

ALBPM 5.5 to ALBPM 5.7 Migration Procedure Document

Introduction

Customers with production environments in ALBPM 5.5 SP11 will require the migration of the Directory Service and Process Execution Engine Instance Databases as well as BAM, DataMart and Archiving RDBMS. The migration is significantly alleviated since the Schema structures for the different ALBPM Databases have not changed. The only changes have been new compatible type definitions to support the storage of Unicode information. This is required to accomplish a successful migration of customers in ALBPM 5.5 SP11 into ALBPM 5.7 SP2.

For customers using MS SQL Server or IBM DB2, it may not be required to migrate the ALBPM Databases during the upgrade process since the new ALBPM 5.7 SP2 code will work with the existing ALBPM 5.5 SP11 Schema structures. However, if the customer wants to leverage the new ALBPM 5.7 Internationalization or Localization capabilities, it will require the manual table migrated based on the data type mappings defined in Appendix A: "Generic Schema changes table". You can use the general guidelines provided on the create_tables.sql, start_redefine.sql and create_constraints.sql in the "Process Execution Engine Database Migration" section.

There is also a known issue that does not impact the migration that will be addressed in a Critical Fix or next ALBPM Maintenance Pack (ALBPM 5.7 MP3). This one is mentioned in the "Known Issues Section of the document".

For customers using Oracle, the upgrade procedure is mandatory and it will involve following the high level steps described below:

Before proceeding with the migration, it is strongly recommended the backup of all Databases to be migrated since the scripts will work on the ALBPM 5.5 Databases.

1. For J2EE installations (ie: Enterprise for WebLogic), it would also be necessary to do the following:
 - Stop ALL ALBPM 5.5 Applications (EARs and/or WARs) running on the J2EE Container such as Engine, Projects, WorkSpace and Deployer. This can be done from the ALBPM Process Administrator if you have the ALBPM Deployer deployed in the J2EE Container. Otherwise, you can stop them from the J2EE Container Administration Console.
 - Uninstall or undeploy ALL ALBPM 5.5 Applications (EARs and/or WARs) deployed in the J2EE Container such as Engine, Projects, WorkSpace and Deployer. This can be done from ALBPM Process Administrator if you have ALBPM Deployer deployed in the J2EE Container. Otherwise, you can use the J2EE Container Administration Console for it.

- Stop the J2EE Container where ALBPM 5.5 Applications (EARs and/or WARs) were deployed and running.
2. Stop all ALBPM 5.5 SP11 Services (BAM/DataMart Updater, Embedded Tomcat) and the running ALBPM Process Execution Engines.
3. Uninstall ALBPM 5.5 SP11 Services (BAM/Datamart Updater, Embedded Tomcat if used as service).
4. Migrate the information in the Directory Service used by ALBPM 5.5 SP11 to the one used by ALBPM 5.7 SP2 or higher Service Pack. There are migration scripts to convert a Directory Service deployed in an RDBMS from ALBPM 5.5 SP11 to ALBPM 5.7 SP2. (Refer to the section "Directory Service DB Migration").
5. Migrate the Process Execution Engines Databases used with ALBPM 5.5 SP11 using the scripts provided with the ALBPM 5.7 SP2 Enterprise Distributions. (Refer to the section "Process Execution Engines Database Migration").
6. Migrate additional ALBPM Databases (BAM, DataMart and Archiving) if required. (Refer to the section "Other Database Migrations").
7. Install ALBPM 5.7 Enterprise and properly license it. For WebLogic, it will be necessary to run the UpdateLicense.cmd or UpdateLicense.sh command) as indicated in the ALBPM 5.7 Enterprise Installation guide. For WebSphere, it will be necessary to include a new property specifying the BEA home to properly find the license file as indicated in the ALBPM 5.7 Enterprise Installation guide.
8. For J2EE Installations:
 - Edit the scripts that start the J2EE Container so that it points to the new ALBPM 5.7 libraries. If the J2EE Container is using Shared Libraries, these will need to get updated to point to the new 5.7 libraries (ie: fuego-j2ee-lib-all.jar).
9. Install ALBPM 5.7 SP2 Services (BAM/DataMart Updater, Embedded Tomcat if used as service). Refer to BAM/DataMart documentation for details about how to configure this service.
10. Start ALBPM 5.7 SP2 Admin Center. Create a configuration to connect to the migrated FDI schema. (same properties used in ALBPM 5.5 installation). It may be necessary to install the needed JDBC Drivers for the selected Directory Service (ie: ojdbc14.jar).
11. Log into ALBPM 5.7 SP2 Process Administrator and modify the Process Execution Engines Home Directory and Log Directory. This is an optional step you could keep current locations if desired.
12. Modify the Log Directory for the BAM/DataMart. This is an optional step you could keep current locations if desired.
13. Start ALBPM 5.7 SP2 Services (BAM/DataMart Updater, Embedded Tomcat if used as service).
14. For J2EE Installations:
 - Start the J2EE Container where you will deploy ALBPM Applications.
 - Create a new Application for the ALBPM Deployer bundled with ALBPM 5.7 Enterprise package.
 - Log into ALBPM Process Administrator and generate the ALBPM J2EE Applications (EARs and/or WARs for Engine, Workspace and projects) and deploy them again to the J2EE Container. Install ALL the ALBPM J2EE Applications either through the installed ALBPM

