

Hot tip

Discover more MySQL built-in features in the MySQL 5.6 Reference Manual online at dev.mysql.com/doc/refman/5.6.

Making comparisons

Like PHP, MySQL has built-in operators and functions that can be used to provide fast filtration of data stored in a database. Using these is highly recommended as it is more efficient than having an SQL query retrieve all data for filtration by PHP. Comparison operators available in MySQL are listed below:

Operator:	Description:
=	Equality
!=	Inequality
<	Less than
<=	Less than or equal
>	More than
>=	More than or equal
BETWEEN min AND max	Within the range min to max
IS NULL	Is a NULL value
IS NOT NULL	Is not a NULL value

Comparison operators are used in a query with a **WHERE** clause to test if a specified condition is met. When the evaluation is **TRUE** the query will return the data, otherwise nothing will be returned.

Usefully the built-in MySQL **NOW()** function returns the current date and time in the format YYYY-MM-DD HH:MM:SS, which provides a timestamp of when the database was accessed. Additionally the built-in MySQL **SHA2()** cryptographic hash function allows passwords to be stored securely. This takes two arguments to specify a password and hash string bit length of either 224, 256, 384, or 512.



comparison.sql

1

Launch a plain text editor, such as Notepad, and create a query defining a table with five columns

```
CREATE TABLE IF NOT EXISTS items
(
  id                INT AUTO_INCREMENT PRIMARY KEY ,
  name             CHAR(16)          NOT NULL ,
  quantity         INT                NOT NULL ,
  pass             TEXT(256)         NOT NULL ,
  stamp            DATETIME          NOT NULL
);
```

...cont'd

2 Next add a query to insert four records into this table
INSERT INTO items (name , quantity , pass , stamp)
VALUES ("Alan" , 10 , SHA2("m00nriver",256) , NOW()) ,
("Dean" , 20 , SHA2("bluem00n",256) , NOW()) ,
("Gary" , 30 , SHA2("m00nlight",256) , NOW()) ,
("Mike" , 40 , SHA2("m00nshine",256) , NOW()) ;

3 Now add a query to display names and quantities by
comparing "quantity" values
SELECT name , quantity FROM items
WHERE quantity BETWEEN 15 AND 35 ;

4 Add a query to display one timestamp and checksum
SELECT stamp , pass FROM items WHERE quantity < 15 ;

5 Save the file on your desktop as **comparison.sql** then
launch the MySQL Command Line Client and issue a
query to use the established database
USE site_db ;

6 Now implement the SQL queries by stating the source
path to the SQL file on your system, such as
SOURCE C:\Users\Mike\Desktop\comparison.sql

Don't forget



The timestamp returned
by the **NOW()** function
will be the current time
on the server, which may
differ from the local time
of the user's timezone.

```
MySQL 5.6 Command Line Client
Enter password: *****
Welcome to the MySQL monitor.  Commands end with ; or \g.

mysql> USE site_db ;
Database changed
mysql> SOURCE C:\Users\Mike\Desktop\comparison.sql
Query OK, 0 rows affected (0.53 sec)

Query OK, 4 rows affected (0.03 sec)
Records: 4  Duplicates: 0  Warnings: 0

+----+-----+
| name | quantity |
+----+-----+
| Dean |        20 |
| Gary |        30 |
+----+-----+
2 rows in set (0.13 sec)

+-----+-----+
| stamp | pass |
+-----+-----+
| 2014-02-15 17:19:43 | 2f9a53bf29b23c4095acf0079802255d76540a0ba50e2268d93ba420152ebf |
+-----+-----+
1 row in set (0.00 sec)

mysql> _
```