



## RAPPORT TPS DATAWAREHOUSE

*Réalisé par :*

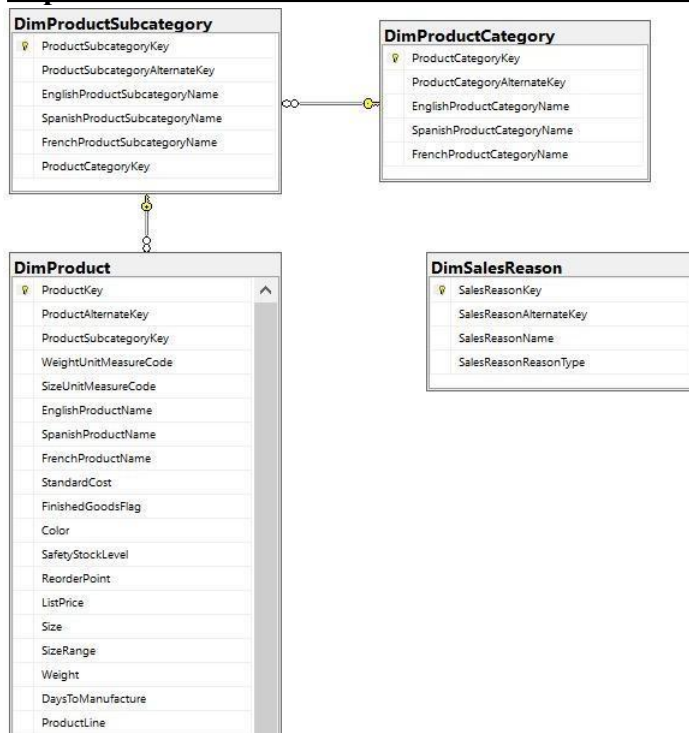
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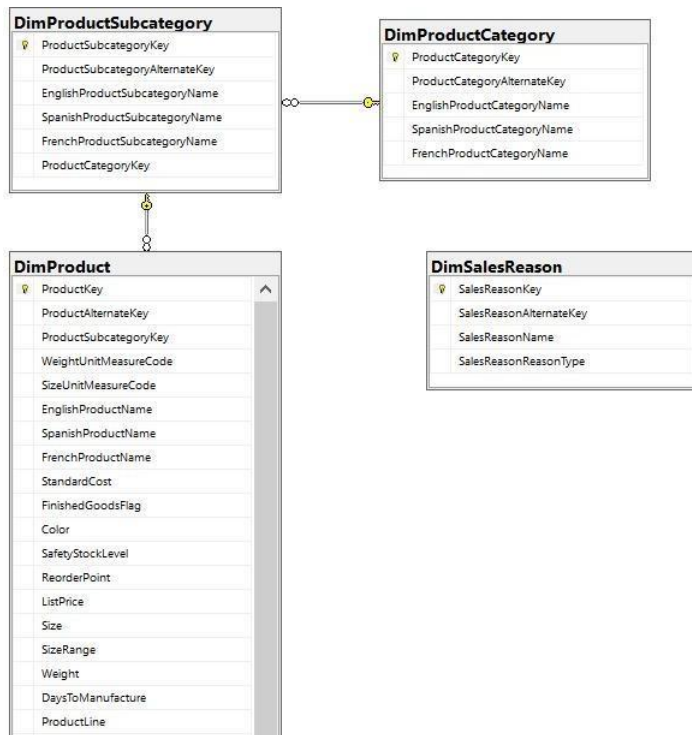
# TP1

