OpenText™ Structured Data Manager

Concepts Guide

Version : 26.1

PDF Generated on : February 18, 2026

Table of Contents

1. Concepts Guide

OpenText™ Structured Data Manager provides powerful tools to design an archive solution that copies or moves data out of your production database and into less expensive storage.

This guide provides conceptual information in the following areas:

- installation
- archive data store
- design
- deployment
- selection
- data movement
- Groovy scripting

Prerequisites

Prerequisites for using this product include:

- Knowledge of the operating system
- Database knowledge
- Application knowledge

Intended audience

This guide is intended for:

- Archive developers building custom archive projects
- Archive developers customizing existing archive projects

Related documentation

Document Name	Description
OpenText™ Structured Data Manager API Reference Guide	Provides reference to the available programming interfaces.
OpenText™ Structured Data Manager Certification Matrix	Provides information about supported Operating Systems, databases, browsers, software integrations and other technology stacks.
OpenText™ Structured Data Manager Developer’s Guide	Explains how to use the Designer component to design, build, test, and deploy your archiving projects.
OpenText™ Structured Data Manager Installation Guide	Explains how to install the product.
OpenText™ Structured Data Manager Release Notes	Lists any items of importance that were not captured in the regular documentation.
OpenText™ 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.
OpenText™ Structured Data Manager Troubleshooting Guide	Explains how to diagnose and resolve errors, and provides a list of common errors and solutions.
OpenText™ Structured Data Manager Tutorial	Provides step-by-step instructions to build a sample archiving module, deploy, run, and troubleshoot errors in it.
OpenText™ Structured Data Manager Upgrade Guide	Explains how to upgrade the product and archive schema generated by the earlier versions of the product.

Document Name	Description
OpenText™ Structured Data Manager Discovery Guide	Explains the purpose, how to install and use Discovery.

1.1. Introduction

OpenText™ Structured Data Manager (SDM) provides:

- Powerful tools to design, deploy, and run structured data management solutions that copy or move inactive data out of your production databases and into less expensive storage and, when necessary, restore it back to your active database or upload it to another database.
- Flexible access methods that enable you to query the data.

This chapter includes:

- Structured Data Manager overview
- Analyze your requirements

1.1.1. Structured Data Manager overview

Typically, you use Structured Data Manager for one of these reasons:

- **Preservation of data**: To preserve database data for purposes of corporate governance and electronic discovery.
- **Ongoing archival of inactive data**: To remove older and inactive data from a production database and archive it.
- **Indexing of databases**: To make database data available for searching or query.

Preservation of data

As organizations review their current portfolio of applications, they realize that a significant percentage of applications are used infrequently. In many cases, these older applications are kept online purely for data access purposes in case of an emergency, such as a lawsuit or an audit of some kind. Corporate governance rules may require you to maintain the data in some accessible form.

Placing the data from the retiring application into a structured file is an excellent way to preserve the data in a usable form while getting rid of the obsolete application and database. Once the data is archived in this way, the application can be retired and the resources re-purposed for newer applications.

While archived data may be accessed infrequently, it must remain accessible for critical situations, such as legal hold and eDiscovery. Depending on the needs of your users, you might make your archived data accessible in a variety of ways:

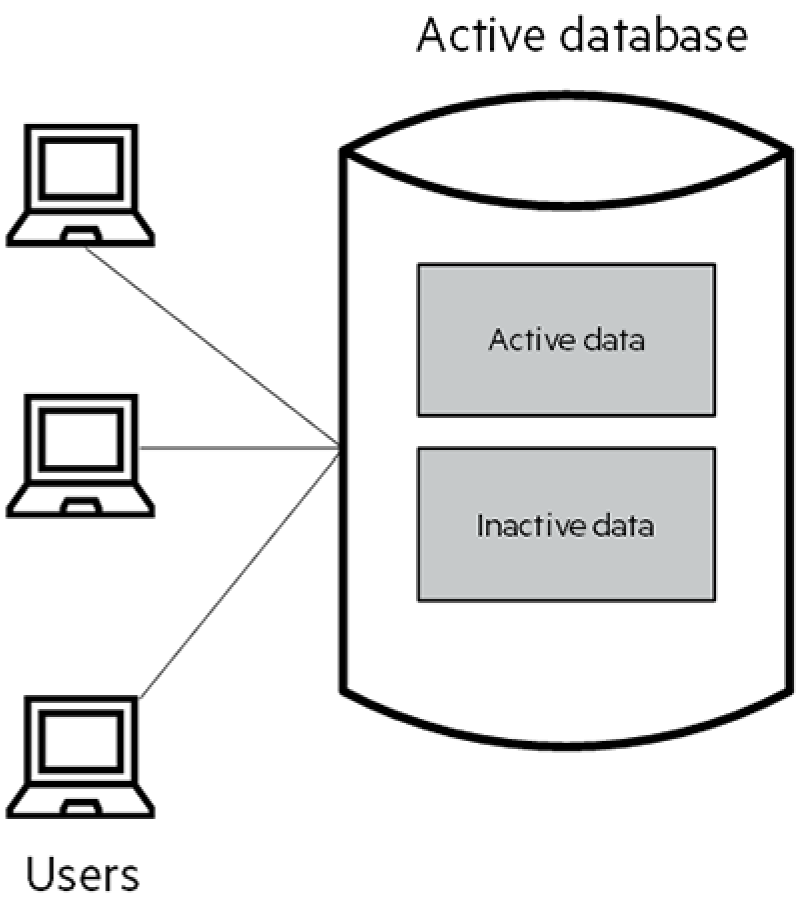
- **Access XML data through the archive query server.** The archive query server provides application-independent access to data archived in files. This type of access is best for data that you archived for long term retention where the original application has been retired or is otherwise unavailable.
- **Maintain transparent access to the data.** By storing archived data in a different database location, you can maintain transparent access to it. In this case, it appears to the user of the application as though the data were still in the active database even though it resides in a different location. This approach provides maximum ease of access for your users and is best employed in scenarios where access to the data must be immediate and indistinguishable from active data.
- **Reload data from the archive data store to the active database.** If it becomes necessary, you can always reload data from the archive data store to the active database. Once the data is back in the active database, your users can access it and perform further transactions upon it using the original application.

- **Upload data from the archive data store to another database.** Instead of reloading to the active database, you may need to upload data from the archive data store into a completely different database. This approach is particularly useful in dealing with heterogeneous databases. For example, you may have archived from a SQL Server database but need to restore to an Oracle database.

Ongoing archiving of inactive data

Databases that have been in service for long periods of time, particularly those running large applications such as PeopleSoft or Oracle E-Business Suite, accumulate large amounts of data. Some portion of this data is typically inactive (infrequently accessed) as shown in Figure 1.

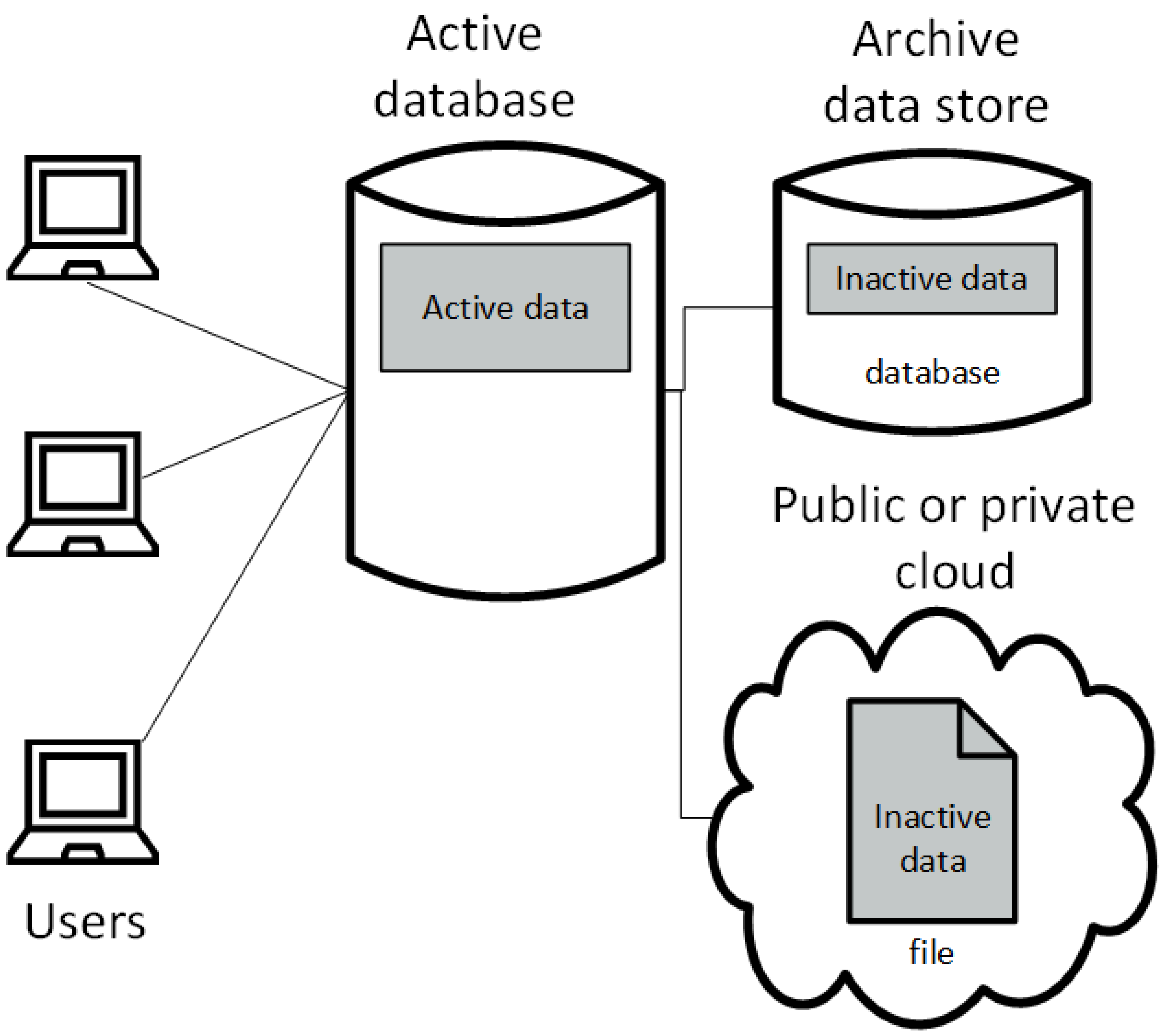
Figure 1 Active and inactive data in the database



An active database, such as an online transaction processing (OLTP) database, is typically not the most cost effective solution for inactive data. Older, less frequently accessed data can be more efficiently stored in less expensive storage outside of the active database. In addition to not being cost effective, allowing very old records to accumulate in your active database slows performance and leads to the need for additional, expensive hardware.

