

Exercises-1

MySQL – DDL Command demonstrate

Write SQL code to create **ddl_demo** database and create below table with proper datatypes and constraints.

Table : student

USN	NAME	DOB	ADDRESS	CITY	STATE	PINCODE	CGPA
1SI23MBA01	AAA	1995-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
1SI23MBA02	BBB	1996-01-01	BANGALORE	BANGALORE	KARNATAKA	560001	9.5
1SI23MBA03	CCC	1997-01-01	M G ROAD	TUMKUR	KARNATAKA	572103	7.5
1SI23MBA04	DDD	1998-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
1SI23MBA04	DDD	1998-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
1SI23MBA05		1999-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
1SI23MBA06	FFF	1999-01-01	B H ROAD				

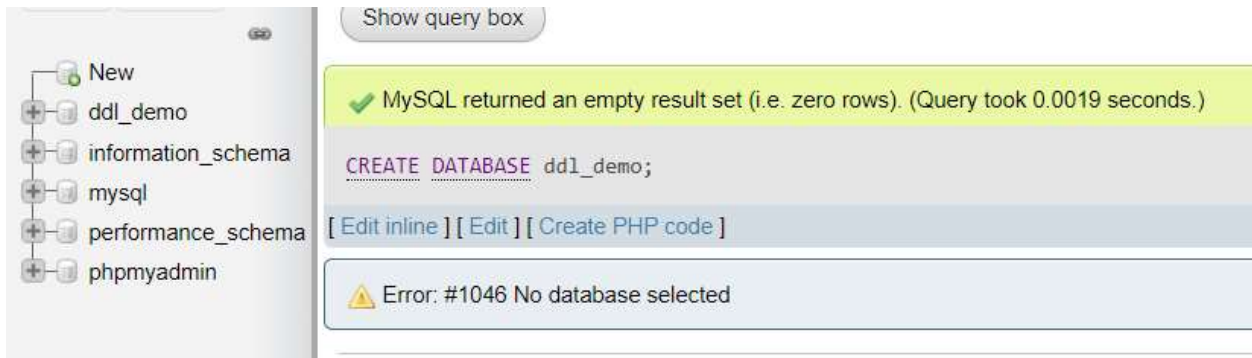
Write SQL statements for following questions:

1. Create new database name **ddl_demo**
2. List all the database available in MySQL
3. Select **ddl_demo** database to execute DDL statement
4. List all the tables available in **ddl_demo** database
5. Create student tables with proper datatypes and constraints on columns
 - a. USN must be always unique and not allow to enter NULL values, apply PRIMARY KEY constraint on USN
 - b. NAME must have values always, apply NOT NULL constraint on NAME
 - c. CITY, STATE, PINCODE, CGPA should have default values TUMKUR, KARNATAKA, 572103, 0 respectively.
6. List all the table available in **ddl_demo** database
7. View the student table structure
8. Insert above given data for student table.
 - Red highlighted records demonstrate Primary Key constraint, show error while inserting duplicate records.
 - Blue highlighted records (1SI23MBA05) demonstrate NOT NULL constraint on Name column.
 - Green highlighted records (1SI23MBA06) demonstrate DEFAULT constraint on CITY, STATE, PINCODE, CGPA columns
9. Execute the TRUNCATE command to delete all the records from student table
10. Drop student table from **ddl_demo** database.
11. List all the tables after dropping student table.
12. Drop **ddl_demo** database from MySQL.
13. List all the database after dropping **ddl_demo** command.

SQL Codes:

1. Create new database name **ddl_demo**

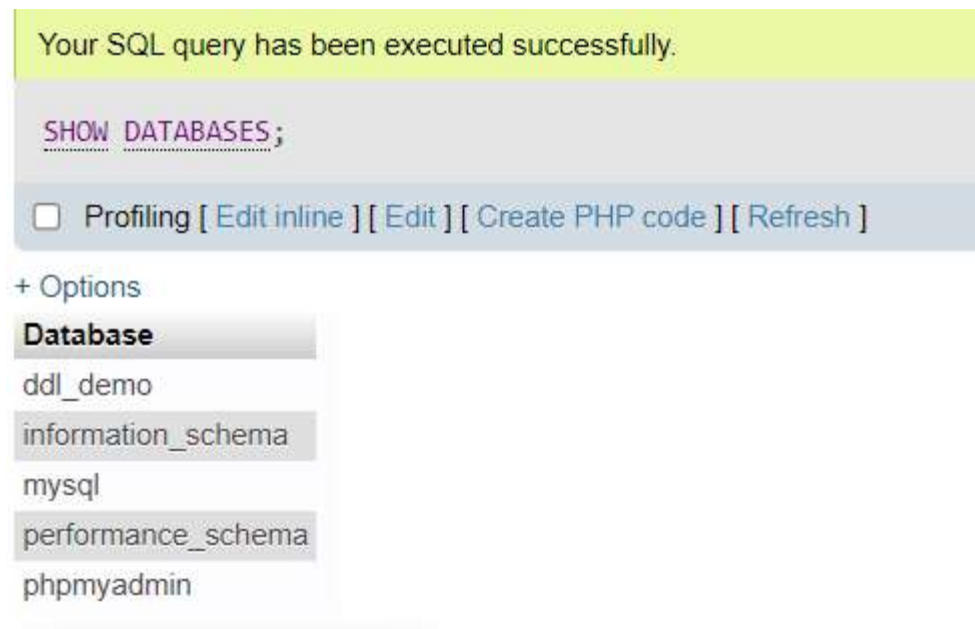
CREATE DATABASE ddl_demo;



The screenshot shows a database management interface. On the left, a tree view lists databases: New, ddl_demo, information_schema, mysql, performance_schema, and phpmyadmin. The 'ddl_demo' database is highlighted. On the right, a 'Show query box' button is visible. Below it, a green message bar states: 'MySQL returned an empty result set (i.e. zero rows). (Query took 0.0019 seconds.)'. Below this, the SQL query 'CREATE DATABASE ddl_demo;' is displayed. Underneath the query are links: '[Edit inline] [Edit] [Create PHP code]'. At the bottom, a blue error bar displays: 'Error: #1046 No database selected'.

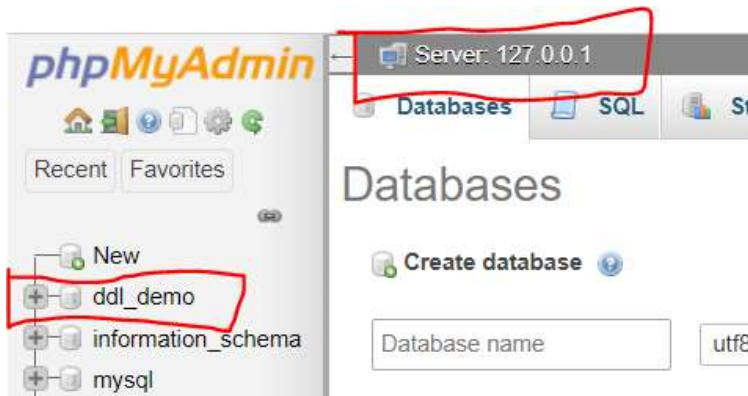
2. List all the database available in MySQL

SHOW DATABASES;

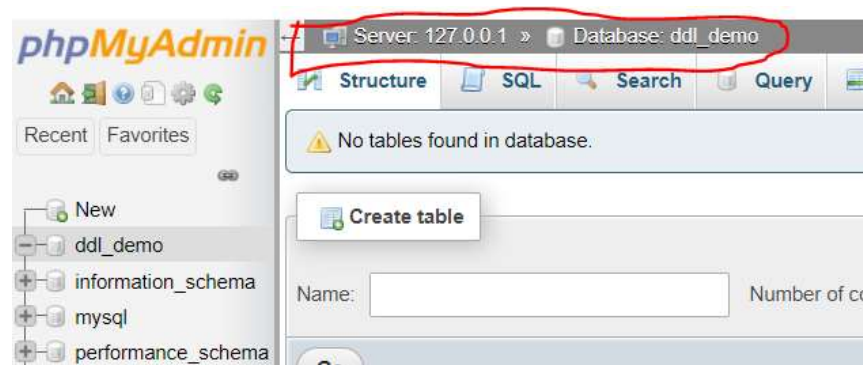


The screenshot shows a database management interface. At the top, a green message bar states: 'Your SQL query has been executed successfully.'. Below this, the SQL query 'SHOW DATABASES;' is displayed. Underneath the query are links: '[Edit inline] [Edit] [Create PHP code] [Refresh]'. Below the query area, there is a section titled '+ Options' with a sub-section 'Database'. This section lists the following databases: ddl_demo, information_schema, mysql, performance_schema, and phpmyadmin.