## 1. Exploration du DW AdventureWorksDW2012.

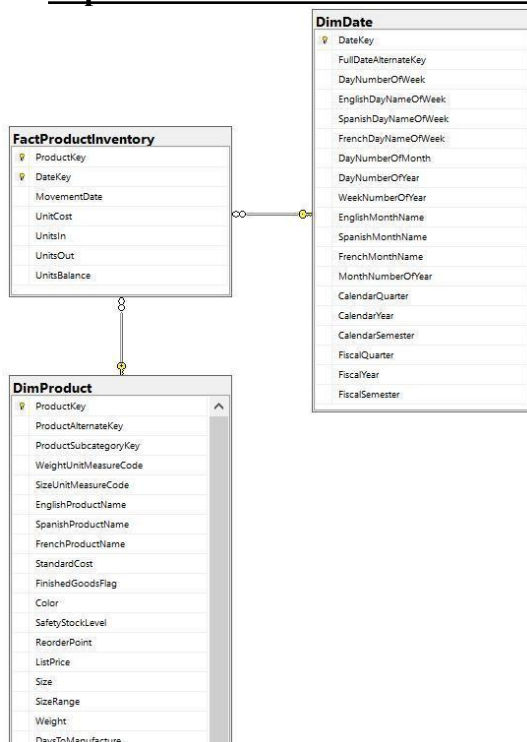


## 2. Exploration des dimensions d'AdventureWorksDW2012





### 3. Exploration des tables de faits d'AdventureWorksDW2012



## TP2

### Création de LightAdventureWorksDW

```
USE master;
IF DB_ID('LIGHTADVENTUREWORKSDW') IS NOT NULL
    DROP DATABASE LIGHTADVENTUREWORKSDW;
GO
CREATE DATABASE LIGHTADVENTUREWORKSDW
ON PRIMARY
    (NAME = N'LIGHTADVENTUREWORKSDW', FILENAME = N'F:\sqlServeur_install\database_files\LIGHTADVENTUREWORKSDW.mdf',
    SIZE = 307200KB , FILEGROWTH = 10240KB )
LOG ON
    (NAME = N'LIGHTADVENTUREWORKSDW_log', FILENAME = N'F:\sqlServeur_install\database_files\LIGHTADVENTUREWORKSDW_log.ldf',
    SIZE = 51200KB , FILEGROWTH = 10%);
GO
ALTER DATABASE LIGHTADVENTUREWORKSDW SET RECOVERY SIMPLE WITH NO_WAIT;
GO
```

100 %

#### Messages

Commands completed successfully.

Completion time: 2023-03-02T11:24:23.9076993+01:00

### Création de la séquence CustomerKeyDWKey

```
create_seq_custom...AB3P93\USER (51)) X
USE LIGHTADVENTUREWORKSDW;
GO
IF OBJECT_ID('dbo.SeqCustomerDwKey', 'SO') IS NOT NULL
    DROP SEQUENCE dbo.SeqCustomerDwKey;
GO
CREATE SEQUENCE dbo.SeqCustomerDwKey AS INT
    START WITH 1
    INCREMENT BY 1;
GO
```

100 %

#### Messages

Commands completed successfully.

Completion time: 2023-03-02T11:47:16.6698368+01:00

### Création des dimensions: DimCustomer, DimProduct, DimDate

```
USE LIGHTADVENTUREWORKSDW;
GO
CREATE TABLE dbo.Customers
(
    CustomerDwKey INT NOT NULL,
    CustomerKey INT NOT NULL,
    FullName NVARCHAR(150) NULL,
    EmailAddress NVARCHAR(50) NULL,
    BirthDate DATE NULL,
    MaritalStatus NCHAR(1) NULL,
    Gender NCHAR(1) NULL,
    Education NVARCHAR(40) NULL,
    Occupation NVARCHAR(100) NULL,
    City NVARCHAR(30) NULL,
);
GO
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-03-02T12:20:00.1873182+01:00

```
USE LIGHTADVENTUREWORKSDW;
GO
CREATE TABLE dbo.Products
(
    ProductKey INT NOT NULL,
    ProductName NVARCHAR(50) NULL,
    Color NVARCHAR(15) NULL,
    Size NVARCHAR(50) NULL,
    SubcategoryName NVARCHAR(50) NULL,
    CategoryName NVARCHAR(50) NULL,
    CONSTRAINT PK_Products PRIMARY KEY (ProductKey)
);
GO
```

%

Messages

Commands completed successfully.

Completion time: 2023-03-02T12:28:07.0627749+01:00