A good solution to this problem is moving the inactive data out of your active database and into an archive data store, while maintaining application integrity. Thus, you balance the need for of long term records retention with optimal database performance.

Figure 2 Inactive data moved to archive data store



Critical to this is approach is the ability to preserve application integrity while moving data out of the active database. Structured Data Manager includes an understanding of application models, which enables you to archive data while keeping your original application running.

Apart from cost reduction, two of the most common reasons for archiving the data from the active database are:

- **Data retention:** An organization needs to retain the data for long term while keeping it accessible for the purposes of corporate governance, ediscovery, and/or legal hold. Database archiving enables you to store data from your active database with its application structure intact in a structured data file, such as XML, comma separated values (CSV), or JavaScript Object Notation (JSON). Since such formats are open standards, the data stored in such files can be accessed even after the original application and/or its designers are gone. At the same time, a structured file represents a cost effective solution for the long term retention of data.

- **Performance improvement:** Archiving older, infrequently accessed data from the active database enables you to move eligible data to cost-effective storage while also reorganizing the active database and reduces footprint of your active data in production database. This reduction in footprint tends to improve the performance of the active database.

Indexing of databases

You can use Structured Data Manager to index your database records for Knowledge Discovery (IDOL), Apache Solr, or Elasticsearch. Once so indexed, you can search your structured data along with your unstructured data using for Knowledge Discovery (IDOL), Apache Solr, or Elasticsearch.

You can associate an indexing cartridge with a database-to-file archiving cartridge to improve performance when querying the archive data files. The indexes created in the resultant IDX file depends upon the configuration of the indexing server in the Web Console. By default it is Apache Solr.

1.1.2. Analyze your requirements

Before building an archive, you must consider your requirements and plan your archiving solution accordingly. By and large, you should consider all of the following requirements:

- **Selective data versus all data archival.** You might archive structured data for a variety of reasons, such as corporate governance or system performance. Depending upon your goals for archiving, you may choose different approaches:
    - If your goal is to selectively copy or archive data on an ongoing basis from an active database, then you should consider a **model-based** approach. Model-based archiving enables you to select and move particular records using specific eligibility criteria, while the active database continues operations. For additional, model-based requirements analysis, see Model-based archiving requirements analysis.
    - If your goal is to retire an entire database or set of tables within a database, a **schema-based** approach is probably more suitable. Schema-based archiving enables you to easily select entire tables to copy or archive.
- **Multiple tiered solution.** Sometimes, the best way to balance the requirements of long term retention, active database performance, and user access to archived data is to employ a multi-tiered approach.

  In a multi-tiered configuration, you can store some archived data in another database (second tier) while the rest is stored in files (third tier). The second tier provides ready access while still improving the performance of the active database. As the access requirements of the data on the second tier lessen over time, that data can be moved to the third tier.
- **Data access - during and after archival.** One of the key considerations for all archiving decisions is user access to data. Once the data is archived, users may still need to access it, albeit less frequently than active data. You should understand their expectations and needs for accessing the archived data. For example, you need to know if users expect to access the data with their existing programs or if they are prepared to use other tools to get at the data once it is archived.
- **Reload/Upload requirements.** When you move archived data back to an active database, to the same database, from which it was archived (reload) or to a completely different database (upload).

You must understand your reload or upload requirements when building your archive because how and where you plan to reload or upload can affect how you design your archive solution.

- **Disposition and disposal of archive files.** If you store archived data in files, you need to consider where to locate those files and how to manage them over time. You might choose to migrate the files to tape when they reach a certain age. When the archived data is no longer legally required, you will want to dispose of the files altogether.
- **Electronic Document and Records Management System (EDRMS)**. OpenText Content Manager (formerly known as HP Structured Records Management System (SRMS), HP Trim) is an Electronic Document and Records Management System (EDRMS), and it is an extremely powerful tool for managing your archived data files. Using OpenText enterprise content management solution, you can automatically push archive files from Structured Data Manager into Content Manager as records. Once in Content Manager, you can govern these records according to your defined business and legal policies for management and retention. Contact your OpenText sales representative for more information about OpenText Content Manager.
- **Existing data and programs.** You should be aware of which programs your audience typically uses to access the data.
- **How existing data might need to be transformed.** If you are archiving data that requires transformation, you need to factor that into your archiving solution as well.

Model-based archiving requirements analysis

For model-based archiving, you must gather and analyze information about the data model and business rules. You need a good understanding of all of the following before proceeding to build your model-based archiving solution:

- **Description of the target users.** You must consider the users who access the data that you are planning to archive, and how they typically access and use it.

  Ensure that you consider all of the potential user types and situations. For example, a user searching data on legal hold may have different access requirements from a day-to-day business user of the data.
- **The entities with which users work.** You must understand how your audience looks at the data. For example, if dealing with an order processing system, then

the main entity is an order. Your archiving solution should be designed to reflect these business entities.

- **How the business entities are stored in tables.** Before you begin modelling your archive in Designer, you must understand which tables are required for the business entities involved and how those tables are related to one another. To return to the example of an order processing system, you would need to know where the various aspects of a customer order are stored in database tables and how those tables are related to one another (for example, what, if any, foreign keys are used to relate tables to one another). You may find it useful to create an entity relationship diagram (ERD), if you do not already have one.
- **The business conditions and exceptions that must be translated into rules on model tables.** To implement an effective archiving solution, you must understand the business rules and implement them as rules on your data model tables. For example, if the legal department requires that orders remain in the active database for at least two years before becoming eligible for archiving, you need to create a rule in your model that reflects that legal requirement.
- **Data dependencies.** To design an effective model, you must know which business processes rely on the data for continued operation and which other applications can use the data. You must also understand the business rules that govern the closing and reactivating of transactions within the business process.
- **The database types in your environment.** You need to consider the database types (Oracle, SQL Server, Sybase, DB2, or JDBC data sources) with which you are working and whether you need to construct a model that can run against multiple database types. For example, if you want your project to archive from both an Oracle and a SQL Server database, you may need to have different versions of your rules for each database type.

1.2. Archive to file or database

To support different archive and reload/upload scenarios, Structured Data Manager provides two major types of archive data store, file and database. You can use these two types of archive data store separately or in combination to formulate your archive solution.

This chapter includes:

- Database to file
- Database to database

1.2.1. Database to file

Database to file moves (copies and purges) or copies data from an active database to an archive file store (XML, CSV, or JSON). The file storage location can be:

- a file system
- Amazon-S3 (Amazon Simple Storage Service)
- HDFS (Hadoop File System)
- Another Structured Data Manager instance (SDM Gateway)
- SSH location
- a content management system, such as Content Manager

When to use

Database to file archiving is most useful for application retirement. You store archived data in a structured file, such as XML CSV, or JSON. The file can be stored and managed in a variety of locations, such as Vertica or Amazon-S3. Application integrity is maintained and that data can be accessed using standard methods instead of relying on an application that may become obsolete.

For example, suppose that the data must be kept for 10 years. If you need to access the data 10 years after it was archived, the tools and applications that originally operated on it might be long since obsolete and unavailable. XML and CSV storage provide self-contained, independently accessible formats that are supported over long spans of time.

1.2.2. Database to database

Database to database moves (copies and purges) data from an active database to an archive database, which is typically located on a less expensive platform. This type of data movement provides transparent access in the sense that users access the data as if it were still in the active database using the same application program and protocols.

When to use

Database to database works best for situations in which you need free space in your active database for performance while still maintaining easy access to the data.

You might choose to move data from your active database to an archive database in the following scenarios:

- **Transparent access.** If users require transparent access to archived data, you must use database to database. Data access for viewing or reporting is available for all transactions through a combination of synonyms and views. Only an archive database location can be linked to the active database in such a way that the data can be transparently accessed as if it was still in the active database.
- **2nd tier in a 3-tiered archive.** In a 3-tiered archive, an archive database is the 2nd tier. Data moves first from the active database to the archive database. As the access requirements of the data in the archive database (2nd tier) lessen over time, that data can be moved to a file (3rd tier). The 2nd tier archive database provides a good solution for data that is older but still has relatively high access requirements.

Archive types

With database to database archiving, you have the option to move eligible data from the active database to a separate location within the same database (single instance archive) or to a completely separate database (distributed archive). The archive type determines the location of the archived data:

Archive type	Location of data
Single instance	• for Oracle and DB2, separate archive (history) tables within the active database • for SQL Server, a separate database located on the same server as the active database
Distributed	• for Oracle and DB2, archive tables within a separate archive database • for SQL Server, a database located on a separate history server

The single instance archive provides the performance improvements that is derived from reducing the amount of data stored in the active tables, but it does not realize the space savings that come from moving the inactive data out of the active database altogether. Single instance also avoids the overhead of managing additional databases.

With the distributed archive configuration, eligible inactive data is moved to a separate tablespace in the active database and, subsequently, moved to a separate archive database. This configuration provides the performance improvement of single instance as well as the space savings in the active database that come from moving the inactive data completely out of the active database.

Data transparency

Data transparency refers to the ability of users to see archived data as though it were still in the active database. If you implement data transparency, both active and archived data can be accessed through the current user interface. All data relationships necessary to maintain data and application integrity are retained.

Active data includes transactions that are open, experiencing change, currently being updated, or in use. Archive data includes data that is inactive, has met data retention and deletion eligibility requirements, has been deleted from the managed tables, and is now stored permanently in a separate location.

By running the Create Archive Access job to enable data transparency, you can access the archived data through the existing interfaces and reports in your native application. Your data is accessed differently depending on whether you choose the archive only or union view option.

Note

If you choose to use database to database archiving without transparency, you can still access your archived data by running SQL queries against the archive database. You may need to create synonyms or views against the data in your active database.

Archive only option

This selection allows access to either active or archived data but does not provide a combined view.

