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HPE Structured Data Manager

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Oracle E-Business Suite Modules Installation and Deployment Guide

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Contents

About this document

HPE Structured Data Manager's integration kit for Oracle E-Business Suite modules provides a powerful, pre-built archive solution for Oracle E-Business Suite data. This guide covers:

- meeting the installation prerequisites for Oracle E-Business Suite
- installing HPE Structured Data Manager
- deploying Oracle E-Business Suite business flows to your runtime system
- running the business flows to archive your Oracle E-Business Suite data

Intended audience

This guide is intended for:

- Administrators/operators who need to run Oracle E-Business Suite modules to archive data from Oracle E-Business Suite applications
- Administrators/operators who need to install HPE Structured Data Manager, deploy and redeploy business flows, and run the business flows.

Prerequisites

Prerequisites for installing this product include:

- Knowledge of operating systems
- Database knowledge
- Application knowledge

Related documentation

- *HPE Structured Data Manager API Reference Guide*

  Provides information about the Groovy script API files for HPE Structured Data Manager.
- *HPE Structured Data Manager Concepts Guide*

  Explains the major concepts of database archiving in general and HPE Structured Data Manager in particular.
- *HPE Structured Data Manager Installation Guide*

  Explains how to use the Installer to install the product.
- *HPE Structured Data Manager Tutorial*

  Provides step-by-step instructions to build a sample archiving module, deploy it, run it, and troubleshoot errors.

- *HPE Structured Data Manager Developers Guide*

  Explains how to use the Designer component to design, build, test, and deploy your archiving projects.

- *HPE Structured Data Manager Runtime Guide*

  Explains how to use the Web Console component to run, monitor, and administer business flows that move data to and from the database.

- *HPE Structured Data Manager Troubleshooting Guide*

  Explains how to diagnose and resolve errors, and provides a list of common errors and solutions.

- *HPE Structured Data Manager Upgrade Guide*

  Explains how to upgrade the product and upgrade the archive schema generated by earlier versions of the product.

- *HPE Structured Data Manager Release Notes*

  Lists any items of importance that were not captured in the regular documentation.

- *HPE Structured Data Manager PeopleSoft Modules Installation and Deployment Guide*

  Explains how to install the PeopleSoft integration kit.

- *HPE Structured Data Manager Oracle E-Business Suite Modules Installation and Deployment Guide*

  Explains how to install the Oracle E-Business Suite integration kit.

Chapter 1: Prerequisites

Before installing the HPE Structured Data Manager, you should ensure that you have the latest documentation, and that you understand the overall installation process.

- Before you begin
- Obtain the latest documentation
- HPE Structured Data Manager installation overview

Before you begin

Before you begin archiving data using HPE Structured Data Manager, you should:

1. Review the *HPE Structured Data Manager Concepts Guide* to become familiar with the software and how you plan to use it.

2. Install HPE Structured Data Manager according to the instructions in the *HPE Structured Data Manager Installation Guide*.

3. Use the *HPE Structured Data Manager Developer's Guide* to design and develop or customize your archive solution.

Obtain the latest documentation

The latest documentation for HPE Structured Data Manager can be found on HPE Software Support Online.

> **NOTE:** This documentation is written to the latest patch version. If you have not installed the latest patch, there may be items in this documentation that do not apply to your environment.

HPE Structured Data Manager installation overview

Before you can use HPE Structured Data Manager to archive your data, you need to install the software, set up the database archiving components, and deploy the business flows that archive your data.

> **NOTE:** If you are upgrading from earlier versions of Oracle E-Business Suite modules to R12, you must uninstall the older business flows before installing the R12 business flows.

Installing HPE Structured Data Manager consists of the following main steps:

1. Review the introductory chapters in *HPE Structured Data Manager Developers Guide* and *HPE Structured Data Manager Runtime Guide* to choose the archive solution that is right for you.

2. Ensure that the all the requirements for your servers, databases, and archiving solution have been met.

See also

Operating system and server requirements

Software requirements

Oracle database requirements

Repository preparation

3. Install HPE Structured Data Manager. The installation installs the Web Console and Designer. See Install HPE Structured Data Manager, on page 16 .

4. Start the Web Console to create the repository and set up database to database archiving.

5. Obtain the necessary project files for your Oracle E-Business Suite modules.

   See Import and deploy Oracle E-Business Suite integration kits

6. Deploy the **EBSIntegrationCreateArchiveAccess** business flow. This business flow needs to be deployed first before deploying other business flows. You also need to run the `EBSIntegrationCreateArchiveAccess` business flow each time you deploy a new module business flow.

   See Deploy EBSIntegrationCreateArchiveAccess, on page 18.

7. Deploy the business flows you have created. You can deploy the business flows and cartridges using the Web Console.

   See Deploy business flows, on page 19.

8. Start the Web Console and launch the EBSIntegrationCreateArchiveAccess business flow.

   See Run the EBSIntegrationCreateArchiveAccess business flow, on page 21.

9. Customize your Oracle E-Business Suite project.

Chapter 2: Requirements

HPE Structured Data Manager Oracle E-Business Suite integration kits have the following requirements for installation. Requirements vary depending how you plan to archive your data.

- Operating system and server requirements
- Software requirements
- Oracle database requirements
- Custom target schema

Related information:

HPE Structured Data Manager Concepts guide

HPE Structured Data Manager Installation guide

HPE Structured Data Manager Runtime guide

HPE Structured Data Manager Developers guide

Operating system and server requirements

The operating system and server requirements are documented in *HPE Structured Data Manager Installation guide*.

Ensure that you meet the operating system and server requirements before installing HPE Structured Data Manager.

Software requirements

Oracle E-Business Suite application requirements

- Oracle E-Business Suite software versions R12.2.3, R12.2.4 and R12.2.5 on Oracle databases with the latest patches require this release of HPE Structured Data Manager.

HPE Structured Data Manager requirements

- Before installing your Oracle E-Business Suite modules, ensure that you are running HPE Structured Data Manager with the latest patches.

Oracle database requirements

Database to database archiving with Oracle E-Business Suite requires the following:

- a repository to store archiving metadata
- a source database from which to archive eligible data (also referred to as the active database)

- for distributed archive only, a target database in which to store archived data (also referred to as the archive database)

The repository, source and target databases require the following Oracle database version:

- Oracle 11g R2(11.2.3.0, 11.2.4.0)
- Oracle 12C (12.1.0.2.0)

An administrator account with the following privileges is required:

- Create Database
- Create Login
- Create User
- Grant permissions to non-owned tables

This document refers to this account as the system account, but it can have any name you assign to it.

