# MUSIC DATABASE MANAGEMENT

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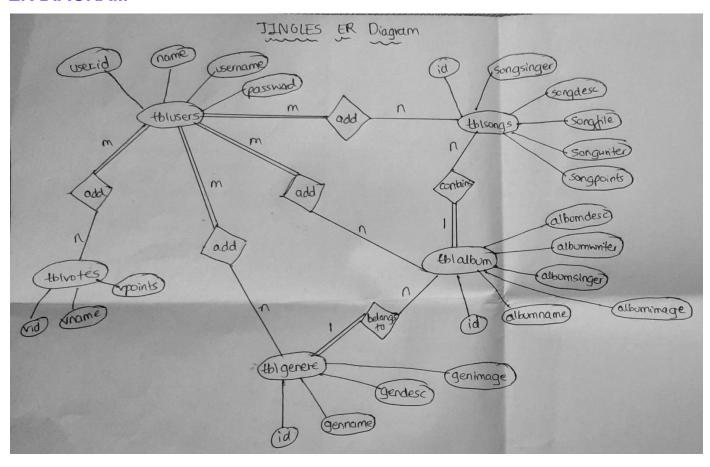
#### **ABSTRACT**

**JINGLES** music database website has a user side and an admin side, where a user can easily see the available albums and play the music. Furthermore, the admin is crucial to the management of this system. All of the primary tasks in this project must be completed by the user from the admin side.

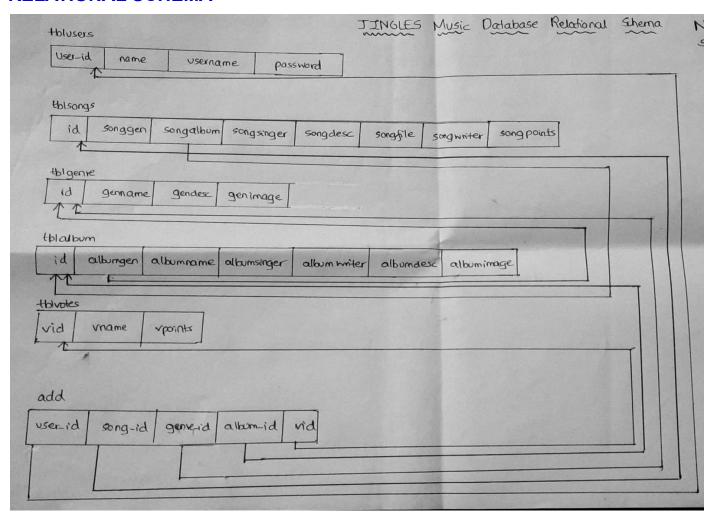
The user can view all of the most recent releases, the top 10 songs with rankings, news, and highlighted music. They can also vote for and listen to their favorite songs. The customers have the option to view every album and select any one to listen to its tracks.

The admin has total access to the system from the admin panel. Each music record can be managed by him or her. The administrator must choose a genre, name, performer, writer, description, and cover photo before adding albums. Admins have the ability to add album genres. Additionally, he or she can just add songs to the album recordings that already exist.

# **ER DIAGRAM**



# **RELATIONAL SCHEMA**



# **DDL Statements**

```
CREATE TABLE 'tblalbum' (
'id' int(100) NOT NULL,
'albumgen' int(100) DEFAULT NULL,
'albumname' varchar(60) DEFAULT NULL,
'albumsinger' varchar(100) DEFAULT NULL,
'albumwriter' varchar(100) DEFAULT NULL,
'albumdesc' varchar(250) DEFAULT NULL,
'albumimage' varchar(30) DEFAULT NULL
);
```

ALTER TABLE 'tblalbum'