To access	Procedure
Active data	1. Start the application user interface on the active database. 2. Enter the user information as you always have.
Archived data	1. Start the application user interface on the active or archive database. 2. Enter the user information for the Archive Access user. **Note** A view is only available for active data. It is excluded from archive data.

Union view option

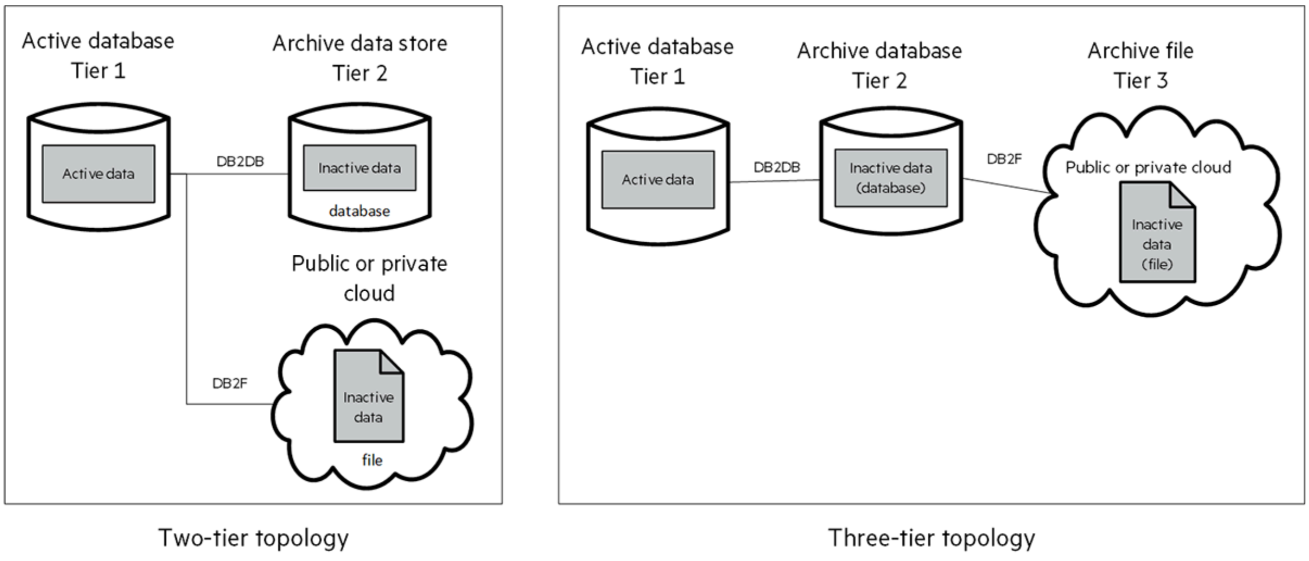
This selection allows access to a combined view of active and archived data.

To access	Procedure
Active data	1. Start the application user interface on the active database. 2. Enter the user information as you always have.
All data (active and archived)	1. Start the application user interface on the active or archive database. 2. Enter the user information for the Archive Access user.

1.3. Archive solution types

You can use database to file and database to database movement independently of one another or in combination. If you use database to file and database to database independently, it is called a two-tier solution. If you use them together, it is called a three-tier solution.

Figure 3 Archive solution types



A two-tier solution provides a basic approach to database archive. It moves or copies inactive data from a production database to either an another less expensive database or a file (XML, CSV, JSON, etc.) - an archive data store. A two-tier solution might employ database to database or database to file archiving, depending on your goals for the archive.

For example, if your primary objective is transparent access, you would use database to database archiving. If your objective was long term retention, you would instead implement database to file archiving.

A three-tier solution provides the most comprehensive approach to database archiving. In a three-tier topology, your archive is layered into three tiers.

- As data in the active database becomes less frequently used and meets certain business and legal conditions (for example older than 3 years),it moves from production database (tier one) to a less expensive archive database (tier two) using database to database archiving.
- When the data on your second tier is ready to be archived for long term retention, you use database to file archive to move it from the archive database to XML,

CSV, or JSON files (tier three). This file constitutes your archive's third tier and represents your long term retention solution.

1.4. Free-Text Search

Free-Text Search feature is used after indexing your data to an indexing server such as Knowledge Discovery (IDOL), Apache Solr, or Elasticsearch. By default the index files are created based on the primary keys, however it can be customized. As the name signifies, this feature helps in searching of specific content in the data that was indexed.

When to use

Free-Text Search feature is used to perform a content search on the indexed data using an indexing server such as Knowledge Discovery (IDOL), Apache Solr, or Elasticsearch.. This requires setting up an indexing server and running an indexing business flow for that specific server. For more information on indexing cartridge, refer to **Create an indexing cartridge** section in the *OpenText™ Structured Data Manager Developers guide*.

1.5. In-Place Masking

In Place Masking (IPM) feature allows you to mask personal or sensitive data stored in the source database. It also creates a copy of the masked data to an archive file store (CSV).

When to use

In-Place Masking feature can be used to mask production or test data to prevent unauthorized access of personal or sensitive data. The masking process uses built-in or user-defined masking functions. If masked with reversible masking functions, the masked data can also be unmasked to get back the original data.

Along with masking, a copy of masked data is also created in a structured file format such as CSV. Similar to Database to file, these files can be stored at multiple locations.

For example, suppose an organization has to run some tests on production database which has sensitive data, giving access to sensitive data might result in breach of compliance policies. To prevent this, we can use In-Place Masking feature to mask sensitive data using reversible masking functions and after the tests are done the data can be regained using reverse masking.

1.6. Data Access Cartridge

Data Access Cartridge (DAC) is the reporting feature that can be used to view the data in the Web Console. The source of the data is picked up from the location specified in the manage environment page.

When to use

DAC feature can be used for reporting of the data in any of the location specified in SDM (Source, Target, AQS Cache, upload locations). This DAC can be linked to the indexing cartridge so that the search results from the Free-Text Search is routed to DAC for reporting.

1.7. Data selection and movement

When moving data, an algorithm must first select the data eligible for movement. Second, the selected data is actually moved using any one of a variety of methods. Based on your requirements, you choose the optimal selection and movement methods.

This chapter includes:

1.7.1. Data selection and movement options

Structured Data Manager offers different options for performing the selection and movement of data from one tier to another in your archive. The available options will vary somewhat depending upon the type of the archive cartridge.

- For selection:
  - **Standard selection**
  - **Advanced selection**
- For data movement:
  - **Transactional**

1.7.2. Standard selection

Standard selection is a method of data selection that treats the model as a tree with the root node being the driving table. Starting at the top of the tree, standard selection populates one selection table for each node in the model. Standard selection does not support the case where a child has multiple parents. Therefore, multiple uses of the same table can break the tree model, if each use of the table does not map to a disjoint set of rows.

- **Driving table.** Most of the selection logic is evaluated in a single query during the population of the driving selection table. This query evaluates all rules that do not have eligibility analytics enabled. The rules on child or grandchild table are evaluated by including them in a subquery to the child table.
- **Child tables.** After the driving table rows are populated, each child table is populated in top-down order.

  For example, suppose that ORDER_HEADER is the driving table and its selection table is already populated. If the table hierarchy were ORDER_HEADER, ORDER_LINE, and ORDER_LINE_DIST, the ORDER_LINE selection table (ORDER_LINE_SEL) would be populated next and then the ORDER_LINE_DIST selection table (ORDER_LINE_DIST_SEL).

  The child table is populated by a join between the parent table, the parent selection table, and the base table, as well as any conditional relationships. For example, ORDER_LINE_SEL is populated by joining the driving table (ORDER_HEADER), the driving table's selection table (ORDER_HEADER_SEL), and the active child table (ORDER_LINE).

  Note

  No special handling of null foreign keys is performed. Therefore, if a child has a null value for its foreign key then it is inferred that it is not related to the parent.

- **Conditional relationships.** A conditional relationship on a virtual foreign key adds an additional condition on the relationship between two tables. For example, if the model defines a relationship of `ORDERS.ORDID = ITEMS.ORDID`, it is possible to add a constraint or filter on the relationship:

  `ITEMS.PARENT_ITEM_ID is null`

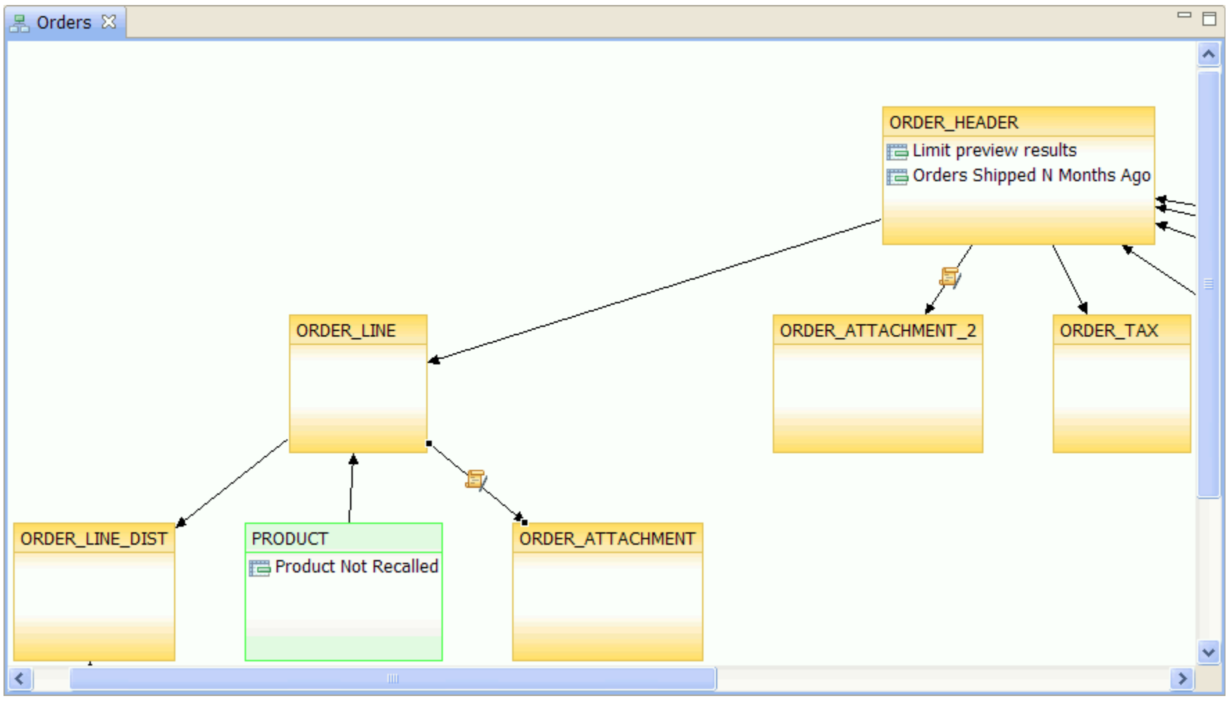
Any rows which do not pass the original relationship and then the added conditional relationship are not children of the parent table.