> **NOTE:** The source database, repository, and target database must use the same character encoding. If the character encoding is not the same, a warning is displayed in the installation summary.

Source database preparation for Oracle

1. Ensure there is 1.5 GB of available disk space to create tablespaces.

   > **TIP:** When you calculate the space requirements, you need to consider how much space you need for rollback segments and temporary segments.

2. Create the following data and index tablespaces.

Tablespace	Size	Usage
INTF_DATA	1 GB	Holds table data for the interface schema.
INTF_TEMP	1 GB	Holds temporary data for the interface schema.
ARC_DATA	250 GB	Holds table data for the archive access build schema.
ARC_TEMP	250 GB	Holds temporary data for the archive access build schema.

   For example, use syntax similar to the following:

   ```
   create tablespace OBT_DATA datafile '<path>/OBT_DATA.dbf' size 1GB autoextend
   on;
   ```

   where <path> is the directory location where you want to save the tablespace datafile.

   The tablespaces are selected during installation.

3. If you are using the distributed archive configuration option, add an entry in tnsnames.ora for the target database.

4. Add the following entries to the source database init.ora file:

   - _PUSH_JOIN_UNION_VIEW = TRUE
   - COMPATIBLE = <current_database_release>

Target database preparation for Oracle

The target or archive database is required for the distributed archive configuration option.

> **NOTE:**
> Ensure the procedures in this section are complete before you run the Web Console.

1. Create a target database with the following configuration:
   - Default LARGE init.ora parameters

     The **init.ora** parameter values depend upon the size of the installation, and are recommended by HPE service representatives.
   - 8 K for the db_block_size parameter, or the same as the source database
   - NLS_LANGUAGE character set must be the same as the source database
2. Create or expand the following tablespaces:

Tablespace	Size	Usage
HIST_DATA	4 GB	Holds table data for the history schema.
HIST_TEMP	4 GB	Holds temporary data for the history schema.
RELOC_DATA	2 GB	For distributed archive only, holds table data for the relocation schema.
RELOC_TEMP	2 GB	For distributed archive only, holds temporary data for the relocation schema.
AA_DATA	1 GB	Holds table data for the archive access schema.
AA_TEMP	1 GB	Holds temporary data for the archive access schema.

   The tablespaces are selected during installation.
3. Add an entry in tnsnames.ora for the source database.
4. Ensure the db_domain of the target database is the same as the db_domain of the source database.

   If the db_domain is different, set global_names to FALSE.

Repository preparation

HPE Structured Data Manager requires a repository to store archiving metadata. The repository should reside on an existing database where backups are regularly performed.

1. Identify a persistent database meeting the following requirements:
   - **Database version**—the database you choose for your repository must have the same database version as the source database.

- **Available tablespace**—4 GB
- **Available diskspace**—1 GB

2. Create the following tablespaces:

Tablespace	Size	Usage
REP_DATA	800 MB	Holds table data for the repository schema.
REP_TEMP	800 MB	Holds temporary data for the repository schema.

The tablespaces are selected during installation.

3. When you set up database to database archiving, select the tablespaces that you created.

Custom target schema

Database to database archiving requires a target schema for Oracle. The target schema is created automatically when you run Setup Database to Database Archiving from the Web Console.

The default target schema is created using the naming convention <source_database_name>_HIST, where <source_database_name> is the name of your source database. Creating your own target schema enables you to select a name that matches your existing naming conventions.

When you create your own target schema, you can also choose to create your own target tables. This enables you to use tables with partitions in your database to database archiving environment.

If you create your own target schema, you must also register the owner mappings.

For more information, see *HPE Structured Data Manager API Reference Guide.*

If you choose to create your own target schema and target tables, perform the steps in the following sections:

Create the target schema or database

1. Create a schema on the target database for each schema on the source database.

2. Ensure that the schema or database owner has the following permissions:
   - CREATE SESSION
   - CREATE TABLE
   - CREATE DATABASE LINK
   - SELECT ANY DICTIONARY

3. Run the owner mapping API to ensure that the target schema is updated before you deploy any business flows.

For more information, see *HPE Structured Data ManagerAPI reference guide.*

Create the target tables

After you have created your own target schema, you can use the Web Console to create the target tables.

If you choose to create the tables manually, you must ensure the following:

- Ensure each table contains the following columns.

Column name	Data type	Value
OBT_SAVED_ROWID	ROWID	not null
OBT_ROW_SEQ	NUMBER	not null
OBT_WF_RUN_ID	VARCHAR2(128)	not null

- Ensure the new table names match managed table names in the source database or schema.
- Ensure all column names, data types, lengths, and null/not null properties for the managed tables are the same.
- If you choose to create the target driving table, it must also contain the following column:

Column name	Data type	Value
OBT_TIMESTAMP	DATE	SYSDATE

Chapter 3: Installation

HPE Structured Data Manager installation installs the Web Console and Designer.

- Install HPE Structured Data Manager

See also:

HPE Structured Data Manager Installation Guide

HPE Structured Data Manager Runtime Guide

Install HPE Structured Data Manager

Before deploying the business flows for your Oracle E-Business modules, you must install HPE Structured Data Manager and set up the Web Console:

- Install as per the instructions in the *HPE Structured Data Manager Installation Guide*
- Set up the Web Console as per the instructions in the *HPE Structured Data Manager Runtime Guide*.

NOTE: If you are upgrading from 6.3 to 7.4 for Oracle E-Business Suite R12, see Upgrade from 6.3 to 7.4 for Oracle E-Business Suite R12, on page 29.

Chapter 4: Business flow deployment

Use the Web Console to configure database to database archiving and to deploy business flows against a database for execution.

See also *HPE Structured Data Manager Runtime Guide*

> **NOTE:** If you are running on AIX, you need to perform some additional steps because the Web Console requires the Java 6 32-bit JRE. For detailed information, see the *HPE Structured Data Manager Runtime Guide*.

Import and deploy Oracle E-Business Suite integration kits

The Oracle E-Business Suite integration kits are delivered on a CD or as .zip files you can download.

Import the business flows

To import the business flow

1. Open the .zip file containing the Oracle E-Business Suite kits.

   The .zip file contains individual .zip files for each Oracle E-Business Suite module. For example, `OEBS12i_hpe_<rel_no>_<bld_no>_<rev_no>.zip` (where `rel_no` is the HPE Structured Data Manager release number, `bld_no` is the build number and `rev_no` is the revision number) contains the files for the Oracle E-Business Suite Accounts Receivable module and the integration layer business flows.

2. Unzip the .busflow files into the `businessflow` directory for your HPE Structured Data Manager installation, for example, `C:\Program Files\HPESDM\obt\businessflow`.

