Oracle Financial Services Data Integration Hub

User Manual

8.0.6.0.0



Oracle Financial Services Data Integration Hub User Guide, Release 8.0.6.0.0

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## Preface

### Audience

Following are the intended audience for the DIH user guide:

- **ETL Developers:** The ETL Developers from the IT Department of the financial services institution, who do the data sourcing.
- Business Analysts: The business analysts from the IT Department of the financial services institution, who do the mapping of the tables.

### Prerequisites

- OFSAA application should be installed for the staging tables. This can be installed before or after DIH.
- Oracle Data Integrator (ODI) must be installed.

### Acronyms

Acronym	Description		
DIH	Data Integration Hub		
UI	User Interface		
ODI	Oracle Data Integrator		
ADI	Application Data Interface		
КМ	Knowledge Module		
EDD	External Data Descriptor		
Apps	Application		
EDS	External Data Source		
OLH	Oracle Loader for Hadoop		

### **Glossary of Icons**

This manual may refer to all or some of the following icons.

Icons	Description
Ð	To create a function
Ô	To Delete a function
<	To view Dependencies

Icons	Description
0	To copy a function
or 🕈	To refresh a function
<b>4</b> 9	
69	To start a function
iata ⊫ia	To return to a summary screen
<b>±</b>	To download a file
Ħ	To add a Join
*	To remove a Join
Ø	To auto-map source and target
+11	To filter the items
0	To search for an item in Source and Target list
×	To import mapping excel
×	To export mappings to excel

### **Related Information Sources**

Along with this user manual, you can also refer to the following documents in the <u>OHC</u> documentation library:

- Oracle Financial Services Analytical Application-OBP Interface User Guide Release 8.0.6.0.0
- Oracle Financial Services Analytical Application-DRM Interface User Guide Release 8.0.6.0.0
- Oracle Financial Services Analytical Application-FCUBS Interface User Guide Release 8.0.5.0.0
- Oracle Financial Services Analytical Application-FAH Interface 8.0.5.0.0
- Oracle Financial Services Data Integration Installation Manual Release 8.0.6.0.0

## 1 Introduction to Data Integration Hub

This chapter provides an overview to Data Integration Hub (DIH), its benefits, and the structure of remaining chapters in the user guide.

This chapter covers the following topics:

- Overview of Data Integration Hub
- Benefits of DIH
- Summary of Chapters

### 1.1 Overview of Data Integration Hub (DIH)

Data Integration Hub (DIH) enables to load the data from the source systems to the OFSAA staging tables, through logical interfaces, known as Application Data Interfaces (ADI). Additionally, it enables extraction of data from the OFSAA system to downstream systems such as file, and Oracle Database. DIH provides a set of User Interfaces (UI), which is used to define and maintain External Data Descriptors (EDD), Application Data Interfaces, and also map the EDDs and ADIs through Connectors. The mappings can be one to one, one to many, many-to-many and many to one.

The source systems that supply data include, the core banking systems, rating systems, modeling systems, and so on. In the absence of DIH, the data from the source systems are extracted, transformed, and loaded (ETL process) to the physical tables in Oracle Database. With DIH, the ETL activity is not replaced; but DIH serves as an abstract, logical layer to the physical tables in Oracle Database. In the logical layer, the entity and attribute names are mentioned in Business terms in English. In the physical layer, the table and column names are mentioned in technical terms.

The process is explained using the following example:

Let an attribute name in the logical layer be, Customer Account Number. The equivalent column name in the physical layer is V\_Account\_Number. Using the Connectors in DIH, the logical layer in ADI and physical layer in EDD are mapped. That is, in this case, Customer Account Number is mapped to V\_Account\_Number. The advantage of having DIH is, when the physical name of a column in an OFSAA table changes in the future, the financial institution need not change their data extracts. This also results in saving time, effort, and money for the migration activity.

Another major functionality of DIH is the support for Big Data. DIH supports source data in formats like HDFS and Hive. Additionally, it supports DB2, Sybase, SQL Server and Teradata.

### 1.2 Benefits of DIH

The benefits of DIH are as follows:

- Provides a level of abstraction and insulates upstream ETL processes from staging model changes.
- Support of Big Data.
- Provides a simplified mapping screen for loading data into OFSAA staging/result through an abstract layer.
- Removes ETL technicalities by prepackaging and predefining ODI parameters based on different use cases.
- Download Specification is a system managed meta object for upstream data mapping.
- Process/execution optimization for OFSAA data and known use cases. For example, in a direct one-to-one mapping, there will not be any hopping.
- Hosts pre-defined integration with Oracle Products that play role of data providers to Analytical Applications.
- Helps in getting lineage right from source data to staging till results.

### 1.3 Summary of Chapters

This user guide provides information on mapping of an External Data Descriptor (EDD) with Application Data Interface (ADI). It begins with information on how a Parameter is defined, how a Source System is defined in DIH, how an EDD and ADI are set, and how they are connected. The metadata is then published to ODI. The execution part does not happen in DIH as it depends on batches that are scheduled in the Financial Services Institutions. However, details about that are mentioned in the last chapter.

The guide has the following chapters:

- Data Flow in DIH: This chapter explains the flow of data in DIH.
- Logging into DIH and common functionalities: This chapter explains how to login to DIH and common functions such as modifying, viewing and deleting, using Parameter as an example.
- Setting up Platform and Parameters: This chapter explains how to configure and edit the platform and parameters.
- **Defining Source Systems:** This chapter explains how to define the External Data Store information.
- External Data Descriptor: This chapter explains how to define the source table/file, and adding the different components
- ADI: This chapter explains how to configure the ADI for viewing an OFSAA Data Interface
- **Connectors:** This chapter explains how to map one or more EDDs to ADI and how to create and view a connector

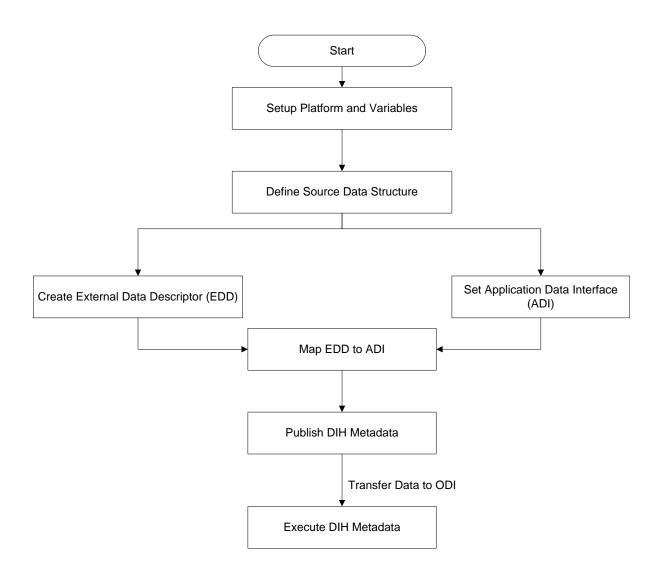
- **Publishing DIH Metadata:** This chapter explains how the DIH metadata is transferred to Oracle Data Integrator (ODI).
- Object Migration: This chapter explains as to how to perform an Object Migration.
- **Executing DIH Metadata:** This chapter explains as to how after publishing, the scheduled batches are executed.
- **Execution History:** This chapter provides information about the execution history.
- Metadata Browser: This chapter details the metadata browser.

## 2 Data Flow in DIH

This chapter provides high-level information of the data flow used in DIH.

### 2.1 DIH Dataflow Diagram

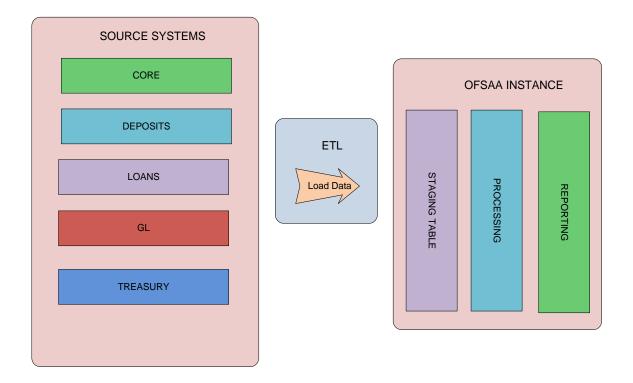
The following is the DIH data flow diagram:



For mapping between the EDD and ADI, you need to define the parameter placeholder (optional), set up the source, define the EDD, and then connect the EDD and ADI. ADI is auto seeded from the OFSA Applications data models that are installed.

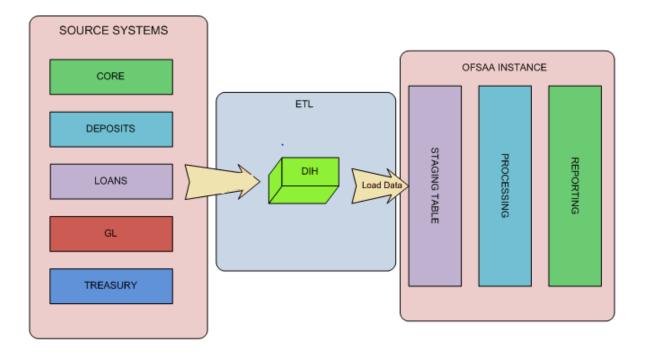
### 2.2 Data Flow Environment without DIH

In this data flow environment diagram without DIH, the data is loaded from the source systems, to the server in which OFSA Applications are installed (OFSAA Instance). In the OFSAA Instance, data is loaded into the staging table.



## 2.3 Data Flow Environment with DIH

The DIH is then used to pull data directly from the source tables, to the OFSAA staging tables.



## **3 Logging into DIH and Common Functionalities**

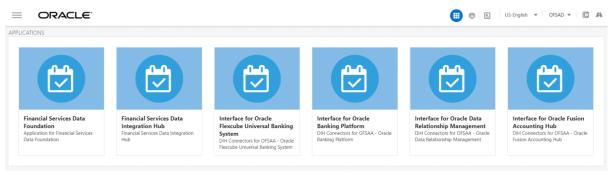
In this chapter, details on how to log into the DIH application are explained. There are a few common functionalities, which are used in different modules of DIH. To avoid repetition, these functionalities are explained under <u>Common Functionalities</u> section, taking Parameter as an example.

## 3.1 Logging into DIH

Access the DIH application using the login credentials (User ID and password). The built-in security system ensures that you are permitted to access the window and actions based on the authorization only.

ORACLE <sup>*</sup> Financial Services Analytical Applications		۵ (	About
	Language	US-English •	
	User ID		
	Password		
	Version 8.0.6.0.0	Login	
		, 2018 Oracle and/or its affiliates. All rights reserved.	

After logging into the application, select Financial Services Data Integration Hub.



#### The DIH window appears:

Administration         Data Integration Hub Data Integration Hub (DBI) enables to load the data from the source systems to the OFSAA staging tables, through logical interfaces, known as Application Data Interfaces (ADI)           Data Mapping	ñ
Duta Mapping Setup Details Activity	
Evention	
DH Version: 8.0.4.0.0 Parameters ED5	Not Execut

Click in the DIH home. The DIH has the below four sub links:

- Administration
- Application Data Interface
- Data Mapping
- Execution

The DIH home page displays the summary of the setup details and the activity details.

### 3.2 Common functionalities

You can modify, view, delete, and find dependencies of a Parameter, Source, EDD, ADI, and Connectors. Following sections explains how this is done, taking the example of a parameter.

## 4 Setting up the Platform

Setting up the platform is the initial activity in DIH. The **Settings** option allows in maintaining the Oracle Data Integrator (ODI) setup information and application variables.

### 4.1 Settings

1. Click icon in the DIH home screen to navigate to the Administration window.

ORACLE <sup>*</sup> Financial Services Data Integration Hub			ñ
Administration Manage DIH administration activities			
	¢;	¢.	
		Publish/Unpublish	
	Settings Manage Oracle Data Integrator (ODI) setup information	Creates/Removes ODI objects for all Saved Connectors/External Data	
		Stores/External Data Descriptors	

2. Click **Settings** .The Settings window appears. This window captures the ODI set up information.

ORACLE <sup>*</sup> Financial Services Data Integration Hub		ń
Settings Maintain the Oracle Data Integrator (000) setup information		08
	Ma	datory Optional
* ODI User	SUPERVISOR	and a chronia
ODI Password		
Use JNDI?	No	
* Master Repository DB User	DIH_ODI_REPO	
Master Repository DB Password		
* Master DB Driver	oracle.jdbc.OracleDriver	
* Master DB Connection	jdbc:oracle:thin:@10.184.157.69:1521:F!	
* Work Repository	WORKREP	
* Project	DIHDEV804	
* Folder	DIHDEV804	
Agent URL	http://10.184.203.158:6789/oraclediage	0

**NOTE:** Only the DIH administrator is authorized to edit this field.

## 4.1.1 Editing the Mandatory Settings

While editing the Settings, the fields that are displayed are explained as follows.

Serial No.	Fields	Description
1	ODI User	The ODI supervisor user name you defined when creating the master repository or an ODI user name you defined in the Security Navigator after having created in the master repository.
2	ODI Password	The ODI supervisor password you defined when creating the master repository or an ODI user password you defined in the Security Navigator after having created the master repository.
3	Use JNDI	If Yes, enter the Master Repository JNDI. If No, enter Master Repository DB User, Master Repository DB Password, Master DB Driver and Master DB Connection.
4	Master Repository DB User	Database user ID/login of the schema (database, library) that contains the ODI master repository.
5	Master Repository DB Password	Master Repository DB user password.
6	Master DB Driver	Specifies the driver required to connect to the RDBMS supporting the master repository created from the dropdown list. The default value is oracle.jdbc.OracleDriver. It need not be changed if it is on Oracle database.
7	Master DB Connection	The URL used to establish the JDBC connection to the database hosting the repository. The format is jdbc:oracle:thin:@ <hostname address="" ip="">:<port number="">:<service name=""></service></port></hostname>
8	Master Repository JNDI	JNDI name for ODI Master Repository
9	Work Repository	The name of the work repository that has been created previously (Example: <i>WorkRep1</i> ).
10	Project	Enter the Project Name created in ODI.
11	Folder	Enter the folder name under the project created in ODI. All the packages are created under this location.

## 4.1.1.1 Fields and their descriptions

Г

Serial No.	Fields	Description
12	Agent URL	Specify the agent URL where the ODI agent is running. This is used to execute a DIH connector from OFSAAI batch/RRF. This is not needed to do data mapping. The format is http:// <hostname address="" agent="" ip="" is<br="" odi="" where="">running&gt;:<port number="">/<agent context="" name=""></agent></port></hostname>

#### 4.1.1.2 Procedure to Edit the Mandatory Settings

To edit the mandatory settings, perform the following steps:

1. You can edit the ODI User details in the following window.

ORACLE <sup>®</sup> Financial Services Data Integration Hub		ñ
Settings		<b>()</b>
Maintain the Oracle Data Integrator (ODI) setup information		
		🔅 Test Connection 🖉 Save
	Ma	Mandatory Optional
* ODI Use	r SUPERVISOR	
ODI Passwor	ł	
Use JND	? 🕖 No	
* Master Repository DB Use	r DIH_ODI_REPO	
Master Repository DB Passwor	ł	
* Master DB Drive	r oracle.jdbc.OracleDriver	
* Master DB Connectio	jdbc:oracle:thin:@10.184.157.69:1521:F!	£
* Work Repositor	WORKREP	
* Projec	t DIHDEV804	
* Folde	r DIHDEV804	
Agent UR	L http://10.184.203.158:6789/oraclediage	Je 🔯

- 2. Enter the field details as explained in Fields and their Description section.
- 3. To test the connection to the ODI repository, click
- 4. Enter the details and click **Save**.

#### 4.1.2 Editing the Optional Settings

While editing the Settings, under optional tab the fields that are displayed are explained as follows.

**NOTE**: The following properties need not to be specified, if they are already available as environment variable where ODI agent is running.

#### 4.1.2.1 Fields and their descriptions

Serial No.	Fields	Description
1	Character Set (Applicable for File type Source)	This field is applicable if the source system is of type File. You must specify the character set when you are using SQL loader for data loading.
2	ODI Oracle Home	This field is applicable if the source system is of type File. You must specify the Oracle Home path where the ODI agent is located.

#### 4.1.2.2 Procedure to Edit the Optional Settings

To edit the optional settings, perform the following steps:

1. You can edit the optional ODI details in the following window.

ORACLE <sup>®</sup> Financial Services Data Integration Hu	4	
ettings nage Oracle Data Integrator (ODI) setup information	() (	
inge onacie bata integrator (obi) setup intormation		🔅 Test Connection ) 📀 Save
	Mandatory Optional	
Environment Variables		
Character Set (Applicable	for File type Source) US	
	ODI Oracle Home /scratch/home/oracle/client	
Agents		+
Aame: agent 5	URL: http://10.183.177.999-8080/oracleAgent	¢ 🕑 🔂
Name: agent4	URL: http://10.184.157.117:8080/oracleodiagent	¢ 🕑 🛈
Name: test1	URL: test1	¢ 🕑 🛈
Name: test2	URL: test2	¢ 🕑 🛈
Name: testAgent1	URL: http://10.184.245.158:6789/oraclediagent	¢ 🕑 🛈
Name: testAgent4	URL: http://10.184.214.158:6789/oraclediagent	¢ 🕑 🛈

- 2. Enter the field details explained in Fields and their descriptions section.
- 3. Click Add + icon to add multiple rows for each agent. The Save Agent As window appears.

	Save Agent As	Enter 30 or fewer characters
Agent Name *		
Agent URL		
	🖉 ОК 😵 С	Close

4. Enter the Agent Name and URL and click OK.

NOTE: It is mandatory to enter the agent name.

- 5. Click Edit <sup>1</sup> icon to modify the saved agent.
- 6. Click Delete **O** icon to delete the agent.
- 7. Enter the details and click Save.

## 5 Application Data Interface

Application Data Interface (ADI) data comes pre-seeded based on the application that is installed.

Application Data Interface enables to view the logical definition of OFSAA physical entities of staging and Result area. This can be viewed by selecting application and its subtype.

Click icon in the DIH home screen to navigate to the Application Data Interface window. ORACLE<sup>\*</sup> Financial Services Data Integration Hub ñ () ? Last ADI Refresh Total Attributes Mandatory Attributes — Mapped Attribute 70K Status: Aborted ⊡ Changes: N/A -06-18 06-23-58 9 60K Refresh ADI Retreive and update ADI from uploaded data model Last Target Datastore Refresh Status: Successful Þ Changes: N/A 2018-06-18 08:01:46.008 Create and update underlying ysical tables of every available ADI as data store in ODI FSDF

The Application Data Interface summary displays the following:

- **Refresh ADI**: The Last ADI Refresh which details the last refresh performed, execution date, status and the changes.
- **Number of ADIs**: The total number of ADIs which are present and used.
- **Target Datastore Refresh**: The Last Target Data Store Refresh, which details the last refresh, performed, execution date, status and the changes.

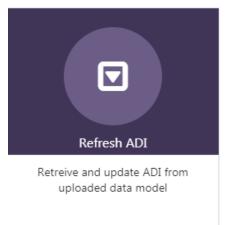
The summary screen also displays the graph of total attributes, mandatory attributes and the mapped attributes.

### 5.1 Refreshing Application Data Interface

The Refresh ADI creates ADIs by reading the uploaded data model in the setup. It works for incremental changes also. If there is any change in data model from the previous one, then ADI refresh compares the existing ADI with updated model and accommodates the changes either by adding new ADI or adding new attribute and so on.

To refresh the ADI list, perform the following steps:

1. Click the Refresh ADI on Application Data Interface screen.



The Refresh Application Data Interface summary appears:

		ncial Services Data	Integration Hub			ñ 0
Refresh ADI Retreive and update ADI from uploaded data model					0	
						♦ ♦ ♦ ♦
0	Run ID: 104	Version Id: 0	Start Time: 2018-06-18 06:23:58.925	Infodom: FSDFINFO	End Time: null	Status: Aborted
0	Run ID: 103	Version Id: 0	Start Time: 2018-06-18 06:20:30.936	Infodom: FSDFINFO	End Time: null	Status: Aborted
0	Run ID: 102	Version Id: 0	Start Time: 2018-06-18 06:17:02.413	Infodom: FSDFINFO	End Time: null	Status: Aborted
0	Run ID: 101	Version Id: 0	Start Time: 2018-06-18 05:57:35.166	Infodom: FSDFINFO	End Time: null	Status: Aborted
0	Run ID: 100	Version Id: 0	Start Time: 2018-05-17 04:49:46:351	Infodom: FSDFINFO	End Time: 2018-05-17 05:30:45.049	Status: Successful 📩

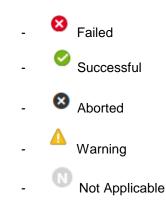
2. Click <sup>O</sup> icon on the right hand side of the window for Datamodel Validation. The Datamodel Validation window appears. This validates and identifies the issues in values specified by the user defined properties for physical/logical view in the OFSAA Data Model. Once executed, the utility log errors/issues are identified.

Search. Q. Object Name Message	Page 1 of 1 (1-3 of 3 items) $K < 1 > H$
Object Name Message	
FSI_ACCOUNT_LOAD_RUN_MAP ADI Name Missing	
FCT_SERV_LN_CUST_RELATIONSHIP Duplicate ADI Name	
STG_SERV_LN_CUST_RELATIONSHIP Duplicate ADI Name	

- 3. You can search for an Object name or Message. On validation, you receive a message. Refer <u>Data Model Validation Messages</u> table for information on each message.
- 4. Verify the information and click OK.
- 5. Click O icon on the right hand side of the window to start the refresh of ADIs.

The ongoing ADI refresh appears as follows:

	Run ID: 268	Start Time: 2017-10-16 15:03:25.37	Infodom: OFSDIINFO	End Time: null	Status: Ongoing	±
6.	On successful inve	ocation of ADI refresh, a m	essage appears	3.		
		ADI Refresh inv	oked successfully $\times$			
			+			
7.	In case you need	a detailed running log, clic	k 🔛 icon to do	wnload the log.		
	A zip file is downlo	baded containing the detail	led log for the e>	ecution.		
8.	To view the log de	etails, extract the log file fro	om the zip folder			
9.	You can check the	e status:				



10. Click the Run ID Run ID link on the Refresh ADI screen. This displays the Changes, Alerts and Error Messages. Under the changes tab, you can view all the details that are made as part of ADI Refresh.

ORACLE' Financial Services Data Integration Hub			ñ
Refresh ADJ Retreive and update AC/Nom uplaaded data model			
Changes     O Alerts     × Error Message	5		an La
Change ID: 114402	Object Name: Instrument: Name	Remarks: Attribute description has changed.	
Change ID: 114403	Object Name: POS Terminal Type	Remarks: Attribute description has changed.	
Change ID: 114404	Object Name: Forecast Date Key	Remarks: Attribute description has changed.	
Change ID: 114405	Object Names Non Qualifying Capital Instrument Flag	Remarks: Attribute description has changed.	
Change ID: 114406	Object Name: Consolidation Flag	Remarks: Attribute description has changed.	
Change ID: 114407	Object Name: Account Number	Remarks: Attribute description has changed.	
Change ID: 114408	Object Name: Fully Recourse Flag	Remarks: Attribute description has changed.	
Change ID: 114409	Object Name: Substitutable Collateral Issuer Regulatory Risk Weight Surrogate Key	Remarks: Attribute description has changed.	
Change ID: 114410	Object Name: Nettable Level Type	Remarks: Attribute description has changed.	
Change ID: 114412	Object Name: Product Code	Remarks: Attribute description has changed.	
Change ID: 114414	Object Name: Account Survival Rate	Remarks: Attribute description has changed.	
Change ID: 114415	Object Name: Sales Commission in Reporting Currency	Remarks: Attribute description has changed.	
Change ID: 114417	Object Name: First Reset Cap	Remarks: Attribute description has changed.	
Change ID: 114418	Object Name: First Reset Floor	Remarks: Attribute description has changed.	
Change ID: 114419	Object Name: Original Customer LTV	Remarks: Attribute description has changed.	

	nancial Services Data Integration Hub	ñ
Refresh ADI Retrieve and update ACI from uploaded data model		
Changes     Alerts     X	Error Messages	11
Alert ID: 1	Object Name: null	Impacted Connectors: null
Alert ID: 2	Object Name: null	Impacted Connectors: null

### NOTE:

- At any given time, click the refresh ficon to check the status if it is complete or still in progress.
- 2. Click button to return to the Application Data Interface dashboard.

## 5.1.1 Model Changes abstracted for ETL process by DIH

Scenario	Description
When only logical name of an attribute is changed	ADI refresh updates the logical name in DIH repository. Post ADI refresh, no action is expected from user, changes are reflected automatically in connector/ADI.
When only description of an attribute is changed	ADI refresh updates the description in DIH repository. Post ADI refresh, no action is expected from user, changes are reflected automatically in connector/ADI.
When only domain of an attribute is changed	ADI refresh updates the domain in DIH repository. Post ADI refresh, no action is expected from user, changes are reflected automatically in connector/ADI.
When both logical name and domain of an attribute are changed	ADI refresh updates the logical name and domain in DIH repository. Post ADI refresh, no action is expected from user, changes are reflected automatically in connector/ADI.
When physical name of an attribute is changed	ADI refresh updates the physical name in DIH repository. Post ADI refresh, user needs to perform refresh target data store, and publish and unpublish a connector for changes to be reflected in ODI.
When data type of an attribute is changed	ADI refresh updates the data type in DIH repository. Post ADI refresh, user needs to perform refresh target data store, and publish and unpublish a connector for changes to be reflected in ODI.
When precision/scale of an attribute is changed	ADI refresh updates the precision/scale in DIH repository. Post ADI refresh, user needs to perform refresh target data store, and publish and unpublish a connector for changes to be reflected in ODI.
When both physical name and logical name of the attributes are changed	ADI refresh notifies an alert. User needs to unmap the attributes in all affected connectors (printed in the ADI refresh log), then user needs to trigger ADI refresh and redo the

Scenario	Description
	mapping in the affected connectors. Post this, user needs to perform refresh target data store, and publish and unpublish a connector for changes to be reflected in ODI.

### 5.1.2 Model Changes with impact on ETL process

The following model changes will have an impact for connectors during ADI refresh.

- Column used in connector mapping are dropped from table.
- Table used in connector are dropped.

The ADI refresh process displays status as Impact Identified. The affected connectors and the respective used objects (which are dropped in the model) are list under the Alerts tab as displayed in the below image.

Refresh ADI Retreive and update ADI from uploaded data model				
6 <u>C</u>	hanges	Alerts	× Error Messages	
Ale	ert ID: 1		Object Name: Extraction Date1	Impacted Connectors: AH Com CASA Header

Message	Action
Table being dropped is already used in the connector	Unpublish and remove the ADI from the connector.
Column being dropped is already used in the connector	<ul> <li>Unpublish and remove the attribute references from the connector.</li> <li>In case of Insert type connector, remove attribute reference from mapping and truncate filter expression.</li> <li>In case of Extract type connector, remove attribute reference from filter, join, look up, derived column, mapping and aggregation components.</li> </ul>

## 5.1.3 Data Model Validation Messages

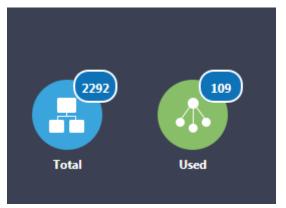
Message	Reason	Resolution
Table Classification Missing	User defined Property "OFSAA Data Interface Class" is not specified in logical view of the table in OFSA Data Model.	Specify the value for User Defined Properties in the OFSA Data Model in ERWIN
Sub Type Name Missing	User defined Property "OFSAA Data Interface Sub-Type" is not specified in logical view of the table in OFSA Data Model	Specify the value for User Defined Properties in the OFSA Data Model in ERWIN
Duplicate ADI Name	User defined Property "OFSAA Data Interface Name" must be different for the specified tables.	Specify unique value for OFSAA Data Interface Name UDP in the OFSA Data Model in ERWIN
No enabled Application mapped	The Application user defined properties for all columns of table does not have the value as "DL- MAN" or "DL-OPT"	The value for application user defined properties must be set to mentioned value.
ADI Name Missing	User defined Property "OFSAA Data Interface Name" is mandatory and is not specified in logical view of the table in OFSA Data Model	Specify the value for User Defined Properties in the OFSA Data Model in ERWIN
Invalid Table Classification	User defined Property "OFSAA Data Interface Class" can have the value as R ,S or D only	Specify correct value for mentioned user defined property
Invalid Subtype Name	User defined Property "OFSAA Data Interface Sub-Type" is specified when there is no subType for ADI	OFSAA Data Interface Sub-Type UDP is applicable when there are multiple subtypes for given ADI. Please leave it blank or same as ADI name otherwise.

## 5.2 Viewing Application Data Interface

This tile displays the total number of ADIs that are available in the set up and the number of used ADIs in connectors.