### ADD PRIMARY KEY ('id');

```
CREATE TABLE 'tblgenre' (
 'id' int(10) NOT NULL,
 'genname' varchar(50) DEFAULT NULL,
 'gENDesc' varchar(250) DEFAULT NULL,
 'genimage' varchar(30) DEFAULT NULL
);
ALTER TABLE 'tblgenre'
ADD PRIMARY KEY ('id');
CREATE TABLE 'tblsongs' (
 'id' int(100) NOT NULL,
 'songgen' varchar(10) DEFAULT NULL,
 'songalbum' varchar(50) DEFAULT NULL,
 'songsinger' varchar(100) DEFAULT NULL,
 'songdesc' varchar(250) DEFAULT NULL,
 'songfile' varchar(50) DEFAULT NULL,
 'songwriter' varchar(100) NOT NULL,
 'songpoints' int(100) NOT NULL
ALTER TABLE 'tblsongs'
ADD PRIMARY KEY ('id');
CREATE TABLE 'tblusers' (
 'user id' int(100) NOT NULL,
 'name' varchar(60) NOT NULL,
 'username' varchar(30) NOT NULL,
 'pASsword' varchar(30) NOT NULL
ALTER TABLE 'tblusers'
 ADD PRIMARY KEY ('user id');
CREATE TABLE 'tblvotes' (
'vid' int(10) NOT NULL,
'vname' varchar(50) NOT NULL,
'vpoints' int(10) NOT NULL DEFAULT 0
```

# **DML Statements**

```
INSERT INTO 'tblalbum'
('id', 'albumgen', 'albumname', 'albumsinger', 'albumwriter', 'albumdesc', 'albumimage') VALUES
(117, 30, 'Flute', 'Suhan', 'Suhan', 'Instrumental Flute', 'flute.jpeg'),
(118, 30, 'Piano', 'Anu', 'Anu', 'Instrumental Piano', 'piano.jpeg'),
(120, 32, 'Indian', 'Anvitha', 'Anvitha', 'Indian Patriotic', 'patriotic.jpeg'),
(121, 29, 'Carnatic', 'Ram', 'Ram', 'Carnatic CIASsical', 'clASsical.jpeg'),
(122, 29, 'Hindustani', 'Tom', 'Tom', 'Hindustani CIASsical', 'cIASsical.jpeg'),
(123, 32, 'National', 'Nation', 'Nation', 'National Patriotic', 'patriotic.jpeg'),
(124, 33, 'Kannada Melody', 'Kannada', 'Kannada', 'Kannada Melody', 'Melody,png'),
(125, 33, 'Hindi Melody', 'Hindi', 'Hindi', 'Hindi Melody', 'Melody.png'),
(126, 28, 'South India', 'Kannada', 'Kannada', 'Southern Popular', 'popular.jpeg'),
(127, 28, 'English Popular', 'English', 'English', 'English Popular', 'popular.jpeg'),
(128, 28, 'North India', 'Hindi', 'Hindi', 'Northern Popular', 'popular.jpeg'),
INSERT INTO 'tblgenre' ('id', 'genname', 'gENDesc', 'genimage') VALUES
(33, 'Melody', 'Melody Music', 'Melody.png'),
(32, 'Patriotic', 'Patriotic Music', 'patriotic.jpeg'),
(28, 'Popular', 'Popular Music', 'popular.jpeg'),
(29, 'CIASsical', 'CIASsical Music', 'cIASsical.jpeg'),
(30, 'Instrument', 'Instrumental Music', 'instrumental.jpeg');
INSERT INTO 'tblsongs' ('id', 'songgen', 'songalbum', 'songsinger', 'songdesc', 'songfile',
`songwriter`, `songpoints`) VALUES
(59, 'Instrument', '118', 'Anu', 'piano 4', 'piano4.mp3', 'Anu', 0),
(57, 'Instrument', '118', 'Anu', 'piano 2', 'piano2.mp3', 'Anu', 0),
(56, 'Instrument', '118', 'Anu', 'piano1', 'piano1.mp3', 'Anu', 0),
(68, 'Patriotic', '120', 'Anvitha', 'Indian 1', 'Indian1.mp3', 'Anvitha', 0),
(63, 'Instrument', '117', 'Suhan', 'Flute 3', 'flute3.mp3', 'Suhan', 1),
(60, 'Instrument', '118', 'Anu', 'piano 5', 'piano5.mp3', 'Anu', 0),
(58, 'Instrument', '118', 'Anu', 'piano 3', 'piano3.mp3', 'Anu', 6),
(61, 'Instrument', '117', 'Suhan', 'Flute 1', 'flute1.mp3', 'Suhan', 29),
(62, 'Instrument', '117', 'Suhan', 'Flute 2', 'flute2.mp3', 'Suhan', 2),
(71, 'Patriotic', '120', 'Anvitha', 'Indian 4', 'Indian4.mp3', 'Anvitha', 1),
(70, 'Patriotic', '120', 'Anvitha', 'Indian 3', 'Indian3.mp3', 'Anvitha', 0),
(69, 'Patriotic', '120', 'Anvitha', 'Indian 2', 'indian2.mp3', 'Anvitha', 1),
```

```
(72, 'CIASsical', '121', 'Ram', 'Carnatic1', 'carnatic1.mp3', 'Ram', 1),
(73, 'CIASsical', '122', 'Tom', 'hindustani 1', 'hindustani1.mp3', 'Tom', 1),
(74, 'Melody', '124', 'Kannada', 'Kannada Melody1', 'KannadaMelody1.mp3', 'Kannada', 3),
(75, 'Melody', '124', 'Kannada', 'Kannada Melody2', 'KannadaMelody2.mp3', 'Kannada', 1),
(76, 'Melody', '125', 'Hindi', 'Hindi Melody1', 'HindiMelody1.mp3', 'Hindi', 0),
(77, 'Melody', '125', 'Hindi', 'Hindi Melody2', 'Hindi Melody2.mp3', 'Hindi', 1),
(78, 'Melody', '125', 'Hindi', 'Hindi Melody3', 'Hindi Melody3.mp3', 'Hindi', 1),
(79, 'Popular', '126', 'Kannada', 'South India1', 'South India1.mp3', 'Kannada', 2),
(80, 'Popular', '126', 'Kannada', 'South India3', 'South India3.mp3', 'Kannada', 0),
(81, 'Popular', '127', 'English', 'English Popular3', 'English Popular3.mp3', 'English', 0),
(82, 'Popular', '127', 'English', 'English Popular1', 'English Popular1.mp3', 'English', 1),
(83, 'Popular', '127', 'English', 'English Popular2', 'English Popular2.mp3', 'English', 1),
(84, 'Popular', '128', 'Hindi', 'North India1', 'North India1.mp3', 'Hindi', 1),
(85, 'Popular', '128', 'Hindi', 'North India2', 'North India2.mp3', 'Hindi', 2);
INSERT INTO 'tblusers' ('user_id', 'name', 'username', 'pASsword') VALUES
(15, 'Ramya', 'Ramya', 'Ramyaabc'),
(3, 'Ankitha', 'Ankitha', 'Ankithaabc'),
(4, 'Suman', 'Suman', 'Suman@pASs');
INSERT INTO 'tblvotes' ('vid', 'vname', 'vpoints') VALUES
(7, 'Melody', 5),
(6, 'Patriotic', 0),
(5, 'Popular', 1),
(8, 'CIASsical', 2),
(9, 'Instrument', 3);
```

