Politecnico Di Milano
Facoltà di Ingegneria dell' Informazione
(Computer Science Engineering)

SOFTWARE ENGINEERING II PROJECT

Part III: **Installation Guide**

Prof.ssa: **Di Nitto**

A.A. 2014/15

Project Title: **BidWin**

Project Repository: **https://github.com/EmanueleLM/BidWin**

Emanuele La Malfa

Matr: **841042**
emanuele.lamalfa@mail.polimi.it

Davide Malvestiti

Matr: **773345**
davide.malvestiti@mail.polimi.it

1. Introduction

BidWin is a Web Application developed for the application server Glassfish 4 (tested on 4.1, still version 4 works perfectly) version and it uses a MySQL Database to save data. So, to execute it, it is necessary to install Glassfish Server. Below we reported the whole installation procedure. If you have already the JDK, Glassfish and MySQL in your machine please skip the next chapter.

2. Getting Started

2.1. Install JDK 7 or JDK 8

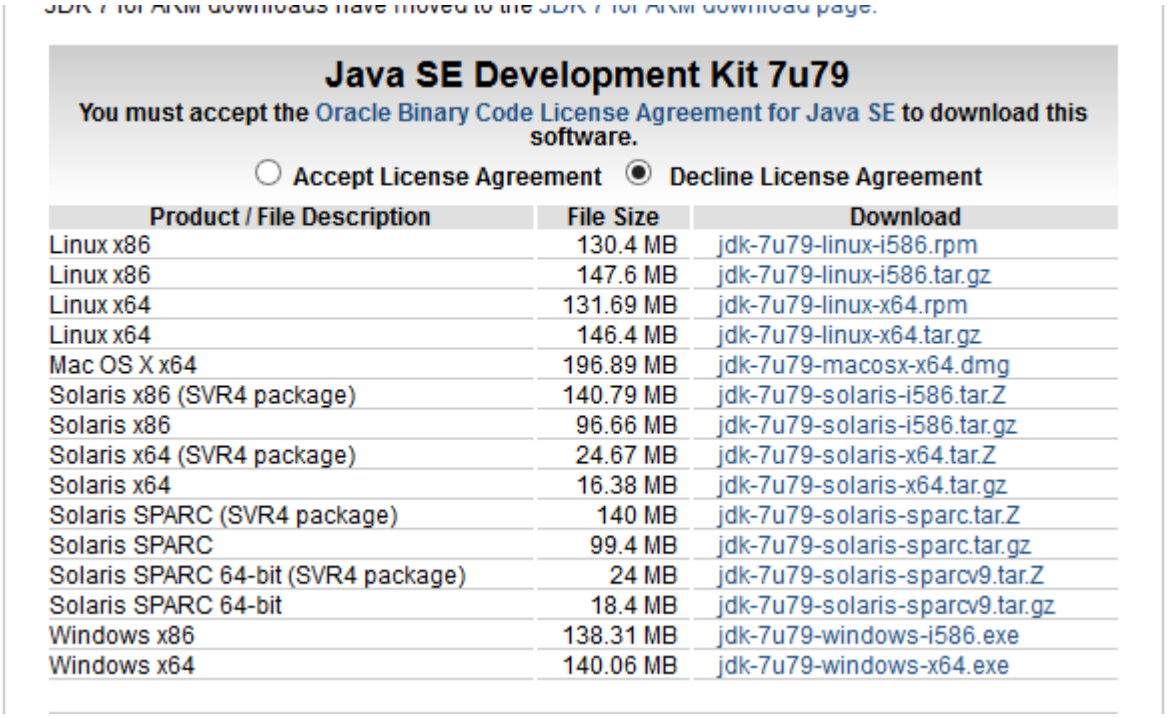
First things first, you need to install JDK 7 or 8.

Our system works with both the versions of the Java Developement Kit, but we raccomend the JDK 7 since we tested the system with that environment.

You can the recommended version here.

And the JDK 8 form here.

Please be sure you install the correct version of the JDK depending on your system (32 or 64 bits), and your Operating System (Windows, Linux etc.)



Java SE Development Kit 7u79

You must accept the Oracle Binary Code License Agreement for Java SE to download this software.