- **Multiple table uses.** Creating additional instances of a table in a model indicates that the table is used to store different types of data. Each such instance represents a separate, logical table with its own selection table (one for each node in the model). The selection tables are populated in the order in which they appear in the model.

  With multiple table uses, you must ensure the rows do not overlap, that is they must be disjoint. Otherwise, you will encounter unique constraint errors when moving the data. You can avoid row overlap by creating conditional relationships.

  For example (Figure 5), suppose that you have an ORDER_ATTACHMENT table that contains attachments for both ORDER_HEADER and ORDER_LINE. The ATTTYPE column contains OL or OH to indicate whether the row pertains to ORDER_HEADER or ORDER_LINE.

Figure 5 Multiple table use in a model



To avoid overlapping rows in this case, you could add two conditional relationships. The relationship between ORDER_LINE and ORDER_ATTACHMENT is:

```
${FK_ALIAS}.ATTTYPE = 'OL'
```

The relationship between ORDER_HEADER and ORDER_ATTACHMENT_2 is:

`${FK_ALIAS}.ATTTYPE = 'OH'`

When to use

In most cases, it makes sense to use standard selection rather than advanced selection. The following indicate situations where standard selection should be used:

- **When using a non-Oracle database.** Advanced selection only works with Oracle databases. Hence, if you are using a non-Oracle database, you must use standard selection.
- **When performance is a concern.** Because standard selection does not attempt to discover interrelated rows, it typically runs faster than advanced selection.

1.7.3. Advanced selection

Advanced selection is 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. Because advanced selection discovers related rows, it is a powerful method for selecting data for archiving.

Note

Application partitioning is a concept unique to Structured Data Manager. This notion of partitioning contrasts with the more common table partitioning offered by the database management software. A table partition is only defined in one table. It does not contain all related rows from multiple tables. In order to achieve application integrity during and after archiving, identifying application partitions is key and table partitioning is often insufficient in this regard.

In advanced selection, the model is considered as a standard entity-relationship model. You can select multiple driving tables for advanced selection. Furthermore, you need not ensure disjointedness for multiple table uses and there is no restriction on null foreign key values.

- **Driving table.** In advanced selection, you select as many driving tables as necessary to drive selection. You are not restricted to one driving table as in standard selection.
- **Child tables.** In advanced selection, since the model is viewed as an entity-relationship diagram with potentially many driving tables, the model is not a tree. It has no hierarchical predecessors/successors like you see in tree diagrams. Even though the model editor presents as a tree, this visualization does not apply to advanced selection. Once the driving set of rows is identified, advanced selection follows the relationships in the model to spread the eligibility to other tables. In the process of spreading the selections, the application restricting conditions are evaluated, which can keep or drop a selection.
- **Conditional relationship.** For advanced selection, a condition in a relationship is considered as part of the relationship. In entity-relationship modeling, relationships do not influence the definitions of entities.

  For example, adding a condition on the relationship between ORDER_HEADER and ORDER_LINE does not influence which rows are considered part of the ORDER_LINE (or ORDER_HEADER) entity. The simple rule of thumb for designing for advanced selection is to restrict the entity and then add the rule to the entity, rather than the relationship.

- **Multiple table use.** Multiple table use is the key to treating a tree model as an entity relationship model. If a table appears twice in the model, advanced selection can find loops in rows that start from one table, follow relationships in the model to other tables, and eventually return to the starting table. For example, suppose the table ORDERS joins to two tables, NOTES and ITEMS. Now further suppose that we start from a row in ORDERS and that row joins to a row in the ITEMS table. The row in ITEMS in turn joins to a row in NOTES_2, which is a second use of the table NOTES. The row in NOTES_2 is also a row in NOTES, which leads back to the ORDERS table, where the traversal originated.

  If, upon returning to ORDERS, the rows have already been found eligible, nothing changes. However, if new rows are discovered upon the return to ORDERS, these rows are marked eligible for archive and the looping from ORDERS to ITEMS to NOTES_2/NOTES and back to ORDERS must continue. This kind of data looping is sometimes referred to as chaining.

When to use

- **When application integrity is complex.** If you have a strong requirement to maintain application integrity and the data relationships are more complex, advanced selection is a good option. The application can actually run correctly using the archived data from advanced selection and, after data removal, the application is still able to run correctly. Since advanced selection identifies application partitions which encompass all the necessary data for the application, it ensures application integrity.

Note

- Advanced selection requires an Oracle database. You cannot use it with any other database.

  - As advanced selection attempts to discover interrelated rows, therofore, it typically runs somewhat slower than standard selection.

1.7.4. Eligibility analytics

If you choose to turn them on, eligibility analytics show you which rows have been selected for movement and which have been excluded. For excluded rows, eligibility analytics will also show you which of your rules caused the exclusion.

Eligibility analytics provide a powerful decision-making tool for database archiving. You can review the analytics prior to data movement in order to determine whether you want to proceed or abort the data movement. For example, you might review the analytics to determine if too many or too few rows are selected for movement. If your review indicates that too many or too few rows are selected for movement, you can abort the operation. Otherwise, you can continue it.

Tip

Enabling eligibility analytics can significantly affect the performance of data selection, depending upon the size of your data set. You should consider the possible performance trade-off before enabling eligibility analytics and only enable them when you expect to make use of them.

Note

To perform eligibility analytics on a rule, a data movement key is required on the table where the rule is specified.

1.7.5. Transactional movement

Transactional movement is the default method for both database to database and database to file, but it behaves differently depending upon whether you are moving to a database or file.

- Transactional movement to file
- Transactional movement to database

Transactional movement to file

For database to file, the only available movement method is transactional movement. You can choose to only copy, or copy and delete (archive) the data when you go from database to file.

When to use

- **For snapshotting data.** You should use the copy method for database to file when you are creating a snapshot of the data. For example, you might need a snapshot for legal reasons or for creating a test environment.

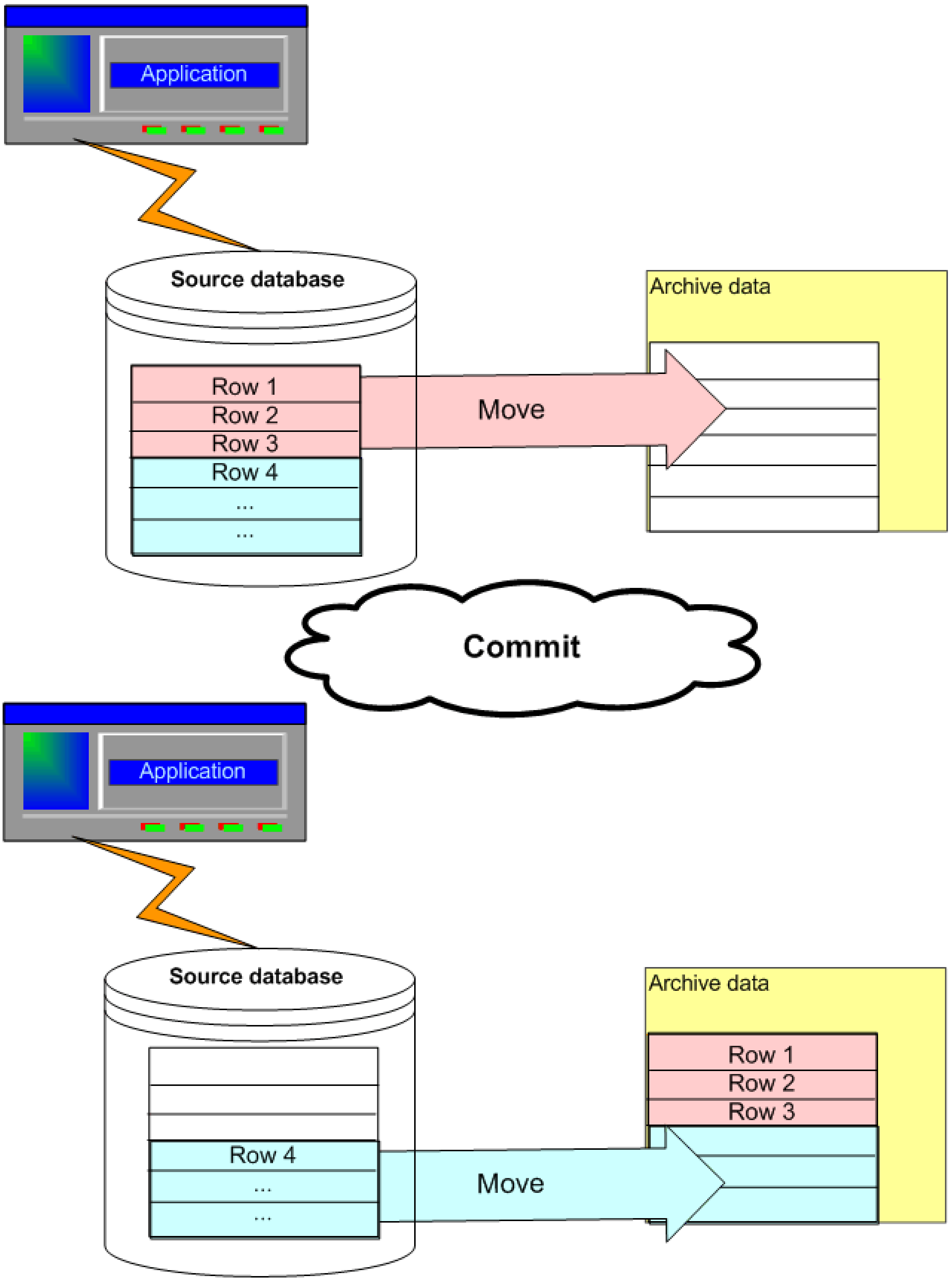
Transactional movement to database

For database to database, transactional movement uses set-based data movement.

