Infor Business Vault Administration Guide Cloud Edition

Release 11.3.x

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Contents

About this guide

Infor Business Vault Standard and Enterprise Edition are business data repositories available for searching data, running reports, and synchronization. This guide describes how to configure and manage Infor Business Vault.

Intended audience

This document is intended for:

- System Administrators
- Business Process Administrators
- Business Analysts
- Database Administrators
- Application Administrators

Related documents

You can find these documents in the product documentation section of the Infor Xtreme Support portal:

- *Infor Business Vault Release Notes*
- *Infor Business Vault Analytic Modeling User Guide Cloud Edition* (Enterprise Edition only)

Contacting Infor

If you have questions about Infor products, go to the Infor Xtreme Support portal.

If we update this document after the product release, we will post the new version on this website. We recommend that you check this website periodically for updated documentation.

If you have comments about Infor documentation, contact documentation@infor.com.

Chapter 1: Infor Business Vault Product Overview

The Business Vault includes these key features:

Data Store Management

You can use the Business Vault to route BOD messages to the Raw Data Vault. The RDV is a repository that contains all versions of new and modified documents. The documents are routed through Infor ION into the RDV. To process BODs into the repository, you must setup a Business Vault connection point with ION document flows in Infor ION. The Raw Data Vault contains all variations of BOD messages.

You can use the Business Vault to extract and map content from the BODs in the Raw Data Vault to fill purpose-built relational databases, or data stores.

You can use the document trace and monitoring functions to track and troubleshoot BOD processing into the Raw Data Vault. You can use replays to load historic BOD data into a data store. Additionally, you can use replays to populate a new data store or to re-run specific BODs to update a data store. Because the BODs are stored in the Raw Data Vault, no additional processing is required from the source systems that originally sent the BODs.

You can view data stores and BOD mappings. Data Stores are the relational databases that contain data mapped from the BODs. Active data stores process information from the BODs into the relational databases in real-time, making the data available for operational reports and analysis. Optionally, you can modify user areas and classification codes for the Base Data Store. Use the document trace and monitoring functions to track and troubleshoot BOD processing into the data stores.

Analytic Modeling

With Infor Business Vault Enterprise Edition, you can use analytic modeling to design cubes, dimensions, and hierarchies. This information is published to an analytics application such as Infor BI OLAP Server for business intelligence use. The analytic modeling features allow you to design level-based hierarchies, manual hierarchies, range-based hierarchies, and rule-based hierarchies. You can design standard dimensions, time dimensions, or preconfigured dimensions. You can incorporate dimensions into multi-dimensional analysis cubes, where you combine dimensions and facts. You can publish dimensions and cubes to target applications on-demand or on a scheduled basis.

Understanding navigation

You can access the Business Vault through a web browser and use the menu bar to navigate the Business Vault.

The menu bar includes these options:

- **Data Store Management**
- **Analytic Modeling**
- **Monitoring**
- **Administration**

Data Store Management

Data Store Management opens the configuration pages for managing data stores.

These pages are available:

- **Data Stores**

  View data stores and BOD mappings for the Infor Business Vault Base Data Store. You can activate data stores and BOD mappings to extract the content of the BODs into a schema or data store. The data store is used for reporting and analysis. You can modify columns with user areas and classification codes for the Base Data Store.
- **Replays**

  Configure replays to load historic BOD data into a data store without re-publishing historical transactions and master data from the source system. You can select the BODs that you want to replay from the Raw Data Vault to a data store.

Analytic Modeling

Analytic Modeling: opens analytic modeling pages. This is for Infor Business Vault Enterprise Edition only.

These pages are available:

- **Hierarchies**

  Configure hierarchies for level-based, rule-based, and manual hierarchy structures.
- **Dimensions**

  Configure dimension definitions for multi-dimensional analysis cubes. You can group similar hierarchies together to define dimensions.
- **Cubes**

  Configure cube definitions to group dimensions to use in multi-dimensional analysis cubes.
- **Publications**

Configure publication instructions for what to publish and where to publish. For example, you can configure a publication to publish dimensions and facts to Infor BI OLAP Server.

- **Publication Schedules**

  Configure publication schedules for daily, weekly, or monthly publications.

- **Publication Targets**

  Configure publication targets to specify the target applications and locales for published dimensions and cubes. You can publish to a target such as Infor BI OLAP Server.

Monitoring

Monitoring opens the management and troubleshooting pages.

These pages are available:

- **Data Stores Monitor**

  Monitor the BODs being extracted into data stores. You can use the monitor to track the number of BODs processed, unprocessed, and view the errors that are associated with the extracted BODs.

- **Document Trace**

  Search and track BODs stored in the Raw Data Vault. You can view the original XML of the BOD that was sent by the source system. Additionally, you can view any processing that has occurred for the BOD. For example, you can view if the BOD was successfully loaded into the Raw Data Vault and the data store or if any errors occurred when the BOS was extracted or shredded into the data store.

- **Replays Monitor**

  Track and monitor the status of BODs loaded from the Raw Data Vault to a data store through the replay process.

- **Publications Monitor**

  Monitor the progress and results of the validation and publication processes. You can use the monitor to view error and audit logs and to put publications on hold.

Administration

Administration opens the administration pages.

These pages are available:

- **Database Connections**

  There are two types of database connections:

  - Standard database connections: Are associated with data stores and BOD mappings and define the source of data to use when building dimensions, hierarchies, and cubes. Standard database connections are also called source database connections.

- Target database connections: Are used in analytic modeling to identify the database into which dimension and cube definitions are published. Target database connections are only used in Infor Business Vault Enterprise Edition.

The BVAdmin role can access the Database Connections page to create new models, import and export models, and select models to use for a standard database for analytic modeling. Models are containers for user-friendly aliases, table relationships, custom properties, custom entities, virtual tables, and configurations for preconfigured dimensions. Models are available in the Infor Business Vault Enterprise Edition only.

Additionally, the BVAdmin role can remove analytic modeling views from a source database. This process removes all database views used to validate and publish dimension and cube facts. Views are available in the Infor Business Vault Enterprise Edition only.

See *Infor Business Vault Analytic Modeling User Guide*.

- **Applications**

  Configure applications that are used to group and organize analytic modeling and data warehouse content. Applications only apply to Business Vault Enterprise Edition.

  An application provides a method to group and organize definitions into subject areas, such as financials, supply chain, or sales. Application examples include: Infor ION Business Analytics, Infor SyteLine Analytics, and Infor Business Performance Warehouse (BPW). You can work within one application at a time.

- **Version Details**

  Shows information about the Business Vault and your browser.

- **Noun Metadata**

  Shows processed noun metadata details such as noun name, type, version, and XPaths for troubleshooting failed BODs.

- **Settings**

  Contain a setting for analytic modeling called Use Aliases. This option shows the entity and property user-friendly names for database table, view, and column names. These names are displayed in the Analytic Modeling hierarchy, dimension and cube definitions.

Understanding security roles

Infor Operating Service or Infor Federation Services (IFS) is required to assign users to security roles. You must create the security roles for Infor Business Vault in Infor OS or IFS. After you register Business Vault as an application, the Business Vault security roles are automatically assigned to the application. After you create the security roles, you must assign users to the security roles.

See the *Infor Business Vault Installation Guide* for more information on security setup for Business Vault.

These are the security roles for the Business Vault:

- **`BVUser`**

- Is required for any user who accesses the Business Vault application. You must have the BVUser role to login to the application.
- Can view and activate data stores and BOD mappings.
- Can modify BOD mappings that contain columns with user areas and classification codes.
- Can create and run replays, and monitor running replays and data stores.
- Can create analytic modeling definitions, publication definitions, schedules, and targets.
- Cannot access database connections or models.
- Cannot create applications as this is restricted to the BVAdmin role.

- **`BVAdmin`**
  - Is required to create new applications.
  - Can create and run replays, and monitor running replays and data stores.
  - Can view and activate data stores and BOD mappings.
  - Can modify BOD mappings that contain columns with user areas and classification codes.
  - Can view processed nouns on the **Noun Metadata** page.
  - Can create analytic modeling definitions, publication definitions, schedules, and targets.
  - Can access the **Database Connections** page to maintain models and remove analytic modeling source database views.
  - This role has permissions to maintain model objects such as:
    - Property and entity aliases
    - Custom properties
    - Custom entities
    - Relationships within the analytic modeling functions
  - Can remove analytic modeling source database views.

Note: The roles are not hierarchical. The BVAdmin role does not inherit the BVUser role. You can assign a user to multiple roles.

Chapter 2: Infor Business Vault concepts

These are key concepts of Infor Business Vault. You should understand these concepts before you start using Infor Business Vault:

- Data Stores and BOD mappings
- Infor BODs
- Huge BODs
- Raw Data Vault
- Document Trace
- Replays

Data Stores and BOD mappings

The Business Vault includes tools that extract data from BODs to fill purpose-built relational databases, or data stores. A data store is a relational database to which BOD data is extracted for use by reporting and analytic applications. BOD mappings provide the instructions to parse information from a BOD into a data store.

The Business Vault contains Infor-delivered content data stores for the Infor Business Vault Base Data Store. These data stores contain Infor-delivered content through BOD mappings. You can only change the XPath and Default Value fields for columns with user areas and classification codes to extend Infor-delivered content with additional BOD content.

After a data store is activated, BODs are routed to and processed by the Business Vault and populated into a relational data store for all active BOD mappings. You can use the **Data Store Monitor** to check your data stores. You can verify that they have been activated at least once and that the BODs have processed correctly. You can see if errors have been encountered.

You can use the **Document Trace** page to view the history of a BOD in the Business Vault. The history includes the start and end time stamps for each BOD as it is extracted and if any errors are encountered. History is limited to 60 days.

Infor BODs

An Infor BOD is a business object document or an XML document for standard Infor-Delivered content. Examples include a Sales Order, Requisition, or Purchase Order. Metadata for all standard Infor BODs is delivered with the Business Vault. All of these Infor standard BODs are supported with the exception of the Error BOD. The Business Vault supports Process, Sync, and Show verbs. All three of these BOD types are stored in the Raw Data Vault. Only Sync and Show verbs are extracted into data stores.

Huge BODs

The Raw Data Vault captures and stores huge BODs. Huge BODs are one noun instance that is sent in multiple BODs. For example, the Source System GL Movement BOD is a huge BOD. This BOD must be delivered in a batch of BODs and sequentially. When sending huge BODs to the Business Vault, we recommend that the BOD size is set to less than 150 MB per BOD within the batch.

You can search for Huge BODs on the **Document Trace** page. Additionally, you can create BOD Mappings to parse the information from huge BODs into a data store.

Note: Huge BODs may take longer to process, depending on the size of all of the BODs.

Raw Data Vault

After the Business Vault receives a BOD, it is stored in the Raw Data Vault which is part of the Business Vault Runtime database. The Raw Data Vault compresses and stores all versions of the BODs that are published to the Business Vault from ION. This includes standard Infor BODs and huge BODs. The Business Vault is not the System of Record (SOR) for any of these documents.

A BOD is not stored in the Raw Data Vault if it is not processed by the Raw Data Vault. A Confirm BOD is sent to the source system. There is no visibility of the Confirm BOD from the Business Vault application.

The original BOD source document is stored in the Raw Data Vault. The BOD can be reconstructed to its original form. You can replay the BOD to republish historical transactions and master data. You can use the **Document Trace** page to search and review the BOD original messages.

Document Trace

Use the **Document Trace** search feature to search and review specific BODs in the Raw Data Vault. The Raw Data Vault contains the BODs that are published by the source system.

A simple or advanced search can be performed using a variety of search criteria. There is a view in the XML for each BOD that is returned in your search results. The search results are limited to 500 documents.

Additionally, you can use the Document Trace to see the processing for the BOD. For example, you can see that the BOD was successfully loaded into the Raw Data Vault and the data store

Replays

The Raw Data Vault stores the original BOD source document in its original form. You can replay BODs instead of re-publishing historical transactions and master data from the source system. You can replay a selection of BODs from the Raw Data Vault to a data store. You can use the replay feature to refresh the data store if there are changes to the data store.

When you configure a replay, you provide a logical name for the replay. Select the data store to include in the replay and select the documents. For example, you can run a replay for a specific accounting entity or location. Additionally, you can replay documents using the original date the BOD was processed by the Raw Data Vault.

After you run a replay, the BODs are re-sent from the Raw Data Vault to the selected data store. Replays can be monitored on the **Replays Monitor** page.

You can track the number of BODs that have been processed and that are unprocessed. Additionally, you can view any errors that are associated with the extracted BODs.

Chapter 3: Database connections

Standard or source database connections define the database to use as a data store. Additionally, a standard database connection is used to define the source database for dimensions and cube fact data. You can associate analytic modeling models with a standard database connection.

Target database connections are used in analytic modeling to identify the database into which dimension, cubes, and facts are published. The target database in Infor BI OLAP Server is the Load from Source database. The BVAdmin role can access the Database Connections page to view the database connection definition name, description, and database type.

For more information on setting up new standard and target database connections, please contact a system administrator.

The BVAdmin security role has the ability to create, edit, and delete analytic modeling models. Additionally, the BVAdmin role can remove analytic modeling database views from a source database. This process removes all database views used to validate and publish dimension and cube facts. Views are available in the Infor Business Vault Enterprise Edition only.

See the *Infor Business Vault Analytic Modeling Cloud Edition* guide for more information.

Standard database connections

Standard database connections are associated with data stores and BOD mappings and are the source of data to use when building dimensions, hierarchies, and cubes. Standard database connections are also called source database connections.

For more information on setting up new source database connections, please contact a system administrator.

Viewing standard database connections

1. Log in to the Business Vault with the BVAdmin role.
2. Select **Administration > Database connections**.
3. Click **drill-down** to select an existing standard connection.

