

MySQL - Date Data Type Challenge - Lecture 17

- Float Vs Double Vs Decimal
- Varchar() Vs Char()

DATE & TIME Data Types:

DATE

Values With a Date But No Time

'YYYY-MM-DD' Format

TIME

Values With a Time But No Date

'HH:MM:SS' Format

DATETIME

Values With a Date AND Time

'YYYY-MM-DD HH:MM:SS' Format

```
mysql> SELECT NOW();
```

+	-----+					
	NOW()					
+	-----+					
	2024-12-25 07:18:45					
+	-----+					
1	row in set (0.00 sec)					

Default Setting while Creating a Table

```
mysql> CREATE TABLE Dogs(name Char(5), breed varchar(10));  
Query OK, 0 rows affected (0.08 sec)  
  
mysql> DESC Dogs;  
+-----+-----+-----+-----+-----+  
| Field | Type      | Null | Key | Default | Extra |  
+-----+-----+-----+-----+-----+  
| name  | char(5)   | YES  |     | NULL    |       |  
| breed | varchar(10)| YES  |     | NULL    |       |  
+-----+-----+-----+-----+-----+  
2 rows in set (0.01 sec)
```

```

mysql> Insert into dogs(name,breed) VALUES("bob" , "beagle");
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM Dogs;
+-----+-----+
| name | breed |
+-----+-----+
| bob  | beagle |
+-----+-----+
1 row in set (0.00 sec)

mysql> Insert into dogs(name,breed) VALUES("robby" , "corgi");
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM Dogs;
+-----+-----+
| name | breed |
+-----+-----+
| bob  | beagle |
| robby | corgi |
+-----+-----+
2 rows in set (0.00 sec)

mysql> Insert into dogs(name,breed) VALUES("Princess Jane" , "Retriever");
ERROR 1406 (22001): Data too long for column 'name' at row 1

```

MySQL - Truncate the extra characters if its not able to handle it. [Previously].
- Nowadays they throw an error.

Decimal - 5 digit with 2 decimal places. Ex : 999.99

```

mysql> CREATE Table Items( price decimal(5,2));
Query OK, 0 rows affected (0.03 sec)

mysql> DESC Items;
+-----+-----+-----+-----+-----+
| Field | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+
| price | decimal(5,2) | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

```

```

mysql> Insert into Items(price) VALUES(7),(2.5),(3.99),(24.99),(99.99),(249.99);
Query OK, 6 rows affected (0.01 sec)
Records: 6  Duplicates: 0  Warnings: 0

mysql> SELECT * FROM Items;
+-----+
| price |
+-----+
| 7.00  |
| 2.50  |
| 3.99  |
| 24.99 |
| 99.99 |
| 249.99|
+-----+
6 rows in set (0.00 sec)

mysql> Insert into Items(price) VALUES(7999.1);
ERROR 1264 (22003): Out of range value for column 'price' at row 1

```

```
mysql> Insert into Items(price) VALUES(799.14783);
Query OK, 1 row affected, 1 warning (0.00 sec)

mysql> SELECT * FROM Items;
+-----+
| price |
+-----+
| 7.00 |
| 2.50 |
| 3.99 |
| 24.99 |
| 99.99 |
| 249.99 |
| 799.15 |
+-----+
7 rows in set (0.00 sec)
```

Float Vs Double

```
mysql> CREATE TABLE Things(price Float);
Query OK, 0 rows affected (0.02 sec)

mysql> DESC Things;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| price | float | YES | NULL | NULL |       |
+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

mysql> INSERT INTO Things(price) VALUES(287687.67238785623762);
Query OK, 1 row affected (0.12 sec)

mysql> SELECT * FROM Things;
+-----+
| price |
+-----+
| 287688 |
+-----+
1 row in set (0.00 sec)

mysql> INSERT INTO Things(price) VALUES(287.6723);
Query OK, 1 row affected (0.03 sec)
```

```
mysql> SELECT * FROM Things;
+-----+
| price |
+-----+
| 287688 |
| 287.672 |
+-----+
2 rows in set (0.00 sec)

mysql> INSERT INTO Things(price) VALUES(87243433.6723);
Query OK, 1 row affected (0.03 sec)

mysql> SELECT * FROM Things;
+-----+
| price |
+-----+
| 287688 |
| 287.672 |
| 87243400 |
+-----+
3 rows in set (0.00 sec)

mysql> CREATE TABLE Thing(price Double);
Query OK, 0 rows affected (0.16 sec)

mysql> INSERT INTO Thing(price) VALUES(87243433.67233232423);
Query OK, 1 row affected (0.10 sec)
```

```
mysql> SELECT * FROM Thing;
+-----+
| price           |
+-----+
| 87243433.67233233 |
+-----+
1 row in set (0.00 sec)
```