#### **TOOLS USED**

FRONTEND: HTML, CSS

BACKEND: PHP, JAVASCRIPT

DATABASE: MYSQL

#### **REGULAR JOIN**

1. Display number of albums in each genre in descending order

```
SELECT COUNT(tblalbum.id) AS no_of_albums, tblgenre.genname FROM tblgenre JOIN tblalbum
WHERE tblgenre.id = tblalbum.albumgen
GROUP BY genname
HAVING COUNT(tblalbum.id) > 1
ORDER BY COUNT(tblalbum.id)DESC;
```

```
MariaDB [dbmis]> SELECT COUNT(tblalbum.id) as no of albums,tblgenre.genname
    -> FROM tblgenre JOIN tblalbum
    -> WHERE tblgenre.id=tblalbum.albumgen
    -> GROUP BY genname
    -> HAVING COUNT(tblalbum.id) > 1
    -> ORDER BY COUNT(tblalbum.id)DESC;
 no_of_albums | genname
             3 I
                Popular
             2
                Instrument
             2
                Patriotic
             2
               Classical
                Melody
 rows in set (0.001 sec)
MariaDB [dbmis]>
MariaDB [dbmis]>
```

2. Write a JOIN query to display the song files with corresponding genre and album.

SELECT tblsongs.songfile, tblgenre.genname, tblalbum.albumname FROM ((tblgenre INNER JOIN tblalbum ON tblgenre.id = tblalbum.albumgen) INNER JOIN tblsongs ON tblsongs.songalbum = tblalbum.id) WHERE songfile like "E%";

3. Write a JOIN query to display album details with their corresponding genre.

SELECT tblalbum.albumname, tblalbum.albumimage, tblalbum.albumsinger, tblgenre.genname, tblalbum.albumwriter
FROM tblgenre INNER JOIN tblalbum
ON tblalbum.albumgen = tblgenre.id;

