

How to store Emoji Character in MySQL Database

Asked 2 years, 10 months ago Active 1 month ago Viewed 100k times



122



38

I am using Emoji character in my project. That characters are saved (??) into mysql database. I had used database Default collation in utf8mb4_general_ci . It show

1366 Incorrect string value: '\xF0\x9F\x98\x83\xF0\x9F...' for column 'comment' at row 1

mysql

edited Jan 18 at 1:47



Cœur

21.5k

10

125

172

asked Sep 13 '16 at 6:02



Selvamani P

2,640

3

8

15

1 How are your saving your data? Can you show us that code? – [Tomas Buteler](#) Sep 13 '16 at 7:05

Thanks for your comment. I have find solution for this Change Database default collection as **utf8mb4** and also Change Table collection as **CHARACTER SET utf8mb4 COLLATE utf8mb4_bin**. ALTER TABLE Tablename CONVERT TO CHARACTER SET utf8mb4 COLLATE utf8mb4_bin – [Selvamani P](#) Sep 13 '16 at 7:52 ✎

Code: insert into tablename (column1,column2,column3,column4,column5,column6,column7) values ('273','3','Hdhhdh 🙄🙄🙄🙄 hzhzhzhjzj 我爱你 ❌',49,1,'2016-09-13 08:02:29','2016-09-13 08:02:29' Set utf8mb4 in database connection: \$database_connection = new mysqli(\$server, \$user,\$password,\$database_name); \$database_connection->set_charset("utf8mb4"); – [Selvamani P](#) Sep 13 '16 at 8:05 ✎

9 Answers



186



1) Database: Change Database default collation as **utf8mb4** .

2) Table: Change table collation as **CHARACTER SET utf8mb4 COLLATE utf8mb4_bin** .

Query:

ALTER TABLE Tablename **CONVERT TO CHARACTER SET** utf8mb4 **COLLATE** utf8mb4_bin



3) Code:

```
INSERT INTO tablename (column1, column2, column3, column4, column5, column6, column7)
VALUES ('273', '3', 'Hdhdhdh😊😄😄😄hzhzhzzhjzj 我爱你 ❌', 49, 1, '2016-09-13
08:02:29', '2016-09-13 08:02:29')
```

4) Set utf8mb4 in database connection:

```
$database_connection = new mysqli($server, $user, $password, $database_name);
$database_connection->set_charset('utf8mb4');
```

edited Jul 28 '17 at 18:02



K-Gun

8,334 2 38 49

answered Sep 13 '16 at 8:30



Selvamani P

2,640 3 8 15

4 Is it possible without changing database default collection ? – AliN11 Oct 10 '16 at 9:31

18 This is not working for me. I am getting "???" instead of smilies. only "😊" this smily made it to the database safely. – Curious Developer Mar 17 '17 at 16:10 ✎

9 May need to update not only the table to utf8mb4, but ALSO the columns themselves, otherwise they can still appear as ?? instead of ♥️. – Ael Jun 25 '17 at 21:12

2 Worked for me, but don't forget to restart MySQL. – Ravi Misra Sep 12 '17 at 10:58

2 I need to run SET NAMES utf8mb4; to start saving emoticons; before that command it was saving them as ?? – cubbuk Apr 7 '18 at 14:03

step 1, change your database's default charset:

14

```
ALTER DATABASE database_name CHARACTER SET = utf8mb4 COLLATE = utf8mb4_unicode_ci;
```

step 2, set charset when creating table:

```
CREATE TABLE IF NOT EXISTS table_name (
...
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE utf8mb4_general_ci;
```

or alter table

```
ALTER TABLE table_name CONVERT TO CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
ALTER TABLE table_name modify name text charset utf8mb4;
```

answered May 10 '18 at 1:11



ospider

2,201 21 31

I followed these queries and stopped and restarted mysql server, but when I try to insert emojis into my table I still get the same error. All the commands passed successful except the INSERT. INSERT INTO Entries (date, time, caption) VALUES (2018-05-20, '12:38:00', 'Testing description with emoji: 🐼❤️'); The column settings are Collation: utf8mb4_0900_ai_ci Definition: description text – user6004404 May 20 '18 at 17:18 ✎

Your connection also needs to be utf8mb4 not utf8 for it to work. – Henrik Hansen Jun 26 '18 at 11:00

2 @ospider, in step 2 you use utfmb4_general_ci instead of unicode - any reason why? – Warren Dec 19 '18 at 23:52

If you are using Solr + Mysql + Java, you can use:

12

This can be Used :

- case1: When you don't want to alter DB.
- case2: when you have to import emoticons from your Mysql to Solr core.