Standard database connections are used for data stores and BOD mappings. Additionally, standard database connections identify the source of data to use when building hierarchies, dimensions, and cubes.

4 This information is displayed:

Name
This is a unique name for the database connection.

Description
An optional description for the database connection is displayed.

5 For analytic modeling, select **Models** to add, update, import, and select models to associate with a standard database connection.

See the *Infor Business Vault Analytic Modeling Guide Cloud Edition*.

Removing analytic modeling views

Analytic modeling database views are created when you validate and publish dimension and cube facts. These views are not used after validation and publication processes end. You can remove these views for source database connections.

Before you remove views, ensure that no validation and publication processes are running. Additionally, you must deactivate the publication schedules.

1 Log in to Infor Business Vault as BVAdmin.
2 Select **Administration > Database Connections**.
3 Select a standard database connection and click **Remove Views** at the top of the page.
4 Click **OK** on the warning dialog. The **Remove Views Results** dialog is displayed.

The **Removed** field displays the number of views that were successfully removed from the source database. If there are no views to remove, the value of zero is displayed. The **Unable to be removed** field shows the number of views that could not be removed. If views are not removed, confirm these conditions and rerun the process:

- A valid standard database connection is selected.
- The database server where the Business Vault is installed, is running.
- The validation and publication processes are not running.
- Publication schedules have been deactivated.

5 Click **OK** to close the dialog.

Running a database upgrade

The upgrade code required to run a database upgrade for a source database structure is provided by Infor. You can coordinate with Infor to perform the upgrade.

For a successful upgrade process, ensure that no one is using the Business Vault application during the upgrade. Additionally, confirm that no other upgrades are running.

If you have operations that are using the source database during the upgrade, you may cause an upgrade delay or failure or you may have inaccurate or incomplete results.

Do not run any publication or validation processes during the upgrade. All validation and publication processes must be completed, completed in error, on-hold, or cancelled.

Deactivate publication targets that use the source database connection before running the upgrade. There should be no scheduled or pending publications during the upgrade period.

Deactivate data stores and BOD mappings that use the source database before running the upgrade.

1. Log in to Infor Business Vault as BVAdmin.
2. Select **Administration > Database Connections**.
3. Select a standard database connection and click **Database Upgrade** at the top of the page. The Database Upgrade dialog is displayed.

   Review the warning text on the Database Upgrade dialog to ensure that you comply with the instructions before running the upgrade.
4. Specify the **Upgrade Code** provided by Infor.
5. Click **Run**. The upgrade process may take several minutes.

   A message is displayed when the upgrade completes successfully. If the upgrade fails, re-run the database upgrade procedure. If the upgrade fails again, contact Infor Support.

   These are common causes for database upgrade failures
   - The Business Vault application is down.
   - Another user is using the source database during the upgrade.
   - Analytic modeling publication or validation processes are running during the upgrade. Ensure that all validation and publication processes are completed, completed in error, on-hold, or cancelled.
   - There are publication targets and schedules running during the upgrade.
   - There are data stores and BOD mappings (associated with the source database connection) that are active during the upgrade. Deactivate the data stores and BOD mappings that use the source database connection before continuing with the upgrade.
6. Close the **Database Connections** page and resume use of the Business Vault application.

Target database connections

Target database connections are used in analytic modeling to identify the database into which dimension and cube definitions are published. Target database connections are only used in Infor Business Vault Enterprise Edition.

For more information on setting up new target database connections, please contact a system administrator.

Viewing target database connections

1. Log in to the Business Vault with the BVAdmin role.
2. Select **Administration > Database connections**.
3. Click **drill-down** to select an existing target database connection.

   A target database connection identifies the database into which dimension and cube definitions and data are published.
4. This information is displayed:

   Name
   This is a unique name for the database connection.

   Description
   An optional description for the database connection is displayed.
5. For analytic modeling, set up a Publication Target definition to associate with the target database connection.

   See the *Infor Business Vault Analytic Modeling User Guide Cloud Edition*.

Chapter 4: Data stores and BOD mapping overview

The BOD mapping feature provides an interface to view mappings for standard Infor BODs for the Infor Business Vault Base Data Store. BOD mappings are the instructions to parse information from a BOD into a data store. You can view BOD mappings and activate the flow of BODs from the Business Vault Raw Data Vault into data stores. BOD mappings contain metadata for the data store tables and columns into which the BOD data is loaded.

Data stores for the Base Data Store are viewed in the Business Vault application. The data store references a database into which the BOD contents are stored. You can activate data stores and BOD mappings to extract the content of these BODs into a schema or data store that can be used for reporting. A data store must have one or more BOD mappings that are activated for BODs to flow from the raw data vault to the data store.

After a data store is activated, BODs received by the Business Vault are routed to and processed by the Business Vault and populated into a data store. You can use the **Data Stores Monitor** to check your active data stores, verify that the BODs have processed correctly, or view errors. You can use the **Document Trace** to search for BODs that have been processed and view the history of BODs in the Raw Data Vault.

You can run a replay to process BODs from the Raw Data Vault to your new data store database. You can run a replay to process BODs from the Raw Data Vault. You can republish historical transactions and master data without republishing from the source system. This is useful for setting up a new data store or updating a data store if there is a change. Use the **Replays Monitor** to track and monitor the status of the BODs loaded through the replay process.

Infor data stores

An Infor data store contains content that is provided by Infor. Infor delivered content is read-only and cannot be changed.

If a BOD element is required for reporting but is not currently part of the standard Infor data store, you can use the user area column in the data store table to store the element. User areas can be published using the Property element, which contains a name-value pair. User areas can also be derived from any free-form text in the BOD user area fields.

After the user area information is in the BOD, you can modify columns that contain user areas and classification codes for an Infor data store. Additionally, you can add tables and columns to extend an Infor data store with custom content. This is helpful if your BOD has more user area elements than the

Infor data store supports. For example, the Infor Business Vault Base Data Store supports five user areas per data type.

Extending an Infor data store

You can modify columns with user areas and classification codes to extend an Infor data store.

BODs are routed to the Business Vault from the ERP or source system through document flows and connection points that are setup in Infor ION. The Business Vault stores all variations of the BODs in the Raw Data Vault. An Infor Business Vault Base Data Store installation is performed to generate the standard Infor BOD mappings. These BOD mappings are then imported in the Data Stores and BOD Mappings page. This Infor data store is read-only and cannot be changed. You can only modify user areas and classification codes for the Infor data store.

After the user area information is in the BOD, you can modify user areas and classification codes for an Infor data store. Additionally, you can add tables and columns to extend an Infor data store. This is helpful if your BOD has more user area elements than the Infor data store supports. For example, the Infor ION Business Vault Base Data Store supports five user areas per data type. Additionally, this is helpful if you have extra user areas in a standard Infor BOD that you need to create tables and columns.

Chapter 5: Infor Data Stores

An Infor data store contains content that is provided by Infor. Infor data stores are protected and cannot be changed. Only columns with user areas and classification codes can be modified for an Infor data store.

Infor standard BOD mappings are imported via zipped Microsoft Excel spreadsheets. The BOD mappings provide the instructions to parse information from a BOD into a data store.

Viewing Infor data stores

1. Select **Data Store Management > Data Stores**.
2. Select an Infor data store. Click the **Drill Down** icon on the data store.
3. You can view this information for the selected data store:
   - A unique name is assigned in the header. There is an optional description.
   - The Infor Base Data Store is selected as the database connection.

     This database was configured to point to the Infor Business Vault Base Data Store database. This database connection contains the connection details for accessing the relational database to be populated.
   - The **Infor-Delivered Content** check-box is selected and read-only. This flag is set for a data store when Infor-delivered content such as the Infor Business Vault Base Data Store BOD mappings are imported. Infor-delivered content indicates that the majority of table and column mappings cannot be modified. The exceptions are the columns that contain user areas and classification codes that can be modified.
   - See **BOD Mappings** for the data store.

     Data stores contain one or more BOD mappings. BOD mappings provide instructions to parse information from a BOD into a data store. You can view all of the BOD mappings that have been imported using the Import button above the grid.
   - The **New**, **Delete**, and **Generate BOD Mappings** options are disabled. These functions are not valid for an Infor data store. The Import and Export options are enabled for you to import Infor-delivered content.
4. Scroll to and select a BOD mapping such as **`SalesOrder`**. Click **drill-down**.

   You can view this information for the selected BOD mapping:

- The BOD mapping name is based on the BOD type. For example, a BOD Type of SalesOrder will display a BOD mapping name of SalesOrder. The **Document** drop-down is selected for the BOD type.
- The table mappings for the BOD are displayed. Table mappings are created for any repeating areas in the BOD. For example, the SalesOrder BOD contains a Sales Order header and multiple repeating child areas such as sales order lines. There are separate tables for the header as well as all repeating areas.

5 Optionally, re-size the column headers for the **Name**, **Table**, and **Flattening Area** columns. The cursor will turn into a positional cursor so that you can change the column widths.

6 Click **drill-down** on the table mapping for the BOD mapping. For example, drill-down on the SalesOrder table mappings for the BOD mapping to see the SalesOrder header and lines.

You can view this information for the selected table mapping:

- The Table Mapping area shows the database table information and the flattening area. The table is the data store table into which BOD data is mapped. The flattening area is the XML reference to the individual nouns that may be repeated in the BOD. For example, a SalesOrder BOD may contain one or more sales order lines.
- Because this data store contains Infor-delivered content, almost all of the fields in the Table Mapping area are read-only.
- The Column Mappings area shows the details of the mapping of BOD elements and database columns.
- In the Column Mappings grid, almost all of the columns are read-only because this is Infor-delivered content. The exceptions are the XPath and Default value columns for columns with user areas and classification codes. Classification codes and user areas are used to extend Infor-delivered content with additional BOD content.

User Areas

A user area is a construct provided by the Open Applications Group Integration Specification (OAGIS) that allows for data not previously defined in a BOD. For example, if a BOD element is required for reporting but is not currently part of the standard Infor data store, you can use the user area column in the data store table to store the element from your BOD.

User areas can be published using the Property element, which contains a name-value pair or you can specify free-form text in a user area form in the BOD. User Areas are more free-form than Classification Codes which are more structured.

These data types are available in the user area property:

- Amount: An amount with a given currency ID, for example, Euro, GBP
- Boolean: A true or false value
- Date: The date part of a date/timestamp
- Decimal: A numeric type that has a fixed precision as described in the metadata
- Enumeration: A value that comes from a possible set of values
- Integer: A numeric type that represents a whole number
- Master Data Reference: A code or master data value

- Quantity: A numeric type with a given unite code, for example, each, box
- String: A string value that is up to 4,000 characters in length
- Time: The time part of the date/time stamp

A BOD definition supports any number of user area elements in the XML structure, but the Infor Business Vault Base Data Store has a place holder for only five per data type.

When the user area is used to represent data from a particular system, the name must be prefixed with the ID for that system as defined for LIDs. For example, the LID for Infor ERP Syteline is defined as **`infor.sl.instance`** so a Syteline UserArea Name is **`sl.ElementName`**. This prevents collisions between different systems using different validation rules for elements with the same name.

This is an example of a BOD with a user area that contains property elements (name/value pairs):

```
<DataArea>
  <Sync>
     <SalesOrder>
        <SalesOrderHeader>
          -<UserArea>
            -<Property>
             <NameValue type="StringType" name="In.RateDeterminer">Document
 Date</NameValue>
             </Property>
            -<Property>
             <NameValue type="StringType" name="In.Cancelled Priori▶
ty">No</NameValue>
             </Property>
            -<Property>
         <NameValue type="StringType" name="ln.ShipmentType">UPS</NameVal▶
ue>

         </Property>
       -<Property>
       <NameValue type="StringType" name="ln.ShipmentComment">Handle with
 Care</NameValue>

   </Property>
```

In this example, you can add more string types such as Shipment Type, a Shipment comment, Shipment priority, to match what is in the ERP.

In the BOD, there is a user area section under Data Area > Sales Order > Sales Order Header and User Area. There is a beginning and end tag for the property element. In the property element, there is a name value pair. The name value type is equal to string type and the name is **In.RateDeterminer**. The value is Document Date.

If you design a BOD mapping XPath and you pull Document Date value from the XML, you can write the XPath as shown in the example. Under the Data Area is Sales Order and then Sales Order Header, User Area, Property, Name Value, and then the attribute type of String Type and the first occurrence. The first occurrence of the attribute type that is equal to string type, which is Document Date in the example.

Classification Codes

Classification codes are more structured than user areas which are more free form. Classification codes are comprised of two values: ListID and Code. There is no limit to the number of classification codes that you can use in a BOD.

This is an example of a BOD that contains classification codes:

```
<Classification>
  <Codes>
  <Code listID="ClassificationCodes" sequence="1">CustomerType</Code>
  </Codes>
  <Description languageID="en-us">Description of the associated object</De▶
scription>
  </Classification>
```

Modifying columns with user areas and classification codes

After the user area and classification code information is in the BOD, you can modify columns that contain user areas and classification codes for an Infor data store.

1. Select an Infor data store and drill down to an inactive BOD mapping.
2. Go to the Column Mappings grid.

   Because this is an Infor data store, most of the columns are read-only and cannot be edited.
3. To search for user area columns, specify **`UA`** in the **Column Name** column in the filter search row. There are many types of user areas including text, amount, quantity, date, and date time columns.
4. Specify an **XPath** and a **Default Value**. These fields are only editable for columns with user areas and classification codes. Ensure that the XPath syntax is specified correctly.

   If the **XPath** and **Default Value** fields are not available for edit, ensure that the BOD mapping status is **`Inactive`**. The BOD mapping must be inactive to make changes.
5. Save the data store and BOD mapping changes.
6. Activate the data store and BOD mappings to process the BOD type into the data store.