To view the total number of ADIs that are present and used, perform the following steps:

1. Click Total or Used icon on the Application Data Interface.



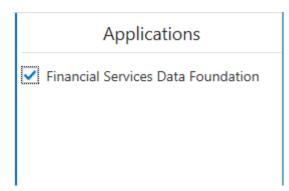
The Application Data Interface summary screen appears:

cal definit	ata Interi Iion of OFSAA	physical entities of S	itaging and Result a	rea						
h Applicati	on Data Interfac	e					٩			i +11
	Accoun	t Address	Account A	djustments	Account Bank	ruptcy Summary	Account Custo	omer Relationship	Account N	Mitigant Map
	17 Attributes 1 Applications	1 Physical Entities 11 Connectors	19 Attributes 1 Applications	1 Physical Entities 2 Connectors	40 Attributes 1 Applications	1 Physical Entities 1 Connectors	27 Attributes 1 Applications	2 Physical Entities 1 Connectors	20 Attributes 1 Applications	2 Physical Entities 1 Connectors
		<b>0</b>		<b>(1)</b>		<b>(1)</b>				0
	Account	Rate Tiers	Account	ing Entries	App	olicant	Applicatio	on Document	Application	Event Decision
	17 Attributes 1 Applications	1 Physical Entities 1 Connectors	62 Attributes 1 Applications	1 Physical Entities 1 Connectors	62 Attributes 1 Applications	1 Physical Entities 1 Connectors	7 Attributes 1 Applications	1 Physical Entities 1 Connectors	8 Attributes 1 Applications	1 Physical Entities 1 Connectors
				<b>(11)</b>		🕑 🕕				<b>()</b>
	Applicat	ion Group	Application Gro	up Event Decision	Application I	Party Role Map	Application Rej	ect Reason Master	Appl	lications
	17 Attributes	1 Physical Entities	8 Attributes	1 Physical Entities	8 Attributes	1 Physical Entities	3 Attributes	1 Physical Entities	193 Attributes	2 Physical Entities

- 2. Click to view the Mapping Report for that particular ADI.
- 3. You can view the summary details of all the ADIs that are present or used in either Card



- 4. The Search bar helps you to find the required information. You can enter the nearest matching keywords to search, and filter the results by entering information on the search box. You can search for an ADI name using either the name or description.
- 5. Click to filter the ADI. The RHS displays the applications you can select to filter.



- 6. Select the required application and the summary screen displays the filtered ADIs.
- 7. Click to view the Attributes for that particular ADI on the summary screen. For each ADI, you can view the following details, number of attributes, number of physical entities, number of applications and the number of connectors defined on that ADI.

Custome	er Account
4405	48
Attributes	Physical Entities
1	10
Applications	Connectors

- 8. Depending on the ADI selected, there may or may not be additional subtype filters. Such as, for Transactions: Customer Account, there is a Product Class list as subtype filters available. You can choose one or more Product class to filter the attributes listed below.
- 9. The selected ADI details are displayed. There are two views for each ADI:
  - Logical View: The Logical view shows all the attributes and its associated description with additional information. For example, if the attribute is mandatory or not for the selected application, its domain and LOV (List of values) that are possible for the particular attribute.
  - Physical View: The Physical view shows the underlying physical table name of the selected ADI. On selecting the physical table name, it shows the mapping between the logical attribute name and its corresponding physical column name.

At any given time, you can switch between logical and physical view.

**NOTE:** Click button to return to the Application Data Interface Summary.

10. In the Logical View, you can see the list of attributes, with their logical name, description about the attribute, domain of the specific attribute and the list of values.

ustomer	Account							?
				Logical View			ť	11 1
ubTypes	Search	Attributes		Search	٩	* Mandatory ab Deprecated	** Mandatory Fi	
		Name		Description	Domain	List Of Valu	es	¥
	ALM Account Summary	12 Month Gross Lo	iss Rate	This column holds the average Gross Loss rate faced by the group of accounts similar to the given account over a 12 month period	o Percent_Long			^
		12 Month Net Loss	i Rate	This column holds the 12 Month Net Loss rate for the given account. It is computed as the product of the 12 month Roll Rate and the 12 Month Loss Rate	Percent_Long			
	Annuity Contracts	12 Month Roll Rate	,	This column holds the 12 Month Roll rate corresponding to the account. This roll rate is arrived by considering the Rating / DPD Band of the account and the Roll rate projectio for the next 12 months				
	Bills Contract	120 Days And Abo	ve Past Due Balance	This column stores the 120+ Days Past Due Balance	Amount			1
	Borrowing Commitment	12month Provision	Rate	This refers to Provision rate applicable for a given exposure considering a 12 month period, that meets specified rating or delinquency band code. This rate helps arrive at a 12 month Expected Credit loss as per the requirement of IFRS 9	Percent_Long			
	Contracts	30 Days Past Due E	ialance	Deprecate.Use alternate Specific columns like EOP, CYC etc	Amount			
	Borrowings	Page 1 of 3	68 (1-12 of 4407 ite	ems) K < 1 2 3 4 5 _ 368 → X				
	×							25

- 11. For example, in case of ADI with subtype such as Customer Account, the physical table name is based on the Subtype. Hence, one or more physical table names may appear.
- 12. For example, in case of ADI with subtype such as Account Address, <sup>a</sup> PII Attributes are displayed.

	Logical View			+t1
ttributes	Search	9	* Mandatory ab Deprecated	** Mandatory For Ap A PII Attribu
Name	Description	Domain	List Of Values	¢,
Account Address Purpose Type Indicator	Purpose, or usage, of this address relative to this employee, List of values- M-Mailing, B-Business, L-Legal, A-Alternate O-Other, P-Primary, D-Duplicate, H-Home, X-Post Office Box and V-Delivery.	Indicator		
Account Or Contract Number *	This column stores the unique identifier of the account / contract held by the oustomer. Account number is defined as numbers, letters or alphanumeric code assigned to every significant outtomer, supplier and lender for ease of reference a financial institution's accounting records.		3	
Address Line 1	First line of the address component associated with the address.	Description		
Address Line 2	Second line of the address component associated with the address.	Description		
Address Line 3	Third line of the address component associated with the address.	Description		
Address Line 4	Fourth line of the address component associated with the address.	Description		
Address Line 5	Fifth line of the address component associated with the address.	Description		
Address Line 6	Sixth line of the address component associated with the address.	Description		

- 13. In the Logical View, you can search for an attribute name or description.
- 14. The following displays the mapping progress in percentage. It displays the number of attributes which are mapped.

82%

15. In Physical view, click the table name. You can view the attribute name, field name, data type, length, precision and .format.

						?
		Physical View				11
hysical Entities	Search		٩			
FCT, ALM, ACCOUNT, SUMMARY ALM Account Summary	STG, ANNULTY, CONTRACTS Annuity Contracts	STG, BILLS, CONTRACTS Bills Contract	STG_BORROWING Barrowing Commi	COMMITMENTS Itment Contracts	STG_BORROWINGS Borrowings	>
attributes	Search		٩			
Attribute Name	Field Name	Data Type	Length	Precision	Format	
Account / Contract Code *	N_ACCT_SKEY	NUMBER	15	0		
Average Life	N_AVERAGE_LIFE	NUMBER	14	2		
Base Value of Index	N_BASE_INDEX_VALUE	NUMBER	8	4		
Capital Protection Category Code	N_CAP_PROTECTION_CATEGORY_CD	NUMBER	5	0		
Convexity	N_CONVEXTY	NUMBER	10	6		
Credit Score Source	V_CREDIT_SCORE	VARCHAR2	20	0		
Current Gross Yield	N_CUR_YIELD	NUMBER	8	4		
Current Minimum Payment	N_CURR_MIN_PAYMENT	NUMBER	22	3		
Effective Interest Rate	N_EFF_INTEREST_RATE	NUMBER	11	6		
Extraction Date *	N_MIS_DATE_SKEY	NUMBER	10	0		
First Reset Cap	N_FIRST_RESET_CAP	NUMBER	10	6		
First Reset Floor	N_FIRST_RESET_FLOOR	NUMBER	10	6		

- 16. In the Physical View, you can search with either an attribute name or physical column name.
- 17. In both logical and physical view, you can click the filter icon.

A filter drawer appears on the LHS.

Applications	
Financial Services Data Foundation	
OFSAA Module	
Staging	
Result	
Domain	
Select Domain	
Others	
Mandatory	
Valid For Applications	
PII Attribute	
	Reset Apply

- 18. You can now filter with the following options: Applications, OFSAA Module, Domain or Others. These options are applicable for both physical and logical view.
- 19. Select the required filter option and then click Apply.

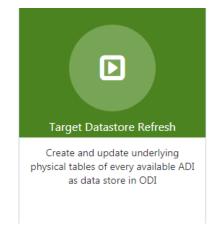
## 5.3 Refreshing Target Datastore

It represents underlying physical tables of every available ADI as data store in ODI. This process also works on incremental way.

Post data model upload, if the changes are to be made available in DIH, then first perform **Refresh ADI**. Once Refresh ADI is done, perform **Refresh Target Datastore**.

To refresh the Target Datastore list, perform the following steps:

1. Click Target Datastore Refresh on Application Data Interface screen.



The Refresh Target Datastore Interface summary appears:

= OR/	ACLE <sup>®</sup> Financial Services Data	Integration Hub				ñ
						<b>6</b> 9 ⊕ ≋
0	Run ID: 117	Start Time: 2017-12-29 18:08:43.75	Infodom: OFSDENFO	End Time: 2017-12-29 1819:38.131	Status: Falled	<b>A</b>
0	Run ID: 116	Start Time: 2017-12-15 14:37:19:516	Infodom: OFSDENPO	End Time: 2017-12-15 14:51:53.64	Status: Folied	<b>±</b>
0	Run ID: 115	Start Time: 2017-12-14 11:21:51:407	Infodom: OFSDENFO	End Time: 2017-12-14 11/45/59.505	Status: Successful	<b>±</b>
0	Run ID: 114	Start Time: 2017-11-04 00:39:21.182	Infodom: OFSDENFO	End Time: 2017-11-04 01:05:48.091	Status: Successful	<b>±</b>
0	Rum ID: 113	Start Time: 2017-11-04 00:18:20.184	Infodom: OFSDIINFO	End Time: null	Status: Aborted	
0	Run ID: 112	Start Time: 2017-10-19 17:06:48.698	Infodom: OFSDENFO	End Time: 2017-10-19 17:19:10:413	Status: Falled	<u>ٹ</u>
٥	Run ID: 111	Start Time: 2017-10-16 21:27:57:69	Infodom: OFSDENFO	End Time: 2017-10-16 21:36:26:46	Status: Falled	<b>A</b>
0	Run ID: 110	Start Time: 2017-10-02 20(4):24.064	Infodom: OFSDENFO	End Time: 2017-10-02 21:04:15.067	Status: Successful	<u>ه</u>
0	Run ID: 109	Start Time: 2017-09-19 20:23:32:775	Infodom: OFSDENFO	End Time: 2017-09-19 2047:27.153	Status: Successful	<b>.</b>

2. Click violation on the right hand side of the window to start the refresh of Target Datastore.

The ongoing Target Datastore.refresh appears as follows:



3. On successful invocation of TDS refresh, a message appears.



- 4. In case you need a detailed running log, click icon to download the log.
  A zip file is downloaded containing the detailed log for the execution.
- 5. To view the log details, extract the log file from the zip folder.

#### NOTE:

- 1. At any given time, click the refresh <sup>5</sup> icon to check the status if it is complete or still in progress.
- 2. Click to return to the Application Data Interface dashboard.

**NOTE:** This is not a day to day activity.

### 5.4 Command Line Utilities

Using the command line utility, you can invoke both Refresh Application Data Interface and Refresh Target Datastore process.

### 5.4.1 Prerequisites

• You must have access and execute permission to the following directory:

\$FIC\_HOME/ficdb/bin

• If secured protocol is enabled for accessing OFSAA application then "CURL\_CA\_BUNDLE" environment variable must be set where application is installed. The variable points to the path where CA certificate is available that is generated during application deployment.

For example: CURL CA BUNDLE=/usr/share/ssl/certs/ca-bundle.crt.

### 5.4.2 Invoking the Command Line Utilities

To invoke the command line utility for refreshing ADI and Target Datastore, perform the following steps:

1. Once the prerequisites are met, navigate to \$FIC\_HOME/ficdb/bin path and
execute RefreshADI.sh and then RefreshDS.sh.

This expects two mandatory parameters:

- a. Information Domain name where DIH is installed. This should be mandatorily mentioned in uppercase.
- b. OFSAA Login ID which can be specified in either lower or uppercase.
- 2. For example, refer the following screens.
  - a. For Refreshing Application Data Interface, use the following command:

./RefreshADI.sh <INFODOM NAME> <OFSAA USER>

Dload Upload Total Spent I	Comments
	ime Current
	eft Speed
0 0 0 0 0 0 0 0 0:: 0:00:08:	: 0

b. For Refreshing Target Datastore, use the following command:

./RefreshDS.sh <INFODOM NAME> <OFSAA USER>

/scra F	tch/dil	nodi/I	)IHHOME	E/fic	cdb/bi	n>./Ref	reshDS.sh	n OFSDII	NFO OFSAD		
₹ T	otal	% R€	ceived	182	Kferd	Averag	e Speed	Time	Time	Time	Current
						Dload	Upload	Total	Spent	Left	Speed
0								-::	0:00:04	::-	- 0
											_

### NOTE:

- If the webserver is of type Websphere, you may get an error message in the console as Refresh Target Datastore as fail. However, the process would still be ongoing. You can verify this from the application screen. In this case, you can ignore the message in the command prompt and proceed.
- If the webserver is of type Weblogic, you may encounter an error "curl: (35) SSL connect error". In this case, you should invoke the process from application screen and proceed.

## **6** Parameters

Parameters are place holders and constant values that have different uses in DIH.

- 1. Click icon in the DIH home screen to navigate to the **Data Mapping** window.
- 2. Click Parameters.

	ces Data Integration Hub					ñ
Administration	Data Mapping					
Application Data Interface	Manage DIH Mapping activities					
Data Mapping						
Execution		Parameters	External Data Store	External Data Descriptor	Connector	
		Define and maintain Parameters	Define and maintain the External Data Store information	Define and maintain the External Data Descriptor information	Define and maintain the Connectors for the data load process	

### The Parameters Summary appears.

ORACLE <sup>®</sup> Financial Services Data Integration Hub				ñ
Parameters Define and maintain Parameters				
	Search	٩		
DEFAULT_GAAP Description: Dehut GAAP @ Rudsher	Type: Constant Value: USGAAP	Last Modified By: OFSAD Last Modified Date: 2017-11-10 1855/13.0	۵	€ į
MIS_DATE Description: Default MIS Date Parameter Status: Saved	Type: RunTime Default Value: null	Last Modified By: OFSAD Last Modified Date: 2017-11-13 19:46/21.0	۵	
NOT_AVAILABLE Description: Not Available @ Rubitated	Type: Constant Valuer 0	Last Modified By: DIHUSSR Last Modified Date: 2017-04-14 09:40:05.0	۵	
OBP_DATA_ORIGIN Description: Data Origin For OBP @ Rudsalect	Type: Constant Value: OBP	Last Modified By: DHUSER Last Modified Date: 2017-05-09 1800:55.0	۵	
ODI_NLS_LANG Description: Character set of the input datafile for File type sources Status: Seved	Type: Constant Value: NA	Last Modified By: DHUSER Last Modified Date: 2017-08-22 00:1418.0	۵	
ODI_ORACLE_HOME Description: Oracle home path where ODI agent is configured Status: Saved	Type: Constant Value: NA	Last Modified By: DHUSER Last Modified Date: 2017-05-22 0054:17.0	۵	
POSTING_FLAG Description: Posting flag Status: Saved	Type: Constant Value: Y	Last Modified By: OFSAD Last Modified Date: 2017-12-15 13:4447.0	۵	
SYS_DATE Description: Current Date Parameter @ Patiationer	Type: Current Date Date Format: dd/mm/yyyy	Last Modified By: DFSAD Last Modified Date: 3017-08-37 1023/300	۵	Show More1-8 of 21 items

This chapter includes the following sections:

- Fields and Descriptions
- <u>Defining a Parameter</u>
- Modifying and Viewing a Parameter
- Deleting a Parameter
- Unpublishing a Parameter
- Dependency
- Search and Filter
- Parameter in EDD Definition
- Parameters in Connector

# 6.1 Fields and their descriptions

Fields displayed in Parameters screen are explained in the following table.

Parameters Define and maintain Parameters	() (1)
Parameter Name *	DEFAULT_GAAP
Parameter Description	Default GAAP
Parameter Type	Constant v
Value *	USGAAP
Audit	tTrail
Created By: OFSAD Modified By: OFSAD	Created Date: 2017-11-10 1851:13.0 Last Modified Date: 2017-11-10 1851:13.0

Fields	Description
Fields marked in red aster	isk(*) are mandatory
Parameter Name	The name for the placeholder that you want to define. For example, MISDATE, which can be used as a placeholder for Date.
Parameter Description	The description for the parameter you want to define. In this example, the description can be, "MISDATE can be used to substitute the date values for each day, dynamically, in mmddyyyy format."
Parameter Type	<ul> <li>There are 3 parameter data types:</li> <li>Constant: Constant data type is selected, for substituting a constant value.</li> <li>RunTime: RunTime data type is selected for substituting a value dynamically, in run time. In the example that is used here, MISDATE can be selected as Run Time, because, it is used to make a substitution, dynamically.</li> <li>CurrDate: CurrDate data type is selected for substituting a value as Current System Date.</li> </ul>
Value	Only for constant types. Holds the actual value that of the parameter

## 6.2 Defining a Parameter

To define a new Parameter, perform the following steps:

1. Click the Add <sup>t</sup> button on the Parameters Summary. The Parameters screen appears.

Parameters Colora and maintain Faremeters	0®
	Save)
Parameter Name *	
Parameter Description	
Parameter Type	Constant 👻
Value *	
Audit	Trail
Created By: OFSAD	Created Date: 2018-1-4 13:31:13
Modified By:	Last Modified Date:

2. Enter the Parameter Name and description.

Example: Parameter Name: MISDATE

- 3. Select the Parameter Type (Constant/Runtime/Current Date) from the drop down list.
- 4. Enter the Value/ Default Value/ Date Format in its respective field.

The fields are explained as tabulated in the Fields and their Description section

5. Enter the above details and click **Save** to save the changes made.

**NOTE:** Click <sup>T</sup> button to return to the Parameters Summary.

The *Audit Trail* section at the bottom of the screen displays the information of the parameter created.

## 6.3 Modifying and Viewing a Parameter

You can edit or view an existing Parameter, other than the Parameters which are in published status.

NOTE: You cannot edit the parameter if the parameter is in published state.

To edit or view a parameter, perform the following steps:

- 1. To edit or view a Parameter, you can select the required parameter from the Parameters Summary.
- 2. The details of the selected Parameter is displayed. You can modify or view the details.
- 3. Only the Parameter description, Parameter Type and the Value / Default Value / Date Format can be edited on this screen. Update the required details.
- 4. Click **Save** to save the changes made.

**NOTE:** Click <sup>1</sup> button to return to the Parameters Summary.

## 6.4 Deleting a Parameter

To delete an existing parameter, perform the following steps:

- 1. On the Parameters Summary, click Delete 🛈 button. A confirmation dialogue appears.
- 2. Click Yes. The Parameter details are deleted.

### NOTE:

The Delete button is enabled only in the following cases:

- a. If the parameter is not in published state.
- b. If it is not used by any higher object, for example: Connector/EDD.
- c. If it is pre-seeded.

### 6.5 Unpublishing a Parameter

You can unpublish a parameter only when all the following conditions are met:

- 1. The parameter is in published state.
- 2. All the higher objects using the parameter are in unpublished state, for example: Connector/EDD.

To unpublish a parameter, perform the following steps:

- 1. Select the required parameter from the parameter summary. The details of the selected parameters are displayed.
- 2. Click Unpublish.

### NOTE:

Parameters get published automatically by the system whenever the higher objects (EDD/Connector) which are using it, are published.

### 6.6 Dependency

As the name suggests, on clicking the Dependency icon<sup>1</sup>, it lists where the entire parent Parameter has dependency.

### 6.7 Search and Filter

The Search and Filter option in the user interface helps you to find the required information. You can enter the nearest matching keywords to search, and filter the results by entering information on the search box. You can search for a parameter using either the name, description, status or type.

For example, enter the Parameter key word as 'ODI' in the search box. The entire Parameter name with ODI is listed.

ORACLE <sup>*</sup> Financial Services Data Integration Hub				ń
Parameters Define and maintain Parameters				•
	001	٩		
ODI_INLS_LANG Description: Character set of the input datafile for File type sources Status: Seried	Type: Constant Value: NA	Last Modified By: DHUSER Last Modified Date: 2017-08-22 0014-18.0	0	<b>e</b>
ODI_ORACLE_HOME Description: Oracle home path where OOI agent is configured Status Swed	Type: Constant Value: NA	Last Modified By: DHUSER Last Modified Date: 2017-08-22 001417.0	۵	

## 6.8 Parameters in EDD Definition

While defining an EDD, parameter can be used as a place holder in a data filename.

		Parameters		
	Search	٩,		
DEFAULT_GAAP Description: Default GAAP @ Published	Type: Constant Value: USGAAP	Last Modified By: OFSAD Last Modified Date: 2017-11-10 18:51:13.0	٨	
MIS_DATE Description: Default MIS Date Parameter Status: Saved	Type: RunTime Default Value: null	Last Modified By: OFSAD Last Modified Date: 2017-11-13 19:46:21.0	۵	
NOT_AVAILABLE Description: Not Available @ <i>Published</i>	Type: Constant Value: 0	Last Modified By: DIHUSER Last Modified Date: 2017-04-14 09:40:05.0	۵	
OBP_DATA_ORIGIN Description: Data Origin For OBP @ Rublished	Type: Constant Value: OSP	Last Modified By: DIHUSER Last Modified Date: 2017-05-09 18:00:58.0	٨	
ODI_NLS_LANG Description: Character set of the input datafile for File type sources Status: Saved	Type: Constant Value: NA	Last Modified By: DIHUSER Last Modified Date: 2017-08-22 00:14:18:0	۵	
ODI_ORACLE_HOME Description: Oracle home path where ODI agent is configured Status: Saved	Type: Constant Value: NA	Last Modified By: DiHUSER Last Modified Date: 2017-08-22 00:14:17.0	٨	
				Show More 1-8 of 14 items

#### For example:

Consider a table with 2 columns, such as Account number and Balance.

Account Number	Balance
A1	1000
A2	1000
A3	1000
A1	1000
A2	1500
A3	1500

In the above example, a customer has 3 accounts (A1, A2 and A3).

The customer has deposited different amounts on January 1<sup>st</sup> and 2<sup>nd</sup> 2014. The csv data files can be created for those two dates as follows:

The account transaction for January 1<sup>st</sup> 2014 is saved as

td\_contracts\_/01012014/.csv

The account transaction for January 2<sup>nd</sup> 2014 is saved as

td\_contracts\_/01022014/.csv

If a parameter, MISDATE is defined as a runtime, this can be used as a place holder that substitutes date in mmddyyyy format. That is, the data filename can be mentioned as td\_contracts\_%#MISDATE%.csv. When this file is called, it substitutes the date in the file name, dynamically, in the run time.

Parameters Data Types need not always be RunTime. They can be Constants or values like Current Date, which can also be used to substitute a value in a data filename.

## 6.9 Parameters in Connector

Parameters are used while defining the mapping, between EDD to ADI. While mapping the ADI to EDD, the fields or columns within the ADI needs to be mapped to the fields in EDD. If there are no corresponding extracts in EDD, parameters can be used to identify the default values for certain ADI elements. Also, parameters can be used while defining derived columns during mapping.

For Example: If you want to use the Runtime MIS date as parameter then, it needs to be converted to a date first. So, the expression would be following.

To\_char(to\_date(#DIHDEV.MIS\_DATE,'dd-MON-YYYY'),'MM')

**NOTE:** Runtime batch MIS date will be in string format. It needs to be converted to DATE. The date format used here should be a valid SQL date format.

# 7 External Data Store

This option enables to define the External Data Store (EDS) information. DIH supports Oracle database, XML, EBCDIC, Flat file data sources, DB2, SQL server, Sybase, Teradata, and Big data sources such as HDFS and Hive.

- 1. Click icon in the DIH home screen to navigate to the **Data Mapping** window.
- 2. Click External Data Store.

	ces Data Integration Hub				ñ
Administration	Data Mapping				
Application Data Interface	Manage DBH Mapping activities				
Data Mapping					
Execution		Parameters	External Data Store	External Data Descriptor	Connector
		Define and maintain Parameters	Define and maintain the External Data Store information	Define and maintain the External Data Descriptor information	Define and maintain the Connectors for the data load process

The External Data Store Summary appears.

nal Data Store				0
nd maintain the External Data Store information				O
	Search	٩		
DB2_test Description: DB2_test Status: Saved	Type: DI3 file Location: null DB Connection: test	Last Modified By: OFSAD Last Modified Date: 2017-11-30 1419/00.0	00	Ð
DIHATM8 Description: EDS	Typer DIACLE DE Tile Locations rull DB Connections Jaboonaceshim@John103asjin.onscie.com.1321/0F501	Last Modified By: OFSAD Last Modified Date: 2017-12-07 185200.0	۵	
DRM_SRC_FILES Descriptions Source for DRM File Load Interfaces Status: Saved	Type: File File Location / COERServer/Source/ORM_FileS DB Connection: null	Last Modified By: DFSAD Last Modified Date: 2017-12-05 17:32:00.0	۵	
FAH_STAGE_SRC Descriptions: Staging Source for Oracle Fusion Accounting Hub Status: Saved	Type: DRACLE DB File Location: Inuil DB Connection: Jobcorscieth/n:@OFSAADEPPORTSD	Last Modified By: OF5AD Last Modified Date: 2015-01-22 10:25:00.0	00	
FCUBS_STAGE_SRC Descriptions Stage Source for Percube Universal Banking Status: Saved	Type: DRACLE DB File Location: null DB Connection: jobcoracethim@SOURCEPPOR15D	Last Modified By: 075AD Last Modified Date: 2017-11-29 1540:00.0	۵	
HDFS_test Description:1015_test Status: Saved	Type: HDP5 File Location: tomcs/foler/temp DB Connection: hdts/10.194/157.691523	Last Modified By: D04USER Last Modified Date: 2017-04-21 1602000	0	
OBP_STAGE_SRC Descriptions: Staging Source for Oracle Banking Platform Status: Saved	Type: 0ALCLE DB File Location: null DB Connection: jobconace:thin:@SOURCEPPORTSID	Last Modified By: 0F5AD Last Modified Date: 2015-01-02 18/25/000	00	
ORACLE_DB Description: null	Typer ORACLE DB File Location: ruli DB Connection: (stoorecentrini)#10.184.157.69.1522/55/C0822G	Last Modified By: 20HUSER Last Modified Date: 2017-04-14 13:54:00.0	۵	

- 3. In the **Source Systems** section of the External Data Store Summary, you can define, edit, and delete a source.
- 4. You can make use of the <u>Search</u> option to search for a specific Source.

This chapter has the following sections:

- Fields and Descriptions
- <u>Creating an External Data Store</u>
- Modifying and Viewing an External Data Store
- Deleting an External Data Store
- Unpublishing an External Data Store
- Dependency

## Search and Filter

# 7.1 Fields and their descriptions

Fields	Description			
Fields marked in re	Fields marked in red asterisk(*) are mandatory			
Source Name	Is the name of the Source we are going to create. Example: USG_FILE_SRC. This must be in uppercase.			
Source Description	A description for the Source is to be mentioned. Example: The landing zone where all the required files will be arrived for loading data into OFSAA.			
Source Type	<ul> <li>The available options are:</li> <li>EBCDIC: Extended Binary Coded Decimal Interchange Code (EBCDIC) File is a binary code for alphabetic and numeric characters.</li> <li>FILE: American Standard Code for Information Interchange (ASCII) File is a characterencoding scheme.</li> <li>HDFS: Hadoop Distributed File System (HDFS) is an open source and fundamentally a new way of storing and processing data. It enables distributed processing of huge amounts of data across industry-standard servers that both store and process the data, and can scale without any limits HDFS is Big Data in a raw format.</li> <li>HIVE: Hive provides a mechanism to project structure onto the data in Hadoop. Big data in tabulated format. On selecting this option, all the HIVE type files are displayed.</li> <li>ORACLE DB: An Oracle database (DB) is a collection of data treated as a unit. The purpose of a database is to store and retrieve related information. On selecting this option, all the ORACLE DB type files are displayed.</li> <li>XML: Extensible Markup Language (XML) is a markup language that defines a set of rules for encoding documents.</li> <li>DB2: IBM DB2 is a family of database server products. These products support the relational model.</li> <li>SQL Server: Microsoft SQL Server is a relational database management system. It is a software product with the primary function of storing and retrieving data as requested by other software applications which may run either on the same computer or on another computer across a network.</li> <li>Sybase: Sybase produces software to manage and analyze information in relational databases.</li> </ul>			
	<ul> <li>Teradata: Teradata Corporation provides analytic data platforms, applications and related services. Its products enable users to consolidate data from different sources and make the data available for analysis.</li> <li>With respect to the above example, select the Source Type as File.</li> </ul>			

Fields	Description				
Fields marked	Fields marked in red asterisk(*) are mandatory				
	<ul> <li>Note: For Db2/SQL Server/Teradata/Sybase to work as source for DIH, Jar files with the following JDBC driver classes should be copied into the following paths:</li> <li>1. <fic_home>/ficweb/webroot/WEB-INF/lib</fic_home></li> </ul>				
	2. <odi_home>/odi/agent/lib</odi_home>				
	<ul> <li>DB2: com.ibm.db2.jcc.DB2Driver</li> </ul>				
	<ul> <li>SQL Server: com.microsoft.sqlserver.jdbc.SQLServerDriver</li> </ul>				
	<ul> <li>Teradata: com.ncr.teradata.TeraDriver</li> </ul>				
	<ul> <li>Sybase: com.sybase.jdbc3.jdbc.SybDriver</li> </ul>				
	These are third party libraries. Therefore, the names of the files may change for each version. Refer to the documentation of these databases, for the exact name of the file which contains these drivers.				
	This field changes depending on the Source type you select.				
	For example:				
	If the Source type is selected as <b>File</b> , the next field is <b>File Location</b> . In this field, you need to mention the location of the file.				
	In case source file is encrypted,				
	Choose Encryption at Rest option and enter the Encryption Key File Path				
	• DIH must have access to the source file landing area.				
	Example: /landingzone/inputfiles				
	If the Source type is selected as HDFS, in addition to File Location, the following field appears:				
	HDFS JDBC URL: In this field, you need to mention the URL of the DB.				
	Example: hdfs:// <host>:<port></port></host>				
	If the Source type is selected as <b>HIVE</b> , the following field appears:				
	JDBC URL: In this field, you need to mention the URL of the DB.				
	Example: jdbc:hive:// <host>:<port>/<schema></schema></port></host>				
	For a Hive type EDS with Kerberos enabled, Conf File Path and Conf File Path fields accepts up to 1000 characters.				
	Kerberos: In this field, in case you select Yes, Conf File Path and Key Tab Path must be entered.				
	If you select No, enter User ID and Password if applicable.				
	Note : The keytab file must be generated with the principal name as 'ofsaa'				
	If the Source type is selected as <b>ORACLE DB</b> , the following fields appear:				
	URL: In this field you need to mention the URL of the DB				
	<b>Note</b> : The JDBC URL of the DB should be defined using the service name of the DB Instance. For example:				
	jdbc:oracle:thin:@// <hostname>:<port>/<servicename></servicename></port></hostname>				

Fields	Description
Fields marked in re	d asterisk(*) are mandatory
	User ID: Enter the User ID
	<b>Note</b> : Only the tables that are a part of this Schema can be defined in the External Data Descriptor Page.
	Password : Enter a password
	Schema: Enter the Schema name in upper case
	Encryption in Transit: Choose this option in case you want the data to be encrypted while
	reading from source.
	If the Source type is selected as <b>SQL Server</b> , the following Fields appear.
	URL: In this field, you need to mention the URL of the DB
	Note: The JDBC URL of the DB should be defined. For example:
	jdbc:sqlserver:// <hostname>\SQLExpress</hostname>
Location	User ID: Enter the User ID
	Password: Enter password.
	Schema: Enter the Schema name
	<b>Note</b> : Only the tables that are a part of this Schema can be defined in the External Data Descriptor Page.
	If the Source type is selected as Sybase, the following Fields appear
	URL: In this field, you need to mention the URL of the DB
	Note: The JDBC URL of the DB should be defined. For example:
	jdbc:sybase:Tds: <hostname>:<port></port></hostname>
	User ID: Enter the User ID
	Password : Enter password
	Schema: Enter the Schema name
	Note: Only the tables that are a part of this Schema can be defined in the External Data
	Descriptor Page.
	If the Source type is selected as <b>Teradata</b> , the following Fields appear
	URL : where you need to mention the URL of the DB
	Note: The JDBC URL of the DB should be defined. For example:
	jdbc:teradata:// <hostname></hostname>
	User ID: Enter the User ID
	Password : Enter password
	Schema: Enter the Schema name
	<b>Note</b> : Only the tables that are a part of this Schema can be defined in the External Data Descriptor Page.

