Cúram

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Db2 13 for z/OS Post-installation Steps

Note

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Edition

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Overview

With the introduction of Db2 13 for z/OS, there is an issue with the IBM WebSphere for z/OS application server scripts used to create the SIB and EJB Timer tables. The WebSphere scripts expect to use deprecated non-UTS table space types when completing the creation of these tables in the database. IBM have acknowledged the issue and have been requested to provide a formal solution. Further details on Db2 13 for z/OS table spaces can be found here.

These steps only need to be completed when the customer is using a WebSphere for z/OS application server instance configured using the Cúram OOTB **configure** target (which uses these WebSphere scripts). The following Db2 13 for z/OS database post-installation steps are required to drop the incorrectly configured SIB and EJB Timer tables and create new SIB and EJB Timer tables for use with the WebSphere for z/OS application server instance.

The **configure** target uses the values from the following properties in the *Bootstrap.properties* file for the SQL templates in the following sections.

SQL Template Variable	Bootstrap Property Name
SCHEMA_NAME	curam.db.username
DATABASE_USER	curam.db.username
DATABASE_NAME	curam.db.zos.dbname

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Post-installation steps for the EJB Timer Tables

The following SQL statements need to be run against the Db2 13 for z/OS database to drop the incorrectly created EJB Timer tables after the **configure** target runs successfully:

```
DROP INDEX <SCHEMA_NAME>.EJBTIMER_TASK1I;
DROP TABLE <SCHEMA_NAME>.EJBTIMER_TASK1;
DROP INDEX <SCHEMA_NAME>.EJBTIMER_TASK_IDX1;
DROP INDEX <SCHEMA_NAME>.EJBTIMER_TASK_IDX2;
DROP TABLE <SCHEMA_NAME>.EJBTIMER_TASK;
DROP TABLE <SCHEMA_NAME>.EJBTIMER_TREG;
DROP TABLE <SCHEMA_NAME>.EJBTIMER_LMGR;
DROP TABLE <SCHEMA_NAME>.EJBTIMER_LMPR;
```

The following SQL statements need to be run against the Db2 13 for z/OS database to create EJB Timer tables for the WebSphere for z/OS application server created by the **configure** target:

```
CREATE TABLE <SCHEMA_NAME>.EJBTIMER_TASK
(
    TASKID          NUMERIC(19)    NOT NULL ,
    VERSION         VARCHAR(5)     NOT NULL ,
    ROW_VERSION     INTEGER        NOT NULL ,
    TASKTYPE        INTEGER        NOT NULL ,
    TASKSUSPENDED   SMALLINT       NOT NULL ,
    CANCELLED       SMALLINT       NOT NULL ,
    NEXTFIRETIME    NUMERIC(19)    NOT NULL ,
    STARTBYINTERVAL VARCHAR(254)   ,
    STARTBYTIME     NUMERIC(19)    ,
    VALIDFROMTIME   NUMERIC(19)    ,
    VALIDTOTIME     NUMERIC(19)    ,
    REPEATINTERVAL  VARCHAR(254)   ,
    MAXREPEATS      INTEGER        NOT NULL ,
    REPEATSLEFT     INTEGER        NOT NULL ,
    TASKINFO        BLOB(102400)   ,
    NAME            VARCHAR(254)   NOT NULL ,
    AUTOPURGE       INTEGER        NOT NULL ,
    FAILUREACTION   INTEGER        ,
    MAXATTEMPTS     INTEGER        ,
    QOS             INTEGER        ,
    PARTITIONID     INTEGER        ,
    OWNERTOKEN      VARCHAR(200)   NOT NULL ,
    CREATETIME      NUMERIC(19)    NOT NULL ,
    ROW_ID          ROWID          NOT NULL GENERATED ALWAYS,
    PRIMARY KEY ( TASKID )
)
IN DATABASE <DATABASE_NAME>;
```

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```
CREATE INDEX <SCHEMA_NAME>.EJBTIMER_TASK_IDX1 ON
<SCHEMA_NAME>.EJBTIMER_TASK
(
   TASKID,OWNERTOKEN
)
USING STOGROUP SYSDEFLT;

CREATE INDEX <SCHEMA_NAME>.EJBTIMER_TASK_IDX2 ON
<SCHEMA_NAME>.EJBTIMER_TASK
(
   NEXTFIRETIME ASC, REPEATSLEFT, PARTITIONID
)
USING STOGROUP SYSDEFLT;

CREATE TABLE <SCHEMA_NAME>.EJBTIMER_TREG
(
   REGKEY                  VARCHAR(254)        NOT NULL ,
   REGVALUE                VARCHAR(254)        ,
   PRIMARY KEY ( REGKEY )
)
 IN DATABASE <DATABASE_NAME>;

CREATE TABLE <SCHEMA_NAME>.EJBTIMER_LMGR
(
   LEASENAME                   VARCHAR(254) NOT NULL,
   LEASEOWNER                  VARCHAR(254) NOT NULL,
   LEASE_EXPIRE_TIME           NUMERIC(19),
   DISABLED                    VARCHAR(5),
   PRIMARY KEY ( LEASENAME )
)
 IN DATABASE <DATABASE_NAME>;