Chapter 6: Data stores

A data store is a relational database into which BOD data is loaded for use by reporting or business intelligence applications. A BOD mapping provides the instructions to map data from the XML data elements of a BOD into the tables and columns in a data store.

Viewing and editing a data store

The data store includes individual BOD mappings. The BODs are not processed into the data store until you activate the data store and the BOD mappings.

You can change certain fields in an inactive data store. You cannot add, change, or delete Infor-delivered content for the Base Data Store BOD mapping. You can use the XPath and default value fields in the Column Mappings data grid to modify user areas and classification codes for Infor-delivered content.

1 Select **Data Stores Management > Data Stores**.
2 To edit an inactive data store, select the data store. Click the**Drill Down** icon on the data store.
3 Edit these fields:
   - **Name**
   - **Description**

   The **Database Connection** and **Infor-Delivered Content** fields are read-only.
4 Click **Save**.

Activating a data store

To process BODs, you must first activate the data store. After the data store is active, you cannot edit BOD mappings. When you activate a data store, the associated BOD mappings are not activated. You must activate BOD mappings separately from data stores within the user interface.

See Activating a BOD mapping on page 34.

After the data store is activated, the associated active BOD mappings are processed. If you add additional BOD mappings to an active data store, you must activate the BOD mappings. It is recommended that you reactivate the data store for all the validations to occur.

After a data store is **`Active`**, BODs can be processed to the data store for any BOD mappings in an **`Active`** status.

If an activation fails, then the **Activation Results** page is displayed and shows the errors that occurred during activation.

1. Select **Data Stores Management > Data Stores**.
2. Select an inactive data store and click **Activate**. You can activate only one data store at a time. You cannot activate an inactive data store unless there is one or more active BOD mappings in the data store. After a data store is activated, any associated BOD mappings in an **`Active`** status are processed.

Deactivating a data store

To make changes to a data store, you must first deactivate it. You cannot deactivate a data store that contains an active replay. You can only deactivate one data store at a time.

When you deactivate a data store, the BOD mappings that are associated with the data store are not deactivated. BODs stop flowing into the data store, even if the associated BOD mappings are **`Active`**.

1. Select **Data Stores Management > Data Stores**.
2. Select an active data store and click **Deactivate**. The **Deactivations Results** page shows the results of the data store deactivation.

Chapter 7: Viewing and activating BOD mappings

You can view and activate BOD mappings for the Base Data Store in the Business Vault. A BOD mapping is a collection of table and column mappings for a particular BOD type. BOD mappings are instructions to map BOD elements to data store tables and columns. Most data stores require information from multiple BOD types.

Viewing BOD mappings

1. Select **Data Store Management > Data Stores**.
2. Select a data store.
   See Viewing and editing a data store on page 25.
3. View the header information for the data store on the **Data Store Details** page.
4. Select a BOD mapping. These fields for the BOD mapping header are displayed:

   Name
   A unique BOD Mapping name.

   Description
   An optional BOD Mapping description.

   Status
   The status for a BOD mapping.

   Document
   This displays the document or standard Infor BOD that is stored in the Raw Data Vault.

5. Click **Save**.

Viewing table mappings

A BOD mapping contains one or more table mappings. A table mapping contains the database table information, flattening area, and column mappings. The table is the data store table into which BOD data is mapped. The flattening area is the XML reference to the individual nouns that may be repeated in the BOD. For example, a SalesOrder BOD may contain one or more sales order lines.

1. Click the **Drill Down** icon for a table mapping row.
2. This information is displayed:

Display Name
A display name for the table to which you will extract your data.

Main Table Name
This table is referred to as the Main Table. This table is the database table that receives the mapped data, for example, Sales Order or Sales Order Line table. The same database table can be used in multiple data stores and BOD mappings.

Flattening Area
This field uses XPath to determine the nodes in the BOD that populate the rows of the database table.

Localized Table
This is a database table that stores the localized table values from the BODs. The database table that has been designated for localization.

Maximum Variation Table
The **Maximum Variation Table** is an additional database table that maintains duplicate selected columns for only the highest variation of the BOD. If the Maximum Variation Table is selected, then a table name can be viewed and there is one column mapping with the keyword of *MH-VARIATIONID*. A Maximum Variation Table cannot be used in conjunction with a Localized Table.

Repeatable
If this field is selected, then multiple nodes are returned from the XPath defined in the **Flattening Area**.

Highest Variation Only
If this field is selected, then only the highest variation of the BOD in the Main Table is stored. Data associated with the highest variation ID is not stored in a second database table. If the **Highest Variation Only** flag for a table mapping is selected, then the **Maximum Variation Table** cannot be used.

If a Localized Table is selected and the Highest Variation Only is selected, then only the highest variation of the BOD is stored in the Main or Localized Table. If the Highest Variation Only is not selected, then all variations of the BOD are stored in the Main or Localized Table.

If the **Highest Variation Only** flag is selected, then you must have one column mapping with the custom mapping key word of **`Message Header Variation`**. This column cannot be the Primary key or the BOD Key.

Note: If a Variation ID is used to show all variations, then the BOD Key and the Primary Key must be selected for the Variation ID.

Viewing column mappings

The Column Mappings area shows the mapping of BOD elements and database table columns. You can view your database table column mappings after you view your table mapping information.

These values for the column mappings are displayed:

Column Name
This name is used as the column name in the destination database table.

Display Name
A display name for the column.

XPath
View the XPath. To change columns that contains user area and classification codes for Infor delivered content, select an XPath from the **XPath Selector** page.

If the value of the **Custom Mapping** field is set to **`Noun Identifier (NID)`** or **`Extension Noun Identifier (EXT-NID)`**, then the XPath is not blank.

The XPath can be blank if the value of the **Custom Mapping** field is set to one of these values:

`Message Header Noun Identifier (NID)`
`Message Header ID (MH-ID)`
`Message Header From Logical ID (MH-From Logical ID)`
`Message Header Variation ID (MH-Variation ID)`
`Message Header Accounting Entity ID (MH-Accounting Entity ID)`
`Message Header Location ID (MH-Location ID)`
`Timestamp`
`Concatenation`
`Separator`
`Substring`
`Tokenizer`
`Duration`
`Locale`
`Sequence`
`Parent Column`

See Custom Mapping Keywords on page 37.

The XPath can be blank if there is a Default Value specified and no Custom Mapping specified. For Infor-delivered content, you can modify the XPath column to customize user areas and classification codes only.

Default Value
The default value is used to populate the database table column when an element is not found in a BOD. If the XPath result is blank and no value found is found, then the default value will be populated in the database table column. We recommend that you use a Default Value for database table columns where blank values are not allowed.

For Infor-delivered content, you can modify the Default Value field for columns with areas and classification codes only.

Custom Mapping
Optionally, view a custom mapping keyword for a column. Custom mappings use keywords to provide specific mapping results to be populated in the database table. Custom mapping keywords cannot be mapped outside of the table flattening area.

See Custom Mapping Keywords on page 37.

Localization
This field is selected if the column can have localized data. The data is stored in the localized table specified in the table mapping header. To set Localization for a column, you must set the Localization option for the table mapping.

If the **Localization**flag is set, then these Custom Mapping keywords cannot be used:

`Timestamp`

`Concatenation`

`Separator`

`Substring`

`Tokenizer`

`Duration`

`Noun Identifier` (NID)

`Extension Noun Identifier` (EXT-NID)

`Parent Column`

You cannot select the Localization and the Highest Variation field in the column mapping.

See Localization on page 36.

Highest Variation
This field is selected if the element should be included in the highest variation table, the most current view of the data. If the Highest Variation Only is selected for the table mapping, then it must contain one custom mapping as **`MH-VARIATION`** and **Variation** must be selected for the column.
Note: If you use a Variation ID and want to show all variations, then the BOD Key and the Primary Key must be selected for the Variation ID.

Truncate
Truncate indicates whether BOD data can be truncated to fit the size of the database column if it is too large. If the BOD data does not fit into the database column and is not truncated, then your BOD data will not be extracted.

BODKEY
This identifies the column or element that is used as the BODKEY. At least one BODKEY is required per table. It must be used and can be made up of one or more elements. This should be the primary key.

Because the key of a database table does not always match the key of the BOD you are mapping, the BODKEY is used to indicate which BOD elements make a BOD unique. If this field is selected, then the **Primary Key** is also selected. The BODKEY is usually the Noun ID (NID) and Variation ID.

Primary Key
This identifies the column that is used to uniquely identify a row in the database. Each table must have at least one primary key selected.

If the Locale custom mapping keyword is selected, then the **Primary Key** is set and the **BODKEY** is unselected and disabled. The **Primary Key** cannot be blank.

NULL
This identifies if the column allows NULL values. If NULL is selected, then the column is optional. If NULL is not selected, then the column is required.

Column Type
This identifies the data type of the target column. These Microsoft SQL Server column types supported are:

nvarchar - default

varchar

bigint

int

smallint

decimal

date

time - If time is specified as the column type, you must specify the format: **hh:mm:ss** in the BOD XML.

datetime2 - If only the date is mapped to a DateTime2 column, the default time value is UTC midnight. If only a date is supplied for the Timestamp column, the string **T00:00:00Z** is added.

datetimeoffset

bit

Note: The default value for a column type of **datetimeoffset**, is an offset of zero. See knowledge base article 1547636 on Infor Xtreme Support.

Column Size
This is the length of the data type. The default value is **nvarchar(100)**.

The length of the value depends on the specified data type:

nvarchar, specify an integer value in the range of **1-4000** or specify **MAX**.

varchar, specify an integer value in the range **1-8000**or specify **MAX**.

datetime2, the column size is disabled.

datetimeoffset, the column size is disabled.

decimal, specify a value in the format precision, scale. Precision is the total number of digits, and scale is the number of decimal digits. The default value for precision is 18 and scale must be less than or equal to the precision. The maximum value for precision is 38.
Note: The numeric data type in Microsoft SQL Server is not supported. You cannot activate a data store with a column that is defined with a numeric data type. Use the decimal data type for the column. .

bigint, **int**, or **bit**, you cannot specify the column size.

Editing a BOD mapping

You can edit a BOD mapping regardless of the data store status. Messages can be processed by other active BOD mappings while you are editing an inactive BOD mapping.

You cannot add, change, or delete BOD mappings for Infor-delivered content. You can use the XPath and default value fields in the Column Mappings data grid to modify columns that contain user areas and classification codes for Infor-delivered content.

1. Select **Data Store Management > Data Stores**.
2. Select a data store.
3. Select an inactive BOD mapping to open the **BOD Mappings Detail** page.
4. **Drill Down** to the Table Mapping details and the Column Mappings. You can change the Default Value and the XPath for columns that contain user areas and classification codes.
5. Click **Save**.

XPath Selector

Use the XPath Selector to view an XML document and select an XML string to use in a **Flattening Area** for a table mapping or column mapping.

XPath is a query language for selecting nodes and data elements from an XML document. XPaths are required for table mappings and columns. You can use the XPath Selector to browse a file and select an XPath from a BOD. You can select the XPath to identify which nodes in the BODs will populate the rows of the database table.

The **Flattening Area** uses XPath to identify which nodes in the BOD will populate the rows of the database table. You can manually enter a **Flattening Area** or select it from the **XPath Selector** page for a table mapping. You can also launch the XPath selector from the **XPath** field for a column mapping.

Using the XPath Selector to upload XML from a local file directory

Note: The BOD is not stored in the Raw Data Vault when you upload the BOD XML. The BOD must be sent from the source system to ION and then to the Business Vault.

1. From the **XPath** field on a table mapping or a column mapping, click the **Edit** button.
2. On the **XPath Selector** page, select **Upload XML**.
3. Click **Browse** and browse to the XML file to upload. The XML file contains the actual raw XML or BOD definition. The BOD is displayed in a tree structure in the **XPath Browser**.

   If the XML you select is not the same XML as the document you selected for the BOD mapping, then an error message is received.
4. To make a node required in the BOD tree, select the node. The full XPath is shown in the **XPath Preview** field on the right side of the page. This XPath is built from the nodes that were selected in the BOD tree. Do not edit the XPath.
5. Click **Use this XPath** to fill the **Flattening Area** and the **XPath** fields for your BOD mapping. The XPath is available to edit from the **XPath Selector**.

   Select **Use Wildcard** to specify a wild card in the XPath structure for example, specify the operator of `/*/` instead of a single slash.

Using the XPath Selector to search the Raw Data Vault for BODs to upload

1. From the **XPath** field on a table mapping or a column mapping, click the **Edit** button.

2 On the **XPath Selector** page, select **Search the Raw Data Vault**.

3 Click **Edit**. The **Document Trace** page is displayed.

4 Specify search criteria and click **Search**. The **Document** field on the **Document Trace** page is set to the BOD type that you selected for the BOD mapping.

5 To sort the results by a column, click the column name. The data grid shows criteria for the BOD.

Because the Raw Data Vault captures and stores Huge BODs, these BODs also display. Huge BODs are one noun instance that is sent in multiple BODs. The first document within the multi-part Huge BOD is displayed first in the data grid.

6 On the search results data grid, click the **Details** option. The XML code for the document is displayed. You can copy and paste the XML code to the clipboard.

7 Select one BOD from the results data grid by selecting the row.

8 Select **Use Selected BODs in XPath Wizard** to return to the previous screen and show the BODs selected.

The BOD is displayed in a tree structure in the **XPath Browser**. To make a node in the BOD tree required, click once on the node to select it.

9

10 The **XPath Preview** is displayed with the full XPath when you select a node. This XPath is built from the nodes that were selected in the BOD tree. Do not edit the XPath.

