Sample Data Warehouse Tutorial

Document of Supporting Models and Mappings

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Sample Data Warehouse Tutorial: *The Story*

A popular electronics corporation, Zcity, is in the market for a new data warehouse so that corporate business personnel can take a look at the activities that are occurring throughout their sales regions. The corporation is comprised of two sales streams as the corporation merged with one of its competitors recently, Xmart. The sales system environment for Zcity (a source database) resides on a MySQL database. The sales system environment for Xmart resides on an old IBM mainframe system that can only output files (source files).

The business has decided that a data warehouse running nightly incremental ETLs will allow them to handle critical business decisions more efficiently. The business analysts have created a mapping document that maps out each source field to its corresponding target field, including any data transformations that the business deems necessary for the data to be entered into the warehouse. The corporate IT team has completed development of a MySQL data warehouse (the target database) and an ETL process that includes transformation logic from the mapping document to load the source data from each source into the data warehouse.

Artifacts Found in the Document

- Project Schema – Visually displays the architecture of the environment-under-test and the directional flow of the data
- Data model(s) – Displays the tables and their names, column names, data types and table relationships
- Mapping table(s) – The mapping tables are the requirements or rules for extracting, transforming (if at all) and loading (ETL) data from the source database and files into the target data warehouse.

  The mapping tables show:
  - each data source table (or file),
  - the data type,
  - how it is being transformed (if at all),
  - which table and column it is being loaded into,
  - the data type it is being cast to in the data warehouse

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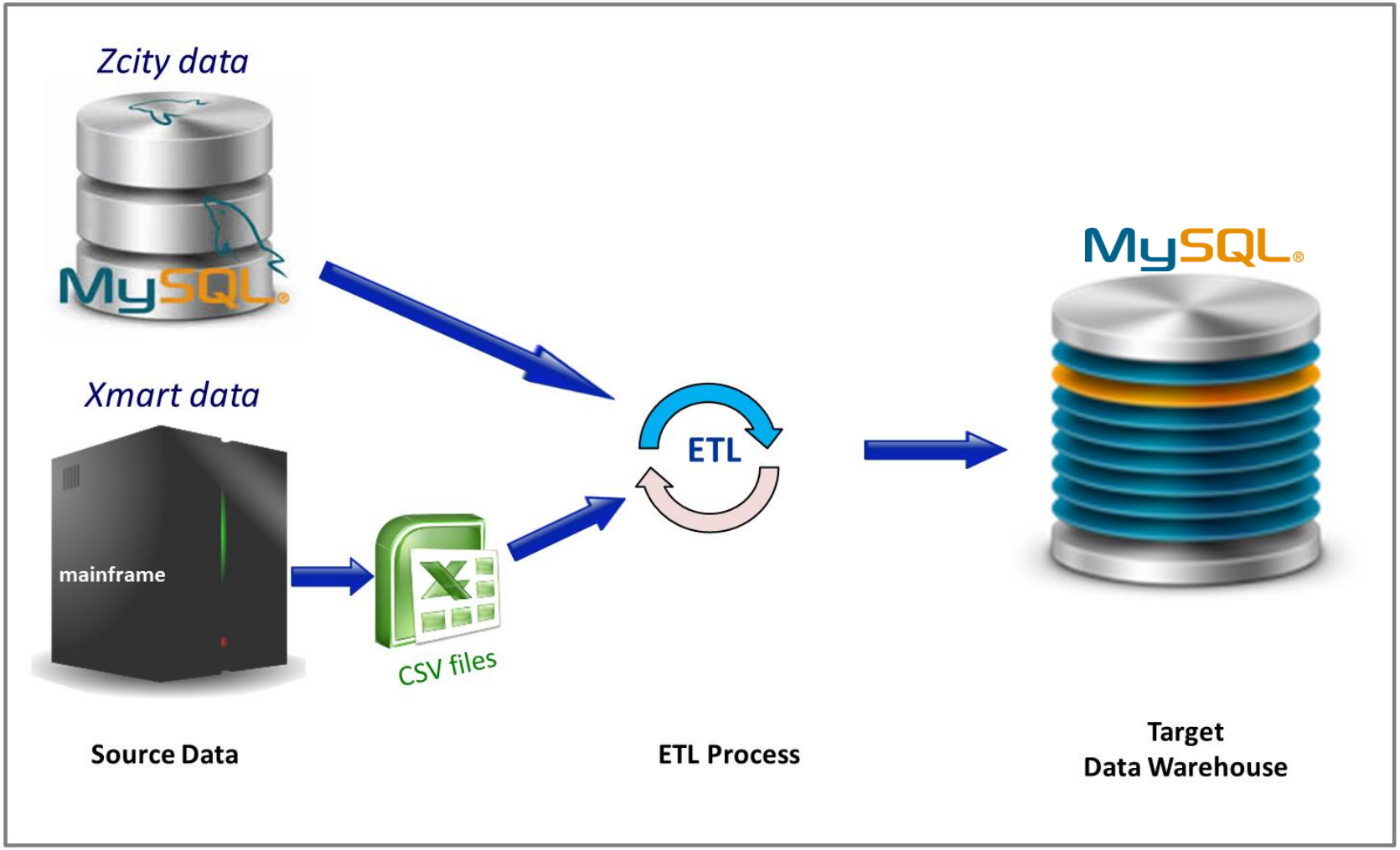
Tutorial Project – Project Schema



