

# Queries!

MySQL queries are not case-sensitive when it comes to commands like INSERT, drop, UPDATE, etc. but you will usually see these commands use upper-case characters. Table names are case-sensitive, so stay consistent!

## Table Modification

### Create a Table

```
CREATE TABLE table_name (  
    column1 datatype1 properties,  
    column2 datatype2 properties,  
    ...  
    columnn datatypeN properties  
);
```

## Common Data Types

VARCHAR(size)	A string, must specify size
INT	An integer
BOOLEAN	A boolean value TRUE, FALSE - aliases for 1 and 0
DATETIME	The date & time, in the format YYYY-MM-DD HH:MM:SS 2013-10-17 13:02:00
FLOAT	A float

## Properties

NOT NULL	This field CAN NOT be left empty and will cause an error if not included on insert.
AUTO_INCREMENT	If this field is not specified on insert, a new value will be added, which is incremented for each field. Good for primary keys.
DEFAULT	Set a default value when none is provided on insert. user_name VARCHAR(100) DEFAULT 'unset'

### Primary Key

To set a specific column in your table as the **primary key**, you will add an additional line to your query:

```
PRIMARY KEY ( column_name )
```

### Foreign Keys

To set a foreign key, you will add an additional line to your query:

```
FOREIGN KEY ( column_name1 ) REFERENCES Table2 ( column_name2 )
```

### [Alter a Table](#)

Alter an existing table

Add a column:

```
ALTER TABLE table_name  
ADD column_name data_type
```

Remove a column:

```
ALTER TABLE table_name  
DROP column_name
```

### [Drop a Table](#)

Remove an existing table

```
DROP TABLE table_name
```

## **Data Modification**

### **Insert Data**

```
INSERT INTO table_name  
( column1, column2, ..., columnn )  
VALUES  
( value1, value2, ..., valuen )
```

You can also just specify values, but they must be in the same order as the columns are in the table.  
Enclose strings and dates in single quotes ' ... '

```
INSERT INTO Employee  
( first_name, last_name, start_date )  
VALUES  
( 'Elaine', 'Marley', CURDATE() )
```

### **Update Data**

```
UPDATE table_name  
SET column1 = value1, column2 = value2, ..., columnn = valuen  
WHERE column = value
```

Update table records given some criteria.

```
UPDATE Gamers  
SET is_active = FALSE  
WHERE last_play_date < '2013-01-01'
```

### **Delete Data**

```
DELETE FROM Products  
WHERE inactive = TRUE
```

Remove data from a table, given some criteria.

## Select Data

Select everything from one table:

<pre>SELECT * FROM Table</pre>	<pre>SELECT * FROM Products</pre>
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Select all records, but only some columns, from one table:

<pre>SELECT     column1, column2, ..., columnn FROM Table</pre>	<pre>SELECT     first_name, last_name FROM Students</pre>
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Select records that meet the criteria, and only certain columns, from one table:

<pre>SELECT     column1, column2, ..., columnn FROM Table WHERE column = value</pre>	<pre>SELECT username FROM Accounts WHERE expired = TRUE</pre>
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Select records across multiple tables:

<pre>SELECT     Table1.column1, Table1.column2,     Table2.column1, Table2.column2 FROM Table1 INNER JOIN Table2 ON Table1.table2_id = Table2.table2_id</pre>	<pre>SELECT     Course.title,     Teacher.name FROM Course INNER JOIN Teacher ON Course.teacher_id = Teacher.teacher_id</pre>
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## Types of Joins

See <http://www.codinghorror.com/blog/2007/10/a-visual-explanation-of-sql-joins.html> for more information. Since this class covers a lot of topics, let's just stick to INNER JOINS, unless something else is specifically needed.

## **Handy Functions**

### **Get the current date / time**

You can use **NOW()** to get the current datetime, **CURDATE()** to get the current date, and **CURTIME()** to get the current time.

### **Absolute Value**

ABS( value )

### **Rounding**

ROUND( 9.5 ) = 10

ROUND( 9.4 ) = 9

There are many handy functions

## **Other Resources**

MySQL Cheat Sheet from addedbytes:

<http://www.addedbytes.com/cheat-sheets/mysql-cheat-sheet/>

tizag tutorials:

<http://www.tizag.com/mysqlTutorial/>

w3schools tutorials:

<http://www.w3schools.com/sql/>

MySQL Documntation

<http://dev.mysql.com/doc/>