As shown in Figure 6, transactional data movement between databases operates as follows:

- One set of rows is processed and moved, then after a commit, the next set of rows is processed and moved.
- The archive process occurs while the application remains online and accessible to users.

Figure 6 Transactional movement for database to database



Transactional movement between databases can be parallelized in one of two ways to enhance performance:

- Table parallelism

- Fully transactional

Table parallelism typically provides faster performance but requires some downtime for the archive database. Fully transactional is typically slower but users can continue to access the archive access schema during archiving.

When to use

- **When you cannot afford a production outage.** Transactional data movement does not require you to take the application offline. Hence, users can continue to access data while the archiving jobs are running.

1.8. Models, parameters, cartridges, and business flows

In Designer, you use models, parameters, cartridges, and business flows to specify:

- which data to move
- where to move the data
- how to move the data
- what, if any, additional logic to apply

This chapter includes:

- Lifecycle
- Data modeling
- Parameters
- Cartridges and business flows
- Groovy scripts

1.8.1. Lifecycle

Implementing an archive solution is an iterative process consisting of multiple, cyclical phases. It requires an understanding of the semantics of the parts that are moved between the active database and the archive data store:

1. Before you begin, analyze the requirements of your users and their environment. See Analyzing your requirements.
2. Capture metadata about the tables (tables, synonyms, views) to be archived/reloaded.
3. Create a schema-based cartridge to archive all the tables in a database, or design a model representing the list of tables to be archived or reloaded with the relationships between these tables. For a model-based cartridge:
    1. Create rules for the model tables to refine which records are eligible for archiving or reloading. See Rules.
    2. Test the model and rules by previewing their execution and navigating the results to understand what data would be moved under this model.
4. Create an archive or reload cartridge, which encapsulates a particular usage of the model you just created. The same model can be reused in multiple cartridges. See Cartridges.

    Tip

    For database to database cartridges, it is a good practice to create a corresponding reload cartridge for each archiving cartridge. The reload cartridge enables you to restore selected data from the archive data store to the active database.

5. Test the cartridge by previewing its execution and navigating the results to understand what data would be archived or reloaded under this cartridge.
6. Optionally, create a business flow that specifies the sequence and dependencies between one or many cartridges and other activities required to accomplish an archive solution. See Business flows.

Tip

For each of your archive business flows, it is a good practice to create a corresponding undo business flow. The undo business flow enables you to quickly reverse a previous run of an archive business flow in case you discover a problem.

7. Determine where the archived data will reside. You need to decide the archive data store's type (database or file) and ensure that it has sufficient space to hold the archived data.
8. Deploy the business flows to the server where the active database resides.

Note

If you deploy a cartridge itself, Structured Data Manager wraps it with a business flow upon deployment. Therefore, at runtime, you always run a business flow, even if you deployed a cartridge.

9. Ensure that the latest version of the business flow you need to run has been deployed.
10. Ensure that the configuration parameters are set to the appropriate values. For example, if you are archiving your data to CSV, and you want the CSV compressed and zipped, you could set the Compression Algorithm parameter for the business flow to GZIP.
11. Launch the job from the Web Console or the command line.
    - Select the desired job, set the runtime parameters to the appropriate values, and launch the job.
    - From the command line, review the syntax, ensure you have the required parameter values and environment information, and launch the job.

Tip

Ensure that you have enough disk space available before running jobs.

12. Monitor the progress of the job.

13. Repeat this procedure as many times as necessary. For example, when the active database changes or new business rules come into play, you typically need to update your project, redeploy your revised business flows, and run them.

In Structured Data Manager, the Designer is the main component where an archive solution is built. You design, test, and deploy your archive solutions in Designer (step 1 through step 7 in the preceding procedure). You run the archive solution typically by launching a job from the Web Console or the command line (step 9 in the preceding procedure).

See also

OpenText™ Structured Data Manager Developer's Guide

OpenText™ Structured Data Manager Runtime Guide

OpenText™ Structured Data Manager Troubleshooting Guide

1.8.2. Data modeling

Depending on your analysis of requirements and understanding of your database, you must first decide on the basis for choosing data for your archive:

- **Schema-based**. If you choose the schema-based approach, you simply create cartridges and choose tables or views for archiving. You can choose to archive all data, no data (table structure only), or selected data using a WHERE clause. Schema-based archiving is useful when retiring an entire database or cleaning up orphaned tables from earlier archive operations.

  The primary reason for using schema-based cartridges is to archive all of the data from a database that you plan to retire. If you are archiving all of the data, you do not need a model because you are not selectively choosing records for archiving.

- **Model-based**. In the model-based approach, you design a data model. This data model governs the selection of data for inclusion in the archive. Unlike the schema-based approach, model-based archiving chooses data from the specified tables based upon the relationships and rules of the model. Model-based archiving is best when you want to choose data at a more granular level than schema-based archiving.

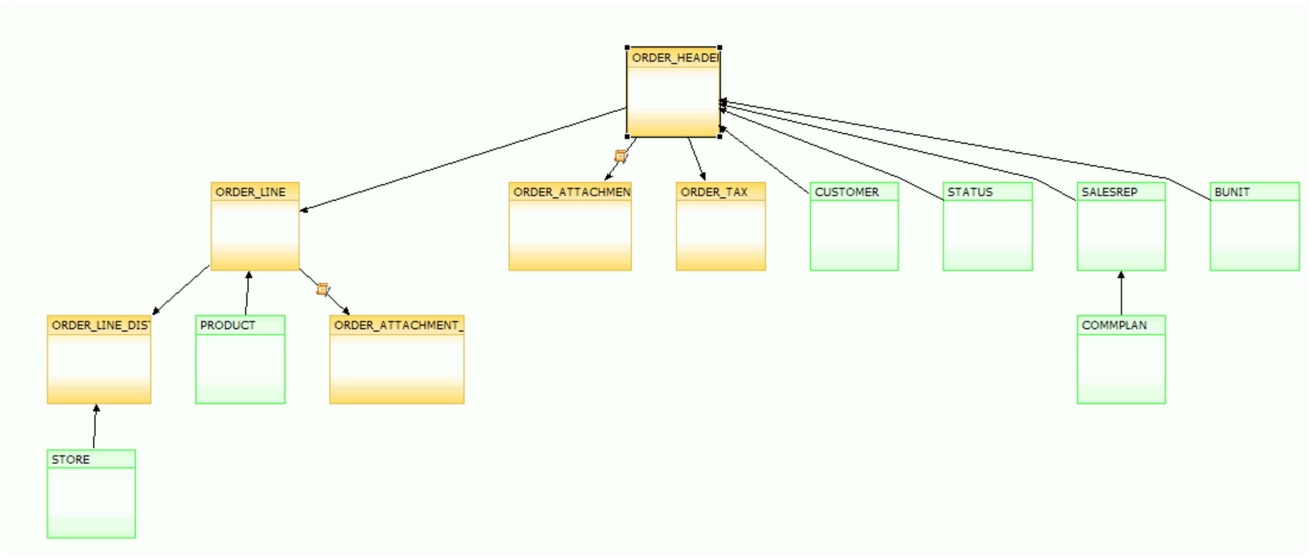
Models

In Structured Data Manager, a model, like the one in Figure 7, can be used to identify which data to include in an archive or reload business flow. The model graphically represents the tables (including views and synonyms) and how they are all linked through relationships.

Tables and table uses

In models, we use the term tables for the sake of simplicity, but it is important to understand that tables (including views and synonyms) mean table uses or instances and do not necessarily have a one-to-one correspondence to the actual tables stored in the database. That is, you might have a model where the same table is used and appears multiple times. This concept of multiple table uses is described more completely in Multiple table use.

Figure 7 Sample model



A model can include tables of the following types:

- Driving table

  The driving table is the root of the model hierarchy. Its relationship to the child tables drives the selection of transactions. Typically, a model only has one driving table, but, when using advanced selection, you can specify multiple driving tables. If you use advanced selection, you can mark any table as a driving table. When a table is selected as a driving table, its selections are then propagated to other tables, thus impacting their row selections.

  In Figure 7, ORDER_HEADER is a driving table. The driving table can have zero to many children. The children may be transactional, lookup, or chaining tables. In Designer, child tables are related to the parent by foreign keys (database or virtual), optionally with a conditional relationship. A unique key (database or virtual) is the referencing constraint for the foreign key.

- Lookup table

  A lookup table contains helpful non-transaction information. You might need these lookup values present for the purposes of a rule or for the sake of making an archive file more complete. For example, nontransaction information could be status definitions, or the names of the sales representatives. In Figure 7, STORE, PRODUCT, CUSTOMER, STATUS, and SALESREP are all lookup tables.

Tip

Since lookup tables contain non-transactional, reference information, you can choose to copy the data to the archive database, or keep it in the source database and reference it with a database link.

In either case, you typically do not purge lookup tables from the source database because they may be referenced by both archived and active tables.

- Transactional table

  A transactional table contains information about the business transaction. For example, a transactional table might contain detailed tax or payment information related to each business transaction. In Figure 7, ORDER_LINE, ORDER_LINE_DIST, ORDER_TAX, and ORDER_ATTACHMENT are all transactional tables. Transactional tables are always part of the archive. For this reason, they are also known as managed tables.

- Chaining table

  If a many to one (or many to many) relationship exists between a higher level table and a lower level table, the lower level table is labeled as a chaining table.

- Relationship

  All tables in a model are linked through relationships. These relationships are derived from captured foreign keys or defined by you at design time.

- Unique constraints

  A unique constraint is a column or a list of columns that enables you to identify rows in the database. For example, in a table of employees, employee numbers or Social Security Numbers are often unique constraints. Database unique constraints are defined in the database. If you have database unique constraints, Structured Data Manager discovers them. Thus, you can make use of these database constraints in Designer. If you do not have such database constraints, you can define your own, known as virtual unique constraints, in Designer. Virtual unique constraints only apply within Structured Data Manager. They are not added to your database and are only available for use inside of Designer. You must ensure yourself that virtual unique constraints are correctly defined. Furthermore, virtual constraints should be indexed, otherwise you may encounter significant performance issues.

