Export Cell – Installation Guide

Version: 1.0

Contribuors

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Introduction

The Export Cell has been developed to work with the Export plugin. It allows to access the data warehouse database and extract observations from the CRC tables in order to create a .xlsx spreadsheet to be downloaded.

Installation

Prerequisites

The cell has been tested with i2b2 1.7.06 and 1.7.07, installed on CentOS 7 server with PostgreSQL database. The cell can also use Oracle databases, but this function remains untested.

The following installation steps assume that you are installing the Export Cell on the server that hosts the i2b2 core cells; otherwise you have to set up a new server compliant with sections 2.4 (i2b2 Server Requirements) and 2.5 (Web Server Requirements) of the i2b2 Installation Guide.

You will find a description of every step and the shell instructions needed to complete it in the server configuration that has been tested so far.

Installation steps

1. Shut down JBOSS

```
service jboss stop
```

2. Download and install Apache httpclient-4.3.3, httpcore-4.3.2 and xercesImpl-2.8.1 libraries in the Axis2 lib folder.

```
wget
http://archive.apache.org/dist/httpcomponents/httpclient/binary/httpcomponen
ts-client-4.3.3-bin.zip

unzip httpcomponents-client-4.3.3-bin.zip

cp httpcomponents-client-4.3.3/lib/httpclient-4.3.3.jar
$JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/lib/

cp httpcomponents-client-4.3.3/lib/httpcore-4.3.2.jar
$JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/lib/

mv $JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/lib/httpcore-4.0.jar
$JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/lib/httpcore-4.0.jar.old
```

```
sudo rm -R httpcomponents-client-4.3.3*

unzip Xerces-J-bin.2.8.1.zip

cp xerces-2_8_1/xercesImpl.jar
$JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/lib/xercesImpl-2.8.1.jar

sudo rm -R xerces-2_8_1

sudo rm Xerces-J-bin.2.8.1.zip
```

3. You need to have the i2b2 core source file in order to compile the Export Cell

```
cd
```

<copy i2b2core-src-1707.zip to /root/i2b2_install>

```
cd i2b2_install

unzip i2b2core-src-1707.zip
```

4. Download and unzip the Export Cell sources at same level of other core cell sources

<copy cell zip to /root/i2b2_install>

```
cd i2b2_install/i2b2core-src-1707

unzip ../com.biomeris.i2b2.export.zip
```

5. Edit Export cell properties

```
cd com.biomeris.i2b2.export

nano etc/misc/exportcell.properties
```

- exportcell.dbaccess.hive.db.type
  - POSTGRESQL
  - ORACLE
- exportcell.dbaccess.hive.db.name
  - The name of the db containing the CRC tables (i2b2)
- exportcell.dbaccess.hive.db.host
  - Host of the db (127.0.0.1)
- exportcell.dbaccess.hive.db.port
  - Port of the db (5432)
- exportcell.dbaccess.hive.db.sid
  - Oracle System Id (only for Oracle databases, leave empty for PostgreSQL)
- exportcell.dbaccess.hive.db.username
  - Username for the i2b2hive schema (i2b2hive)
- exportcell.dbaccess.hive.db.password
  - Password for the i2b2hive schema (demouser)
- exportcell.dbaccess.block
  - Number of observations queried simultaneously (-1 for no limitations, tested with 100)
- exportcell.dbaccess.max_obs
  - Maximum number of observations per concept (tested with 1000000)

- exportcell.download.dir
  - The download endpoint folder that will be set up at point 8 (/var/www/html/downloads)
- exportcell.excel.winsize
  - Working parameter for Excel spreadsheet generation (tested with 1000)
- exportcell.auth.strategy
  - Authentication strategy, choose between:
    - none – if you don't want the user to be verified
    - single – if you want to verify user grants only when a user session is created
    - multi – if you want to verify user grants at every call received by the cell (recommended)
- exportcell.auth.level
  - Minimum access level to use the cell functions (reference to i2b2 documentation). Choose between:
    - DATA_OBFSC
    - DATA_AGG
    - DATA_LDS
    - DATA_DEID (tested)
    - DATA_PROT
- exportcell.session.timeout.minutes
  - Maximum number of minutes of inactivity for cell's sessions

6. Compile Export Cell

```
ant -f build.xml
```

7. Deploy Export Cell

```
cp dist/ExportCell-core.jar $JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/lib/

cp dist/ExportCell.aar $JBOSS_HOME/standalone/deployments/i2b2.war/WEB-INF/services/
```

8. Create the download endpoint in your webserver

```
mkdir /var/www/html/downloads
```

9. Restart JBOSS

```
service jboss start
```

10. Add the cell in the i2b2 web admin

log into admin webclient

Add New Cell:

- EXPORTCELL
- EXPORTCELL
- http://127.0.0.1:9090/i2b2/services/ExportService/
- /
- REST

Add new param to EXPORTCELL

- `DownloadEP`
- `http://<EP_IP>/<DOWNLOAD_PATH>/` (http://192.168.12.13/downloads/)
- `Text`

Add new param to EXPORTCELL (optional – needed if the Webclient is not accessed directly (e.g. tunneling))

- `staticProxyAddress`
- `http://<WEBCLIENT_ADDRESS>` (http:// 192.168.12.13/webclient/)
- `Text`

11. Add the cell to the i2b2 webclient

<copy EXPORTCELL.zip to /root/i2b2_install>

```
cd

unzip EXPORTCELL.zip -d /var/www/html/webclient/js-i2b2/cells

nano /var/www/html/webclient/js-i2b2/i2b2_loader.js
```

- add cell:

```
{ code: "EXPORTCELL"},
```