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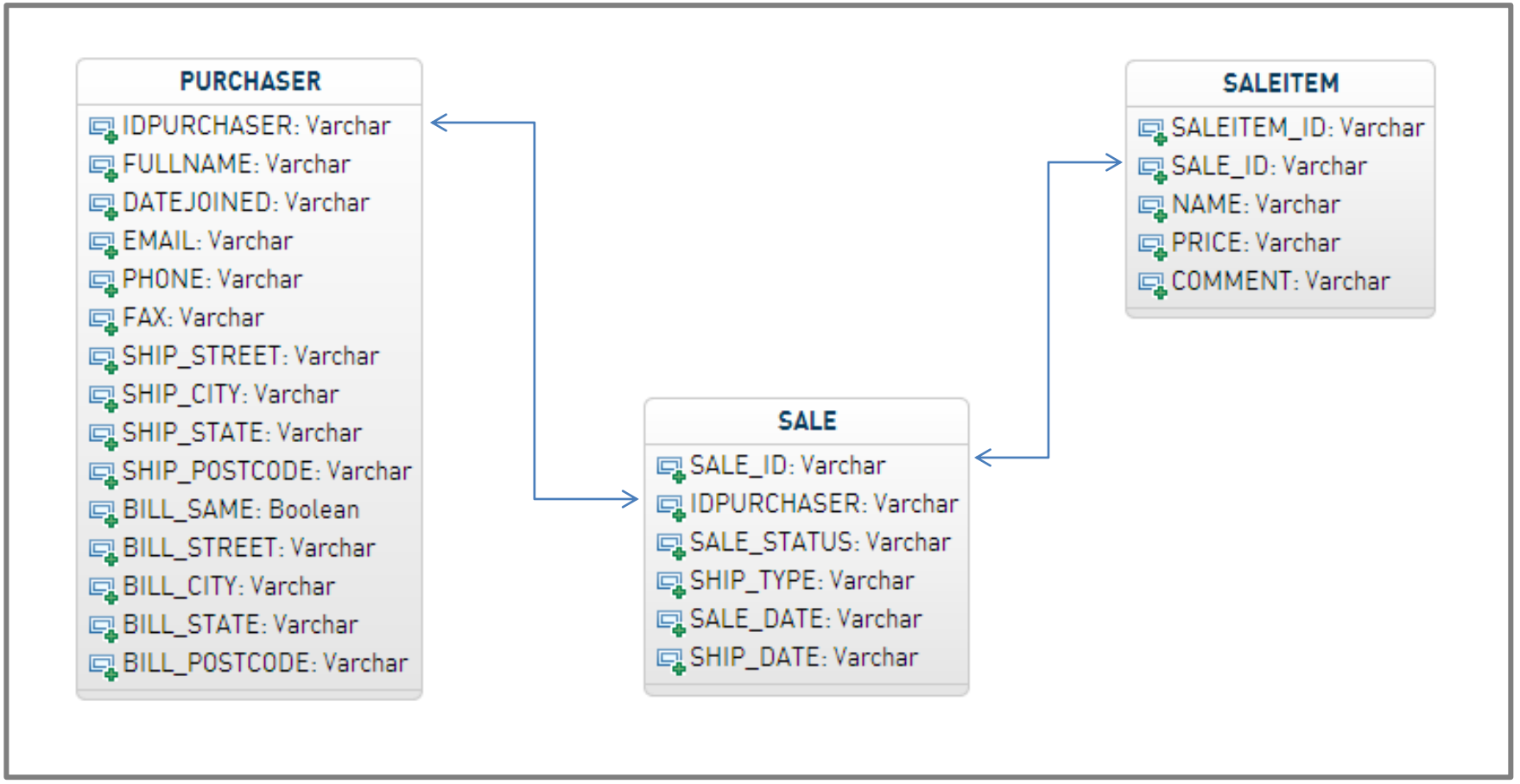
ZCITY MySQL Database - Data Model



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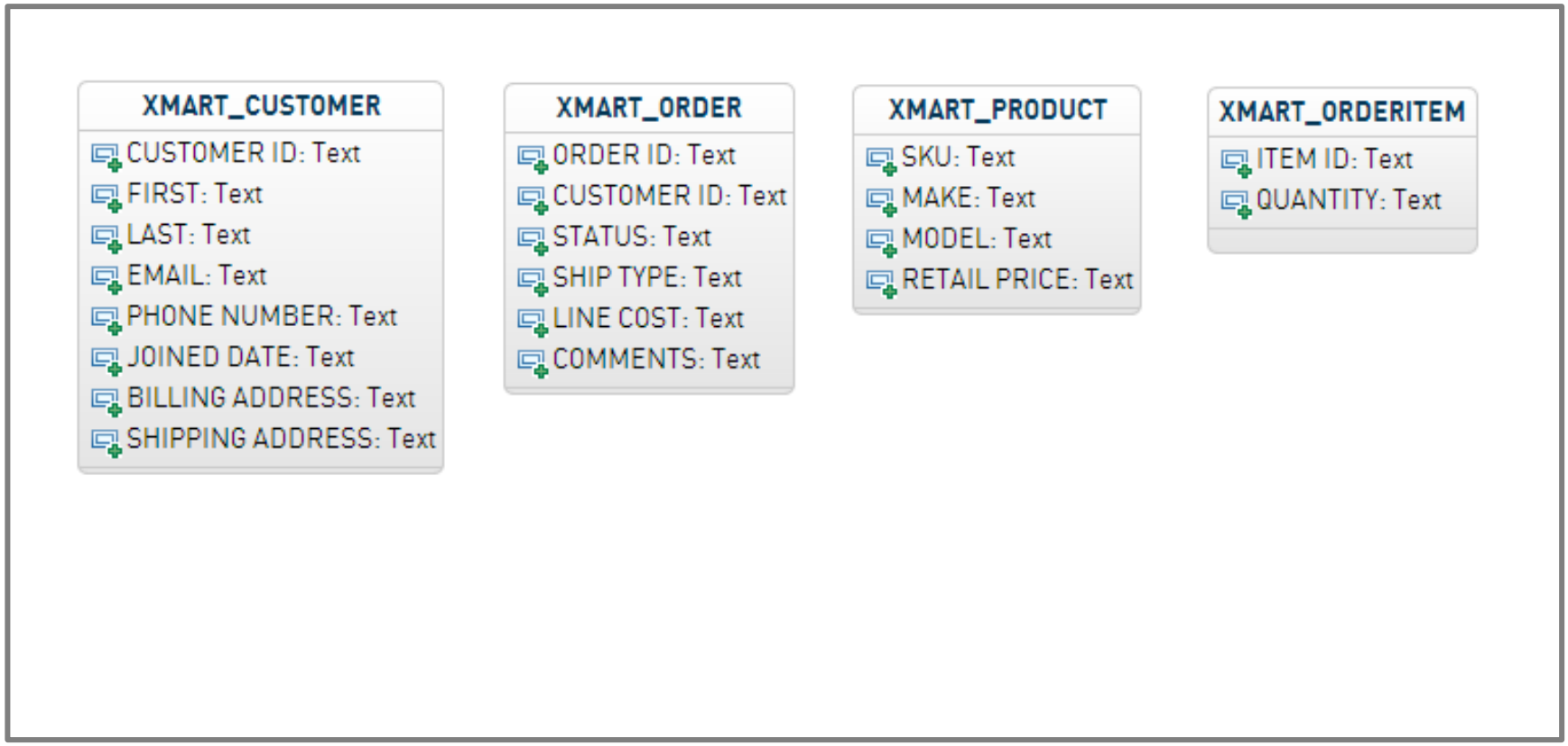
XMART CSV Files - Data Model



