

Open source CeCILL

MDweb

Tool for cataloging and locating environmental information

Version 1.6

[MDweb installation and configuration \(scripts – databases\)](#)

[Linux Platform](#)

Version	Comments
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Preamble: This document describes in detail the operations necessary for manually installing scripts and relational databases of MDweb. Not covered is the installation and configuration of components necessary for running MDweb.

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Components required before installation

- **Apache 1.3.x or 2.0.x and PHP 5.x module**

The PHP module for Apache should be activated with the following complementary extensions:

- O php5-pgsql
- O php5-xsl
- O php5-gd
- O php5-curl
- O php5-mapscrip (4.10)
- O php5-zip

See the packages depending on the Linux distributions

- **PostgreSQL 8.x with its spatial extension PostGIS**

- PostgreSQL: <http://www.postgresql.org/>

- PostGIS: <http://www.postgis.org/>

See the packages depending on the Linux distributions

- **Mapserver 4 cartographic server**

The cartographic server is used in this version to provide map services to MDweb's cartographic client.

- **Maptools.org site:**

The Maptools site offers the FGS installer that installs on a Linux platform the Mapserver and PHP/Mapscript components as well as all other accessories necessary for their functioning. Find all the details at: <http://www.maptools.org/fgs/> .

Documentation can be found at:

<http://www.maptools.org/fgs/index.phtml?page=docs.html>

- Mapserver site:

Mapserver components can, of course, be downloaded from the official Mapserver site:

<http://mapserver.gis.umn.edu/download> for all versions or <http://mapserver.gis.umn.edu/download/current/> for the current version.

Configuring the Apache server and modifying the php.ini file**Configuring the Apache server****General configuration**

There are no specific configuration requirements for MDweb. One has only to make sure that the values of certain Apache server directives are consistent. The configuration of the Apache server is found in the httpd.conf or Apache2.conf files. These configuration files are located in the /etc/Apache2/conf directory (in the case of Debian). Verify that this file contains the following directives:

```
#
AddType application/x-httpd-php .php
AddCharset ISO-8859-1 .iso8859-1
DirectoryIndex index.html index.html.var index.php
#
```

Configuration relating to Mapserver use

The use of Mapserver necessitates the addition of some directives in the Apache configuration file. Depending on your installation mode (compilation or packages installation), the following directives will be automatically added to the file or you will have to do so by editing the Apache configuration file. The paths, below, are provided as examples.

```
#
ScriptAlias /cgi-bin/ /usr/lib/cgi-bin/
#
    <Directory /usr/lib/cgi-bin>
        AddHandler cgi-script .cgi
        Options +ExecCGI
        AllowOverride None
        Options None
        Order allow,deny
        Allow from all
    </Directory>
##
```

Configuration relating to Mapserver use in MDweb

For the specific use of Mapserver in MDweb, you will have to add to the file:

```
#
# configuration for mapserver in MDweb
```

```
#
SetEnvIf Request_URI /wms MS_MAPFILE=/var/www/mdweb-
demo16/mapserver_carto/config/default/cart0.map
#
ScriptAlias /wms /usr/lib/cgi-bin/mapserv
#
Alias /proxy/ /var/www/mdweb-demo16/mapserver_carto/mapbuilder/server/php/
#
<Directory /var/www/mdweb-demo16/mapserver_carto/mapbuilder/server/php >
    Allow from all
    Options Indexes MultiViews
    AllowOverride None
    Order allow,deny
</Directory>
#
# end configuration of mapserver for MDweb
#
```

These directive values should, of course, reflect your installation path.

Configuration of the PHP module

Use of MDweb requires that 6 PHP extensions be activated. They are:

- php5-pgsql
- php5-xsl
- php5-gd
- php5-curl
- php5-mapscript (4.10)
- php5-zip

New : the php php5-gd is now mandatory for version 1.6. It is used to generate thumbnails in a right size in jpeg, gif and png format

The configuration of the PHP module is limited to making some modifications in the php.ini configuration file which is found in the /etc/php5/apache2/php.ini directory (in the case of Debian). Several directives have to be changed; they are listed in the following table:

PHP Directives	Default value	Value for MDweb
register_globals	Off	On
magic_quotes_gpc	Off	On
max_execution_time	30	180
error_reporting	E_ALL	E_ALL & ~E_NOTICE ¹
short_open_tag	Off	On
file_uploads	Off	On
memory_limit	8M	16M
post_max_size	8M	16M
upload_max_filesize	1M	2M

¹ The E_ALL and ~E_NOTICE values enable alerts and errors during installation and testing of the application. We recommend that you set this value back to its initial value in the production phase.

allow_url_fopen	On	Off ²
allow_call_time_pass_reference	Off	On

To allow the import of large thesauri (accessible from the Thesaurus module in the Administration section), it is advisable to specify a relatively large value for the `max_execution_time` directive (for example, 5000 for a thesaurus like Agrovoc).