   > **NOTE:** If you do not unzip the files into the `businessflow` directory, use **Business Flow Deployment > Deployment > Import** from the Web Console in order to deploy them.

Deploy EBSIntegrationCreateArchiveAccess

To deploy

> **CAUTION:**
> You must deploy the EBSIntegrationCreateArchiveAccess business flow *prior* to deploying any other business flow. This business flow also executes the create_AA job.

1. If the Web Console is not running, select **Start** > **Programs** > **HPE Structured Data Manager** > **Start Web Console**.
2. Launch the Web browser.
3. Log in.
4. Click **Business Flow Deployment**.
5. Click **Deployment**.

   > **TIP:** If you did not unzip the business flow files into the businessflow directory, you would need to click **Deployment > Import** and import the business flows first.

6. Select **EBSIntegrationCreateArchiveAccess <rel_no>_<bld_no>_<rev_no>.busflow**, for example, `EBSIntegrationCreateArchiveAccess.7_40_1_12_274_274.busflow`.

   > **CAUTION:**
   > Do not select any other business flows to deploy at this time.
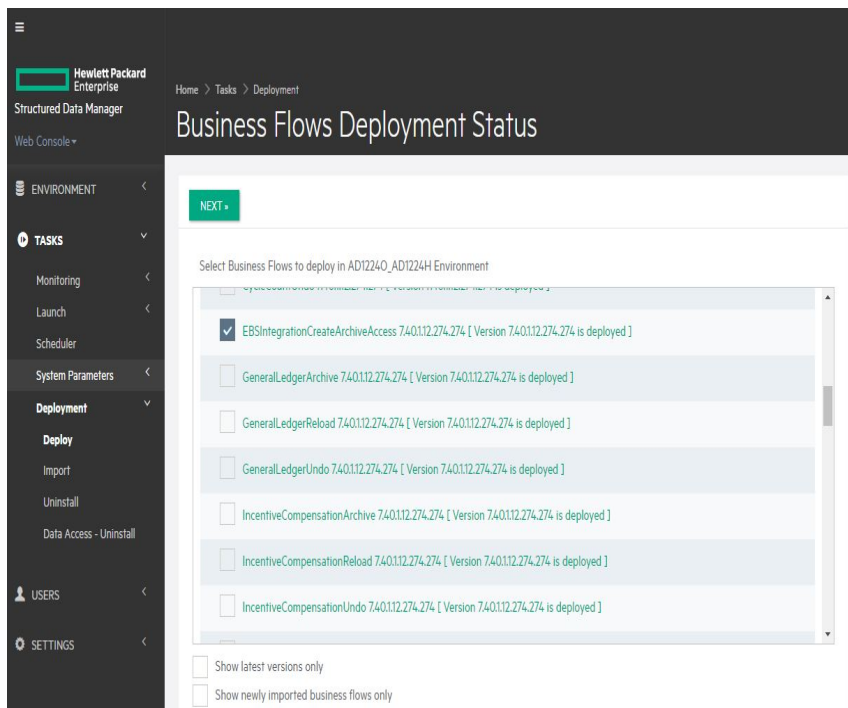
7. Click **Next**. The Summary page displays.

> **NOTE:** If you have previously deployed the business flow, the Job History Retention page appears. You can choose whether to drop history. Exercise extreme caution when selecting **Drop Database to Database History tables of existing Business Flows**. It should rarely, if ever, be used in a production environment on real data because it can result in permanent data loss.

8. Click **Finish**.

> **NOTE:** After deploying **EBSIntegrationCreateArchiveAccess**, you can deploy additional business flows at the same time. Only union-view configuration is supported for integration layer.

Deploy business flows

After you deploy EBSIntegrationCreateArchiveAccess, you can proceed to deploy your other business flows, for example, General Ledger.

You deploy business flows that you created or modified from your Oracle E-Business Suite project from the Web Console.

Generated business flows are ZIP files with a `.busflow` extension. Generated business flows that have not been modified are located in the deployables directory extracted in Import the business flows, on page 17.

Typically, you deploy and run the business flows against a development instance of your Oracle E-Business Suite database first to test it. Once you have perfected the business flows in your development instance, you can deploy them to the production instance of your database.

> **CAUTION:**
> After deploying all of the Oracle E-Business Suite modules, you must run the EBSIntegrationCreateArchiveAccess business flow, then run the Create Archive Access responsibility script. For detailed information, see Run the EBSIntegrationCreateArchiveAccess business flow, on page 21 and Run the Create Archive Access responsibility script, on page 22.

The pages you see during deployment may vary depending upon your configuration. The following is intended only as an example.

1. Select one or more business flows.
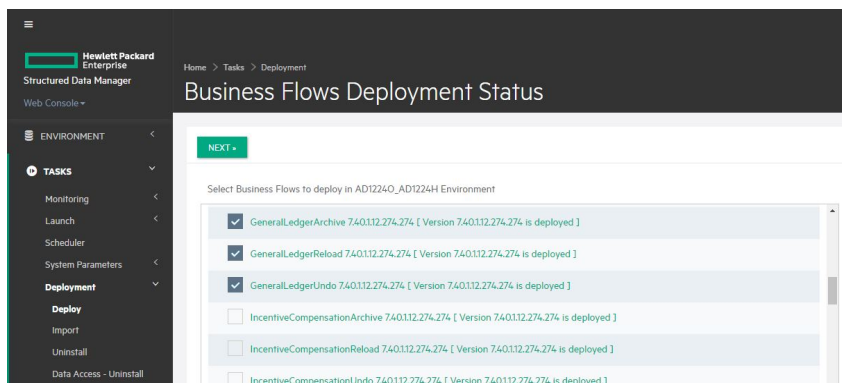
2. Click **Next**.

   The Source Database Administrator page displays.

