

Oracle Financial Services
Regulatory Reporting for Reserve
Bank of India – Lombard Risk
Integration Pack

Release 8.0.2.0.0

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Oracle Financial Services Regulatory Reporting for Reserve Bank of India – Lombard Risk Integration User Guide, Release 8.0.2.0.0

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ABOUT THE 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 Reserve Bank of India – Lombard Risk Integration Pack (OFS RRS RBI), Release 8.0.2. This user guide is intended to help you understand the key features and functionalities of OFS RRS RBI release 8.0.2 and details the process flow and methodologies used.

INTENDED AUDIENCE

Welcome to Release 8.0.2 of the Oracle Financial Services Regulatory Reporting for Reserve Bank of India – Lombard Risk Integration Pack User Guide.

This guide is intended for:

- Regulatory Reporting Analyst who maintain the dimensional values across multiple reporting requirements, maintain results area structure of Oracle Financial Services Data Foundation, and ensure data quality.
- 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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RELATED INFORMATION SOURCES

In addition to this user guide, you can refer to the following documents in the [OTN](#) documentation library:

- Oracle Financial Services Regulatory Reporting for Reserve Bank of India – Lombard Risk Integration Pack Installation Manual Release 8.0.2
- Oracle Financial Services Data Foundation User Guide Release 8.0.2
- Oracle Financial Services Data Foundation Installation Manual Release 8.0.2
- Oracle Financial Services Analytical Applications Infrastructure User Guide Release 8.0.2 (present in this - [OTN](#) documentation library)

HOW THIS GUIDE IS ORGANIZED

The OFSDF Interface with Lombard Risk for Reserve Bank of India User Guide includes the following topics:

- [Chapter 1: Introduction](#)
- [Chapter 2: Getting Started](#)
- [Chapter 3: Regulatory Reporting Solution Data Flow](#)
- [Chapter 4: OFSAA Features](#)
- [Chapter 5: Report Submission](#)
- [Chapter 6: Maintenance](#)
- [Chapter 7: Troubleshooting Guidelines](#)

CONVENTIONS USED

Table 1 lists the conventions used in this guide.

Table 1: Conventions Used in this Guide

Convention	Meaning
<i>Italics</i>	Names of books, chapters, and sections as references
Bold	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 RBI application and its scope. It includes:

- [Overview](#)
- [OFSAA Regulatory Reporting Architecture](#)
- [Scope](#)

1.1 Overview

Oracle Financial Services Regulatory Reporting for Reserve Bank of India – Lombard Risk Integration Pack (OFS RRS RBI) helps the banks to comply with BCBS 239 regulations. It provides integrating risk data reporting systems and enhances the accuracy of reporting in banks. OFS Risk Regulatory Solution (RRS) helps in achieving the objectives by enabling preset steps based on the generalization of a set of solutions. This is made possible by:

- Providing a centralized data storage for risk data through relevant subject areas of Financial Services Data Foundation (FSDF).
- Interfacing with a third party reporting tool such as Lombard Risk Reporter Portal to build necessary template reports to meet the regulatory expectations.
- Managing accuracy of risk reporting through Data Governance Studio (DGS).

The RRS RBI 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 Solution (RRS) 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

OFS RRS RBI supports the regulatory requirements for various reporting requirements such as DSB3ROR, FORM X, BSR VII and so on, which require enterprise level data spanning multiple areas of banking. Each of these business areas have different applications to answer their respective processing requirements. RRS warehouses this data for reporting purpose at a single place. An intermediate data transfer layer specific to the source applications enables data loading to RRS by using the provided download specifications.

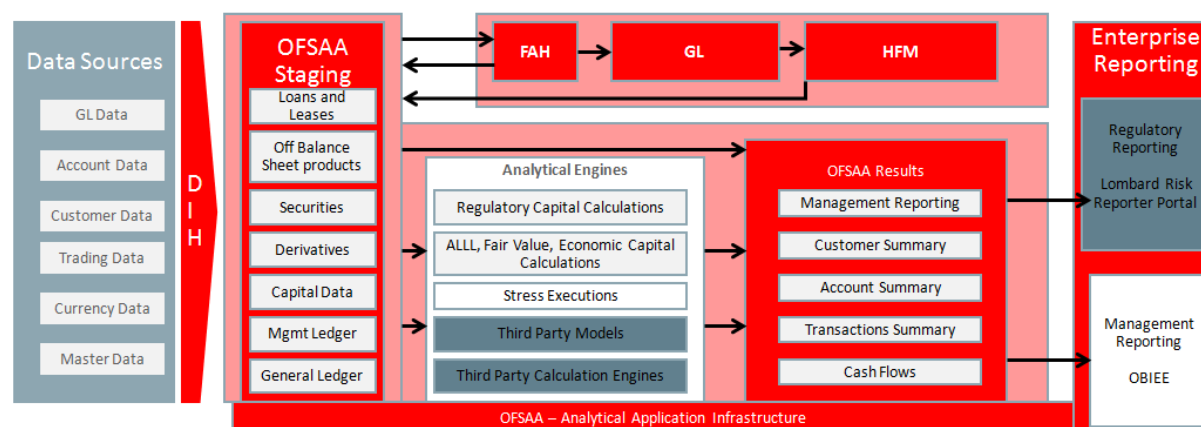


Figure 1: Regulatory Reporting Solution Architecture

This interface connects the Oracle FSDF to Lombard Risk. As shown in Architecture of Figure 1, Data flows from OFSAA to Lombard Risk.

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, end user can automate end to end reporting process covering data preparation to last mile of reporting.

1.3 Scope

Oracle Financial Services Regulatory Reporting for Reserve Bank of India – Lombard Risk Integration Pack covers the following regulatory reports for this 8.0.2 release as mentioned in the table.

Table 2: Scope for OFS RRS RBI Release 8.0.2

Report Name	Report Code as per Lombard Portal	Report Description	Report section covered in 802
Basic Statistical Report II	BSR II	Reports the quarterly statistics for deposits and credits for a reporting entity.	All
Card Information Credit Debit	CICDP	Report the information related to credit & debit card of the customer.	All
Central Repository of Information on Large Credits	CRILC	Report the limit or exposure of Large borrowers of the reporting entity.	Sec - 1, 2, 3
Card Usage Statistics	CUSTAT	Report the card usage statistics bank wise- ATM/POS.	All
Expired Prepaid Instruments	EXPI	Report Information on value unspent on Prepaid payment Instruments.	All
Global Travel Card	GTCAII	Reports Category-wise transaction summary of the reporting entity.	All
Interest Rate Sensitivity	IRS	Report interest rate sensitivity for different prod type based on residual maturity.	All TGA and DGA
Liquidity Coverage Ratio- Statement on Funding Concentration - BLR-2	LCRBLR-2	Reports the liquidity attributes by funding concentration.	All
Liquidity Coverage Ratio- Statement on other information on Liquidity - BLR-5	LCRBLR-5	Reports the liquidity attributes by other information on Liquidity.	Part I - A & B
Report on Structural Liquidity	LR- STL	Reports the liquidity attributes and inflows and outflows for the reporting entity.	Section 2 & 3
Return on Asset Quality	RAQ	Reports the asset quality of loans for domestic and overseas operations.	Section 1, 2, 4, 5, 6, & 8

Risk Based Supervision Tranche 1	RBS TR1	Report Fund and Non fund based exposures of the reporting entity. Also includes reporting of cash flows, fortnight exposures and so on.	All
Risk Based Supervision Tranche 3	RBS TR3	Report financial and capital information of the reporting entity.	All
Risk Based Supervision	RBSIXBRL	Report investment, advances and finance related information of the reporting entity.	Section 1, 2 &4
Customer Grievance	RETCGR	Report complaints/ grievances of the customers of the reporting entity.	All
Return on Large Credits	RLC	Reports exposure to large individual/Group borrowers of the reporting bank.	All
Quarterly Statement on Asset Quality	SAQ	Report the asset quality of loans for each sector of the reporting entity.	All

NOTE: RAQ Report Section 4 (RAQ4) schedules are included from release v8.0.2.0.2 onwards. Refer the [OFS RRS RBI 8.0.2.0.2 README](#) for more details.

The following table lists the 27 sections included in the reports.

Table 3: Detailed Scope

Report Name	Report Section
DSB Return 3- ROR	Section A
DSB Return 3- ROR	Section B
FORM X (Supplementary Data-Sec & Unsec) (LF)	Part I
FORM X (Supplementary Data-Sec & Unsec) (LF)	Part II
FORM X (Supplementary Data-Sec & Unsec) (LF)	Part III
FORM X (Supplementary Data-Sec & Unsec) (LF)	Foreign Liabilities and Assets
SFR II	SFR II
BSR-VII	Quarterly Statistics on Deposit and Credit (BSR7)
FORM A - Sec 42	Form A
FORM A - Sec 42	Form A - Memo
FORM A - Sec 42	Form A - Annexure A

Report Name	Report Section
FORM A - Sec 42	Form A - Annexure B
Liquidity Coverage Ratio - Statement on Liquidity Coverage Ratio (LCR) - BLR-1	Panel I
Liquidity Coverage Ratio - Statement on Liquidity Coverage Ratio (LCR) - BLR-1	Panel II
Liquidity Coverage Ratio - Statement on Liquidity Coverage Ratio (LCR) - BLR-1	Memo Item No.1
Liquidity Coverage Ratio - Statement on Liquidity Coverage Ratio (LCR) - BLR-1	Memo Item No.2
SLR MAINTENANCE	SLR
DSB Return VIII-STL (Section 1)	LRPartA1
Liquidity Coverage Ratio - LCR by Significant Currency - BLR-4	BLR 4
FORM VIII	Form VIII Main
FORM VIII	Annex I
FORM VIII	Annex II
FORM VIII	Annex III
DSB Return I-ALE	Annex 3 (D)
DSB Return I-ALE	Sec1Part-A (D)
DSB Return I-ALE	Sec1Part-C (D)
DSB Return I-ALE	Sec1Part-B (D)

2 Getting Started

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

- [Prerequisites](#)
- [Assumptions](#)
- [Logging in to the OFSDF Interface with Lombard Risk for RBI](#)
- [Organization of the Interface for User Roles](#)
- [Metadata Browser](#)

OFSDF interface with Lombard Risk for RBI 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 prerequisites are:

- Oracle Financial Services Analytical Applications Infrastructure (AAI) is deployed and configured.
- Oracle Financial Services Data Foundation is deployed and configured.
- Processed data required for reports as per the release scope.
- Ensure that the report templates for AgileREPORTER **RPforFED_v1.7.1.1.zip** is available in the AgileREPORTER.
- Ensure that AgileREPORTER version **1.13.1** is installed.
- Knowledge of working with regulatory reports.

