# MySQL Coding Standards and Naming Conventions

General rules for MySQL database tables, fields, indices and queries.

### MySQL Naming Convention

#### Engine and charset

Engine is always MyISAM except in special case when required different. All databases must use UTF8 charset.

#### Database

Database name must have the same name as project name. If the project name is "My Web Site" database should be created as:

CREATE DATABASE mywebsite DEFAULT CHARSET UTF8;

#### Tables

All tables must be UTF8 encoded. All tables in the same package must have prefix. Use 2 or 3 letters that describe the package to prefix database. If the project name is Real Deal Marketing, the most obvious prefix will be "rdm\_";

CREATE TABLE rdm\_affiliates;

#### ALTER TABLE and file versions major.minor[.build[.revision]]

All alterations for all tables should be saved in a (database\_name).sql file. If database name is "realdealmarketing" filename should be realdealmarketing-1.0.0.sql

1. Initial file must be version 1.0.0
2. If there are only **table alterations** file should have new version increased by 0.0.1 Example: realdealmarketing-1.0.7.sql
3. If **new tables are created**, version must be increased by 0.1. Example: realdealmarketing-1.2.0.sql
4. If **tables are dropped**, version must be increased by 1.0. Example: realdealmarketing-2.0.0.sql
5. All **minor revisions** should have appropriate file name and version following this pattern: major.minor[.build[.revision]]
6. All versions should be saved in the same directory

#### Fields

This section explains how to create database table fields and how to choose name for each field.

##### Field Names

1. Field names must be prefixed with 2-4 letters of table name.
2. Field names are always lowercase with "\_" to separate words

###### **Example**

DROP TABLE IF EXISTS rdm\_affiliates;  
CREATE TABLE IF NOT EXISTS rdm\_affiliates  
(  
 **aff\_**id INT(10) UNSIGNED NOT NULL AUTO\_INCREMENT,  
 **aff\_**url VARCHAR(120) NOT NULL DEFAULT '',  
 **aff\_**title VARCHAR(120) NOT NULL DEFAULT '',  
 **aff\_**website CHAR(10) NOT NULL DEFAULT '',  
 **aff\_**gender CHAR(8) NOT NULL DEFAULT '',  
 **aff\_**landing\_page VARCHAR(120) NOT NULL DEFAULT '',  
 **aff\_**link VARCHAR(120) NOT NULL DEFAULT '',  
 **aff\_**text TEXT,  
  
 PRIMARY KEY (aff\_id),  
 INDEX (aff\_website)  
) ENGINE=MyISAM DEFAULT CHARSET=utf8;

All field names must be descriptive, avoid names like "unique", "sort" and reserved words.

##### NULL and DEFAULT

All fields except AUTO\_INCREAMENT, TEXT, DATE (and similar) must be defined as **NOT NULL DEFAULT** 'value'

Examples:

aff\_title VARCHAR(120) **NOT NULL DEFAULT ''**  
aff\_gender ENUM('male','female') **NOT NULL DEFAULT 'male'**  
user\_id INT UNSIGNED **NOT NULL DEFAULT 0**  
user\_birthday DATE DEFAULT NULL  
user\_allow\_newsletter TINYINT(1) UNSIGNED **NOT NULL DEFAULT 0**  
art\_text TEXT

#### Indices

All fields in WHERE and ORDER BY should be defined as INDEX. If you have query like this:

SELECT \* FROM table1 WHERE a='something' ORDER BY b

Then fields a, b should be considered as indices

INDEX index\_name (a,b)

##### CHAR Indices

If text field (CHAR, VARCHAR) is used as index for larger tables (> 5000 records) should be always defined as CHAR. For example, if you have fields like this:

aff\_url **VARCHAR(255)** NOT NULL DEFAULT ''  
...  
INDEX afiliate\_url (aff\_url)

To improve performance, this table should be changed to something like this

aff\_url **CHAR(20)** NOT NULL DEFAULT ''  
...  
INDEX afiliate\_url (aff\_url)

#### Queries

Reserved words should be uppercase to increase readability. Also try to separate long queries in multiple lines, while simple queries should stay in one line. Example:

**SELECT** a.field\_name1, a.field\_name2, **COUNT**(a.field3) AS cnt, b.\*  
 **FROM** table1 **AS** a  
 **LEFT JOIN** table2 **AS** b **ON** (a.key\_field = b.key\_field)  
 **RIGHT JOIN** table3 **AS** c **ON** (a.key\_field2 = c.key\_field2)  
 **WHERE** a.field7 = 'something here' **AND** b.field9 = '45'  
 **GROUP BY** a.field\_name1  
 **ORDER BY** a.field\_name2 **DESC**, b.field8  
 **HAVING** cnt > 5

##### Escape

Always escape values in WHERE even when value is integer

##### PHP variables in queries

PHP variables must be defined and escaped before query.

###### **Avoid:**

$q = "SELECT \* FROM users WHERE email='**".\_escape($\_POST['email'])."**' ";

###### **Use:**

$email = \_escape($\_POST['email']);  
if (empty($email))  
{  
 return false;  
}  
$q = "SELECT \* FROM users WHERE email='**{$email}**' ";