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Regulatory Reporting Solution for US Treasury – Lombard Risk Integration Pack

Release 8.0.5.0.0

User Guide

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Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration User Guide, Release 8.0.5.0.0

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About the Guide

Welcome to Release 8.0.5.0.0 of the Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack User Guide.

This section provides a brief description of the scope, the audience, the references, concepts and the organization of the user guide and conventions incorporated into the user guide. The topics in this section are organized as follows:

- Scope of the Guide
- Intended Audience
- Documentation Accessibility
- Related Information Sources
- How This Guide is Organized
- Conventions Used

Scope of the Guide

The objective of this user guide is to provide a comprehensive working knowledge on Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack, Release 8.0.5.0.0. This user guide is intended to help you understand the key features and functionalities of Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack Release 8.0.5.0.0 and details the process flow and methodologies used.

Intended Audience

This guide is intended for:

- Regulatory Reporting Analyst who bears the responsibility to verify and submit the results. The Analyst is also entrusted to maintain the dimensional values across multiple reporting requirements, maintain results area structure of Oracle Financial Services Data Foundation.
- Data Analysts, who clean, validate, and import data into the Oracle Financial Services Download Specification format, and ensure that data is populated in the relevant tables as per the specifications and executions required for regulatory reporting.
- System Administrator (SA), instrumental in making the application secure and operational and configures the user roles providing necessary access to users.

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For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc

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Related Information Sources

In addition to this user guide you can refer to the following documents in the OHC documentation library:

- Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack Installation Manual Release 8.0.5.0.0
- Oracle Financial Services Data Foundation User Guide Release 8.0.5.0.0
- Oracle Financial Services Data Foundation Installation Manual Release 8.0.5.0.0
- Oracle Financial Services Analytical Applications Infrastructure User Guide Release 8.0.5.0.0 (present in the OHC documentation libaray)

How this Guide is Organized?

The OFSDF Interface with Lombard Risk for US Treasury User Guide includes the following topics:

- Chapter 1: Introduction
- Chapter 2: Getting Started
- Chapter 3: Regulatory Reporting (REG REP) Solution Data Flow
- Chapter 4: OFSAA Features
- Chapter 5: Executing Run through Run Management
- Chapter 6: Metadata Export Utility
- Chapter 7: Report Submission
- Chapter 8: Maintenance
- Chapter 9: Validation / Edit Checks for Data Schedules
- Chapter 10: Troubleshooting Guidelines

Conventions Used

Table 1 lists the conventions used in this guide.

Table 1: Conventions Used in this Guide

Convention	Meaning
Italics	Names of books, chapters, and sections as references
Bold	♦ Object of an action (menu names, field names, options, button names) in a step-by-step procedure ♦ Commands typed at a prompt ♦ User input
`Monospace`	♦ Directories and subdirectories ♦ File names and extensions ♦ Process names ♦ Code sample, including keywords and variables within text

1 Introduction

This chapter provides an understanding of the Oracle Financial Services Data Foundation (OFSDF) Interface with Lombard Risk for US Treasury application and its scope. It includes:

- Overview
- OFSAA Regulatory Reporting Architecture
- Scope

1.1 Overview

Regulatory reporting and financial services have evolved to be an inseparable combination. It has worsened since the 2008 financial crisis. Today, banks and financial institutions need to file hundreds of regulatory reports. For the U.S. Treasury alone, institutions must file multiple submissions of TIC B reports, call reports, stress testing reports, and so on. Reporting requirements increase rapidly in number and complexity for banks operating regionally or globally, where they must file in multiple jurisdictions.

Treasury International Capital (TIC) reporting system collects data for the United States on cross-border portfolio investment flows and positions between U.S. and foreign residents. This data help in:

- Construction of Balance of Payments
- Formulation of International Financial and Monetary Policy
- Tracking developments in International Markets

The U.S. Treasury retains administrative control/oversight of TIC system and the Federal Reserve Board has final oversight.

The data collected by TIC are as follows.

Data Type	Reports
Monthly & quarterly position data on claims and liabilities (including short-temr securities) reported by banks and broker/dealers of securities	TIC BC, BL-1, BL-2, BQ-1, BQ-2 & BQ-3
Monthly data on transactions and holdings of long-term securities	TIC S & SLT
Annual detailed position data on holdings of long-term and short-term securities	SHL(A) & SHC(A)
Quarterly position data on selected claims and liabilities reported by non-banks and non-broker/dealers	TIC CQ-1 & CQ-2
Quarterly position and transaction data on financial derivatives reported by major participants in those markets	TIC D

Cross-border transactions and holdings not captured by TIC are:

- U.S. Government cross-border Capital Transactions
- Direct Investments

The U.S. Treasury expects the following institutions to report the TIC B reports:

- Savings & Loans Holding Companies (SLHC)
- All other Financial Institutions
    - Insurance Companies
    - Pension Funds
    - Mutual Funds
    - Money Market Funds
    - Investment Banks
    - Private Equity Funds
    - Real Estate Investment Trust (REITS)
    - Credit Card Issuers
    - Hedge Funds
    - Trusts
    - Finance Companies
    - Mortgage Companies
    - Factors and other Financial Intermediaries who extend short-term business credit to finance inventories or carry accounts receivable
    - Futures Commission Merchants
- Depository Institutions located in the United States:
    - Commercial Banks
    - United States branches and agencies of foreign banks
    - Trust companies that conduct commercial banking business
    - Banking Edge Act and Agreement Corporations
    - The Federal Reserve Bank of New York
- Bank Holding Companies (BHC)
- Financial Holding Companies (FHC)
- Securities Brokers and Dealers

The OFS REG REP US Treasury solution enables financial services organizations to manage and execute regulatory reporting in a single integrated environment. It automates end-to-end processes from data capture through submission with industry-leading solutions. It leverages Oracle Financial Services Analytical Application (OFSAA) and Oracle Financial Services Data Foundation (OFSDF) for managing analytical application data. The AgileREPORTER in Regulatory Reporting (REG REP) Solution enables firms to automate the final mile of the reporting process. It provides pre-built integration to Lombard Risk Reporting, eliminating the need for further manual intervention. The solution ensures data integrity allowing banks to focus more time on analyzing and gaining new business insight from their growing stores of data instead of preparing data and reports with the sole objective of meeting submission deadlines.

1.2 OFSAA Regulatory Reporting Architecture

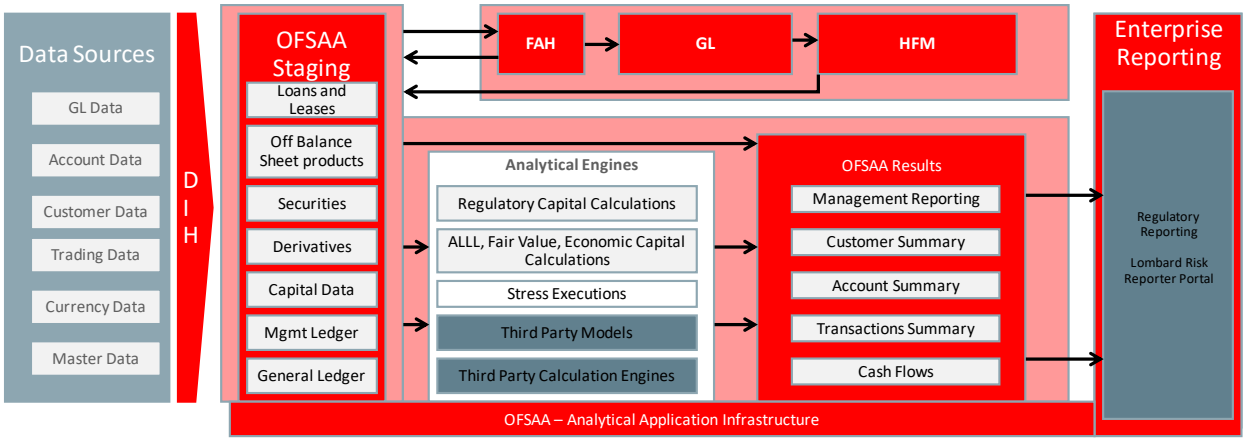


Figure 1: Regulatory Reporting (REG REP) Solution Architecture

This interface connects the Oracle FSDF to Lombard Risk. As one can see in Architecture figure above, Data flows from OFSAA to Lombard Risk.

The Oracle Financial Services Data Foundation (OFSDF) is an analytical data warehouse platform for the Financial Services industry. OFSDF combines an industry data model for Financial Services along with a set of management and infrastructure tools that allows Financial Services Institutions to develop, deploy, and operate analytical solutions spanning key functional areas in Financial Services, including:

1. Enterprise Risk Management
2. Enterprise Performance Management
3. Customer Insight
4. Financial Crime and Compliance Management

OFSDF is a comprehensive data management platform that helps institutions to manage the analytical data life cycle from sourcing to reporting and business intelligence/BI using a unified, consistent platform and toolset.

AgileREPORTER is a forms and workflow tool that enables both creation and submission of regulatory returns. AgileREPORTER addresses the financial reporting requirements of both domestic and international banks and financial institutions by automating compliance with mandated reports to central banks, regulatory agencies. AgileREPORTER works easily with multiple sources of information as it standardizes data elements and automates regulatory report production in prescribed templates with the associated workflow for automatic submission. It is Reliable and efficient infrastructure to compile, generate and submit regulatory reports. It collects data from a wide universe (not just OFSAA Results). It provides automated repeated manual adjustments, variance analysis and validation checks. It provides features to explain and justify a number quickly, including links to OBIEE.

The solution provides a pre-built interface or integration between FSDF and AgileREPORTER. With this integration, you can automate end-to-end reporting process covering data preparation to last mile of reporting.

1.3 Scope

Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack covers the following regulatory reports for specified release as mentioned in the table:

Table 2: Scope

Report Code	Report Name	Released Version
TIC BC	Report of U.S. Dollar Claims of Financial Institutions on Foreign Residents	8.0.5
TIC BL-1	Report of U.S. Dollar Liabilities of Financial Institutions to Foreign Residents	8.0.5
TIC BL-2	Report of Customers' U.S. Dollar Liabilities to Foreign Residents	8.0.5
TIC BQ-1	Report of Customers' U.S. Dollar Claims on Foreign Residents	8.0.5
TIC BQ-2	Report of Foreign Currency Liabilities and Claims of Financial Institutions, and their Domestic Customers' foreign Currency Claims on Foreigners and Report of Foreign Currency Liabilities Office to Foreign Residents	8.0.5
TIC BQ-3	Report of Maturities of Selected Liabilities and Claims of Department of the Treasury Financial Institutions with Foreign Residents	8.0.5

2 Getting Started

This chapter provides an understanding of the prerequsites, general and data preparation assumptions and logging into the application. It includes:

- Prerequisites
- Assumptions
- Logging in to the OFSDF Interface with Lombard Risk for US Treasury
- Organization of the Interface for User Roles
- Metadata Browser

OFSDF interface with Lombard Risk for US Treasury allows you to perform the following activities:

- Manage Data Loading and Transformation from various source systems to staging, processing, and results.
- Manage relevant OFSAA metadata for regulatory reporting purpose. This includes creating, modifying, and viewing the metadata used in reporting.
- View the report metadata for mapping.
- Drill down from AgileREPORTER to OFSAA results area.

2.1 Prerequisites

The prerequisite software that must be installed are:

- Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) **8.0.5.0.0** (patch **25873206**)
- Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) **8.0.5.0.1** (one-off patch **26589735**)
- Oracle Financial Services Data Foundation (FSDF) **8.0.5.1.0** (patch **27197750**)
- AgileREPORTER version **1.15.6-b1293**
- AgileREPORTER Templates version **ARforTIC_v1.0.0.2**
- Ensure that you have executed **.profile** file before you trigger the installation.
- Ensure that the FIC Server is up and running before you trigger the installation. For information on restarting the services, see *Oracle Financial Services AAI Release 8.0.5.0.0 Installation Guide* (OHC Documentation Library) for more information.

For detailed instructions on installing this Interim Release, see *Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack Installation Guide Release 8.0.5.0.0*.

2.2 Assumptions

OFSDF interface with Lombard Risk for US Treasury is a reporting application and it does not perform any risk/stress calculations. Following are the assumptions for the application:

- Textual and other related portions of reports like person details, contact details, Yes / No choices must be updated on Report Portal directly and FSDF does not have placeholder for it.
- Data provided is post reconciliation to ensure that accuracy of data being reported (non-prescribed by regulators) are performed in OFSAA using various components – General Ledger (GL) reconciliation.
- Validity checks such as edit checks, cross-validation checks and so on prescribed by regulator are performed within the AgileREPORTER.
- All monetory amounts are expected to be positive in number, except valuation outputs which can be positive or negative. Rules are constructed assuming the negative sign of valuation amounts wherever applicable.
- The application populates few specific dimension tables, known as seeded / sample tables as part of the installation script. Since they are used in the metadata, changes in data values have impact on the overall functioning.
- All percentage data are expected in decimal format meaning 9% must be provided as 9 and not 0.09.
- For a data provided as of date, such as last day of the quarter of the reporting year: Quarterly and Year to Date (YTD) report for the given date displays same value for those measures which are of as of date in nature. For example, Annual and Quarterly Balance Sheet and BASEL reports generated as of 31-MAR show same values for all measures such as Account Balance.
- Account Balances such as End of Period Balances are expected to be provided as Net of (without) Unearned Income.

2.3 Logging in to the OFSDF Interface with Lombard Risk for US Treasury

After the application is installed and configured, to access the OFSDF Interface for US Treasury application you must log into OFSAAI environment using the OFSAAI login page.

To access application follow these steps:

1. Enter the OFSAAI URL in your browser. The OFSAAI login page is displayed.

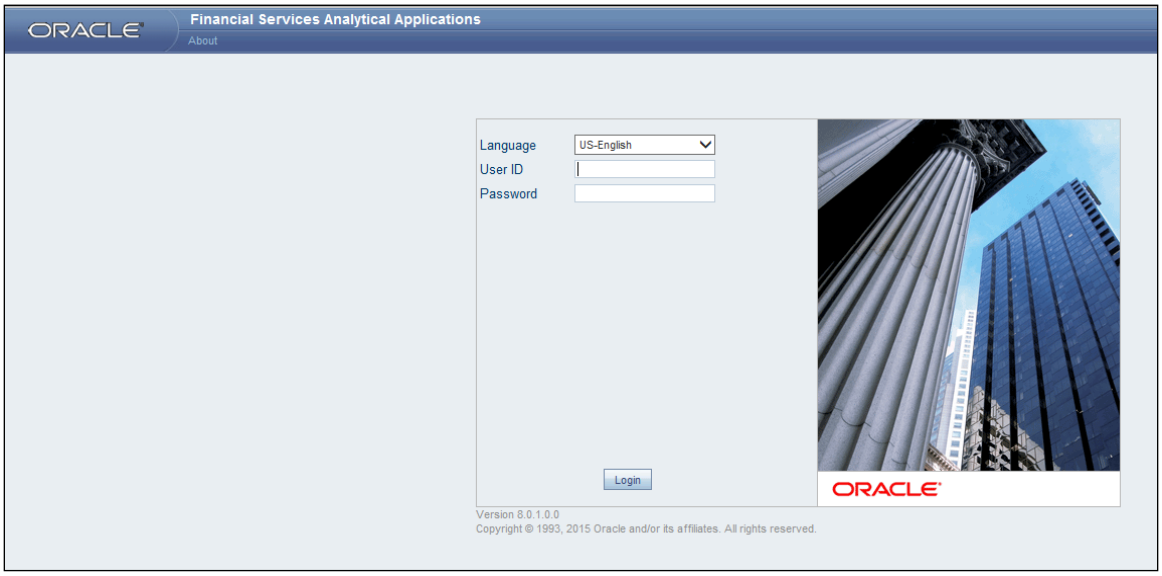


Figure 2: OFSAAI Log In

2. Select the desired language from the **Language** drop-down list.
3. Enter your **User ID** and **Password**. When you log into OFSAAI, the first screen is dsplayed.

Figure 3: Landing Page

2.4 Organization of Interface for User Roles

This section explains the various features used by a analyst. It describes the organization of the user interface and provides step-by-step instructions for navigating through the application to carry out these activities.

Data Analysts are expected to perform the following activities:

1. Marking Run as Final
2. Executing Batch to Refresh Derived Entities
3. Drill Down from AgileREPORTER to OFSDF

Reporting Analyst are expected to perform the following activities:

1. Drill Down from AgileREPORTER to OFSDF
2. Using Metadata Browser to check Schedule Wise metadata
3. Using Metadata Browser to check metadata usage across schedules

2.4.1 Marking Run as Final

Various applications provide data for regulatory reporting. You must mark specific executions for regulatory reporting as final run.

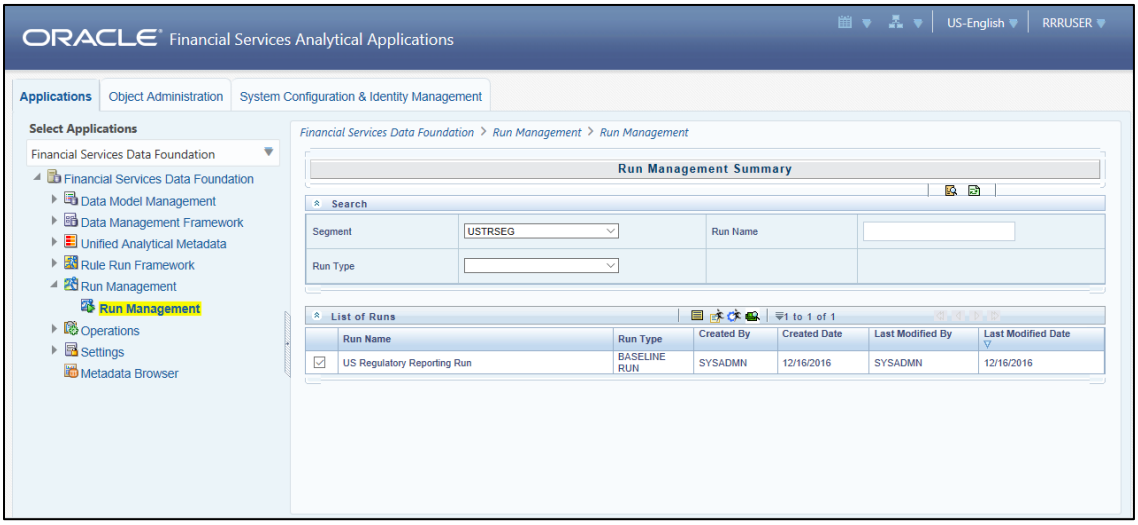


Figure 4: Run Management Summary Screen

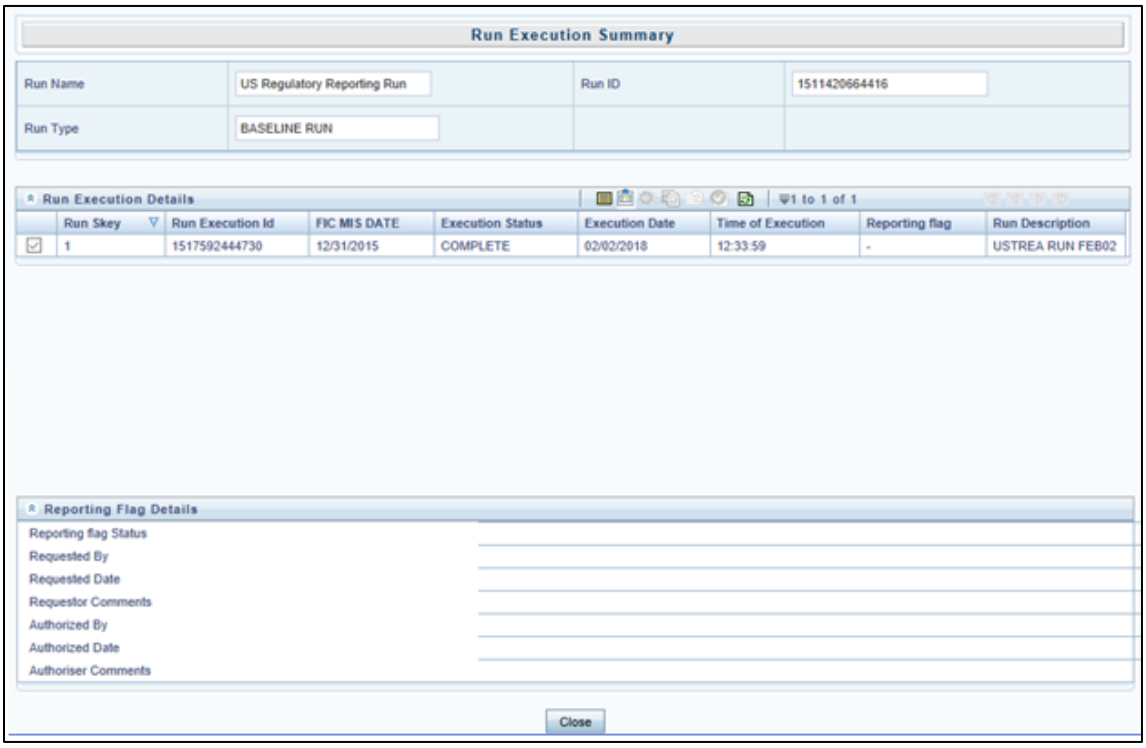


Figure 5: Run Management Summary Screen

2.4.2 Executing Batch to Resave Derived Entities

To execute the batch to resave derived entities, follow these steps:

1. Navigate to ***Financial Services Data Foundation → Operations → Batch Execution***
2. Select the batch <<INFODOM>>_USTRE_RUNEXE_RESAVE to resave all the DEs.

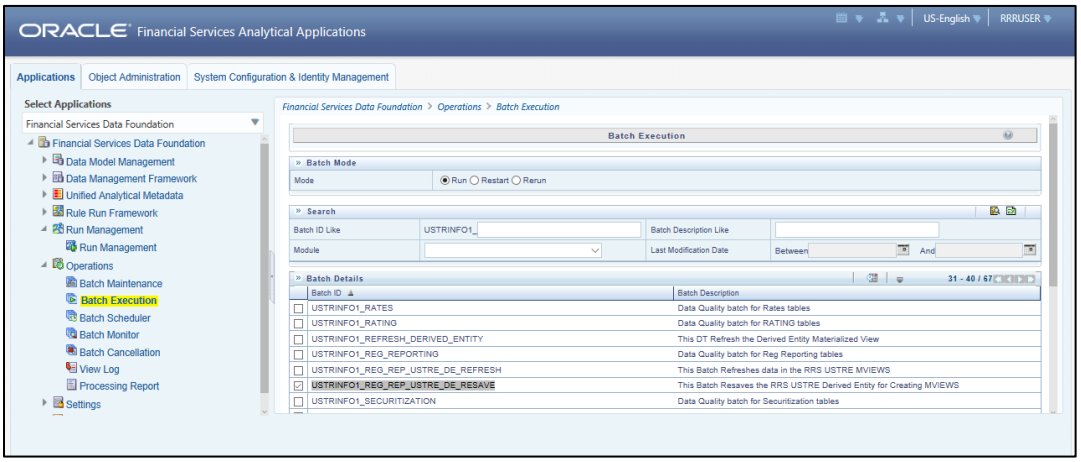


Figure 6: Batch Maintenance Screen

3. Monitor status of the batch using **Batch Monitor** link.

4. The batches for the TIC B reports available for this release are:

    a. FSDFINFO_REG_REP_USTRE_DE_REFRESH

    b. FSDFINFO_REG_REP_USTRE_DE_RESAVE

    c. FSDFINFO_USTRE_RUNEXE_RESAVE

2.4.3 Logging to AgileREPORTER to Retrieve the Returns

The Retrieve Return functionality in AgileREPORTER fetches data from OFSAA derived entities and embeds them on AgileREPORTER templates. This runs the decision table process in Lombard Risk. You can view the relevant OFSAA data on various schedules of the AgileREPORTER using this functionality.

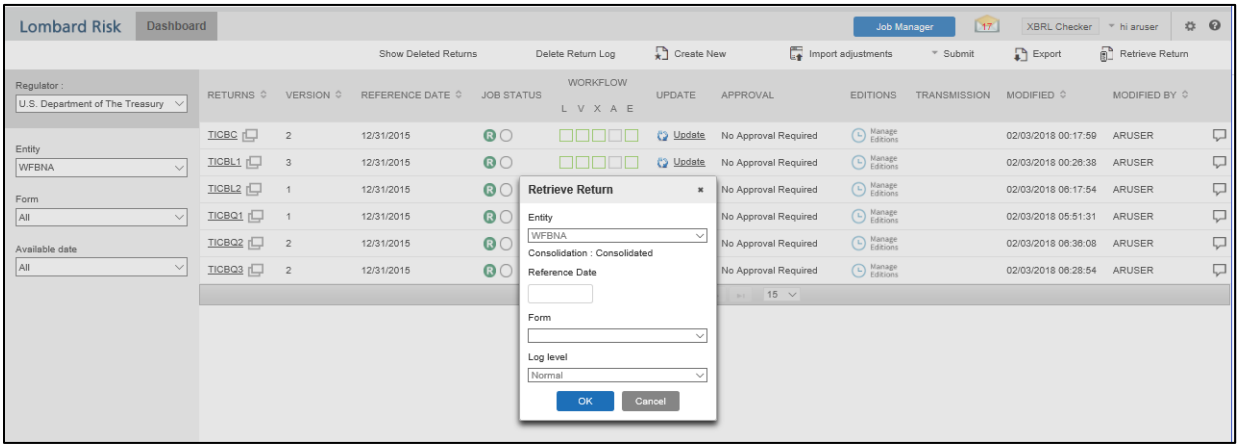


Figure 7: Retrieve Returns Page

2.4.4 Report Verification - Drill Down from AgileREPORTER to OFSAA Results Area

Drill down functionality enables you to view the accounts included in the aggregation. Following these steps to drill down from AgileREPORTER to OFSAA:

1. Log in to the AgileREPORTER.

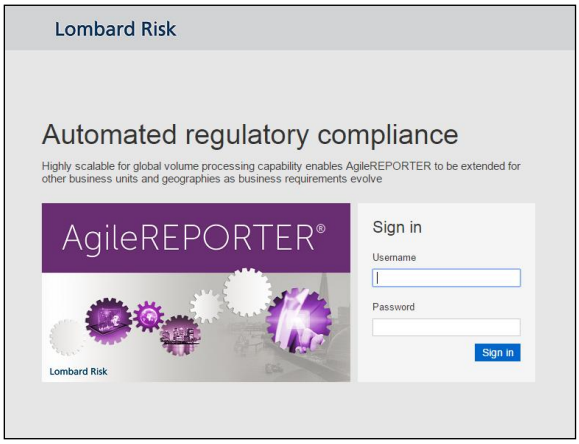


Figure 8: AgileREPORTER Login Page

2. You can view the list of reports in the main page. Click any report name in the Returns column, for example, **TIC BC**.

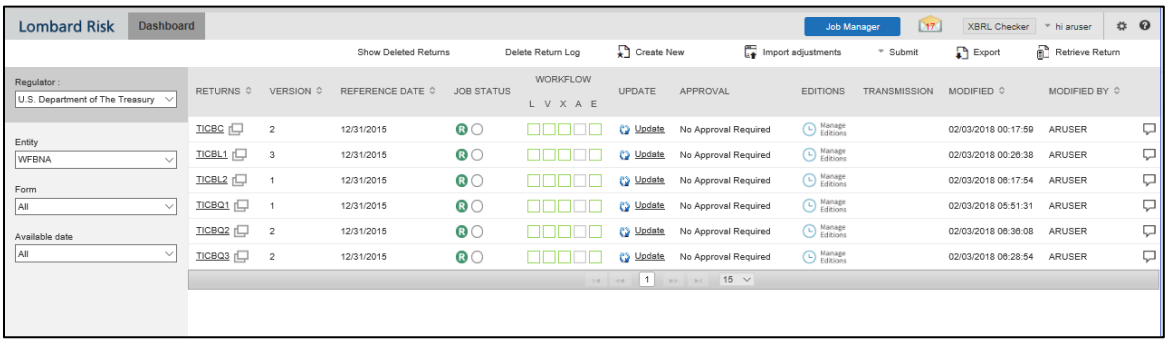


Figure 9: AgileREPORTER Main Page

3. The report is displayed in the left hand side. Click any page number, for example: **Page 9**.

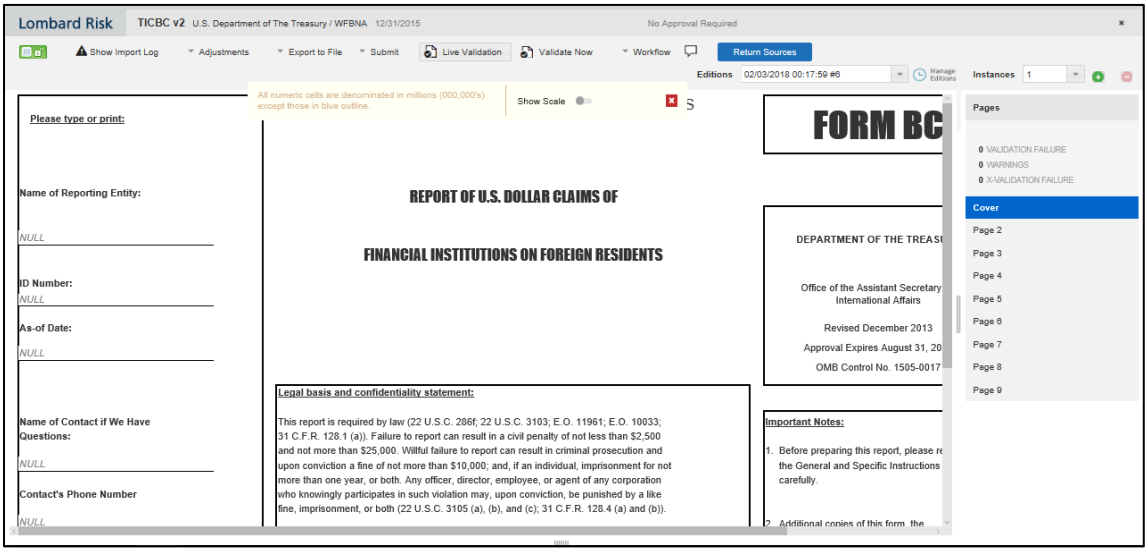


Figure 10: AgileREPORTER Page Displaying List of Schedules

4. Click any cell to drill down.

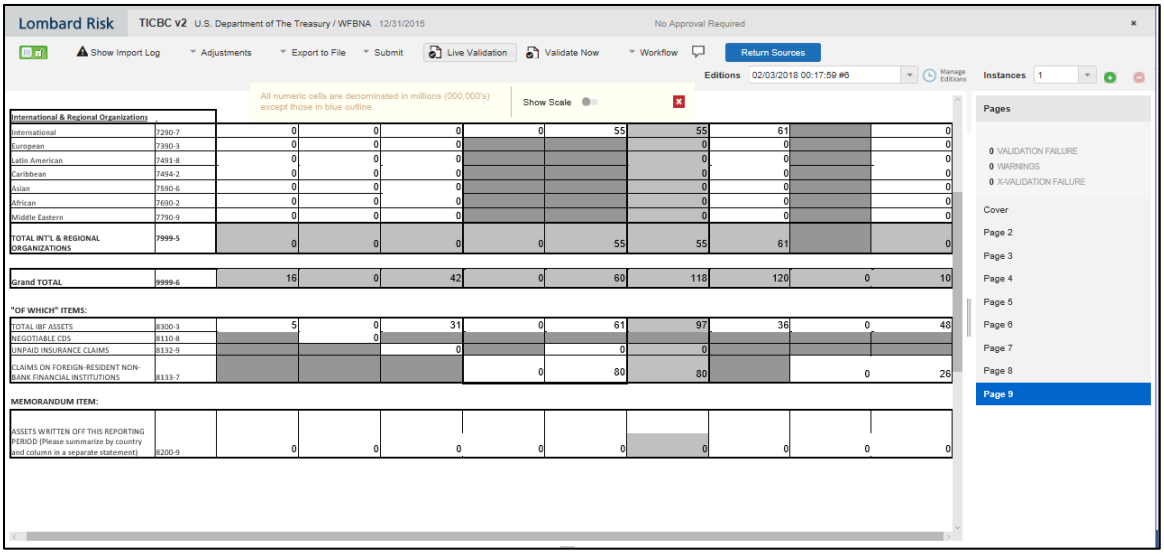


Figure 11: AgileREPORTER Schedule Details Page

5. Figure 12 displays drill down for the TOTAL IBF ASSETS in Column A. The **OFSAA icon** is displayed. It provides information about the amounts against different MDRM codes here. In the figure, the first MDRM code – L8300-3C07 indicates the amount of deposits held by the bank that are of non-interest bearing variant. Click the cell, and the OFSAA icon, to view how this cell was populated from OFSAA results. You are redirected to the OFSAA drill down page.