2.2 Assumptions

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

- Data required for risk and compliance regulatory report templates is available in FSDf as per data requirements.
- Lombard Risk Reporter Portal supports other non-risk and non-compliance related regulatory templates and Oracle Financial Services Analytical Application (OFSAA) may not supply all the necessary data for such reports.

- 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, data quality checks, and variance reporting.
- Validity checks such as edit checks, cross-validation checks and so on prescribed by regulator are performed within the AgileREPORTER.
- All monetary 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 RBI

After the application is installed and configured, to access the OFSDF Interface with Lombard Risk for RBI application you need to 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.

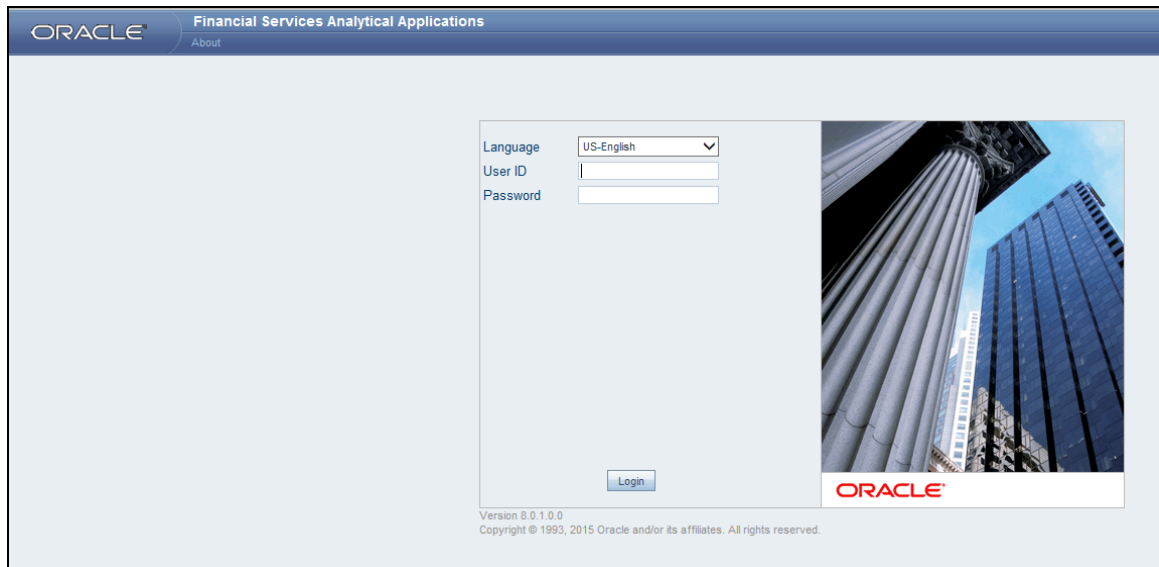


Figure 2: OFSAAI Log in

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 displayed.

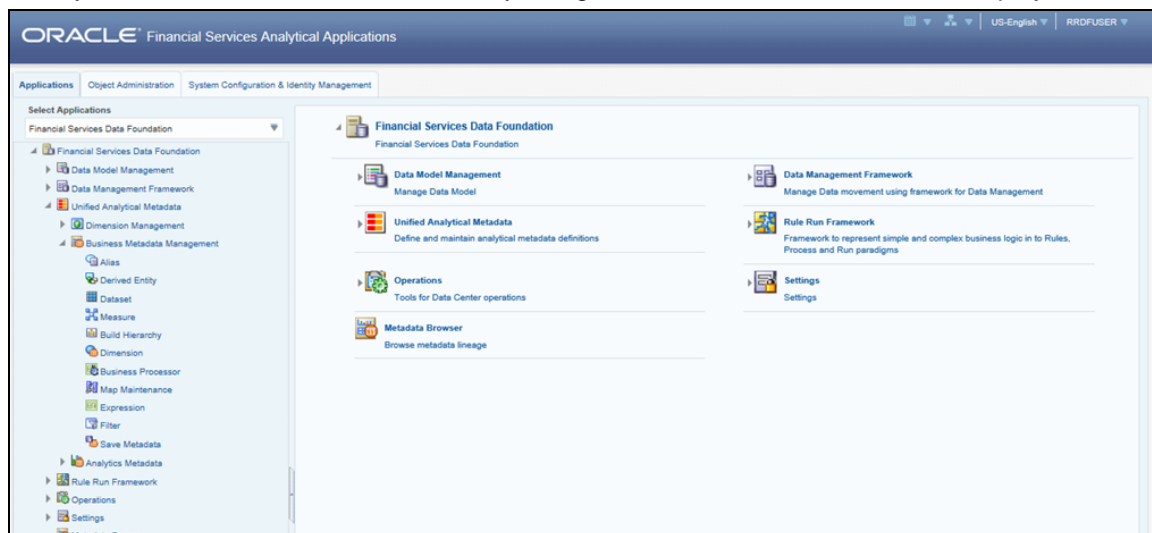


Figure 3: Landing Page

2.4 Organization of Interface for User Roles

This section explains the various features used by an 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.

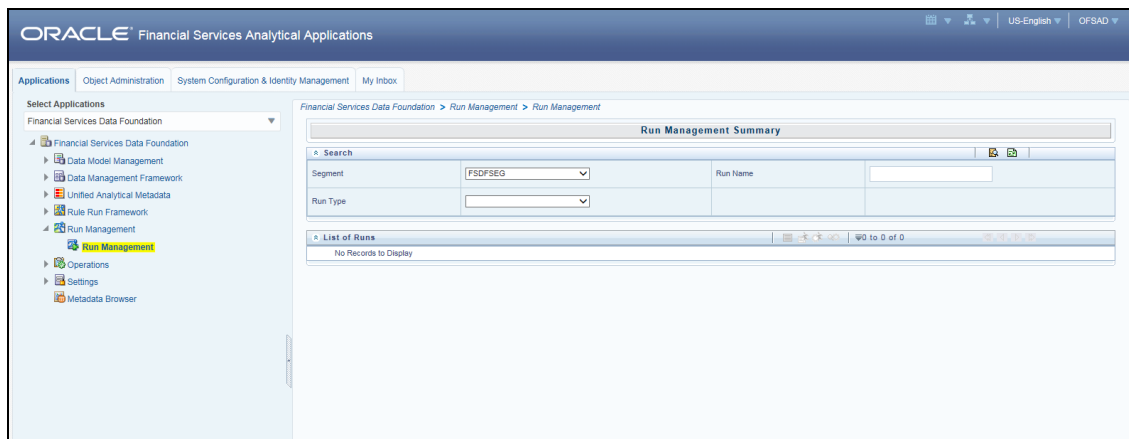


Figure 4: Run Management Summary Screen

2.4.2 Executing Batch to Resave Derived Entities

To execute the batch to refresh derived entities, follow the below steps:

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

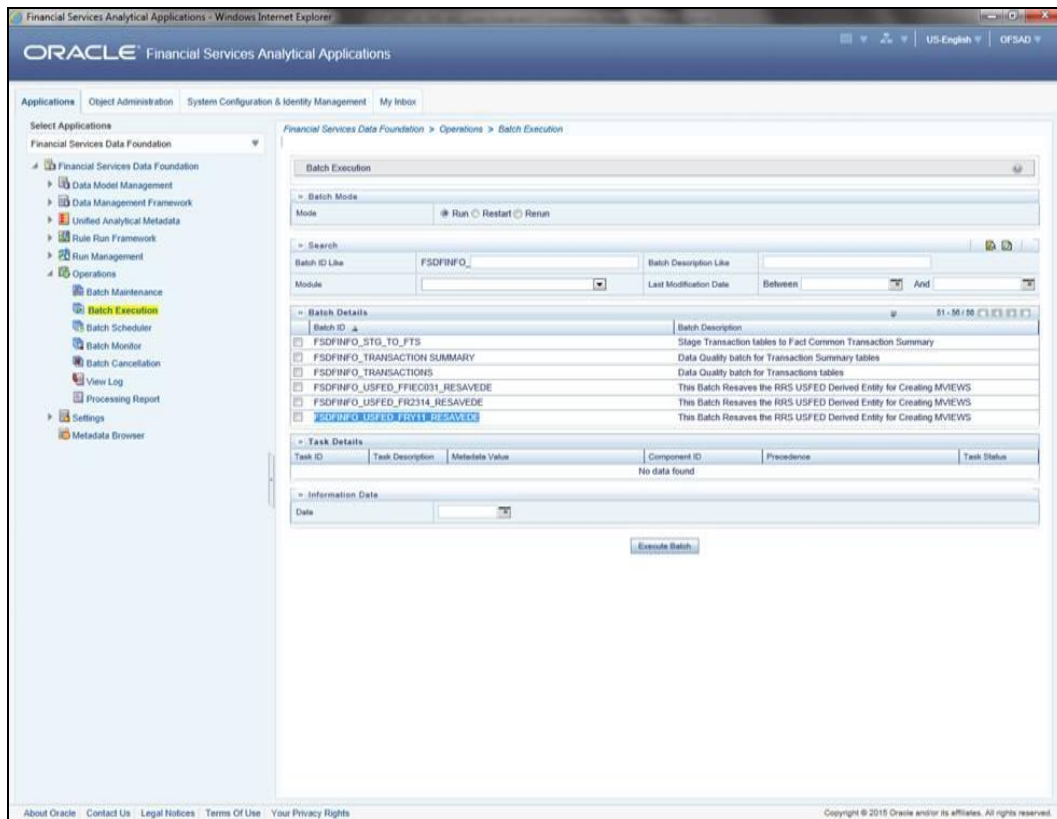


Figure 5: Batch Maintenance Screen

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

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

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

1. Log in to the AgileREPORTER.

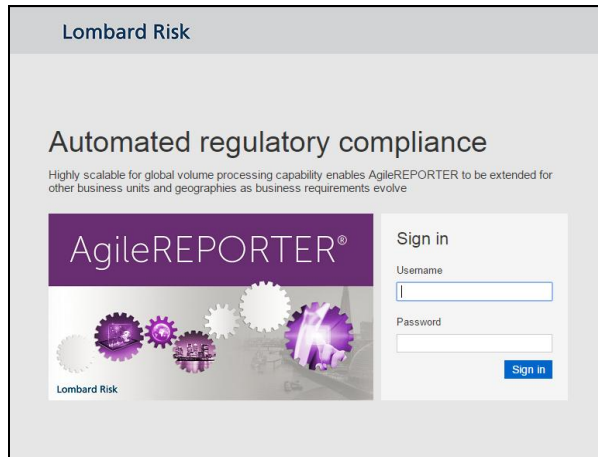


Figure 6: AgileREPORTER Login page

- The user can view the list of reports in the main page. Click any report name in the Returns column, for example, **FORMVIII**.

