ORACLE DATA INTEGRATOR 12C
ORACLE VM VIRTUALBOX

TEAM 3

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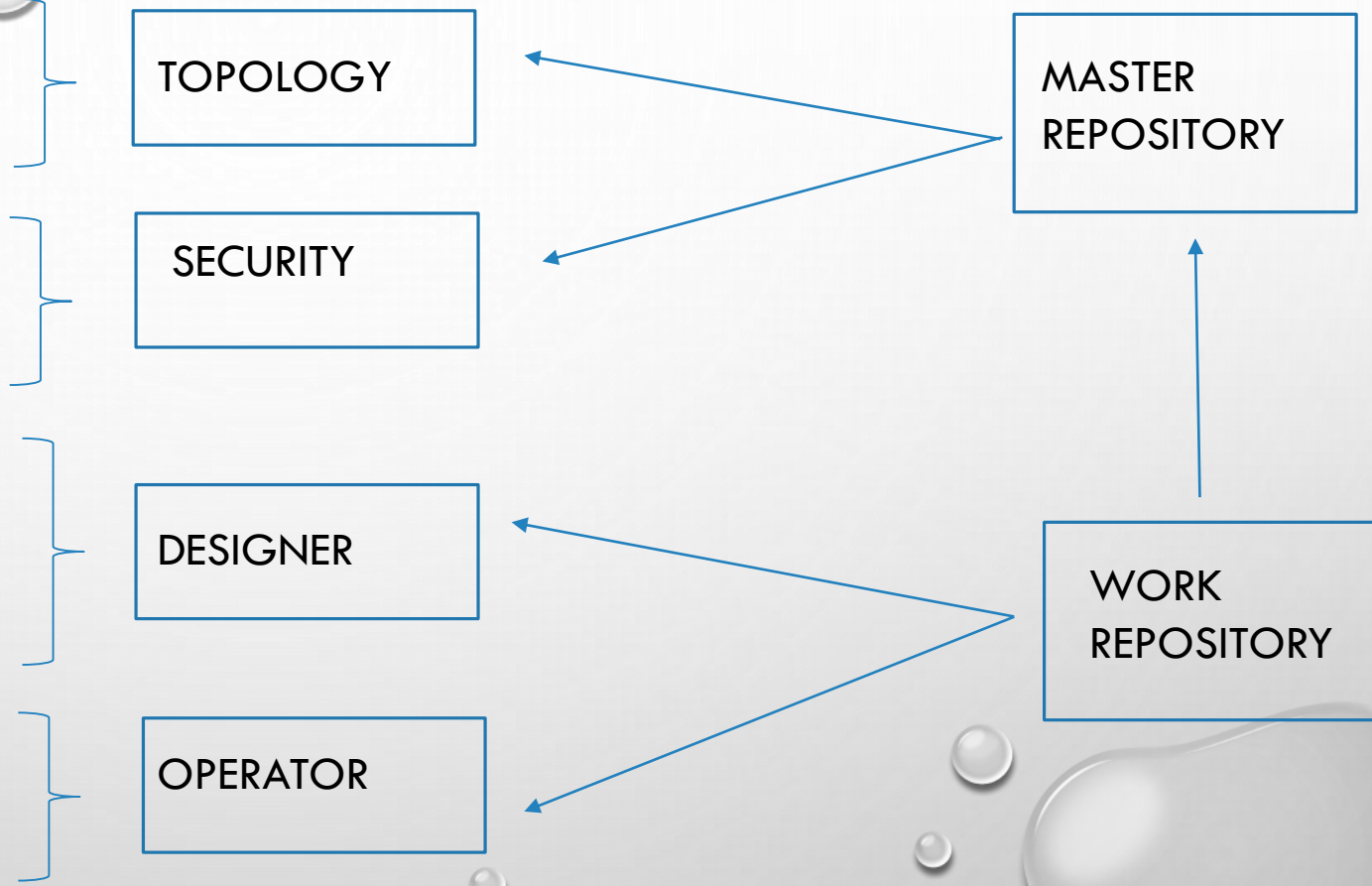
Create connection to technology
-Data Server, Physical & Logical Schema
Connect to Master Repository in ODI

Create users and profiles
Eg. Super User- SUPERVISOR created while creating Master Repository

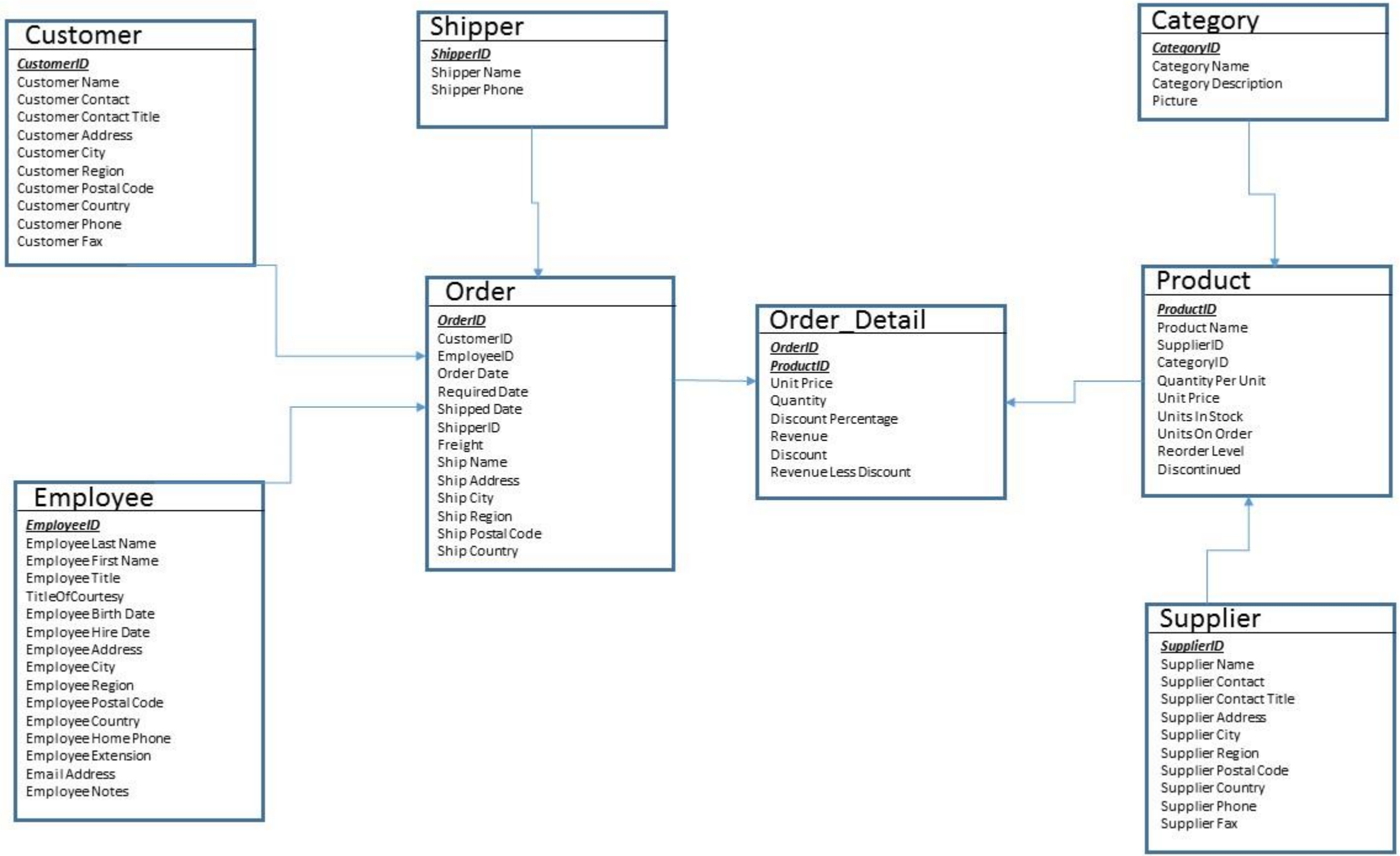
Import Metadata of Source and Target
Develop, Execute Mappings (Interfaces)
Develop, Execute Packages (Workflows)

