



# Infor Business Vault Administration Guide

Release 11.3.x

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## 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 Installation Guide*
- *Infor Business Vault Sizing Guide*
- *Infor Business Vault Analytic Modeling User Guide* (Enterprise Edition only)
- *Infor Business Vault Installation Guide for the Base Data Store*
- *Infor ION Development Guide*
- *Infor ION Desk User Guide*

## 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](mailto:documentation@infor.com).

# Chapter 1: About Infor Business Vault

This chapter describes Infor Business Vault Standard and Enterprise Edition. It includes an overview of the Business Vault and its key features.

## Infor Business Vault Product Overview

The Business Vault Standard and Enterprise Editions include these key features:

### **Data Store Management**

You can use the Business Vault to route Business Object Document (BOD) messages to the Raw Data Vault (RDV). 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 sent the BODs.

You can configure and activate data stores and BOD mappings. Data stores are the relational databases that contain data mapped from the BODs. You can configure custom BOD mappings and import BOD mappings for the Infor Business Vault Base Data Store database. Active data stores process the information from the BODs into the relational databases in real-time, making the data available for operational reports and analysis. 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, and preconfigured dimensions. You can incorporate dimensions into multi-dimensional analysis cubes, where you combine dimensions, measures, 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**  
Configure data stores and BOD mappings. You can create BOD mappings that are based on the contents of the BODs. You can extract the content of these BODs into a schema or data store that can be used for reporting and analytics.
- **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 such as 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 monitoring and troubleshooting pages.

These pages are available:

- **Data Stores Monitor**

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

- **Document Trace**

Search and track BODs that are 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 extracting or shredding the BOD into a 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. You can use the monitor to track the number of BODs processed, unprocessed, and the errors that are associated with the replayed BODs.

- **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**

Contains the database information and connection details. There are two types of database connections: Standard and Target. 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.

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.

Only the BVDatabaseAdmin security role can create, edit, and delete database connections. The BVAdmin role can access the Database Connections page, but only 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.

See *Infor Business Vault Analytic Modeling User Guide*.

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.

- **Applications**

Configure applications that are used to group and organize analytic modeling and data warehouse content. 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 Business Performance Warehouse (BPW). After an application is setup, you can work within one application at a time. You can switch between applications by clicking in the top right corner of the page and selecting a different application. Applications are available in the Infor Business Vault Enterprise Edition only.

- **Noun Metadata**

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

- **Version Details**

Shows information about the Business Vault version and your browser.

- **Settings**

Contains 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 in the hierarchy, dimension, and cube definitions.

## Security roles for Infor Business Vault

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.

## Understanding security roles

These are the security roles for the Business Vault:

- **BVUser**
  - Is required for any user who accesses the application. You must have the BVUser role to log in 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 maintain models or model objects.
- **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 create analytic modeling definitions, publication definitions, schedules, and targets.
  - Has permissions to maintain model objects such as:
    - Property and entity aliases
    - Custom properties
    - Custom entities
    - Relationships within the analytic modeling functions
  - Can access the Database Connections page, to maintain analytic modeling models and remove analytic modeling source database views.
- **BVDatabaseAdmin**
  - Is required to create new data stores and BOD mappings.
  - Can create, edit, and delete database connections. This includes database definition information such as host name, named instance/database name, port number, and user credentials.

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

**Note:** Infor Ming.le/ IFS Administrator privileges are required to configure and assign security 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
- Custom 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. One or more data stores with BOD mappings can be configured and activated. A data store is a relational database to which BOD data is extracted for use by reporting and analytics applications.

These data stores are supported:

- Infor-Delivered Content Data Stores  
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. This extends Infor-delivered content with additional BOD content.
- Custom Data Stores  
These data stores support custom BODs and other client customization.

In the Business Vault application, you create a data store for a specific database connection. After a data store is defined, you can add one or more BOD mappings to the data store. BOD mappings provide the instructions to parse information from a BOD into a data store. You can use the Business Vault user interface to manually enter BOD mappings.

The Business Vault includes a generator wizard that creates BOD mappings from existing BOD instances. This tool eliminates the manual process to enter your BOD mappings and it minimizes errors. A tool is provided to generate a database script to create database tables and columns.

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 Stores Monitor** to check the data stores that have been activated at least once. You can verify that the BODs have processed correctly or whether errors have been encountered when the BOD is extracted into the data store.

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 whether any errors are encountered.

## 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. The noun metadata for all standard Infor BODs is delivered with a Business Vault installation. There may be changes made to the standard Infor BODs between releases of the Business Vault. For example, if you install a new release of the Infor Business Vault Base Data Store, it may contain a new noun or a change to an existing noun.

To implement the noun changes into the Business Vault before the next release of the Business Vault, you must manually apply the changes. To identify the noun metadata changes to the Business Vault, obtain the noun metadata definitions from the Infor BOD team and drop the noun metadata files into the Business Vault Noun Metadata drop folder. The instructions to alert the Business Vault to any standard BOD changes are the same as implementing custom BODs. When you upgrade the Business Vault to a new release level, the noun metadata is upgraded and retained for Infor BODs and Custom BODs.

Select **Administration > Noun Metadata** to view the contents of the noun metadata file.

See [Using custom BODs and changing standard Infor BODs](#) on page 84 for more information.

All of the Infor standard BODs are supported with the exception of the Error BOD. The Business Vault supports Process, Sync, and Show verbs. These BOD types are stored in the Raw Data Vault. Only Sync and Show verbs are extracted into data stores.

When performing an initial load to the Business Vault using Show verbs, you must populate the BOD with a Logical ID (LID). This is specified on the connection point that you create for the Business Vault in ION.

**Note:** You must have this Logical ID for Show verbs to be routed to the Business Vault.

## Custom BODs

A custom BOD is an XML document for data that is not included in a standard Infor BOD. You can use custom BODs to extend Infor-delivered content with additional BOD content, in the Infor Business Vault Base Data Store.

You can create custom BODs if you have custom data in another Infor or third party application that you need to include in a custom report. You create custom BODs in ION and they are routed to the Business Vault through connection points and document flows and stored in the Raw Data Vault. When you define a custom BOD in ION, you must provide additional configuration in the Business Vault to make Business Vault aware of the custom BOD.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

Custom data stores are created to support custom BODs. Custom BODs are extracted or shredded into custom data stores based on BOD mappings. You can use the BOD mapping generator wizard to generate the BOD mappings from custom BODs.

See the *Infor ION Development Guide*.

## 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 in 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, huge BODs, and custom BODs. To route BODs to the Business Vault, you must define connection points and document flows in ION. 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 into this 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 re-publish historical transactions and master data. You can use the **Document Trace** page to search and review the BOD original messages.

## Document Trace

To review specific BODs in the Raw Data Vault, you can use the Document Trace search feature within the Business Vault. This includes searching Infor standard BODs, Huge BODs, or Custom BODs. A simple or advanced 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. The search results are limited to 500 documents.

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

You can define database connection definitions in the Business Vault. A database connection contains the database information and connection details for a source database and a target database.

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. A standard database connection can have models associated with it.

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.

Only the BVDatabaseAdmin security role can create, edit, and delete database connection definitions. This includes connection information such as the server name, database name, and port number.

The BVAdmin security role can access the Database Connections page, to create, edit, and delete analytic modeling models. Additionally, the BVAdmin role can also remove analytic modeling database views. The BVAdmin role can view the database connection definition name, description, and database type.

**Note:** If you make a change to a database connection while a BOD mapping is active for data stores and BOD mappings, then the BOD mapping will continue to process with the previous database connection definition. For the changes to take effect, you must stop and restart the Business Vault User Interface (UI), Raw Data Vault, and BOD Mapping services. You can deactivate and reactivate the data store.

### Standard database connection

Before you define a standard database connection, ensure that the database exists in Microsoft SQL Server. Additionally, ensure that you have these Microsoft SQL Server details to connect to the database using SQL Server authentication:

- Server name
- Database name
- User ID
- Password

For Analytic Modeling, the ODBC URL of the standard database connection is used by Infor BI OLAP Server when dimensions and cubes are published. BI OLAP Server uses the database connection to

query the database in the standard database connection for dimension and cube fact data. The ODBC specified in the database connection must be an ODBC installed on the Infor BI OLAP Server server. The Business Vault default ODBC driver is ODBC Driver 11 for SQL Server. If you can change the ODBC driver, then ensure that the ODBC specified is installed on the Infor BI OLAP Server server.

## Configuring standard database connections

- 1 Log in to Infor Business Vault as BVDATABASEAdmin.
- 2 Select **Administration > Database Connections**.
- 3 Click **New Standard Database Connection** or click **drill-down** to update 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 Specify this information:

### **Name**

Specify a unique name for the database connection.

### **Description**

Optionally, specify a description for the database connection.

- 5 Select the **Parameters** tab. Specify the database connection information:

### **Database Type**

Retain the default of Microsoft SQL Server.

For more information, see the *Infor Business Vault Installation Guide*.

- 6 In the **Parameters** section, select **Basic** or **Advanced**.

In the **Basic** section, specify this information:

### **Host Name**

Specify the name of the server, computer, or machine to which you are connecting. Do not specify localhost as the host name. This can cause issues with Analytic Modeling when publishing for Enterprise Edition.

### **Port Number**

Optionally, specify the port number of the database to which you are connecting.

### **Named Instance**

Optionally, specify the named instance to the database for which you are connecting. You can specify a port number and a named instance.

### **Database**

Specify the name of the database. Create this database manually in Microsoft SQL Server or enter the name of the database created by the Infor Business Vault Base Data Store installation.

See the *Infor Business Vault Installation Guide for the Base Data Store* for additional information.

As you enter values, the URL is displayed. The URL is determined by how the Port Number, Named Instance, and Database are specified.

In the **Advanced** section, specify this information:

### JDBC URL

Specify the JDBC (Java Database Connectivity) URL for the database connection. The JDBC field contents are used by the Business Vault application. The JDBC URL defaults to the URL that is standard for a Microsoft SQL Server installation: `jdbc:sqlserver://[databaseName]=;`. You can override the default JDBC URL. The URL is built as you specify information in the in the Basic section such as Host Name, Port Number, Named Instance, and Database.

If you select the Basic option and specify Host Name, Port Number, and Database, then the JDBC URL is updated to: `jdbc:sqlserver://loc[serverName]:[PortNumber]/[Database Name;instance=[InstanceName]`. **for example**, `example, jdbc:sqlserver://hostname:1433;databaseName=BDS;instanceName=NamedInstance.`

If you specify the Host Name, Port Number, and Named Instance, then the JDBC URL is updated to: `jdbc:sqlserver://HostName:1433;databaseName=;instanceName=NamedInstance`

**Note:** To update the URL, click somewhere else on the screen.

### ODBC URL

Specify the exact ODBC (Open Database Connectivity) URL for the database connection.

The ODBC URL specified is used by Infor BI OLAP Server when dimension and cube facts are published in Business Vault Enterprise Edition. OLAP Server selects dimension and cube fact data from the source database and loads it into the OLAP Server dimension and cube.

The ODBC URL is applicable for the standard, or source, database connection. It is not used for a target database connection to an OLAP Server Load from Source database (also called DBLOAD). The ODBC driver specified must be an ODBC driver installed on the Infor BI OLAP Server. The ODBC driver is not required on the Business Vault server.

The default for the ODBC URL is: `Driver={ODBC Driver 11 for SQL Server};Server=; Database=; schema=bv.` You can override the default ODBC URL.

If you select the Basic option and specify Host Name, Port Number, Named Instance, and Database, then the ODBC URL is updated to: `Driver={ODBC Driver 11 for SQL Server};Server=[ServerName]; [NamedInstanceName]; Database=[DatabaseName]`. **For example**, `Driver={ODBC Driver 11 for SQL Server};Server=ServerName\NamedInstance Name; Database=DBLOAD`

**Note:** If you click Basic after specifying the Advanced URL, then the Advanced URL must be reset to match the basic details. Changes that are made to the Advanced URL are lost.

**7** In the **Connection** section, specify this information:

### User Name

Specify a user name to connect to the database connection. This must be a Microsoft SQL Server Authentication user. Microsoft Windows Authentication users are not supported and do not work in the Business Vault application. Verify that the logon has access to the specified database.

**Password**

Specify a password to connect to the database connection. The password that you specify is encrypted. If you change the connection parameters, such as Host, Port Number, Named Instance, Database or URL, you must re-enter the password, retest the connection, and save.

**Note:** If the user name or password is manually changed in Microsoft SQL Server, then the username and password will not automatically update on this screen. You must manually update the username and password to match the database.

**8 Click Test Connection.**

A Pass message indicates that the connection was successful. If you receive a Fail message, then re-check the connection information specified and retest

**9 Click Save.** The connection is available. If you make additional changes after you save the database connection, you must re-enter the password, retest the connection, and click **Save**.

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

## 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.

## Target database connections

Target database connections are used in analytic modeling and identify the target database for publishing dimensions, cubes, and facts to Infor BI OLAP Server. The target database is the *Load From Source* database that is set up and configured for Infor BI OLAP Server.

See the *Infor BI OLAP Server Administration Guide* for additional information to setup and configure the *Load From Source* database.

Verify these settings in the BI OLAP Server configuration:

- Load from Source Database connection string. The connection string refers to the *Load From Source* database that is associated with the database defined in the target database connection.
- OLAP Server database scheduler settings for:
  - DB Load
  - DB Load polling interval

Before you define a target database connection, verify that a Microsoft SQL Server *Load from Source* database exists. Additionally, verify that you have the Microsoft SQL Server details. These include server name, database name, user ID, and password to connect to the database using SQL Server authentication.

After you create the target database connection, you must set up a publication target definition. The publication target definition specifies the locales in which to publish dimensions and cubes.

## Configuring a target database connection

- 1 Log in to Infor Business Vault as BVDatabaseAdmin.
- 2 Select **Administration > Database Connections**.
- 3 Select **New Target Database Connection** or click **drill-down** to update an existing target database connection.

A target database connection identifies the database into which dimension and cube definitions and data are published.

- 4 Specify this information:

**Name**

Specify a unique name for the database connection.

**Description**

Optionally, specify a description for the database connection.

- 5 Select the **Parameters** tab and specify the database connection information:

**Database Type**

Retain the default of Microsoft SQL Server.

For more information, see the *Infor Business Vault Installation Guide*.

- 6 In the **Parameters** section, select **Basic** or **Advanced**.

In the **Basic** section, specify this information:

**Host Name**

Specify the name of the server, computer, or machine to which you are connecting. Do not specify localhost as the host name. This can cause issues with Analytic Modeling when publishing for Enterprise Edition.

**Port Number**

Optionally, specify the port number of the database to which you are connecting.

**Named Instance**

Optionally, specify the named instance to the database for which you are connecting. You can specify a port number and a named instance.

**Database**

Specify the name of the database. Create this database manually in Microsoft SQL Server or enter the name of the database created by the Infor Business Vault Base Data Store installation.