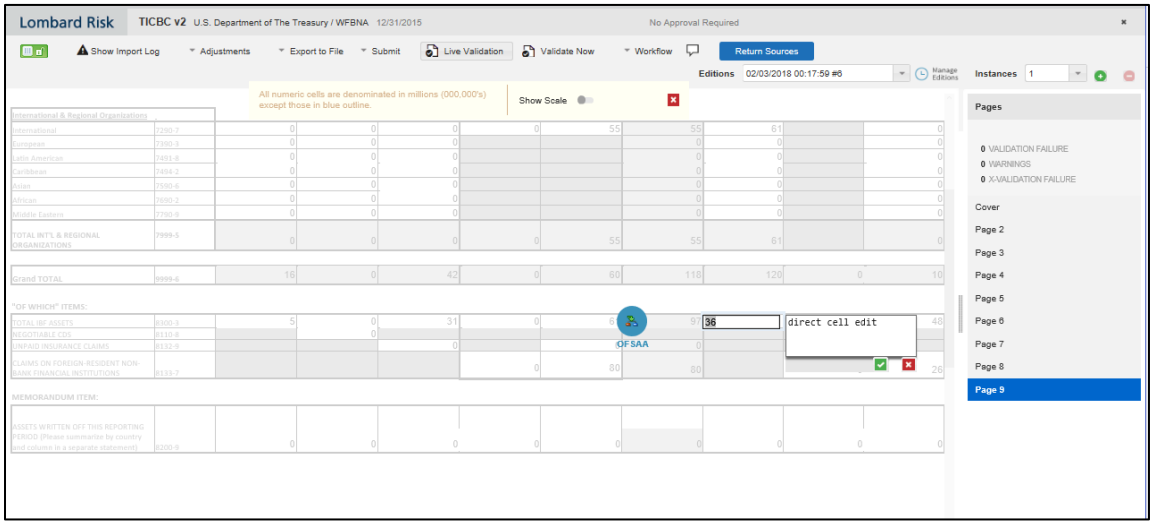


Figure 12: AgileREPORTER Drill Down

6. This cell is populated from the derived entity mentioned in the grid header *DE – Treasury International Capital B Forms*. The value in the derived entity grid must match with that of the cell in the report. Derived entity is an aggregate built on top of OFSAA results model to serve regulatory template requirements. It is built using dimensions, measures and business processors. The dimensions that participates in determining the cell value is displayed with data.

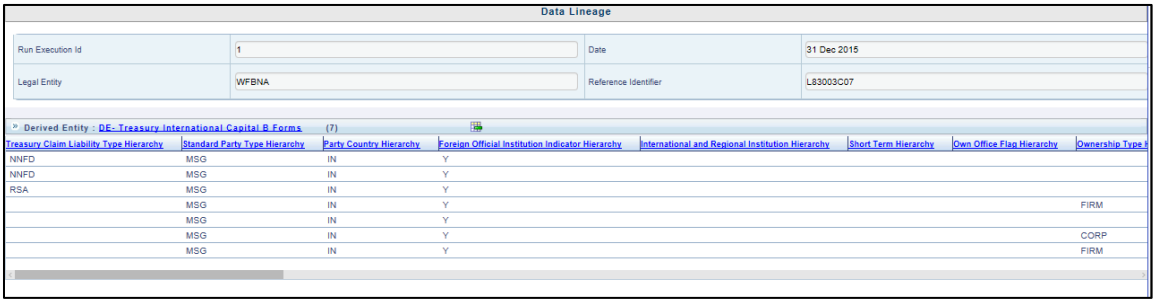


Figure 13: Data Trace Browser/ OFSAA Report Drill-down Screen

7. Derived entity details are displayed in the Metadata Browser within the page. Scroll to view complete details such as Datasets, Hierarchies, Measures and so on. Click the derived entity link in the grid header.

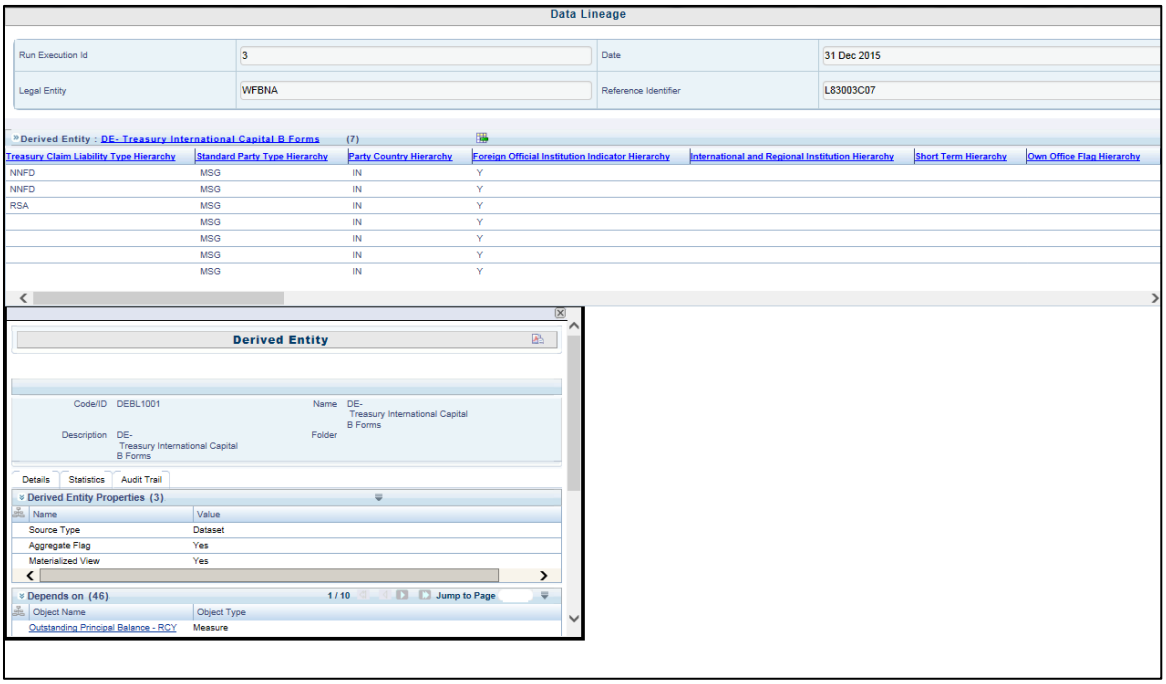


Figure 14: Derived Entity MDB View

8. Double-click any figure (number) in the screen to drill-down to the fact tables. The below grid displays the detailed granular rows of fact data that comprises the derived entity aggregate. The number is now seggregated down to multiple records with different balances. Scroll to the right in second grid to view measure values.

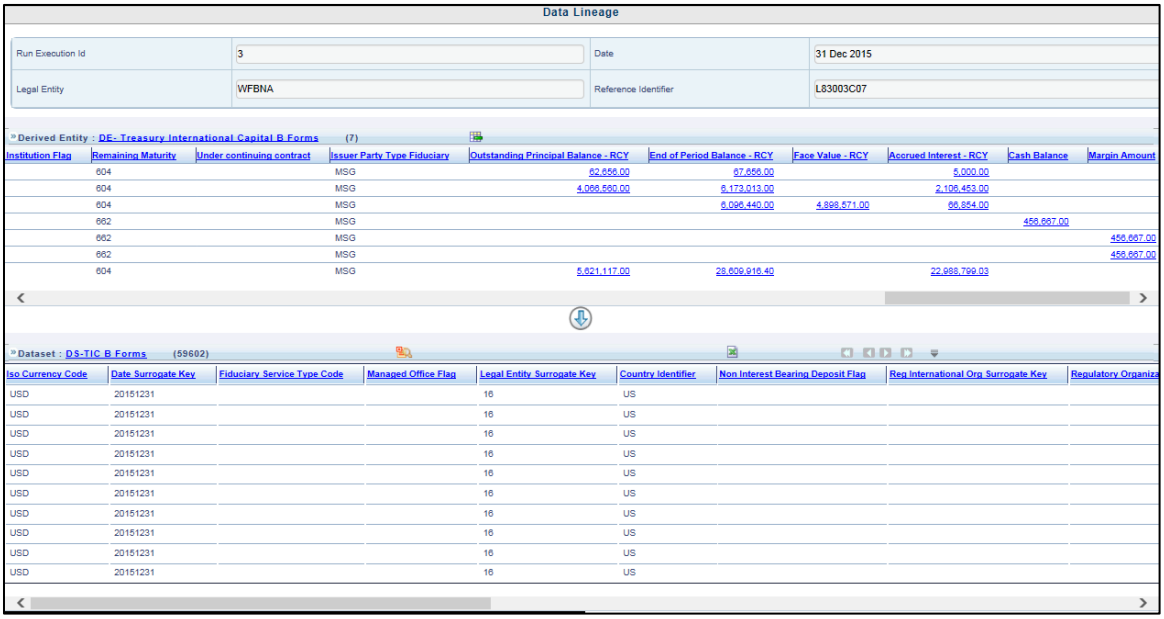


Figure 15: Drill Down Page

9. Click **Attribute Selector** icon on the header of the second grid.

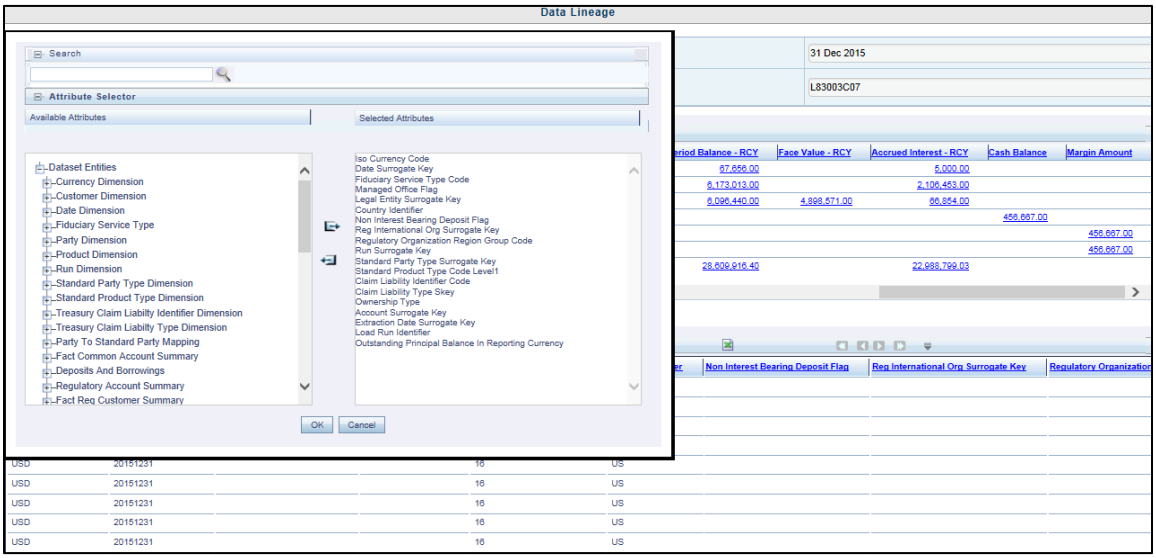


Figure 16: Drill Down Attribute Selector 1

10. Expand **Deposits And Borrowings** and select **Deposits And Borrowings.Account Surrogate Key** to move to the **Selected Attributes**. Click **OK**.

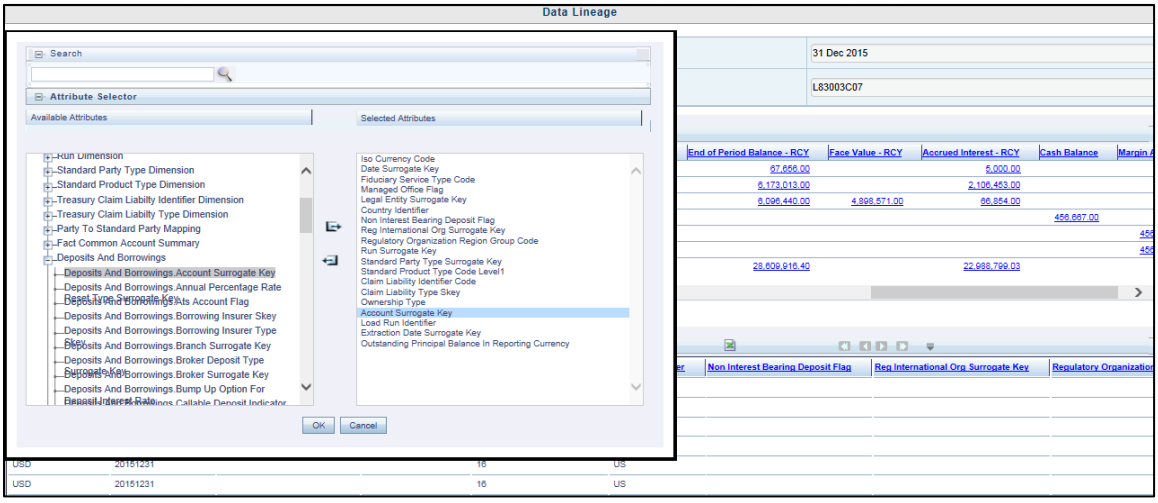
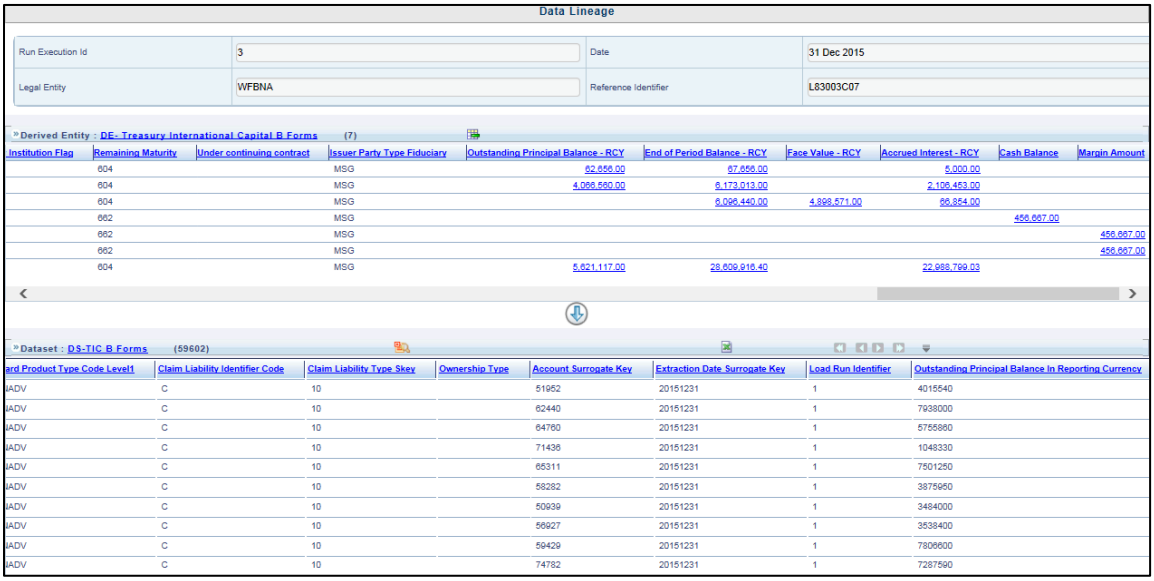


Figure 17: US Treasury Drill Down Attribute Selector 2

11. If account surrogate key is required, scroll and select **Account Surrogate Key**.



12. The Attribute Properties and other details are displayed in the drill-down grid.

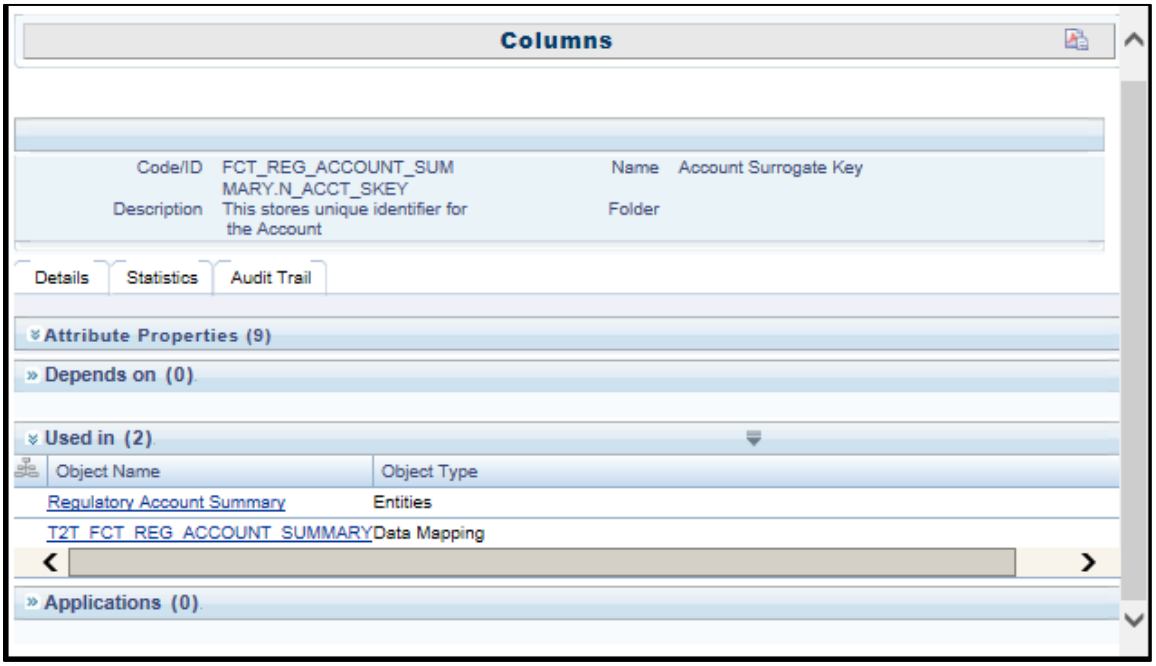


Figure 18: Drill Down - Granular

2.5 Metadata Browser

This section helps you to navigate through Metadata Browser and guides you in tracing the source of the metadata. The Metadata Browser function allows you to view and analyze all aspects of the metadata used in the OFSAAI. It provides extensive browsing capabilities of metadata, helps in tracking the impact of changes to metadata, and trace through to the source of originating data.

Metadata Browser (Object and Application View) provides common repository of metadata objects created in OFSAAI and applications hosted in OFSAAI. Using this view, you can identify the usage of base objects in higher level objects and the mapping of Objects to Application, thus enabling traceability. It also allows you to view the data flow and the work flow of the application and understand the usage of objects within the application.

The new visualization of Metadata Browser (MDB) supports Application view and Object view. In Application view, you can browse through the metadata created using the applications hosted in OFSAAI. In object view, you can view the metadata created in OFSAAI.

To access the Metadata Browser (Object and Application View), your role must be mapped to the SCR_MDB function.

Analysts review the metadata used for a particular report schedule to verify the data. Data verification may require looking for metadata used in given schedule or it can be schedules in which particular metadata is used. Data Analysts and Reporting Analysts perform the report verification. Metadata refers to business measures, hierarchies, data sets, derived entities used for a given schedule.

To use MDB for schedule wise metadata, and to use MDB for metadata wise schedule follow these steps:

1. To use MDB for schedule wise metadata, for a given schedule, identify the metadata used.

   a) You can verify the data for related data elements in results using this information. Navigate to path ***Objects → OFSAA Data Model → Reporting Metadata → Reports***. The Left Hand Side (LHS) displays the list of reports. For example, Figure 19 refers to ***BL1*** report of TIC B Forms.

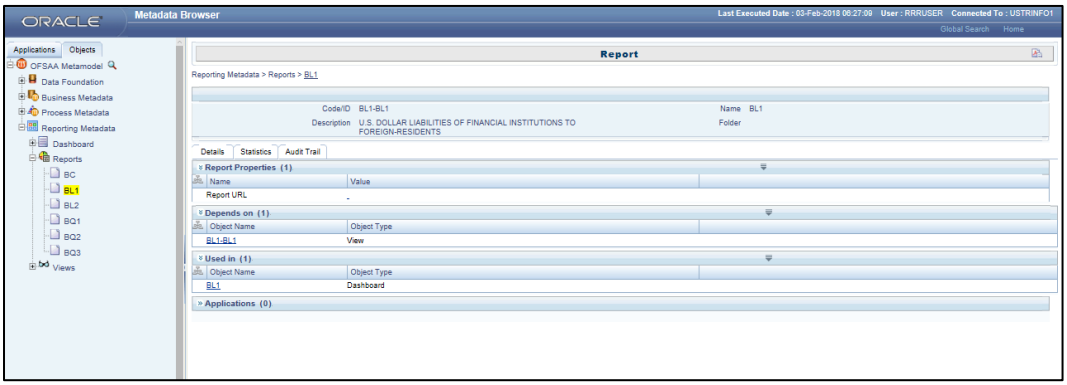


Figure 19: MDB - Reporting Metadata - Schedule View 1

   b) Click the object name **BL1-BL1**. The *Report Details* page is displayed.

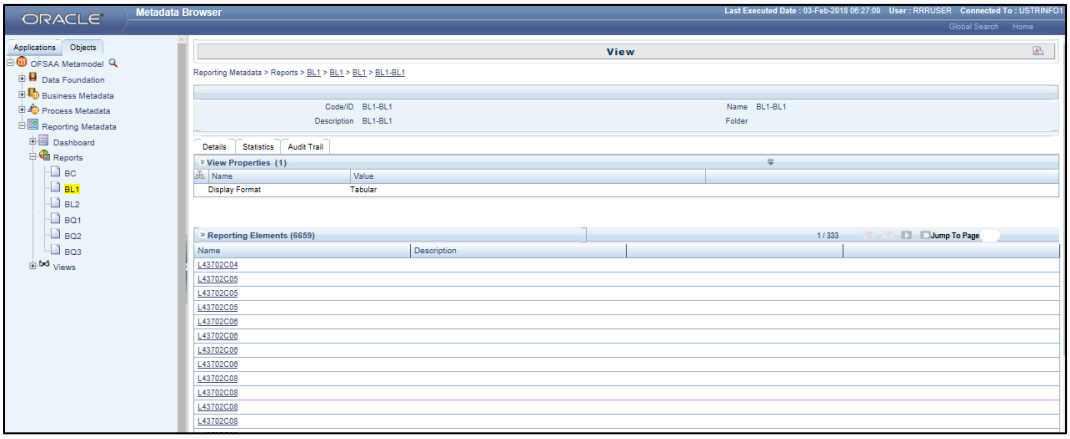


Figure 20: MDB - Reporting Metadata - Schedule View 2

   You can view the below information in the *Details* tab:

   - **View Properties**: This section displayes the name and value.
   - **Reporting Elements**: This section displays the line items in report with regulatory references.
   - **Depends On**: This section displays the metadata used in a given schedule.
   - **Used In**: This section displays the Reports in which this schedule is used.
   - **Applications**: This section displays the applications in which this schedule is used.

   c) Click any Reporting Element. For example, **L43702C09**. The following page is displayed.

Figure 21: MDB - Reporting Metadata - Schedule View 3

You can view the following information in this page:

- **Reporting Element Properties:** It provides information on line items or cell references in regulatory reports.

  Table 3: Fields and their Descriptions in Reporting Element Properties

Fields	Description
Derived	Provides information on whether the cell is derived / computed using other elements.
Confidentiality	Refers to regulator specific interpretation. For MDRM codes, it indicates whether the MDRM codes is confidential for disclosure within a specific report.
Type	Refers to regulator specific interpretation. For MDRM codes, this field provides a detailed description of a given cell type.
Notes	Refers to regulator specific interpretation. For MDRM codes, this field provides a detailed description of a given cell reference.
Start Date	Refers to regulator specific interpretation. For MDRM codes, this field refers to the effective date of particular cell reference in case.
End Date	Refers to regulator specific interpretation. For MDRM codes, this field refers to the effective end/ sunset date of particular cell reference.

- **Dimension Filters**: This section displays the dimensions and node value filters used to derive a particular cell.
- **Depends on**: This section displays all the hierarchies (dimensions, filters) and business measure used for arriving at a particular cell / MDRM code.
- **Used In**: This section displays the Objects in which this schedule is used.
- **Applications**: This section displays the applications in which this schedule is used.

2. Starting from a common metadata used across applicaiton, you may want to know the list of reports/ derived entities this metadata has used. Let us take an example of measure. To use MDB for metadata wise schedule, for each metadata, identify the schedules in which it is used. Follow these steps to identify the schedules:

   a) To view the measures, navigate to path ***Objects → OFSAA Data Model → Business Metadata → Base Metadata → Measures***. The LHS displays the list of measures. For example, Figure 22 refers to ***Cash Balance***.

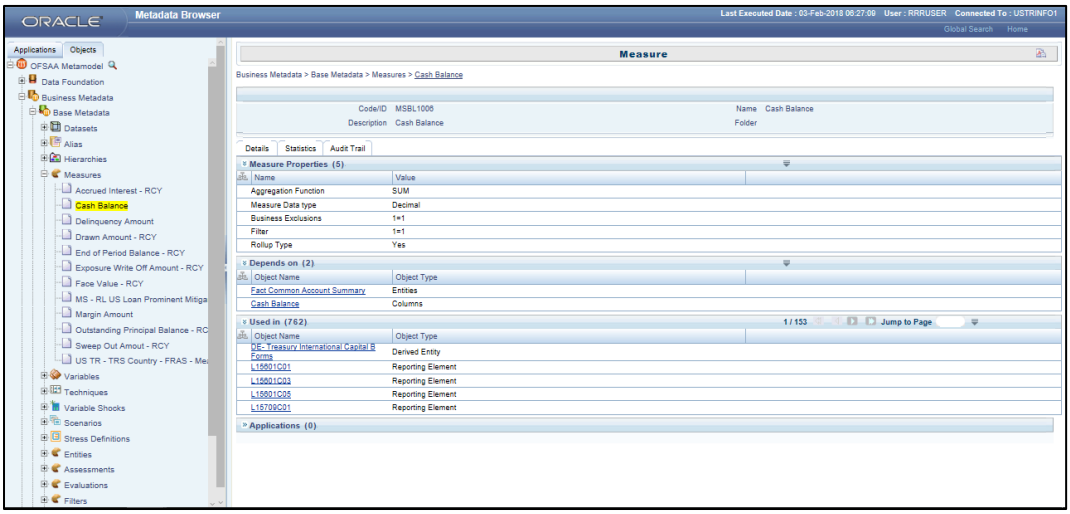


Figure 22: MDB - Business Metadata - Measure View

You can view the below information in this page:

- **Measure Properties:** It provides information on properties of Business measures. For example aggregation function, Measure Data Type, Business Exclusions, Filter and Rollup Type.
- **Depends on:** This section displays all the object names and their types, such as Entities, Columns and so on.
- **Used In**: This section displays the Objects in which this schedule is used.
- **Applications**: This section displays the applications in which this schedule is used.

Follow these steps to view the derived entities used in a given schedule:

Note: The similar steps as follows are applicable for other metadata such as Business Metadata (Hierarchies, Measures, Variables, and so on) and Derived Metadata (Dimensions, Filters, and so on).

a) To view the schedule wise derived entities, navigate to path ***Objects → OFSAA Data Model → Business Metadata → Derived Metadata → Derived Entities***. The LHS displays list of Derived Entities. For example, Figure 23 displays the derived entities used in **DE-Treasury International Capital B Forms**.

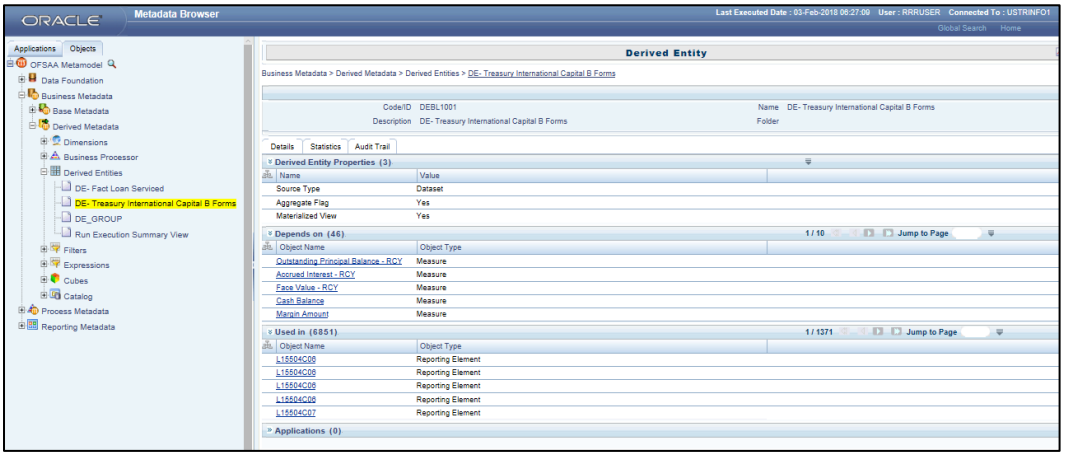


Figure 23: MDB - Business Metadata - Derived Enitity

You can view the following information in this page:

- **Derived Entity Properties**: It provides information on properties of derived entities, such as Source Type, Aggregate Flag, and Materialized View.
- **Depends on**: This section displays all the object names and their types, such as Measure, Hierarchy, and so on.
- **Used In**: This section displays the Objects in which this schedule is used.
- **Applications**: This section displays the applications in which this schedule is used.

3 Regulatory Reporting (REG REP) Solution Data Flow

This chapter provides an understanding of the data flow. It explains what happens within data flow and how various processing aspects are integrated with the overall data flow.

It includes:

- Data Preparation
- Mapping of Results to Line Items in Reporting
- AgileREPORTER: Submission

3.1 Data Preparation

This section explains the input data preparation from OFSAA. It includes:

- Assumptions for Data Preparation
- Run/Execution Expectations
- Projection Data
- Data Flow from Sources Systems to Staging Area
- Data Flow from Staging to Results Area
- Data flow from Staging to Processing Area
- Data Flow From Processing to Results Area
- Dimension Tables/Entities

3.1.1 Assumptions for Data Preparation

1. REG REP is a reporting solution, which uses data from underlying fact tables directly for reporting. You are expected to prepare the load for the required data in reporting area accordingly. Although this has a thin processing layer to reclassify to regulatory dimensions and bands, all the processing measures are expected to be from respective applications and provide as required.
2. It is integrated with results area of the respective processing application, and any change in the underlying processing can disturb the REG REP data sourcing.
3. Baseline and stress data must be populated with appropriate codes. Inaccurate mappings may can lead to inaccurate results. For details please refer to Relationship between Run and Stress.
4. For usage of consolidation dimension (which has values like Actual, Budged, Forecast, and so on), all historical data is expected to be tagged as actual for the purpose of reporting vintage data, as per report requirements. For projection data, for a given run and Projection Period (quarter/year), only one set of data is expected to be stored.
5. All processing reporting requirements requiring cashflows, integration package expects bucketed cash flow as a input (meaning a time bucket for cash flow and cash flow amount is expected as input).

3.1.2 US Treasury RUN Chart

Oracle Financial Services Regulatory Reporting for US Treasury – Lombard Risk Integration Pack provides the US Treasury RUN Chart listing the tasks required for population of data for US Treasury Reports. This covers the following tasks:

- Set up table population
- Stage Dimension Load
- Seeded Dimension Data Population
- Common data Population
- Common Tasks like Exchange Rate Population
- US Treasury Specific Data Population and Transformation
- Derived Entity Refresh

Download the US Treasury 8.0.5.0.0 RUN Chart from the MOS.

3.1.3 User-specific Reclassification Rules / Mapper Maintenance

Within reclassification rules, few rules where source is customer specific values. In such cases, these rules must be validated and updated as required by you, because Out-of-Box rule may differ from what you have. Such rules are very few and restricted to:

1. Standard Product Type Reclassification
2. Standard Party Type Reclassification
3. Standard Mitigant Type Reclassification
4. Regulatory Industry Reclassification
5. Regulatory Credit Status Reclassification
6. Regulatory Loan Purpose Reclassification
7. Regulatory Credit Score Model Mapper Maintenance
8. GL Account to Reporting Line Mapper Maintenance

Refer Business Metadata for details of these reclassifications.

Modify or customise the following rules as per user-specific values. These are sample rules with sample values in SCD Dimensions. These rules must be reconfigured post SCD execution which contains user-specific values for the Source Hierarchy.