○ Accept License Agreement ◉ Decline License Agreement

Product / File Description	File Size	Download
Linux x86	130.4 MB	jdk-7u79-linux-i586.rpm
Linux x86	147.6 MB	jdk-7u79-linux-i586.tar.gz
Linux x64	131.69 MB	jdk-7u79-linux-x64.rpm
Linux x64	146.4 MB	jdk-7u79-linux-x64.tar.gz
Mac OS X x64	196.89 MB	jdk-7u79-macosx-x64.dmg
Solaris x86 (SVR4 package)	140.79 MB	jdk-7u79-solaris-i586.tar.Z
Solaris x86	96.66 MB	jdk-7u79-solaris-i586.tar.gz
Solaris x64 (SVR4 package)	24.67 MB	jdk-7u79-solaris-x64.tar.Z
Solaris x64	16.38 MB	jdk-7u79-solaris-x64.tar.gz
Solaris SPARC (SVR4 package)	140 MB	jdk-7u79-solaris-sparc.tar.Z
Solaris SPARC	99.4 MB	jdk-7u79-solaris-sparc.tar.gz
Solaris SPARC 64-bit (SVR4 package)	24 MB	jdk-7u79-solaris-sparcv9.tar.Z
Solaris SPARC 64-bit	18.4 MB	jdk-7u79-solaris-sparcv9.tar.gz
Windows x86	138.31 MB	jdk-7u79-windows-i586.exe
Windows x64	140.06 MB	jdk-7u79-windows-x64.exe

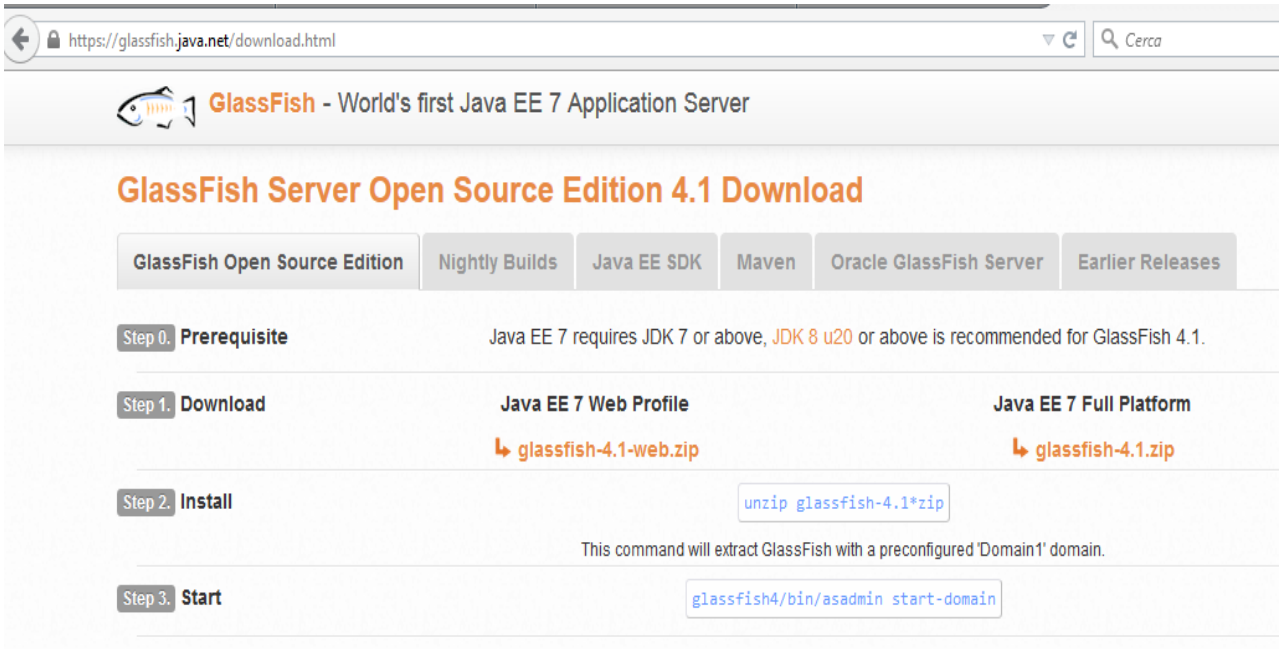
Once you downloaded and installed the JDK that best fits with your system, you are ready to install the WebServer: we are going to use Glassfish 4.1.