See the *Infor Business Vault Installation Guide for the Base Data Store* for additional information.

As you enter values, the URL is displayed. The URL is determined by how the Port Number, Named Instance, and Database are specified.

In the **Advanced** section, specify this information:

**JDBC URL**

Specify the JDBC (Java Database Connectivity) URL for the database connection. The JDBC field contents are used by the Business Vault application. The JDBC URL defaults to the URL that is standard for a Microsoft SQL Server installation: `jdbc:sqlserver://[databaseName]=;`. You can override the default JDBC URL. The URL is built as you specify information in the in the Basic section such as Host Name, Port Number, Named Instance, and Database.

If you select the Basic option and specify Host Name, Port Number, and Database, then the JDBC URL is updated to: `jdbc:sqlserver://loc[serverName]:[PortNumber]/[Database Name;instance=[InstanceName]`. **for example**, `example, jdbc:sqlserver://hostname:1433;databaseName=BDS;instanceName=NamedInstance.`

If you specify the Host Name, Port Number, and Named Instance, then the JDBC URL is updated to: `jdbc:sqlserver://HostName:1433;databaseName=;instanceName=NamedInstasnce`

**Note:** To update the URL, click somewhere else on the screen.

**ODBC URL**

Specify the exact ODBC (Open Database Connectivity) URL for the database connection.

The ODBC URL specified is used by Infor BI OLAP Server when dimension and cube facts are published in Business Vault Enterprise Edition. OLAP Server selects dimension and cube fact data from the source database and loads it into the OLAP Server dimension and cube.

The ODBC URL is applicable for the standard, or source, database connection. It is not used for a target database connection to an OLAP Server Load from Source database (also called DBLOAD). The ODBC driver specified must be an ODBC driver installed on the Infor BI OLAP Server. The ODBC driver is not required on the Business Vault server.

The default for the ODBC URL is: `Driver={ODBC Driver 11 for SQL Server};Server=; Database=; schema=bv.` You can override the default ODBC URL.

If you select the Basic option and specify Host Name, Port Number, Named Instance, and Database, then the ODBC URL is updated to: `Driver={ODBC Driver 11 for SQL Server};Server=[ServerName];[NamedInstanceName];;Database=[DatabaseName]`. For example, `Driver={ODBC Driver 11 for SQL Server};Server=ServerName\NamedInstanceName;Database=DBLOAD`

**Note:** If you click Basic after specifying the Advanced URL, then the Advanced URL must be reset to match the basic details. Changes that are made to the Advanced URL are lost.

**7** For the Connection section, specify this information:

**User Name**

Specify a user name to connect to the database connection. This must be a Microsoft SQL Server Authentication user. Microsoft Windows Authentication users are not supported and do not work in the Business Vault application. Verify that the user name has access to the database specified.

**Password**

Specify a password to connect to the database connection. The password specified is encrypted. If you change the connection parameters, such as Host, Port Number, Named Instance, Database, or URL, then you must re-enter the password again before you test the connection and save.

**Note:** If the user name or password is manually changed in Microsoft SQL Server, then the username and password will not automatically update on this screen. You must manually update the username and password to match the database user name and password.

**8** Click **Test Connection**.

A Pass message indicates that the connection was successful. If you receive a Fail message, then re-check the connection information specified and retest

**9** Click **Save**. The connection is available. If you make additional changes after you save the database connection, you must re-enter the password, retest the connection, and click **Save**.

**10** Set up a Publication Target definition to associate with the target database connection.

## Chapter 4: Data stores and BOD mappings

The BOD mapping feature provides a user interface to define mappings for standard Infor and custom BODs. BOD mappings are the instructions to parse information from a BOD into a data store. Use the BOD mapping feature to define 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 are configured in the Business Vault application. The data store references a database into which the BOD contents are stored. After a data store is defined, you can add one or more BOD mappings to the data store. A data store must have one or more BOD mappings configured and activated for BODs to flow from the Raw Data Vault to the data store.

You can configure an Infor data store or a custom data store. An Infor data store contains content (BOD mappings) that is provided by Infor. Infor data stores are protected and cannot be changed. Although, you can modify columns that contain user areas and classification codes and you can add tables and columns to an Infor data store. Custom data stores allow you to extend an Infor data store with additional content from a custom BOD. Import and export of Infor data stores is accomplished with secure BOD mappings that are zipped Microsoft Excel spreadsheets.

After you configure BOD mappings for tables and columns and activate them, you can use the download and generate database script feature. This creates a Microsoft SQL Server script to create tables and columns for the data store database. You can run the script in Microsoft SQL Server.

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 automatically. 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. For example, you can view if the BOD has been stored in the Raw Data Vault or extracted/shredded into a data store successfully.

You can run a replay to process BODs from the Raw Data Vault to your new data store database. A replay processes BODs from the Raw Data Vault so historical transactions and master data do not have to be republished 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.

## Methods for creating BOD mappings

There are multiple options to create BOD mappings in a data store:

- You can use the import feature to import BOD mappings from BOD mapping Microsoft Excel spreadsheets stored in a `.zip` file. Each workbook includes the BOD mappings for a single noun or BOD. You can export BOD Mappings from the Business Vault interface into spreadsheets.

See [BOD Mapping spreadsheet books](#) on page 93 for more information on the spreadsheet structure.

If you have installed Infor Business Vault Base Data Store, the installation provides the BOD mappings for standard Infor BODs. You should create a data store pointing to the Base Data Store database connection and then import the BOD mappings obtained from that installation.

These BOD mappings are protected and cannot be changed. Modifications made to BOD mappings that contain columns with user area and classification code customizations will not be lost when re-importing the BOD mappings. After you upgrade the Base Data Store, you can import the new BOD mappings to update the content in your data store.

**Note:** When you import the `.zip` file, ensure the file extension is lowercase. The Microsoft Excel files, that are stored in the `.zip` file, must have a file extension of `.xls` or `.xlsx`.

- You can use the BOD Mapping Generator feature to create mappings based on existing BOD instances in the Raw Data Vault or from uploaded BOD XML files. The generator reduces the manual effort to define data store table and column mappings, and it provides BOD mapping default setting options. The generator produces BOD mappings that can be modified and activated.
- You can add BOD mappings manually. The import function and generator wizard are the more recommended options.

See [Creating and activating BOD mappings](#) on page 42.

## Custom BODs

You can use standard Infor BODs and custom BODs with a BOD mapping. A custom BOD is an XML document that is not delivered with the Infor Business Vault Base Data Store. It contains data that is not included in a standard Infor BOD. You can use the custom data in custom reports and analysis.

See the *Infor ION Development Guide* for more information on ION custom BODs.

After a custom BOD is configured in ION, you must configure the Business Vault to process the BOD into the Raw Data Vault and into data store databases. The Business Vault stores the custom BODs in the Raw Data Vault.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

## Custom data stores

You can create custom data stores in the Business Vault to support custom BODs. Custom data stores are a collection of user-defined tables that are used to store data from custom BODs. You can create a custom data store that points to the Infor Business Vault Base Data Store Database. Then you can add tables and columns for custom BODs..

Custom data stores can be used to extract the content of custom BODs and extract Infor-delivered content with additional BOD content. Custom BODs are extracted or shredded into custom data stores that are based on BOD mappings. You can use the BOD mapping generator feature to facilitate configuring custom BODs.

## 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 use different methods for extending an Infor data store. You can:

- Modify columns that contain user areas and classification codes
- Add tables and columns to an Infor database by creating a custom data store that points to the Infor database
- Configure data stores and BOD mappings for custom BODs created in ION

These scenarios are supported by the Business Vault:

- Scenario 1: Modify columns that contain user areas and classification codes to customize 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 columns that contains user areas and classification codes for the Infor data store.

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.

- Scenario 2: Additional methods for adding custom data.

Similar to scenario one, BODs are routed to the Business Vault from the ERP or source system via 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. Whereas scenario one only allows you to make customizations by modifying columns with user areas and classification codes in an Infor data store, this scenario allows you to add custom data via two methods:

- Create a new database in Microsoft SQL Server. Then create a database connection that points to the new custom database. Create a data store on the Data Stores and BOD Mappings page for the new database connection. Utilize the generator wizard to upload Custom BODs from a file directory or stored in the Raw Data Vault to create the BOD mappings. BOD mappings can also be specified manually or imported through zipped Microsoft Excel spreadsheets.
  - Create a new data store that points to an Infor database. Then add tables and columns to that data store. These tables and columns can be specified manually or imported via zipped Microsoft Excel spreadsheets or by uploading a BOD or selecting a BOD from the Raw Data Vault.
- Scenario 3: Create a new data store for custom data.

A new database that contains all the data is used as the source. Create a custom data store that points to a new database that already contains the tables and columns. ION connection points and document flows are not set up in Infor ION as BODs are not being used as the source of the data.

## Tasks for setting up a data store with standard Infor BOD mappings

Follow this order when you set up a data store with BOD mappings and activate the flow of BODs:

- 1 Set up ION document flows and connection points in Infor ION to route BODs to the Business Vault. Verify that you have published BODs from the ERP or source system.
- 2 Install Infor Business Vault Base Data Store to provide an Infor database.  
See the *Infor Business Vault Installation Guide for the Base Data Store* for more information on the Base Data Store.
- 3 Configure a database connection to the Infor database.  
See [Configuring standard database connections](#) on page 20.
- 4 Import the secure import provided zip file that contains Infor standard BOD mappings from the Infor Business Vault Base Data Store Installation.
- 5 Use the **XPath** and **Default Value** fields to make modifications to columns with user areas and classification codes. Save the changes.
- 6 Activate one or more BOD Mappings.

- 7 Activate the data store to enable the flow of BODs from the Raw Data Vault into the data store.
- 8 Optionally, configure a replay to route BOD instances from the Raw Data Vault into the data store. Use the **Replays Monitor** to monitor the status of BODs loaded through the replay process.
- 9 Optionally, use the **Document Trace** to review the results of extracting and loading the BODs into the data store.
- 10 Use the **Data Stores Monitor** to monitor BODs being extracted into data stores. You can use the monitor to track the number of BODS processed, unprocessed, and the errors that are associated with the extracted BODS.

## Tasks for setting up a custom data store with custom BOD mappings

Follow this order when you setup a custom data store with BOD mappings and activate the flow of BODs:

- 1 To alert the Business Vault to the custom BOD, drop the configured `NounIDInstance.xml` file into the Noun Metadata drop folder.  
Select **Administration > Noun Metadata** to view the noun metadata file.  
Ensure that the custom BOD is pushed from the ERP or source system. Additionally, ensure that ION connection points and document flows are set up to include the custom BOD so that it can be routed to the Business Vault.  
See [Using custom BODs and changing standard Infor BODs](#) on page 84
- 2 Create a new database in Microsoft SQL Server.
- 3 Configure a database connection to the new database.  
See [Configuring standard database connections](#) on page 20.
- 4 To create BOD mappings for custom BODs, use the BOD Mapping generator wizard to upload the custom BOD from a file directory or select the custom BOD that has been stored in the Raw Data Vault. BOD mappings can be manually specified or imported via zipped Microsoft Excel files.
- 5 Modify the BOD mappings, if necessary, and save your changes.
- 6 Activate the BOD mappings.
- 7 To create the tables and columns in the data store database to store the BOD data, generate the database script. Run the script in Microsoft SQL Server.
- 8 Activate the data store to enable the flow of BODs from the Raw Data Vault into the data store.
- 9 Optionally, configure a replay to route BOD instances from the Raw Data Vault into the data store. Use the **Replays Monitor** to monitor the status of BODs loaded through the replay process.
- 10 Optionally, use the **Document Trace** to review the results of extracting and loading the BODs into the data store.
- 11 Use the **Data Stores Monitor** to monitor BODs being extracted into data stores. You can use the monitor to track the number of BODS processed, unprocessed, and the errors that are associated with the extracted BODS.

---

## Data store and BOD mapping prerequisites

Before you configure your data stores and BOD mapping, complete these tasks:

- Install Infor Business Vault.  
See the *Infor Business Vault Installation Guide*.
- Set up Business Vault security roles and assign users to security roles in Infor OS or Infor Federation Services (IFS). BVUser is required to access the Business Vault. BVDatabaseAdmin is required to work with database connections and to update data stores and BOD mappings. BVAdmin and BVUser can view and activate data stores and BOD mappings, as well as modify columns that contain user areas and classification codes.
- Set up ION connection points and document flows in Infor ION. ION document flows are required to route BODs to Infor Business Vault. A document flow template is available to assist in the creation of ION connection points and document flows in Infor ION for the Business Vault.  
If you leave the Default Tenant blank when you set up ION document flows and connection points, then the Business Vault will assume a value of `infor`. If you are using a tenant other than `infor`, ensure to update the value in ION and use the same tenant in the Business Vault installation. Ensure that your connection points and document flows are activated and working properly. You must select the documents or BODs to include in your document flows that you are publishing  
For configuring connections points and document flows in ION, see *Infor ION Desk User Guide*.
- Publish BODs from an ERP or source system and store the BODs successfully in the Raw Data Vault.
- Create a database for the data store and configure your database tables and columns. The database for Infor-delivered content is created during the Infor Business Vault Base Data Store installation. With custom data stores, you must create your own database in Microsoft SQL Server.  
See the *Infor Business Vault Installation Guide for the Base Data Store*.
- If you are using custom BODs, you must create the custom BODs in Infor ION. Additionally, you must alert the Business Vault of the custom BOD.
- See [Using custom BODs and changing standard Infor BODs](#) on page 84.  
See *Infor ION Desk User Guide*.
- Configure a database connection for your data store database and ensure that you configured a successful database connection. This is used to retrieve the data for your data store and BOD mapping.  
See [Configuring standard database connections](#) on page 20.

After these prerequisites are met, you can use the Data Stores function to configure and activate your data store and BOD mappings.

## Chapter 5: Infor Data Stores

An Infor data store contains content that is provided by Infor. Infor data stores are read-only and cannot be changed. Only columns with user areas and classification codes can be modified for an Infor data store. Additionally, by creating a new data store that points to the Infor-provided database, you can add tables and columns 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. To obtain the standard Infor BOD mappings, install the Infor Business Vault Base Data Store. These mappings will then be imported into a data store in the Business Vault.

