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1)

```
DROP DATABASE IF EXISTS northwind_dw;

CREATE DATABASE northwind_dw;

USE northwind_dw;

CREATE TABLE dim_customer (
    CustomerID VARCHAR(5),
    CompanyName VARCHAR(40),
    City VARCHAR(15),
    Country VARCHAR(15),
    CONSTRAINT PK_Customers PRIMARY KEY (CustomerID)
);

CREATE TABLE dim_product (
    ProductNumber INT,
    ProductID INTEGER,
    ProductName VARCHAR(40),
    CategoryName VARCHAR(40),
    Version INT,
    Date_from DATETIME,
    Date_to DATETIME,
    CONSTRAINT PK_Products PRIMARY KEY (ProductNumber)
);

CREATE TABLE dim_shippers (
    ShipperID INTEGER,
    CompanyName VARCHAR(40),
    CONSTRAINT PK_Shippers PRIMARY KEY (ShipperID)
);

CREATE TABLE dim_time (
    Time_id DATETIME,
    Day INT,
    Month_id INT,
    Month_name VARCHAR(3),
    Year INT,
    PRIMARY KEY (Time_id)
);

CREATE TABLE dim_suppliers (
    SupplierID INTEGER,
    CompanyName VARCHAR(40),
    City VARCHAR(15),
    Country VARCHAR(15),
    CONSTRAINT PK_Suppliers PRIMARY KEY (SupplierID)
);

CREATE TABLE fact_order (
    CustomerID VARCHAR(5),
    ProductNumber INTEGER,
    ShipperID INTEGER,
    SupplierID INTEGER,
    Time_id DATETIME,
    OrderID INTEGER,
    Quantity SMALLINT(2) DEFAULT 1,
    UnitPrice DECIMAL(10,4) DEFAULT 0,
    Discount REAL DEFAULT 0,
    OrderTotal DECIMAL(10,4) DEFAULT 0,

    PRIMARY KEY (OrderID,ProductNumber),
    FOREIGN KEY (CustomerID) REFERENCES dim_customer (CustomerID),
    FOREIGN KEY (ProductNumber) REFERENCES dim_product (ProductNumber),
    FOREIGN KEY (ShipperID) REFERENCES dim_shippers (ShipperID),
    FOREIGN KEY (SupplierID) REFERENCES dim_suppliers (SupplierID),
    FOREIGN KEY (Time_id) REFERENCES dim_time (Time_id)
);
```

SQL instructions to create the data warehouse tables

2) Everything developed in Pentaho Data Integration.

Job



Dim_product



Table input transformation configuration window:

Step name: Table input

Connection: northwind

SQL:

```
SELECT
  ProductID
, ProductName
, CategoryName
FROM northwind.Products NATURAL JOIN northwind.Categories
ORDER BY ProductID asc
```

Line 1 Column 0

Store column info in step meta data: ☐

Enable lazy conversion: ☐

Replace variables in script?: ☐

Insert data from step: ☐

Execute for each row?: ☐

Limit size: 0

Buttons: Help, OK, Preview, Cancel

Table input transformation

	ProductID	ProductName	CategoryName
1	1	Chai	Beverages
2	2	Chang	Beverages
3	3	Aniseed Syrup	Condiments
4	4	Chef Anton's Cajun Seasoning	Condiments
5	5	Chef Anton's Gumbo Mix	Condiments
6	6	Grandma's Boysenberry Spread	Condiments
7	7	Uncle Bob's Organic Dried Pears	Produce
8	8	Northwoods Cranberry Sauce	Condiments
9	9	Mishi Kobe Niku	Meat/Poultry
10	10	Ikura	Seafood
11	11	Queso Cabrales	Dairy Products
12	12	Queso Manchego La Pastora	Dairy Products
13	13	Konbu	Seafood
14	14	Tofu	Produce
15	15	Genen Shouyu	Condiments
16	16	Pavlova	Confections
17	17	Alice Mutton	Meat/Poultry
18	18	Carnarvon Tigers	Seafood
19	19	Teatime Chocolate Biscuits	Confections
20	20	Sir Rodney's Marmalade	Confections
21	21	Sir Rodney's Scones	Confections
22	22	Gustaf's Knackebrod	Grains/Cereals
23	23	Tunnbrd	Grains/Cereals
24	24	Guaran Fantstica	Beverages
25	25	NuNuCa Nu-Nougat-Creme	Confections
26	26	Gumbr Gummibrchen	Confections
27	27	Schoggi Schokolade	Confections
28	28	Rssle Sauerkraut	Produce
29	29	Thringer Rostbratwurst	Meat/Poultry
30	30	Nord-Ost Matjeshering	Seafood
31	31	Gorgonzola Telino	Dairy Products
32	32	Mascarpone Fabioli	Dairy Products
33	33	Geitost	Dairy Products
34	34	Sasquatch Ale	Beverages

Table input preview

Dimension lookup/update transformation configuration window:

- Step name: Dimension lookup/update
- Update the dimension? ☒
- Connection: northwind_dw
- Target schema: northwind_dw
- Target table: dim_product
- Commit size: 100
- Enable the cache? ☒
- Cache size in rows (0 = cache all): 5000
- Key fields (to look up row in dimension):

Dimension field	Field in stream
ProductID	ProductID
- Technical key field: ProductNumber
- Creation of technical key:
 - ☒ Use table maximum + 1
 - ☐ Use sequence
 - ☐ Use auto increment field
- Version field: Version
- Stream Datefield:
- Date range start field: date_from, Min. year: 1900
- Use an alternative start date? ☐ <Select Option>
- Table date range end: date_to, Max. year: 2199

Dimension lookup/update transformation

ProductID	ProductName	CategoryName	ProductNumber
1	Chai	Beverages	1
2	Chang	Beverages	2
3	Aniseed Syrup	Condiments	3
4	Chef Anton's Cajun Seasoning	Condiments	4
5	Chef Anton's Gumbo Mix	Condiments	5
6	Grandma's Boysenberry Spread	Condiments	6
7	Uncle Bob's Organic Dried Pears	Produce	7
8	Northwoods Cranberry Sauce	Condiments	8
9	Mishi Kobe Niku	Meat/Poultry	9
10	Ikura	Seafood	10
11	Queso Cabrales	Dairy Products	11
12	Queso Manchego La Pastora	Dairy Products	12
13	Konbu	Seafood	13
14	Tofu	Produce	14
15	Genen Shouyu	Condiments	15
16	Pavlova	Confections	16
17	Alice Mutton	Meat/Poultry	17
18	Carnarvon Tigers	Seafood	18
19	Teatime Chocolate Biscuits	Confections	19
20	Sir Rodney's Marmalade	Confections	20
21	Sir Rodney's Scones	Confections	21
22	Gustaf's Knackebrod	Grains/Cereals	22
23	Tunnbrd	Grains/Cereals	23
24	Guaran Fantstica	Beverages	24
25	NuNuCa Nu-Nougat-Creme	Confections	25
26	Gumbr Gummibrchen	Confections	26
27	Schoggi Schokolade	Confections	27
28	Rssle Sauerkraut	Produce	28
29	Thringer Rostbratwurst	Meat/Poultry	29
30	Nord-Ost Matjeshering	Seafood	30
31	Gorgonzola Telino	Dairy Products	31
32	Mascarpone Fabioli	Dairy Products	32
33	Geitost	Dairy Products	33
34	Sasquatch Ale	Beverages	34

Dimension lookup/update preview

Dim_shipper



Table input transformation configuration window:

- Step name: Table input
- Connection: northwind
- SQL:


```
SELECT
  ShipperID
,  CompanyName
FROM northwind.Shippers
```
- Line 1 Column 0
- Store column info in step meta data ☐
- Enable lazy conversion ☐
- Replace variables in script? ☐
- Insert data from step:
- Execute for each row? ☐
- Limit size: 0

Table input transformation

	ShipperID	CompanyName
1	1	Speedy Express
2	2	United Package
3	3	Federal Shipping

Table input preview

Insert / update transformation configuration window:

Step name: Insert / update

Connection: northwind_dw

Target schema: northwind_dw

Target table: dim_shippers

Commit size: 100

Don't perform any updates: ☐

The key(s) to look up the value(s):

Table field	Comparator	Stream field1	Stream field2
ShipperID	=	ShipperID	

Update fields:

Table field	Stream field	Update
ShipperID	ShipperID	Y
CompanyName	CompanyName	Y

Insert / update transformation

	ShipperID	CompanyName
1	1	Speedy Express
2	2	United Package
3	3	Federal Shipping

Insert / update preview

Dim_supplier



Table input transformation configuration window:

Step name: Table input

Connection: northwind

SQL:

```
SELECT
  SupplierID
, CompanyName
, City
, Country
FROM northwind.Suppliers
```

Line 1 Column 0

Store column info in step meta data: ☐

Enable lazy conversion: ☐

Replace variables in script?: ☐

Insert data from step: ☐

Execute for each row: ☐

Limit size: 0

Table input transformation

SupplierID	CompanyName	City	Country
1	Exotic Liquids	London	UK
2	New Orleans Cajun Delights	New Orleans	USA
3	Grandma Kelly's Homestead	Ann Arbor	USA
4	Tokyo Traders	Tokyo	Japan
5	Cooperativa de Quesos 'Las Cabras'	Oviedo	Spain
6	Mayumi's	Osaka	Japan
7	Pavlova, Ltd.	Melbourne	Australia
8	Specialty Biscuits, Ltd.	Manchester	UK
9	PB Knckebird AB	Gteborg	Sweden
10	Refrescos Americanas LTDA	So Paulo	Brazil
11	Heli Swaren GmbH & Co. KG	Berlin	Germany
12	Plutzer Lebensmittelgromrkte AG	Frankfurt	Germany
13	Nord-Ost-Fisch Handelsgesellschaft mbH	Cuxhaven	Germany
14	Formaggi Fortini s.r.l.	Ravenna	Italy
15	Norske Meierier	Sandvika	Norway
16	Bigfoot Breweries	Bend	USA
17	Svensk Sjfda AB	Stockholm	Sweden
18	Aux joyeux ecclsiastiques	Paris	France
19	New England Seafood Cannery	Boston	USA
20	Leka Trading	Singapore	Singapore
21	Lyngbysild	Lyngby	Denmark
22	Zaanse Snoepfabriek	Zaandam	Netherlands
23	Karkki Oy	Lappeenranta	Finland
24	G'day, Mate	Sydney	Australia
25	Ma Maison	Montral	Canada
26	Pasta Buttini s.r.l.	Salerno	Italy
27	Escargots Nouveaux	Montceau	France
28	Gai pturage	Annecy	France
29	Forts d'rables	Ste-Hyacinthe	Canada

Table input preview

Step name: **Insert / update**

Connection: **northwind_dw** [Edit...] [New...] [Wizard...]

Target schema: **northwind_dw** [Browse...]

Target table: **dim_suppliers** [Browse...]

Commit size: **100**

Don't perform any updates: ☐

The key(s) to look up the value(s):

Table field	Comparator	Stream field1	Stream field2
1 SupplierID	=	SupplierID	

[Get fields]

Update fields:

Table field	Stream field	Update
1 SupplierID	SupplierID	Y
2 CompanyName	CompanyName	Y
3 City	City	Y
4 Country	Country	Y

[Get update fields] [Edit mapping]

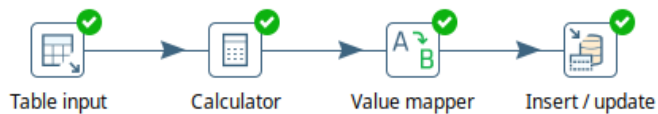
[Help] [OK] [Cancel] [SQL]

Insert / update transformation

	SupplierID	CompanyName	City	Country
1	1	Exotic Liquids	London	UK
2	2	New Orleans Cajun Delights	New Orleans	USA
3	3	Grandma Kelly's Homestead	Ann Arbor	USA
4	4	Tokyo Traders	Tokyo	Japan
5	5	Cooperativa de Quesos 'Las Cabras'	Oviedo	Spain
6	6	Mayumi's	Osaka	Japan
7	7	Pavlova, Ltd.	Melbourne	Australia
8	8	Specialty Biscuits, Ltd.	Manchester	UK
9	9	PB Knckebrd AB	Gteborg	Sweden
10	10	Refrescos Americanas LTDA	So Paulo	Brazil
11	11	Heli Swaren GmbH & Co. KG	Berlin	Germany
12	12	Plutzer Lebensmittelgromkte AG	Frankfurt	Germany
13	13	Nord-Ost-Fisch Handelsgesellschaft mbH	Cuxhaven	Germany
14	14	Formaggi Fortini s.r.l.	Ravenna	Italy
15	15	Norske Meierier	Sandvika	Norway
16	16	Bigfoot Breweries	Bend	USA
17	17	Svensk Sjfda AB	Stockholm	Sweden
18	18	Aux joyeux ecclsiastiques	Paris	France
19	19	New England Seafood Cannery	Boston	USA
20	20	Leka Trading	Singapore	Singapore
21	21	Lyngbysild	Lyngby	Denmark
22	22	Zaanse Snoepfabriek	Zaandam	Netherlands
23	23	Karkki Oy	Lappeenranta	Finland
24	24	G'day, Mate	Sydney	Australia
25	25	Ma Maison	Montral	Canada
26	26	Pasta Buttini s.r.l.	Salerno	Italy
27	27	Escargots Nouveaux	Montceau	France
28	28	Gai pturage	Anncy	France
29	29	Forts d'rables	Ste-Hyacinthe	Canada

Insert / update preview

Dim_time



Step name: **Table input**

Connection: **northwind** [Edit...] [New...] [Wizard...]

SQL:

```
SELECT OrderDate
FROM northwind.Orders
```

[Get SQL select statement...]

Line 1 Column 0

Store column info in step meta data: ☐

Enable lazy conversion: ☐

Replace variables in script?: ☐

Insert data from step: [Dropdown]

Execute for each row?: ☐

Limit size: **0**

[Help] [OK] [Preview] [Cancel]

Table input transformation

OrderDate
1996/07/04 00:00:00.000
1996/07/05 00:00:00.000
1996/07/08 00:00:00.000
1996/07/08 00:00:00.000
1996/07/09 00:00:00.000
1996/07/10 00:00:00.000
1996/07/11 00:00:00.000
1996/07/12 00:00:00.000
1996/07/15 00:00:00.000
1996/07/16 00:00:00.000
1996/07/17 00:00:00.000
1996/07/18 00:00:00.000
1996/07/19 00:00:00.000
1996/07/19 00:00:00.000
1996/07/22 00:00:00.000
1996/07/23 00:00:00.000
1996/07/24 00:00:00.000
1996/07/25 00:00:00.000
1996/07/26 00:00:00.000
1996/07/29 00:00:00.000
1996/07/30 00:00:00.000
1996/07/31 00:00:00.000
1996/08/01 00:00:00.000
1996/08/01 00:00:00.000
1996/08/02 00:00:00.000
1996/08/05 00:00:00.000
1996/08/06 00:00:00.000
1996/08/07 00:00:00.000
1996/08/08 00:00:00.000
1996/08/09 00:00:00.000
1996/08/12 00:00:00.000
1996/08/13 00:00:00.000
1996/08/14 00:00:00.000
1996/08/14 00:00:00.000

Table input preview

Calculator

Step name:

☒ Throw an error on non existing files

Fields:

	New field	Calculation	Field A	Field B	Field C	Value type	Length	Precision	Remove	Conversion mask	Decimal symbol	Grouping symbol	Currency s
1	year_id	Year of date A	OrderDate			None			N				
2	month_id	Month of date A	OrderDate			None			N				
3	day_id	Day of year of date A	OrderDate			None			N				