CREATE TABLE <SCHEMA_NAME>.EJBTIMER_LMPR
(
   LEASENAME                   VARCHAR(254) NOT NULL,
   NAME                        VARCHAR(254) NOT NULL,
   VALUE                       VARCHAR(254) NOT NULL
)
 IN DATABASE <DATABASE_NAME>;

CREATE INDEX <SCHEMA_NAME>.EJBTIMER_LMPR_IDX1 ON
<SCHEMA_NAME>.EJBTIMER_LMPR
(
   LEASENAME
)
USING STOGROUP SYSDEFLT;
```

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Post-installation steps for the SIB tables

The following SQL statements need to run against the Db2 13 for z/OS database to drop the incorrectly created SIB tables after the **configure** target runs successfully:

```
DROP TABLE <SCHEMA_NAME>.SIBOWNER;
DROP TABLE <SCHEMA_NAME>.SIBOWNERO;
DROP TABLE <SCHEMA_NAME>.SIBCLASSMAP;
DROP TABLE <SCHEMA_NAME>.SIBLISTING;
DROP TABLE <SCHEMA_NAME>.SIB000;
DROP TABLE <SCHEMA_NAME>.SIB001;
DROP TABLE <SCHEMA_NAME>.SIB002;
DROP TABLE <SCHEMA_NAME>.SIBXACTS;
DROP TABLE <SCHEMA_NAME>.SIBKEYS;

-- ADDED to clean up explicit LOB tablespaces
DROP TABLESPACE <SCHEMA_NAME>.SIB000LS;
DROP TABLESPACE <SCHEMA_NAME>.SIB001LS;
DROP TABLESPACE <SCHEMA_NAME>.SIB002LS;
```

The following SQL statements need to be run against the Db2 13 for z/OS database to create SIB tables for the WebSphere for z/OS application server created by the **configure** target:

```
CREATE TABLE <SCHEMA_NAME>.SIBOWNER (
  ME_UUID VARCHAR(16),
  INC_UUID VARCHAR(16),
  VERSION INTEGER,
  MIGRATION_VERSION INTEGER,
  ME_LUTS TIMESTAMP,
  ME_INFO VARCHAR(254),
  ME_STATUS VARCHAR(16)
) IN DATABASE <DATABASE_NAME>;

CREATE UNIQUE INDEX <SCHEMA_NAME>.SIBOWNER ON <SCHEMA_NAME>.SIBOWNER (
  ME_UUID
) USING STOGROUP SIBSG PRIQTY 200 SECQTY 20;

CREATE TABLE <SCHEMA_NAME>.SIBOWNERO (
   EMPTY_COLUMN INTEGER
) IN DATABASE <DATABASE_NAME>;

CREATE TABLE <SCHEMA_NAME>.SIBCLASSMAP (
  CLASSID INTEGER NOT NULL,
  URI VARCHAR(2048) NOT NULL,
  PRIMARY KEY(CLASSID)
) IN DATABASE <DATABASE_NAME>;
```

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```
CREATE TABLE <SCHEMA_NAME>.SIBLISTING (
  ID INTEGER NOT NULL,
  SCHEMA_NAME VARCHAR(10),
  TABLE_NAME VARCHAR(10) NOT NULL,
  TABLE_TYPE CHAR(1) NOT NULL,
  PRIMARY KEY(ID)
) IN DATABASE <DATABASE_NAME>;

SET CURRENT RULES = 'DB2';

CREATE TABLE <SCHEMA_NAME>.SIBXACTS (
  XID VARCHAR(254) NOT NULL,
  STATE CHAR(1) NOT NULL,
  PRIMARY KEY(XID)
) IN DATABASE <DATABASE_NAME>;

CREATE TABLE <SCHEMA_NAME>.SIBKEYS (
  ID VARCHAR(50) NOT NULL,
  LAST_KEY DECIMAL(19) NOT NULL,
  PRIMARY KEY(ID)
) IN DATABASE <DATABASE_NAME>;

SET CURRENT RULES = 'DB2';

CREATE TABLE <SCHEMA_NAME>.SIB000 (
  ID DECIMAL(19) NOT NULL,
  STREAM_ID DECIMAL(19) NOT NULL,
  TYPE CHAR(2),
  EXPIRY_TIME DECIMAL(19),
  STRATEGY INTEGER,
  REFERENCE DECIMAL(19),
  CLASS_ID INTEGER NOT NULL,
  PRIORITY INTEGER,
  SEQUENCE DECIMAL(19),
  PERMANENT_ID INTEGER,
  TEMPORARY_ID INTEGER,
  LOCK_ID DECIMAL(19),
  DATA_SIZE INTEGER NOT NULL,
  DATA VARCHAR(3360) FOR BIT DATA,
  LONG_DATA BLOB(100M),
  LONG_DATA_ID ROWID GENERATED ALWAYS NOT NULL,
  XID VARCHAR(254),
  DELETED SMALLINT,
  REDELIVERED_COUNT INTEGER,
  DELIVERYDELAY_TIME DECIMAL(19,0),
  PRIMARY KEY(ID)
) IN DATABASE <DATABASE_NAME>;
```