### 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.s1.instance** so a Syteline UserArea Name is **s1.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 Priorit
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>
        </UserArea>
      </SalesOrderHeader>
    </SalesOrder>
  </Sync>
</DataArea>
```

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</Description>
</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.

## Adding tables and columns to an Infor database

You can add tables and columns to an Infor database. You can configure a data store that points to an Infor database, for example, the Infor Business Vault Base Data Store database. You can add BOD mappings (tables and columns) to the data store.

You can run the database script against the database to create the additional tables and columns in the Infor database. For example, if you have extra user areas in a standard Infor BOD for which that you must create tables and columns within your Infor database.

The Infor Business Vault Base Data Store contains a placeholder for five user area elements per data type. However, the BODs support additional user area elements. You can add new user area elements to the standard Infor BOD and create new tables and columns to add to the Infor database. You can configure a data store that points to an Infor database, add BOD mappings (tables and columns) to that data store, generate a database script to create the tables and columns, and activate the BOD mappings and data store.

These steps illustrate how to add tables and columns to an existing Infor database:

- 1** Select **Data Stores Management > Data Stores**.
- 2** Click **New** to create a new data store.
- 3** Specify a **Name** and **Description** for the data store.
- 4** Select the Infor Business Vault Base Data Store database. This database connection contains the connection details for accessing the relational database to be populated.
- 5** Click **Save**.
- 6** Click **Generate BOD Mappings**.  
The **BOD Mapping Generator** dialog is displayed.
- 7** Upload your BOD XML file or select a BOD from the Raw Data Vault.  
Wait while the generator creates your BOD mappings from the BOD instance that was specified.
- 8** Click **Save** to save the BOD mapping that were added to the data store. Ensure that the BOD Mappings are activated.  
The BOD mappings for the data store are displayed in the BOD Mappings section. The BOD mapping contains the tables and columns.
- 9** Click **Generate / Download Script** at the top of the page. A database script for the entire data store and all associated BOD mappings is generated.  
A busy indicator is displayed while the script is generating. When complete, a file directory window is opened for you to select the script.
- 10** Run the script in Microsoft SQL Server and select the Infor Business Vault Base Data Store database as the target database.
- 11** Return to the Business Vault application when the script is run and the tables and columns have been created in Microsoft SQL server.
- 12** Activate the data store to process BODs into the data store.

## Upgrading an Infor data store

When you upgrade to a new version of Infor Business Vault, all your data is migrated including your data stores and BOD mappings. If you have custom or Infor data stores, the data stores are migrated and your data is retained.

With each release of Business Vault, the latest version of the Infor BOD or noun metadata is delivered with the Business Vault installation. There may be changes made to the standard Infor BODs between releases of the Business Vault. For example, you install a new release of the Infor Business Vault Base Data Store that contains a new BOD or a change to an existing BOD. You must alert the Business Vault that the BOD changes exist. You can use the same procedure that is used for custom BODs.

You can use the **Noun Metadata** page to view processed nouns.

See [Additional Business Vault BOD information](#) on page 84

If you upgrade to a new version of the Infor Business Vault Base Data Store, access the Business Vault and re-import the BOD mappings. Any modifications made to the user areas and classification codes are retained. If you extended your Infor content either through creating custom data stores with custom BODs, or you added tables and columns to your Infor database, the changes will be retained.

---

## 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.

### Creating a data store

Create a data store to associate with the database connection. The data store includes individual BOD mappings. Data stores are created in an inactive status. The BODs are not processed into the data store until you activate the data store and the BOD mappings.

- 1 Select **Data Stores Management > Data Stores**. A list of configured data stores is displayed.
- 2 Click **New**.
- 3 Specify this information:

**Name**

Specify a unique name for the data store.

**Description**

Optionally, specify a description for the data store.

**Database Connection**

Select a database connection to use for the data store. The list shows the database connections that have been established through the **Database Connections** option.

**Note:** This list of database connections that is shown is based on the database schema. The default schema for the database is **dbo**. To use another schema, you must ask your database administrator to make the change.

See [Database connections](#) on page 19.

**Infor-Delivered Content**

This check box is selected when you import the Infor Business Vault Base Data Store BOD Mappings.

**Note:** You cannot add, change, or delete Infor-Delivered Content, such as the Infor Business Vault Base Data Store BOD Mappings. You can modify columns with user areas and classification codes for Infor-Delivered Content with the XPath and default value fields in the Column Mappings data grid.

- 4 Click **Save** to save a draft of the data store. The data store is displayed with an **Inactive** status in the Data Stores list.

## Editing a data store

This section describes how to edit a data store. You can only edit an inactive data store. Only certain fields in the data store can be edited. You can add one or more BOD mappings, with table and column mappings, to a data store.

- 1 Select **Data Store Management > Data Stores**.
- 2 Select an inactive data store. Click **Drill Down**. The **Data Stores Details** page is displayed.
- 3 Edit these fields:
  - **Name**
  - **Description**
  - **Database Connection**
  - **Infor-Delivered Content** (read-only)See [Creating a data store](#) on page 38.
- 4 Click **Save**.

## Data Store activation

To process BODs, you must activate the data store. After the data store is active, you cannot edit it or input BOD mappings. You must activate BOD mappings separately from data stores within the user interface.

See [Activating a BOD mapping](#) on page 53.

After the data store is activated, the associated BOD mappings that are in an **Active** status are processed. If you add BOD mappings to an Active data store, then you must activate the BOD mappings. We recommend that you reactivate the data store for all the validations to occur.

When you activate the data store, this is some of the information that is validated:

- The database connection must be valid. To confirm that the database connection is successful, you can use the **Test** function on the **Database Connections** page.  
See [Configuring standard database connections](#) on page 20.
- The BOD mapping service must be started.
- The BOD mapping tables and columns must be in sync with the database tables and columns in the target database.

If you change the BOD mapping database table and the columns are not in the database table that you selected, then the data store is not activated and an error is generated. You must create a table mapping that has your database tables and columns in sync. To ensure a table mapping is in sync with your database tables and columns, you can use the generate database script function.

See [Generating a database script](#) on page 59.

- You cannot have two or more BOD mappings with the same main table and columns but with different Maximum Variation and Localized tables. An error will occur when you activate the data store. The

error indicates that the Maximum Variation and Localized tables and columns already exist for the defined main table.

- The data types for the column mappings must be valid.

The activation fails if the mappings are not valid. For example, the numeric data type in Microsoft SQL Server is not supported. You cannot activate the data store with the numeric data type.

- To activate the data store, there must be less than 500 BODs targeted to be processed.
- You cannot add non-nullable columns to existing tables or an error will occur at activation time. You must manually add the column to the database and re-activate.

If your activation is successful, then the data store status is **Active**. After a data store is **Active**, BODs can be processed to the data store for any BOD mappings in an **Active** status.

The data store status remains inactive when the activation fails. See the **Activation Results** page. The page provides all of the errors that occurred during activation.

## Activating a data store

You can activate only one data store at a time. You cannot activate a data store unless the data store contains one or more active BOD mappings.

- 1 Select **Data Stores Management > Data Stores**. A list configured data stores is displayed.
- 2 Select an inactive data store and click **Activate**.

After a data store is activated, any associated active BOD mappings are processed. See the **Activations Results** page.

## 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.

## Deleting a data store

You can delete data stores that have an **Inactive** status. You can delete one data store at a time.

**Note:** You can delete an inactive data store even if there are active BOD mappings.

- 1 Select **Data Stores Management > Data Stores**. A list of configured data stores is displayed.
- 2 Select an inactive data store.
- 3 Click **Delete**.
- 4 Click **OK**. The selected data store and all associated BOD mappings are deleted.
- 5 If the deleted data store contained BOD mappings that were created through the user interface, then delete the corresponding tables and columns in Microsoft SQL server.

## Chapter 7: Creating and activating BOD mappings

You can create and activate BOD mappings for a 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. Therefore, multiple BOD mappings are needed. This chapter explains how to configure and activate BOD mappings that are associated with a data store.

### Manually creating a BOD mapping

**Note:** If a noun does not display in the document list, then the Business Vault has not been alerted to the noun metadata. Manual steps are required to add the noun metadata to the Business Vault.

To view the processed nouns, select **Administration > Noun Metadata**.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

- 1 Select **Data Store Management > Data Stores**.
- 2 Select a data store.
- 3 On the **Data Store Details** page, complete the header information.
- 4 On the **BOD mappings data grid**, click **New**.
- 5 Specify this information for the BOD mapping header:

**Name**

Specify a unique BOD Mapping name. Maximum number of characters is 64.

**Description**

Optionally, specify a BOD Mapping description.

**Document**

Select a document. The list shows the documents in the Raw Data Vault regardless of the source. This list includes custom and Infor standard BODs.

- 6 Click **Save**. The BOD mapping record is added to the BOD mapping data grid. The BOD mapping status is **Inactive**.

---

## Creating table mappings

After you complete the BOD mapping header, you can add 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 can contain one or more sales order lines.

You must enter your BOD mapping header information before you can create your table mappings.

- 1 Click **New** in the Table mappings section of the page.
- 2 Specify this information:

### Display Name

Specify a unique display name for the table to which you will extract your data. You can specify the table name or another name. The table display name is limited to 64 characters.

### Main Table

This table is the database table that receives the mapped data, for example, Sales Order Header or Sales Order Line table. You can use the same database table in multiple data stores and BOD mappings.

Select the Main Table check-box. Select an existing table from the drop-down list or specify a new table name. The new table is created when the script is run. The table name is limited to 255 characters. The Main Table cannot be the same table used as the Localized Table or the Maximum Variation Table.

### Flattening Area

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

See [XPath Selector](#) on page 49 and [XPath](#) on page 97.

### Localized Table

To specify a table to store localized data, select the check box. Select an existing table from the drop-down list or specify a new table name. The new table is created when the script is run. The localized table stores the localized table values from the BODs in a database table that has been designated for localization.

You can set a **Localized Table** and a **Maximum Variation Table**. The Localized table selected cannot be the same table that you defined as the Maximum Variation Table or the Main Table.

See [Localization](#) on page 62.

### Maximum Variation Table

To specify a Maximum Variation Table to maintain duplicate selected columns for only the highest variation of the BOD, select the Maximum Variation Table check box. Select an existing table from the drop-down list or specify a new table name. The new table is created when the script is run. If you set a Maximum Variation Table, there must be one column mapping with the keyword of **MH-VARIATIONID**. You can set a Localized Table and a Maximum Variation Table.

If you do not use the Maximum Variation Table, then all variations of the BOD are stored in the Main Table. The Maximum Variation table selected cannot be the same table used as the Localized Table or the Main Table.

If you set the **Highest Variation Only** flag for a table mapping, then you cannot set the **Maximum Variation Table**.

### Repeatable

Select this check box to return multiple nodes from the XPath defined in the Flattening Area.

For example, a Sales Order BOD with a Sales Order header has multiple repeating sales order lines. The **Repeatable** check-box should be selected for the table mapping and the sales order line columns.

### Highest Variation Only

Select this check box to store only the highest variation of the BOD in the Main Table. Data associated with the highest variation ID is not stored in a second database table. If you set this field for a table mapping, then you cannot set the **Maximum Variation Table**.

If a **Localized Table** is selected and the **Highest Variation Only** check box is selected, then only the highest variation of the BOD is stored. If you do not select the **Highest Variation Only**, then all variations of the BOD are stored.

When you select this field, you must set 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 you use a Variation ID and want to show all variations, the BOD Key and the Primary Key must be selected for the Variation ID.

If these keys are not selected, an insert cannot be performed and an override is performed. For example, a BOD mapping for a Sales Order contains a header and multiple lines. For this BOD, the variation ID must be part of the primary key or the sales order line numbers cannot be found for the delete and insert of new records. If the Primary Key is not selected for the column, an override is performed and the sales order lines are not displayed.

- 3 Click **Save**. The table mapping record with an inactive status is added to the table mapping data grid.

## Creating column mappings

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

- 1 Select the database table.
- 2 Add column mappings by manually adding a new column:
  - a Click **New** on the **Column Mapping** data grid. A new row is added to the column mapping for you to specify your column information.
  - b Specify column information.
- 3 Add column mappings by adding one or more existing columns from the database tables:
  - a Click the drop-down list next to the **Add** button and select **Add existing columns**.  
The option is disabled if you have not selected a Main Table. If you have the same column names in the Main Table, Localized Table, or Maximum Variation table, and you select Add existing columns, the first column name selected on the dialog is returned. The other duplicate columns that exist in more than one table will be ignored.

- b Select columns from the Column dialog. You can select the column or click the top check box to select all columns.  
The dialog includes tabs for Main Table (required), Maximum Variation Table (optional) and the Localized Table (optional). If the dialog includes no tabs or columns, then the table does not exist in the database and you must create the database tables first. The Maximum Variation table tab and the Localized table tab are not displayed, if the columns already exist in the Main Table.
  - c Click **Add Columns to Mappings**. The columns from the Main Table, Maximum Variation Table, and the Localized Table are added.
- 4 Add column mappings by adding all columns from the database tables:
- a Click the drop-down list next to the **Add** button.  
The option is disabled if you have not selected a Main Table.
  - b Select **Add all existing columns**.  
The columns from the Main Table, Maximum Variation, and the Localized Table are added. All columns from the Main Table are returned first. Then, the columns from the Localized and Maximum Variation tables are returned. If a duplicate column is found, it is not added.
- 5 Specify the values for the column mappings. You can edit multiple columns and rows at the same time. You are not required to save a row before you begin editing another row.

**Column Name**

Specify a unique name for the column. This name is used as the column name in the destination database table. The column name is limited to 255 characters.

**Display Name**

Specify a display name for the column. The name is limited to 100 characters.

**XPath**

Specify the XPath or select an XPath from the **XPath Selector** page. You can change the XPath to modify columns with user areas and classification codes for Infor-Delivered content such as the Infor Business Vault Base Data Store.

If the value of the **Custom Mapping** field is set to **Noun Identifier (NID)** or **Extension Noun Identifier (EXT-NID)**, then this field cannot be blank. Leave this field blank if there is a value in the **Custom Mapping** field.

See [Custom Mapping Keywords](#) on page 63 and [XPath](#) on page 126.

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

See [XPath](#) on page 97.

**Default Value**

Optionally, specify a **Default Value** to be populated in the database table column when an element is not found in a BOD. If the XPath result is blank and no value is found, then the default value is populated in the database table column.

The default value can be entered for any row. For database table columns where blank values are not allowed or desirable, using a Default Value is recommended. For Infor-delivered content, you can modify the Default Value field to customize columns that contain user areas and classification codes only.

### Custom Mapping

Optionally, select 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.

For more information about which custom mappings are supported and a full list of keywords, see [Custom Mapping Keywords](#) on page 63.

### Localization

Optionally, select this field 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 this field is selected, then these Custom Mapping keywords cannot be selected:

**T**imestamp

**C**oncatenation

**S**eparator

**S**ubstring

**T**okenizer

**D**uration

**N**oun Identifier (NID)

**E**xtension Noun Identifier (EXT-NID)

**P**arent Column

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

See [Localization](#) on page 62.

### Highest Variation

Optionally, specify this field if the element should be included in the highest variation table, the most current view of the data. If **Highest Variation Only** is selected, you must define one custom mapping as **MH-VARIATION**. Additionally, **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

Select this field to indicate that BOD data can be truncated to fit the size of the database column. If the BOD data does not fit into the database column and you do not select this field, then your BOD data will not be extracted. This field can be changed at any time.

### BOD Key

Specify the column or element to use as the BOD Key. At least one BOD Key is required per table. The BOD Key must be defined. The BOD Key should be the primary key. Because the key of a database table does not always match the key of the BOD you are mapping, you should define a BOD Key to indicate which BOD elements make a BOD unique. By identifying which of the columns being mapped correspond to the BOD Key, the BOD processing is completed. If this field is selected, the Primary Key is also selected. The BOD Key is usually the Noun ID (NID) and Variation ID. For custom BODs, the BOD Key can be any other element.

### Primary Key

Select the column 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 BOD Key is cleared and disabled. The Primary Key cannot be blank.

**NULL**

Optionally, select whether the column allows NULL values. If you select NULL, then the column is optional. If you do not select NULL, then the column is required.

**Column Type**

Specify the data type format for the target column. These are the supported Microsoft SQL Server data types:

**nvarchar - default**

This data type is variable length non-Unicode string data. The n is for national character. Valid length is 1 through 4000.