11 Click **Use XPath** to populate the XPath in the **Flattening Area** field. A valid XPath is defined in the **Flattening Area** field of a table mapping and the **XPath** column for your BOD Mapping. The XPath is available to edit through the XPath Selector.

Importing BOD mappings

You can use a single `.zip` file to import BODs using Microsoft Excel. BOD mappings can be imported into data stores.

You can import Infor-delivered content.

- There is one parent `.zip` file for the Infor Business Vault Base Data Store. The parent `.zip` contains three children `.zip` files:
  - • A `.zip` file that contains the Microsoft Excel BOD mappings
    - A `.zip` file that contains the Microsoft Excel BOD mappings for classification codes
    - A `.zip` file that contains the Microsoft Excel BOD mappings for the Infor Business Vault Base Data standard Infor BOD mappings.
- You can import Infor-delivered content version 2.0 into a new data store. The `.zip` file should only contain Microsoft Excel files. Ensure the `.zip` extension is specified in lowercase. The Microsoft Excel files that are stored in the `.zip` file must have a file extension of **`.xls`** or **`.xlsx`**.
- Version 1.0 Infor-Delivered content spreadsheets cannot be imported into an existing data store.
- Version 2.0 spreadsheets can be imported into an existing data store. Infor-delivered fields are overwritten. Fields that are not locked will not be overwritten, for example, the XPath and Default value fields for columns with user areas and classification codes.

- You can only import an Infor data store over an existing data store if the existing data store is also an Infor data store. In this example, existing BOD mappings are overwritten, except for the XPath and Default Value fields for columns with user area and classification code modifications. These fields are not changed and any modifications are retained, even after you re-import updates to Infor-delivered content.

1. Select **Data Stores**. A list of configured data stores is displayed.
2. Select a data store.
3. Select a BOD mapping on the BOD mappings data grid and click **Import**.
4. Browse to and select the file to import.
5. If the BOD mapping exists, then specify whether to skip or rename the BOD mapping. After your BOD mapping has successfully imported, an entry for the BOD mapping is displayed on the BOD Mappings data grid.

   Depending on the size of the BOD mapping, you may be required to wait while the import processes.

Exporting a BOD mapping

1. Select **Data Stores**.
2. Select a data store. The data store can have a status **`Active`** or **`Inactive`**.
3. Select a BOD mapping on the BOD mappings data grid and click **Export**.

   Depending on the size of the BOD mapping, you may be required to wait while the data to export is generated.

   If you imported a BOD mapping and made changes through the user interface, then the exported BOD mapping contains these changes. All export spreadsheets are created in version 2.0 of the BOD Mappings.

Activating a BOD mapping

Active BOD Mappings, within an active data store, can process messages while you are editing an inactive BOD mapping. An active BOD mapping indicates that the BOD type is processed into the data store. An active data store is actively routing BODs into the data store.

On the **BOD Mappings** data grid, you can select one or more BOD mapping to activate. BOD mappings can be activated independently of data stores to which they belong. Data stores that have an **`Active`** status, can have BOD Mappings that have a status of **`Active`** or **`Inactive`**.

1. Select **Data Store Management > Data Stores**.
2. Select a data store. Drill down to the **Data Store Details**.
3. Select one or more BOD Mappings that have a status of **`Inactive`**.
4. Click **Activate**. The status of the BOD mapping is **`Active`**.

Deactivating BOD mappings

On the BOD Mappings data grid, you can select one or more BOD Mappings to deactivate. BOD Mappings can be deactivated independently of Data Stores. You can deactivate a BOD mapping if you have a replay that has one or more errors.

To correct errors, deactivate the BOD mapping, correct the issues, re-activate the BOD mapping, and run another replay.

1. Select **Data Store Management > Data Stores**.
2. Select a data store. Drill down to the **Data Store Details**.
3. Select mappings that have a status of **`Active`**.

   You cannot deactivate the last active BOD mapping in a data store. You must have at least one active BOD mapping in a data store.
4. Click **Deactivate**. The status of the BOD Mapping is **`Inactive`**.

   Note: If you have a replay running that includes the BOD mapping that you are deactivating, then the BODs included in that replay are ignored by the Business Vault. Reactivate the BOD mappings before you run the replay again.

Chapter 8: Localization

BODs can contain localized values. If an element is marked as localized, then localized values are written to the database table that is designated for localization. The Business Vault Base Data Store uses a naming convention for a localized table as **`TableName_LC`** where LC stands for locale code. All data marked as not localized is written to the Main Table.

Note: The Business Vault does not translate any data. The BOD contains the localized values.

Viewing localized BOD mappings

Localized BOD mappings contain:

- A database table for localization.
- Localized columns in each database table.
- The Locale column in the BOD mapping.

1. Select **Data Store Management > Data Stores**.
2. Select an inactive data store.
3. Drill down to the **Data Store Details** page to see your BOD Mappings data grid.
4. Select one or more inactive BOD Mappings.

   The **Localized Table** option on a table mapping is selected to indicate that the database table contains localized and non-localized columns.
5. View the table to see localized values in the physical database table. This table contains translated columns. This database table name is populated from the **@languageID** attribute of the element in the BOD XML.

   The **Localization** option is selected for columns that contain localized values in the column data grid. This indicates that the column or value is localized.
6. The column that contains the **`Locale`** code has the **Custom Mapping** value of **`Locale`**. You must have one column mapping containing this code.
7. Click **Save**.
8. Click **Activate** to set the BOD mapping status to active and then click **Activate** to set the entire data store to a status of active. BODs can begin to process into the data store.

Chapter 9: Custom Mapping Keywords

In the Business Vault, BOD mappings can include custom mappings. Custom mapping keywords are instructions to populate a data store table column field based on data in a BOD's XPath, BOD message header, or keyword expression.

Certain custom mapping keywords require a valid XPath and some require variable parameters. Column mappings that use custom mapping keywords with XPaths must reference an XPath in the BOD table mapping flattening area. Custom mappings are defined in the **BOD Mapping >Table Mappings > Column Mappings** area.

Custom mapping keywords are used in standard Infor BODs. Standard Infor BOD mappings are imported into a data store database using the Business Vault Base Data Store BOD mappings `.zip` file. A standard Infor BOD mapping includes all of the information to process a standard Infor BOD into an Infor-delivered data store tables such as the Infor Business Vault Base Data Store. You can see the custom mapping keywords after importing the mappings.

These are the custom mapping keywords available:

- Noun Identifier (NID)
- Extension Noun Identifier (EXT-NID)
- Message Header Variation ID (MH-Variation ID)
- Message Header Accounting Entity ID (MH-Accounting Entity ID)
- Message Header Noun Identifier(MH-NID)
- Message Header Location ID (MH-Location ID)
- Message Header From Logical ID
- Message Header ID (MH-ID)
- Timestamp
- Concatenation
- Separator
- Substring
- Tokenizer
- Duration
- Locale
- Sequence
- Parent Column

Noun identifier (NID) keyword

The noun identifier keyword, NID, is a unique identifier within a noun in a data store. It is a key for a noun. The combination of the NID and the Variation ID are often the primary key to a data store table. The data stores use NIDs and IDs as foreign keys to join tables. The NID is an internal identifier that is not used for reporting or display purposes.

The NID is a concatenation of these elements: `{AccountingEntity:Location:ID:RevisionID}`

Note: The ID in this string is the ID in the Document ID. This ID is the value of the element or the actual XPath to which you are pointing.

If NID is selected as the custom mapping keyword, then the NID is built from an XPath in the format of `AccountingEntity:Location:XPathValue:RevisionID`. The NID keyword is used when Accounting Entity and Location are attributes of the current referenced XPath.

When the NID keyword is used, there must be a valid XPath in the table mappings **Flattening Area** field. When using the NID keyword, the XPath must be at the same level as defined in the **Flattening Area** field for a table. If the NID is set outside the XPath area, then the BOD mapping will fail at activation. You cannot set the area in the table mapping to a different level.

If a NID column is set as the primary key, you must also select the Highest Variation for the column. If the Highest Variation option is disabled, you must access the Column Mappings data grid, and un-select the BOD Key for the NID column. This enables the Highest Variation column. Select the Highest Variation column and then select the BOD Key and Primary Key.

Example of a NID custom mapping:

```
Current referenced XPath: BillToPartyMaster/PartyIDs/ID
BOD XML:

<PartyIDs>
 <ID accountingEntity="AE-3">ID-4</ID>
</PartyIDs>
```

Extension Noun (EXT-NID) keyword

The Extension Noun Identifier (EXT-NID) keyword is used when **AccountingEntity** and **Location** are not attributes of the current referenced XPath. In this case, **AccountingEntity** and **Location** are retrieved from the message header metadata.

When the EXT-NID keyword is used, an XPath is required. When the EXT-NID keyword is used, an XPath in the **Flattening Area** field for a table must be specified. When using the EXT-NID keyword, the XPath must be at the same level as defined in the **Flattening Area** field for a table. If the NID is set outside the XPath area, then the BOD mapping will fail at activation. You cannot set the area in the table mapping to a different level.

Example of EXT-NID custom mapping

```
Current referenced XPath: CodeDefinition/CodeValue
BOD XML:
<CodeValue>Code-001</CodeValue>
```

Message Header mappings and keywords

The message header mapping keywords retrieve column information from the message header of a BOD. The XPath is defined in the noun metadata. The table mapping XPath must be blank when message header keywords are used.

These are the Message Header keywords that are supported:

- MH-VARIATION ID
- MH-ACCOUNTINGENTITY ID
- MH-NID
- MH-LOCATION ID
- MH-FROM LOGICAL ID
- MH-ID

Timestamp keyword

The Timestamp keyword inserts the current date and time in which the BOD instance is added or updated in the data store. This timestamp is stored in Coordinated Universal Time (UTC). When using the timestamp keyword, the XPath is blank.

Concatenation keyword

You can use the Concatenation keyword to concatenate the parameter values in the parameter list in a specific order. When you use the Concatenation keyword, the column mapping XPath must be blank.

For the Concatenation keyword, either a column or an XPath must be defined in the **Flattening Area**. If an XPath is specified, then the XPath must be at the same level as defined in the **Flattening Area** field for a table. If the concatenation parameters are set outside the XPath area, then the BOD mapping will fail at activation.

Separator keyword

The Separator keyword is similar to the Concatenation keyword. The Separator keyword concatenates all the parameter values in a parameter list with a separator. The column mapping XPath must be blank.

The XPath must be at the same level as defined in the **Flattening Area** field for a table. If the separator parameters are set outside the XPath area, then the BOD mapping will fail at activation.

Substring keyword

Use this keyword to populate a table column with a substring of a text value for the identified BOD. The value is derived from a substring of a database table, column value, or derived from a BOD XPath value. Use the substring custom mapping to map one value into multiple column mappings by specifying a substring for each column mapping.

For example, to substring the XML node of `<ItemDescription>Red Paint</ItemDescription>`, specify a Start Position of 1 and End Position of 3. This obtains the value Red. To obtain the value Paint, specify a Start Position of 5 and an End Position of NULL or blank to indicate the last character in the string. The column mapping XPath should be blank for the Substring keyword.

The XPath must be at the same level as defined in the **Flattening Area** field for a table. If the substring parameters are set outside the XPath area, then the BOD mapping will fail at activation. The area in the table mapping cannot be set to a different level.

Tokenizer keyword

The Tokenizer keyword is used to split a column value or XPath value string into smaller strings called tokens. Each token is can be delimited by any character. For example, in the string aa:bb:cc:dd, the delimiter is a colon and there are four tokens: aa, bb, cc, and dd. When the Tokenizer keyword is used, the column mapping XPath should be blank. If you are using Localization, then you cannot use the Tokenizer keyword.

The XPath must be at the same level as defined in the **Flattening Area** field for a table. If the tokenizer parameters are set outside the XPath area, then the BOD mapping will fail at activation. The area in the table mapping cannot be set to a different level.

Duration keyword

The Duration keyword is used to convert durations sent by an ERP in a BOD, to years, months, weeks, days, hours, minutes, seconds or milliseconds. The use of milliseconds allows for decimal places for seconds when shredding the duration keyword. The Business Vault uses the standards set forth by the International Standard for Organization (ISO) 8061 for durations.

Duration conversions assume:

- 365 days in a year
- 30 days in a month
- 12 months in a year
- 7 days in a week
- 24 hours in a day
- 60 seconds in a minute

The column mapping XPath should be blank when the Duration keyword is used.

To use the duration keyword on the XML node of `<Duration> P2Y1M7D </Duration>` , the XPath or Column value from within the **Flattening Area** for the table is selected. The value **`P2Y1M7D`** denotes a value of 2 years, 1 month, and 7 days.

If a Duration of Months is used, then the duration value is converted to the month value when the BOD is shredded or extracted into a data store table column. For the value **`P2Y1M7D`**, the value is converted to 25.5666667 months. These results are obtained using this logic:

1. 2Y is 2 years which is 730 days. 1M is 1 month which is 30 days. 7D is 7 days
2. 730 days + 30 days + 7 days = 767 days
3. 767 days / 30 days = 25.5666667 months

The XPath must be at the same level as defined in the table mapping **Flattening Area** field. If the duration parameters are set outside the XPath area, then the BOD mapping will fail at activation. You cannot set the area in the table mapping to a different level. If the XPath points to an element in a BOD that is empty, a string value of 0 is returned in the shredding results.

Locale keyword

Localization is used to obtain information from an XML element that includes a language ID attribute. A locale column mapping is required for a table that has localized data. A table mapping with the **Localization** flag set to true, must have one column mapping containing the **`Locale`** code.

For example, the SOH_LOCALE column is required for the SALES_ORDER table, which uses the SOH_ prefix for its column names. For the locale column, the XPath must be blank and the custom mapping keyword is specified as **`Locale`**.

