CalCARE

Installation Manual of CalCARE

Software Engineering 2

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Part I

Preparation for Installation

In the following part will be explained how to install the full stack of software required to run CalCARE with the releated commands and a brief explanation. All commands refer to the suggested Operating System, which is Ubuntu 14.04.

1   Upgrade

First of all upgrade all the software by running

```
sudo apt−get update && sudo apt−get upgrade −y
```

This will take some times to complete depending on the last update made on the machine.

2   Install MySQL Server

```
sudo apt−get install mysql−server
```

During the installation the administrator will be prompted to inser a mysql root password, remember to keep it safe and to not lose it. It will be required to complete also the CalCARE installation.

To successfully complete the installation of MySQL the following two commands need to be executed

```
sudo mysql_secure_installation
```

```
sudo mysql_install_db
```

The Admin has to verify that MySQL is correctly installed and running, typing

```
sudo service mysql status
```

is possible to verify the status of mysql and start it with the following command

```
sudo service mysql start
```

3   Install the Java Runtime

It's possible to verify if Java is installed in the system by typing

```
java −version
```

If java is installed and its version is at least the 1.7 you can safely skip this step, else the following sequence of command need to be executed in order to install Java:

```
sudo apt−get install python−software−properties
sudo add−apt−repository ppa:webupd8team/java
sudo apt−get install oracle−java7−installer
```

4   Install Glassfish Server

To install Glassfish server download it from the oracle page

```
wget download.java.net/glassfish/4.0/release/glassfish−4.0.zip
```

and install it

```
sudo unzip glassfish−4.0.zip −d /opt
```

For convenience, execute

```
echo "export PATH=/opt/glassfish4/bin:$PATH" >> ~/.profile
```

Start the Glassfish Server with

```
asadmin start−domain
```

you will see something like

```
Waiting for domain1 to start ..................
Successfully started the domain : domain1 domain
Location:/opt/glassfish4/glassfish/domains/domain1
Log File: /opt/glassfish4/glassfish/domains/domain1/logs/server.log
Admin Port: 4848
Command start−domain executed successfully.
```

Default GlassFish Server's port number: 8080. Default administration server's port number: 4848. Administration user name: admin; password: none.

In order to visit admin page (yourserverid:4848) remotely, you need to first change the admin default password and then enable secure admin:

```
asadmin change−admin−password
```

```
asadmin enable−secure−admin
```

Restart domain to make effect of secure admin:

```
asadmin restart−domain
```

Now you can visit admin page (yourserverid:4848) in browser.

In case of any doubt, please ask the system administrator.

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5   Validation

By visiting with a modern browser http://localhost:8080, it's possible to verify that Glassfish is operative and fully functional. The screen below is an example that the server is running flawless. In case of trouble contact the system administrator.
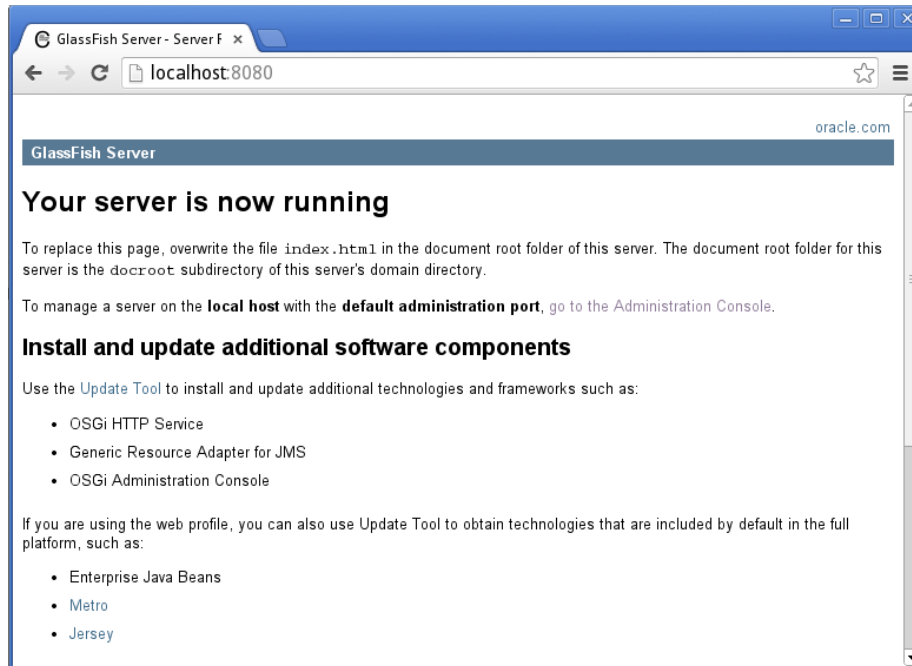
Figure 1: Glassfish succesfully installed.

