



Import and Export



GE VERNOVA

Contents

Chapter 1: Overview	1
About Import and Export	2
About Exporting Metadata	2
Data Types Available for Import and Export	2
About the Excel File	8
About the XML File	9
About the Files Folder	9
About Action Indicators	10
Possible Values for Action Indicators	10
About Importing Metadata	10
Access the Export Page	11
Access the Import Page	11
Chapter 2: Import and Export	13
Export Metadata	14
Export Records and Links	14
Import Metadata	15
Import Records and Links	16

Copyright Digital, part of GE Vernova

© 2024 GE Vernova and/or its affiliates. All rights reserved.

GE, the GE Monogram, and Predix are trademarks of General Electric Company used under trademark license.

This document may contain Confidential/Proprietary information of GE Vernova and/or its affiliates. Distribution or reproduction is prohibited without permission.

THIS DOCUMENT AND ITS CONTENTS ARE PROVIDED "AS IS," WITH NO REPRESENTATION OR WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF DESIGN, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. ALL OTHER LIABILITY ARISING FROM RELIANCE UPON ANY INFORMATION CONTAINED HEREIN IS EXPRESSLY DISCLAIMED.

Access to and use of the software described in this document is conditioned on acceptance of the End User License Agreement and compliance with its terms.

Chapter 1

Overview

Topics:

- [About Import and Export](#)
- [About Exporting Metadata](#)
- [Data Types Available for Import and Export](#)
- [About the Excel File](#)
- [About the XML File](#)
- [About the Files Folder](#)
- [About Action Indicators](#)
- [Possible Values for Action Indicators](#)
- [About Importing Metadata](#)
- [Access the Export Page](#)
- [Access the Import Page](#)

About Import and Export

The Import and Export tool allows you to export metadata from a APM data source to a Microsoft Excel or XML file and import APM metadata that is stored in a Microsoft Excel or XML file into a APM data source.

To perform the export and import operations, you must log in to one data source, export the metadata, log out of the APM application, then log in to a different data source, and import the metadata.

Exporting metadata is a process in which information is extracted from the current APM data source and saved to an XML or Microsoft Excel file. Export files provides a "snapshot" of the metadata in your database. For example, to see all the privileges that are configured for a particular Security User or Security Group, you can export their privileges. To see a full list of all the fields defined for multiple families, you can export those families and fields.

When exporting metadata, you can select all items or some of the items, and when importing metadata, you can select all or some of the items.

Note: In most cases, throughout the APM documentation, we do not provide lists of families, fields, System Codes, and other information that can be obtained by exporting the associated metadata. Keep in mind that you can do an export anytime you need to see a snapshot of the metadata in your database.

About Exporting Metadata

Exporting metadata is a process in which information is extracted from the current APM data source and saved to an XML or Microsoft Excel file.

When exporting metadata, you can select all items or some of the items in a data type. You can export metadata from a APM data source to a Microsoft Excel or XML file.

Data Types Available for Import and Export

You can use the Import and Export tool in the Configuration Manager to import or export metadata for the certain data types.

The following table lists the data types that can be imported or exported.

Data type	Notes
Associated Pages	<ul style="list-style-type: none"> • All Associated Pages will be exported exactly as they are defined. If the URL parameters contain values that are specific to the source schema (e.g., entity or family keys), if they are then imported into a different target schema that does not contain those values, the links may not work properly. • If you attempt to import Associated Pages from a spreadsheet where a row for a subfamily occurs before the family row, the Associated Pages will not be imported successfully. The log, however, will indicate that the import was successful. When you import Associated Pages, be sure that the family exists before the subfamily within the import file.
Dashboards	<p>When you export or import a dashboard, you can also automatically export or import the graphs and underlying queries that have been used to configure dashboard sections. We recommend that whenever you export or import a dashboard that you also export or import the associated queries and graphs.</p>
DataLoader Templates	<p>You can choose to export or import all the DataLoader Templates or only some of them.</p>
Datasets	<p>You can choose to export or import all the Datasets or only some of them.</p>
Datasheets	<ul style="list-style-type: none"> • When you import a datasheet that already exists in the target data source, the existing datasheet will always be automatically overwritten by the new one. • Action indicators are not included in the export file for datasheets. • If you are exporting a custom-layout datasheet, make sure that you also export the associated system preference.

