ICAT Logging:

<u>Database scripts:</u>
CREATE:

```
CREATE TABLE LOGIN
(SESSION_ID VARCHAR2(255) PRIMARY KEY,
USER_ID VARCHAR2(50),
LOGIN_TIME DATE,
LOGOUT_TIME DATE );

CREATE TABLE SIMPLE_VIEW
(VIEW_ID NUMERIC(38, 0) PRIMARY KEY,
SESSION_ID VARCHAR2(255) REFERENCES LOGIN(SESSION_ID),
VIEW_TIME DATE,
USER_ID VARCHAR2(50),
METHOD VARCHAR2(255) );

CREATE TABLE DATASET_INCLUDE
(ID NUMERIC(38, 0) PRIMARY KEY,
NAME VARCHAR2(255) );

CREATE TABLE DATASET_VIEW
(ID NUMERIC(38, 0) PRIMARY KEY,
DATASET_ID NUMERIC(38, 0),
VIEW_ID NUMERIC(38, 0) REFERENCES SIMPLE_VIEW(VIEW_ID),
PI_ID NUMERIC(38, 0),
INVESTIGATION_ID NUMERIC(38, 0),
INSTRUMENT VARCHAR2(255),
INCLUDES NUMERIC(38, 0) REFERENCES DATASET_INCLUDE(ID) );

CREATE TABLE INV_INCLUDE
(ID NUMERIC(38, 0) PRIMARY KEY,
NAME VARCHAR2(255) );

CREATE TABLE INVESTIGATION_VIEW
(ID NUMERIC(38, 0) PRIMARY KEY,
INVESTIGATION_ID NUMERIC(38, 0),
VIEW_ID NUMERIC(38, 0) REFERENCES SIMPLE_VIEW(VIEW_ID),
PI_ID NUMERIC(38, 0),
INVESTIGATION_ID NUMERIC(38, 0),
INSTRUMENT VARCHAR2(255),
START_INDEX INT,
NO_RESULTS INT,
INCLUDES NUMERIC(38, 0) REFERENCES INV_INCLUDE(ID) );

CREATE TABLE DATAFILE_VIEW
(ID NUMERIC(38, 0) PRIMARY KEY,
DATAFILE_ID NUMERIC(38, 0),
VIEW_ID NUMERIC(38, 0) REFERENCES SIMPLE_VIEW(VIEW_ID),
FILENAME VARCHAR2(255),
SIZE NUMBER,
```

```
FORMAT VARCHAR2(255),
AGE VARCHAR2(255),
DATASET_ID NUMERIC(38, 0),
PI_ID NUMERIC(38, 0),
INVESTIGATION_ID NUMERIC(38, 0),
INSTRUMENT VARCHAR2(255) );

CREATE TABLE DOWNLOAD
(DOWNLOAD_ID NUMERIC(38, 0) PRIMARY KEY,
SESSION_ID VARCHAR2(255) REFERENCES LOGIN(SESSION_ID),
USER_ID VARCHAR2(50),
NO_FILES INT,
TOTAL_SIZE INT,
DOWNLOAD_TIME DATE,
METHOD VARCHAR2(255) );

CREATE TABLE DATAFILE_DOWNLOAD
(ID NUMERIC(38, 0) PRIMARY KEY,
DATAFILE_ID NUMERIC(38, 0),
DOWNLOAD_ID NUMERIC(38, 0) REFERENCES DOWNLOAD(DOWNLOAD_ID),
FILENAME VARCHAR2(255),
SIZE NUMBER,
FORMAT VARCHAR2(255),
AGE VARCHAR2(255),
DATASET_ID NUMERIC(38, 0),
PI_ID NUMERIC(38, 0),
INVESTIGATION_ID NUMERIC(38, 0),
INSTRUMENT VARCHAR2(255) );

CREATE TABLE SEARCH
(SEARCH_ID NUMERIC(38, 0) PRIMARY KEY,
SESSION_ID VARCHAR2(255) REFERENCES LOGIN(SESSION_ID),
USER_ID VARCHAR2(50),
SEARCH_TIME DATE,
METHOD VARCHAR2(255) );

CREATE TABLE ADVANCED_SEARCH
(ADV_ID NUMERIC(38, 0) PRIMARY KEY,
SEARCH_ID NUMERIC(38, 0) REFERENCES SIMPLE_SEARCH(SEARCH_ID),
TITLE VARCHAR2(255),
ABSTRACT VARCHAR2(4000),
SAMPLE_ID NUMERIC(38, 0),
SAMPLE VARCHAR2(500),
INVESTIGATOR VARCHAR2(255),
DATAFILE VARCHAR2(255),
RB VARCHAR2(255),
GRANT_ID NUMERIC(38, 0),
FACILITY VARCHAR2(255),
INV_TYPE VARCHAR2(255),
RUN_START FLOAT(126),
RUN_END FLOAT(126),
START_DATE DATE,
END_DATE DATE,
```

```sql
START_INDEX INT,
NO_RESULTS INT,