6   Access administration panel

Visiting http://localhost:4848 it is possible to access the administrator panel of Glassfish. Please wait until the Admin Console loads all its component; it could take up to a minute or two, depending on your hardware.
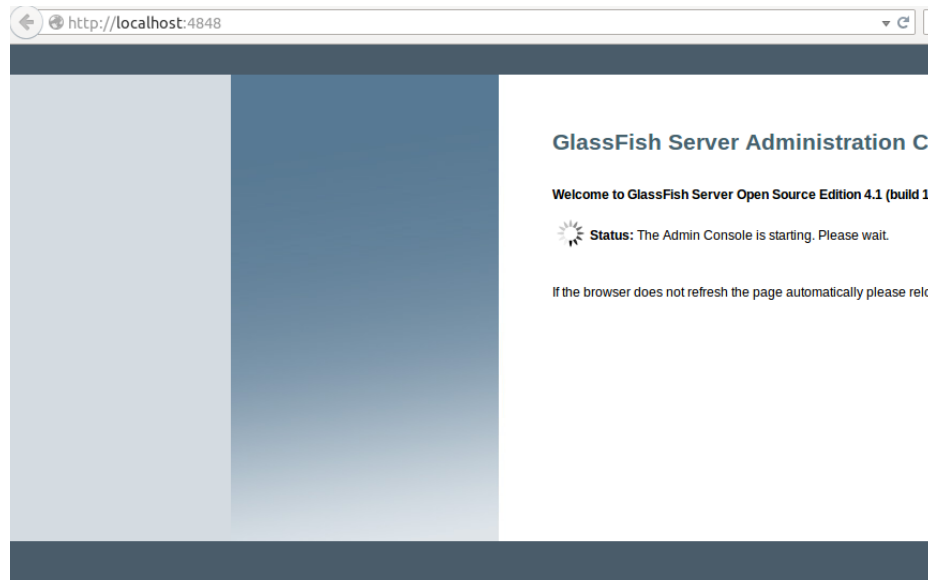
Figure 2: Administration Console Start

7   Administrator Auth

Insert the Administrator login credentials. If they are unknown please contact the system administrator. In case of standard installation the credentials are:

Table 1: Standard login info

Parameter	Value
Username	`admin`
Password	(empty)

Please note that the default password for the standard installation could be either 'admin' or an empty password, depending on the version you are executing.