In above case this is one of the solutions to store your emoticons in your system.

Steps to use it:

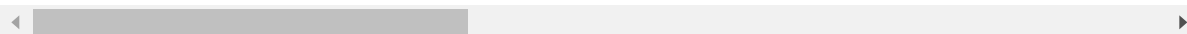
Library used: import java.net.URLDecoder; import java.net.URLEncoder;

1. Use urlEncoder to encode your String having emoticons.
2. Store it in DB without altering the MysqlDB.
3. You can store it in solr core(decoded form)if you want or you can store encoded form.
4. When fetching these emoticons from DB or Solr core you can now decode it Using urlDecoder.

Code example:

```
import java.net.URLDecoder;
import java.net.URLEncoder;

public static void main(String[] args) {
    //SpringApplication.run(ParticipantApplication.class, args);
    System.out.println(encodeStringUrl("USCNPDE🟩⬆️ID IDCL3□5□3□!!~\÷ ÷ 🏠 ⚙️ 👤"));
    System.out.println(decodeStringUrl("Hello+emoticons%2C%2C%F0%9F%98%80%F0%9F%98%81%F0%9F%98%82%F0%9F%98%83%F0%9F%98%84%F0%9F%98%85%F0%9F%98%86%F0%9F%98%87%F0%9F%98%88%F0%9F%98%89%F0%9F%98%8A%F0%9F%98%8B%F0%9F%98%8C%F0%9F%98%8D%F0%9F%98%8E%F0%9F%98%8F%F0%9F%98%90%F0%9F%98%91%F0%9F%98%92%F0%9F%98%93%F0%9F%98%94%F0%9F%98%95%F0%9F%98%96%F0%9F%98%97%F0%9F%98%98%F0%9F%98%99%F0%9F%98%9A%F0%9F%98%9B%F0%9F%98%9C%F0%9F%98%9D%F0%9F%98%9E%F0%9F%98%9F%F0%9F%98%A0%F0%9F%98%A1%F0%9F%98%A2%F0%9F%98%A3%F0%9F%98%A4%F0%9F%98%A5%F0%9F%98%A6%F0%9F%98%A7%F0%9F%98%A8%F0%9F%98%A9%F0%9F%98%AA%F0%9F%98%AB%F0%9F%98%AC%F0%9F%98%AD%F0%9F%98%AE%F0%9F%98%AF%F0%9F%98%B0%F0%9F%98%B1%F0%9F%98%B2%F0%9F%98%B3%F0%9F%98%B4%F0%9F%98%B5%F0%9F%98%B6%F0%9F%98%B7%F0%9F%98%B8%F0%9F%98%B9%F0%9F%98%BA%F0%9F%98%BB%F0%9F%98%BC%F0%9F%98%BD%F0%9F%98%BE%F0%9F%98%BF%F0%9F%98%C0%F0%9F%98%C1%F0%9F%98%C2%F0%9F%98%C3%F0%9F%98%C4%F0%9F%98%C5%F0%9F%98%C6%F0%9F%98%C7%F0%9F%98%C8%F0%9F%98%C9%F0%9F%98%CA%F0%9F%98%CB%F0%9F%98%CC%F0%9F%98%CD%F0%9F%98%CE%F0%9F%98%CF%F0%9F%98%D0%F0%9F%98%D1%F0%9F%98%D2%F0%9F%98%D3%F0%9F%98%D4%F0%9F%98%D5%F0%9F%98%D6%F0%9F%98%D7%F0%9F%98%D8%F0%9F%98%D9%F0%9F%98%DA%F0%9F%98%DB%F0%9F%98%DC%F0%9F%98%DD%F0%9F%98%DE%F0%9F%98%DF%F0%9F%98%E0%F0%9F%98%E1%F0%9F%98%E2%F0%9F%98%E3%F0%9F%98%E4%F0%9F%98%E5%F0%9F%98%E6%F0%9F%98%E7%F0%9F%98%E8%F0%9F%98%E9%F0%9F%98%EA%F0%9F%98%EB%F0%9F%98%EC%F0%9F%98%ED%F0%9F%98%EE%F0%9F%98%EF%F0%9F%98%F0%F0%9F%98%F1%F0%9F%98%F2%F0%9F%98%F3%F0%9F%98%F4%F0%9F%98%F5%F0%9F%98%F6%F0%9F%98%F7%F0%9F%98%F8%F0%9F%98%F9%F0%9F%98%FA%F0%9F%98%FB%F0%9F%98%FC%F0%9F%98%FD%F0%9F%98%FE%F0%9F%98%FF%F0%9F%98%20%F0%9F%98%21%F0%9F%98%22%F0%9F%98%23%F0%9F%98%24%F0%9F%98%25%F0%9F%98%26%F0%9F%98%27%F0%9F%98%28%F0%9F%98%29%F0%9F%98%2