It is also recommended that you verify the value of the `default_charset` directive in the same file. It should be consistent with the character set used in the writing of html pages. For Latin languages (Portuguese, French, Spanish, ...), it should be:

`default_charset = "iso-8859-1"`

Ensure that this directive isn't commented out. If it is, uncomment it.

After saving the changes to the `php.ini` file, the Apache service has to be restarted for the changes to take effect.

Testing the Apache and PHP module configurations

We recommend that you verify that the modifications made to the Apache server and the PHP module have been taken into account. To do this, connect to this address: <http://localhost/phpinfo.php>. If this don't exist, you can create it with the following script :

```
<?
phpinfo();
?>
```

Installing MDweb scripts

Two ways of installing MDweb scripts

1. Download the archive:

<http://www.mdweb-project.org/16/scripts/mdweb-demo16-en.zip>

1. Uncompress the archive in the publication directory of your Apache server.
2. You have to make the **apache** user the owner of all MDweb scripts and directories. In the `mdweb-demo16` directory, execute the commands:

```
> chmod -R 775 *
> chown -R apache *
```

2. With a SVN client:

Go to the directory in which the MDweb scripts will be used and type the command:

1. Store the scripts

```
> svn co http://svn.mdweb-project.org/mdweb1/public/scripts/1.6.x/ .
```

This command will allow you to store the scripts as a working version of the MDweb SVN repository. You will then be able to update your scripts by typing the command:

```
> svn update
```

² It is imperative to toggle the value of the `allow_url_fopen` variable to Off. It is one of the frequent entry points for hackers.

2. You should make the **apache** user the owner of all MDweb scripts and directories. In the mdweb-demo16 directory, execute the commands:

```
> chmod -R 775 *  
> chown -R apache *
```

This change of owner of the mdweb-demo16 directory is important because it will allow the MDweb application to copy, modify or delete files in the MDweb directory and sub-directories.

Installing the MDweb databases

To provide full functionality to version 1.6, it is necessary to create three databases under PostgreSQL:

- **The MDweb database (mdweb-demo16)** in which the metadata records will be stored.
- **The geographic database (geo-demo16)** in which the geographic information layers used in the cartographic module will be stored. This database contains two vector layers: one layer of boundaries of the countries of the world and one of oceans.
- **The thesaurus database (thesaurus)** in which will be stored the reference thesauri (by default, Agrovoc (FAO), a demonstration thesaurus). You will subsequently be able to add GEMET (EIONET). The sample database contains only the English terms of these thesauri.

Downloading database installation scripts

Download the files from the following addresses and save them in a directory of your choice:

- Creation of the **mdweb-demo16** database:
<http://www.mdweb-project.org/16/bd/metadata/CreationBD16.sh>
<http://www.mdweb-project.org/16/bd/metadata/dump-mdweb-demo16.sql>
 - Creation of the **geo-demo16** database:
<http://www.mdweb-project.org/16/bd/geodatabase/CreationBD-geo-demo16-linux.sh>
<http://www.mdweb-project.org/16/bd/geodatabase/dump-geo-demo16-linux.sql>
 - Creation of the **thesaurus-eng** database:
<http://www.mdweb-project.org/16/bd/thesaurus/CreationBD-thesaurus-eng.sh>
<http://www.mdweb-project.org/16/bd/thesaurus/dump-thesaurus-eng.sql>
- to complement the thesaurus database with the GEMET thesaurus:
<http://www.mdweb-project.org/16/bd/thesaurus/Insertion-gemet-eng.sh>
<http://www.mdweb-project.org/16/bd/thesaurus/dump-gemet-eng.sql>

Pre-requisites to running the DB creation scripts

Modifying the pg_hba.conf file

To simplify the installation, especially the execution of the database installation scripts, it is necessary to modify the postgres server access file pg_hba.conf.