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```
CREATE INDEX <SCHEMA_NAME>.SIB000STREAMIX ON <SCHEMA_NAME>.SIB000 (
  STREAM_ID,
  SEQUENCE
) USING STOGROUP SIBSG PRIQTY 500 SECQTY 50;

SET CURRENT RULES = 'DB2';

CREATE TABLE <SCHEMA_NAME>.SIB001 (
  ID DECIMAL(19) NOT NULL,
  STREAM_ID DECIMAL(19) NOT NULL,
  TYPE CHAR(2),
  EXPIRY_TIME DECIMAL(19),
  STRATEGY INTEGER,
  REFERENCE DECIMAL(19),
  CLASS_ID INTEGER NOT NULL,
  PRIORITY INTEGER,
  SEQUENCE DECIMAL(19),
  PERMANENT_ID INTEGER,
  TEMPORARY_ID INTEGER,
  LOCK_ID DECIMAL(19),
  DATA_SIZE INTEGER NOT NULL,
  DATA VARCHAR(3360) FOR BIT DATA,
  LONG_DATA BLOB(100M),
  LONG_DATA_ID ROWID GENERATED ALWAYS NOT NULL,
  XID VARCHAR(254),
  DELETED SMALLINT,
  REDELIVERED_COUNT INTEGER,
  DELIVERYDELAY_TIME DECIMAL(19,0),
  PRIMARY KEY(ID)
) IN DATABASE <DATABASE_NAME>;

CREATE INDEX <SCHEMA_NAME>.SIB001STREAMIX ON <SCHEMA_NAME>.SIB001 (
  STREAM_ID,
  SEQUENCE
) USING STOGROUP SIBSG PRIQTY 500 SECQTY 50;
```

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```
SET CURRENT RULES = 'DB2';

CREATE TABLE <SCHEMA_NAME>.SIB002 (
  ID DECIMAL(19) NOT NULL,
  STREAM_ID DECIMAL(19) NOT NULL,
  TYPE CHAR(2),
  EXPIRY_TIME DECIMAL(19),
  STRATEGY INTEGER,
  REFERENCE DECIMAL(19),
  CLASS_ID INTEGER NOT NULL,
  PRIORITY INTEGER,
  SEQUENCE DECIMAL(19),
  PERMANENT_ID INTEGER,
  TEMPORARY_ID INTEGER,
  LOCK_ID DECIMAL(19),
  DATA_SIZE INTEGER NOT NULL,
  DATA VARCHAR(3360) FOR BIT DATA,
  LONG_DATA BLOB(100M),
  LONG_DATA_ID ROWID GENERATED ALWAYS NOT NULL,
  XID VARCHAR(254),
  DELETED SMALLINT,
  REDELIVERED_COUNT INTEGER,
  DELIVERYDELAY_TIME DECIMAL(19,0),
  PRIMARY KEY(ID)
) IN DATABASE <DATABASE_NAME>;

CREATE INDEX <SCHEMA_NAME>.SIB002STREAMIX ON <SCHEMA_NAME>.SIB002 (
  STREAM_ID,
  SEQUENCE
) USING STOGROUP SIBSG PRIQTY 500 SECQTY 50;

GRANT SELECT,INSERT,UPDATE ON <SCHEMA_NAME>.SIBOWNER TO <DATABASE_USER>;
GRANT SELECT,INSERT,UPDATE ON <SCHEMA_NAME>.SIBOWNERO TO <DATABASE_USER>;
GRANT SELECT,INSERT ON <SCHEMA_NAME>.SIBCLASSMAP TO <DATABASE_USER>;
GRANT SELECT,INSERT ON <SCHEMA_NAME>.SIBLISTING TO <DATABASE_USER>;
GRANT SELECT,INSERT,DELETE,UPDATE ON <SCHEMA_NAME>.SIB000 TO <DATABASE_USER>;
GRANT SELECT,INSERT,DELETE,UPDATE ON <SCHEMA_NAME>.SIB001 TO <DATABASE_USER>;
GRANT SELECT,INSERT,DELETE,UPDATE ON <SCHEMA_NAME>.SIB002 TO <DATABASE_USER>;
GRANT SELECT,INSERT,UPDATE,DELETE ON <SCHEMA_NAME>.SIBXACTS TO <DATABASE_USER>;
GRANT SELECT,INSERT,UPDATE ON <SCHEMA_NAME>.SIBKEYS TO <DATABASE_USER>;
```

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Verification

Once the steps have been completed, the customer can verify the tables have been created correctly by starting the WebSphere for z/OS application server instance created by the **configure** target and ensuring there are no errors related to the EJB Timers or SIB connecting to the database tables.

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