Fields	Description
Fields marked in re	ed asterisk(*) are mandatory
	If the Source type is selected as DB2, the following Fields appear
	URL: In this field, you need to mention the URL of the DB
	Note: The JDBC URL of the DB should be defined. For example:
	jdbc:db2:// <hostname>[:<port>]/<database></database></port></hostname>
	User ID: Enter the User ID
	Password: Enter password
	Database: Enter the database name
	Note: Only the tables that are a part of this database can be defined in the External Data
	Descriptor Page.

## 7.2 Creating an External Data Store

While creating a Source, the fields that are displayed are explained as follows.

To create a new source from External Data Store Summary, perform the following steps:

1. Click Add to button on the External Data Store Summary. The External Data Store screen appears.

ORACLE <sup>*</sup> Financial Services Data Integration Hub	ñ
External Data Store Define and maintain the Laternal Data Store information	0®
	🔕 Save)
EDS Name *	
EDS Description	
Туре	File •
File Location	
Audit	Trail
Created By: OFSAD	Created Date: 2018-1-4 13:42:15
Modified By:	Last Modified Date:

- 2. Enter the EDS Name. Example: USG\_FILE\_SRC and enter a description for the same.
- 3. Select the Type from the drop down list. Example: File.
- 4. The rest of the fields will change as per the option selected for Type. If Source Type is selected as File, The File Location field needs to me mentioned.

The fields are explained as tabulated in the Fields and their Description section.

- 5. Click "Test Connection" to test the connection details (User ID/ Password) for the database types DB2, HIVE, Oracle DB, SQL Server, Sybase, and Teradata.
- 6. Enter the above details and click **Save**.

**NOTE:** Click button to return to the External Data Store Summary.

The *Audit Trail* section at the bottom of the screen displays the information of the source created.

## 7.3 Modifying and Viewing an External Data Store

To edit and view an external data store, perform the following steps:

1. To edit or view an EDS, you can select the required EDS from the EDS parameter summary.

**NOTE:** You can edit an existing EDS, other than the EDSs which are in published status.

- 2. The details of the selected EDS is displayed. You can modify or view the details.
- 3. EDS Name and EDS Type cannot be edited. Update the other required details.
- 4. Click **Save** to save the changes made.

**NOTE:** Click button to return to the Parameters Summary.

### 7.4 Deleting an External Data Store

To delete an existing EDS, perform the following steps:

- 1. On the EDS Summary, click Delete 🛈 button. A confirmation dialogue appears.
- 2. Click Yes. The EDS details are deleted.

### NOTE:

The Delete button is enabled only in the following cases:

- 1. If the EDS is not in published state,
- 2. If it is not used by any object.

## 7.5 Unpublishing an External Data Store

You can unpublish an EDS only when all the following conditions are met:

- 1. The EDS is in published state.
- 2. All the higher objects using the EDS are in unpublished state, for example: Connector/EDD.

To unpublish an EDS, perform the following steps:

- 1. Select the required EDS from the EDS summary. The details of the selected EDS are displayed.
- 2. Click Unpublish.

### NOTE:

EDS gets published automatically by the system whenever the higher objects (EDD/Connector) which are using it, are published.

### 7.6 Dependency

As the name suggests, on clicking the Dependency icon  $\checkmark$ , it lists where the entire parent EDS has dependency. That is, you cannot delete a child file without deleting the parent file.

### 7.7 Search and Filter

The Search and Filter option in the user interface helps you to find the required information. You can enter the nearest matching keywords to search, and filter the results by entering information on the search box. You can search for a parameter using either the name, description, status or type.

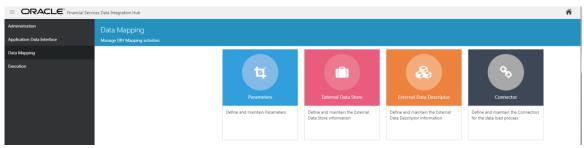
For example, enter the Parameter key word as 'DRM in the search box. All the EDS names with DRM are listed.

ORACLE <sup>®</sup> Financial Services Data Integration Hub				ŕ
External Data Store Define and maintain the External Data Store information				
	DRM	٩		
DRM_SRC_FILES Descriptions Source for DRM File Load Interfaces Status Saved	Type: FILE File Location: //OCIEEServer/Scratch/DRM_JILES DB Connection: null	Last Modified By: OFFAD Last Modified Date: 2017-12-05 17/32/00.0	۵	<b>e</b>

# 8 External Data Descriptor

The External Data Descriptor (EDD) allows defining or registering external source data structures in DIH. The EDD definition can be used for loading and extracting data into/from OFSAA. The control tab is not used for extraction. It is only used when reconciliation is required while loading data into OFSAA.

1. Click Menu icon in the DIH home screen to navigate to the **Data Mapping** window.



2. Click External Data Descriptor.

The External Data Descriptor Summary appears.

ORACLE <sup>*</sup> Financial Services Data Integration Hub			ñ
External Data Descriptor Define and maintain the External Data Descriptor information			?®
Search	٩	Sort by: Name: A->Z v	
AATB_ACCOUNTING_ENTRIES Description FOURS Stage table for Accounting Entries (i) Industrier)	External Data Store: FCUB5_STAGE_SRC Type: ORACLE 08	Last Modified By DHURR Last Modified Date: 2017-04-14 1533:00.0	۰ 🕈
AATB_ACCT_ADDRESS Description: RCUES Stage table for Account Address @Industance	External Data Store: FCUBS_STAGE_SRC Type: DRACLE DB	Last Modified By: DIHUSER Last Modified Date: 2017-04-14 15:33:00.0	٥
AATB_ACCT_EMAIL_ADDR Description: KOUIS Stage table for Account Brail Address @Rudsteer	External Data Store: FCU85_STAGE_SRC Type: ORACLE D8	Last Modified By: DDHUSER Last Modified Date: 2017-04-14 15:33:00.0	۵
AATB_ACCT_MITIGANT_MAP Decorption: KOUS Stage table for Account Mitgant Map @Trutationer	External Data Store: FCUBS_STAGE_SRC Type: ORACLE DB	Last Modified By: DDHUSER Last Modified Date: 2017-04-14 15:33:00.0	٥
AATB_ACCT_PHONE Description: FCUBS Stage table for Account Phone Stattas: Saved	External Data Store: FCUB5_STAGE_SRC Type: ORACLE DB	Last Modified By: OFSAD Last Modified Date: 2017-11-13 19:56:00.0	۵
AATB_ACCT_STATUS_MAST Description: FCUIS Stage table for Account Status Master Status: Seved	External Data Store: FCUB5_STAGE_SRC Type: ORACLE DB	Last Modified By: OFSAD Last Modified Date: 2017-11-13 19:5000.0	۵
AATB_BC_CONTRACTS Descriptions FUCES Stage Table for Blis Contract Status: Seved	External Data Store: FCU85_STAGE_SRC Type: ORACLE D8	Last Modified By: OF54D Last Modified Date: 2017-11-13 19:46:00.0	0 <b>O</b>
AATB_BC_CONTRACTS_TXNS Description TUCIS Stage Table for BIL Contract Transaction States Seved	External Data Store: FCUB5_STAGE_SRC Type: ORACLE DB	Last Modified By: 07540 Last Modified Date: 2017-11-13 19:4600.0	Show More_ 1-8 of 638 items

This chapter has the following sections:

- Fields and Descriptions
- Creating an EDD
- <u>Modifying and Viewing an EDD</u>
- Deleting an EDD
- Unpublishing an External Data Descriptor
- Dependency
- Search and Filter

# 8.1 Fields and their descriptions

## 8.1.1 Data tab

Fields	Description
Fields marked in red aster	isk(*) are mandatory
Data File Name	You can add multiple data files to an EDD. For example, You need to add Term Deposits Contracts data file. There are Term Deposits Contracts data files for Retail as well as Corporate accounts. Therefore, to get both these details, you first add the Term Deposits Contracts data file for Retail accounts, say, td_contracts%#MISDATE%_1.csv and as the next record, add Term Deposits Contracts data file for Corporate accounts. Example: td_contracts%#MISDATE%_1.csv
Record Delimiter	<ul> <li>The records are stored differently in different operating systems. The options available are:</li> <li>MS-DOS</li> <li>Unix</li> <li>No Record Delimiter</li> <li>Other</li> <li>With respect to the example, select Unix.</li> </ul>
File Format	<ul> <li>There are 2 options:</li> <li>Fixed Length: The file will have records and columns with a fixed length. Each column will have a predetermined and unchanging size, set when the record layout is designed, and the sum of the column sizes will add up to the record size.</li> <li>Delimited: There will be a separation of the records and columns using a delimiter character like comma, semicolon, hyphen and so on.</li> <li>With respect to the above example, select <i>Delimited</i>.</li> </ul>
Text Qualifier	It's a character that identifies a text. This is used when some characters exists within a text. Generally, double quotes are used, prefixed and suffixed with a text. This is optional.
Skip Number Of Records	The number of records to be skipped is to be mentioned. The records are skipped from the top. Generally, this is to skip the Headers.
Decimal Separator	This mentions up to which decimal digit you want to view the result in.

Fields	Description
Fields marked in red aster	sk(*) are mandatory
Read from template	A template contains all the values and is in Excel file format. If the template is not available, you need to create it manually by clicking the Add button, under Source Data Elements tab. If the template is available, you can browse for the template. Refer to the <u>File EDD Template</u> . You can also drop the template in the area " <sup>Drop template here or dick to select</sup> ".
Select Template (*.xls,*.xlsx,*.csv Files Only	You can click Browse and select the required template.
Data Elements	
Name	Name of the field in EDD. Example: Field name in a file or column name in a table. Note: Field name of XML type should not be more than 25 characters and for others should not be more than 30 characters.
Туре	This shows the Data type of the field. Example: String, Number, EBCDIC and so on.
Length	This is applicable only for EBCDIC format. This is the length of EBCDIC data type. In case of file, it is length only.
Precision	It is to specify the decimal point. Example: 10.3.
Format	It is the format to specify the date format. Example: YYYY-MM-DD. The format should be in capitals.
Record Type Code	This identifies the Record type in a file where Header, Trailer and Data are of different record length and type. The values can be any string available in the text file. This value is only possible for the first field in a file. Example: The values can be DATA; CTRL to specify it is a control record.

## 8.1.2 Control tab

Fields	Description
Fields marked in red aster	isk(*) are mandatory
When Separate File is selected	ed as Yes.
File Name	Specify the name of the file.

Fields	Description
Fields marked in red aster	isk(*) are mandatory
File Format	<ul> <li>There are 2 options:</li> <li>Fixed Length: The file will have records and columns with a fixed length. Each column will have a predetermined and unchanging size, set when the record layout is designed, and the sum of the column sizes will add up to the record size.</li> <li>Delimited: There will be a separation of the records and columns using a delimiter character like comma, semicolon, hyphen and so on.</li> <li>With respect to the above example, select <i>Delimited</i>.</li> </ul>
Column Delimiter	If the File Format is selected as Fixed Length, the Column Delimiter would by default be Other. If the File format is selected as Delimited, the following options are available in the drop down list. • Other • Space • Semicolon • Comma • Tab With respect to the above example, select <i>Comma</i> .
Record Type Code	Used to uniquely identify a record within a file. Many times, Bank provides file having data and control record within same file. In that case, in order to distinguish between data record and control record, the first field is Record Type. It has a specific value to identify that. Here, specify the value that identifies the Data. Values can be 'DATA' and so on. For Control record, the value is specified under control tab. Only the first field of a file is used for Record Type.
Record Delimitter	The records are stored differently in different operating systems. The options available are:      MS-DOS      Unix      No Record Delimiter      Other With respect to the example, select Unix.
Skip number of records	The number of records to be skipped is to be mentioned. The records are skipped from the top. Generally, this is to skip the Headers.

Fields	Description
Fields marked in red as	sterisk(*) are mandatory
Text Qualifier	It's a character that identifies a text. This is used when some characters exists within a text. Generally, double quotes are used, prefixed and suffixed with a text. This is optional.
Decimal separator	This mentions up to which decimal digit you want to view the result in.
Record Type Length	This is applicable only for Control records that are of Fixed length. The length of the record type value to pick up the correct record. For example, if control record is "DATATotal Records400" .and DATA is the Record type, the length is '4'.
Control Name Length	Based on the above example, Control name is "Total Records". Hence, the Control Name Length is '13'.
Control Value Length	Based on the above example, the Control value is 400. Hence, the length of the control Value is '3'
Controls	
Name	Specify the name of the file.
Count	Select either Aggregation Method or Count
When Separate File is sele	ected as No.
Record Type Length	This is applicable only for Control records that are of Fixed length. The length of the record type value to pick up the correct record. For example, if control record is "DATATotal Records400" .and DATA is the Record type, the length is '4'.
Record Type Code	Used to uniquely identify a record within a file. Many times, Bank provides file having data and control record within same file. In that case, in order to distinguish between data record and control record, the first field is Record Type. It has a specific value to identify that. Here, specify the value that identifies the Data. Values can be 'DATA' and so on. For Control record, the value is specified under control tab. Only the first field of a file is used for Record Type.
Control Value Length	Based on the above example, the Control value is 400. Hence, the length of the control Value is '3'
Control Name Length	Based on the above example, Control name is "Total Records". Hence, the Control Name Length is '13'.
Controls	
Name	Specify the name of the file.
Count	Select either Aggregation Method or Count

## 8.1.3 Transformation Tab

Fields	Description
Fields marked in red asteri	isk(*) are mandatory
Transformation Type	This is a drop-down listing different types of transformation supported. Currently, only Aggregation is supported.
If the Transformation Type is	selected as <b>None</b> :
Derived Data Elements	
Name	Name of the derived field in EDD. Note: Field name should not be more than 30 characters.
Туре	This shows the Data type of the field. Example: Varchar2, Number, Date, and so on.
Expression	On selecting 'Add option', the Specify Expression window appears. Here, you can select the required Entities, Functions and Operators. That is, you can write your own expression. Enter the field name and click OK. Now the newly created field name will be listed.
If the Transformation Type is	selected as Aggregation:
Derived Data Elements	
Name	Name of the derived field in EDD. Note: Field name should not be more than 30 characters.
Туре	This shows the Data type of the field. Example: Varchar2, Number, Date, and so on.
Expression	On selecting 'Add option', the Specify Expression window appears. Here, you can select the required Entities, Functions and Operators. That is, you can write your own expression. Enter the field name and click OK. Now the newly created field name will be listed.
Aggregation Properties	
Group By	This is available when Aggregation is selected.
Having	This is available when Aggregation is selected.

# 8.2 Creating an External Data Descriptor

To create a new EDD from the *External Data Descriptor* window, perform the following steps:

1. Click the Add the button from the tool bar. The *External Data Descriptor Specifications* window appears.

 In the External Data Store Name section, select Data Source from the drop down list. The Data Source is the Source you had created. In this example it is, *DRM\_SRC\_FILES*. The values in <u>creating an external data store</u> example are used. The description comes up automatically.

### NOTE:

- The fields in the External Data Descriptor Specification Details section changes as per the Source Code selected.
- For HDFS data, the working date format is yyyy-MM-dd.
- For Hive table, the working date format is dd-MON-yyyy.
- For Sybase source database, date data type is not supported. It has to be timestamp.
- For file extract, SDI date format is not supported. By default it produces timestamp. If a particular format is required then derived column has to be defined with specific format in connector.

											0
				Details	Data	Control	Transformation			Save Save	Save As Draf
			Data File Name COA_B.txt ×				+				
			File Format Delimited	*				Record Delimiter Unix	*		
			olumn Delimiter Comma					Text Qualifier			
			ther Of Records					Decimal Seperator			
	Elements Order		ther Of Records		Length	Scale		Decimal Separator	Record Type Code		+
		Rest	from Template	¥	Length 38	Scale 0			Record Type Code		+
	Order	Rest	from Template	¥				Format			+
0	Order 16	Read Name DISPLAY_CODE	From Template		38	0		Format	Record Type Code		+
8	Order 16 17	Reso Name DISPLAY.CODE LEAF_CHAY_FLAG1	from Template Type Number String	*	38 50	0		Format Format	Record Type Code Record Type Code		+

 In the External Data Descriptor Specification Details tab, enter the Name and description.

For example:

Name: DRM\_FILE\_SRC. This must be in uppercase.

Description: Term deposit data from USG source on daily basis.

In the Source Data tab, enter the Data File Name. To add more files to the existing EDD, click the + symbol against the Data File Name field.

Example: td contracts%#MISDATE% 1.csv

td contracts%#MISDATE% 2.csv

- Select the File Format, Record Delimiter, and Column Delimiter from the drop down list.
- 5. Enter the Text Qualifier, Skip number of Records, and Decimal Separator fields.

6. For the 'Read from Template' option, on selecting **Yes**, you can browse the required template (only in .xls and .xlsx format) or drop the template / click select in the Data Elements filed and upload it.

The fields are explained as tabulated in the Fields and their Description section.

	Read From Template	Select Template (*xis,*xisx,*csv Files Only)	Browse	
Data Elements				
		Drop template here or click to select		

7. If data needs to be reconciled post loading, then control has to be defined for the EDD by clicking on Control Tab. In this version, only Number of records control is possible.

ORACLE <sup>*</sup> Financial Services Data Integration Hub						ñ
						() ()
	O Details	O Data	Control	Transformation		Save Save As Draft
Seperate Pile						
Fie Name				File Fo	rmat Fixed Length *	
Column Delimiter	Space v			Record Type	Code	
Record Delimiter	MS-DOS 👻			Skip Number Of Re	onds	
Text Qualifier				Decimal Sepe	rator	
Record Type Length				Control Name Le	ngth	
Control Value Length						
Controls						
1 Name				Aggregation Method		*

8. To transform the EDD, click the Transformation tab.

ORAC	ELE <sup>®</sup> Financial Set	vices Data Integration Hub							
xternal Data Desi	criptor Details								🔮 Save 🔮 Sa
		* External Data Store Name	DRM_SRC_FILES				External Data Store Descriptio	Source for DRM File Load Interfaces	
		* External Data Descriptor Name	Prod_Attr_Product_Code				External Data Descriptor Descriptio	Product Dimension extract to populate n attribute Product Code	
					Data Cont	ol Transformation			
		Transformation Type	None	*					
Derived Data Ele	ments								
Order	Name	Type			Expression				
1	Derived Amount	DATE	*						6
Page 1 of 1 (	1 of 1 items) K	1 > >							
					A	idit Trail			
reated By: DIHU	ISER					Created Date: 2017-	04-14 10:05:22.0		
Addified By: DIH							117-04-14 10:06:22.0		

- 9. You can add derivation to few data elements of the EDD.
  - a. Create derived data elements by clicking Add + button.
  - b. To edit the derived data element, click Edit 🕑 button.

rived Data Elerr Order		Туре		Expression		+
1	Derived Amount	DATE	Ŧ		60	

c. This will launch *Expression* window. Expression can be specified using the data elements defined in the *Data* tab and functions.

Expression		×
Entities Q Prot./m/indext.foor Pareners	Functions	Operators
Epreson		(Repert) (Validate) OK

d. To delete the derived data element and click Delete 🐸 button.

10. Click the *Transformation* tab and select the Transformation Type.

a. Select Aggregation, and click Edit button to view *Expression* Window.

Prod. Alle, Product, Code Prod. Alle, Product, Code Parameters	Q. Functions	Operators
presion		(Rest.) Valdan

- b. Specify the Group by clause and Having expression, if applicable.
- c. Define Derived Data Elements for field to be aggregated under previous tab.

**NOTE:** You can click **V** button to refresh the data elements.

11. Click Save.

## 8.3 Modifying and Viewing an External Data Descriptor

You can edit or view an existing EDD, other than the EDDs which are in published status.

NOTE: You cannot edit the EDD if the EDD is in published state.

To edit or view an EDD, perform the following steps:

- 1. Select the required EDD from the EDD Summary.
- 2. The details of the selected EDD is displayed. You can modify or view the details.
- 3. Update the required details.
- 4. Click **Save** to save the changes made.
- 5. Click **Save as Draft** in case you wish to save it and update it later. The status shows as draft.

Note: Click <sup>the</sup> button to return to the Parameters Summary.

## 8.4 Deleting an External Data Descriptor

This option only checks the higher order object. That is, if the order has dependency, you cannot delete unless the dependency is removed.

For example, assume EDD is used in Connector. Then, unless the Connector is deleted, the used EDD cannot be deleted.

To delete an existing EDD, perform the following steps:

- 1. On the EDD Summary, click Delete Ü button. A confirmation dialogue appears
- 2. Click Yes. The EDD details are deleted.

### NOTE:

The Delete button is enabled only in the following cases:

- a. If the EDD is not in published state,
- b. If it is not used by any object.

## 8.5 Unpublishing an External Data Descriptor

You can unpublish an EDD only when all the following conditions are met:

- 1. The EDD is in published state.
- 2. All the connectors using the EDD are in unpublished state.

To unpublish an EDD, perform the following steps:

- Select the required EDD from the EDD summary. The details of the selected EDD are displayed.
- 2. Click Unpublish.

### NOTE:

EDD gets published automatically by the system whenever the higher objects (Connector) which are using it, are published.

### 8.6 Dependency

As the name suggests, on clicking the Dependency icon<sup>22</sup>, it lists where the entire parent EDD has dependency.

### 8.7 Search and Filter

The Search and Filter option in the user interface helps you to find the required information. You can enter the nearest matching keywords to search, and filter the results by entering information on the search box. You can search for an EDD using either the name, description, status or type.

For example, enter EDD key word as 'AATB\_ACCT' in the search box. The entire EDD name with AATB\_ACCT is listed.

ORACLE <sup>*</sup> Financial Services Data Integration Hub				ñ
				(?) (11)
AATB_ACCT_	٩	Sort by: Last Modified Date: Oldest F *		
AATB_ACCT_ADDRESS Description: FCVBS Stage table for Account. Address @Rationeer	External Data Store: PCUB5_STAGE_SRC Type: CRACLE DB	Last Modified By: DHUSER Last Modified Date: 2017-04-14 1533:00.0	ø	Ð
AATB_ACCT_EMAIL_ADDR Description: KOUS Stope table for Account Email Address @ Autointeet	External Data Store: FCUB5_STAGE_SRC Type: DRACLE D8	Last Modified By: DHUSER Last Modified Date: 2017-04-14 15:35:00.0	۵	
AATB_ACCT_MITIGANT_MAP Description: FCUBS Stope table for Account Mitigant Map @Publisher:	External Data Store: FCUB5_STAGE_SRC Type: DRACLE DB	Last Modified By: DHUSER Last Modified Date: 2017-04-14 15:33:00.0	۵	
AATB_ACCT_STATUS_MAST Description: FCUBS Stope table for Account Status Master Status Seved	External Data Store: FCU85_STAGE_SRC Type: CRACLE DB	Last Modified By: OFSAD Last Modified Date: 2017-11-13 19:50:00.0	۵	
AATB_ACCT_PHONE Description: FCUBS Stage table for Account Phone Statist Seved	External Data Store: FCU85_STAGE_SRC Type: CRACLE D8	Last Modified By: OFSAD Last Modified Date: 2017-11-13 19:56:00.0	۵	

# 9 Connectors

Connector allows mapping one or more External Data Descriptor with Application Data Interface. It allows mapping of one or more ADI with EDD as well, in case of extract type connector.

There are pre-built Connectors for Oracle applications such as, Flexcube, Oracle Banking Platform, and so on. For other applications you need to define Connectors for your EDDs.

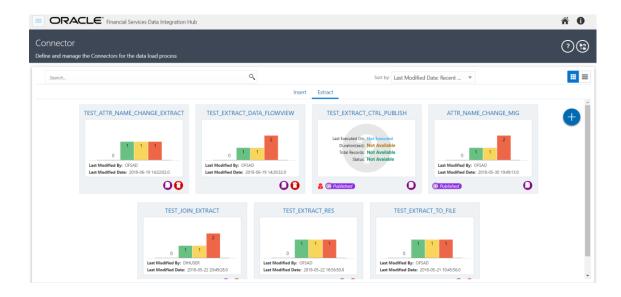
## 9.1 Understanding the Summary Screen

To understand the summary screen, perform the following steps:

1. Click icon in the DIH home screen to navigate to the **Data Mapping** window.

	ices Data Integration Hub				ń	i i
Administration	Data Mapping					
Application Data Interface	Manage DIH Mapping activities					
Data Mapping						
Execution		Parameters	External Data Store	External Data Descriptor	Connector	
		Define and maintain Parameters	Define and maintain the External Data Store information	Define and maintain the External Data Descriptor information	Define and maintain the Connectors for the data load process	

2. Click Connector. The Connector window appears.



- 3. The summary screen list down all the connectors that are defined in the set up. It displays all the insert and extract type connector details. It gives the information about the number of parameters, EDS, EDDs, and ADI used in a specific connector.
- 4. Click to view the connectors in card view. It gives the information about the number of parameters, EDS, EDDs, and ADI used in a specific connector.

	CONN_EXT_AGG_LOAD	)					
	1 1 1 Last Modified By: OFSAD Last Modified Date: 2017-05-02 11:21:2	4.0					
		00					
	n case, the connector is publish	ed:					
	Con_Party_Master						
	Last Executed On: 2018-05-22 20: Duration(sec): 53 Total Records: 0 Status: DONE	31:36.0					
	© Published	0					
5.	Click to view the connector	ors in list v	iew.				
	CON_EXTRACT_TEST Description: Extraction test Type: Extract Status: Saved	1 Parameters	1 EDS	1 EDD	2 ADI	Last Modified By: OFSAD Last Modified Date: 2017-05-09 01:13:46.0	00
	In case, the connector is publis	hed:					
	Con_Party_Master Description: Type: Inset @ Publisher	Last Executed On: 2018 Duration(sec): 53 Total Records: 0 Execution Status: DON				Last Modified By: OFSAD Last Modified Date: 2018-05-30 09:36:58.0	0
6.	Click button to create a co The Select View window appea Select View		either S	tandard	View	or Dataflow View.	
				~			
	View:	Dataflow		Ok			

7. Select Standard or Dataflow view and click Ok. The New Connector window appears.

# 9.2 Connector Properties

The properties by default have some values. For every connector, it needs to be reviewed. Generally, no change is required.

Fields	Description
Fields marked in red as	sterisk(*) are mandatory
Loading mechanism	<ul> <li>This option is only applicable for ASCII file source type EDD.</li> <li>This has two options: <ul> <li>External Table</li> <li>SQLLDR</li> </ul> </li> <li>Note: If the loading mechanism is selected as External Table, the file should be located in the same place as the database server.</li> <li>In case target database type is HDFS, only external table option is enabled.</li> <li>In case target database type is Oracle, provide CREATE DIRECTORY role to the atomic schema. And the path/folder used in the directory should be having read, write permission.</li> </ul>
DIRECT	Direct path load of SQLLDR. Values can be True and False. By default, it is set as TRUE. Only applicable for ASCII/Text File source type EDD.
Parallel	Parallel option. True means the loading happens with parallel option and False means it happens in sequential way.
Degree of Parallel	Decides the degree of parallelism.
No: of Errors	Shows the number of errors allowed for the SQLLDR and External Table to proceed. By default it is 0. That means single record fails the job fails.
Maximum Discard	Discarded records allowed for SQLLDR. This needs to be set to a very high number when using multiple subtypes under an ADI. That means it is multiple targets.
ODI FOLDER	By default the value is same as whatever is set under Settings page. The value decides under which folder in ODI repository, the connector will be published. If user needs to have a different folder name than whatever is already set in the settings page, then this value has to be edited before publish.
XML date Format	In this field, you can define the format of the XML Date. Example: MMDDYYYY.
Avoid Partition Exchange	It has 2 values 'Yes' and 'No'. By default it is set as 'No'. The parameter decides if the user wants to avoid Partition Exchange option or not. The partition exchange is used if the target table has partition and the connector execution goes via temp table. Sometimes because of some unknown reason, if the connector execution fails due to partition exchange option, then user has an opportunity to avoid partition exchange by selecting "Yes" in the drop down list.