3. Select **ddl_demo** database to execute DDL statement

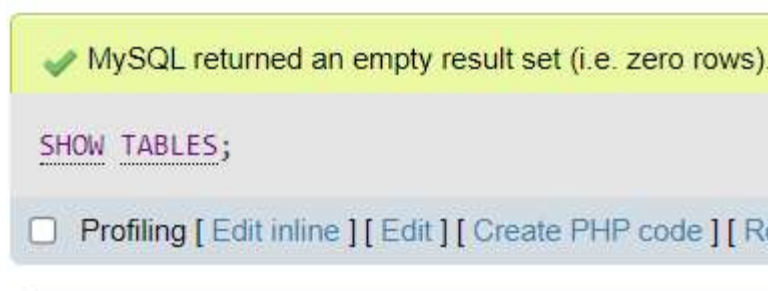


Click on **ddl_demo** to select it, once it gets selected database name get display with Server details.



4. List all the tables available in **ddl_demo** database

SHOW TABLES;

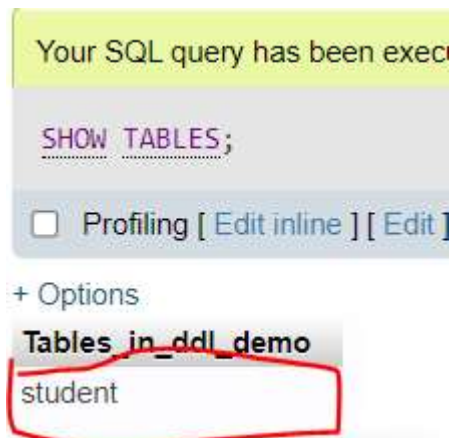


Since there are no tables in **ddl_demo**, show tables command giving empty result set.

5. Create student tables with proper datatypes and constraints on columns
 - a. USN must be always unique and not allow to enter NULL values, apply PRIMARY KEY constraint on USN
 - b. NAME must have values always, apply NOT NULL constraint on NAME
 - c. CITY, STATE, PINCODE, CGPA should have default values TUMKUR, KARNATAKA, 572103, 0 respectively.

```
CREATE TABLE student(  
    USN CHAR(10) PRIMARY KEY,  
    NAME VARCHAR(20) NOT NULL,  
    DOB DATE,  
    ADDRESS TEXT,  
    CITY VARCHAR(20) DEFAULT 'TUMKUR',  
    STATE VARCHAR(20) DEFAULT 'KARNATAKA',  
    PINCODE INT DEFAULT 572103,  
    CGPA FLOAT DEFAULT 0  
);
```

6. List all the table available in **ddl_demo** database
SHOW TABLES;



7. View the student table structure

DESC student;

Your SQL query has been executed successfully.

```
DESC student;
```

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

+ Options

Field	Type	Null	Key	Default	Extra
USN	char(10)	NO	PRI	NULL	
NAME	varchar(20)	NO		NULL	
DOB	date	YES		NULL	
ADDRESS	text	YES		NULL	
CITY	varchar(20)	YES		TUMKUR	
STATE	varchar(20)	YES		KARNATAKA	
PINCODE	int(11)	YES		572103	
CGPA	float	YES		0	

8. Insert above given data for student table.

```
INSERT INTO student VALUES ('1SI23MBA01', 'AAA', '1995-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);
INSERT INTO student VALUES ('1SI23MBA02', 'BBB', '1996-01-01', 'BANGALORE', 'BANGALORE', 'KARNATAKA', 560001, 9.5);
INSERT INTO student VALUES ('1SI23MBA03', 'CCC', '1997-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 7.5);
INSERT INTO student VALUES ('1SI23MBA04', 'DDD', '1998-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);
```

✓ 1 row inserted. (Query took 0.0074 seconds.)

```
INSERT INTO student VALUES ('1SI23MBA01', 'AAA', '1995-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);
```

Like this way for each queries get executed.