Entity	Form	Available date	RETURNS	VERSION	REFERENCE DATE	STATUS	LOCK	VALIDATION	X-VALIDATION	GLOBAL VALIDATION	APPROVAL	EDITIONS	MODIFIED	MODIFIED BY	PERIOD
BSRI			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 13:11:43	SYS	Daily	
BSRV			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 07:42:29	SYS	Daily	
DSB3ROR			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	16/09/2016 20:05:14	SYS	Daily	
DSBIALE			3	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	19/09/2016 16:30:29	SYS	Daily	
FORMVIII			3	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 16:58:22	SYS	Daily	
IBS			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 17:11:35	SYS	Daily	
LCBBLR			3	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	16/09/2016 21:08:56	SYS	Daily	
RAQ			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 16:39:42	SYS	Daily	
BSIXBRL			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 16:53:16	SYS	Daily	
RCALL			1	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	20/09/2016 16:49:16	SYS	Daily	
SLR			2	03/03/2014						UNKNOWN	NO ATTESTATION NEEDED	19/09/2016 04:24:55	SYS	Daily	

Figure 7: AgileREPORTER Main Page

- The schedule list is displayed in the left hand side. Click any schedule name, for example **AnnexI_P2**.

Particulars	First alternate Friday	Second alternate Friday	Third alternate Friday
	2/17/14	3/3/14	3/3/14

Figure 8: AgileREPORTER Page Displaying List of Schedules

4. Click any cell to drill down.

Annexure I to Form VIII
DATA ON MAINTENANCE OF STATUTORY LIQUIDITY REQUIREMENT

Supplemental Information to the RBI Special Return for the Period		2/4/14	TO	2/17/14
Name of the Bank		IN		
First Alternate Fortnight Ended Friday		2/17/14		

Daily position	Net demand and time liabilities as at the end of the second preceding fortnight	SLR required to be maintained	SLR actually maintained (Rupees in Thousands)				Net balance with SBI and notified banks in current accounts	Amount in cash deposited with RBI by Banking Company
			Govt. Securities	Other approved Securities	Average excess cash balance maintained with RBI over statutory requirement	Cash on Hand		
2/4/14	0.00	0.00	0.00	0.00	8.20	8.30	0.00	0.00
2/5/14	0.00	0.00	0.00	0.00	8.20	8.40	0.00	0.00
2/6/14	0.00	0.00	0.00	0.00	8.20	8.50	0.00	0.00
2/7/14	0.00	0.00	0.00	0.00	8.20	8.60	0.00	0.00
2/8/14	0.00	0.00	0.00	0.00	8.20	8.70	0.00	0.00
2/9/14	0.00	0.00	0.00	0.00	8.20	8.80	0.00	0.00
2/10/14	0.00	0.00	0.00	0.00	8.20	8.90	0.00	0.00
2/11/14	0.00	0.00	0.00	0.00	8.20	9.00	0.00	0.00
2/12/14	0.00	0.00	0.00	0.00	8.20	9.10	0.00	0.00
2/13/14	0.00	0.00	0.00	0.00	8.20	9.20	0.00	0.00
2/14/14	0.00	0.00	0.00	0.00	8.20	9.30	0.00	0.00
2/15/14	0.00	0.00	0.00	0.00	8.20	9.40	0.00	0.00
2/16/14	0.00	0.00	0.00	0.00	8.20	9.50	0.00	0.00

Figure 9: AgileREPORTER Schedule Details Page

5. Figure 10 displays drill down for the first cell in Column F. The **OFSAA icon** is displayed. Click OFSAA icon to view how this cell was populated from OFSAA results. You are redirected to the OFSAA drill down page.

Annexure I to Form VIII
DATA ON MAINTENANCE OF STATUTORY LIQUIDITY REQUIREMENT

Daily position	Net demand and time liabilities as at the end of the second preceding fortnight	SLR required to be maintained	SLR actually maintained (Rupees in Thousands)				Net balance with SBI and notified banks in current accounts	Amount in cash deposited with RBI by Banking Company
			Govt. Securities	Other approved Securities	Average excess cash balance maintained with RBI over statutory requirement	Cash on Hand		
2/4/14	0.00	0.00	0.00	0.00	8.20	8.30	0.00	0.00
2/5/14	0.00	0.00	0.00	0.00	8.20	8.40	0.00	0.00
2/6/14	0.00	0.00	0.00	0.00	8.20	8.50	0.00	0.00
2/7/14	0.00	0.00	0.00	0.00	8.20	8.60	0.00	0.00
2/8/14	0.00	0.00	0.00	0.00	8.20	8.70	0.00	0.00
2/9/14	0.00	0.00	0.00	0.00	8.20	8.80	0.00	0.00
2/10/14	0.00	0.00	0.00	0.00	8.20	8.90	0.00	0.00
2/11/14	0.00	0.00	0.00	0.00	8.20	9.00	0.00	0.00
2/12/14	0.00	0.00	0.00	0.00	8.20	9.10	0.00	0.00
2/13/14	0.00	0.00	0.00	0.00	8.20	9.20	0.00	0.00
2/14/14	0.00	0.00	0.00	0.00	8.20	9.30	0.00	0.00
2/15/14	0.00	0.00	0.00	0.00	8.20	9.40	0.00	0.00
2/16/14	0.00	0.00	0.00	0.00	8.20	9.50	0.00	0.00

Figure 10: AgileREPORTER Drill Down

- This cell is populated from the derived entity mentioned in the grid header *DE – FMR Fortnightly SLR Maintenance Agg*. The value in the derived entity grid 8200.00 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. Click the derived entity link in the grid header.

Consolidation Code	Reporting Line Code	Entity	Country ID	Branch	BSR Code	FSLRM Reporting Day Code	Alternate Friday Count	Exp. Balance RCY Agg
100	CRR balance maintained by bank in excess of required balance	IN		PARTY1		T-27	2	8,200.00

Figure 11: Data Trace Browser/ OFSAA Report Drill-down Screen

- 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 measure value in the derived entity row, for example **8,200.00**.

Consolidation Code	Reporting Line Code	Entity	Country ID	Branch	BSR Code	FSLRM Reporting Day Code	Alternate Friday Count	Exp. Balance RCY Agg
100	CRR balance maintained by bank in excess of required balance	IN		PARTY1		T-27	2	8,200.00

Derived Entity

Code: Search Short Description: DE - FMR Fortnightly SLR Maintenance Agg

Long Description: DE - FMR Fortnightly SLR Maintenance Agg

Source Type: Dataset

Aggregate: Materialize View:

Refresh Interval: None Refresh Method: None

Enable Query Rewrite:

Dataset Name: DSREG949 - DS - FMR Fortnightly SLR Maintenance Agg

Application Name:

Source Name:

Figure 12: Derived Entity MDB View

- Double-click any figure 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.

Consolidation Code	Reporting Line Code	Entity Country ID	Branch BSR Code	FSLRM Reporting Day Code	Alternate Friday Count	Exp Balance RCY Agg
100	CRR balance maintained by bank in excess of required balance	IN	PARTY1	T-27	2	8,200.00

Figure 13: Drill Down Page

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

Figure 14: Drill Down Attribute Selector 1

- Expand **Dataset Entities** and select **DIM_ORG_STRUCTURE**. Click **OK**.

Figure 15: RBI Drill Down Attribute Selector 2

11. If account number is required, scroll and expand the account dimension. Select **account number/contract code** and click **OK**. Data source and account / contract code is displayed in the drill down grid.

2.4.4 Retrieving the Returns from AgileREPORTER

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.

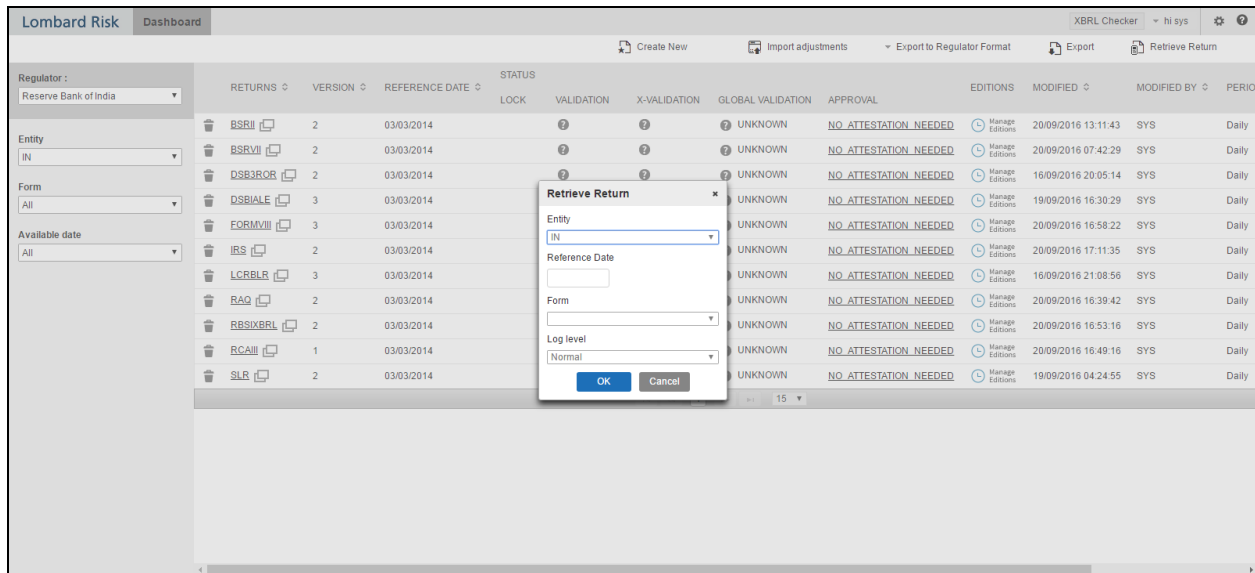


Figure 16: Retrieve Returns Page

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 the below steps.