Note: The four files extracted from the legacy mainframe are shown without joins. The joins are restablished in the data warehouse.

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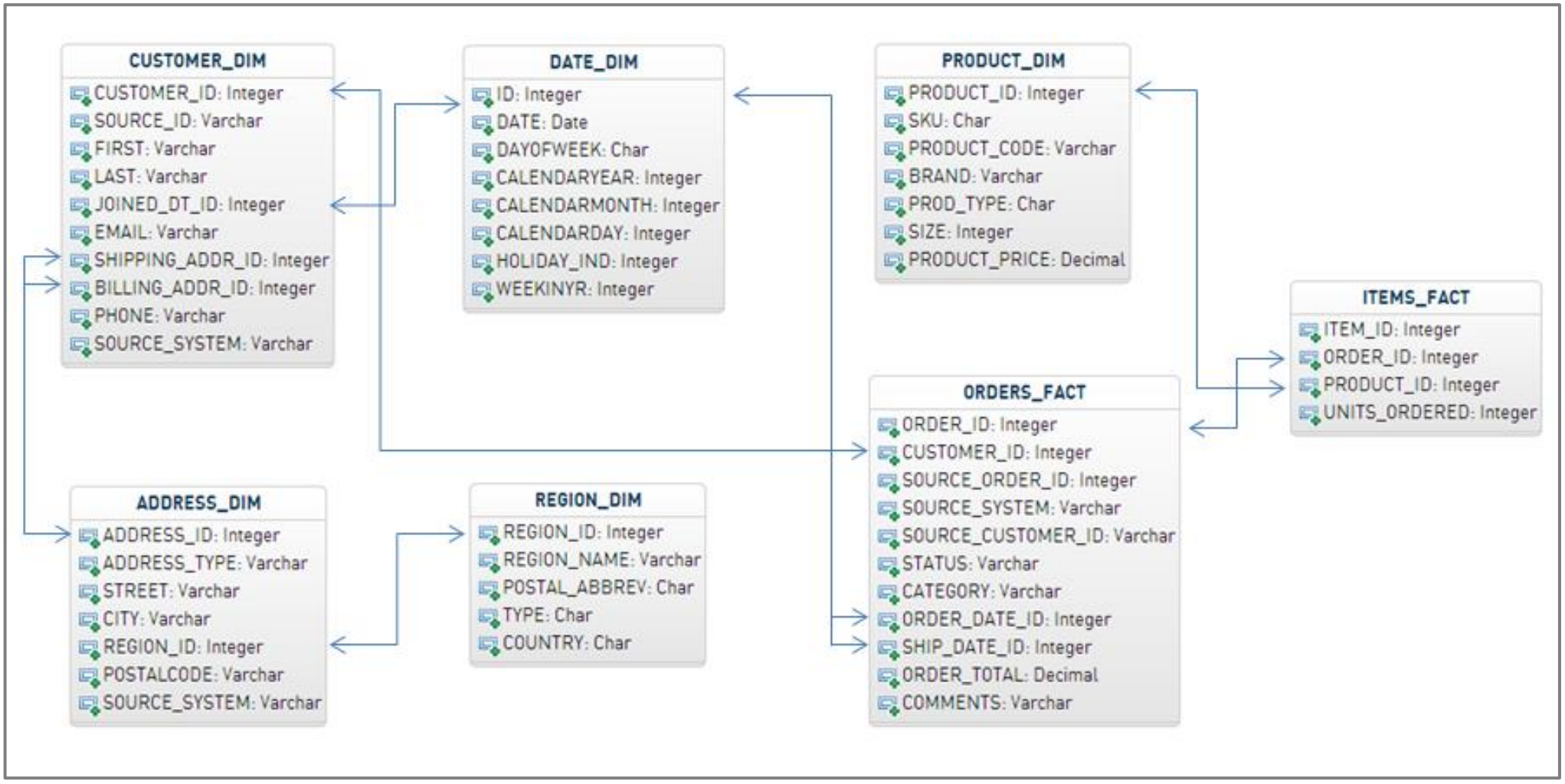
MySQL Data Warehouse - Data Model



