Data Portal and ICAT API Installation

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Prerequisites

- Java 6
- Ant version 1.7+
- Glassfish v2 UR2
- Installed and configured Java CogKit
  - *Hostcert, hostkey and root certificates*
- Access to 3 database schemas
  - *ICAT 3.3 schema*
  - *Empty schema – for ICAT API sessions*
  - *Data Portal core schema*

Prerequisites

- installation.zip file provided by Metataxa
- This contains
  - *dataportal.ear for ISIS and DLS*
  - *icat-ws-api.jar for ISIS and DLS*
  - *glassfish.properties*
    - *Location of installed glassfish, ports etc*
  - *database.properties*
    - *Configuration of the 3 database connections*
  - *icat.xml & dataportal.xml*
    - *Ant scripts to install and configure glassfish*

Configuration – glassfish

- sjsas.admin.port, sjsas.http.port, sjsas.password, sjsas.host, sjsas.username and sjsas.domain can be left alone if using default installation of glassfish i.e. sjsas.http.port = 8080

- sjsas.root – installed location of glassfish
  - *Remember to escape | and : on windows for Java*
  - *E.g. c|:||glassfish-install*
- admin.auth.password – password used to authenticate to the admin web services
  - *Username will be 'facility-name-admin'*
  - *E.g. ISIS-admin and DLS-admin*

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glassfish.properties file

```
# Glassfish Application server configuration
sjsas.admin.port=4848
sjsas.http.port=8080
sjsas.password=adminadmin
sjsas.host=localhost
sjsas.username=admin
sjsas.domain=domain1
# The next two are the only ones normally needed to be changed after
# a standard Glassfish configuration
# i.e. C\:\\Program Files\\glassfish-v2ur2 or /opt/glassfish-v2ur2
sjsas.root=

# password for icat api admin
admin.auth.password=
```

Configuration – databases

- Username, password and url for each of the 3 databases
  - *i.e. icat.user, icat.password, icat.url for icat db*
  - *icatuser.user, icatuser.password etc for icat session db*
  - *dataportal.user etc for dataportal db*

- facility.name for which facility you wish to install
  - *ISIS or DLS*

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database.properties file

```
# Facility Name, either ISIS or DLS
facility.name=ISIS

# This is the properties for the main ICAT schema
icat.user=
icat.url=
icat.password=
icat.data.source.classname=oracle.jdbc.pool.OracleDataSource
icat.driver=oracle.jdbc.driver.OracleDriver

# This is the properties for the ICAT user schema
icatuser.user=
icatuser.url=
icatuser.password=
icatuser.data.source.classname=oracle.jdbc.pool.OracleDataSource
icatuser.driver=oracle.jdbc.driver.OracleDriver

# This is the properties for the dataporal core schema
dataportal.user=
dataportal.url=
dataportal.password=
dataportal.data.source.classname=oracle.jdbc.pool.OracleDataSource
dataportal.driver=oracle.jdbc.driver.OracleDriver
```

Installation of ICAT API - 1

- *Execute: ant -f icat.xml init-config*

- This copies the required files onto glassfish
  - *log4j.properties to config directory*
  - *ojdbc14.jar to lib/ext directory*

Installation of ICAT API – 2

- *Execute: ant –f icat.xml start-domain*

- This starts the glassfish server
  - *Goto http://localhost:4848 to check its started*

Installation of ICAT API – 3

- *Execute: ant –f icat.xml install*

- This creates all the glassfish data sources and connection pools and deploys icat-api.ws.jar onto Glassfish
- Also adds the admin username and password to allow access to the admin web service

Installation of ICAT API – 4

- *Execute: ant -f icat.xml configure-icat-db*

- This configures the MyProxy Servers and enables ADMIN web services for ICAT API admin logins and the user SUPER

Installation of ICAT API – 5

- *Execute: ant –f icat.xml restart-domain*

- This allows ICAT API to pick up the changes made to the db in step 4 to be picked up

Installation finished ;)

- *Goto https://localhost:8181/ICATService/ICAT*
  to check the installation has been successful

Installation of Data Portal – 1

- *Execute: ant –f dataportal.xml install*

- This creates all the glassfish data sources, connection pools, JMS queues and deploys dataportal.ear onto Glassfish

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Installation of Data Portal – 2

- *Execute: ant –f dataportal.xml configure-dataportal-db*

- This configures the active facility ICAT API instance

Installation of data portal – 3

- *Execute: ant -f dataportal.xml restart-domain*

- This allows data portal to pick up the changes made to the db in step 2 to be picked up

Installation finished ;)

- *Goto* *https://localhost:8181/dataportal* to check the installation has been successful

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MyProxy Configuration

- MyProxy config is done in the MYPROXY_SERVER table in the icat sesssion schema.
  - *proxy_server_address – host name*
  - *ca_root_certificate – DN of the root MyProxy certificate*
  - *port_number*
  - *active – is this one active?*

- Any changes to the session and dataportal schema need a restart of the application server
  - *These use JPA caching to improve performance*

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Web services and SSL

- Glassfish has two keystores for its SSL configuration located in the config directory
  - *keystore.jks has all the private and public keys for the default SSL key*
  - *cacerts.jks has all the public keys for the default SSL key*
- Administrator needs to distribute the cacerts.jks file to users/applications wishing to use the ICAT API

Sourcing from multiple ICAT APIs

- DP_MODULE_LOOKUP table in core schema lists the ICAT APIs that are associated with the Data Portal instance.
- Need to add another record in this that is active with its corresponding ICAT API wsdl location to have multiple facility searches.
- Using keytool found in Java, you will need to export the certificate from the keystore.jks from the new instance of glassfish hosting the new ICAT API and import it as a trusted certificate into the cacerts.jks of the Data Portal glassfish instance

