



<http://www.mdweb-project.org/>

Quick Start Guide Installing MDweb version 2010

This Quick Start Guide describes a quick installation of MDweb version 2010. It does not cover the normal use of the MDweb tool; usage and configuration of MDweb are described in the Usage Manual.

This Quick Start Guide consists of 4 major sections:

- **Installation** – Downloading and installation of required software
- **Deployment** – Deployment of MDweb on an application server
- **First launch and configuration** – First launch and configuration of MDweb at first launch
- **Annexes**
 - Annex A: Managing a Glassfish v3 server
 - Annex B: Reset / Uninstall MDweb

Version: 1.2

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Software required

- Java:
 - Java Development Kit 1.6.0 (JDK 1.6.0)
 - Java Advanced Imaging 1.1.3 (JAI 1.1.3)
 - Java Advanced Imaging, Image-IO 1.1 (JAI Image-IO 1.1)
- Application server (select only one):
 - Sun Glassfish v3.0.1 or more (multiple deployments, advisable server)
 - Apache Tomcat 6.0 or more (single deployment)
 - Sun Glassfish v2 (single deployment)
- Database management system (DBMS):
 - PostgreSQL 8.1 or higher
 - PostGIS (optional)

The user who launches the application server will have to have write rights for the directories created by the application server, for his user directory and for the working directories.

Caution: Passwords to access the databases will be stored in the configuration files. Access will therefore have to be restricted to the following configuration folder: [user directory]/.mdweb or [user folder]/application data/mdweb (Windows).

Installation

1 Java

Note: To find out which version of JDK is installed on your machine, execute the following command from the Shell terminal:

```
java -version
```

1.1 JDK 1.6.0

<http://java.sun.com/javase/downloads/widget/jdk6.jsp>

- Download JDK 1.6.0 corresponding to your operating system.
- Double-click on the downloaded file.
- Follow installation instructions.

Note: Registering on the Sun (Java) site is optional. Avoid it by clicking on the last link in the dialog box: 'Skip this step'.

On Windows systems, it is necessary to install the 32-bit version of JDK. Therefore, download the file whose name ends with 'windows-i586.exe'.
The JAI and Image-IO extensions are not available for 64-bit Windows.



JDK 1.6.0 is already installed by default on Mac OS Snow Leopard.



1.2 JAI 1.1.3

<https://jai.dev.java.net/binary-builds.html>

- Download the JAI 1.1.3 installer for JDK. The filename ends with '-jdk.bin'.
- Run it and follow installation instructions.

Note: JAI does not exist for 64-bit Windows. Continue the installation in 32 bits by choosing the filename ending with '-i586-jdk.exe'.



JAI 1.1.3 extension is already installed by default on Mac OS Snow Leopard.



1.3 JAI Image-IO 1.1

<https://jai-imageio.dev.java.net/binary-builds.html>

- Download the JAI Image-IO 1.1 installer for JDK. The filename ends with ‘-jdk.bin’.
- Run it and follow installation instructions.

Note: There is no Image-IO extension for 64-bit Windows. Continue the installation in 32 bits by choosing the filename ending with ‘windows-i586-jdk.exe’.



*Download the file for Linux .tar.gz. Unzip it. Copy the files in the /lib directory to the extensions directory of the Java folder:
/Library/Java/Extensions/*



2 Application server

2.1 Installing Glassfish

<https://glassfish.dev.java.net/downloads/v3-final.html>

- Download the Glassfish 3.0 installer ((Glassfish v3 (en) version).
- Launch the installer and follow instructions.

For Solaris, Linux and Mac, the downloaded file is a Shell file (.sh). It has to be executed from a shell terminal:



- Use the *cd (Change directory)* command to go to the directory where the downloaded file is located.
- Execute the file: *./glassfish-v3-unix.sh*

Note: The Glassfish server is installed with a default domain (domain1) in which MDweb can be deployed. However, it is possible to create a different domain, specifically for MDweb. See Annex A for details on how to do so.

Access the ‘domain1’ domain using these ports:

- Port 4848 → Configuration
- Port 8080 → HTTP
- Port 8081 → HTTPS

(There will be another port for JMX.)