Deployer Application or through the J2EE Container Administration Console.

15. Start all ALBPM 5.7 SP2 Process Execution Engines and Services and verify instances executed with ALBPM 5.7 SP2 Process Execution Engines can be processed without errors.

The scripts mentioned in this document to upgrade an Oracle RDBMS, are all distributed with an ALBPM 5.7 SP2 (or higher Service Pack) Enterprise distributions under the following directory: `$ENTERPRISE/conf/migration/oracle`. It is mandatory that these scripts are run using Oracle SQLPlus logged in as a user with administration permissions. You will also need to have an Oracle Enterprise Edition to properly execute these scripts (On Line Redefinition feature is only available in the Enterprise distributions and not in the Standard Distributions).

Directory Service DB Migration for Oracle

This section of the document will describe the steps to upgrade an ALBPM 5.5 SP11 Directory Service deployed on Oracle to be used by an ALBPM 5.7 SP2 installation.

1. Edit the `$ENTERPRISE/conf/migration/oracle/directory_lob.sql` SQL Script and replace the appearances of the String literal `$$SCHEMA$$` with the actual ALBPM 5.5 Directory Service Oracle User name. It is mandatory for Oracle, to specify this Schema name all in upper case.
2. Run `$ENTERPRISE/conf/migration/oracle/directory_lob.sql` SQL Script to update any LONG and LONG RAW datatypes to BLOB and CLOB.
3. Edit the `$ENTERPRISE/conf/migration/oracle/rebuild_directory_index.sql` SQL Script and replace the appearances of the String literal `$$DIRECTORY_SCHEMA$$` with the actual ALBPM 5.5 Directory Service Oracle User name. It is mandatory for Oracle, to specify this Schema name all in upper case.
4. Run `$ENTERPRISE/conf/migration/oracle/rebuild_directory_index.sql` SQL Script to rebuild any index after the database column type changes into LOB datatypes.
5. Edit ALL the files inside `$ENTERPRISE/conf/migration/oracle/online_redefinition/directory` and replace the appearances of `$$SCHEMA$$` with the actual ALBPM 5.5 Directory Service Oracle User name. The ALBPM 5.5 Directory Service Oracle User name can be obtained from the `$ALBPM55/conf/directory.properties` in the schema attribute of the URL specified in the property: `"directory.default.url"`. The Oracle User Name specified needs to be in upper case.
6. Run the `$ENTERPRISE/conf/migration/oracle/online_redefinition/directory/check_tables.sql` SQL Script to check whether the tables can be redefined using online table redefinition, using the ROWID method. This step must complete successfully to continue with the procedure.
7. Run the `$ENTERPRISE/conf/migration/oracle/online_redefinition/directory/runOnlineRedefinition.sql` SQL Script to redefine the existing ALBPM 5.5



Datatypes to the new ones required. This script must be run from the location where it is located. This script internally makes references to other scripts in relative form. These low level SQL Scripts do not need to be run separately.