See Localization on page 36.

Sequence keyword

The Sequence custom mapping keyword is used to populate the column with a sequence identifier in repeating areas of the BOD. This keyword is used to generate keys when the BOD may not have a key for repeated areas. An integer from one *1* is generated for the column and increases for each occurrence of the area in which the column exists. The XPath is blank.

For example: for an order line table with a flattening point on the order line, the shredded value of the sequence would increase by 1 for each occurrence of a new order line. The sequence keyword is not necessary to use if you already have an ID to use in the BOD.

Parent Column keyword

Use this keyword to pull information from a column in a parent table that has values defined in the same BOD mapping. For example, for the Sales_Order_Line table, you can use the Parent Column keyword and parameter to select a column from the Sales_Order table. Similarly, for the Sales_Order_Subline table, you can use the Parent Column keyword and parameters to select columns for the Sales_Order or Sales_Order_Line tables.

The Parent Column keyword requires the name of the parent table and the name of the parent table column as variable parameters. When the Parent Column keyword is used, the XPath must be blank.

Parent Column keyword example

You have a database table called **Sales_Order_Line** that includes the **SOL_Line_Number_Sequence** column. You can designate the Custom Mapping keyword to Sequence.

The **SOL_Line_Number_Sequence** column is the primary key column. The resulting values in this column are in ascending order from 1 to n, where n is the number of sales order lines.

The **Sales_Order_Sub_Line** table has repetition on an area in the BOD that is a child of the **SalesOrderLine** area. In this example, the Parent Column keyword can be used to point to the **Sales_Order_Line** table. The **SOL_Line_Number_Sequence** column can be used to copy the key into its own primary key field. Your functional variables show the value as **Sales_Order_Line** with a type of String and **SOL_Line_Number_Sequence** with a type of String.

Chapter 10: Replays

You can use the replay feature to replay a selection of BODs from the Raw Data Vault to a data store. This tool is useful to refresh a data store without retrieving data from the source system.

When you run a replay, BODs are resent from the Raw Data Vault to the selected data store. If you replay or send the same BODs more than once, then the result is the same as the first time the BOD is sent. A delete is executed first, even if there is no BOD to delete. Then, an insert of the BOD is performed.

When you run a replay, the status is reflected on the **Replays Configuration** page and the **Replays Monitor** page. If the replay does not run because a Business Vault service is down, then a message is displayed that the replay cannot be processed and try again later. A details button on the dialog box indicates the exact Java error message. After the replay is run successfully, the status is set.

You cannot stop or pause a replay after it is run. You must allow the replay to complete processing.

Configuring and activating replays

1 Select **Data Store Management > Replays**.

2 Click **New**. To update an existing replay, click **Drill Down**. You can also click the **Duplicate** option.

3 Specify this information after the **Replay Details** page options:

Replay name
Specify a unique name for the replay.

Replay description
Optionally, specify a description for the replay.

4 Select a **Data Store**. This is the database from which the data will be extracted. You can draft a replay for an inactive data store, but you can only run a replay for an active data store.

5 You can select optional replay criteria to select a data store to replay. If you leave the replay criteria blank, then the replay selects the entire data store. Select replay criteria by these fields:

Accounting Entity
The Accounting Entity drop-down list is filtered. Only the accounting entities for your assigned tenant are displayed. The accounting entity is retrieved from the BOD header for documents stored in the Raw Data Vault with active BOD mappings. If the BOD is not stored in the Raw Data Vault, then no accounting entities from the BOD are displayed.

Location
The Location drop-down is filtered so that only locations for your assigned tenant are displayed. The location is pulled from the BOD header for documents stored in the Raw Data Vault with active BOD mappings. If the BOD is not stored in the Raw Data Vault, then no locations from the BOD are displayed, even if the BOD mapping is active.

From/To Date
This is the date and time when the BOD was processed by the Raw Data Vault.

Documents
Click the **Add Documents** option to launch the Documents dialog box. Only documents with active BOD mappings are displayed from the data store selected. To continue, you must select one or more documents to replay. Click **OK** to add the documents to the Documents list box.

BODs that are not stored in the Raw Data Vault are displayed in the list. The BOD has to have an active BOD mapping. If the BOD is not stored in the Raw Data Vault but has an active BOD mapping, the count will be 0 when you run the replay. Therefore, you must ensure that the BOD is stored in the Raw Data Vault.

Note: Do not de-activate a BOD mapping while a replay is being set up or is running.

6 Click **Save**.

7 Return to the list and select the replay.

8 Click **Run**.

The Run option is only enabled if you select an active data store.

A Confirmation Dialog is displayed that indicates the number of BODs to replay from the Raw Data Vault. If you run a replay for zero BODs, then the replay remains inactive. You must ensure that the BODs are pushed and stored in the Raw Data Vault and then you can re-run the replay.

When you run a replay, verify that the documents or nouns that you selected are still valid. You can ensure that the BOD mappings are active on the **Data Stores** page. If a BOD mapping is deactivated when you run a replay, then those BODs are not processed and there is no error. The Business Vault ignores these BODs. Ensure the BOD mappings are activated and run a new replay.

The replay status is set when you run the replay.

Note: If there is a disruption in the database server during execution of a replay, then the replay counts may be inaccurate on the replay confirmation dialog. The extract of the BOD into the data store is correct but the counts are inaccurate.

Replay statuses

These are the replay statuses:

- **`Inactive`**

  The replay has been created as a draft and saved but not yet run. Only replays in an Inactive status can be edited.

- **`Running`**

  The replay is currently running. Running replays cannot be edited or stopped.

- **Running with Errors**

  The replay is currently running but one or more errors have occurred while processing. Replays that are running with errors cannot be edited or stopped.

- **Error**

  The replay has encountered a problem starting and no BODs are processed. The replayed failed to run. You may receive an error if the Business Vault network or server is down. In this situation, you must contact your system administrator to check logs on the server for more advanced troubleshooting. Replays with a status of Error cannot be edited.

  You cannot re-run a replay with a status of error. You must duplicate the replay and re-run.

- **Undetermined**

  A network or server is down and the replay failed. Replays in an Undetermined status cannot be edited. You cannot re-run a replay with a status of undetermined. You must duplicate the replay and re-run.

- **Complete**

  The replay has successfully been replayed and is complete. The replay has re-sent BODs from the Raw Data Vault to the selected data store. Replays that are complete cannot be edited. You cannot re-run a replay with a status of complete. You must duplicate the replay and re-run.

  Note: Replay error history is limited to the past 60 days. Replays with a date beyond the 60 days, do not have a status of Complete.

- **Complete with Errors**

  The replay is complete but has one or more errors. You cannot edit replays that are complete with errors. You cannot re-run a replay with a status of complete with errors. You must duplicate the replay and re-run.

Chapter 11: Monitoring the Business Vault

Infor Business Vault includes pages that you can use to monitor and solve issues:

- **Document Trace**
- **Data Stores Monitor**
- **Replays Monitor**
- **Publications Monitor**

Use the **Publications Monitor** to monitor the progress and results of the validation and publication processes. You can view error and audit logs and put publications on hold. The Publications Monitor history cannot be purged.

History is limited to the past 60 days for the Document Trace, Data Stores Monitor, and Replays Monitor.

See the *Infor Business Vault Analytic Modeling User Guide* for information about the Publications Monitor.

Using Document Trace

To review specific BODs in the Raw Data Vault, you can use the **Document Trace** search feature within the Business Vault. A search can be performed using a variety of search criteria. There is a view in XML for each BOD that is returned in your search results.

Additionally, you can view any processing that has occurred for a BOD. For example, you can see that the BOD was successfully loaded into the Raw Data Vault and shredded or extracted into the data store.

1 Select **Monitoring > Document Trace**.

2 To perform a simple **Message Search**, specify your selection criteria:

Date Range (From and To) in UTC
Specify the date and time range. Documents with a time stamp between these dates are searched. The default range is 00:00:00 AM to the 11:59:00 PM of the current day.

Document
Select a BOD document.

Additional Criteria
This field applies to certain documents only. For example, when selecting from the Code List you can specify additional criteria such as Countries, Chart of Accounts, and Currencies.

Display ID
Specify a version of the Document ID that you view in the ERP. The Document ID may have system attributes added to make the Document ID unique. The Display ID is the Document ID without the additional system attributes.

Document ID
Specify a unique identifier of the primary original document.

Raw Data Vault ID
Specify a unique identifier for the document within the Raw Data Vault.

Message ID
Specify a unique identifier for the original BOD message. Because the results may be unclear, it is recommended that you do not search by Message ID. For most documents, the BOD and the message are identical. There are two exceptions:

- A single BOD that is sent in multiple messages. The multiple messages use unique Message IDs, which are assigned to each part.
- A single message that contains multiple documents. All individual documents use the same Message ID.

3. Click **Clear** to begin a new search.
4. Click **Search**.

   If the BODs do not appear in the results, ensure they have been pushed to the Raw Data Vault successfully from the ERP the Business Vault through ION. The maximum search result is 500 documents. Refine your search to narrow the search results.

   The data grid shows criteria for the BOD. Huge BODs are also displayed. Huge BODs are one noun instance that is sent in multiple BODs. The first document within the multi-part Huge BOD is displayed first in the data grid. Click the next arrow to see other instances of the BODs, including the XML for the other instances.
5. To sort the results by a particular column, click the column name.
6. To see the full details of a particular BOD, select a BOD and click **Drill Down**.

   You can collapse or expand any of these sections: Document Details, Document XML, and Document History.

Document Details

The Document Details section includes the BOD criteria, for example, Accounting Entity and Verb/Document. Use this information to identify the selected document.

Document XML
The XML code for the document is displayed in this section. You can select the XML code to copy and paste. To copy the entire Document XML to your clipboard, highlight the XML and select **CTRL + C** on your keyboard.

Huge BODs Only
For Huge BODs only, use the previous and next icons to review multiple XML pages. When searching for Huge BODs, you can use this search criteria to find a specific huge BOD:

- **Document Sequence**: Specify the document sequence for each BOD XML. This is also known as the Batch Sequence, which is defined as the sequence number of the BOD in the batch.
- **Go To Sequence**: Specify a batch sequence number to go to a specific BOD XML.

- **Batch Sequence**: The sequence number of this BOD in the batch.

Document History

The Document History section allows you to view the history of a BOD within the Business Vault, including the start and end timestamps for each Business Vault component such as the Raw Data Vault or Shredder. You can also monitor whether a BOD was shredded or extracted successfully into a data store.

Note: the history displayed is limited to the past 60 days.

The following information can be viewed on the Document History grid:

- **Component Start Date Time (UTC)**: The start date time stamp for when a BOD has been placed in the Component (Raw Data Vault or BOD mapping/ Shredder In-box). This time is display in Universal Time Coordinated (UTC) format.
- **Component End Date Time (UTC)**: The completion date time stamp for when a Component is complete. In the Raw Data Vault Component, this is the date that the BOD has been successfully compressed and stored in the Raw Data Vault. For a BOD mapping/Shredder Component, this is the date that the shredding or extracting of a BOD is complete. This time is display in Universal Time Coordinated (UTC) format.
- **Component: Raw Data Vault** or **Shredder** is shown. For the Raw Data Vault component, the status is Success. This indicates that the BOD was compressed and stored successfully in the Raw Data Vault. The page does not show BODs that are not successfully stored in the Raw Data Vault. When the Raw Data Vault cannot process a BOD, that BOD is not stored in the Raw Data Vault. A Confirm BOD is also sent to the source system. You cannot view the Confirm BOD from the Business Vault application.
- **Data Store**: For the Raw Data Vault component, this shows the Raw Data Vault label. For the BOD mapping/Shredder component, this shows the name of the data store that is set up on the Data Stores page.
- **Status**: Indicates the status, Success or Failure.
- **BOD Mapping Component**: For the BOD Mapping or shredder component, the status is either **`Success`** or **`Failure`**. A status of **`Success`** indicates that the BOD was shredded or processed successfully and data from the BOD was populated to the relational database tables. A status of **`Failure`** indicates that the BOD was not processed and errors were encountered. Go to the **Data Stores Monitoring** page to view errors for failed data stores.

In order for BODs to be extracted or shredded successfully into relational data stores, the data store must be activated with one or more BOD mappings that map BOD elements to data store tables and columns.

See Data stores on page 25.

Raw Data Vault component

For the Raw Data Vault component, the status is Success. The status indicates that the BOD was compressed and stored successfully in the Raw Data Vault. When the Raw Data Vault cannot process a BOD, that BOD is not stored in the Raw Data Vault. A Confirm BOD is also sent to the source system. You cannot view the Confirm BOD from the Business Vault application.

Data Stores Monitor and Replays Monitor

The **Data Stores Monitor** page allows you to monitor data stores. The **Replays Monitor** page allows you to view replay operations. These pages display a count for BODs by processing status. Each page includes a dynamic date and time range that you can use to filter the results when troubleshooting.

You can use these pages to monitor BODs with an active BOD mapping definition. You may see a discrepancy in the counts provided on these pages from the confirmation dialog you received when running a replay. This may be because one or more BOD mappings are deactivated. The BOD is not processed or in error and is ignored by the Business Vault. Additionally, if the system finds BODs to process after you run the replay, then the count can be different.

You can find data stores or replays for these time frames:

- Last 15 minutes
- Last 30 minutes
- Last 1 Hour
- Last 4 hours
- Today or the last 24 hours
- All replays or data stores in history
- Custom date and time range

Note: If you select all replays or the custom date and time range, then the replay state and counts displayed may not be accurate. Errors are only displayed for the past 60 days.

The **Data Stores Monitor** and **Replays Monitor** pages show you the total number of errors. When looking at a specific data store or replay, you can drill down to view these errors in more detail.