Help OK Cancel

Calculator transformation

#	OrderDate	year_id	month_id	day_id
1	1996/07/04 00:00:00.000	1996	7	186
2	1996/07/05 00:00:00.000	1996	7	187
3	1996/07/08 00:00:00.000	1996	7	190
4	1996/07/08 00:00:00.000	1996	7	190
5	1996/07/09 00:00:00.000	1996	7	191
6	1996/07/10 00:00:00.000	1996	7	192
7	1996/07/11 00:00:00.000	1996	7	193
8	1996/07/12 00:00:00.000	1996	7	194
9	1996/07/15 00:00:00.000	1996	7	197
10	1996/07/16 00:00:00.000	1996	7	198
11	1996/07/17 00:00:00.000	1996	7	199
12	1996/07/18 00:00:00.000	1996	7	200
13	1996/07/19 00:00:00.000	1996	7	201
14	1996/07/19 00:00:00.000	1996	7	201
15	1996/07/22 00:00:00.000	1996	7	204
16	1996/07/23 00:00:00.000	1996	7	205
17	1996/07/24 00:00:00.000	1996	7	206
18	1996/07/25 00:00:00.000	1996	7	207
19	1996/07/26 00:00:00.000	1996	7	208
20	1996/07/29 00:00:00.000	1996	7	211
21	1996/07/30 00:00:00.000	1996	7	212
22	1996/07/31 00:00:00.000	1996	7	213
23	1996/08/01 00:00:00.000	1996	8	214
24	1996/08/01 00:00:00.000	1996	8	214
25	1996/08/02 00:00:00.000	1996	8	215
26	1996/08/05 00:00:00.000	1996	8	218
27	1996/08/06 00:00:00.000	1996	8	219
28	1996/08/07 00:00:00.000	1996	8	220
29	1996/08/08 00:00:00.000	1996	8	221
30	1996/08/09 00:00:00.000	1996	8	222
31	1996/08/12 00:00:00.000	1996	8	225
32	1996/08/13 00:00:00.000	1996	8	226
33	1996/08/14 00:00:00.000	1996	8	227
34	1996/08/14 00:00:00.000	1996	8	227

Calculator preview

Value mapper

Step name:

Fieldname to use:

Target field name (empty=overwrite):

Default upon non-matching:

Field values:

	Source value	Target value
1	1	Jan
2	2	Feb
3	3	Mar
4	4	Apr
5	5	May
6	6	Jun
7	7	Jul
8	8	Aug
9	9	Sep
10	10	Oct
11	11	Nov
12	12	Dec

Help OK Cancel

Value mapper transformation

	OrderDate	year_id	month_id	day_id	month_name
1	1996/07/04 00:00:00.000	1996	7	186	Jul
2	1996/07/05 00:00:00.000	1996	7	187	Jul
3	1996/07/08 00:00:00.000	1996	7	190	Jul
4	1996/07/08 00:00:00.000	1996	7	190	Jul
5	1996/07/09 00:00:00.000	1996	7	191	Jul
6	1996/07/10 00:00:00.000	1996	7	192	Jul
7	1996/07/11 00:00:00.000	1996	7	193	Jul
8	1996/07/12 00:00:00.000	1996	7	194	Jul
9	1996/07/15 00:00:00.000	1996	7	197	Jul
10	1996/07/16 00:00:00.000	1996	7	198	Jul
11	1996/07/17 00:00:00.000	1996	7	199	Jul
12	1996/07/18 00:00:00.000	1996	7	200	Jul
13	1996/07/19 00:00:00.000	1996	7	201	Jul
14	1996/07/19 00:00:00.000	1996	7	201	Jul
15	1996/07/22 00:00:00.000	1996	7	204	Jul
16	1996/07/23 00:00:00.000	1996	7	205	Jul
17	1996/07/24 00:00:00.000	1996	7	206	Jul
18	1996/07/25 00:00:00.000	1996	7	207	Jul
19	1996/07/26 00:00:00.000	1996	7	208	Jul
20	1996/07/29 00:00:00.000	1996	7	211	Jul
21	1996/07/30 00:00:00.000	1996	7	212	Jul
22	1996/07/31 00:00:00.000	1996	7	213	Jul
23	1996/08/01 00:00:00.000	1996	8	214	Aug
24	1996/08/01 00:00:00.000	1996	8	214	Aug
25	1996/08/02 00:00:00.000	1996	8	215	Aug
26	1996/08/05 00:00:00.000	1996	8	218	Aug
27	1996/08/06 00:00:00.000	1996	8	219	Aug
28	1996/08/07 00:00:00.000	1996	8	220	Aug
29	1996/08/08 00:00:00.000	1996	8	221	Aug
30	1996/08/09 00:00:00.000	1996	8	222	Aug
31	1996/08/12 00:00:00.000	1996	8	225	Aug
32	1996/08/13 00:00:00.000	1996	8	226	Aug
33	1996/08/14 00:00:00.000	1996	8	227	Aug
34	1996/08/14 00:00:00.000	1996	8	227	Aug

Value mapper preview

Insert / update

Step name:

Connection: Edit... New... Wizard...

Target schema: Browse...

Target table: Browse...

Commit size:

Don't perform any updates: ☐

The key(s) to look up the value(s):

Table field	Comparator	Stream field1	Stream field2
1 Time_id	=	OrderDate	

Get fields

Update fields:

Table field	Stream field	Update
1 Time_id	OrderDate	Y
2 Year	year_id	Y
3 Month_name	month_name	Y
4 Day	day_id	Y
5 Month_id	month_id	Y

Get update fields Edit mapping

Help OK Cancel SQL

Insert / Update transformation

OrderDate	year_id	month_id	day_id	month_name
1996/07/04 00:00:00.000	1996	7	186	Jul
1996/07/05 00:00:00.000	1996	7	187	Jul
1996/07/08 00:00:00.000	1996	7	190	Jul
1996/07/08 00:00:00.000	1996	7	190	Jul
1996/07/09 00:00:00.000	1996	7	191	Jul
1996/07/10 00:00:00.000	1996	7	192	Jul
1996/07/11 00:00:00.000	1996	7	193	Jul
1996/07/12 00:00:00.000	1996	7	194	Jul
1996/07/15 00:00:00.000	1996	7	197	Jul
1996/07/16 00:00:00.000	1996	7	198	Jul
1996/07/17 00:00:00.000	1996	7	199	Jul
1996/07/18 00:00:00.000	1996	7	200	Jul
1996/07/19 00:00:00.000	1996	7	201	Jul
1996/07/19 00:00:00.000	1996	7	201	Jul
1996/07/22 00:00:00.000	1996	7	204	Jul
1996/07/23 00:00:00.000	1996	7	205	Jul
1996/07/24 00:00:00.000	1996	7	206	Jul
1996/07/25 00:00:00.000	1996	7	207	Jul
1996/07/26 00:00:00.000	1996	7	208	Jul
1996/07/29 00:00:00.000	1996	7	211	Jul
1996/07/30 00:00:00.000	1996	7	212	Jul
1996/07/31 00:00:00.000	1996	7	213	Jul
1996/08/01 00:00:00.000	1996	8	214	Aug
1996/08/01 00:00:00.000	1996	8	214	Aug
1996/08/02 00:00:00.000	1996	8	215	Aug
1996/08/05 00:00:00.000	1996	8	218	Aug
1996/08/06 00:00:00.000	1996	8	219	Aug
1996/08/07 00:00:00.000	1996	8	220	Aug
1996/08/08 00:00:00.000	1996	8	221	Aug
1996/08/09 00:00:00.000	1996	8	222	Aug
1996/08/12 00:00:00.000	1996	8	225	Aug
1996/08/13 00:00:00.000	1996	8	226	Aug
1996/08/14 00:00:00.000	1996	8	227	Aug
1996/08/14 00:00:00.000	1996	8	227	Aug

Insert / Update preview

Dim_customer

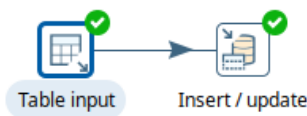


Table input

Step name:

Connection: Edit... New... Wizard...

SQL

Get SQL select statement...

```
SELECT
  CustomerID
  , CompanyName
  , City
  , Country
FROM northwind.Customers
```

Line 1 Column 0

Store column info in step meta data: ☐

Enable lazy conversion: ☐

Replace variables in script?: ☐

Insert data from step:

Execute for each row?: ☐

Limit size:

Help OK Preview Cancel

Table input transformation

CustomerID	CompanyName	City	Country
1 ALFKI	Alfreds Futterkiste	Berlin	Germany
2 ANATR	Ana Trujillo Emparedados y helados	Mxico D.F.	Mexico
3 ANTON	Antonio Moreno Taquera	Mxico D.F.	Mexico
4 AROUT	Around the Horn	London	UK
5 BERGS	Berglunds snabbkp	Lule	Sweden
6 BLAUS	Blauer See Delikatessen	Mannheim	Germany
7 BLONP	Blondesddsl pre et fils	Strasbourg	France
8 BOLID	Blido Comidas preparadas	Madrid	Spain
9 BONAP	Bon app'	Marseille	France
10 BOTTM	Bottom-Dollar Markets	Tsawassen	Canada
11 BSBEV	B's Beverages	London	UK
12 CACTU	Cactus Comidas para llevar	Buenos Aires	Argentina
13 CENTC	Centro comercial Moctezuma	Mxico D.F.	Mexico
14 CHOPS	Chop-suey Chinese	Bern	Switzerland
15 COMMI	Comrcio Mineiro	Sao Paulo	Brazil
16 CONSH	Consolidated Holdings	London	UK
17 DRACD	Drachenblut Delikatessen	Aachen	Germany
18 DUMON	Du monde entier	Nantes	France
19 EASTC	Eastern Connection	London	UK
20 ERNSH	Ernst Handel	Graz	Austria
21 FAMIA	Familia Arquibaldo	Sao Paulo	Brazil
22 FISSA	FISSA Fabrica Inter. Salchichas S.A.	Madrid	Spain
23 FOLIG	Folies gourmandes	Lille	France
24 FOLKO	Folk och f HB	Brcke	Sweden
25 FRANK	Frankenversand	Mnchen	Germany
26 FRANR	France restauration	Nantes	France
27 FRANS	Franchi S.p.A.	Torino	Italy
28 FURIB	Furia Bacalhau e Frutos do Mar	Lisboa	Portugal
29 GALED	Galera del gastrnomo	Barcelona	Spain
30 GODOG	Godos Cocina Tpica	Sevilla	Spain
31 GOURL	Gourmet Lanchonetes	Campinas	Brazil
32 GREAL	Great Lakes Food Market	Eugene	USA
33 GROSR	GROSELLA-Restaurante	Caracas	Venezuela
34 HANAR	Hanari Carnes	Rio de Janeiro	Brazil

Table input preview

Insert / update

Step name:

Connection: Edit... New... Wizard...

Target schema: Browse...

Target table: Browse...

Commit size:

Don't perform any updates: ☐

The key(s) to look up the value(s):

Table field	Comparator	Stream field1	Stream field2
1 CustomerID	=	CustomerID	

Get fields

Update fields:

Table field	Stream field	Update
1 CustomerID	CustomerID	Y
2 CompanyName	CompanyName	Y
3 City	City	Y
4 Country	Country	Y

Get update fields Edit mapping

Help OK Cancel SQL

Insert / update transformation

CustomerID	CompanyName	City	Country
1 ALFKI	Alfreds Futterkiste	Berlin	Germany
2 ANATR	Ana Trujillo Emparedados y helados	Mxico D.F.	Mexico
3 ANTON	Antonio Moreno Taquera	Mxico D.F.	Mexico
4 AROUT	Around the Horn	London	UK
5 BERGS	Berglunds snabbkp	Lule	Sweden
6 BLAUS	Blauer See Delikatessen	Mannheim	Germany
7 BLONP	Blondesddsl pre et fils	Strasbourg	France
8 BOLID	Blido Comidas preparadas	Madrid	Spain
9 BONAP	Bon app'	Marseille	France
10 BOTTM	Bottom-Dollar Markets	Tsawassen	Canada
11 BSBEV	B's Beverages	London	UK
12 CACTU	Cactus Comidas para llevar	Buenos Aires	Argentina
13 CENTC	Centro comercial Moctezuma	Mxico D.F.	Mexico
14 CHOPS	Chop-suey Chinese	Bern	Switzerland
15 COMMI	Comrcio Mineiro	Sao Paulo	Brazil
16 CONSH	Consolidated Holdings	London	UK
17 DRACD	Drachenblut Delikatessen	Aachen	Germany
18 DUMON	Du monde entier	Nantes	France
19 EASTC	Eastern Connection	London	UK
20 ERNSH	Ernst Handel	Graz	Austria
21 FAMIA	Familia Arquibaldo	Sao Paulo	Brazil
22 FISSA	FISSA Fabrica Inter. Salchichas S.A.	Madrid	Spain
23 FOLIG	Folies gourmandes	Lille	France
24 FOLKO	Folk och f HB	Brcke	Sweden
25 FRANK	Frankenversand	Mnchen	Germany
26 FRANR	France restauration	Nantes	France
27 FRANS	Franchi S.p.A.	Torino	Italy
28 FURIB	Furia Bacalhau e Frutos do Mar	Lisboa	Portugal
29 GALED	Galera del gastrnomo	Barcelona	Spain
30 GODOS	Godos Cocina Tpica	Sevilla	Spain
31 GOURL	Gourmet Lanchonetes	Campinas	Brazil
32 GREAL	Great Lakes Food Market	Eugene	USA
33 GROSR	GROSELLA-Restaurante	Caracas	Venezuela
34 HANAR	Hanari Carnes	Rio de Janeiro	Brazil

Insert / update preview

Fact_order



Table input

Step name:

Connection: Edit... New... Wizard...

SQL:

Get SQL select statement...

Line 1 Column 0

Store column info in step meta data: ☐

Enable lazy conversion: ☐

Replace variables in script?: ☐

Insert data from step:

Execute for each row?: ☐

Limit size:

Help OK Preview Cancel

Table input transformation

ProductID	UnitPrice	OrderID	CustomerID	EmployeeID	OrderDate	RequiredDate	ShippedDate	ShipVia	Freight	ShipName	ShipAddress	ShipCity	ShipRegion	ShipPostalCode	ShipCountry	Quantity	Discount	ProductName	Supplier		
1	18.0	10522	LEHMS	4	1997/04/01 00:00:00.000	1997/05/28 00:00:00.000	1997/05/06 00:00:00.000	1	45.33	Lehmanns Marktstand	Magazinweg 7	Frankfurt a.M.	<null>	60528	Germany	40	0.2	Chai			
2	1	18.0	10526	WARTH	4	1997/05/05 00:00:00.000	1997/06/02 00:00:00.000	1997/05/15 00:00:00.000	2	58.59	Wartian Herku	Torikatu 38	Oulu	<null>	90110	Finland	8	0.15	Chai		
3	1	18.0	10576	TORTU	3	1997/06/23 00:00:00.000	1997/07/07 00:00:00.000	1997/06/30 00:00:00.000	3	18.56	Tortuga Restaurante	Avda. Azteca 123	Meico D.F.	<null>	5033	Mexico	10	0.0	Chai		
4	1	18.0	10590	MEREP	4	1997/07/07 00:00:00.000	1997/08/04 00:00:00.000	1997/07/14 00:00:00.000	3	44.77	Mre Paillarde	43 rue St. Laurent	Montral	Quebec	H1J 1C3	Canada	20	0.0	Chai		
5	1	18.0	10609	DUMON	7	1997/07/24 00:00:00.000	1997/08/21 00:00:00.000	1997/07/30 00:00:00.000	2	1.85	Du monde entier	67, rue des Cinquante Otages	Nantes	<null>	44000	France	3	0.0	Chai		
6	1	18.0	10611	WOLZA	6	1997/07/25 00:00:00.000	1997/08/22 00:00:00.000	1997/08/01 00:00:00.000	2	80.65	Wolski Zajazd	ul. Pitlowa 68	Warszawa	<null>	01-612	Poland	6	0.0	Chai		
7	1	18.0	10628	BLONP	4	1997/08/12 00:00:00.000	1997/09/09 00:00:00.000	1997/08/20 00:00:00.000	3	30.36	Blondel pre et fils	24, place Klber	Strasbourg	<null>	67000	France	25	0.0	Chai		
8	1	18.0	10646	HUNGO	9	1997/08/01 00:00:00.000	1997/10/08 00:00:00.000	1997/09/03 00:00:00.000	3	142.33	Hungry Owl All-Night Grocers	8 Johnston Road	Cork	<null>	Co. Cork	Ireland	15	0.25	Chai		
9	1	18.0	10689	BERGS	1	1997/10/01 00:00:00.000	1997/10/29 00:00:00.000	1997/10/07 00:00:00.000	2	13.42	Berglunds snabbop	Bergsvagen 8	Lule	<null>	S-958 22	Sweden	35	0.25	Chai		
10	1	18.0	10691	QUICK	2	1997/10/03 00:00:00.000	1997/11/14 00:00:00.000	1997/10/22 00:00:00.000	2	810.05	QUICK-Stop	Taucherstrae 10	Cunewalde	<null>	1307	Germany	30	0.0	Chai		
11	1	18.0	10700	SAVEA	3	1997/11/10 00:00:00.000	1997/11/07 00:00:00.000	1997/11/16 00:00:00.000	1	65.1	Save-a-lot Markets	187 Suffolk Ln.	Boise	ID	83720	USA	5	0.2	Chai		
12	1	18.0	10729	LINOD	8	1997/11/04 00:00:00.000	1997/12/16 00:00:00.000	1997/11/14 00:00:00.000	3	141.06	LINO-Delicatessen	Ave. 5 de Mayo Forlamar	I. de Margarita	<null>	Nueva Esparta	4980	Venezuela	50	0.0	Chai	
13	1	18.0	10752	NORTS	2	1997/11/24 00:00:00.000	1997/12/22 00:00:00.000	1997/11/28 00:00:00.000	3	1.39	North/South	South House 300 Queensbridge	London	<null>	SW7 1RZ	UK	8	0.0	Chai		
14	1	18.0	10838	LINOD	3	1998/01/19 00:00:00.000	1998/02/16 00:00:00.000	1998/01/23 00:00:00.000	3	59.28	LINO-Delicatessen	Ave. 5 de Mayo Forlamar	I. de Margarita	<null>	Nueva Esparta	4980	Venezuela	4	0.25	Chai	
15	1	18.0	10847	SAVEA	4	1998/01/22 00:00:00.000	1998/02/05 00:00:00.000	1998/02/10 00:00:00.000	3	487.57	Save-a-lot Markets	187 Suffolk Ln.	Boise	ID	83720	USA	80	0.2	Chai		
16	1	18.0	10863	HILAA	4	1998/02/02 00:00:00.000	1998/03/02 00:00:00.000	1998/02/17 00:00:00.000	2	30.26	HILARION-Abastos	Carrera 22 con Ave. Carlos Souble	San Cristbal	Tchira	5022	Venezuela	20	0.15	Chai		
17	1	18.0	10869	SEVES	5	1998/02/04 00:00:00.000	1998/03/04 00:00:00.000	1998/02/09 00:00:00.000	1	143.28	Seven Seas Imports	90 Wadhurst Rd.	London	<null>	OX15 4NB	UK	40	0.0	Chai		
18	1	18.0	10905	WELLI	9	1998/02/24 00:00:00.000	1998/03/24 00:00:00.000	1998/03/06 00:00:00.000	2	13.72	Wellington Importadora	Rua do Mercado, 12	Resende	SP	08737-363	Brazil	20	0.05	Chai		
19	1	18.0	10911	GOLOS	3	1998/03/26 00:00:00.000	1998/03/26 00:00:00.000	1998/03/05 00:00:00.000	1	38.19	Golos Cocina Tica	C/ Romero, 33	Sevilla	<null>	41101	Spain	10	0.0	Chai		
20	1	18.0	10918	BOTTOM	3	1998/03/02 00:00:00.000	1998/03/30 00:00:00.000	1998/03/11 00:00:00.000	3	48.83	Bottom-Dollar Markets	23 Tsawassen Blvd.	Tsawassen	BC	T2F 8M4	Canada	60	0.25	Chai		
21	1	18.0	10935	WELLI	4	1998/03/09 00:00:00.000	1998/04/06 00:00:00.000	1998/03/18 00:00:00.000	3	47.59	Wellington Importadora	Rua do Mercado, 12	Resende	SP	08737-363	Brazil	21	0.0	Chai		
22	1	18.0	11003	THECR	3	1998/04/06 00:00:00.000	1998/05/04 00:00:00.000	1998/04/08 00:00:00.000	3	14.91	The Cracker Box	55 Grizzly Peak Rd.	Butte	MT	59801	USA	4	0.0	Chai		
23	1	18.0	11005	WILMAK	2	1998/04/07 00:00:00.000	1998/05/05 00:00:00.000	1998/04/10 00:00:00.000	1	0.75	Wilman Kala	Keskuskatu 45	Helsinki	<null>	21240	Finland	2	0.0	Chai		
24	1	18.0	11006	GREAL	3	1998/04/07 00:00:00.000	1998/05/05 00:00:00.000	1998/04/15 00:00:00.000	2	25.19	Great Lakes Food Market	2732 Baker Blvd.	Eugene	OR	97403	USA	8	0.0	Chai		
25	1	18.0	11025	WARTH	6	1998/04/15 00:00:00.000	1998/05/13 00:00:00.000	1998/04/24 00:00:00.000	3	29.17	Wartian Herku	Torikatu 38	Oulu	<null>	90110	Finland	10	0.1	Chai		
26	1	18.0	11031	SAVEA	6	1998/04/17 00:00:00.000	1998/05/15 00:00:00.000	1998/04/24 00:00:00.000	2	227.22	Save-a-lot Markets	187 Suffolk Ln.	Boise	ID	83720	USA	45	0.0	Chai		
27	1	18.0	11035	SUPRD	2	1998/04/24 00:00:00.000	1998/05/18 00:00:00.000	1998/04/24 00:00:00.000	2	0.17	Suprmedilices	Boulevard Tirou, 255	Charleroi	<null>	B-6000	Belgium	10	0.0	Chai		
28	1	18.0	11047	EASTC	7	1998/04/24 00:00:00.000	1998/05/22 00:00:00.000	1998/05/01 00:00:00.000	3	46.62	Eastern Connection	35 King George	London	<null>	W03 6FW	UK	25	0.25	Chai		
29	1	18.0	11070	LEHMS	2	1998/05/05 00:00:00.000	1998/06/02 00:00:00.000	<null>	1	136.0	Lehmanns Marktstand	Magazinweg 7	Frankfurt a.M.	<null>	60528	Germany	40	0.15	Chai		
30	2	18.0	10564	WHITC	4	1997/04/11 00:00:00.000	1997/05/18 00:00:00.000	1997/04/18 00:00:00.000	3	59.13	White Clover Markets	1029 - 129th Ave. S.	Seattle	WA	98124	USA	12	0.0	Chang		
31	2	19.0	10611	WOLZA	6	1997/07/25 00:00:00.000	1997/08/22 00:00:00.000	1997/08/01 00:00:00.000	2	80.65	Wolski Zajazd	ul. Pitlowa 68	Warszawa	<null>	01-612	Poland	10	0.0	Chang		
32	2	19.0	10632	WANDK	8	1997/08/06 00:00:00.000	1997/09/03 00:00:00.000	1997/08/11 00:00:00.000	3	50.97	Wanda's Adocidos	Av. Copacabana, 267	Rio de Janeiro	RJ	02389-890	Brazil	20	0.0	Chang		
33	2	19.0	10632	WANDK	8	1997/08/14 00:00:00.000	1997/09/11 00:00:00.000	1997/08/19 00:00:00.000	1	41.38	Die Wandernde Kuh	Adenauerallee 900	Stuttgart	<null>	70563	Germany	30	0.05	Chang		
34	2	19.0	10641	HILAA	4	1997/08/22 00:00:00.000	1997/09/19 00:00:00.000	1997/08/26 00:00:00.000	2	179.61	HILARION-Abastos	Carrera 22 con Ave. Carlos Souble	San Cristbal	Tchira	5022	Venezuela	50	0.0	Chang		

Table input preview

Calculator

Step name

calculator

☒ Throw an error on non existing files

Fields:

	New field	Calculation	Field A	Field B	Field C	Value type	Length	Precision	Remove	Conversion mask	Decimal symbol	Grouping symbol	Currency s
1	Total	A * B	Quantity	UnitPrice		None			N				
2	DiscountValue	A * B	Total	Discount		None			N				
3	OrderTotal	A - B	Total	DiscountValue		None			N				