Process Execution Engines Database Migration

This section of the document will describe the steps to upgrade an ALBPM 5.5 SP11 Process Execution Engine deployed on Oracle to be used by an ALBPM 5.7 SP2 installation.

1. Edit the `$ENTERPRISE/conf/migration/oracle/engine_lob.sql` SQL Script and replace the appearances of the String literal `$$SCHEMA$$` with the actual ALBPM 5.5 Directory Service Oracle User name. It is mandatory for Oracle, to specify this Schema name all in upper case.
2. Run `$ENTERPRISE/conf/migration/oracle/engine_lob.sql` SQL Script to update any LONG and LONG RAW datatypes to BLOB and CLOB.
3. Edit the `$ENTERPRISE/conf/migration/oracle/rebuild_engine_index.sql` SQL Script and replace the appearances of the String literal `$$ENGINE_SCHEMA$$` with the actual ALBPM 5.5 Directory Service Oracle User name. It is mandatory for Oracle, to specify this Schema name all in upper case.
4. Run `$ENTERPRISE/conf/migration/oracle/rebuild_engine_index.sql` SQL Script to rebuild any index after the database column type changes into LOB datatypes.
5. Edit ALL the files inside `$ENTERPRISE/conf/migration/oracle/online_redefinition/engine` and replace the appearances of `“$$SCHEMA$$”` with the actual ALBPM 5.5 Process Execution Engine Oracle User. This Oracle User name needs to be specified in upper case.
6. Run the `$ENTERPRISE/conf/migration/oracle/online_redefinition/engine/check_tables.sql` SQL Script to check whether the tables can be redefined using online table redefinition, using the ROWID method. This step must complete successfully to continue with the procedure.
7. In addition, if your ALBPM deployment has External or Business Variables, you will need to edit the `create_tables.sql`, `start_redefine.sql` and `create_constraints.sql` SQL scripts so that the information stored in these additional Engine table columns are also migrated. These columns associated to External or Business Variables have the prefix `“V_”` associated to them. Only the Engine `PPROCINSTANCE` and `PPROCINSTEVENT` tables will have these additional columns. It is recommended that you take a look at these in the existing ALBPM 5.5 Process Execution Engine DB and replicate these into the mentioned scripts. An example is provided below where External or Business Variables are painted with RED:

create_tables.sql

```
CREATE TABLE MYENGINE.INT_PPROCINSTANCE  
(
```

```
CREATIONTIME DATE,  
NTHREADS INTEGER,  
...  
AUTHOR INTEGER,  
TOTALTHREADS INTEGER,  
PARTICIPANT INTEGER,  
V_CUSTOMER NVARCHAR2 (30),  
V_INVOICENO NUMBER,  
V_INVOICETOTAL NUMBER (18, 3),  
V_INVOICEDetail NCLOB,  
V_PLACEMENTDATE DATE  
)
```

Note: You may also need to modify the PROCINSTEVENT table.

start_redefine.sql

```
call  
DBMS_REDEFINITION.START_REDEF_TABLE('$$SCHEMA$$','pprocinst  
ance','int_pprocinstance','creationTime creationTime,nThreads  
nThreads,processId processId,hasPartForRole  
hasPartForRole,activationTime activationTime,itemDeadline  
itemDeadline,to_nchar(sourceActivityName)  
sourceActivityName,processDeadline processDeadline,nRemarks  
nRemarks,pendingItemId pendingItemId,to_nchar(activityName)  
activityName,nextParticipant nextParticipant,priority  
priority,to_nchar(name) name,activityDeadline  
activityDeadline,threadId threadId,parentThread  
parentThread,cThreads cThreads,receiveTime  
receiveTime,to_nchar(lastResult) lastResult,roleIn roleIn,instId  
instId,nChanges nChanges,nAttachments nAttachments,state  
state,instanceData instanceData,author author,totalThreads  
totalThreads,participant participant, to_nchar(V_CUSTOMER)  
V_CUSTOMER,V_INVOICENO V_INVOICENO,V_INVOICETOTAL  
V_INVOICETOTAL,V_INVOICETOTALMS  
V_INVOICETOTALMS,to_nclob(V_INVOICEDetail) V_INVOICEDetail,  
V_PLACEMENTDATE V_PLACEMENTDATE',2);
```