> **Tip**
>
> Unique keys perform the same function as primary keys and can be defined for any table in the model. Note, though, that unique keys are less strict than primary keys.
>
> For example, in a table, you could define a primary key on column A and a unique key on column B. In that case, column A is mandatory, but column B is not unless the column is defined as not null. The unique key enforces the rule that you cannot enter duplicate values for column B, but null values are not considered duplicates.

- Foreign key constraints

  A foreign key constraint is a column or a list of columns that enables you to relate rows in the database. For example, in a table of sales orders, employee number might be a foreign key that enables you to relate to the employee table. Database foreign key constraints are defined in the database. If you have database foreign key constraints, Structured Data Manager discovers them. Thus, you can make use of these database constraints in Designer. If you do not have such database constraints, you can define your own, known as virtual foreign key constraints, in Designer. Virtual foreign key constraints only apply within Structured Data Manager. They are not added to your database and are only available for use inside of Designer. You must ensure yourself that virtual foreign key constraints are correctly defined. Furthermore, virtual constraints should be indexed, otherwise you may encounter significant performance issues.

Multiple table use

In some cases, you may find it necessary to reference the same table more than once in your model. Each use of the table may have different rules associated with it.

In most situations, such multiple table use poses no problems. In some cases, though, you need to proceed with caution:

- If you have multiple table uses in your model that do not correspond to disjoint (non-overlapping) sets of rows in the table, you must use advanced selection. If the uses are not disjoint, standard selection can lead to duplicate data in your archive data store. Hence, you can only use standard selection when the multiple uses are disjoint from each other.

- For advanced selection, you can use the same table in a model multiple times and each use can be of a different type (transactional, lookup, or chaining).

Rules

In a model, rules define the extent of the archiving operation or further refine the model by excluding certain records. Rules typically fall into two broad categories:

- A rule can articulate a business condition, often parameterized, to determine the rows eligible for archiving or reloading data. This type of rule defines the scope of the data to be archived. For example, if you have ten years of data, and define a policy requiring that four years be retained in your production environment, six years of data is considered for archiving, and those six years are displayed when you Preview the data.
- A rule can be a requirement or restrictions for an application or business entity that ensures application data integrity. For example, a rule might specify that an order’s status be closed before it can be archived. Therefore, even if the orders were otherwise eligible for archiving, they would be excluded by this rule if its status were anything other than closed.

You can create rules on any model table and incorporate parameters into them.

1.8.3. Parameters

You can set up parameters that provide values within your project. In Structured Data Manager, you have three types of parameters:

- **Runtime parameters** have their values set at runtime by the user running the job. Runtime parameters tend to be best for operational values that tend to change with each execution of a job. For example, if your archive is based on a specified cutoff date, you most likely need to update that date every time you run the job.
- **Configuration parameters** have their 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. A retention period defined by the legal department is a good example of a value that should not change very often and that only administrators would be allowed to change.
- **Dynamic parameters** have their values computed by every run of a Groovy script that executes at runtime. For example, this type of parameter can supply the type or version of a database or application, which can be obtained programmatically at runtime.

Regardless of a parameter’s type, it can be referenced from several places within your archive project:

- WHERE clauses within your rules
- Groovy scripts in runtime parameter validations
- Groovy scripts in business flows
- SQL for runtime parameter list of values
- Interrupts in your business flows
- Custom selection programs in your cartridges

1.8.4. Cartridges and business flows

Once you complete and test your model and rules, you create a cartridge to apply them (database to file or database to database). You can then incorporate the cartridge into a business flow that runs it, as well as other cartridges or logic you wish to implement.

- Cartridges
- Business flows

Cartridges

Cartridges capture the application and business rules to ensure referential integrity of the data. Cartridges allow inactive data to be segregated from active data based on the defined data retention rules.

After you have your model and rules defined, you must consider how to deploy that archive. A cartridge defines a specific set of characteristics to apply when deploying a model with rules.

There are several types of cartridges:

- **Archive database to database cartridges** archive data, based upon a model, from your active database to another database, typically on a less expensive platform with lower performance characteristics.
- **Reload database to database cartridges** reload data, based upon a model, from your archive database back into your active database.
- **Archive database to file cartridges** archive data, based upon a model, from a database (active or archive) to XML, CSV, or JSON files, typically for the purpose of long term retention.
- **Schema-based database to database cartridges** archive selected tables from your active database to an archive database without use of a model.
- **Schema-based database to file cartridges** archive selected tables from an active database to file without use of a model.
- **Schema-based in-place masking cartridges** masks and unmasks source database using specific masking functions associated with different columns of selected tables without the use of a model.
- **Data access cartridges** query the archived data, view masked or unmasked data in order to provide access for business users.

- **In-Place Masking cartridge** masks and unmasks source database using specific masking functions associated different columns of specific tables defined in the model.

- **Indexing cartridge** helps in defining the columns that are to be indexed for specific tables associated with a model.

A cartridge specifies a number of characteristics. Some of the more common ones are:

- Managed tables to be archived. In the case of model-based archives, managed tables typically see the driving table and the transactional and chaining tables in the model.
- Lookup tables to be copied (but not purged) by the cartridge.
- Which rules to apply for scoping and restricting the data to be archived.
- How to handle transactional and chaining tables (copy, delete, or both).
- Whether to copy lookup tables (for database to file only).
- Columns to include or exclude (for database to file only).
- Whether to apply data masking to a column and, if so, what type of masking.

Business flows

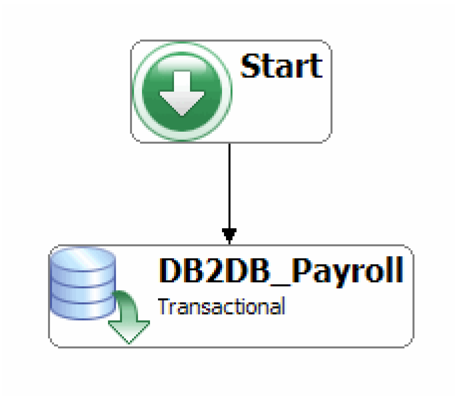
You can deploy a cartridge by itself or as part of a business flow that performs some additional processing. A business flow is a series of activities, such as archive operations and scripts, that run in a sequence. Business flows enable you to split your cartridge into multiple activities and insert Groovy scripts to perform additional processing in between those activities. You can create a business flow to run one or more cartridges and perform any additional operations you require. You construct business flows in the Designer with drag and drop gestures.

Tip

You can even create a business flow that includes no cartridges at all. Such a business flow might only include Groovy scripts.

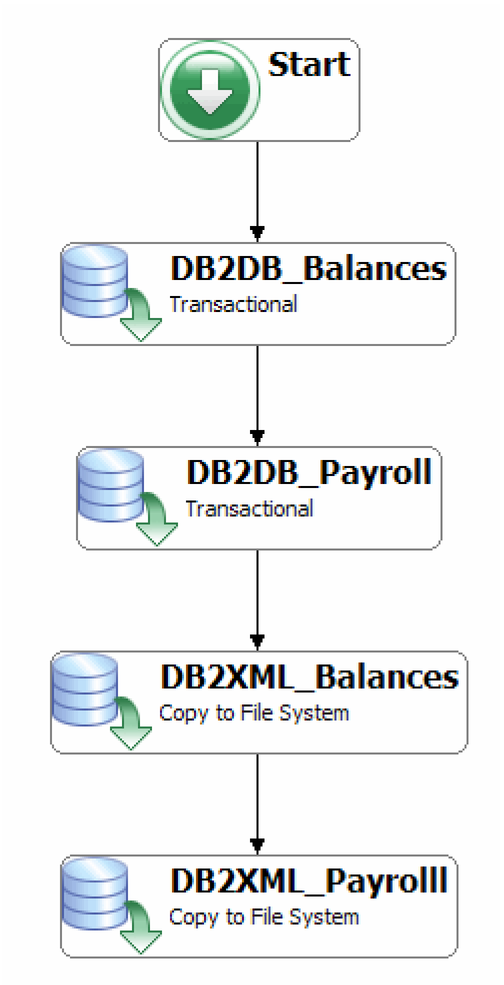
For example, suppose that you have two models, one for payroll and another for balances. For each model, you create two cartridges, one for database to database archiving and another for database to file archiving. At the end of each month, you only want to run the database to database payroll cartridge. At the end of each quarter, you want to run all of the cartridges. Figure 8 illustrates an example of an end of month business flow that runs a single cartridge (database to database) based on a single model (payroll).

Figure 8 End of month business flow example



For your end of quarter business flow, you could run multiple cartridges in one business flow, as shown in Figure 9.

Figure 9 End of quarter business flow example



A business flow can also include activities other than cartridges that are necessary to accomplish an entire archive solution. Such activities might include:

- Operating system commands, such as copying a file, deleting a file, compressing a file, or transferring a file (using FTP).
- Generating an email message or other notification.

- Accomplishing a database operation, such as dropping indexes, making a tablespace read-only, or analyzing statistics for a table.

1.8.5. Groovy scripts

Structured Data Manager enables you to include Groovy code to extend your archive solution for the following purposes:

- Groovy scripts can be inserted in business flows to perform additional processing.
- Interrupts and conditions in a business flow use Groovy code to define their branching criteria.
- Parameter validations are performed in Groovy code.
- Dynamic parameters are assigned their values by Groovy code.
- Groovy scripts can be set to execute before and after business flow deployment.
- Groovy scripts can be set to run before and after running a business flow.

The Groovy code in these places is processed as follows:

- The Groovy in dynamic parameters executes at runtime.
- The Groovy in validation and dynamic parameters runs just before execution (during job initialization).
- The Groovy in interrupts, conditions, and business flow scripts runs when the business flows are executing.

See also:

OpenText™ Structured Data Manager Developer's Guide

1.9. Repository, deployment environments, and Web Console

After your cartridge or business flow is complete and tested, you are ready to try running it on the actual active database, outside of Designer. In order to run against your active database, you must first deploy the business flow or cartridge in the deployment environment.

- Repository
- Deployment environments
- Web Console
- Deployment options

1.9.1. Repository

The Structured Data Manager repository contains the metadata required to perform and monitor operations on the active and archive databases. The repository is stored in a database of your choice (any database, including the active or archive database, installed with Structured Data Manager).