RULE NAME	TARGET HIERARCHY	SOURCE HIERARCHY
Regulatory Treasury Foreign Official Indicator	DIM_FOREIGN_OFFICIAL_INST	FCT_REG_CUSTOMER_SUMMARY
Treasury Claim Liability Identifier	DIM_PRODUCT	FCT_REG_ACCOUNT_SUMMARY
Treasury Claim Liabilty Type Classification	DIM_TRS_CLAIM_LIABILITY_TYPE	FCT_REG_ACCOUNT_SUMMARY

RULE NAME	TARGET HIERARCHY	SOURCE HIERARCHY
Regulatory Organization Regional Group Classification	DIM_REG_INTL_ORG	DIM_REG_ORGN_REGION_GROUP
Treasury Country Classification	DIM_STANDARD_PARTY_TYPE	FCT_REG_ACCOUNT_SUMMARY

3.1.4 Configuring Setup Tables for Standard Set of Values

The following are the setup configurations which are required to be done before executing the US Treasury Regulatory Reporting Run.

3.1.4.1 SETUP_MASTER Table

The SETUP_MASTER table in atomic schema must be modified with the required values for US Treasury.

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE	Description
DEFAULT_FINANCIAL_ELEMENT	Default Financial Element	DEFAULT	Component Value to be updated according to the values used in STG_GL_DATA.V_FINANCIAL_ELEMENT_CODE. This is used for Fact Management Reporting T2T.
DEFAULT_FX_RATE_SRC	Default FX Rate Source	DEFAULT	Component Value to be updated according to the values used in STG_EXCHANGE_RATE_HIST.V_RATE_DATA_ORIGIN. This is used for Calculating the Reporting Currency.
DEFAULT_MARKET_CENTER	Market Center Identifier	DEFAULT	Component Value to be updated according to the values used in STG_INSTRUMENT_MARKET_PRICES.V_MKT_CENTER_ID. This is used for Calculating the Instrument Close Price.
USTR_DEFAULT_PD_MODEL	PD Model for US Treasury Regulatory Reporting	DEFAULT	Component Value to be updated according to the values used in STG_PD_MODEL_MASTER.V_PD_MODEL_CODE. This is used for Calculating PD Model Band Skey.

3.1.4.2 FSI_PARTY_STD_PARTY_MAP

In US Treasury Regulatory Reporting, there is reporting requirement for certain Party which are considerd to be Regulatory Standard. As Party Dimension is an SCD table and the values of Party Identier Code (V_PARTY_ID) can change bank to bank, the FSI_PARTY_STD_PARTY_MAP is used for mapping the Bank-specific V_PARTY_ID to Regulatory-specific V_STD_PARTY_CODE. Here, you must modify the V_PARTY_ID column according to the Bank-sepcific V_PARTY_ID of corresponding Party, which is stored in Party Dimension (DIM_PARTY).

The following are the STD Party Codes which are getting used in US Treasury Regulatory Reporting.

V_STD_PARTY_CODE	V_STD_PARTY_NAME	V_PARTY_ID
ASEAN	Association of Southeast Asian Nations (ASEAN)	ASEAN
BCEAO	Central Bank of West African States	BCEAO
BEAC	Bank of Central African States	BEAC
BIS	Bank of International Settlements	BIS
ECB	European Central Bank	ECB
ECCB	Eastern Caribbean Central Bank	ECCB
FAO	Food and Agriculture Organization (FAO)	FAO
FZ	Franc Zone	FZ
IAEA	International Atomic Energy Agency	AUS
IBI	Bank Indonesia	IBI
IBRD	International Bank for Reconstruction and Development (IBRD) (part of World Bank)	API
ICAO	International Civil Aviation Organization	ATC
ICRI	Consulate of the Republic of Indonesia	ICRI
IDB	Inter-American Development Bank (IDB)	IDB
IMF	International Monetary Fund (IMF)	IMF
IOM	International Organization for Migration	IOM
RBI	Reserve Bank of India	RBI
UNICEF	United Nations Children’s Emergency Fund (UNICEF)	UNICEF
WTO	World Trade Organization (WTO)	WTO
WBG	West Bank and Gaza	WBG

3.1.5 Run/Execution Expectations

Run refers to execution. It is assumed that at different time periods, different combination of parameters, and different data require different executions. From a reporting perspective, as required by regulators, RRDF application requires data for the following executions:

1. Current Data / Execution
    a. Reporting month end data
    b. Projection Data
2. Historical (trend/vintage) Data
    a. Yearly
    b. Quarterly
3. Stressed Data

3.1.6 Consolidation

Consolidation is handled as part of Financial Services Data Foundation (FSDF). Consolidation in FSDF refers to elimination of intra company transactions, that is, any kind of transactions between two parties or entities which are part of the reporting organizational hierarchy for a given execution. When there is only one legal entity involved in a execution it is called as SOLO Entity vs earlier one as CONSOLIDATED Entity.

It is expected that in staging area, customer loads the data from source system and then uses consolidation logic to arrive at consolidated output for results.

- Scope of consolidation is about list of Entities which participate in consolidation.
- Legal Entity Structure is looked through ORGANIZATION STRUCTURE DIMENSION. This stores parent-child relationship. This is stored only once.
- While moving the data, Legal Entity can move related entities to processing/reporting area.
- Legal structure being finalized once, this structure only stores one parent-child relationship.

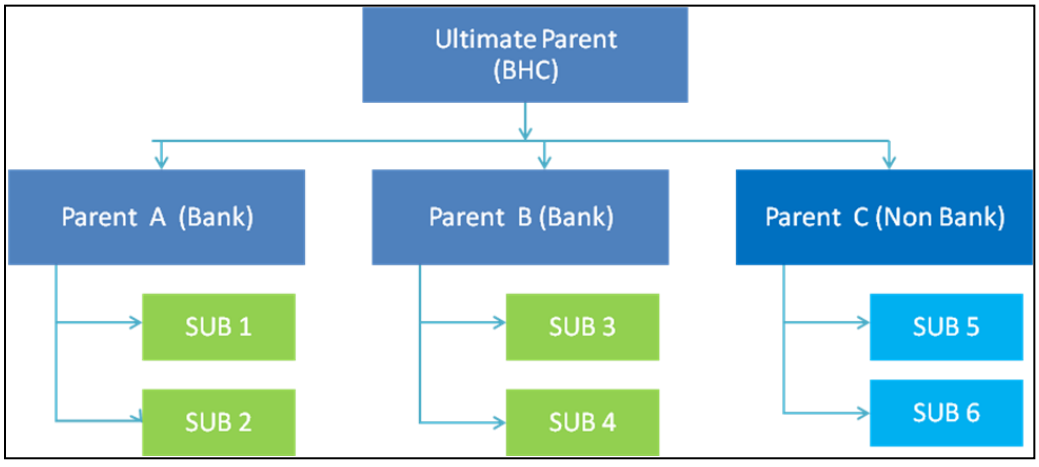


Figure 24: Consolidation

- Transaction / exposure between SUB 1 and SUB 2 should be eliminated while reporting for Parent A.
- Transaction / exposure between SUB 1 and SUB 3 should not be eliminated while reporting for Parent A.
- It is customer for banking products and issuer for traded securities which are considered for the intra company elimination.

Consider the following example:

FSDF AREA	ENTITY CODE	ACCOUNT NUMBER	CUSTOMER	ISSUER
STAGE LOAN CONTRACTS	SUB 1	ACCOUNT 1	SUB 2	
STAGE LOAN CONTRACTS	SUB 1	ACCOUNT 2	PARTY 1	
STAGE INVESTMENT CONTRACTS	SUB 1	ACCOUNT 3	PARTY 1	SUB 2
FCT COMMON ACCOUNT SUMMARY	SUB 1	ACCOUNT 2	PARTY 1	
FCT_REG_INTRA_COMP_ACC_SUMM	SUB 1	ACCOUNT 1	SUB 2	
FCT_REG_INTRA_COMP_ACC_SUMM	SUB 1	ACCOUNT 3	PARTY 1	SUB 2

As shown in the preceeding table, Account 1 is moved to FSI INTRA COMPANY ACCOUNT as and Account Summary tables. Run Enabled tables contain records specific to selected legal entity and consolidation type.

Consolidation is also linked to multiple hierarchies banking organizations have. Multiple hierarchies refer to the different grouping of group entities under different parent for a given regulatory requirements.

Refer to the following representation where TIC BC and TIC BL1 are two regulatory reporting requirements.

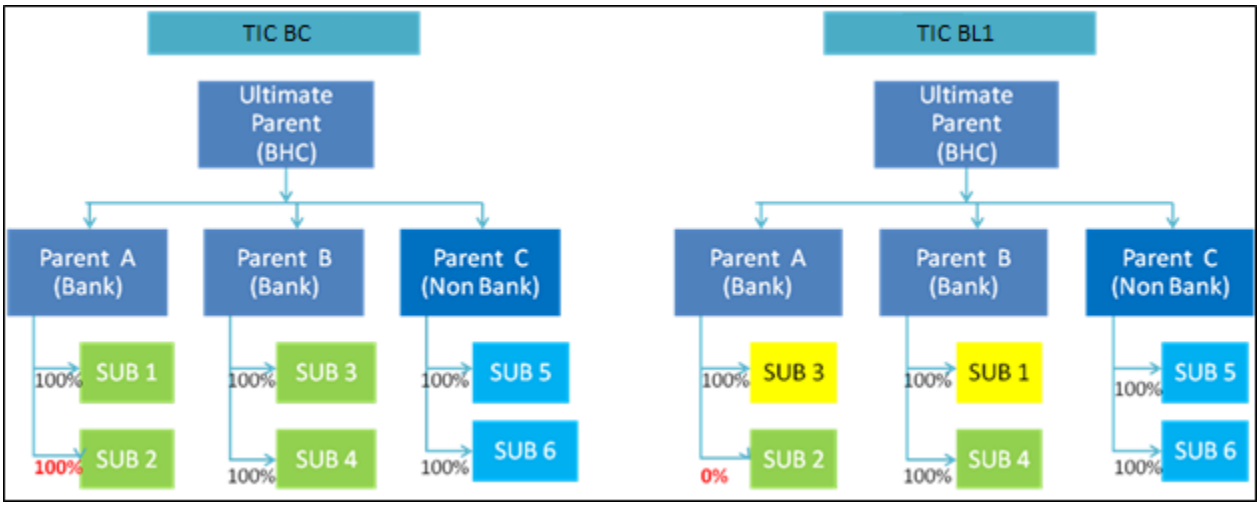


Figure 25: Consolidation with Multiple Hierarchies

Consolidation percentage refers to percentage of asset or liability of child entity that is brought under parent heading. Except for Joint ventures and similar organization structures, child entities are moved under parent or they are not. This means consolidation percentage is either 100% or 0%. For proportionate consolidation (Joint venture is an example for this), given child is moved under two parents with all assets and liabilities divided as per Joint venture agreement. Currently, in FSDF 804, proportionate consolidation is not handled.

Hierarchy structure is thus primary input to the consolidation process. Depending on whether you have multiple hierarchies or not, there are two data flows.

Consolidation with Multiple Organization Structure Hierarchy:

1. You load Organization Structure Hierarchy to STAGE ORG STRUCTURE MASTER table, which is moved to ORG STRUCTURE DIMENSION using SCD component.

2. Execution specific organization structure hierarchies along with parent and child entity codes are populated in STAGE LEGAL ENTITY HIERARCHY INTERFACE table, which is moved to LEGAL ENTITY HIERARCHIES DIMENSION using SCD component.

3. Execution specific Consolidation percentage is loaded in STAGE ENTITY CONSOLIDATION PERCENTAGE table, where child entity code, parent entity code and consolidation percentage is populated. This is moved to FACT ENTITY CONSOLIDATION PERCENTAGE table using Table to Table transformation. In FSDF 804 release, this feature is not supported yet.

4. The STAGE LEGAL ENTITY HIERARCHY is used for the Consolidation process and not the one from ORGANIZATION STRUCTURE DIMENSION.

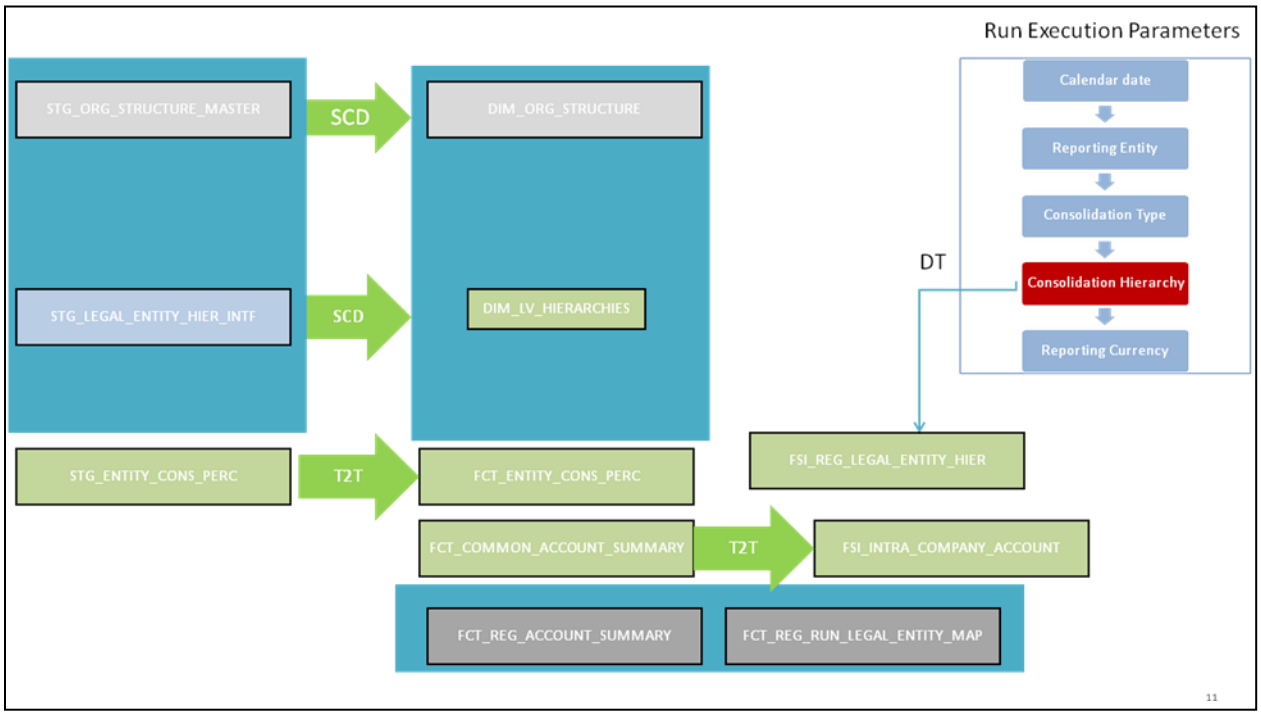


Figure 26: Consolidation with Multiple Organization Structure Hierarchy

5. If you do not have Multiple Hierarchy, STAGE LEGAL ETNTITY HIERARCHY which is used for the Consolidation process can be populated from ORG STRUCTURE DIMENSION instead of the STAGE LEGAL ENTITY HIERARCHY.

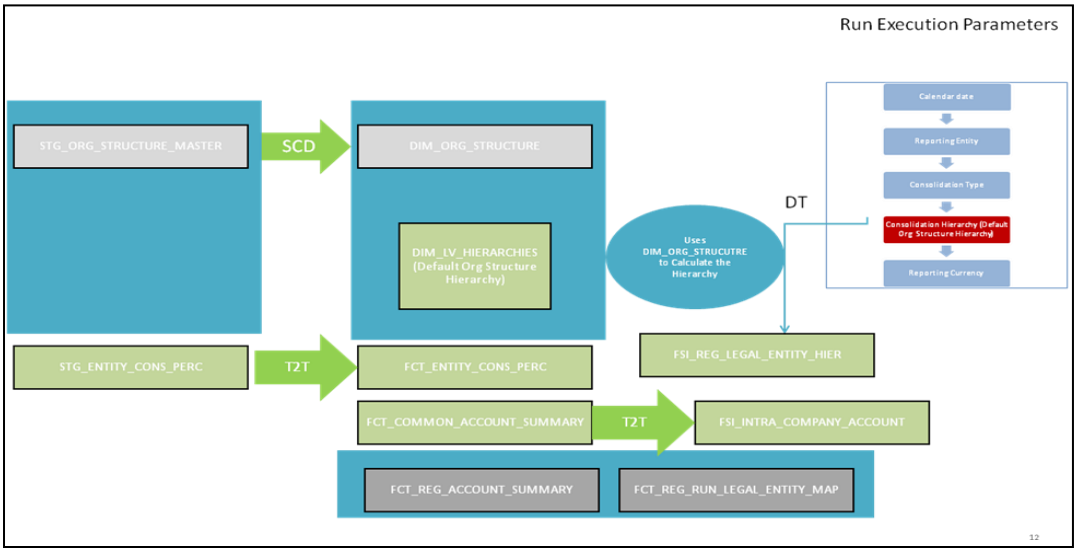


Figure 27: Consolidation without Multiple Organization Structure Hierarchy

NOTE: A Solo Run does not require any type of consolidation of elimination of accounts with other entities.

Additional Data Preparations to handle Consolidation

The entity FCT_REG_RUN_LEGAL_ENTITY_MAP is used once you select REPORTING ENTITY from AgileREPORTER. This table is populated as part of US Treasury Run Execution.

RUN TYPE	FIC MIS DATE	REPORTING ENTITY	RUN EXECUTION
SOLO	20151231	LE1	12
SOLO	20151231	LE2	14
CONSOLIDATED	20151231	LE1	16
CONSOLIDATED	20151231	LE2	16
CONSOLIDATED	20151231	LE3	16

For solo run, only one reporting entity is expected to be included whereas consolidated run includes all entities involved in execution. This entity provides flexibility to select one REPORTING ENTITY in AgileREPORTER and select relevant data for the particular execution based on if it is consolidated or solo.

3.1.6.1 Relationship between Run and Stress

The REG REP application, for example in **TIC BC**, picks up reporting data based on the Reporting Run that populates the underlying Fact Table(s). Reporting Run is a flag, which must be marked as 'Y' in a DIM_RUN table so that, the OBIEE reporting layer selects a particular run execution.

In this application, a Run comprises:

a. **Baseline Run**: The Bank Holding Company (BHC) may have multiple runs. The run used for reporting is marked with a **Reporting Flag = Y**. This is the Baseline run for a given reporting date. It is referred to as Baseline because the values that it represents are not stressed and the BHC may use these base values for stressing them according to various scenarios. A history of such runs accumulated over period of time provides historical runs. For more information on updating the reporting flag, refer section Updating Reporting Flag.

b. **Stress Run**: Stress runs hold data, which are stressed by a certain percentage/basis point over the Baseline figures. The BHC expects these figures to reflect the business/risk position under predetermined business scenarios/economic conditions.

c. Identification of Baseline and Stress run occurs from STRESS DIMENSION.

In this application, the required stress runs are tagged to a Baseline run. If the BHC performs several stress runs, the relevant runs which are intended for reporting are identified and tagged with a reporting Baseline run using the V_RUN_ID in the DIM_RUN.

DIM RUN stores n_run_skey / v_execution_id, which are execution specific for every run definition which is v_run_id. Therefore, the run definition can remain constant over a period of time and different executions provide different outputs due to underlying data changes.

DIM_STRESS conveys the stress definition. Additionally, it links the original run Definition (v_run_id) and Stressed run ID (v_stressed_run_id). You must refer to the DIM_RUN table to get expected run execution of these runs definitions pertaining to a particular date / n_mis_date_skey.

The same fact table stores both the Baseline data and the Stressed data, uniquely identified through Scenario codes (and Run skeys).

Refer to the *Business Metadata.xls* present in the installer package for details on different Fact tables used for related reports.

3.1.7 Data Flow from Source Systems to Staging Area

The staging area is populated with data from various data sources, such as GL data, Account data, Customer data, Trading data, Currency data, and Master data. See *Data Integration Hub (DIH) User Guide* in OHC Documentation Library for details. DIH enables to load the data from the source systems to the OFSAA staging tables, through logical interfaces, known as Application Data Interfaces (ADI). DIH provides a set of User Interfaces (UI), which is used to define and maintain External Data Descriptor (EDD), Application Data Interfaces, and map the EDDs and ADIs through connectors.

3.1.8 Data Flow from Staging to Results Area

This section details the pass through data, transformed data and classification.

3.1.8.1 Pass Through Data

Pass through data refers to the static data that is pre-processed and flows to the results area directly. The Common Staging Area (CSA) model represents the data entry point into the FSDF. CSA provides a simplified, unified data sourcing area for inputs required by analytical applications and engines. It consists of over 400 tables and nearly 9000 columns organized into distinct subjects.

The staging area is a physical data model, which is deployed using the Analytical Application Infrastructure, which manages it. The design of the staging area data model is to allow efficient data loading for analytics. It thus has crucial differences from a general-purpose repository of operational/transactional data across a bank.

The staging area acts as the single source of data, and contains unified data requirements for various banking areas such as Loans and Losses, Off balance Sheet products, Securities, Derivatives, Capital Data, Management Ledger and General Ledger. Common example of this category includes various monetary amounts, dates and so on.

3.1.8.2 Derived / Transformed Data and Reclassifications

OFSDF Interface with Lombard Risk for US Treasury requires specific hierachies and dates to be transformed and reclassified to regulator specific values.

Table 4: Data Transformation Example

Source Hierarchy			Target Hierarchy
ISSUER TYPE = US GOVT / TREASURY	INSTRUMENT RISK FACTOR = INTEREST RATE	INSTRUMENT DERIVATIVE TYPE = SPOT	DIM REG INSTR CLASSIFICAITON = US GOVT SECURITIES
PROPERTY TYPE = 1-4Units	LTV Ratio < 2		DIM REG PRODUCT CLASSIFICAITON

For example, data from banks has attributes such as issuer type and bank instrument type. However, these values are bank specific, and must be converted or reclassified to regulatory specific set of value such as DIM REG INSTR CLASSIFICATION as mentioned above.

Reporting derived entities use this reclassified dimensions. Some of the reclassifications are performed in the respective application area.

For example, DIM BASEL PRODUCT TYPE. This reclassification is performed in Basel application processing and available for reporting directly.

Other transformations include various bands such as time to remaining maturity, time to next repricing date, and so on.

3.1.8.3 Reclassified to Regulatory Classifications

After transformation, the regulatory data is reclassified as follows:

Table 5: Data Reclassification Example 1

Source		Target
DIM PROPERTY TYPE	**LTV Band Ratio**	**DIM REG PROD CLASSIFICAITON**
1TO4UNITS	>2	1-4FAMCONLOAN

Table 6: Data Reclassification Example 2

FCT REG ACCOUNT SUMMARY			
Account Number	**REG PROD Classification**	**Residual Maturity Band**	**Delinquency Band**
1	1-4FAMCONLOAN	1	3

The sample reclassifications performed to transform the existing hierarchies to regulatory specific hierarchies are:

- Regulatory Product Classification
- Regulatory Instrument Classification
- Regulatory Deposit Classification
- Regulatory Treasury Foreign Official Indicator
- Regulatory Treasury Claim Liability Identifier
- Regulatory Treasury Claim Liabilty Type Classification
- Regulatory Organization Regional Group Classification
- Regulatory Treasury Country Classification

The additional transformations that are performed are:

- Remaining Time to Maturity Band
- Contractual Maturity Band

Refer Business Metadata for details of these reclassifications.

3.1.9 Data Flow from Staging to Processing Area

The staging area of the FSDF serves as a container for analytical processing from sourcing to consumption. Such processing is usually delivered in the form of discrete units called analytical applications, spanning different analytical use cases ranging from Finance to Risk to Compliance.

These applications consist of custom-built computational engines and numerical libraries, and can execute processes on the data that range from simple aggregations to complex, multi-step stochastic processes such as Monte-Carlo simulation.

Hence, analytical applications place varying demands on the data infrastructure in terms of volumes and speed, and hence place different demands on the data architecture. In practice, the normalized (3NF) design favored for enterprise data warehouses often fails to be efficient or performant when it comes to analytical processing across a wide range of use cases.

Therefore, the OFSDF recognizes the need for distinct application-specific working stores, separate from the staging and reporting area. For example, the OFSAA Asset and Liability Management (ALM) application has a distinct set of ALM-specific tables, as does the Market Risk solution.

Note: The structure of these processing area stores is decided by the actual analytical application and engine used. The OFSAA suite of applications is organized this way, with each application managing a specific set of tables/schemas within the processing area.

The processing area tables/schemas are not part of the OFSDF. This is because OFSDF is intended to be an open platform. Other analytical applications and engines can equally provision data out of OFSDF by mapping their input requirements appropriately to the OFSDF staging area model.

3.1.10 Data Flow from Processing to Results Area

This step is similar to Data Flow from Staging to Results Area. It involves either pass through data from processing to results or loading directly to results (refer Section 3.1.12). This is mostly due to processing measures such as Fair Value, Risk Weighted Assets, and so on.

3.1.11 Guidelines for Data Loading to Result Area Tables in Data Foundation for Regulatory Reporting Implementations

Regulatory reports make use of data available across several fact tables in the OFSAA data foundation model and these result tables are either loaded from the raw data sourced from source systems via out of the box T2T's or processed data output from various OFSAA applications.

For example, Fact LRM Account Summary (FCT_LRM_ACCOUNT_SUMMARY) which stores the liquidity risk related attributes and metrics computed by OFSAA LRM application, Fact Loan Loss Forecasting and Provision Account Summary (FCT_LLFP_ACCOUNT_SUMMARY) which stores the attributes and measures computed by OFSAA LLFP application. However, there can be several implementation use cases in the regulatory reporting space where customer may not have licensed any of OFSAA application and hence must put additional custom effort to design an ETL process to load the required data elements into the respective fact tables referenced by the report. The following section highlight some of the guidelines that the customer can consider when designing a data flow for such a use case.

- Consistent Usage of Run Identifier

  Most of the fact tables used in regulatory reporting are run enabled and have a composite primary key inclusive of run identifier that enables same snapshot of data to be loaded multiple times into the target fact table for any given execution date. All the out of the box processes that impact data used in regulatory reports are executed as part of an integrated run to ensure that run identifier is consistent across fact tables. Since the reporting is done on an integrated schema, it is imperative for the custom data flow design to keep this integrity intact.

This essentially means that the custom ETL processes designed to load the data directly into the fact tables must be able to leverage the run identifier generated by the run engine during execution. Run Identifier information is available in DIM_RUN table.

- Correct Dimensional Lookup Configuration

  Dimensional identifiers are typically part of referential integrity constraints with the fact table so the custom ETL processes must ensure that lookups retrieve a valid surrogate keys for a given value of business key. The intermediate staging structure must ensure all the business keys are persisted correctly and the lookup condition is designed on the correct dimension table.

  For example, FCT_LRM_ACCOUNT_SUMMARY.n_asset_level_skey → DIM_ASSET_LEVEL.n_asset_level_skey. The business key (v_asset_level_code) must be sourced and persisted to ensure correct values are populated in the target column, that is, FCT_LRM_ACCOUNT_SUMMARY.n_asset_level_skey.

- Data Loading Guidelines for handling Negative or Credit Balances

  Handling of Negative Balances in Regulatory reporting. There is one primary source of the negative balances, that is, Natural asset negative balances from system of records

  Reporting requirement is to show the genuine asset negative balances as liabilities where adjustment entries should be aggregated to the same heading assets or liabilities as they are loaded. US Treasury uses Treasury Claim Liabilty Identifier Dimension. Primarily, following two General Ledger Type codes are used for this purpose:

  1. CLAIM
  2. CLAIM LIABILITY

  Treasury Claim Liabilty Identifier is populated based on claim liability identifier rule. Following conditions are considered for the treatment of negative balances based on product and instrument type:

  1. Loans and Cards
     a. Loans are reported under Assets category in Balance Sheet. There are cases when customer makes excess payment towards the loan account which makes the end of period account balance becoming credit balance or negative balance.
     b. When excess payment is made, then account will no longer fall under Claim category, but it becomes a liability for the financial institution.
     c. To avoid reporting of excess payment as Claim, you must assign a Claim Liability Identifier to given account with V_TRS_CLAIM_LIAB_IDEN_CD= 'LIAB'.
     d. When for any loan regulatory reclassification assigned with Claim Liability Identifier having V_TRS_CLAIM_LIAB_IDEN_CD= 'LIAB', it excludes the reporting for all claim line items and it is added to Liability in respective line items.

2. Products
    a. All the products are identified as Claim or Liability based on the balance sheet category when instrument code is null. If balance sheet category is Asset, then the Claim Liability Identifier code is Claim, if balance sheet category is Liability, then the Claim Liability Identifier code is Liability.
3. Instruments
    a. If instrument code is not null, then the buy-sell indicator is used to update the Claim Liability Identifier code. Any instrument with buy flag is a Claim and sell flag is a Liability.
    b. If the buy-sell indicator is buy and fair value is less than **0**, then Claim Liability Identifier code is Liability.

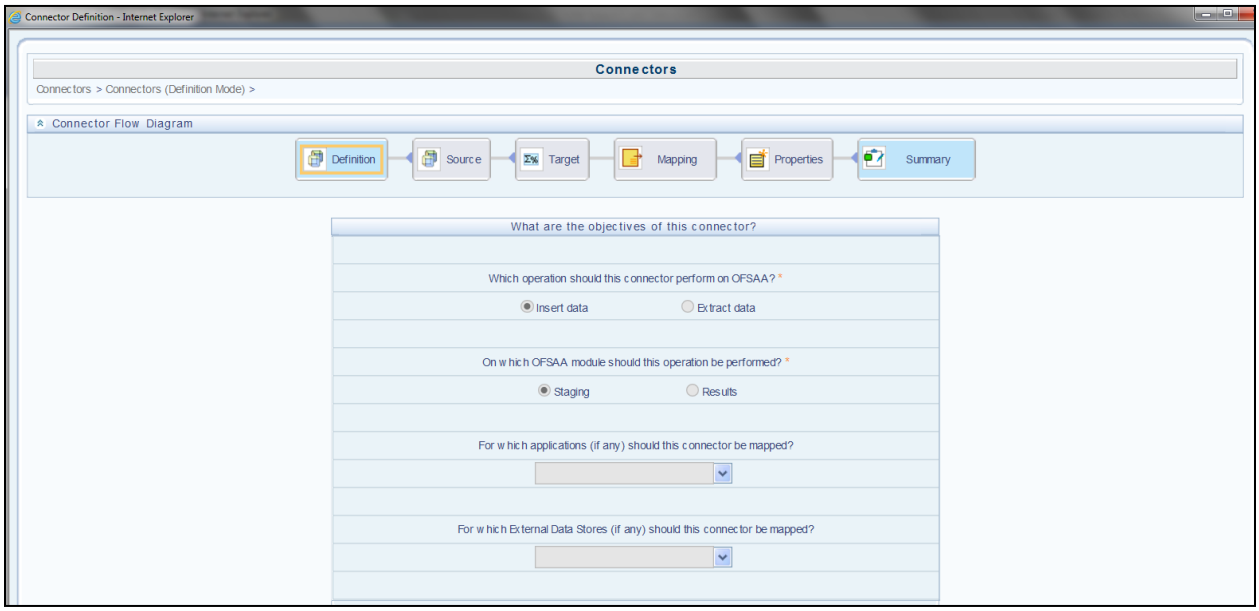
NOTE: Currently, this feature is enabled for BC, BL-1, BL-2, BQ-1, BQ-2, and BQ-3 Reports only. Other reports to uptake this feature in subsequent releases.

From OFSAA technical infrastructure standpoint, the mentioned options are available to the customer to design and implement the custom ETL process explained above. OFSAA strongly recommends the below options to maintain consistency in terms of data lineage in Metadata browser as the configured metadata can be made available in meta model via MDB publish:

1. Data Integration Hub (DIH) Connectors
2. Data Mapping (T2T) option in Application Infrastructure
3. Data File Mapping (F2T) option in Application Infrastructure

3.1.11.1 DIH Connectors

For customer's that have licensed DIH to source data from external systems into OFSAA , this probably is the easiest approach to load data into the result area table. Source data could either reside in relational structure or in a file structure. Mappings maintained in DIH are logical in nature while physical implementation is managed internally. Dimensional lookups work seamlessly without the need for any additional configuration in the connector mapping as this too is managed internally by DIH. See *DIH User Guide* for details on how to load data into a result area table.



3.1.11.2 Data Mapping (T2T)

Data Mapping refers to the process of retrieving unstructured data from data sources for further data processing, storage, or migration. This feature is commonly known as RDBMS source to RDBMS target(T2T) framework in the OFSAA world and can be leveraged when source data is available in Oracle database. Dimensional lookups must be handled via the T2T's join condition and expressions. Refer to *OFS AAI User Guide* for more details on configuring a T2T.

3.1.11.3 Data File Mapping (Flat File to RDBMS Target - F2T)

If the source data is available in file structures, OFSAA F2T component can be used to bring the data in the OFSAA eco system. As lookups cannot be configured in a F2T, this component must be used in conjunction with T2T component, that is, data is first loaded from the file to an interim staging structure using the F2T component followed by data load to the target result area table using the T2T component. This is least recommended approach as there is need for interim table structure in data model and involves multiple data hops which add to the overhead.