Monitors the session
-Detailed execution log
-Detailed error log



SUPERMARKET SALES DATASET

ER MODEL & DIMENSIONAL MODEL


Customer
CustomerID
Customer Name
Customer Contact
Customer Contact Title
Customer Address
Customer City
Customer Region
Customer Postal Code
Customer Country
Customer Phone
Customer Fax
Shipper
ShipperID
Shipper Name
Shipper Phone
Category
CategoryID
Category Name
Category Description
Picture
Order
OrderID
CustomerID
EmployeeID
Order Date
Required Date
Shipped Date
ShipperID
Freight
Ship Name
Ship Address
Ship City
Ship Region
Ship Postal Code
Ship Country
Order_Detail
OrderID
ProductID
Unit Price
Quantity
Discount Percentage
Revenue
Discount
Revenue Less Discount
Product
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Product Name
SupplierID
CategoryID
Quantity Per Unit
Unit Price
Units In Stock
Units On Order
Reorder Level
Discontinued
Employee
EmployeeID
Employee Last Name
Employee First Name
Employee Title
TitleOfCourtesy
Employee Birth Date
Employee Hire Date
Employee Address
Employee City
Employee Region
Employee Postal Code
Employee Country
Employee Home Phone
Employee Extension
Email Address
Employee Notes
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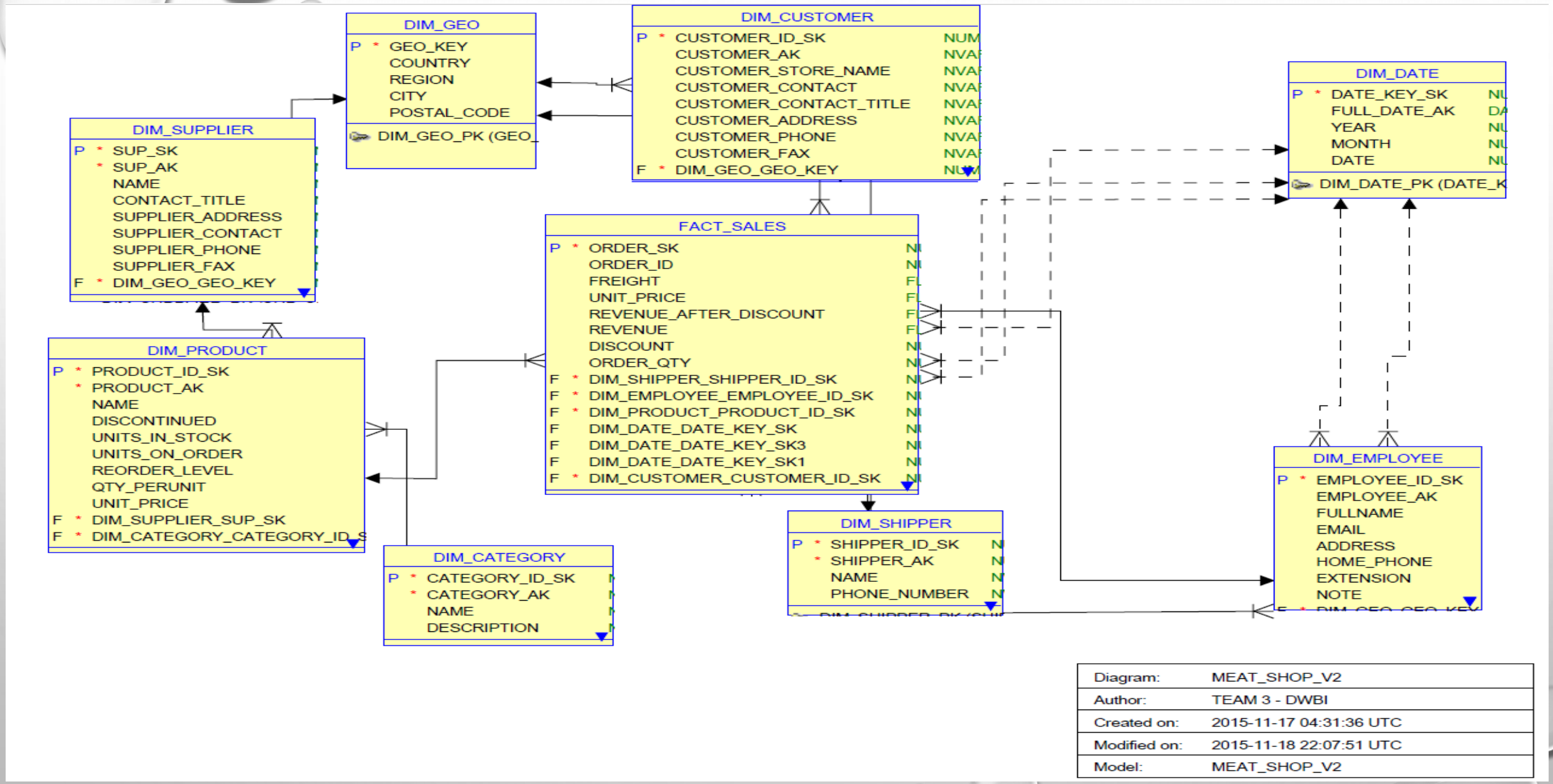


