



ETL part 3

Updating dimension tables

(example: D_Products)

Insert added Products 1

```
use NorthWindDB
go
--- insert new Products, remember to set
--- ValidFrom and ValidTo dates
---
insert into DM_Northwind.dbo.dim_product
(ProductID
,ProductName
,UnitPrice
,CategoryName
,Description
,SupplierName
,ValidFrom
,ValidTo)
```

```
--- find added rows
select ProductID
,ProductName
,UnitPrice
,CategoryName
,Description
,CompanyName
,'01/01/1998' ----- last updated + 1
,'12/31/9999'
```

Insert added Products 2

```
from Products --- today
join Categories on Products.CategoryID =
Categories.CategoryID
join Suppliers on Products.SupplierID =
Suppliers.SupplierID
Where productID in
```

```
((
--- today
select [ProductID]
from Products
join Categories on Products.CategoryID = Categories.CategoryID
join Suppliers on Products.SupplierID = Suppliers.SupplierID
)
EXCEPT
--- yesterday
(select [ProductID]
from DM_Northwind.dbo.dim_product
)
)
```

Update deleted Products

```
use NorthWindDB
go

update DM_Northwind.dbo.dim_product
SET ValidTo = '12/31/1997' --- last Updated

Where productID in
(
--- yesterday
(select [ProductID]
from DM_Northwind.dbo.dim_product
Where ValidTo > '12/31/1997'
)
```

```
EXCEPT
(
--- today

select [ProductID]

from Products
join Categories on Products.CategoryID =
Categories.CategoryID
join Suppliers on Products.SupplierID =
Suppliers.SupplierID
)
)
```

Insert & update changed Products

- 1. Find changed products and insert into temp table (changed_products)**
- 2. For each row in temp table:**
 - Update existing row in dimension table**
 - Insert new row in dimension table**

Insert & update changed Products 1

```
--- insert & update for changed Products
---
use NorthWindDB
go
--- 1. INSERT INTO TEMP TABLE
Insert into
DM_Northwind.dbo.changed_product(
[ProductID]
,[ProductName]
,[UnitPrice]
,[CategoryName]
,SupplierName
)
```

```
(
--- today
select [ProductID]
,[ProductName]
,[UnitPrice]
,[CategoryName]
,CompanyName
from Products
join Categories on Products.CategoryID = Categories.CategoryID
join Suppliers on Products.SupplierID = Suppliers.SupplierID
)
```

Insert & update changed Products 2

```
EXCEPT
(
--- yesterday
select [ProductID]
      ,[ProductName]
      ,[UnitPrice]
      ,[CategoryName]
      ,[SupplierName]
from DM_Northwind.dbo.dim_product
Where ValidTo > '12/31/1997'
)
```

```
EXCEPT
(select [ProductID]
      ,[ProductName]
      ,[UnitPrice]
      ,[CategoryName]
      ,[CompanyName]
from Products
join Categories on Products.CategoryID = Categories.CategoryID
join Suppliers on Products.SupplierID = Suppliers.SupplierID
where ProductID NOT IN (SELECT ProductID
FROM DM_Northwind.dbo.dim_product)
)
```

Insert & update changed Products 3

```
use DM_Northwind
go
--- 2. Update existing row in dimension table
---
UPDATE dim_product
SET ValidTo = '12/31/1997' --- last Updated
WHERE ProductID IN
(SELECT ProductID
FROM [changed_product])
```

--- **3. Insert new row in dimension table**

```
---
INSERT INTO dim_product
([ProductID]
,[ProductName]
,[UnitPrice]
,[CategoryName]
,[SupplierName]
,ValidFrom
,ValidTo
)
SELECT [ProductID]
,[ProductName]
,[UnitPrice]
,[CategoryName]
,[SupplierName]
,'01/01/1998' ---- last updated + 1
,'12/31/9999'
FROM [changed_product]
```


Exercises

Write the SQL code that can handle the changes in data in the dimension tables – start with the Product dimension

Save it – it will be part of hand in #3