  -> (3, 'Paul Molive', '6011377914', 'paul@gmail.com', '945 Mill Street\r\nParlin, NJ 08859', '945 Mill Street\r\nParlin, NJ 08859', 'Diploma in Co
mputer Design', 21, 3),
  -> (4, 'Anna Mull', '7901584026', 'annamull@gmail.com', '613 East Clay Lane\r\nPalatine, IL 60067', '613 East Clay Lane\r\nPalatine, IL 60067', 'M
asters in CSE', 25, 4),
  -> (5, 'Gail Forcewind', '1594941628', 'gail@gmail.com', '479 Thorne St.\r\nSaint Joseph, MI 49085', '479 Thorne St.\r\nSaint Joseph, MI 49085', '
CFO', 22, 5),
  -> (6, 'Paige Turner', '0148042499', 'paige@gmail.com', '128 Hillside St.\r\nBismarck, ND 58501', '128 Hillside St.\r\nBismarck, ND 58501', 'MBA',
15, 7),
  -> (7, 'Walter Melon', '1171089059', 'walter@gmail.com', '7990 Lakewood Dr.\r\nPlatfield, NJ 07060', '7990 Lakewood Dr.\r\nPlatfield, NJ 07060',
'BTech in CS', 10, 8),
  -> (8, 'Nick R. Bocker', '5779877107', 'nick@gmail.com', '7555 NW. Gulf Drive\r\nJamaica, NY 11432', '7555 NW. Gulf Drive\r\nJamaica, NY 11432', '
BTech in CS', 8, 9),
  -> (9, 'Barb Ackue', '9646946767', 'barb@gmail.com', '478 South Crescent Street\r\nBergenfield, NJ 07621', '478 South Crescent Street\r\nBergenfie
ld, NJ 07621', 'BTech in CS', 12, 6);
Query OK, 9 rows affected (0.11 sec)
Records: 9 Duplicates: 0 Warnings: 0
```

```
mysql> INSERT INTO `Technology` (`ID`, `Technology`, `Version`) VALUES
  -> (1, 'Django', '3.0.0'),
  -> (2, 'Node JS', '12.0.0'),
  -> (3, 'Android', '8'),
  -> (4, 'Tensorflow', '2'),
  -> (5, 'Flutter', '10.0.0');
Query OK, 5 rows affected (0.04 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Technology;
+-----+-----+-----+
| ID | Technology | Version |
+-----+-----+-----+
| 1 | Django     | 3.0.0   |
| 2 | Node JS    | 12.0.0  |
| 3 | Android    | 8        |
| 4 | Tensorflow | 2        |
| 5 | Flutter    | 10.0.0  |
+-----+-----+-----+
5 rows in set (0.00 sec)
```

```
mysql> INSERT INTO `Consultant_Technologies` (`ID`, `TechID`, `ConsultantID`) VALUES
  -> (1, 1, 6),
  -> (2, 2, 6),
  -> (3, 3, 8),
  -> (4, 4, 9),
  -> (5, 5, 8);
Query OK, 5 rows affected (0.04 sec)
Records: 5 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Consultant_Technologies;
+-----+-----+-----+
| ID | TechID | ConsultantID |
+-----+-----+-----+
| 1 | 1       | 6            |
| 2 | 2       | 6            |
| 3 | 3       | 8            |
| 4 | 4       | 9            |
| 5 | 5       | 8            |
+-----+-----+-----+
5 rows in set (0.00 sec)
```



```
mysql> INSERT INTO `Customers` (`Name`, `ID`, `phone`, `email`, `fax`, `pAddress`) VALUES
  -> ('Acme Corporation', 1, '1318100317', 'acme@gmail.com', '5779877107', NULL), WHERE `Cus
  -> ('Soylent Corp', 2, '0914013308', 'soylent@gmail.com', '0914013308', NULL); WHERE `Cus
Query OK, 2 rows affected (0.04 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Customertrs;
ERROR 1146 (42S02): Table 'open_ppm.Customertrs' doesn't exist
mysql> SELECT * FROM Customers;
+-----+-----+-----+-----+-----+-----+
| Name          | ID | phone   | email          | fax          | pAddress |
+-----+-----+-----+-----+-----+-----+
| Acme Corporation | 1 | 1318100317 | acme@gmail.com | 5779877107 | NULL |
| Soylent Corp    | 2 | 0914013308 | soylent@gmail.com | 0914013308 | NULL |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> INSERT INTO `Contacts` (`Conatct_Person`, `ID`, `phone`, `mobile`, `Email`, `profile_desc`, `CustomerID`) VALUES
  -> ('Buck Kinnear', 1, '8653690567', '8653690567', 'buck@gmail.com', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua.', 1),
  -> ('Greta Life', 2, '7759478389', '7759478389', 'greta@gmail.com', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua.', 1),
  -> ('Ira Membrit', 3, '1948093558', '1948093558', 'ira@gmail.com', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua.', 2),
  -> ('Brock Lee', 4, '3277574011', '3277574011', 'brock@gmail.com', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua.', 2);
Query OK, 4 rows affected (0.04 sec)
Records: 4 Duplicates: 0 Warnings: 0

mysql>
mysql> SELECT * FROM Contacts;
+-----+-----+-----+-----+-----+-----+
| Conatct_Person | ID | phone   | mobile         | Email          | profile_desc | CustomerID |
+-----+-----+-----+-----+-----+-----+
| Buck Kinnear   | 1 | 8653690567 | 8653690567 | buck@gmail.com | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua. | 1 |
| Greta Life     | 2 | 7759478389 | 7759478389 | greta@gmail.com | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua. | 1 |
| Ira Membrit    | 3 | 1948093558 | 1948093558 | ira@gmail.com   | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua. | 2 |
| Brock Lee      | 4 | 3277574011 | 3277574011 | brock@gmail.com | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod temp
or incididunt ut labore et dolore magna aliqua. | 2 |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.00 sec)
```