A%F0%9F%98%2B%F0%9F%98%2C%F0%9F%98%2D%F0%9F%98%2E%F0%9F%98%2F%F0%9F%98%30%F0%9F%98%31%F0%9F%98%32%F0%9F%98%33%F0%9F%98%34%F0%9F%98%35%F0%9F%98%36%F0%9F%98%37%F0%9F%98%38%F0%9F%98%39%F0%9F%98%3A%F0%9F%98%3B%F0%9F%98%3C%F0%9F%98%3D%F0%9F%98%3E%F0%9F%98%3F%F0%9F%98%40%F0%9F%98%41%F0%9F%98%42%F0%9F%98%43%F0%9F%98%44%F0%9F%98%45%F0%9F%98%46%F0%9F%98%47%F0%9F%98%48%F0%9F%98%49%F0%9F%98%4A%F0%9F%98%4B%F0%9F%98%4C%F0%9F%98%4D%F0%9F%98%4E%F0%9F%98%4F%F0%9F%98%50%F0%9F%98%51%F0%9F%98%52%F0%9F%98%53%F0%9F%98%54%F0%9F%98%55%F0%9F%98%56%F0%9F%98%57%F0%9F%98%58%F0%9F%98%59%F0%9F%98%5A%F0%9F%98%5B%F0%9F%98%5C%F0%9F%98%5D%F0%9F%98%5E%F0%9F%98%5F%F0%9F%98%60%F0%9F%98%61%F0%9F%98%62%F0%9F%98%63%F0%9F%98%64%F0%9F%98%65%F0%9F%98%66%F0%9F%98%67%F0%9F%98%68%F0%9F%98%69%F0%9F%98%6A%F0%9F%98%6B%F0%9F%98%6C%F0%9F%98%6D%F0%9F%98%6E%F0%9F%98%6F%F0%9F%98%70%F0%9F%98%71%F0%9F%98%72%F0%9F%98%73%F0%9F%98%74%F0%9F%98%75%F0%9F%98%76%F0%9F%98%77%F0%9F%98%78%F0%9F%98%79%F0%9F%98%7A%F0%9F%98%7B%F0%9F%98%7C%F0%9F%98%7D%F0%9F%98%7E%F0%9F%98%7F%F0%9F%98%80%F0%9F%98%81%F0%9F%98%82%F0%9F%98%83%F0%9F%98%84%F0%9F%98%85%F0%9F%98%86%F0%9F%98%87%F0%9F%98%88%F0%9F%98%89%F0%9F%98%8A%F0%9F%98%8B%F0%9F%98%8C%F0%9F%98%8D%F0%9F%98%8E%F0%9F%98%8F%F0%9F%98%90%F0%9F%98%91%F0%9F%98%92%F0%9F%98%93%F0%9F%98%94%F0%9F%98%95%F0%9F%98%96%F0%9F%98%97%F0%9F%98%98%F0%9F%98%99%F0%9F%98%9A%F0%9F%98%9B%F0%9F%98%9C%F0%9F%98%9D%F0%9F%98%9E%F0%9F%98%9F%F0%9F%98%A0%F0%9F%98%A1%F0%9F%98%A2%F0%9F%98%A3%F0%9F%98%A4%F0%9F%98%A5%F0%9F%98%A6%F0%9F%98%A7%F0%9F%98%A8%F0%9F%98%A9%F0%9F%98%AA%F0%9F%98%AB%F0%9F%98%AC%F0%9F%98%AD%F0%9F%98%AE%F0%9F%98%AF%F0%9F%98%B0%F0%9F%98%B1%F0%9F%98%B2%F0%9F%98%B3%F0%9F%98%B4%F0%9F%98%B5%F0%9F%98%B6%F0%9F%98%B7%F0%9F%98%B8%F0%9F%98%B9%F0%9F%98%BA%F0%9F%98%BB%F0%9F%98%BC%F0%9F%98%BD%F0%9F%98%BE%F0%9F%98%BF%F0%9F%98%C0%F0%9F%98%C1%F0%9F%98%C2%F0%9F%98%C3%F0%9F%98%C4%F0%9F%98%C5%F0%9F%98%C6%F0%9F%98%C7%F0%9F%98%C8%F0%9F%98%C9%F0%9F%98%CA%F0%9F%98%CB%F0%9F%98%CC%F0%9F%98%CD%F0%9F%98%CE%F0%9F%98%CF%F0%9F%98%D0%F0%9F%98%D1%F0%9F%98%D2%F0%9F%98%D3%F0%9F%98%D4%F0%9F%98%D5%F0%9F%98%D6%F0%9F%98%D7%F0%9F%98%D8%F0%9F%98%D9%F0%9F%98%DA%F0%9F%98%DB%F0%9F%98%DC%F0%9F%98%DD%F0%9F%98%DE%F0%9F%98%DF%F0%9F%98%E0%F0%9F%98%E1%F0%9F%98%E2%F0%9F%98%E3%F0%9F%98%E4%F0%9F%98%E5%F0%9F%98%E6%F0%9F%98%E7%F0%9F%98%E8%F0%9F%98%E9%F0%9F%98%EA%F0%9F%98%EB%F0%9F%98%EC%F0%9F%98%ED%F0%9F%98%EE%F0%9F%98%EF%F0%9F%98%F0%F0%9F%98%F1%F0%9F%98%F2%F0%9F%98%F3%F0%9F%98%F4%F0%9F%98%F5%F0%9F%98%F6%F0%9F%98%F7%F0%9F%98%F8%F0%9F%98%F9%F0%
```