**varchar**

This data type is variable length Unicode string data.

**bigint**

This data type uses up to eight bytes of storage.

**int**

This data type is the primary integer type used by SQL. This data type uses up to four bytes of storage.

**smallint**

This data type is for small integers and uses up to two bytes of storage.

**decimal**

You must define precision and scale for this data type. Precision indicates the number of decimal places that can be recorded to the left and right of the decimal place. Scale is the range of numbers that can be specified.

**date**

Valid values are 0001-01-01 through 9999-12-31 or January 1, 1 A.D. through December 31,1999.

**time**

If time is specified as the column type, you must specify the format: **hh:mm:ss** in the BOD XML. The time based on a twenty-four hour clock. There is no time zone awareness. The range used is 00:00:00.0000000 through 23:59:59.9999999.

**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.

This is similar to date/time. The difference is the range variable. This data type has a large date range and larger default fractional precision. The date range is 0001-01-01 through 9999-12-31 or January 1,1 AD through December 31, 9999 AD. The time range precision goes from 0:00:00 through 23:59:59.9999999.

**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.

These Microsoft SQL Server data types are not supported:

- char
- nvarchar
- binary
- varbinary
- identity
- image
- money
- numeric
- smallmoney
- tinyint
- float
- real
- date/time
- smalldatetime
- cursor
- sql\_variant
- xml
- table

### Column Size

Optionally specify the length of the data type. The default value is `nvarchar(100)`.

See [BOD Mapping spreadsheet books](#) on page 93.

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 BOD mappings

You can edit a BOD mapping regardless of the data store status. BOD messages can be processed by other active BOD mappings while you are editing an inactive BOD mapping. Only certain fields are editable for active BOD mappings.

You can add new table mappings or edit existing table mappings after all the required BOD mapping header data is specified and your BOD mapping is saved. Select an existing table mapping from the **Table Mappings** data grid to launch the **Table Mappings Details**.

If the BOD mapping is **Inactive**, then all fields are editable in the **Table Mapping** portion of the screen. You can add new column mappings. If the BOD mapping is **Active**, then you cannot add any new table mappings or column mappings. Only the **Display Name** is editable.

- 1 Select **Data Store Management > Data Stores**.
- 2 Select a data store.
- 3 Select an inactive BOD mapping. Edit this information:

**BOD Mapping Name**

This field is can be changed for BOD Mappings regardless of status.

**Description**

This field is can be changed for BOD Mappings that regardless of status.

**Document**

The list shows the document that was selected. This can be changed for BOD Mappings that are inactive.

- 4 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 non-Infor content and Infor-delivered content.

### Non-Infor content:

- A single `.zip` file contains all of the Microsoft Excel spreadsheets, which are the BOD mappings.
- If you import a BOD mapping with the name of an existing BOD mapping, then a new BOD mapping is created. A (1) is appended to the name.
- In the **Properties** worksheet of each Excel file, there is a property called `VERSION`. If no version is provided, then a version of 1.0 is assumed.
- All exports result in spreadsheets with version 2.0.
- Version 1.0 spreadsheets may be imported into a new data store, but all spreadsheets in a `.zip` file must be the same version.
- Version 1.0 spreadsheets do not contain database information such as data type and size. Therefore, the database fields and tables should already exist.
- Infor-delivered content cannot be imported into a non-Infor data store.

### Infor-Delivered content

- There is one parent `.zip` file for the Infor Business Vault Base Data Store. The parent `.zip` contains three child `.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.
- Users 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.

## Additional BOD import information

These are additional details for importing BOD Mappings:

- Ensure that the database connection is valid for the data store or the import will fail.
- Ensure that the BOD mappings are imported using the required structure.
- If the noun metadata does not exist for the noun being imported, an error will occur. You must alert the Business Vault of the noun and then re-import. To view processed nouns, select **Administration > Noun Metadata**.
- If the same table name exists in the user interface or any changes have been made to the table mapping, and you import a new table with the same name, the existing table is not overridden. A new table mapping is added to the BOD mapping.
- If the same column name already exists in the user interface or any changes have been made to that table mapping, and you import a new column with the same name, the existing table is not overridden. A new column mapping is added to the BOD mapping.
- Do not remove information such as custom mapping keywords from an import file if the mapping exists in the user interface. This will result in an error on re-import. Similarly, if the column is set to false for the BOD Key and you change the flag to true and that column already exists in the user interface, you will get an error on re-import.
- On the user interface, if you have the Base Data Store imported and a column is set to false for BOD Key/Primary or NULL flags, you should not change the BOD Key/Primary or NULL flags for that column in the Microsoft Excel spreadsheet book to true and re-import. This will result in an error message. The same applies for the data type and size for a column. If the column already exists in the user interface and you change the data type or size in the Microsoft Excel spreadsheet book, this will result in an error on import.
- Do not delete a noun from the Microsoft Excel spreadsheet that already exists in the user interface. This results in an error on import.
- If any required information in the Microsoft Excel spreadsheet workbooks is missing, an error will occur upon importing. For example, if the noun name is left blank.

## 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**.
- 4 Click **Deactivate**. The status of the BOD Mapping is **Inactive**.

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.

**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.

## Deleting BOD mappings

You can delete a BOD mapping that has an inactive status.

- 1 Select **Data Stores**.
- 2 Select a data store and drill-down to the **Data Store Details** page.
- 3 Select one or more BOD mappings that have an inactive status.

- 4 Click **Delete**.
- 5 Click **OK** to delete the selected data store and associated BOD mappings.
- 6 Click **Save**.

## Chapter 8: BOD mapping generator

The BOD mapping generator wizard creates BOD mappings, table mappings, and column mappings from BOD instances. The BOD instances can be in the Raw Data Vault or a file directory. BOD mappings provide instructions to parse information from a BOD into a data store.

BOD mappings are created when you install the Infor Business Vault Base Data Store. For custom data or content not in the base data store, you can use the BOD mapping generator wizard to generate your mappings. This saves time and minimizes errors. You can use the BOD mapping generator to extend Infor-delivered content with additional BOD content for custom data. After the BOD mapping is generated, you can review, modify, and activate the data store and BOD mappings.

**Note:** Ensure that all the criteria that is in the generated mapping is part of the BOD and the Noun Metadata. If the generated mapping includes information that is not in the BOD or Noun Metadata, such as Accounting Entity and Location, then you will receive an error when you extract the BOD mapping into the data store.

### Uploading XML files from a local file directory

You can upload XML files that contain the actual BOD raw XML. Then you can define your BOD mapping based on the elements in your BODs. Only 500 BODs can be uploaded at a time.

**Note:** When you upload the BOD XML, the BOD is not stored in the Raw Data Vault. Only a BOD mapping is created for the uploaded XML. Ensure that the ION connection points and document flows are setup for the BOD and that it is pushed from the ERP or source system to ION. When it is received by the Business Vault, it will be stored in the Raw Data Vault.

- 1 Select **Data Stores Management > Data Stores**.
- 2 Create a data store or select a data store regardless of status.
- 3 Click the **New** button in the **BOD Mappings** details.
- 4 Select **Generate BOD Mappings**.
- 5 Select the **From XML files** option. Select one or more XML files to upload.  
The XML must match the BOD mapping selected.
- 6 Select **Browse** to open a file directory window to upload the XML file. After you upload the XML, the XML file is displayed at the bottom of the screen.
- 7 Click **Next**. The **Options** page is displayed when you have uploaded your XML files.
- 8 Specify these options:

**Generate Localized Tables**

Select this field to generate localized tables after the generate wizard creates the BOD mappings. Specify a **Suffix**, such as `_LC`, or table name for the localization table.

If you select this option, then the generator wizard selects elements with attributes of `languageID` in the BOD XML. The value of the language ID goes into the column with the Locale custom mapping. It is a primary key on the localized table. After you use this option, the generator wizard creates localized tables for BOD mappings. Additionally, it creates one column mapping with the locale custom mapping keyword, and one column mapping with the Localization flag selected.

**Include variation as part of the key**

Select to include the highest variation as part of the key when BOD mappings are generated. The column with the Custom Mapping of MH-VARIATION ID is made a key. After the generator completes and the BOD mappings are created, the options for Highest Variation and Maximum Variation can be selected.

**Include timestamp in all tables**

Select to include the timestamp in all tables when BOD mappings are generated. The timestamp inserts the current date and time (UTC) that the shredding occurred.

**Include message header fields in each table**

Select to include the message header fields, `MH-ACCOUNTINGENTITYID`, `MH-LOCATIONID`, and `MH-FROMLOGICALID`, in each table when BOD mappings are generated.

See [Custom Mapping Keywords](#) on page 63.

**Maximum column name length**

Specify the maximum column name length that is set when BOD mappings are generated. The default is 100 but can be overridden.

**Maximum table name length**

Specify the maximum table name length that will be set when BOD mappings are generated. The default is 100 but can be overridden.

**Default column type**

Specify a Microsoft SQL Server column type as the default column type that is used when BOD mappings and column mappings are generated:

`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 Xtreme Support for more information on `datetimeoffset`.

**Note:** If you specify `time` as the column type, then you must use this format in the BOD XML:  
`hh:mm:ss`.

Ensure that the default column type aligns with the BOD data in which you are extracting or shredding.

### Default column length

Specify the default column length (1-4000 max). Select **Max** or enter a value. The default is 400 but can be overridden.

### Infer column types

Set this flag to infer the data type of each column from the data in the XML element. For example, if the data in an XML element is 1.00, then the data type of the column is set to decimal.

### Default datetime column type

If you selected **Infer column types**, then specify `datetimeoffset` or `datetime2`.

### Default column length for inferred text column types

If you selected **Infer column types**, then specify the default column length for the inferred text column types (1-4000 max). The default is 400 but can be overridden.

### Maximum Text Length Multiplier

If you selected **Infer column types**, then specify a maximum text length multiplier to determine the column length. The value specified must be a positive integer. You cannot specify a negative integer or zero. For example, if you have an XML element in a BOD that is a string that is 13 characters in length, such as Attention of Name element or column, and you enter 9 as the multiplier in the Maximum Text Length Multiplier field, then the column size is set to 117. The calculation is 13 multiplied by 9 equals 117.

- 9 To run the generator, click **Finish**. It may take a few moments for the generator to create your BOD mappings. You can generate multiple BOD mappings from multiple BOD types.

The generator creates the BOD mappings, with table and column mappings on the user interface. The table mappings are created by the generator in the Table Mappings section. When the generator creates the table mappings, it analyzes the BOD instance to see if there are any repeating areas in that BOD. For example, for the SalesOrder BOD, which contains a Sales Order header and multiple repeating child areas such as Sales Order Lines, the generator creates the table mappings for the header and creates separate tables for each repeating area.

Ensure that all the criteria that is in the generated mapping is part of the BOD and the Noun Metadata. If the generated mapping includes information that is not in the BOD or Noun Metadata, such as Accounting Entity and Location, then you will receive an error when you extract the BOD mapping into the data store.

- 10 After the BOD mapping is generated, you can review, modify, and activate the BOD mapping. You can generate the database script to create the database tables and columns for the target database for the BOD mapping.

See [Generating a database script](#) on page 59.

## Uploading BODs from the Raw Data Vault

You can use the **Search the Raw Data Vault** option to search BODs stored in the Raw Data Vault to create BOD Mappings. The generator launches the **Document Trace** page where you can search for a specific BOD in the Raw Data Vault.

See [Document Trace](#) on page 18.

- 1 Select **Data Store Management > Data Stores**.
- 2 Create a data store or select a data store regardless of status.
- 3 Click **New**.
- 4 Select **Generate BOD Mapping**.
- 5 Select the **Search the Raw Data Vault** option.
- 6 Click **New** to select the BODs from the Raw Data Vault on the **BOD Mapping Generator** dialog.
- 7 On the **Document Trace** page, specify your search criteria and click **Search**. A results data grid is displayed with a list of BODs. To sort the results, click the column name.
- 8 Click the **Details** option to show the BOD XML on the Raw Data Vault search results data grid. You can copy and paste the XML code.
- 9 To select a BOD from the Raw Data Vault search results data grid, select one or more rows and click **Add Selected BODs to Generator**.
- 10 The BODs that are selected display as rows on the **BOD Mapping Generator** dialog. Click **New** to add additional BODs on the **Document Trace** screen.
- 11 Click **Next** to display the **Options** tab.  
See [Using the XPath Selector to upload XML from a local file directory](#) on page 49.
- 12 To run the generator, click **Finish**. It may take a few moments for the generator to create your BOD mappings. You can generate multiple BOD mappings from multiple BOD types.  
The generator creates the BOD mappings, with table and column mappings on the user interface. The table mappings are created by the generator in the Table Mappings section. When the generator creates the table mappings, it analyzes the BOD instance to see if there are any repeating areas in that BOD. For example, for the SalesOrder BOD, which contains a Sales Order header and multiple repeating child areas such as Sales Order Lines, the generator creates the table mappings for the header. Separate tables for each repeating area are created.
- 13 After the BOD mapping is generated, you can review, modify, and activate the BOD mapping. You can generate the database script to create the database tables and columns for the target database for the BOD mapping.  
See [Generating a database script](#) on page 59.

## Chapter 9: Generating a database script

In the Business Vault, you can manually create a BOD mapping without predefining database tables and columns. You can generate a database script from the **Data Stores** page to create tables and columns in the target database for the BOD mapping. When you execute this script in Microsoft SQL Server, all of the database tables and columns for the data store database are created.

Infor Business Vault Base Data Store database tables and columns are created when you install the Infor Business Vault Base Data Store. You do not need to run the script generation process for Infor Business Vault Base Data Store BOD mappings.

The database script that is generated is a Microsoft SQL Server script. This script can be run only in Microsoft SQL Server. When you run the database script, it adds tables and columns to your Business Vault database. You can download the database script from the **Data Stores** page or the **BOD Mapping Details** page.

**Note:** The Business Vault does not run database scripts automatically. You must manually maintain the database to ensure that it is in sync with the user interface. For example, if you add a table or column in the Business Vault user interface, ensure that you generate a new database script. Run the script in the database to create the table or column.

### Generating a database script from the Data Stores page

- 1 Select **Data Store Management > Data Stores**. The page shows the configured data stores.
- 2 Select an active data store that has one or more BOD mappings. You can only generate tables and columns for active BOD mappings.
- 3 Select **Download/Generate Script** on the **Data Stores Details** page to generate a database script for the data store and all associated BOD mappings. A busy indicator will display while the script is generated.

The option to download the script only applies for non-Infor content. This option is enabled for Infor-locked content but will not generate a script. The database structure already exists and cannot be changed.

- 4 Save the script file or open the script file in Microsoft SQL Server when the file directory window is displayed. If you save the script file, then you can open it in Microsoft SQL server at a later time. The database script name is the name of the data store when you execute the download, for example, **BusinessVault\_Sample.sql**. The database script is generated based on all the BOD mappings that have an **Active** status in the selected data store.

**Note:** If the database script is not generated, then a compatibility issue may exist in the target database. For example, if the database column type is changed in the target database, then a database script cannot be generated. An error message is displayed. Additionally, you cannot generate a database script for Infor-delivered content for an Infor data store.

- 5 To create your database tables and columns for your Business Vault database, run the downloaded database script in Microsoft SQL Server.

Microsoft SQL Server does not support a script with more than 1,034 columns. Ensure ensure that the script is not above this limit.

- 6 To ensure that the database tables and columns have been created, open the target database folder in the left panel of SQL Server. Right-click the database to display a context menu. Select refresh to refresh the database.

- 7 After the database is refreshed, you can open the database to view the tables and columns.

**Note:** If you run the script and create your database tables and columns in the target database, and then you re-run that same script in Microsoft SQL Server, the script will be blank. If there has been an addition or removal of a table or column, then the Business Vault will not override any columns. When you re-generate the database script, the script will only populate with columns or tables that are added or removed from your database. This allows you to re-run the database script in SQL Server.

## Generating a database script from the BOD Mapping Details page

- 1 Select **Data Store Management > Data Stores**.
- 2 Select a data store. The BOD mappings for the selected data store are displayed.
- 3 Select an active BOD mapping from the BOD Mappings data grid. If the **BOD Mapping Status** is not **Active**, then the script is not generated successfully.
- 4 Click the **Download/Generate Script** icon to download the database script for the selected BOD mapping.
- 5 Save the script file or open the script file in Microsoft SQL Server when the file directory window is displayed. The database script name is the name of the data store when you execute the download, for example, **BusinessVault\_Sample.sql**.

**Note:** If a database script is not generated, then there may be a compatibility issue in the target database. For example, if the database column type is changed in the target database, then an error message is displayed.

- 6 To create your database tables and columns for your Business Vault database, run the downloaded database script in Microsoft SQL Server. After the script runs, a message is displayed: **Command(s) completed successfully**. Your database tables and columns have been created.
- 7 To ensure that the database tables and columns have been created, open the target database folder in the left panel of SQL Server. Right-click the database to display a context menu. Select refresh to refresh the database.
- 8 After the database is refreshed, you can open the database to view the tables and columns.

## Sample generated database script