Fields	Description
Do you want to use Data Pump?	There are two values 'Yes' and 'No'. By default it is set as 'Yes'. If the value is 'Yes', it indicates that the Oracle Database source is loaded into OFSAA using the Data Pump method. Alternatively, the standard way of using DBLink method is followed.
	Note: Provide the following access is required for data pump option.
	- Grant create any directory to Source schema
	- Grant create any directory to target schema
	- Grant execute on DBMS_FILE_TRANSFER to target schema
	- Grant execute on utl_file to source schema
Source and Target in Same Environment?	This parameter is used only if Data Pump is used. If the value is 'Yes' then file transfer step is not performed during loading. Alternatively, it will transfer file from source to target folder using DBLink.
Source Dump Location	Specify a folder/path that is accessible by Source Oracle Database to create the dump file.
Target Dump Location	Specify a folder/path that is accessible by Target Oracle Database to read the dump file.
Number of Splits for Dump File	Specify a number to transfer the files in parallel chunks. For example, three, indicates that dump file will be split in three and transferred separately. This is to improve performance of file transfer.
Effective Dated Key for Result Area?	This parameter is used for loading data into the result area. It decides whether it will perform lookup into dimension for latest record, or effective dated record. To get the latest record, it appends f_latest_record_indicator ='Y' and for effective dated it appends mis_date between d_record_start_date and d_record_end_date.
	The default value is <b>No</b> . That indicates that it will append f_latest_record_indicator='Y'.
	Note: For extraction data or any date attribute, effective dating does not work. If this parameter is selected as "Yes" and any date field needs to be loaded into Extraction date or any other date field, then do not rely on surrogate key generation. Use derived column and enter the value in the format "YYYYMMDD" as a number.
Do you want to use DBLink?	This parameter is used to specify the source database connection method. There are two values 'Yes' and 'No'. By default it is set as 'No'
	If the value is 'Yes', it indicates connection source database will be created using DBLink method
	If the value is 'No', it indicates connection to source database will be created using JDBC url
Hive Date Format	This parameter is used to specify the date format for date columns in Hive source. the default value will be 'yyyy-MM-dd'

Fields	Description
Do you want to use Big	This parameter is used to specify loading mechanism from HIVE source.
Data SQL?	If you have selected Yes, Oracle Big Data SQL is used.
	Note: The following are the pre-requisites for the above method:
	<ul> <li>The Oracle Big Data SQL is installed and configured on Oracle Big Data Appliance and Database (OFSAA) machines.</li> </ul>
	In OFSAA database a directory named DEFAULT_DIR is created.
	• The folder/system path specified for the above directory must be accessible to database (OFSAA).
	For more details refer:
	https://docs.oracle.com/bigdata/bda45/BDSUG/installing.htm#BDSUG-GUID-
	5CDA332E-8CB8-42CC-8922-09295E22B0E5
	If you have selected No, Oracle Loader for Hadoop is used.
	<b>Note</b> : The following are the pre-requisites for the above method:
	Oracle Loader of Hadoop connectors are installed and configured in the source system.
	ODI agent is also configured for OLH.
	For more details refer:
	https://docs.oracle.com/cd/E72987_01/odi/odi-big-data/setup.htm#ODIBD117_

## 9.3 Creating a Connector - Standard View

This section includes the following sections:

- Field and Descriptions
- <u>Creating a Connector for Loading Data into Staging</u>
- <u>Creating a Connector for Extracting Data from Staging</u>
- <u>Creating a Connector for Loading Data into Results</u>
- <u>Creating a Connector for Extracting Data from Results</u>

### 9.3.1 Field and Descriptions

To create a connector the following information should be decided at the beginning. Based on the options the connector functionality varies.

### 9.3.1.1 Definition tab

Fields	Description					
Fields marked in red asterisk(*) are mandatory						
Which operation should this connector perform on OFSAA?	<ul> <li>This option decides whether the connector will load data into OFSAA or extract data out of OFSAA. This field has two options:</li> <li>Insert Data – Select this option when connector should load data into OFSAA. This is the default option.</li> <li>Extract data – Select this option when the connector needs to extract data.</li> </ul>					
On which OFSAA module should this operation be performed?	<ul> <li>This field has two options:</li> <li>Staging – When data needs to be loaded or extracted into/from the staging area.</li> <li>Results – When data needs to be loaded or extracted into/from the Result area.</li> </ul>					
For which application (if any) should this connector be mapped?	This is an optional choice to filter source/targets at the beginning.					
For which External Data stores (if any) should the connector be mapped?	This is an optional choice to filter source/targets at the beginning.					

### 9.3.1.2 Connector Details tab

Fields	Description				
Fields marked in red asterisk(*) are mandatory					
Connector Name	The name of the Connector to be created. Example: USG File Connector 1				
Connector Description	A description for the Connector is to be mentioned.				

## 9.3.1.3 Target tab

Fields	Description				
Fields marked in red asterisk(*) are mandatory					
Application	Select the application from the drop down list. Example: FSDF				

Fields	Description				
Fields marked in red asterisk(*) are mandatory					
Application Data Interface	Select the Application Data Interface from the drop down list.				
	Example: Customer Account				
Sub Type	Select the Product Class from the drop down list.				
	Example: Term Deposit				

## 9.3.2 Creating a Connector for Loading Data into Staging

To create a Connector for loading data into staging, perform the following steps:

On the Connectors Summary window, click Add button. The Select View window appears.

Select View	×
Standard View	
	Ok

- 2. Choose Standard View and click Ok. The Connectors Definition window appears.
- 3. The Definition tab provides the option to load and extract data. The options **Insert** data and **Staging** are selected by default.
- 4. Click Next.

	Connectors
Connectors > Connectors (Definition Mode) >	
* Connector Flow Diagram	
	Definition Source K Target Properties Summary
	What are the objectives of this connector?
	Which operation should this connector perform on OFSAA?*
	Insert data     O Extract data
	On which OFSAA module should this operation be performed? *
	Staging     Results
	For which applications (if any) should this connector be mapped?
	▼
	For which External Data Stores (if any) should this connector be mapped?
	<b>v</b>
	Close Next

5. The 'Source' block of the flow chart is selected and the respective fields are displayed by default.

Connectors							
Connectors > Connectors (Definition Mode) >							
* Connector Flow Diagram							
	4	Definition		Mapping Properties	su su	immary	
* Connector Details							
Connector Name *	Con_Fah_Gl_Balances						
Connector Description	Connector to load General Lee	Iger Data					
* EDD Selector							
Available				Selected			
CTOA CTACACCOUNTING_INTREES CTALACCOUNTING_INTREES CTALACCT_NIMOANT_NAP CTALACT_TERS CTALACT_TERS CTALACT_TERS CTALATERIOLIASTER CTALATERIOLIASTER CTALATERIOLIASTER CTALATERIOLIASTER CTALATERIOLIASTER		^ \ 04			IAL		
* Selected EDD							
EDD	External Data Store Name	External Data Store Description			External Data Stor	Туре	Filter Expression
OFSAA_WRAP_GL_BAL	FAH_STAGE_SRC	Staging Source for Oracle Fusion Accounting Hub			ORACLE DB		(IOFSAA_WRAP_GL_BALI,FIC_MIS_DATE IS NULL OR (OFSAA_WRAP_GL_BALI,FIC_MIS_DATE = #OFSAA_CONNECTORS.MIS_DATE) and IOFSAA_WRAP_GL_BALI,PERIOD_NAME = #OFSAA_CONNECTORS.PERIOD_NAME
		Previous	Save	Close Next			

**NOTE:** When the Insert data option is selected, the EDD becomes source and ADI becomes target. Similarly, if Extract Data option is selected, then ADI becomes source and EDD becomes target.

- 6. Enter the Connector Name and description. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
- 7. Under the **EDD Selector** section, the available EDD's are listed. Select the required EDD in order to map it. The selected EDD's are displayed in the 'Source' section as displayed in the above figure.
- In case multiple EDDs are selected, Add Join section appears below with selected EDDs appearing on the left and right side. Select the fields from the Left and right side, and join the fields. If LOOKUP is required, then check the lookup checkbox has during the mapping.

**NOTE:** If Lookup option is checked, then the join would be left outer join. Else it would be inner join.

* Selected EDD							窗 🛛
EDD	External Data Store Name	e E	External Data Store Description			External Data Store Type	Filter Expression
OFSAA_WRAP_GL_BAL	FAH_STAGE_SRC	s	Staging Source for Oracle Fusion Accounting Hub			ORACLE DB	(IOFSAA, WRAP_GL_BALJ.FIC_MIS_DATE IS NULL OR [OFSAA, WRAP_GL_BALJ.FIC_MIS_DATE = #OFSAA_CONNECTORS.MIS_DATE) and [OFSAA, WRAP_GL_BALJ.PERIOD_NAME = #OFSAA_CONNECTORS.PERIOD_NAME
FLX_ACCOUNTING_ENTRIES	OBP_STAGE_SRC	S	Staging Source for Oracle Banking Platform			ORACLE DB	2
* Add Join							
Left Entity OFSAA_WR	AP_GL_BAL	~			Right Entity	FLX_ACCOUNTING_ENTRIES	s <b>v</b>
Columns					Columns		
FIC_MIS_DATE					ORG_UNIT_CODE		
D_DWNLD_DATE					EVENT_ID		
PERIOD_NAME				Look			
LEDGER_NAME					FIC_MIS_DATE		
BALANCE_TYPE				E=	TXN_REF_NO		
V_SCENARIO_CODE					EVENT_SEQ_NO		
CHART_OF_ACCOUNTS_ID				]=[			
V_CCY_CODE				~	TXN_EVENT_CODE		
			4	ù.			0
☆ Joins							<b> </b>
Left Entity	Right Entity		Lookup Join Expression				

9. To edit the filter expression, click Z icon. The *Specify Expression* window appears. Select/key in the required expression and click **OK**.

### NOTE:

- You do not need to add 'WHERE' clause for the filter.
- For File data loading, use filter expression of Number type along with single quotes.
   For example: N\_DRAWN\_AMOUNT ='40000'.
- For Date field refer To\_CHAR function for comparison.
- Parameters can also be used in filter expression. Date format must be a valid SQL date format.

For Example:

```
[EDD_GL_DATA].[EXTRACTION_DATE] = TO_DATE(#DIHDEV.MIS_DATE,'dd-
MM-yyyy')
```

- 10. If Source type is Hive, the filter expressions must conform to the following restrictions:
  - Expression must be valid HiveQL
  - Does not include Oracle built in or user defined functions
  - Does not include Sub queries
  - Includes Hive built in functions only
  - Parameters can also be used in filter expression. MISDATE can also be passed dynamically so that it is loaded from Batch Execution Screen. The date format specified must be valid Hive Date format i.e. yyyy-MM-DD

For Example:

```
Filter Expression in Connector:-[EDD_GL_DATA].[EXTRACTION_DATE] =
#DIHDEV.MIS_DATE
```

**MISDATE** Parameter in Batch:

```
MISDATE=$MISDATE:yyyy-MM-dd
```

		Expre	ssion			
DIH > Expression >	>					
Expressions	\$					
Entities			Functions		Operators	
DATA ENTITIE CD_Party_Ma Draameters				e STRING,FORMAT RING,FORMAT CR (T) T) T) AT)		
Expression						
		Validate	Ok Cancel			
ILCE	Source Name	Source Description	Quir	се Туре	Filter Expression	7
	Cource Marile	The landing zone where all the required files will				
G_FILE_SDI	USG_FILE_SRC	data into OFSAA	If be arrived for loading FILE		USG_FILE_SDI_10118.Product_code = TDEP	2

- 11. Click **Next.** The 'Target' block appears.
- 12. Select Application Data Interface from the available list in the left panel. Import that to right side of the panel. The Selected ADI grid shows the selected ADIs along with filter expression. The filter on target can be applied by clicking the filter expression. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
- **NOTE:** If multiple sub types/ADI is selected, then the filter expression is necessary to direct required data into the correct entity/table.

This is required to identify which record goes into which target. It will be an expression such as <EDDNAME>.<Field Name> = 'TD' under Term deposit and <EDDNAME>.<Field Name> = 'CARDS' under Cards.

8 Connector Flow Diagram										
🔀 Definition 🕂 🕄 Source 🕂 🔀 Target — 📑 Mapping — 📑 Properties — 🐑 Summary										
* Connector Details										
Connector Name *	Con_Fah_GI_Balances									
Connector Description	Connector to load General Ledge	er Data								
ADI Selector										
Available					Selected					
				₽	⊇ — Dos					
		1	ά.							
* Selected ADI						· · · · · · · · · · · · · · · · · · ·				
ADI	Subtype	Description				Filter Expression				
General Ledger Data	General Ledger Data	General Ledger Data				2				
		Previous	Save	Clos	se Next					
Audit Trail User Comments										
* System ID:202191										
Created By	DHUSER			Creatio	on Date	07/13/2015 19:03:53				
Last Modified By	DHUSER			Last M	Iodification Date	07/13/2015 19:03:53				

13. Click the **Mapping** block in the flow chart, to map the EDD's. For details on Automapping refer to section <u>Auto-mapping</u>.

* Connector Flow Diag	gram														
			Definition	Source XX Target		. м	apping	Properti	ies 🕂 환 Su	mmary					
* Connector Details															
Connector Name *		Con_Fah_Gl_Balances													
Connector Description		Connector to load Genera	al Ledger Data												
* Mapping															8
Source:	OFSAA_WRAP_GL_BAL	~					Target:		General Ledger Data		~				
Fields				Unmapped	12		Attributes		-		Unmapped?	Man	taton/2	Only valid for a	innlications?
FIC_MIS_DATE								D in Accounting	Currency				201019.	a only fails for a	pproduction.
	_DWNLD_DATE							D in Local Currer							^
PERIOD_NAME								D in Accounting							
LEDGER_NAME							Amount YTD in Local Currency								
BALANCE_TYPE						[=]]	Amount in A	Accounting Curre	ancy						
V_SCENARIO_CODE					Amount in Li		ocal Currency								
CHART_OF_ACCOUNTS_D					L-1	Branch Code	le (m)								
V_CCY_CODE						]=E	Business Ur	nit code							
V_FINANCIAL_ELEMENT_C	CODE					3-L	Common Chi	art of Accounts	(m)						
V_COMMON_COA_CODE							Consolidatio	on Flag (m)							
V_GL_TYPE							Currency Co	ode (m)							
N_AMOUNT_LCY							Customer Cl								
N_AMOUNT_ACY							Data Origin								
N_AMOUNT_MTD_LCY					~		Extraction D								~
ALABOURT ATD ACV				14	M		Eleanoial Ele	ement Code (m)							M
				u	rui,										uru
* Column Mapping											Import Mapping	CO 🖓	₹	1 to 10 of 20 🔀	
Source Entity	Source	Field	Expressio	n						Target Entity			Target Field		
OFSAA_WRAP_GL_BA	L N_AMO	UNT_ACY								General Ledger	Data		Amount in A	Accounting Currency	
OFSAA_WRAP_GL_BA	L N_AMO	UNT_LCY								General Ledger	Data		Amount in L	ocal Currency	
OFSAA_WRAP_GL_BA	L N_AMO	UNT_MTD_ACY								General Ledger	Data		Amount MT	D in Accounting Curre	incy
OFSAA_WRAP_GL_BA	L N_AMO	UNT_MTD_LCY								General Ledger	Data		Amount MT	D in Local Currency	
OFSAA_WRAP_GL_BA	L V_BRAN	NCH_CODE								General Ledger	Data		Branch Cod	le	
OFSAA_WRAP_GL_BA	L V_COM	MON_COA_CODE								General Ledger	Data		Common Ch	art of Accounts	
OFSAA_WRAP_GL_BA	L F_CONS	OLIDATION_FLAG								General Ledger	Data		Consolidatio	on Flag	

- 14. Select the EDD from the drop down list. For details on drop-down options for EDD refer to section <u>Options in Mapping EDD</u>.
- 15. Select the 'Mandatory' option to populate the mandatory Attributes to be mapped.

**NOTE:** On selecting 'Derived Column' option as EDD from the drop down list, you can add an expression.

	Expression		0
DIH > Expression >			
Expressions			
Field Name			
Entities	Functions	Operators	
DATA ENTITIES  DATA ENTITIES  DATA ENTITIES  Parameters  MISDATE  MIS_DATE  MIS_DATE  NOT_AVAILABLE  OBP_DATA_ORIGIN  DEFAULT_GAAP	ACOS (FLOAT)     COS (FLO	Operators  Arithmetic  Concatenation  Comparison	
Expression			C
	Validate Ok Cancel		

All the mapped attributes are listed under the 'Column Mapping' sector. For details on the options in the Mapping grid such as Auto-mapping, Export to Excel and so on; refer to section <u>Fields in Mapping</u>.

**NOTE:** If the application is chosen as BASEL, while mapping, you can select the type of approach (such as, IRB or Advanced Approach) and the Jurisdiction (BIS, BRAZIL, China, India and so on) for filtering.

* Mapping								3
SDI:	EBCDIC_FILE -		Approach		~	Jurisdiction		~
Fields		1		Standardised Securitized - Advanced	^	Unmapped?	Mandatory?	Only valid for applications?
PREX_HDR_RECORD_TYPE			Agreement Flag (m)	Approach				*
PREX_HDR_CREATION_DAT	E		Basis Risk Weight (m)	Securitized - IRB	=			
PREX_HDR_CREATION_TIME			CDS Reference Entity Part	Securitized - Supervisory				-
FILLER			CVA Hedge Flag (m)	Formula Approach	*			-
			Central Counterparty Code (					
			Cleared Transaction Bank Ro	ole Code (m)				
		[=]	Cleared Transaction Flag (m)					
			Country Code (m)					
		]=E	Credit Event Indicator for res	structure (m)				
			Currency Code (m)					
			Dilution Risk Mitigant Indicate	or (m)				
			Eligibility Flag (m)					
			Eligible Mutual Fund Indicator					
			Eligible Non Main Index Indic					
			Equity Main index Indicator (	(m)				*
	- Fi		< [		n	11		F
								Mi (Mi

16. Click the **Properties** block in the flow chart. The Properties related fields and the Connector details appear automatically.

∧ Properues												
Loading Mechanism	External Table  SQLLDR		Direct	True		Parallel	True	۲				
Degree of Parallel	5		No. Of Errors	0		Maxmium Discard	1					
ODI Folder	DIHDEV804		XML Date Format	YYYY-MM-DD		Avoid Partition Exchange	No	•				
Do you want to use Datadump ?	No		Source and Target in Same Environment ?	Yes 🔻		Source Dump Location	/src/tmp					
Target Dump Location	AargetAmp		Number of Splits for Dump file	3		Effective Dated Key for Result Area?	No	•				
Do you want to use DBLink ?	No		Hive Date Format	yyyy-MM-dd		Do you want to use BigData SQL	No	•				

- 17. Select the Loading Mechanism. Select the Direct and Parallel option from the drop down list. Key in the value for Degree of Parallel, No: of Errors, Maximum Discard, ODI Folder, XML Date Format, Do you want to use Data Pump?, Source and Target in Same Environment?, Avoid Partition Exchange, Source Dump Location, Target Dump Location, Number of Splits for Dump File, Hive Date Format, Effective Dated Key for Result Area? and Do you want to use DBLink?. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
- 18. Click the **Summary** block in the flow chart to view the summary of all sections.

		C	onnectors		
Connectors > Connectors (Definition Mod	le) >				
Connector Flow Diagram					
		Definition Source IX Target	Mapping Properties S	ummary	
* Connector Details					
Connector Name *	Con_Fah_Gl_Balances				
Connector Description	Connector to load Genera	I Ledger Data			
Properties					
* Selected EDD					
EDD	External Data Store Name	External Data Store Description	External Data Sto	re Type Fiter Expression	
OFSAA_WRAP_GL_BAL	FAH_STAGE_SRC	Staging Source for Oracle Fusion Accounting Hub	ORACLE DB		MIS_DATE IS NULL OR MIS_DATE = #OFSAA_CONNECTORS.MIS_DATE) and OD_NAME = #OFSAA_CONNECTORS.PERIOD_NAME
FLX_ACCOUNTING_ENTRIES	OBP_STAGE_SRC	Staging Source for Oracle Banking Platform	ORACLE DB		
* Selected ADI					
ADI	Subtype	Description		Filter Expression	I
General Ledger Data	General Ledger Data	General Ledger Data		Ther Expression	
	Contra Longer Data	Contra Longor Data			
* Joins					
Left Entity	Right Entity	Lookup Join Expression			
* Column Mapping					1 to 10 of 20 🔇 🕄 🔿
Source Entity	Source Field	Expression		Target Entity	Target Field
OFSAA_WRAP_GL_BAL	N_AMOUNT_ACY			General Ledger Data	Amount in Accounting Currency
OFSAA_WRAP_GL_BAL	N_AMOUNT_LCY			General Ledger Data	Amount in Local Currency
OFSAA_WRAP_GL_BAL	N_AMOUNT_MTD_ACY			General Ledger Data	Amount MTD in Accounting Currency
OFSAA_WRAP_GL_BAL	N_AMOUNT_MTD_LCY			General Ledger Data	Amount MTD in Local Currency
OFSAA_WRAP_GL_BAL	V_BRANCH_CODE			General Ledger Data	Branch Code
OFSAA_WRAP_GL_BAL	V_COMMON_COA_CODE			General Ledger Data	Common Chart of Accounts
OFSAA_WRAP_GL_BAL	F_CONSOLIDATION_FLAG			General Ledger Data	Consolidation Flag
OFSAA_WRAP_GL_BAL	V_CCY_CODE			General Ledger Data	Currency Code
OFSAA WRAP GL BAL	V FINANCIAL ELEMENT CODE			General Ledger Data	Financial Element Code

19. Click **Publish**. This converts DIH metadata into ODI objects.

The Audit Trail section at the bottom of the window displays the information of the source created. The User comments section facilitates you to add or update additional information as comments.

		Connec	tor	rs						0
* Search										<b>R</b> 2
ADI -				Name						
* Connectors				R	1 1	99	Ŧ	41 - 4	15 / 45 🖸 🕻 🕻 🕻 🗍 💭 Ju	mp to page
🛅 Name 🔺	Description		SE	DI	5	Source N	ame	Status	Created Date	Last Modified D
Test Execution Connector TD	Test Executi	on Connector TD	TE	EST_EXEC_TD	(	OFSAA_F	ILES	Published	20-OCT-2014 08:10 PI	1
Test expression			E)	KCHG_RATE_H	IST (	OFSAA_F	ILES	Saved	22-OCT-2014 05:10 PM	1
Test Long Length								Published	29-SEP-2014 04:09 PM	1
TESTCON2			TE	EST2		DFSAA_F	ILES	Published	21-OCT-2014 05:10 PI	1
USG File Connector 1	Connector fo	or mapping Term deposits data in a comm[]	U	SG_FILE_SDI	1	JSG_FIL	E_SRC	Published	28-OCT-2014 12:10 PI	4
an the second se				6						

# 9.3.3 Creating a Connector for Extracting Data from Staging

To create a Connector for extracting data from staging, perform the following steps:

1. On the Connectors Summary window, click Add button. The Select View window appears.



- 2. Choose Standard View and click Ok. The Connectors Definition window appears.
- 3. The Definition tab provides the option to load and extract data. The **Extract data** option enables you to extract the data from the OFSAA system. Additionally, you have the option to select whether the loading/extracting should be performed in the **Staging** or **Results** area. Click **Next**.
- 4. Select Extract data and Staging.

Connectors										
Connectors > Connectors (Definition Mode) >										
* Connector Flow Diagram										
	Centeron Carlos Source Kan Target - R Target - Properties - C Source Source - Tax Target - R Mapping - C Properties - C Source - C S									
	What are the objectives of this connector?									
	Which operation should this connector perform on OFSAA? *									
	O Insert data									
	On which OFSAA module should this operation be performed? *									
	Staging     O Results									
	For which applications (if any) should this connector be mapped?									
	✓									
	For which External Data Stores (if any) should this connector be mapped?									
	<b>v</b>									
	Close Next									
Audit Trail User Comments										
* System ID:										
Created By	Creation Date									
Last Modified By	Last Modification Date									

5. Click Next. The Source block appears.

	Conne	ctors									
Connectors > Connectors (Definition Mode) >											
a Connector Flow Diagram											
	Definition	Vappng Integerites Summary									
* Connector Details											
Connector Name *	USG_FILE_CONNECTOR										
Connector Description	Connector for mapping term deposits data in a comma separated file to be loaded into TD contracts	s of OFSAA									
ADI Selector											
Available		Selected									
- ADIs	^	L									
Account Address											
Account Adjustments											
Account Alternate Currency Values	E	•									
Account Anticipatory Profile	E										
Account Beneficiary	E	•									
Account Cash Flows											
+ Account Email Address	✓										
Account Feature Man	04										
	UTU										
* Selected ADI		· · · · · · · · · · · · · · · · · · ·									
ADI Subtyp	pe Description	Fiter Expression									
	Previous Save	Close Next									
Audit Trail User Comments											
* System ID:											
Created By		Creation Date									
Last Modified By		Last Modification Date									
t											

**NOTE:** When the Extract data option is selected, the ADI becomes the source and EDD becomes target. Only ADIs relevant to staging area are displayed.

- Enter the Connector Name and Connector Description. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
- 7. Under the **ADI Selector** section, the available ADI's are listed. Select the required ADI in order to map it. The selected ADI's are displayed in the **Source** grid.

			Co	nnect	ors		
Connectors > Connectors (Definition Mode) :	>						
* Connector Flow Diagram							
	0	Definition	-		Mapping Propert	ka Summary	
<ul> <li>Connector Details</li> </ul>							
Connector Name *	USG_FILE_CONNECTOR						
Connector Description Connector for mapping term deposits data in a comma separated file to be loaded into TD contracts of OPSAA							
ADI Selector							
Available					Selected		
ADIs			^		ADIs		
Account Address					Account Adjustmer	its	
Account Attende Currency Values					Account Cash Flow	175	
Account Anticipatory Profile				<b>L</b> +			
Account Beneficiary							
Account Email Address				E:			
Account Feature Map							
Account Group Details			$\sim$				
Account Group Master			~				
			iMi				
R Selected ADI							
ADI	Subtype	Description				Filter Expression	
Account Adjustments	Account Adjustments	Account Adjustments				2	
Account Cash Flows	Account Cash Flows	Account Cash Flows				2	
* Add Join							
Left Entity Account Adjus	tments 💙				Right Entity	Account Cash Flows	
Columna					Columns		
Account Number					Account / Contract Code		

 If multiple ADIs are selected, Add Join section appears below with selected EDDs appearing on the left and right side. Select the fields from the Left and right side, and join the fields. If LOOKUP is required, then check the lookup checkbox has during the mapping.

**NOTE:** If Lookup option is checked, then the join would be left outer join. Else it would be inner join.

* Selected ADI													
ADI		Subtype		Description						Filter Expression	_	 	1
Account Adjustments		Account Adjustments		Account Adju	istments					2			1
Account Cash Flows		Account Cash Flows		Account Cash						2			-
8 Add Join													
Left Entity	Account Adjustments	×						Right Entity	Account Cash Flows	×	~		
Columns								Columns					
Adjusanen: Approver Remarks								Account / Contract Code					
Adjustment Approver User Identifier						^		Cash Flow Amount					٩
Adjustment Entry Date							Lookup	Cash Flow Date					
Adjustment Entry Status							LOOKUP	Cash Flow Sequence					
Adjustment Entry User Ident	tifier						[=]	Cash Flow Type					
Adjustment Entry User Rem	harks						L-1	Common Coa Code					
Adjustment Status Date							7.5	Currency Code					
Adjustment Version Identifie	er					~	]=E						/
Adjustment process status								Currency type code					
						Mi.						dM	l
S Joins													
Left Entity		Right Entity		Lookup	Join Expression								

9. To edit the filter expression, click I icon. The *Specify Expression* window appears. Select/key in the required expression and click **OK**.

## NOTE:

- You do not need to add 'WHERE' clause for the filter.
- For File data loading, use filter expression of Number type along with single quotes. For example: N\_DRAWN\_AMOUNT ='40000'.
- For Date field refer To\_CHAR function for comparison.
- Parameters can also be used in filter expression. Date format must be a valid SQL date format.

For Example:

```
[EDD_GL_DATA].[EXTRACTION_DATE] =
TO_DATE(#DIHDEV.MIS_DATE,'dd-MM-yyyy')
```

- 10. If Source type is Hive, the filter expressions must conform to the following restrictions:
  - Expression must be valid HiveQL
  - Does not include Oracle built in or user defined functions
  - Does not include Sub queries
  - Includes Hive built in functions only
  - Parameters can also be used in filter expression. MISDATE can also be passed dynamically so that it is loaded from Batch Execution Screen. The date format specified must be valid Hive Date format i.e. yyyy-MM-DD

For Example:

```
Filter Expression in Connector:-[EDD_GL_DATA].[EXTRACTION_DATE] =
#DIHDEV.MIS DATE
```

MISDATE Parameter in Batch:

MISDATE=\$MISDATE:yyyy-MM-dd

	Expression	0
DIH > Expression >		
Entities	Functions	Operators
Account Beneficiary	Date and Time     To_CHAR (STRING,FORMAT)     To_DATE (STRING,FORMAT)     ABS (NUMBER)     ACOS (FLOAT)     ASIN (FLOAT)     ATAN2 (FLOAT)     CELL (INT)     COS (FLOAT)     EXP (FLOAT)	
Expression		C
	Validate Ok Cancel	

- 11. Click Next. The 'Target' block (in Flow chart) appears.
- 12. Select External Data Descriptor from available list shows left panel. Move that to right side on selected panel. The Selected EDD grid shows the selected EDDs along with the filter expression. The filter on target can be applied by clicking the filter expression. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
  - **NOTE:** For extract type of connector, only one EDD should be selected. It does not support multiple EDD.