```
create_dimDate.sql...AB3P93\USER (76) X create_faitInterne...HAB3P93
CREATE TABLE dbo.Dates
(
    DateKey INT NOT NULL IDENTITY(1,1),
    FullDate DATE NOT NULL,
    MonthNumberName NVARCHAR(15) NULL,
    CalendarQuarter TINYINT NULL,
    CalendarYear SMALLINT NULL,
    CONSTRAINT PK_Dates PRIMARY KEY (DateKey)
);
GO
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-03-02T12:35:53.7353088+01:00

## Création de la table de faits InternetSales

```
create_faitInterne...HAB3P93\USER (51))  X
USE LIGHTADVENTUREWORKSDW;
GO
CREATE TABLE dbo.InternetSales
(
    InternetSalesKey INT NOT NULL IDENTITY(1,1),
    CustomerDwKey INT NOT NULL,
    ProductKey INT NOT NULL,
    DateKey INT NOT NULL,
    OrderQuantity SMALLINT NOT NULL DEFAULT 0,
    SalesAmount MONEY NOT NULL DEFAULT 0,
    UnitPrice MONEY NOT NULL DEFAULT 0,
    DiscountAmount FLOAT NOT NULL DEFAULT 0,
    CONSTRAINT PK_InternetSales PRIMARY KEY (InternetSalesKey)
);
GO
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-03-02T12:36:33.3012037+01:00

## Ajout de clé étrangère à InternetSales

```
constraint_foreign...HAB3P93\USER (51))  X
USE LIGHTADVENTUREWORKSDW;
GO
ALTER TABLE dbo.InternetSales ADD CONSTRAINT
    FK_InternetSales_Customers FOREIGN KEY(CustomerDwKey)
    REFERENCES dbo.Customers (CustomerDwKey);
ALTER TABLE dbo.InternetSales ADD CONSTRAINT
    FK_InternetSales_Products FOREIGN KEY(ProductKey)
    REFERENCES dbo.Products (ProductKey);
ALTER TABLE dbo.InternetSales ADD CONSTRAINT
    FK_InternetSales_Dates FOREIGN KEY(DateKey)
    REFERENCES dbo.Dates (DateKey);
GO
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-03-02T12:40:34.4847394+01:00

**Diagramme:**

Customers	
CustomerDwKey	
CustomerKey	
FullName	
EmailAddress	
BirthDate	
MaritalStatus	
Gender	
Education	
Occupation	
City	
StateProvince	
CountryRegion	
Age	

InternetSales	
InternetSalesKey	
CustomerDwKey	
ProductKey	
DateKey	
OrderQuantity	
SalesAmount	
UnitPrice	
DiscountAmount	

Dates	
DateKey	
FullDate	
MonthNumberName	
CalendarQuarter	
CalendarYear	

Products	
ProductKey	
ProductName	
Color	
Size	
SubcategoryName	





# TP3

## 1-Loading data using Integration Services

DimDate

☐ \* (Toutes les colonnes)

☒ DateKey

☒ FullDateAlternateKey

☐ DayNumberOfWeek

☐ EnglishDayNameOfWeek

nes)

☒ ryKey

☐ ryAlternateKey

☐ categoryName

☐ xcategoryName

<

	Colonne	Alias	Table	Sortie	Type de tri
►	DateKey		DimDate	<input checked="" type="checkbox"/>	
	FullDateAltern...	FullDate	DimDate	<input checked="" type="checkbox"/>	
	SUBSTRING(C...	Month...		<input checked="" type="checkbox"/>	
	CalendarQuar...		DimDate	<input checked="" type="checkbox"/>	
	CalendarYear		DimDate	<input checked="" type="checkbox"/>	

Filterer

Ou...

Ou...