Data type	Notes
Families, Fields, and Field Behaviors	<ul style="list-style-type: none"> • This data type includes: <ul style="list-style-type: none"> ◦ All the family and field metadata for the selected families ◦ The field behaviors defined for that field, • The APM system requires the caption defined for each family and field to be unique. When you import families and fields, if the APM system determines that a family or field caption is a duplicate of an existing caption, an underscore will be appended to the end of the caption, and a warning will be written to the import log. • When you import families and fields, the physical storage for those families and fields will be created automatically. • When you try to import a file containing multiple families with State Configurations, a warning message appears, indicating that the file cannot be imported. You can successfully import a State Configuration only if the import file contains one family. • If you export a family whose State Configuration includes a state to which a State Configuration Role is assigned, this assignment will be available in the Roles section of the export file.
Family Policies	<p>The Import and Export feature will allow you to import and export the Family Policy configured for a family. However, the following are few points that you must consider.</p> <ul style="list-style-type: none"> • When you select the Family Policy metadata, the list of family for which the family policy are defined, appears in the Available Items section. • Selecting a family will import or export all the family policies existing for that family. • When you import a Family Policy that already exists in the target data source, the existing family policy will always be automatically overwritten by the new one. • Action indicators are not included in the export file for Family Policy. <p>Note: Family Policies exported from APM V4 databases may be imported into APM V5; however, Family Policy models containing Create Relationship, Delete Relationship, and Delete Entity nodes must be updated after importing into the APM V5 database. Family Policies exported from APM V5 databases may be imported into APM V4; however, Family Policy models containing Delete Entity nodes must be updated after importing into the APM V5 database.</p>
Family Rule Projects	<p>You can choose to export or import all the Family Rule Projects or only some of them.</p>

Data type	Notes
Folders	<ul style="list-style-type: none"> • Exporting a folder exports only the folder structure, not the folder content. • When you import or export a folder, any folder-level permissions that are assigned to that folder will also be imported or exported along with the folder. • While main-level personal, public, and baseline folders can be exported, only subfolders within these folders can be imported into APM.
Graphs	<p>When you export or import a graph, you can also automatically export or import the underlying queries that have been used to configure the graph. We recommend that whenever you export or import a graph that you also export or import the associated queries. If you import a graph into a database where the associated queries do not exist, error messages will be displayed when Security Users attempt to use the graph.</p>
KPI	<p>The Import and Export feature will allow you to export and import the KPIs that are created by using the data source Analysis Services, Manual, or APM Query. However, the following are a few points that you must consider.</p> <ul style="list-style-type: none"> • For the KPIs that are using the data source as APM Query, all the queries will also get imported or exported. • The KPIs that are created by using the data source Analysis Services (Cube), the history will not get imported. • The KPIs that are using the data source as of type Manual, the data will not get imported. • The schedules and the privileges associated with a KPI will also get imported or exported.
Metric Views	<p>The Import and Export feature will allow you to import Metric Views regardless of whether or not the associated Cubes exist, but to avoid encountering problems when working with imported Metric Views, you should create all the necessary Cubes before importing the associated Metric Views.</p>
Offline Forms	<p>You can import and export all or only some of the Offline Form configured for a family. However, the following are a few points that you must consider.</p> <ul style="list-style-type: none"> • When you import an Offline Form that already exists in the target data source, the existing form will always be automatically overwritten by the new one. • Action indicators are not included in the export file for Offline Form.