Refer to the *Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack* on OHC for more details on configuring a F2T.

3.1.12 FSDF Entity Information

The Entity information is described in the following Dimension and Fact tables.

3.1.12.1 Dimension Tables/Entities

Table 7: Dimension Tables/Entities

Sl. No.	List of Seeded Tables	Table/Entity Logical Names	Table/Entity Descriptions
1	DIM_BANDS	Bands Dimension	This setup table contains the list of band dimensions. Information on the table name, columns containing the band codes, upper and lower bound values are stored in the setup table and a generic code is executed to populate the band codes in the respective fact tables.
2	DIM_DATES	Date Dimension	This table stores the List of Dates generated between any two dates typically covering extraction dates and cash flow dates.
3	DIM_INTEREST_TYPE	Interest Type Dimension	This table stores the Interest Type.
4	DIM_ORG_STRUCTURE	Organization Structure Dimension	This entity stores the Organization Structure of the Financial Institution.
5	DIM_PRODUCT	Product Dimension	This entity stores the details of all the products (existing/stopped) offered by the Financial Institution.
6	DIM_PRODUCT_TYPE	Product Type Dimension	This table stores the loan product type information.
7	DIM_REG_PRODUCT_TYPE	Regulatory Product Type Dimension	This table stores the regulatory product types. This is used for regulatory reporting purpose and contains values like Auto Loans, Credit Cards, other consumer loans, and so on.
8	DIM_RUN	Run Dimension Dimension	The Run Master Dimension entity stores all the baseline and simulation runs.

Sl. No.	List of Seeded Tables	Table/Entity Logical Names	Table/Entity Descriptions
9	DIM_AGENCY_TYPE	Agency Type Dimension	This table stores details of Agency type which issues and guarantees loans like US Government Agency, US Government Sponsored Agency.
10	DIM_COUNTRY	Country Dimension	This table stores the master list of countries.
11	DIM_CUSTOMER	Customer Dimension	This entity stores the list of the organization's customers and counterparties and their attributes.
12	DIM_PARTY	Party Dimension	This table stores the history of a party. Party here can be customer, issuer and guarantor, and so on.
13	DIM_REG_INTEREST_TYPE	Regulaory Interest Type Dimenison	This table stores the list of indices which are designed to store the regulatory based interest type code as designated by the regulator for an account at account level or group of accounts at a credit line level. For example: FIXED, FLOATING, MIXED, and so on.
14	DIM_ACCOUNT	Account Dimension	This table stores the list of identifiers which uniquely identify every single financial arrangement between customer and reporting bank.
15	DIM_GEOGRAPHY	Geography Dimension	This table stores the distinct list of all geographical locations, where any of the transaction channels of the Bank are located.
16	DIM_CURRENCY	Currency Dimension	This table stores the currency information.
17	DIM_INSTRUMENT_CONTRACT	Instruments Contracts Dimension	This entity stores the contracts and instruments in the Market and their details like Effective Date, Maturity Date, Face Value, Day Convention, Strike, and so on.

Sl. No.	List of Seeded Tables	Table/Entity Logical Names	Table/Entity Descriptions
18	DIM_INSTRUMENT_TYPE	Instrument Type Dimension	This entity stores the details of all the Instrument Types which Reveleus Market Risk solution supports.
19	DIM_PARTY_TYPE	Party Type Dimension	This table stores the history of a party for party type. Party here could be customer, issuer and guarantor, and so on.
20	DIM_REG_DEPOSIT_TYPE	Regulatory Deposit Type Dimension	This table stores the details of various deposit types like Demand deposits and Negotiable Order of Withdrawal (NOW) accounts.
21	DIM_REG_INSTR_CLASSIFICATION	Regulatory Instrument Classification Dimension	This table stores data for different Instrument Classification defined by the Regulators.
22	DIM_STANDARD_PARTY_TYPE	Standard Party Type Dimension	This table stores the standard party type. Party here can be customer, issuer and guarantor, and so on.
23	DIM_STANDARD_PRODUCT_TYPE	Standard Product Type Dimension	This table stores the list of all product types specified by regulator for risk computations.
24	DIM_ISSUER	Issuer Dimension	This entity is used as an issuer of marketable collaterals.
25	DIM_ENTITY_TYPE	Entity Type Dimension	This table stores list of all types of entities in the organization structure.
26	DIM_FIDUCIARY_SERVICE_TYPE	Fiduciary Service Type Dimension	This entity stores the details of various types of fiduciary service.
27	DIM_ISSUER_TYPE	Issuer Type Dimension	This entity stores the issuer yypes.
28	DIM_SERVICED_LOAN_ACCOUNT	Serviced Loan Account Dimension	This table stores account summary. However only for those accounts which bank holds for servicing purpose only. These account may or may not be originated by bank.

Sl. No.	List of Seeded Tables	Table/Entity Logical Names	Table/Entity Descriptions
29	DIM_REG_INTL_ORG	Regulatory International Organisation Dimension	The table is seeded with Reg International Organisations related information.
30	DIM_FOREIGN_OFFICIAL_INST	Foreign Official Institutions Dimension	This table stores the list of foreign official institutions as prescribed by the US Treasury.
31	DIM_REG_ORGN_REGION_GROUP	Regulatory Organization Region Group Dimension	This table stores the information about various regulator prescribed organizations according to their region. List of values include International Organization, European Organization, African Organization, and so on.
32	DIM_TRS_CLAIM_LIABILITY_TYPE	Treasury Claim Liabilty Type Dimension	This table stores the list of products reported as claims and liabilities in the US Treasury Reports.
33	DIM_TRS_CLAIM_LIABILITY_IDEN	Treasury Claim Liabilty Identifier Dimension	This table stores the claims and liabilites as dimensional values to be used for classifying every account as a claim or liability.

3.1.12.2 Fact Tables/Entities

For all tables with data flow type tagged as a Processing, it is recommended that you map data directly to result area if processing application is not part of OFSAA product suite. For example, Basel computations, RWA Numbers, and Capital Ratio are taken from processing area which is populated by OFSAA or other Basel application.

For processed tables, you can look for the following options:

- OFSAA Data Integration Hub (DIH) product
- Flat File
- Table-to-Table Transformation with source being processing application

Table 8: Dimension Tables/Entities

Sl. No.	List of Seeded Tables	Table/Entity Logical Names	Table/Entity Descriptions	Data Flow Type
1	FCT_COMMON_ACCOUNT_ SUMMARY	Fact Common Account Summary	This table stores common account level information that usually comes as an input through staging.	Staging
2	FCT_LOAN_ACCOUNT_ SUMMARY	Fact Loan Summary	This table stores the details of loans. This table includes mortgage and vehicle loans.	Staging, Results
3	FCT_DEPOSITS_BORROWINGS	Deposits And Borrowings	This table stores all the deposit and other borrowings accounts of bank.	Staging, Results
4	FCT_REG_ACCOUNT_ SUMMARY	Fact Regulatory Account Summary	This table stores the regulatory reclassifications and other information as required for regulatory reporting.	Results
5	FCT_REG_CUSTOMER_ SUMMARY	Fact Regulatory Customer Summary	This table stores the details at a customer level.	Results
6	FCT_FIDUCIARY_SERV_ INVST_SUMM	Fact Fiduciary Services Investmnet Summary	This entity stores the details of investments done through a fiduciary account.	Staging`
7	FCT_LOANS_SERVICED	Fact Loans Serviced	This table stores the details of loans serviced by bank. They may or may not be originated by the bank.	Staging

3.2 Mapping of Results to Reporting Requirements of Lombard Risk

Figure 28 explains the flow of data between OFSAA and AgileREPORTER:

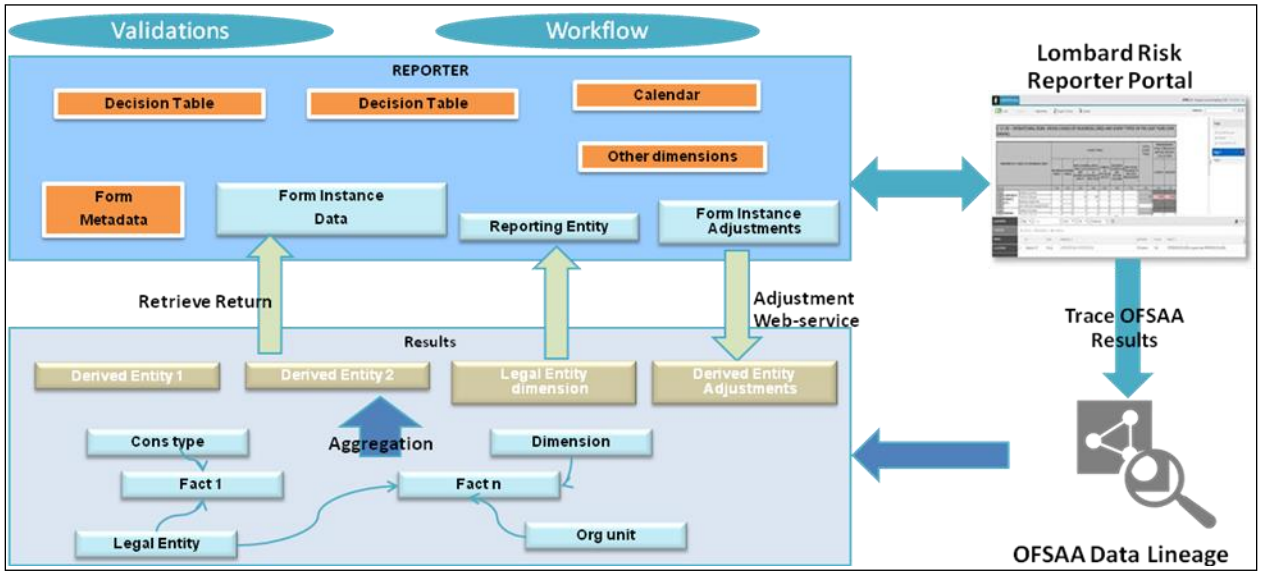


Figure 28: Data Flow between OFSAA and AgileREPORTER

OFSAA provides the data to AgileREPORTER in the form of derived entities. Derived entity is an existing OFSAA higher order metadata object and can be physicalized as a materialized view in the database. Derived entities store aggregated data from base fact entities specified in the dataset and have the necessary dimensions and measures. Dimensional and measure combination stored within the derived entity is mapped to cells within the report. This mapping is maintained within the 'Dimensional mapping' template. 'Decision Process' within AgileREPORTER reads the derived entities and dimension mapping information to derive the data for reporting. Derived entities are created based on measures, hierarchies, and datasets.

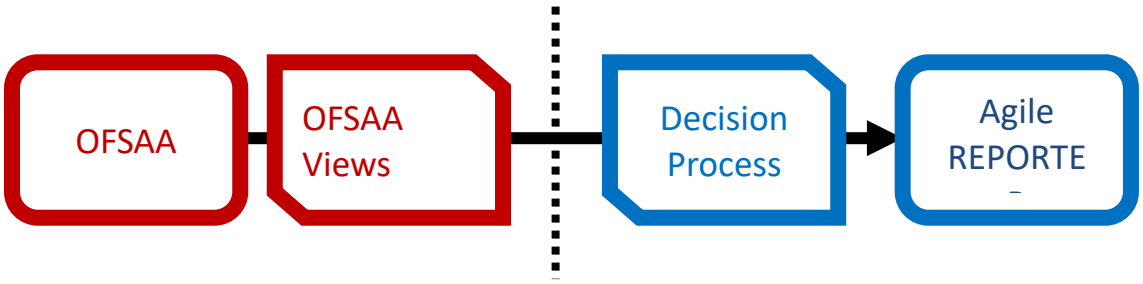


Figure 29: Decision Process in AgileREPORTER

Some cells in the schedule can be derived as per the logic provided by the regulator. Derivation can be an expression built using values from other cells. Examples of derivation are ratio, node-level rollup, direct reference to cells in other schedules within the report. These derivations are performed within the AgileREPORTER. OFSAA provides data only for the cells that are not derived.

Note: Metadata for data transformation is available as part of the data ware house configuration pack provided Out-of-Box / pre-configured from OFSAA. You need not perform any mapping for the reports. However, this information can be useful for maintainance or extensions when Out-of-Box pack is not available.

3.3 AgileREPORTER: Submission

The AgileREPORTER is a web-based regulatory reporting tool provided by Lombard Risk. It provides necessary features to address e-filing workflow, validation and submission process, and supports reports (called as forms/returns) for various jurisdictions. AgileREPORTER provides a reliable and efficient infrastructure to compile, generate, and submit regulatory reports.

4 OFSAA Features

This chapter provides an understanding of the AAI components used in the solution and dimensional mapping. It includes:

- OFSAA Infrastructure
- Business Metadata
- Derived Entity
- Rules Run Framework Features
- Dimension Mapping

Regulatory Reporting (REG REP) Solution configures the data hand off structure to Lombard using metadata. The following sections provide details on datasets, measures, hierarchies and Derived Entities. Multiple derived entities are linked to a specific regulatory schedule. You can modify the configuration using OFSAA infrastructure. Additionally, metadata route provides traceability from reporting elements to the data elements used.

4.1 OFSAA Infrastructure

OFSAA Infrastructure includes the facilities for creating and maintaining dimensional reference data, interest rate and currency exchange rate data, and process tuning data. Additionally, OFSAA Infrastructure includes functionality for building and maintaining rules that can be used by any Oracle Financial Services Analytical Application. These common rule objects include:

- Expressions
- Hierarchies
- Filters

The analytical applications that you see on the Left Hand Side (LHS) of the Financial Services Applications home page depends on your logon privileges and on the OFSAA modules that are installed for your environment.

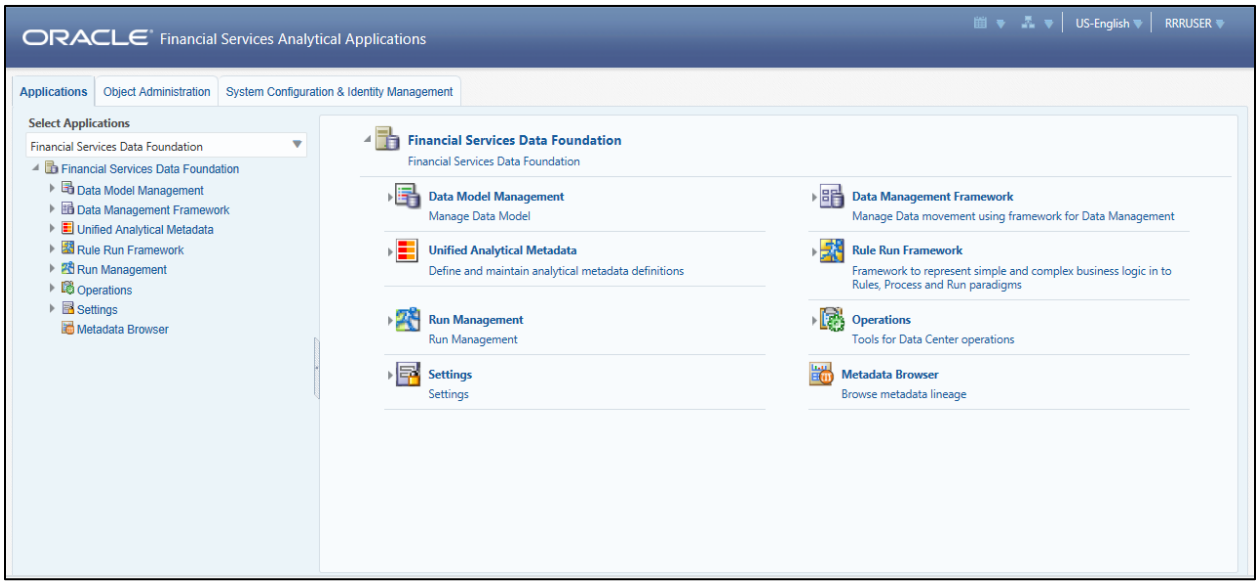


Figure 30: Landing Page

4.2 Business Metadata

In addition to Derived Entity, REG REP uses the following OFSAA features to create the business metadata. For details on the features, refer to *OFS Analytical Applications Infrastructure User Guide* in OHC Documentation Library.

- **Hierarchies**: Some OFSAA dimensions support hierarchies. Hierarchies can be used to provide sophisticated stratification for either processing or reporting purposes. For example, an organizational hierarchy can start with a Division level containing Western Region, Eastern Region, and Southern Region; the next level down within the hierarchy can be state or county. A product hierarchy can begin with branches for Asset vs.Liability vs. Service products; under the Asset branch, you can define additional branches for Mortgage Lending, Commercial Lending, Consumer Lending, and so on.
- **Measures**: Business Measure refers to a uniquely named data element of relevance which can be used to define views within the data warehouse. It typically implies aggregated information as opposed to information at a detailed granular level that is available before adequate transformations.
- **Business Processor**: It refers to a uniquely named data element of relevance which can be used to define views within the data warehouse. It typically implies aggregated information as opposed to information at a detailed granular level that is available before adequate transformations.
- **Datasets**: It refers to a group of tables whose inter-relationship is defined by specifying a join condition between the various tables. It is a basic building block to create a query and execute on a data warehouse for a large number of functions and to generate reports.

4.3 Derived Entity

It is the primary component of OFSAA used for OFSDF Interface with Lombard Risk for US Treasury. Regulatory Reporting (REG REP) Solution uses Derived Entity to create physical materialized view which is then queried by Lombard using pre-set data hand-off templates. An Entity refers to a table in which data is stored. Derived Entity within the infrastructure system facilitates you to define entities which are populated through a series of data transformation processes resulting from an existing Data Set or a Source Application. An Entity can be used to define other Business Metadata such as measures, hierarchies, dimensions, data sets, and cubes.

Derived Entities comprise the following:

- Measures
- Hierarchies
- Datasets

Ensure to define the above components within OFSAA before configuring the derived entity, and select **Materialized View** property in Derived Entity. This property creates the derived entity as materialized views.

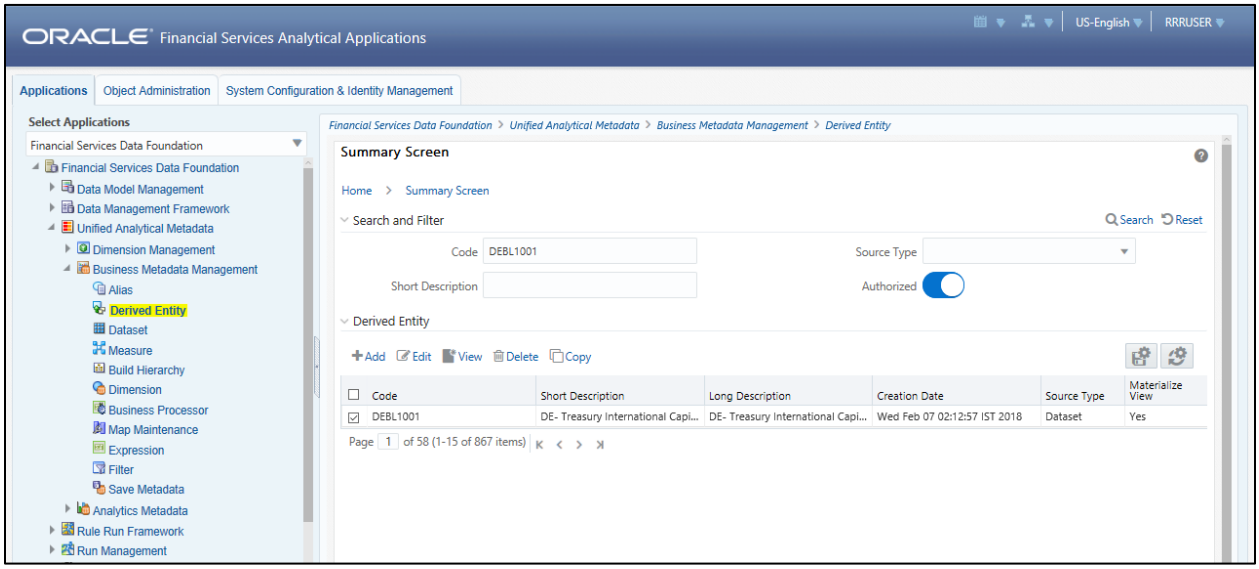


Figure 31: Derived Entity User Interface

Derived Entities must have AS_OF_DATE and LEGAL_ENTITY as the mandatory dimensions. Rest of the structure of the derived entity can vary depending on the dimensions present. A metadata configuration table is present in AgileREPORTER to link the name of the column in the derived entity and dimension that is referred in dimension mapping process.

Derived entities have data for the 'Final Reporting Run' only, which is reported to the Regulatory, and are refreshed for the latest hand-off date.

A metadata configuration table is maintained within AgileREPORTER to capture the derived entities that supply data for each schedule.

4.3.1 Creation of Derived Entity

Refer to *OFS Analytical Applications Infrastructure User Guide* in (OHC) Documentation Library for detailed steps to create a derived entity.

4.3.2 User Roles

Following are the user roles for derived entity:

- **Reporting Analyst**: To create, modify, and delete a derived entity.
- **Data Analyst**: To view the derived entities.

4.4 Rules Run Framework Features

OFSDF Interface with Lombard Risk for US Treasury uses the following Rules Run Framework of OFSAA. For details on the features refer to *OFS Analytical Applications Infrastructure User Guide* in OHC Documentation Library.

- **Rules**: Financial institutions require constant monitoring and measurement of risk in order to conform to prevalent regulatory and supervisory standards. Such measurement often entails significant computations and validations with an organization's data. Data must be transformed to support such measurements and calculations. The data transformation is achieved through a set of defined Rules.

  REG REP uses Rules for reclassification of dimensions.
- **Process**: A set of Rules collectively form a Process. A Process definition is represented as a Process Tree. The Process option in the Rules Run Framework provides a framework that facilitates the definition and maintenance of a Process. By defining a Process, you can logically group a collection of Rules that pertain to a functional process.
- **Run**: The Run feature in the Rules Run Framework helps you to combine various components and/or processes together and execute them with different underlying approaches. Further, run conditions and/or job conditions can be specified while defining a run.

4.5 Dimension Mapping

Each cell reference is mapped to a set of dimensions and measures. This mapping is documented in excel and then converted to a Decision table through an offline utility provided by AgileREPORTER. Decision table is a metadata object within AgileREPORTER that stores the criteria for deriving value for each cell reference. The metadata is packaged for regulatory report as part of the OFS Risk Regulatory Solution. Decision table process within AgileREPORTER reads the metadata and derived entity published by OFSAA to populate data required for returns for the specified date and legal entity.

The following table is an example of dimension mapping. Each cell reference is mapped to a set of dimension members and measure. If a dimension is left empty for a cell reference, it indicates that it is not participating in the mapping process. If there are multiple mappings for a cell reference, then the value of this cell can come from any of these criteria.

Decision mapping table is processed against the contents of derived entity to reporting data. Each record of the derived entity is matched against the criteria specified in the decision table to identify the cell reference and derive return data (such as, cell reference and cell value).

Table 9: Dimension Mapping Example 1

Cell References	Is Derived?	Product Type	Customer Type	Party-Country	Measure
L42102C04	No	Loan	Foreign Bank	Non-US	Outstanding Principal Balance
L42102C06	No	Repurchase agreements	Not Foreign Bank	Non-US	End of the Period Balance
L83003C07	Yes				
L42102C02	No	Short term non-negotiable securities	Foreign Official Institutions	Non-US	Face Value
L81337C05	No	Non Negotiable deposits	Non Banking Financial Institutions	Non-US	Outstanding Principal Balance
L81337C06	No	Over draft	Non Banking Financial Institutions	Non-US	Outstanding Principal Balance

The following table is derived after converting the dimension member and measure names into corresponding dimension member codes (not surrogate keys) and measure codes. This decision table mapping is provided for each decision table in excel format as per template. AgileREPORTER converts the decision table mapping present in excel into configuration entries within their schema.

Table 10: Dimension Mapping Example 2

Cell References	Is Derived?	Product Type	Customer Type	Party-Country	Measure
L83003C01	No	Non Negotiable Foreign deposits	Foreign Bank	Non-US	Outstanding Principal Balance
L81337C09	No	Repurchase agreements	Non Banking Financial Institutions	Non-US	End of the Period Balance
L81329C06	Yes				
L81337C05 8	No	Resale Agreements	Non Banking Financial Institutions	Non-US	End of the Period Balance
L83003C03	No	Commercial Paper	Not Foreign Bank	Non-US	Face Value
L81108C02	No	Negotiable Certificate of Deposit	Foreign Bank	Non-US	Face Value

Note: All the dimension member codes that are used in the decision table are preseeded by OFSAA and cannot be modified. Therefore, if you have other member codes in the dimension, then you must re-classify them by using re-classification rule post load, or value-code mapping during load.

Decision tables must be prepared closer to the report submission period. In some cases, reclassification of multiple dimensions which result in a single unified reporting dimension must be performed in order to address the complexity of decision table. Reclassification rule is defined in OFSAA and packaged as part of OFSAA Risk Regulatory Reporting (REG REP) Solution.

In some cases, certain sections of the schedule or the entire schedule can be a list of data rows without any mapping to fixed set of dimension members. For example, Top 20 counterparties, List of Available for Sale (AFS) - securities. In such cases, since there are no cell references, decision table mapping specifies the names of dimensions and measures of derived entities in ‘sheet’ column or ‘row’ column of the template.

Note: As a part of the solution, metadata exists as out of box / pre-configured with installer.

5 Executing Run through Run Management

Starting from OFSDF 8.0.3.1.0 release, we are packaging two out of the box Runs for data loading. Same can be executed through the Run Management screen. The following are the two runs that are packaged as part of Installer.

- **Financial Services Data Foundation Sourced Run**: This Run can be executed once per day for Data Movement from Staging Area to Results Area for Non-RUN SKEY tables.
- **OFS REG REP US Treasury Run**: This Run can be executed any number of times per day with each unique RUN SKEY for Data Movement in Run enabled tables.

5.1 Summary and Details Page

Upon initially navigating to **Run Management → Run Management**, a summary page is displayed showing all the defined Runs. By selecting a Run or by using search criteria, you can control the set of Runs that are displayed. This page displays the list of runs defined in the Run Rule Framework (RRF) except those with Immediate Execution Option **Yes** in the grid.

5.2 Navigation within the Summary Page

When you first navigate to the Run Management summary page, the Runs defined in the RRF are presented in a summary grid. The Run Management summary page has two sections:

- Search
- List of Runs

5.2.1 Search Section

Among other properties, each Run possesses a segment, a Run Name, and a Run Type. You may search on any of these properties in the Search section.

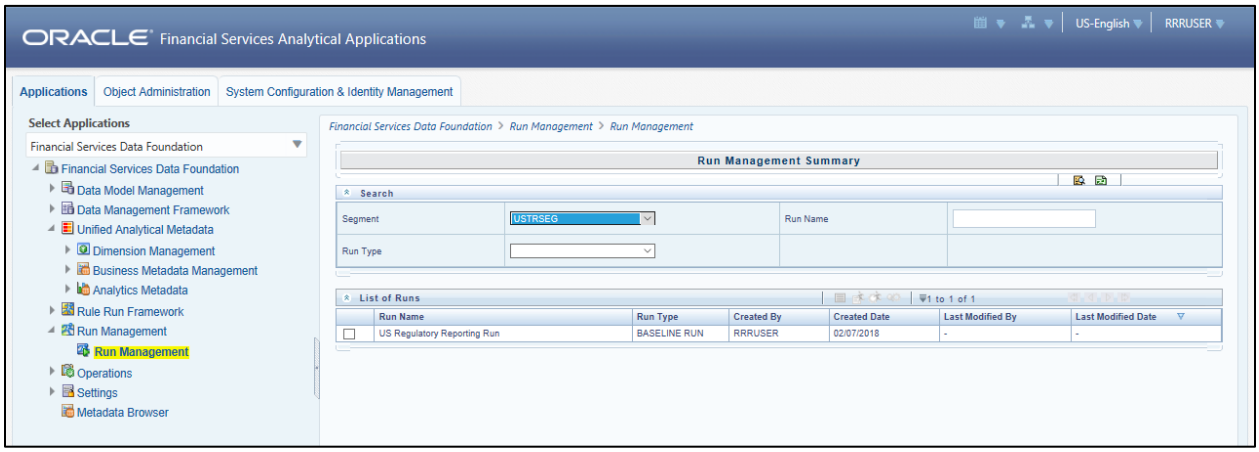


Figure 32: Run Search Section

5.2.2 List of Runs Section

The List of Runs section presents a grid containing all of the Runs that meet your search criteria. This summary grid offers several icons that allow you to perform different functions when a Run is selected.

To select a Run, click the check box in the first column of the grid.

- **View ( )**: Selecting a single row out of the grid enables the View icon. Clicking the View icon allows you to view the detailed definition of a Run on a read-only basis. The View icon is only enabled when a single Run has been selected.
- **Run Default Parameters ( )**: Selecting a single row out of the grid enables you to define the default parameters of a Run.
- **Run Execution Parameters ( )**: Selecting a single row out of the grid enables you to define the execution parameters of a Run.
- **Run Execution Summary ( )**: Selecting a single row out of the grid enables you to view the status of the Run executed in the Run Execution parameters window.

5.2.2.1 List of Runs Summary Grid

The following columns categorize each Run in the summary grid:

- **Run Name**: Displays the short name of the Run.
- **Run Type**: Displays the type of Run, Simulation or Baseline Run.
- **Created By**: Displays the name of the User who defined the Run.
- **Creation Date**: Displays the date on which the Run was created.
- **Last Modified By**: Displays the name of the User who has performed any modifications to the Original Run details.
- **Last Modified Date**: Displays the date on which the Original Run details were modified.

5.2.3 Navigation within Run Default Parameters Window

Click **Run Default Parameters** icon on the navigation bar of the *Run Management Summary* Window to input the Run level parameters. The *Run Parameters* Window is displayed.

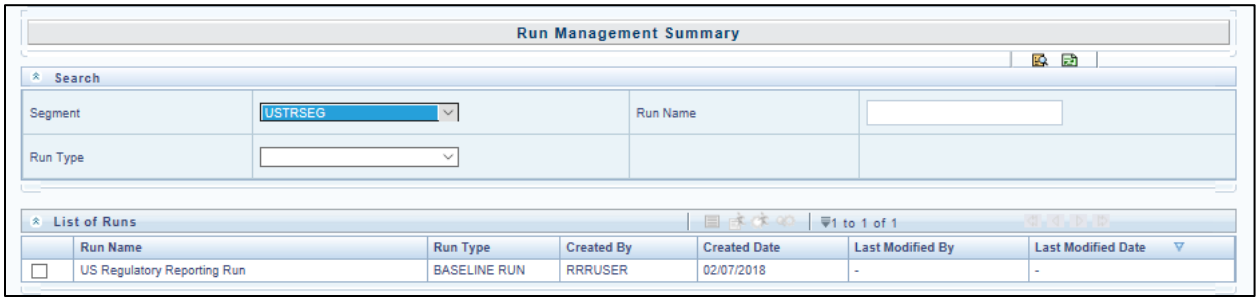


Figure 33: Run Management Summary

NOTE: To modify or view the parameters the Modify Run Parameters role should be mapped to that relevant User profile.

This window consists of two sections Run Details and Run Execution Parameters.

5.2.3.1 Run Details Section

This section displays the name of the Run which is a read-only value.

5.2.3.2 Run Execution Parameters Section

In this section, you can update the following:

- **Reporting Currency**: Reporting Currency Code parameter is used for calculation of amounts in Reporting Currency during Data Population.
- **Legal Entity**: Legal Entity Code parameter is used for identifying the legal entity, which is used for the Run.
- **Consolidation Type**: Consolidation Type parameter is used for selecting legal entities on a solo or consolidation basis. In a solo run, only the selected legal entity will be used. In a consolidated run, along with the selected legal entitiy, all its child legal entities are also used.
- **Consolidation Hierarchy**: Legal Entity Hierarchy is used for selecting the required hierarchy for the consolidated run. This parameter is not required for solo run.