Red highlighted records demonstrate Primary Key constraint, show error while inserting duplicate records.

INSERT INTO student VALUES ('1SI23MBA04', 'DDD', '1998-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);

```
Error
SQL query: Copy

INSERT INTO student VALUES ('1SI23MBA04', 'DDD', '1998-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);

MySQL said:

#1062 - Duplicate entry '1SI23MBA04' for key 'PRIMARY'
```

Blue highlighted records (1SI23MBA05) demonstrate NOT NULL constraint on Name column.

INSERT INTO student VALUES ('1SI23MBA05', Null, '1999-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);

```
Error
SQL query: Copy

INSERT INTO student VALUES ('1SI23MBA05', Null, '1999-01-01', 'B H ROAD', 'TUMKUR', 'KARNATAKA', 572103, 8.5);

MySQL said:

#1048 - Column 'NAME' cannot be null
```

Green highlighted records (1SI23MBA06) demonstrate DEFAULT constraint on CITY, STATE, PINCODE column

INSERT INTO student (USN, NAME, DOB, ADDRESS) VALUES ('1SI23MBA06', 'FFF', '1999-01-01', 'B H ROAD');

```
✓ 1 row inserted. (Query took 0.0079 seconds.)

INSERT INTO student (USN, NAME, DOB, ADDRESS) VALUES ('1SI23MBA06', 'FFF', '1999-01-01', 'B H ROAD');
```

Click on student table on left panel, will display table data.

Last records having default values for the columns where DEFAULT constraint applied.

Showing rows 0 - 4 (5 total, Query took 0.0008 seconds.)

```
SELECT * FROM `student`
```

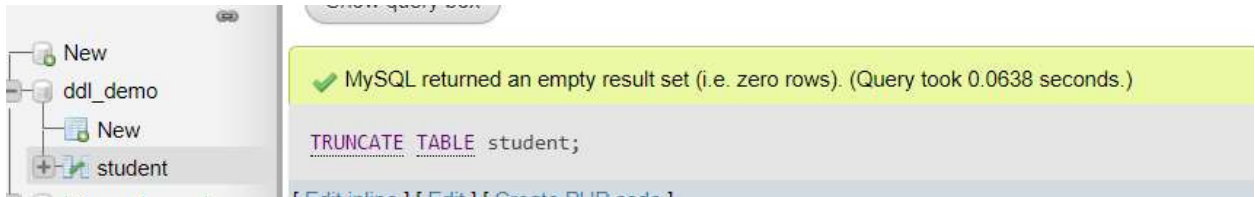
Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

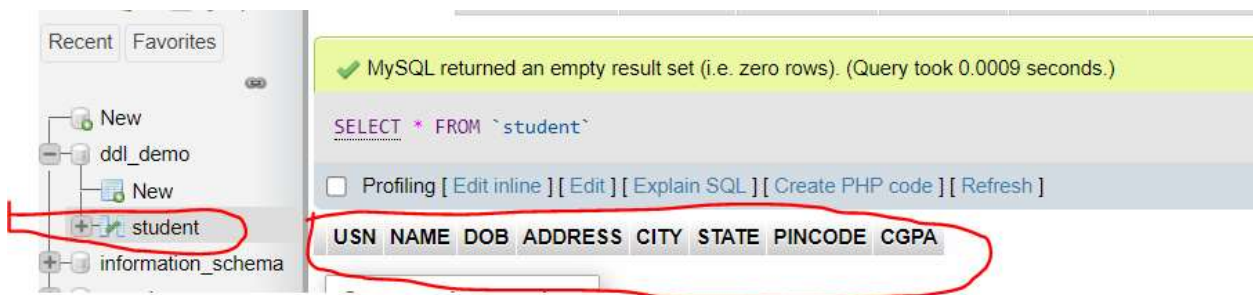
	USN	NAME	DOB	ADDRESS	CITY	STATE	PINCODE	CGPA
<input type="checkbox"/>	1SI23MBA01	AAA	1995-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
<input type="checkbox"/>	1SI23MBA02	BBB	1996-01-01	BANGALORE	BANGALORE	KARNATAKA	560001	9.5
<input type="checkbox"/>	1SI23MBA03	CCC	1997-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	7.5
<input type="checkbox"/>	1SI23MBA04	DDD	1998-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	8.5
<input type="checkbox"/>	1SI23MBA06	FFF	1999-01-01	B H ROAD	TUMKUR	KARNATAKA	572103	0

