Installation Guide
<MeteoCal>

MATTEO GAZZETTA *837853*

ALESSANDRO FATO *838218*

January 20, 2015

Status: Final

Version: 1.0

Contents

1 Introduction

This guide will explain the procedure to follow in order to install the web application developed for <*MeteoCal*>. This guide covers the installation of the application on Windows. However choosing the appropriate versions of the application server and database server can run the web application on other platforms. Files needed to install the application that can be found in the compressed file "MeteoCal-1.0.zip" are:

MeteoCal-1.0.ear file with the web application

MeteoCalDB.sql file with SQL commands to create the database

Download MeteoCal-1.0.zip

2 Installation Glassfish Server

Skip this step if you have already installed the application server GlassFish.

Glassfish download from the following link choosing the package Java EE 7 Full Platform:

https://glassfish.java.net/download.html

It recommended to install JDK 8 u20 or above.

If you want you can also download Glassfish 4.1 directly from this link.

Unzip the downloaded application in an accessible folder from now this folder is called for us **%Glassfish-Directory%**.

3 Installation MySQL Server

Skip this step if you have already installed the MySQL database system.

Download the latest version of MySQL community edition. It can be found at the following link: http://dev.mysql.com/downloads/mysql/

Install the downloaded application following the wizard and leaving all the default settings.

During the last step you are prompted for a password for the root user database: This password is needed later.

4 Import Meteocal DB

Start MYSQL service if not already running. Import the application database saved in "**MeteoCalDB.sql**" file in MySQL server. Following is the procedure using MySQL Workbench :

- Start MYSQL Workbench, connect to the local MYSQL server specifying the required root password.
- From the left menu select "Data Import/Restore", choose then "Import from self-contained file" and then specify the "MeteoCalDB.sql" file. Finally select "Start Import" and wait a few seconds.

At this point the application database is imported in the MYSQL server.

5 Setup MySQL-Glassfish Connection

5.1 MySQL JDBC Connector

Skip this step if you have already configured the MySQL connector inside GlassFish.

Stop running GlassFish if it has already been started.

Download from the link below the "mysql connector java" choosing the platform independent version: http://dev.mysql.com/downloads/connector/j/

Unzip the downloaded file and copy the file "mysql-connector-java-5.1.34.jar" in directory:

%Glassfish-Directory%\glassfish\lib.

5.2 Glassfish DB Connection

Start GlassFish and access the administration panel (the default address is http://localhost:4848).

From the administration panel must create a new "JDBC Connection Pools" so go to "Resources -> JDBC -> JDBC Connection Pools", then select "new" (direct link). Specify the information as follows: In the GlassFish Administration Console, using the navigation tree navigate to Resources, JDBC, Connection Pools.

In the JDBC Connection Pools frame click New. You will enter a two step wizard.

In the Name field under General Settings enter the name for the connection pool, for example enter MySQLConnPool.

In the Resource Type field, select javax.sql.DataSource from the drop-down listbox.

In the Database Vendor field, select MySQL from the drop-down listbox. Click Next to go to the next page of the wizard.