Note: You may also need to modify the PROCINSTEVENT table.

create_constraints.sql

You will only need to edit this SQL Script if in your ALBPM 5.5 deployment you created indexes involving External or Business Variables. If this is the case, you will need to add the manually created indexes that include V_ columns.

```
CREATE INDEX $$SCHEMA$$.INT_ACT ON  
$$SCHEMA$$.INT_PPROCINSTANCE (V_CLIENTID)
```

8. Run the \$ENTERPRISE/conf/migration/oracle/online_redefinition/engine/runOnlineRedefinition.sql SQL Script to redefine the existing ALBPM 5.5

Datatypes to the new ones required. This script must be run from the location where it is located. This script internally makes references to other scripts in relative form. These low level SQL Scripts do not need to be run separately.

Other Database Migrations

The following section contains information as to how to migrate other ALBPM Databases deployed on an Oracle RDBMS.

BAM Database

1. Edit ALL the files inside \$ENTERPRISE/conf/migration/oracle/online_redefinition/BAM and replace the appearances of "\$\$SCHEMA\$\$" with the actual ALBPM 5.5 BAM Oracle User. This Oracle User name needs to be specified in upper case.
2. Run the \$ENTERPRISE/conf/migration/oracle/online_redefinition/BAM/check_tables.sql SQL Script to check whether the tables can be redefined using online table redefinition, using the ROWID method. This step must complete successfully to continue with the procedure.
3. In addition, if your ALBPM deployment has External or Business Variables, you will need to edit the create_tables.sql, start_redefine.sql and create_constraints.sql SQL scripts so that the information stored in these additional BAM DB table columns are also migrated. These columns associated to External or Business Variables have the prefix "V_" associated to them. Only the BAM BAM_WORKLOAD, BAM_TASKPERFORMANCE and BAM_PROCESSPERFORMANCE tables will have these additional columns. It is recommended that you take a look at these in the existing ALBPM 5.5 BAM DB and replicate these into the mentioned scripts. An example is provided below where External or Business Variables are painted with RED:

create_tables.sql

```
CREATE TABLE $$SCHEMA$$INT_BAM_WORKLOAD
(
    AVGTIMEPROCESS DECIMAL (10) ,
    ACTIVITYIN DECIMAL (10) ,
    ...
    SNAPSHOTTIME DATE,
    PARTICIPANTIN DECIMAL (10),
    V_CUSTOMER NVARCHAR2 (30),
    V_INVOICENO NUMBER,
    V_INVOICETOTAL NUMBER (18, 3),
    V_INVOICEDetail NCLOB,
    V_PLACEMENTDATE DATE
)
;
```

Note: You may also need to modify the BAM_TASKPERFORMANCE and BAM_PROCESSPERFORMANCE tables.

start_redefine.sql

```
call
DBMS_REDEFINITION.START_REDEF_TABLE('$$SCHEMA$$','bam_Wor
kload','int_bam_Workload','avgTimeProcess avgTimeProcess,activityIn
activityIn,origActivityIn origActivityIn,waitActivityIn
waitActivityIn,avgTimeTask avgTimeTask,roleIn
roleIn,meanTimeProcess meanTimeProcess,meanTimeTask
meanTimeTask,quantity quantity,snapshotTime
snapshotTime,participantIn participantIn, to_nchar(V_CUSTOMER)
V_CUSTOMER,V_INVOICENO V_INVOICENO,V_INVOICETOTAL
V_INVOICETOTAL,V_INVOICETOTALMS
V_INVOICETOTALMS,to_nclob(V_INVOICEDetail) V_INVOICEDetail,
V_PLACEMENTDATE V_PLACEMENTDATE',2);
```