2.2. Install Glassfish 4

You can install Glassfish server after downloading from this link and unpacking it in the folder you desire. Note that it is important that your download is not corrupt. You can check it with the MD5 or SHA-256 code included in the link.

It is fundamental that you use the correct version of the Glassfish Server since we built our application on that environment.

Maybe you want to try our webapp on Glassfish 3 and let us know if it works.



Once you have unzipped the archive you can start the server by this command

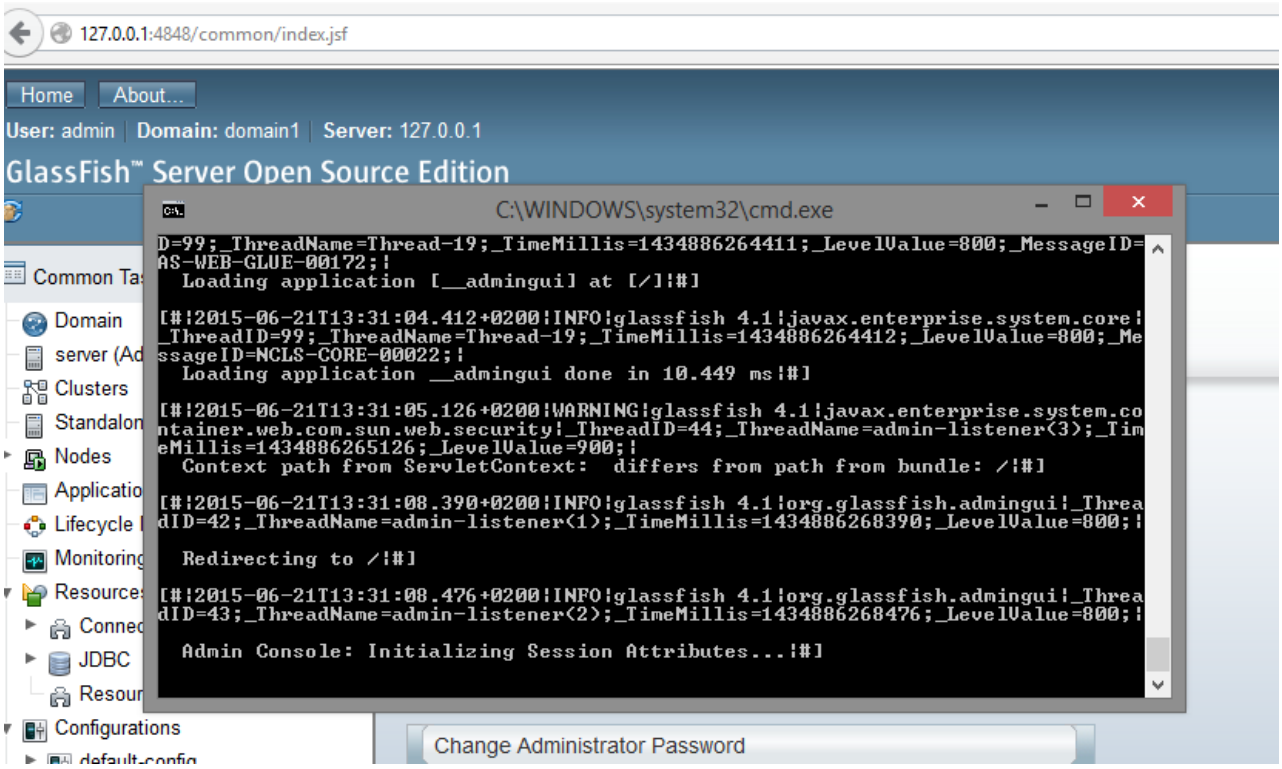
```
glassfish4/bin/asadmin start-domain
```

2.3.Start The Glassfish Server

Now you can start the glassfish server using this command - in your command line -