Data type	Notes
Policies	<ul style="list-style-type: none"> • You can import and export all or only some of the standard policies configured for a family. • When you import or export the policies, the security permissions assigned to the policies will also be imported or exported. <p>Note: Policies exported from APM V4 databases may be imported into APM V5; however, policy models containing Create Relationship, Delete Relationship, and Delete Entity nodes must be updated after importing into the APM V5 database. Policies exported from APM V5 databases may be imported into APM V4; however, Policy models containing Delete Entity nodes must be updated after importing into the APM V5 database.</p>
Queries	When you export or import a query, you can choose to export all the queries or some of them.
R Scripts	You can choose to export or import all the R Scripts or only some of them.
Records and Links	<ul style="list-style-type: none"> • When you export records, only existing links to successor records are also exported with the records. If a relationship family includes fields, any links between records that use that relationship family will not be exported. When the records and links are exported, one file will be created for each family for which you exported records. • Importing a KPI fails to set the proper data definitions for the KPI if the KPI gets its data from a cube. • When you import records and links from an XML file, you can choose to import all the records and links in the file or only some of them. If you choose to import only some of the records, depending upon the version from which the records and links were exported, the APM system may require you to import all the records and links from the file instead.
Records and Links - CGU	<ul style="list-style-type: none"> • This data type appears when you import the Records and Links from a CGU file. • When you import records and links from an CGU file, you can choose to import all the records and links in the file or only some of them. • When you import records and links from a CGU file, the existing relationships in the file will be imported if the predecessor and successor families exist in the database. However, the relationship between the records will not appear in the application.
Relationship Definitions	None

Data type	Notes
Reports	<ul style="list-style-type: none"> When you export a report that contains a subreport, the subreport is not exported automatically. You must export the main report and all of its subreports manually. When you import a report, the APM system will attempt to publish the report to the APM SQL Server Report Server. If the report cannot be published to the APM SQL Server Report Server, the report will still be imported into the APM database and placed in the Catalog folder.
Rule Library Projects	You can choose to export or import all the Rule Library Projects or only some of them.
Scripts	You can choose to export or import all the Scripts or only some of them.
Security Groups and Privileges	<p>Security Groups are exported in alphabetical order. During the export, the hierarchy of the Security Groups will not be considered. If you import Security Groups from a file that was created by an export, the hierarchy of the imported groups will not match the hierarchy that existed in the original data source.</p> <p>Note: Only Super Users and members of MI Security Role group can import or export this metadata.</p>
Security Roles	<ul style="list-style-type: none"> Exporting Security Roles will create a Role Definitions section in the export file. Exporting Security Roles will export the user and group assignment for that role. Importing the Security Roles will import the user and the group assignment for a Security Role. However, the user and the group must exist in the target data source. If the user and group do not exist in the target data source, then the Security Role will get imported but the assignment of the user and group will not occur. The Import log file will contain a warning message displaying the list of users and the groups that were not assigned to a Security Role. <p>Note: Only Super Users and members of MI Security Role or MI Configuration Role group can import or export this metadata.</p>
Strategy Macros	<p>You can choose to import or export all the strategy macros defined for a family or only some of them.</p> <p>Note: The Import and Export tool is not aware of embedded references, such as sub-strategies, existing notifications, or queries that are used by strategy rules. For example, if a strategy rule references another strategy, the referenced strategy will not get exported when you perform an export of the root strategy. The same applies for any queries or datasets that are used as an input in the strategies or any notifications that are used as output of the strategy. Therefore, you must manually select all supporting objects, such as, queries, datasets, notifications, sub-strategies, and any third party components when importing or exporting the strategies.</p>

