Politecnico Di Milano

Engineering of computing systems

Software Engineering II

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MeteoCal

Installation Guide

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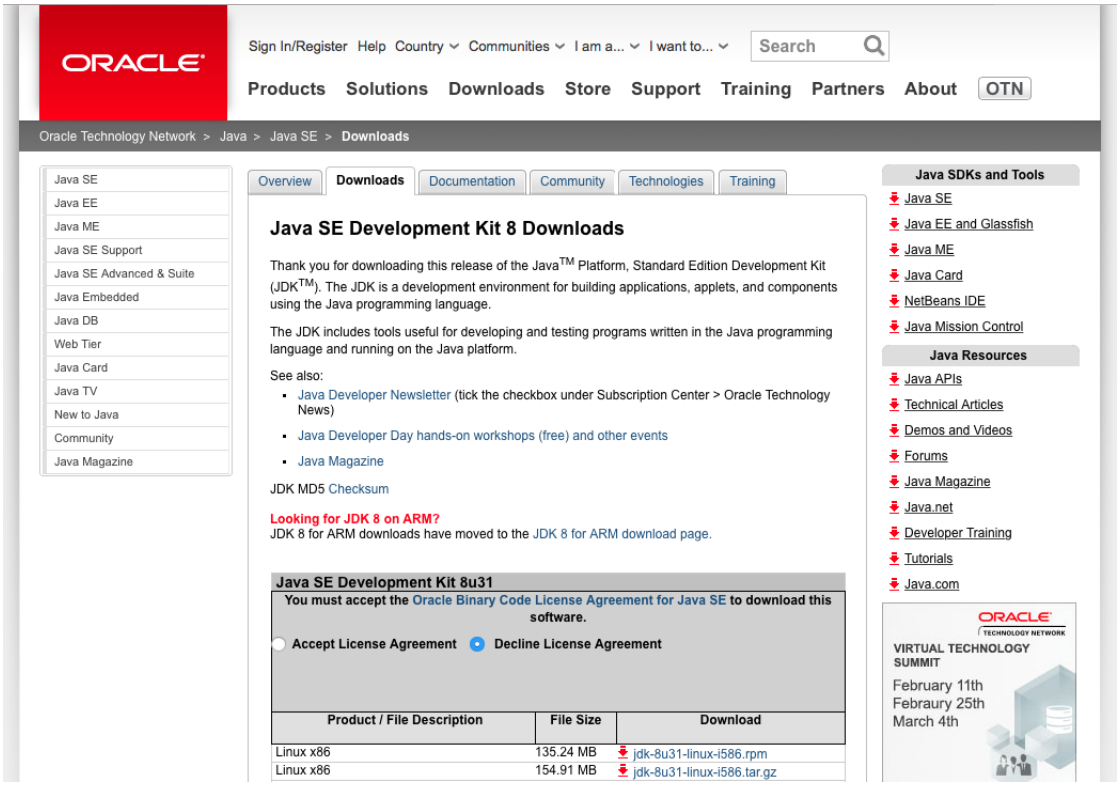
1 Introduction

MeteoCal is a Web app developed for Glassfish 4.1 application server and it uses a MySQL Database to save data. In the next chapter we reported the installation procedure that is required to start the application. If you have already the JDK, Glassfish and MySQL installed in your machine you can skip the next chapter.

2 Getting started

2.1 Install JDK 8

To install Java SE Developement Kit 8, please visit this site **JDK 8**, click on Accept license agreement and select your platform specs.