edited Jul 3 '18 at 19:53



Miguel Almeida

102 2 13

answered Oct 4 '17 at 8:04



Sunil Gupta
121 1 4

Thank you for this code snippet, which might provide some limited, immediate help. A proper explanation [would greatly improve](#) its long-term value by showing *why* this is a good solution to the problem, and would make it more useful to future readers with other, similar questions. Please [edit](#) your answer to add some explanation, including the assumptions you've made. – [Toby Speight](#) Oct 4 '17 at 8:39

work like a charm, i used it in the model, so i really needn't to change any of code and database only the data model on the setter and getter of the content – [bowpunya](#) Jan 24 '18 at 1:49

Encode/decode function calls tend to cause trouble. Instead fix the charset settings in the various places. – [Rick James](#) Feb 26 '18 at 4:04

This is not solving the problem, this is bypassing it. And you'll run into a host of problems with this method, for example you will slow down your application because you have to decode and encode everything. Also if you enter the character % , your decoding will break. – [Jonathan Laliberte](#) Jun 9 '18 at 12:51



I have updated my database and table to upgraded from **utf8** to **utf8mb4**. But nothing works for me. Then I tried to update column datatype to **blob**, luckily it worked for me and data has been saved. Even my database and table both are **CHARACTER SET utf8 COLLATE utf8_unicode**



answered Jul 6 '18 at 5:28



[Deepak Arora](#)

91 1 1

Thank you so much :) – [Pratik Butani AndroidDev](#) Jul 15 at 11:55



Both the databases and tables should have character set `utf8mb4` and collation `utf8mb4_unicode_ci` .

