

mySQL Schema Manager

An open source method of
managing, documenting, and archiving
mySQL Schemas

Database Austin

<http://www.dbAustin.com>

<https://sourceforge.net/projects/mysqlsm/>

Table of Contents

Acknowledgments.....	3
Overview.....	4
Intended Audience.....	4
Contact Information.....	4
Where We're At.....	4
License.....	5
Requirements.....	6
Installation.....	7
Initial Installation.....	7
Upgrades.....	7
The Home Page.....	8
Database View.....	9
Creating a Database Snapshot.....	10
Creating the SQL to Recreate your Database.....	12
Schema Compare.....	13
Schema Compare with Upgrade.....	14
Views.....	15
Schema Documentation.....	16
Overview.....	16
Adding Annotations to your Schema.....	16
Transferring Annotations.....	16
Viewing/Printing your Schema Documentation.....	16
References.....	17
mySQL.....	17
phpMyAdmin.....	17
Apache.....	17
php.....	17
Open Source.....	17
Source Forge.....	17

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(<http://sourceforge.net/projects/enp>) designed to benefit all charitable organizations. The Miracle Foundation of Austin, Texas (<http://www.miraclefoundation.org/>), has been an inspiration for this project. If this software is useful to you, please consider making a donation to The Miracle Foundation.

And first, last, and always, thanks to my lovely wife Mary Jane. She makes this entire project possible by her continued support, patience, and encouragement. She keeps the dream alive.

John Zimmerman
Austin, Texas
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Overview

The *mySQL Schema Manager* (mSM) is an open source tool to help you manage your mySQL database schemas. A schema is the description of a database – the tables, the fields, the keys, and the relationships.

The *mSM* allows you to take a snapshot of your database schemas, document the schemas, create views to document the interrelationships between tables, compare snapshots of different versions of schemas, and provide tools to help manage database upgrades.

mSM is written in the php programming language, and currently only supports mySQL databases.

Intended Audience

mSM will be beneficial to database architects and developers, software project managers, and those maintaining configuration control for large database projects.

Contact Information

For additional information, the latest news and releases, to report bugs or to make feature requests, please visit our Source Forge web site at

<http://sourceforge.net/projects/mysqlsm>

Where We're At...

The initial release of *mSM* contains all the software required for schema capture, schema documentation at the snap-shot, table, and field level, and the ability to generate recovery SQL statements for any captured database snap-shot.

Future releases will enhance the documentation publication, as well as the “View” features. Views will allow the user to extensively document the relationships between database tables.

The installation is a bit clunky, and we hope to have a simplified installation soon.

You will also notice that the user's guide has areas that require enhancements. Thank you for your patience, and we hope this tool will be valuable to you.

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Requirements

mySQL Schema Manager requires the following software installation:

- MySQL 4.0.18 or later. This open source relational DBMS is available at <http://www.mysql.com/>
- php 4.3 or later. This computer language pre-processor is available from <http://www.php.net/> We anticipate enhancements that will generate pdf files, so we recommend your php installation include the pdflib module.
- An HTTP Server (we recommend Apache). Apache can be down-loaded from The Apache Software Foundation at <http://www.apache.org/>

Installation

Initial Installation

If you are installing *mySQL Schema Manager* for the first time, please make sure your system supports the software referenced in the section entitled “Requirements”.

After ensuring that the proper software is in place, you are ready to begin the installation of *mySQL Schema Manager*.

Create a directory in your web space where the files for *mySQL Schema Manager* will reside. Download the source code and unzip them into this directory.

Let's assume that you've installed the files into

`http://my-mSM-Domain.com/msm`

First, create an empty mySQL database. Remember the database name, host name, user name, and password, because this information will be needed later. Apply the SQL statements found in

`http://my-mSM-Domain.com/msm/config/schema.sql`

to your new database.