Help

OK Cancel

Calculator transformation

A	ProductID	UnitPrice	Quantity	Discount	ProductName	SupplierID	CategoryID	QuantityPerUnit	UnitsInStock	UnitsOnOrder	ReorderLevel	Discontinued	Total	DiscountValue	OrderTotal
1	1	18.0	40	0.2	Chai	1	1	10 boxes x 20 bags	39	0	10	N	720.0	144.0	576.0
2	1	18.0	8	0.15	Chai	1	1	10 boxes x 20 bags	39	0	10	N	144.0	21.6	122.4
3	1	18.0	10	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	0.0	180.0
4	1	18.0	20	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	360.0	0.0	360.0
5	1	18.0	3	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	54.0	0.0	54.0
6	1	18.0	6	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	108.0	0.0	108.0
7	1	18.0	25	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	450.0	0.0	450.0
8	1	18.0	15	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	270.0	67.5	202.5
9	1	18.0	35	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	630.0	157.5	472.5
10	1	18.0	30	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	540.0	0.0	540.0
11	1	18.0	5	0.2	Chai	1	1	10 boxes x 20 bags	39	0	10	N	90.0	18.0	72.0
12	1	18.0	50	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	900.0	0.0	900.0
13	1	18.0	8	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	144.0	0.0	144.0
14	1	18.0	4	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	72.0	18.0	54.0
15	1	18.0	80	0.2	Chai	1	1	10 boxes x 20 bags	39	0	10	N	1440.0	288.0	1152.0
16	1	18.0	20	0.15	Chai	1	1	10 boxes x 20 bags	39	0	10	N	360.0	54.0	306.0
17	1	18.0	40	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	720.0	0.0	720.0
18	1	18.0	20	0.05	Chai	1	1	10 boxes x 20 bags	39	0	10	N	360.0	18.0	342.0
19	1	18.0	10	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	0.0	180.0
20	1	18.0	60	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	1080.0	270.0	810.0
21	1	18.0	21	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	378.0	0.0	378.0
22	1	18.0	4	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	72.0	0.0	72.0
23	1	18.0	2	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	36.0	0.0	36.0
24	1	18.0	8	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	144.0	0.0	144.0
25	1	18.0	10	0.1	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	18.0	162.0
26	1	18.0	45	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	810.0	0.0	810.0
27	1	18.0	10	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	0.0	180.0
28	1	18.0	25	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	450.0	112.5	337.5
29	1	18.0	40	0.15	Chai	1	1	10 boxes x 20 bags	39	0	10	N	720.0	108.0	612.0
30	2	19.0	12	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	228.0	0.0	228.0
31	2	19.0	10	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	190.0	0.0	190.0
32	2	19.0	20	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	380.0	0.0	380.0
33	2	19.0	30	0.05	Chang	1	1	24 - 12 oz bottles	17	40	25	N	570.0	28.5	541.5
34	2	19.0	50	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	950.0	0.0	950.0

Database lookup

Step name

Database lookup

Connection

northwind_dw

Edit...

New...

Wizard...

Lookup schema

northwind_dw

Browse...

Lookup table

dim_product

Browse...

Enable cache?

☐

Cache size in rows (0=cache everything)

0

Load all data from table

☐

The key(s) to look up the value(s):

Table field	Comparator	Field1	Field2
1 ProductID	=	ProductID	
2 Date_from	<=	OrderDate	
3 Date_to	>	OrderDate	

Values to return from the lookup table :

Field	New name	Default	Type
1 ProductNumber			Integer

Do not pass the row if the lookup fails

☐

Fail on multiple results?

☐

Order by

Help

OK

Cancel

Get Fields

Get lookup fields

Database lookup transformation

ProductID	UnitPrice	OrderID	CustomerID	EmployeeID	OrderDate	RequiredDate	ShippedDate	ShipVia	Freight	ShipName	ShipAddress	ShipCity	ShipRegion	ShipPostalCode
1	18.0	10522	LEHMS	4	1997/04/30 00:00:00.000	1997/05/28 00:00:00.000	1997/05/06 00:00:00.000	1	45.33	Lehmanns Marktstand	Magazinweg 7	Frankfurt a.M.	<null>	60528
2	18.0	10526	WARTH	4	1997/05/05 00:00:00.000	1997/06/02 00:00:00.000	1997/05/15 00:00:00.000	2	58.59	Wartian Herkku	Torikatu 38	Oulu	<null>	90111
3	18.0	10576	TORTU	3	1997/06/23 00:00:00.000	1997/07/07 00:00:00.000	1997/06/30 00:00:00.000	3	18.56	Tortuga Restaurante	Avda. Azteca 123	Mxico D.F.	<null>	50334
4	18.0	10590	MEREP	4	1997/07/07 00:00:00.000	1997/08/04 00:00:00.000	1997/07/14 00:00:00.000	3	44.77	Mre Paillard	43 rue St. Laurent	Montral	Qubec	H1J 1C3
5	18.0	10609	DUMON	7	1997/07/24 00:00:00.000	1997/08/21 00:00:00.000	1997/07/30 00:00:00.000	2	1.85	Du monde entier	67, rue des Cinquante Otages	Nantes	<null>	44000
6	18.0	10611	WOLZA	6	1997/07/25 00:00:00.000	1997/08/22 00:00:00.000	1997/08/01 00:00:00.000	2	80.65	Wolski Zajazd	ul. Filtrowa 68	Warszawa	<null>	01-030
7	18.0	10628	BLONP	4	1997/08/12 00:00:00.000	1997/09/09 00:00:00.000	1997/08/20 00:00:00.000	3	30.36	Blondel pre et fils	24, place Klber	Strasbourg	<null>	67000
8	18.0	10646	HUNGO	9	1997/08/27 00:00:00.000	1997/10/08 00:00:00.000	1997/09/03 00:00:00.000	3	142.33	Hungry Owl All-Night Grocers	8 Johnston Road	Cork	Co. Cork	<null>
9	18.0	10689	BERGS	1	1997/10/01 00:00:00.000	1997/10/29 00:00:00.000	1997/10/07 00:00:00.000	2	13.42	Berglunds snabbkp	Berguvsvgen 8	Lule	<null>	5-95
10	18.0	10691	QUICK	2	1997/10/03 00:00:00.000	1997/11/14 00:00:00.000	1997/10/22 00:00:00.000	2	810.05	QUICK-Stop	Taucherstrae 10	Cunewalde	<null>	13007
11	18.0	10700	SAVEA	3	1997/10/10 00:00:00.000	1997/11/07 00:00:00.000	1997/10/16 00:00:00.000	1	65.1	Save-a-lot Markets	187 Suffolk Ln.	Boise	ID	83727
12	18.0	10729	LINOD	8	1997/11/04 00:00:00.000	1997/12/16 00:00:00.000	1997/11/14 00:00:00.000	3	141.06	LINO-Delicatesses	Ave. 5 de Mayo Porlamar	I. de Margarita	Nueva Esparta	49801
13	18.0	10752	NORTS	2	1997/11/24 00:00:00.000	1997/12/22 00:00:00.000	1997/11/28 00:00:00.000	3	1.39	North/South	South House 300 Queensbridge	London	<null>	SW7 2BQ
14	18.0	10838	LINOD	3	1998/01/19 00:00:00.000	1998/02/16 00:00:00.000	1998/01/23 00:00:00.000	3	59.28	LINO-Delicatesses	Ave. 5 de Mayo Porlamar	I. de Margarita	Nueva Esparta	49801
15	18.0	10847	SAVEA	4	1998/01/22 00:00:00.000	1998/02/05 00:00:00.000	1998/02/10 00:00:00.000	3	487.57	Save-a-lot Markets	187 Suffolk Ln.	Boise	ID	83727
16	18.0	10863	HILAA	4	1998/02/02 00:00:00.000	1998/03/02 00:00:00.000	1998/02/17 00:00:00.000	2	30.26	HILARION-Abastos	Carrera 22 con Ave. Carlos Soublette #8-35	San Cristbal	Tchira	50228
17	18.0	10869	SEVES	5	1998/02/04 00:00:00.000	1998/03/04 00:00:00.000	1998/02/09 00:00:00.000	1	143.28	Seven Seas Imports	90 Wadhurst Rd.	London	<null>	OX11 1AA
18	18.0	10905	WELLI	9	1998/02/24 00:00:00.000	1998/03/24 00:00:00.000	1998/03/06 00:00:00.000	2	13.72	Wellington Importadora	Rua do Mercado, 12	Resende	SP	08727
19	18.0	10911	GODOS	3	1998/02/26 00:00:00.000	1998/03/26 00:00:00.000	1998/03/05 00:00:00.000	1	38.19	Godos Cocina Tpic	C/ Romero, 33	Sevilla	<null>	41101
20	18.0	10918	BOTTM	3	1998/03/02 00:00:00.000	1998/03/30 00:00:00.000	1998/03/11 00:00:00.000	3	48.83	Bottom-Dollar Markets	23 Tsawassen Blvd.	Tsawassen	BC	T2Z 1Y1
21	18.0	10935	WELLI	4	1998/03/09 00:00:00.000	1998/04/06 00:00:00.000	1998/03/18 00:00:00.000	3	47.59	Wellington Importadora	Rua do Mercado, 12	Resende	SP	08727
22	18.0	11003	THECR	3	1998/04/06 00:00:00.000	1998/05/04 00:00:00.000	1998/04/08 00:00:00.000	3	14.91	The Cracker Box	55 Grizzly Peak Rd.	Butte	MT	59801
23	18.0	11005	WILMK	2	1998/04/07 00:00:00.000	1998/05/05 00:00:00.000	1998/04/10 00:00:00.000	1	0.75	Wilman Kala	Keskuskatu 45	Helsinki	<null>	21240
24	18.0	11006	REAL	3	1998/04/07 00:00:00.000	1998/05/05 00:00:00.000	1998/04/15 00:00:00.000	2	25.19	Great Lakes Food Market	2732 Baker Blvd.	Eugene	OR	97404
25	18.0	11025	WARTH	6	1998/04/15 00:00:00.000	1998/05/13 00:00:00.000	1998/04/24 00:00:00.000	3	29.17	Wartian Herkku	Torikatu 38	Oulu	<null>	90111
26	18.0	11031	SAVEA	6	1998/04/17 00:00:00.000	1998/05/15 00:00:00.000	1998/04/24 00:00:00.000	2	227.22	Save-a-lot Markets	187 Suffolk Ln.	Boise	ID	83727
27	18.0	11035	SUPRD	2	1998/04/20 00:00:00.000	1998/05/18 00:00:00.000	1998/04/24 00:00:00.000	2	0.17	Suprmes dices	Boulevard Tirou, 255	Charleroi	<null>	B-60
28	18.0	11047	EASTC	7	1998/04/24 00:00:00.000	1998/05/22 00:00:00.000	1998/05/01 00:00:00.000	3	46.62	Eastern Connection	35 King George	London	<null>	WX3 0LQ
29	18.0	11070	LEHMS	2	1998/05/05 00:00:00.000	1998/06/02 00:00:00.000	<null>	1	136.0	Lehmanns Marktstand	Magazinweg 7	Frankfurt a.M.	<null>	60528
30	2	19.0	WHITC	4	1997/04/11 00:00:00.000	1997/05/09 00:00:00.000	1997/04/18 00:00:00.000	3	59.13	White Clover Markets	1029 - 12th Ave. S.	Seattle	WA	98112
31	2	19.0	WOLZA	6	1997/07/25 00:00:00.000	1997/08/22 00:00:00.000	1997/08/01 00:00:00.000	2	80.65	Wolski Zajazd	ul. Filtrowa 68	Warszawa	<null>	01-030
32	2	19.0	RICAR	4	1997/08/06 00:00:00.000	1997/09/03 00:00:00.000	1997/08/11 00:00:00.000	3	50.97	Ricardo Adocicados	Av. Copacabana, 267	Rio de Janeiro	RJ	02384
33	2	19.0	WANDK	8	1997/08/14 00:00:00.000	1997/09/11 00:00:00.000	1997/08/19 00:00:00.000	1	41.38	Die Wandernde Kuh	Adenauerallee 900	Stuttgart	<null>	70564
34	2	19.0	HILAA	4	1997/08/22 00:00:00.000	1997/09/19 00:00:00.000	1997/08/26 00:00:00.000	2	179.61	HILARION-Abastos	Carrera 22 con Ave. Carlos Soublette #8-35	San Cristbal	Tchira	50228

