

Government Engineering College, Thrissur
CS333– Application Software Development Lab
Documentation -
Exp 1 – DDL & DQL 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;
Syntax to show the schema of a table with the help of the describe command.
SAP HANA database
create table yourDatabaseName (
 ID int(11) NOT NULL auto_increment,
 TechID int(11) NOT NULL,
 ConsultantID int(11) NOT NULL,
 ...
);

3 rows in set (0.00 sec)

Here is the output displaying the schema.

mysql> describe Consultants;
Syntax to show the schema of a table with the help of the describe command.
SAP HANA database
create table yourDatabaseName (
 id int(11) NOT NULL 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(11) NOT NULL,
 highest_edu varchar(100) NOT NULL,
 experience int(11) NOT NULL,
 ...
);

9 rows in set (0.00 sec)

Here is the output displaying the schema.

mysql> describe Contacts;
Syntax to show the schema of a table with the help of the describe command.
SAP HANA database
create table yourDatabaseName (
 Contact_Person varchar(200) NOT NULL,
 ID int(11) NOT NULL auto_increment,
 phone varchar(14) NOT NULL,
 mobile varchar(14) NOT NULL,
 Email varchar(200) NOT NULL,
 profile_desc varchar(300) NOT NULL,
 CustomerID int(11) NOT 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.