9. Execute the TRUNCATE command to delete all the records from student table

TRUNCATE TABLE student;

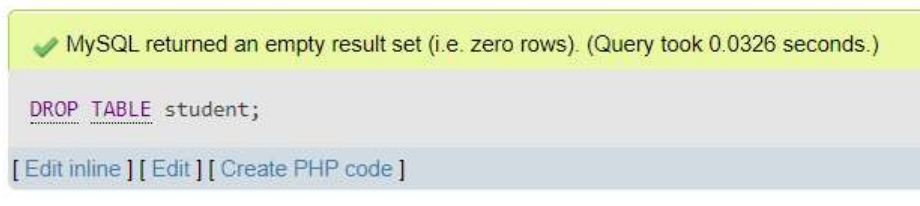


Click on student table on left panel, will display table data, since we have executed TRUNCATE command table is empty now.



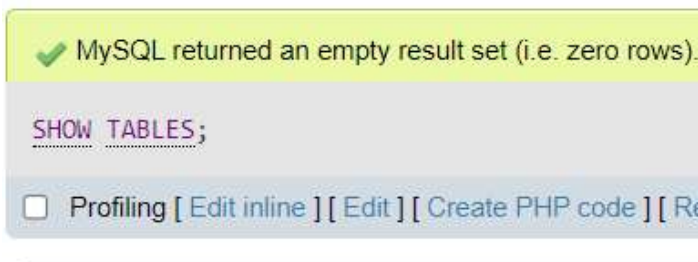
10. Drop student table from **ddl_demo** database.

DROP TABLE student;



11. List all the tables after dropping student table.

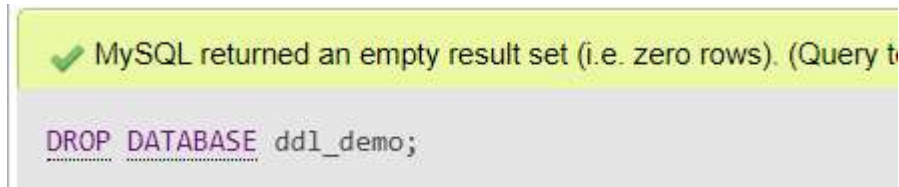
SHOW TABLES;



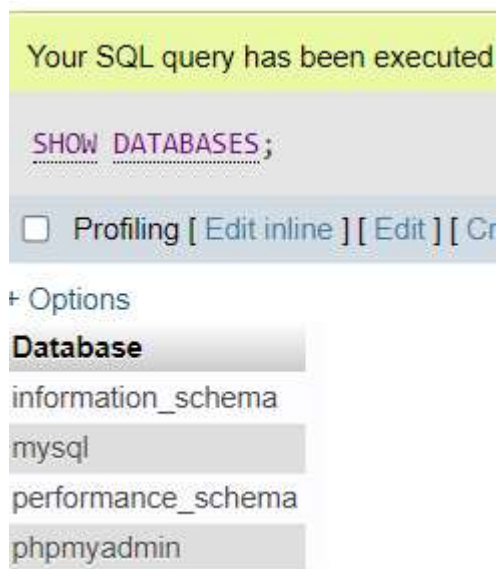
Since we have deleted the student table, there are no tables in ddl_demo database.

12. Drop **ddl_demo** database from MySQL.

DROP DATABASE ddl_demo;



13. List all the database after dropping **ddl_demo** command.



ddl_demo is also deleted, and not available in database list.