Database lookup preview

Insert / update

Step name:

Connection:

Target schema:

Target table:

Commit size:

Don't perform any updates: ☐

The key(s) to look up the value(s):

	Table field	Comparator	Stream field1	Stream field2
1	OrderID	=	OrderID	
2	ProductNumber	=	ProductNumber	

Update fields:

	Table field	Stream field	Update
1	OrderID	OrderID	Y
2	CustomerID	CustomerID	Y
3	Time_id	OrderDate	Y
4	UnitPrice	UnitPrice	Y
5	Quantity	Quantity	Y
6	Discount	Discount	Y
7	OrderTotal	OrderTotal	Y
8	ProductNumber	ProductNumber	Y
9	SupplierID	SupplierID	Y
10	ShipperID	ShipVia	Y

Insert / update transformation

	ProductID	UnitPrice	Quantity	Discount	ProductName	SupplierID	CategoryID	QuantityPerUnit	UnitsInStock	UnitsOnOrder	ReorderLevel	Discontinued	Total	DiscountValue	OrderTotal	ProductNumber
1	1	18.0	40	0.2	Chai	1	1	10 boxes x 20 bags	39	0	10	N	720.0	144.0	576.0	1
2	1	18.0	8	0.15	Chai	1	1	10 boxes x 20 bags	39	0	10	N	144.0	21.6	122.4	1
3	1	18.0	10	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	0.0	180.0	1
4	1	18.0	20	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	360.0	0.0	360.0	1
5	1	18.0	3	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	54.0	0.0	54.0	1
6	1	18.0	6	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	108.0	0.0	108.0	1
7	1	18.0	25	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	450.0	0.0	450.0	1
8	1	18.0	15	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	270.0	67.5	202.5	1
9	1	18.0	35	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	630.0	157.5	472.5	1
10	1	18.0	30	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	540.0	0.0	540.0	1
11	1	18.0	5	0.2	Chai	1	1	10 boxes x 20 bags	39	0	10	N	90.0	18.0	72.0	1
12	1	18.0	50	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	900.0	0.0	900.0	1
13	1	18.0	8	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	144.0	0.0	144.0	1
14	1	18.0	4	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	72.0	18.0	54.0	1
15	1	18.0	80	0.2	Chai	1	1	10 boxes x 20 bags	39	0	10	N	1440.0	288.0	1152.0	1
16	1	18.0	20	0.15	Chai	1	1	10 boxes x 20 bags	39	0	10	N	360.0	54.0	306.0	1
17	1	18.0	40	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	720.0	0.0	720.0	1
18	1	18.0	20	0.05	Chai	1	1	10 boxes x 20 bags	39	0	10	N	360.0	18.0	342.0	1
19	1	18.0	10	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	0.0	180.0	1
20	1	18.0	60	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	1080.0	270.0	810.0	1
21	1	18.0	21	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	378.0	0.0	378.0	1
22	1	18.0	4	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	72.0	0.0	72.0	1
23	1	18.0	2	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	36.0	0.0	36.0	1
24	1	18.0	8	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	144.0	0.0	144.0	1
25	1	18.0	10	0.1	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	18.0	162.0	1
26	1	18.0	45	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	810.0	0.0	810.0	1
27	1	18.0	10	0.0	Chai	1	1	10 boxes x 20 bags	39	0	10	N	180.0	0.0	180.0	1
28	1	18.0	25	0.25	Chai	1	1	10 boxes x 20 bags	39	0	10	N	450.0	112.5	337.5	1
29	1	18.0	40	0.15	Chai	1	1	10 boxes x 20 bags	39	0	10	N	720.0	108.0	612.0	1
30	2	19.0	12	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	228.0	0.0	228.0	2
31	2	19.0	10	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	190.0	0.0	190.0	2
32	2	19.0	20	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	380.0	0.0	380.0	2
33	2	19.0	30	0.05	Chang	1	1	24 - 12 oz bottles	17	40	25	N	570.0	28.5	541.5	2
34	2	19.0	50	0.0	Chang	1	1	24 - 12 oz bottles	17	40	25	N	950.0	0.0	950.0	2

Insert / update preview (the most relevant columns)

3)

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  ▼<Cube name="Orders" visible="true" cache="true" enabled="true">
    <Table name="fact_order"> </Table>
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  </Cube>
</Schema>
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XML code for the cube definition

4)

a)

1	SELECT {Time.Year.Members} ON COLUMNS,
2	ORDER(Descendants(Customer.AllMembers, Customer.Country, SELF_AND_BEFORE), Measures.Sales,
3	DESC) ON ROWS
4	FROM [Orders]
	WHERE Measures.Sales

3, 13

Info: 17:23 / 5 x 24 / 0.01s

(All)	Country	1996	1997	1998
All Customers		\$ 175.00	\$ 475,588.00	\$ 441,601.97
	USA	-	\$ 89,727.20	\$ 92,786.42
	Germany	-	\$ 104,062.10	\$ 77,624.25
	Austria	-	\$ 46,172.60	\$ 45,146.40
	Brazil	-	\$ 31,467.40	\$ 44,949.75
	France	\$ 175.00	\$ 31,357.45	\$ 18,769.00
	Sweden	-	\$ 25,479.00	\$ 20,480.20
	UK	-	\$ 19,932.30	\$ 22,696.00
	Ireland	-	\$ 19,070.60	\$ 20,416.40
	Venezuela	-	\$ 18,274.45	\$ 20,751.90
	Canada	-	\$ 16,255.35	\$ 11,539.00
	Switzerland	-	\$ 16,293.50	\$ 9,196.85
	Belgium	-	\$ 5,350.00	\$ 16,094.90
	Mexico	-	\$ 13,133.65	\$ 4,576.00
	Denmark	-	\$ 11,498.45	\$ 4,526.60
	Spain	-	\$ 6,647.80	\$ 8,044.70
	Italy	-	\$ 5,374.90	\$ 6,875.80
	Finland	-	\$ 9,338.30	\$ 2,253.00
	Argentina	-	\$ 1,066.00	\$ 6,318.00
	Portugal	-	\$ 3,163.95	\$ 2,693.80
	Norway	-	\$ 709.00	\$ 3,977.00
	Poland	-	\$ 1,214.00	\$ 1,886.00