Note: Under Windows, the installation can fail if the root of the Glassfish installation folder is modified. It is therefore recommended to keep the default path to this root:



2.2 Installing JDBC drivers

Two JDBC driver have to be installed.

PostgreSQL driver:

http://www.mdweb-project.org/files/longterm/postgresql-8.4-701_jdbc4.jar

Derby driver:

http://www.mdweb-project.org/files/longterm/derby-10.5.3.0_1.jar

- Download the files.
- Store the files in the directory: [Glassfish-root]/glassfish/lib/
- Assign rights to these files to the owner of the folder

3 DBMS (Database Management System)

MDweb stores its information in a relational database. Currently, this has to be a PostgreSQL. To use PostgreSQL, the user has to install it and create a PostgreSQL database for each instance of a deployed MDweb.

3.1 PostgreSQL

<http://www.postgresql.org/download/>

- Download the enterprise version installer.
- Install:
 - PostgreSQL 8.4
 - PgAdmin
 - PostGIS

Linux distributions often include the PostgreSQL DBMS in their distribution files.



From PgAdmin:

- Create a new database (*mdweb-test* for example).
(The tables necessary for MDweb will be created at first launch.)

Deploying MDweb

The deployment of MDweb can only be done by a user having rights to run the application server, to write in the working folder and to store configuration files in his user directory.

1. Starting the domain

From a shell terminal, launch the `asadmin` application of the Glassfish application server. This application is located in the directory `bin/` (`[root]/glassfish/bin`). Execute the command:

```
./asadmin start-domain [name-of-your-domain] for linux or mac  
example : ./asadmin start-domain domain1
```



```
.\asadmin start-domain [nom-de-votre-domaine] for windows.  
exemple : .\asadmin start-domain domain1
```



2. Configuring the domain

The following modifications and inclusion of parameters will improve the performance of applications which will be deployed on the domain. They modify the configuration of the Java virtual machine (JVM).

- From the browser, go to the Glassfish Administrator Console:
`http://[your-server's-IP-address]:4848`
By default: <http://127.0.0.1:4848> or <http://localhost:4848>
- Click on *Configurations* then on *JVM Settings*.
- Click on the *JVM options* tab.
- Make the following modifications:
 - Replace `'-client'` by `'-server'`.
 - Change the parameter `'-XX:MaxPermSize=192m'` to `'-XX:MaxPermSize=256m'`
 - Replace the parameter `'-Xmx512m'` by `'-Xmx1024m'`.
 - Click on *Add JVM option* and add the parameter:
`'-Dfile.encoding=UTF-8'`
- Click on *Save* when you have finished making the modifications.

3. Deployment on the Glassfish server

<http://www.mdweb-project.org>

- Download the current release web archive.
- From the browser, go to:
`http://[your-server's-IP-address]:4848`
- Click on *Applications*.
- Click on *Deploy*.

- In the dialog box, select the downloaded file: *mdweb-201[...].war*.
- Once the deployment is complete, click on *Launch*. MDweb will launch.

If a problem occurs during the deployment, check if the glassfish version installed is the 3.0.1 version.

4. First launch

4.1 Storage directory creation

On the first launch, you have to create a storage directory where resources associated with metadata will be stored.

The operating system where MDweb is deployed must have full rights access on this directory.
Following the number of records, the directory could become voluminous.

- Write the path to that directory on the *Directory* field.
- Click on *Configure the storage directory*

A directory called *mdweb2* has been created.

4.2 Choosing the database

MDweb offers a choice between the embedded Derby DBMS and the PostgreSQL DBMS. You have to choose the DBMS corresponding to your installation :

Derby :

Derby will be automatically install if you click on *Create an embedded database*. But thesaurus service doesn't work with the Derby DBMS.

Don't click on *Create an embedded database* if you want a complete MDweb installation.

PostgreSQL DBMS

- Click on *Use a remote database server*.
- If the PostgreSQL DBMS has been installed on the same machine, the default parameters will be:
 - Database host = localhost
 - Database port = 5432
 - Username = [the PostgreSQL super-user, by default *postgres*]
 - Password = [Your-postgreSQL-password]
 - Database = Name of an existing MDweb database in the PostgreSQL DBMS where the MDweb tables will be created.