Diagram:	MEAT_SHOP_V2
Author:	TEAM 3 - DWBI
Created on:	2015-11-17 04:31:36 UTC
Modified on:	2015-11-18 22:07:51 UTC
Model:	MEAT_SHOP_V2

STEPS TO CREATE MAPPING (INTERFACE)

- TOPOLOGY > CREATE A DATA SERVER CONNECTION FOR A TECHNOLOGY (ORACLE, MYSQL, FILE, XML) AND MAKE A NEW PHYSICAL SCHEMA
- DESIGNER > MODEL > CREATE A MODEL AND IMPORT THE METADATA FOR TARGET AND SOURCE (REVERSE ENGINEER)
- DESIGNER > PROJECT > CREATE AND EXECUTE A NEW MAPPING (INTERFACE)
- OPERATOR > CHECK THE EXECUTION/ERROR LOGS

KNOWLEDGE MODULES: CODE TEMPLATES OF INDIVIDUAL TASKS IN THE INTEGRATION PROCESS

- LOADING KNOWLEDGE MODULE
- INTEGRATION KNOWLEDGE MODULE
- CHECK KNOWLEDGE MODULE
- JOURNALIZING KNOWLEDGE MODULE

- USED THE FOLLOWING TOOLS IN ORACLE VM VIRTUALBOX
  – SQL DEVELOPER, ODI 12C STUDIO

- USED ORACLE SQL DEVELOPER DATA MODELER TO DEVELOP THE DIMENSIONAL MODEL

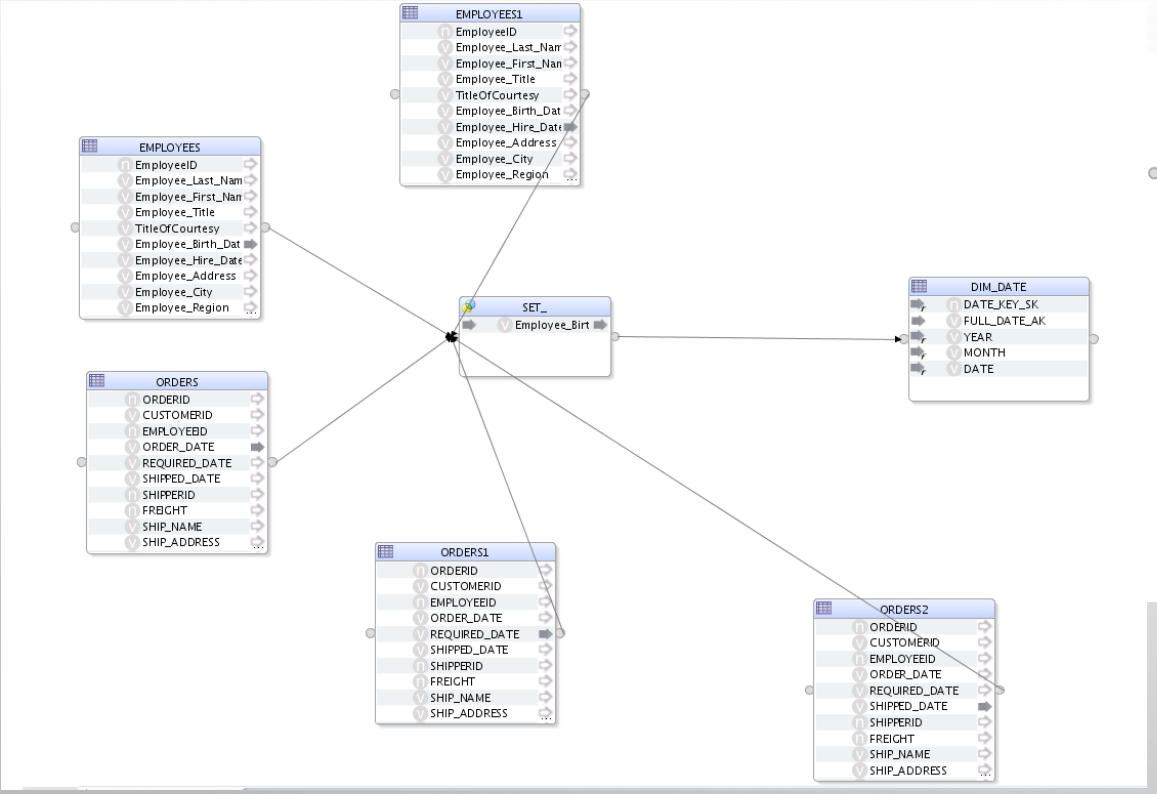
- USED DIFFERENT TYPES OF DATA SOURCE – XML, CSV, TXT, ORACLE DB