You will now need to edit the mSMconfiguration file. The database configuration files are located in

`http://my-mSM-Domain.com/msm/forms/config/`

Copy the file

`util_DEF_DB.php.dist`

to

`util_DEF_DB.php`

then use a text editor to make the necessary changes to the file.

Upgrades

The Home Page

Welcome to the *mySQL Schema Manager*!

To start *mySQL Schema Manager*, point your browser to

`http://my-mSM-Domain.com/msm/forms/main/mainOpts.php`

and you will see the following screen:



Database View

After selecting “Databases” from the *mSM* main options, you will see a list of all your mySQL databases. From this list, you are presented with a count of the schema snap-shots for each database.

From this table, you can review your existing schema snap-shots or add a new snap-shot.

We use the term “snap-shot” to describe the schema state at a given point in time.

The following is an example of the Database list.

Your Databases		
Database	# of Snapshots	# of Views
bms_sap	22 (add new) (view)	
dbaustin_hs	0 (add new)	
dbaustin_movieswap	3 (add new) (view)	
dbaustin_phpnuke	0 (add new)	
dbaustin_slc	1 (add new) (view)	
dbaustin_survey	0 (add new)	
dbaustin_timeclock	0 (add new)	
dbaustin_wave_a_roni	0 (add new)	
demodb_support	0 (add new)	
enp_admin	0 (add new)	
enp_demo	0 (add new)	
enp_install_test	0 (add new)	
enp_miracle	1 (add new) (view)	
enp_test	1 (add new) (view)	

Creating a Database Snapshot

From the Database display you can create a new schema archive of any of your MySQL databases.

From the Database display, you can create an archive of any MySQL database. Click on the “(add new)” link associated with the database, and you will be presented with a screen similar to the following:

Add New Schema Snap Shot

Create a Schema Snapshot for **enp_miracle**

Database Name:	enp_miracle
# of Tables:	88
Version Comments:	<div>You can annotate your schema capture here. For example, this could be a release version of your database, and you want to preserve the schema.</div>
Verbose?:	<input checked="" type="checkbox"/> (check for verbose mode)
Click Here to Add Schema Snapshot	

The “Verbose” mode allows you to view the database schema as it is being captured. The following is a sample of a schema capture in verbose mode:

Table tbl_address_link			
<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Flags</i>
al_IKeyID	int	11	not_null primary_key auto_increment
al_IAddressID	int	11	not_null multiple_key
al_IFamilyID	int	11	multiple_key
al_IPersonID	int	11	multiple_key
al_IBizID	int	11	multiple_key
al_IAddressTypeID	int	11	not_null multiple_key
al_bPrimary	int	4	not_null

Table tbl_addresses			
<i>Field Name</i>	<i>Type</i>	<i>Length</i>	<i>Flags</i>
ad_IKeyID	int	11	not_null primary_key auto_increment
xxxad_IPersonID	int	11	not_null multiple_key
xxxad_IAddressTypeID	int	11	not_null multiple_key
xxxad_bPrimary	int	1	not_null multiple_key
ad_strAddr1	string	80	not_null
ad_strAddr2	string	80	not_null
ad_strCity	string	40	not_null multiple_key
ad_IStateID	int	11	not_null multiple_key
ad_ICountryID	int	11	not_null multiple_key
ad_strZip	string	20	not_null multiple_key

Creating the SQL to Recreate your Database

Schema Compare

Schema Compare with Upgrade

Views

Schema Documentation

Overview

Unfortunately, the SQL language has limited capabilities to document the schema.

Adding Annotations to your Schema

Transferring Annotations

Viewing/Printing your Schema Documentation

References

mySQL

phpMyAdmin

phpMyAdmin provides the ultimate browser user interface to mySQL databases. In addition to the many powerful schema and data manipulation features, phpMyAdmin also provides utilities for schema annotation.

You can download **phpMyAdmin** from their Source Forge site at <http://sourceforge.net/projects/phpmyadmin/>

You can visit the **phpMyAdmin** home page at <http://www.phpmyadmin.net/>

Apache

php

Open Source

Source Forge