# Work Instructions

Number: **003**

Name: **pMA Setup**

Title: Setting up of the software application phpMyAdmin for manual preparation of datasets

Status: Approved

Version: 1.0

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# Table of contents

1 Document history ..... 3
1.1 Current Release ..... 3
1.2 Change history ..... 3
2 Abbreviations ..... 4
3 Introduction ..... 5
4 Validity ..... 6
4.1 Area ..... 6
4.2 Time ..... 6
4.3 Related Documents ..... 6
5 Procedures ..... 7
5.1 Setup and configuration ..... 7
6 References ..... 11
7 Annexes ..... 12

# 1 Document history

## 1.1 Current Release

### 1.1.1 Drafted

Submitted on 2022-10-14 by Michael Rubinigg, quality manager.

### 1.1.2 Reviewed

Reviewed on 2023-06-30 by Noa Simòn Delso, general manager.

### 1.1.3 Approved

Approved on 2023-06-30 by Michael Rubinigg, quality manager.

## 1.2 Change history

n.a.

# 2 Abbreviations

| | |
|---|---|
| n.a. | not available |
| WI | Work Instructions |

# 3 Introduction

The document describes the process of setting up the software application phpMyAdmin for manual preparation of datasets.

# 4 Validity

## 4.1 Area

The validity of this document is limited to the process of setting up the software application phpMyAdmin for manual preparation of datasets.

## 4.2 Time

The period of validity of this WI begins on 2023-06-30 and ends with its revocation.

## 4.3 Related Documents

| Document type | Number | Name |
|---|---|---|
| WI | 006 | pMA Start |

# 5 Procedures

## 5.1 Setup and configuration

### 5.1.1 Starting the software

#### 5.1.1.1 Start service from XAMPP control panel

- Start the application phpMyAdmin as described in WI-006.

### 5.1.2 Preparation of the database

#### 5.1.2.1 Create a database

- Select **Databases** from the horizontal menu.
- Enter **Database name**: ***euph_***[Number of the dataset]_[Short title of the project in lowercase letters].
- Select **collation type**. By default *uft8mb4_general_ci* is selected.
- Select **Create**.

#### 5.1.2.2 Create a table

- Select **Databases** from the horizontal menu.
- Go to section ***Create new table***.
- Enter **Table name**: use the corresponding worksheet of the preparatory file, if it exists, as table name.
- Enter the **Number of columns** in the corresponding worksheet of the preparatory file, if it exists, as number of columns considering the limit of columns per table (4.096).
- Select **Create**.

#### 5.1.2.3 Define columns

- ***Name***: Enter the name of the column in the corresponding worksheet as column name. Colum names are written in lowercase letters, with the exception of the first letter of a column name or the first letters of compound terms, which are capitalised. Maximum length is 64 characters.
- ***Type***: Use the most precise type of the column considering the maximum length of data contained in a column and the maximum row size limit (65.535 bytes).
    - For a column containing exclusively integer values use one of the data types listed in Table 1, which equals or exceeds the maximum requirement ever to be expected for this column.

  - For a column containing fixed-point and floating-point numbers use one of the data types listed in Table 2 which equals or exceeds the maximum requirement ever to be expected for this column.
  - For a column containing alphanumerical types use one of the data types listed in Table 3 which equals or exceeds the maximum requirement ever to be expected for this column.
  - For a column containing exclusively date and/or time use one of the data types listed in Table 4 which equals or exceeds the maximum requirement ever to be expected for this column.
- ***Length/Values***: Enter the length of the values which equals or exceeds the maximum requirement ever to be expected for this column.
- ***Default***: Select one of the proposed standard values (None, `NULL`, `CURRENT_TIMESTAMP`) which equals or exceeds the maximum requirement ever to be expected for this column.
- ***Collation***: Select one of the collations, if it is different from the collation of the database which equals or exceeds the maximum requirement ever to be expected for this column (none if it is not different from the collation of the database).
- ***Attributes***: Select one of four attributes listed in Table 5 which equals or exceeds the maximum requirement ever to be expected for this column (none if no attribute applies).
- ***Null***: Check if Null values cannot be excluded.
- ***Index***: Select one of 6 index types listed in Table 6.
- ***A_I***: Check if an ascending sequence of values should be automatically added to the column. Typically used for the record identifier.
- Repeat all previous steps of paragraph 5.1.2.3 for all columns contained in the table.
- ***Collation***: Select collation for the table. By default `uft8mb4_general_ci` is selected
- ***Storage engine***: Select the storage engine. By default `InnoDB` is selected.
- Save the settings.
- Repeat all previous steps of paragraphs 5.1.2.2 through 5.1.2.3 for all tables to be created within the database.