```
mysql> UPDATE `Customers` SET `pAddress` = '1' WHERE `Customers`.`ID` = 1;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> UPDATE `Customers` SET `pAddress` = '3' WHERE `Customers`.`ID` = 2;
Query OK, 1 row affected (0.03 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> INSERT INTO `Projects` (`ID`, `Title`, `Description`, `CustomerID`, `PM`, `status`, `estimated_effort`, `estimated_cost`, `pCompleted`, `Start
Date`, `Finish_Date`) VALUES
-> (1, 'Sirius', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.', 1
4, 0, 0.00, 0.00, 0.00, '2020-09-12 13:15:49', '2021-02-27 13:15:49'),
-> (2, 'Open PPM', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.',
2, 4, 0, 0.00, 0.00, 0.00, '2020-09-12 13:15:49', '2021-04-16 13:15:49');
Query OK, 2 rows affected (0.04 sec)
Records: 2 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Projects;
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| ID | Title | Description | CustomerID | PM | status | estimated_effort | estimated_cost | pCompleted | Start_Date | Finish_Date |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | Sirius | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. | 14 | 0 | 0.00 | 0.00 | 0.00 | 2020-09-12 13:15:49 | 2021-02-27 13:15:49 |
| 2 | Open PPM | Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. | 2 | 4 | 0 | 0.00 | 0.00 | 0.00 | 2020-09-12 13:15:49 | 2021-04-16 13:15:49 |
+----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)
```

```
mysql> INSERT INTO `Project_Technologies` (`ID`, `ProjectID`, `TechID`) VALUES
-> (1, 1, 1),
-> (2, 1, 2),
-> (3, 1, 3),
-> (4, 1, 4),
-> (5, 1, 5),
-> (6, 2, 1),
-> (7, 2, 2),
-> (8, 2, 3),
-> (9, 2, 4),
-> (10, 2, 5);
Query OK, 10 rows affected (0.09 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Project_Technologies;
+----+-----+-----+
| ID | ProjectID | TechID |
+----+-----+-----+
| 1 | 1 | 1 |
| 2 | 1 | 2 |
| 3 | 1 | 3 |
| 4 | 1 | 4 |
| 5 | 1 | 5 |
| 6 | 2 | 1 |
| 7 | 2 | 2 |
| 8 | 2 | 3 |
| 9 | 2 | 4 |
| 10 | 2 | 5 |
+----+-----+-----+
10 rows in set (0.00 sec)
```



```
mysql> INSERT INTO 'Project_Resources' ('ID', 'Project_ID', 'Resource_ID', 'Hourly_Rate', 'Estimate_Effort', 'Actual_Effort', 'Relative_Percentage_completed') VALUES
-> (1, 1, 1, 0.00, 0.00, 0.00, 0.00),
-> (2, 1, 2, 0.00, 0.00, 0.00, 0.00),
-> (3, 1, 3, 0.00, 0.00, 0.00, 0.00),
-> (4, 1, 6, 0.00, 0.00, 0.00, 0.00),
-> (5, 1, 8, 0.00, 0.00, 0.00, 0.00),
-> (6, 2, 1, 0.00, 0.00, 0.00, 0.00),
-> (7, 2, 2, 0.00, 0.00, 0.00, 0.00),
-> (8, 2, 6, 0.00, 0.00, 0.00, 0.00),
-> (9, 2, 7, 0.00, 0.00, 0.00, 0.00),
-> (10, 2, 8, 0.00, 0.00, 0.00, 0.00);
Query OK, 10 rows affected (0.10 sec)
Records: 10 Duplicates: 0 Warnings: 0

mysql> SELECT * FROM Project_Resources;
ERROR 1146 (42S02): Table 'open_ppm.Project_Resources' doesn't exist
mysql> SELECT * FROM Project_Resources;
+----+-----+-----+-----+-----+-----+-----+
| ID | Project_ID | Resource_ID | Hourly_Rate | Estimate_Effort | Actual_Effort | Relative_Percentage_completed |
+----+-----+-----+-----+-----+-----+-----+
| 1 | 1 | 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 1 | 2 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 1 | 3 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4 | 1 | 6 | 0.00 | 0.00 | 0.00 | 0.00 |
| 5 | 1 | 8 | 0.00 | 0.00 | 0.00 | 0.00 |
| 6 | 2 | 1 | 0.00 | 0.00 | 0.00 | 0.00 |
| 7 | 2 | 2 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8 | 2 | 6 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9 | 2 | 7 | 0.00 | 0.00 | 0.00 | 0.00 |
| 10 | 2 | 8 | 0.00 | 0.00 | 0.00 | 0.00 |
+----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

```
mysql> UPDATE Consultants SET name="Alex Fleix" WHERE ID=9;
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0
```

```
mysql> SELECT name FROM Consultants WHERE ID=9;
+-----+
| name |
+-----+
| Alex Fleix |
+-----+
1 row in set (0.00 sec)
```

```
mysql> DELETE FROM Project_Transaction WHERE ID=10;
Query OK, 1 row affected (0.06 sec) Deleting Data from the
```