- USED SETS, SORT, FILTER, JOINS, AGGREGATION TRANSFORMATIONS IN VARIOUS MAPPINGS

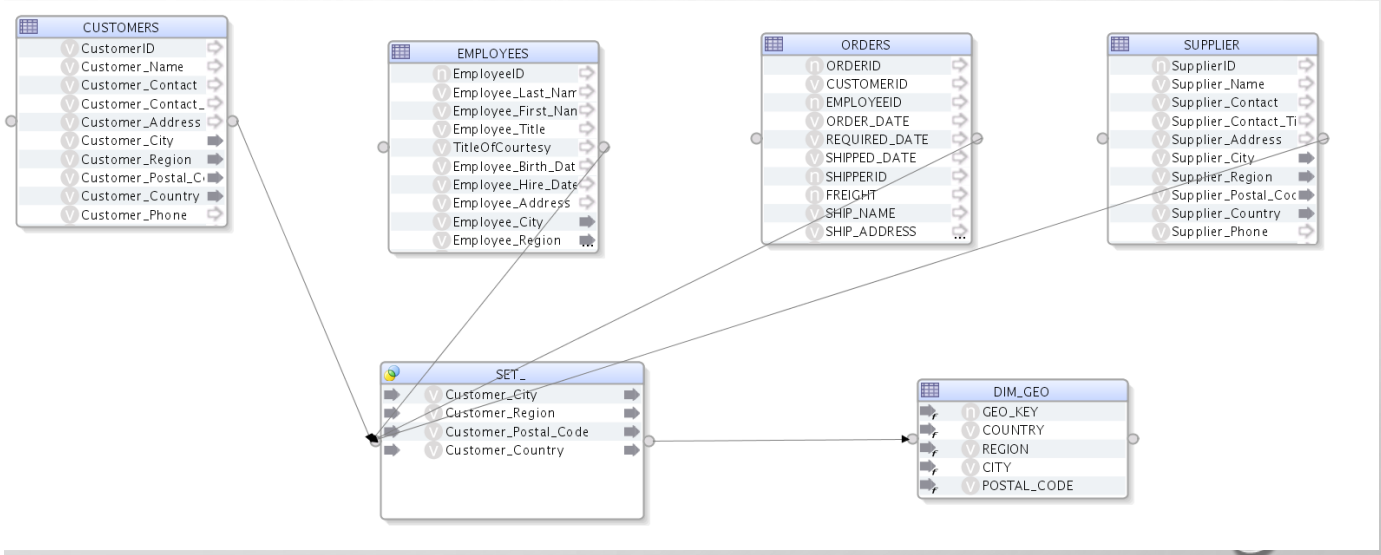
- USED THE NATIVE SEQUENCE GENERATOR FOR SURROGATE KEY IN THE DIMENSIONAL MODEL

- USED VARIABLES, PROCEDURES, PACKAGES AND SEQUENCES COMPONENTS OF ODI

USING UNION OPERATOR FROM SET TRANSFORMATION

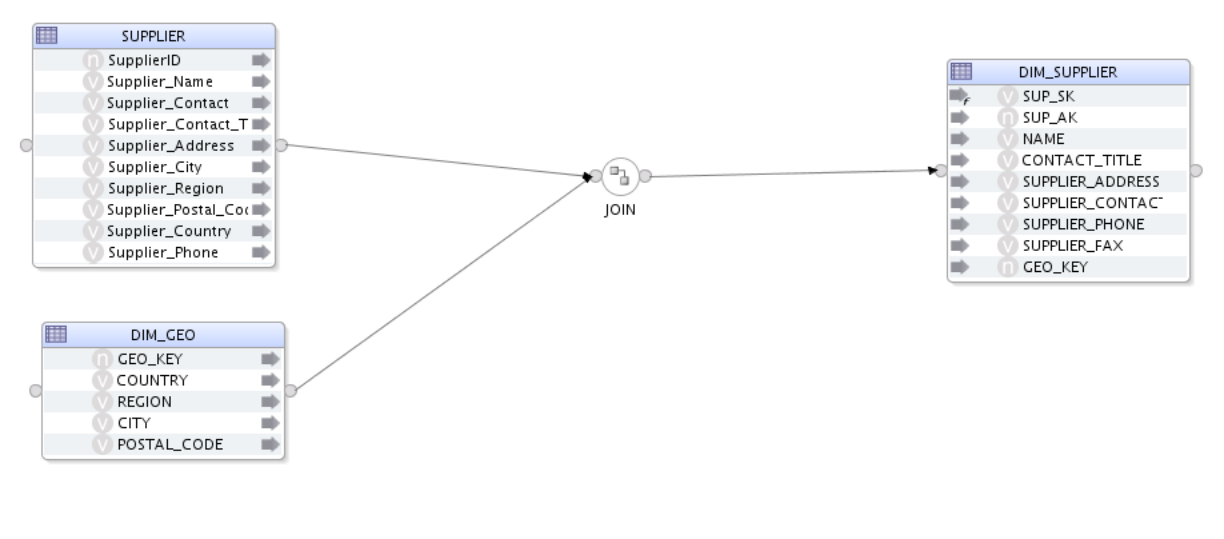


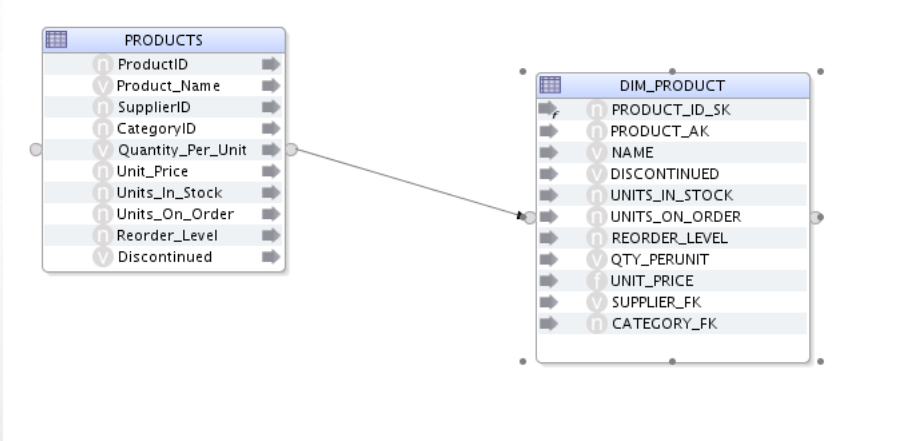
DIM_DATE

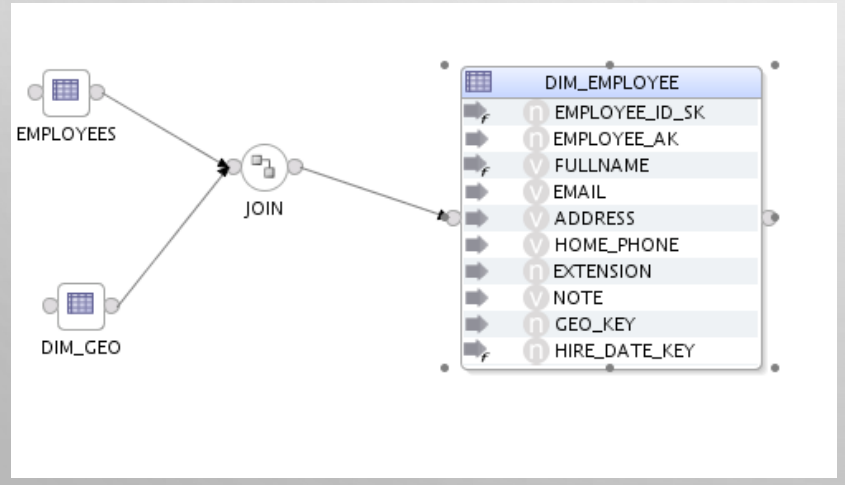


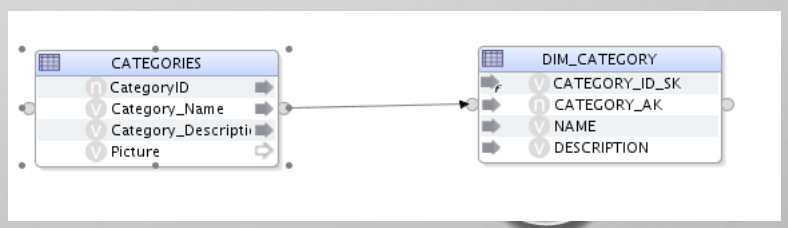
DIM_GEO

MAPPINGS FOR POPULATING DIMENSION TABLES