3. Accept the default user or enter a user name.

4. Enter a password.

5. Enter and confirm the passwords for the target database.
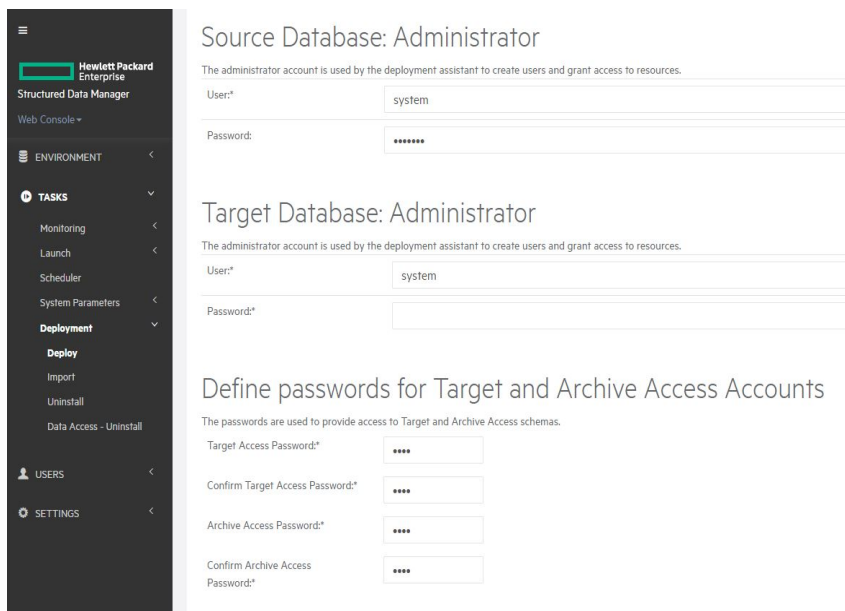
6. Click **Next**.

   The Define Tablespaces page displays.
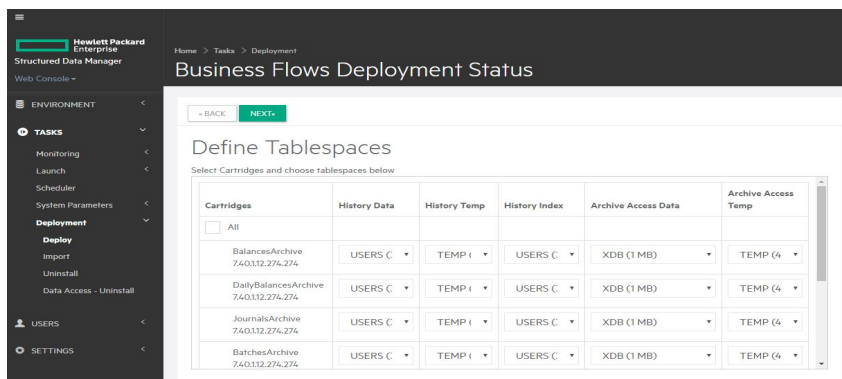
> **NOTE:** You can split the archived data and the indexes into two separate table spaces.

7. Adjust the settings if necessary and click **Next**. The Summary page displays.

8. Click **Finish**.

Recompile invalid objects

After you deploy your business flows on Oracle, some of the objects may be marked as invalid by Oracle. The objects are not invalid but are marked as such due to a limitation of Oracle. To remove the

invalid designation for the objects, you can run `obt_recompile_invalid_objects.sql` found in
`<install_dir>/foundation/util/sql/oracle`.

Run the EBSIntegrationCreateArchiveAccess business flow

After deploying the EBSIntegrationCreateArchiveAccess business flow, you will need to run it to
execute the create_AA job.

> **NOTE:** You must run the **EBSIntegrationCreateArchiveAccess** business flow every time you
> install a new business flow or reinstall a business flow where changes were made to the model.

1. If the Web Console is not running, select **Start** > **Programs** > **HPE Structured Data Manager** >
   Start Web Console.
2. Launch the Web browser.
3. Log in.
4. Click **Business Flow Deployment**.
5. Click **Launch**.

   The Business Flow page displays.
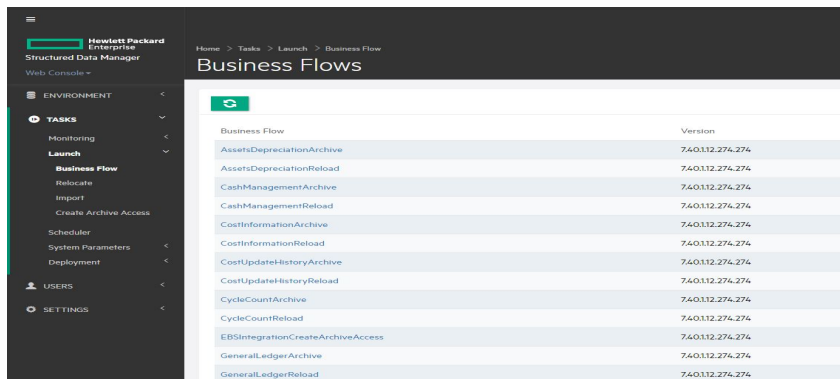
6. Click **EBSIntegrationCreateArchiveAccess**.

   The Job Launch page displays.

7. Click **Run**. Confirm that you want to run the business flow.

The Launch page displays.

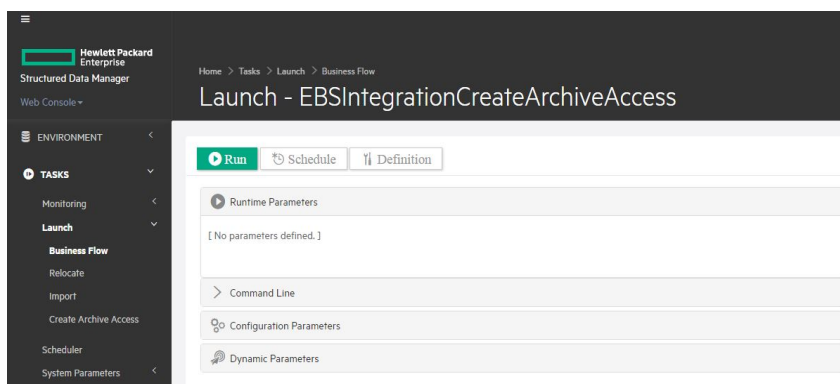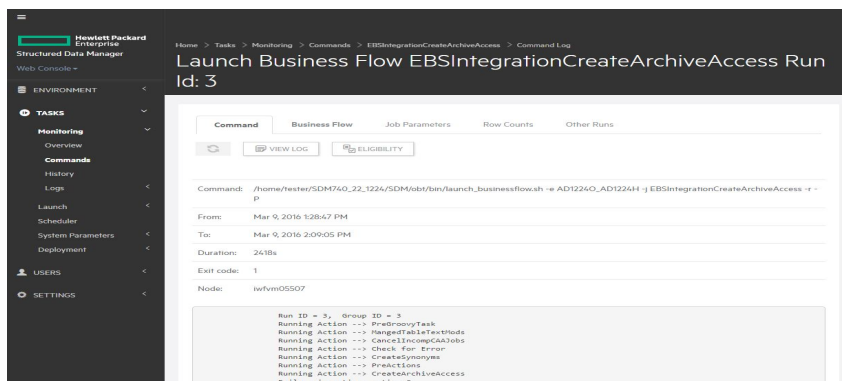To view the status of this business flow, click **Monitoring**, and select **Overview**.