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ZCITY Mappings to Data Warehouse

Table Name: CUSTOMER									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
1	--	--	--	Auto Sequence	CUSTOMER_DIM	CUSTOMER_ID(PK)	Int (12)	67691	
1.01	PURCHASER	IDPURCHASER	Varchar (12)	Direct Map	CUSTOMER_DIM	SOURCE_ID	Varchar(12)	01270E	
1.02	PURCHASER	FULLNAME	Varchar (45)	Extract target CUSTOMER_DIM.FIRST from source PURCHASER.FULLNAME by splitting FULLNAME by ' ' and taking the first sub string	CUSTOMER_DIM	FIRST	Varchar (45)	Herman	
1.03	PURCHASER	FULLNAME	Varchar (45)	Extract target CUSTOMER_DIM.LAST from source PURCHASER.FULLNAME by splitting FULLNAME by ' ' and taking the second sub string	CUSTOMER_DIM	LAST	Varchar (255)	Oliver	
1.04	PURCHASER	DATEJOINED	Varchar (12)	Convert date format from DD-Mon-YYYY to YYYY-MM-DD	DATE_DIM	DATE	Date	2006-06-29	Join the CUSTOMER_DIM table to the DATE_DIM table on CUSTOMER_DIM.JOINED_DT_ID = DATE_DIM.ID and pull DATE_DIM.DATE
1.05	PURCHASER	EMAIL	Varchar (45)	Direct Map	CUSTOMER_DIM	EMAIL	Varchar (255)	Herman_V_Oliver @dodgit.com	
1.06	PURCHASER	PHONE	Varchar (25)	Direct Map	CUSTOMER_DIM	PHONE	Varchar(45)	612-360-8681	
1.07	PURCHASER	FAX	Varchar (25)	DO NOT MAP	--	--	--		
1.08	--	--	--	Target customer.SOURCE_SYSTEM='ZCITY'	CUSTOMER_DIM	SOURCE_SYSTEM	Varchar (12)	ZCITY	

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Table Name: CUSTOMER									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
1.09	PURCHASER	SHIP_STREET	Varchar (45)	Direct Map for target ADDRESS.ADDRESS_TYPE = 'SHIP'	ADDRESS_DIM	STREET	Varchar (45)	315 Heather Log Manor	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.STREET
1.10	PURCHASER	SHIP_CITY	Varchar (45)	Direct Map for target ADDRESS.ADDRESS_TYPE = 'SHIP'	ADDRESS_DIM	CITY	Varchar (25)	Belzoni	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.CITY
1.11	PURCHASER	SHIP_STATE	Varchar (25)	Lookup state abbreviation and load for target ADDRESS.ADDRESS_TYPE = 'SHIP'	REGION_DIM	REGION_NAME	Varchar (5)	New Jersey	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and the ADDRESS_DIM table to the REGION_DIM table on ADDRESS_DIM.REGION_ID = REGION_DIM.REGION_ID and pull REGION_DIM.POSTAL_ABBREV

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Table Name: CUSTOMER									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
1.12	PURCHASER	SHIP_POSTCODE	Varchar (12)	Direct Map for target ADDRESS.ADDRESS_TYPE = 'SHIP'	ADDRESS_DIM	POSTALCODE	Varchar (12)	87115	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.POSTALCODE
1.13	PURCHASER	BILL_SAME	Bool	If Source PURCHASER.BILL_SAME = 1 then load target ADDRESS.ADDRESS_TYPE = 'SHIP' along with all target SHIP fields and load ADDRESS.ADDRESS_TYPE = 'BILL' along with all target SHIP fields; If Source PURCHASER.BILL_SAME = 0 then load target ADDRESS.ADDRESS_TYPE = 'BILL' along with all target BILL fields and load ADDRESS.ADDRESS_TYPE = 'SHIP' along with all target SHIP fields	ADDRESS_DIM	ADDRESS_TYPE	Varchar (5)	'SHIP'	
1.14	PURCHASER	BILL_STREET	Varchar (45)	Direct Map for target address.ADDRESS_TYPE = 'BILL'	ADDRESS_DIM	STREET	Varchar (45)	945 Stony Ancho	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.STREET

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Table Name: CUSTOMER									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
1.15	PURCHASER	BILL_CITY	Varchar (45)	Direct Map for target address.ADDRESS_TYPE = 'BILL'	ADDRESS_DIM	CITY	Varchar (25)	Farmersville	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.CITY
1.16	PURCHASER	BILL_STATE	Varchar (25)	Lookup state abbreviation and load for target address.ADDRESS_TYPE = 'BILL'	REGION_DIM	REGION_NAME	Varchar (5)	DE	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and the ADDRESS_DIM table to the REGION_DIM table on ADDRESS_DIM.REGION_ID = REGION_DIM.REGION_ID and pull REGION_DIM.POSTAL_ABBREV
1.17	PURCHASER	BILL_POSTCODE	Varchar (12)	Direct Map for target address.ADDRESS_TYPE = 'BILL'	ADDRESS_DIM	POSTAL_CODE	Varchar (12)	21735	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.POSTALCODE