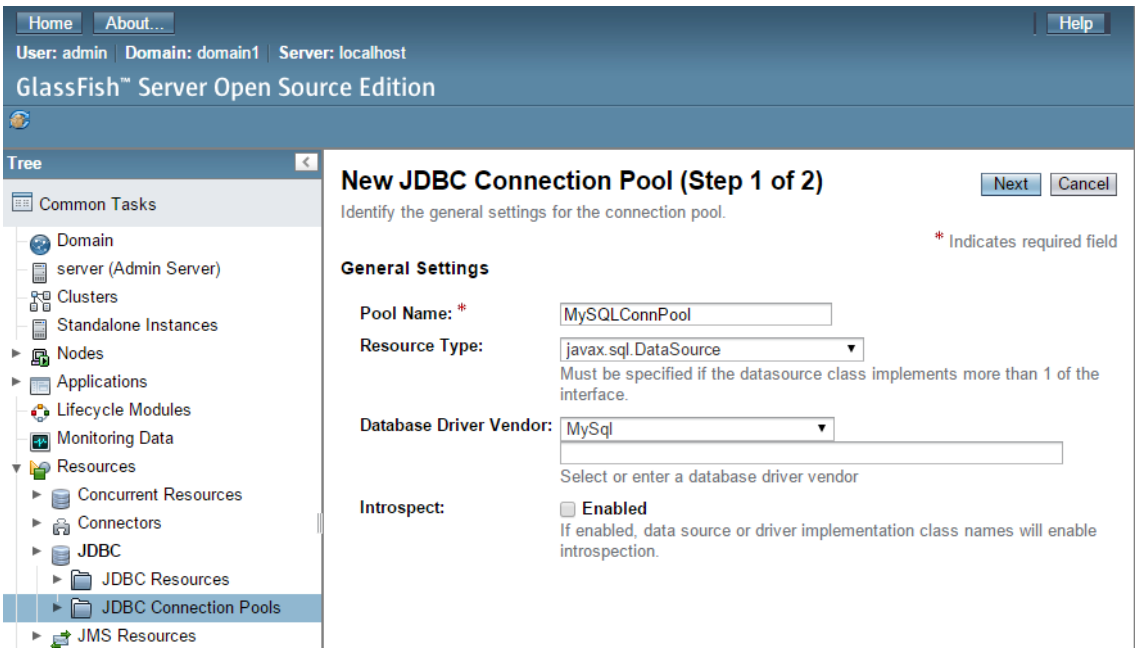

Figure 1: JDBC Connection Pool Step 1

Continue, and then specify the property data as in the following figure:

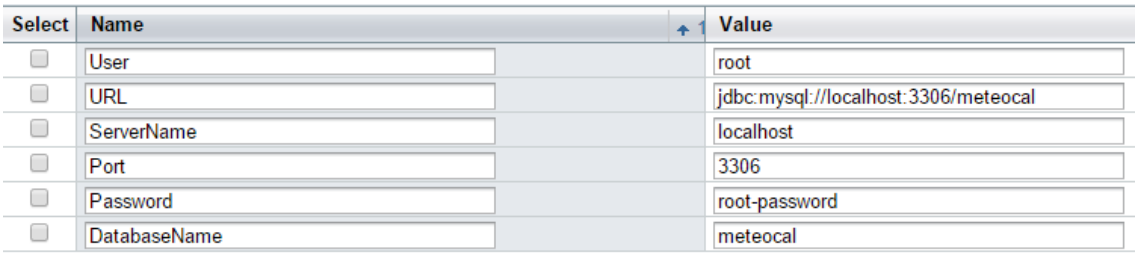

Figure 2: JDBC Connection Pool Step 2

You can accept the default settings for General Settings, Pool Settings and Transactions for this application. Scroll down to Additional Properties.

In Additional Properties you will need to ensure the following properties are set:

- **ServerName** - localhost.
- **User** - The user name with which to connect to MySQL.
- **Password** - The corresponding password for the user.
- **DatabaseName** - meteocal.
- **URL** - jdbc:mysql://localhost:3306/meteocal.

Click Finish to exit the wizard. You will be taken to the JDBC Connection Pools page where all current connection pools, including the one you just created, will be displayed.

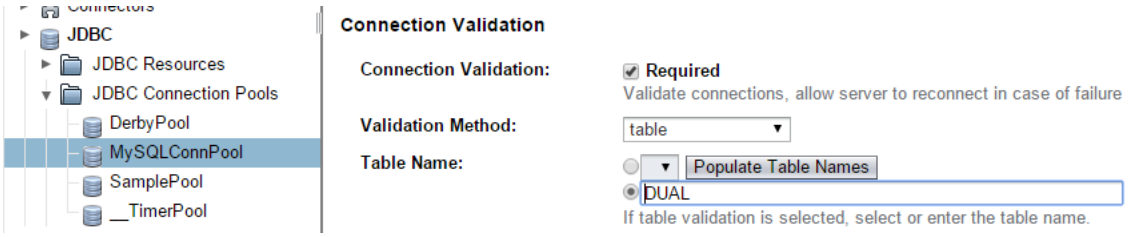

Figure 3: JDBC Connection Pool Step 3

In the JDBC Connection Pools frame click on the connection pool you just created. Here, you can review and edit information about the connection pool. Because Connector/J does not support optimized validation queries, go to the Advanced tab, and under Connection Validation, configure the following settings:

Connection Validation - select Required.

Validation Method - select table from the drop-down menu.

Table Name - enter DUAL.

To test your connection pool click the Ping button at the top of the frame. A message will be displayed confirming correct operation or otherwise. If an error message is received recheck the previous steps, and ensure that MySQL Connector/J has been correctly copied into the previously specified location.