Run the Create Archive Access responsibility script

After deploying and running the EBSIntegrationArchiveAccess business flow, you need to execute the Create Archive Access responsibility script. This script creates the necessary responsibilities which will allow you to access the archived data.

NOTE: This script needs to be executed from SQL*Plus prompt as the APPS user on the source database.

1. Navigate to the directory containing the oebs_create_arch_responsibilities.sql script. For example:

   ```
   <install dir>\obt\artifacts\<environment
   name>\businessflow\EBSIntegrationCreateArchiveAccess\lib.
   ```

   where <install_directory> is the location where HPE Structured Data Manager is installed.

2. Invoke SQL *Plus and log in as the APPS user on the source database.

3. Run the script. For example:

   ```
   @oebs_create_arch_responsibilities.sql.
   ```

4. Enter values for the following.

Prompt	Description
1) Enter Application Short Name OR press Enter to create archive responsibility for all applications.	Enter the application short name, for example GL, to create Archive responsibilities only for the general ledger application Application Pack users. To create the Archive responsibility for all of Oracle E-Business Suite Software, press the Enter key on the keyboard.
2) Enter Responsibility Key OR press Enter to create all archive responsibilities for the given	Enter one of the following: • a unique primary key for the user profile

Prompt	Description
application.	- the user profile name - press the Enter key The first two options create the Archive responsibilities only for specific users. The last option creates Archive responsibilities for all users belonging to the application selected at the first prompt.
3) Enter the responsibility data group OR Hit Return for "Standard" data group.	If the database uses more than one language, for example, Japanese and English, use the responsibility data group to create archive responsibility for each language. For more information, contact HPE Support. If the database is only in English, use the default Standard data group.
4) Enter "Y/N" to assign archive responsibility to the user who has the corresponding application responsibility.	Enter Y to assign the Archive responsibility to the specified user or users. Enter N to prevent the Archive responsibility from being assigned to any users.
5) If 'Y' entered for previous prompt, Enter User Name to assign cloned responsibility to a specific user with original responsibility OR Hit Return to assign cloned responsibility to all users with original responsibility. If 'N' entered for previous prompt, hit Return.	Enter the specific user to assign Archive responsibility, or press the Enter key.
6) Enter the Archive Access schema name	Enter the name of the Archive Access Schema to which access is granted, or press the Enter key to use the default value. The default value is 'AA Schema'
7) Enter (maximum 6 characters) archive data group prefix OR Hit Return to apply the default prefix to the new archive data group.	Enter the prefix that identifies the archive data group, or press the Enter key to use the default value. For example, enter 'Arch-' to create an archive data group like 'Arch-Standard'. The default prefix is 'Archive'.
8) Enter (maximum 6 characters) archive responsibility prefix OR Hit Return to apply the default prefix to the new archive responsibilities.	Enter the prefix that identifies the responsibility as an Archive responsibility. For example, enter 'Archive' to create a responsibility like 'Archive GL SuperUser'. The default prefix is 'Arch-'.

Next step

Continue with the following chapter, .

Enable web server for archive access

For Oracle E-Business Suite 12.1.3, you need to create a separate web server for HPE Application Information Optimizer archive access. The steps that follow are intended only as a guide. For detailed task and reference information about Oracle E-Business Suite, you need to see your Oracle E-Business Suite Documentation Web Library on the Oracle web site.

1. Shutdown all of the components of the Oracle E-Business Suite application tier using the appropriate script(s), for example, $ADMIN_SCRIPTS_HOME/adopmnctl.sh stopall.

2. Copy the following files and directories to a new location, changing their names. For directories, make sure you copy all of files and subdirectories under the directory.

   - The contents of the $FND_SECURE directory
   - The following directories under the $INST_TOP directory:
     - pids/10.1.3
     - logs/ora/10.1.2
     - logs/ora/10.1.3
     - ora/10.1.2
     - ora/10.1.3
   - The scripts under the $ADMIN_SCRIPTS_HOME directory:
     - adopmnctl.sh
     - adapcctl.sh
     - adoacorectl.sh
     - adoafmctl.sh

3. Start all components of the Oracle E-Business Suite application tier using the appropriate script, for example, $ADMIN_SCRIPTS_HOME/adopmnctl.sh startall.

4. In the location where you made copies of the web server files and directories, remove the following files and subdirectories:

   - pids/10.1.3
   - logs/ora/10.1.2
   - logs/ora/10.1.3
   - The following directories under ora/10.1.3:
     - j2ee/oacore/persistence
     - j2ee/oafm/persistence
     - j2ee/forms/persistence

5. Modify the copied configuration files:

   a. Change paths to reflect the new directory name in all of the configuration files.

   b. Change APPS (ignoring case) to the archive access schema name in all configuration files.

   c. Change IAS ID and IAS NAME to the new value in the following configuration files. IAS ID and IAS NAME must match in these files.

   - `ora/10.1.3/config/ias.properties`

   - `ora/10.1.3/opmn/conf/opmn.xml`

6. Change the network port and port number ranges in the following files to be unique and different from those of original Oracle E-Business Suite web server:

   - ONS Local Port

   - ONS Remote Port

   - ONS Request Port

   - IASPT AJP Port Range

   - OC4J AJP Port Range for Home

   - OC4J RMI Port Range for Home

   - OC4J JMS Port Range for Home

   - OC4J AJP Port Range for Oacore

   - OC4J RMI Port Range for Oacore

   - OC4J JMS Port Range for Oacore

   - OC4J AJP Port Range for Forms

   - OC4J RMI Port Range for Forms

   - OC4J JMS Port Range for Forms

   - OC4J AJP Port Range for Oafm

   - OC4J RMI Port Range for Oafm

   - OC4J JMS Port Range for Oafm

   - OC4J AJP Port Range for Forms-c4ws

   - OC4J RMI Port Range for Forms-c4ws

   - OC4J JMS Port Range for Forms-c4ws

   - JMS Web Port

   - JMS Server Port

   - Web Listener Port

   - Web SSL Port

   - Forms Default Web Site Port

   - RMI XML Port

   - RMI XML SSL Port

   - Java Object Cache Port

   - Forms Port

7. Navigate to the Define profile options and query on the options listed in :

a. Change Hierarchy to Security, and set visible/update allowed to Responsibility level.

b. Change the following web agent profiles for each archive access responsibility to be the URL for the newly created web server.