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Table Name: SALE									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
2	--	--	--	Auto Sequence	ORDERS_FACT	ORDER_ID(PK)	Int	12	
2.01	SALE	SALE_ID	Varchar (12) (PK)	Convert Varchar(12) to Int	ORDERS_FACT	SOURCE_ORDER_ID	Int	45	
2.02	SALE	IDPURCHASER	Varchar (12)	Direct Map	ORDERS_FACT	SOURCE_CUSTOMERID	Varchar (12)	231	
2.03	SALE	SALE_STATUS	Varchar (12)	Populate target ORDERS_FACT.STATUS using the following logic: when 'Incomplete' then 'Pending' else SALE.SALE_STATUS	ORDERS_FACT	STATUS	Varchar (12)	Shipped	
2.04	SALE	SHIP_TYPE	Varchar (12)	Direct Map	ORDERS_FACT	CATEGORY	Varchar (12)	Ground	
2.05	SALE	SALE_DATE	Varchar (12)	Convert Varchar(12) to Date format	DATE_DIM	ORDER_DATE	Date	2005-01-01	Join the ORDERS_FACT table to the DATE_DIM table on ORDERS_FACT. ORDER_DATE_ID = DATE_DIM.ID and pull DATE_DIM.DATE
2.06	SALE	SHIP_DATE	Varchar (12)	Convert Varchar(12) to Date format	DATE_DIM	SHIP_DATE	Date	2005-01-12	Join the ORDER_FACT table to the DATE_DIM table on ORDER_FACT.SHIP_DATE_ID = DATE_DIM.ID and pull DATE_DIM.DATE
2.07	--	--	--	Populate with CUSTOMER_ID from dw.customer where sale.SOURCE_IDPURCHASER = purchaser.SOURCE_ID	ORDERS_FACT	CUSTOMER_ID	Int	55	

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Table Name: SALE									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
2.08	--	--	--	Target ORDERS_FACT.SOURCE_SYSTEM='ZCITY'	ORDERS_FACT	SOURCE_SYSTEM	Varchar (12)	ZCITY	

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Table Name: SALEITEM									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3	--	--	--	Auto Sequence	ITEMS_FACT	ITEM_ID(PK)	Int	2	
3.01	SALEITEM	SALEITEM_ID	Varchar(12)	Do Not Map	--	--	--	--	
3.02	SALEITEM	SALE_ID	Varchar(12) (FK)	Same mapping as 2.01	ORDERS_FACT	SOURCE_ORDER_ID	Int	12	
3.03	SALEITEM	QUANTITY	Varchar(5)	Direct Map	ITEMS_FACT	UNITS_ORDERED	Int	3	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and pull ITEMS_FACT.UNITS_ORDERED
3.04	SALEITEM	NAME	Varchar(25)	Populate target ITEMS_FACT.PRODUCT_ID using the following logic: when 'SONY 3D HDTV - 57' then 1 when 'SONY 3D HDTV - 47' then 2 when 'SONY LED HDTV - 47' then 3 when 'SONY LED HDTV - 42' then 4 when 'SONY LED HDTV - 37' then 5 when 'SONY LED HDTV - 32' then 6 when 'SONY Plasma HDTV - 37' then 7 when 'SONY Plasma HDTV - 32' then 8 when 'SONY Standard TV - 27' then 9 when 'PANA 3D HDTV - 57' then 10 when 'PANA 3D HDTV - 47' then 11 when 'PANA LED HDTV - 47' then 12 when 'PANA LED HDTV - 42' then 13 when 'PANA LED HDTV - 37' then 14 when 'PANA LCD HDTV - 32' then 15 when 'PANA Plasma HDTV - 37' then 16 when 'PANA Plasma HDTV - 32' then 17 when 'PANA Standard TV - 27' then 18	ITEMS_FACT	PRODUCT_ID	Int	1	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and pull ITEMS_FACT.PRODUCT_ID

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Table Name: SALEITEM									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3.05	SALEITEM	NAME	Varchar(25)	Populate target PRODUCT_DIM.PRODUCT_CODE using the following logic: when 'SONY 3D HDTV - 57' then 'SONY3DHD57' when 'SONY 3D HDTV - 47' then 'SONY3DHD47' when 'SONY LED HDTV - 47' then 'SONYLEDHD47' when 'SONY LED HDTV - 42' then 'SONYLEDHD42' when 'SONY LED HDTV - 37' then 'SONYLEDHD37' when 'SONY LED HDTV - 32' then 'SONYLCDHD32' when 'SONY Plasma HDTV - 37' then 'SONYPLHD37' when 'SONY Plasma HDTV - 32' then 'SONYPLHD32' when 'SONY Standard TV - 27' then 'SONYSTDHD27' when 'PANA 3D HDTV - 57' then 'PANA3DHD57' when 'PANA 3D HDTV - 47' then 'PANA3DHD47' when 'PANA LED HDTV - 47' then 'PANALEDHD47' when 'PANA LED HDTV - 42' then 'PANALEDHD42' when 'PANA LED HDTV - 37' then 'PANALEDHD37' when 'PANA LCD HDTV - 32' then 'PANALCDHD32' when 'PANA Plasma HDTV - 37' then 'PANAPLHD37' when 'PANA Plasma HDTV - 32' then 'PANAPLHD32' when 'PANA Standard TV - 27' then 'PANASTDHD27'	PRODUCT_DIM	PRODUCT_CODE	Varchar(12)	SONY3DHD57	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and Join the PRODUCT_DIM table to ITEMS_FACT on ITEMS_FACT.PRODUCT_ID = PRODUCT_DIM.PRODUCT_ID pull PRODUCT_DIM.PRODUCT_CODE