```
/***** Create table [Shipment] Generated by Business Vault on 2015-12-01T16:15:58Z *****/
CREATE TABLE [Shipment] (
  [AccountingEntity] [nvarchar](400) NULL,
  [DocumentIDID_accountingEntity] [nvarchar](4) NULL,
  [DocumentIDID] [nvarchar](6) NULL,
  [NID] [nvarchar](146) NOT NULL,
  [DocumentIDID_variationID] [smallint] NULL,
  [ProcessedTimeStamp] [datetimeoffset] NULL,
  [VariationID] [bigint] NOT NULL,
  [DocumentIDID_NID] [nvarchar](146) NULL,
  [FromLogicalId] [nvarchar](400) NULL,
  [DocumentIDID_location] [nvarchar](5) NULL,
  [Location] [nvarchar](400) NULL,
  CONSTRAINT [Shipment_PK] PRIMARY KEY CLUSTERED
  ( [NID] ASC ,
  [VariationID] ASC
  )
```

## Activating the BOD mappings

When you activate a data store, the BOD mappings must have the same database tables and columns as in the target database. Otherwise, an error is displayed that the database script must be run before the data store can be activated.

BOD mappings are activated independently of data stores. If you have already activated your BOD mappings, you must activate the entire data store in order to process BODs. Not all of the same validations are run when activating a BOD mapping versus a data store. Therefore, it is strongly recommended that you activate/reactivate a data store if changes are made to any of your BOD mappings.

See [Activating a data store](#) on page 40.

- 1 Select **Data Store Management > Data Stores**.
- 2 Select a data store and drill-down to **Data Store Details**.
- 3 Select one or more BOD mappings and click **Activate**.

---

## Chapter 10: 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.

### Localizing your BOD mappings

To localize your BOD mappings, you must complete these tasks:

- Configure your database table for localization.
  - Configure your localized columns in each database table.
  - Specify the Locale column in the BOD mapping.
- 1 Select **Data Store Management > Data Stores** to display a list of configured data stores.
  - 2 Create a data store or 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.
  - 5 Select the **Localized Table** option to indicate that the database table contains localized and non-localized columns.
  - 6 Specify the table to store 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.
  - 7 Specify the columns that contain localized values by checking the **Localization** option for each column in the column data grid. This indicates that the column or value can be localized.
  - 8 Select the column that contains the **Locale** code by selecting the Custom Mapping value of **Locale**. You must have one column mapping that contains this code.
  - 9 Click **Save**.
  - 10 Click **Activate** to activate the BOD mapping and then click **Activate** to activate the data store. BODs can begin to process into the data store.

## Chapter 11: Custom Mapping Keywords

In the Business Vault, BOD mappings can include custom mappings. Custom mapping keywords are instructions to populate a table column field in a data store. The instructions are based on data in a BODs 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**.

Custom mapping keywords are used in standard Infor BODs and may be used for custom BOD mappings. 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 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.

Additionally, you can use custom mapping keywords when defining BOD mappings for custom BODs. Custom BODs are used to add custom data from Infor or third party applications in the Business Vault.

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.

## Using a concatenation keyword

- 1 Select **Data Stores**.
- 2 Create a data store or select a data store that has an inactive status. Drill down to the Data Store details.
- 3 Select one or more inactive BOD Mappings on the BOD Mapping data grid.
- 4 Specify the required BOD mapping header information and all the required database table information.
- 5 Select **Custom Mapping** on the column mapping row. A list of keywords is displayed.
- 6 Select the **Concatenation** keyword. The **Concatenation** dialog is displayed.
- 7 You must specify at least two parameters to concatenate. Click **New** to add a parameter. To edit a concatenation, click **Edit**.
- 8 Specify this information:

### Type

Select one of these options:

#### String

If you select **String**, then specify the actual value in the **Value** column.

#### Column

If you select **Column**, then select an existing database column in the **Value** column. The column must be from within the Flattening Area.

#### XPath

If you select XPath, then specify the actual XPath value. Specify the value in the text box, for example, `/*/DataArea/CustomerPartyMaster/Contact/Communication/AreaCode`. The XPath must be at the same level as defined in the table mapping Flattening Area field. The first level of the XPath cannot contain an explicit verb. For example, if you specify `SyncAssetMaster`, the BOD will not shred or extract successfully into the data store. The XPath must be in a valid and supported format.

See [XPath](#) on page 97.

- 9 Click **New** to add another parameter. Repeat until all parameters are added to build the concatenated value. Click the arrows to move a parameter to a different sequence in the grid.
- 10 To delete a parameter, select the row and click the **Delete** icon.
- 11 Click **Save**.

## 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.

## Using a separator keyword

- 1 Select **Data Stores**.
- 2 Create a data store or select an inactive data store. Drill down to the **Data Store details**.
- 3 Select one or more inactive BOD Mappings.
- 4 Specify the required BOD mapping header information and all the required database table information.
- 5 Select a **Custom Mapping** on the column mapping row. A list of keywords is displayed.
- 6 Select the **Separator** keyword. The **Separator** dialog displays.
- 7 Specify the separator value in the **Separator** field, for example, a dash is entered as -.
- 8 Click **New** to add a parameter. To edit a separator, click the **Edit** icon to the right of the Separator custom mapping column.
- 9 Specify this information:

### Type

#### String

If you select String, then specify the actual text in the **Value** field.

#### Column

If you select Column, then select an existing column from the database table in the **Value** field. The column must be from within the **Flattening Area**.

#### XPath

If you select XPath, then specify the XPath value in the **Value** field, for example, `/*/DataArea/CustomerPartyMaster/Contact/Communication/AreaCode`. The XPath must be at the same level as defined in the table mapping **Flattening Area** field. The first level of the XPath cannot contain an explicit verb. For example, `SyncAssetMaster` will not shred or extract successfully into the data store. The XPath must be in a valid and supported format.

See [XPath](#) on page 97.

- 10 Click **New** to add another parameter until all parameters are added to build the concatenated value. Click the arrows to move a parameter to a different sequence in the grid.
- 11 To delete a parameter, select the row and click **Delete**.
- 12 Click **Save**.

## 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.

## Using a substring keyword

- 1 Select **Data Stores**.
- 2 Create a data store or select an inactive data store. Drill down to the **Data Store** details.
- 3 Select one or more inactive BOD Mappings on the **BOD Mappings** data grid.
- 4 Specify the required BOD mapping header information and all the required database table information.
- 5 Select a **Custom Mapping** on the column mapping row. A list of keywords is displayed.
- 6 Select the **Substring** keyword. To edit a substring Custom Mapping column, click **Edit**.
- 7 Specify this information:

### Type

#### **XPath**

If you select XPath, then specify the XPath value in the **Value** field, for example, `/*/DataArea/CustomerPartyMaster/Contact/Communication/AreaCode`. The XPath must be at the same level as defined in the table mapping Flattening Area field. The first level of the XPath cannot contain an explicit verb. For example, `SyncAssetMaster`, will not shred or extract successfully into the data store. The XPath must be in a valid and supported format.

See [XPath](#) on page 97.

#### **Column**

If you select Column, then select an existing column from the database table in the **Value** field. The column must be from within the Flattening Area.

### **Start Position**

To break the string into more than one column, specify the start position for the substring. The Start Position defaults to a value of 1. A value of NULL or blank indicates a start position of 1.

### **End Position**

Specify the end position for the substring. The end position is the location of the last character to use for the column mapping value. The default is NULL or blank to indicate the end of the string. If an End Position is entered that does not exist, then the system will use the last known character

**Note:** If both Start and End Position are left NULL or blank, then the length of the entire string is selected.

### **Last "x" characters**

If you do not specify the start and end positions in a string, then you can specify the last characters. If you specify a Start or End Position, then the **Last "x" characters** is ignored.

- 8 Click **Save**.

## 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.

## Using a tokenizer keyword

- 1 Select **Data Stores**.
- 2 Create a data store or select an inactive data store. Drill down to the **Data Store Details**.
- 3 Select one or more inactive BOD Mappings on the **BOD Mappings** data grid.
- 4 Specify the required BOD mapping header information and all the required database table information.
- 5 Click a **Custom Mapping** column.
- 6 Select the **Tokenizer** keyword. To edit a tokenizer, click **Edit**.
- 7 Specify this information:

### Type

#### Column

If you select Column, select an existing column from the database table in the **Value** field. The column must be from within the **Flattening Area**.

#### XPath

If you select XPath, specify the XPath value in the **Value** field, for example, `/*/DataArea/CustomerPartyMaster/Contact/Communication/AreaCode`. The XPath must be at the same level as defined in the table mapping **Flattening Area** field. The first level of the XPath cannot contain an explicit verb, for example, `SyncAssetMaster`. The BOD will not shred or extract successfully into the data store. The XPath must be in a valid and supported format. See [XPath](#) on page 97.

### Delimiter

Specify the delimiter that indicates the beginning or end of a character string, for example, a colon, bracket, or comma. Carriage and line feed characters are not supported. You can use a space to tokenize each word into a sentence. The default is NULL or blank.

**Token Number**

Specify the token number. This is an integer only field. The default is NULL or blank. If a token number is entered that does not exist in the string, then the system will return the results as NULL.

**Include Delimiter**

Select the check box to include a trailing or leading delimiter when splitting a string.

**Delimiter Type**

If you select Include Delimiter, then you must specify the delimiter type. Select Trailing or Leading. The leading delimiter is ignored for the first token.

8 Click **Save**.

## 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.

## Using a duration keyword

- 1 Select **Data Stores**.
- 2 Create a data store or select an inactive data store. Drill down to the **Data Store Details**.
- 3 Select one or more inactive BOD Mappings on the **BOD Mappings** data grid.
- 4 Specify the required BOD mapping header information and all the required database table information.
- 5 Click a **Custom Mapping** column.
- 6 Select the **Duration** keyword. To edit a duration, click **Edit**.
- 7 Specify this information:

### Type

#### XPath

If you select XPath, specify the XPath value in the **Value** field, for example, `/*/DataArea/CustomerPartyMaster/Contact/Communication/AreaCode`. The XPath must be at the same level as defined in the table mapping **Flattening Area** field. The first level of the XPath cannot contain an explicit verb, for example, `SyncAssetMaster`. The BOD will not shred or extract successfully into the data store. The XPath must be in a valid and supported format.

See [XPath](#) on page 97.

#### Column

If you select Column, then select an existing column from the database table in the **Value** field. The column must be from within the **Flattening Area**.

### Duration

Specify the duration for the conversion:

Year

Months

Weeks

Days

Hours

Minutes

Seconds

Milliseconds

**Note:** To shred in milliseconds, select the Seconds option and ensure that the XML node includes a node that has decimal places for seconds (e.g., PT40.02S).

- 8 Click **Save**.

## 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 62.

## 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.

## Using a parent column keyword

- 1 Select **Data Stores**.
- 2 Create a data store or select an inactive data store. Drill down to the Data Store details.
- 3 Select one or more inactive BOD Mappings on the BOD Mapping data grid.
- 4 Specify the required BOD mapping header information and all the required database table information.
- 5 Click a **Custom Mapping** column. A list of keywords is displayed.
- 6 Select the **Parent Column** keyword.
- 7 In the **Parent Table** field, select the name of the parent table. This table is used to pull information for your BOD mapping. The **Parent Table** drop-down displays all database tables for the BOD mapping from the main table. The list of tables displayed contains those tables where the **Flattening Point** is a parent XPath of the current table.

For example: There are four tables in the BOD mapping defined with XPath Flattening Areas of: /A/B /A/B/C /A/B/C/D /A/B/F. The current table has a flattening area: /A/B/C/G. The parent tables available in the Parent Column dialog have Flattening Areas of: /A/B / and A/B/C, since the current table's Flattening Area of /A/B/C/G is inside of /A/B and /A/B/C.

- 8 Specify the **Parent Table Column** that contains the value to map for the field.
- 9 Click **Save**.

## 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.

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## Chapter 12: 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 again 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 the same BOD 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. You can 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. You must allow the replay to complete processing.

**Note:** If you use the `bv.purge.properties` file to purge error history, and you specify date and time filters, 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.

### 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 stopped or edited.
- **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 stopped or edited.