Date DataType : CurDate(), CurTime(), NOW()

```
mysql> CREATE TABLE People(
    -->   name varchar(25),
    -->   birthdate DATE,
    -->   birthtime Time,
    -->   birthday DateTime
    --> );
Query OK, 0 rows affected (0.02 sec)

mysql> DESC People;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| name  | varchar(25) | YES |   | NULL    |       |
| birthdate | date | YES |   | NULL    |       |
| birthtime | time | YES |   | NULL    |       |
| birthday | datetime | YES |   | NULL    |       |
+-----+-----+-----+-----+-----+
4 rows in set (0.01 sec)
```

```
mysql> INSERT INTO People(name, birthdate, birthtime, birthday)
    --> VALUES("Mihir", "2000-12-21", "12:45:21", "2000-12-21 12:45:21");
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM People;
+-----+-----+-----+-----+
| name | birthdate | birthtime | birthday      |
+-----+-----+-----+-----+
| Mihir | 2000-12-21 | 12:45:21 | 2000-12-21 12:45:21 |
+-----+-----+-----+-----+
1 row in set (0.00 sec)
```

```

mysql> INSERT INTO People(name, birthdate, birthtime, birthday)
-> VALUES("Aman", "2001-11-20", "11:25:20", "2001-11-20 11:25:20");
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM People;
+-----+-----+-----+-----+
| name | birthdate | birthtime | birthday |
+-----+-----+-----+-----+
| Mihir | 2000-12-21 | 12:45:21 | 2000-12-21 12:45:21 |
| Aman | 2001-11-20 | 11:25:20 | 2001-11-20 11:25:20 |
+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> INSERT INTO People(name, birthdate, birthtime, birthday)
-> VALUES("NewBorn", curdate(), current_time, now()); Default
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM People;
+-----+-----+-----+-----+
| name | birthdate | birthtime | birthday |
+-----+-----+-----+-----+
| Mihir | 2000-12-21 | 12:45:21 | 2000-12-21 12:45:21 |
| Aman | 2001-11-20 | 11:25:20 | 2001-11-20 11:25:20 |
| NewBorn | 2024-12-25 | 07:44:35 | 2024-12-25 07:44:35 |
+-----+-----+-----+-----+
3 rows in set (0.00 sec)

```

```

CREATE TABLE People(
    name varchar(25),
    birthdate DATE,
    birthtime Time,
    birthday DateTime
);

```

```

mysql> INSERT INTO People(name, birthdate, birthtime, birthday)
-> VALUES("NewBorn2", curdate(), current_time, now());
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM People;
+-----+-----+-----+-----+
| name | birthdate | birthtime | birthday |
+-----+-----+-----+-----+
| Mihir | 2000-12-21 | 12:45:21 | 2000-12-21 12:45:21 |
| Aman | 2001-11-20 | 11:25:20 | 2001-11-20 11:25:20 |
| NewBorn | 2024-12-25 | 07:44:35 | 2024-12-25 07:44:35 |
| NewBorn2 | 2024-12-25 | 07:48:47 | 2024-12-25 07:48:47 |
+-----+-----+-----+-----+
4 rows in set (0.00 sec)