Table 1 Profile options to update

Profile Option Name	Application
APPS_FRAMEWORK_AGENT	Application Object Library
APPS_JSP_AGENT	Application Object Library
APPS_WEB_AGENT	Application Object Library
APPS_SERVLET_AGENT	Application Object Library

8. Replicate the JAVA CLASS objects and create them in the APPS_AA schema as follows:

a. Connect as APPS_AA user.

b. Execute the following to generate the scripts:

```
declare
    cursor c2 is
    SELECT object_name FROM all_objects
    WHERE object_type = 'JAVA CLASS'
    AND owner = 'APPS_AA';

    a varchar(1000);
begin
    FOR I IN C2
     LOOP
       a:='DROP JAVA CLASS "'||i.object_name||'";';
          dbms_output.put_line('a '||a);
    END LOOP;
end;
/
```

c. Execute the generated scripts.

d. Execute the following to generate the scripts:

```
declare
    cursor c1 is
    SELECT object_name FROM all_objects
    WHERE object_type = 'JAVA CLASS'
    AND status = 'VALID'
    AND owner = 'APPS'
    and object_name not in (select object_name from all_objects where owner=
'APPS_AA');

    a varchar(1000);
begin
    for i in c1
    loop
        a:='CREATE SYNONYM "'||i.object_name||'"
```

```
        FOR '||'APPS."'||i.object_name||'";';
                dbms_output.put_line(a);
            end loop;
    end;
    /
```

e. Execute the generated scripts.

9. Start the web server for archive access by running the scripts you renamed in step 2 with the `start` argument.

> **NOTE:** To stop the web server for archive access, run the same scripts with the `stop` argument.

Run the SplitRowid utility

The SplitRowid utility enhances the performance of union views from the HPE Structured Data Manager transparency layer for Oracle E-Business Suite R12 and 11*i*. For more information about the utility and how to run it, see its `readme` file.

Run reload/undo business flows

Before you run reload or undo business flows for any module, you must disable the INSERT trigger on all of the managed tables. Otherwise, you could have a problem with the number of records.

Chapter 5: Next steps

Running Oracle E-Business Suite business flows requires that you perform the following tasks:

1. Deploy business flows. See Business flow deployment, on page 17.

2. Optionally, run the Create_AA business flow if you have deployed a new archive business flow or if you have redeployed a business flow with changes to the model.

3. Run business flows.

   You use business flows to execute your archive logic. All deployed business flows that can be run in an environment are displayed in the Web Console. see the Web Console online help if you need further help running business flows.

4. Optionally, if you should ever need to remove a business flow, you are able to do so. You can use the Web Console to uninstall business flows. By default, the job run history is left intact. see the Web Console online help for more information.

   For the above tasks, see also:

   - *HPE Structured Data Manager Tutorial*
   - *HPE Structured Data Manager Runtime Guide*

Chapter 6: Upgrade from 6.3 to 7.4 for Oracle E-Business Suite R12

When upgrading from HPE Database Archiving 6.3 to HPE Structured Data Manager 7.1, you must perform a number of steps to migrate your modifications forward to the new release.

Upgrade from 6.3 to 7.4

> **NOTE:** This procedure references two SQL scripts. See Example SQL scripts, on the next page for examples of these scripts. You might need to modify these scripts for your environment in order for this procedure to work.

To upgrade

1. Backup the directory where you have installed HPE Database Archiving 6.3.
2. Connect as the owner of the repository.
3. Run and save the results of 6x_config_params.sql, on the next page.
4. Uninstall your Oracle E-Business modules but not any custom modules.
5. Backup the `obtsc_text_replacers` table.
6. Connect as the owner of the repository.
7. Run and save the results of 6x_text_replacers.sql , on page 31.
8. Truncate the `obtsc_text_replacers` table.
9. Upgrade to HPE Structured Data Manager 7.4 following instructions in the *HPE Structured Data Manager Upgrade Guide*, including recommendations on files to copy over from the previous installation directory.
10. Apply any available patches for the release.
11. Contact HPE Support to see if you need any hot fixes for this release.
12. Remove all files related to the standard Oracle E-Business Suite business flows from `<install_dir>/obt/businessflow/<environment>`. Do **not** remove any files for custom business flows.
13. Import and deploy the 7.4 `EBSIntegrationCreateArchiveAccess` business flow.
14. Import and deploy all of the other new 7.4 Oracle E-Business Suite modules.
15. If you had 6.3 custom SQL scripts to create text replacers, run them.
16. Run and save the results of 6x_text_replacers.sql , on page 31. Compare the results to what you got from the run against 6.3 in Run and save the results of 6x_text_replacers.sql , on page 31., above. Look for combinations of `object_name`, `object_type`, and `sequence` that existed in 6.3 but do not exist in 7.4. Report any objects that appear for 6.3 but not 7.4 to HPE Support.
17. In the Web Console, go to **Parameters > Database to Database** and change **Create synonyms to dependent packages defined with invokers' rights** to `false`.
18. Set the parameter **Recreate all managed table dependent objects** to `Yes`.

19. Run `EBSIntegrationCreateArchiveAccess`.

20. Run and save the results of 6x_config_params.sql, below. Compare the result to what you got when you ran it in Run and save the results of 6x_config_params.sql, on the next page., on the previous page.

21. Update the parameter values to match what you had in 6.3.

22. Set the **Type of index to drop on History** parameter to **Operate on no indexes**.

23. If the **Data movement Batch size** parameter was listed for any cartridge in the result from `6x_config_params.sql`, set **Number of driving table rows per commit for Fully Transactional operation** to the value that was previously set for **Data movement Batch size**.

24. If you installed the Receivables module, take the following steps:

    a. Connect as the repository user and run this query to get the cartridge name for the Receivable Transactions Archive:

    ```
    select identifier
    from obtcm_installed_components
    where identifier like 'ReceivableTransactionsArchive%'
    ```

    b. For any rows returned by the previous query, add the following statements to your sql_tuning properties in `<install_directory>/obt/config`:

    ```
    <environment>.NATIVE_MOVE_O2H.<cartridge name>.RCTLGD.DELETE_TP_
    RANGE.PREEXEC_NAME=ar_apps_init
    ```

    ```
    <environment>.NATIVE_MOVE_O2H.<cartridge name>.RCTLGD.DELETE_TP_NO_
    RANGE.PREEXEC_NAME=ar_apps_init
    ```

25. Set the parameter **Recreate all managed table dependent objects** back to No.

Example SQL scripts

The preceding procedure references two SQL scripts. Following are examples, which you may need to modify depending upon your environment.