To do this, edit the pg_hba.conf file from the Start menu > Programs > PostgreSQL > Configuration file > Edit pg_hba.conf.

Change this line:

```
host all all 127.0.0.1/32 md5
to
host all all 127.0.0.1/32 trust
```

Reload the PostgreSQL configuration from the Start menu > Programs > PostgreSQL > Configuration file > Reload configuration.

Executing the database installation scripts

- Creation of the **mdweb-demo16** DB:

Execute the **CreationBD16.sh** script. During the execution of this script, you will be asked to provide a name for the MDweb database (by default, *mdweb-demo16*).

- Creation of the **geo-demo16** DB:

Execute the **CreationBD-geo-demo16.sh** script. During execution of this script, you will be asked to provide:

- a **name** for the geographic database (by default, *geo-demo16*)
- the **path of the lwpostgis.sql file** necessary for the creation of geographic functions (by default: `/usr/local/pgsql/share/contrib/lwpostgis.sql`)
- the **path of the spatial_ref_sys.sql file** which holds the properties of the system of projection (by default: `/usr/local/pgsql/share/contrib/spatial_ref_sys.sql`)

- Creation of the **thesaurus-eng** DB:

Execute the **CreationBD-thesaurus-eng.sh** script. During execution of this script, you will be asked to provide a name for the thesaurus database (by default, *thesaurus-eng*).

If you want to complement this DB with the GEMET thesaurus, execute the scripts:

- **Insertion-gemet-en.sh** (GEMET thesaurus)

You will be asked to provide a name of a database. Enter the same name as the one you gave to the thesaurus DB when you created it, above.

MDweb configuration

By default, MDweb is configured to work with the following parameters:

- **Web address:** <http://localhost/mdweb-demo16/>
- **Scripts path:** /var/www/mdweb-demo16/
- **Name of the DB server:** localhost
- **Name of the PostgreSQL user:** postgres
- **Password of the PostgreSQL user:** postgres
- **Name of the MDweb DB:** mdweb-demo16
- **Name of the geographic DB:** geo-demo16
- **Name of the thesaurus DB:** thesaurus-eng

Remark:

By default, all the databases are on the same server. The three MDweb configuration files allow you to specify connection parameters for each database. This allows you to, if necessary, distribute the scripts and each database on an independent server.

However, during the creation of the geographic database and during any subsequent modification to insert new information layers specific to your use, it is necessary for the geographic database to be on the same machine as the MDweb scripts.

To activate MDweb, you have to copy the pre-configured files for Linux as follows:

- **General configuration:**

```
config/config.inc.linux.php > config/config.inc.php
```

- **Connection to the geographic database:**

```
config/config.inc.carto.linux.php > config/config.inc.carto.php
```

- **Connection to the thesaurus database:**

```
config/config.inc.thesaurus.template-eng.php > config/config.inc.thesaurus.php
```

If you want to modify this configuration, edit these three files.

Modifying the general configuration (file config/config.inc.php)

1. Edit the **config\config.inc.php** file.

2. The values of the global variables of the MDweb application have to be modified based on your server's configuration. The table below lists the names and default values of the variables in the config.inc.php file.

PHP variable name	Remarks	Default value
General configuration parameters		
\$type_serveur	Specifies the operating system on which MDweb is installed. Two values are possible 'unix' or 'windows'.	unix
\$url_site	Specifies the address at which MDweb will be accessible. Do not specify here the MDweb directory	http://localhost
\$alias_appli	Allows you to specify the alias of the MDweb installation directory. The default value corresponds to the case where the directory is just below the root of the publication directory.	/mdweb-demo16/
\$chemin_appli	Specifies the absolute path to the MDweb directory, without mentioning the drive name	/var/www/mdweb-demo16/
Parameters for connecting to the database		
\$serveur	Server hosting the mdweb-demo16 database. By default: 'localhost'. If the database is not hosted on the same machine as the MDweb application, provide the machine's IP.	localhost
\$db_type	Specifies the type of database used for the MDweb database. Two values are possible: 'postgres' or 'mysql'.	postgres
\$user	Name of the user who can access the MDweb data.	postgres
\$password	User's password	postgres
\$db_nom	Specifies the name of MDweb's database. It should be the same as the name given to the database when it was created in the previous stage.	mdweb-demo16
Parameters for registering users in MDweb		
\$email_admin	MDweb administrator's e-mail address.	admin@domain.pays
\$smtp_infos	Address of mail the server used for transmitting e-mails for enrolment.	server-smtp@domaine.pays
Configuration of the cartographic module		