Figure 3: Administrator login

8   Administrator console

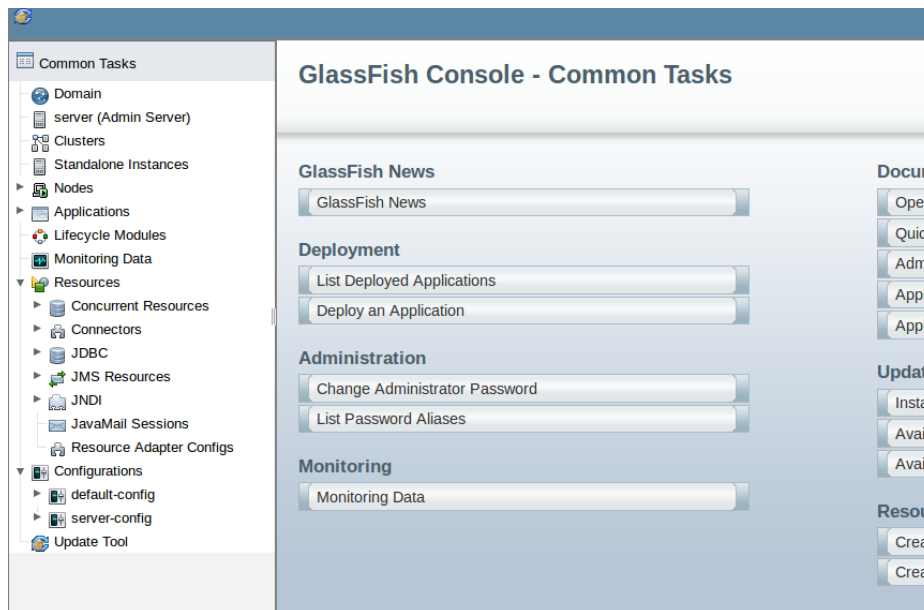If the server is correctly configured it will show the administration console.

Figure 4: Administrator console

Part II

Resource configuration

Below is described the needed services configuration in order to make Cal-CARE working as expected.

9 Database Initialization

The application needs a Database to operate. We provide the proper sql script to execute in the package (calcareInstall.sql). It contains all the needed information to create the database, the relational tables, and some initial information for the bootstrapping of the system.

Example usage:

```
mysql −u root −p < /path/to/calcareInstall.sql
```

10 SMTP

The application needs to send emails for various reasons (they are needed for user registration confirmation, password reset, notifications, etc.). One could decide to set up her own SMTP service to send emails directly, but we chose to use an external service (Google Mail) to which we connect to send emails. So, no special configuration is needed for emails.

11 Database and JDBC connector

It is necessary to configure the database connector, a connection pool and an associated resources to make CalCARE succesfully connect to the Database.

Download the connector from http://dev.mysql.com/downloads/connector/j/ and install it accordingly, then you can proceed with the following steps:

11.1 Pool Creation

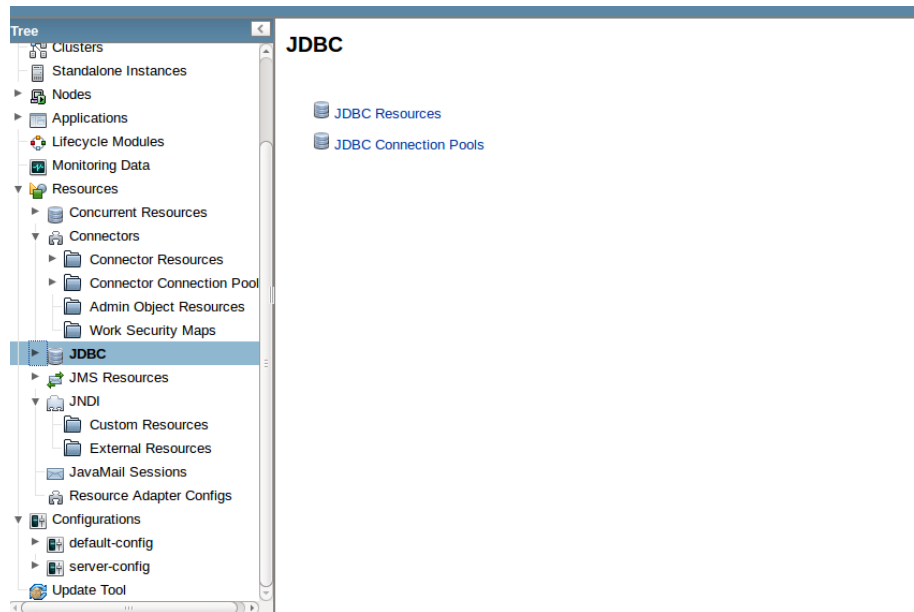Click «**JDBC**» on the lateral panel. It will show the following screen:

Figure 5: JDBC Main Screen

11.1.1   General

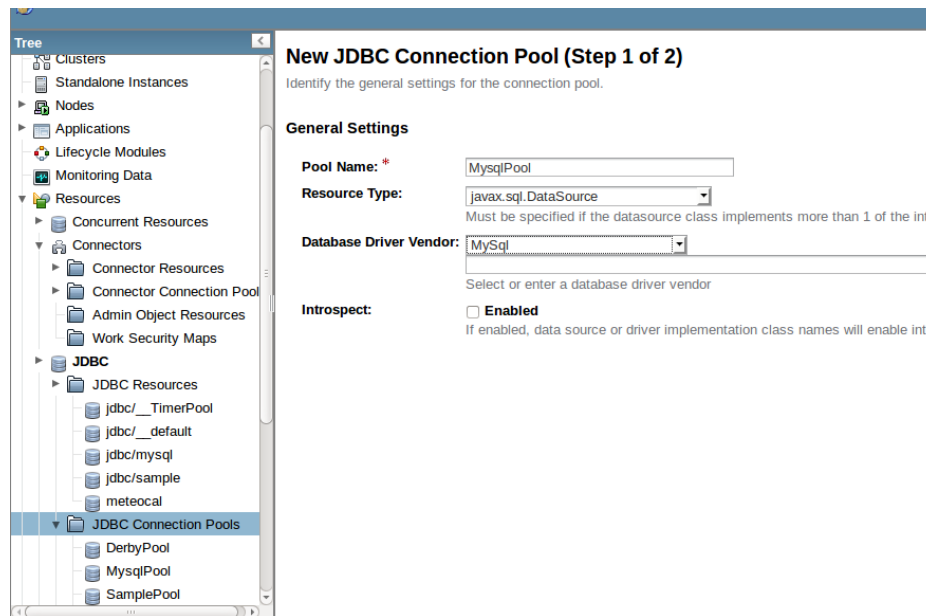Click on «**Connection pool JDBC**», then on «**New**» and insert the parameters exactly as follow

Figure 6: JDBC General Informations

Click on «**Next**»

11.1.2   Enable ping

Tick the «**Ping**» box to activate the option to check if everything is working as expected.

11.1.3   Properties configuration

Configure the server connection with the information in the following table. The parameters will vary according to MySQL installation.

Table 2: JDBC Parameters

Parameter	Value
URI	jdbc:mysql://<Hostname:port_here_(Default: localhost:3306)>/meteocal?zeroDateTimeBehavior=convertToNull
username	MySQL users for the created Databae
password	Password of the above user
driverClass	com.mysql.jdbc.Driver
databaseName	meteocal
serverName	<Server_name_here_Default(localhost)>

11.1.4   Confirm

Click on «**Finish**» to end the process and create the JDBC pool. If anything goes wrong during the process please contact the system administrator.

11.2   JDBC Resources creation

11.2.1   Preparation

After creating the JDBC pool, it's necessary to associate a new JDBC resource. In order to do this, click on «**JDBCResources**» on the main JDBC menu.