Only errors for the past 60 days are displayed. If you specify a date and time filter, or a filter for BOD type, then the replay status and counts displayed on the **Replays Monitor** page are not accurate. Select **Data Store Management > Replays** to see the configuration master list for an accurate representation of the replay status.

Using the Data Stores Monitor or Replays Monitor

1. Select **Monitoring > Replays Monitor** to monitor replays and drill down to errors. The default view shows the most recently updated active data stores first.
2. Select **Monitoring > Data Stores Monitor** to monitor data stores and drill down to errors. The default view shows replays that have errors first, followed by replays that have most recently run in descending order.
3. Change the value in the **Date Range** field to view data stores or replays from another date and time range. Specify a time frame to filter your data stores or replays:
   - Last 15 minutes
   - Last 30 minutes
   - Last 1 Hour
   - Last 4 hours
   - Today (Default)
   - All

- Custom

Note: If you select all or the custom range, then the replay state and counts displayed may not be accurate. Errors are only displayed for the past 60 days.

4 You can specify a **BOD Type** to filter your data stores or replays based on a specific BOD type. The list contains the Infor standard BODs.

5 Click **Search**. The data stores or replays are displayed based on your search criteria.

You can view this information for the data store and replay operation:

- Data store and replay name
- The status of the data store and replay
- The date and time the data store and replay was last activated (in UTC)
- The number of BODs that have successfully processed
- The number of BODs that are unprocessed
- An error count for the BOD processing

Reviewing errors

You can select a specific data store or replay to view errors. Errors can occur for different reasons, for example:

- A database I/O error occurred. This includes connection, data truncation, or deadlock errors.
- The BOD mapping data is not valid.
- The XPath is not supported by the Business Vault. For example, there is no validation that prevents mixing and/or operators inside parentheses or using nested parentheses when you specify an XPath. This will cause an error when the BOD is shredded.
- The BOD is missing key data such as a primary key element.
- A column is not set to NULLABLE and no data is mapped to it. When the BOD mapping tries to insert a record, an error occurs. Change the database column to accept NULLs in the database or add a mapping to the column.
- Data is not specified, for example, tenant.
- If a field in the BOD is part of the key but does not have a value and is NULL, then an error occurs.
- A data type mismatch is present. For example, the BOD XML node for the column is defined for alpha characters but the BOD mapping for the column is to set to a column type of date. If there is a data type mismatch, the BOD will not shred.
- A custom mapping keyword is specified with an XPath or column that is outside of the BOD flattening area for the table.
- The first level of the XPath cannot contain an explicit verb. For example, if you specify SyncAssetMaster, the BOD will not shred.
- A maximum variation table is specified but the noun metadata does not contain the VariationXPath.
- A maximum variation table is specified but the BOD does not contain a VariationID attribute.
- The noun metadata is incorrect, for example, an invalid XPath is specified in the noun metadata.

  To view the noun metadata file details for processed nouns, select **Administration > Noun Metadata**.

  See Viewing processed noun metadata on page 53.
- A field in the BOD is too long. A data truncation error is received when the BOD is shredded.

On the **Data Stores Monitor** and the **Replays Monitor** pages, the **Errors (Handled / Unhandled)** column is displayed. This column provides the error count for all handled and unhandled data stores and replays.

1. Click the hyperlink on the **Errors (Handled/Unhandled)** count to show the error details. The specific errors for the data store or replay that you selected are shown on the **Errors** page.
2. To filter your errors, click **Error Category** in the header of the **Errors** page. The default is **`Unhandled`**. The options are:

Option	Description
All	Includes Handled and Unhandled errors.
Handled	Includes errors that are marked as Handled. No action is required.
Unhandled	Includes errors that are marked as Unhandled. Action is required.

3. Click **Drill Down** to go to the **Error Details** page. This page shows the error and the BOD XML.

   At the bottom of the **Errors** page, view the **Error Date**, **BOD Type**, **Raw Data Vault ID**, and the **Error Message**.
4. Select one or more rows. Mark the errors as **`Handled`** or **`Unhandled`**.

   Note: When you mark an error as **`Handled`**, the error is not deleted but is marked as acknowledged. You can also use the **Mark all as Handled** function, which sets all errors to **`Handled`**.
5. Click **Drill Down** to view more details for error messages and the BOD XML.

   In the header of the **Details** page, the errors are displayed, such as the error date and error message. You can mark the error as **Handled** or **Unhandled** directly from the Details page.
6. Click the **Error Message** tab to show the reason why the error occurred (the stack trace error).
7. Click the **Next Error** arrow to advance to the next error.
8. Click the **Original Message** tab to show the BOD XML for the error.

   You can use the copy function to copy the XML into a text editor such as Notepad.

Appendix A: Infor Business Vault version details

Product version details and your system settings are available by selecting **Administration > Version Details** within the Business Vault application.

The information includes:

- Release version of the Business Vault and whether you are running Business Vault Standard or Enterprise Edition.
- Browser and browser version you are running, for example, Browser: Mozilla 5.0 Windows
- Operating system you are running, for example, OS:Win32
- Language of your browser
- Whether cookies are enabled in your browser
- Internal build number (SVN) for the Business Vault. This is helpful when troubleshooting errors in the Business Vault.

Appendix B: Viewing processed noun metadata

The BVAdmin role can view processed noun metadata on the **Noun Metadata** page under the **Administration** menu option.

1. Log in to Business Vault as BVAdmin.
2. Select **Administration > Noun Metadata**.

   This information is displayed:

   - Noun Name: A noun is a set of business data contained in a BOD. The noun represents the properties of one business object, for example, Sales Orders.
   - Type: The type of noun for example, Master Data, Transactional Data, and Balance Data.
   - Version: The version of the noun from the Infor ION Registry, for example, 2.12.1.
3. Click **drill-down** to view more noun metadata details.

   This information is displayed:

   - Noun Name
   - Type
   - Version
   - IDXPath
   - IDAccounting Entity XPath
   - ID Location XPath
   - Display ID XPath
   - Accounting Entity XPath
   - Location XPath
   - Revision XPath
   - Variation XPath
   - Status XPath
   - Document Data XPath
   - BOD ID XPath
   - Batch ID XPath
   - Reference Key XPath
   - Description XPath

Appendix C: XPath

XPath is a query language used for selecting nodes and data elements from an XML document. XPath can also be used to perform limited conditional queries. XPath is used to extract information from the BOD and populate database tables.

You can view data stores and BOD mappings for the Infor Business Vault Base Data Store. You can modify the XPath and Default Value for user areas and classification codes for the Base Data Store.

Note: The Business Vault supports a subset of the XPath functionality. Many commonly used XPath constructions are not supported. For example, the double slash operator (//), `//ShipmentHeader/DocumentID` is not supported. Additionally, the namespace prefixes are treated as raw data strings. If the XML does not contain the prefix, then the XPaths will not match.

Using wildcards

When you define an **XPath**, it must be the full **XPath**, including the root node. Wildcards can be used. The asterisk (*) represents a wildcard. The wildcard is a supported feature when it replaces a full node.

A valid wildcard example is: `/*/ShipmentHeader/DocumentID/ID`.

You cannot mix a wildcard with text or attributes within a node. The wildcards in these examples are not supported:

- `/*Shipment/*/DocumentID/ID`
- `/*/DataArea/Shipment/ShipmentHeader/*[@agencyRole='shipper']/ID`

The root node usually includes a verb and noun, for example, `SyncShipment`. Therefore, the XPath usually begins with a wildcard. If you use the wildcard in place of the root node, then the Business Vault can extract or shred the XML independently of the verb.

Conditional processing

This section describes conditional processing, including the use of predicates and operators.

Using predicates

Predicates are used to find a specific node or a node that contains a specific value. Predicates are embedded in square brackets.

In this XPath example, **`[@type='Actual']`** is the predicate: `/*/DataArea/SalesOrder/SalesOrderHeader/Costing[@type='Actual']/Amount`.

Using the "and" keyword

To specify multiple attribute values in a single predicate, use the **`and`** keyword operator. This is an example of a predicate that contains **`and`**. The predicate is `[@type='Actual' and @rateCode='burden']: /*/DataArea/SalesOrder/SalesOrderHeader/Costing[@type='Actual' and @rateCode='burden'] /Amount`.

Note: Both the `type` and the `rateCode` attributes are required. The values of these attributes must be **`Actual`** and **`burden`**.

Using the "or" keyword

Use the **`or`** keyword operator to specify alternative attributes and values in a single predicate. The **`or`** conditions are evaluated in order. When a condition is true, the predicate is true. If none of the **`or`** conditions are true, then the predicate is false. The number of conditions that a predicate can include is unlimited. You can use the **`not`** keyword with **`or`** conditions.

These are examples:

```
/*/*/Shipment/ShipmentItem/Element[@attr1='aaa' or @attr2='bbb']/ChildElement
```

- **`[@attr1='aaa' or @attr2='bbb']`** is the predicate that contains the **`or`** keyword in the similar to attributes-based conditions. You can specify a predicate that is based upon an element's child element and the selection of a child's sibling. To specify the XPath of the child element, you can use the **`or`**, **`and`**, and **`not`** operators. You can use the same patterns as attribute predicates.
- You cannot mix the attributes and child element specifications within the same predicate. In-line validation will occur on the user interface to ensure that this does not happen. You can specify these elements separately. A single XPath can include only one child element specification in the predicate.
- If attr1 is aaa, then the predicate is true. If the predicate is false, then att2 is evaluated. If attr2 is bbb, then the predicate is true; otherwise, it is false.

```
*/*/Shipment/ShipmentItem/Element[@attr1='aaa' or @attr2='bbb' or attr3='ccc' or attr4='ddd' or attr5='eee']/ChildElement
```

- **`[@attr1='aaa' or @attr2='bbb' or attr3='ccc' or attr4='ddd' or attr5='eee']`** is the predicate that contains the**`or`** keyword in the XPath.
- Multiple attributes are evaluated. If any of them are true, then the predicate is true. If none of them are true, then the predicate is false.

```
/*/*/Shipment/ShipmentItem/Element[@attr1='aaa' or not(@at
tr2='bbb')]/ChildElement
```

- **`[@attr1='aaa' or not(@attr2='bbb')]`** is the predicate that contains the **`or not`**keyword in the XPath.
- If attr1 is aaa, then the predicate is true. If the predicate is false, then attr2 is evaluated. If attr2 is a value other than bbb, then the predicate is true; otherwise, it is false.

Using the "and" and "or" keyword in the same predicate

You can specify an XPath predicate where one of the two operands of a single **and** operator is a parenthesized series of two or more conditions joined by **or** operators. This type of predicate can have one pair of parentheses containing only **and** keywords or only **or** keywords, along with one other non-parenthesized **and** or **or** keyword.

These examples are supported:

- `/a/b/c [(@d='1' and @e='55' and @f='4' and @g='2') or @d='4']`
- `/a/b/c [(@d='1' or @e='55' or @f='4' or @g='2') and @d='4']`
- `/a/b/c [@d='4' and (@d='1' or @e='55' or @f='4' or @g='2')]`

If the operators inside of the parentheses are the same as the operator outside of the parentheses, then the parentheses are not relevant. The logical operator **`and`** is associative, and the logical operator **`or`** is associative. For example, if a, b, and c are Boolean variables then `(a or b) or c` is the same as `a or (b or c)`, which is the same as `a or b or c`. The same is true if you replace each occurrence of **or** with **and** in this example.

This functionality is not supported:

- Multiple parentheses

  For example: `/a/b/c [(@d='4' or @d='4') and (@d='1' or @e='55' or @f='4' or @g='2')]`
- Mixed **and** / **or** keywords inside of parentheses

  For example: `/a/b/c [@d='4' and (@d='1' or @e='55' and @f='4' or @g='2')]`
- Nested parentheses

  For example: `/a/b/c [@d='4' and (@t='6' and @x='4' and (@d='1' or @e='55' and @f='4' or @g='2'))]`

The syntax in these examples is not supported:

- `@type in ('Estimated', 'Estimate', 'Planned')`
- `@type = ('Estimated', 'Estimate', 'Planned')`

Note: these syntaxes are not supported because they are the equivalent of this syntax that is supported: `(@type = 'Estimated' or @type = 'Estimate' or @type = 'Planned')`

Note: this list of non-supported functionality is not exhaustive. You should assume that any other XPath functionality is not supported.

Using the "not ( )" keyword

You can use the **not( )** keyword operator with the **and** or **or** keyword operators. This is used to specify conditions where an XPath does not contain a certain attribute or an attribute does not equal a certain value. You cannot use **and** and **or** operators in a single predicate.

These are examples of the **not( )** keyword:

- `/*/DataArea/SalesOrder/SalesOrderHeader/Costing[not(@type='Actual')]/Amount`

  The XPath selects the Amount node, where the Costing node contains the type attribute that is not equal to **Actual**.

- `/*/DataArea/SalesOrder/SalesOrderHeader/Costing[not(@type)]/Amount`

  The XPath selects the Amount node, where the Costing node does not contain the type attribute, regardless of its value.

- `/*/*/Shipment/ShipmentItem/Element[@attr1='aaa' or not(@at tr2='bbb')]/ChildElement`

  If attr1 is **aaa**, then the predicate is true. If it is false, then attr2 is evaluated. If attr2 is equal to anything except**bbb**, then the predicate is true. Otherwise, it is false.

- `/*/*/Shipment/ShipmentItem/Element[not(@attr1='aaa') and not(@attr2='bbb') and attr3='ccc']/ChildElement`

  If attr1 is not **aaa** and attr2 is not **bbb** and attr3 is **ccc**, then the predicate is true. If any of these three conditions are false, then the predicate is false.