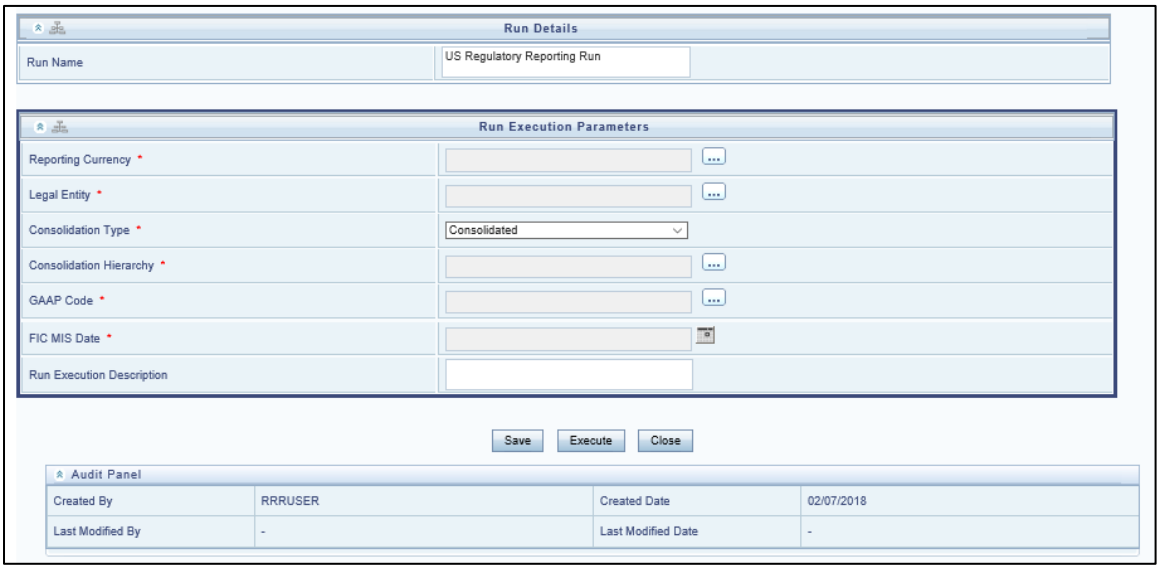


Figure 34: Run Default Parameters Window

Before proceeding further, to ensure that you do not lose the updated data, click **Save**.

NOTE: To get the values for Reporting Currency parameter and Legal Entity parameter, you must save the following hierarchies under Save Metadata screen:
1. Legal Entity Code for Run (HFSDF001)

2. Reporting Currency Code for Run (HFSDF002)
3. Legal Entity Hierarchy for Run (HFSDF003)
4. GAAP Code for Run (HFSDF005)

For further details on Save Hierarchy, refer to *Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack 8.0.5.0.0* on OHC.

The values selected for reporting currency and Legal entity for the selected Run is shown as the default selected value in the *Run Execution Parameters* window.

5.2.4 Navigation within Run Execution Parameters Window

Click **Run Execution Parameters** icon on the navigation bar of the *Run Management Summary* window. The *Run Execution Parameter* window allows you to enter and save the Run execution parameters.

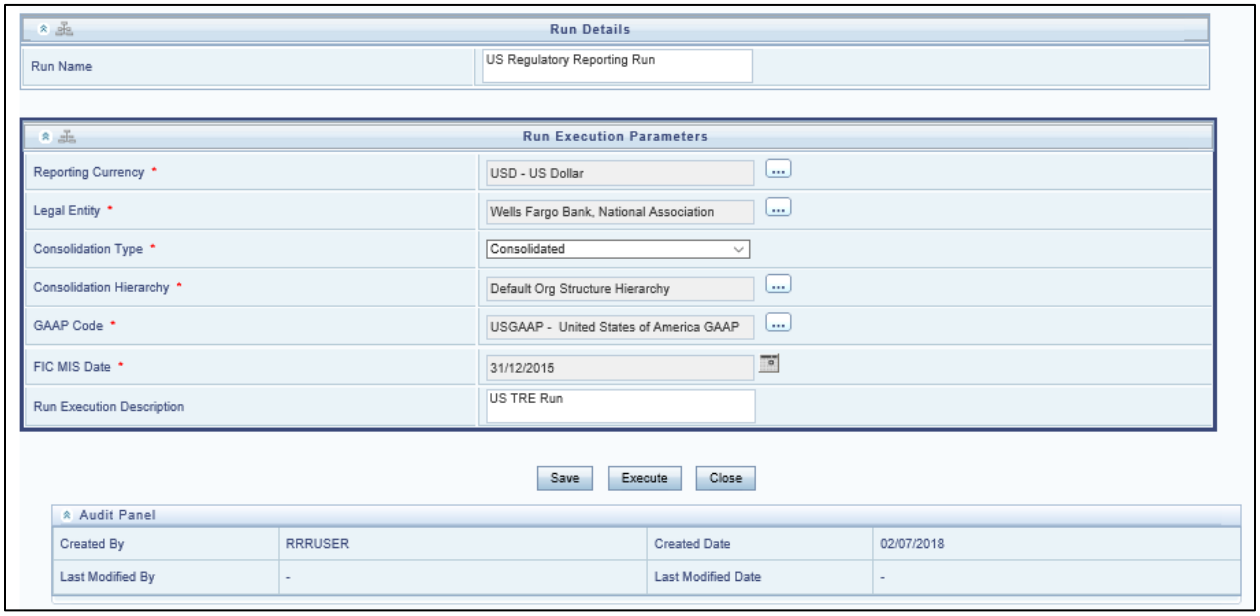


Figure 35: Run Execution Parameters Window

The *Run Execution Parameters* window consists of two sections **Run Details** and **Run Execution Parameters**.

5.2.4.1 Run Details Section

This section displays the name of the Run which is a read-only value.

5.2.4.2 Run Execution Parameters Section

The following Run execution parameters can be updated:

- **Reporting Currency**: Reporting Currency Code parameter is used for calculation of amounts in Reporting Currency during Data Population.
- **Legal Entity**: Legal Entity Code parameter is used for identifying the legal entity, which is used for the Run.

- **Consolidation Type**: Consolidation Type parameter is used for selecting legal entities on a solo or consolidation basis. In a solo run, only the selected legal entity will be used. In a consolidated run, along with the selected legal entitiy, all its child legal entities are also used.
- **Consolidation Hierarchy**: Legal Entity Hierarchy is used for selecting the required hierarchyfor the consolidated run. This parameter is not required for solo run.
- **FIC MIS Date**: Enter the extraction date in this field.
- **Run Execution Description**: Enter a longer description of the Run.

NOTE: To get the values for Reporting Currency parameter and Legal Entity parameter, you must save the following hierarchies under Save Metadata screen:
1. Legal Entity Code for Run (HFSDF001)
2. Reporting Currency Code for Run (HFSDF002)

By clicking the Save button; a batch with the defined Run execution parameters is created. The batch created can be executed from the Batch Execution screen.

By clicking the Execute button, a batch with the defined Run execution parameters is created and executed immediately. Status of the executed run can be seen in Batch Monitor screen or Run Execution Summary page.

NOTE: For further details on Save Hierarchy and Batch Execution, refer to *Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack 8.0.5.0.0* on OHC. To execute a Run, the execute run role should be mapped to your User profile. Currently, the users mapped under FSDF Admin or FSDF Operator User Groups automatically have this role.

5.2.5 Navigation within Run Execution Summary Page

Select a Run from the *Run Management Summary* page and click *Run Execution Summary* icon to display the *Run Execution Summary* page where the following sections are displayed.

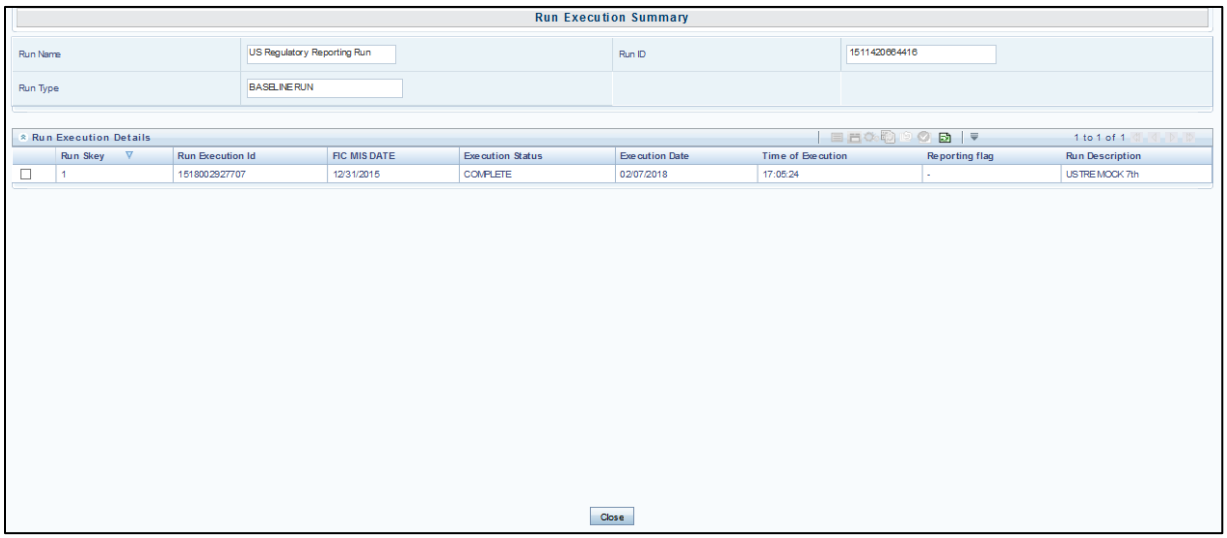


Figure 36: Run Execution Summary

This section consists of the two sections Run Execution Summary and Run Execution Details.

5.2.5.1 Run Execution Summary Section

The Run Execution Summary displays the following details:

- **Run Name**: Displays the name of the Run.
- **Run Type**: Displays the type of Run, Baseline or Simulation.
- **Run ID**: Displays the Run Execution ID.

5.2.5.2 Run Execution Details Section

The Run Execution Details section presents a grid containing all of the executions of Run and status of a particular execution of the Run. The menu bar in this grid offers several icons that allow you to perform different functions when a Run Execution is selected. To select a Run Execution, click the check box in the first column of the grid. More than one Run Execution can be selected at a time but this will cause some of the icons to become disabled.

- **Parameter details**: Click this icon to view the Run execution and Run default parameter details in read-only mode.
- **Copy**: Click Copy icon, to copy the parameters as defined in the *Run Execution Parameter* window to create a new batch.
- **Execute**: Click Execute icon to trigger the batch which has been created from the *Run Execution Parameter* window. The status of the triggered batch is displayed. In the Execution Summary page, multiple selections of the execution IDs are available to trigger a batch.
- **Request Report Flag**: To request for a Report Flag, select a Run Execution ID in the *Run Execution Summary* page and click **Request for Reporting Execution** icon. A dialog box appears to input your comments. Click **Submit** and the status of this Run is displayed in the *Report Flag* section. Only a successful execution can be requested for reporting. For the selected Run and Execution date, there can be only one reporting flag.
- **Override Report Flag**: Any reporting execution can be overwritten with another execution. Select a successfully triggered batch in the *Run Execution Summary* page. The **Override Report Flag** icon is enabled, if an execution is already marked as a *Report Flag*. You can override the execution by updating your comments. This should be approved by the approver and the procedure is similar to the procedure detailed in the *Approve Report Flag* section.
- **Approve Report Flag**: After submitting the Reporting Run in the earlier section, the **Approve Report Flag** icon is enabled. After clicking the icon, a dialog box with the *User Comments and Approver Comments* is displayed. The Approver can update the comments in the **Approver Comments** field and then click **Approve or Reject** button accordingly.

5.2.5.3 Run Execution Grid

The Run Execution Details displays the following details:

- **Run Skey**: Displays the Run skey of an individual execution.
- **Run Execution ID**: Displays the execution ID of the Run.
- **FIC MIS DATE**: Enter the extraction date in this field.
- **Execution Status**: Displays the status of the execution which is failed or complete.
- **Execution Date**: Displays the date when the Run was executed.
- **Time of Execution**: Displays the time when the Run was executed.

5.3 Run Execution from Command Line

The Run Execution can be performed from the Command Line Interface with the following steps:

a. Navigate to **$FIC_HOME/ficdb/conf** directory

b. Enter the details for the following fields in the **USTR Run - RNUS_REG_RUN.properties** file:

Name	Description	Example
INFODOM	Specify name of Information Domain (INFODOM) of Run Definition	INFODOM=FSDFINF300
SEGMENT	Specify the Folder Code / Segment Code of Run Definition	SEGMENT=USTRSEG
RUN_CODE	Specify the Run Code of the Run Definition	RUN_CODE=RNUS_REG_RUN
USER_ID	Specify the OFSAAI User ID for the Run Execution	USER_ID=rrruser
HIER_RCY	Specify the Reporting Currency Hierarchy Code for the Run Execution	HIER_RCY=[HFSDF002].[USD] (default value)
HIER_LE	Specify the Legal Entity Code for the Run Execution	HIER_LE=WFCB
HIER_CONSOHIER	Specify the Consolidation Hierarchy for the Run Execution	HIER_CONSOHIER=[HFSDF003].[Default Org Structure Hierarchy] (default value)

LIST_CONSOTYPE	Specify the Consolidation Type for the Run Execution	LIST_CONSOTYPE=SOLO List of values accepted are: 1. CONSL: Consolidated Run 2. SOLO: Solo Run (default value)
HIER_GAAP	Specify the GAAP Code Hierarchy for the Run Execution	HIER_GAAP=[HFSDF005].[USGAAP]
RUN_EXE_COMMENTS	Specify the Comments for Run Execution	RUN_EXE_COMMENTS=US TRE Reporting Run
REQ_TYPE	Specify the Type of Execution for Run	REQ_TYPE=E List of Values Accepted are: 1. E: Create Batch and Execute (default value) 2. S: Create Batch

c. Navigate to **$FIC_HOME/ficdb/bin** directory

d. Execute the following **.sh** file by passing two arguments:

ExecuteRunManagement.sh <file name> <execution date>

Note: The execution date is in YYYYMMDD format. For example: **20171130**

For example: **ExecuteRunManagement.sh RNUS_REG_RUN.properties 20171130**

e. After successfully invoking the Run, the following messages are displayed:

With REQ_TYPE=S, the message "***Successfully created batch***" is displayed in the console.

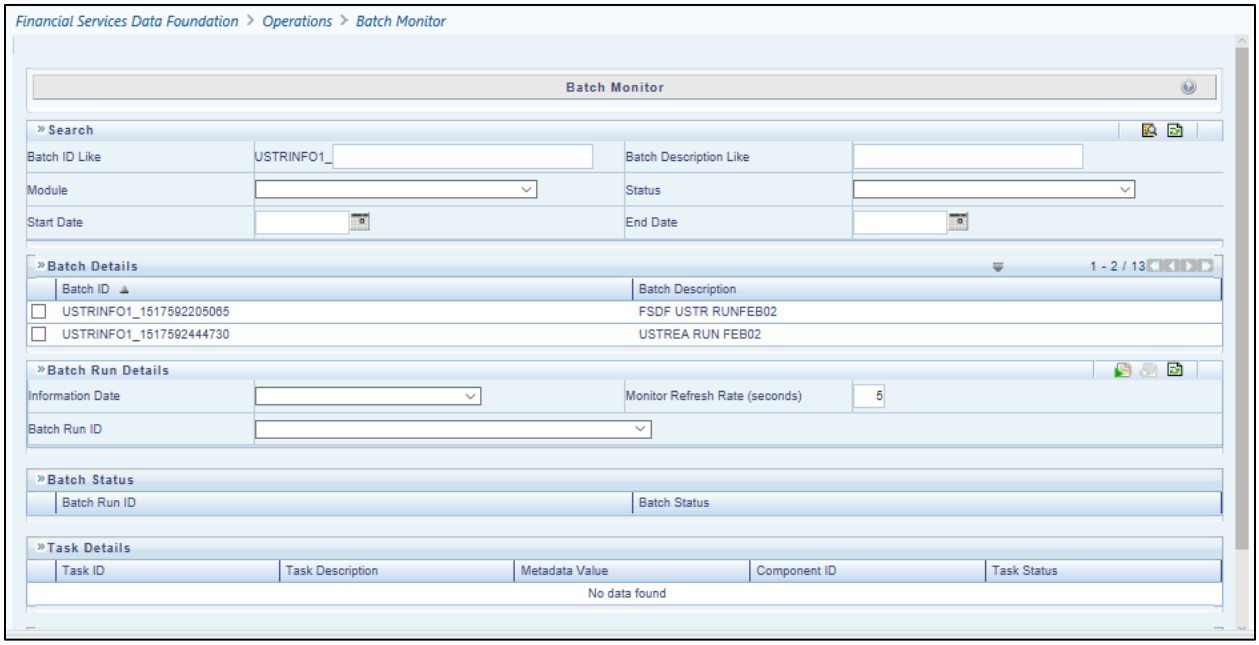
```
/scratch/ofsaadb/OFSAA/ficdb/bin>ExecuteRunManagement.sh RNUS_REG_RUN.properties 20171206
sDynamParam:HIER#LE~WFCB,HIER#CONSOHIER~[HFSDF003].[Default Org Structure Hierarchy],HIER#RCY~[HFSDF002].[USD],HIER#GAAP~[HFSDF005].[USGAAP],LIST#CONSOTYPE~SOLO
responseStatus:200
responsePhrase:OK
response:successfully created batch
```

With REQ_TYPE=E, the message "***Batch Triggered Successfully***" is displayed in the console.

```
sDynamParam:HIER#LE~WFCB,HIER#CONSOHIER~[HFSDF003].[Default Org Structure Hierarchy],HIER#RCY~[HFSDF002].[USD],HIER#GAAP~[HFSDF005].[USGAAP],LIST#CONSOTYPE~SOLO
responseStatus:200
responsePhrase:OK
response:Batch Triggered Successfully
```

NOTE: If any of the parameters in the **RNUS_REG_RUN.properties** file is not entered correctly, the execution does not display the success message as above.

The Batch execution status can be monitored through the Batch Monitor link from the OFSAA Application Interface and the relevant logs are generated under the **$FIC_HOME/ficdb/log** directory.



6 Metadata Export Utility

The Metadata Export Utility helps you to export OFSAA metadata into Excel Sheet. This feature helps to get a view of OFSAA metadata and its dependencies. It is a template based approach where you create templates and select Metadata Objects that must be extracted. The extraction process is supported only for Excel Sheet. While defining the template, you are expected to have prior knowledge of the OFSAA Metadata objects that are relevant from this application point of view.

6.1 Prerequisites

The following executions must be performed before using the Metadata Export Utility:

1. **MDB Publish**: Execute the batch, **INFODOM_MDB**
2. **Logs**: MDB logs are generated under deployed area **/Context_Name/logs/MDB_XXXX.log**
3. **Data Elements Wrapper Execution**: After MDB Publish is completed succesfully with message "Metadata publishing is finished." in the **/Context_Name/logs/MDB_XXXX.log**, you must execute the Data Elements Utility with the following seeded batch to get the Data Lineage for each Metadata in OFSAA:

   <INFODOM>_POP_DATA_ELEMENTS_USTR

NOTE: This execution requires adequate tablespace. Ensure that your Atomic Schema is having enough tablespace in TEMP and USERS.

Parameters used in <INFODOM>_POP_DATA_ELEMENTS_USTR Batch

The batch can be executed in different modes according to each requirement. The following are the parameters used for executing the batch.

The default parameters used in the **<INFODOM>_POP_DATA_ELEMENTS_USTR** batch are:

Task1 (METADATA PARSER)

Sl. No.	Parameter	Description	List of Values	Default Value
1	P_FULL_PARSE	Full Parser Flag	Y/N	'Y'
2	P_INFODOM_NAME	Infodom Name	##INFODOM##	<Value of the Infodom where US Treasury is installed>. For example: 'FSDFINFO'

Task2 (REPORT PARSER)

Sl. No.	Parameter	Description	List of Values	Default Value
1	P_JURISDICTION	Jurisdiction Code	USTR	'USTR'
2	P_INFODOM_NAME	Infodom Name	##INFODOM##	<Value of the Infodom where US Treasury is installed>. For example: 'FSDFINFO'

Execution Types for METADATA Parsing in <INFODOM>_POP_DATA_ELEMENTS_USTR Batch

1. **Full METADATA Parsing [Default Mode]** (if the P_FULL_PARSE parameter is 'Y', then the parsing happens for entire METADATA and Run Elements for the Run(s) enabled in FSI_DE_POP_RUN_LIST table in the Atomic Schema.).
2. **Incremental METADATA Parsing [Optional Mode. Batch Parameter to Be Modified]** (if the P_FULL_PARSE parameter is 'N', then the parsing happens for changed METADATA and Run Elements for the Run(s) enabled in FSI_DE_POP_RUN_LIST table in the Atomic Schema.).

   You can edit the parameters by accessing the Batch Maintainance screen.

   a. Login to Oracle Financial Services Analytical Applications interface with your credentails.
   b. Navigate to **Applications → Financial Services Data Foundation → Operations → Batch Maintenance**
   c. Select **Batch Name (<INFODOM>_POP_DATA_ELEMENTS_USTR)**
   d. (OPTIONAL) Select **Task1** and click the **Edit** button. The *EditTask Definiton* Window is displayed.
   e. Modify the **Parameter List** field as applicable.

NOTE: The values must be in single quotes and comma separated for each value. Follow the same order as in this table.

Execution Types for REPORT Parsing in <INFODOM>_POP_DATA_ELEMENTS_USTR Batch

1. **US Treasury Jurisidciton REPORT Parsing [Default Mode]** (if the P_JURISDICTION parameter is 'USTR', then the parsing happens for US Treasury Reports enabled in FSI_DE_POP_REPORT_LIST table in the Atomic Schema).

   NOTE: Even if the P_JURISDICTION parameter in **<INFODOM>_POP_DATA_ELEMENTS_USTR** Batch is loaded, the Dashboards which get parsed depend on the FSI_DE_POP_REPORT_LIST table in the Atomic Schema.

2. **All Jurisdcitions REPORT Parsing [Optional Mode. Batch Parameter to Be Modified]** (if the P_JURISDICTION parameter is NULL, that is, ('') or two Single Quotes, then the parsing happens for entire Reports enabled in FSI_DE_POP_REPORT_LIST table in the Atomic Schema).

   You can edit the parameters by accessing the Batch Maintainance screen.

   a. Login to Oracle Financial Services Analytical Applications interface with your credentails.
   b. Navigate to **Applications → Financial Services Data Foundation → Operations → Batch Maintenance**
   c. Select **Batch Name (<INFODOM>_POP_DATA_ELEMENTS_USTR)**

d. (OPTIONAL) Select **Task2** and click the **Edit** button. The *EditTask Definiton* Window is displayed.

e. Modify the **Parameter List** field as applicable.

NOTE: The values must be in single quotes and comma separated for each value. Follow the same order as in this table.

Enabling Run for METADATA Parsing

Every execution for METADATA Parsing requires minimum one Run to be enabled in FSI_DE_POP_RUN_LIST table in the Atomic Schema. By default, RGRNUSTR is enabled.

RUN NAME	INCLUDE RUN
RGRNUSTR	Y

Enabling Reports for REPORT Parsing

Every execution for REPORT Parsing requires minimum one Report to be enabled in FSI_DE_POP_REPORT_LIST table in the Atomic Schema. By default, the following 25 Reports are enabled for US Treasury Jurisdiction.

DASHBOARD ID	JURISDICTION CODE	REPORT CODE	INCLUDE REPORT
1	USTR	BC	Y
2	USTR	BL1	Y
3	USTR	BL2	Y
4	USTR	BQ1	Y
5	USTR	BQ2	Y
6	USTR	BQ3	Y

NOTE: By Default All Dashboards are enabled and if you wish to parse particular Dashboards, modify the FSI_DE_POP_REPORT_LIST table in the Atomic Schema by enabling / disabling the “Include Report Column”.

Executing SELECTED tasks of <INFODOM>_POP_DATA_ELEMENTS_USTR Batch

By Deafult, the **<INFODOM>_POP_DATA_ELEMENTS_USTR** Batch contains both the tasks, that is, METADATA Parsing and REPORT Parsing. You can use platform feature of EXCLUDE / INCLUDE Batch Task for Optional execution of required tasks.

6.1.1 Verifying Logs

Data Elements logs are generated in Atomic Schema under the **FSI_MESSAGE_LOGS** table.

Tasks	Batch Run ID	Indication
Task1 (METADATA Parsing)	REGISTER_ELEMENTS_<Batch_Run_ID>	Processes Metadata Parsing. The message “Completed REISTER_ELEMENTS” indicates that the Metadata parsing is completed with Registration.
Task2 (REPORT Parsing)	REPORT_TO_ELEMENTS_<Batch_Run_ID >	Processes Report Parsing. The message “Completed REPORT_TO_ELEMENTS” indicates that all the Report parsing is completed.

6.1.2 Validating Lineage Outputs

In Atomic Schema, you must verify that data is present in the following tables and ensure that the table is populated:

- FSI_DE_RUN_LINEAGE_METADATA
- MDR_LINEAGE_METADATA
- FSI_DE_REPORT_LINEAGE_BASE
- FSI_DE_REPORT_LINEAGE_DETL

NOTE: It is recommended that the following SQL statement must be executed in Config Schema, if this INDEX is not created:

```
CREATE INDEX index_mdr_mod_parent_child
CREATE INDEX index_mdr_mod_parent_child
ON mdb_object_dependencies (parent_object_def_id,child_object_def_id)
COMPUTE STATISTICS
/
```

6.2 User Access

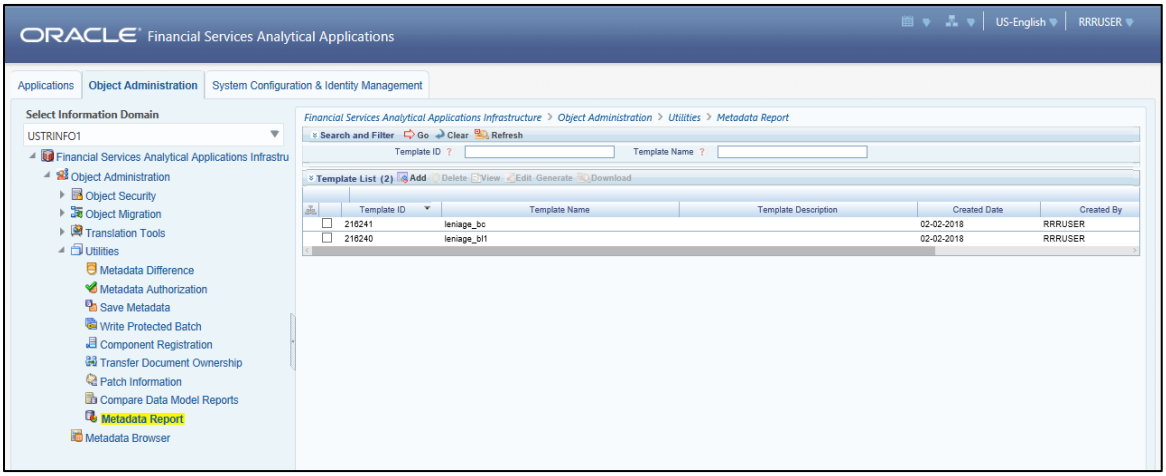
The following user groups are pre-seeded in the component that help you get access to the Metadata Report Extract screen.

a. MDR View Group: To see Metadata Report Extract with View permissions.
b. MDR Owner Group: To create templates in Metadata Report Extract.

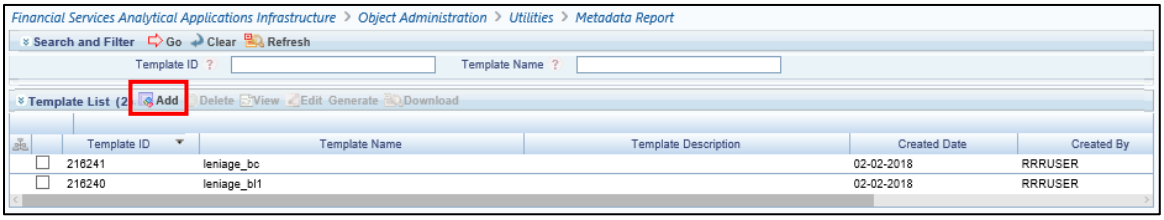
6.3 Create and Export Metadata Report Templates

Perform the following steps to create and export the Metadata Report Templates:

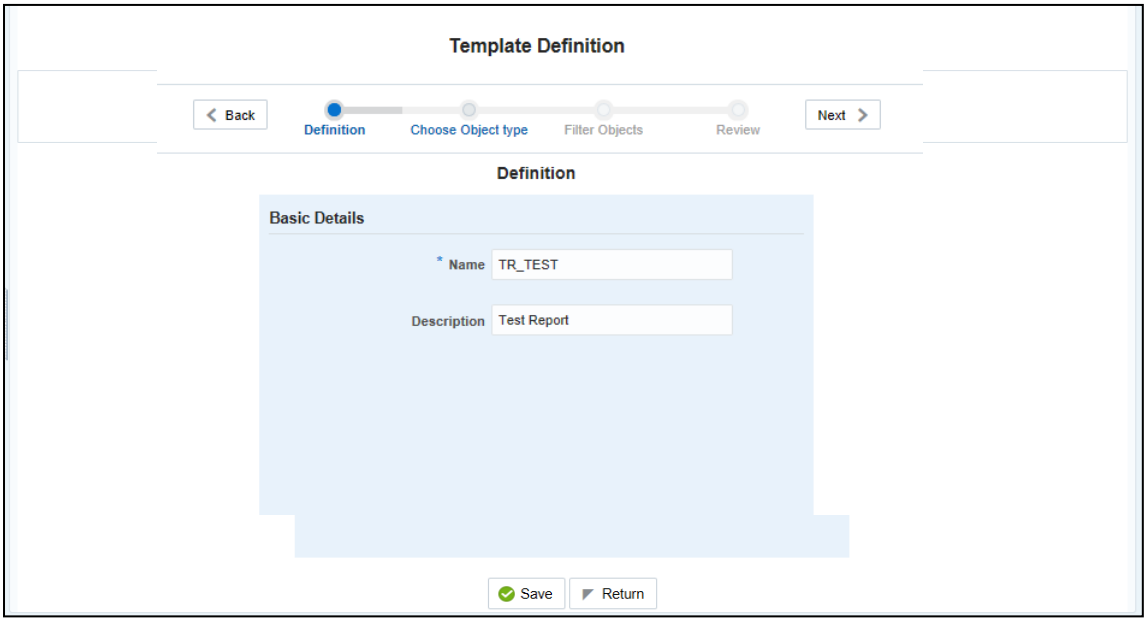
1. Navigate to **Object Administration → Utilities → Metadata Report**.



2. Click **Add** icon, in **Summary** screen, to create a new Metadata Report Template.



3. Provide the **Name** and **Description** for the new template in **Template Definition** page.



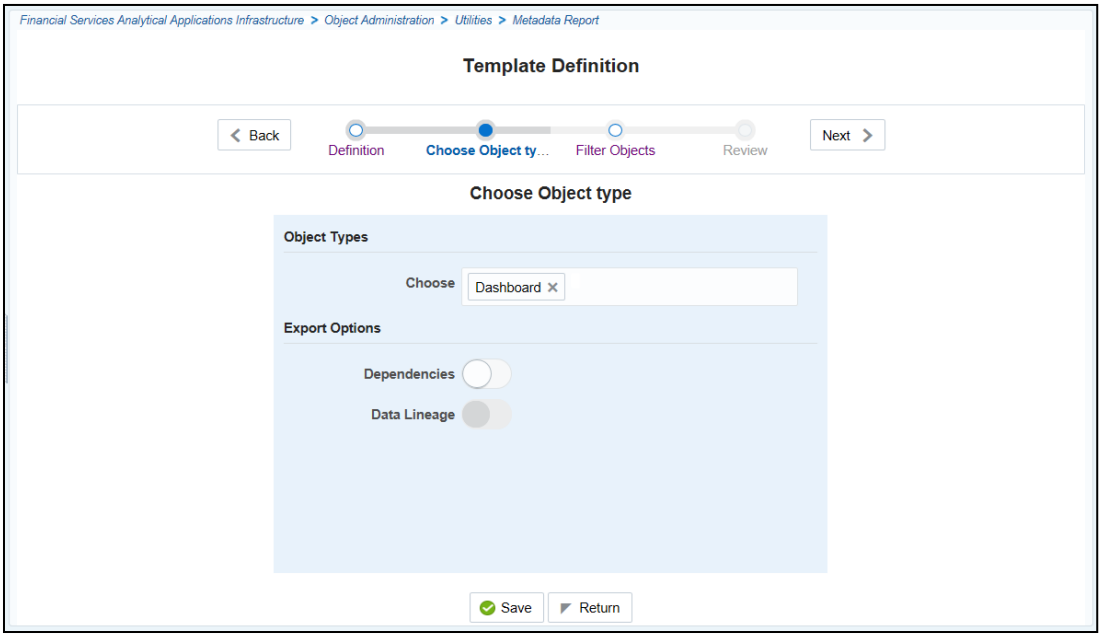
4. Select the desired object from the **Object Type** dropdown to be exported.

   Individual report generates only the basic properties of the object selected, that is, name and description. **Relational** report generates detailed information up to the Entities level, if Dependencies is chosen; and up to the Staging Columns level, if Data Lineage is selected along with Dependencies.