1. To use MDB for schedule wise metadata for a given schedule, identify the metadata used.
 - a) User can verify the data for related data elements in results using this information. Navigate to path **Objects → OFSAA Metamodel → Reporting Metadata → Reports**. The Left Hand Side (LHS) displays the list of reports.
 - b) Click the object view. The *Report Details* page is displayed. You can view the below information in the *Details* tab:
 - **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.
 - c) Click any Reporting Element.

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 4: 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.
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.

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 Metamodel → Business Metadata → Base Metadata → Measures**. The LHS displays the list of measures.

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.

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

Note: The similar steps as below 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 Metamodel → Derived Metadata → Derived Entities**. The LHS displays list of Schedules.

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.

3 Regulatory Reporting 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. RRS is a reporting solution, which uses data from underlying fact tables directly for reporting. The end user is 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 RRS data sourcing.
3. Baseline and stress data must be populated with appropriate codes. Inaccurate mappings may 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, Budgeted, 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 an input (meaning a time bucket for cash flow and cash flow amount is expected as input).

3.1.2 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

In cases such as report ROR, it is expected to display Domestic and Overseas data separately. In such cases, data is expected separately at each legal entity level within the organisation structure. Domestic data is populated in the report as data for legal entity within India. Overseas data is populated in the report as data for legal entity outside India.

Populate the following tables before executing reports in Reporter Portal, and after populating data in the OFSAA results tables through a scheduled batch

- **SETUP_MASTER** : The below mentioned parameters should be updated after every regulatory reporting run.

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE (Sample Value)
CURRENT_QUARTER_NAME	Current quarter name	2014-Q2
PREVIOUS_YEAR	Previous Year	2013-2014
PREVIOUS_QUARTER_NAME	previous quarter name	2014-Q1
CURRENT_YEAR	Current year	2014-2015
CURRENT_MIS_DATE	Current Mis Date	20140630

- **FCT_REG_RUN_LEGAL_ENTITY_MAP**: As an Organization should have a hierarchical structure and reporting could happen for entity at any level in the hierarchy, the applicable reporting entity should be provided as part of every regulatory reporting run in this table.

3.1.2.1 Relationship between Run and Stress

The RRS application for example in BSR II Annual, 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.

3.1.3 Updating the Reporting Flag

On any given date for a given RUN DEFINITION, you can have multiple executions. Compare the output of different executions to select the final run execution which will be used as a reporting run execution. After, the execution is marked as a reporting run execution, RRS uses this flag while querying / navigating data in history. For example, if a report requires displaying account balance for the last four quarters, RRS searches for run executions marked as 'Y' on all quarter end dates / last executions of the quarter.

Follow the below steps to update reporting flag:

Note: Query tools such as PL-SQL developer / SQL developer are required to execute the steps.

1. Continuing the OBIEE report access, the first information required is the number of run executions available for a given date and RUN Definition. You can execute following query in Oracle with necessary query filters. This, apart from other information will show RUN SKEY which is unique identifier for each execution>>

```
SELECT R.N_RUN_SKEY AS RUN_SKEY, R.FIC_MIS_DATE AS MIS_DATE,
R.V_RUN_EXECUTION_ID AS RUN_EXECUTION_ID,
R.V_RUN_MAIN_DESC AS EXECUTION_DESCRIPTION,
```

```
R.V_RUN_DESC AS RUN_DESCRIPTION, R.F_REPORTING_FLAG AS REPORTING_FLAG
FROM DIM_RUN R
WHERE R.FIC_MIS_DATE = 'DD-Mon-YYYY'
AND R.V_RUN_EXECUTION_ID LIKE '%%'
AND R.V_RUN_MAIN_DESC LIKE '%%'
```

2. Second step is to select the correct RUN SKEY and update DIM_RUN.F_REPORTING_FLAG as 'Y'>>

```
UPDATE DIM_RUN R
SET R.F_REPORTING_FLAG = 'Y'
WHERE R.N_RUN_SKEY =
AND R.FIC_MIS_DATE = 'DD-Mon-YYYY'
AND R.V_RUN_EXECUTION_ID = '';

COMMIT;
```

3.1.4 Projection Data

The following points provide information on the projection data:

1. Baseline run also populates projected date data.
2. This application requires projected data at two levels - Quarterly and Annual.
3. The **DIM_CONSOLIDATION** table is used to identify the projections. It contains the codes for projected quarters and years as required by the templates.
4. In the Fact tables, projection data is referred with respective Consolidation codes (scenario code for **FCT_MGMT_REPORTING**). BHC must populate the data accordingly.
5. In the following example, FQ1 means Financial Quarter 1, FY1 means Financial Year 1 and so on.

Table 5: Projection Data Example 1

Consolidation Code	Consolidation Description	Reporting Line	Scenario	EOP Balance
100	Actual	100	BSL	426,367
400	FQ1	100	BSL	608,618
401	FQ2	100	BSL	870,502
402	FQ3	100	BSL	567,736
403	FQ4	100	BSL	846,196
404	FQ5	100	BSL	775,027
410	FY1	100	BSL	470,092
411	FY2	100	BSL	473,880
412	FY3	100	BSL	942,034

413	FY4	100	BSL	497,889
414	FY5	100	BSL	807,813

Note:

- For Movement measures data is not carried from one reporting period to another. For example, Profit or Loss. Where General ledger balances such as loan outstanding are carried forward from one year to another, profit and loss is period specific.
- Therefore, unlike End of Period (EoP) balance, movement values for quarter actuals must be derived for reporting. For a historical data, net sales for quarter 3 is the difference between sales figure as of end of quarters 2 and 3. You do not need to provide this difference as a download. Movement data for actual is identified through different runs and the respective values is summed up.
- Only those records, whose corresponding runs fall between the fiscal month start date and end date of the reporting quarter are selected for summation. Each Run has an associated date, and runs can be performed daily. Assuming that runs are performed daily in a given quarter (90 days), RRS sums up data points across all 90 days to arrive at a quarter end movement figure.

Table 6: Projection Data Example 2

Code	Projected Period	Reporting Line	Scenario	Run ID	Date	Projected Amount	Movement
100	Actual	100	BSL	RUNID001	10-Oct-13	300,000	900,000
100	Actual	100	BSL	RUNID002	15-Nov-13	100,000	
100	Actual	100	BSL	RUNID003	20-Nov-13	300,000	
100	Actual	100	BSL	RUNID004	30-Dec-13	200,000	
400	FQ1	100	BSL	--	--	--	608,618
401	FQ2	100	BSL	--	--	--	870,503
402	FQ3	100	BSL	--	--	--	567,736
410	FY1	100	BSL	--	--	--	470,093
411	FY2	100	BSL	--	--	--	473,881
412	FY3	100	BSL	--	--	--	942,035

- However, when projection of net sales for quarter 2 next year is to be performed, no derivation is required. Projections data for said quarter can be directly downloaded in the respective Fact table(s) for reporting.

3.1.5 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. Refer to *Data Integration Hub (DIH) User Guide* in [OTN](#) 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.

3.1.6 Data Flow from Staging to Results Area

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

3.1.6.1 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.

3.1.7 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.

3.1.8 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 3.1.9](#)). This is mostly due to processing measures such as Fair Value, Risk Weighted Assets, and so on.

3.1.9 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-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.

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

3.1.9.1 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.

3.1.9.2 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 *OFS AAI User Guide* for more details on configuring a F2T.

are identified to create logical sections within the schedule. A derived entity is created for each of these logical sections within the schedule.

The dataset associated with the derived entity, provides data for the specific derived entity. Data such as measures, in a derived entity are aggregated based on dimensions that are included in the derived entity, even though the fact entities in the dataset contain complete details of the data.

Some of the cells in the schedule can be derived as per the logic provided by the regulator. Derivation could 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 Lombard Risk Reporter portal. OFSAA provides data only for the cells that are not derived.

The “Decision Process” within Lombard Risk Reporter Portal uses the dimension mapping template to interpret data present in the derived entity. Decision process creates form data by reading the information from the derived entity, and derives the necessary data that will be used by the Lombard Risk Reporter Portal to display reporting data.

Refer to the excel sheet for the list of [Reporting Lines](#) used across all the RBI returns:

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 maintenance or extensions when Out-of-Box pack is not available.

3.3 Mapping Metadata

The list of reports with the corresponding Mapping Metadata Information are:

- [DSB Return 3 - ROR](#): Reports the Profit and Loss Statement of the reporting bank from April to date.
- [FORM X \(Supplementary Data-Sec & Unsec\) \(LF\)](#): Reports the details around the balance sheet, assets and liabilities of the reporting entity.
- [BSR VII](#): Reports the quarterly statistics for deposits and credits for a reporting entity.
- [SFR II](#): Reports the cash reserves maintained with RBI on a fortnightly frequency.
- [SLR Maintenance](#): Reports Statutory Liquidity Ratio (SLR), Cash ,Interbank transactions, CD, money market Operations of the reporting entity.
- [FORM A - Sec 42](#): Reports the details around the balance sheet, assets and liabilities of the reporting entity.
- [Liquidity Coverage Ratio - Statement on Liquidity Coverage Ratio \(LCR\)- BLR-1](#): Reports the liquidity related inflows and outflows for the reporting entity.
- [Liquidity Coverage Ratio - LCR by Significant Currency - BLR-4](#): Reports the liquidity attributes by significant currency.
- [FORM VIII](#): Reports the balance sheet attributes, assets, liabilities and Statutory Liquidity Ratio for a fortnight.