MariaDB [dbmis]> SELECT tblalbum.albumname,tblalbum.albumimage,tblalbum.albumsinger,tblgenre.genname, -> tblalbum.albumwriter -> tblgenre INNER JOIN tblalbum ON tblalbum.albumgen = tblgenre.id; albumimage | albumsinger | genname albumwriter Flute flute.jpeg Instrument Suhan Suhan piano.jpeg Piano Anu Instrument Anu Indian patriotic.jpeg Anvitha Patriotic Anvitha Carnatic classical.jpeg Ram Classical Hindustani classical.jpeg Tom Classical National patriotic.jpeg Patriotic Nation Nation Kannada Melody Melody.png Kannada Melody Kannada Hindi Melody Melody.png Hindi Melody Hindi South India popular.jpeg Kannada Popular Kannada English English Popular popular.jpeg Popular English North India popular.jpeg Hindi Popular Hindi 11 rows in set (0.001 sec) MariaDB [dbmis]> S\_

4. Perform a JOIN operation to display the song files with the album they are belonging to.

# SELECT tblgenre.genname, tblvotes.vpoints FROM tblgenre CROSS JOIN tblvotes

WHERE (tblgenre.genname = tblvotes.vpoints AND count(tblvotes.vpoints >=1));

```
MariaDB [dbmis]> SELECT tblsongs.songfile, tblalbum.albumname
    -> FROM tblsongs
    -> LEFT JOIN tblalbum ON tblsongs.songalbum = tblalbum.id
    -> ORDER BY tblsongs.songpoints;
  songfile
                        albumname
 piano4.mp3
                         Piano
 South India3.mp3
                        South India
 English Popular3.mp3
                         English Popular
 piano5.mp3
                         Piano
 HindiMelody1.mp3
                         Hindi Melody
 Indian1.mp3
                         Indian
                        Piano
 piano1.mp3
 piano2.mp3
                         Piano
 Indian3.mp3
                         Indian
                         Hindi Melody
 Hindi Melody2.mp3
 Hindi Melody3.mp3
                         Hindi Melody
 English Popular1.mp3
                         English Popular
 English Popular2.mp3
                         English Popular
 North India1.mp3
                        North India
 KannadaMelody2.mp3
                         Kannada Melody
 Indian4.mp3
                         Indian
                         Hindustani
 hindustani1.mp3
                         Carnatic
 carnatic1.mp3
 indian2.mp3
                         Indian
 flute3.mp3
                         Flute
 flute2.mp3
                        Flute
                         North India
 North India2.mp3
 South India1.mp3
                         South India
                         Kannada Melody
 KannadaMelody1.mp3
                         Piano
 piano3.mp3
 flute1.mp3
                        Flute
26 rows in set (0.009 sec)
MariaDB [dbmis]> 🗕
```

# **CORRELATED QUERIES**

1. Retrieve those genres which have at leASt 1 vote.

```
SELECT genname
FROM tblgenre
WHERE EXISTS
(SELECT vpoints FROM tblvotes WHERE tblgenre.genname = tblvotes.vname AND vpoints >=1);
```

2. Retrieve song description whose album is "Flute"

```
SELECT songdesc
FROM tblsongs
WHERE songalbum=(
SELECT id
FROM tblalbum
WHERE albumname="Flute");
```

```
MariaDB [dbmis]> SELECT songdesc
-> FROM tblsongs
-> WHERE songalbum=(
-> SELECT id
-> FROM tblalbum
-> WHERE albumname="Flute");
+-----+
| songdesc |
+-----+
| Flute 3 |
| Flute 1 |
| Flute 2 |
+-----+
3 rows in set (0.002 sec)
```

# **NESTED QUERIES**

1. Write a query to display album names with songpoints>=2.

```
SELECT albumname
FROM tblalbum
WHERE id = ANY
( SELECT songalbum
FROM tblsongs
WHERE songpoints > 2);
```

2. Write a query to display the genre WHERE albumwriter="kannada".

```
SELECT genname
FROM tblgenre WHERE id= ANY
( SELECT albumgen FROM tblalbum WHERE albumwriter="kannada");
```

```
MariaDB [dbmis]> SELECT genname
    -> FROM tblgenre WHERE id= ANY
    -> ( SELECT albumgen FROM tblalbum WHERE albumwriter="kannada");
+-----+
| genname |
+-----+
| Melody |
| Popular |
+-----+
2 rows in set (0.003 sec)
MariaDB [dbmis]>
```

