# MySQL

MySQL                    WEB        MySQL        RDBMS(Relational Database Management System
RDBMS                    (Relational Database Management System)        1.                    2.                    3.

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- MySQL

- MySQL

  - mysql  utf8  utf8mb4

# MySQL

MySQL                         MySQL AB              Oracle     MySQL
C C++ Python Java Perl PHP Eiffel Ruby   Tcl    MySQL  PHP        PHP       Web       MySQL
                 GPL                   MySQL

# MySQL

MySQL

Oracle Windows                          MySQL                          3 mysql              MySQL
MySQL      /etc/my.cnf→/etc/mysql/my.cnf→/usr/local/mysql/etc → /.my.cnf
       /etc/my.cnf    Windows                   .cnf        .ini

# mysql utf8 utf8mb4

" mysql utf8 utf8mb4

MySQL 5.5.3    utf8mb4    mb4  most bytes 4          unicode   utf8mb4 utf8

        utf8          ,          utf8mb4 ?   mysql    utf8       3       4                  U
(Emoji      Unicode      ios   android    )                  Unicode

    UTF-8              31          UTF-8              21              17 Unicode

utf8   Mysql                UTF-8        Unicode

Mysql    utf8              UTF-8            Mysql        Unicode              Unicode
Mysql    300              4       UTF-8

  Mysql    4       UTF-8          utf8mb4        5.5.3        (       select version();)
VARCHAR    CHAR

## mysql        utf8        utf8mb4

    my 5. 5. 3

```
select version();
```

MySQL 5.5.3        utf8mb4      mb4  most bytes 4              unicode    utf8mb4 utf8

```
--
--1                alter table j1 default character set utf8mb4;
ALTER DATABASE test CHARACTER SET = utf8mb4;
--2                alter table j1 modify name varchar(20) character set utf8mb4 not null default
ALTER TABLE `test` CHANGE COLUMN `name` `name` varchar(12) CHARACTER SET utf8mb4;


--                                        TEXT    LONGTEXT
--
alter table test convert to character set utf8mb4;
```

```
--
--          mysqldump          utf8mb4
```

```
[client]
default-character-set = utf8mb4
[mysqld]
character-set-server=utf8mb4
collation-server=utf8mb4_unicode_ci
[mysql]
default-character-set = utf8mb4
```
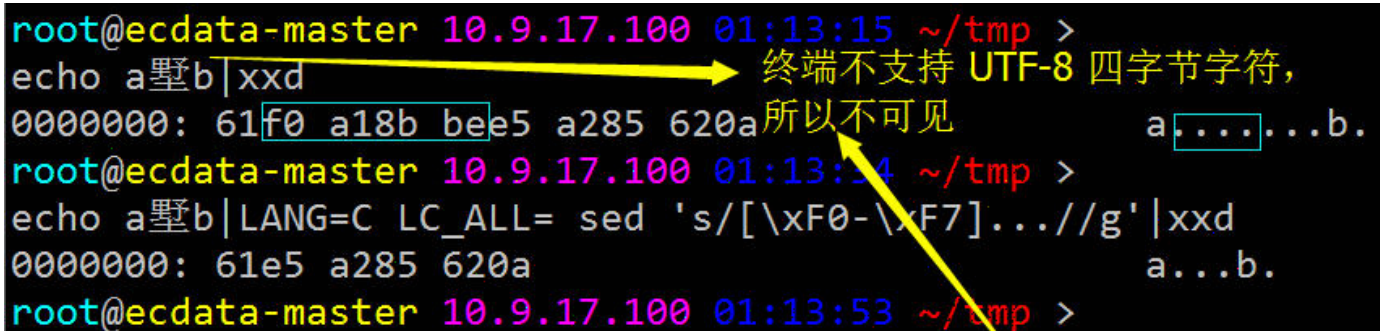
java          jdbc          mysql-connector-java-5.1.14.jar

mysql          u

# shell

sed awk python perl          load



echo a型墅b|LANG=C sed 's/[\xF0-\xF7].../'//g'|xxd

# java

MySql  Unicode

```
for i=1->n
int c=str.codePointAt(i);
if (c<0x0000||c>0xffff) {
    return false;
}
```

web utf8

```
create table t1(name varchar(20) charset utf8mb4);
insert into t1 values(0xF0A09080);


set charset binary;
select * from t1;
```

## utf-8

4 utf8 :

- windows xp: xp 4 utf8 ,
- windows 7: 4 utf8
- mac os x: 4 utf8
- iPhone/iPad: 4 utf8

shell 4 utf8 , Navicat SecureCRT

**php :**

php utf8, mysql text character set utf8: 4 utf8

php utf8mb4, mysql text character set utf8: , 4 utf8 "?"

php utf8mb4, mysql text character set utf8mb4: 4 utf8

, winxp , 4 utf8 . utf8mb4 , utf8mb4 utf8 , .