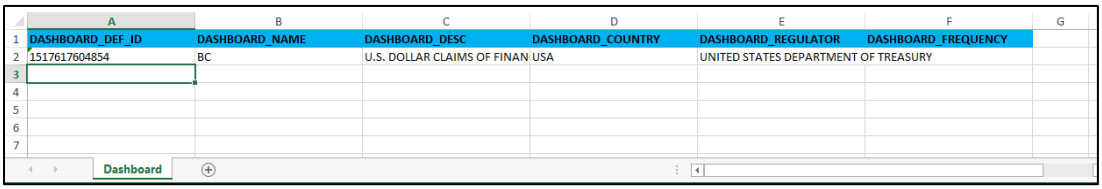
   Dependencies: Metadata object is dependent on several other metadata objects. Metadata object is also used (that is, consumed) in several other metadata objects. Dependency or usage tree can be of any depth. For example, a rule can be dependent on a hierarchy, business processor, and dataset. Further, each of these metadata objects can be dependent on other metadata objects. Metadata Export Utility exports all the dependent or used metadata objects for all paths in the dependency or usage tree, if this option is selected.

   Lineage: Data is loaded from source systems to staging and then moved across to processing / reporting. Lineage traces the data element as it moves across different layers of OFSAA: staging, processing, and reporting. Metadata Export Utility exports the lineage of each of the reporting area data element that is identified by dependencies.

For Individual: In the **Export Options**, do not select **Dependencies** or **Data Lineage**.



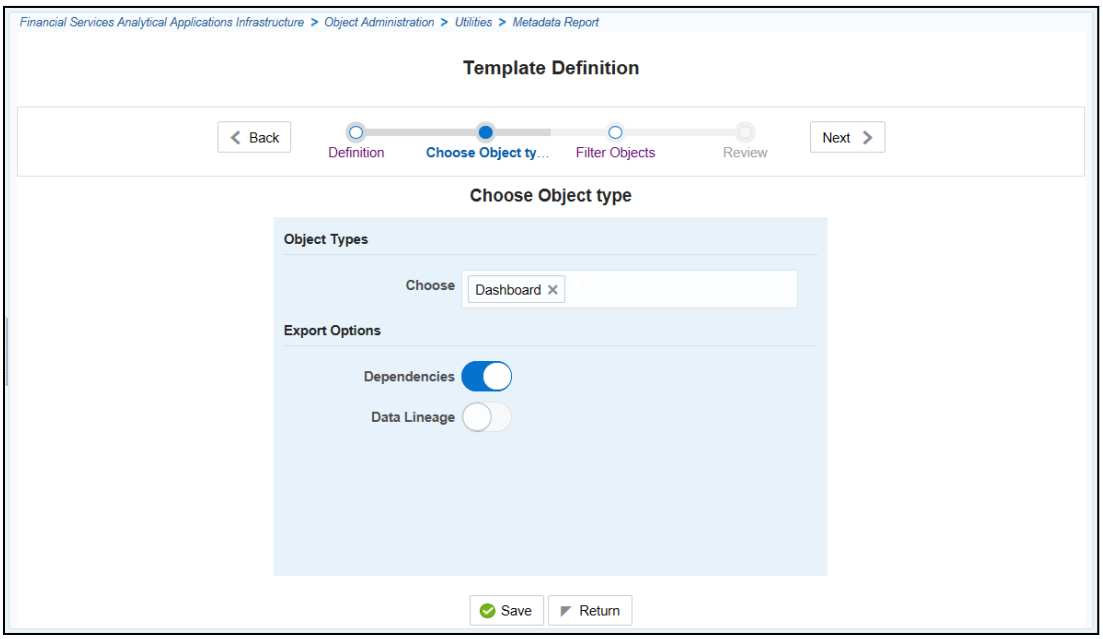
The exported sample report for Individual is as follows:



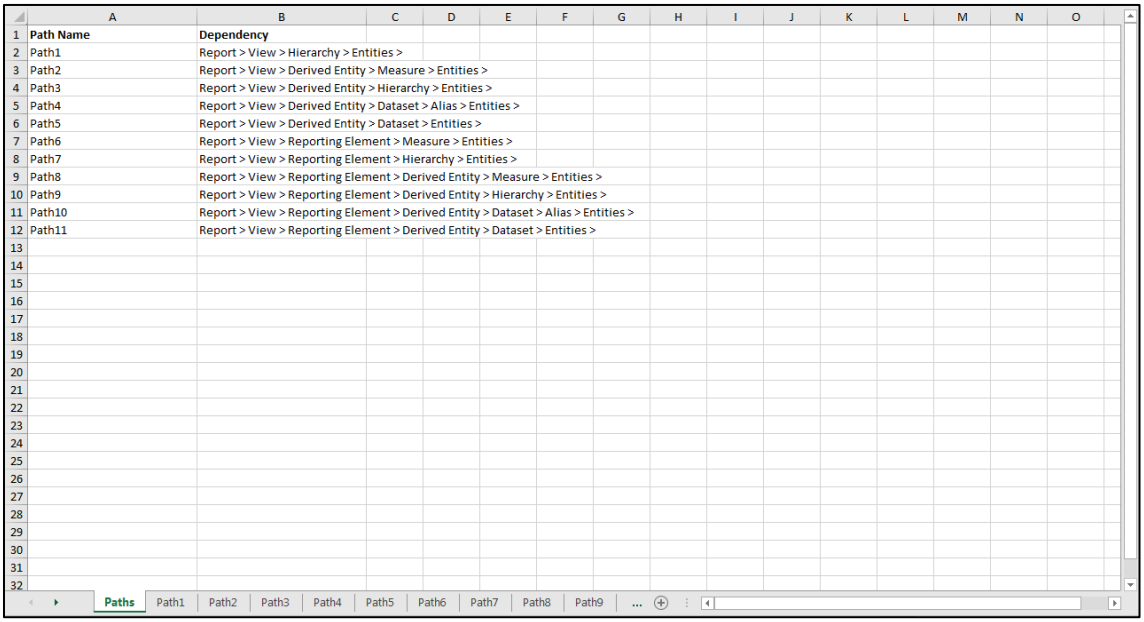
	A	B	C	D	E	F	G
1	DASHBOARD_DEF_ID	DASHBOARD_NAME	DASHBOARD_DESC	DASHBOARD_COUNTRY	DASHBOARD_REGULATOR	DASHBOARD_FREQUENCY	
2	1517617604854	BC	U.S. DOLLAR CLAIMS OF FINAN	USA	UNITED STATES DEPARTMENT OF TREASURY		
3							
4							
5							
6							
7							

Dashboard

For Relational: In the **Export Options**, select **Dependencies**.



The exported sample report for Relational is as follows:



	A	B
1	**Path Name**	**Dependency**
2	Path1	Report > View > Hierarchy > Entities >
3	Path2	Report > View > Derived Entity > Measure > Entities >
4	Path3	Report > View > Derived Entity > Hierarchy > Entities >
5	Path4	Report > View > Derived Entity > Dataset > Alias > Entities >
6	Path5	Report > View > Derived Entity > Dataset > Entities >
7	Path6	Report > View > Reporting Element > Measure > Entities >
8	Path7	Report > View > Reporting Element > Hierarchy > Entities >
9	Path8	Report > View > Reporting Element > Derived Entity > Measure > Entities >
10	Path9	Report > View > Reporting Element > Derived Entity > Hierarchy > Entities >
11	Path10	Report > View > Reporting Element > Derived Entity > Dataset > Alias > Entities >
12	Path11	Report > View > Reporting Element > Derived Entity > Dataset > Entities >

Paths | Path1 | Path2 | Path3 | Path4 | Path5 | Path6 | Path7 | Path8 | Path9

The first sheet shows the different Paths and their Dependencies upto the Entities level. Select the required **Path** sheet at the bottom to view the dependencies.

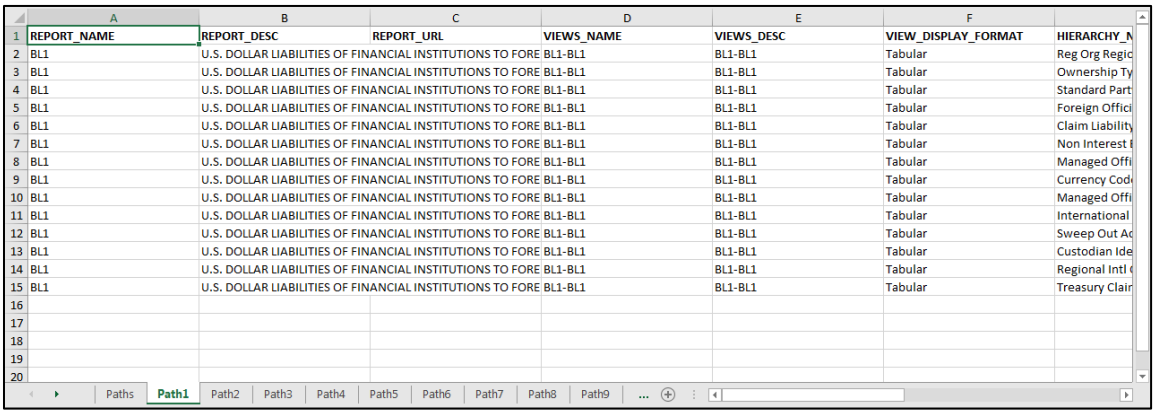
Each path tells how the dependency/usage is derived from dashboard to entity or vice versa involving various OFSAA object types like Derived Entity, Hierarchies, Datasets, Measures, and so on.

These paths are generated by the system using data already published in MDB dependency tables as part of OFSAA MDB object publish.

For every dependent object type displayed in each path sheet, the following columns are displayed:

- Object type name
- Object type description
- One or many Object specific properties (optional)

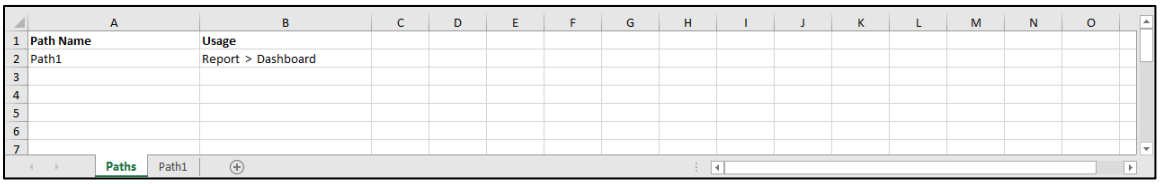
For example: In Path1, Dashboard is the first Object type, the dependencies generated are Dashboard Name, Dashboard Description, and Dashboard properties: Dashboard Country, Dashboard Regulator and so on. Similarly, Report is the next Object type in Path1 and the dependencies generated are Report Name, Report Description, Views Name, Views Description, View Display Format and so on. Then followed by Hierarchy Objects name, description and properties up to the Entities level.



	A	B	C	D	E	F	
1	REPORT_NAME	REPORT_DESC	REPORT_URL	VIEWS_NAME	VIEWS_DESC	VIEW_DISPLAY_FORMAT	HIERARCHY_N
2	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Reg Org Regic
3	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Ownership Ty
4	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Standard Part
5	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Foreign Offici
6	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Claim Liability
7	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Non Interest E
8	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Managed Offi
9	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Currency Cod
10	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Managed Offi
11	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	International
12	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Sweep Out Ac
13	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Custodian Ide
14	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Regional Intl (
15	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1-BL1	BL1-BL1	Tabular	Treasury Clair
16							
17							
18							
19							
20							

Paths | Path1 | Path2 | Path3 | Path4 | Path5 | Path6 | Path7 | Path8 | Path9 | ...

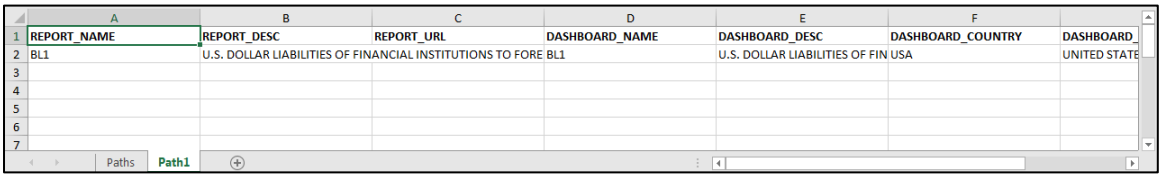
The **Usage** sample report (generated by default when Dependencies is selected) is as follows:



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Path Name	Usage													
2	Path1	Report > Dashboard													
3															
4															
5															
6															
7															

Paths | Path1

The first sheet shows the different Paths and their Usage upto the Dashboard level. Select the required **Path** sheet at the bottom to view the Usage.

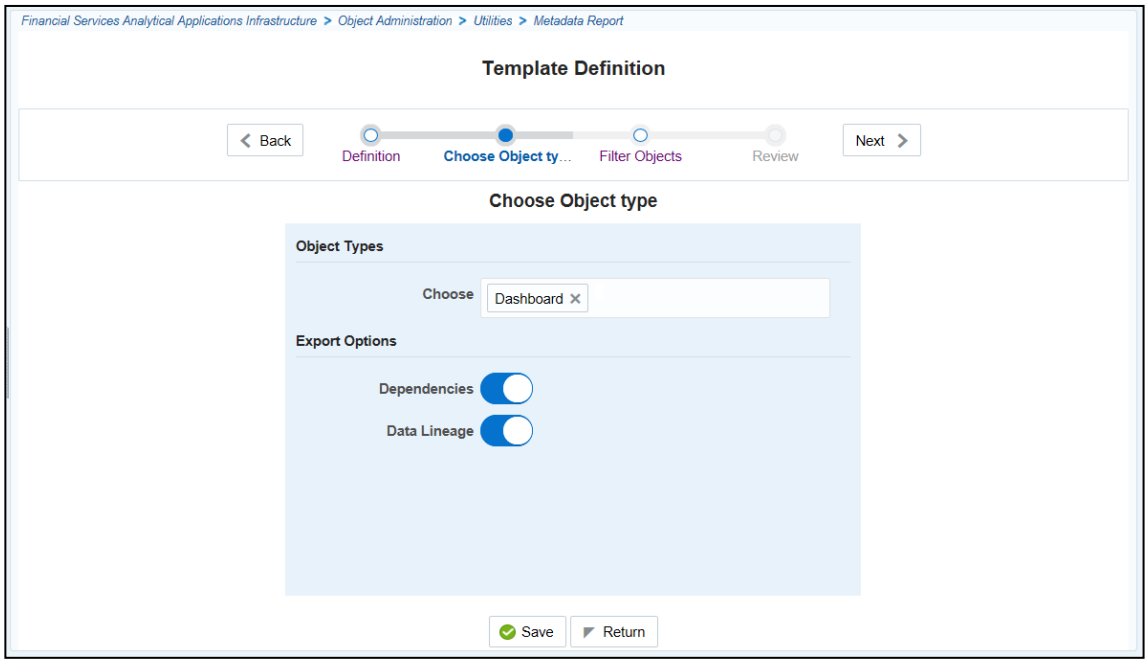


	A	B	C	D	E	F	
1	REPORT_NAME	REPORT_DESC	REPORT_URL	DASHBOARD_NAME	DASHBOARD_DESC	DASHBOARD_COUNTRY	DASHBOARD_
2	BL1	U.S. DOLLAR LIABILITIES OF FINANCIAL INSTITUTIONS TO FORE		BL1	U.S. DOLLAR LIABILITIES OF FIN	USA	UNITED STATE
3							
4							
5							
6							
7							

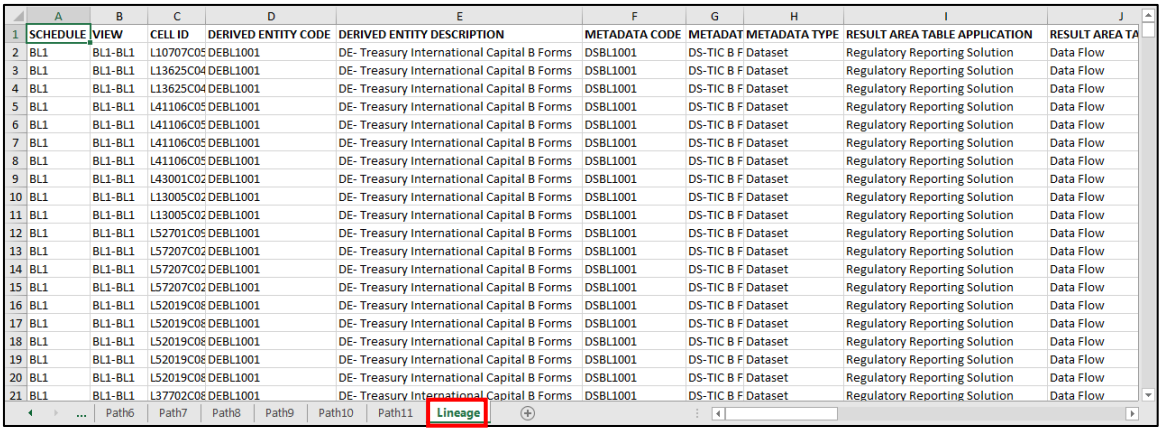
Paths | Path1

Select **Data Lineage** in **Template Definition → Choose Object Type** to export the lineage details up to the Staging Columns level.

NOTE: Data Lineage can be selected only if **Dependencies** is opted.



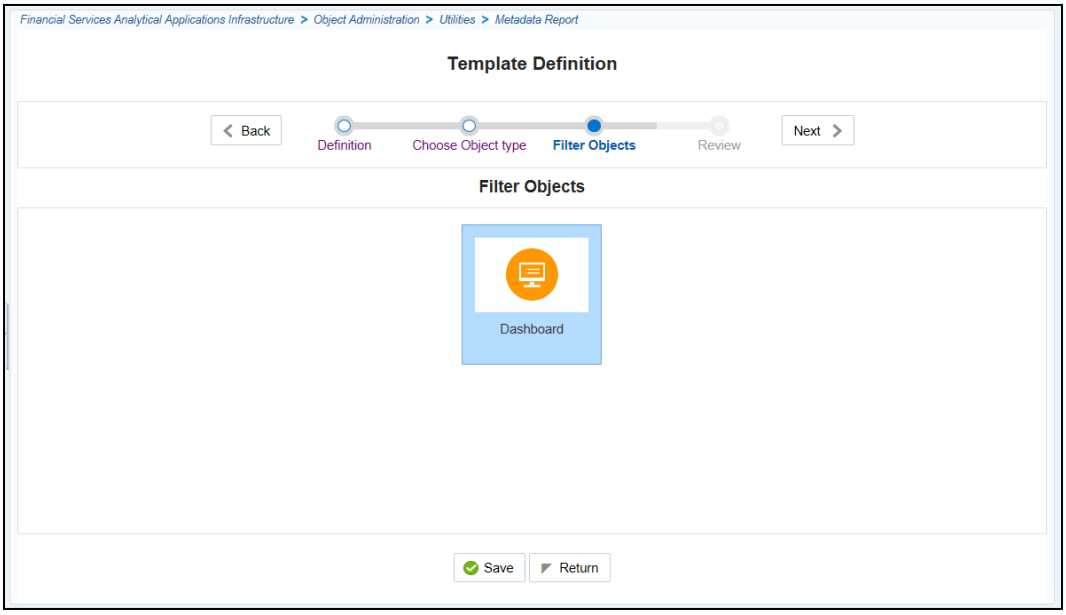
NOTE: Data Lineage is generated as a separate sheet in the generated Relational report along with the Dependencies. Select the **Lineage** sheet to view the Data Lineage (up to Staging column level).



	A	B	C	D	E	F	G	H	I	J
1	SCHEDULE	VIEW	CELL ID	DERIVED ENTITY CODE	DERIVED ENTITY DESCRIPTION	METADATA CODE	METADAT	METADATA TYPE	RESULT AREA TABLE APPLICATION	RESULT AREA TA
2	BL1	BL1-BL1	L10707C05	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
3	BL1	BL1-BL1	L13625C04	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
4	BL1	BL1-BL1	L13625C04	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
5	BL1	BL1-BL1	L41106C05	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
6	BL1	BL1-BL1	L41106C05	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
7	BL1	BL1-BL1	L41106C05	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
8	BL1	BL1-BL1	L41106C05	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
9	BL1	BL1-BL1	L43001C02	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
10	BL1	BL1-BL1	L13005C02	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
11	BL1	BL1-BL1	L13005C02	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
12	BL1	BL1-BL1	L52701C05	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
13	BL1	BL1-BL1	L57207C02	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
14	BL1	BL1-BL1	L57207C02	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
15	BL1	BL1-BL1	L57207C02	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
16	BL1	BL1-BL1	L52019C08	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
17	BL1	BL1-BL1	L52019C08	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
18	BL1	BL1-BL1	L52019C08	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
19	BL1	BL1-BL1	L52019C08	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
20	BL1	BL1-BL1	L52019C08	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow
21	BL1	BL1-BL1	L37702C08	DEBL1001	DE- Treasury International Capital B Forms	DSBL1001	DS-TIC B F	Dataset	Regulatory Reporting Solution	Data Flow

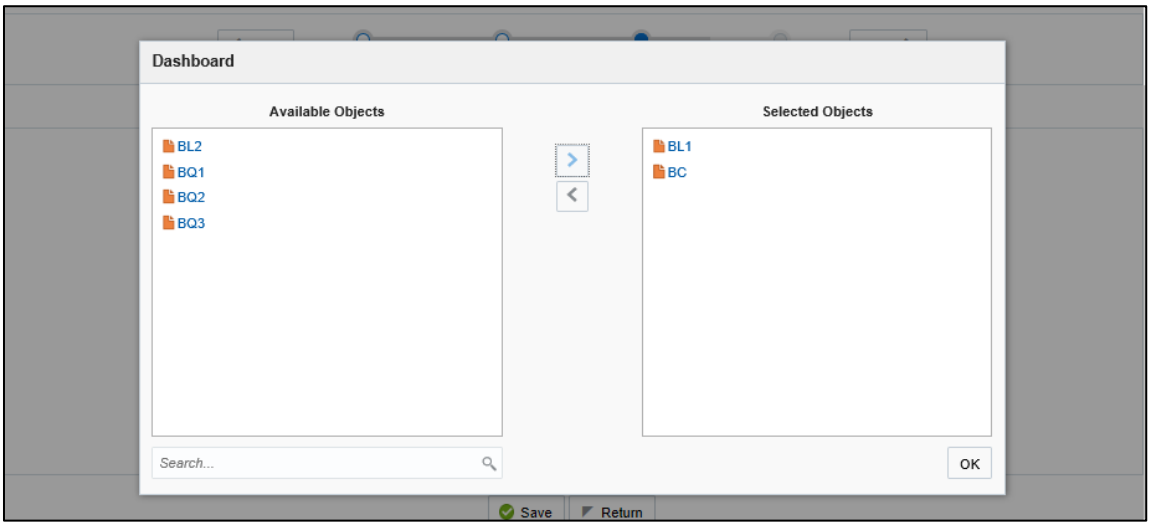
Path6 | Path7 | Path8 | Path9 | Path10 | Path11 | Lineage

5. Select **Filter Objects** to see the selected objects.



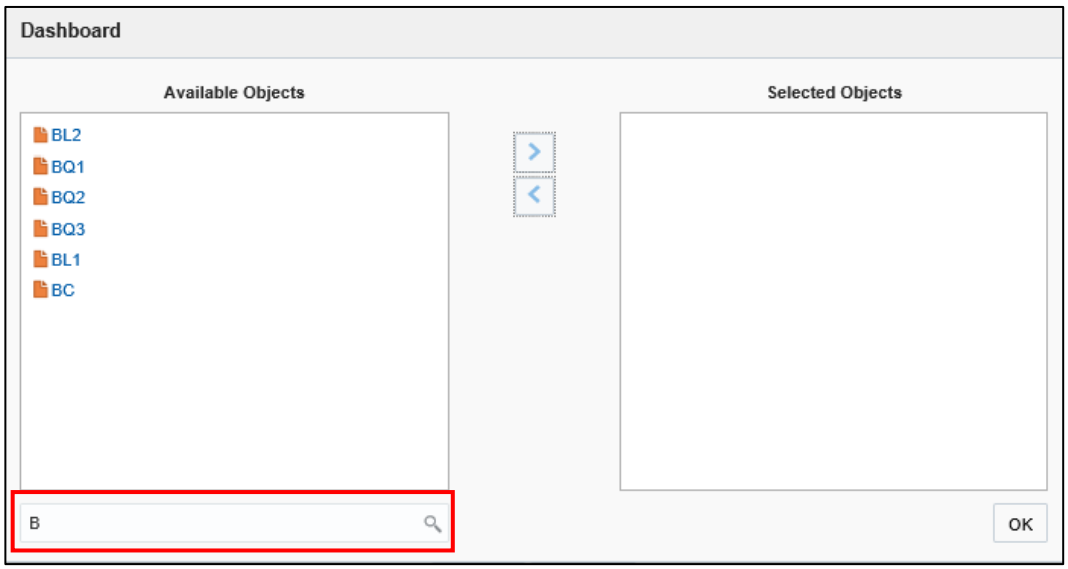
6. Select one **Filter Object** from the **Available Objects** and Click to add a **Selected Object**.

   Select one **Selected Object** from the **Available Objects** and click to remove a **Filter Object**.

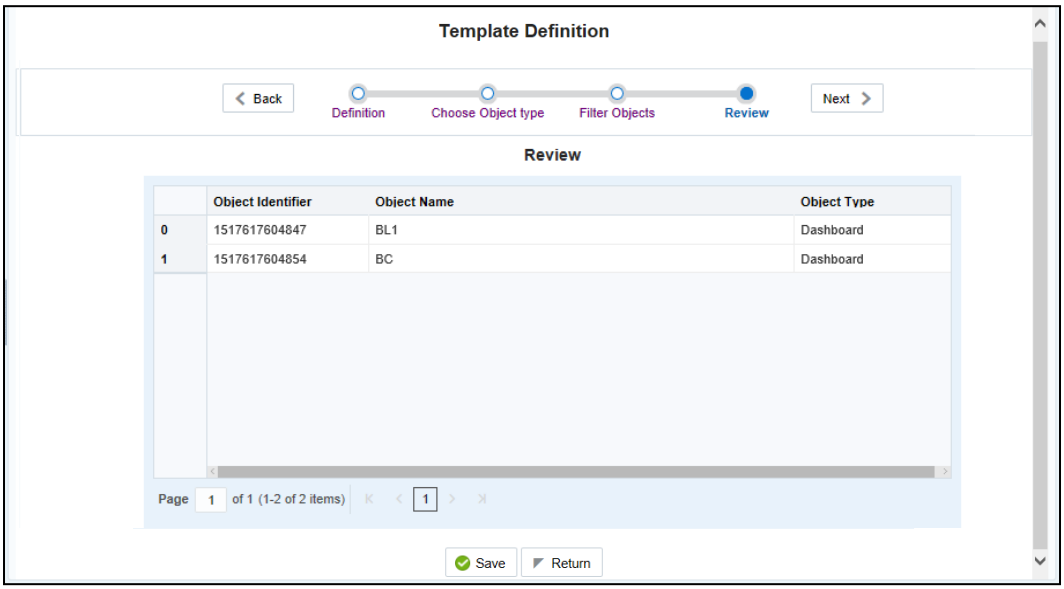


When the object list is huge, use the Search option as shown above. Type first three letters of the Filter Object name and the relevant Filter Objects is displayed.

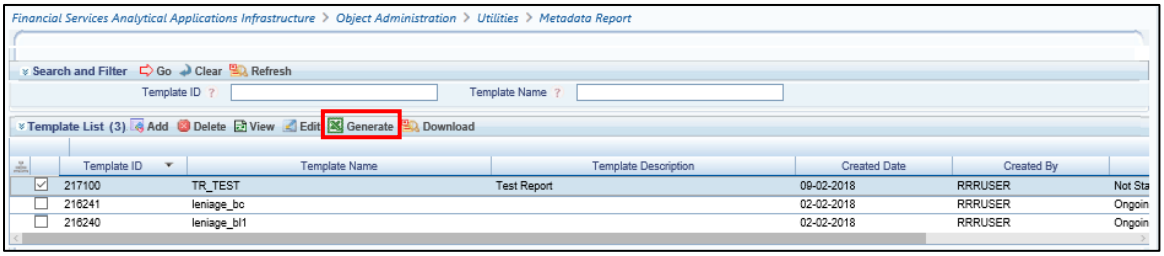
NOTE: You can type the complete Filter Object name to select and add to the Selected Objects.



7. Review the **Template Definition** once and click **Save**.



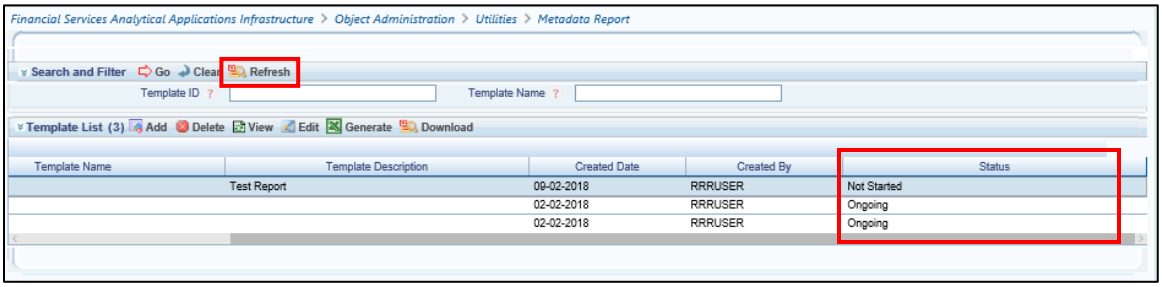
8. Click **Return** to go to the **Summary** page.



9. Select a **Template** in the **Template List** in **Summary** screen and click **Generate** to export the desired objects in Excel Sheet format.

NOTE: MDB Publish must be triggered before executing the **Generate** option.

10. The Report Generation function is an asynchronous action and to check the status of the export function, use the **Refresh** option in **Summary** screen.



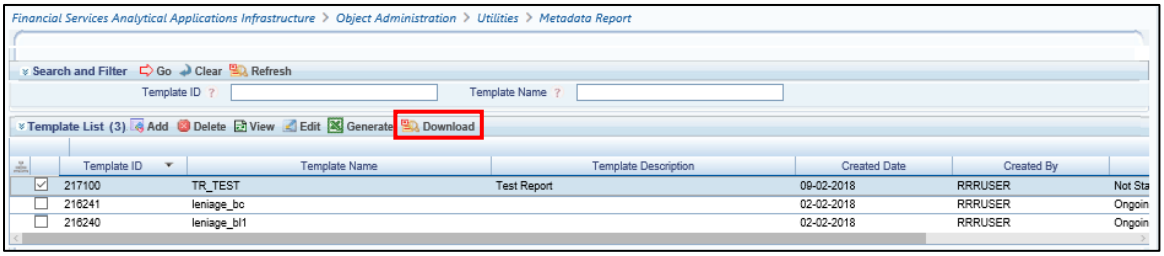
For Excel Export, the following are the Status values:

- **Not Started**: The Report Generation is yet to start, but the function has triggered the action in the background.
- **Ongoing**: The Report Generation is started and in process.
- **Completed**: The Report Generation is completed and ready to view or download.
- **Failed / Partially Completed / No Path Found**: The Report Generation encountered an issue and the process is partially completed or failed.

NOTE: The export logs are generated and placed in the path **/Context_Name/logs/MDB.log**.
Log files give the following information:

a) All Paths query
b) Query for each path and if data present for this path
c) Lineage query
d) Status of excel output creation
e) Exceptions and errors, if any

11. Select a **Template** in the **Template List** in **Summary** screen and click **Download** to save a copy of the generated Metadata Report Templates excel sheet, after the export status shows as completed.



User Access

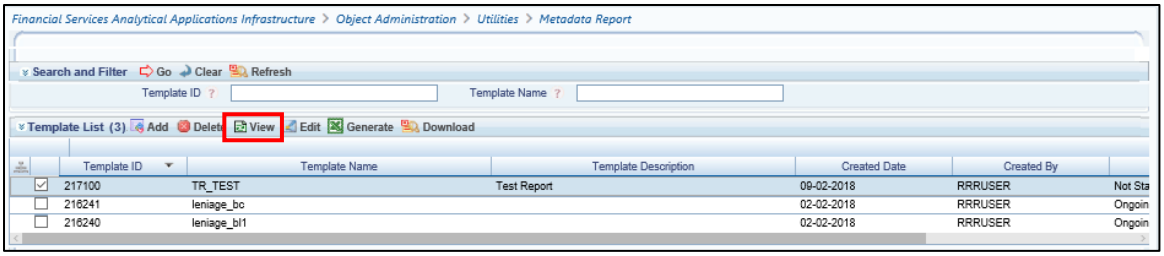
The following user groups are pre-seeded in the component that help you to get access to the Metadata Report Extract screen.

c. MDR View Group: To see Metadata Report Extract with View permissions.
d. MDR Owner Group: To create templates in Metadata Report Extract.