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Table Name: SALEITEM									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3.06	SALEITEM	NAME	Varchar(25)	Populate target PRODUCT_DIM.SKU using the following logic: when 'SONY 3D HDTV - 57' then '23DF-121030' when 'SONY 3D HDTV - 47' then '181F-384418' when 'SONY LED HDTV - 47' then '16E7-158220' when 'SONY LED HDTV - 42' then '1DEE-766862' when 'SONY LED HDTV - 37' then '1B3F-592191' when 'SONY LED HDTV - 32' then '146C-488073' when 'SONY Plasma HDTV - 37' then '1645-306858' when 'SONY Plasma HDTV - 32' then '1B67-622164' when 'SONY Standard TV - 27' then '1CB6-626821' when 'PANA 3D HDTV - 57' then '183E-630245' when 'PANA 3D HDTV - 47' then '1B9D-546116' when 'PANA LED HDTV - 47' then '1964-214317' when 'PANA LED HDTV - 42' then '1471-357938' when 'PANA LED HDTV - 37' then '252D-672194' when 'PANA LCD HDTV - 32' then '1F2F-556362' when 'PANA Plasma HDTV - 37' then '196A-177264' when 'PANA Plasma HDTV - 32' then '22EE-517332' when 'PANA Standard TV - 27' then '2183-910803'	PRODUCT_DIM	SKU	Char(11)	23DF-121030	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and Join the PRODUCT_DIM table to ITEMS_FACT on ITEMS_FACT.PRODUCT_ID = PRODUCT_DIM.PRODUCT_ID pull PRODUCT_DIM.SKU

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Table Name: SALEITEM									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3.07	SALEITEM	NAME	Varchar(25)	Populate target PRODUCT_DIM.BRAND using the following logic when 'SONY 3D HDTV - 57' then 'SONY' when 'SONY 3D HDTV - 47' then 'SONY' when 'SONY LED HDTV - 47' then 'SONY' when 'SONY LED HDTV - 42' then 'SONY' when 'SONY LED HDTV - 37' then 'SONY' when 'SONY LED HDTV - 32' then 'SONY' when 'SONY Plasma HDTV - 37' then 'SONY' when 'SONY Plasma HDTV - 32' then 'SONY' when 'SONY Standard TV - 27' then 'SONY' when 'PANA 3D HDTV - 57' then 'PANASONIC' when 'PANA 3D HDTV - 47' then 'PANASONIC' when 'PANA LED HDTV - 47' then 'PANASONIC' when 'PANA LED HDTV - 42' then 'PANASONIC' when 'PANA LED HDTV - 37' then 'PANASONIC' when 'PANA LCD HDTV - 32' then 'PANASONIC' when 'PANA Plasma HDTV - 37' then 'PANASONIC' when 'PANA Plasma HDTV - 32' then 'PANASONIC' when 'PANA Standard TV - 27' then 'PANASONIC'	PRODUCT_DIM	BRAND	Varchar(36)	SONY	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and Join the PRODUCT_DIM table to ITEMS_FACT on ITEMS_FACT.PRODUCT_ID = PRODUCT_DIM.PRODUCT_ID pull PRODUCT_DIM.BRAND

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Table Name: SALEITEM									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3.08	SALEITEM	NAME	Varchar(25)	Populate target PRODUCT_DIM.PROD_TYPE using the following logic: when 'SONY 3D HDTV - 57' then '3DHD' when 'SONY 3D HDTV - 47' then '3DHD' when 'SONY LED HDTV - 47' then 'LEDHD' when 'SONY LED HDTV - 42' then 'LEDHD' when 'SONY LED HDTV - 37' then 'LEDHD' when 'SONY LED HDTV - 32' then 'LCDHD' when 'SONY Plasma HDTV - 37' then 'PLHD' when 'SONY Plasma HDTV - 32' then 'PLHD' when 'SONY Standard TV - 27' then 'STDHD' when 'PANA 3D HDTV - 57' then '3DHD' when 'PANA 3D HDTV - 47' then '3DHD' when 'PANA LED HDTV - 47' then 'LEDHD' when 'PANA LED HDTV - 42' then 'LEDHD' when 'PANA LED HDTV - 37' then 'LEDHD' when 'PANA LCD HDTV - 32' then 'LCDHD' when 'PANA Plasma HDTV - 37' then 'PLHD' when 'PANA Plasma HDTV - 32' then 'PLHD' when 'PANA Standard TV - 27' then 'STDHD'	PRODUCT_DIM	PROD_TYPE	Char(6)	3DHD	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and Join the PRODUCT_DIM table to ITEMS_FACT on ITEMS_FACT.PRODUCT_ID = PRODUCT_DIM.PRODUCT_ID pull PRODUCT_DIM.PROD_TYPE

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Table Name: SALEITEM									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3.09	SALEITEM	NAME	Varchar(25)	Populate target PRODUCT_DIM.SIZE using the following logic: when 'SONY 3D HDTV - 57' then 57 when 'SONY 3D HDTV - 47' then 47 when 'SONY LED HDTV - 47' then 47 when 'SONY LED HDTV - 42' then 42 when 'SONY LED HDTV - 37' then 37 when 'SONY LED HDTV - 32' then 32 when 'SONY Plasma HDTV - 37' then 37 when 'SONY Plasma HDTV - 32' then 32 when 'SONY Standard TV - 27' then 27 when 'PANA 3D HDTV - 57' then 57 when 'PANA 3D HDTV - 47' then 47 when 'PANA LED HDTV - 47' then 47 when 'PANA LED HDTV - 42' then 42 when 'PANA LED HDTV - 37' then 37 when 'PANA LCD HDTV - 32' then 32 when 'PANA Plasma HDTV - 37' then 37 when 'PANA Plasma HDTV - 32' then 32 when 'PANA Standard TV - 27' then 27	PRODUCT_DIM	SIZE	Int	57	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and Join the PRODUCT_DIM table to ITEMS_FACT on ITEMS_FACT.PRODUCT_ID = PRODUCT_DIM.PRODUCT_ID pull PRODUCT_DIM.SIZE
3.10	SALEITEM	PRICE	Varchar(12)	Do Not Map	--	--	--		
3.11	SALEITEM	COMMENTS	Varchar(255)	Populate COMMENTS on target table ORDERS_FACT by concatenating with the following logic: SALEITEM.NAME +' : ' + SALEITEM.COMMENTS For multiple comments separate source comments with ' | '	ORDERS_FACT	COMMENTS	Varchar(255)	SONY LED HDTV - 42: Be careful of first step	