Specifying the "name" and "name and value" of children of a node

Similar to attributes-based conditions, you can specify a predicate based upon the child element of and the selection of a child's sibling. To specify the XPath of the child element, you can use the **or**, **and**, and **not** operators using the same patterns as attribute predicates.

You cannot mix attributes and child element specifications within the same predicate. You can specify these elements separately. A single XPath can include only one child element specification in the predicate.

These are examples:

`/*/*/Shipment/ShipmentItem/Element[ChildElement='aaa']/OtherChild`

- **[ChildElement='aaa']/OtherChild** is the predicate that contains the conditional child element and its sibling in this XPath. The value of `OtherChild` is obtained if the parent element, `Element has a child element,ChildElement` with the value of **aaa**.
- This XML code is evaluated for the XPath in this example:

```
<SyncShipment>
  <DataArea>
    <Shipment>
      <ShipmentHeader>
       ...
```

```
      </ShipmentHeader>
      <ShipmentItem>
        <ItemID>
          <ID>ID-5</ID>
        </ItemID>
        <Element>
         <ChildElement>bbb</ChildElement>
         <OtherChild>NOTDesiredValue</OtherChild>
         <AnotherOtherChild>A special value</OtherChild>
        </Element>
        <Element>
         <ChildElement>aaa</ChildElement>
         <OtherChild>DesiredValue</OtherChild>
         <AnotherOtherChild>bbb</OtherChild>
        </Element>
        <Element attr1=”aaa”>
         <ChildElement>aaa</ChildElement>
         <OtherChild>2ndDesiredValue</OtherChild>
         <AnotherOtherChild>bbb</OtherChild>
        </Element>
        ...
     </ShipmentItem>
```

- The **DesiredValue** value is the result of the evaluation of the XPath that is:`/*/*/Shipment/ShipmentItem/Element[ChildElement='aaa']/OtherChild`.

```
/*/*/Shipment/ShipmentItem/Element[ChildElement='aaa' or AnotherChildElement='bbb']/OtherChild
```

The result is **`NOTDesiredValue`**.

```
/*/*/Shipment/ShipmentItem/Element[ChildElement='aaa' and AnotherChildElement='bbb']/OtherChild
```

The result is **`DesiredValue`**.

```
/*/*/Shipment/ShipmentItem/Element[ChildElement='aaa' or not(AnotherChildElement='bbb')]/OtherChild
```

The result is **`DesiredValue`**.

```
/*/*/Shipment/ShipmentItem/Element[ChildElement='aaa' or AnotherChildElement='bbb'][@attr1='aaa']/OtherChild
```

This example includes two predicates: a predicate for the child element and a predicate for the attributes. The XPath is found when these conditions exist:

- The Element contains an attribute called attr1 with a value of**`aaa`**.
- To select the XPath called `OtherChild`, a child element called `ChildElement` must have a value of **`aaa`** or a child element called `AnotherChildElement` must have a value of **`bbb`**. The result is **`2ndDesiredValue`**.

Global occurrence XPath support

You can specify global occurrence for each **Flattening Area**. Enclose the entire XPath in parentheses, followed by a set of square brackets. The brackets include an integer from 1 to 999 to specify the occurrence number.

These are examples:

- (/A/B/C) [1] - First occurrence only. This is same as /A/B/C, as the default is always the first occurrence.
- (/A/B/C) [2] - Second occurrence only.
- (/A/B/C) [12] - 12th occurrence only.
- (/A/B/C) [444] - 444th occurrence only.

Note: Individual levels of occurrence are not supported.

XPath examples

This section includes additional XPath examples.

Example without constraint

XPath column: `SalesOrder/SalesOrderHeader/Status/Code`

SalesOrder BOD line for the XPaths : `<Code listID="Sales Order Status">Closed</Code>`

Value results: Closed = `SalesOrder/SalesOrderHeader/Status/Code`

Example with constraint

XPath column: `SalesOrder/SalesOrderLine/BaseCurrencyAmount`

XPath_Constraint column: `[@type='ExtendedAmount']/Amount`

Concatenated XPath: `SalesOrder/SalesOrderLine/BaseCurrencyAmount[@type='ExtendedAmount']/Amount`

SalesOrder BOD line for the XPaths:

```
<BaseCurrencyAmount type="ExtendedAmount">
<Amount currencyID="USD">101357.13</Amount>
</BaseCurrencyAmount>
<BaseCurrencyAmount type="TotalAmount">
```

```
<Amount currencyID="USD">201358.13</Amount>
</BaseCurrencyAmount>
```

Value results: 101357.13 = `SalesOrder/SalesOrderLine/BaseCurrencyAmount[@type='ExtendedAmount']/Amount`

Additional XPath examples

This is an extract of an XML document that is referenced for these examples of supported XPaths.

```
<SyncSalesOrder>
  <DataArea>
    <SalesOrder>
      <SalesOrderHeader>
 <BillToParty>
          <PartyIDs>
            <ID accountingEntity="AE-3">ID-4</ID>
          </PartyIDs>
          <Name>Supply Chain Cooperative</Name>
          <Location>
            <Address>
              <AddressLine sequence="1">1390 Enclave Pkwy</AddressLine>
              <AddressLine sequence="2" />
              <AddressLine sequence="3" />
              <CityName>Houston</CityName>
             <CountrySubDivisionCode listID="CountrySubDivision">TX</Coun▶
trySubDivisionCode>
              <CountryCode listID="Country">US</CountryCode>
              <PostalCode listID="PostalCode">77077</PostalCode>
            </Address>
          </Location>
        </BillToParty>
 <BaseCurrencyAmount type="ExtendedAmount">
          <Amount currencyID="CUR-4">8936.97</Amount>
        </BaseCurrencyAmount>
        <Costing type="Actual" rateCode="Burden">
          <Amount currencyID="CUR-19">9577.32</Amount>
        </Costing>
```

- `/*/DataArea/SalesOrder/SalesOrderHeader/BillToParty/PartyIDs/ID`

  Result: ID-4
- `/*/DataArea/SalesOrder/SalesOrderHeader/BillToParty/PartyIDs/ID/@accountingEntity`

  Result: AE-3
- `/*/DataArea/SalesOrder/SalesOrderHeader/BillToParty/Name`

  Result: Supply Chain Cooperative

- `/*/DataArea/SalesOrder/SalesOrderHeader/BillToParty/Location/Address/AddressLine[@sequence='1']`

  Result: 1390 Enclave Pkwy
- `/*/DataArea/SalesOrder/SalesOrderHeader/BillToParty/Location/Address/AddressLine[@sequence='2']`

  Result: "" (Empty String or null)
- `/*/DataArea/SalesOrder/SalesOrderHeader/BillToParty/Location/Address/AddressLine[@sequence='3']`

  Result: "" (Empty String or null)
- `/*/DataArea/SalesOrder/SalesOrderHeader/BaseCurrencyAmount[@type='ExtendedAmount']/Amount`

  Result: 8936.97
- `/*/DataArea/SalesOrder/SalesOrderHeader/BaseCurrencyAmount[@type='ExtendedAmount']/Amount/@currencyID`

  Result: CUR-4
- `/*/DataArea/SalesOrder/SalesOrderHeader/Costing[@type='Actual' and @rateCode='burden']/Amount`

  Result: 9577.32
- `/*/DataArea/SalesOrder/SalesOrderHeader/Costing[@type='Actual' and @rateCode='burden']/Amount/@currencyID`

  Result: CUR-19

Appendix D: Frequently asked questions

This section contains frequently asked questions regarding Infor Business Vault.

General questions

This section contains general questions regarding the Business Vault administration pages.

Are data stores and BOD mappings required for Analytic Modeling?

BOD mappings are not required for Analytic Modeling. If BOD mappings are set up, then they are used to obtain metadata that is used for locale-specific values and to extract the maximum variations for BOD data to publish for analysis purposes.

See the *Infor Business Vault Analytic Modeling Guide*.

What version of Infor ION is supported?

Infor ION Version 11.0 and higher are supported with the Infor Business Vault Standard and Enterprise Edition.

Is a document flow in ION required?

Each ERP must define a document flow within ION Connect. A document flow is a sequence of activities that send or receive documents. Document flows are event-driven. When a document is published by an application, the next step in the flow is triggered. Each ERP must determine which application is the start and end point.

Is a connection point in ION required?

A connection point must be setup in ION, from the source system ERP to ION, for BODs to be routed to ION. When you configure and activate a connection point in ION, specify a name for the connection point with an optional description. You must also enter a Logical ID Type. Select a Type of **`Infor Application`**.

To setup a Business Vault connection point, select **Infor Application** from the drop-down list. Specify all of the parameters of the Business Vault application. The tenant is not required in the connection point, and is not desirable. If the tenant is left blank, then a single connection point can be re-used by

multiple document flows, which can be setup for a tenant. On the **Connection** tab, specify your database connection parameters. Select all of the Documents you want to add on the **Documents** tab.

See the *Infor ION Desk User Guide*.

Does the Applications feature apply to data store management?

The Applications feature applies to Business Vault Enterprise Edition for analytic modeling functionality. Business Vault Standard Edition does not include this feature.

See the *Infor Business Vault Analytic Modeling Guide* for more information.

Does the Applications feature apply to data store management?

The Applications feature applies to Business Vault Enterprise Edition for analytic modeling functionality. Business Vault Standard Edition does not include this feature.

See the *Infor Business Vault Analytic Modeling Guide* for more information.

BOD questions

This section contains questions regarding the Business Object Documents (BOD).

What BODs does the Business Vault support?

Any of the standard Infor BODs are supported. Only process and sync verbs are supported and only sync verbs are extracted or shredded into data stores. Additionally, the Business Vault supports Huge BODs. Huge BODs are one noun instance that is sent in multiple BODs. The Business Vault also supports multi-document BODs, which are single BODs that contain multiple noun instances of the same noun.

How do I route BODs to the Business Vault?

Only BODs defined in document flows to a Business Vault connection point are routed to the Business Vault. Additionally, you must ensure that you have published BODs from the ERP or Source System. Each ERP has its own process for publishing BODs from that ERPs outbox to the Business Vault.

Contact a representative of the ERP for instructions on how to push BODs from the ERP. To check if BODs have made it to the Business Vault's Raw Data Vault, use the Document Trace page.

Is the Business Vault the System of Record (SOR) for any documents?

The Business Vault is not the System of Record (SOR) for any documents.

What happens if the Business Vault receives more than one version of a BOD?

Current data store design includes Variation ID in the primary keys. All variations of the BOD are stored.

The same BOD with the same data can be received more than once, one right after the other. How is this handled by the Business Vault?

If the same BOD is received with the same Variation ID, then the BOD data is overwritten for the data store.

Note: If no Variation ID is sent, then the Business Vault assumes a value of 0. Only the most recently received BOD is stored.

Should all the BODs from my Outbox be consumed by the Business Vault?

Only BODs defined in document fows to a Business Vault connection point are routed to the Business Vault.

Does Business Vault send the Show Verbs to a specific application instance? Can Business Vault handle Show Verbs routed to it?

Show Verbs are supported. Only Sync/Show Verbs are shredded or extracted into data stores.

What is the Raw Data Vault?

The Raw Data Vault contains all of the published BODs that are delivered to Business Vault from Infor ION.

Can I purge BODs that are stored in the Raw Data Vault?

You cannot purge BODs that are stored in the Raw Data Vault. The Business Vault purges error history on the Data Stores and Replays Monitor pages and the Document Trace history only. All BODs published are stored in the Raw Data Vault with no purge process.

When using the Document Trace page, am I searching a data store or the Raw Data Vault?

The **Document Trace** allows you to search all BODs in the Raw Data Vault as published by the source system. Search results are limited to 500 documents.

Why can’t I see the history for a BOD from a year ago on the Document Trace page?

The Business Vault stores all BODs in the Raw Data Vault. However, the Document History portion of the Document Trace page only shows the history of the document in the past 60 days.

What happens if the Business Vault cannot save a BOD to the Raw Data Vault?

If the Business Vault cannot save a BOD to the Raw Data Vault, then a Confirm BOD is sent back to the ERP. If the Business Vault saves the BOD to the Raw Data Vault but it cannot be shredded or extracted into the data sore, then no confirm BOD is sent.

Can Business Vault extract or shred any standard BODs into a data store?

The Business Vault handles BODs that contain a single noun instance per document OR BODs that contain multiple instances per document.

What is the different between a noun, BOD document, and noun metadata?

A BOD, business object document, is a message that is sent from an application to one or more other applications. A BOD message informs an application of a change to a business object that took place in another application, or requests an application to update a business object.

A BOD contains a noun and a verb. A noun is a set of business data contained in a BOD. The noun represents the properties of one business object. A noun is a set of business data contained in a BOD. The noun represents the properties of one business object. Examples of nouns are SalesOrder and Item.

Noun metadata is a set of metadata that defines BODs, such as the nouns, the verbs for each noun, the hierarchy of elements for each noun, and the properties of the nouns and its elements. Examples of noun metadata includes but is not limited to: noun name, IDXPath, AccountingEntityIDXPath, LocationIDXPath, and VariationXPath.

You can use the **Noun Metadata** page to view the noun metadata and determine if the noun has been successfully processed by the Business Vault. You can view additional noun properties.

What version of the noun metadata is supported by the Business Vault?

The most recent noun metadata for all standard Infor BODs is delivered with the Infor Business Vault installation.

How can I view the noun metadata?

The Administration menu option includes a Noun Metadata page that shows all of the noun metadata that has been successfully processed by the Business Vault.

Does the Business Vault support Huge BODs?

The Raw Data Vault captures and stores Huge BODs. Huge BODs are one noun instance that is sent in multiple BODs. For example, the Source System GL Movement BOD is a hige BOD. This BOD is delivered in a batch of BODs and must be processed sequentially. Huge BODs may take longer to process..