			60	nnecte	077
Connectors > Connectors (Definition Mode	e) >			meen	015
* Connector Flow Diagram					
	Definitio	n Source Ta	arget		Mapping Properties Summary
* Connector Details					
Connector Name *					
Connector Description					
ADI Selector					
Available Common Coa Hier Intf Master Common Coa Master Costomer Account Castomer Account Castor Castomer Account Castomer Account			Ē	e ۳	Selected Customer Account Customer Account Contract Bills Contract
Selected ADI					
ADI	Subtype	Description	_	_	Filter Expression
Customer Account	Annuity Contracts	Customer Account			2
Customer Account	Bills Contract	Customer Account			2
		Previou	s Sav	e (	Close Next
Audit Trail User Comments					

 Click the Mapping block in the flow chart, to map the EDD's. For details on Automapping refer to section <u>Auto-mapping</u>.

				(	Connecto	rs					
Connectors > Connectors	Definition Mode) >										
* Connector Flow Dia	aram										
		ð	Definition	Source		apping Prope	rties Su	immary			
* Connector Details											
Connector Name *		USG_FILE_CONNECTOR									
Connector Description		Connector for mapping term de	posits data in a comma s	separated file to be loaded into TD o	contracts of	DFSAA					
* Mapping											3
Source:	Account Adjustments	~				Target:	FLX_ACCT_MITIGAN	T_MAP	~		
Attributes		Unmapped?	Mandatory?	Only valid for applications?		Fields					Unmapped?
Account Number (m)						MITIGANT_WEIGHT					
Adjusted Column Identifier	(m)			^		MITIGANT_CODE					
Adjustment Approver Rem						ACCOUNT_NUMBER					
Adjustment Approver Use	Identifier					FIC_MIS_DATE					
Adjustment Entry Date											
Adjustment Entry Status					[=]						
Adjustment Entry User Ide	ntifier				L-3						
Adjustment Entry User Ren	narks				]=E						
Adjustment Status Date					J-L						
Adjustment Version Identif	ier (M)										
Adjustment process statue											
Date Value											
GAAP Code (m)											
Information Date (m)				~							
Lond Dun Montifier (m)				00							00
				UPU							UPU
* Column Mapping									Import Mapping 🛛 🚳 😽		1 to 0 of 0 📢 🚺 🕩 🗈
Source Entity	So	ource Field	Expression					Target Entity		Target Field	
				Previous	ave	lose Next					

- 14. Select the ADI from the drop down list. There are 3 options in the drop down list. For details on options for ADI refer to section <u>Options in Mapping ADI</u>.
  - **NOTE:** For extract connector, mandatory attributes are not applicable. There is no validation of mandatory attributes during publish. Mandatory indicator (\*) against an attribute for ADI is for reference only. All the mapped attributes is listed under the 'Column Mapping' sector.

* Mapping													3	
Source:	Account Address		~				Target:	FLX_ACCT_RATE_TIER	S	~				
Attributes			Unmapped?	Mandatory?	Only valid for applications?	1	Fields						Unmap	ped?
Account / Contract Code							INTEREST_RATE_CD							
Account Address Purpos	е Туре				^		INTEREST_TYPE							^
Address Line 1							SORT_ORDER							
Address Line 2							INT_FREQ_UNIT							
Address Line 3							INT_FREQ							
Address Line 4						E=1	EOP_BAL							
Address Line 5						L-3	EOP_INT_AMT							
Address Line 6						]=E	EOP_PRIN_AMT							
City						J-L	INT_BM_RATE							
Country							INT_RATE_SPREAD							
Extraction Date (m)							CURR_INTEREST_RATE							
Mail Handling Instruction							ORIG_INT_RATE							
Postal Code							GL_CODE							
Region					~		DATA_ORIGIN							~
Convonce Humber (m)							STACE NAME							
					10									M
* Column Mapping										Import Mappin	0 00 00	. =	1 to 1 of 1 (1) (1) (1)	-
Source Entity		Source Field		Expression					Target Entity	I Import Mappin	8   US1 <mark>0</mark> 1	Target Field		
				Expression										
Account Address		Account / Contract Co	de *						FLX_ACCT_R4	ATE_TERS		INTEREST_RA	IE_CD	
	Design Party Party													

- 15. Select the 'Mandatory' option to populate the mandatory Attributes to be mapped. All the mapped attributes are listed under the 'Column Mapping' sector. For details on the options in the Mapping grid such as Auto-mapping, Export to Excel and so on refer to section <u>Fields in Mapping</u>.
  - **NOTE:** If the application is chosen as BASEL, while mapping, you can select the type of approach (such as, IRB or Advanced Approach) and the Jurisdiction (BIS, BRAZIL, China, India and so on) for filtering.

* Mapping								3
SDI:	EBCDIC_FILE +		Approach		~	Jurisdiction		~
Fields		1		Standardised	^	Unmapped?	Mandatory?	Only valid for applications?
PREX_HDR_RECORD_TYPE			Agreement Flag (m)	Securitized - Advanced Approach				*
PREX_HDR_CREATION_DAT			Basis Risk Weight (m)	Securitized - IRB	=			
PREX_HDR_CREATION_TIME			CDS Reference Entity Part	Securitized - Supervisory				-
FILLER			CVA Hedge Flag (m)	Formula Approach	*			
			Central Counterparty Code (	(m)				
			Cleared Transaction Bank R	Role Code (m)				
		E=1	Cleared Transaction Flag (m	n)				
			Country Code (m)					
		3-0	Credit Event Indicator for re	estructure (m)				
			Currency Code (m)					
			Dilution Risk Mitigant Indicat	ator (m)				
			Eligibility Flag (m)					
			Eligible Mutual Fund Indicato	tor (m)				
1			Eligible Non Main Index India	icator (m)				
•			Equity Main index Indicator	(m)				*
			•		1	11		F
								M.

16. Click the **Properties** block in the flow chart.

The Properties related fields appear. The Connector details appear automatically.

Loading Mechanism	External Table     SQLLDR	Direct	True	Parallel	True		
Degree of Parallel	5	No. Of Errors	0	Maxmium Discard	1		
ODI Folder	DIHDEV804	XML Date Format	YYYY-MM-DD	Avoid Partition Exchange	No		
Do you want to use Datadump ?	No v	Source and Target in Same Environment ?	Yes 🔻	Source Dump Location	/src/tmp		
Target Dump Location	Aarget/Imp	Number of Splits for Dump file	3	Effective Dated Key for Result Area?	No		
Do you want to use DBLink ?	No	Hive Date Format	yyyy-MM-dd	Do you want to use BigData SQL	No V		

17. No action is required in properties section. Proceed to the summary tab.

18. Click the **Summary** block in the flow chart to view the summary of all sections.

	Connectors						
Connectors > Connectors (Definition Mode) >							
& Connector Flow Diagram							
Definition - 💭 Source - IX Target - 🕞 Mapping - 😭 Properties - 🗭 Summary							
☆ Connector Details							
Connector Name * Connector1							
Connector Description Connector for mapping ter	n deposits data in a comma separated file to be loaded into TD contracts of OFSAA						
* Properties							
8 Selected EDD							
EDD External Data Store Name	External Data Store Description	External Data Store Type Filter Expression					
FLX_ACCT_RATE_TIERS OBP_STAGE_SRC	Staging Source for Oracle Banking Platform	ORACLE DB					
* Selected ADI							
ADI Subtype	Description	Filter Expression					
Account Address Account Address	Account Address						
8 Column Mapping		🔻 1 to 1 of 1 📢 🗶 🖎					
Source Entity Source Field	Expression	Target Entity Target Field					
Account Address Account / Contract Code *		FLX_ACCT_RATE_TERS NTEREST_RATE_CD					
	Previous Publish Save Close						

19. Click Publish. This converts DIH metadata into ODI objects.

The Audit Trail section at the bottom of the window displays the information of the source created. The User comments section facilitates you to add or update additional information as comments.

			Connect	tors						9
\$	Search									<b>6</b>
AD	1		· · · · · · · · · · · · · · · · · · ·	Nan	ne					
R	Connectors			1			Ψ	41 - 4	5 / 45 🗂 🕄 🖨 🗖 💭 Jur	np to page
	Name 🔺	Description		SDI		Source Na	ame	Status	Created Date	Last Modified Da
17	Test Execution Connector TD	Test Executi	on Connector TD	TEST_	EXEC_TD	OFSAA_FI	LES	Published	20-OCT-2014 08:10 PM	1
	Test expression			EXCHO	G_RATE_HIST	OFSAA_FI	LES	Saved	22-OCT-2014 05:10 PM	J.
	Test Long Length							Published	29-SEP-2014 04:09 PM	
	TESTCON2			TEST2		OFSAA_FI	LES	Published	21-OCT-2014 05:10 PM	1
	USG File Connector 1	Connector fo	r mapping Term deposits data in a comm[]	USG_F	ILE_SDI	USG_FILE	_SRC	Published	28-OCT-2014 12:10 PM	
unanod.				B						

# 9.3.4 Creating a Connector for Loading Data into Results

To create a Connector for extracting data from staging, perform the following steps:

On the Connectors Summary window, click Add button. The Select View window appears.



- 2. Choose Standard View and click Ok. The Connectors Definition window appears.
- 3. The Definition tab provides the option to load and extract data. Select **Insert Data** and **Results**. Click **Next**.

	Connectors	
Connectors > Connectors (Definition Mode) >		
Connector Flow Diagram		
	Definition Source ZK Target Mapping Properties Summary	
	What are the objectives of this connector?	
	Which operation should this connector perform on OFSAA? *	
	Which operation should this connector perform on UFSAA? ~	
	Insert data     C Extract data	
	On which OFSAA module should this operation be performed? *	
	O Staging    Results	
	For which applications (if any) should this connector be mapped?	
	✓	
	For which External Data Stores (if any) should this connector be mapped?	
	Close Next	

4. The **Source** block appears by default, and the respective fields are displayed.

Connectors						
Connectors > Connectors (Definition Mode) >						
* Connector Flow Diagram						
	lê.	Definition		Mapping	Properties Summar	Y
8 Connector Details						
Connector Name *	Con_Fah_Gl_Balances					
Connector Description	Connector to load General Leo	dger Data				
* EDD Selector						
Available				Selected		
CEDDA CLACCOUNTING_EITRES CLACCOUNTING_EITRES CLACACCUMINALIAP COMPACTINALIAP CLACACCUMINALIAP CLACACUMINALIAP CLACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACACUMINALIAP CLACUMINALIAP CLACUMINALIAPICACUMINALIAPICACUMINALIAPICACUMINALIAPICACUMINALIA		) (4)	e B	DOFSAA_W	RAP_GL_BAL	
8 Selected EDD						■ ▼
]	xternal Data Store Name	External Data Store Description Staging Source for Oracle Fusion Accounting Hub			External Data Store Typ ORACLE DB	I Fater Expression (IOFSAA_WRAP_OL_BALLFIC_MIS_DATE IS NULL OR (IOFSAA_WRAP_OL_BALLFIC_MIS_DATE = #OFSAA_CDINECTORS_MIS_DATE) and (OFSAA_WRAP_GL_BALLFERIOD_NAME = #OFSAA_CDINECTORS_PERIOD_NAME
		Previous	iave	Close Next		

- **NOTE:** When the Insert data option is selected, the EDD becomes source and ADI becomes target. Similarly, if Extract Data option is selected, then ADI becomes source and EDD becomes target.
  - 5. Enter the Connector Name and description. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
  - 6. Under the 'EDD Selector' section, the available EDD's are listed. Select the required EDD in order to map it. The selected EDD's are displayed in the 'Source' section.
  - 7. In case of multiple EDDs selected. Add Join section appears below with selected EDDs appearing on the left and right side. Select the fields from the Left and right side, and join the fields. If LOOKUP is required, then check the lookup checkbox has during the mapping.

**NOTE:** If Lookup option is checked, then the join would be left outer join. Else it would be inner join.

Selected EDD								
EDD	External Data Store Name	External Data Store Description			External Data Store Type	Filter Expression		
OFSAA_WRAP_GL_BAL	FAH_STAGE_SRC	Staging Source for Oracle Fusion Accounting Hub			ORACLE DB	[OFSAA_WRAP	_GL_BAL].FIC_MIS_DATE IS NULL OR GL_BAL].FIC_MIS_DATE = #OFSAA_CONNECTORS.MIS_DATE) and GL_BAL].PERIOD_NAME = #OFSAA_CONNECTORS.PERIOD_NAME &	
FLX_ACCOUNTING_ENTRIES	S OBP_STAGE_SRC	Staging Source for Oracle Banking Platform			ORACLE DB	2		
Add Join				1				ī
Left Entity OF	FSAA_WRAP_GL_BAL			Right Entity	FLX_ACCOUNTING_ENTRIES	×		
Columns				Columns				1
FIC_MIS_DATE				ORG_UNIT_CODE				
D_DWNLD_DATE		~		EVENT_ID				^
PERIOD_NAME			Lookup	ENTRY_ID				1
LEDGER_NAME				FIC_MIS_DATE				
BALANCE_TYPE			[=]	TXN_REF_NO				
V_SCENARIO_CODE				EVENT_SEQ_NO				
CHART_OF_ACCOUNTS_D			]=E	TXN_SUB_SEQ_NUM				~
V_CCY_CODE				TXN_EVENT_CODE				1
		1Ma						h,
ℜ Joins								
Left Entity	Right Entity	Lookup Join Expression						
	Previous Save Close Next							

8. To edit the filter expression, click I icon. The *Specify Expression* window appears. Select/key in the required expression and click **OK**.

# NOTE:

- You do not need to add 'WHERE' clause for the filter.
- For File data loading, use filter expression of Number type along with single quotes. For example: N\_DRAWN\_AMOUNT ='40000'.
- For Date field refer To\_CHAR function for comparison.
- Parameters can also be used in filter expression. Date format must be a valid SQL date format.

For Example:

```
[EDD_GL_DATA].[EXTRACTION_DATE]
TO_DATE(#DIHDEV.MIS_DATE,'dd-MM-yyyy')
```

=

	Expression	0
DIH > Expression >		
Entities	Functions	Operators
DATA ENTITIES	Database Functions     Data and Time     To_CHAR (STRING,FORMAT)     To_DATE (STRING,FORMAT)     To_ATR (STRING,FORMAT)     ABS (NUMBER)     ACOS (FLOAT)     ASIN (FLOAT)     ATAN2 (FLOAT)     ATAN2 (FLOAT)     CELL (INT)     COS (FLOAT)     EXP (FLOAT)	Operators     Arithmetic     Concatenation     Comparison
Expression		C
	Validate Ok Cancel	

- 9. If Source type is Hive, the filter expressions must conform to the following restrictions:
  - Expression must be valid HiveQL
  - Does not include Oracle built in or user defined functions
  - Does not include Sub queries
  - Includes Hive built in functions only
  - Parameters can also be used in filter expression. MISDATE can also be passed dynamically so that it is loaded from Batch Execution Screen. The date format specified must be valid Hive Date format i.e. yyyy-MM-DD

For Example:

```
Filter Expression in Connector:-[EDD_GL_DATA].[EXTRACTION_DATE] =
#DIHDEV.MIS DATE
```

**MISDATE** Parameter in Batch:

MISDATE=\$MISDATE:yyyy-MM-dd

8	* Source												
	SDI	Source Name	Source Description	Source Type	Filter Expression								
	USG_FILE_SDI	USG_FILE_SRC	FILE	USG_FILE_SDI_10118.Product_code = TDEP' 🔎									
			Save Close Next										

- 10. Click Next. The 'Target' block appears.
- 11. Select Application Data Interface from available list shows left panel. Move that to right side on selected panel. Below grid shows the selected ADIs along with filter expression. The filter on target can be applied by clicking the filter expression. The Fields and details are explained as tabulated in "<u>Fields and their descriptions</u>" section.

**NOTE:** In case multiple sub types/ADI are selected, the filter expression is necessary to direct required data into right entity/table. If no filter expression chosen then all the records are loaded into all the ADI/subtypes entities/tables. This is required to identify which record goes into which target. It will be an expression such as <EDDNAME>.<Field Name> = 'TD' under Term deposit and <EDDNAME>.<Field Name> = 'CARDS' under Cards.

Connector Flow Diagram				
		finition	Mapping Properties Sur	mary
* Connector Details				
Connector Name *	Con_Fah_Gl_Balances			
Connector Description	Connector to load General Ledger [	Data		
ADI Selector				
Available			Selected	
		A	<ul> <li>□ ADis</li> <li>① General Ledger Data</li> <li>□</li> </ul>	
* Selected ADI				
ADI Subty	100	Description		Filter Expression
	ral Ledger Data	General Ledger Data		
Contra a contra a contra contr		Previous Sav	e Close Next	2
Audit Trail User Comments				
8 System ID:202191				
Created By	DIHUSER		Creation Date	07/13/2015 19:03:53
Last Modified By	DHUSER		Last Modification Date	07/13/2015 19:03:53

12. Click the **Mapping** block in the flow chart, in order to map the EDD's. For details on Auto-mapping refer to section <u>Auto-mapping</u>.

connector Flow Diagram													
			Definition	Source	Target		lapping Proper	rties Summ	ary				
* Connector Details													
Connector Name *		Con_Fah_Gl_Balance	cs										
Connector Description	Connector to had General Ladner Rete												
* Mapping													3
Source:	OFSAA_WRAP_GL_BAL	~					Target:	General Ledger Data	~				
Fields					Unmapped?		Attributes		Unmapped?	Mar	idatory?	Only valid for a	applications
FIC_MIS_DATE							Amount MTD in Accounting	Currency					
D_DWNLD_DATE					^		Amount MTD in Local Curre						
PERIOD_NAME							Amount YTD in Accounting						
LEDGER_NAME							Amount YTD in Local Curre						
BALANCE_TYPE					_		Amount in Accounting Cur	rency					
V_SCENARIO_CODE						E=1	Amount in Local Currency						
CHART_OF_ACCOUNTS_I							Branch Code (m)						
V_CCY_CODE						]=E	Business Unit code						
V_FINANCIAL_ELEMENT_C	ODE					Common Chart of Accounts (m)							
V_COMMON_COA_CODE							Consolidation Flag (m)						
V_GL_TYPE							Currency Code (m)						
N_AMOUNT_LCY							Customer Class Code						
N_AMOUNT_ACY							Data Origin						
N_AMOUNT_MTD_LCY					~		Extraction Date						
N ABOUNT UTD ACV					10		Eleancial Element Code (m						đ
					uu								u
* Column Mapping									Import Mapp	ng 🛛 🚳 🌄	₹	1 to 10 of 20 🏹	
Source Entity	Source	Field	Expres	sion					Target Entity		Target Fiek		
OFSAA_WRAP_GL_BA	L N_AMO	UNT_ACY							General Ledger Data			Accounting Currency	
OFSAA_WRAP_GL_BA	L N_AMO	DUNT_LCY							General Ledger Data		Amount in	Local Currency	
OFSAA_WRAP_GL_BA	N_AMO	UNT_MTD_ACY							General Ledger Data		Amount MT	D in Accounting Curre	ency
OFSAA_WRAP_GL_BAL N_AMOUNT_MTD_LCY								General Ledger Data			D in Local Currency		
OFSAA_WRAP_GL_BA													
OFSAA_WRAP_GL_BA	L V_COM	IMON_COA_CODE							General Ledger Data		Common C	hart of Accounts	
OFSAA_WRAP_GL_BA	L F_CON	SOLIDATION_FLAG							General Ledger Data		Consolidati	on Flag	

13. Select the EDD from the drop down list. For details on drop-down options for EDD refer to section <u>Options in Mapping EDD</u>.

14. Select the 'Mandatory' option to populate the mandatory Attributes to be mapped.

**NOTE:** On selecting 'Derived Column' option as EDD from the drop down list, you can add an expression.

All the mapped attributes are listed under the 'Column Mapping' sector. For details on the options in the Mapping grid such as Auto-mapping, Export to Excel and so on; refer to section <u>Fields in Mapping</u>.

Connector Descri	ption	Connector for mapping Term deposits d	ata in a comma separated	file to be I	loaded into TD contracts of OFSAA				
* Mapping									
SDI:	Parameters	•			Attributes		Mandat	ory?	Only valid for applications?
Fields					ATM Facility Indicator				
SRC_SYSTEM_	CODE				Above Compensation Limit Indicate	or			
LOADRUNID					Account / Contract Code (m)				
TESTVAR					Account Closed Date				
DEMO_PARAM_	CONS_1				Account Closed Indicator				
MISDATE					Account Customer Net Revenue				
					Account Display Name				
				[=]	Account Group Identifier				
					Account Internet Facility Flag				
				]=E	Account Manager Code				
					Account Open Date				
					Account Ownership Type				
					Account Peer Group Identifier				
					Account Purpose				
					Account Retention Segment ID				
					Account Risk Score				
			d Ma		prod				ιų.
* Column Ma	ping					Import Mapping	U U	1 to 4 of 4	GODD
Source Field		Logical Attribute Name	Expression			1 manual distriction			
Account_num	ber	Account / Contract Code *	expression						
Misdate	7.7.1	Extraction Date *							
GAAP code		Gaap Code *	'AUGAAP'						
		Load Run Identifier *	#DIH.LOADRU	NID					
E CONDICONID		Load Run Identitier	#DITLEOADRO						

**NOTE:** If the application is chosen as BASEL, while mapping, you can select the type of approach (such as, IRB or Advanced Approach) and the Jurisdiction (BIS, BRAZIL, China, India and so on) for filtering.

* Mapping	Napping											
SDI:	EBCDIC_FILE		Approach	~	Jurisdiction		~					
Fields		1	Attributes Standardised	*	Unmapped?	andatory?	Only valid for applications?					
PREX_HDR_RECORD_TYPE			Agreement Flag (m) Securitized - Advanced Approach				*					
PREX_HDR_CREATION_DAT	E		Basis Risk Weight (m) Securitized - IRB	=								
PREX_HDR_CREATION_TIME			CDS Reference Entity Part Securitized - Supervisory				-					
FILLER			CVA Hedge Flag (m) Formula Approach	*								
			Central Counterparty Code (m)									
			Cleared Transaction Bank Role Code (m)									
		E=1	Cleared Transaction Flag (m)									
			Country Code (m)									
		]=E	Credit Event Indicator for restructure (m)									
			Currency Code (m)									
			Dilution Risk Mitigant Indicator (m)									
			Eligibility Flag (m)									
			Eligible Mutual Fund Indicator (m)									
			Eligible Non Main Index Indicator (m)									
•			Equity Main index Indicator (m)				*					
	- Mi		< [	r.			۱. Element of the second se					
							14					

15. Click the **Properties** block in the flow chart. The Properties related fields come up. The Connector details come up automatically.

Loading Mechanism			Direct	True		Parallel	True	•
Degree of Parallel			No. Of Errors	0 h		Maxmium Discard	1	
ODI Folder	DIHDEV804		XML Date Format	YYYY-MM-DD		Avoid Partition Exchange	No	•
Do you want to use Datadump ?	No		Source and Target in Same Environment ?	Yes		Source Dump Location	/src/tmp	
Target Dump Location	AargetAmp		Number of Splits for Dump file	3		Effective Dated Key for Result Area?	No	•
Do you want to use DBLink ?	a want to use DBLink ? No T		Hive Date Format	yyyy-MM-dd		Do you want to use BigData SQL	No	٣

16. Select the Loading Mechanism. Select the Direct and Parallel option from the drop down list. Key in the value for Degree of Parallel, No: of Errors, Maximum Discard, ODI Folder, XML Date Format, Do you want to use Data Pump?, Source and Target in Same Environment?, Avoid Partition Exchange, Source Dump Location, Target Dump Location, and Number of Splits for Dump File, Effective Dated Key for Result Area?. The Fields and details are explained as tabulated in "Fields and their descriptions" section.

17. Click the **Summary** block in the flow chart to view the summary of all sections.

			Connect	ors		
Connectors > Connectors (Definition Mo	de) >					
* Connector Flow Diagram						
		Definition	Source	Mapping Properties Sur	mary	
* Connector Details						
Connector Name*	Con_Fah_Gl_Balances					
Connector Description	Connector to load Genera	I Ledger Data				
* Properties						
* Selected EDD						1.1
EDD	External Data Store Name	External Data Store	Description	External Data Store	e Type Filter Expression	
OFSAA_WRAP_GL_BAL	FAH_STAGE_SRC	Staging Source for	Oracle Fusion Accounting Hub	ORACLE DB		_MIS_DATE IS NULL OR MIS_DATE = #OFSAA_CONNECTORS.MIS_DATE) and IOD_NAME = #OFSAA_CONNECTORS.PERIOD_NAME
FLX_ACCOUNTING_ENTRIES	OBP_STAGE_SRC	Staging Source for	Oracle Banking Platform	ORACLE DB		
* Selected ADI						
ADI	Subtype	Description			Filter Expression	
General Ledger Data	General Ledger Data	General Ledg	er Data			
* Joins						
Left Entity	Right Entity	Lookup	Join Expression			
· · · · ·						1 to 10 of 20 🕄 🕄 🖸 🖸
Column Mapping	Source Field	E			7	
OFSAA_WRAP_GL_BAL	N_AMOUNT_ACY	Expression			Target Entity General Ledger Data	Target Field Amount in Accounting Currency
OFSAA_WRAP_GL_BAL	N_AMOUNT_LCY				General Ledger Data	Amount in Local Currency
OFSAA_WRAP_GL_BAL	N_AMOUNT_MTD_ACY				General Ledger Data	Amount in Local currency Amount MTD in Accounting Currency
OFSAA_WRAP_GL_BAL	N_AMOUNT_MTD_ACY				General Ledger Data	Amount MTD in Accounting currency
OFSAA_WRAP_GL_BAL	V_BRANCH_CODE				General Ledger Data	Branch Code
OFSAA_WRAP_GL_BAL	V_COMMON_COA_CODE				General Ledger Data	Common Chart of Accounts
OFSAA_WRAP_GL_BAL	F_CONSOLIDATION_FLAG				General Ledger Data	Consolidation Flag
OFSAA_WRAP_GL_BAL	V_CCY_CODE				General Ledger Data	Currency Code

18. Click **Publish**. This converts DIH metadata into ODI objects.

The Audit Trail section at the bottom of the window displays the information of the source created. The User comments section facilitates you to add or update additional information as comments.

						9				
* Search										
ADI	-	Name								
* Connectors		🖹 🖻 🗖	III 😳 🛛 🛡	41 - 4	15 / 45 🗂 🕄 🕄 💭 Jun	np to page				
🛅 Name 🔺 🛛 🕻	Description	SDI	Source Name	Status	Created Date	Last Modified Da				
Test Execution Connector TD	Test Execution Connector TD	TEST_EXEC_TD	OFSAA_FILES	Published	20-OCT-2014 08:10 PM					
Test expression		EXCHG_RATE_HIS	T OFSAA_FILES	Saved	22-OCT-2014 05:10 PM					
Test Long Length				Published	29-SEP-2014 04:09 PM					
TESTCON2		TEST2	OFSAA_FILES	Published	21-OCT-2014 05:10 PM					
USG File Connector 1	Connector for mapping Term deposits data in a comm[]	USG_FILE_SDI	USG_FILE_SRC	Published	28-OCT-2014 12:10 PM					

## 9.3.5 Creating a Connector for Extracting Data from Results

To create a Connector for extracting data from results, perform the following steps:

1. On the Connectors Summary window, click Add button. The Select View window appears.

Select View	×
Standard View	Ok

2. Choose Standard View and click Ok. The Connectors Definition window appears.

3. The Definition tab provides the option to load and extract data. Select Extract data and Results. Click **Next**.

	Connectors
Connectors > Connectors (Definition Mode) >	
* Connector Flow Diagram	
	Definition Source ISK Target Wapping Properties Summary
	What are the objectives of this connector?
	Which operation should this connector perform on OFSAA?*
	O Insert data
	On which OFSAA module should this operation be performed? *
	O Staging   Results
	For which applications (if any) should this connector be mapped?
	▼ 
	For which External Data Stores (if any) should this connector be mapped?
	Close Next

## 4. Click Next. The 'Source' block appears.

Connectors										
Connectors > Connectors (Definition Mode) >										
* Connector Flow Diagram										
	Definition	Source Target		Mapping Properties S	ummary					
* Connector Details										
Connector Name *	USG_FILE_CONNECTOR									
Connector Description	Connector for mapping term deposits data in a	a comma separated file to be loaded into TD co	ontracts of	OFSAA						
ADI Selector										
Available				Selected						
ADIs ADIS		^		ADIs						
Account Address		^								
Account Adjustments										
Account Alternate Currency Values			E+							
+ Account Anticipatory Profile										
+ Account Beneficiary			E:							
Account Cash Flows										
Account Email Address		~								
Account Feature Man										
		M								
* Selected ADI						<b>TT</b>				
ADI Subtyp	e Descrip	otion			Filter Expression					
		Previous	ave	Close Next						
Audit Trail User Comments										
* System ID:										
Created By			Cre	ation Date						
Last Modified By			Las	t Modification Date						

- 5. If Extract data option is selected, the ADI becomes source and EDD becomes target. Only staging relevant ADIs appear there.
- 6. Enter the Connector Name and description. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
- 7. Under the 'ADI Selector' section, the available ADI's are listed. Select the required ADI in order to map it. The selected ADI's are displayed in the 'Source' section.