- If a database with the MDweb tables already exists in PostgreSQL, click on *Only save the configuration*.
- If a new MDweb database has to be created, click on *Create the table and save the configuration*.

4.3 Creating the 'Configurator' user

When you launch MDweb, you will have to create a user who will be the configurator of MDweb.

Fill in:

- his Name (this name will be displayed within MDweb),
- his log-in name (the id which will let him log in as configurator),
- his password.

Click on *Create new user*.

This user now has access to the *Configuration* and *Administration* modules of MDweb, in addition to the *Search* module, which does not require a log-in. However, he will not be able to *Edit* metadata.

MDweb can be re-run and the configuration completed. You can either click on the *Use MDweb* button, or log-in as the configurator.

MDweb is now ready to be run.

MDweb Configuration

1. Create the Administrator user

This user have all the rights on the MDweb software. He can edit, configure or administer.

- Launch MDweb. From your browser, go to :
[http://\[your-server's-IP-address\]:8080/\[application-name\]/](http://[your-server's-IP-address]:8080/[application-name]/)
- Login as *configurator*
- Go to *Users* folder in the *administer* module
- Create a new user with *administrator* role.

Configuring MDweb

1. Creating the 'Administrator' user

This user has all rights for MDweb. To create this user:

- Launch MDweb from the browser:
`http://[Your-server's-IP-address]:8080`
- Log in as configurator,
- Select the *Administer* module,
- From the *Users* tab, create a new user with the role of *Administrator*.

By logging in as administrator, you can edit metadata records or create new users.

Annex A: Managing a Glassfish server

Excellent documentation on managing Glassfish application servers can be found on the Sun (Oracle) web site:

<https://glassfish.dev.java.net/docs/project.html>

What follows is but a brief introduction to managing a Glassfish server.

1. Creating a domain (optional)

From the command terminal:
- chdir [your-root]\glassfish\bin



From the command terminal:
- cd [your-root]/glassfish/bin



- Execute the command:
- `.\asadmin create-domain --portbase 9000 mdweb`

Note: 9000 is used here as an example. The portbase number is of the form xx00 where xx is to be chosen by the user. Since ports lower than 1024 are reserved, only a portbase of 2000 or higher can be chosen.

- Define a domain administrator and a password, or use the default parameters.

You now have a mdweb domain with these ports:

- Port 9048 → Configuration
- Port 9080 → HTTP
- Port 9081 → HTTPS

2. Managing the domain

Starting the domain

From the terminal, change to the /bin directory ([your-root]\glassfish\bin) and execute the command:

```
./asadmin start-domain [name-of-your-domain]  
example: ./asadmin start-domain mdweb
```

Stopping the domain

From the same directory:

- `./asadmin login [name-of-your-domain]` (if the domain is password-protected)
- `./asadmin stop-domain [name-of-your-domain]`

Deleting a domain

From the same directory:

- `./asadmin delete-domain [name-of-your-domain]`

For windows the `./asadmin` comand becomes `.\asadmin`



Annex B: Reset / Uninstall MDweb

Uninstall MDweb

When it is deployed, MDweb:

- Deploys itself on the application server,
- Creates a configuration directory,
- Generates new tables in the DBMS,
- And, potentially, creates files in the working folder.


Complete uninstallation of MDweb thus requires four steps.



1. Undeploying MDweb

- From the browser, go to the Glassfish Administrator Console:
`http://[your-server's-IP-address]:4848`
By default: <http://127.0.0.1:4848> or <http://localhost:4848>
- Click on *Applications*.
- Select the MDweb application, then click on *Undeploy*.

2. Deleting the configuration directory

- By default, this directory is located at the root of your user directory.

For Windows, the `\mdweb\` directory is in the user folder: 'C:\Document and settings\[UserName]\Application Data' 

For Linux or Mac, the `.mdweb/` directory is in the user folder :  
`/Users/[UserName]/`

3. Deleting the database

- PostgreSQL:
 - From PgAdmin, delete the MDweb database.

4. Delete the storage directory

Note: To uninstall the other softwares (Java, application server, drivers, etc.), follow the standard uninstallation procedures for your platform.

Reset MDweb

To reset the configuration, you need to delete the configuration directory (see “Uninstall MDweb : 2. Deleting the configuration directory”).

Contacts

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