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XMART Mappings to Data Warehouse

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Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
1	--	--	--	Auto Sequence	CUSTOMER_DIM	CUSTOMER_ID(PK)	Int (11)	1	
1.01	XMART_CUSTOMER	CUSTOMER ID	Text	Direct Map	CUSTOMER_DIM	SOURCE_ID	Varchar(12)	00148F	
1.02	XMART_CUSTOMER	FIRST	Text	Direct Map	CUSTOMER_DIM	FIRST	Varchar(45)	Noel	
1.03	XMART_CUSTOMER	LAST	Text	Direct Map	CUSTOMER_DIM	LAST	Varchar(255)	Washington	
1.04	XMART_CUSTOMER	EMAIL	Text	Direct Map	CUSTOMER_DIM	EMAIL	Varchar(45)	Noel_A_Washington@dodgit.com	
1.05	XMART_CUSTOMER	PHONE NUMBER	Text	Direct Map	CUSTOMER_DIM	PHONE	Varchar(45)	72 259 80 89	
1.06	XMART_CUSTOMER	JOINED DATE	Text	Convert date format from DD-Mon-YYYY to YYYY-MM-DD	DATE_DIM	DATE	Date	2006-07-05	Join the CUSTOMER_DIM table to the DATE_DIM table on CUSTOMER_DIM.JOINED_DT_ID = DATE_DIM.ID and pull DATE_DIM.DATE
1.07	--	--	--	='XMART'	CUSTOMER_DIM	SOURCE_SYSTEM	Varchar (12)	XMART	

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Table Name: PRODUCT									
Section Notes		There are some products that have two records in the file, one with an incorrect SKU and one with an incorrect price. Pull the SKU, MAKE and MODEL from the record with the lower price and the RETAIL_PRICE from the record with the higher price; use MAKE and MODEL as matching key. For all other records that only have one record, pull that one record							
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
2	XMART_PRODUCT	--	--	Auto Sequence	PRODUCT_DIM	PRODUCT_ID(PK)	Int (11)	1	
2.01	XMART_PRODUCT	SKU	Text	Direct Map	PRODUCT_DIM	SKU	Char(11)	23DF-121030	
2.02	XMART_PRODUCT	MAKE MODEL	Text	Concatenate the first four characters of the XMART_PRODUCT.MAKE field and the entire XMART_PRODUCT.MODEL field	PRODUCT_DIM	PRODUCT_CODE	Varchar(12)	SONY3DHD57	
2.03	XMART_PRODUCT	MAKE	Text	Direct Map	PRODUCT_DIM	BRAND	Varchar(36)	SONY	
2.04	XMART_PRODUCT	MODEL	Text	XMART_PRODUCT.MODEL with the last two characters removed	PRODUCT_DIM	PROD_TYPE	Char(6)	3DHD	
2.05	XMART_PRODUCT	MODEL	Text	Only the last two characters of XMART_PRODUCT.MODEL	PRODUCT_DIM	SIZE	Smallint(6)	57	
2.06	XMART_PRODUCT	RETAIL PRICE	Text	Direct Map	PRODUCT_DIM	PRODUCT_PRICE	Decimal(12,2)	5999.99	

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Table Name: ORDER									
Section Notes		Pull all orders where STATUS <> Pending							
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3	--	--	--	Auto Sequence	ORDERS_FACT	ORDER_ID(PK)	Int (11)	112778	
3.01	--	--	--	Auto Sequence	ORDERS_FACT	CUSTOMER_ID(FK)	Int (11)	1	
3.02	XMART_ORDER	ORDER ID	Text	Direct Map	ORDERS_FACT	SOURCE_ORDER_ID	Int (11)	10531	
3.03	XMART_ORDER	CUSTOMER ID	Text	Direct Map	ORDERS_FACT	SOURCE_CUSTOMER_ID	Varchar(12)	00148F	
3.04	XMART_ORDER	STATUS	Text	Direct Map	ORDERS_FACT	STATUS	Varchar(12)	Ordered	
3.05	XMART_ORDER	SHIP TYPE	Text	Direct Map	ORDERS_FACT	CATEGORY	Varchar(12)	Express	
3.06	XMART_ORDER	ORDER DATE	Text	Convert date format from DD-Mon-YYYY to YYYY-MM-DD	DATE_DIM	DATE	Date	2009-05-14	Join the ORDER_FACT table to the DATE_DIM table on ORDER_FACT.ORDER_DATE_ID = DATE_DIM.ID and pull DATE_DIM.DATE
3.07	XMART_ORDER	SHIP DATE	Text	Convert date format from DD-Mon-YYYY to YYYY-MM-DD	DATE_DIM	DATE	Date	2009-05-14	Join the ORDER_FACT table to the DATE_DIM table on ORDER_FACT.SHIP_DATE_ID = DATE_DIM.ID and pull DATE_DIM.DATE
3.08	XMART_ORDERITEM	LINE COST	Text	Join the XMART_ORDER table to the XMART_ORDERITEM table on XMART_ORDER."ORDER ID" = XMART_ORDERITEM."ORDER ID" and pull XMART_ORDERITEM."LINE COST"	ORDERS_FACT	ORDER_TOTAL	Decimal(12,2)	2799.93	

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Table Name: ORDER									
Section Notes		Pull all orders where STATUS <> Pending							
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
3.09	XMART_ORDER	COMMENTS	Text	25 character limit	ORDERS_FACT	COMMENTS	Varchar(255)	Please deliver before 12 noon	
3.10	XMART_ORDER	--	--	='XMART'	ORDERS_FACT	SOURCE_SYSTEM	Varchar(12)	XMART	