Data type	Notes
System Code Tables	You can choose to export or import all the System Code Tables or only some of them.
System Codes and References	To import System Codes, the System Code Table to which they belong must exist in the target data source. If the System Code Table does not exist, the associated System Codes will not be imported, and an error message will be written to the import log.
System Preferences	When you export a custom-layout datasheet, you must also export the associated system preference, whose preference ID appears in the format [Family ID]-[DatasheetID], where [Family ID] is the ID of the family for which the custom-layout datasheet is defined and [DatasheetID] is the ID of the custom-layout datasheet.
Units of Measure and Conversions	You can choose to export or import all the Units of Measure and Conversion or only some of them.
Units of Measure Conversion Sets	You can choose to export or import all the Units of Measure Conversion Set or only some of them.
Users, Privileges, and Assignments	<p>If you import a Security User with a user ID that is already assigned to a Security User that exists in the system, the APM system will overwrite the information associated with the existing user with the information stored in the import file, including any user information, group assignments, and family privileges associated with that Security User.</p> <p>Note: Only Super Users and members of MI Security Role group can import or export this metadata.</p>

About the Excel File

When you export APM metadata, you have the option of exporting it to a Microsoft Excel or XML file. When you choose to export data to a Microsoft Excel file, a Microsoft® Excel spreadsheet file (XLSX) is created that contains the metadata that you chose to export.

The specific content of the spreadsheet will depend upon what you chose to export. Every spreadsheet will contain an Information worksheet, which contains general information about the export operation, including:

- MERIDIUM_VERSION: The APM version used to perform the export.
- EXPORT_CREATION_DATE: The date and time that the export operation was performed.
- USER_ID: The user ID of the user who performed the export.
- USER_NAME: The name of the user who performed the export.
- MERIDIUM_DATASOURCE: The name of the APM data source on which the export was performed.

In addition to the Information worksheet, one or more worksheets will appear for every data type that you chose to export.

Note: Some data type selections will result in the creation of more than one worksheet. For example, when you export **Families, Fields, and Field Behaviors**.

The content of each tab will be specific to that data type. Each column in the spreadsheet will contain a header with a name that indicates the type of data that the column contains. The column heading names should be self-explanatory for each data type, provided that you are familiar with that data type.

About the XML File

As an alternative to exporting metadata to a Microsoft Excel file, you can export it to an XML file as the XML file format is more flexible for data manipulation. The XML file contains the same information that is included in the Microsoft Excel file but in a different format.

Instead of being formatted into columns and rows, the metadata is formatted with XML tags. To interpret the file, you must be familiar with XML. As with the Microsoft Excel format, to interpret the XML export file, you must be familiar with the data type that was exported. Additionally, being familiar with the Microsoft Excel file for a particular data type should help you to interpret the XML file for the same data type.

If you are familiar with exported Microsoft Excel files and you have a basic understanding of XML, you should be able to interpret the exported XML file.

About the Files Folder

When you export APM metadata, the APM system creates two items, the export file (either a Microsoft Excel or XML file) and a subfolder for storing files associated with the export.

The subfolder is named **[File Name] Files**, where **[File Name]** is the name that you specify for the export file. For example, if you name the export file Dataset Export, the subfolder will be called Dataset Export Files.

This folder is created for every export but will not always contain files. Files are saved to this folder only when they are needed to support the export. Support files will be exported along with the selected metadata for the following data types:

- Family Rule
- Rule Library Projects
- Strategies, Rules, and Schedules
- Searches
- Configured explorers
- Reports
- Graphs
- Datasets
- Queries
- Metric Views
- System Preferences

Whenever a file is exported to support the export of metadata, its file name will appear in the export file as a property for that item.

Whenever a file is exported along with the selected metadata, you should not modify the file, delete the file, or edit the file name that appears in the export file. When you import metadata using an XML or Microsoft Excel file that references support files, those files will need to be available for the import. Moving the files to a different location will cause the import to fail or to produce unexpected results.

About Action Indicators

Depending on the type of data you export, the export file may contain one or more action indicators. In a Microsoft Excel file, the action indicators appear in the **ACTION_INDICATORS** column. In an XML file, action indicators appear within the **ACTION_INDICATORS** tag.

Action indicators tell the APM system what action to take when metadata is imported. When you export metadata, any item that requires an action indicator for an import will be assigned a default value. The value will be used only when the metadata is imported back into APM. If you want to change the default action, you can modify the value in the export file before importing the data into APM.