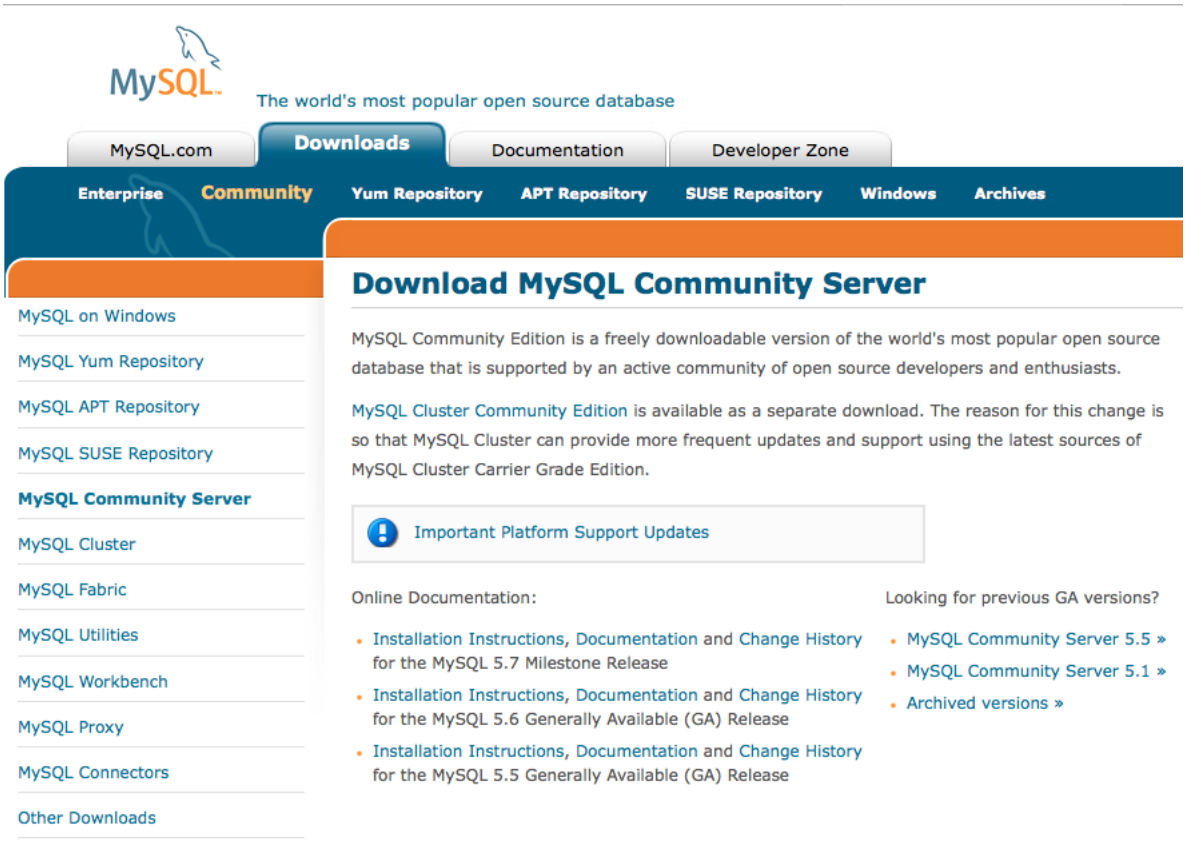


2.2 Install Glasshfish 4.1

Glassfish probably is already integrated in JDK 8, if you don't have it you can install it from **here**

2.3 Install MySql Community Server

To complete the installation we have to install the Database Server that our application will use. We use a MySQL Database, a free version of the Community Server is available **here**



3 Database configuration

3.1 Start Mysql server

In Linux/OSX systems, open terminal and type:

- *sudo /usr/local/mysql/support-files/mysql.server [start—stop—restart]*

For Windows systems, you can use this **guide**

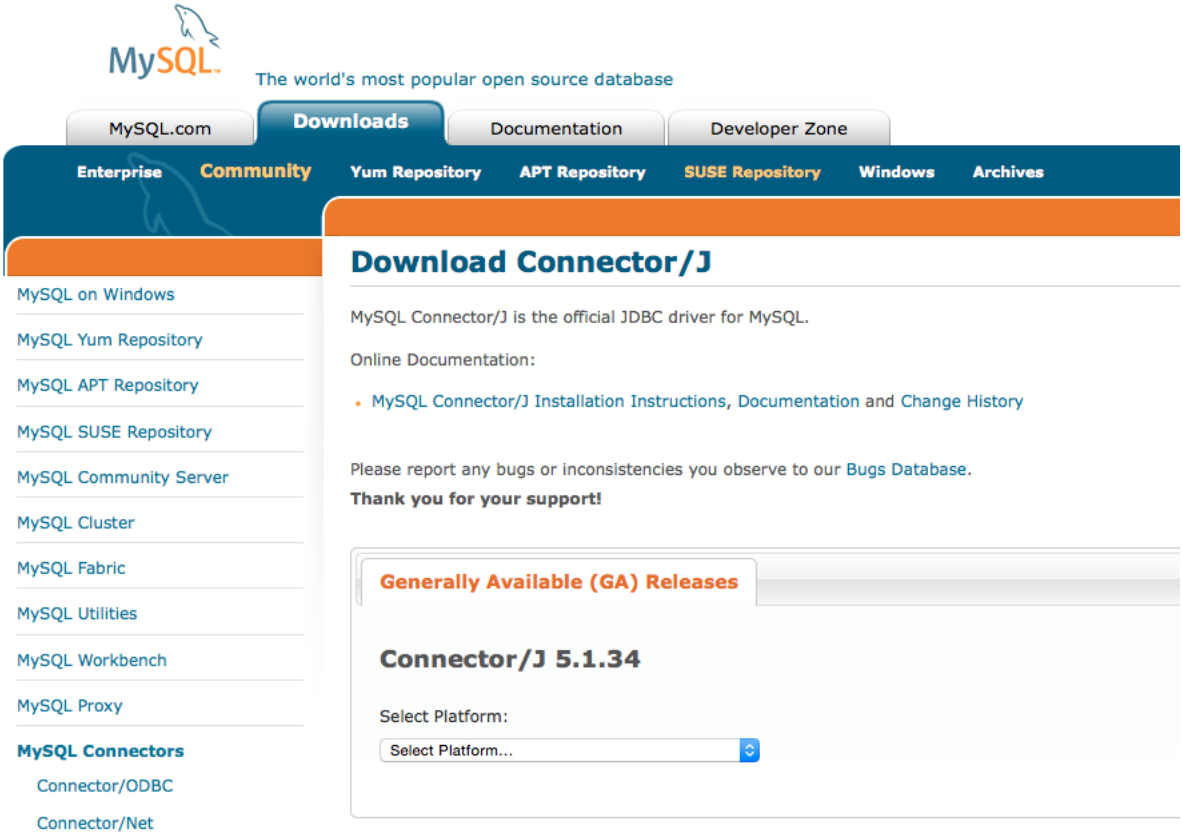
3.2 Create database schema

To create a new database in Unix systems, type:

- *mysql -u root -p*
- type mysql password (default root)
- *create schema meteocaldb*

3.3 Install MySql Java Connector

Now you have to install tha MySQL Java Connector in Glassfish to let the Server communicate with the MySQL Server. It can be downloaded **here**.
Then you have to copy the extracted .jar file in Glassfish installation directory to make it work.



4 Glassfish configuration

4.1 How to import our Glassfish domain configuration

From CLI go to the Glassfish installation directory, and then go to *glassfish/bin* in this directory exec the following command to install our configuration:

- *restore-domain –backupdir directory domain1*

where directory is the path to the domani1 directory given with the installation files.

4.2 How to start and stop Glassfish domain server

From CLI:

- glassfish/bin/asadmin start-domain
- glassfish/bin/asadmin stop-domain

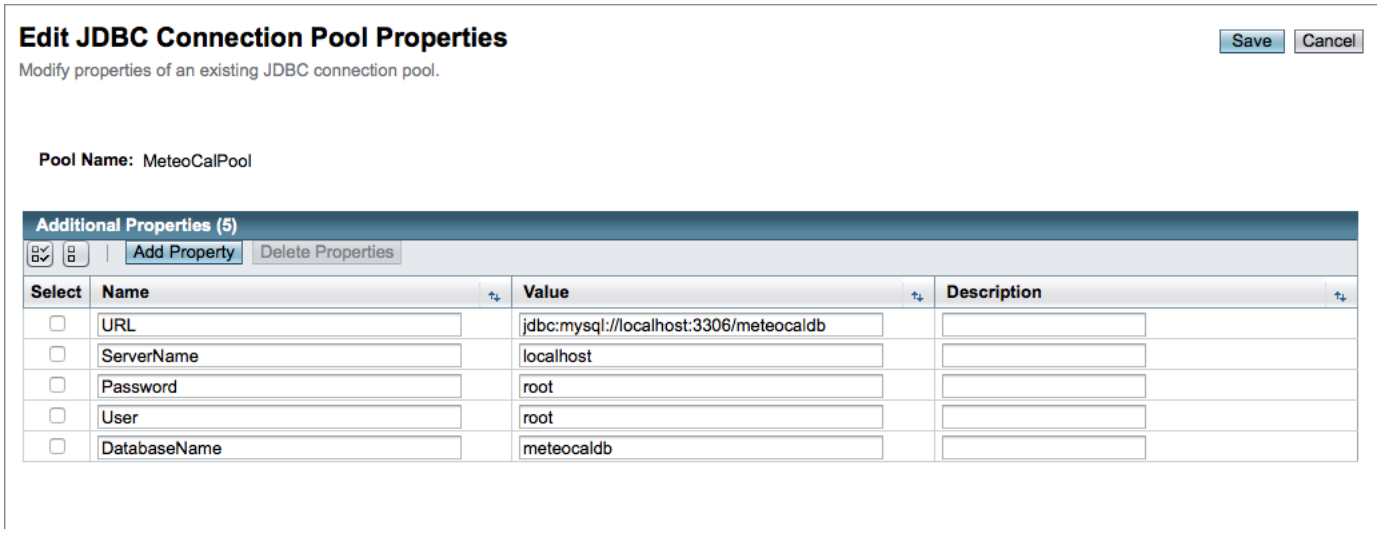
For accessing Glassfish admin panel open your browser and go to this URL http://localhost:4848. Default username and password are both "admin". Now we present the default values that we have used in the previous configuration. You can edit this vales, but remind that all values are coherent to our application.

4.3 JDBC Connection with MySQL

Open glassfish admin panel, go to JDBC and then JDBC connection pool. If you have imported our domain configuration you can check the correctness of the values (mySQL username and password, database name etc.) by clicking on MeteoCalPool link, otherwise you can create a new connection pool.
Here we present our configuration:

- Insert a name: MeteoCalPool
- Resource type: javax.sql.DataSource
- Database Driver Vendor: MySql
- click on next, cancel all the existing properties and add these one
- DatabaseName: meteocaldb
- User: root
- Password: root
- URL: jdbc:mysql://localhost:3306/meteocaldb
- ServerName: localhost

If you create a new connection pool, you have to go under JDBC Resources and create a new resource (jdbc/meteocalresource) and then assign the new mySQL pool, otherwise you can skip this operation.



4.4 Form based authentication with JDBCRealm

Follow these steps for creating a JDBCRealm or skip them if you have imported our configuration:

- enter Glassfish control panel
- Configurations -¿ server-config -¿ security -¿ Realms -¿ new...
- Realm Name: must be the same referenced in the web.xml (jdbcRealMeteoCal)
- Class name: JDBCRealm
- JAAS Context: jdbcRealm
- your data base resource name: jdbc/meteocalresource
- User table: user
- User Name Column: Username
- Password Column: Password
- Group Table: user
- Group Name Column: Groupname
- Password Encryption Algorithm: MD5
- Digest Algorithm: SHA-256
- Server restart may be required

5 Deploy and launch the WAR file

To finish the installation of the application you must follow this steps:

- start the glassfish server domain previously configured
- enter in the glassfish admin panel
- Go on Applications tab and then click on Deploy
- select from the file chooser the MeteoCal.war file given with the installation files and then click on Go button to confirm the choice.
- finally if you want to start MeteoCal application, click on Launch and follow the link.