- [DSB Return I-ALE](#): Reports the detailed balance sheet and assets and liabilities.
- [BSR II](#): Reports the quarterly statistics for deposits and credits for a reporting entity.
- [CICDP](#): Reports the information related to credit & debit card of the customer.
- [CRILC](#): Report the limit or exposure of Large borrowers of the reporting entity.
- [CUSTAT](#): Reports the card usage statistics bank wise- ATM/POS.
- [EXPI](#): Reports the value unspent on Prepaid Payment Instruments.
- [GTCAII](#): Reports the Category-wise transaction summary of the reporting entity.
- [IRS](#): Reports the interest rate sensitivity for different product types based on residual maturity.
- [LCRBLR-2](#): Reports the liquidity attributes by funding concentration.
- [LCRBLR-5](#): Reports the liquidity attributes by other information on liquidity.
- [LR-STL](#): Reports the liquidity attributes and inflows and outflows for the reporting entity.
- [RAQ](#): Reports the asset quality of loans for domestic and overseas operations.
- [RBS-TR1](#): Reports the fund and non-fund based exposures of the reporting entity. Also, includes reporting of cash flows, fortnight exposures, and son on.
- [RBSIXBRL](#): Reports the investment, advances, and finance related information of the reporting entity.
- [RETCGR](#): Report the complaints / grievances of the customers of the reporting entity.
- [RLC](#): Reports exposure to large individual/Group borrowers of the reporting bank.
- [SAQ](#): Reports the asset quality of loans for each sector of the reporting entity.

3.4 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.

Lombard Risk Reporter portal stores data related to forms/returns in its schema. Lombard Risk application supports loading of data into its schema in the following ways:

- **Cell references file hand-off**: It is used when data providers compute all the information required for reports and pass the data that is required for each cell in the report.
- **Base data hand-off**: It is used when data providers pass base data to the Lombard Risk application and expect computations that are required for each cell to be performed within the Lombard Risk application.

However, Lombard Risk Reporter portal supports dimensional mapping based approach for OFSAA. In this approach, data hand-off is based on dimensions and measures similar to the pattern of information storage in OFSAA. Decision table mapping process within the Lombard Risk Reporter portal maps dimensions and measures to cell references.

3.4.1 Decision Process

Decision process is a component within Lombard Risk Reporter portal that processes each row of the derived entity for the criteria's specified in the decision table to derive cell references and data that will be used to display on the face of returns.

Decision process is triggered within the reporter portal after OFSAA establishes data readiness for reporting. This indicates that data in fact entities, pass all the necessary data quality checks and the derived entities are refreshed for latest AS OF DATE and final reporting run.

Decision process can be triggered in batch mode, and can be scheduled to run in an Enterprise Scheduler. Alternatively, decision process can also be triggered in ad-hoc mode for a specific report.

4 OFSAA Features

Regulatory Reporting Solution (RRS) 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.

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](#)

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.

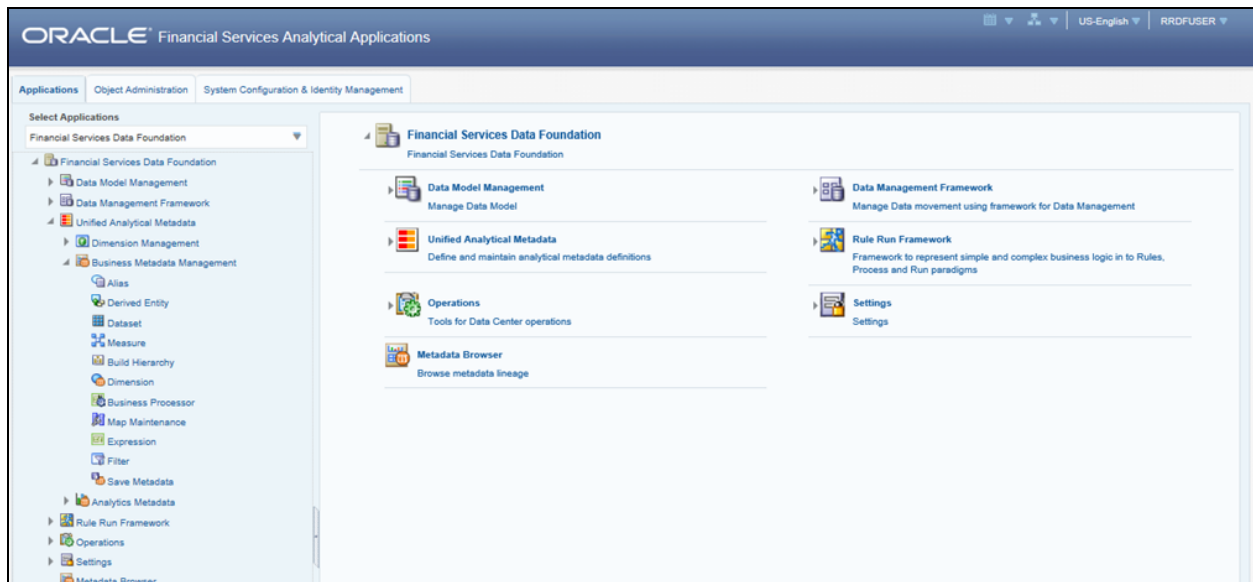


Figure 19: Landing Page

4.2 Business Metadata

In addition to Derived Entity, RRS uses the following OFSAA features to create the business metadata. For details on the features, refer to [OFS Analytical Applications Infrastructure User Guide](#) in [OTN](#) 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 RBI Regulatory Reporting 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.

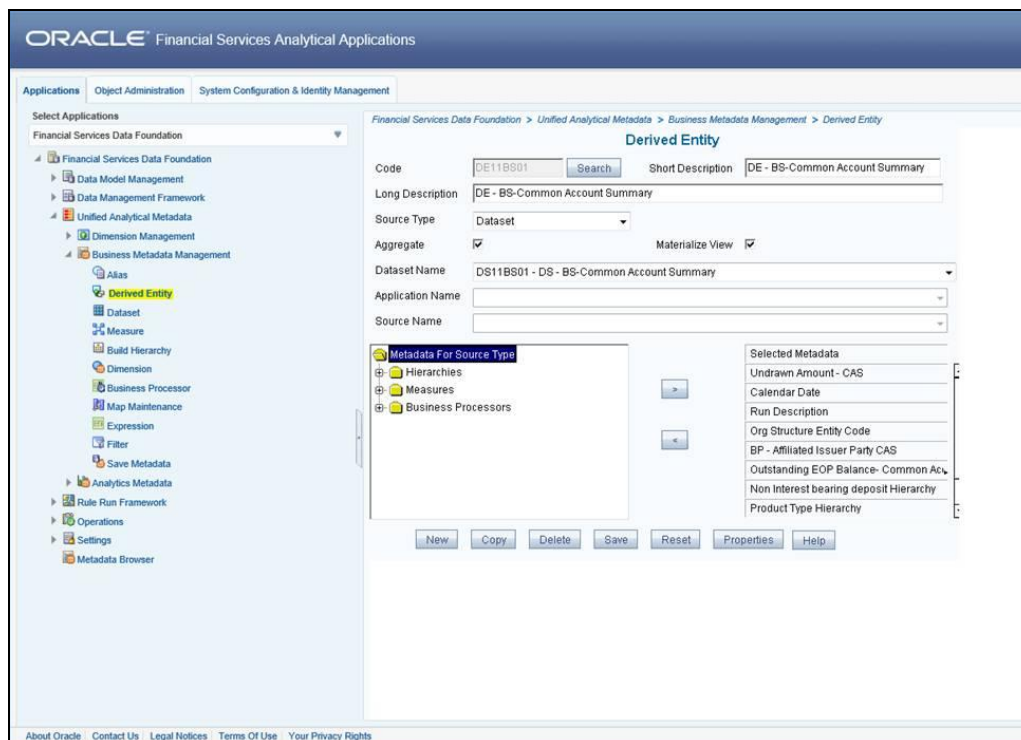


Figure 20: Derived Entity User Interface

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 Creating Derived Entity

Refer to *OFS Analytical Applications Infrastructure User Guide* in [\(OTN\)](#) documentation library for detailed steps on creating a derived entity.

4.3.2 Saving Derived Entities

After the server restart is complete, save all the derived entities manually using the OFSAI User Interface (**Unified Analytical Metadata >> Business Metadata Management >> Derived Entity**).

Certain derived entities are defined for RBI Regulatory Reporting, that have a dependency on other derived entities. Therefore, first save the derived entities in the order mentioned below.