If the **ACTION_INDICATOR** tag or column contains only one value, that value applies to the entire item. If the **ACTION_INDICATOR** tag or column contains more than one value, then each value corresponds to each property (column or tag) associated with that item.

For example, in the following example, the figure shows a portion of an export spreadsheet created from exporting query. The **ACTION_INDICATORS** column contains nine values as IU. The first value specifies the action to take on the property in the first column (QUERY_ID). The second value specifies the action to take on the property in the second column (QUERY_CAPTION), and so on. Similarly, in the XML file, the **ACTION_INDICATORS** tag would also contain nine values, each of which would correspond to a specific item property.

	QUERY_ID	QUERY_CAPTION	QUERY_DEFINITION	QUERY_TYPE	QUERY_CATEGORY	QUERY_USAGE	QUERY_SCHEMA	QUERY_LAYOUT_FILE_NM	QUERY_LOCALIZATION_FILE_NM	ACTION_INDICATORS
1										
2	Pat's NER	<<default> Base quer Select		Public	Me	MIADMIN	Pat's NER	Pat's NERC GADS Event Report 97 -64251851955.miqfmt		IU IU IU IU IU IU IU IU IU

Possible Values for Action Indicators

The value of an action indicator tells the APM system what to do with a given item or item property when metadata is imported into APM. The values of the action indicators are specific to the data type. The following lists contain the valid values for action indicators and descriptions of how the values are interpreted during an import.

Values used by most data types:

- IU (Insert or Update): Insert the item if it does not exist, or update it if it does already exist.
- IO (Insert Only): Insert the item if it does not exist. If the item already exists, do not update it.
- UO (Update Only): Update the item if it already exists. If the item does not exist, do not insert it.

About Importing Metadata

You can import APM metadata into any APM data source, either the one from which it was exported or a different one. When you import APM metadata from a file, you can choose which items of each supported data type within the file to import. You can choose to import all or only some of the data in the file, and you can choose any combination of data types.

APM metadata can be imported into any APM data source, either the one from which it was exported or a different one.

- If you import the metadata into a data source where that same metadata already exists, the action indicators in the import file will tell the APM system what to do with the metadata.
- If you import metadata into a data source in which that metadata does not exist, you need to consider dependencies for the metadata you are importing. For example, you cannot import permissions for a Security User until that Security User exists in the target database. If you attempt to import metadata

without the necessary prerequisites, the import operation will fail and error messages will be written to the import log.

Access the Export Page

About This Task

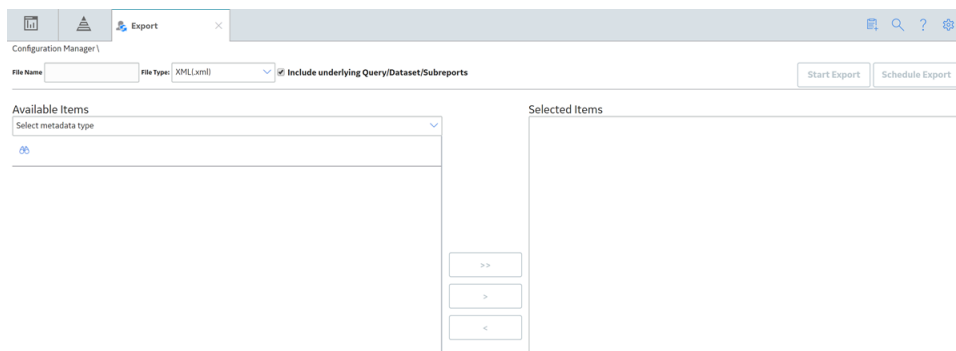
You can use the **Export** page to export the metadata associated with a data type to a Microsoft Excel or XML file.

Procedure

In the **Applications** menu, navigate to **ADMIN > Configuration Manager > Export**. The **Export** page appears.

Note: The following setting has been added to stop trimming of the string in export.