# **AGGREGATE FUNCTIONS**

1. Write a query to display number of songs in each album

SELECT COUNT(tblsongs.id) AS no\_of\_songs, albumname FROM tblalbum JOIN tblsongs
WHERE tblsongs.songalbum = tblalbum.id
GROUP BY tblalbum.albumname;

```
MariaDB [dbmis]> SELECT COUNT(tblsongs.id) AS no_of_songs, albumname
    -> FROM tblalbum JOIN tblsongs
   -> WHERE tblsongs.songalbum = tblalbum.id
    -> GROUP BY tblalbum.albumname;
 no_of_songs | albumname
           1 | Carnatic
           3 | English Popular
            3 | Flute
            3 | Hindi Melody
            1 | Hindustani
               Indian
            4
            2 | Kannada Melody
            2 | North India
            5 I
               Piano
           2 | South India
10 rows in set (0.003 sec)
MariaDB [dbmis]>
```

# 2. Write a query to display sum of songpoints for each genre

SELECT SUM(songpoints) AS points\_for\_each\_genre,genname FROM tblsongs JOIN tblgenre WHERE tblsongs.songgen = tblgenre.genname GROUP BY tblgenre.genname;

3. Find the song with highest votes

SELECT songfile, songgen, MAX(songpoints)
AS Highest\_Rating
FROM tblsongs;

```
MariaDB [dbmis]> SELECT songfile, songgen, MAX(songpoints)
   -> AS Highest_Rating
   -> FROM tblsongs;
+-----+
| songfile | songgen | Highest_Rating |
+-----+
| piano4.mp3 | Instrument | 29 |
+-----+
1 row in set (0.001 sec)
MariaDB [dbmis]> __
```

#### **SET OPERATIONS**

1. Retrieve genres whose albumwriter is not "Hindi"

SELECT genname FROM tblgenre

EXCEPT
SELECT albumname
FROM tblalbum
WHERE albumwriter = "Hindi";

```
MariaDB [dbmis]> SELECT genname
-> FROM tblgenre
->
-> EXCEPT
-> SELECT albumname
-> FROM tblalbum
-> WHERE albumwriter = "Hindi";
+-----+
| genname |
+-----+
| Melody |
| Patriotic |
| Popular |
| Classical |
| Instrument |
+------+
5 rows in set (0.002 sec)
```

2. Display singers who have sung at least one song in an album

SELECT songsinger AS sungby FROM tblsongs INTERSECT SELECT albumsinger FROM tblalbum;

#### **VIEW**

1. Create a view to display 7 latest albums released

CREATE VIEW latest\_release AS SELECT \* FROM tblalbum ORDER BY id DESC LIMIT 7; SELECT \* FROM latest release;

```
MariaDB [dbmis]> CREATE VIEW latest_release AS
   -> SELECT * FROM tblalbum
   -> ORDER BY id DESC LIMIT 7;
Query OK, 0 rows affected (0.008 sec)
MariaDB [dbmis]> SELECT * from latest_release;
                                  | albumsinger | albumwriter | albumdesc
 id | albumgen | albumname
                                                                                     albumimage
                  North India
                                    Hindi
                                                  Hindi
                                                                Northern Popular
                                                                                      popular.jpeg
 128
             28
             28
                  English Popular
                                    English
                                                  English
                                                                English Popular
 127
                                                                                      popular.jpeg
             28 | South India
                                                                Southern Popular
                                                                                      popular.jpeg
 126
                                    Kannada
                                                  Kannada
 125
             33 | Hindi Melody
                                    Hindi
                                                  Hindi
                                                                Hindi Melody
                                                                                      Melody.png
                                                                                      Melody.png
 124
             33 | Kannada Melody
                                    Kannada
                                                  Kannada
                                                                Kannada Melody
                                                                National Patriotic
 123
             32
                  National
                                    Nation
                                                  Nation
                                                                                      patriotic.jpeg
 122
             29 | Hindustani
                                    Tom
                                                  Tom
                                                                Hindustani Classical | classical.jpeg
 rows in set (0.002 sec)
MariaDB [dbmis]>
```

