Gridsphere with gridPortlet

K*Gate version

Administrator & User's Manual

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Contents

1. Introduction

This document is intended to provide the system administrator and the user with the information required to build, install, configure, manage, and use Gridsphere with gridportlets.

1.1. What is Gridsphere?

GridSphere is the open-source porltet based portal framework which is part of the Gridlab project funded by the European Commission under the Fifth Framework Programme of the Information Society Technology. Gridsphere is compliant 100% JSR 169 Portlet API and supports higher-level model for building complex portlets using visual beans and the GridSphere User Interface tag lib

We develop the basic portlets for using Grid environment to support implementation of Grid portal and implement Bio Informatics Grid Portal and Data Grid portal for Belle Code using Gridsphere. Also, we implement MoreDream Grid service portlets - GRASP job submission porlet, GAIS information

We have modified bannaer and GuestLayOut Pages. This product includes software developed by and/or derived from the GridSphere Project (http://www.gridsphere.org/).

1.2. Getting help

If you have questions about this package or have found a bug, please connect to http://kmi.moredream.org. For up-to-date information about this package, please visit the web site http://www.moredream.org

2. Installation and Configuration

2.1. Requirements

- OS : Linux (RedHat 7.3 or more are recommended)
- Java 2 Platform, Standard Edition 1.3.1 or 1.4.2+
- Ant 1.5.3-1+
- Tomcat 4.1+ (not tested in Tomcat 5.+)

2.2. Installing required software

2.2.1. Installing Java 2Platform, Standard Edition

You can download Java 2 SDK from http://java.sun.com. Following is described about binary installation in Redhat Linux.

```
1. Login as root
$ su –
2. Download and extract the downloaded file.
# cd $JDK_DOWNLOAD_DIRECTORY
# chmod 755 j2sdk-1_X_X-linux-i586.bin
# ./j2sdk-1_X_X-linux-i586.bin
            Sun Microsystems, Inc.
          Binary Code License Agreement
                 for the

JAVATM 2 RUNTIME ENVIRONMENT (J2RE), STANDARD EDITION,
VERSION 1.X.X_X
...
Do you agree to the above license terms? [yes or no] yes
3. Run the rpm command to install. It is installed in /usr/java/
j2sdk1.X.X by default.
# rpm –ivh j2sdk-1_X_X-linux-i586.rpm
4. Set Java environment variables.
$ vi ~/.bashrc
export JAVA_HOME=/usr/java/j2sdk1.X.X
export PATH=$JAVA_HOME/bin:$PATH
```

2.2.2. Installing Ant

You can download Ant from http://ant.apache.org.

```
1. Login as root.
$ su –
2. Extract the downloaded file.
# cd $ANT_DOWNLOAD_DIRECTORY
# tar zxvf apache-ant-1.X.X-X-bin.tar.gz
3. Move to the extracted files installation directory.
# mv apache-ant-1.X.X-X /usr/local/
4. Set Ant environment variables.
# vi ~/.bashrc
export ANT_HOME=/usr/local/apache-ant-1.X.X-X
export PATH=$ANT_HOME/bin:$PATH
```

2.2.3. Installing Tomcat

You can download Ant from http://jakarta.apache.org/tomcat.

```
1. Login as root.
$ su – tomcat
2. Extract the downloaded file.
# cd $TOMCAT_DOWNLOAD_DIRECTORY
# tar zxvf jakarta-tomcat-4.X.X.tar.gz
3. Move to the extracted files installation directory.
# mv jakarta-tomcat-4.X.X /usr/local/
4. Set Ant environment variables.
# vi ~/.bashrc
export CATALINA_HOME=/usr/local/ jakarta-tomcat-4.X.X
```

2.2.4. Installing FOP(Optional)

Under preparation

2.3. Installing Gridsphere

2.3.1. Downloading and extraction

You can download from http://www.gridcenter.or.kr/kmi and http://www.gridsphere.org. We recommend to download from http://www.gridcenter.or.kr/kmi. Gridsphere is being developed and modified continually, to use the portlets in KMI packages you must download KMI version.

2.3.2. Installation

1. Extract the downloaded file.

```
$ cd $GRIDSPHERE_DOWNLOAD_DIRECTORY
$ tar xvzf gridsphere-kmi.1.X.X.tar.gz
```

From now on, $GRIDSPHERE_HOME is $GRIDSPHERE_DOWNLOAD_DIRECTORY/gridsphere.