SI. No	Derived Entity Code	Derived Entity Description
1	DEREG901	DE - Setup Master for Year
2	DEREG902	DE - Setup Master for MIS Date
3	DEREG903	DE - Setup Master for Quarter
4	DEREG904	DE - Setup Master for Last Year
5	DEREG905	DE - Setup Master for Last Quarter
6	DEREG906	DE - Management Reporting YTD Movement
7	DEREG907	DE - Management Reporting QTD Movement
8	DEREG908	DE - Management Reporting Previous QTD Movement
9	DEREG909	DE - Management Reporting Previous YTD Movement
10	DEREG956	DE - Fiscal Period Dimension
11	DEREG989	DE - BP Reg Account Summary
12	DEREG920	DE - Basel Asset Class
13	DEREG921	DE - Standard party Type
14	DEREG951	DE - Irfis Account Summary
15	DEREG913	DE - Special Fortnightly Return
16	DEREG918	DE - Asset Level A1
17	DEREG919	DE - Asset Level A2

18	DEREG924	DE - Standard Party
19	DEREG925	DE - Band Dimension
20	DEREG928	DE - Party Dimension
21	DEREG929	DE - Country Dimension
22	DEREG953	DE - Alternate Friday Count
23	DEREG933	DE - Guarantor Country Dimention
24	DERWA010	DE - Consolidation
25	DERCA918	DE - Sub Exp Effective Asset Class CD
26	DERCA919	DE - Sub Exp Issuer STD Party Type CD
27	DERCA03	DE - Non Sec Exp Basel Credit Rating
28	DEREG940	DE - Reg Account YTD Metrics
29	DEREG941	DE - Reg Account QTD Metrics
30	DEREG944	DE - Setup Master for Entity
31	DEREG945	DE - Entity Details
32	DEREG947	DE - Alternate Friday Summary
33	DEREG910	DE - Management Reporting EOP Balance
34	DEREG911	DE - Reg Account Summary
35	DEREG912	DE- Basic Statistical Return
36	DEREG012	DE - STD Account Head
37	DEREG917	DE - Liquidity Reporting
38	DEREG926	DE - Account Summary
39	DEREG930	DE - LRM Summary
40	DEREG932	DE - Aggregate Cash Flow
41	DEREG934	DE - Capital Instrument Transaction Summary
42	DEREG935	DE - Management Reporting EOP for ALE
43	DEREG936	DE - Management Reporting YTD Movement Agg
44	DEREG937	DE - Management Reporting QTD Movement Agg
45	DEREG938	DE - Management Reporting Previous QTD Agg

46	DEREG939	DE - Management Reporting Previous YTD Agg
47	DEREG942	DE - Reg Account YTD Metrics Agg
48	DEREG943	DE - Reg Account QTD Metrics Agg
49	DEREG946	DE - Sundry Debtors Account
50	DEREG948	DE - SLR Securities Summary
51	DEREG949	DE - Special Fortnightly Return Agg
52	DEREG950	DE - Reg Account Summary Agg
53	DEREG952	DE - Management Reporting EOP Balance Agg
54	DEREG954	DE - RAS Fortnightly SLR Maintenance Agg
55	DEREG955	DE - FMR Fortnightly SLR Maintenance Agg
56	DERCA920	DE - Credit Risk
57	DEREG968	DE - Account Ranking
58	DEREG969	DE - Deposit Balances
59	DEREG970	DE - Depositor Ranking
60	DEREG971	DE - Top 20 Depositor
61	DEREG962	DE - Basel Credit Rating Dimension
62	DEREG957	DE- RLC Exposures to Large Borrowers
63	DEREG958	DE - Capital Instrument Transaction
64	DEREG959	DE - Staff Details Summary
65	DEREG960	DE - Deposits Summary
66	DEREG978	DE - Reg Account Summary Reclassification
67	DEREG961	DE - Reg Account Summary Asset Quality
68	DEREG973	DE - Term Deposit and Rate Range Agg
69	DEREG967	DE - Term Deposit and Rate Range
70	DEREG963	DE - Term Deposit
71	DEREG964	DE - Large exposure Customerwise
72	DEREG965	DE - large Exposures Customerwise with Rank
73	DEREG966	DE - RLC Large Exposures to Banks

74	DEREG972	DE - Accountwise Cash Flows
75	DEREG974	DE - Previous YTD EOP Balance
76	DEREG975	DE - Slippage in Loan Previous Year
77	DEREG976	DE - Slippage in Loan Current Year
78	DEREG977	DE - Slippage Credit Risk Account During the Year
79	DEREG979	DE - ALM Account Summary
80	DEREG987	DE - Account Write Off Details QTD
81	DEREG982	DE - RLC Exposures to Large Borrowers Group
82	DEREG983	DE - Terminal Information
83	DEREG984	DE - Cards Details
84	DEREG985	DE - Card Information
85	DEREG986	DE - Reg Account Details
86	DEREG988	DE - Limit Details
87	DEREG980	DE - RBS RatingWise SLR
88	DEREG981	DE - Issued Instrument Transaction
89	DERBS999	DE - Deposits and Borrowings
90	DERBS888	DE - Regulatory Capital Account Summary
91	DERBS001	DE - Reg Account Summary RBS
92	DERBS09	DE - Fund of Banks Net worth-End of Previous FY-Borrower wise
93	DERBS10	DE - Fund Exposures for Rep line
94	DERBS08	DE - Fund Exposures-borrowers exceeding 1 percent-banks net worth
95	DERBS16	DE - 1 Percent of Total Fund Exposures
96	DERBS002	DE - Asstes of bank Reported in Bal Sheet
97	DERBS003	DE - Reg Capital Summary under RCA
98	DERBS004	DE - Expsrs-Stndrd and rtd at Hrdle rate
99	DERBS005	DE - Expsrs-Stndrd and rtd below the Hurdle rate
100	DERBS006	DE - Expsrs-Stndrd and rtd above the Hurdle rate
101	DERBS009	DE - Fund Base Exposures greater than equal to 1 cr

102	DERBS010	DE - Fund Base Exposures less than equal to 1 cr
103	DERBS011	DE - Non Fund Base Exposures greater than equal to 1 cr
104	DERBS012	DE - Non Fund Base Exposures less than 1 cr
105	DERBS013	DE - Market Risk Reporting
106	DERBS11	DE - IFRS Account Summary
107	DERBS12	DE - IFRS Account Summary for past 90 days
108	DERBS13	DE - IFRS Account Summary Rank wise
109	DERBS14	DE - 1st2nd3rd Net Trading PV01-90 days
110	DERBS30	DE - Top Borrowers Rank wise
111	DERBS31	DE - Top 20 Borrowers
112	DERBS33	DE - Top Industries Rank wise
113	DERBS34	DE - Top 3 industries
114	DEREG990	DE - During the Quarter
115	DEREG991	DE - Beginning the Quarter
116	DEREG992	DE - FRAS YTD Summary
117	DEREG993	DE - RAQ Exposures to Large Borrower
118	DEREG994	DE - Investment Details
119	DEREG995	DE - Market Info Detail
120	DEREG996	DE - SLR Securities Summary 3AF
121	DEREG997	DE - Counterparty Summary
122	DEREG998	DE - Cumulative Write-offs
123	DEREG999	DE - Counterparty Borrowings
124	DERBI001	DE - Counterparty Borrowings Rank wise
125	DERBI002	DE - Counterparty Deposits
126	DERBI003	DE - Counterparty Deposits Rank wise
127	DERBI004	DE - Cumulative Write-offs Previous Year
128	DERBI005	DE - Cumulative Write-offs Current Year
129	DERBS40	DE - Avg Net Interest of 4 Pre-Quarters

130	DERBS41	DE - Net Cash flows
131	DERBS45	DE - Net Daily MTM for past 90 days
132	DERBS995	DE - Market Info Detail for last 15 days
133	DETR001	DE - Deposits Borrowings for 90 days
134	DETR002	DE - Daily Avg of Liquid Assets past 90 days
135	DETR300	DE - Max Values NOOP
136	DETR301	DE-NOOP RANK WISE
137	DETR302	DE - 1st-2nd-3rd-Max values of NOOP
138	DETR303	DE - Daily average of NOOP
139	DETR304	DE - Fortnightly sum of Bulk Depositors
140	DETR305	DE - Fortnightly Average of Bulk Depositors
141	DETR306	DE - Top 20 Depositors Assets Range wise
142	DETR307	DE - Top 20 Depositors by Rank
143	DETR308	DE - Top 20 Depositors for Rank Heirarchy
144	DETR309	DE - Top 20 Depositors
145	DETR310	DE - Earnings
146	DETR311	DE - Fact Aggregate CONS CCY ALM Measures
147	DETR312	DE - Outstanding Amount for the last 90 days
148	DETR313	DE - Max Outstanding for the last 90 days
149	DETR314	DE - Reg Account BP ResMat
150	DETR315	DE - Reg Account summary Res Mat Band
151	DETR400	DE - Reg Instr Details
152	DETR3001	DE - NPAs Movement
153	DETR3002	DE - Movement of NPA
154	DETR3003	DE - PSA
155	DETR3004	DE - Standard Assets BOA
156	DETR3005	DE - Standard Assets
157	DETR3006	DE - MTM Assets
158	DETR3007	DE - Le Reg Capital Summary

4.3.3 User Roles

Following are the user roles for derived entity:

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

4.4 Rules Run Framework Features

OFSDF Interface with Lombard Risk for RBI uses the following Rules Run Framework of OFSAA. For details on the features refer to *OFS Analytical Applications Infrastructure User Guide* in [OTN](#) 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.
RRS 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 7: Dimension Mapping Example 1

Cell References	Is Derived?	Standard Product Type Code	Bucket Category	Bucket Type	Measure
RBIIRSP022R0020C0020	No	Perpetual Cumulative Preference Shares	1 to 28 days	IR	Agg Outflow Amount
RBIIRSP022R0020C0030	No	Perpetual Cumulative Preference Shares	29 days to 3 months	IR	Agg Outflow Amount
RBIIRSP022R0020C0040	Yes				
RBIIRSP022R0020C0050	No	Perpetual Cumulative Preference Shares	Over 6 months and upto 1 year	IR	Agg Outflow Amount
RBIIRSP022R0020C0060	No	Perpetual Cumulative Preference Shares	Over 1 year and upto 3 years	IR	Agg Outflow Amount
RBIIRSP022R0020C0070	No	Perpetual Cumulative Preference Shares	Over 3 years and upto 5 years	IR	Agg Outflow Amount

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 8: Dimension Mapping Example 2

Cell References	Is Derived?	Product Type	Customer Type	Branch Country	Measure
RBIIRSP022R0020C0020	No	Perpetual Cumulative Preference Shares	1 to 28 days	IR	MSREG976
RBIIRSP022R0020C0030	No	Perpetual Cumulative Preference Shares	29 days to 3 months	IR	MSREG976
RBIIRSP022R0020C0040	Yes				
RBIIRSP022R0020C0050	No	Perpetual Cumulative Preference Shares	Over 6 months and upto 1 year	IR	MSREG976
RBIIRSP022R0020C0060	No	Perpetual Cumulative Preference Shares	Over 1 year and upto 3 years	IR	MSREG976
RBIIRSP022R0020C0070	No	Perpetual Cumulative Preference Shares	Over 3 years and upto 5 years	IR	MSREG976

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 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 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](#)

5.1 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.