11.2.2   Configuration

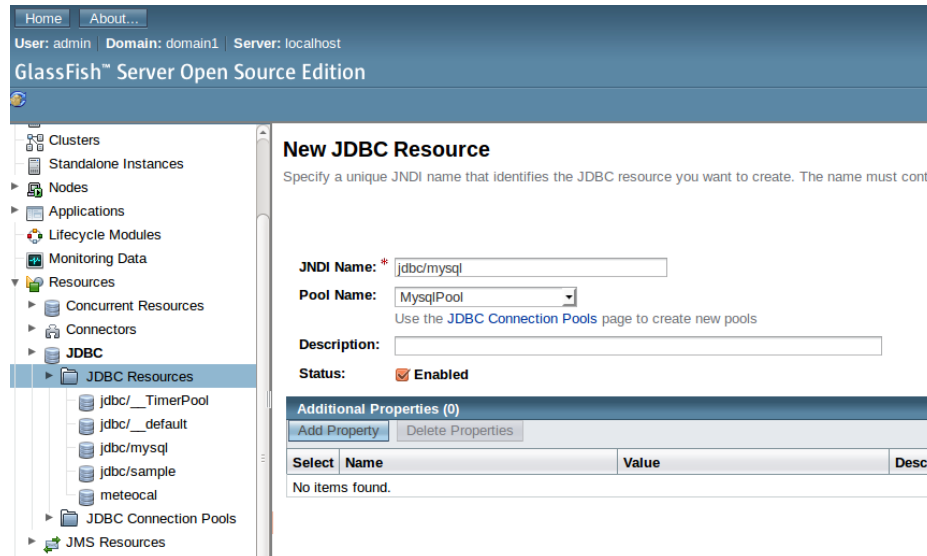Fill the fields exactly as in the following screen and click «**OK**».

Figure 7: JDBC Resource Configuration

11.2.3   Confirm

The operation could take some seconds. When terminate, the screen «JDBC Resources» will show the last addition

Part III
Deploy

The context for CalCARE as been correctly set. Now it's time to deploy the application.

12   Distribute

Click «**Application**s» on the lateral panel, and then on «**Deploy**» that will show:
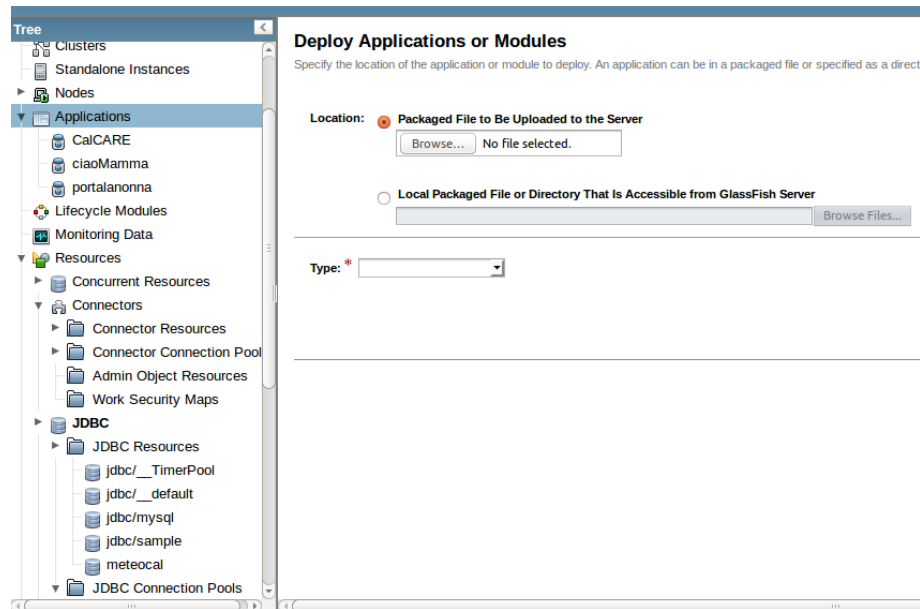

Figure 8: Deploy Screen

13   Load the War to deploy

Select «**Packaged File to Be Uploaded to the Server**», then on «**Browse**» and choose the War file of CalCARE.

Leave all the other field unchanged and click «**OK**».

The operation could take up to a couple of minutes to complete, please wait and do not start any other action during the process, even if Glassfish seems not to be responding.