\$file_postgis_default	Default path to lwpostgis.sql, used during the creation of a geographic database	/usr/local/postgis/share/contrib/lwpostgis.sql
\$file_spatial_ref_sys_default	Default path to spatial_ref_sys.sql, used during the creation of a geographic database	usr/local/postgis/share/contrib/spatial_ref_sys.sql
\$invproj_default	Default path to the inverse projection executable	/usr/local/bin/invproj
\$proj_default	Default path to the projection executable	/usr/local/bin/proj
Configuration of the search module		
\$nb_fiches_consult	Number of records displayed on the screen	10
\$periode	Number of days a reference is considered 'new' during searches	15
Specific MDweb module activation		
\$sgbd_serveur	Boolean which <i>Activates/desactivates</i> the remote search through external MDweb catalogs. The parameters should be defined inside the file config.inc.sgbd.php	false
\$z3950_serveur	Boolean which <i>Activates/desactivates</i> the remote search through z39.50 TCP/IP protocol. The parameters should be defined inside the file config.inc.z3950.php	false
\$csw_serveur	Boolean which <i>Activates/desactivates</i> the remote search through CSW 2.0 catalogs. The parameters should be defined inside the file config.inc.csw.php	false
\$base_carto	<i>Activates/desactivates the storage of dataset boundingbox geometries inside spatial MDweb database</i>	<i>true</i>
\$web_carto	<i>Activates/desactivates the Map search</i>	<i>true</i>
\$base_thesaurus	<i>Activates/desactivates the use of thesaurii</i>	<i>true</i>

Be careful :

In the case of an update of version 1.5, you should respect the order of the parameter inside the file config.inc.php.

Modifying the parameters of connection to the geographic database (file config/config.inc.carto.php)

PHP variable name	Remarks	Default value
<code>\$base_carto</code>	<i>Do not change</i>	<i>true</i>
<code>\$web_carto</code>	<i>Do not change</i>	<i>true</i>
<code>\$server_carto_db_type</code>	Specifies the type of database used for the geographic database. In this version, only the 'postgres' value is possible.	postgres
<code>\$server_carto_host</code>	Name or IP address of the server hosting the geographic database. It can be on a server other than the one specified for the mdweb-demo16 database.	localhost
<code>\$server_carto_port</code>	Access port number on the database server	5432
<code>\$server_carto_user</code>	Name of the user allowed to access the geographic database. He should have write rights on the database. He should also be able to create a database.	postgres
<code>\$server_carto_pwd</code>	User's password	postgres
<code>\$db_nom_sig</code>	Name of the geographic database	geo-demo16
<code>\$table_choisie_pour_determiner_extant_maxi</code>	Database table which have the max spatial extent and use to create map overview	« world »
<code>\$hierarchiespatiale</code>	Name of the table containing the hierarchies between layers (not used)	hierarchiespatiale
<code>\$layers_bd_carto</code>	Table listing the layers used for indexing records E.g.: array("layer1", "layer2")	"world", "ocean"
<code>\$n_max</code> <code>\$w_max</code> <code>\$s_max</code> <code>\$e_max</code>	Maximum geographical extent of the information layers of your spatial database	90.0 -180.0 -90.0 180.0
<code>\$invproj</code>	Path to the inverse projection executable	/usr/local/bin/invproj
<code>\$proj</code>	Path to the projection executable	/usr/local/bin/proj
<code>\$alias_wms</code>	Alias of the WMS cartographic service. Any modification of this value should be reflected in the Apache configuration file.	/wms

Be careful :

In the case of activation of remote search through MDweb catalogs (\$sgbd_serveur = true), you must declare the remote spatial database of your remote catalog declared in config.inc.sgbd.php. The last line in config.inc.carto.php declares the spatial database linked to the MDweb local catalog.

```
$config_s_geo->add_serveur(new Serveur($server_carto_host,$server_carto_port,"mdweb-demo16-fra",$db_nom_sig,$type_norme,"sgbdgeo",$server_carto_user,$server_carto_pwd));
```