- **Error**  
The replay has encountered a problem starting and no BODs are processed. The replay failed to run. You may receive an error if the network or Business Vault 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 Business Vault network or server is down and the replay failed. You cannot re-run a replay with a status of **Undetermined**. You must duplicate the replay and re-run. Replays in an Undetermined status cannot be edited.
- **Complete**  
The replay has successfully been replayed. 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 complete status. You must duplicate the replay and re-run.  
**Note:** If you use the `bv.purge.properties` file to purge error history, then replays with a date beyond the purge date 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 this status. You must duplicate the replay and re-run.

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## Chapter 13: 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 the data store.

**Note:** If a noun does not display in the search results, then the Business Vault has not been alerted to the noun metadata. Manual steps are required to add the noun metadata to the Business Vault. A Business Vault installation only includes the noun metadata for standard Infor BODs. You must alert Business Vault of any additional noun metadata.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

To perform a search using Document Trace:

- 1 Select **Monitoring > Document Trace**. The **Document Trace** page is displayed. You can use this page to search for BODs within the Raw Data Vault.
- 2 To perform a **Message Search**, specify the selection criteria:

**Date Range (From and To) in UTC**

Specify the date and time range. Documents with a time stamp within this range 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. 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, we recommend 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 the expand icon to show the **Advanced Search**. Use this criteria to perform an advanced search:

**Verb**

The **Verb** describes the action that is requested for the document/noun. The options are **Sync/Show** or **Process**.

**Variation ID**

The number of times that the document was published with these attributes for the accounting entity and location. If you publish the same BOD more than once from the ERP or source system, a new variation ID is sent.

**Accounting Entity**

The accounting entity for the document.

**Location**

The location for the document.

**From Logical ID**

The From Logical ID of the sending application for a document.

**Revision ID**

The revision ID for the document. The revision ID is used to differentiate multiple instances of a document with the same ID in the ERP or System of Record.

**Status**

The status of the BOD document from the Status Code filed in the actual BOD. This status is not maintained by the Business Vault.

**BOD ID**

A unique identifier for the original BOD.

**Batch ID**

The unique ID of the batch. This number must be processed sequentially on the receiving side of the source system or ERP.

**Batch Revision ID**

The revision number of the batch. This number is used when a set of BODs fails. You can use a new revision number to resend the complete set. Each revision number must be higher than the preceding revision number. Sequential numbers are not required.

- 4 Click **Order By** to show the search results in a selected sort sequence.

You can choose to sort the results in ascending or descending order. An ascending sort shows the results lowest to highest, for example, A-Z, 1-9, or 2005-2008. If you do not specify an order, then the search results are sorted by the most recent BODs.

- 5 Click **Clear** to begin a new search.

- 6 Click **Search**. This grid shows a variety of criteria for the BOD, for example, the Accounting Entity, Verb/Document, and BOD ID.

The maximum search result is 500 documents. Refine your search to narrow the search results.

If the BODs do not appear in the results, ensure that the BODs have been pushed to the Raw Data Vault successfully from the ERP to the Business Vault through ION.

Because the Raw Data Vault captures and stores Huge BODs, these BODs also display in Document Trace. 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. You can click the next arrow to see other instances of the BODs, including the XML for other instances.

- 7 To sort the results by a particular column, click the column name.

- 8 To show the 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. 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.

**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

You can view the history of a BOD within the Business Vault in the Document History section. This section shows the start and end timestamps for each Business Vault component such as the Raw Data Vault or BOD Mapping. You can also monitor whether a BOD was shredded or extracted successfully into a data store.

**Note:** By default, all history is returned by the system. If you elect to purge the history in the `bv.purge.properties` file, then you will encounter errors based on the purge parameters setup in this file. For example, if you set up the data to purge after 60 days in this file, then a message is displayed that states, `Maximum history for results is 60 days`.

See [Data Store Management Purging History](#) on page 88.

You can view this information on the Document History grid:

**Component Start Date Time (UTC):** The start date time stamp for when a BOD was placed in the Component (Raw Data Vault or BOD Mapping In-box). This time is displayed in Universal Time Coordinated (UTC) format.

**Component End Date Time (UTC):** The completion date time stamp for when a Component is complete. If you are looking at an entry for the Raw Data Vault Component, then the BOD has been successfully compressed and stored. If you are looking at an entry for a Shredder Component, then the shredding or extracting of a BOD into a data store 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 only shows BODs that are successfully stored in the Raw Data Vault. 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. Confirm BODs cannot be viewed in the Business Vault user interface. For a BOD to be stored in the Raw Data Vault, these conditions must be met:

- Connection points and document flows must be setup in ION from the source system ERP to ION. It is the ION connection points and document flows that route BODs to the Business Vault.
- BODs must be pushed from the source system into Infor ION and routed to the Business Vault.

**Data Store:** For the Raw Data Vault component, this shows the Raw Data Vault label. For the BOD Mapping or 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. For BODs to be extracted or shredded successfully into relational data stores, these conditions must be met:

- You must create the database tables in advance. For Infor-delivered content, the database is created when you install the Infor Business Vault Base Data Store. For custom data stores, you must manually create the Microsoft SQL Server database and database tables.
- A data store must be activated with one or more BOD mappings that map BOD elements to data store tables and columns.

For more information, see [Data stores](#) on page 38.

### Raw Data Vault component

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. 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. The Confirm BOD is not visible in the Business Vault application

For a BOD to be stored in the Raw Data Vault, these conditions must be met:

Connection points must be setup in ION from the source system ERP to ION. Connection points and document flows from ION to the Business Vault are not required.

BODs must be pushed from the source system into Infor ION and routed to the Business Vault. A unique process is used by each source system for pushing BODs.

## 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 show 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 the **Data Stores Monitor** and **Replays Monitor** 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 have been deactivated. Additionally, it may be because the BOD is not processed or there is an error. If there are additional or fewer BODs to process after you run the replay, then the count can be different.

The **Data Stores Monitor** and **Replays Monitor** pages show you the total number of errors that have been handled or that are still an issue. When looking at a specific data store or replay, you can drill-down to view these errors in more detail.

By default, the Business Vault shows all errors on these pages. You can optionally purge the error history, to store errors in a certain time frame. You can use the `bv.purge.properties` file.

**Note:** If you use the `bv.purge.properties` file to purge error history, and you specify date and time filters, 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.

See [Data Store Management Purging History](#) on page 88.

## Using the Data Stores Monitor and Replays Monitor

- 1 Select **Monitoring > Data Stores Monitor** to monitor data stores and drill-down to errors. Both active and inactive data stores are displayed. The default view shows the most recently updated active data stores first.

- 2 Select **Monitoring > Replays Monitor** to monitor replays 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/time range. You can choose to filter your data stores or replays by these timeframes:
  - Last 15 minutes
  - Last 30 minutes
  - Last 1 Hour
  - Last 4 hours
  - Today
  - All
  - Custom
- 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 and custom 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 87.
- 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
<b>All</b>	Includes Handled and Unhandled errors.
<b>Handled</b>	Includes errors that are marked as Handled. No action is required.
<b>Unhandled</b>	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: Additional Business Vault BOD information

Custom BODs are supported in the Business Vault. You can create BOD mappings from custom BODs to include custom data from your Infor or third party applications into your reports.

### Using custom BODs and changing standard Infor BODs

A custom BOD is an XML document for data that is not included in a standard Infor BOD. Custom BODs extend Infor-delivered content with additional BOD content. You can create custom BODs for custom data in Infor ION.

See the *Infor ION Development Guide* for additional information on custom BODs.

When a custom BOD is defined in ION, some configuration is needed in the Business Vault to alert the Business Vault of the custom BOD. You must drop the `NounIDsInstance.xml` file into the Business Vault Noun Metadata drop folder.

The noun metadata for all standard Infor BODs is delivered with a Business Vault installation. There may be changes made to the standard Infor BODs between releases of the Business Vault. For example, if you install a new release of the Infor Business Vault Base Data Store, it may contain a new noun or a change to an existing noun. The same procedure that is used for custom BODs is used to alert the Business Vault of any noun metadata changes to standard Infor BODs.

See [Updating the Noun metadata](#) on page 85.

Custom data stores are created to support Custom BODs. Custom BODs are extracted or shredded into custom data stores, which are based on BOD mappings. You can use the BOD mapping generator wizard to generate the BOD mappings.

**Note:** If you are running Infor ION 11.1 or later, then there are individual files for each noun, `[noun name].xml`, instead of a single `NounIDsInstance.xml`. The instructions in this section refer to `NounIDsInstance.XML`. You can use the same process to configure the `[noun name].xml`. Copy the files with the new names into the noun metadata drop folder.

You can find the `NounIDsInstance.xml` file in Infor ION. This file defines the identifier for each custom noun. In ION, the `NounIDsInstance.xml` is located in this path: `C:\Program Files\Infor\ION\Desk\bin\RegistryData\BodMetaData\Custom\XML\NounIDsInstance.xml`.

For more information about the `NounIDsInstance.xml` file in ION, see the *Infor ION Development Guide*.

Locate the `NounIDsInstance.xml` file in ION to determine if the custom noun is already in the `NounIDsInstance.xml` file. If it is, you can copy the file into the Business Vault. Manually copy the `NounIDsInstance.xml` into the Noun metadata drop folder location: `<BV Install Folder>\BusinessVaultUIService\webapps\Business Vault\WEB-INF\classes\NounmetaDrop\`.

**Note:** When you install the Business Vault, a shortcut to the noun metadata drop directory is created. This is in your **Start** menu under the `Business Vault` folder in the `Noun Metadata Drop Folder`.

## Updating the Noun metadata

To update the `NounIDsInstance.xml` file in the `Noun Metadata Drop Folder`:

- 1 Select **Windows Start Menu**.
- 2 Browse to the Business Vault. The shortcut is created by the Business Vault installation
- 3 Select the `Noun Metadata Drop Folder`.
- 4 After the `NounIDsInstance.xml` file is configured, save the file with a unique name.
- 5 Copy the `NounIDsInstance.xml` file into the `NounmetaDrop Folder`.  
If you receive a message that you must have administrator privileges, click **Yes** to continue. To process successfully, the Business Vault services must be running.
- 6 Wait while the file is processed. Click **Refresh**. The process may take a few moments.
- 7 After the `NounIDsInstance.xml` file is processed, it is placed in a `Processed` folder. If the processing is unsuccessful, the file is placed in an `Unprocessed` folder. The file is re-named with a unique identifier after the file is placed in the `Unprocessed` or `Processed` folder. Do not delete files from the unprocessed folder.

You can also view processed noun metadata on the **Noun Metadata** page in the **Administration** menu option.

- 8 Refresh your Business Vault application in any of the **Document** drop-down lists to view the processed nouns. The custom BOD noun metadata is now identified by the Business Vault.

**Note:** It may take up to 10 minutes for the Document to show in the drop-down list.

You can view the file structure in [NounIDInstance.xml file example](#) on page 85.

**Note:** After you drop the `NounIDInstance.xml` into the Noun Metadata folder and the file is processed successfully, you can make additional changes to the noun metadata. For example, you can add `IDLocationXPath` to the noun metadata. Use the same instructions for re-processing the `NounIDInstance.xml` file after additional changes are made.

## NounIDInstance.xml file example

If the noun is not in the `NounIDsInstance.xml` file, then you must make manual changes to the update the `NounIDsInstance.xml` file. This is an example of a `NounIDsInstance.xml` file.

The .xml file contains entries for each noun in this format:

```
<Noun>
<NounName>SalesOrder</NounName>
<IDXpath>*/SalesOrder/SalesOrderHeader/DocumentID[1]/ID[not (@schemeName)]
</IDXpath>
<IDAccountingEntityXPath> */SalesOrder/SalesOrderHeader/Documen
tID[1]/ID[not (@schemeName)] </IDAccountingEntityXPath>
<IDLocationXPath> */SalesOrder/SalesOrderHeader/DocumentID[1]/ID[not
(@schemeName)]/@location </IDLocationXPath>
<AccountingEntityXPath>*/DataArea[1]/*AccountingEntityID[1]</Accountin
gEntityXPath>
<LocationXPath>*/DataArea[1]*/LocationID[1]<LocationXPath>
<VariationXPath> */DataArea/SalesOrder/SalesOrderHeader/Documen
tID[1]/ID[not (@schemeName)]/@variationID</VariationXPath>

... ( more elements ) ...
</Noun>
```

This is the minimum entry that must be created in the file to be displayed in the UI:

```
<Noun>
      <NounName>CustomNounName</NounName>
      <IDXpath>a valid XPath</IDXpath>
</Noun>
```

When updating the NounIDsInstance.xml file, follow these rules:

- Use the exact structure provided in the example for the .xml file.
- Ensure that the **IDXPath** specified is a valid **XPath**. If the **IDXPath** is not valid, an error occurs when you push the BOD to the Raw Data Vault and the BOD is not stored.
- Ensure that **\*/** is entered with the **IDXPath**, for example: <IDXPath>\*/DataArea/AccountingChart/IDs[1]/ID[not (@schemeName)]</IDXPath>
- **NounName** and **IDXPath** are required in the .xml file.
- All other elements are optional, such as:
  - Noun Type
  - ID Accounting Entity XPath
  - ID Location XPath
  - Display ID XPath
  - Accounting Entity XPath
  - Location XPath
  - Revision XPath
  - Variation XPath
  - Status XPath
  - Document Date Time XPath
  - BOD ID XPath
  - Batch ID XPath
  - Reference Key XPath
  - Description XPath

You can view the contents of the noun metadata file on the **Noun Metadata** page in the **Administration** menu option.

## 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 B: Data Store Management Purging History

The `bv.purge.properties` file allows you to purge data store management history from a Business Vault installation. We recommend that you use the purging function to limit the growth of your database. Additionally, you should purge accumulated errors that are no longer relevant or if you are preparing a production environment and must purge an older test system.

**Note:** If you use the `bv.purge.properties` file to purge error history and you specify date and time filters, 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** and see the configuration master list for an accurate representation of the replay status.

You cannot purge the BODs stored in the Raw Data Vault and all BODs are stored. Only the history of the BOD is purged. Additionally, you cannot purge analytic modeling publishing history with Business Vault Enterprise Edition.

The `bv.purge.properties` file contains these parameters:

- `purgeTables=false`

The default setting is false. When the `purgeTables` setting is **true**, these tables are purged:

- **BV\_TRACE:** This database table allows users to view the history of a BOD in the Business Vault through the History grid on the **Document Trace** page. When `purgeTables=true`, the History grid is limited in history to the value defined for the `daysbeforePurge` parameter, for example, 60 days.
- **BV\_ERROR\_REPORT:** This database table contains errors that are displayed on the **Data Stores** and **Replays Monitor** pages. The tables stores the errors that accumulate when shredding or extracting BODs into data stores or replaying BODs. When the `purgeTables=true`, the Data Stores and Replays Monitor pages is limited in history to the value defined for the `#daysbeforePurge` parameter, for example, 60 days.
- **Component Shredder In-box Tables:** This table or queue contains the BODs that are waiting to be shredded or extracted. They are shredded into data stores through BOD mappings after they are stored in the Raw Data Vault.
- **#daysBeforePurge=60** The default value for the `#daysBeforePurge` is set to 60 days if the `purgeTables` parameter is set to true . You can set the number of days in which you want to purge the data in the tables listed above. To use this setting, the `purgeTables` parameter must equal true. If the `purgeTables` parameter is false and the `#daysBeforePurge` parameter contains a value, then the value is ignored.

**Note:** The additional purge settings should not be changed.

To set the purge parameter:

- 1 Stop the Business Vault User Interface (UI) Service. Ensure that there are no users using the Business Vault application when your services are stopped as this will disrupt use of the system.

See [Starting and stopping services](#) on page 106.

**2** Browse to and select `C:\Program Files\Infor`.

**3** Open the folder `Infor Business Vault Enterprise Edition 11.3.2`.

The path may be different based on the path selected during the installation process. The default installation path for the enterprise edition is: `C:\Program Files\Infor\Infor Business Vault Enterprise Edition 11.3.2`. The default installation path for the standard edition is: `C:\Program Files\Infor\Infor Business Vault 11.3.2`.

**4** Browse to and select the `BusinessVaultUIService\webapps\BusinessVault\WEB-INF` folder.

**5** Open the `bv.purge.properties` file as an administrator in a text editor such as Notepad.

**6** Specify the appropriate values for `purgeTables=false` and `#daysBeforePurge=60`.

**7** Save your changes.

**8** Start the Business Vault User Interface (UI) service for the parameter changes to take effect.

See [Starting and stopping services](#) on page 106.

## Appendix C: BOD Mapping spreadsheet cross-reference

You can import zipped BOD mapping spreadsheet books into data store BOD Mappings. These imported BOD mappings are a collection of Microsoft Excel spreadsheets that map BOD elements to data store tables and columns. This section provides a cross-reference of the spreadsheet books to the Data Stores and BOD Mappings fields in the Business Vault application.

### BOD Mapping Name

The BOD Mapping Name corresponds to the name of the Microsoft Excel spreadsheet workbook. The name is user defined. Best practice is to select a name that is related to BOD content, for example, `SalesOrder.xls`.

We recommend that you specify a unique name that is as short as possible. Microsoft Excel has limitations on the length of a worksheet name.

### Properties worksheet

The Properties worksheet corresponds to the BOD mapping function.

BOD Mapping Spreadsheet Column	BOD Mapping User Interface Column
NOUN_NAME	Document
PARENT_DEFINITION	Not visible in the user interface, only visible in the spreadsheet.
VERSION	Not visible in the user interface, only visible in the spreadsheet.

## Config worksheet

This table matches the columns of the **Config worksheet** tab in the BOD Mapping spreadsheet to the fields on the **Table Mappings** portion of the page. The table name should be unique.

BOD Mapping Spreadsheet Column	BOD Mapping User Interface Column
TABLE	Table Name
SHEET_NAME_REF	Not visible in the user interface, only visible in the spreadsheet.
AREA	Flattening Area
LOCALIZABLE	Localization
LOCALIZABLE_TABLE_NAME	Localization
REPEATABLE	Repeatable
SUPPORT_HIGHEST_VARIATION	Highest Variation Only
VARIATION_TABLE_NAME	Maximum Variation Table Name
TABLE_DISPLAY_NAME	Maximum Variation Table Display Name
HIGHEST_VARIATION_ONLY	Highest Variation Only

## Table worksheet

This table matches the columns of the Table worksheets in the BOD Mapping spreadsheet to the fields in the Column Mappings portion of the page. Each BOD has one worksheet for each table, excluding the Localized tables.

BOD Mapping Spreadsheet Column	BOD Mapping User Interface Column
COLUMN_ID	Column Name
XPATH	XPath
DEFAULT_VALUE	Default Value
CUSTOM_MAPPING	Custom Mapping
LOCALIZABLE	Localization
VARIATION_COLUMN	Highest Variation Only
TRUNCATE	Truncate
BOD_KEY	BOD Key
PRIMARY_KEY	Primary Key

BOD Mapping Spreadsheet Column	BOD Mapping User Interface Column
NULLABLE	Nullable
DATA_TYPE	Column Type
LENGTH	Column Size
INFOR_EDITABLE	Not available on the user interface, only available in the spreadsheet.
COLUMN_DISPLAY_NAME	Display Name

## FUNCTION\_VARIABLES worksheet

This table matches the columns of the **FUNCTION\_VARIABLES worksheet** tab in the BOD Mapping spreadsheet to the fields on the user interface. These fields correspond to the custom mapping keyword dialogs: Parent Column, Separator, Concatenation, Duration, Substring, and Tokenizer.

BOD Mapping Spreadsheet Column	BOD Mapping User Interface Column
VARIABLE_ID	Variable ID
VALUE	Value
TYPE	Type

## Appendix D: BOD Mapping spreadsheet books

This chapter describes the changes made to the spreadsheet books from Business Vault version 10.2 (spreadsheet version 1.0) to Business Vault version 11.0 and later (spreadsheet version 2.0). Each column in an Excel spreadsheet matches to a column within the Data Stores and BOD Mappings user interface.

See [Creating and activating BOD mappings](#) on page 42.

In the Business Vault, you can import BOD mappings through the Data Stores and BOD Mappings user interface. These imported BOD mappings are a collection of zipped Microsoft Excel spreadsheets that map BOD elements to data store tables and columns. You can export these spreadsheets out of the application. The exports are in version 2.0.

### Properties worksheet

This section includes changes to the Properties worksheet.

### Version

The version number refers to the Microsoft Excel spreadsheet book. If the version is set to 1.0.0, then the spreadsheet book is from Infor Business Vault 10.2. You can use the Data Stores user interface to import version 1.0.0 spreadsheet books. If the version is blank, then the spreadsheet book is also version 1.0.0. When you import 1.0 mappings and then export the mapping, it is converted to version 2.0.0. Version 2.0.0 is an indication that the spreadsheet book is from release Infor Business Vault 11.0 or later.

### Config worksheet

This section includes the changes to the Config worksheet.

## TABLE\_DISPLAY\_NAME

You can enter an alias for a table name. The maximum character length for table display name is 100 characters.

## HIGHEST\_VARIATION\_ONLY

If the **SUPPORT\_HIGHEST\_VARIATION** is specified, then a second table exists. The second table contains only data that is associated with the highest Variation ID. You can specify the **VARIATION\_TABLE\_NAME**. This is the name of the database table that will store the highest variation information. Additionally, you can select the **HIGHEST\_VARIATION\_ONLY** field and only the highest variation information will be stored in the main table.

If you specify **HIGHEST\_VARIATION\_ONLY**, then data is stored in the main table. The table must have the message header custom mapping keyword of **MH-VARIATION-ID** populated in the **CUSTOM\_MAPPING** column. Additionally, the **Highest Variation** must be set to true for the column.

## Table worksheets

This section includes changes for the Table worksheets.

## XPATH and XPATH CONSTRAINT

The **XPATH\_CONSTRAINT** column is not included in Infor Business Vault 10.3 or later. The XPath constraint can be included in the XPath column as a concatenated value after the XPath value.

## PRIMARY KEY

The primary key is used to uniquely identify a row or column in a database table. For example, requisition number is a primary key used within the requisition document. The primary key is useful when joining two tables.

If you specify **PRIMARY\_KEY**, then the column in the database table is the primary key. You cannot activate a BOD Mapping without a primary key.

## NULLABLE

If you specify **NULLABLE**, then the column is blank or NULL.

## INFOR\_EDITABLE

This field is only used if the import file is for Infor-delivered content. If the **INFOR\_EDITABLE** field is specified, then you can edit the BOD Mapping in the user interface. If the field is not specified, then you cannot edit the BOD Mapping in the user interface. Only the **XPath** and the **Default Value** fields, for columns with user areas and classification codes, can be edited for Infor-delivered content.

## DATA\_TYPE

Each column has a related data type classification. Only these Microsoft SQL Server column types are supported:

- **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 1547636 on the Xtreme Support portal for more information on **datetimeoffset**.

**Note:** If you specify **time** as the column type, then you must use this format in the BOD XML:  
**hh:mm:ss**.

## LENGTH

This field is a string that describes the size of the database column. The length value depends on the data type specified. If the data type does not have a required length, then you can leave this field blank.

This chart describes the lengths for each data type:

---

Data Type	Length	Description
bigint		No required length
nvarchar	50	Any integer 1-4000 or the word <b>MAX</b>
varchar	100	Any integer 1-8000 or the word <b>MAX</b>
datetime2		7or blank
decimal	10,5	Add valid values
int		No required length
bit		No required length

---

## COLUMN\_DISPLAY\_NAME

You can enter an alias for a column in the **COLUMN\_DISPLAY\_NAME**. This is restricted to 100 characters.

---

## Appendix E: XPath

This chapter describes XPath syntax. 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.

**Note:** The Business Vault supports a subset of the XPath functionality. Many commonly used XPath constructions are not supported. The double slash operator (`//`), for example, `//ShipmentHeader/DocumentID` is not supported. Additionally, the namespace prefixes are treated as raw data strings. If the XML does not contain the prefix, the XPath's 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 `attr2` 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(@attr2='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 (@attr2='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</CountrySubDivisionCode>
              <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 F: Troubleshooting

This section includes information that you can use to troubleshoot the Infor Business Vault.

### BOD Processing

#### A standard or custom BOD is not processing

**Cause:** You must alert the Business Vault application that a custom BOD has been added to ION or if you are implementing a change to a standard BOD that has noun metadata changes.

**Solution:** You must manually add a `NounIDsInstance.xml` file in the `Noun Metadata` drop folder to alert the Business Vault of a custom BOD.

If a custom BOD is not processed, then it is placed in the unprocessed folder. Check the formatting of the `NounIDsInstance` file and the `IDXPath`. Ensure that `/*` is specified with the `IDXPath`, for example: `<IDXPath>*/DataArea/Accounting Chart/IDs[1]/ID[not (@schemeName)]</IDXPath>`. The `NounIDsInstance` file must have an extension of `.xml` (all lower case). Additionally, ensure that the `XPath` points to the correct path in the BOD. The `Noun Name` is required.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

#### BODs are not being processed by the Business Vault

**Cause:** There are multiple reasons that BODs are not stored in the Raw Data Vault and displayed in the **Document Trace**. Only BODs that are defined in Document Flows to a Business Vault Connection Point are routed to the Business Vault.

**Solution:** Verify that you have published BODs from the ERP or source system. Each ERP has its own process for publishing BODs through ION to the Business Vault. Contact a representative of the ERP for instructions on how to push BODs from the ERP.

To verify if BODs are processed by the Business Vault, use the **Document Trace** page. BODs that have been processed by the Business Vault and into the Raw Data Vault are displayed in the search results of the **Document Trace**.

---

### Errors while activating data stores

**Solution:** If errors occur when activating a data store, then check the **Activation Results** page for activation errors. When running a replay or processing BODs into a data store, check the **Data Stores Monitor** or **Replays Monitor** pages for errors.

The **Activation Results** dialog shows whether the data store activation has failed or if it was successful. If the activation has failed, then you can check the mapping validation errors. Correct these errors and re-activate the data store.

### Errors while processing BODs into a data store or replay

**Solution:** On the **Data Stores Monitor** and **Replays Monitor** pages, you can check data stores or replays that have errors. You can view all of the errors by drilling into the **Errors** page.

See [Monitoring the Business Vault](#) on page 77.

**The error message: Tenant cannot be empty is generated when extracting a BOD into a data store**

**Solution 1:** Ensure that ION document flows and connection points are used to route BODs to the Business Vault. You may receive this error if you used ION Listener to send BODs to the Business Vault. ION Listener is not supported by the Business Vault.

**Solution 2:** You may receive this error if the tenant does not exist in your Business Vault installation. Reference KB 165445 on the Infor XTreme Support portal for instructions on setting the tenant name in the Business Vault.

**Note:** Ensure your Business Vault databases are backed up before you change the tenant name.

## Starting and stopping services

The Infor Business Vault has three services:

- User Interface (UI) service
- Raw Data Vault service
- BOD Mapping service

When you install the Business Vault, all three services are turned off. After you set up Business Vault security, you must turn on the services.

**Note:** You can have more than one installation of the Raw Data Vault and the BOD mapping services.

It may be necessary to stop and restart any of the services. Changes to the Business Vault security set up, database, port, or properties file changes, require a restart. Services must be restarted when either service starts before the Microsoft SQL Server service is active.

- 1 Logon to the Windows server where the Business Vault service is installed.
- 2 Select **Control Panel > Administrative Tools > Services**.
- 3 Right-click the selected service:

- **InforBVUI**: the Business Vault User Interface service.
- **InforBVRDV**: the Business Vault Raw Data Vault service.
- **InforBVBODMapping**: the Business Vault BOD Mapping service.

**Note:** These service names are the default names in the installer and can be changed during the installation.

- 4 Click **Stop** to stop the service. Click **Start** to start the service.

## Business Vault services won't start

**Cause:** If you cannot start any of the Business Vault services, ensure that your Java path has not changed.

**Solution:** Locate your Java directory and ensure that you have the supported version of Java and the JCE Policy files installed. Ensure that all of the Business Vault services are pointing to the correct location of the Java path.

See the *Infor Business Vault Installation Guide* for information on changing the JRE path.

## Changing the JRE path

When you install Business Vault, the Java Run Time Environment (JRE) path is defined for your Business Vault environment. During the installation, the Business Vault installer locates the supported JRE files.

If the Java path changes, by either a manual or an automatic update of your Java version, your Business Vault environment will stop working properly. For example, you may not be able to start your Business Vault services.

**Solution:**

- Option 1: You must update the Business Vault with the new Java location.  
See [Changing the JRE path for the Raw Data Vault and BOD Mapping services](#) on page 107 and [Changing the JRE path for the User Interface service](#) on page 108.
- Option 2: Re-install the older version of the Java JRE and JCE files. For the exact versions of these files required, see the *Infor Business Vault Installation Guide*.

## Changing the JRE path for the Raw Data Vault and BOD Mapping services

- 1 Stop the Raw Data Vault and BOD Mapping services.

See the *Infor Business Vault Administration Guide* for information on stopping and starting services.

- 2 Browse to your Business Vault installation location and select the `BusinessVaultSHR` service folder.
- 3 Locate the `conf` folder.
- 4 Open `wrapper.conf` as an administrator in a text editor application such as Notepad or Notepad+.
- 5 Specify the correct version of Java for the `wrapper.java.command`, for example, `\\Program Files\\Java\\jre1.8.0_25\\bin\\java`  
**Note:** Ensure that double slashes are used throughout the path.
- 6 Save your changes.
- 7 Browse to and select the `BusinessVaultRDR` service folder.
- 8 Locate the `conf` folder.
- 9 Open `wrapper.conf` as an administrator in a text editor application such as Notepad or Notepad+.
- 10 Specify the correct version of Java for the `wrapper.java.command`, for example, `\\Program Files\\Java\\jre1.8.0_25\\bin\\java`  