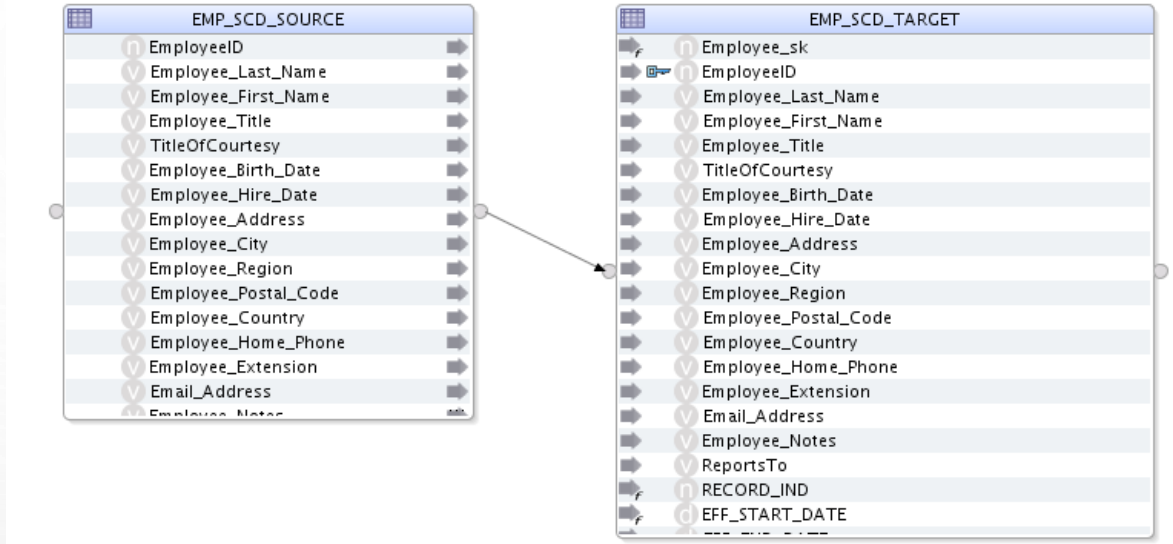








- This mapping is shown to show how slowly changing dimensions can be created in ODI.
- The knowledge module used here IKM Slowly Changing Dimension
- The RECORD_IND column shows that the changes have been recorded by applying SCD type 1.
- RECORD_IND "1" indicates it's the current value. Look below in the red box.

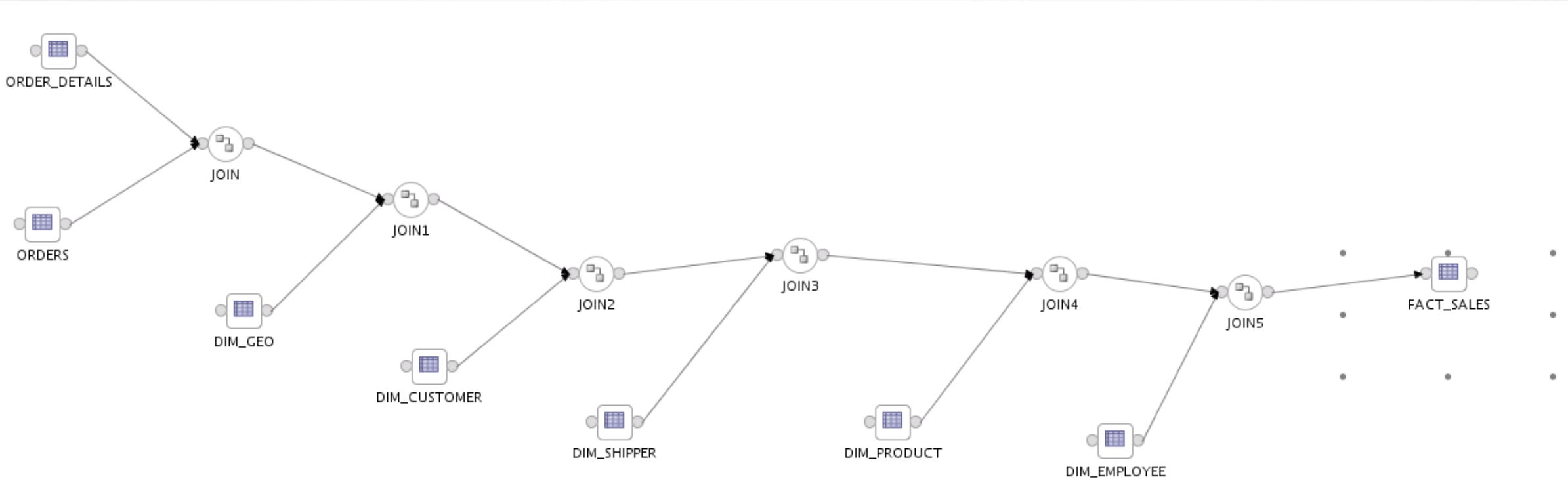


Columns | Data | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Indexes | SQL

Sort... | Filter:

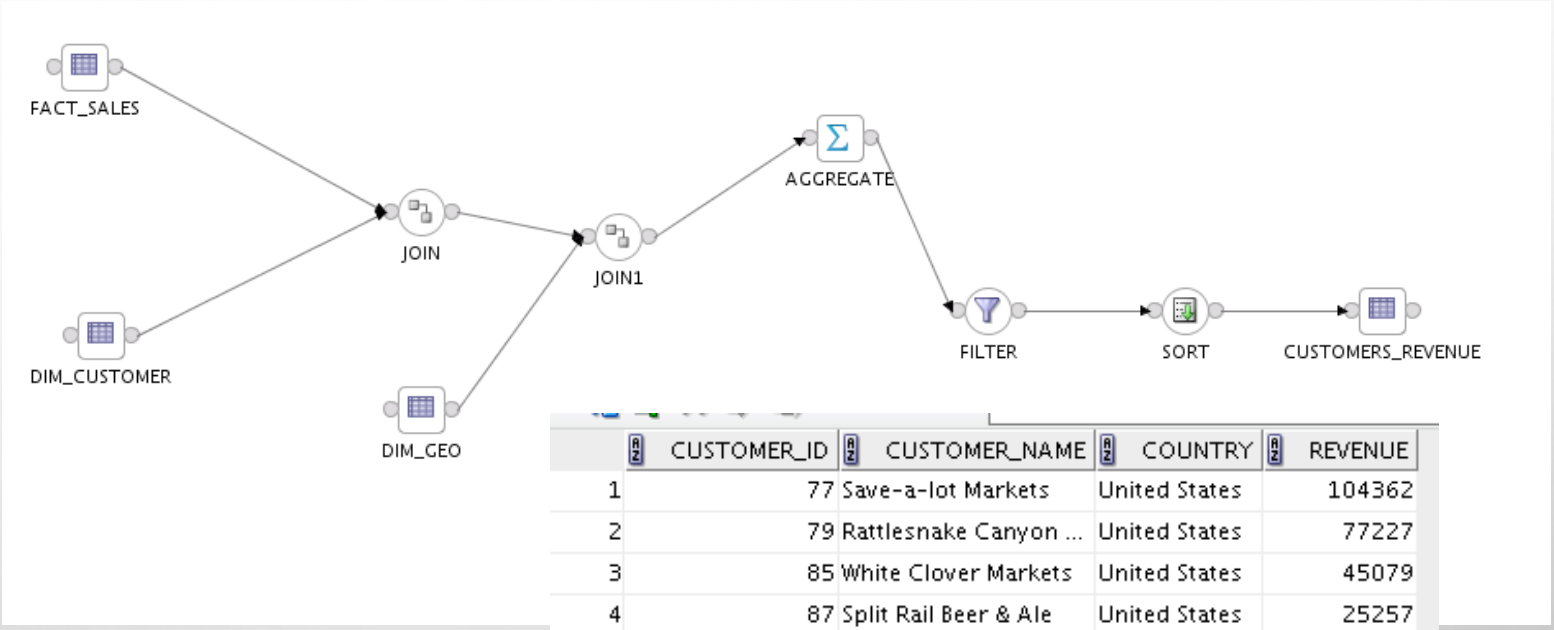
	rth_Date	Employee_Hire_Date	Employee_Address	Employee_City	Employee_Region	Employee_Postal_Code	Employee_Country	Employee_Home_Phone	Employee_Extension	Email_Address	Employee_Notes		RECORD_IND	EFF_START_DATE
1		5/1/1992	75 ST ALPHONSUS	BOSTON	WA	98122	United States	(206) 555-9857	5467	ndavolio@supre...	"Education include...	...	1	18-NOV-15
2		8/14/1992	908 W. Capital Way	Tacoma	WA	98401	United States	(206) 555-9482	3457	afuller@supreme...	Andrew received hi...	...	1	18-NOV-15
3		4/1/1992	722 Moss Bay Blvd.	Kirkland	WA	98033	United States	(206) 555-3412	3355	jleverling@supre...	Janet has a BS degr...	...	1	18-NOV-15
4		5/3/1993	4110 Old Redmond Rd.	Redmond	WA	98052	United States	(206) 555-8122	5176	mpeacock@supre...	Margaret holds a B...	...	1	18-NOV-15
5		10/17/1993	14 Garrett Hill	London	(null)	SW1 8JR	United Kingdom	(71) 555-4848	3453	sbuchanan@supr...	"Steven Buchanan ...	...	1	18-NOV-15
6		10/17/1993	"Coventry HouseMine...	London	(null)	EC2 7JR	United Kingdom	(71) 555-7773	428	msuyama@supre...	"Michael is a gradu...	...	0	18-NOV-15
7		1/2/1994	"Edgeham HollowWinc...	London	(null)	RG1 9SP	United Kingdom	(71) 555-5598	465	rking@supremeat...	"Robert King serve...	...	1	18-NOV-15
8		3/5/1994	4726 - 11th Ave. N.E.	Seattle	WA	98105	United States	(206) 555-1189	2344	lcallahan@supre...	Laura received a B...	...	1	18-NOV-15
9		11/15/1994	7 Houndstooth Rd.	London	(null)	WG2 7LT	United Kingdom	(71) 555-4444	452	adodsworth@sup...	Anne has a BA deg...	...	0	18-NOV-15
10		(null)	(null)	(null)	(null)	(null)	(null)	(null)	(null)	(null)	(null)	...	1	18-NOV-15
11		11/15/1994	7 Houndstooth Rd.	Boston	(null)	WG2 7LT	United Kingdom	(71) 555-4444	452	adodsworth@sup...	Anne has a BA deg...	...	1	18-NOV-15
12		10/17/1993	"Coventry HouseMine...	Boston	(null)	EC2 7JR	United Kingdom	(71) 555-7773	428	msuyama@supre...	"Michael is a gradu...	...	1	18-NOV-15

- POPULATING THE FACT TABLE USING MULTIPLE JOINS.
- HERE ONLY SOURCES ARE USED AT A TIME FOR ONE JOIN. A NEW JOIN USED AT EVERY STAGE.
- THIS PARTICULAR FUNCTIONALITY IS BETTER AND MORE CONVENIENT IN TALEND.



BUSINESS PROBLEM: GET DATA FOR SALES BY CUSTOMER IN USA

- AGGREGATION TRANSFORMATION USED TO APPLY GROUP FUNCTION
- FILTER USED TO APPLY CONDITIONS ON ATTRIBUTES
- SORT USED TO SORT OUTPUT IN DESCENDING ORDER HERE.



	CUSTOMER_ID	CUSTOMER_NAME	COUNTRY	REVENUE
1	77	Save-a-lot Markets	United States	104362
2	79	Rattlesnake Canyon ...	United States	77227
3	85	White Clover Markets	United States	45079
4	87	Split Rail Beer & Ale	United States	25257
5	81	Great Lakes Food Ma...	United States	18508
6	75	Old World Delicatess...	United States	15178
7	83	Lonesome Pine Resta...	United States	4259
8	82	The Big Cheese	United States	3361
9	76	Let's Stop N Shop	United States	3077
10	80	Hungry Coyote Impo...	United States	3063
11	78	The Cracker Box	United States	1947
12	84	Trail's Head Gourme...	United States	1571
13	86	Lazy K Kountry Store	United States	357

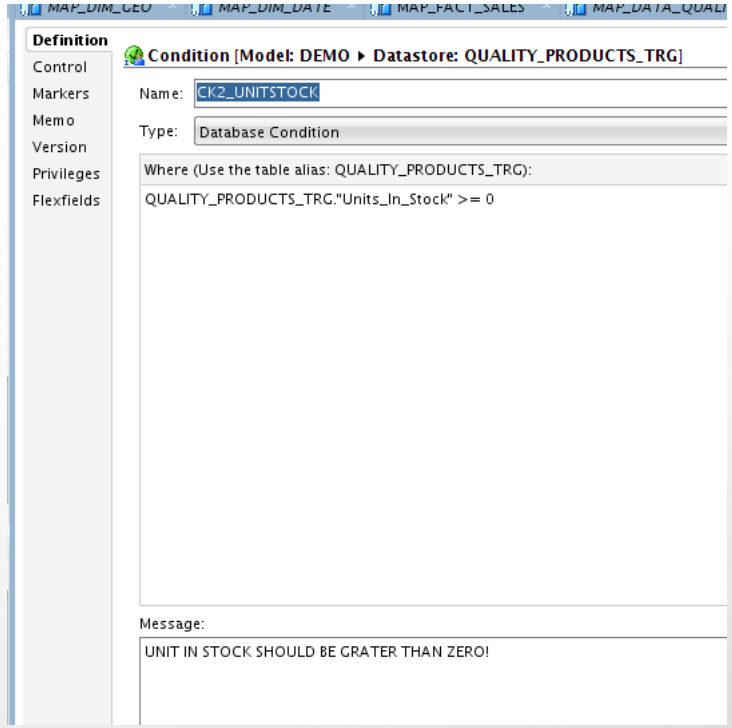
DATA QUALITY: USES CKM TO CHECK THE PRIMARY KEY, REFERENTIAL INTEGRITY, CONDITION CONSTRAINTS ON THE TARGETS