#### 5.1.2.4 Linked columns

- Ensure to select the same settings for columns that will be linked.

*Table 1. Required Storage and Range for Integer types. Source: [1, 2].*

| Type | Storage (Bytes) | Minimum Value Signed | Minimum Value Unsigned | Maximum Value Signed | Maximum Value Unsigned |
|---|---|---|---|---|---|
| TINYINT | 1 | -128 | 0 | 127 | 255 |
| SMALLINT | 2 | -32.768 | 0 | 32.767 | 65.535 |
| MEDIUMINT | 3 | -8.388.608 | 0 | 8.388.607 | 16.777.215 |
| INT | 4 | -2.147.483.648 | 0 | 2.147.483.647 | 4.294.967.295 |
| BIGINT | 8 | $-2^{63}$ | 0 | $2^{63}-1$ | $2^{64}-1$ |

*Table 2. Required Storage and Range for fixed-point and floating-point types. Source: [2].*

| Type | Storage (Bytes) | Maximum Length | Comment |
|---|---|---|---|
| FLOAT | 4 | n.a. | If processing speed is of high priority. Reduced accuracy. |
| DOUBLE | 8 | n.a. | If processing speed is of high priority. Reduced accuracy. |
| DECIMAL | 4 | n.a. | If accuracy is of high priority. Data values are stored with a maximum precision of 65 decimal digits. Reduced processing speed. |

*Table 3. Required Storage and Range for string data types. Source: [3, 2].*

| Type | Storage (Bytes) | Maximum Length | Comment |
|---|---|---|---|
| VARCHAR | 256/65.535 | 255/65.533 | none |
| TINYTEXT | 255 | 254 | none |
| TEXT | 65.535 | 65.533 | none |
| MEDIUMTEXT | 16.777.215 | 16.777.212 | none |
| LONGTEXT | 4.294.967.295 | 4.294.967.291 | none |

*Table 4. Required Storage and Range for string data types. *1 additional byte for 2 additional fractional seconds precision. Source: [4, 2].*

| Type | Storage (Bytes) | Format | Minimum | Maximum | Comment |
|---|---|---|---|---|---|
| DATE | 3 | YYYY-MM-DD | 1000-01-01 | 9999-12-31 | none |
| TIME | 3+(1-3)* | hh:mm:ss | -838:59:59.000000 | 838:59:59.000000 | none |

| | | | | | |
|---|---|---|---|---|---|
| DATETIME | 5+(1-3)* | YYYY-MM-DD hh:mm:ss | 1000-01-01 00:00:00.000000 | 9999-12-31 23:59:59.999999 | none |
| YEAR | 1 | YYYY | 1901 | 2155 | none |

*Table 5. Attributes of datatypes.*

| Type | Description |
|---|---|
| BINARY | none |
| UNSIGNED | none |
| UNSIGNED ZEROFILL | none |
| on update CURRENT_TIMESTAMP | none |

*Table 6. Index types.*

| Type | Description |
|---|---|
| --- | none |
| PRIMARY | Index that can uniquely identify every row in a table. Typically used for the record identifier. |
| UNIQUE | Index on a column that has a unique constraint (*i.e.* asserting that a column cannot contain duplicate values. |
| INDEX | Index |
| FULLTEXT | Index that holds the search index in the full-text search mechanism. |
| SPATIAL | none |

# 6 References

[1] Oracle, “11.1.2 Integer Types (Exact Value) - INTEGER, INT, SMALLINT, TINYINT, MEDIUMINT, BIGINT,” Oracle Corporation, [Online]. Available: https://dev.mysql.com/doc/refman/8.0/en/integer-types.html. [Accessed 24 10 2022].

[2] Oracle, “11.7 Data Type Storage Requirements,” Oracle Company, [Online]. Available: https://dev.mysql.com/doc/refman/8.0/en/storage-requirements.html. [Accessed 24 10 2022].

[3] Oracle, “11.3.4 The BLOB and TEXT Types,” Oracle Company, [Online]. Available: https://dev.mysql.com/doc/refman/8.0/en/blob.html. [Accessed 24 10 2022].

[4] Oracle, “11.2 Date and Time Data Types,” Oracle Company, [Online]. Available: https://dev.mysql.com/doc/refman/8.0/en/date-and-time-types.html. [Accessed 24 10 2022].

# 7 Annexes

**There are no annexes in the current document.**