Note: You may also need to modify the BAM_TASKPERFORMANCE and BAM_PROCESSPERFORMANCE tables.

create_constraints.sql

You will only need to edit this SQL Script if in your ALBPM 5.5 deployment you created indexes involving External or Business Variables. If this is the case, you will need to add the manually created indexes that include V_ columns.

```
CREATE INDEX $$SCHEMA$$.INT_CLIENTID ON
$$SCHEMA$$.INT_BAM_WORKLOAD (V_CLIENTID)
```

4. Run the \$ENTERPRISE/conf/migration/oracle/online_redefinition/BAM/runOnlineRedefinition.sql SQL Script to redefine the existing ALBPM 5.5 Datatypes to the new ones required This script must be run from the location where it is located. This script internally makes references to other scripts in relative form. These low level SQL Scripts do not need to be run separately.

DataMart Database

1. Edit ALL the files inside \$ENTERPRISE/conf/migration/oracle/online_redefinition/OLAP and replace the appearances of "\$\$SCHEMA\$\$" with the actual ALBPM 5.5 DataMart (OLAP) Oracle User. This Oracle User name needs to be specified in upper case.
2. Run the \$ENTERPRISE/conf/migration/oracle/online_redefinition/OLAP/check_tables.sql SQL Script to check whether the tables can be redefined using online table redefinition, using the ROWID method. This step must complete successfully to continue with the procedure.

3. In addition, if your ALBPM deployment has External or Business Variables, you will need to edit the `create_tables.sql`, `start_redefine.sql` and `create_constraints.sql` SQL scripts so that the information stored in these additional DataMart (OLAP) DB table columns are also migrated. These columns associated to External or Business Variables have the prefix "V_" associated to them. Only the DataMart (OLAP) WORKLOAD, TASKPERFORMANCE and PROCESSPERFORMANCE tables will have these additional columns. It is recommended that you take a look at these in the existing ALBPM 5.5 DataMart (OLAP) DB and replicate these into the mentioned scripts. An example is provided below where External or Business Variables are painted with RED:

a. `create_tables.sql`

```
CREATE TABLE $$SCHEMA$.INT_WORKLOAD
(
    AVGTIMEPROCESS DECIMAL (10) ,
    ACTIVITYIN DECIMAL (10) ,
    ...
    SNAPSHOTTIME DATE,
    PARTICIPANTIN DECIMAL (10),
    V_CUSTOMER NVARCHAR2 (30),
    V_INVOICENO NUMBER,
    V_INVOICETOTAL NUMBER (18, 3),
    V_INVOICEDetail NCLOB,
    V_PLACEMENTDATE DATE
)
;
```

Note: You may also need to modify the TASKPERFORMANCE and PROCESSPERFORMANCE tables.

b. `start_redefine.sql`

```
call
DBMS_REDEFINITION.START_REDEF_TABLE('$$SCHEMA$', 'Wor
kload', 'int_Workload', 'avgTimeProcess avgTimeProcess, activityIn
activityIn, origActivityIn origActivityIn, waitActivityIn
waitActivityIn, avgTimeTask avgTimeTask, roleIn
roleIn, meanTimeProcess meanTimeProcess, meanTimeTask
meanTimeTask, quantity quantity, snapshotTime
snapshotTime, participantIn participantIn,
to_nchar(V_CUSTOMER) V_CUSTOMER, V_INVOICENO
V_INVOICENO, V_INVOICETOTAL
V_INVOICETOTAL, V_INVOICETOTALMS
V_INVOICETOTALMS, to_nclob(V_INVOICEDetail)
V_INVOICEDetail, V_PLACEMENTDATE V_PLACEMENTDATE', 2);
```