You can search for Huge BODs on the **Document Trace** page.

Which verbs are supported?

Process and Sync verbs are supported. Only Sync/Show Verbs are shredded into Data Stores.

Replay questions

This section contains replay questions.

What is a replay?

A replay allows you to replay a selection of BODs from the Raw Data Vault to a data store.

See Replays on page 14.

When you run a replay, are you overriding the BODs in the data store or deleting the BODs and re-inserting?

When you run a replay, you are replaying a selection of BODs from the Raw Data Vault to a data store. The Business Vault handles a replay of a BOD like any other BOD. The Business Vault always performs a delete, even if there is nothing to delete. Then the Business Vault performs an insert of the BOD. If you replay or send the same BODs over and over, then the result is the same as the first time the BOD is sent.

How can I confirm a replay of my documents was successful?

After you run a replay, access the **Replays Monitor** page to track and monitor the results of the replay process. You can track the number of BODs processed and unprocessed, and view the errors that are associated with the extracted BODs. You can also use the Replays list where you configure the replay to view the same information.

Can I re-run the same replay more than once?

On the Replay configuration page, you can duplicate a replay definition and then run the new replay definition. You cannot re-run an existing replay definition from the Replay configuration page or the Replays monitor page.

Can I stop or cancel a replay after it is running?

You cannot stop a replay after it is running. You must let the replay finish running and then you can set up a new replay. You can use the duplicate replay function.

The message `0 BODs Processed/Unprocessed` is displayed on the Data Stores Monitor or Replays Monitor page. How do I populate the Business Vault with BODs from the ERP?

If the count for `BODs processed/ unprocessed` is displayed as zero, then the BOD has not been pushed from the ERP. Each ERP has its own process for publishing BODs from the ERPs outbox to the Business Vault. Contact a representative of the ERP for instructions on how to push BODs from the ERP.

Only BODs that you have defined in Document Flows to a Business Vault Connection Point are routed to the Business Vault. Ensure that Document Flows and Connection Points are setup as well.

The BOD may have encountered an error. Reference the Raw Data Vault log to see if there was an error storing the BOD in the Raw Data Vault. If the BOD did not process to the Business Vault, then no error shows in the Raw Data Vault log. You can use ION functionality to view error BODs.

An additional reason the count is zero although you have pushed BODs and have active connection points and document flows, is that you do not have the Raw Data Vault or BOD mapping service installed or turned on. BODs sit in the Business Vault In-box. They do not display on the **Document**

Trace page unless the Raw Data Vault service is installed and running. If you do not have the BOD Mapping service installed and running, then shredding or extracting of the BODs into a data store will not occur.

Database connection questions

This section contains questions regarding database connections.

What is a database connection?

A database connection definition contains database information and connection details. A standard database connection is associated with data stores and BOD mappings. A standard database connection is also called a source database connection. It defines the source of data to use when building dimensions, hierarchies, and cubes. The database connection is used in analytic modeling to define source and target databases.

How do I access my database connections?

In the Cloud Edition of the Business Vault, the database connections are predefined. Contact your system administrator.

Data store questions

This section contains questions regarding the Business Vault data stores.

What is a data store?

A data store is the relational database into which BOD data is extracted.

See Data stores and BOD mapping overview on page 19.

Why is the Data Stores and BOD mapping page read-only?

Infor-Delivered Content for the Infor Business Vault Base Data Store is read-only. The exceptions are the user areas and classification codes, which can be edited through the XPath and Default value columns. If you are unable to edit these columns, ensure that you have been assigned the BVUser role. BVUser is required to update data stores and BOD mappings.

What happens when a Data Store is activated?

After a data store is activated, any BODs received by the Business Vault are routed to and processed by the BOD mapping and populated into the data store.

Can I re-activate a data store or BOD mapping that is already activated?

Yes, a data store or BOD mapping that is in an active status can be re-activated. We recommend that you re-activate to ensure all of the validations take place and to ensure that BODs are processed into the data store.

How can I confirm that a data store has been activated successfully?

View the Data Stores and BOD Mappings page. When you activate the data store, you will receive an error if there are any issues. Additionally, view the Data Stores Monitor and Replays page in the Monitoring menu option. You can monitor the BODs being extracted into the data stores. You can use the monitor to track the number of BODs processed, unprocessed, and view the errors that are associated with the extracted BODs.

Why is my Data Store activation failing?

Failure to activate a data store may be caused by a BOD mapping validation error such as invalid column or table name in the BOD mapping. Additionally, ensure you have a valid database connection with your system administrator.

What is an Infor data store?

An Infor data store contains Infor-delivered content via BOD mappings. The data is locked and cannot be changed. This provides protection against inadvertently changing Infor content.

Note: You can customize Infor-delivered content by modifying user areas and classification codes for data stores and BOD mappings.

How do I extend an Infor data store?

You can extend an Infor data store by modifying columns with user areas and classification code columns. Use the XPath and Default Value fields in the Business Vault user interface for an Infor data store.

Can I setup a separate data store for each ERP/Accounting Entity?

No, you cannot setup separate data stores for each ERP or accounting entity.

BOD Mapping questions

This section contains questions regarding the Business Vault BOD Mappings.

What is a BOD mapping?

A BOD mapping provides the instructions to parse information from a BOD in a data store.

Are BOD mappings ERP or application specific?

No.

What are the import and export options for on the BOD mappings data grid?

The Import option on the BOD Mappings data grid allows you to import BOD mapping Microsoft Excel spreadsheets via a `.zip` file for Infor-Delivered Content. After you import Infor-Delivered Content, one or more BOD mappings can be exported using the Export option.

Are data stores and BOD mappings required for Analytic Modeling

No, BOD mappings are not required for Analytic Modeling. BOD mappings can be used to obtain metadata for locale-specific values and to extract the maximum variations for BOD data to publish for analysis purposes.

For more information on analytic modeling, see the *Infor Business Vault Analytic Modeling Guide*.

What is the difference between a BOD mapping and a table or column mapping?

A BOD mapping maps BOD elements to data store tables and columns. A table mapping allows you to specify a database table that receives the mapped data. Table mappings are added, after the required BOD mapping information is complete. A column mapping allows you to specify all of the column information. A column mapping is added after the required table mapping information is complete.

If data has already been shredded into a database table and then the BOD mapping is updated, what do I have to do?

If you have already extracted or shredded data into a database table and the BOD mapping is updated, you must re-activate the data store. When you activate a data store, the system validates that the BOD mapping has the same database tables and columns on the user interface as in the target database. If this is not the case, than an error is displayed when you activate your data store.

I activated a BOD mapping, but nothing is extracted or shredded into the data store.

After you activate a BOD mapping, you must activate the data store. The activation and deactivation of BOD mappings is separate from data store activation. After you activate the data store, any BODs that are received by the Business Vault are routed to and processed by the BOD mapping and populated in the data store.

What is the difference between the Maximum Variation Table option and the Highest Variation Only option?

You can use the Maximum Variation Table to maintain a second table that duplicates selected columns for the highest variation of a BOD. The Highest Variation Only option stores only the highest variation of the BOD in the Main table.

What are custom mapping keywords?

Specialized BOD mappings in the Base Data Store can be configured with custom mapping keywords. Custom Mappings use keywords to provide specific mapping results to be populated in the database table. Certain Custom Mapping keywords require a valid XPath, while others do not require an XPath. Certain Custom Mapping keywords require variable parameters, in addition to the keyword.

See Custom Mapping Keywords on page 37.

What are the steps required for localizing a BOD mapping?

You must configure your database table for localization. Then you can configure your localized columns in each database table. Additionally, you must select the custom mapping keyword of **`Locale`** for at least one of the columns.

For more information, see Localization on page 36.

Does the Business Vault translate data?

The Business Vault does not translate data. The localized values come from the BODs and are stored in the Data Store tables.

Glossary

accounting entity
An accounting entity is a corporation or a subset of a corporation that is independent for one or more operational functions or accounting functions. You can replay BODs for a specific accounting entity.

analytic modeling
In Infor Business Vault Enterprise Edition, you can use the analytic modeling functionality to design cubes, dimensions, and hierarchies and publish the information to an analytics application such as Infor BI OLAP Server.

BOD
Business Object Document. This is an XML document such as Sales Order, Requisition, or Purchase Order. There are three types of BODs used: Master Data, Transactional, and Balance.

BOD key
BOD elements that make a BOD unique

BOD mappings
Provides the instructions to parse information from a BOD in a data store.

BVAdmin
A security role that has permission to maintain model objects. Model objects include property and entity aliases, custom properties, custom entities, and relationships within the analytic modeling functions. BVAdmin is required to create applications for analytic modeling.

BVUser
A security role for that is required for any user who accesses the Business Vault application.

column
The name of a column in the destination database table.

column size
String that describes the length of the data type. The length of the value depends on the data type specified. This can be referred to as column length.

column type
Data type classification for a column, such as bigint, nvarchar, varchar, datetime2, decimal, int, and bit.

concatenation
A custom mapping keyword that concatenates all the parameter values in the parameter list in a prescribed order.

connection point
Defined in Infor ION so that ION can send documents to the Business Vault application.

custom mapping keywords
Keywords that provide specific mapping results to be populated in the database table for a column.

database connection
Retrieves the data from a database server for a data store and BOD mapping.

data store
Relational databases into which BOD data is shredded for use by reporting or BI applications.

data store management
Feature available in the Business Vault Standard Edition and Enterprise Edition that includes data stores and BOD mapping functionality.

default value
Value automatically assigned to a field to ensure that there are no blank values.

display name
An alias entered for a database table or column by a user.

document
See BOD.

document flows
Defined in Infor ION so that ION can send documents to the Business Vault application.

duration
You can use this custom mapping keyword to convert durations send by an ERP in a BOD to years, months, weeks, days, hours, minutes, seconds, or milliseconds.

enterprise edition
A version of the Business Vault that includes analytic modeling functionality and data store management.

flattening area
The XPath that shows which nodes in the BOD will populate the rows of the database table.

Highest Variation Only
This option is used to store only the highest variation of the BOD version in the Main Table. Only the highest version of the BOD document is stored.

huge BOD
One noun instance that is sent in multiple BODs, for example, th Source System GL Movement BOD. The BOD is delivered in a batch and must be processed sequentially.

Infor data store
See Infor-Delivered Content.

Infor-Delivered Content
Content that is provided by the Infor, for example, the Infor Business Vault Base Data Store. The content is protected and cannot be changed.

localization
Used to obtain information from an XML element where a language ID attribute exists. A locale column name is required for any table with localized data.

location
This is a single geographical site of an organization that is associated with data or transaction. This can be a warehouse, a manufacturing location, or an office. You can replay a BOD for a specific location.

Maximum variation table
This table contains only the data that is associated with the highest variation of the BOD document is stored.

MH
Message header

not null
Indicates that a column is required.

noun
The BOD or document that is mapped in a BOD mapping, for example, Sales Order or Shipment.

noun identifier (NID)
An internal identifier that makes a noun unique and is not meant for reporting or display. Comprised of a concatenation of these elements: AccountingEntity:Location:ID:RevisionID.

noun metadata
Metadata information for the standard Infor nouns. The minimum entry required for the noun metadata is the noun name and the IDXPath. However, additional metadata is available for the noun such as AccountingEntityIDXPath, LocationIDXPath, and VariationXPath.

null
Indicates that a column is blank or optional.

parent column
Pulls information from a column that is mapped to a related table in a BOD mapping.

primary key
Uniquely identifies a row (column) in a database table. For example, requisition number is the primary key that is used within the requisition document. The primary key is used to join two tables.

Raw Data Vault
Compresses and stores versions of all BODs directed to the Business Vault from ION.

repeatable
Returns multiple nodes from the XPath defined in the XML area column.

replay
On-demand ability to process BODs from the Raw Data Vault into a data store. Eliminates the requirement for source systems republishing historical transactions and master data. Data Store processing is the same whether a BOD is passed to it through a reply or original receipt.

separator
A custom mapping keyword that concatenates all the values in parameter list with a user-entered separator, such as dash or slash.

shredder
See BOD mapping.

source database connection
See standard database connection.

standard database connection
Identifies the source of data to use when building hierarchies, dimensions, and cubes. Also used for data store and the BOD mapping feature.

substring
Use this custom mapping keyword to populate a table column with a substring of a text value for the identified BOD element.

table
The name of the database table that receives the mapped data for example, Sales Order or Sales Order Line table.

table mapping
Contains the database table information, flattening area, and column mappings.

tenant
The container for accounting entities and locations. No data is shared or accessible between two tenants. The default tenant for a Business Vault installation is **`infor`**.

tokenizer
Use this custom mapping keyword to split a value into smaller strings called tokens. Tokens are delimited with a character. Each token is identified by the occurrence of the delimiter. Tokenizer is similar to substring except it uses the delimiter and occurrence count to identify the substring. Substring uses character position to identify the substring.

truncate
Indicates that BOD data can be truncated to fit into the size of a database column.

variation
Indicates if the current column should be included in the highest variation table. This is the most current view of the data, also known as Highest Variation.

variation ID
A BOD element unique integer value that qualifies the BOD to make a particular instance of the BOD unique. This is either a counter maintained by the source system or a date and time stamp converted to an integer value. Each published instance of the BOD has an increasing value in the variation ID.

verb
The action requested for the document (noun). Options include Sync, Show, or Process.

wildcard
An asterisk is used as the wildcard in an XPath to replace a full node.

XML
Extensible Markup Language (XML) is a set of rules for encoding documents in computer readable form.

XPath
A query language for selecting nodes from an XML document. In addition to selecting data elements from the BOD, XPath can be used to compute values or perform limited conditional queries.