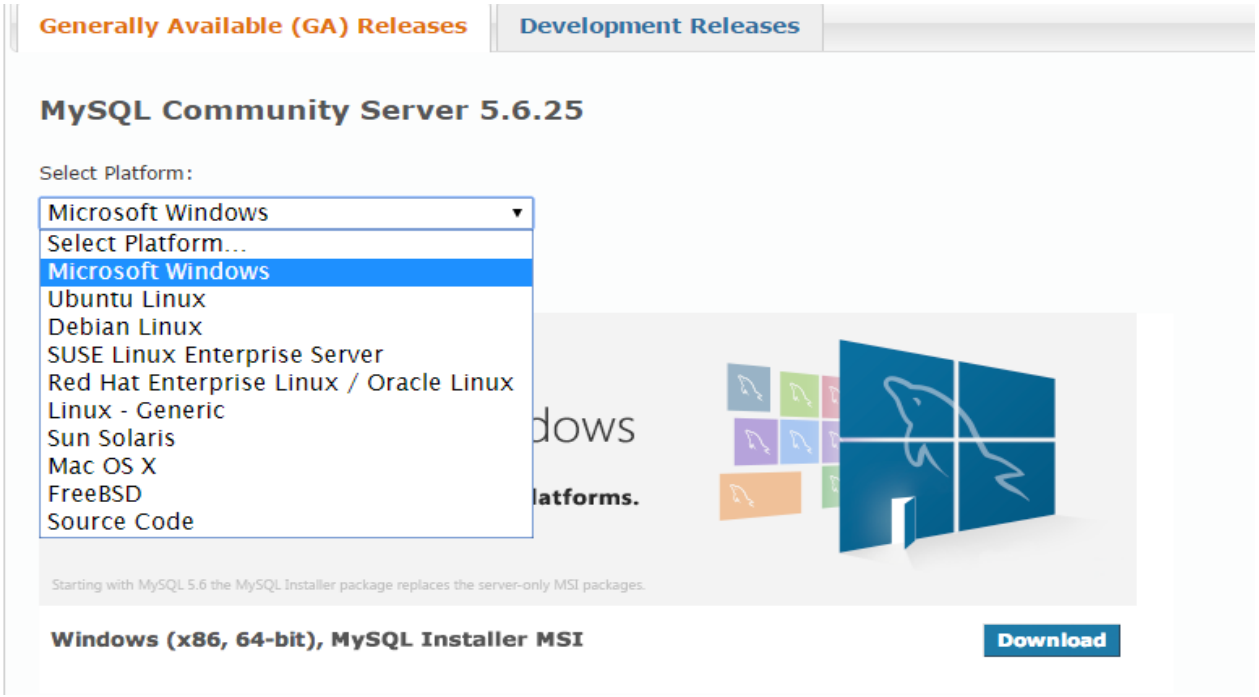
```
glassfish4/bin/asadmin start-domain
```

Here's the output under Windows: if everything is ok with your server, you should obtain something like this. Go to this link, and you'll open a glassfish window where you can manage several things, like connectors, deployed apps etc.



2.4.Install the MySql community server

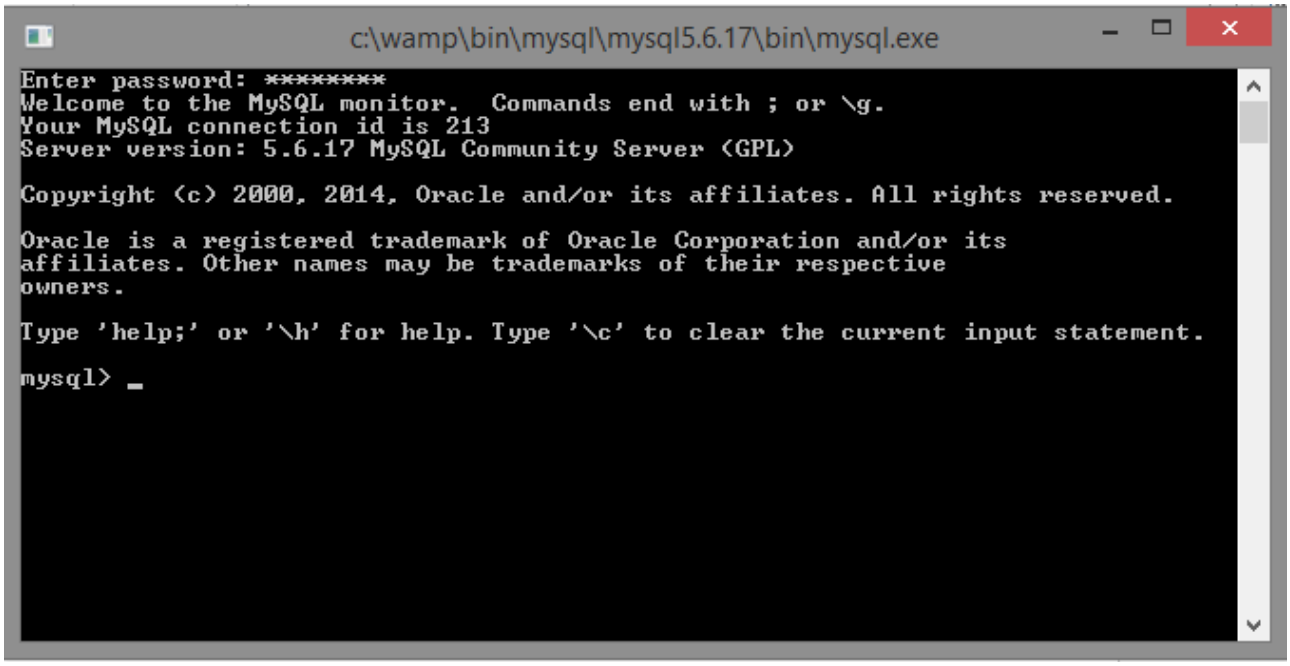
Now we need the database server.
Since we used a MySql database, we recommend you to use MySql Database Server:
you can find the latest version here.