6x_config_params.sql

```
select a.appspack_name, apt.display_name, ap.prop_value
from obtcfg_appspack_properties ap,
obtcfg_appspack_property_types apt,
obtpa_appspacks a
where ap.appspack_property_type_id = apt.id
and apt.appspack_id = a.id
union
select '(Business Flow)' cartridge,
bpt.display_name, bp.prop_value
from obtcfg_busflow_properties bp,
obtcfg_busflow_property_type bpt
where bp.businessflow_property_type_id = bpt.id
;
```

6x_text_replacers.sql

```
select dod.object_name, dod.object_type, tr.sequence,
tr.search_pattern, tr.replacement_text,tr.required,
tr.global_replace, tr.instance
from obtsc_db_object_defs dod, obtsc_text_replacers tr
where dod.id = tr.db_object_def_id
order by dod.object_name, dod.object_type, tr.sequence;
```

Glossary

active database
The database from which you plan to move or copy data. Typically, this database is your online transaction processing (OLTP) or production database. In a two- or three-tiered configuration, the active database resides on tier one and is the source for data movement operations.

active environment
The Web Console views and acts upon only one environment at a time, the active environment. To switch the active environment, you use the Change Active option in the Web Console.

activity
In Designer, a component of a business flow, which is added by using the toolbar. For example, you can add archive and reload activities to your business flow. Note, activities in a business flow are different from what you see at runtime and therefore do not necessarily map directly to what you see in the Web Console.

advanced selection
A method of data selection that discovers all of the interrelated rows from multiple tables and conceptually places them in the same application partition for archiving.

annotation
In Designer, a comment associated with the project, or one of its objects or components. These comments are collected and published in a PDF file when you right click a project or business flow and select Generate Documentation.

application partitioning
The concept of partitioning related rows together during data selection, regardless of whether they are in one or more tables. Application partitioning is unique to HPE Structured Data Manager and contrasts with the more common table partitioning offered by the database management software, which only groups related rows from one table.

archive data store
The location where the data is to be archived. Can be a separate database, separate space on the same database, or an XML file. In a two-tiered configuration, the archive data store resides on tier two and can be a database or XML. In a three-tiered configuration, the archive data store is a database on tier two and XML on tier three, and is the target for data movement operations.

archive query server
The component that provides SQL access to XML database archives.

Autonomy Consolidated Archive (ACA)
A managed, scalable repository that consolidates electronic communications, attachments, and files, and provides complete control over corporate information assets, facilitating compliance with internal corporate governance policies and procedures as well as externally mandated laws and regulations.

business flow
A series of activities, such as archive operations and scripts, that run in sequence. You build business flows in Designer.

business flow status
The Web Console shows the last run of each business flow. The states are Complete/Error/Running.

cartridge
An instance of model- or schema-based eligibility criteria used to move or copy data from one location to another. Cartridges capture the application and business rules to ensure referential integrity of the data. For any one model in your project, you may have many cartridges that use it.

chaining table
The lower level table in a many-to-one or a many-to-many relationship between higher level and lower level tables in the model hierarchy.

classification

The HPE Content Manager (formerly HP Records Manager) classification to be applied to the data moved by HPE Structured Data Manager. This classification specifies where to place the data when it is ingested by HPE Content Manager. For more information, see the HPE Content Manager documentation.

collection

The configuration of a directory location and file pattern to match a set of archived XML files, thus allowing SQL access to the archived data.

comma separated values (CSV)

A database-to-file output format that stores the data as values separated by commas and a metadata file. Each line in the CSV file corresponds to a row in a table. Within a line, fields are separated by commas, each field belonging to one table column. CSV files provide a simple format that many applications can import.

command

Command files or JavaScript files launched by the Web Console on your behalf with status displays.

condition

In Designer, the way you branch your business flow to run or skip an activity based on some criteria.

configuration parameter

A type of parameter that has its values set by an administrator (someone who has repository privileges from the Web Console) through the administrator interface. Typically, this type of parameter represents values that should be changed very infrequently, perhaps only at deployment time.

console user

The Web Console identifies individual users, who are distinct from database users. The properties for a user are User Name, Full Name, Password, Enabled, Description, Email, Phone, and Privileges.

console user name

The login name associated with a Web Console user.

constraint

A column or a list of columns that enables you to identify rows in the database and relate them to one another.

custom properties

User-created name/value pairs in cartridges and business flows. These values are exposed at runtime as parameters.

customization

A change that an administrator or DBA makes to a project provided by a third party, typically for a packaged application like Oracle PeopleSoft or Oracle E-Business Suite. As long as the customization is allowable by the project, the user can merge the customization into newer revisions of the third party project.

customization mode

A Designer mode that provides visual cues to indicate customizations in the model. In a project with locked files, customization mode is on by default, but you can toggle it on and off from the toolbar in the model editor.

data access cartridge

A cartridge that provides lightweight query access to retired or archived data. Data access cartridges are designed by the archive developer but can be run by business users with no technical expertise.

data masking

The process of replacing private or confidential data during movement with a specified mask. You can choose from pre-defined masks that are part of HPE or create your own mask. A mask may or may not be reversible upon reload from the archive data store.

data movement

The method used by HPE Structured Data Manager to actually move data (transactional, bulk or partitioned for database to database, and copy or archive for database to file).

data transparency

The ability to access archived data through your standard application interfaces for data access. Data transparency enables users to access archived data as though it were still in the active database.

database constraint

A constraint that exists in the database and can be discovered and referenced from Designer.

database to database

A movement in which data goes from an active database to an archive database, or separate tablespaces inside the active database. Typically, the archive database is located on cheaper storage devices.

database to file

A movement in which data goes from an active database to a file (XML or CSV format), which is offline but still accessible through SQL using the archive query server and a client tool of your choice.

deployment assistant

The user interface component within Designer used to deploy or generate business flows.

description

A technical description created by the developer for her own reference. These descriptions do not appear in the generated PDF file for the cartridge or business flow.

Designer

The user interface component used to develop, test, and deploy your archiving solution. Designer is a powerful graphical development environment for archive solutions.

distributed instance

A configuration option for database-to-database archiving where the data you archive is stored on a separate database from the source or active database.

DRE

See Dynamic Reasoning Engine (DRE).

driving table

A driving object is a root of a model hierarchy. Its relationship to the child tables drives the

selection of transactions.

dynamic list of values

A list of values for a parameter that obtains its members from a SELECT statement that returns identifiers and labels.

dynamic parameter

A type of parameter that has its value set by a Groovy script that runs at deployment time to obtain a value. For example, this type of parameter can supply the type or version of a database or application, which can be obtained programmatically at deployment time.