When creating a **new database** you should use:



```
CREATE DATABASE mydb CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
```

If you have an **existing database** and you want to add support:

```
ALTER DATABASE database_name CHARACTER SET = utf8mb4 COLLATE = utf8mb4_unicode_ci;
```

You also need to **set the correct character set and collation** for your tables:

```
CREATE TABLE IF NOT EXISTS table_name (  
    ...  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE utf8mb4_unicode_ci;
```

or change it if you've got **existing tables** with a lot of data:

```
ALTER TABLE table_name CONVERT TO CHARACTER SET utf8mb4 COLLATE utf8mb4_unicode_ci;
```

Note that `utf8_general_ci` is no longer recommended best practice. See the related Q & A:

[What's the difference between `utf8_general_ci` and `utf8_unicode_ci`](#) on Stack Overflow.

answered May 7 at 3:57



samawaat

91 1 3

▲ *My answer only adds to Selvamani P answer.*

7

You might also need to change any `SET NAMES utf8` queries with `SET NAMES utf8mb4`. That did the trick for me.

▼ Also, [this is a great article](#) to port your website from utf8 to utf8mb4. In particular the article makes 2 good points on indexes and repairing tables after converting them to utf8mb4:

INDEXES

When converting from utf8 to utf8mb4, the maximum length of a column or index key is unchanged in terms of bytes. Therefore, it is smaller in terms of characters, because the maximum length of a character is now four bytes instead of three. [...] The InnoDB storage engine has a maximum index length of 767 bytes, so for utf8 or utf8mb4 columns, you can index a maximum of 255 or 191 characters, respectively. If you currently have utf8 columns with indexes longer than 191 characters, you will need to index a smaller number of characters when using utf8mb4.

REPAIRING TABLES

After upgrading the MySQL server and making the necessary changes explained above, make sure to repair and optimize all databases and tables. I didn't do this right away after upgrading (I didn't think it was necessary, as everything seemed to work fine at first glance), and ran into some weird bugs where UPDATE statements didn't have any effect, even though no errors were thrown.

Read more about the queries to repair tables on the article.

edited Jan 22 '18 at 19:50

answered Jan 22 '18 at 18:28



Nicola Pedretti

2,326 1 18 28

REPAIR TABLE and OPTIMIZE TABLE should be unnecessary -- an ALTER has the effect of doing them. – Rick James Feb 26 '18 at 4:06

▲ The command to modify the column is:

5 `ALTER TABLE TABLE_NAME MODIFY COLUMN_NAME TYPE;`

▼ And we need to use type = BLOB

Example to modify is as under:-

```
ALTER TABLE messages MODIFY content BLOB;
```

I checked that latest mySQL and other databases don't need '' to use in command on table_name, column_name etc.

Fetch and Save data: Directly save the chat content to column and to retrieve data, fetch data as byte array (byte[]) from db column and then convert it to string e.g. (Java code)

```
new String((byte[]) arr)
```

edited Aug 3 '18 at 12:45

answered Aug 2 '18 at 7:36



Harpreet

1,778 3 26 44

▲ The main point hasn't been mentioned in the above answers that,

5 We need to pass query string with the options "useUnicode=yes" and "characterEncoding=UTF-8" in connection string

▼ Something like this

```
mysql://USERNAME:PASSWORD@HOSTNAME:PORT/DATABASE_NAME?
useUnicode=yes&characterEncoding=UTF-8
```

edited Sep 15 '18 at 8:16

answered Sep 15 '18 at 8:03



Ashh

22.9k 5 28 51

▲ Well, you need not to change the Whole DB Charset. Instead of that you can do it by changing column to **blob** type.

0

ALTER TABLE messages MODIFY content BLOB;



answered Jun 25 at 11:15



[user3855339](#)

1 2