Then install it on the system being careful that:

- your administrator name has to be *root*;
- your MySQL Server Port has to be *3306*;
- mysql command is inserted in the PATH variable (only for Windows systems);

Once you launched the console, it ask you for the password: than you should obtain something like this.



Please note: on Windows machine you can have some problem while starting MySql.
One of the most common problem is due to a port conflict with Skype.
In order to solve this problem, just open the Task Manager and delete the Skype process, or better change the default port in your Skype configuration.
If you have Xampp installed on your computer, you don't need the MySql server since it would be still present.

3. Database Configuration

3.1. Create the MySql schema

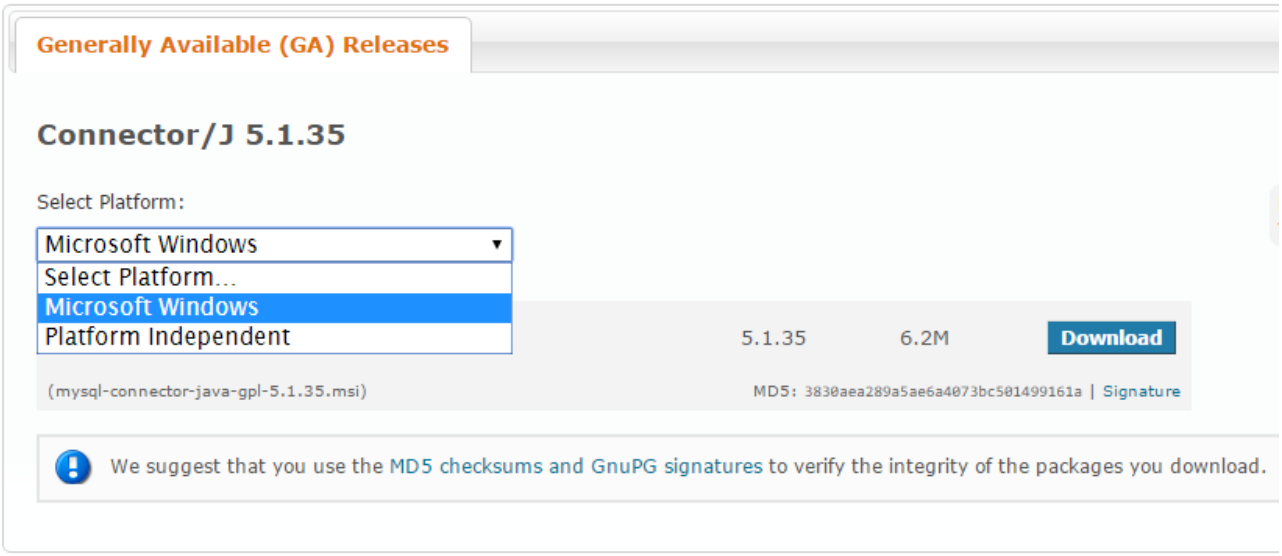
Now you can create the database: just open your MySql console and write this command.

```
source /path/to/bidwinreal.sql;
```

Where /path/to/ is the path where you have the bidwinrealm.sql
By default we recommend you to put it on your Desktop and delete it after you gave the command.
You can find the bidwinrelam.sql in the project folder **bidwin\build\web\resources**. Copy the text in a new bidwinreal.sql file and execute the previous command.
If it is easier to you, just download it from here.