5.2 Edit Checks/ Validity Check/ Quality Checks

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

Note: Refer to the AgileREPORTER user documentation provided by Lombard Risk, for details of activities within the AgileREPORTER.

5.3 Report Templates to be used in AgileREPORTER

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

Report Name	Template Name
BSRII	BSRII_V2
BSRVII	BSRVII_V2
CICDP	CICDP_V1
CRILC	CRILC_V2
CUSTAT	CUSTAT_V1
DSB3ROR	DSBROR_V2
DSBALE	DSBALE_V3
EXPI	EXPI_V1
FORMAS42	FORMA_V2
FORMVIII	FORMVIII_V3
FORMX	FORMX_V2

GTCAII	GTCAII_V1
IRS	IRS_V2
LCRBLR	LCRBLR_V2
LR	LR_V3
PCSTAT	PCSTAT_V1
RAQ	RAQ_V2
RBSIXBRL	RBSIXBRL_V2
RBSTR1	RBSTR1_V2
RBSTR3	RBSTR3_V2
RCAIII	RCAIII_V1
RETCGR	RETCGR_V1
RLC	RLC_V2
SAQLO1	SAQLO1_V2
SAQLO2	SAQLO2_V2
SLIPPAGE	SLIPPAGE_V2
SLR	SLR_V2

5.4 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 the user to Add, Modify, and Delete Entities. Click on a created Entity to access report templates according to version and the activation date, and assign the necessary privileges as required.

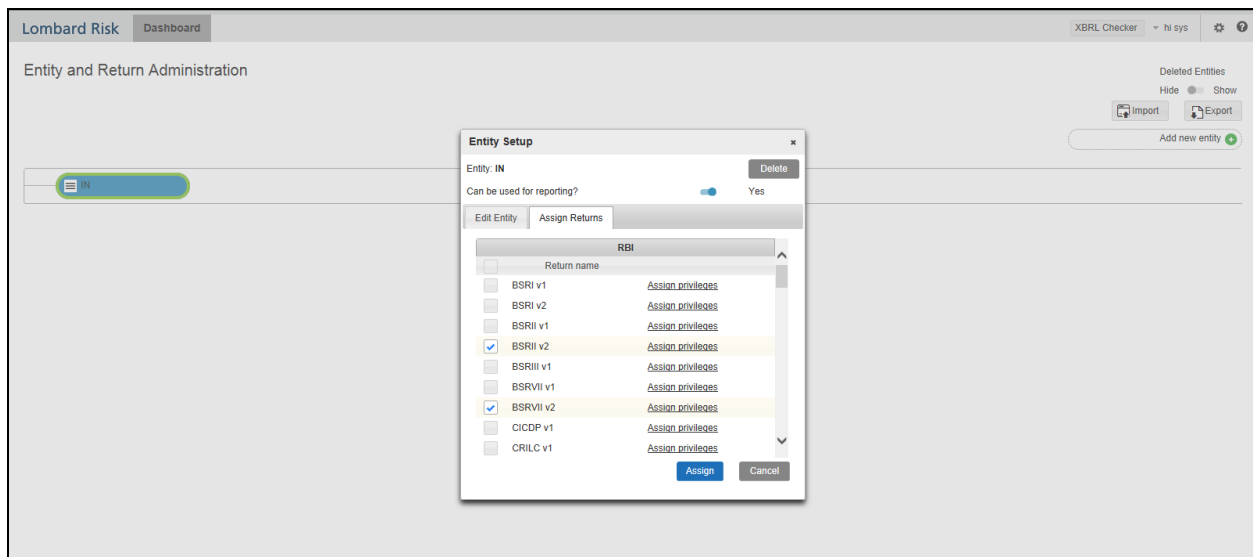


Figure 21: AgileREPORTER Entity Setup

Refer to the *OFS AgileREPORTER User Guide* for more details.

6 Maintenance

This chapter provides an understanding of the maintenance 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 Infrastructure Installation Manual* in [OTN](#) 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**.

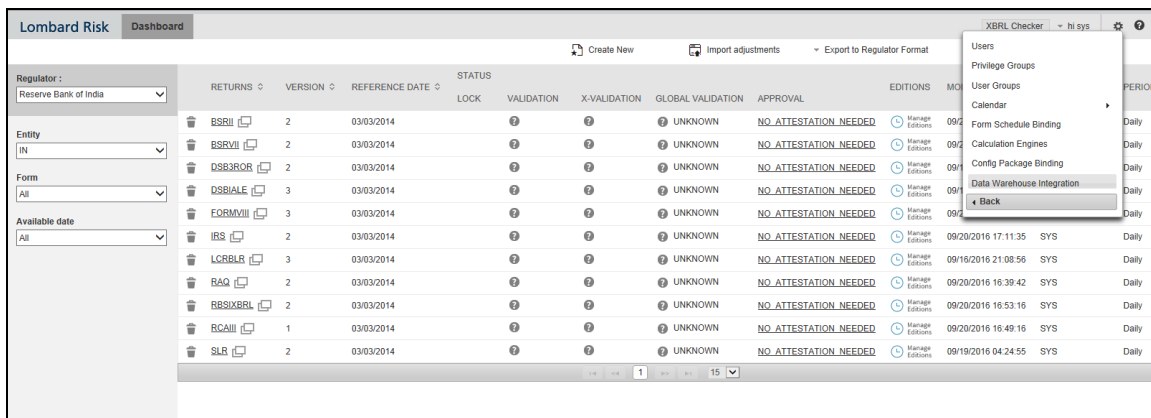


Figure 22: Data Warehouse Integration

- ii. Click **Add** to add a contextual button.
- iii. Enter details of the contextual button.

Name: It is the text that needs to 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}](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/ofsa/OFSAADrilldown/drilldown.jsp?cellid=\\${cellId}&infodom=OFSFSDFINFO&legalentity=\\${entityCode}&run=\\${run}&date=\\${referenceDate}](http://127.0.0.1:8080/ofsa/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.

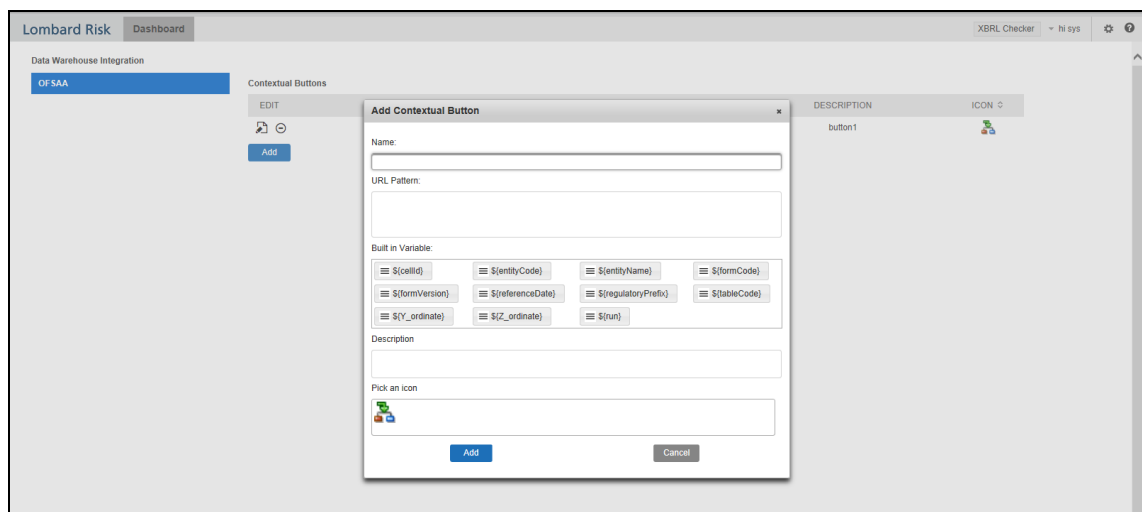


Figure 23: Adding Contextual Button

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

Note: Refer to *AgileREPORTER User Guide* for details.

7 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 end users 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.

7.1 Prerequisites

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

Entity	Report Name	VERSION	REFERENCE DATE	STATUS				GLOBAL VALIDATION	APPROVAL	EDITIONS	MODIFIED	MODIFIED BY	PERIOD
				LOCK	VALIDATION	X-VALIDATION	GLOBAL VALIDATION						
IN	BSR	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 13:11:43	SYS	Daily	
	BSRV	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 07:42:29	SYS	Daily	
	DSB3ROR	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/16/2016 20:05:14	SYS	Daily	
	DSBIALE	3	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/19/2016 16:30:29	SYS	Daily	
	FORMV	3	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 16:58:22	SYS	Daily	
	IBS	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 17:11:35	SYS	Daily	
	LCBBLB	3	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/16/2016 21:08:56	SYS	Daily	
	BAQ	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 16:39:42	SYS	Daily	
	RBSIXBRL	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 16:53:16	SYS	Daily	
	RC	1	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/20/2016 16:49:16	SYS	Daily	
	SLR	2	03/03/2014	?	?	?	UNKNOWN	NO ATTESTATION NEEDED	Manage Editions	09/19/2016 04:24:55	SYS	Daily	

Figure 24: 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.

7.2 Troubleshooting Use Cases

7.2.1 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.

7.2.2 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.

7.2.2.1 Fetching Null or Zero Values

AgileReporter is showing either Zero or 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 Entity does not have data at all.

The screenshot shows the 'Lombard Risk' reporting interface for 'FORMVIII v3 Reserve Bank of India / IN 03/03/2014'. The table displays financial data for two parts: 'PART I - Government Securities' and 'PART II - Other Approved Securities'. Each part includes rows for Opening Balance, Addition during the fortnight (+), Deduction during the fortnight (-), and Closing Balance (a) for Part I and (b) for Part II. The 'Face Value (1)', 'Book Value (2)', and 'Depreciation Held (3)' columns show 'NULL' for all rows. The 'Net Value for SLR Purpose (4)=(2) - (3)' column shows '0.00' for all rows. A summary section at the bottom shows 'TOTAL VALUE OF SECURITIES FOR THE PURPOSE OF SLR' with 'PART I' and 'PART II' both at '0.00' and a 'TOTAL' of '0.00'. The 'Date' is '3/3/14' and the 'Authorised Signatory' is 'NULL'. A right-hand pane shows a list of pages, with 'AnnexIII_P4' selected.