Element	Description
<code><add key=useExcelExportTrim value=false/></code>	
<code>value=false</code>	The strings will be preserved in the exported excel file.
<code>value=true</code>	The strings will be trimmed in the exported excel file.
If setting is not added	By default, the strings will be preserved in the exported excel file.



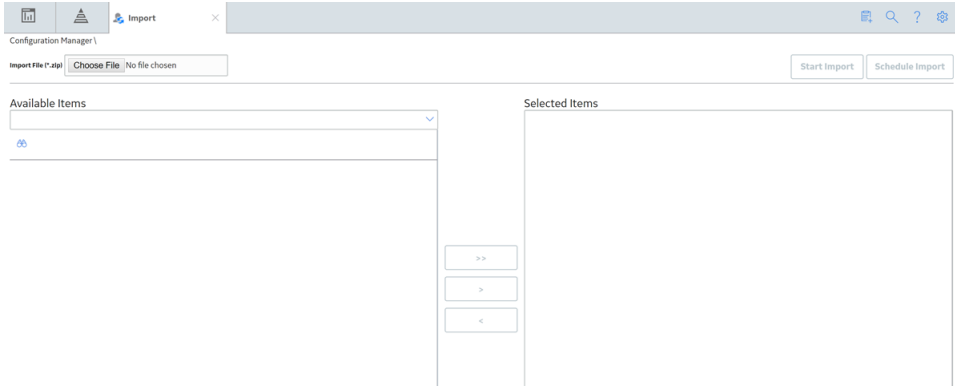
Access the Import Page

About This Task

The **Import** page allows you to select an exported APM file for the import process. You can use the **Export** page to export the metadata from one data source, make the necessary changes in the exported Microsoft Excel or XML file, and then import the modified file into one or more other data sources by using **Import** page.

Procedure

In the **Applications** menu, navigate to **ADMIN > Configuration Manager > Import**. The **Import** page appears.



Chapter 2

Import and Export

Topics:

- [Export Metadata](#)
- [Export Records and Links](#)
- [Import Metadata](#)
- [Import Records and Links](#)

Export Metadata

About This Task

For exporting APM metadata, you can choose the items of each supported data type and any combination of any data types you wish to export. However, large exports can take a considerable amount of time.

Procedure

1. In the **Applications** menu, navigate to **ADMIN > Configuration Manager > Export**.
2. In the **Available Items** section, perform the following steps:
 - a) Select the data type (such as Families, Filters and Fields, Family Rules and so on) from the **Select metadata type** drop-down list.
All the metadata in that data type appears in the **Available Items** section.



- b) If you want to export all the metadata in the selected data type, select


-or-

If you want to export only some of the metadata in a data type, select the check box for metadata




that you want to export and then select

All the selected metadata that you chose to export appear in **Selected Items** section.

Tip: You can also search for metadata in a data type (by name) by selecting .

Note: If you want to remove the selections from the **Selected Items** list, then select the check box for



the items, and then select . The metadata removed from the **Selected Items** list will be available for selection in the **Available Items** section.

3. In the **File Name** box, provide the name of the file, and then select the file type from the **File Type** box.
Note: By default, the **Include underlying Query/Dataset/Subreports** check box is selected. If you do not want to export the underlying queries or datasets, then clear the **Include underlying Query/Dataset/Subreports** check box.
4. Select **Start Export**. Or, select **Schedule Export**
5. If you select **Schedule Export**, the Job Monitoring Dashboard appears, displaying the progress of the export. After the export is complete, select the link in the **Description** column.

Results

A ZIP file is generated in the name that you specified in **File Name** box. This file contains all the metadata that you have selected along with a log file in CSV format.

Export Records and Links

When you export records, only existing links to successor records are exported with the records. If a relationship family includes fields, any links between records that use that relationship family will not be exported. When the records and links are exported, one file will be created for each family for which you exported records.

Procedure

1. In the **Applications** menu, navigate to **ADMIN > Configuration Manager > Export**.
2. In the **Available Items** section, perform the following:
 - a) In the **Select metadata type** box, select the **Records and Links** from the drop-down list. The **Select a query from the catalog** window appears displaying the Catalog folder structure.
 - b) Navigate to the folder that contains the query and then select **Open**.