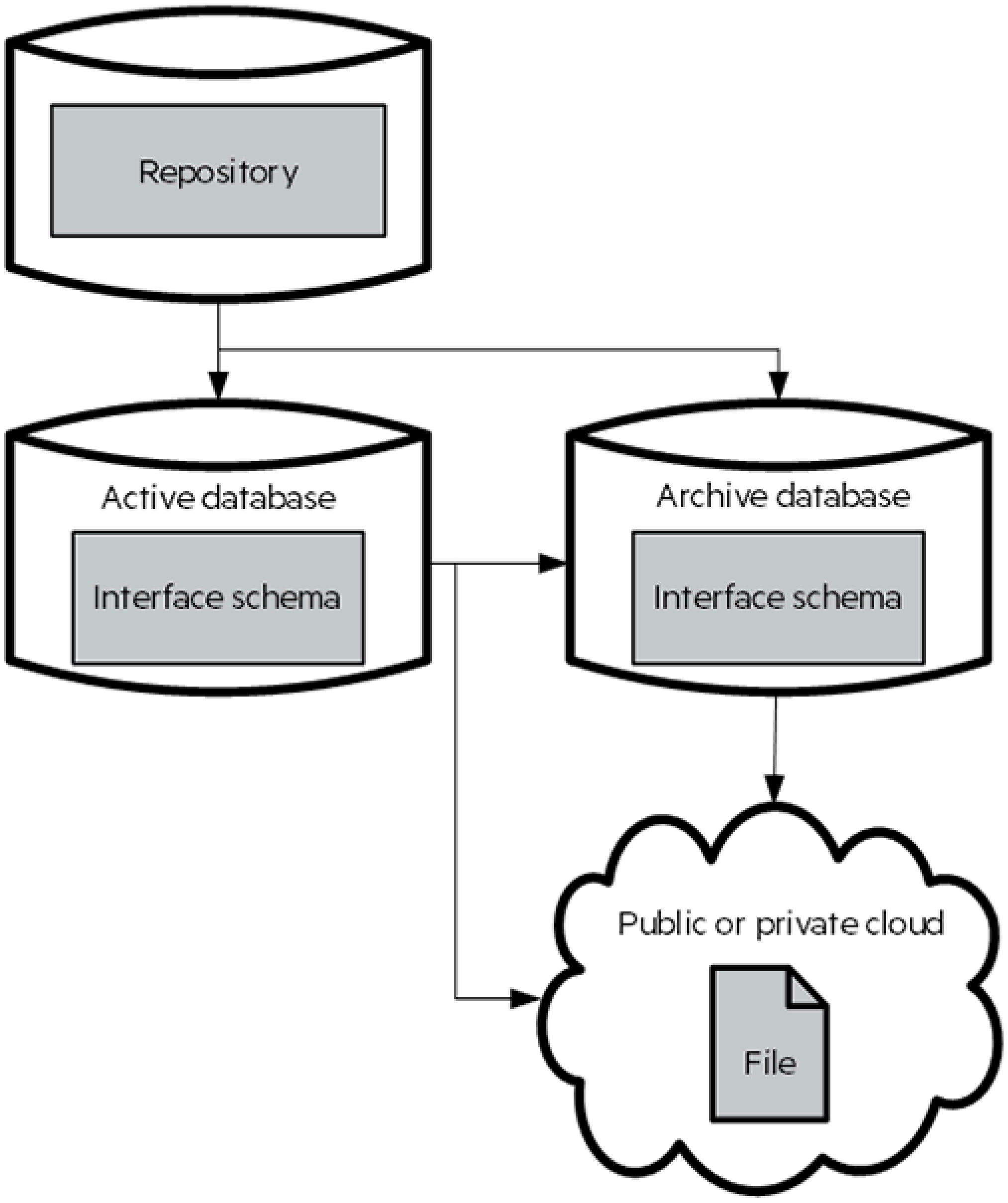
In addition to the repository, each active and archive database upon which Structured Data Manager will perform operations may contain interface schema, which contains some additional metadata used by Structured Data Manager.

Figure 10 illustrates the relationship between repository and interface schema. For the sake of clarity, the diagram shows each of these schema on separate databases, but, depending on your configuration, they could reside on the same database. For example, the repository could reside on the active database and the archive database and the active database could be on the same database.

Note

Non-intrusive environments do not include interface schema. For more information, see Non-intrusive environments.

Figure 10 Repository, interface, and BuildAA

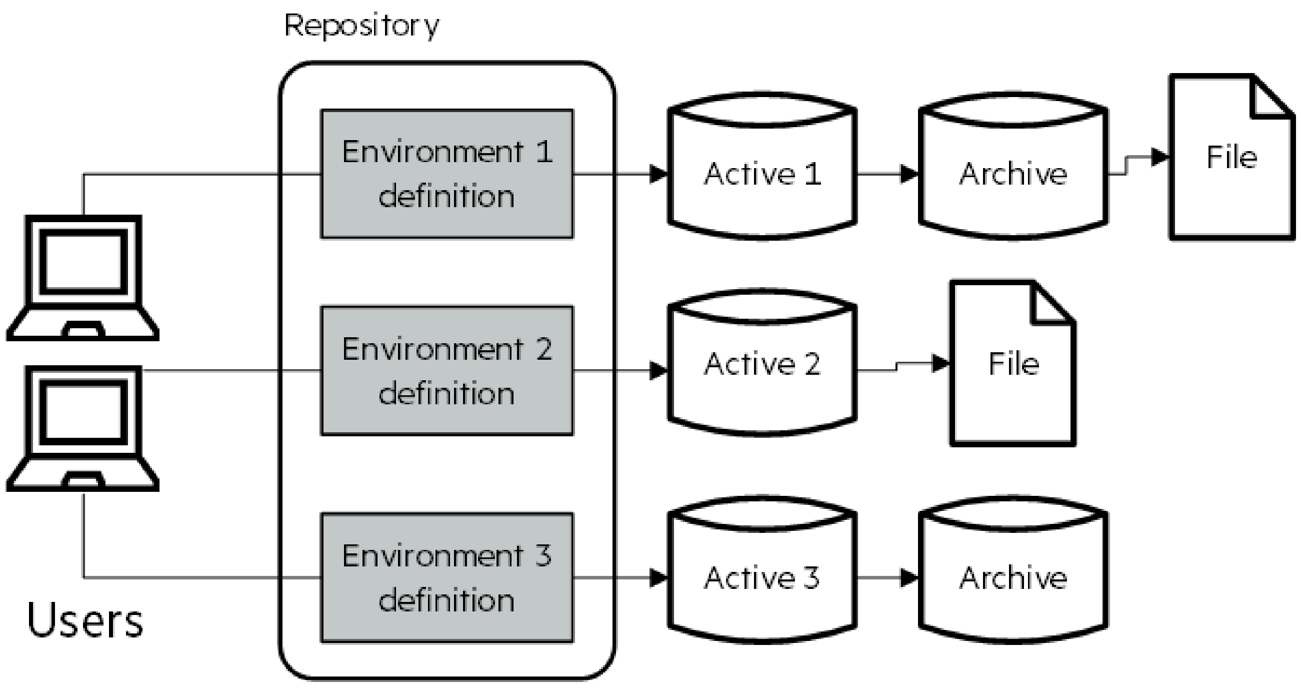

Repository
Active database
Interface schema
Archive database
Interface schema
Public or private cloud
File

1.9.2. Deployment environments

An environment is a named deployment environment associated with a source (active) database. If you plan to perform database to database operations for the source database, the environment will also include a target database/location. From an environment, users with the necessary privileges can run business flows against the source database. You can deploy as many environments as you wish, thus supporting multiple source and target databases from a single installation of Structured Data Manager.

Figure 11 illustrates how a single installation of Structured Data Manager can service several database environments, each with its own defined characteristics. Depending upon their assigned privileges, various users may access one or more of these environments to perform actions such as deploying business flows, running jobs, or administering the system.

Figure 11 Single repository with multiple environments



Non-intrusive environments

When you create a standard deployment environment, Structured Data Manager creates interface schema in the source and target databases. These interface schema store metadata that enables Structured Data Manager to function more efficiently. In some cases, though, you may be unable or unwilling to install such schema into your databases. For example, suppose that your source database is an older, read-only system that does not support basic SQL statements, such as DELETE. Even if the source database can be updated, you might simply prefer not to create additional schema in your production databases.

For database to file, you can configure a non-intrusive environment that does not require any interface schema in the source database. The data is archived without interface schema by using a generic JDBC driver.

1.9.3. Web Console

The Web Console provides a browser-based interface to the Structured Data Manager repository and your deployment environments. You use the Web Console to:

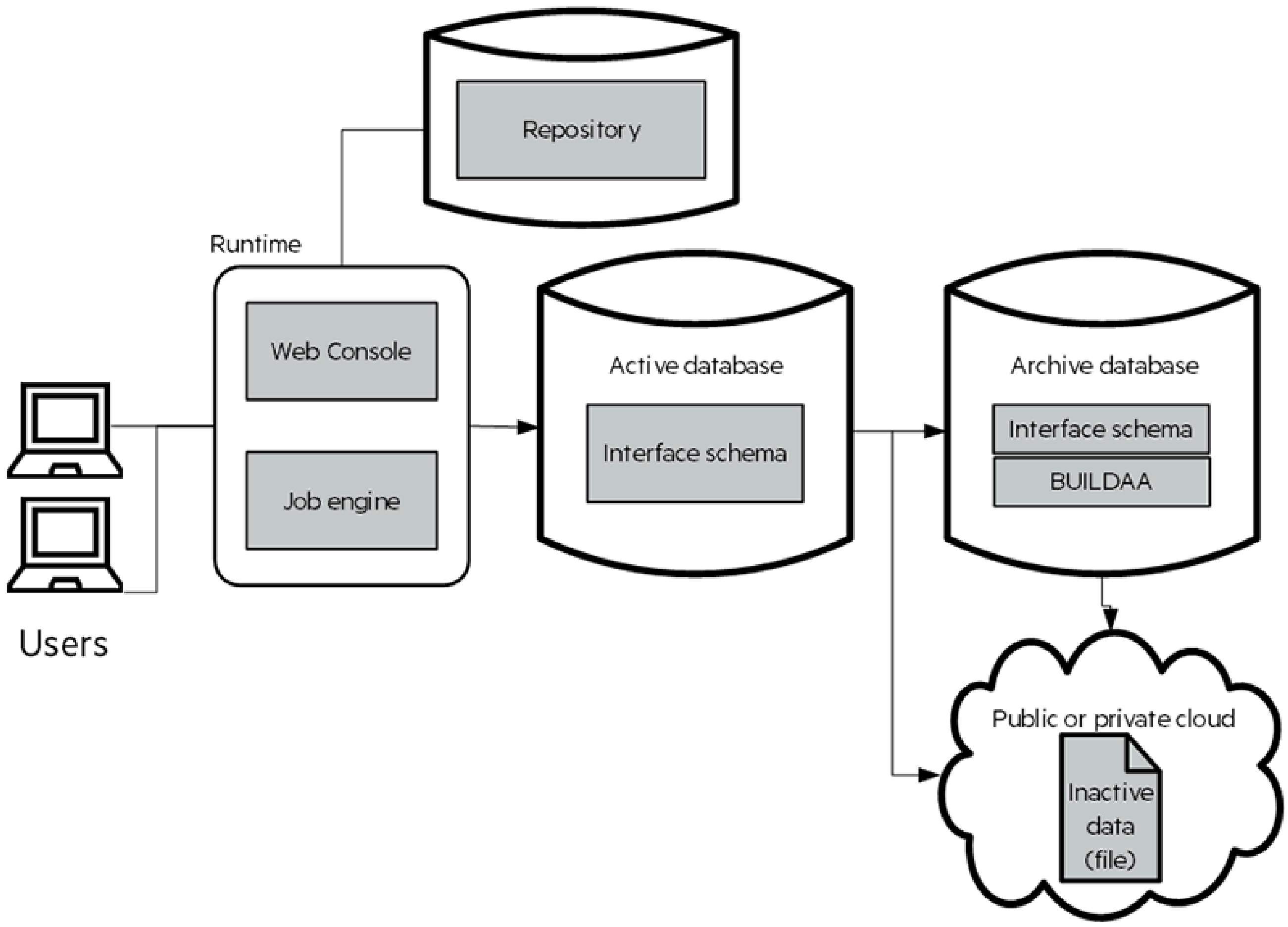
- Perform the initial setup of the repository.
- Define deployment environments.
- Create and provision users to perform actions in the Web Console.
- Deploy, run, administer, and monitor your business flows.
- Access data.

Figure 12 illustrates the relationship of the Web Console to the repository and active databases, and the archive data store (database and file). For the sake of clarity, the diagram shows each of the repository, active, and archive databases as separate, but, depending on your configuration, they could reside on the same database. For example, the repository could reside on the active database and the archive database and the active database could be on the same database.

Note

An interface schema on the active database, as shown in Figure 12 is created only when a *standard* environment is used. With *non-intrusive* environments, no interface schema is created on the active database.

Figure 12 Web Console and repository


Repository
Runtime
Web Console
Job engine
Active database
Interface schema
Archive database
Interface schema
BUILDAA
Users
Public or private cloud
Inactive data (file)

1.9.4. Deployment options

When deploying your cartridge or business flow from Designer, you have three options:

- **Local deployment.** If Designer and runtime (Figure 12) are installed on the same machine, you can do local deployment, and generate and deploy your cartridge or business flow on your local client. In this case, Structured Data Manager generates the deployment file and then immediately deploys it in the chosen local environment.
- **Remote deployment.** If Designer and runtime are remote from each other but still accessible across a network, you can deploy from Designer to the remote runtime client. In this case, Structured Data Manager generates the deployment files locally and moves the deployment files to the remote system, where they are deployed in the chosen environment.
- **SAML deployment**. This deployment is similar to Remote deployment. However, you must enable SAML on the runtime system and use SAML authentication instead of the basic authentication.
- **Generate.** If Designer and runtime are remote from each other and you do not have network access to the remote machine, you must generate the deployment files in Designer without actually deploying them. After the files have been generated locally, you can hand them off to someone with access to the remote system. Once the deployment files are moved to a location accessible to the runtime system, they can be deployed to an environment using the Web Console.

Deployment and runtime history

When you create or modify a cartridge or business flow, you can associate a version with it. Only one version of a cartridge or business flow may be deployed at a time. If you deploy a new version of a cartridge or business flow that was previously deployed, the previous version is uninstalled before the new version is deployed.

Structured Data Manager maintains the runtime history of the cartridge or business flow across multiple deployments, unless you specifically indicate that you want the history dropped at deployment time. In general, it is best practice to maintain the runtime history across deployments. Otherwise, when the history is dropped, you can no longer view status information for previous executions of the cartridge or business flow.

1.10. Integration kits and customization

Rather than developing your own projects from scratch, you might choose to obtain and customize pre-built projects (integration kits) for particular applications, such as Oracle E-Business Suite and PeopleSoft.

Using Designer, you can safely customize a project you receive from another vendor, such as OpenText. When the vendor releases revisions to the project, you can merge your customizations into their revised project. Thus, you need not constantly repeat your changes each time you receive a revision from the vendor.

1.10.1. Integration kits

OpenText provides integration kits for two popular enterprise applications, Oracle E-Business Suite and PeopleSoft. These kits provide pre-built Structured Data Manager projects that implement data movement solutions for specific E-Business Suite and PeopleSoft applications. You can modify these projects in Designer to meet the special requirements of your environment, and then deploy and run the business flows.

See also

- *OpenText™ Structured Data Manager PeopleSoft Modules Installation and Deployment Guide*
- OpenText™ Structured Data Manager *Oracle E-Business Suite Modules Installation and Deployment Guide*

1.10.2. Customization

When you receive a project that was pre-built for a packaged application such as PeopleSoft or Oracle E-Business Suite, you typically need to modify the project for your environment. For example, you might need to add some tables to the model that are required by your environment but that are not part of a default implementation of the packaged application..

As a consumer of a customizable archive project, you must be aware of the following:

- The vendor typically provides a project in a locked state, which means that the various files that comprise the project are all locked. Locked files enable you to make supported changes to the project while still preserving your ability to upgrade to newer versions of the integration kit.
- When you make certain changes to the model or cartridge in a locked project, you receive confirmation dialogs with warning messages to ensure that you really want to make the change. Once you make the change, visual cues will indicate where you have made customizations.
- When the vendor releases new versions of the project, merge your customizations into the new version.

See also

OpenText™ Structured Data Manager Developers Guide

1.11. Next steps

Depending upon your role, you may want to take different approaches to learning about Structured Data Manager. The road maps in this section are designed to give you a track to take through the documentation based upon what you want to do with Structured Data Manager.

This chapter includes:

- Documentation road map for custom development
- Documentation road map for deploying and running business flows
- Documentation road map for application integration kits

1.11.1. Documentation road map for custom development

If your role is to build custom, archive solutions from scratch with Structured Data Manager:

1. Read through all of the chapters in this guide to gain an understanding of the main concepts and considerations for archive development.
2. Install the Structured Data Manager according to the instructions in OpenText™ Structured Data Manager *Installation Guide*.
3. Go through *OpenText™ Structured Data Manager Tutorial*. The tutorial enables you to get hands on with the product quickly and exposes you to many of the most commonly used features.
4. Review the advanced tutorials in the *OpenText™ Structured Data Manager Developers Guide* and *OpenText™ Structured Data Manager Runtime Guide*.
5. Plan your archive solution. Use the considerations in Analyzing your requirements as a starting point and gather information about your own database environment before you begin.
6. Develop your archive solution.
    - See *OpenText™ Structured Data Manager Developers Guide* and *OpenText™ Structured Data Manager Tutorial* to help you perform the necessary tasks for developing your project.
    - See the *OpenText™ Structured Data Manager Troubleshooting Guide* to help you diagnose problems and resolve common issues.
7. Optionally, design data access for your business users. See *OpenText™ Structured Data Manager Developers Guide*.
8. When your business flows or cartridges are ready, generate and deploy it according to the information in *OpenText™ Structured Data Manager Developers Guide*.
9. Run your deployed business flow.
    - See the *OpenText™ Structured Data Manager Runtime Guide* to help you perform the necessary tasks for running your job from the Web Console or command line.

- See the *OpenText™ Structured Data Manager Troubleshooting Guide* to help you diagnose problems and resolve common issues.

10. As necessary, repeat step 6 through step 9 to modify your project, re-deploy the business flow, and run the job.

1.11.2. Documentation road map for deploying and running business flows

If your role is to deploy and run business flows, follow this road map:

1. In this guide, read A structured data management overview, Archive to file or database, and Repository, deployment environments, and Web Console.
2. Install the Structured Data Manager according to the instructions in *OpenText™ Structured Data Manager Installation Guide*.
3. Obtain the project that contains the business flows you plan to run.
4. Generate and deploy the business flow according to the information in *OpenText™ Structured Data Manager Developers Guide*.
5. Run a job for your deployed business flow.
    - See the *OpenText™ Structured Data Manager Runtime Guide* to help you perform the necessary tasks for running your business flow from the Web Console or command line.
    - See the *OpenText™ Structured Data Manager Troubleshooting Guide* to help you diagnose problems and resolve common issues.

As necessary, repeat step 3 through step 5.

1.11.3. Documentation road map for application integration kits

If your role is to apply integration kits for packaged applications, such as PeopleSoft or Oracle E-Business Suite, and customize them for your environment, follow this road map:

1. Read through all of the chapters in this guide to gain an understanding of the main concepts and considerations for archive development.
2. Install the OpenText™ Structured Data Manager according to the instructions in *OpenText™ Structured Data Manager Installation Guide*.
3. Go through *OpenText™ Structured Data Manager Tutorial*. The tutorial enables you to get hands on with the product quickly and exposes you to many of the most commonly used features. You will use these features to customize third party projects for your environment.
4. Obtain the integration kit and install it:
   - OpenText™ Structured Data Manager *PeopleSoft Modules Installation and Deployment Guide*
   - OpenText™ Structured Data Manager *Oracle E-Business Suite Modules Installation and Deployment Guide*
5. Customize the project.
6. When your business flow is ready, generate and deploy it according to the information in *OpenText™ Structured Data Manager Developer's Guide*.
7. Run your deployed business flow. See the *OpenText™ Structured Data Manager Runtime Guide* to help you perform the necessary tasks for running your business flow from the Web Console or command line.
8. As necessary, repeat step 5 through step 7 to implement additional customizations, re-deploy the business flow, and run the jobs.
9. When your receive a new version of the project from the vendor, merge the customizations in your project according to the information in *OpenText™ Structured Data Manager Developers Guide*.