**Note:** Ensure that double slashes are used through the path.
- 11 Save your changes.
- 12 Uninstall the BOD Mapping service. Browse to your Business Vault installation location and select the `BusinessVaultSHR` service folder.
- 13 Open the `bat` folder and double-click `UninstallService.bat`.
- 14 Re-install the BOD mapping service. Right-click `InstallService.bat` and select **Run as administrator**.
- 15 Start the BOD Mapping service.
- 16 Uninstall the Raw Data Vault service. Browse to your Business Vault installation location and select the `BusinessVaultRDR` service folder.
- 17 Open the `bat` folder and double-click `UninstallService.bat`.
- 18 Re-install the Raw Data Vault service. Right-click `InstallService.bat` and select **Run as administrator**.
- 19 Start the Raw Data Vault service.

## Changing the JRE path for the User Interface service

- 1 Stop the Business Vault User Interface service.  
 See the *Infor Business Vault Administration Guide* for information on stopping and starting services.
- 2 Select the **Microsoft Windows Start** menu.
- 3 Locate the shortcut in the **Start** menu that was provided during your Business Vault installation.
- 4 Select the **BV Web UI Service Config** option. The **Infor Business Vault User Interface Properties** dialog is displayed.
- 5 Select the **Java** tab.
- 6 Ensure that the path in the **Java Virtual Machine** field is pointing to the correct version of Java, for example, `C:\Program Files\Java\jre1.8.0_25\bin\server\jvm.dll`
- 7 Start the Business Vault User interface service.

---

## 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.

## Accessing Infor Business Vault logs

When troubleshooting the Business Vault, you can access the Business Vault logs for more information.

These logs are available:

- **General Business Vault Log:** There are two general Business Vault logs:
    - The first is located in the `BusinessVaultSHR\Logs` folder. This log shows general errors for the BOD Mapping service.
    - The second is located in the `BusinessVaultRDR\Logs` folder. This log shows general errors for the Raw Data Vault service.
  - **Raw Data Vault Log:** This log is located in the `BusinessVaultRDR\Logs` folder. This log shows errors for BODs that have failed to be stored in the Raw Data Vault.
  - **User Interface (UI) Log:** This log is located in the `BusinessVaultUIService\Logs` folder. This log shows user interface transactions as you are using the Business Vault.
  - **Tomcat Logs:** The tomcat logs are located in the `BusinessVaultUIService\Logs` folder. Additional Tomcat logs are displayed when Tomcat starts or stops.
  - **Validation Log:** The validation log is located in the `BusinessVaultUIService\Logs` folder. This log contains analytic modeling validation result details.
- 1** Select the **Windows Start Menu**. Browse to the location where you installed Business Vault.
  - 2** To access the Business Vault User Interface (UI) logs, select the folder called `BusinessVaultUIService`. Select the `Logs` folder. All of the Business Vault UI logs are displayed.
  - 3** To access the Business Vault Raw Data Vault Service logs, select the folder called `BusinessVaultRDR`. Select the `Logs` folder. All of the Business Vault Raw Data Vault Service logs are displayed.
  - 4** To access the Business Vault BOD Mapping Service logs, select the folder called `BusinessVaultSHR`. Select the `Logs` folder. All of the Business Vault BOD Mapping Service logs are displayed.
  - 5** Open the log files in Notepad to view the contents of the logs.

## Appendix G: 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.

#### **Is Infor Business Vault offered in the cloud?**

Yes.

#### **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 configuring and activating 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. 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. The document flows can be setup for a tenant. On the **Connection** tab details, specify your database connection parameters (Microsoft SQL Server), and Host Name, Port, etc. Select all of the Documents you want to add on the Documents tab.

See the *Infor ION Desk User Guide*.

#### **When setting up a connection point in ION, should it be established for the Business Vault Runtime database or a Data Store database?**

The connection point in ION should be established for the Business Vault Runtime database that was created when you installed the Business Vault.

#### **Does Infor Business Vault work with the ION listener functionality?**

Because ION is not able to share its noun metadata, the use of the ION listener functionality can result in BODs being automatically routed to the Business Vault. The Business Vault is not able to receive them, resulting in errors. To prevent this, ensure that any custom BOD noun metadata is provided to the Business Vault.

Document flows provide the most control of what is received by the Business Vault. You must decide which BODs are routed to the Business Vault and the Business Vault is alerted of the noun metadata for the custom BODs.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

#### **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 custom BODs and 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.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

#### **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 ERP's outbox to the Business Vault. Every time a BOD is published from the ERP, a new variation ID for the BOD is sent 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. Therefore, all variations of the BOD are stored. When you publish the same BOD from an ERP or source system, a new variation ID is sent to the Business Vault every time the BOD is published.

#### **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:** Variation ID is not required to shred a BOD. If no Variation ID is sent, then the Business Vault assumes a value of 0. Therefore, only the most recently received BOD is stored.

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

Only BODs that are defined in Document Flows 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?**

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.

### 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 store, then no confirm BOD is sent.

### Can Business Vault extract or shred any custom or 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. This includes custom BODs or standard Infor BODs.

### 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 a Business Vault installation. There may be changes made to the standard Infor BODs between releases of the Business Vault. For example, if you install a new release of the Infor Business Vault Base Data Store, it may contain a new noun or a change to an existing noun. The same procedure that is used for custom BODs is used to alert the Business Vault of any noun metadata changes to standard Infor BODs.

### What type of information is required in the noun metadata?

Only the Noun Name and IDXPath are required in the noun metadata. The other noun metadata elements are optional such as AccountingEntityIDXPath, LocationIDXPath, and VariationXPath.

### I have dropped a custom BOD or a standard Infor BOD into the Noun Metadata drop folder, but the file is displayed in the Unprocessed folder? What do I do?

After the `NounIDsInstance.xml` file has completed processing, it is placed in a Processed folder. If the processing is unsuccessful, then the file is placed in an Unprocessed folder. Ensure the `NounIDsInstance.xml` is correct and reprocess the BOD.

Ensure that the XPath is valid and the format in the `.xml` is correct. Also, ensure that the file is labeled with `.xml` and not `.XML`. The file will not process if it is specified in uppercase.

See [Using custom BODs and changing standard Infor BODs](#) on page 84.

### 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 huge 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 18.

### 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.

### Who has access to the Database Connection menu option?

In Infor Business Vault, only the BVDatabaseAdmin security role can create, edit, and delete database connections. The BVAdmin role has access to the Database Connections page, but only to maintain analytic models and remove views from a source database.

See the *Infor Business Vault Installation Guide*.

### What is a standard database connection?

A standard database connection identifies the source of data to use when you are building hierarchies, dimensions, and cubes. Standard database connections are also used for data stores and BOD mappings. Standard database connections are also called source database connections.

### What is a target database connection?

A target database connection identifies the database into which dimension and cube definitions and data are published. Target database connections are not applicable for the data store management feature.

### Why are database connections associated with models?

Setting up models is not required for Data Store Management. On the **Database Connections** page, the BVAdmin role can setup and use models for a standard database. Models are containers with user-friendly aliases for properties, entities, table relationships or joins, custom properties, custom entities and preconfigured dimension configurations. The objects in a model make it easier for you to define hierarchies, dimensions, and cubes by providing metadata. Models are optional and make it easier to build analytic modeling definitions.

Models are associated with standard database connections. When you setup a model, you can add new models, and import/export models. Models do not have any security. For example, if the model references a salary table, you can use modeling functions to preview the data in the table.

### **What is the Remove views option on the Database Connections page?**

The BVAdmin role can remove all analytic modeling views used to validate and publish dimension and cubes facts. Views only apply to source database connections for analytic modeling in Business Vault Enterprise Edition.

When you are removing views, ensure that no validation and publication processes are running. Deactivate publications and schedules before removing the views. If all views are not removed, then re-run the remove process.

## **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 mappings](#) on page 15.

### **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, for an Infor data store.

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. They are 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.

### **Why is my Data Store activation failing?**

Failure to activate a data store can be caused by a BOD mapping validation error. These include an invalid column or table name in the BOD mapping. Additionally, ensure you have a valid database connection and the BOD Mapping service is started.

### How do I setup a database connection to use for my data store?

Database Connections are setup on the **Database Connections** page.

Before you set up a database connection for a custom database, you must create the database in Microsoft SQL Server. If you are setting up a database connection to the Infor Business Vault Base Data Store database, ensure that you have performed an installation of the Infor Business Vault Base Data Store. The installation creates the database.

See [Configuring standard database connections](#) on page 20.

### How can I see the Database Connections page in the Business Vault?

The BVDatabaseAdmin security role is required to access the **Database Connections** page. Ensure this role is setup for your user.

### What is an Infor data store?

An Infor data store contains Infor-delivered content through BOD mappings. This provides protection against inadvertently changing Infor content. You cannot change an Infor data store.

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

### Where do I obtain standard Infor BOD Mappings for an Infor data store?

A single zip file that contains your standard Infor BOD mappings is included in the Infor Business Vault Base Data Store installation process.

### How do I extend an Infor data store?

Depending on your business needs, you can extend an Infor data store using a variety of methods:

- Create a custom BOD with your additional BOD content in ION and then configure a data store and BOD mapping for that custom BOD in the Business Vault.
- Modify user areas and classification code columns via the XPath and Default Value fields in the Business Vault user interface for an Infor data store.
- Add tables and columns to an Infor database. To add tables and columns:
  - 1 Create a new data store that points to an Infor database.
  - 2 Create a BOD mapping, either manually, import, or generator wizard, for a standard Infor BOD that contains extra user areas.
  - 3 Activate the BOD mapping and generate a database script to run in Microsoft SQL Server to create the new tables and columns in the Infor database.

### 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.

### **If I upgrade the Infor Business Vault Base Data Store, how do I update the data store and BOD mappings in the Business Vault application?**

If you upgrade from one version of the Infor Business Vault Base Data Store to a new version, then you must re-import all the standard Infor BOD Mappings in the Business Vault application via the Data Stores and BOD Mappings page. Any modifications made to columns with user areas and classification codes will not be overwritten. Your customizations are not lost.

See the *Infor Business Vault Installation Guide* for more information on the Infor Business Vault upgrade process.

See the *Infor Business Vault Base Data Store Installation Guide* for more information on the Base Data Store upgrade process.

## 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.

### **How do I create a BOD mapping?**

BOD mappings are created on the **Data Stores** page or by importing a collection of Microsoft Excel spreadsheets in a single `.zip` file. Ensure the file extension `.zip` is lowercase.

### **In the Business Vault Version 10.2, a collection of Excel spreadsheets were placed in a .zip file to map BOD elements to data store tables and columns. Are these Excel spreadsheets still supported?**

There is an import function in the Business Vault that you can use to import a collection of Excel spreadsheets in a `.zip` file. Ensure the file extension `.zip` is lowercase. You can import the Business Vault 10.2 BOD mapping definitions and then export the definitions in the new Business Vault Version 11.0 and later format.

### **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*.

### **When the Business Vault receives BODs from ION and stores them in the Business Vault, is a BOD mapping automatically created for that BOD that was received in the Raw Data Vault In-box?**

No. After a BOD is received by the Business Vault's Raw Data Vault, you must create a BOD mapping for that BOD.

### **What is the difference between a BOD mapping and a table and 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.

### **What does the BOD mapping generator wizard do?**

The generator creates BOD mappings and tables and column mappings from BOD XML documents. These BODs can be uploaded from a local file directory or selected from the Raw Data Vault. The generator results in a mapping that you can review for modifications and activate.

### **I've created a BOD mapping on the Business Vault User Interface (UI). How do I create my database tables and columns in the database?**

You can generate a database script through the **Data Stores** page. You can run the script in Microsoft SQL Server to create all of the database tables and columns for the Business Vault database. This is the target database for your BOD mapping. The database script adds tables and columns to your Business Vault database. It does not execute any database changes.

### **I am trying to generate a database script on the Data Stores/BOD Mapping UI, but the script is blank.**

The database script is blank if you have already generated a database script, ran the script in Microsoft SQL Server, and created the tables and columns. If you try to generate the database script a second time, then the script is blank. The tables and columns already exist in the target database. A new script is only created if new tables and or columns are added.

### **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 then the BOD mapping is updated, then you must:

- 1 Ensure that the tables and columns exist in your target database. They can either be created manually or generate a Microsoft SQL Server script.
- 2 Make sure that you 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, then an error is displayed when activating your data store.

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

Ensure that the BOD Mapping service is started.

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 received by the Business Vault will be routed to and processed by the BOD mapping. They are then populated in the data store.

If there are changes to the data store, you can use the replay feature to refresh the data store.

**I created data store tables and columns in the target database, activated the data store, and activated the BOD mapping, but I do not see any values in the database tables?**

To see values in the database tables, you must ensure that you have BODs flowing into that data store. If the BOD is stored in the Raw Data Vault, then you can run a replay. This will replay a selection of BODs from the Raw Data Vault to your 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 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.

For more information on Custom Mapping keywords, see [Custom Mapping Keywords](#) on page 63.

**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 `Local` for at least one of the columns.

For more information, see [Localization](#) on page 62.

**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.

## BOD mapping service

A service for the BOD mapping feature that runs in the system background. This service is required to successfully shred or extract BODs into data stores.

## 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.

## BVDatabaseAdmin

A security role that has permission to create, edit, and delete database connections, and enter parameters for connection strings, user names, and passwords. This role is required to add and assign models to database connections for analytic modeling. The BVDatabase Admin role is required for updating data stores and BOD mappings.

## 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 BOD

An XML document for data that is not included in a standard Infor BOD.

## custom data store

A collection of user-defined tables that are used for client customization.

## 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 sent 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.

**Generator Wizard**

Automatically generates BOD mappings(s) and their tables and column mappings from BOD XML documents

**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, the 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.

**ION Registry**

A utility component that is used by ION Desk. It contains the latest noun information such as noun version, contents, and relationships. For more information on ION Registry, refer to the ION documentation.

**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.

**raw data vault service**

A service for the Raw Data Vault feature that runs in the system background. This service is required so that BODs can be picked up by the Business Vault and for data stores and BOD mappings to be configured.

**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.

**runtime database**

Contains the in-box for receiving BODs from ION. It also contains the Raw Data Vault where the compressed raw XML blobs are stored. It contains the Runtime version of the definitions used for extracting BODs through BOD mappings.

**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.

**standard edition**

A version of the Business Vault that includes the data store management 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.

**target database connection**

Identifies the database into which dimension and cube definitions and data are published. Target database connections are for analytic modeling in the Enterprise Edition.

**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.

**user interface database**

This database contains the content for Business Vault user interface definitions.

**user interface service**

A service for the Business Vault User Interface that runs in the system background. This service allows transactions to be written against the UI database where you build your definition content for the Business Vault.

**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.