Only the following queries are supported:

- Query with two related entity families, joined in the query using the relationship family.
- Query with one entity family only.


The selected query appears in the **Available Items** section. It also displays the following information in that query.

- The **Primary Family**, its fields and Action
- The **Predecessor Family**, its fields and the action associated with it.
- The **Successor Family**, its fields and the action associated with it.



- c) Select . All the metadata that you want to export appear in **Selected Items** section. You can select the next metadata type that you want to export in the **Available Items** section.

Note: If you want to remove the selections from the **Selected Items** list, then select the check box

of the items and select  button. The items removed will appear in the **Select metadata type** box of the **Available Items** section.

3. In the **File Name** text box, provide the name of the file and then select the file type from the **File Type** drop-down list box.
4. Select **Start Export**. Or, select **Schedule Export**
5. If you select **Schedule Export**, the Job Monitoring Dashboard appears, displaying the progress of the export. After the export is complete, select the link in the **Description** column.

Results

A .ZIP file is generated in the name that you specified in **File Name** text box. This file contains all the metadata that you have selected along with a log file. At this point, you can:

- View a log of the export by selecting the log file in the .ZIP file.
- View the [.XLSX](#) or [.XML](#) file to ensure that the data exported is correct.

Import Metadata

About This Task

When you import APM metadata, you can choose to import all the metadata in the file that is associated with a given data type or only some of the metadata.

Procedure

1. In the **Applications** menu, navigate to **ADMIN > Configuration Manager > Import**.
2. On the **Import** page, select **Choose File**. The **Open** dialog box appears.

3. Navigate to the folder that contains the .ZIP file from which you want to import data and then select the file.
4. Select **Open**.
The **Open** dialog box closes, and the file name that you selected appears in the **Choose File** box. The metadata contained in that file appears listed in drop-down box in the **Available Items** section.
5. If you want to import all the items in the file, then in the **Available Items** section, in the **Select metadata type** box, select the option All Metadata.
All the items in the import file appears in **Selected Items** section.

Note: The All Metadata option appears only if the import file contains more than one metadata type.

6. If you want to import all the items in a metadata type, in the **Select metadata type** box, select the

metadata type, and then select



All the items in the selected metadata type appear in **Selected Items** section.

-or-

If you want to import only some of the items in a metadata type, select the metadata type, select the

check box for the required items, and then select



Tip: You can search for a metadata type (by name) by using .

The items that you want to import appears in **Selected Items** section.

7. Select **Start Import** to import the selected metadata.

Results

When the import is complete, a confirmation message appears, indicating that the metadata are imported to the database successfully and a log file in .CSV format is generated.

Import Records and Links

When you import records and links from a legacy format or from a CGU file, the existing relationships in the file will be imported if the predecessor and successor families exist in the database. However, the relationship between the records will not appear in the application.

Procedure

1. In the **Applications** menu, navigate to **ADMIN > Configuration Manager > Import**.
2. On the **Import** page, select **Choose File**.
The **Open** window appears.
3. Navigate to the folder that contains the CGU file from which you want to import the record, and then select the file.
4. Select **Open**.
The **Open** window closes, and the file name that you selected appears in the **Choose File** box. The family IDs and entity IDs of all the records contained in that file appears in the **Available Items** section listed under **Records and Links- CGU** .
5. In the **Available Items** section:

- If you want to import all the metadata in a data type, select




All the metadata in a data type appear in the **Selected Items** section.

-or-

If you want to import only some of the metadata in a data type, select the check box for the

metadata, and then select



Tip: You can search for a metadata (by name) by using .

The metadata that you want to import appear in **Available Items** section.

6. Select **Start Import** to import the selected metadata.

When the import is complete, a confirmation message appears, indicating that the metadata are imported to the database, and a log file in CSV format is generated.