Country with most sales: USA

Year with most sales: 1997

Pair country-year with most sales: Germany 1997

b)

1	SELECT {Time.Year.Members} ON COLUMNS,
2	ORDER(Descendants(Product.AllMembers, Product.Category, SELF_AND_BEFORE), Measures.Sales,
3	DESC) ON ROWS
4	FROM [Orders]
	WHERE Measures.Sales

3, 13

Info: 17:30 / 5 x 11 / 0.03s

(All)	Category	1996	1997	1998
All products		\$ 175.00	\$ 475,588.00	\$ 441,601.97
	Beverages	-	\$ 68,836.00	\$ 116,505.40
	Dairy Products	\$ 175.00	\$ 90,410.90	\$ 78,570.27
	Confections	-	\$ 62,580.05	\$ 54,863.19
	Meat/Poultry	-	\$ 63,534.60	\$ 53,280.25
	Seafood	-	\$ 59,748.15	\$ 44,990.68
	Produce	-	\$ 45,914.15	\$ 31,215.36
	Condiments	-	\$ 41,720.00	\$ 32,804.15
	Grains/Cereals	-	\$ 42,844.15	\$ 29,372.67

Category with most sales: Beverages

Year with most sales: 1997

Pair category-year with most sales: Beverages 1998

c)

1	SELECT {Time.Year.Members} ON COLUMNS,
2	ORDER(Descendants(Shipper.AllMembers, Shipper.[Company Name], SELF_AND_BEFORE), Measures.Quantity, DESC) ON ROWS
3	FROM Orders
4	WHERE Measures.Quantity

4, 23

(All)	Company Name	1996	1997	1998
All shippers		5	18,922	16,247
	United Package	-	6,354	7,345
	Speedy Express	-	6,601	5,003
	Federal Shipping	5	5,967	3,899

Company with most quantity: United Package

Year with most quantity: 1997

Pair company-year with most quantity: United Package 1998

d)

Country	Beverages Quantity	Condiments Quantity	Confections Quantity	Dairy Products Quantity	Grains/Cereals Quantity	Meat/Poultry Quantity	Produce Quantity	Seafood Quantity
Argentina	82	45	39	54	20		21	28
Austria	794	411	351	700	430	223	254	406
Belgium	198	87	179	145	80	49	40	76
Brazil	727	406	369	395	285	134	54	544
Canada	164	201	218	250	161	6	44	53
Denmark	49	139	64	42	15	110	100	178
Finland	62	50	59	118	80	18	43	88
France	386	242	296	242	160	89	193	364
Germany	1,187	643	1,260	1,190	487	326	391	1,041
Ireland	103	95	36	267	50	203	73	292
Italy	74	60	48	140	68	30	55	86
Mexico	222	55	79	214	30	69	23	43
Norway	33	18	17			5	12	28
Poland	71	22	27	15		3	22	
Portugal	30	85	46	2	26	10		24
Spain	66	31	75	19	78	114	40	54
Sweden	411	202	214	123	140	129	214	294
Switzerland	132	52	113	152	190	106	36	182
UK	247	180	188	460	195	111	158	244
USA	1,232	382	1,203	1,098	578	793	224	1,368
Venezuela	399	61	295	380	244	20	95	506

Export Provided By Saiku Analytics Community Edition(<http://meteorite.bi>)

Measures
▼

Quantity

Columns
▼

Product hierarchy

Category

Rows
▼

Customer Hierarchy

Country

Filter
▼

Pairs of country category with no sales at all: (Argentina, Meat/Poultry); (Norway – Dairy Products); (Norway – Grains/Cereals); (Poland – Grains/Cereals); (Poland – Seafood); (Portugal – Produce);

e)

Saiku Export - 03/11/2021 19:57

Country	Australia Quantity	Brazil Quantity	Canada Quantity	Denmark Quantity	Finland Quantity	France Quantity	Germany Quantity	Italy Quantity	Japan Quantity	Netherlands Quantity	Norway Quantity	Singapore Quantity	Spain Quantity	UK Quantity	USA Quantity
Argentina	13		10	3	12	4	43	32	5		10	7	30	31	79
Austria	448	255	351	27	72	445	443	252	189		191	65	101	157	486
Belgium	62	12	49	15	6	120	143	61	36		40	68		126	116
Brazil	318	130	98	74	147	321	394	190	175	60	112	141	44	239	383
Canada	70	60	89			165	93	133	53		30	27	20	199	118
Denmark	99	25	170			18	130	24	43					44	114
Finland	17	20	13	40	20	65	13	80	70		10	12	19	52	63
France	349	30	112	21	70	38	164	168	120	38	76	86	45	142	450
Germany	561	73	322	162	252	897	907	291	285	66	255	336	145	886	805
Ireland	75				35	134	241	125	138		50	20	40	15	240
Italy	78	10	10	4	28	16	30	116	5	5	20			15	154
Mexico	91	25	10	21		64	60	45	15	15	68	96	77	64	84
Norway	28	8				8	33					9		2	25
Poland	2	12	37			15	30		20					41	3
Portugal	40				10	2	10	12	24	6		54			65
Spain	144	12	44	20	14	19	70		15	5		4		66	36
Sweden	216	6	93	25	86	136	268	96	44	121	32	70		116	304
Switzerland	248		21	30	22	30	148	153	64		91	28		80	16
UK	183		105	43	44	100	51	231	72	25	125	36	65	203	313
USA	842	97	524	276	233	497	682	522	447	66	372	163	175	858	703
Venezuela	182	39	20	70	125	159	313	222	88		72	40	50	176	306

Export Provided By Saiku Analytics Community Edition(<http://meteorite.bi>)

Measures

Quantity

Columns

Supplier Hierarchy

Country

Rows

Customer Hierarchy

Country

Filter

Pairs of countries with no quantities being shipped between them:

(Brazil – Argentina); (Brazil – Ireland); (Brazil – Portugal); (Brazil – Switzerland); (Brazil – UK);
(Canada – Ireland); (Canada – Norway); (Canada – Portugal);
(Denmark – Canada); (Denmark – Denmark); (Denmark – Ireland); (Denmark – Norway); (Denmark – Portugal);
(Finland – Canada); (Finland – Denmark); (Finland – Mexico); (Finland – Norway); (Finland – Poland);
(Italy – Norway); (Italy – Poland); (Italy – Spain);
(Japan -Norway);
(Netherlands - Argentina); (Netherlands - Austria); (Netherlands - Belgium); (Netherlands - Canada);
(Netherlands - Denmark); (Netherlands - Finland); (Netherlands - Ireland); (Netherlands - Norway);
(Netherlands - Poland); (Netherlands - Switzerland); (Netherlands - Venezuela);
(Norway – Denmark); (Norway – Norway); (Norway – Poland); (Norway – Portugal); (Norway – Spain);
(Singapore – Denmark); (Singapore – Italy); (Singapore – Poland);
(Spain – Belgium); (Spain – Denmark); (Spain – Italy); (Spain – Norway); (Spain – Poland); (Spain – Portugal); (Spain – Spain); (Spain – Sweden); (Spain – Switzerland);
(UK – Portugal);

f)

Measures

Quantity

Columns

Product hierarchy
Category

Rows

Shipper Hierarchy
Company Name

Filter

Info: 18:33 / 9 x 5 / 0.04s

Category	Beverages	Condiments	Confections	Dairy Products	Grains/Cereals	Meat/Poultry	Produce	Seafood
Company Name	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
Federal Shipping	1,860	1,117	1,592	1,429	854	775	722	1,522
Speedy Express	2,213	1,282	1,714	2,339	1,038	591	457	1,970
United Package	2,596	1,068	1,870	2,238	1,425	1,182	913	2,407

Pairs of category shipper with no quantity at all: None