2. Install Gridsphere

Using Ant, you can install Gridsphere to Tomcat Web Application. $GRIDSPHERE_HOME/build.xml supports the following tasks:

install -- builds and deploys GridSphere, makes the documentation and installs the database
clean -- removes the build and dist directories including all the compiled classes
compile -- compiles the GridSphere source code
deploy -- deploys the GridSphere framework and all portlets to a Tomcat servlet container located at $CATALINA_HOME
create-database - creates a new, fresh database with original GridSphere settings, this wipes out your current database!
docs -- compiles all GridSphere docbook documentation and builds the Javadoc documentation from the source code
run-tests -- runs all Junit tests inside the Tomcat container using the Jakarta Cactus framework

```
$ cd gridsphere
$ ant install
```

Type ″y″ about question of Gridsphere License Agreement and Gridsphere is installed to $CATALINA_HOME/webapp/gridsphere.

2.3.3. Configuration of Tomcat Environment

To manages the portlets, Gridsphere uses Tomcat Manager Web Application. So, you must insert gridsphere user with manager role to Tomcat User. Edit $CATALINA_HOME/conf/tomcat-user.xml.

```
<user name=″gridsphere″ password=″gridsphere″ role=″manager″ />
```

To prevent the portal users access Tomcat Manager Web Application, edit

$CATALINA_HOME/webapp/manager.xml like following.

```
<Context path="/manager" debug="0" privileged="ture"
  docBase="$CATALINA_HOME/server/webapps/manager">
  <valve className="org.apache.catalina.valves.RemoteAddrValve"
  allow="127.0.0.1"/>
</Context>
```

2.3.4. Starting Gridsphere

You just restart Tomcat container and connect to http://localhost:8080/gridsphere/gridshere. You can see following web page.

2.4. Installing Gridportlets

We just use certification portlets and applet(including web start), so to use full function of Gridportlets you modify xml files in $GRIDPORTLETS_HOME/webapp/WEB-INF/.

2.4.1. Downloading and extraction

Like Gridsphere, you can download from http://www.gridcenter.or.kr/kmi and Gridsphere CVS repository. We recommend to download from http://www.gridcenter.or.kr/kmi. Gridsphere is being developed and modified continually, to use the portlets in KMI packages you must

download KMI version.

After download the package, you extract file to $GRIDSPHERE_HOME/projects. From now on, $GRIDPORTLETS_HOME is $GRIDSPHERE_HOME/projects/gridportlets.

2.4.2. Configuration of Gridportlets

Before you install Gridportlets, you must install Gridsphere and modify $GRIDPORTLETS_HOME/build.properties file and $GRIDPORTLETS_HOME/webapp/WEB-INF/Resources.xml.

```
1. Modify build.properties
1.1. Set OGAS Library version
   #ogsa.version=ogsa-3.0.2
   ogsa.version=ogsa-3.2.1
1.2. Set keystore properties. “Keystore” is a path of keyStore file generated by keytool. “storealias” is the value of “–alias” option.
   CN=K*GRID
   OU=
   O=KISTI
   C=KR

   keystore=/usr/local/tomcat/portalcert/testKeyStore
   storetype=JKS
   storepass=gridsphere
   signalias=gridsphere
```

This version supports just keytool but next version supports keytool and openssl. Above keystore directory must be made before installation.

※ Generation of keyStore using keytool

```
   $ keytool –genkey –keystore testKeyStore –alias gridsphere
   $ keytool –selfcert –alias gridspher –keystore testKeyStore
   $ keytool –list –keystore testKeyStore
```

```
1.3. Set hostname and MyProxy Server
   # CA email address.
   install.ca.email.address=
   # default MyProxy server to use.
   install.myproxy=nstargate.gridcenter.or.kr
```

```
# host name
install.hostname=sk-joon.supercomputing.re.kr
# host port
install.port=8080
```

2. Modify Resources.xml

You must set Myproxy server information in $GRIDPORTLETS_HOME/webapp/WEB-INF/Resources.xml.

```
<grid-resources>
  <hardware-resource label="K*Grid Myproxy machine"
                     description="Myproxy resource"
                     hostname="nstargate.gridcenter.or.kr">
     <myproxy-resource label="KISTI Myproxy Service"
                       description="The KISTI Myproxy service"
                       authorizedProxyFile=""
                       authorizedCertFile=""
                       authorizedKeyFile=""/>
  </hardware-resource>
</grid-resources>
```