3.2. Install MySql Java Connector

Now you have to install tha MySQL Java Connector in Glassfish to let the Glassfish Server communicate with the MySQL Server. It can be downloaded here and extracted.
As recommended by the software developers, check the integrity of your download with the MD5 checksum.



Once you have installed it on your system, you are - almost - ready to deploy the application!

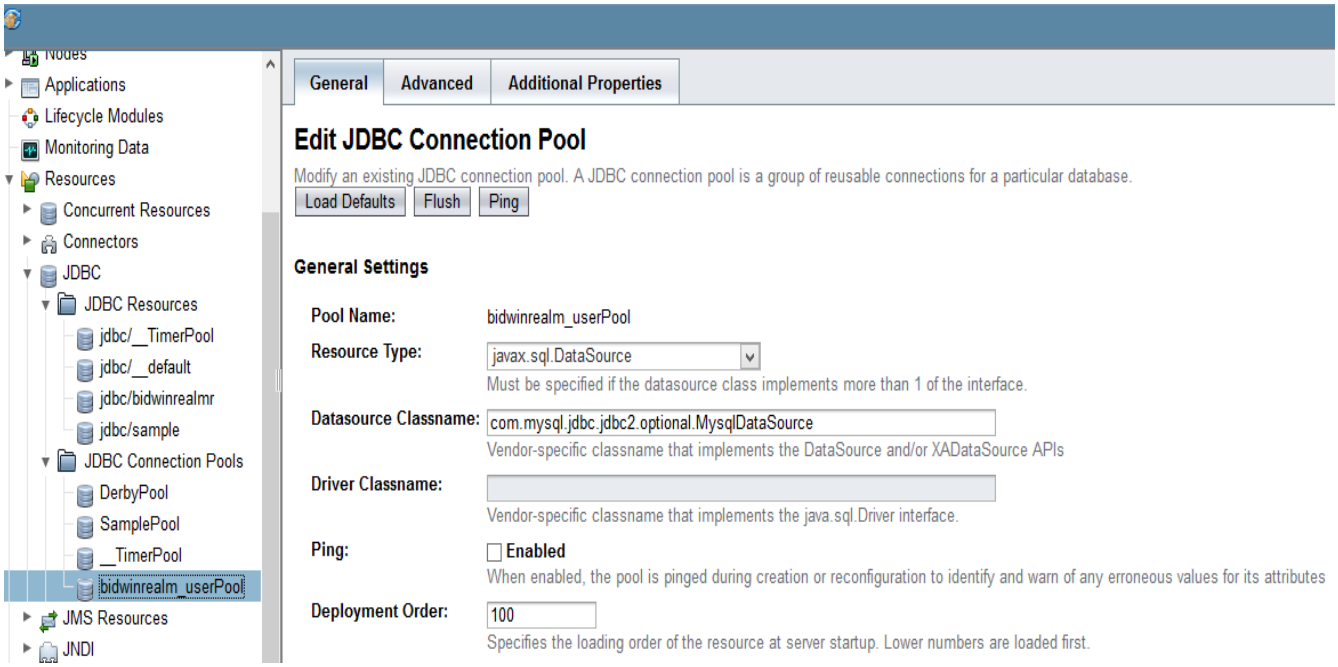
3.3 Adding the Glassfish Connectors

Now we create the connectors that allows our webapp - which is hosted on the Glassfish server - to interact with the database.
We will create a Connector - with the bidwinrealm database -, a Pool and a Realm Connector.
You can download the connectors here: by copying them in the Glassfish/ folder you will skip all the configuration phase (with the related issues!)

Anyway follows the commands to recreate them from scratch.