CASE_SENSITIVE VARCHAR2(10),
VISIT_ID VARCHAR2 (255),
INV_INCLUDE NUMERIC(38, 0) REFERENCES INV_INCLUDE(ID) );

CREATE TABLE LOG_INVESTIGATOR
(ID NUMERIC(38, 0) PRIMARY KEY,
NAME VARCHAR2(255) );

CREATE TABLE ADV_INVESTIGATOR
(INVESTIGATOR_ID NUMERIC(38, 0) REFERENCES LOG_INVESTIGATOR(ID),
ADV_ID NUMERIC(38, 0) REFERENCES ADVANCED_SEARCH(ADV_ID),
PRIMARY KEY (ADV_ID, INVESTIGATOR_ID));

CREATE TABLE LOG_INSTRUMENT
(INSTRUMENT_ID NUMERIC(38, 0) PRIMARY KEY,
NAME VARCHAR2(255)
TYPE VARCHAR2(255) );

CREATE TABLE ADV_INSTRUMENT
(INSTRUMENT_ID NUMERIC(38, 0) REFERENCES LOG_INSTRUMENT(INSTRUMENT_ID),
ADV_ID NUMERIC(38, 0) REFERENCES ADVANCED_SEARCH(ADV_ID),
PRIMARY KEY(INSTRUMENT_ID, ADV_ID) );

CREATE TABLE LOG_KEYWORD
(ID NUMERIC(38, 0) PRIMARY KEY,
KEYWORD VARCHAR2(255) );

CREATE TABLE ADV_KEYWORD
(ADV_ID NUMERIC(38, 0)  REFERENCES ADVANCED_SEARCH(ADV_ID),
KEYWORD_ID NUMERIC(38, 0) REFERENCES LOG_KEYWORD(ID),
PRIMARY KEY (ADV_ID, KEYWORD_ID) );

CREATE TABLE GENERIC
(GENERIC_ID NUMERIC(38, 0) PRIMARY KEY );

CREATE TABLE TYPE
(ID NUMERIC(38, 0) PRIMARY KEY,
NAME VARCHAR2(255) );

CREATE TABLE SIMPLE_WHERE
(WHERE_ID NUMERIC(38, 0) PRIMARY KEY,
GENERIC_ID NUMERIC(38, 0) REFERENCES GENERIC(GENERIC_ID) );

CREATE TABLE LOGICAL
(LOGICAL_ID NUMERIC(38, 0) PRIMARY KEY,
TYPE_ID NUMERIC(38, 0) REFERENCES TYPE(ID),
RH_WHERE_ID NUMERIC(38, 0) REFERENCES SIMPLE_WHERE(WHERE_ID),
LH_WHERE_ID NUMERIC(38, 0) REFERENCES SIMPLE_WHERE(WHERE_ID) );

ALTER TABLE SIMPLE_WHERE
ADD LOGICAL_ID NUMERIC(38, 0) REFERENCES LOGICAL(LOGICAL_ID);
```

```
CREATE TABLE PARAM_SEARCH
(PARAM_SEARCH_ID NUMERIC(38, 0) PRIMARY KEY,
SEARCH_ID NUMERIC(38, 0) REFERENCES SEARCH(SEARCH_ID),
METHOD VARCHAR2(255),
DATASET_INC VARCHAR2(255),
DATAFILE_INC VARCHAR2(255),
SAMPLE_INC VARCHAR2(255),
INVESTIGATION_INC VARCHAR2(255),
OFFSET INT,
COUNT INT,
WHERE_ID NUMERIC(38, 0) REFERENCES SIMPLE_WHERE(WHERE_ID) );

CREATE TABLE COMP_OPERATOR
(ID NUMERIC(38, 0) PRIMARY KEY,
NAME VARCHAR2(255) );

CREATE TABLE COMP_OBJECT
(OBJECT_ID NUMERIC(38, 0) PRIMARY KEY,
STRING_VAL VARCHAR2(255),
NUM_VAL NUMBER,
BOOL_VAL VARCHAR2(20) );

CREATE TABLE COMPARISON
(COMP_ID NUMERIC(38, 0) PRIMARY KEY,
ATTRIBUTE VARCHAR2(255),
GENERIC_ID NUMERIC(38, 0) REFERENCES GENERIC(GENERIC_ID),
OPERATOR_ID NUMERIC(38, 0) REFERENCES COMP_OPERATOR(ID),
OBJECT_ID NUMERIC(38, 0) REFERENCES COMP_OBJECT(OBJECT_ID) );

CREATE TABLE BETWEEN_COMPARISON
(BETWEEN_ID NUMERIC(38, 0) PRIMARY KEY,
ATTRIBUTE VARCHAR2(255),
GENERIC_ID NUMERIC(38, 0) REFERENCES GENERIC(GENERIC_ID),
RH_OBJECT_ID NUMERIC(38, 0) REFERENCES COMP_OBJECT(OBJECT_ID),
LH_OBJECT_ID NUMERIC(38, 0) REFERENCES COMP_OBJECT(OBJECT_ID) );
```