Note: You may also need to modify the TASKPERFORMANCE and PROCESSPERFORMANCE tables.

c. `create_constraints.sql`

You will only need to edit this SQL Script if in your ALBPM 5.5 deployment you created indexes involving External or Business Variables. If this is the case, you will need to add the manually created indexes that include V_ columns.

```
CREATE INDEX $$SCHEMA$.INT_CLIENTID ON  
$$SCHEMA$.INT_WORKLOAD (V_CLIENTID)
```

4. Run the \$ENTERPRISE/conf/migration/oracle/online_redefinition/OLAP/runOnlineRedefinition.sql SQL Script to redefine the existing ALBPM 5.5 Datatypes to the new ones required. This script must be run from the location where it is located. This script internally makes references to other scripts in relative form. These low level SQL Scripts do not need to be run separately.

Archiving Database

1. Edit the \$ENTERPRISE/conf/migration/oracle/archiving_lob.sql SQL Script and replace the appearances of the String literal \$\$SCHEMA\$\$ with the actual ALBPM 5.5 Archiving Oracle User name. It is mandatory for Oracle, to specify this Schema name all in upper case.
2. Run \$ENTERPRISE/conf/migration/oracle/archiving_lob.sql SQL Script to update any LONG and LONG RAW datatypes to BLOB and CLOB.
3. Edit the \$ENTERPRISE/conf/migration/oracle/rebuild_archiving_index.sql SQL Script and replace the appearances of the String literal \$\$ARCHIVING_SCHEMA\$\$ with the actual ALBPM 5.5 Archiving Oracle User name. It is mandatory for Oracle, to specify this Schema name all in upper case.
4. Run \$ENTERPRISE/conf/migration/oracle/rebuild_archiving_index.sql SQL Script to rebuild any index after the database column type changes into LOB datatypes.
5. Edit ALL the files inside \$ENTERPRISE/conf/migration/oracle/online_redefinition/archiving and replace the appearances of "\$\$SCHEMA\$\$" with the actual ALBPM 5.5 Archiving Oracle User name.
6. Run the \$ENTERPRISE/conf/migration/oracle/online_redefinition/archiving/runOnlineRedefinition.sql SQL Script to redefine the existing ALBPM 5.5 Datatypes to the new ones required. This script must be run from the location where it is located. This script internally makes references to other scripts in relative form. These low level SQL Scripts do not need to be run separately.



Known Issues

Errors similar to the ones shown below may be found while running the drop_interim_tables.sql SQL Script.

```
ALTER TABLE MIGRATION55_FDI.fuego_migration drop column M_ROW$$  
*
```

ERROR at line 1:
ORA-00904: "M_ROW\$\$": invalid identifier

It is possible this error may also take place on another table being migrated. As mentioned in the introduction section, this error may be disregarded and it will be fixed for clean scripts on ALBPM 5.7 MP3.

Appendix A: ALBPM 5.5 to ALBPM 5.7 Generic Schema Changes

This section is useful for Database Administrators or architects that want to know what type of Database changes happened between ALBPM 5.5 and ALBPM 5.7.

Internationalization and Localization features included in ALBPM 5.7 requires the usage of types that can preserve the integrity of Unicode data. For Oracle, this new feature requires the usage of new Database types like NVARCHAR and NCLOB.

A complete list of the table's definition changes is provided, including columns datatype changes for all ALBPM 5.5 databases: Directory Service, Process Execution Engine, BAM, DataMart and Archiving.

For customers using Oracle, the database modifications are mandatory to successfully migrate their databases to the new Unicode compatible datatypes defined in ALBPM 5.7.

Customers not using Oracle as their backend database provider (ie: MS SQL Server and DB2) that do not want to leverage the new Internationalization (i18n) or Localization (l10n) capabilities, are not required to upgrade their databases since the ALBPM 5.7 code will be able to work with the old Database Schema structure.