Dynamic Reasoning Engine (DRE)

A platform technology that uses high performance pattern-matching algorithms to search for content stored in Autonomy repositories. Performs core information operations for contextual analysis and concept extraction, enabling solutions for the categorization, summarization, personalization, hyperlinking, and retrieval of all forms of information.

environment

The source and (optional) target credentials against which you plan to run commands. You can define multiple environments within your installation to identify various source and target databases.

error

One of the ways in which you can interrupt a business flow. Error indicates that the business flow failed for some reason.

exclusive rules

One of the ways in which HPE Structured Data Manager determines whether to include or exclude rows from the archive operation. Exclusive rules require all rows in the constraint table to match for inclusion. Exclusive rules exclude the instance if the condition on any child is false, like STATUS='CLOSED'.

exit

One of the ways in which you can interrupt a business flow. You can exit successfully or with a warning.

export

The way that you save an HPE Structured Data Manager project to an exchange format (.hdp) from the File menu. See also *import*.

export data

The way that a user can send data to CSV format from Preview using the toolbar item.

generate documentation

The process of collecting and grouping all annotations into a PDF file that also describes the business flow or cartridge structure.

history schema

For database-to-database archiving, the schema in the target database where the archived data is stored.

IDOL

See Intelligent Data Operating Layer (IDOL).

import

The way that you transfer projects from exchange format (.hdp) into the Project Navigator. You can also use import to migrate cartridges created in 5.1 to 6.x. See also *export*.

inclusive rules

One of the ways in which HPE Structured Data Manager determines whether to include or exclude rows from the archive operation. Inclusive rules require only one row in the constraint table to match the rule and be included. Inclusive rules include the instance if the condition on any child is true, like PRODUCT_RECALLED='Y'.

indexing cartridge

A cartridge that indexes your data for better searching. For example, you might associate an indexing cartridge with a database-to-file archiving cartridge to improve performance when querying the archive data files.

Intelligent Data Operating Layer (IDOL)

An information processing layer that collects indexed data from connectors and stores it in a structure optimized for fast processing and retrieval, integrating unstructured, semi-structured, and structured information from multiple repositories.

interrupt

The way to stop or pause a business flow (pause, error, exit with warning, exit successfully).

local deployment

The generation and deployment of your cartridge or business flow to an environment on your local, Designer client. Deployment files are generated locally and then deployed to the designated, local environment.

lookup table

A table that contains helpful non-transactional information. For example, non-transactional information could be status definitions, or the name of the sales representative.

managed table

A table in the model that is copied and then purged from the active database by a cartridge. Transactional, chaining, and driving tables in a model are all typically managed tables.

model

A model identifies the tables and table relationships representing a business entity or related business entities. A project can have multiple models. Each model contains a driving table and all of its child and descendent tables.

model compatibility

Each model in your project can have one or more dynamic parameters associated with it to verify the compatibility with the target environment. If the compatibility parameter returns false, then the cartridge referencing the model will not deploy or run and throw an error. For example, the script could return false for Oracle 10.2 and true for Oracle 11.1 to indicate that a cartridge referencing the model can only deploy and run against Oracle 11.1.

model-based cartridge

A cartridge that moves data based upon a defined data model with relationships. This type of cartridge is typically used for ongoing archive operations.

non-intrusive environment

In a non-intrusive environment, data is archived without an interface schema and a generic

JDBC driver is used. A non-intrusive environment enables you to copy or archive data from read-only sources, which is especially helpful in cases where the data is associated with older technologies that might not support basic SQL statements or when the database administrator or company policy prohibits write access to the production environment.

OLTP database

The online transaction processing database that typically is your active or source database.

pause

One of the ways in which you can interrupt a business flow. Pausing suspends the business flow while awaiting operator intervention.

Records Manager

Enterprise document and records management software designed to simplify the capture, management, security, and access to information. Records Manager enables organizations to more easily comply with regulations and corporate policies, and it helps secure information from inappropriate access and misuse.

reload

The act of taking data from an archive data store and loading it into the active database.

remote deployment

The generation and deployment of your cartridge or business flow to an environment on a system that is remote from your Designer client. Deployment files are generated locally and then deployed to the designated, remote environment.

repository

The location that holds business flow metadata, product configuration data, and data collected during runtime. The repository can be located on your active database or another logical database.

rule

Qualifications added to the model in order to include or exclude data based on certain criteria. For example, you might add a rule to exclude from archiving any orders that are not yet closed.

runtime parameter

A type of parameter that has its values set by the operator executing the job in Console or on the command line. Typically, this type of parameter represents operational values that tend to change frequently and therefore need to be set each time the job is run.

schema-based cartridge

A cartridge that moves data based upon the database schema rather than a defined data model with relationships. This type of cartridge is typically used for database retirement or the cleanup of orphan tables.

selection

The form of data selection to use (standard or advanced) for choosing data. When deploying a cartridge or adding it to a business flow, you must specify the selection method.

single instance

A configuration option for database-to-database archiving where the data you archive is stored on the same database (Oracle) or the same server (SQL Server) as the source or active database.

source

The location (database) from which you are copying or moving data.

SQL access server

See *archive query server*.

standard selection

A method of data selection that restricts itself to the rows identified by the model. Unlike advanced selection, it does not attempt to traverse related rows across multiple tables.

structured records management

A type of solution that extracts structured data from a source application and moves it into XML format. The XML is then ingested into the corporate records management system for long term management and eventual disposal according to corporate policy.

table use

A database table, view, or synonym that is referenced in Designer, for example, in the model. The same table can be used multiple times in a model. For example, a table could be

appear as a transactional table and a lookup table in the same model.

target

The location (database or XML) to which you are copying or moving data.

tier

A level in your database archiving configuration. You can have two- or three-tiered configurations. In a two-tiered configuration, tier one contains your active database and tier two your archive data store, which can be a database or XML. In a three-tiered configuration, tier one contains your active database, tier two an archive database, and tier three XML.

transactional data movement

Transactional movement uses set-based data movement and is the default method of movement.

transactional table

A table that contains information about the business transaction. For example, a transactional table might contain detailed tax or payment information related to each business transaction.

unique identifiers (UIDs)

A 16 hexadecimal identifier calculated based on the content of a Designer file. This value is used to determine if the user has customized key pieces of a project.

unmanaged table

A table in a model that is copied but not purged from the active database by a cartridge. Lookup tables in a model are typically unmanaged tables.

Vertica

Column-oriented SQL database management software for storing and analyzing structured data. Used to manage large, fast-growing volumes of data and provide fast query performance for data warehouses and other query-intensive applications.

virtual constraint

A constraint that you define in Designer that only exists within HPE Structured Data Manager.

Web Console

A browser-based interface where you can create and manage your deployment environments, and deploy, run, administer, and monitor your business flows.

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