DROP:

```
DROP TABLE BETWEEN_COMPARISON;
DROP TABLE COMPARISON;
DROP TABLE COMP_OBJECT;
DROP TABLE COMP_OPERATOR;
DROP TABLE PARAM_SEARCH;
ALTER TABLE SIMPLE_WHERE
DROP COLUMN LOGICAL_ID;
DROP TABLE SIMPLE_WHERE;
DROP TABLE LOGICAL;
DROP TABLE TYPE;
DROP TABLE GENERIC;
DROP TABLE ADV_KEYWORD;
DROP TABLE LOG_KEYWORD;
DROP TABLE ADV_INSTRUMENT;
```

```
DROP TABLE LOG_INSTRUMENT;
DROP TABLE ADV_INVESTIGATOR;
DROP TABLE LOG_INVESTIGATOR;
DROP TABLE ADVANCED_SEARCH;
DROP TABLE SEARCH;
DROP TABLE DATAFILE_DOWNLOAD;
DROP TABLE DOWNLOAD;
DROP TABLE DATAFILE_VIEW;
DROP TABLE INVESTIGATION_VIEW;
DROP TABLE INV_INCLUDE;
DROP TABLE DATASET_VIEW;
DROP TABLE DATASET_INCLUDE;
DROP TABLE SIMPLE_VIEW;
DROP TABLE LOGIN;
```