These aspects are given in the technical note : connection to remote catalogs

<http://www.mdweb-project.org/16/docs/pdf/mdweb-note-configuration-catalogues-fr.pdf>

Modifying the parameters of connection to the thesaurus database (file config/config.inc.thesaurus.php)

PHP variable name	Remarks	Default value
\$base_thesaurus	<i>Do not change</i>	<i>true</i>
\$server_thesaurus_db_type	Specifies the type of database used for the thesaurus database. In this version, only the 'postgres' value is possible.	postgres
\$server_thesaurus_host	Name or IP address of the server hosting the thesaurus database. It can be on a server other than the one specified above.	localhost
\$server_thesaurus_port	Access port number on the database server	5432
\$server_thesaurus_user	Name of the user allowed to access the thesaurus database. He should have write rights on the database. He should also be able to create a schema.	postgres
\$server_thesaurus_pwd	User's password	postgres
\$db_nom_thesaurus	Name of the database holding the thesaurus	thesaurus-eng
\$thesaurus_appli	Name of the application's thesaurus. This is the thesaurus in which you can modify terms and relationships. Its name corresponds to one of the schemas of the thesaurus database.	thesaurus_demo
\$lang_thesaurus_appli	Language of the application's thesaurus (values: french, english, spanish, portuguese, arabic,...)	english

First connection to MDweb

1. Connect to MDweb by logging in as administrator using the login and password fields at the top of the home page of MDweb:

user: admin

password: yopyop



2. You should, without fail, change the admin user's password. To do this, go to the management module, Preferences menu, My account.



3. Modify the password in the form that opens and validate.

Change personal preferences

Name	<input type="text" value="Administrator"/>
Firstname	<input type="text"/>
Email address	<input type="text" value="admin@MDweb.com"/>
Password	<input type="password" value="*****"/>
Confirm password	<input type="password" value="*****"/>
Language	<input type="text" value="english"/>
Catalog	<input type="text" value="Catalogue Demo (EMO)"/>

4. Log out and reconnect using the admin login with the new password.

Choosing a publication rule

MDweb allows you to define the rule for validating catalog references. You have two choices:

- **Manual**
- **Automatic**

The first option, **manual validation rule**, states that for each record to be published, i.e., to be accessible via the search form (search module), it has to be first validated by a user having appropriate rights, either the administrator or the validator. By default, until it is validated, a record is not published.

The second option, **automatic validation rule**, states that once a record has been created and fully entered, it is automatically accessible via the search form. Evidently, we strongly recommend that the validation rule be set to **manual**.

To modify the validation rule:

1. Go to the administration module, Item Options > Publication rule.

Advanced configuration of MDweb

To adapt MDweb to your project, the following modules are available. They are accessible from the tool's administration module. They allow you, amongst other things, to:

- Create/modify an existing geographic database. This subject is covered in a document titled: **Note on the creation of a geographic database:**
(http://www.mdweb-project.org/16/docs/pdf/mdweb-note-configuration_bdgeo-en.pdf)
- Partially configure the cartographic client. This subject is covered in a document titled: **Note on cartographic client configuration:**
(<http://www.mdweb-project.org/16/docs/pdf/mdweb-note-client-carto-en.pdf>)
- Create/modify a metadata template to adapt the description of your data to your requirements. This subject is covered in a document titled: **Note on metadata template management** (*not available in English, for the moment*):
(http://www.mdweb-project.org/16/docs/pdf/mdweb16-note-gestionnaire_gabarit-en.pdf)
- Create/modify your thesaurus. This module permits a thesaurus to be modified or an already existing thesaurus in rdf/skos format to be added. This subject is covered in a document titled: **Note on thesaurus management** (*not available in English, for the moment*):
(<http://www.mdweb-project.org/16/docs/pdf/mdweb-note-thesaurus-en.pdf>)

- Configuration of external catalog connections on others cataloging tools (Geonetwork, Géosource, Deegree) and MDweb.: **Note on external catalog connections:**

(<http://www.mdweb-project.org/16/docs/pdf/mdweb-note-configuration-catalogues-fr.pdf>)

- Installation of Z39.50 (OGC) server for MDweb: **Note on installation of a Z39.50 server for MDweb:**

(<http://www.mdweb-project.org/16/docs/pdf/mdweb-note-installation-z3950-fr.pdf>)

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