CUSTOMERS_REVENUE | QUALITY_PRODUCTS_TRG | C$_0EMP | **QUALITY_PRODUCTS_SRC** | EMP_SCD_SOURCE | EMP_SCD_TARGET

Columns | Data | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Indexes | SQL

Sort... | Filter:

	ProductID	Product_Name	SupplierID	CategoryID	Quantity_Per_Unit	Unit_Price	Units_In_Stock	Units_On_Order	Reorder_Level	Discontinued
1	77	xyz	10	11	13	(null)	1	(null)	(null)	(null)
2	1	(null)	1	1	10 boxes x 20 bags	18	-1	0	10	FALSE
3	2	Chang	1	1	24 - 12 oz bottles	19	17	40	25	FALSE
4	3	(null)	1	2	12 - 550 ml bottles	10	13	70	25	FALSE
5	4	Chef Anton's Caj...	2	2	48 - 6 oz jars	22	53	0	0	FALSE
6	5	(null)	2	2	36 boxes	21.4	-5	0	0	TRUE
7	6	Grandma's Boyse...	3	2	12 - 8 oz jars	25	120	0	25	FALSE
8	7	Uncle Bob's Orga...	3	7	12 - 1 lb pkgs.	30	15	0	10	FALSE
9	8	Northwoods Cra...	3	2	12 - 12 oz jars	40	6	0	0	FALSE
10	9	Mishi Kobe Niku	4	6	18 - 500 g pkgs.	97	29	0	0	TRUE
11	10	(null)	4	8	12 - 200 ml jars	31	31	0	0	FALSE
12	11	Queso Cabrales	5	4	1 kg pkg.	21	22	30	30	FALSE
13	12	Queso Manchego...	5	4	10 - 500 g pkgs.	38	86	0	0	FALSE
14	13	Konbu	6	8	2 kg box	6	24	0	5	FALSE
15	14	Tofu	6	7	40 - 100 g pkgs.	23.3	35	0	0	FALSE
16	15	Genen Shouyu	6	2	24 - 250 ml bottles	15.5	39	0	5	FALSE
17	16	Pavlova	7	3	32 - 500 g boxes	17.5	29	0	10	FALSE
18	17	Alice Mutton	7	6	20 - 1 kg tins	39	0	0	0	TRUE



Negative values are not allowed in this column as the above condition check has been applied in the model

CUSTOMERS | Constraints | QUALITY_PRODUCTS_TRG | **E$_QUALITY_PRODUCTS_TRG** | QUALITY_PRODUCTS_SRC | EMP_SCD_SOURCE | EMP_SCD_TARGET

Columns | Data | Constraints | Grants | Statistics | Triggers | Flashback | Dependencies | Details | Indexes | SQL

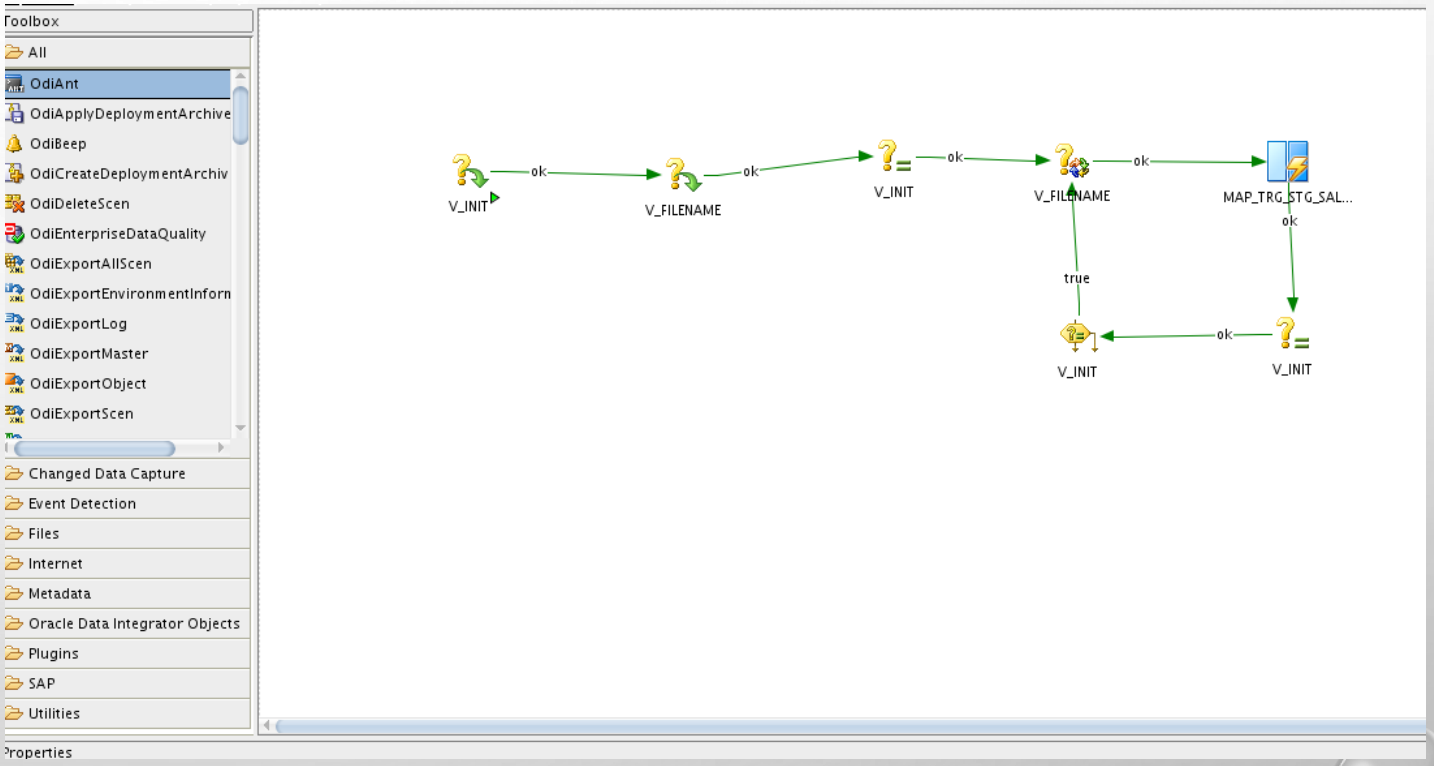
Sort... | Filter:

	ODI_ROW_ID	ODI_ERR_TYPE	ODI_ERR_MESS	ODI_CHECK_DATE	ProductID	Product_Name	SupplierID	CategoryID	Quantity_Per_Unit	Unit_Price
1	AAAJNiAAEAA...	F	ODI-15064: The primary key PK_PRODUCT is not unique.	18-NOV-15	77	xyz	10	11	13	(null)
2	AAAJNiAAEAA...	F	ODI-15064: The primary key PK_PRODUCT is not unique.	18-NOV-15	77	Original Frankfur...	12	2	12 boxes	13
3	AAAJNiAAEAA...	F	PRODUCT SHOULD HAVE A VALID NAME	18-NOV-15	1	(null)	1	1	10 boxes x 20 bags	18
4	AAAJNiAAEAA...	F	PRODUCT SHOULD HAVE A VALID NAME	18-NOV-15	3	(null)	1	2	12 - 550 ml bottles	10
5	AAAJNiAAEAA...	F	PRODUCT SHOULD HAVE A VALID NAME	18-NOV-15	5	(null)	2	2	36 boxes	21.4
6	AAAJNiAAEAA...	F	PRODUCT SHOULD HAVE A VALID NAME	18-NOV-15	10	(null)	4	8	12 - 200 ml jars	31
7	AAAJNiAAEAA...	F	UNIT IN STOCK SHOULD BE GRATER THAN ZERO!	18-NOV-15	1	(null)	1	1	10 boxes x 20 bags	18
8	AAAJNiAAEAA...	F	UNIT IN STOCK SHOULD BE GRATER THAN ZERO!	18-NOV-15	5	(null)	2	2	36 boxes	21.4

ERROR MESSAGES

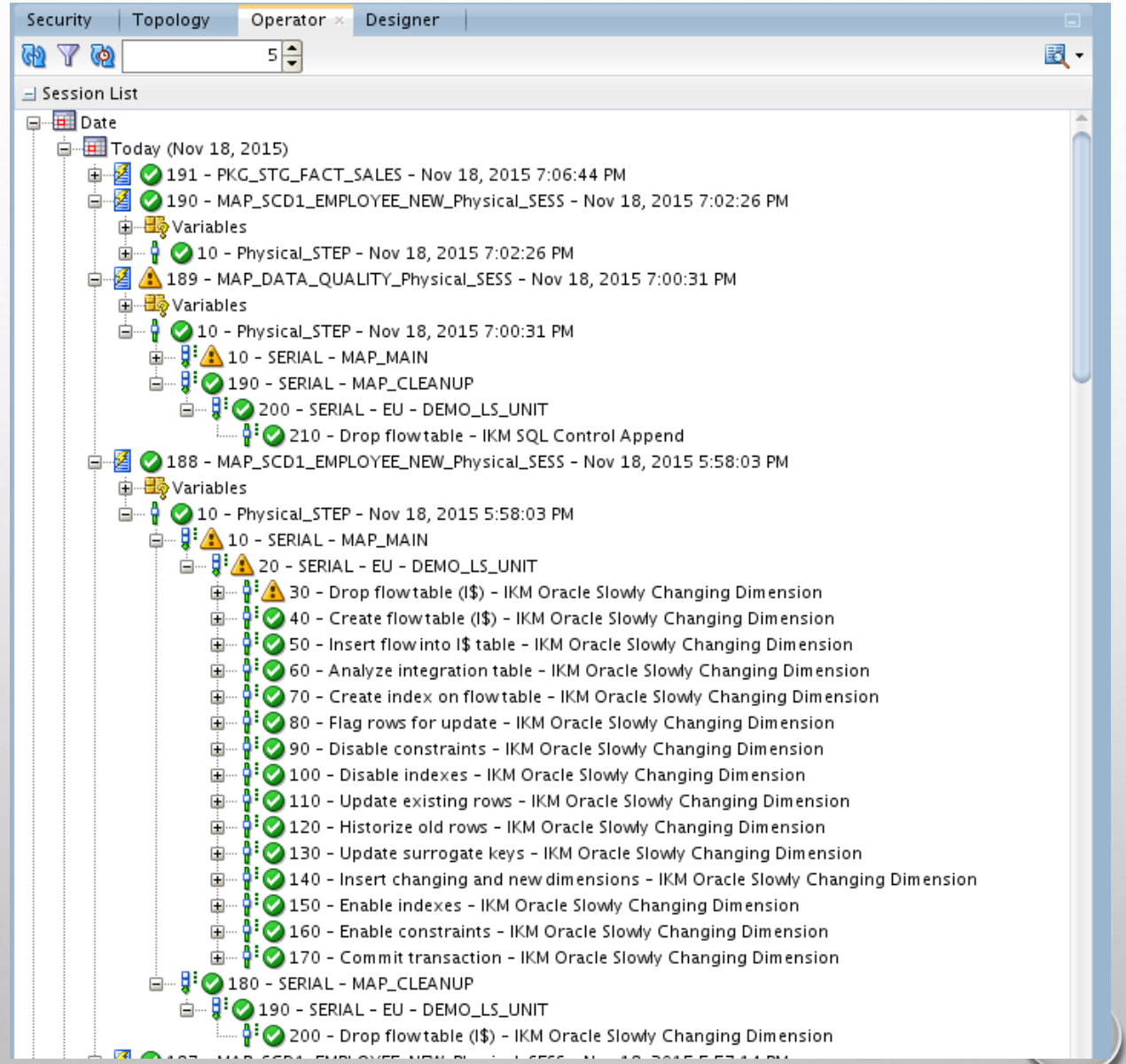
LOADING DATA FROM MULTIPLE SOURCES OF SIMILAR STRUCTURE TO ONE TARGET

- THIS CAN BE ACHIEVED SIMPLY BY CREATING BY CREATING A LOOP IN THE PACKAGE WHICH INCLUDES A LOGICAL FLOW FOR THE INTEGRATION PROCESS.
- A **PACKAGE** IS A SET OF OPERATIONS TO BE PERFORMED IN A PARTICULAR SEQUENCE.
- A PACKAGE CAN INCLUDE ANY COMPONENT OF DESIGNER LIKE VARIABLES, MAPPINGS, PROCEDURES, ETC.



EXAMPLE OF A PACKAGE

SESSION LOGS



THANK YOU !