Connectors									
Connectors > Connectors (Definition Mode) >									
* Connector Flow Diagram									
	Defeation - A B Target - B Target - Properties - C Summary								
* Connector Details									
Connector Name *	USG_FILE_CONNECTOR								
Connector Description	Connector for mapping term depos	its data in a comma separated file to be loaded into TD	contracts	of OFSAA					
ADI Selector									
Available				Selected					
ADIs				ADIs					
+ Account Address		^		Account Adjustme	nts				
+ Account Alternate Currency Values				Account Cash Flov	vs				
Account Anticipatory Profile				•					
+ Account Beneficiary									
+ Account Email Address			E	:					
+ Account Feature Map									
+ Account Group Details		~							
+ Account Group Master									
		en e							
* Selected ADI							· · · · · · · · · · · · · · · · · · ·		
ADI	ubtype	Description				Filter Expression			
Account Adjustments	ccount Adjustments	Account Adjustments				2			
Account Cash Flows	ccount Cash Flows	Account Cash Flows				2			
8 Add Join									
Left Entity Account Adjustments	~			Right Entity	Account Cash Flo	ws 🗸			
Columns				Columns					
Account Number				Account / Contract Code					
		^					^		

- 8. In case of multiple ADIs selected, **Add Join** section appears below with selected EDDs appearing on the left and right side. Select the fields from the Left and right side, and join the fields. If LOOKUP is required, then check the lookup checkbox has during the mapping.
- **NOTE:** If Lookup option is checked, then the join would be left outer join. Else it would be inner join. For few ADIs/Subtypes, there are known relationship so joins in case of multiple ADIs occurs automatically.

* Selected ADI								) m 7	7
ADI	Subtype	Description				Fi	ter Expression		
Account Adjustments	Account Adjustments	Account Adju	istments				2_		
Account Cash Flows	Account Cash Flows	Account Cas	h Flows				<u>/</u>		
* Add Join									
Left Entity Account Adjustmen	nts 🗸				Right Entity	Account Cash Flows	~		
Columns					Columns				
Aujustment Approver Remarks					Account / Contract Code				
Adjustment Approver User Identifier			^		Cash Flow Amount				^
Adjustment Entry Date				Lookup	Cash Flow Date				
Adjustment Entry Status					Cash Flow Sequence				
Adjustment Entry User Identifier				[=]	Cash Flow Type				
Adjustment Entry User Remarks					Common Coa Code				
Adjustment Status Date				]=E	Currency Code				
Adjustment Version Identifier			~	1.6	Currency type code				~
Adjustment process status					Contency (ype code				
			di di						M
* Joins									8
Left Entity	Right Entity	Lookup	Join Expression						

9. To edit the filter expression, click Z icon. The *Specify Expression* window appears. Select/key in the required expression and click **OK**.

	Expression	0
DIH > Expression >		
Entities	Functions	Operators
DATA ENTITIES     Account Beneficiary     Parameters	Acos (FLOAT)     Cos (FLOAT)	Operators  Arithmetic  Concatenation  Comparison
Expression		C
	Validate Ok Cancel	

## NOTE:

- You do not need to add 'WHERE' clause for the filter.
- For File data loading, use filter expression of Number type along with single quotes.
   Example: N\_DRAWN\_AMOUNT ='40000'.
- For Date field refer To\_CHAR function for comparison. Parameters can also be used in filter expression. Date format must be a valid SQL date format.

For Example:

```
[EDD_GL_DATA].[EXTRACTION_DATE] =
TO_DATE(#DIHDEV.MIS_DATE,'dd-MM-yyyy')
```

- 10. If Source type is Hive, the filter expressions must conform to the following restrictions:
  - Expression must be valid HiveQL
  - Does not include Oracle built in or user defined functions
  - Does not include Sub queries
  - Includes Hive built in functions only
  - Parameters can also be used in filter expression. MISDATE can also be passed dynamically so that it is loaded from Batch Execution Screen. The date format specified must be valid Hive Date format i.e. yyyy-MM-DD

For Example:

```
Filter Expression in Connector:-[EDD_GL_DATA].[EXTRACTION_DATE] =
#DIHDEV.MIS_DATE
```

**MISDATE** Parameter in Batch:

MISDATE=\$MISDATE:yyyy-MM-dd

- 11. Click **Next. The 'Target' block appears**.
- 12. Select External Data Descriptor from available list shows left panel. Move that to right side on selected panel. Below grid shows the selected EDDs along with filter expression. The filter on target can be applied by clicking the filter expression. The Fields and details are explained as tabulated in "Fields and their descriptions" section.
- **NOTE:** For extract type connector, only one EDD should be selected. Multiple EDD is not supported.

				nnect	~~	
Connectors > Connectors (Definition Mode	) >			meet	013	
* Connector Flow Diagram						
	Definition	Source	et		Mapping Properties Summary	
* Connector Details						
Connector Name *						
Connector Description						
ADI Selector						
Availabé Common Coa Hier Inif Master Common Coa Hier Inif Master Common Coa Hiater Common Coa Ti Inif Master Customer Account CASA Contracts Cards Cards Foreign Exchange Contracts			÷ Mo	ці Ці	Selected Otos Outomer Account Annuity Contracts Bills Contract	
Selected ADI						<b>T</b>
ADI 🗾	Subtype	Description			Filter Expression	
Customer Account	Annuity Contracts	Customer Account			<u> </u>	
Customer Account	Bills Contract	Customer Account			2	
Previous Save Close Next						
Audit Trail User Comments						

13. Click the **Mapping** block in the flow chart, in order to map the EDD's. For details on Auto-mapping refer to section <u>Auto-mapping</u>.

				(	Connecto	irs					
Connectors > Connectors	(Definition Mode) >										
* Connector Flow Dia	nram										
		đ	Definition	Source		lapping Prope	erties	Summary			
* Connector Details											
Connector Name*		USG_FILE_CONNECTOR									
Connector Description		Connector for mapping term de	posits data in a comma e	separated file to be loaded into TD o	contracts of	OFSAA					
* Mapping											3
Source:	Account Adjustments	~				Target:	FLX_ACCT_M	TIGANT_MAP	~		
Attributes		Unmapped?	Mandatory?	Only valid for applications?		Fields					Unmapped?
Account Number (m)						MITIGANT_WEIGHT					
Adjusted Column Identifier	(m)			^		MITIGANT_CODE					
Adjustment Approver Rem	arks					ACCOUNT_NUMBER					
Adjustment Approver Use	r Identifier					FIC_MIS_DATE					
Adjustment Entry Date											
Adjustment Entry Status					[=]						
Adjustment Entry User Ide	ntifier				L-1						
Adjustment Entry User Ren	marks				]=E						
Adjustment Status Date					1-L						
Adjustment Version Identif	ier (m)										
Adjustment process statue	1										
Date Value											
GAAP Code (M)											
Information Date (m)				~							
Load Due Identifier (m)				00							00
				uru							uru -
* Column Mapping									Import Mapping		1 to 0 of 0 📢 📢 🚺 🚺
Source Entity	So	ource Field	Expression					Target Entity		Target Field	
				Previous	ave	lose Next					

14. Select the ADI from the drop down list. For details on options for ADI refer to section Options in Mapping ADI. **NOTE:** For extract connector, mandatory attributes are not applicable. There is no validation of mandatory attributes during publish. Mandatory indicator (\*) against an attribute for ADI is for reference only.

* Mapping								3
Source: Account Address			Target:	FLX_ACCT_RATE_TIER	s `	~		
				1.00.0000000000000000000000000000000000	-			
	onsr		Fields					Unmapped?
Account / Contract Code (m)	~		INTEREST_RATE_CD					,
Account Address Purpose Type			INTEREST_TYPE					
Address Line 1			SORT_ORDER					
Address Line 2			INT_FREQ_UNIT					
Address Line 3			INT_FREQ					
Address Line 4		[=]	EOP_BAL					
Address Line 5		L-1	EOP_INT_AMT					
Address Line 6		]=E	EOP_PRIN_AMT					
City		1-L	INT_BM_RATE					
Country			INT_RATE_SPREAD					
Extraction Date (m)			CURR_INTEREST_RATE					
Mail Handling Instruction			ORIG_INT_RATE					
Postal Code			GL_CODE					
Region	$\sim$		DATA_ORIGIN					
Sanuanan Jumbar (m)			STACE NAME					
	i Mi							dM
* Column Mapping						Import Mapping 🛛 🚳 🎼		1 to 1 of 1 🔇 🕻 🕨 D
Source Entity Source Field Expression					Target Entity		Target Field	
Carl Address Account / Contract Code*					FLX_ACCT_RAT	E_TIERS	INTEREST_RA	TE_CD
			Next					

- 15. Select the 'Mandatory' option to populate the mandatory Attributes to be mapped. All the mapped attributes are listed under the 'Column Mapping' sector. For details on the options in the Mapping grid such as Auto-mapping, Export to Excel and so on refer to section <u>Field in Mapping</u>.
- **NOTE:** If the application is chosen as BASEL, while mapping, you can select the type of approach (such as, IRB or Advanced Approach) and the Jurisdiction (BIS, BRAZIL, China, India and so on) for filtering.

8. Mapping							3
SDI: EBCDIC_FILE		Approach		*	Jurisdiction		~
Fields		Attributes Standar		*	Unmapped?	Mandatory?	Only valid for applications?
PREX_HDR_RECORD_TYPE		Agreement Flag (m) Approac	ritized - Advanced ach				*
PREX_HDR_CREATION_DATE		Basis Risk Weight (m) Securiti	ritized - IRB	=			
PREX_HDR_CREATION_TIME		CDS Reference Entity Part					-
FILLER		CVA Hedge Flag (m) Securiti	ula Approach	*			-
		Central Counterparty Code (m)					
		Cleared Transaction Bank Role Code (m	m)				
	E=1	Cleared Transaction Flag (m)					
		Country Code (m)					
	]=E	Credit Event Indicator for restructure (m	m)				
		Currency Code (m)					
		Dilution Risk Mitigant Indicator (m)					
		Eligibility Flag (m)					
		Eligible Mutual Fund Indicator (m)					
< III		Eligible Non Main Index Indicator (m)					
		Equity Main index Indicator (m)					*
()	1	•		11			
							M

16. Click the **Properties** block in the flow chart. The Properties related fields, and the Connector details appear automatically.

* Properties								
Loading Mechanism	External Table     SQLLDR		Direct	True	Parallel	True	٣	
Degree of Parallel	5		No. Of Errors	0	Maxmium Discard	1		
ODI Folder	DIHDEV804		XML Date Format	YYYY-MM-DD	Avoid Partition Exchange	No	۲	
Do you want to use Datadump ?	No V		Source and Target in Same Environment ?	Yes •	Source Dump Location	/src/tmp		
Target Dump Location	AargetAmp		Number of Splits for Dump file	3	Effective Dated Key for Result Area?	No	•	
Do you want to use DBLink ?	No Y		Hive Date Format	yyyy-MM-dd	Do you want to use BigData SQL	No	٣	

- 17. No action is required in properties section. Directly proceed to summary tab.
- 18. Click the **Summary** block in the flow chart to view the summary of all sections.

	Connectors									
Connectors > Connectors (Definition Mode) :	>			Connectors						
Connector Flow Diagram										
× Connector Flow Diagram					(					
Definition     Definition     Definition     Definition     Target     Definition     Definitio										
Connector Details										
Connector Name *		Connector1								
Connector Description	Connector Description Connector for mapping term deposits data in a comma separated file to be loaded into TD contracts of OFSAA									
* Properties										
* Selected EDD										
EDD	External D	ata Store Name	External Data	ata Store Description E	External Data Store Ty	pe Filter Expression				
FLX_ACCT_RATE_TIERS	OBP_STA	GE_SRC	Staging Sour	urce for Oracle Banking Platform 0	ORACLE DB					
* Selected ADI										
ADI	Subtype		Descrip			Filter Expression				
Account Address	Accour	nt Address	Accour	punt Address						
8 Column Mapping							1 to 1 of 1 🕄 🕻 🕽 🖸			
Source Entity	Source	Field	Express	ession		Target Entity	Target Field			
Account Address	Accour	nt / Contract Code *				FLX_ACCT_RATE_TIERS	INTEREST_RATE_CD			
				Previous Publish Save Close						

19. Click **Publish**. This converts DIH metadata into ODI objects.

The Audit Trail section at the bottom of the window displays the information of the source created. The User comments section facilitates you to add or update additional information as comments.

			9								
*	Search										ð
AD			÷	N	lame						
R	Connectors					<b>D</b>	<b></b>	41 - 4	5/45 CO CO CO D J	ump to page	
	Name 🔺	Description		SDI		Source	Name	Status	Created Date	Last Modi	ified Da
	Test Execution Connector TD	Test Execution	n Connector TD	TES	T_EXEC_TD	OFSAA_	FILES	Published	20-OCT-2014 08:10 F	PM	
	Test expression			EXC	HG_RATE_HIS	T OFSAA	FILES	Saved	22-OCT-2014 05:10 F	PM	
	Test Long Length							Published	29-SEP-2014 04:09 F	PM	
	TESTCON2			TES	T2	OFSAA	FILES	Published	21-OCT-2014 05:10 F	PM	
	USG File Connector 1	Connector fo	r mapping Term deposits data in a comm[]	USG	G_FILE_SDI	USG_F	LE_SRC	Published	28-OCT-2014 12:10 F	PM	
torned.					Go .						

## 9.3.5.1 Auto-mapping

The Mapping section appears, with an dialog box providing an option for Auto Mapping. Click **Yes** to proceed with Auto Mapping. Alternatively, click **No**, to perform Auto Mapping later or perform mapping manually.

The list of Fields and Attributes are listed.

🕘 Warning [12015] Webpage Dialog		x
	Do you want to perform Auto Mapping? Yes No	

## 9.3.5.2 Options in Mapping EDD

In the Mapping grid of the Mapping block, when you click on the EDD drop-down, there are three options:

• **Defined EDD**: In this option, the defined EDD is listed in the Fields column which can be mapped to the required ADI.

- Derived Column: On selecting Derived Column, under the Fields column, you have 'Add Expression' option. On selecting 'Add option', the Specify Expression window appears. Here, you can select the required Entities, Functions and Operators. That is, you can write your own expression. Enter the field name and click OK. Now the newly created field name will be listed along with the 'Add Option'. Select the created filed and map it with the respective attributes.
- **Parameter**: On selecting Parameter, you can substitute it with the EDD. The respective parameters are listed in the fields' column. Map the fields and attributes.

Mapping		
Source:	FLX_ACCOUNTING_ENTRIES Derived Column	
Fields	Parameters	Unmapped?

Example: USG\_FILE\_EDD. The Fields of the selected EDD is listed.

## 9.3.5.3 Options in Mapping ADI

In the Mapping grid of the Mapping block, when you click on the ADI drop-down, there are three options:

- Defined ADI: In this option, the attributes of the selected ADI which can be mapped to the required EDD.
- Derived Column: On selecting Derived Column, under the Fields column, you have 'Add Expression' option. On selecting 'Add option', the Specify Expression window appears. Here, you can select the required Entities, Functions and Operators. That is, you can write your own expression. Enter the field name and click OK. Now the newly created field name will be listed along with the 'Add Option'. Select the created filed and map it with the respective attributes.
- Parameter: On selecting Parameter, you can substitute it with the ADI. The respective parameters are defined can be mapped to a field on target.

Mapping				
Source:	Account Address			
Attributes	Derived Column Parameters	Unmapped?	Mandatory?	Only valid for applications?

Example: Customer Account. The Fields of the selected ADI is listed.

#### 9.3.5.4 Fields in Mapping

The Mapping and Column Mapping grid in the Mapping block provides options, such as Automapping, Export to Excel and so on, as explained below.

8 Mapping													3	
Source:	Account Address	~	]	_			Target		FLX_ACCOUNTING_ENTRIES	~				
Attributes			Unmapped?	Man atory?	Only valid for applications?		Fields						Unmap	ped?
Account / Contract Code (	m)				0		TXN_EVENT_CODE							
Account Address Purpose	Туре				<u>^</u>		TXN_EVENT_CODE							$\sim$
Address Line 1							TXN DESC							
Address Line 2														
Address Line 3							TXN_BANK_CODE	_						-8
Address Line 4						[=]	TXN_BRANCH_COD	E						-8
Address Line 5						L-1	BATCH_CODE							- 11
Address Line 6							CURR_BATCH_NUM							
City						]=[	USER_REFERENCE_	CODE						
Country							CHANNEL_CODE							
Extraction Date (m)							TXN_DATE							
Mail Handling Instruction							VALUE_DATE							
Postal Code							POSTING_DATE							
Region					~		PROCESS_DATE							~
Converse Number (m)							CUST_REF_CODE							
					(M)									1Mi
* Column Mapping										1.	mport Mapping		to 1 of 1 📢 📢 D	
Source Entity		ource Field		Expression					Target Ent		1020   020			-
Account Address		Account Address Purpo	- T	Expression					rargeren	ιy		Targer Field		
Account Address	A	Account Address Purpo	se Type											
					Previoue		ince Next							

- You can view the unmapped fields and attributes by selecting the "Unmapped" checkbox. The mapped fields are displayed in red. You can also search for an attribute or field by keying the required word in the search option and clicking ion.
- You can view the mandatory attributes by selecting the "Mandatory" checkbox.
- Only valid for applications, and is not applicable for extract.
- For data loading into Result area, DIH internally converts code/string values into surrogate keys/numbers by looking up into corresponding dimension table. This happens during publish. The lookup happens either on latest record or on the effective dated. It is decided by the parameter "Effective Dated Key for Result Area?". Therefore, in the result area loading, a data type mismatch warning might appear. You can ignore the warning.
- There is automap button on the "Column Mapping" section next to "Import Mapping". On clicking it, it maps Fields of the selected EDD on the left to attributes on the target based on name. And it puts underscore "\_" in the space between words and tries to match. It tries to match with physical column name of the attribute as well. The user should review the mapping and delete if not correct. The 'Delete mapping" button is also next to automap button.
- The Export to Excel icon, helps in moving the mappings to an excel sheet. The excel sheet has the following columns:
  - o EDD
  - o Source Column
  - Target Attribute
  - o Mandatory
  - Applicable for Applications

The export process dumps all the source columns and target attributes for the current selection along with whatever is already mapped. You can alter or do the mapping by changing the source/EDD and Target columns in the Excel. Click "Import Mapping" button on the "column Mapping" section, and select excel mapping. The import process does the mapping if the mapping is valid or the same target attribute is not already mapped.

If EDD is not mentioned in the excel (manually created), then import mapping option enables you to map left and right attributes based on their name irrespective of EDD name. This enables the user to perform reference mapping. This indicates that is once mapping is established between the source fields and target attributes, on any connector with any EDD the same mapping can be used.

# 9.4 Creating a Connector - Dataflow View

Connector allows mapping one or more External Data Descriptor with Application Data Interface. It allows mapping of one or more ADI with EDD as well, in case of extract type connector.

There are pre-built Connectors for Oracle applications such as, Flexcube, Oracle Banking Platform, and so on. For other applications you need to define Connectors for your EDDs.

This section includes the following sections:

## 9.4.1 Icons and Description

To create a connector you must understand each of the icons at the beginning. While creating a Connector, the icons that are displayed are explained as follows:

lcon	Description
Source	Click this icon to view the list of all External Data Descriptors created in the setup. You can drag the desired EDD on the canvas.
Target	Click this icon to view the list of all ADIs created in the setup. You can drag the desired ADI on the canvas.
Mepping	Click this icon to open the mapping window. You can map the source column to target column in the window.
() <del>)</del> +	This component is used for defining join between two entities. Click this icon to open the window where you can define the join condition between two entities.
Y	This component is used for defining filter a given entity. Click this icon to open the window where you can define the filter condition.
	This component is used for defining look up condition. Click this icon to open the window where you can define the join condition between two entities.

lcon	Description
	This component is used for defining Derived column. Click this icon to open the window where you can define an expression, which can be mapped to the target column.
	This component is used for Transpose (Rows to Columns) for a given entity. Click this icon to open the window where you can define the pivot data element and the new columns, which will be transposed from multiple rows of source entity.
	This component is used for Transpose (Columns to rows) for a given entity. Click this icon to open the window where you can define the unpivot data element and new rows which will be transposed from columns of source entity.
<b>**</b>	This component is used for defining group by and having clause for Aggregation. Click this icon to open the window where you can define a group by and having clause for aggregation of the source entity.
Clear UI	Click this button to remove all the nodes added into the canvas.
	This appears on the connector window when the connector is published and is opened in view mode. The connector is not editable.
<b></b>	This appears on the connector window when the connector is not published. The connector is editable.

# 9.4.2 Creating a Connector for Loading Data into OFSAA

To create a Connector for loading data into OFSAA perform the following steps:

1. On the Connectors Summary window, click Insert tab.

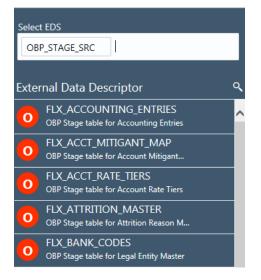
2.	Click Add 🛨 button. Th	ne Select View	window appears.
	Select View	×	
	Dataflow View	Ok	

3. Choose Dataflow View and click Ok. The New Connectors Definition window appears.

To define a connector, you must have source with EDD and a target, which is ADI.

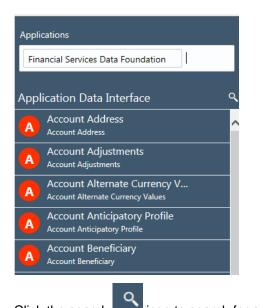


- 3. Click Source to select the required EDDs.
- 4. Here, you can filter your selection based on the EDS selected. The EDD node's color depend on the source system type.

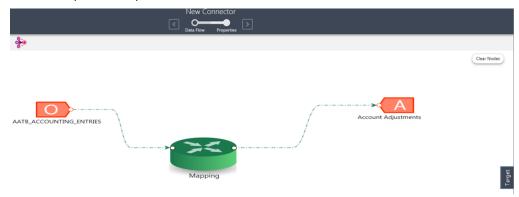


For example:

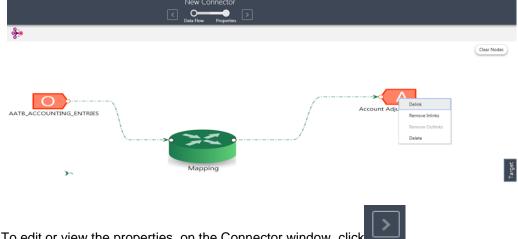
- File types are in blue.
- Oracle types are in red.
- HDFS types are in orange.
- 5. In case you select 'OBP\_STAGE\_SRC' as the EDS, it displays the EDDs for that particular EDS selected.
- 6. Click the search icon to search for a particular EDD. You can select multiple EDS.
- 7. Select the required EDD and drag it to the canvas.
- 8. Click Target. Here you can filter ADIs based on the application selected.



- 9. Click the search icon to search for a particular ADI.
- 10. Select the required ADI. Drag it to the canvas and then link the input and output nodes.
- 11. Click the input white circle. The anchor symbol appears. Drag and drop the line to link it to the required component.



12. At any given time, you can right-click the node to either delink or remove inlinks / outlink or delete a node.



13. To edit or view the properties, on the Connector window, click



- 14. Enter the name and description for the connector.
- 15. In case you select a table type, enter the table properties.

		New Connector
		C Data Row Properties
Connector Details		🕒 Publish 🖉 Save & Draft
Name *		Description
Properties		
Default Properties		
Parallel	True •	Degree Of Parallel 5
Avoid Partition Exchange	No *	
Table Properties		
Do you want to use DBLink ?	No *	
		Audit Trail
Created By: OFSAD		Created Date: 2018-1-5 13:20:23
Modified By:		Last Modified Date:

16. In case you select a file type, enter the file properties.

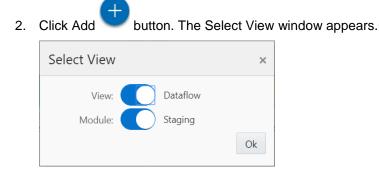
	C Otto	Properties >	
Connector Details			🕞 Publish 😵 Save 🖉 Save As Draft
Name *		Description	
Properties			
Default Properties			
Parallel True	w	Degree Of Parallel 5	
Avoid Partition Exchange No	Ŧ		
File Properties			
Loading Mechanism C SQLLDR		Direct True	*
No. Of Errors 0		Maximum Discard 1	
Table Properties			
Do you want to use DBLink 7 No	Ŧ		
	Audit T	Trail	
Created By: OFSAD		eated Date: 2018-1-5 13:30:1	
Modified By:	Last #	Modified Date:	

**NOTE:** Refer section Connector Properties section for more details on the properties.

# 9.4.3 Creating a Connector for Extracting Data from OFSAA

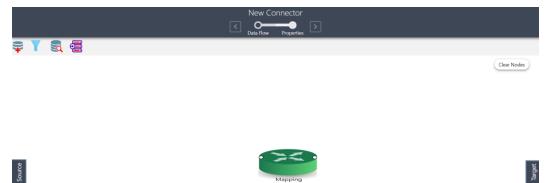
To create a Connector for extracting data from OFSAA perform the following steps:

1. On the Connectors Summary window, click Extract tab.

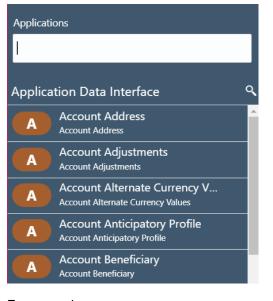


3. Choose Dataflow View and select the module you want to extract data from and click Ok. The New Connectors Definition window appears.

To define a connector, you must have source with EDD and a target, which is ADI.



- 4. Click Source to select the required ADIs.
- 5. Here, you can filter your selection based on the ADI selected. The ADI node's color depend on the source system type.
- 6. Click the search icon to search for a particular ADI.
- 7. Select the required ADI. Drag it to the canvas and then link the input and output nodes.

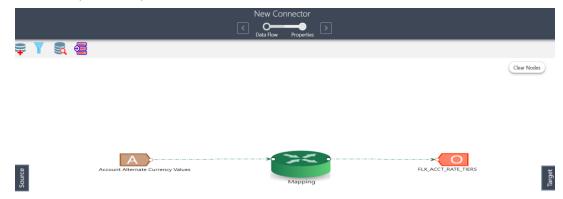


For example:

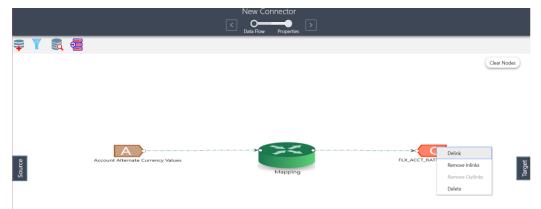
- File types are in blue.
- Oracle types are in red.
- HIVE types are in brown.
- 8. Click Target. Here you can filter EDS based on the application selected.

External Data Store	
External Data Descriptor	٩
EDD_Party_Master	
FILE_MM_CONTRACTS_XB EDD for file load EXPOSXXB_YYYYMMD	
FLX_ACCOUNTING_ENTRIES     OBP Stage table for Accounting Entries	
FLX_ACCT_MITIGANT_MAP OBP Stage table for Account Mitigant	
FLX_ACCT_RATE_TIERS     OBP Stage table for Account Rate Tiers	
• FLX_APPLICATION_DOC OBP Stage table for Application Docum	

- 9. In case you select 'OBP\_STAGE\_SRC' as the EDS, it displays the EDDs for that particular EDS selected.
- 10. Click the search icon to search for a particular EDD. You can select multiple EDS.
- 11. Select the required EDD and drag it to the canvas.
- 12. Click the input white circle. The anchor symbol appears. Drag and drop the line to link it to the required component.



13. At any given time, you can right-click the node to either delink or remove inlinks / outlink or delete a node.



14. To edit or view the properties, on the Connector window, click





- 15. Enter the name and description for the connector.
- 16. In case you select a table type, enter the table properties.

		New C	onnector				
		C Data Flow	Properties >				
Connector Details					G Publish	Save	🥝 Save As Draft
Name *				Description			
Properties							
Default Properties							
Parallel	True 💌			Degree Of Parallel 5			
Avoid Partition Exchange	No *						
Table Properties							
Do you want to use DBLink ?	No *						
		Au	dit Trail				
Created By: OFSAD			Created Date: 2018-1-5 13:20:23				
Modified By:		L	ast Modified Date:				

17. In case you select a file type, enter the file properties.

			New Connector		
			Data Flow Properties		
Connector Details				G Publis	h 📀 Save 🔗 Save As Draft
	Name *			Description	
Properties					
Default Properties					
Delault Properties	Parallel True	*		Degree Of Parallel 5	
	Avoid Partition Exchange No	*			
File Properties					
	Loading Mechanism SQLLDR			Direct True	*
	No. Of Errors 0			Maximum Discard 1	
Table Properties					
	Do you want to use DBLink ? No	*			
			Audit Trail		
Created By: OFSAD			Created Date: 2018-1-5 13:30:1		
Modified By:			Last Modified Date:		

**NOTE:** Refer section Connector Properties section for more details on the properties.

# 9.4.4 Understanding the Components

This section includes the following sections:

- Using Filter for an EDD
- Using Join for an EDD

- Using Lookup for an EDD
- Using Aggregation for an EDD
- Using Transpose (Rows to Columns) for an EDD
- Using Transpose (Columns to Rows) for an EDD
- Using Derived Column
- Using Mapping

## 9.4.4.1 Using Filter for an EDD

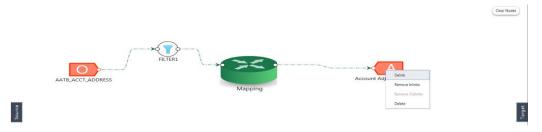
To use the filter component, perform the following steps:

- 1. Drag and drop the Filter component on the canvas to define a filter on an EDD.
- 2. It accepts input only from an EDD and it can have only one output.
- 3. In case you have multiple EDDs selected, and you want to have filter for more than one EDD, then you must select as many number of filters, connect to the respective EDD, and then define their expressions.

For example, to add filter to three EDDs, drag three filters.



4. At any given time, right-click the filter component to either delink or remove inlinks / outlinks or delete the filter component.



5. Double-click filter component. The Filter Expression window appears:

The selected EDD and parameters are displayed in the filter expression screen.

Intities	Search Columns By Nan	ne
AATB_ACCT_ADDRESS	DEFIC_MIS_DATE	^
Parameters		
	V_ADDRESS_LINE1	
	V_ADDRESS_LINE2	-
xpression *		

- 6. Specify the required filter expression using columns and parameters.
- 7. Click Validate in case you wish to verify the correctness of the SQL expression.
- 8. Click OK.