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Table Name: ORDER ITEMS									
Section Notes		Pull all order items where ORDER.STATUS <> Pending							
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
4	XMART_ORDERITEM	ITEM ID	Text	Direct Map	ITEMS_FACT	ITEM_ID(PK)	Int (11)	6920	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and pull ITEMS_FACT.ITEM_ID where ORDERS_FACT.SOURCE_SYSTEM = 'XMART
4.01	--	--	--	Auto Sequence	ITEMS_FACT	ORDER_ID(FK)	Int (11)	112778	
4.02	--	--	--	Auto Sequence	ITEMS_FACT	PRODUCT_ID(FK)	Int (11)	6	
4.03	XMART_ORDERITEM	QUANTITY	Text	Direct Map	ITEMS_FACT	UNITS_ORDERED	Int (11)	7	Join the ITEMS_FACT table to the ORDERS_FACT table on ITEMS_FACT.ORDER_ID = ORDERS_FACT.ORDER_ID and pull ITEMS_FACT.UNITS_ORDERED where ORDERS_FACT.SOURCE_SYSTEM = 'XMART

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Table Name: ADDRESS									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
5	--	--	--	Auto Sequence	ADDRESS_DIM	ADDRESS_ID(PK)	Int (11)	100405	
5.01	XMART_CUSTOMER	BILLING ADDRESS	Text	Extract the Street portion of "XMART_CUSTOMER.BILLING ADDRESS" by pulling all text before the first comma	ADDRESS_DIM (BILLING)	STREET	Varchar	188 Shadow Hollow	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.STREET where ADDRESS_DIM.ADDRESS_TYPE = 'BILL'
5.02	XMART_CUSTOMER	BILLING ADDRESS	Text	Extract the City portion of "XMART_CUSTOMER.BILLING ADDRESS" by pulling all text between the first and second comma	ADDRESS_DIM (BILLING)	CITY	Varchar	Twin Oaks	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.CITY where ADDRESS_DIM.ADDRESS_TYPE = 'BILL'

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Table Name: ADDRESS									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
5.03	XMART_CUSTOMER	BILLING ADDRESS	Text	Extract the State portion of "XMART_CUSTOMER.BILLING ADDRESS" by pulling all text between the second and third commas	REGION_DIM (BILLING)	POSTAL_ABBREV	Varchar	Delaware	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and the ADDRESS_DIM table to the REGION_DIM table on ADDRESS_DIM.REGION_ID = REGION_DIM.REGION_ID and pull REGION_DIM.POSTAL_ABBREV where ADDRESS_DIM.ADDRESS_TYPE = 'BILL'
5.04	XMART_CUSTOMER	BILLING ADDRESS	Text	Extract the Zip Code portion of "XMART_CUSTOMER.BILLING ADDRESS" by pulling all text between the third fourth commas	ADDRESS_DIM (BILLING)	POSTALCODE	Varchar	16719	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.BILLING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.POSTALCODE where ADDRESS_DIM.ADDRESS_TYPE = 'BILL'
5.05	XMART_CUSTOMER	SHIPPING ADDRESS	Text	Extract the Street portion of "XMART_CUSTOMER.SHIPPING ADDRESS" by pulling all text before the first comma	ADDRESS_DIM (SHIPPING)	STREET	Varchar	834 Bright Narrow	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.STREET where ADDRESS_DIM.ADDRESS_TYPE = 'SHIP'

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Table Name: ADDRESS									
Section Notes									
Mapping	Source Table	Source Column	Source Type	Transformation Logic	Target Table	Target Column	Target Type	Example	Comments
5.06	XMART_CUSTOMER	SHIPPING ADDRESS	Text	Extract the City portion of "XMART_CUSTOMER.SHIPPING ADDRESS" by pulling all text between the first and second comma	ADDRESS_DIM (SHIPPING)	CITY	Varchar	Loch Lynn Heights	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.CITY where ADDRESS_DIM.ADDRESS_TYPE = 'SHIP'
5.07	XMART_CUSTOMER	SHIPPING ADDRESS	Text	Extract the State portion of "XMART_CUSTOMER.SHIPPING ADDRESS" by pulling all text between the second and third commas	REGION_DIM (SHIPPING)	POSTAL_ABBREV	Varchar	Washington	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and the ADDRESS_DIM table to the REGION_DIM table on ADDRESS_DIM.REGION_ID = REGION_DIM.REGION_ID and pull REGION_DIM.POSTAL_ABBREV where ADDRESS_DIM.ADDRESS_TYPE = 'SHIP'
5.08	XMART_CUSTOMER	SHIPPING ADDRESS	Text	Extract the Zip Code portion of "XMART_CUSTOMER.SHIPPING ADDRESS" by pulling all text between the third fourth commas	ADDRESS_DIM (SHIPPING)	POSTALCODE	Varchar	17051	Join the CUSTOMER_DIM table to the ADDRESS_DIM table on CUSTOMER_DIM.SHIPPING_ADDR_ID = ADDRESS_DIM.ADDRESS_ID and pull ADDRESS_DIM.POSTALCODE where ADDRESS_DIM.ADDRESS_TYPE = 'SHIP'

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RTTS' team of test experts developed QuerySurge™ (www.QuerySurge.com) to address the unique testing needs in the data warehousing and data migration spaces. It has been implemented on projects ranging from large data warehousing and ETL processes to data migrations, database upgrades, integration testing, data load testing and system patch testing.

QuerySurge™ is the only automated software tool built specifically for ETL testing. It can verify as much as 100% of all data from source systems, through the ETL process, to the target data warehouse and data marts. QuerySurge™ has increased test coverage and reduced test cycle time for numerous Fortune 500 organizations, helping them to mitigate risk and meet business requirements. . For more information, please visit www.QuerySurge.com

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