6.4 View Metadata Report Templates

Perform the following steps to view the Metadata Report Templates:

1. Select a **Template** in the **Template List** in **Summary** screen.
2. Click **View** icon to view the generated Metadata Report Templates excel report (after the export status shows as completed).

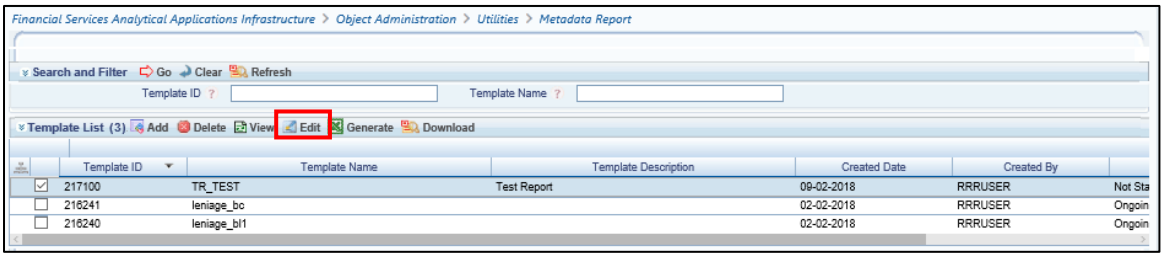


NOTE: The Metadata Report Templates excel report is opened in view-only mode.

6.5 Modify/Edit Metadata Report Templates

Perform the following steps to edit or modify the Metadata Report Templates:

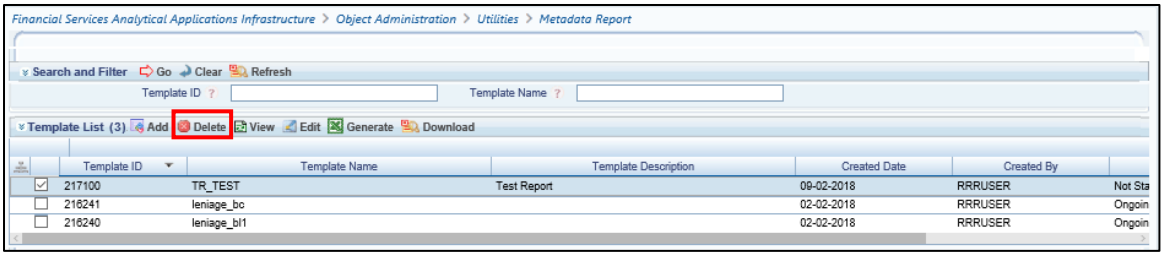
1. Select a **Template** in the **Template List** in **Summary** screen.
2. Click **Edit** icon to modify the generated Metadata Report Templates excel report (after the export status shows as completed).



6.6 Delete Metadata Report Templates

Perform the following steps to delete the Metadata Report Templates:

1. Select a **Template** in the **Template List** in **Summary** screen.
2. Click **Delete** icon to delete the Metadata Report Templates.



7 Report Submission

This chapter provides an understanding of the report submission process. It includes:

- Report Submission: AgileREPORTER to Regulator
- Edit Checks/ Validity Check/ Quality Checks
- Report Templates to be used in AgileREPORTER

7.1 Report Submission: AgileREPORTER to Regulator

After OFSAA has prepared and hands off the data as required to Lombard Risk, the subsequent activities are performed within the AgileREPORTER.

Lombard takes care of the report format as per the regulatory requirement which may be eXtensible Business Reporting Language (XBRL)/ XML/ Excel / .Data/ XML and so on.

7.2 Edit Checks/ Validity Check/ Quality Checks

The AgileREPORTER carries out the report level / submission check comprising Edit Chceks / Validity Checks / Quality Checks as provided by the regulator.

Note: See Validation / Edit Checks and also the AgileREPORTER user documentation provided by Lombard Risk, for details of activities within the AgileREPORTER.

7.3 Report Templates to be used in AgileREPORTER

The report templates to be used in AgileREPORTER are listed as follows.

Report Name	Report Template
BC	TICBC_v2
BL1	TICBL1_v3
BL2	TICBL2_v1
BQ1	TICBQ1_v1
BQ2	TICBQ2_v2
BQ3	TICBQ3_v2

7.4 Supported Report Template Version and Activation Date

The AgileREPORTER contains the details of the Report template version and the activation date of the same. This can be accessed by selecting the Entity setup option in the Settings Menu which enables you to Add, Modify, and Delete Entitites. Click on an existing Entity to access report templates according to version and the activation date, and assign the necessary privilages as required.

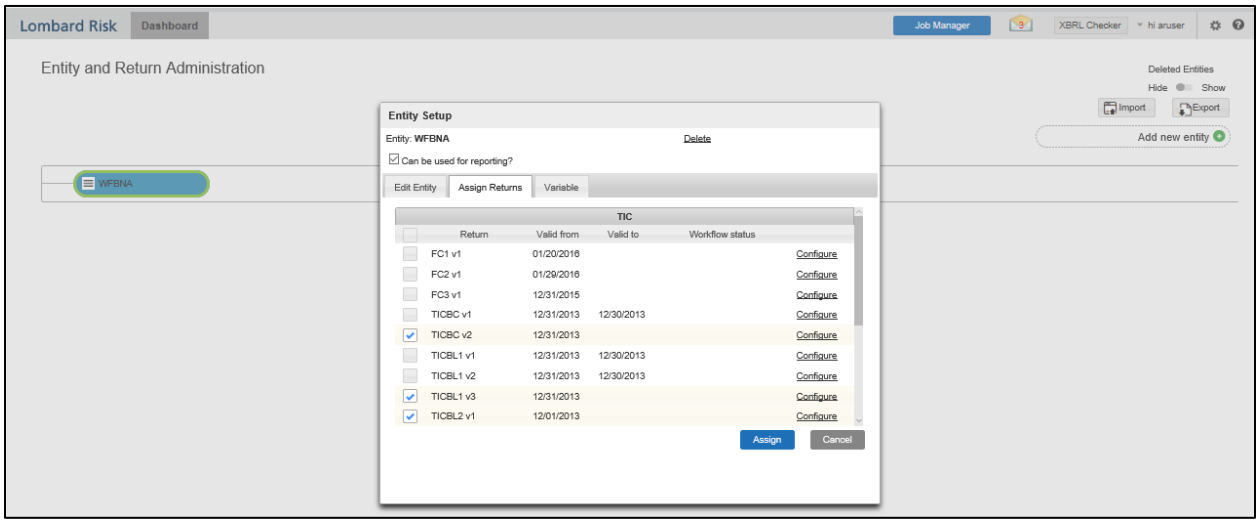


Figure 37: AgileREPORTER Entity Setup

Refer to the *OFS AgileReporter Application User Guide* for more details.

8 Maintenance

This chapter provides an understanding of the maintainence process for the regulatory templates.

Changes to regulatory template is one of the most common and continuous activity. The following steps help to assess the impact (You can replace the measure, dimension for existing dataware housing configuration pack using the below process):

1. Choosing different execution as a final. After report verification, if requirement is to change the execution, then you must visit Marking Run as Final section. After making these changes you must refresh Derived Entities (Executing Batch to Resave Derived Entities). Then AgileREPORTER also needs to retrieve returns so that revised data is reflected on AgileREPORTER.
2. If Executing Batch to Resave Derived Entities is not working, you can look for Batch Operation Log files. For file path, refer to *OFS Analytical Applications Infrstructure Installation Manual* in OHC documentation library and search for **ficdb/log**.
3. To apply revised patch, refer to the **ReadMe** file for instructions to be followed.
4. To update revised data warehouse configuration pack, perform the following instructions.
   i. Click **Settings → Administration → Data Warehouse Integration**.

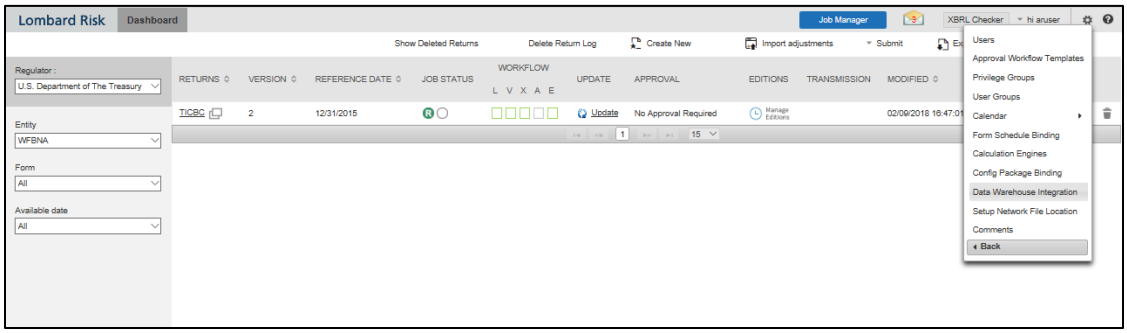


Figure 38: Data Warehouse Integration

   ii. Click **Add** to add a contextual button.

   iii. Enter details of the contextual button.

Name: It is the text that must be displayed in the contextual button.

URL Pattern: Replace `<<OFSAA_HOST>>`, `<<OFSAA_PORT>>` and `<<OFSAA_CONTEXT>>` with host, port and web context of the environment where OFSAA is installed. Replace `<<OFSAA_HOST>>` with the name of information domain.

http://<<OFSAA_HOST>>:<<OFSAA_PORT>>/<<OFSAA_CONTEXT>>/OFSAADrilldown/drilldownreport.jsp?cellid=${cellId}&infodom=<<INFODOM>>&legalentity=${entityCode}&run=${run}&date=${referenceDate}

Example:

http://127.0.0.1:8080/ofsaa/OFSAADrilldown/drilldown.jsp?cellid=${cellId}&infodom=OFSFSDFINFO&legalentity=${entityCode}&run=${run}&date=${referenceDate}

i. Use http or https depending on the protocol configured for OFSAA.

ii. Pick an icon.

iv. Click **Add** to save the details.

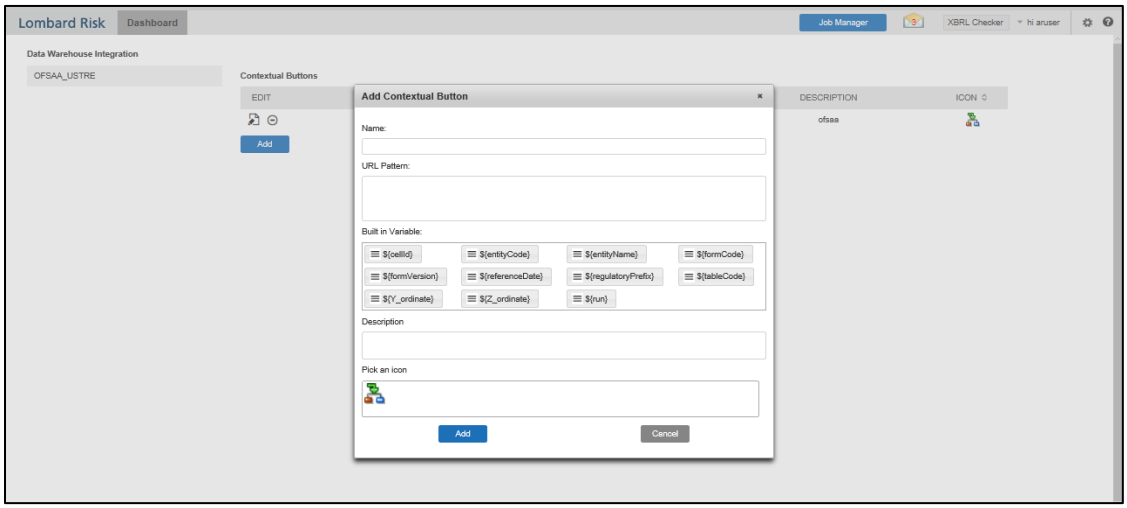


Figure 39: Adding Contextual Button

5. After the data ware configuration pack is updated, Lombard Configuration pack must reflect this.

Note: Refer to *AgileREPORTER* user documentation for details.

9 Troubleshooting Guidelines

This section covers troubleshooting guidelines for user of Oracle Financial Services Regulatory Reporting Integration with AgileREPORTER, hereafter called as Integration.

Integration users provide the data inputs through the OFSDF where data is loaded, processed and results are made available for reporting purposes. Integration package then makes this data available in required formats to AgileREPORTER. In AgileREPORTER, this data is then aggregated according to the reporting requirements and you can view this from AgileREPORTER User Interfaces designed for the Viewing / Editing of this aggregated data.

This section provides detailed guidelines on how to troubleshoot the data issues tracing back the data flow from AgileREPORTER.

9.1 Prerequisites

It is assumed that you can login and see following menus and respective reports in AgileREPORTER.

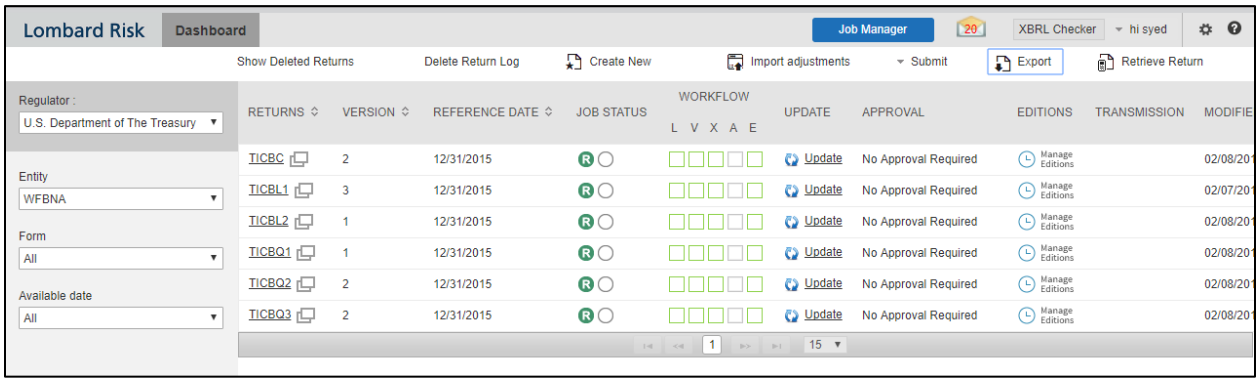


Figure 40: AgileREPORTER

This means configurations activities for the AgileREPORTER and OFSAA are completed. Set up activities for Entity is done and reports templates as shown above are available for viewing. Report Names shown in the figure are for illustration purpose and actual name depends on the integration pack licensed.

9.2 Troubleshooting Use Cases

The use cases described for swift troubleshooting are as follows.

9.2.1 Unable to Generate Report

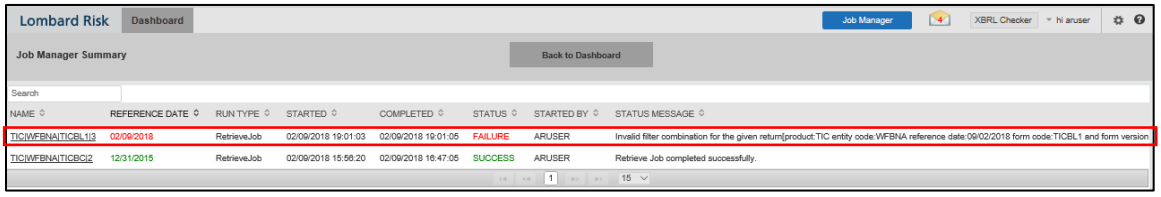
If you are unable to generate reports, meaning none of the derived entities referred in the report has rows for the LE/date combination, then you must refer to Installation Manuals of AgileREPORTER or OFSAA Integration pack for further instructions and steps to be followed.

If the process mentioned in Installation Manual is correctly followed and still report list is not available then you are requested to login the bug / service request with Lombard Risk.

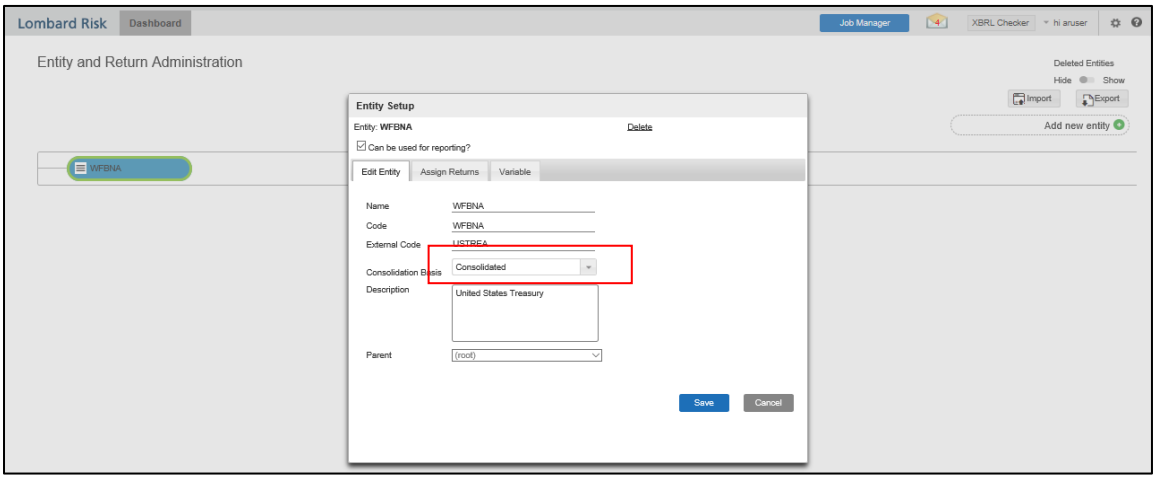
9.2.2 Invalid Filter Combination for the Given Return

If you are unable to generate reports and the get the “Invalid filter combination for the given return” error, then there can be two possibilities for this failure:

1. Data in RUNEXESUMM view in the Atomic Schema is not matching with the Lombard retrieval that includes Date, Run, Entity or Entity’s Consolidation Type.



2. External Code is not matching with the Code for Entity as per OFSAA.



9.2.3 Data Unavailable in AgileREPORTER

This is a use case where you are logged in to AgileREPORTER, and selected particular regulatory report for appropriate entity and As of Date, but unable to generate the report.

9.2.3.1 Fetching Zero Values

AgileREPORTER is showing Null values. It indicates that Derived Entities has data (however, all required filer conditions are not matching and resulting in zero value output) or Derived Entiy does not have data at all.

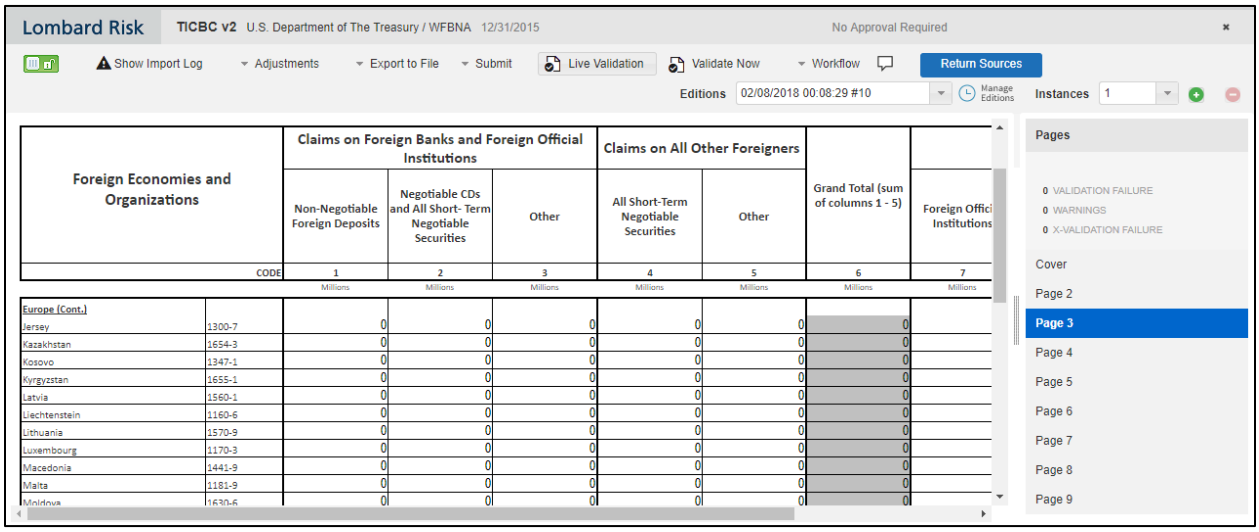


Figure 41: Fetching Zero Values

You must validate as:

1. Derived Entity has data:
    a. Execute the Derived Entity / Materialized views to check if Derived Entity has data or not.
    b. If Derived Entity / materialized view has data but not showing in AgileREPORTER, you must log a Bug / Service Request with Lombard Risk.
2. Derived Entity does not have data:
    a. Execute the Derived Entity / Materialized views to check if Derived Entity has data or not.
    b. If Derived Entity does not have data, then check the Business Metadata excel for a given schedule.
    c. Check Worksheet titled 'Derived Entity' in Business Metadata excel. Get all the derived entities for a given schedule.
    d. Get dataset for each derived entity.
    e. Execute datasets in OFSAA FSDF Atomic Schema to check if data is available for a given dataset joins.
    f. If data is available in dataset queries, you must log a Bug / Service Request with AgileREPORTER.
    g. If data is not available in dataset, then check if selection of Entity, Available Date (as of date) is appropriate and required executions are available. If Entity, As of Date and Run executions are correct and still data is not available, then you must log a Bug / Service Request with Oracle Support.

9.2.4 Data Available in AgileREPORTER but Not as Expected

This use case where you are able to refer data for a required cell of a schedule in AgileREPORTER; however, value shown differs from expected value.

Let us take following example to illustrate the steps to be followed. This refers to Report BC. Particular cell referred here is L83003C07 of

a. TOTAL IBF ASSETS under
b. OF WHICH ITEMS of

c. Foreign Official Institutions

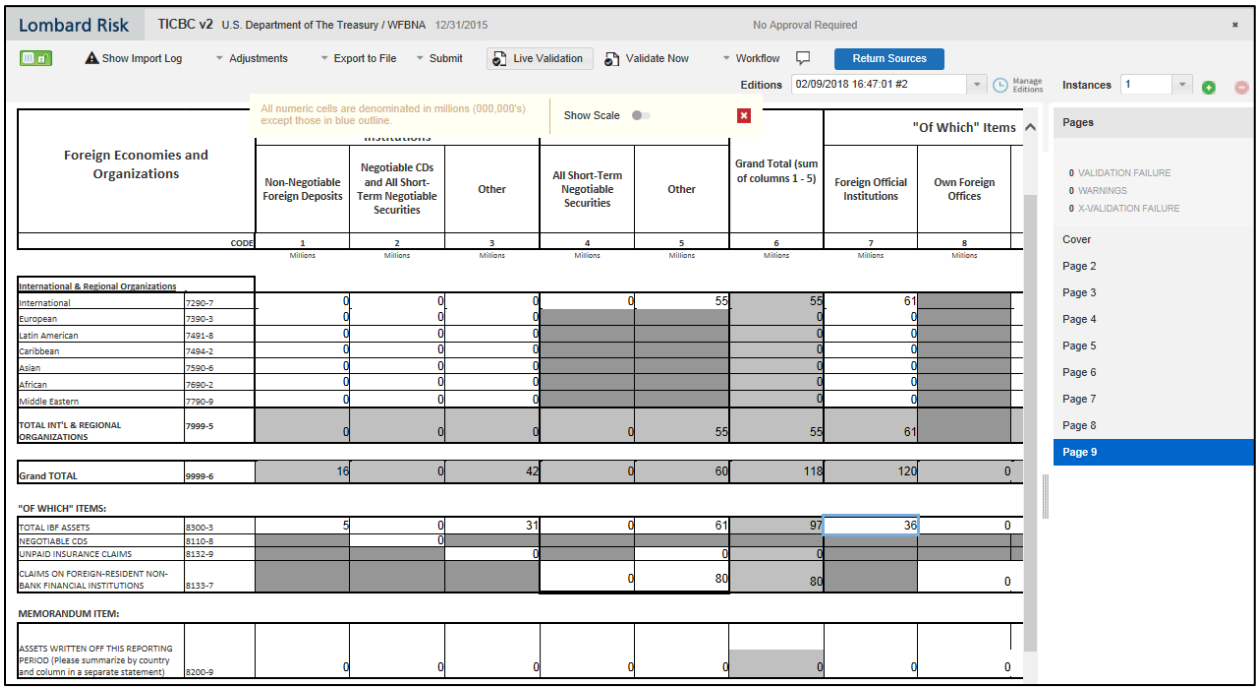


Figure 42: Schedule HC-M from FR Y-9C Report

You can drill down for each cell to check details of data as what is included in aggregation. To drill down, click the value of particular cell and it is shown highlighted. It shows OFSAA data lineage icon on clicking as shown in Figure 43.

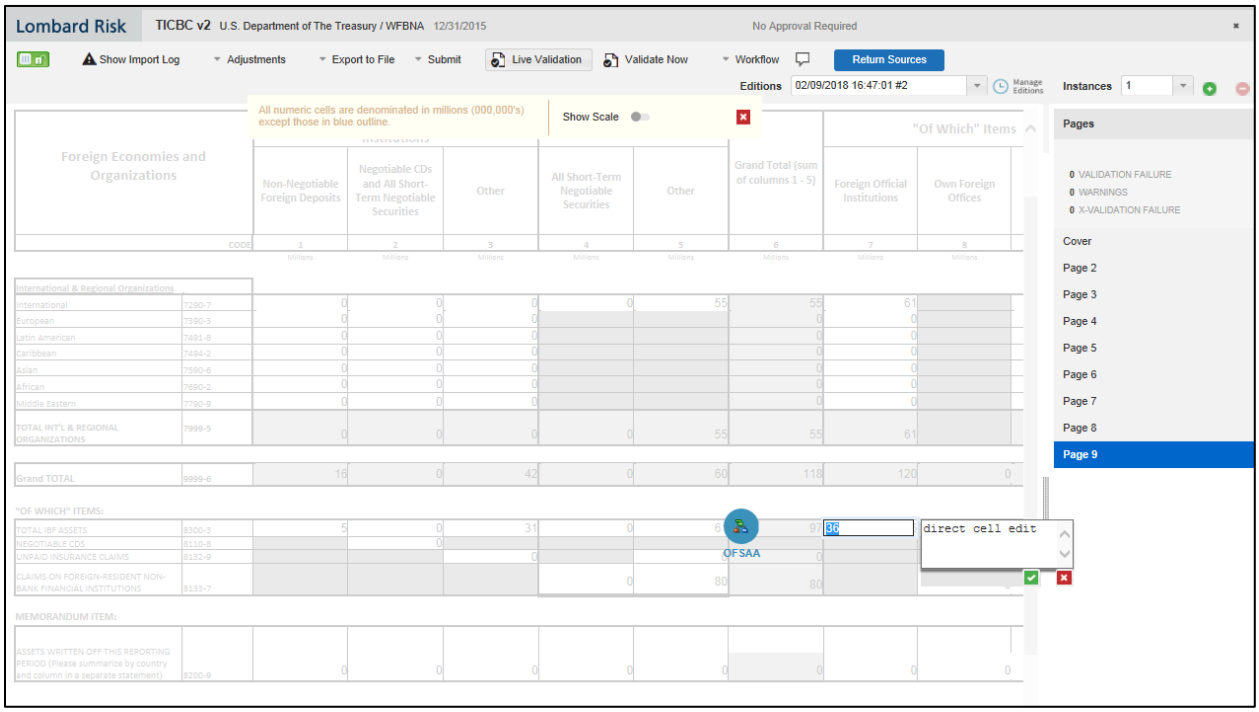


Figure 43: Data Lineage Icon

Make sure that you are logged in to OFSAA infrastructure before clicking **Data Lineage** icon.

- If you are not already logged in, clicking here opens the OFSAA infrastructure login window. Log in using appropriate credentials and come back to Report Portal and click the same **Data Lineage** icon again.
- If you are already logged in to OFSAA Infrastructure, the Data Lineage first page opens as shown in Figure 44.

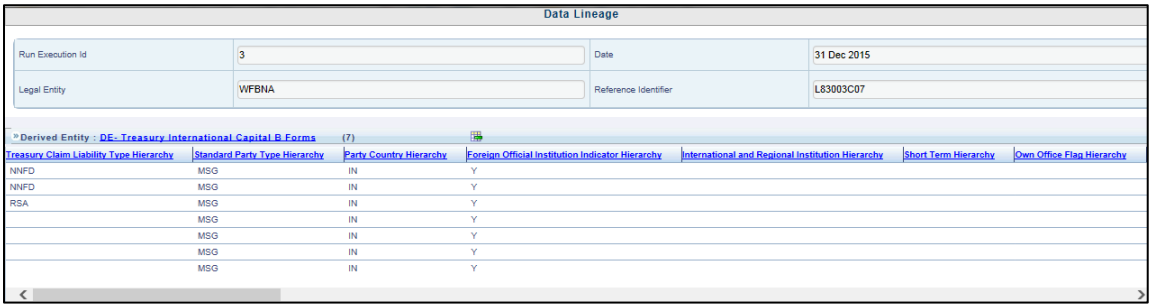


Figure 44: AgileREPORTER Drill-down

Top block of this screen shows following information which helps to connect the AgileREPORTER aggregated data to OFSAA references.

1. Run Execution ID: This refers to OFSAA Execution ID chosen for a given report.
2. Date: This refers to AS OF DATE selected for a given report.
3. Legal Entity: This refers to the OFSAA Legal Entity for whom the report is generated.
4. Reference Identifier: This is the cell reference for which data drill down / lineage is being checked.

Second block displays all hierarchies with values used in a given Derived Entity and measures aggregated for a given combination of a hierarchy values.

To refer the measure values, scroll rightwards using horizontal scroll bar at bottom of second block. On extreme right, measures are displayed as shown in Figure 45:

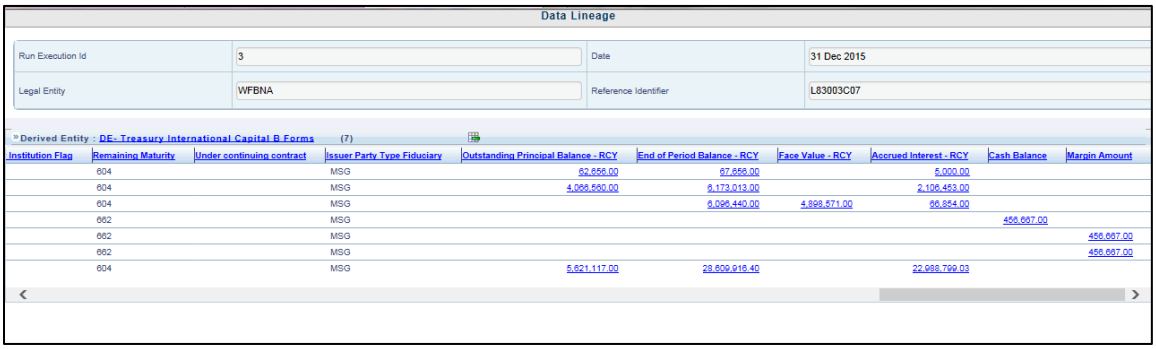


Figure 45: Measure Values

Only measure values are hyperlinked indicating that they can be drilled down further. On clicking the amount, second level drill down show the lowest granularity data available for a given cell reference.

9.2.4.1 Using Drill Down with Data Lineage View

Data Analysts/You can then compare these accounts and their respective monetary amounts with expected values. One can check the following:

1. All required accounts are shown in aggregation
2. Unwanted accounts are not included in aggregation
3. Measures / Monetary amounts at account granularity are as expected.

Any deviation from expectations can be then checked back for:

1. If measure is stage pass through, then validate using T2T to verify if stage data is as expected or must be corrected.
2. If measure is processed, then validate using T2T to verify processing measure is correctly moved to result area.
3. If reclassified hierarchies are showing unexpected values, check Rules and source hierarchies of rules. This use case needs close verification to ensure that all source hierarchies have required values or Rule sequence which can lead to overwriting the values.
4. If all the source data is as expected and result area is now showing unexpected output, then log a Bug / Service Request with Oracle Support.

9.2.4.2 Data Lineage View is Unavailable

If the second block does not show any data, then data analysts/you are advised to refer to the data set worksheet of Business Metadata.