#### NOTE:

- You do not need to add 'WHERE' clause for the filter.
- For File data loading, use filter expression of Number type along with single quotes. For example: N\_DRAWN\_AMOUNT ='40000'.
- For Date field refer To\_CHAR function for comparison.
- Parameters can also be used in filter expression. Date format must be a valid SQL date format.

#### For Example:

```
[EDD_GL_DATA].[EXTRACTION_DATE] = TO_DATE(#DIHDEV.MIS_DATE,'dd-MM-
yyyy')
```

- 9. If Source type is Hive, the filter expressions must conform to the following restrictions:
  - Expression must be valid HiveQL
  - Does not include Oracle built in or user defined functions
  - Does not include Sub queries
  - Includes Hive built in functions only
  - Parameters can also be used in filter expression. MISDATE can also be passed dynamically so that it is loaded from Batch Execution Screen. The date format specified must be valid Hive Date format i.e. yyyy-MM-DD

For Example:

Filter Expression in Connector:-[EDD\_GL\_DATA].[EXTRACTION\_DATE] =
#DIHDEV.MIS\_DATE

MISDATE Parameter in Batch:

MISDATE=\$MISDATE:yyyy-MM-dd

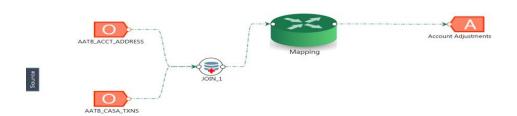
## 9.4.4.2 Using Join for an EDD

To use the join component, perform the following steps:

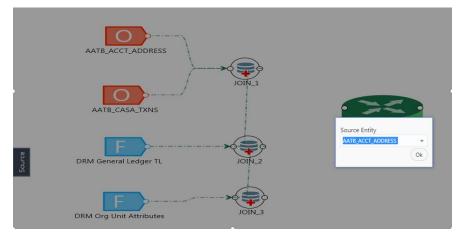
 Drag and drop the Join **\*** component on the connector window to link multiple EDDs.

Clear Nodes

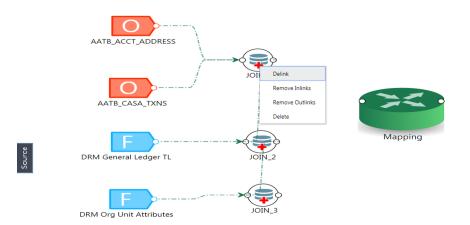
2. The Join component accepts input from two EDDs.



3. To join more than two EDDs, drag another join component. Link the output of the first join to the input of the second join and then connect the other EDDs. You can repeat this for multiple EDDs. Select the Source Entity and click Ok.



4. At any given time, right-click the join component to either delink or remove inlinks / outlinks or delete a join component.



5. Double-click the join component to define a join condition. The Join window appears:

FLC_MIS_DATE     D_CLEARING_DATE       DATE     D_ATE       NUMBER     D_CLEARING_TIME       V_ACCOUNT_NUMBER     D_DEPOSITING_DATE       V_ACDRESS_LINE1     D_DEPOSITING_TIME       V_ADDRESS_LINE2     D_DEPOSITING_TIME       V_ADDRESS_LINE2     D_DEVECUTION_TIME       V_ADDRESS_LINE3     D_SEQUITING_TIME       TIMESTANP     D_DEVECUTION_TIME       D_SEQUITING_TIME     TIMESTANP	AATB ACCT ADDRESS	Q	AATB CASA TXNS	Q
NUMBER     TIMESTAMP       V_ACCOUNT_NUMBER     D_DEPOSITING_DATE       VARCHAR2     D_DEPOSITING_TIME       V_ADDRESS_LINE1     D_DEPOSITING_TIME       VARCHAR2     TIMESTAMP       V_ADDRESS_LINE2     D_EXECUTION_TIME       VARCHAR2     TIMESTAMP       V_ADDRESS_LINE2     D_EXECUTION_TIME       V_ADDRESS_LINE3     D_ISSUING_DATE	FIC_MIS_DATE		D_CLEARING_DATE	
VARCHAR2 DATE V.ADDRESS_LINE1 D_DEPOSITING_TIME VARCHAR2 TIMESTAMP V.ADDRESS_LINE2 D_EXECUTION_TIME TIMESTAMP V.ADDRESS_LINE3 D_ISSUING_DATE		- 1		
VARCHAR2         TIMESTAMP           V_ADDRESS_LINE2         D_EXECUTION_TIME           VARCHAR2         TIMESTAMP           V_ADDRESS_LINE3         D_LSSUING_DATE				
VARCHAR2         TIMESTAMP           V_ADDRESS_LINE3         D_ISSUING_DATE				
	V_ADDRESS_LINE3 VARCHAR2		D_ISSUING_DATE DATE	

Here you see the selected EDDs in the left and right tab.

- 6. You can drag and reorder the left and right tab to choose the right/left entity in a join condition.
- 7. To join entities, select column from left and right tab and click Add Join This displays the joined entities. You can join multiple entities.

[AATB\_ACCT\_ADDRESS].[V\_ACCOUNT\_NUMBER]=[AATB\_CASA].[D\_ACCT\_OPEN\_DATE] AND [AATB\_ACCT\_ADDRESS].[V\_ADDRESS\_LINE2]=[AATB\_CASA].[D\_ACCT\_CLOSED\_DATE] AND [AATB\_ACCT\_ADDRESS].[V\_ACCOUNT\_NUMBER]=[AATB\_CASA].[D\_BILLING\_CYCLE\_DATE]

icon.

8. To remove two joined conditions, select two columns from left and right tab and click

Remove Join icon. The joined condition is removed from the list.

- 9. Click Reset in case you wish to reset all the joined condition.
- 10. Click Ok once you are completed.

NOTE: This creates an inner join between the connected EDDs.

#### 9.4.4.3 Using Lookup for an EDD

To use the lookup component, perform the following steps:

1. Drag and drop the Lookup on an EDD.

component on the canvas to to define a lookup

2. You can lookup two EDDs and then map it to the target.

NOTE: You can lookup a maximum of two input nodes.



3. At any given time, right-click the lookup component to either delink or remove inlinks / outlinks or delete a lookup component.

	New Connector	
🌩 🍸 🔍 🖷 🕤 🕕 🐎		
	Claim Referral R Mapping	
Source		Target

4. Double-click the lookup component to define a lookup condition. The Lookup window appears:

Here you see the selected EDDs in the left and right tab.

AATB ACCT ADDRESS	Q	AATB_CASA_TXNS	Q
FIC_MIS_DATE	Â	D_CLEARING_DATE	^
N_SEQUENCE_NUMBER		D_CLEARING_TIME TIMESTAMP	- 1
V_ACCOUNT_NUMBER VARCHAR2		D_DEPOSITING_DATE DATE	
V_ADDRESS_LINE1 VARCHAR2		D_DEPOSITING_TIME TIMESTAMP	
V_ADDRESS_LINE2 VARCHAR2		D_EXECUTION_TIME TIMESTAMP	
V_ADDRESS_LINE3 VARCHAR2		D_ISSUING_DATE DATE	

- 5. The entities that are on the right side on the window are the look up entity. You can change the lookup entity by moving edit tab to the right.
- To lookup entities, select two entities from left and right tab and click Add Join icon. This displays the lookup entities.

[AATB\_ACCT\_ADDRESS].[V\_ACCOUNT\_NUMBER]=[AATB\_CASA\_TXNS].[D\_CLEARING\_TIME]

To remove a lookup conditions, select two columns from left and right tab and click
 Remove Join icon. The lookup condition is removed from the list.

8. Click Reset in case you wish to reset all the lookup condition.

9. Click Ok once you are completed.

NOTE: This creates a left outer join between the connected EDDs.

### 9.4.4.4 Using Aggregation for an EDD

To use the aggregation component, perform the following steps:

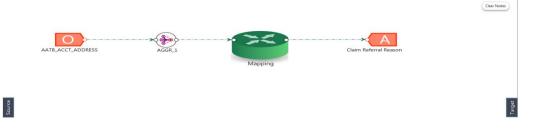
- 1. Drag and drop the aggregation aggregation on an EDD.
- **≹**•

component on the canvas to define an

Clear Nodes

- 2. It accepts input only from an EDD and it can have only one output.
- 3. In case you have multiple EDDs to be aggregated then you must select as many number of aggregation components, connect to the respective EDD, and then define their group by and having clauses.

For example, to add aggregation to three EDDs, drag three aggregation components.



4. At any given time, right-click the aggregation component to either delink or remove inlinks / outlinks or delete aggregation component.

AATE_ACCT_ADDRESS	
Saurce	Target

5. Double-click the aggregation component to define an aggregation condition. The Aggregation window appears:

Here you see the selected EDD under the entity tab.

Entition	_	Functions	Operators
AATB_ACCT_ADDRESS  AATB_ACCT_ADDRESS  AATB_ACCT_ADDRESS  AATB_ACCT_ADDRESS  AATB_ACCT_ADDRESS  ACCOUNT_NUMBER  VARCHAR2  VACCHAR2  VACCHAR2  VACHAR2  VACHAR2 V		<ul> <li>Database Functions</li> <li>Aggregation</li> <li>Date and Time</li> <li>Mathematical</li> </ul>	Comparison     Comparison
Group By		Having	

- 6. Select the group by columns and specify expression for the having clause.
- 7. Click Reset in case you wish to reset all the aggregation condition.
- 8. Click Validate in case you wish to verify the correctness of the SQL expression.
- 9. Click Ok once you are completed.

#### 9.4.4.5 Using Transpose (Rows to Columns) for an EDD

To use the Transpose (Rows to Columns) component, perform the following steps:

- 1. Drag and drop the Transpose (Rows to Columns) component on the canvas to define a Transpose (Rows to Columns) component on an EDD.
- 2. It accepts input only from an EDD and it can have only one output.
- In case you have multiple EDDs selected, and you want to have Transpose (Rows to Columns) component for more than one EDD, then you must select as many number of Transpose (Rows to Columns) components, connect to the respective EDD, and then define their expressions.

#### NOTE:

- The output can be connected to Join, Lookup and Mapping.
- For example, to add Transpose (Rows to Columns) component to three EDDs, drag three Transpose (Rows to Columns) components.

	New Connector	
Ţ	Y 🕄 🚍 🍺 🖳 🐎	
		Clear Nodes
Source	FLX_BRANCH_CODES PrvoT_1 Account Credit Score Details	Target

4. At any given time, right-click the Transpose (Rows to Columns) component to either delink or remove inlinks / outlinks or delete a Transpose (Rows to Columns) component.

	New Connector	
Ş 🍸 💐 🚍 🍺 🖫 🐎	Sand Ison in Operador	
		Clear Nodes
	Delink	
FLX_BRANCH_CODES	Remove Inlinks Mapping	Target
٥.	Remove Outlinks Delete	

5. Double-click the component to transpose the entity rows into columns. The Transpose Row to Column window appears.

Here you see the selected EDD and parameters.

ata Elements		N_ATTR_2_VALUE ×						Revie
vot Data Element		FIC_MIS_DATE	٣	Entities		 Search Columns By Name		
Column Name Matching Row Value		Expression +						
		[GL Intra Company Code].[N_ATTR_3_VALUE]	×	GL Intra Company Code				
		[GL Intra Company Code].[N_ATTR_3_VALUE]	×	Parameters	🔍 NUME	TR_2_VALUE BER		
						TR_3_VALUE		
						AF_ORDER		
					N_LEV	/EL_2_ORDER		
					W NUME	3ER	*	
				Expression				
				Expression				
							e	
							6	
							Rese	et ) Ap

6. Specify the pivot data element to transpose rows into columns.

- 7. Specify the Row Value Transposed Column Expression combination. Ensure to have a minimum of two combinations.
- 8. Click Review to review the transformation. The Review Transformation window appears displaying the sample of the transformation data.

L Intra Com	pany Code - wit	h sample data								
FIC_MIS_DATE	N_ATTR_2_VALUE	N_ATTR_3_VALUE	N_LEAF_ORDER	N_LEVEL_2_ORDER	N_LEVEL_3_ORDER	N_LEVEL_4_ORDER	N_LEVEL_5_ORDER	N_LEVEL_6_ORDER	N_LEVEL_7_ORDER	N_LEVEL_8_ORDE
	X2	Y31	Y41	Y51	Y61	Y71	Y81	Y91	Y101	Y111
	X2	Y32	Y42	Y52	Y62	Y72	Y82	Y92	Y102	Y112
ransformed N_ATTR_2_VALU		ny Code - rows t	to columns with	h above sample d	ata					
_ATTR_2_VALU		ny Code - rows t	to columns with	h above sample d	lata		Y32		Y32	
		ny Code - rows t	to columns with	h above sample d	lata		Y32		Y32	
I_ATTR_2_VALU		ny Code - rows t	to columns with	h above sample d	ata		Y32		Y32	
I_ATTR_2_VALU		ny Code - rows t	to columns with	h above sample d	lata		Y32		Y32	
_ATTR_2_VALU		ny Code - rows t	to columns with	h above sample d	ata		Y32		Y32	

9. Click Ok.

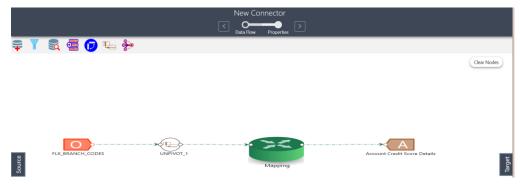
#### 9.4.4.6 Using Transpose (Columns to Rows) for an EDD

To use the Transpose (Columns to Rows) component, perform the following steps:

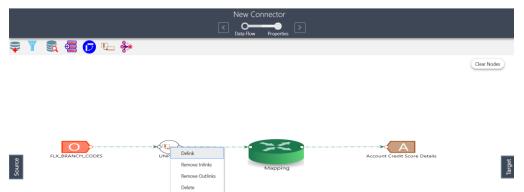
- 1. Drag and drop the Transpose (Columns to Rows) component on the connector window to define a Transpose (Columns to Rows) component on an EDD.
- 2. It accepts input only from an EDD and it can have only one output.
- In case you have multiple EDDs selected, and you want to have Transpose (Columns to Rows) component for more than one EDD, then you must select as many number of Transpose (Columns to Rows) components, connect to the respective EDD, and then define their expressions.

**NOTE:** The output can be connected to Join, Lookup and Mapping.

For example, to add Transpose (Columns to Rows) component to three EDDs, drag three Transpose (Columns to Rows) components.



4. At any given time, right-click the Transpose (Columns to Rows) component to either delink or remove inlinks / outlinks or delete a Transpose (Columns to Rows) component.



5. Double-click the component to transpose the entity columns into rows. The Transpose Column to Row window appears.

Here you see the selected EDD and its parameters.

Transpose Column to Row - GL Intra Compa	ny Code			×
Urgivot Data Elements Header Column Name Header Column No data to display.	Header Column Value Column Value Column	+ Par	Acto Transpor	N
				Ok

- 6. Specify the Unpivot Data Element to transpose columns into rows.
- 7. Specify the Header Column Name and Value Column Name.
- 8. Specify the Column Value (Header column) and Expression Pair (Value column) for each transposed rows. Ensure to have a minimum of two pairs.
- 9. After specifying the Unpivot Data Elements, click Auto Transpose. This will transpose columns into rows based on the unpivot data elements selected.

npivot Data Elements		N_ATTR_3_VALUE ×			Auto Transpose	Revie
eader Column Name		Header Column		Entities	_	
lue Column Name	1	Value Column		Enddes	Search Columns By Name	1
feader Column	Value G	olumn	+	GL Intra Company Code	Varchar2	^
FIC MIS DATE	IGL Intra	Company Codel IEIC MIS DATE	×	Parameters V_INTRA_GROUP_CODE_		
	[GL Intra Company Code],[FIC_MIS_DATE] [GL Intra Company Code],[N_ATTR_2_VALUE]				V_INTRA_GROUP_CODE_LEVEL05	
N_ATTR_2_VALUE		Company Code].[N_LEAF_ORDER]	×		V_INTRA_GROUP_CODE_LEVEL06	
			×		V_INTRA_GROUP_CODE_LEVEL07	
N_LEVEL_2_ORDER	[GL Intra	a Company Code].[N_LEVEL_2_ORDER]	×		VARCHARZ	*
N_LEVEL_3_ORDER	[GL Intra	a Company Code].[N_LEVEL_3_ORDER]	×			
N_LEVEL_4_ORDER	[GL Intra	Company Code].[N_LEVEL_4_ORDER]	×	Expression		
N_LEVEL_5_ORDER	[GL Intra	Company Code].[N_LEVEL_5_ORDER]	×	[GL Intra Company Code].[N	_LEAF_ORDER]	
N_LEVEL_6_ORDER	[GL Intra	Company Code].[N_LEVEL_6_ORDER]	×			G
N_LEVEL_7_ORDER	[GL Intra	Company Code].[N_LEVEL_7_ORDER]	×			

- 10. You can also click + to drag and drop the columns.
- 11. Click Review to review the transformation. The Review Transformation window appears displaying the sample of the transformation data.

FIC MIS DAT	TE N_ATTR_2_VALUE	N_ATTR_3_VALUE	N LEAF ORDER	N LEVEL 2 ORDER	N LEVEL 3 ORDER	N LEVEL 4 ORDER	N LEVEL 5 ORDER	N LEVEL 6 ORDER	N LEVEL 7 ORDER	N LEVEL 8 ORD
(1	X2	X3	X4	X5	X6	Х7	X8	X9	X10	X11
ansforme	ed GL Intra Compa	nv Code - sinale	row to multin	e rows						
		ny coue - single	Header Col					Value Colur		
I_ATTR_3_V	ALUE		Header Col	nmn				Value Colur	nn	
3			FIC_MIS_DA	TE				X1		
3			N_ATTR_2_V	ALUE				X2		
3			N_LEAF_OR	DER				X4		
3			N_LEVEL_2_	ORDER				X5		
3			N_LEVEL_3_	ORDER				X6		
(3			N_LEVEL_4_	ORDER				X7		
G			N_LEVEL_5	ORDER				X8		

12. Click Ok.

### 9.4.4.7 Using Derived Column

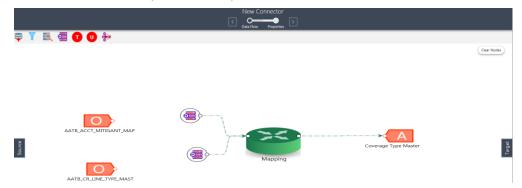
To use the Derived Column component, perform the following steps:

- 1. Drag and drop one more Derived Column <sup>25</sup> component on the canvas.
- 2. Connect the Derived Column to the mapping.

**NOTE:** The output must be connected to the mapping.



3. At any given time, right-click the expression component to either delink or remove outlinks or delete an expression component.



4. To define the expression, double-click the Derived Column component. The Derived Expression window for Derived Column appears:

Here you see the selected EDDs in the left tab.

Entities	Search Columns By Name			
AATB_ACCT_MITIGANT_MAP	DFIC_MIS_DATE			
AATB_CR_LINE_TYPE_MAST				
Parameters	NUMBER			
	NLOAD_RUN_ID			
		*		
lame *				
xpression *				

- 5. Specify the name and expression for the Derived Column. Ensure to limit the name to 30 characters.
- 6. Click Validate in case you wish to verify the correctness of the SQL expression.
- 7. Click Ok.

### 9.4.4.8 Using Mapping

1. Double-click Mapping component. The Mapping window appears.

**NOTE:** The input and output for the mapping component must be connected before specifying the mappings.

2. The mapping window displays the EDDs and ADIs and their respective data / derived data elements.

B_ACCOUNTING_ENTRIES +	Accounting Entries *	Se	arch		
ce <u>i1</u> 9	Target 1	۹.	Source Column: D,VALUE,DATE Source Entity: AATE,ACCOUNTING,ENTRIES	Target Column: Value Date Target Entity: Accounting Entities	
s	Account / Contract Code VARCHAR2	î	Remarks: Validation Successful Source Columns: V.USCR.REFERENCE.CODE	Terbet Column: User Reference Code	
IOSTING, DATE	Account Branch Code VARCHAR2		Source Entity: AATE_ACCOUNTING_ENTRES Remarks: Validation Successful	Target Entity: Accounting Entits	
NDCESS_DATE	Account Currency VARCHAR2		Source Column: N_TINLSUB_SEQ_NUM Source Entity: AATE_ACCOUNTING_ENTRES Remarks: Validation Successful	Target Column: Transaction Sub Sequence Number Target Entity: Accounting Entities	
IN DATE	Account Currency Amount NUMBER		Source Columni V, TINL, RSP, ND	Tarpet Column: Transaction Reference	
IALUE_DATE	Account Ledger Tag Code VARCHAR2		Source Entity: AATE_ACCOUNTING_ENTRIES Remarks: Validation Successful	Target Entity: Accounting Entries	
MIS_DATE	Account Local Rale NUMBER		Source Column: D_POSTING_DATE Source Entity: AATE_ACCOUNTING_DATES Remarks: Validation Excessful	Target Column: Transaction Posting Date Target Entity: Accounting Encies	
ANCELING,INDICATOR	Account Medule Type VARCHAR2		Source Column: V_TINL_MINEMONIC_CODE	Terpet Column: Transaction Mnemonic Code	
BCR_INDICATOR	Account Product Code		Source Entity: AATE_ACCOUNTING_ENTRIES Remarks: Validation Successful	Target Detity: Accounting Deties	
VTER, BRANCH, FLAG	Account Transaction Type VARCHAR2		Source Column: V_TXNLEVENT_CODE Source Entity: AATE_ACCOUNTING_ENTITIES Remarks: Validation Surgestul	Tarpet Column: Transaction Event Code Tarpet Entity: Accounting Entities	
EDGER_FLAG ICHAR2	Accounting Entry Identifier * VARCHAR2		Source Column: V_TXNLDESC Source Entity: AATE_ACCOUNTING_ENTITIES	Target Column: Transaction Description Target Entity: Accounting Entits	
NOCT_CCY_AMIT	Amount Tag Code VARCHAR2	-	Remarks: Validation Successful Source Column: 0,7101,0ATE	Yarpet Column: Transaction Date	

3. Click a Data Element under Source, Attribute under Target and then click Map

icon. On the RHS column mapping is displayed.

- 4. The following are the validations done for the mapping
  - a. Data Type Validation

- b. Data Length Validation
- c. Data Precession Validation
- 5. In case validation is successful, it displays Successful icon 🔪 next to the mapping.
- 6. In case any of the above (step 4) validation fails, it displays Warning icon next to the mapping.
- At any given time, you can select Unmap icon to unmap the source and target.
- 8. Click Auto-Map icon to auto map a source and target.

**NOTE:** Auto-mapping is done by matching logical / physical column name of both source or target.

9. In the Source column, click *filer* icon. Enable it to view the unmapped items.



NOTE: The mapped columns are displayed in red.

10. In the Target column, click the filter icon. Enable it to view the unmapped, mandatory and valid for applications.



- 11. Under the target column, you can hover on each item to see the details. It provides the description, length and scale information.
- 12. Click Search icon to search for a column name under Source or Target column list.
- 13. Click Delete **13.** Click Delete **14.** to delete all the mappings. You can also delete individual mappings by selecting the cross symbol next to the column mapping.
- 14. Click Import Mapping from the file browser.

€**x** 

icon to import mapping excel. Choose a mapping excel

- 15. Click Export Mapping icon to export the mapping information. This downloads an excel file.
- 16. Click Search or to search for a column mapping. You can search for an item based on source column name, target column name, source or target entity or a remark.

# 9.5 Modifying and Viewing a Connector for Standard and Data Flow View

To edit or view a connector, you can perform the following steps:

1. To edit or view a connector, you can select the required connector from the connector summary.

**NOTE:** You can edit an existing connector, other than the connectors, which are in published status. To edit a connector, which is in publish status, you must first unpublish it and then open it.

- 2. The connectors created with Standard or Data Flow View opens in their respective view mode.
- 3. The details of the selected connector is displayed. You can modify or view the details.
- 4. Connector Name cannot be edited. Update the other required details.
- 5. Click **Save** to save the changes made.
- For published connector, if you wish to make any changes click 'Unpublish'. The 'Unpublish' option clears ODI metadata that has been created during publish. Update the required changes and then click Publish. The updated changes are synced in ODI.

# 9.6 Copying a Connector

To copy an existing Connector, perform the following steps:

1. Click Copy Ubutton for the required connector. A Save As dialog box appears.

Save CC	ONN_EXT_AGG_LOAD As
Name *	
Description	
	Save Save

Depending on the view in which the original connector is created, the copied connector will have the same view.

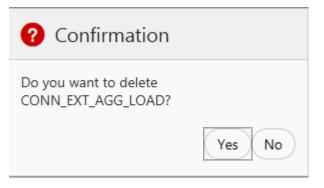
2. Enter the name and description.

3. Click Save. The Connector details are saved with a new specified connector name. The existing connector remains unmodified.

# 9.7 Deleting a Connector

To delete an existing Connector, perform the following steps:

1. Click Delete U button for the required connector. A confirmation dialogue appears.

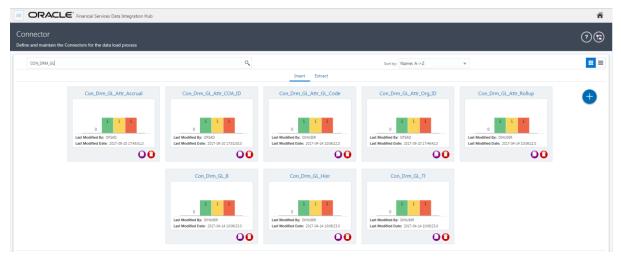


 Click Yes to delete a connector. The Connector is deleted. In case you do not wish to delete click No.

# 9.8 Search and Filter

The Search and Filter option in the user interface helps you to find the required information. You can enter the nearest matching keyword to search, and filter the results by entering information on the search box. You can search for a connector with either the name, description, or status of the connector.

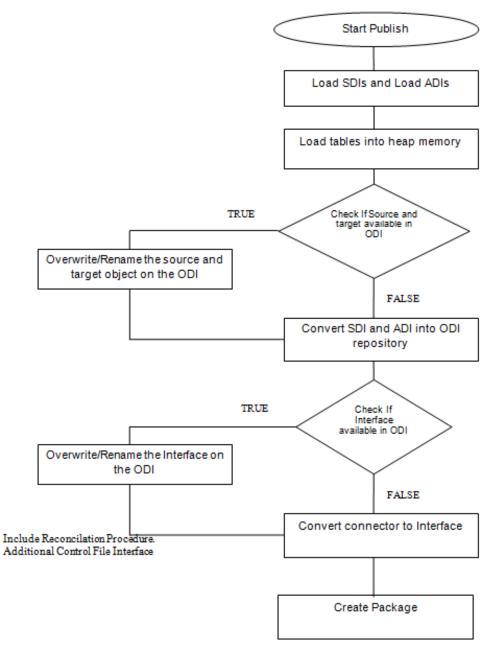
For example, enter the key word as 'CON\_DRM\_GL' in the search box. All the connector names with 'CON\_DRM\_GL' are listed.



You can sort the list by connector name or modified date (ascending or descending order).

# **10 Publishing DIH Metadata**

Publishing is a process of transferring the DIH metadata to Oracle Data Integrator (ODI). It converts the DIH metadata into ODI metadata by creating required ODI objects such as DataServer, Logical/Physical Schema, Datastores, Interface, Package and Scenario. You cannot edit any DIH object after publishing. In order to edit, you need to unpublish, make the necessary changes and then re- Publish.



# **10.1 Batch Publishing and Unpublishing for Connectors**

You can batch publish/unpublish all the connectors/EDDs/EDSs to ODI at any given point.

Click the Administration option from the LHS menu and select Publish/Unpublish Connectors option. Click Publish All to publish all the connectors. Click Unpublish All to unpublish all the connectors.

Data Integratio	Hub > Administration > Publish/Unpublish Connectors		
4	Publish/Unpublish Connectors Publish/Unpublish Connectors in ODI		
	Publish All Creates ODI objects for all Saved Connectors/External Data Stores/External Data Descriptors	Unpublish All Removes ODI objects for all Connectors/External Data Stores/External Data Descriptors	

# 10.2 Publish and Unpublish

You can batch publish/unpublish the selected connectors/EDDs/EDSs to ODI at any given point.

To publish, perform the following steps:

1. Click icon in the D	IH home screen to	navigate to the A	Administration window.	
ORACLE <sup>*</sup> Financial Services Data Integration Hub				ñ
Administration Manage DIH administration activities				
	Settings Settings Manage Oracle Data Integrator (ODI) setup information	Publish/Unpublish Creates/Removes ODI metadata for all Saved/Published/Unpublished Connectors		

- 2. Click **Publish/Unpublish**. The Publish/Unpublish window appears.
- When you select the option as Publish, and unpublished connectors are displayed.

Financial Services Data Integration Hub			Â
	Publish/Unpublish:		G Publish
Connectors	No. of Connectors Selected: 0	Status	٩
CONN_EXT_AGG_LOAD	No items to display.	No items to display.	
CON_EXTRACT_TEST Extraction test			
Con_Drm_COA_Attr_Account_Type Connector to load Common Coa Attr Intf Master			
Con_Drm_COA_Attr_COA_Code Connector to load Common Coa Attr Intf Master			
Con. Drm. COA, Attr. COA, Code Connector to lead Common Cea Attr Intf Master			
Con_Drm_COA_Attr_Label_OrgID Connector to load Common Coa Attr Intf Master			
Con_Drm_COA_Attr_Label_Rollup Connector to load Common Coa Attr Intf Master			
۹.	٩,		

Double-click the connectors or press Ctrl to select multiple connectors and click move it to the next column.

to

# Note: To deselect a connector click

				(
ates/Removes ODI metadata for all Saved/Publishe	d/Unpublished Connector	rs		
		Publish/Unpublish: Publish		G Pu
onnectors		No. of Connectors Selected: 5	Status	
Connector to load Products Attr Intf Master	•	Con_Drm_Product_B Connector to load Products B Intf Master	No items to display.	
Con_Drm_Product_Attr_COA_ID Connector to load Products Attr Intf Master		Con_Drm_Product_Hier		
Con_Flx_Account_Mitigant_Map Connector to load Account Mitigant Map		Connector to load Products Hier Intf Master		
Con_Fix_Account_Mitigant_Map Connector to load Account Mitigant Map	>	Connector to load Products TI Intf Master		
Con_Flx_Account_Phone	< 4	Con_Flx_Account_Address Connector to load Account Address		
Connector to load Account Phone Con_Fix_Account_Status_Master Connector to load Account Status Master	4	Con_Fix_Account_Email_Address Connector to load Account Email Address		
Con_Flx_Accounting_Entries Connector to load Accounting Entries	•			
	٩	۹		

5. Click to select all the connectors.

Note: To deselect all the connectors click

6. Click Publish after the items are selected. The status of the published connects are displayed. You can view the connectors which are successfully connected or failed under Status field.

