MAGDA User Client

Overview
MAGDA User Client allows a client to launch/send messages to a mobile agent on the platform.
MAGDA User Client also allows a enabled Grid User to launch mobile agents, so it is possible to create a multi-agent application (by creating several agents and distributing them on the platform nodes).

User Client Usage
Beware. before using this service, all the required software must have been installed on your cluster; alternatively, the MAGDA Virtual Cluster Platform can be used¹.
Also, the MAGDA User Service must have been published on the Globus container².
MAGDA User Client can be produced in two steps:
– automatic generation of the standard 'skeleton' code;
– implementation of the client logic in its 'main' method.
The automatic generation can be made up by using the MAGDA plugins for Eclipse³.
After this operation, the main() method need to be written down: a connection to the User Service needs to be established. After that, the grid methods belonging to the User Service can be invoked.

An example for the main() method is the following:

```java
public static void main(String[] args) {
    String instanceURI="https://serviceIP:servicePort/wsrf/services/GridUserService";
    boolean useSecurity = false;
    try {
        GridUserClient client = new GridUserClient( instanceURI, useSecurity);
```

1 For further informations about software to install or MAGDA Virtual Cluster 'howtos', see here.
2 See MAGDA User Service.
3 See MAGDA SDK Plugins.
```java
client.creaAgente("TestAgent", "AgenteProva", null);
client.leggiErrorMessage()....
....
} catch (Exception e) {
}
}

serviceIP and servicePort are respectively the IP address and the port number belonging to the host where you published the User service.

When your client is ready to be executed, you can compile and execute it in the classic way:
javac serviziGRID.user.client.GridUserClient.java
java serviziGRID.user.client.GridUserClient

If you get errors during compilation, remember you need to export the Globus environment variables in order to let thing work\(^4\).

If you client throws immediately an exception when you launch it, make sure your security certificate is still valid, otherwise relaunch it\(^5\):

`grid-proxy-init`

**User Client Usage in MAGDA Virtual Cluster**

In MAGDA Virtual Cluster, the client usage is exactly the same as described in the previous section (User Client Usage).

In particular, the `serviceIP` and `servicePort` parameters are 192.168.1.20 and 8443.

The Globus environment variables can be exported automatically by launching the proper script file:

`source /opt/gt4.0.8/etc/globus-devel-env.sh`

**Test User Client Usage**

A test client for MAGDA User Service is available and ready to be used. It can be downloaded in the [MAGDA SDK homepage](#), in the 'Services' section. (Remember to change the string `instanceURI` in the `main()` method according to the IP address and port number where you published your service.)

If you wish to launch a client test file in MAGDA Virtual Cluster, you can already find it in the `/home/globus/xxx` folder. That client has also been configured with the correct `instanceURI` string, so it is ready to be launched.

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\(^4\) For further details, see [MAGDA Virtual Cluster Documentation](#).

\(^5\) For further details, see [MAGDA Virtual Cluster Documentation](#).