```

```
mysql> SELECT DAY(birthday) FROM People;
+-----+
| DAY(birthday) |
+-----+
| 21 |
| 20 |
| 25 |
| 25 |
+-----+
4 rows in set (0.00 sec)

mysql> SELECT DATE_FORMAT(birthday, "%Y") FROM People;
+-----+
| DATE_FORMAT(birthday, "%Y") |
+-----+
| 2000 |
| 2001 |
| 2024 |
| 2024 |
+-----+
4 rows in set (0.00 sec)

mysql> SELECT DATE_FORMAT(birthday, "%y") FROM People;
+-----+
| DATE_FORMAT(birthday, "%y") |
+-----+
| 00 |
| 01 |
| 24 |
| 24 |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> SELECT DATE_FORMAT(birthday, "%y") FROM People;
+-----+
| DATE_FORMAT(birthday, "%y") |
+-----+
| 00 |
| 01 |
| 24 |
| 24 |
+-----+
4 rows in set (0.00 sec)

mysql> SELECT DATE_FORMAT(birthday, "It is %M %D and the year is %Y") AS "What day is it" FROM People;
+-----+
| What day is it |
+-----+
| It is December 21st and the year is 2000 |
| It is November 20th and the year is 2001 |
| It is December 25th and the year is 2024 |
| It is December 25th and the year is 2024 |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> SELECT DATEDIFF(NOW(),birthday) FROM People;
+-----+
| DATEDIFF(NOW(),birthday) |
+-----+
| 8770 |
| 8436 |
| 0 |
| 0 |
+-----+
4 rows in set (0.00 sec)
```

```
mysql> CREATE TABLE Comments(
    -> Content Varchar(200),
    -> Created_at timestamp DEFAULT NOW()
    -> );
Query OK, 0 rows affected (0.02 sec)

mysql> DESC Comments;
+-----+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default        | Extra       |
+-----+-----+-----+-----+-----+-----+
| Content | varchar(200) | YES |     | NULL           |             |
| Created_at | timestamp | YES |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-----+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

mysql> INSERT INTO Comments(Content) VALUES("Awesome");
Query OK, 1 row affected (0.00 sec)

mysql> SELECT * FROM Comments;
+-----+-----+
| Content | Created_at      |
+-----+-----+
| Awesome | 2024-12-25 08:00:11 |
+-----+-----+
1 row in set (0.00 sec)
```

```
CREATE TABLE inventory (
    item_name _____,      varchar
    price _____,          float
    quantity _____,        int
);
```

(price is always < 1,000,000)

1. Print Out The Current Time

```
mysql> SELECT Current_time();
+-----+
| Current_time() |
+-----+
| 08:05:38      |
+-----+
1 row in set (0.00 sec)
```

2. Print Out The Current Date (but not time)

```
mysql> SELECT Current_date();
+-----+
| Current_date() |
+-----+
| 2024-12-25      |
+-----+
1 row in set (0.00 sec)
```

**3. Print Out The Current Day Of The Week
(The Number)**

25th Dec, Wed

```
mysql> SELECT DATE_FORMAT(NOW(), "%w") AS DAY_OF_WEEK;
+-----+
| DAY_OF_WEEK |
+-----+
| 3           |
+-----+
1 row in set (0.00 sec)
```

4. Print Out The Current Day Of The Week (The Day Name)

```
mysql> SELECT DATE_FORMAT(NOW(), "%W") AS DAY_OF_WEEK;
+-----+
| DAY_OF_WEEK |
+-----+
| Wednesday   |
+-----+
1 row in set (0.00 sec)
```

5. Print out the current day and time using this format:
"mm/dd/yyyy"

```
mysql> SELECT DATE_FORMAT(NOW(), "%m/%d/%y")
   -> ;
+-----+
| DATE_FORMAT(NOW(), "%m/%d/%y") |
+-----+
| 12/25/24 |
+-----+
1 row in set (0.00 sec)

mysql> SELECT DATE_FORMAT(NOW(), "%m/%d/%Y");
+-----+
| DATE_FORMAT(NOW(), "%m/%d/%Y") |
+-----+
| 12/25/2024 |
+-----+
1 row in set (0.00 sec)
```

6. Print out the current day and time using this format:

January 2nd at 3:15

April 1st at 10:18

```
mysql> SELECT CONCAT(DATE_FORMAT(now(), "%M %D at ") , SUBSTR(current_time(),1,5));
+-----+
| CONCAT(DATE_FORMAT(now(), "%M %D at ") , SUBSTR(current_time(),1,5)) |
+-----+
| December 25th at 08:13                                         |
+-----+
1 row in set (0.00 sec)
```

7. Create a tweets table that stores:

The Tweet content

A Username

Time it was created

```
mysql> CREATE TABLE Tweets(
    ->     content varchar(200),
    ->     username varchar(100),
    ->     created_at timestamp DEFAULT NOW()
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> DESC Tweets;
+-----+-----+-----+-----+-----+-----+
| Field      | Type       | Null | Key | Default           | Extra          |
+-----+-----+-----+-----+-----+-----+
| content    | varchar(200) | YES  |     | NULL             |                |
| username   | varchar(100) | YES  |     | NULL             |                |
| created_at | timestamp   | YES  |     | CURRENT_TIMESTAMP | DEFAULT_GENERATED |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```