### **FUNCTION**

1. Write a function to display the number of songs that can be added into an album without crossing over 3 songs in each album. If the limit is crossed, display a warning message.

```
DELIMITER $$
CREATE FUNCTION no of songs(n id varchar(50))
RETURNS varchar(50)
DETERMINISTIC
BEGIN
DECLARE N INT:
DECLARE MSG varchar(100);
SELECT COUNT(*) into n FROM tblsongs WHERE tblsongs.songalbum=n_id;
IF n>=3 THEN
SET MSG:="Cannot add songs current limit is over";
ELSE
SET MSG:=concat("You can add ",3-n," songs into this album ");
END IF;
RETURN MSG:
END $$
DELIMITER;
```

```
MariaDB [dbmis]> DELIMITER $$
MariaDB [dbmis]> CREATE FUNCTION no of songs(n id varchar(50))
   -> RETURNS varchar(50)
   -> DETERMINISTIC
   -> BEGIN
   -> DECLARE N INT;
   -> DECLARE MSG varchar(100);
   -> SELECT COUNT(*) into n FROM tblsongs WHERE tblsongs.songalbum=n id;
   -> IF n>=3 THEN
   -> SET MSG:="Cannot add songs current limit is over";
   -> ELSE
   -> SET MSG:=concat("You can add ",3-n," songs into this album ");
   -> END IF;
   -> RETURN MSG;
   -> END $$
Query OK, 0 rows affected (0.010 sec)
MariaDB [dbmis]> DELIMITER;
```

```
no of songs(tblalbum.id)
 albumname
 Flute
                   Cannot add songs current limit is over
 Piano
                   Cannot add songs current limit is over
 Indian
                   Cannot add songs current limit is over
 Carnatic
                   You can add 2 songs into this album
 Hindustani
                   You can add 2 songs into this album
 National
                   You can add 3 songs into this album
 Kannada Melody
                   You can add 1 songs into this album
 Hindi Melody
                   Cannot add songs current limit is over
 South India
                   You can add 1 songs into this album
 English Popular
                  | Cannot add songs current limit is over
                  You can add 1 songs into this album
 North India
11 rows in set (0.016 sec)
MariaDB [dbmis]>
```

#### **PROCEDURE**

1. Write a procedure to update vote by one points in an specified genre

```
DELIMITER $$
CREATE PROCEDURE update_vote(IN name_v varchar(100))
BEGIN
DECLARE V varchar(100);
UPDATE tblvotes
SET vpoints = vpoints+1 WHERE vname = name_v;
END $$
```

```
MariaDB [dbmis]> DELIMITER $$
MariaDB [dbmis]> CREATE PROCEDURE update_vote(IN name_v varchar(100))
    -> BEGIN
    -> DECLARE V varchar(100);
    -> UPDATE tblvotes
    -> SET vpoints = vpoints+1 WHERE vname = name_v;
    -> END $$
Query OK, 0 rows affected (0.015 sec)
MariaDB [dbmis]>
```

select \* FROM tblvotes;

CALL update\_vote("Instrument")

```
MariaDB [dbmis]> CALL update_vote("Instrument");
Query OK, 1 row affected (0.001 sec)
```

select \* FROM tblvotes;

# **TRIGGER**

1. Write a trigger to display an error message on password length less than 8 for adding a new user.

```
DELIMITER $$
CREATE TRIGGER password_error
BEFORE INSERT
ON tblusers FOR EACH ROW
BEGIN
DECLARE ERROR_MSG varchar(100);
DECLARE val varchar(100);
SET ERROR_MSG = ("Password length must be at least of length 8");
SET val = length(new.password);
IF (val < 8) THEN
signal sqlstate '45000'
SET message_text = ERROR_MSG;
END IF;
END $$
```

```
MariaDB [dbmis]> DELIMITER $$
MariaDB [dbmis]> CREATE TRIGGER password error
    -> BEFORE INSERT
   -> ON tblusers FOR EACH ROW
   -> BEGIN
   -> DECLARE ERROR_MSG varchar(100);
   -> DECLARE val varchar(100);
   -> SET ERROR MSG =("Password length must be at least of length 8");
   -> SET val = length(new.password);
   -> IF (val < 8) THEN
   -> signal sqlstate '45000'
   -> SET message text = ERROR MSG;
   -> END IF;
    -> END $$
Query OK, 0 rows affected (0.014 sec)
MariaDB [dbmis]> _
```

#### INSERT INTO tblusers VALUES(11,"Anu","Anushree","ie");

```
MariaDB [dbmis]> insert into tblusers values(11,"Anu","Anushree","ie");
ERROR 1644 (45000): Password length must be at least of length 8
MariaDB [dbmis]> _
```