Just create a connector and a pool, than the realm and connect them.
Follows the screenshots:

Bidwinrealm_userPool



Here's the properties (set them in Additional Properties or in the creation phase)

User: user
Password: user
ServerName: localhost
DatabaseName: bidwinrealm
Port: 3306

And, if they are not set up automatically, please set also:

URL: jdbc:mysql://localhost:3306/bidwinrealm?zeroDateTimeBehavior=convertToNull
Url: jdbc:mysql://localhost:3306/bidwinrealm?zeroDateTimeBehavior=convertToNull

Now you can create a JDBC resource: just create a jdb named **jdbc/bidwinrealmr** and add the connection pool in the Pool Name menu.
Here's the screenshot:

And last but not least the realm: just create one in the section Configuration→ ServerConfig → Security → Realms → New

Here's the content of the fields:

Name: authjdbRealm

ClassName: com.sun.enterprise.security.auth.realm.jdbc.JDBCRealm

JAAS Context: jdbcRealm

JNDI: jdbc/bidwinrealmr

User Table: bidwinrealm.users

User Name Column: Username

Password Column: Password

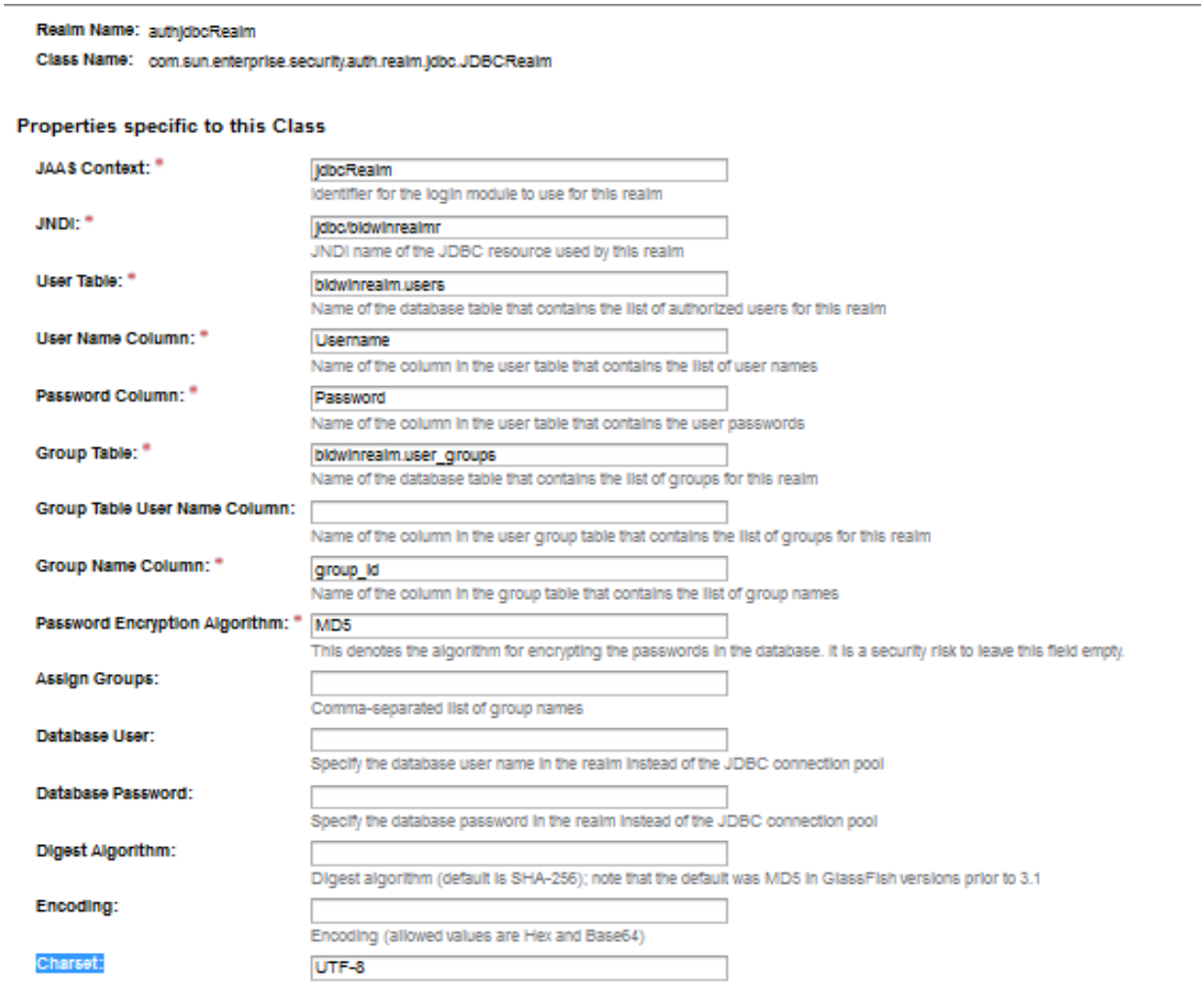
Group Table: bidwinrealm.user_groups