INSERT:

```
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('INVESTIGATOR_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('INSTRUMENT_KEY', 50);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('SEARCH_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('ADVANCED_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('FILE_DOWNLOAD_KEY',
1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('DOWNLOAD_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('SET_VIEW_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES
('INVESTIGATION_VIEW_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('VIEW_KEY', 1);
INSERT INTO ID_SEQUENCE_TABLE (NAME, VALUE) VALUES ('KEYWORD_KEY', 1);


INSERT INTO INV_INCLUDE(ID, NAME) VALUES (1, 'INVESTIGATORS_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (2, 'KEYWORDS_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (3, 'PUBLICATIONS_ONLY,');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (4, 'INVESTIGATORS_AND_KEYWORDS');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (5, 'INVESTIGATORS_AND_SHIFTS');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (6,
'INVESTIGATORS_SHIFTS_AND_SAMPLES');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (7,
'INVESTIGATORS_SHIFTS_SAMPLES_AND_PUBLICATIONS');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (8, 'DATASETS_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (9,
'DATASETS_AND_DATASET_PARAMETERS_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (10, 'DATASETS_AND_DATAFILES');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (11,
'DATASETS_DATAFILES_AND_PARAMETERS');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (12, 'SAMPLES_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (13, 'ROLE_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (14, 'SHIFT_ONLY');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (15, 'ALL');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (16, 'NONE');
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (17,
'ALL_EXCEPT_DATASETS_AND_DATAFILES');
```

```
INSERT INTO INV_INCLUDE(ID, NAME) VALUES (18,
'ALL_EXCEPT_DATASETS_DATAFILES_AND_ROLES');

INSERT INTO DATASET_INCLUDE(ID, NAME) VALUES (1,
'DATASET_AND_DATAFILES_ONLY');
INSERT INTO DATASET_INCLUDE(ID, NAME) VALUES (2,
'DATASET_PARAMETERS_ONLY');
INSERT INTO DATASET_INCLUDE(ID, NAME) VALUES (3,
'DATASET_DATAFILES_AND_PARAMETERS');
INSERT INTO DATASET_INCLUDE(ID, NAME) VALUES (4, 'NONE');
```

Scripts for MDB ConnectionFactory, Queues and Destinations:
Must be run before deploying icat3-logging

```
asadmin create-jms-resource --restype
javax.jms.QueueConnectionFactory jms/icat/QueueConnectionFactory

asadmin create-jms-resource --restype javax.jms.Queue
jms/advanced/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/login/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/logout/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/keywords/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/runnumber/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/download/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/sample/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/datafile/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/dataset/Queue

asadmin create-jms-resource --restype javax.jms.Queue
jms/investigations/Queue
```

```
asadmin create-jms-resource --restype javax.jms.Queue
jms/myinvestigations/Queue

asadmin create-jmsdest --desttype queue Login

asadmin create-jmsdest --desttype queue Logout

asadmin create-jmsdest --desttype queue Keywords

asadmin create-jmsdest --desttype queue RunNumber

asadmin create-jmsdest --desttype queue AdvancedSearch

asadmin create-jmsdest --desttype queue Sample

asadmin create-jmsdest --desttype queue ViewDatafiles

asadmin create-jmsdest --desttype queue ViewDatasets

asadmin create-jmsdest --desttype queue ViewMyInvestigations

asadmin create-jmsdest --desttype queue ViewInvestigations

asadmin create-jmsdest --desttype queue Download
```

Deploying icat3-logging:
icat3-logging should be added as a library to icat3-exposed.

ICAT Reporting

Jrxml files:
A jrxml directory can be created anywhere on the server. All jrxml files should be placed here*.

Properties files:
Reporting.properties- uk.icat3.reporting.client
- numberYears- for setting how many years appear in the list for parameters MONTH_FROM and MONTH_UNTIL

Images.properties- glassfish > domains > domain1 > config
- logoLeft- path for image appearing in top left and bottom right of reports
- logoRight- path for image appearing in top right of reports
- *sourceFolder- path for folder containing jrxml files

Libraries:
The following jar files should be added to glassfish > domains > domain1 > lib (they should be included with a jasperreports download):

- commons-beanutils
- commons-collections
- commons-digester
- commons-logging
- groovy-all
- iText
- jcommon
- jdt-compiler
- jfreechart
- jpa
- ojdbc

log4j.jar and jasperreports.jar should be added to icat3-reporting as libraries.

Deployment:

icat3-reporting can be deployed separately as a standalone war file.

Report parameters:

Name	Parameter	Type
LoginBarChartDay LoginsDay Downloads DownloadsByAge DatafileViewsByInstrument DatasetViewsByInstrument InvestigationViewsByInstrument	FROM UNTIL	Timestamp Timestamp
LoginBarChartMonth LoginsMonth DownloadsBySize	MONTH_FROM MONTH_UNTIL	Timestamp Timestamp
DownloadsForUser	FROM UNTIL USERID	Timestamp Timestamp String
DownloadsForInstrument	FROM UNTIL INSTRUMENT	Timestamp Timestamp String