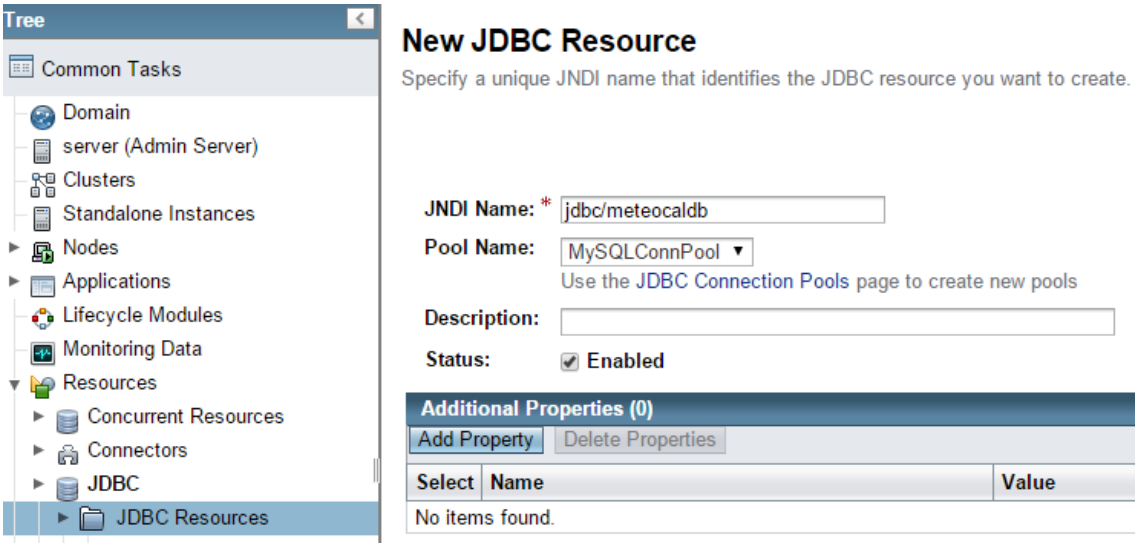

Figure 4: JDBC Resource

Now that you have created a connection pool you will also need to create a JDBC Resource (data source) for use by your application.

Using the navigation tree in the GlassFish Administration Console, navigate to Resources, JDBC, JDBC Resources. A list of resources will be displayed in the JDBC Resources frame.

Click New. The New JDBC Resource frame will be displayed.

In the JNDI Name field, enter jdbc/meteocaldb.

In the Pool Name field, select MySQLConnPool.

Click OK to create the new JDBC resource. The JDBC Resources frame will list all available JDBC Resources.

6 Setup Realm Glassfish

Now you must configure the Realm authentication used by <*MeteoCal*>. Then access the "Configurations -> server-config -> Security -> Realms" (direct link) and select New. Specify the data as follows:

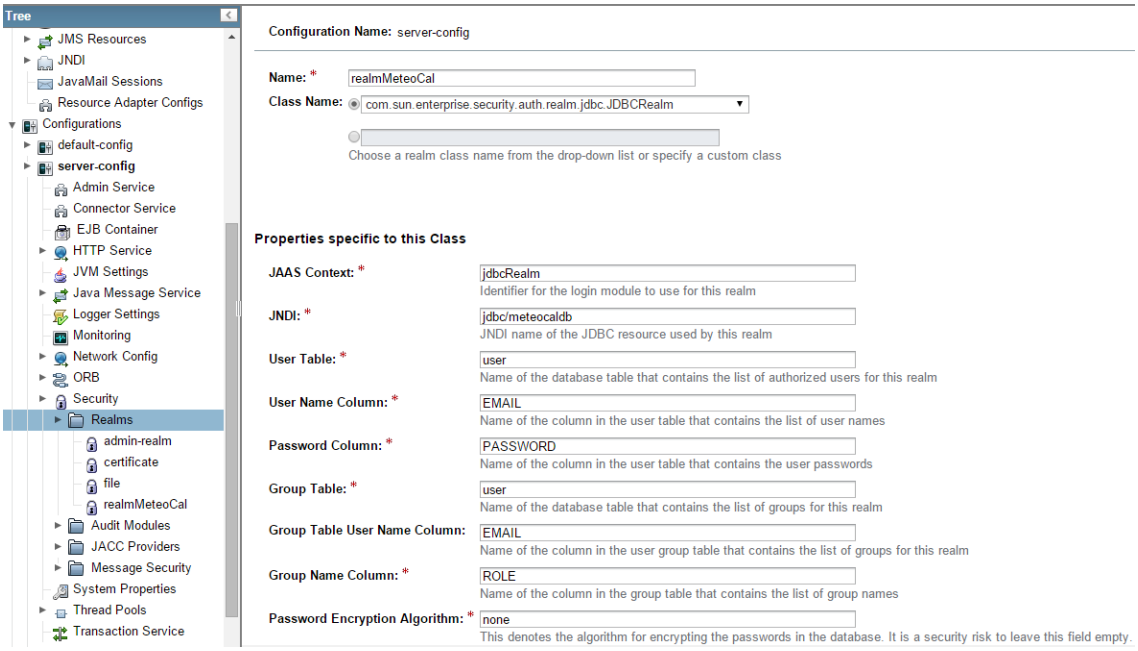

Figure 5: Realm Configuration

The other form fields are not visible can be left empty. The compilation is complete save. Restart GlassFish to apply the new settings.

7 Setup Avatar Upload Folder

The application need a new folder for saving the user uploaded avatar.

Create the folder "var\webapp\images" in the application domain folder like:

%Glassfish-Directory%\glassfish\domains\domain1\var\webapp\images

8 Setup Glassfish HTTP Listener & OS File Hosts

Change the default listening port for HTTP from 8080 to 80 from the Glassfish Administration Panel (direct link):

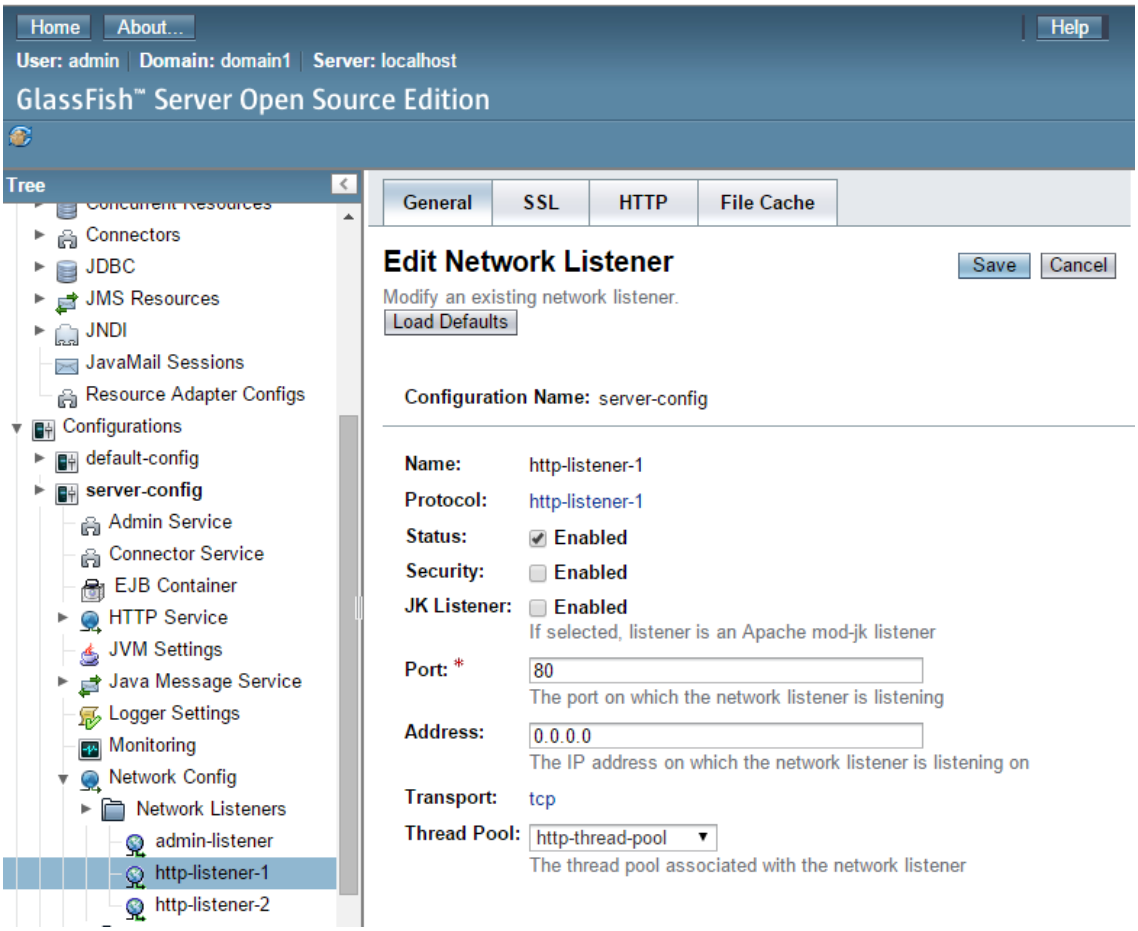

Figure 6: HTTP Listener

Add whit administrator right this line "**127.0.0.1 www.meteocal.tk**" to the hosts file located under:

Windows C:\Windows\System32\Drivers\etc\hosts

Linux /etc/hosts

OSX /private/etc/hosts

9 Deploy Application

For proper operation of the application is needed the correct execution of the previous point. Start GlassFish and access the administration panel (the default address is http://localhost:4848).

Go to "Applications", then click "Deploy" select "Packaged File to Be Uploaded to the Server" then choose the file "MeteoCal-1.0.ear".

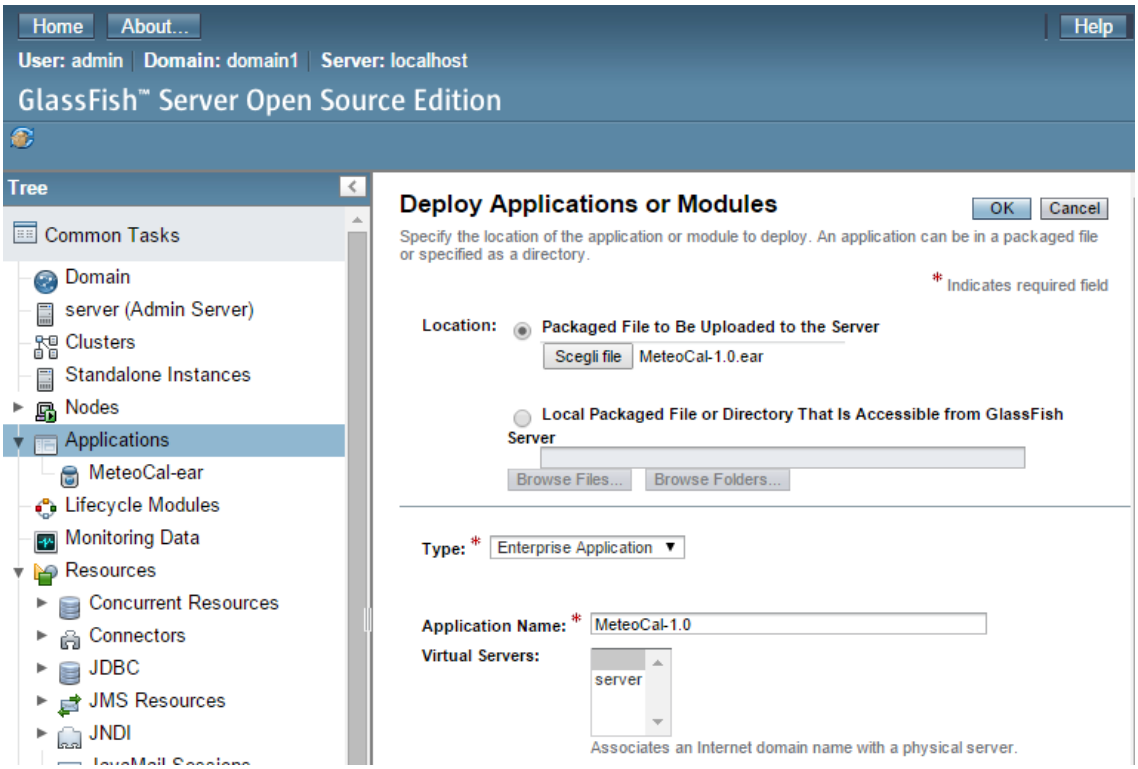

Figure 7: Application Deploy

Leave all other fields default values and then click ok. The application has been loaded into the system and is now accessible.

10 Conclusion

If all the steps of the guide have been properly completed and no errors have occurred, to access the web application just go to the following link:

http://www.meteocal.tk/MeteoCal-web/

11 Further Information

For any information or clarifications on the application you can ask to:

- Matteo Gazzetta: matteo.gazzetta@mail.polimi.it
- Alessandro Fato: alessandro.fato@mail.polimi.it