Group Name Column: group_id

Password Encryption Algorithm: MD5

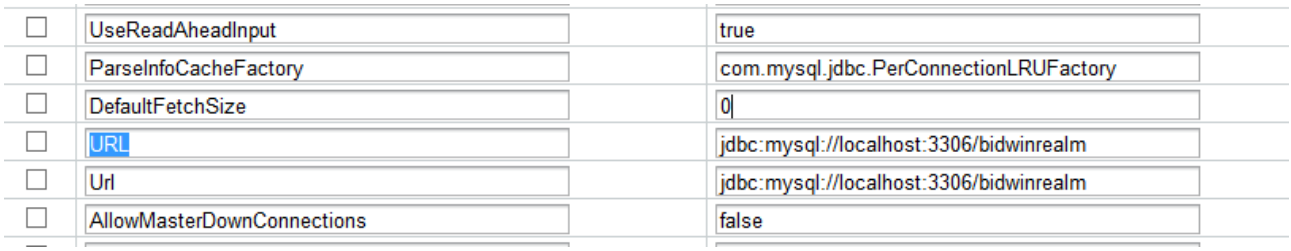
Charset: UTF-8

Here’s the screenshot:



Glassfish has to be restarted after giving these commands (this can be done with “asadmin restart-domain”).

If you get a narrow error (org.eclipse.persistence.exceptions.DatabaseException Internal Exception: java.sql.SQLException: No database selected Error Code: 1046) while trying to access the database (login phase), this is the solution.
You have to modify the URL and Url fields in the jdbc connector in this way:



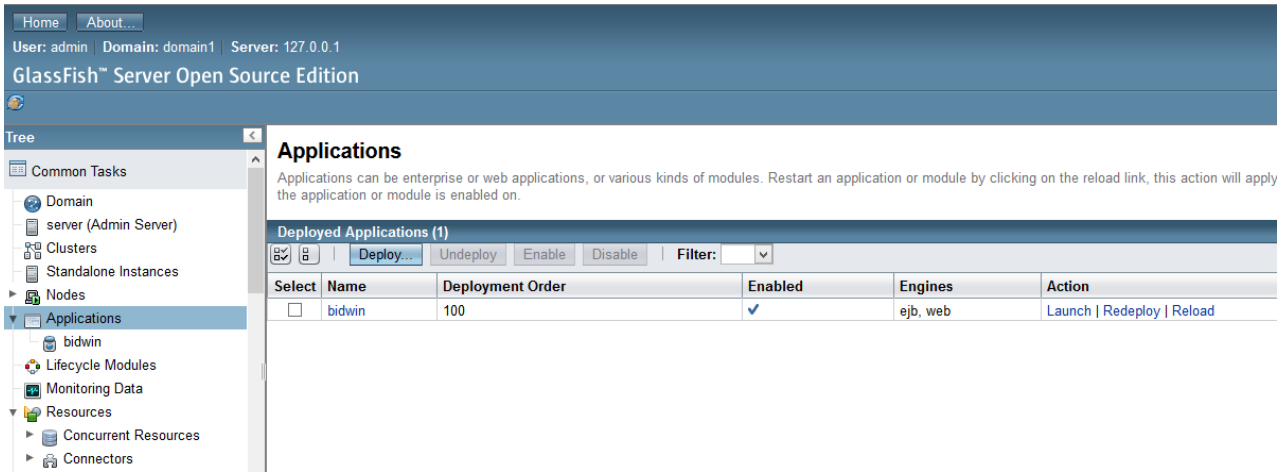
4. Application Deployment

4.1. Install the application in Glassfish

You can deploy the application with the command.

```
asadmin deploy filename.war
```

Now you can try the webapp: just go in the section “deployed app” in the glassfish administration console and click on *“Launch”*.



You will be redirected to the login page.
{User, User} is the admin (he cannot partecipate to the auctions!)
{momo, password} is one of the default users: our hint is to create an entirely new set of users.