14   Success

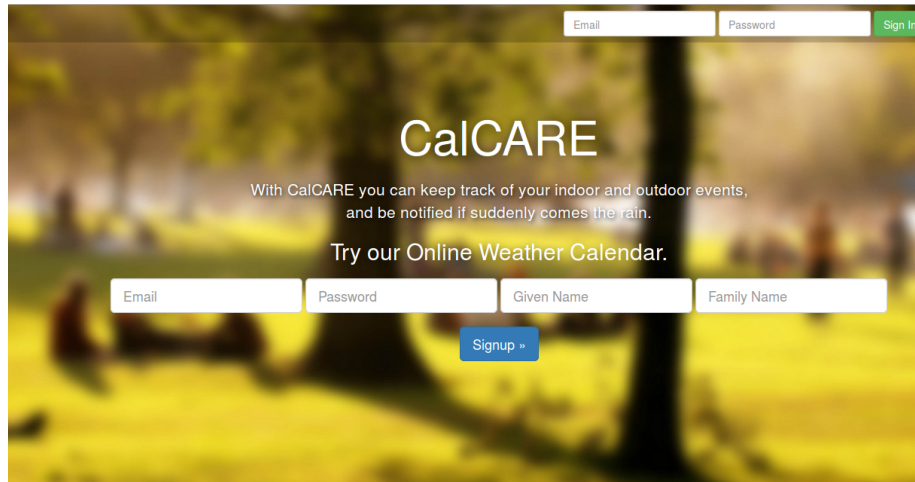If no errors show, go to the URL CalCARE url and it will show the CalCARE home screen!

Figure 9: Homepage CalCARE

Appendix: restart Glassfish

In case of mysterious errors, restarting Glassfish may be a solution.

Click on «**server**» in the lateral panel, then on «**Restart**», and finally confirm the operation.
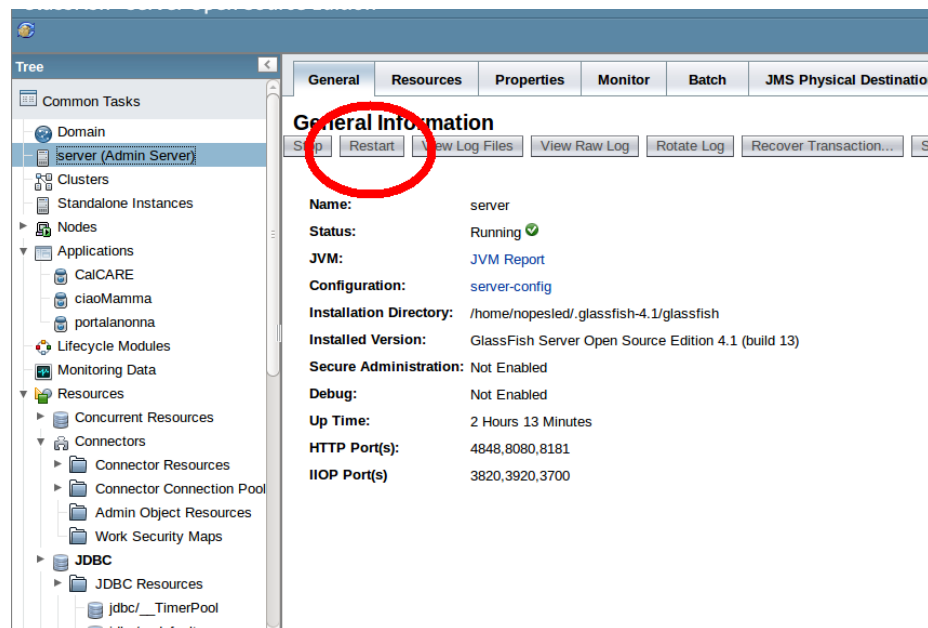
Note: This operation could take some minutes to complete, please be patient.

Figure 10: Server Admin Panel