



MARKETING ANALYTICS

# Database description

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# Overview

All assignments will be based on the same database, named “ma\_charity” (for *Marketing Analytics Charity*), which we will load as a MySQL database.

The database will be provided in two sizes:

- ma\_charity\_small (a 10% random extract, for assignment 1)
- ma\_charity\_full (the full-sized database, for assignments 2 and 3)

## Loading the data

The easiest way to create the database in MySQL Workbench is to use the **create\_ma\_charity\_full.sql** script (or the **create\_ma\_charity\_small.sql** script). They can be downloaded at:

<https://spaces.hightail.com/receive/jkcawzgyGq/ZGVicnV5bkBlc3NIYy5lZHU=>

Do NOT open it in MySQL Workbench directly, the files are too voluminous.

In MySQL Workbench, go to **Server > Data Import > Import from Self-Contained File**, and select the file you need, then import. Do it for both (it will create two separate databases).

## Table format

### Charity tables

```
CREATE TABLE `actions` (  
  `id` int(11) NOT NULL AUTO_INCREMENT,  
  `contact_id` int(11) NOT NULL,  
  `campaign_id` char(4) CHARACTER SET utf8 DEFAULT NULL,  
  `message_id` char(8) CHARACTER SET utf8 DEFAULT NULL,  
  `action_date` date DEFAULT NULL,  
  PRIMARY KEY (`id`)  
) ENGINE=MyISAM;  
  
CREATE TABLE `acts` (  
  `id` int(10) unsigned NOT NULL AUTO_INCREMENT,  
  `contact_id` int(10) unsigned NOT NULL,  
  `amount` decimal(9,2) DEFAULT NULL,  
  `act_date` date DEFAULT NULL,  
  `act_type_id` char(2) CHARACTER SET utf8 DEFAULT NULL,  
  `payment_method_id` char(2) CHARACTER SET utf8 DEFAULT NULL,  
  `channel_id` char(2) CHARACTER SET utf8 DEFAULT NULL,  
  `campaign_id` char(4) CHARACTER SET utf8 DEFAULT NULL,  
  `message_id` char(8) CHARACTER SET utf8 DEFAULT NULL,  
  PRIMARY KEY (`id`),  
  KEY `idx_contact` (`contact_id`),  
  KEY `idx_amount` (`amount`),
```

```

KEY `idx_act_date` (`act_date`),
KEY `idx_act_type` (`act_type_id`),
KEY `idx_payment_method` (`payment_method_id`),
KEY `idx_channel` (`channel_id`),
KEY `idx_campaign` (`campaign_id`),
KEY `idx_message` (`message_id`)
) ENGINE=MyISAM;

CREATE TABLE `channels` (
  `id` char(2) CHARACTER SET utf8 NOT NULL,
  `label` varchar(45) CHARACTER SET utf8 NOT NULL,
  PRIMARY KEY (`id`)
) ENGINE=MyISAM;

CREATE TABLE `contacts` (
  `id` int(10) unsigned NOT NULL AUTO_INCREMENT,
  `external_id` varchar(20) CHARACTER SET utf8 DEFAULT NULL,
  `prefix_id` varchar(5) CHARACTER SET utf8 DEFAULT NULL,
  `first_name_clean` varchar(32) CHARACTER SET utf8 DEFAULT NULL,
  `zip_code` varchar(5) CHARACTER SET utf8 DEFAULT NULL,
  `town_clean` varchar(60) CHARACTER SET utf8 DEFAULT NULL,
  `code_geo` varchar(5) CHARACTER SET utf8 DEFAULT NULL,
  `active` tinyint(3) unsigned DEFAULT '1',
  PRIMARY KEY (`id`)
) ENGINE=MyISAM;

CREATE TABLE `payment_methods` (
  `id` char(2) CHARACTER SET utf8 NOT NULL,
  `label` char(60) CHARACTER SET utf8 DEFAULT NULL,
  PRIMARY KEY (`id`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1;

CREATE TABLE `prefixes` (
  `id` char(5) CHARACTER SET utf8 NOT NULL,
  `label` char(45) CHARACTER SET utf8 NOT NULL,
  PRIMARY KEY (`id`)
) ENGINE=MyISAM;

```

## Assignment #2

The following table is only provided for the “ma\_charity\_full” database, and will be used exclusively for assignment #2.

```

CREATE TABLE `assignment2` (
  `contact_id` int(11) unsigned NOT NULL,
  `calibration` tinyint(3) unsigned DEFAULT NULL,
  `donation` tinyint(3) unsigned DEFAULT NULL,
  `amount` decimal(9,2) DEFAULT NULL,
  `act_date` date DEFAULT NULL,
  PRIMARY KEY (`contact_id`),
  KEY `idx_contact_calibration` (`contact_id`,`calibration`)
) ENGINE=MyISAM DEFAULT CHARSET=latin1;

```

# Explanations

## Contacts

The contacts table contains the list of individuals who have made a donation to the charity in the past, although some of these individuals may have no corresponding donations in the database.

Most of the fields are self-explanatory. Please note that:

- The field “id” in the “contacts” table corresponds to the field “contact\_id” in the “acts” and “actions” tables.
- The meaning of the field “prefix\_id” can be found in the reference table “prefixes”.
- the suffix “\_clean” means that the text has been cleaned, stripped of accents, and correctly formatted.
- “code\_geo” corresponds to the geographical code that you might find in INSEE databases. It might have missing values.
- “active” means that the address is still active in the database (=1). Contacts become inactive (=0) if they died, moved without known address, or have asked the charity to be ignored in future campaigns.

## Actions

The charity will send solicitations to its donors to generate further donations. Every time a donor is solicited, it triggers an entry in the “actions” table.

Each solicitation campaign has a code (e.g., campaign\_id=C124), and within the same campaign, solicitations may be divided into multiple messages (e.g., message\_id=C124-12).

The charity might create different message ids within the same campaign to track:

- The behavior of various segments
- Marketing tests (e.g., with or without a brochure)
- Various versions of the same messages
- Etc.

## Acts

The table “acts” corresponds to donations.

Note that a donor may make a donation without a corresponding action. For instance:

- He decides to spontaneously send a check
- He responds to a solicitation, but without using the coupon that accompanies the letter (in which case the charity cannot assign the donation to a specific solicitation)
- He makes a donation on the Internet
- Etc.

Most fields have corresponding reference tables:

- “act\_type\_id “ indicates whether the donation is an automatic deduction (PA) or a donation (DO).
- “payment\_method\_id” indicates how the donation has been made. The corresponding values can be found in the “payment\_methods” table.
- “channel\_id” indicates which channel has been used for the donation. Please refer to the “channels” reference table.

## Assignment2

Please refer to the document about that specific assignment to understand the content of that table.