The following table defines the generic database type mapping for each one of the supported ALBPM Databases.

| Database Provider | VARCHAR | NVARCHAR | CLOB | NCLOB |
|-------------------|----------|-----------|------|-------|
| Oracle | VARCHAR2 | NVARCHAR2 | CLOB | NCLOB |
| MS SQL Server | VARCHAR | NVARCHAR | TEXT | NTEXT |
| IBM DB2 | VARCHAR | N/A | CLOB | N/A |

Appendix B: ALBPM 5.5 to ALBPM 5.7 Oracle Schema Changes

The following tables depict how the mapping was done for Oracle.

Directory Service Schema changes for Oracle

| Table Name | Column Name | Old datatype | New datatype |
|------------------------------|------------------------|---------------------|---------------------|
| <i>fuego_schInfo</i> | <i>fuego_schId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_orgName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_role</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_desc</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_role_parVal</i> | <i>fuego_parVal</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_role_assigRules</i> | <i>fuego_assigRule</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_engine</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |

| Table Name | Column Name | Old datatype | New datatype |
|----------------------------|---------------------------|-----------------|-----------------|
| <i>fuego_engine</i> | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_engine_loc</i> | <i>fuego_location</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_engine_conf</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_stringValue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_participant</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_lastName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_mail</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_firstName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_fax</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_displayName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_telephone</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_ou</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_manager</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_partTrust</i> | <i>fuego_id</i> | <i>VARCHAR</i> |
| <i>fuego_trustId</i> | | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_part_absence</i> | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_part_abs_repl</i> | <i>fuego_replacement</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rreplacement</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



| Table Name | Column Name | Old datatype | New datatype |
|-----------------------------|--------------------------|---------------------|---------------------|
| <i>fuego_part_assigRole</i> | <i>fuego_assigRole</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_paramValue</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_part_adminOUs</i> | <i>fuego_ou</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_publCat</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_projectName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_ou</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_uid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_ou</i> | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rname</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_desc</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_ruid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_calendarRule</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_cn</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rcn</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_calProps</i> | <i>fuego_stringValue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_cr_ousAss</i> | <i>fuego_cn</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_ouAssigned</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_holidayRule</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_cn</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rcn</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_holProps</i> | <i>fuego_stringValue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_referral</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



| Table Name | Column Name | Old datatype | New datatype |
|-----------------------|--------------------------|---------------------|---------------------|
| <i>fuego_referral</i> | <i>fuego_org</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_refProps</i> | <i>fuego_stringValue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_olap</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_strvalue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_var</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_mask</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_varMsg</i> | <i>fuego_msg</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_strprops</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_strvalue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_category</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_key</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_owner</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_binprops</i> | <i>fuego_category</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_key</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_owner</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_encprops</i> | <i>fuego_category</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_key</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_owner</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_group</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_ou</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_description</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



| Table Name | Column Name | Old datatype | New datatype |
|----------------------------|-------------------------|---------------------|---------------------|
| <i>fuego_grp_assigRole</i> | <i>fuego_assigRole</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_paramValue</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_grp_assigPart</i> | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_assigPart</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_grp_assigGrp</i> | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_assigGrp</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_config</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_strvalue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_view</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_strvalue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_view_roles</i> | <i>fuego_role</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_view_proc</i> | <i>fuego_process</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_presentation</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_strvalue</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_catalogJar</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_fileName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_projRev</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_remarks</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



| Table Name | Column Name | Old datatype | New datatype |
|-----------------------------|----------------------------|---------------------|---------------------|
| <i>fuego_projRev</i> | <i>fuego_projectName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_pdef_VarMap</i> | <i>fuego_procVar</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_dirVar</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_pdef_ParamMap</i> | <i>fuego_procParam</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_dirParam</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_pdef_confMap</i> | <i>fuego_dirConf</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_absConf</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_procDef</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_rprocess</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_author</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_procDef</i> | <i>fuego_rvariation</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_projRevRem</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_variation</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_desc</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_process</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_procDef_source</i> | <i>fuego_processSource</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_procDef_doc</i> | <i>fuego_processDoc</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_procDef_image</i> | <i>fuego_processImage</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_pdef_roleMap</i> | <i>fuego_absRole</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_dirRole</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_depProc</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_procDefId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_engineid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_procProps</i> | <i>CLOB</i> | <i>NCLOB</i> |
| | <i>fuego_ou</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_version</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