7.	Publish/Unpublish: Unpublish When you select the option as Publish/Unpublish, the published connectors are displayed.	all
8.	Double-click the connectors or press Ctrl to select multiple connectors and click move it to the next column.	to
	Note: To deselect a connector click .	
9.	Click to select all the connectors.	
	Note: To deselect all the connectors click .	

ORACLE* Financial Services Data Integration Hub		ñ
Publish/Unpublish Greates/Removes ODI metadata for all Saved/Published/Unpublished C		
	Publish/Unpublish: Unpublish	A Unpublish
Connectors	No. of Connectors Select	elected: 3 Status Q
Aggregation test	TEST_TRGT_FILTER	No items to display.
All Migration new	TEST_PIVOT_SAVE2	
LOAD_CUSTOMER_SUMMARY_CPY copy of LOAD_CUSTOMER_SUMMARY_CONT	TEST_PUBLISH_OLD	
TEST_ALL_COMP_PUBLISH		
TEST_ALL_COMP_PUBLISH >> TEST_DERCOL_PUBLISH <		
TEST_INDCHANGE		
TEST_LOOKUP_PUBLISH		
TEST_PUBLISH		
TEST_SIMPLE_EXTRACT_PUBLISH		
٩		٩

- 10. Click Unpublish after the items are selected. The status of the selected connectors are displayed. You can view the connectors which are successfully published/unpublished or failed under Status section.
  - Q
- 11. Search \_\_\_\_\_ the connector to check the status of the publish/unpublished process.

# **11 Object Migration**

This chapter has the following sections:

- Performing Object Migration
- <u>Exporting Object from Source Environment</u>
- Importing Object into Target Environment

# **11.1 Performing Object Migration**

Offline Object Migration is a two step process:

- Exporting Objects from Source Environment
- Importing Objects into Target Environment

For both of these steps, refer sample file **OBJECTMIGRATION.xml**, which is also present at \$MIGRATION HOME/conf/ in the OFSAAI setup.

Assumptions and Pre-requisites for this process are listed as follows:

- Both Source and Target environment should be on the same data model version.
- Ensure that the source and target are at same DIH application level as well as at same model level before migrating objects from source to target.
- ADI refresh to be completed before this process.
- ODI settings are correctly specified in target environment prior to import of objects.
- Target data store refresh is also performed and successful.
- If exported object already exists in the target environment or an object with same name already exists in target environment then it will be overwritten with new definition details.
- **NOTE:** If exported Parameter already exists in target Environment, they will not be overwritten unless the new definition is of different Parameter Type. If exported EDS already exist in target Environment, they will not be overwritten unless the new definition is of different EDS Type.
  - Any exported object, if already exists in target or an object with same name already exists in target then that object and all its dependent objects must be in unpublished state for migration to go through successfully.

**NOTE:** Dependent objects for a Connector are EDS, EDD and Parameter. Dependent objects for EDD are EDS and Parameter. Parameter and EDS do not have dependent objects.

# **11.2 Exporting Objects from Source Environment**

Follow the below procedure to export object from source environment.

1. Replace placeholders of UserId, Infodom with Source UserId & Infodom.

- 3. \$FILE\_NAME: Specify the file name which is created under "metadata/archive" folder.
  For example, mention 'rules' in place of \$FILE\_NAME and you get rules.dmp in archive folder.

**Fail On error:** Fail on any error occurs while restoring metadata. Mention 'Y' for Yes and 'N' for No.

**OVERWRITE:** If Metadata exist in the system then Overwrite while restoring metadata. Mention 'Y' for Yes and 'N' for No.

In Mode tag: mention EXPORT.

For FAILONERROR and OVERWRITE, it's recommended to mention 'Y'.

4. In OBJECT tag, mention "\*" for Code property, to export all definitions. Else, for each definitions put equal number of OBJECT tag with map ID and version number in comma separated format.

Type: Use following for definitions:

- 70 for Parameter Definitions
- 71 for EDS Definition
- 72 for EDD Definition
- 74 for Connector Definition

Object codes can be derived from the following tables:

- For object code of Connector: CONT\_ID against the CONT\_CODE in FSI\_CONNETCOR\_B
- For object code of EDD: de\_id against de\_code in fsi\_data\_entity\_b
- For object code of EDS: ds\_id against ds\_code in fsi\_ds\_b
- For object code of Parameter: var\_id against var\_code in fsi\_var
- 5. The format for All OBJECTS tag is:

```
<OBJECTS TargetFolder="DIHUSERS"><OBJECT Code="*" Type="73"
/></OBJECTS>
```

6. For three definitions, OBJECTS tag is:

```
<OBJECTS TargetFolder="DIHUSERS">
<OBJECT Code="123221" Type="73" />
<OBJECT Code="321331" Type="73" />
<OBJECT Code="131213" Type="73" />
</OBJECTS>
```

- 7. Execute \$MIGRATION\_HOME/bin/ObjectMigration.sh after providing executable permissions.
- 8. A file \$FILE\_NAME.dmp (rules.dmp) is created in
  \$MIGRATION HOME/metadata/archive

Move this file to <code>\$MIGRATION\_HOME/metadata/restore</code> folder. You can copy the file in the Target environment by creating "**restore**" folder under "**metadata**" directory (if not available).

9. Exporting definitions from Source environment is done successfully.

# **11.3 Importing Objects from Target Environment**

Follow the below procedure to import object to target environment.

1. Repeat 1-3 steps as followed in export mode.

In Mode tag: mention IMPORT.

2. In OBJECT CODE property, mention "312321".

Note: Everything that is exported is imported. You cannot choose only certain definitions to move.

3. Format for OBJECTS Tag is:

```
<OBJECTS TargetFolder="DIHUSERS">
<OBJECT Code="312321" Type="73" /></OBJECTS>
```

- 4. Execute \$MIGRATION\_HOME/bin/ObjectMigration.sh after providing
  executable permissions.
- Check **DIH.log** for logs. It provides details such as, number of definitions that have successfully moved and other errors. Importing objects to target environment is done successfully.

# 12 Executing DIH Metadata

A published DIH Connector can be executed in the following two methods:

- **External Schedule:** Execution is performed with the same connector name and same as ODI package/Scenario name.
- From OFSAA Batch: Creates a typical OFSAA Batch and executes it. For more information, refer to the AAI User Guide in <u>OHC</u> documentation library. The component is DIH Connector. You can select all the published connectors during task creation. DIH Connectors can be configured in Run Rules Framework (RRF) also with the same component.

## NOTE:

- This can be done only on a published connector and not a saved connector.
- Currently, there is a limitation of passing parameter in Run Rule Framework for DIH connectors. Batch framework can be used in case runtime parameter needs to be passed.
  - If the connector contains any Runtime parameters, they can be set in the Variables input field of the Task Definition Screen.

Example: MISDATE='10-Jan-2015'

Note:

- In case of an upgrade, all the existing batches continues to perform as is without any update.
- In case you edit the existing task in a batch then it is mandatory to select an agent.
- If there are multiple parameters, they can be passed by separating them with a comma.

Example: MISDATE='10-Jan-2015', BATCHID=22015

• MISDATE and BATCH ID can also be passed dynamically so that it is loaded from Batch Execution Screen as follows:

Example: MISDATE=\$MISDATE:dd-MM-yyyy, BATCHID=\$BATCHID

In the above example, the date format appended to MISDATE has to conform to Simple Date Format. If no date format is specified, the default date format used is yyyymmdd.

• If variables are being used as part of connector mappings or filter expressions, they should be passed within single quotes as follows:

Example: MISDATE= `\$MISDATE:dd-MM-yyyy', BATCHID= `\$BATCHID'

• If the date format is expected in dd-MON-yyyy format, then in Batch Task it has to be specified in the following format. Note the difference in month format in the following example:

Example: MISDATE=`\$MISDATE:dd-MMM-yyyy'

• If parameter is used in connector filter expression for an EDD of source type Hive, date format is expected in yyyy-MM-dd format.

Example: MISDATE = `\$MISDATE: yyyy-MM-dd'

# **13 Execution History**

Execution History option, provides the status of the DIH Connector executions, number of records loaded, and error messages if any.

	ces Data Integration Hub	ñ
Administration		
Application Data Interface	Manage all execution activities	
Data Mapping		
Execution	Execution History View the execution details of Connectors	

# 13.1 Viewing the Execution History of a Connector

Click con in the DIH home screen to navigate to the **Execution** window.

Click Execution History. The Execution History window appears.

To view the Execution Histories of a Connector, perform the following steps:

1. Click **Execution History**. The Execution History summary window appears.

	Sea	rch Connector		٩		
Success Warnings	Success Warnings	E Success Warnings	Success Warnings	Success Warnings Fail	Success E Fail Warnings	Success E Fail HWarning
25%	25% 50%	100%	100%	100%	100%	200%
CONN_EXT_AGG_LOAD	test_conn_pos1	Con_Flx_Cust_Acct_OD	Con_Drm_GL_Attr_COA_ID	Con_Drm_GL_Attr_Org_ID	Con_Drm_GL_Attr_Accrual	Con_Drm_GL_Attr_Rollup
Success	Fail Warnings	Fail Warnings Success	Fail 📕 Warnings 📕 Fail	al 🗏 Warnings 🔳 Success 🛢	Fail Warnings	Fail 📕 Warnings

- You can view the summary details of all the connectors that are executed in either Card view or List view.
- 3. The Search bar helps you to find the connector for which you can view the executions. You can enter the nearest matching keywords to search, and filter the results by entering information on the search box. You can search for a connector using either the name or description.
- 4. Click the required Connector. This screen displays the list of executions for the selected connector with the latest displayed on the top.

ORACI	LE' Financial Services Data Integration Hub				1
Execution Hist View the execution det					00
ist Of Executions - CONN	EXT_AGG_LOAD		Sort By: Record Count: Ascending		
	No. of Records Loaded	Duration (in sec)	Start Time	End Time	Status
•	0	1	Mon Jul 24 2017 00:37:34	Mon Jul 24 2017 00:38:34	ERROR
٥	0	1	Sun Jul 23 2017 00:37:34	Sun Jul 23 2017 00:38:34	ERROR
0	0	29	Sun Apr 16 2017 00:37:34	Sun Apr 16 2017 00:38:03	DONE
0	0	29	Sun Apr 16 2017 00:37:34	Sun Apr 16 2017 00:38:03	ERROR

Here you can view the number of records loaded, duration, start time, end time and the status of execution.

5. Click the row; the details about the execution are displayed. The error details, failed source command and failed target command are displayed.

		VARIABLEO	test_conn_pos1_100	
rt Time	s Thu Jul 20 2017 00:47:34	End Tim	ne: Thu Jul 20 2017 00:48:34	Status: WARNING
rror	Failed Source Command	Failed Target Command		
java.te	ext.ParseException: Unparseable da	ite: "13-APR-17"		
at java	a.text.DateFormat.parse(DateForma	at.java:366)		
at org	.apache.jsp.auth.validIdaplogin_jsp	_jspService(validIdaplogin_jsp.java:1302)		
at org	apache.jasper.runtime.HttpJspBas	e.service(HttpJspBase.java:70)		
at java	ax.servlet.http.HttpServlet.service(H	ittpServlet.java:729)		
		apper.service(JspServletWrapper.java:443)		
	.apache.jasper.servlet.JspServlet.se			
	.apache.jasper.servlet.JspServlet.se			
	ax.servlet.http.HttpServlet.service(H			
		IterChain.internalDoFilter(ApplicationFilterChain.java:230)		
		IterChain.doFilter(ApplicationFilterChain.java:165)		
	apache.tomcat.websocket.server.\			
		IterChain.internalDoFilter(ApplicationFilterChain.java:192)		
		IterChain.doFilter(ApplicationFilterChain.java:165)		
	n.iflex.fic.filters.FilterServlet.doFilter	IterChain.internalDoFilter(ApplicationFilterChain.java:192)		
		IterChain.doFilter(ApplicationFilterChain.java:192)		
	n.iflex.fic.filters.EncodingFilter.doFi			
		IterChain.internalDoFilter(ApplicationFilterChain.java:192)		
		IterChain.doFilter(ApplicationFilterChain.java:165)		
		pperValve.invoke(StandardWrapperValve.java:198)		
		textValve.invoke(StandardContextValve.java:96)		
		tValve.invoke(StandardHostValve.java:140)		
at org	apache.catalina.valves.ErrorReport	Valve.invoke(ErrorReportValve.java:79)		
at org	apache.catalina.valves.AbstractAcc	essLogValve.invoke(AbstractAccessLogValve.java:624)		
at org	apache.catalina.core.StandardEng	ineValve.invoke(StandardEngineValve.java:87)		
	anache catalina connector Couote	Adapter service(CovoteAdapter java-349)		

6. In case you wish to see the detailed execution, report click <sup>ERROR</sup> the link under status.

A zip file is downloaded containing the detailed log for the execution.

7. To view the log details, extract the log file from the zip folder.

# 14 Metadata Browser

The DIH metadata/objects available in the Meta Data Browser (MDB) are:

- Connector
- Application Data Interface
- External Data Descriptor

# 14.1 Connector

The connector link lists down the individual connectors.

When you click a connector name, it displays the definition of that connector.

- The name and description of the connector is displayed at the top.
- The Selected EDD grid which shows the EDD associated with the connector.
- The Selected ADI grid shows ADI for the connector.
- The **Joins** grid shows the join expression between EDDs if applicable.
- The **Mapping** grid shows mapping of the Left field with the Right attributes. Additionally, it displays the underlying physical columns.
- The **Depends On** grid shows EDD and ADI used in the connector.
- Click **Export to PDF** Report to generate PDF report for the Connector. The report will also contain all used EDDs and ADI details.

	<b>a Browser</b> earch Home							uted Date : 24-Jur			
lication Object	1				Connec	tors					A
OFSAA Metamodel	Data Foundation > Connect	or > Joins									
Data Foundation											
🗄 🝓 Source		Code/ID 200593					Name J	oins			
🖥 📸 Target Model		Description					Folder D	HUSERS			
🖤 Source Entity											
💜 Application Data Interface	Details Statistics	Audit Trail									
💵 🖤 External Data Descriptor	» Properties (2)								Ŧ		
💜 Connector	💑 Name	Value									
- BigConnector	Operation	Import									
- 🗋 F2T	OFSAA module	Staging									
- File Connector In 1	» Selected EDD (2)										
- File Connector Out 1	EDD	External Data Store Na	me Extern	al Data Store	Description External	Data Store Type	Filter Expres	sion			
- File Connector Out 2	File Input 1	FileSrc1		ource	FILE						
- Joins	STG TD CONTRACTS	OraSrc1	Oracl	e Source 1	ORACLE	DB					
- MultiTarget	<										
- Ora Connector Out 1	» Selected ADI (1)										
	ADI	Subtype		Description		Filter Expression					
Data Mapping	Customer Account	Term Deposit		Customer A	ccount						
Data File Mapping											
Data File Mapping	» Joins (1)										
	Left Entity	Right Entity		Lookup		Join Expression					
🖏 Data Quality Rules 🖓 Data Quality Groups	File Input 1	STG TD CONTRA	CTS	N		[File Input 1].[Account [STG_TD_CONTRAC] [V_CONTRACT_COD	TS].				
Business Metadata	-					[1_00111001_00D					
Process Metadata	» Mapping (240)						1/	12 3		Jump To Page	
	Source Entity	Source Field	Expression		Target Entity	Target Field		Physical Fields			
	File Input 1	Product code			Customer Account	Product Code		STG TD CONTR	ACTS.V PROD C	ODE	î
	File Input 1	Tenor			Customer Account	Tenor		STG TD CONTR			
	File Input 1	Total revenue			Customer Account	Total Revenue		STG TD CONTR	ACTS.N TOT RE	/ENUE	
	File Input 1	GL code			Customer Account	GI Code		STG TD CONTR	ACTS.V GL COD	E	
	File Input 1	Channel code			Customer Account	Channel Code		STG TD CONTR	ACTS.V CHANNE	L CODE	

# 14.2 External Data Descriptor

The **External Data Descriptor** window lists all the available External Data Store. Under each EDS it has all EDDs. When you click a particular EDD, it shows the definition of the EDD, with the name and Description displayed at the top.

- The **Properties** sections shows properties such as file name, file format and so on.
- The Data Element sections show all the fields that are part of this EDD.
- Click **Export to PDF** A icon to generate PDF report for the EDD.

	<b>ita Browser</b> Search Home				Last Executi		Connected To
Global	searcn Home						
ation Object				External Data Descrip	otor		
SAA Metamodel 🔍	Data Foundation > External	Data Descriptor > FileSrc1 > File	nput 1				
Data Foundation							
Source		Code/ID 200583			Name File	Input 1	
Target Model		Description Data in a comm	na separated file		Folder DIH		
Source Entity							
Application Data Interface	Details Statistics	Audit Trail					
🖗 External Data Descriptor	Properties (5)					Ψ	
ASampleFileSource	📥 Name	Value					
B 30 DB2SRC	File Name	stg_td_contract	5.CSV				
B 30 FileSrc1	File Format	V					
File Input 1	Column Delimiter	\u002c					
MyFileSrc	Skip number of Recor						
MyOracleSrc	Record Delimitter	\u000A					
OraSrc1	=						
S S Crasrc1	» Data Elements (76)				1/4	amp 🚺 🚺 🚺 Jump	To Page
	Order	Name	Туре	Length	Precision	Format	Record Type Co
Connector	1	Account number	STRING	4000	0		
- BigConnector	2	Misdate	DATE	0	0	MM/DD/YYYY	
-🛄 F2T	3	Product code	STRING	4000	0		
- File Connector In 1	4	Tenor	NUMERIC	38	0		
File Connector Out 1	5	Total fee charges	NUMERIC	38	0		
- File Connector Out 2	6	Total revenue	NUMERIC	38	0		
- Joins	7	Acct manager code	STRING	4000	0		
- MultiTarget	8	Interest method	STRING	4000	0		
Ora Connector Out 1	9	GL code Previous cont code	STRING	4000	0		
XMLCON	10	Channel code	STRING	4000	0		
	12	Contract status	STRING	4000	0		
🚏 Data Mapping	12	deposit type	STRING	4000	0		
		achoor the		4000	0		
🚵 Data File Mapping		Customer code					
Data File Mapping Data Transformation Data Quality Rules	14	Customer code Attr reason cd	STRING	4000	0		

# 14.3 Application Data Interface

The **Application Data Interface** window shows all the attributes along with descriptions of the List of Values (LOVs). Click **Export to PDF** Alicenter and the ADI.

ORACLE Metadata B					Last Executed Date : 24-Jun-2015 19:40:28	User:DIHUSER (	connected To : DIHINF
Application Object				Application Data Interface			
DFSAA Metamodel Q	Data Foundation > Application D	ata Interface > <u>Customer Master</u>					
Bata Poundation							
🕀 🍓 Target Model		Code/ID 616			Name Customer Master		
E Source Entity		Description Customer Master			Folder DIHUSERS		
P Application Data Interface	Details Statistics Audi	t Trail					
- Account Cash Flows	» Application Data Elemen	nts (225)			1/12	Jump To Page	$\sim$
Account Dimension	Attribute Name	Attribute Description	Mandatory ?	Domain	LOVs		
- ☐ Common Coa Attr Intf Mast( - ☐ Common Coa B Intf Master - ☐ Common Coa Hier Intf Mast	Account Manager Code	This stores the account manager handling the customer. This would be relevant in the case of a corporate customer.		Code_Alphanumeric_Long			
Common Coa Hier Inti Mast     Common Coa Master     Common Coa TI Intf Master     Customer Account	Acquisition Channel Code	There are different channels through which the customer can be acquired. These include advertisements, direct marketing, member-get-member, cross- sell programs, etc		Code_Alphanumeric_Long			
Customer Attr Intf Master     Customer Hier Intf Master	Alias	Alias name for this customer. It is a name by which the customer is called within his known set of people.		ShortName			
Customer Master	Annual Income	This column stores the annual income of the customer.		Amount			
Customer TI Intf Master	Annual Sales	This column stores the customer annual sales amount		Amount			
- Date Dimension	Apartment Name	This stores the name of the apartment/building /condominium/house where the customer resides.		DESCRIPTION			
Economic Indicators     Embedded Options Schedul	Assets Value	This column stores the Total Asset Value of the customer.		Amount			
Exchange Rates     Forecast Balances	Atm Maximum Daily Withdrawa Amount For Liability Account- Base	This column stores the sustemarie		Amount			
Forecast Economic Indicato     Next     External Data Descriptor     AsampleFileSource     B    DB2SRC	Beneficial Owner Category	"This column stores the beneficial owner category. List of values can be Granfor Trust, Central Bank Issue, Individual, Complex Trust, Tax-exempt Organization, Corporation, Estate, Private Foundation, Disregarded Entity, Government, Partnership, International Organization and Simple Trust."		Code_Alphanumeric_Long_Typ	e3		

# Appendix A: FAQ - Use Cases

## Loading Data from One File into Staging

To load data from one file to Staging, follow the below steps:

- 1. Create an EDS of the type **File**.
- 2. Create EDD by selecting the pre-defined EDS. Provide all required information while creating the EDD. If post loading reconciliation is required then go to Control tab and provide a control record.
- 3. Create a Connector for loading data into staging. If SQLLDR option is enabled, then the file with ODI agent running should be available. If External Table option is selected, then file has to be available in target database server.
- 4. Publish the Connector.
- 5. Execute the Connector.

## Loading Data from Two Files Joined into Staging

To load data from two files which are joined, to Staging, follow the below steps:

- 1. Create EDS of type **File**.
- 2. Create two EDD by selecting the pre-defined EDS. Provide all required information while creating EDD. If post loading reconciliation is required then go to Control tab and provide a control record.
- Create connector for loading data into staging. Select both the EDDs and establish a join in source tab. If SQLLDR option is enabled, then the file with ODI agent running should be available. If External Table option is selected, then file has to be available in target database server.
- 4. Publish the Connector.
- 5. Execute the Connector.

#### Loading Data into Staging from File and Performing Lookup into a Table

To load data from a file, to Staging, and perform lookup into a table, follow the below steps:

- 1. Create one EDS of type File and another EDS of type Database.
- Create two EDD by selecting the predefined EDS. Provide all required information while creating the EDD. If post loading reconciliation is required then go to Control tab and provide a control record. Post loading reconciliation is only applicable for file type Data Loading.
- Create a Connector for loading data into staging. Select both the EDDs and establish a join and click Lookup. If SQLLDR option is enabled, then the file with ODI agent running should be available. If External Table option is selected, then file has to be available in target database server.
- 4. Publish the Connector.

5. Execute the Connector.

## Loading Data into Staging from an XML File

To load data to Staging from an XML file, follow the below steps:

- 1. Create an EDS of type **XML**.
- 2. Create EDD by selecting the predefined EDS. Provide all required information while creating the EDD. To get the XML structure, use XSD file. If post loading reconciliation is required then go to Control tab and provide a control record. The control record should be in a separate file.
- 3. Create a Connector for loading data into staging.
- 4. Publish the Connector.
- 5. Execute the Connector.

## Loading Data into Staging from EBCDIC

To load data to Staging from EBCDIC, follow the below steps:

- 1. Create an EDS of type EBCDIC.
- Create EDD by selecting the predefined EDS. Provide all required information while creating the EDD. To define the EBCDIC structure, use Cobol Copy book file. If post loading reconciliation is required then go to Control tab and provide a control record. The control record should be in a separate file.
- 3. Create a Connector for loading data into staging.
- 4. Publish the Connector.
- 5. Execute the Connector.

#### Loading Data from File into Multiple ADI/Subtypes

To load data from File into multiple ADI/Subtypes, follow the below steps:

- 1. Create an EDS of type File.
- 2. Create EDD by selecting the predefined EDS. Provide all required information while creating the EDD. To define the file structure, you can use Excel template. If post loading reconciliation is required then go to Control tab and provide a control record.
- 3. Create a Connector for loading data into staging. Select multiple ADIs/Subtypes. Set filter against each ADI/Subtype selected to identify which record goes where.
- 4. Publish the Connector.
- 5. Execute the Connector.

#### Loading Data into Results from File

To load data into Results from File, follow the below steps:

1. Create an EDS of type File.

- 2. Create EDD by selecting the predefined EDS. Provide all required information while creating the EDD. To define the File structure, you can use Excel template for defining the columns. If post loading reconciliation is required then go to Control tab and provide a control record. The control record has to be in a separate file.
- 3. Create a Connector for loading data into results. Select EDD and ADI (appears only relevant for Result area). During mapping, code values that are available in file should be mapped to the attributes (that are internally number columns). While loading it converts the code value to surrogate key by performing a lookup in the related dimension table. Dimension data should be populated before this loading occurs using SCD process.
- 4. Publish the Connector.
- 5. Execute the Connector.

## Loading Data from HIVE

The following Jars needs to be copied to /ficweb/WEB-INF/lib:

- 1. commons-logging-1.1.3.jar
- 2. guava-15.0.jar
- 3. hadoop-auth-2.6.0-cdh5.8.0.jar
- 4. hadoop-auth.jar
- 5. hadoop-common-2.6.0-cdh5.8.0.jar
- 6. hadoop-common.jar
- 7. hive-common-1.1.0-cdh5.8.0.jar
- 8. hive-jdbc-1.1.0-cdh5.8.0.jar
- 9. hive-metastore-1.1.0-cdh5.8.0.jar
- 10. hive-service-1.1.0-cdh5.8.0.jar
- 11. HiveJDBC4.jar
- 12. httpclient-4.3.jar
- 13. httpcore-4.3.jar
- 14. libthrift-0.9.0.jar
- 15. slf4j-api-1.7.5.jar

To update the driver to be used for connecting to Hive Data Store, the required driver must be updated in DIH repository.

- Login to atomic schema.
- Update the "DRIVER" column for DSTYP\_ID=6 in FSI\_DS\_TYPE\_B table.

For example, to connect to Cloudera Hive server with JDBC 4.0 data standards, specify "com.cloudera.hive.jdbc4.HS2Driver" as driver. Refer <u>Cloudera</u> document for more details about Cloudera JDBC drivers.

**NOTE:** Contact support for more information.

#### **Extracting Data from Staging into File**

To extract data from Staging into File, follow the below steps:

1. Create an EDS of type File.

- 2. Create EDD by selecting the predefined EDS. Provide all required information while creating the EDD. To define the File structure, you can use Excel template for defining the columns. If post loading reconciliation is required then go to Control tab and provide a control record. The control record has to be in a separate file.
- 3. Create Connector for extracting data from staging. ADI becomes source and EDD becomes target. File structure will be according to EDD.
- 4. Publish the Connector.
- 5. Execute the Connector.

# Extracting Data from Result into File

To extract data from Results into File, follow the below steps:

- 2. Create an EDS of type **File**.
- Create EDD by selecting the predefined external data store. Provide all required information while creating the EDD. To define the File structure, you can use Excel template for defining the columns. If post loading reconciliation is required then go to Control tab and provide a control record. The control record should be in a separate file.
- Create a Connector for extracting data from results. ADI becomes source and EDD becomes target. File structure will be according to EDD. During extract internal surrogate keys get converted into code values by performing looking up into dimension table.
- 4. Publish the Connector.
- 5. Execute the Connector.

# OFSAA out of the box dimension tables as lookup entity

Out of the box dimension tables will be used in the following scenarios:

- Loading Data into results
- Extracting data from results

While defining mapping, if results ADI surrogate key column is mapped, then corresponding dimension table will be used as lookup.

For Example:

• Loading data into results

Example: If N\_Product\_Skey of Common Account Summary ADI is mapped to an EDD product code column, then DIM\_PRODUCT Table is used as lookup for getting the N\_Product\_Skey value and V\_PROD\_CODE will be used in the join expression. The EDD does a left outer join with the DIM\_PRODUCT.

• Extracting Data from Results

Example: If N\_Product\_Skey of Common Account Summary ADI is mapped to an EDD product code column, then DIM\_Product Table is used as lookup for getting the V\_PROD\_CODE value and N\_Product\_Skey will be used in the join expression. The Common Account Summary lookup does a left outer join with DIM\_PRODUCT.

**NOTE:** The lookup is established identifying the Surrogate key relationship between Results ADI and Dimension table automatically. User need not define the lookup in the connector.

# How do I connect to External Source Server such as Db2/SQL Server/Teradata/Sybase?

The source server which is required by JDBC driver is made available in DIH. Navigate to \$FIC\_WEB\_HOME/webroot/WEB-INF/lib and copy the JDBC driver.

# When a Flat file source to Target Table connector (F2T) execution fails with the following error:

For delimited files all source columns between the first in file and the last mapped, need to be mapped on staging! No gaps allowed.'

Perform the following steps to resolve it:

- Open the ODI studio. In Designer tab navigate to <Project\_name> -> Knowledge Modules -> Loading.
- 2. Open the KM LKM MultiFiles to Oracle (SQLLDR).
- 3. In Tasks tab, make the 'Validate KM options and mapping loc flag' as Conditional Execute.
- 4. Save the KM.
- 5. Un-publish the connector and publish it again.
- 6. Execute the connector.



Oracle Financial Services Data Integration Hub User Manual

Release 8.0.6.0.0

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