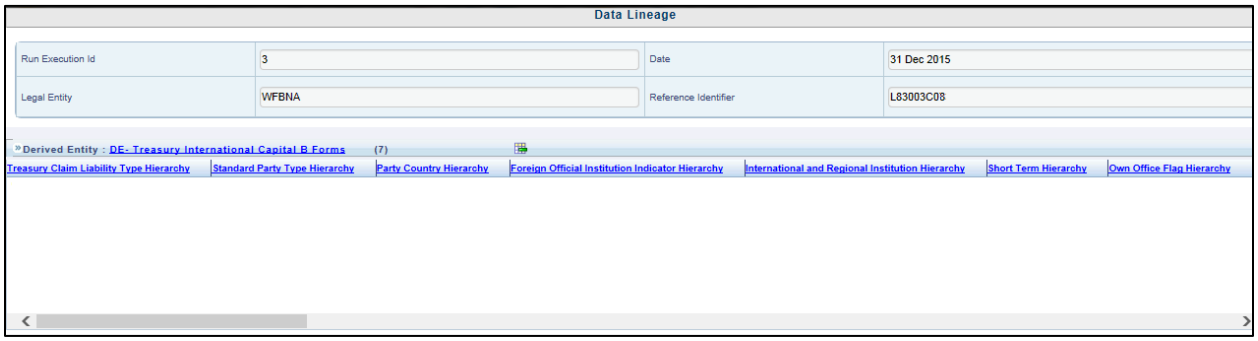
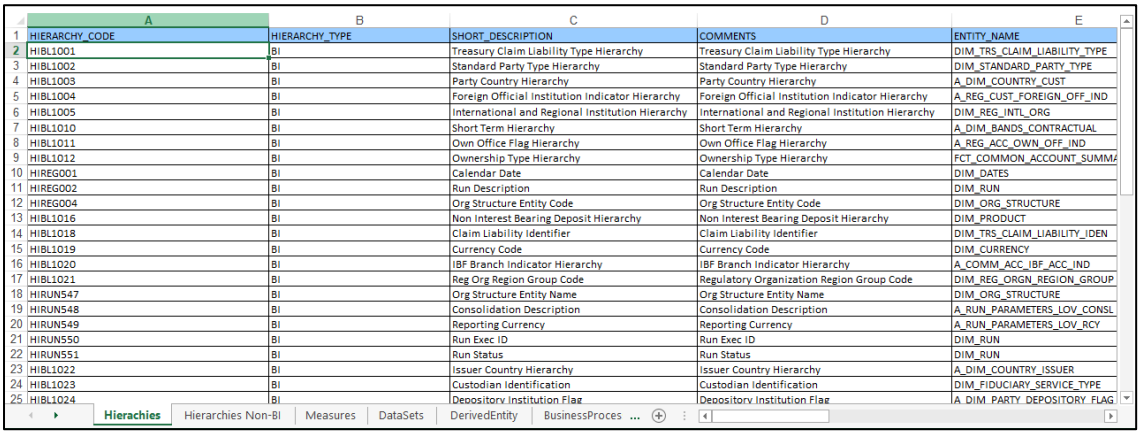


Figure 46: Data Lineage Unavailable

There can be few reasons why second block does not show the data:

1. Internet connection is timed out or broken down - in this case clicking Data Lineage on AgileREPORTER results in a black second block. To rectify this, re-login to OFSAA infrastructure and AgileREPORTER.
2. Data Lineage view works after Metadata is published using OFSAA Infrastructure. To validate if Metadata is properly published or not.
3. If Metadata is properly published and second block still does not show the data, then start with Derived Entity code shown at the beginning of second block. This Derived Entity code is available even if data is not available.
4. Using this Derived Entity code data analysts are advised to refer to OFSAA Business metadata with worksheet name as 'Derived Entity'. Sample Business Metadata excel is shown in Figure 47:

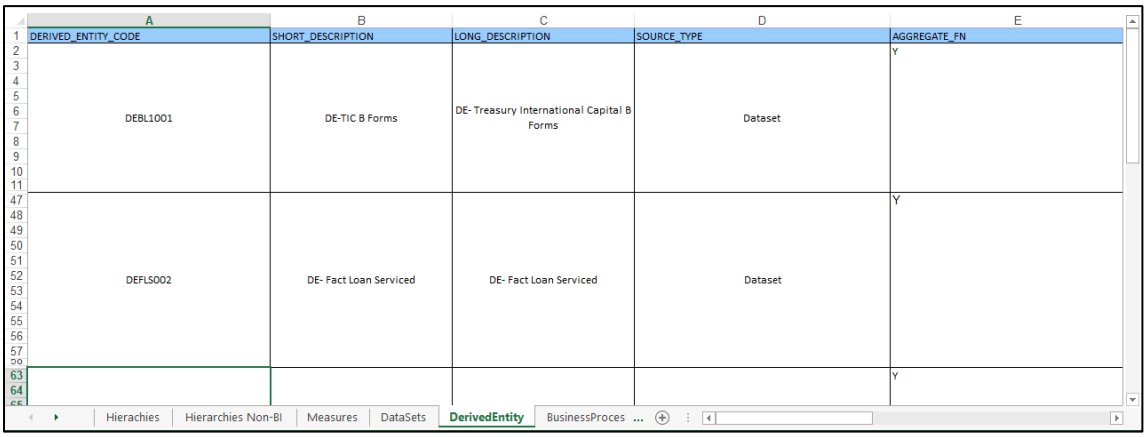


	A	B	C	D	E
1	HIERARCHY_CODE	HIERARCHY_TYPE	SHORT_DESCRIPTION	COMMENTS	ENTITY_NAME
2	HIBL1001	BI	Treasury Claim Liability Type Hierarchy	Treasury Claim Liability Type Hierarchy	DIM_TRS_CLAIM_LIABILITY_TYPE
3	HIBL1002	BI	Standard Party Type Hierarchy	Standard Party Type Hierarchy	DIM_STANDARD_PARTY_TYPE
4	HIBL1003	BI	Party Country Hierarchy	Party Country Hierarchy	A_DIM_COUNTRY_CUST
5	HIBL1004	BI	Foreign Official Institution Indicator Hierarchy	Foreign Official Institution Indicator Hierarchy	A_REG_CUST_FOREIGN_OFF_IND
6	HIBL1005	BI	International and Regional Institution Hierarchy	International and Regional Institution Hierarchy	DIM_REG_INTL_ORG
7	HIBL1010	BI	Short Term Hierarchy	Short Term Hierarchy	A_DIM_BANDS_CONTRACTUAL
8	HIBL1011	BI	Own Office Flag Hierarchy	Own Office Flag Hierarchy	A_REG_ACC_OWN_OFF_IND
9	HIBL1012	BI	Ownership Type Hierarchy	Ownership Type Hierarchy	FCT_COMMON_ACCOUNT_SUMMA
10	HIREG001	BI	Calendar Date	Calendar Date	DIM_DATES
11	HIREG002	BI	Run Description	Run Description	DIM_RUN
12	HIREG004	BI	Org Structure Entity Code	Org Structure Entity Code	DIM_ORG_STRUCTURE
13	HIBL1016	BI	Non Interest Bearing Deposit Hierarchy	Non Interest Bearing Deposit Hierarchy	DIM_PRODUCT
14	HIBL1018	BI	Claim Liability Identifier	Claim Liability Identifier	DIM_TRS_CLAIM_LIABILITY_IDEN
15	HIBL1019	BI	Currency Code	Currency Code	DIM_CURRENCY
16	HIBL1020	BI	IBF Branch Indicator Hierarchy	IBF Branch Indicator Hierarchy	A_COMM_ACC_IBF_ACC_IND
17	HIBL1021	BI	Reg Org Region Group Code	Regulatory Organization Region Group Code	DIM_REG_ORGN_REGION_GROUP
18	HIRUN547	BI	Org Structure Entity Name	Org Structure Entity Name	DIM_ORG_STRUCTURE
19	HIRUN548	BI	Consolidation Description	Consolidation Description	A_RUN_PARAMETERS_LOV_CONSL
20	HIRUN549	BI	Reporting Currency	Reporting Currency	A_RUN_PARAMETERS_LOV_RCY
21	HIRUN550	BI	Run Exec ID	Run Exec ID	DIM_RUN
22	HIRUN551	BI	Run Status	Run Status	DIM_RUN
23	HIBL1022	BI	Issuer Country Hierarchy	Issuer Country Hierarchy	A_DIM_COUNTRY_ISSUER
24	HIBL1023	BI	Custodian Identification	Custodian Identification	DIM_FIDUCIARY_SERVICE_TYPE
25	HIBL1024	BI	Depository Institution Flag	Depository Institution Flag	A_DIM_PARTY_DEPOSITORY_FLAG

Hierarchies | Hierarchies Non-BI | Measures | DataSets | DerivedEntity | BusinessProces ...

Figure 47: Business Metadata

5. By referring to Business Metadata, you can get complete information on Derived Entity such as dataset, Fact tables, measusres, hierarchies defined under particular Derived Entity.



	A	B	C	D	E
1	DERIVED_ENTITY_CODE	SHORT_DESCRIPTION	LONG_DESCRIPTION	SOURCE_TYPE	AGGREGATE_FN
2	DEBL1001	DE-TIC B Forms	DE- Treasury International Capital B Forms	Dataset	Y
47	DEFLS002	DE- Fact Loan Serviced	DE- Fact Loan Serviced	Dataset	Y
63					Y

Hierachies | Hierarchies Non-BI | Measures | DataSets | DerivedEntity | BusinessProces ...

Figure 48: Derived Entity

The Dataset ANSI Joins provide valuable information on how various entities are joined/linked together. By executing these Joins, you can confirm if data is available for given filters and conditions. If data is fetched using Dataset Joins and Data Lineage does not show data, you must log a Bug / Service Request with Oracle Support.

10 Glossary

The glossary terms and definitions used in this document are as follows.

Glossary	Definition	Logic
Brokerage Balances	Cash Balances are held by U.S. residents in brokerage and margin accounts with foreign residents; and by foreign residents in brokerage and margin accounts at U.S. resident entities. Brokerage balances should be reported gross and include funds that may be freely withdrawn or held to support positions in futures, securities or other financial instruments. The following are examples that generate cash balances in brokerage balances: • Cash proceeds from selling securities short. • Cash margin or collateral placed to support open positions in futures (initial, maintenance and margin) or options on exchanges, over-the-counter derivatives, and excess cash margin or collateral retained from previous settlements of positions. • Cash margin lent to foreign for their purchases of securities. • Cash interest and dividends on securities that have been pledged as collateral with foreign residents. Brokerage balances held at foreign entities should be reported on the BC (if they are the reporter's own dollar claims), on the BQ-1 (if they are U.S. dollar-denominated customer claims of a reporter), or on the BQ-2 (if they are foreign currency-denominated claims). Liabilities to foreign residents from brokerage balances should be reported on the BL-1 (if they are the reporter's own dollar liabilities) and on the BQ-2 (if they are foreign currency-denominated liabilities).	Brokerage Balances are available against trading accounts in "Stage Trading Account". The attribute "Cash Balance" signifies the cash available in the account for trading and the "margin balance" signifies the margin amount borrowed from the broker for investment purposes. The ownership type attribute signifies if the account is held by a customer or the organization themselves or if it is a custodian account.

Glossary	Definition	Logic
Administrative Agent	An institution responsible for administering a loan, acting on behalf of all lenders, and acting as a conduit for all payments in a loan syndication. An administrative agent should report drawn loan syndications to U.S. resident borrowers owed to foreign residents on the BL-2 (if dollar-denominated) or the BQ-2 (if foreign currency-denominated).	Administrative agent is the fronting bank in the case of syndicated loans and if the fronting bank is a US resident then they are known as US Administrative Agents. Fronting bank in a loan syndication is denoted by the fronting bank attribute in "Stage Credit Participation". "Administrative Agent flag" is flag in "Stage Borrowings" and "Stage Loan Contracts" identifies the presence of US administrative agent in the syndication loan.
Commercial Paper	A promissory note either unsecured or backed by assets such as loans or mortgages. They are usually sold at a discount and customarily have a fixed maturity of 270 days or less. Holdings of commercial paper should be reported on the B reports at face value, as a short-term security.	Commercial paper issued considered as Liability from "Stage Borrowings" and bought are considered as Claim from "Stage Investments", "Stage Money Market Contracts". "Face value" of the security should be reported.
Credit Balances	Liabilities to a third party that are incidental to, or that arise from, the exercise of banking powers, including the payment of checks and lending of money. They must be no larger than necessary for the specific transaction. Credit balances are reported as deposits on the BL-1 and as demand deposits on the BQ-3.	Credit balances are considered as Liability, which are available against "Stage Term Deposits" and "Stage Casa". "End of the period balance" should be reported in BL-1, BQ-2 and BQ-3 reports.
Custodian	A bank or other organization that manages or administers the custody or safekeeping of stock certificates, debt securities, or other assets for institutional and private investors.	Securities that are held by a custodian are identified using the parent fiduciary account number in "Stage Investments" as a customer's Claim and in "Stage Borrowings" as customers' liabilities. "Face value" of the security should be reported.

Glossary	Definition	Logic
Deposits	The unpaid balance of money or its equivalent received or held by a bank in the usual course of business and for which it has given or is obligated to give credit, either conditionally or unconditionally, including balances in a checking, savings, or time account, or which are evidenced by its certificate of indebtedness, or other similar name, or a check or draft drawn against a deposit account and certified by the bank, or a letter of credit or a traveler's check on which the bank is primarily liable. U.S. deposits held by foreign residents (other than negotiable certificates of deposit) should be reported on the BL-1 (if U.S. dollar-denominated) or the BQ-2 (Part 1) (if foreign currency-denominated). U.S. negotiable certificates of deposit held by foreign residents should be reported on the BL-2 (if U.S. dollar-denominated) or the BQ-2 (Part 2) (if foreign currency-denominated). Non-negotiable deposits held by U.S. residents at foreign banks should be reported on the BC (if it is the reporter's own U.S. dollar-denominated claim), on the BQ-1 (if it is the U.S. dollar-denominated claim of a customer of the reporter), or in the appropriate column of the BQ-2 for the reporter's own or customer's foreign currency-denominated claim. (Also, see Negotiable Certificate of Deposits.)	Non-negotiable deposits taken are considered as Liability from "Stage Casa" and "Stage Term Deposit Contracts". Deposits placed are considered as Claim from "Stage investments". "End of the period balance" should be reported for Non-negotiable deposits.
Development Banks	Entities owned by national governments other than the United States and are established to promote economic development of sectors of the economy, such as trade, housing, agriculture, finance and industry. Claims on and liabilities to development banks are reportable on the TIC B reports. Unless the development bank also performs the functions of a foreign official institution, development banks should be reported as private banks, even if owned by the government. (For further information, see the instructions for "type of foreign counterparty," on the specific instructions for the form in question.)	Counterparty can be identified based on the standard party type Development bank from the "Stage Party Master".

Glossary	Definition	Logic
Direct Investment	Investment in which a resident of one country obtains a degree of influence over the management of a business enterprise in another country. The criterion used to define direct investment is ownership of at least 10 percent of the voting securities of an incorporated business enterprise or the equivalent interest in an unincorporated business enterprise. U.S. direct investment abroad represents the ownership or control, directly or indirectly, by one U.S. resident (U.S. parent) of at least 10 percent of a foreign business enterprise, which is called a foreign affiliate. Foreign direct investment in the United States represents the ownership or control, directly or indirectly, by one foreign resident (foreign parent) of at least 10 percent of a U.S. business enterprise, which is called a U.S. affiliate. For guidance on how to apply the direct investment criterion in the case of a limited partnership, see Limited Partnerships and Direct Investment as follows. Direct investment transactions and positions include the equity that gives rise to control or influence and intercompany lending, that is, debt between affiliated enterprises. However, debt between selected affiliated financial intermediaries is not classified as direct investment because it is not considered to be so strongly connected to the direct investment relationship. The financial intermediaries covered by this case are: • deposit-taking corporations; • securities brokers and dealers; • financial and bank holding companies; • investment funds; and • other financial intermediaries. However, insurance companies and pensions funds are financial intermediaries that are not covered by this case and their debt positions with their affiliates are part of direct investment.	Transactions that result in a U.S. resident gaining a direct or indirect voting interest of 10% or more in a foreign company or a foreign resident gaining a direct or indirect voting interest of 10% or more in a U.S. company. All transactions of a U.S. resident (foreign resident) in the equity securities of a foreign company (U.S. company) with which the U.S. resident (foreign resident) is in a direct investment relationship. All the reporter's own investments are available in "Stage Investments" with parent fiduciary account number column value as null. "Shareholding Percentage" in "Stage Entity Shareholding Details" signifies the percentage held in shares and it is a direct investment or not.

Glossary	Definition	Logic
	Since insurance companies and pension funds are not covered by this case, insurance companies and pension funds should only report debt positions with unaffiliated foreign firms. Therefore, all direct investment transactions and positions should be excluded from the TIC system. These transactions and positions should instead be reported to the Bureau of Economic Analysis (BEA). U.S. residents in direct investment relationships are required to file reports with BEA unless exempt.	
Foreign Resident	Any individual, corporation, or other organization located outside the United States. A corporation incorporated outside the United States is a foreign resident even if it has no physical presence outside the United States. Foreign residents include: • Foreign governments and any subdivision, agency or instrumentality thereof, including all foreign official nonbanking institutions, even if located in the United States (for example: an embassy, consulate, or other diplomatic establishment of a foreign country). (However, all U.S. subsidiaries of foreign corporations are U.S. residents.) • Entities that have filed an IRS Form W-8, indicating that the individual or entity is a nonresident alien or foreign entity not subject to certain United States information return reporting or to backup withholding rules. • Any corporation or other organization located outside the United States, including the branches, subsidiaries, and other affiliates of U.S. entities located abroad. • Individuals, including citizens of the United States, residing outside the United States.	Counter party can be identified as foreign resident based on the country code other than US available in "Stage Party Master". "Domicile Country Code" for individuals, “Address Country Code" for IRS form filer, government agencies and government sponsored agencies, "Incorporation Country Code" for non US government agencies, sponsored agencies and individuals, "ISO Country Codes" for Foreign official institutions.

Glossary	Definition	Logic
	EXCEPTION: Official international or regional organizations or subordinate or affiliated agencies thereof, created by treaty or convention between sovereign states, even if located in the United States, including the International Bank for Reconstruction and Development (IBRD or World Bank), the International Monetary Fund (IMF), and the United Nations (UN), are also considered foreign residents.	
Foreign-Resident Custodian	A custodian located outside the United States, including a foreign affiliate of a U.S. custodian. Reporters should determine the location of a custodian according to the country where the custodian is incorporated, or otherwise legally established, not according to the country of custodian's parent firm, and not according to the location of the custodian's operations center.	Securities that are held by a Foreign custodian are identified using the parent fiduciary account number in "Stage Investments" as a customer's Claim and in borrowings as customers' liabilities. "Domicile Country Code" for individuals, "Address Country Code" for IRS form filer, government agencies and government sponsored agencies, "Incorporation Country Code" for non US government agencies, sponsored agencies and individuals, "ISO Country Codes" for Foreign official institutions should not be "US".
International Banking Facilities (IBFs)	A set of asset and liability accounts, segregated on the books of the United States establishing entity. IBFs are permitted to hold only assets and liabilities of foreign residents, residents of Puerto Rico and United States territories and possessions, other IBFs, and United States and foreign offices of the establishing entity. (See **Federal Reserve Regulation D** for more information.) The assets and liabilities of IBFs should be combined with those of the U.S. banking offices on the TIC B reports in all rows, except the IBF memo rows on the BC, BL-1 and BQ-2 reports.	"International Banking facility account identifier" is used to indicate whether the account is providing international banking facilities.

Glossary	Definition	Logic
Loans	A loan is generally an extension of credit resulting from direct negotiations between a lender and a borrower. The loan can have originated through direct negotiations with the borrower or it can be originated by another lender that directly negotiated with a borrower. Loans can take the form of promissory notes, acknowledgements of advance, due bills, invoices, overdrafts, acceptances, and similar written or oral obligations. Loans include: • Acceptances of other banks purchased in the open market. • Customer's liability to the reporting institution on drafts paid under letters of credit for which the bank has not been reimbursed. • Paper pledged by the bank whether for collateral to secure bills payable or for any other purpose. • Factored accounts receivable. • Participations (acquired or held) in a single loan or pool of loans or receivables (see Participations). • Drawn syndicated loans (see instructions in the BL-2 and BQ-2 for more information and reporting instructions). • Repurchase/resale agreements, where securities have been transferred in return for cash balances. Loans exclude those instruments that meet the definition of a security. (See Securities). Loans are reportable on the TIC B reports, regardless of maturity.	Loans borrowed from other banks are considered as Liability from "Stage Borrowings" and Loans issued are considered as Claims will be stated in "Stage Loan Contracts". "End of the period balance" should be reported.

Glossary	Definition	Logic
Loan Servicing Arrangements, Loan Servicer	An arrangement whereby one party (the loan servicer) agrees to collect payments from borrowers on behalf of the holder(s) of the loan. The loan servicer may be the originator of the loans, or may be another institution. The loan servicer/administrative agent should report the outstanding loans to U.S. resident borrowers owed to foreign residents on the BL-2 (if U.S. dollar-denominated), or the BQ-2 (if foreign currency-denominated).	"Amount Drawn" in "Stage Loans Serviced" signifies the end of the period total drawn amount in the syndication loan by the borrower. "Borrower Code" helps to identify the borrower and "Originator Bank Code gives the loan issuer in the loan syndication.
Nationalized Banks	Institutions owned by foreign central governments that are classified as banks in their respective countries. Nationalized banks are classified as foreign private commercial banks, unless they function as foreign official institutions.	Nationalized Banks can be identified based on standard party type as "Bank" in "Stage Party Master".
Negotiable Certificates of Deposit	Certificates of deposit evidenced by a negotiable (transferable) instrument or deposit in book entry form evidenced by a receipt or similar acknowledgement issued by the bank, that provides on its face that the amount of such deposit is payable to bearer or any specified person (for example: deposit notes, bank notes). Negotiable certificates of deposit are not considered securities on the TIC reports. All foreign-held U.S. negotiable certificates of deposit (regardless of maturity) whether issued by the reporter or by another depository institution should be reported on the BL-2 (if dollar-denominated) or BQ-2 (if foreign currency-denominated). U.S. held foreign negotiable certificates of deposits should be reported on the BC or BQ-1 (if dollar-denominated), or the BQ-2 (if foreign currency-denominated).	Negotiable Certificates of Deposit as a liability stored in "Stage Term Deposit Contracts" and considered as a claim in "Stage Investments". "Face value" is reported for NCDs.

Non-Bank Financial Institutions (NBFIs)	Businesses and institutions other than “banks” and “public,” as defined above, that are primarily engaged in proprietary investments and/or in the provision of financial services to other organizations and households. These services include, but are not limited to financial intermediation services whose functions are predominantly: the extending of credit for business purposes, brokerage services, underwriting services, financial management services, credit origination services, credit card services, insurance services, and pension services. Types of non-bank financial organizations include, but are not limited to: • Securities brokers/dealers • Bank holding companies (BHCs) • Financial holding companies (FHCs) • Intermediate holding companies (IHCs) • Insurance companies • Money market funds • Pension funds • Investment banks • Private equity funds • Credit card issuers • Hedge funds • Trusts • Finance companies • Mortgage companies • Factors and other financial intermediaries who extend short-term business credit to finance inventories or carry accounts receivable For data reporters who use NAICS codes for their counterparties, here are the codes for entities that are NBFIs:	The Pre-specified list for Non-Bank Financial Institutions (NBFIs) based on instructions includes the following standard party types: "Securities brokers/dealers, Bank holding companies , Financial holding companies , Intermediate holding companies , Insurance companies, Money market funds, Pension funds, Investment banks, Private equity funds, Credit card issuers, Hedge funds, Trusts, Finance companies, Mortgage companies, Factors and other financial intermediaries" in the "Stage Party Master".

Glossary	Definition	Logic
	• all codes under 52, Finance and Insurance, excluding 5211 (central banks) and 5221 (deposit-taking institutions) • 551111 bank holding companies • 551112 (part) financial holding companies, insurance holding companies For data reporters who use the GICS classification system for their counterparties, here are the codes for entities that are NBFIs: [The Global Industry Classification Standard (GICS) system was developed by Morgan Stanley Capital International and Standard & Poor's, and the web site is at (http://www.msci.com/products/indices/sector/gics/)]: • 4020 diversified financials • 4030 insurance • 404020 real estate investment trusts (REITS)	
Overdraft	An overdraft exists when a depository institution honors a check or draft drawn against a deposit account in which insufficient funds are held. Overdrafts should be reported gross and not netted against good balances. Overdrawn accounts at foreign banks are reported on the BL-1. Foreign customers' overdrawn accounts are reported on the BC.	Overdraft is stored in "Stage Borrowings" as a liability and whereas, it is stored as claim in "Stage Over Draft Accounts". "Over draft" is the "Standard Product Type" and claim or liability is classified based on the "Balance Sheet Category" in "Stage Product Master".
Own Foreign Offices	Own foreign offices are foreign offices (banking and nonbanking) of the reporter, including any foreign office indirectly owned through a U.S. subsidiary depository or non-depository financial institution. In addition, reporters owned by a foreign resident should include its direct foreign parent and any non U.S. branches or agencies as own foreign offices. Reporters should exclude offices of the reporter's parent's non-banking or banking subsidiaries as own foreign offices.	"Own Foreign Offices indicator" in the Regulatory Account Summary indicates whether the reporter owns the foreign offices. This indicator obtain its value from the own foreign office indicator rule.

Glossary	Definition	Logic
	Therefore, the reporter should include as own foreign offices the following if applicable: 1. The reporter's own non U.S. offices 2. The reporter's own foreign parent bank 3. The foreign parent banks non U.S. bank branches and agencies 4. The reporter's own U.S. depository institutions and/or non-depository institutions foreign resident offices	
Participations	A loan agreement whereby one bank contracts with other banks to participate in making a loan to a borrower. Each participant should report the amount of its own share in the participated loan. (Also, see the **BL-2 Instructions** for the reporting of syndicated loans.)	"Participation Indicator" indicates whether the account is a part of the syndicate. Syndicated loans are usually large loans made to corporate borrowers. More than one financial institution is involved in a syndicated loan. The main goal of syndicated lending is to spread the risk of a borrower default across multiple lenders (such as banks) or institutional investors like pension funds and hedge funds. Because syndicated loans tend to be much larger than standard bank loans, the risk of even one borrower defaulting could cripple a single lender. Syndicated loans are also used in the leveraged buyout community to fund large corporate takeovers with primarily debt funding.
Policyholder	A policyholder is the party that owns an insurance policy.	Policyholder is considered as a standard party type, stored in "Stage Party Master".

Repurchase/Resale Agreements	A repurchase agreement is a transaction involving the sale of financial assets by one party to another, subject to an agreement by the seller to repurchase the assets at a specified date or in specified circumstances. A resale agreement (also known as a reverse repurchase agreement) is a transaction involving the purchase of financial assets by one party from another, subject to an agreement by the purchaser to resell the assets at a specified date or in specified circumstances. Except as otherwise noted below under the discussion of ASC Topic 860, Transfers and Servicings, all repurchase and resale agreement transactions with foreign residents in which cash balances are provided as part of the transaction, are to be reported as borrowings from, or loans to, foreign residents collateralized by the underlying assets. In each case the amount of cash received/provided should be reported. In particular: • U.S. dollar-denominated funds received from foreign residents from repurchase agreements are reported as liabilities on the BL-1, by country, and in memorandum row 8400-7. (The transfer of the securities should be excluded from purchases or sales on the TIC S Form.) • U.S. dollar-denominated funds lent to foreign residents through resale agreements should be reported as claims on either the BC or BQ-1. (The receipt of the securities as collateral should be excluded from purchases or sales on the TIC S Form.) • Funds denominated in foreign currency received or lent under repurchase agreements with foreign residents should be reported on the BQ-2. Please note that all repurchase agreements should be reported gross (that is, ASC Subtopic 210-20 should not be applied).	"Stage Repo Contracts" covers both Repo & Reverse Repo instrument. For the party selling the security (and agreeing to repurchase it in the future) it is a repo, that is, liability; whereas the party on the other end of the transaction, (buying the security and agreeing to sell in the future) it is a reverse repurchase agreement that is considered as a claim.

Glossary	Definition	Logic
	If a repurchase agreement does not qualify as a secured borrowing under ASC Topic 860, Transfers and Servicings, the selling institution should account for the transaction as a sale of financial assets and a forward commitment to repurchase the security. Similarly, if a resale agreement does not qualify as a borrowing under ASC Topic 860, Transfers and Servicings, the purchasing institution should account for the transaction as a purchase of financial assets and a commitment to sell. In these cases, the transfer of the securities should be reported on the TIC S and the exchange of cash should be excluded from the TIC B forms. Securities lending agreements in which one security is loaned in return for another are not reportable on the TIC forms.	
Securities	Securities are any bill, note, bond, debenture, equity or similar instrument that is commonly referred to as a security, excluding certificates of deposit. (In cases where it is not clear if a specific instrument is a security, contact the Federal Reserve Bank to which you submit your TIC reports.) Securities can be negotiable (tradable in secondary markets) or non-negotiable (not tradable in secondary markets). Securities are classified as short-term (original maturity of one year or less) or long-term (original maturity of more than one year). Long-term securities include securities with no stated maturity, including equity securities such as common stock, preferred stock, certificate of interests, partnership interests, and mutual fund shares. Long-term securities are excluded from the TIC B forms and should be reported only on the TIC S form. Short-term securities, which include money market instruments such as Treasury bills, short-term agency securities, commercial and finance paper, discounted bankers' acceptances, and short-term notes, should be reported on the TIC B forms, following the instructions in Sections A and B of this	Securities that are been invested in, are considered as an asset and stored in "Stage Investments" and whereas, the same are considered as liabilities in "Stage Borrowings".

Glossary	Definition	Logic
	booklet for each form. A summary of these reporting requirements is as follows: If multiple U.S. custodians are involved in the holding of a negotiable security, the U.S. custodian nearest the end-claimant should report.	
Securities Brokers and Dealers	Generally, securities brokers are entities that regularly engage in effecting securities transactions for others. A securities dealer is an entity that engages in buying securities for its own account. However, the definition of securities dealers excludes depository institutions and other institutions acting in a fiduciary capacity. (See the Securities Exchange Act for a list of the activities that constitutes a dealer.)	Securities Brokers and Dealers are considered as standard party identifier in "Stage Party Master".
Subsidiary	A company in which another company (parent) owns 50% or more of the voting securities, or an equivalent interest (control).	Subsidiary is considered as "Legal Entity Ownership Type" and stored in "Organization Structure Dimension".
Sweep Agreements	Sweep agreements are contractual agreements between institutions and their customers that allow funds to be automatically transferred to another account at the same institution, another institution, or into a financial instrument. When funds of U.S. nonbank residents are swept to a non-U.S. office of a B reporter, the B reporter should report the funds held at the non-U.S. office on the BQ-1.	Sweep is a functionality where accounts are linked together for automatic transfer of funds either to cover overdraft, earn higher interest rate through investment into high yield or Money market funds at the close of each business day. Usually, the deposit balance sweeps from "Stage Casa" using Sweep out account number to "Stage Term Deposit Contracts".
United States	The fifty (50) States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and the following: American Samoa, Baker Island, Guam, Howland Island, Jarvis Island, Johnston Atoll, Kingman Reef, Midway Islands, Navassa Island, Palmyra Atoll, U.S. Virgin Islands, and Wake Island.	United States is considered as Country Identifier in "Stage Party Master".

Glossary	Definition	Logic
U.S. Resident	Any individual, corporation, or other organization located in the United States, including branches, subsidiaries, and affiliates of foreign entities located in the United States. Corporations incorporated in the United States are considered to be U.S. residents even if they have no physical presence in the United States.	U.S. Resident is considered as a standard party type in "Stage Party Master".
Foreign Official Indicator	Foreign Official Institutions are: Treasuries, including ministries of finance, or corresponding departments of national governments; central banks, including all departments thereof; stabilization funds, including official exchange control offices or other government exchange authorities; and diplomatic and consular establishments and other departments and agencies of national governments, Banks, corporations, or other agencies (including development banks and institutions that are majority-owned by central governments) that are fiscal agents of national governments and perform activities similar to those of a treasury, central bank, stabilization fund, or exchange control authority.	Few institutions are listed as Foreign Official Institutions in the instructions. The "Foreign Official Institution Indicator" in "Fact Reg Customer Summary" identifies the party as foreign official institution based on the rule. The list of values present in the "Foreign Official Institutions Dimension".
International and Regional organizations	International and Regional Organizations are residents of the International and Regional Organizations areas, not the countries in which they are located.	Few institutions are listed as International and Regional Organizations in the instructions. The "Regional And International Organization Indicator" in "Fact Reg Customer Summary" identifies the party as International and Regional Organization based on the rule. The list of values present in the "Regulatory International Organization Dimension".

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