| Table Name | Column Name | Old datatype | New datatype |
|---------------------------|--------------------------|---------------------|---------------------|
| <i>fuego_depProc</i> | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_process</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_businessPar</i> | <i>fuego_modifier</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_defvalue</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_businPar_val</i> | <i>fuego_value</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>fuego_key</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>fuego_dir_props</i> | <i>fuego_value</i> | <i>CLOB</i> | <i>NCLOB</i> |
| <i>fuego_migration</i> | <i>fuego_description</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



Process Execution Engine Schema changes for Oracle

| Table Name | Column Name | Old datatype | New datatype |
|------------------------|---------------------------|---------------------|---------------------|
| <i>pprocininstance</i> | <i>sourceActivityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>lastResult</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pprocinstevent</i> | <i>eventData</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pattachment</i> | <i>remarks</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>creator</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>description</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>remoteReference</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>locker</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>osInfo</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pinstremarks</i> | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>participantRole</i> | <i>roleCN</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pprocrelation</i> | <i>parentOrganization</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>parentProcessDN</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activity</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>processDN</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>organization</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>ptodoitems</i> | <i>originProcessDN</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>data</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pwktodo</i> | <i>data</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>WKTdKey</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pinstbyact</i> | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



| Table Name | Column Name | Old datatype | New datatype |
|-----------------------|---------------------------|---------------------|---------------------|
| <i>pexception</i> | <i>sourceActivityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>exceptionTrace</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>exceptionName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>exceptionMsg</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pnotif</i> | <i>notificationName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>sourceActivityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>senderInstanceDN</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pparticipant</i> | <i>participantOU</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pcomptranslog</i> | <i>activityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>parentActivityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pinstancestack</i> | <i>activityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>parentActivityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pdetachedfield</i> | <i>variable</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>procinstgroup</i> | <i>groupName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>migration</i> | <i>description</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>pcorrelation</i> | <i>data</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



BAM Schema changes for Oracle

| Table Name | Column Name | Old datatype | New datatype |
|-------------------------|----------------------|---------------------|---------------------|
| <i>bam_OUs</i> | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>bam_Roles</i> | <i>roleId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>bam_Participants</i> | <i>participantId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>displayName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>bam_Processes</i> | <i>processId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>label</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>bam_Activities</i> | <i>activityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>label</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>bam_Checkpoints</i> | <i>engineId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



DataMart Schema changes for Oracle

| Table Name | Column Name | Old datatype | New datatype |
|---------------------|----------------------|---------------------|---------------------|
| <i>OUs</i> | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>Roles</i> | <i>roleId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>Participants</i> | <i>participantId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>displayName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>Processes</i> | <i>processId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>label</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>Activities</i> | <i>activityId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>label</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>Checkpoints</i> | <i>engineId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |



Archiving Schema changes for Oracle

| Table Name | Column Name | Old datatype | New datatype |
|------------------------|------------------------|---------------------|---------------------|
| <i>instance</i> | <i>description</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>attachment</i> | <i>remarks</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>description</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>remoteReference</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>osInfo</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>remark</i> | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>variable</i> | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>booleanVariable</i> | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>decimalVariable</i> | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>integerVariable</i> | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>realVariable</i> | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>stringVariable</i> | <i>value</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>timeVariable</i> | <i>id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>process</i> | <i>processId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>activity</i> | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>participant</i> | <i>participantUid</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>name</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>processImage</i> | <i>processId</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>organization</i> | <i>Id</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| <i>event</i> | <i>eventData</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |
| | <i>activityName</i> | <i>VARCHAR</i> | <i>NVARCHAR</i> |