Logging with Log4j

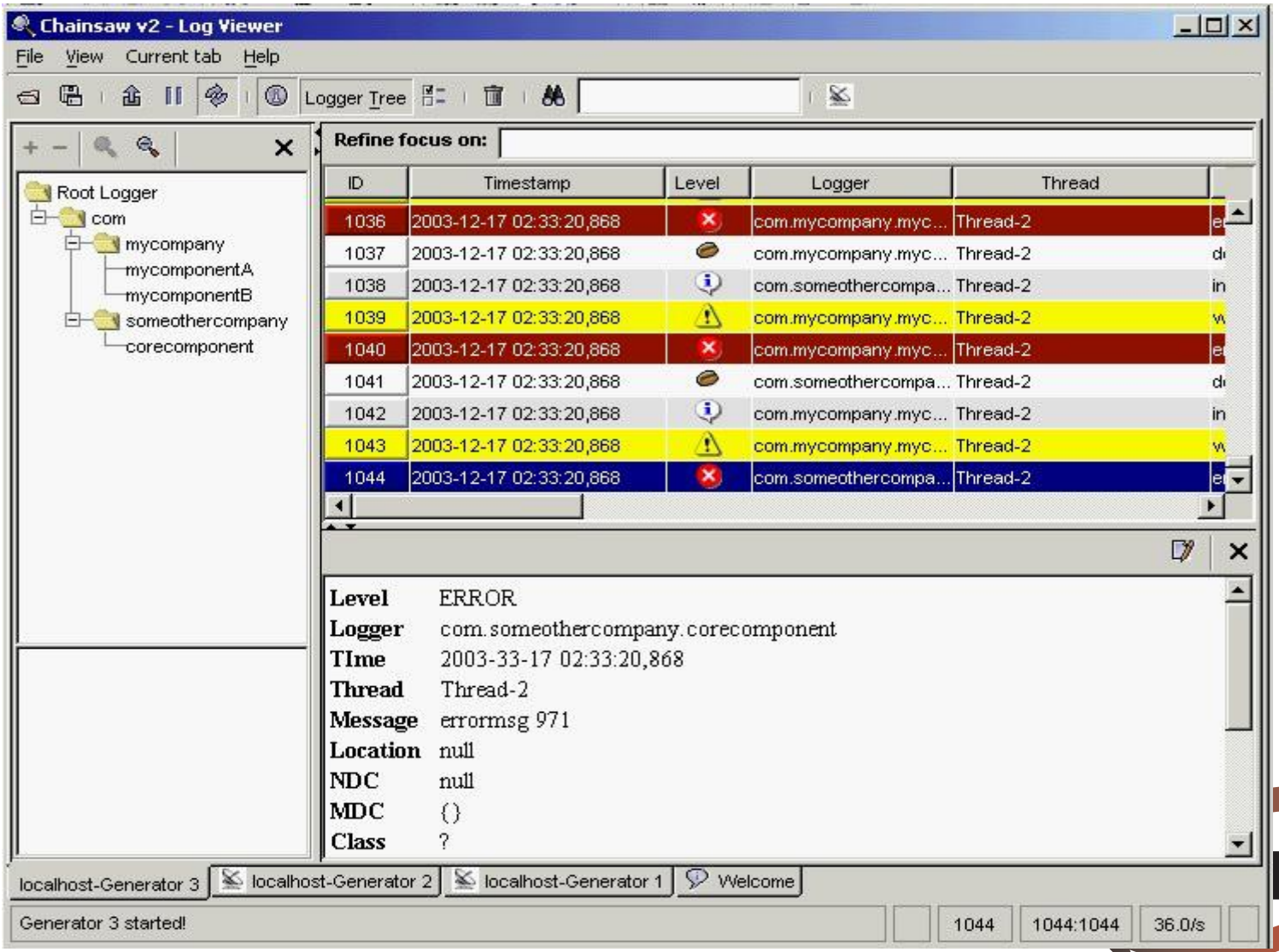
- ICAT API and Data Portal both use the logging framework log4j
- Logging is configured at runtime by a log4j.properties file found in the config directory
- This provided basic logging to files which are rotated daily, called appenders
- It is possible to configure the log4j.properties to log to other appenders:
  - *Emails, JDBC, Sockets, Unix syslogs etc*

Troubleshooting – logging

- Log files can be found in logs directory
  - *ICAT API Logs*
    - *icat.log and icat.xml*
  - *Data Portal logs*
    - *dataportal.log and dataportal.xml*
  - *SQL and server logs*
    - *server.log*

- Xml log files are written as XML so they can be viewed by Chainsaw, this is an application that can view log4j.xml files, sort the logs, filter by log level etc etc

Chainsaw – log4j



Troubleshooting

- Check the log files at time of error
- If Data Portal error:
  - *server.log – check for db connection losses, server errors*
  - *dataportal.log --*
  - *icat.log – myproxy logon error, slow querys*
- If ICAT error
  - *server.log – check for db connection losses, server errors*
  - *icat.log -- myproxy logon error, slow querys*
- If DB error, slow SQL etc
  - *Locate the SQL from Data Portal or ICAT API in the server.log at the time of the error.*

Tips and Tricks

- Use the glassfish admin console found at *http://localhost:4848*
  - *View/filter server.log file*
  - *Monitor applications, connection pools etc*
  - *Configure applications and resources*
- Glassfish's website and mailing lists are very helpful

Q & A

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