Particulars	Face Value (1)	Book Value (2)	Depreciation Held (3)	Net Value for SLR Purpose (4)=(2) - (3)
PART I - Government Securities				
Opening Balance	NULL	NULL	NULL	NULL
Addition during the fortnight (+)	0.00	0.00	0.00	0.00
Deduction during the fortnight (-)	0.00	0.00	0.00	0.00
Closing Balance (a)	0.00	0.00	0.00	0.00
PART II - Other Approved Securities				
Opening Balance	NULL	NULL	NULL	NULL
Addition during the fortnight (+)	0.00	0.00	0.00	0.00
Deduction during the fortnight (-)	0.00	0.00	0.00	0.00
Closing Balance (b)	0.00	0.00	0.00	0.00
Closing Balance (a+b)	0.00	0.00	0.00	0.00
TOTAL VALUE OF SECURITIES FOR THE PURPOSE OF SLR:				
PART I	0.00	0.00	0.00	0.00
PART II	0.00	0.00	0.00	0.00
TOTAL	0.00	0.00	0.00	0.00

Figure 25: Fetching Null or 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](#).

7.2.3 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 RegCapitalBaseIIIC_P2 from RCAIII v1 report from RBI. Particular cell referred here is RBIRCA3P002R0110C0030 –

Common Equity Tier 1 capital (CET1): instruments and reserves:

9. Interest free funds from H.O. (for Foreign banks):

Bank Code		Report as of			
NULL		NULL			
Regulatory Capital (Rs. in Lakh)					
Sr No	Items	Eligible amount	Regulatory adjustments / deductions - Amounts subject to pre-Basel III treatment	Total Regulatory adjustments / deductions (3+4)	Remarks
1	Common Equity Tier 1 capital (CET1): instruments and reserves				
1	Common shares (paid-up equity capital)	1,200.00			NULL
2	Stock surplus (share premium)	1,400.00			NULL
3	Statutory reserves	1,600.00			NULL
4	Other disclosed free reserves	1,800.00			NULL
5	Capital reserves representing surplus arising out of sale proceeds of assets	2,000.00			NULL
6	Balance in Profit & Loss Account at the end of the previous financial year	2,200.00			NULL
7	Current Financial Year Profit, to the extent admissible	2,400.00			NULL
8	Minority interest in Common Equity Tier 1 capital of consolidated subsidiaries to be recognised	2,600.00			NULL
9	Interest free funds from H.O. (for Foreign banks)	2,800.00			NULL
10	Statutory Reserves kept in Indian books (for Foreign banks)	3,000.00			NULL
11	Remittable surplus retained in Indian books (not repatriable) [for Foreign banks]	3,200.00			NULL
12	Capital Reserves (non-repatriable surplus from sale of assets in India held in a separate account) [for Foreign banks]	3,400.00			NULL
13	Interest free funds remitted from abroad for acquisition of property and held in a separate account (for Foreign banks)	3,600.00			NULL
14	Any other instrument permitted by RBI (please specify under remarks column)	3,800.00			NULL
15	Common Equity Tier 1 capital before regulatory adjustments (sum of rows 1 to 8 and row 14 for Domestic banks; sum of rows 9 to 14 for	35,000.00			NULL

Figure 26: RWA_P1 from RCAIII v1 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 27.

Sr No	Items	Eligible amount	Regulatory adjustments / deductions - Amounts subject to pre-Baseel III treatment	Total Regulatory adjustments / deductions (3+4)	Remarks
1	Common Equity Tier 1 capital (CE11): instruments and reserves				
1	Common shares (paid-up equity capital)	1,200.00			NULL
2	Stock surplus (share premium)	1,400.00			NULL
3	Statutory reserves	1,600.00			NULL
4	Other disclosed free reserves	1,800.00			NULL
5	Capital reserves representing surplus arising out of sale proceeds of assets	2,000.00			NULL
6	Balance in Profit & Loss Account at the end of the previous financial year	2,200.00			NULL
7	Current Financial Year Profit, to the extent admissible	2,400.00			NULL
8	Minority interest in Common Equity Tier 1 capital of consolidated subsidiaries to be recognised	2,600.00			NULL
9	Interest free funds from H.O. (for Foreign banks)	2800			NULL
10	Statutory Reserves kept in Indian books (for Foreign banks)	3,000.00			NULL
11	Remittable surplus retained in Indian books (not repatriable) (for Foreign banks)	3,200.00			NULL
12	Capital Reserves (non-repatriable surplus from sale of assets in India held in a separate account) (for Foreign banks)	3,400.00			NULL
13	Interest free funds remitted from abroad for acquisition of property and held in a separate account (for Foreign banks)	3,600.00			NULL
14	Any other instrument permitted by RBI (please specify under remarks column)	3,800.00			NULL
15	Common Equity Tier 1 capital before regulatory adjustments (sum of items 9 to 14, and items 1-8 less Deductible banknotes issued and items 9 to 14 less	35,000.00			NULL

Figure 27: OFSAA 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 28.

Run Execution ID	Date	Legal Entity	Reference Identifier
-5	03 Mar 2014	IN	RBIRAGP003R0010C0010

Derived Entity : DE_RegAccountSummary Asset Quality (2)	Entity Country ID	Regulatory Product Type Code	Standard Party Type Code	Standard Party Type Level 1 Code	Sector Code	Regulatory Credit Status Code	Sector Financing Indicator	Customer Size	Risk Sector Cor
OVERDUE EXCEPTION FLAG 90DAY	IN	HELOAN			S			Micro	
	IN	HELOAN			S			Micro	

Figure 28: OFSAA Data Lineage Page

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 29:

LT	Past Due Flag	Restructured Flag	IFRS Stage Code	Exposure Default Status Flag	Range of Sanctioned Limit 4 Lakhs	Range of Sanctioned Limit 25 Lakhs	Holdm Type Code	Rea Delinquency Band	Equity Traded Flag	RAS Exp Balance RCY
								941		\$50,002.00
								941		\$50,001.00

Figure 29: 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.

7.2.3.1 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](#).

7.2.3.2 Data Lineage View is not available

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.

Capital Comp Group Hierarchy	Acct Head Id Hierarchy	DE-Basel Consolidation Hierarchy	STD Acct Head Amount

Figure 30: 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.

- 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.
- 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 31:

1	A	B	C	D	E	F	G	H	I
Derived Entity Code	Short Description	Long Description	Source Type	Aggregate	Materialised View	Dataset Code	Dataset Name	Selected Metadata	
1236	DERBS10	DE - Fund Exposures for Rep line	DE - Fund Exposures for Rep line	Dataset	Y	Y	DSRBS10	DS - Fund Exposures for Rep line	Calendar Date
1237									Run Description
1238									Org Structure Entity Code
1239									Eop Balance RCY
1240	DERBS08	DE-Fnd Expsrs-brwrws excdng 1 prcnt-bnks netwrth	DE-Fnd Expsrs-brwrws excdng 1 prcnt-bnks netwrth	Dataset	Y	Y	DSRBS08	DS-Fnd excdng 1 prcnt of bkns ntwrth	RAS Eop Balance RCY Borrowerwise
1241									MGMT Eop Balance RCY Borrowerwise
1242									Regulatory Group Borrower Code
1243									Regulatory Group Borrower Name
1244									Regulatory Product Type Code Level
1245									SLR Eligible security Flag
1246									Calendar Date
1247									Run Description
1248									Org Structure Entity Code
1249	DERBS16	DE-1 Prnt of Total Fnd Expsrs	DE-1 Prnt of Total Fnd Expsrs	Dataset	Y	Y	DSRBS27	DE-1 Prnt of Total Fnd Expsrs	Calendar Date
1250									Run Description
1251									Org Structure Entity Code
1252									SLR Eligible security Flag
1253									Banks Net worth by percentage
1254									Regulatory Product Type Code Level
1255									Regulatory Group Borrower Name
1256									Regulatory Group Borrower Code
1257	DERBS02	DE - Asstes of bank Reported in Bal Sheet	DE - Asstes of bank Reported in Bal Sheet	Dataset	Y	Y	DSRBS100	DS - Fund Exposures By Rep line	Calendar Date
1258									Run Description
1259									Org Structure Entity Code
1260									Mngmt EOP Bal RCY incld Goodwill
1261									Mngmt EOP Bal RCY excld intangibls
1262	DERBS03	DE - Reg Capital Summary under RCA	DE - Reg Capital Summary under RCA	Dataset	Y	Y	DSRBS11	DS - Reg Capital Summary under RCA	Calendar Date
1263									Run Description
1264									Org Structure Entity Code
1265									Amount post regulatory adjustment
1266									Reporting Line Codes
1267									Reporting Line Name
1268	DERBS004	DE - Expsrs-Stndrd and rtd at Hrdle rate	DE - Expsrs-Stndrd and rtd at Hrdle rate	Dataset	Y	Y	DSRBS12	DS - Expsrs-Stndrd and rtd at Hrdle rate	Calendar Date
1269									Run Description
1270									Org Structure Entity Code
1271									Regulatory Credit Status Code

Figure 31: Business Metadata

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

1240	DERBS08	DE-Fnd Expsrs-brwrws excdng 1 prcnt-bnks netwrth	DE-Fnd Expsrs-brwrws excdng 1 prcnt-bnks netwrth	DS-Fnd excdng 1 prcnt of bkns ntwrth	RAS Eop Balance RCY Borrowerwise
1241					MGMT Eop Balance RCY Borrowerwise
1242					Regulatory Group Borrower Code
1243					Regulatory Group Borrower Name
1244					Regulatory Product Type Code Level1
1245					SLR Eligible security Flag
1246					Calendar Date
1247					Run Description
1248					Org Structure Entity Code

Figure 32: Business Metadata

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](#).



Oracle Financial Services Regulatory Reporting for Reserve Bank of India – Lombard Risk Integration Pack 8.0.2.0.0 User Guide

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