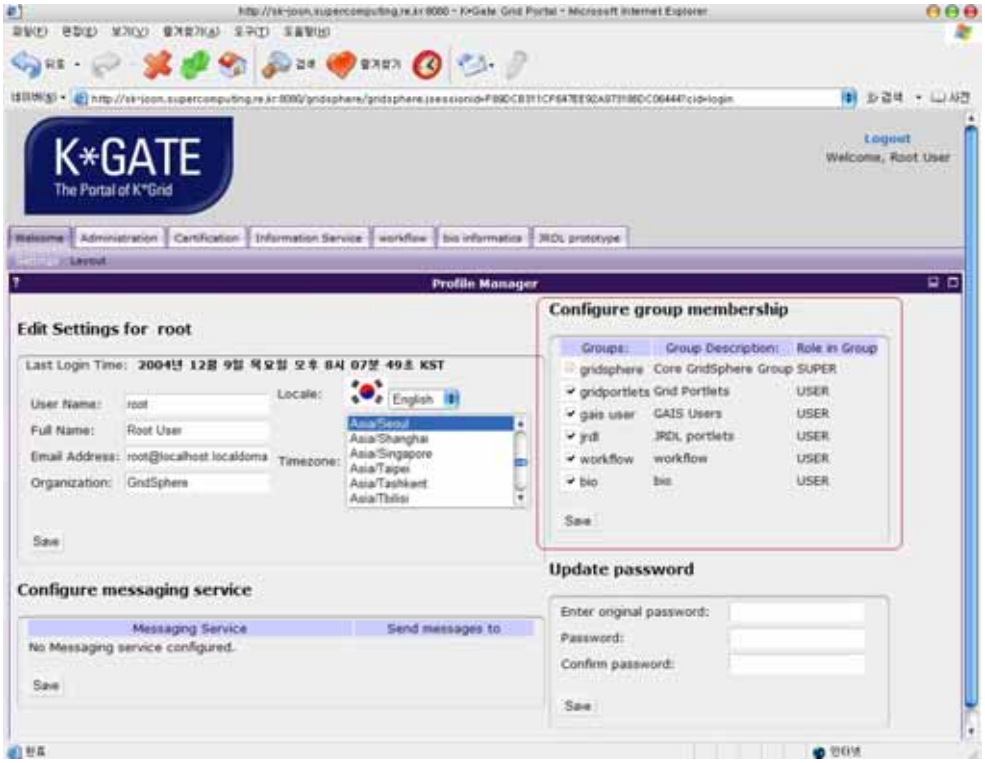
2.4.3. Installation

Using ant, you just run command “ant install” and the package is installed in $CATALINA_HOME/webapp/gridportlets.

```
$ ant install
```

2.4.4. Starting GridPortlets

You just restart Tomcat container and log in http://localhost:8080/gridsphere/gridshere. In “Welcome->Settings->Configure group memebership”, you check gridportlets and click “Save” button.


K*GATE
The Portal of K*Grid
Logout
Welcome, Root User
Welcome
Administration
Certification
Information Service
workflow
bio informatics
JRDL prototype
Layout
Profile Manager
Edit Settings for root
Last Login Time: 2004년 12월 9일 목요일 오후 8시 07분 49초 KST
User Name: root
Full Name: Root User
Email Address: root@localhost.localdoma
Organization: GridSphere
Locale: English
Timezone: Asia/Seoul
Asia/Shanghai
Asia/Singapore
Asia/Taipei
Asia/Tashkent
Asia/Tbilisi
Save
Configure group membership
Groups: Group Description: Role in Group
gridsphere Core GridSphere Group SUPER
gridportlets Grid Portlets USER
gais user GAIS Users USER
jrdl JRDL portlets USER
workflow workflow USER
bio bio USER
Save
Update password
Enter original password:
Password:
Confirm password:
Save
Configure messaging service
Messaging Service
Send messages to
No Messaging service configured.
Save

3. References

http://java.sun.com/

http://ant.apache.org/

http://jakarta.apache.org/tomcat

http://www.gridsphere.org