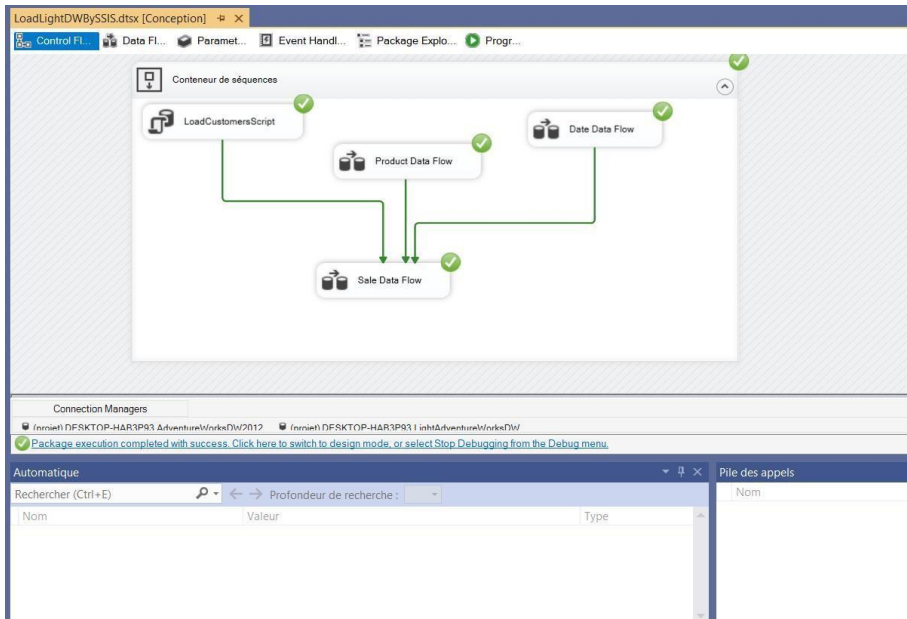
C

lame, C.EnglishProductCategoryName

oryKey INNER JOIN

SELECT DateKey, FullDateAlternateKey AS FullDate, SUBSTRING(CONVERT(CH.  
FROM DimDate





## 2-Compressions

```
exo3_1.sql - DESK...HAB3P93\USER (52))* X
ALTER TABLE dbo.InternetSales
REBUILD WITH (DATA_COMPRESSION = PAGE);
GO
```

100 %

Messages

Commands completed successfully.

Completion time: 2023-03-16T20:20:02.0670907+01:00

```
EXEC sp_spaceused N'dbo.InternetSales', @updateusage = N'TRUE';  
GO
```

100 %

Results Messages

	name	rows	reserved	data	index_size	unused
1	InternetSales	60398	1160 KB	1040 KB	16 KB	104 KB

## 2.1 Indexation

SQLQuery13.sql -...HAB3P93\USER (52))\*

```
USE AdventureWorksDW2012;
```

```
GO
```

```
CREATE VIEW dbo.SalesByProduct
```

```
WITH SCHEMABINDING AS
```

```
SELECT ProductKey,
```

```
SUM(SalesAmount) AS Sales,
```

```
COUNT_BIG(*) AS NumberOfRows
```

```
FROM dbo.FactInternetSales
```

```
GROUP BY ProductKey;
```

```
GO
```

```
CREATE UNIQUE CLUSTERED INDEX CLU_SalesByProduct
```

```
ON dbo.SalesByProduct (ProductKey);
```

```
GO
```

ues 0, lectures de serveur de page 0, lectures anticipées 0,  
es 0, lectures de serveur de page 0, lectures anticipées 0,  
ures physiques 0, lectures de serveur de page 0, lectures an

100 %

Messages

Commands completed successfully.

Completion time: 2023-03-16T20:29:56.4492756+01:00

exo4\_7.sql - DESK...HAB3P93\USER (52))

```
USE AdventureWorksDW2012;  
GO  
SET STATISTICS IO ON;  
GO  
SELECT ProductKey,  
SUM(SalesAmount) AS Sales,  
COUNT_BIG(*) AS NumberOfRows  
FROM dbo.FactInternetSales  
GROUP BY ProductKey;  
GO
```

100 %

Results Messages

(158 rows affected)

Table « SalesByProduct ». Nombre d'analyses 1, lectures logiques 2, lectures physiques 0, lectures de serveur de page 0, lectures antic

Completion time: 2023-03-16T20:31:22.4132680+01:00

exo4\_7.sql - DESK...HAB3P93\USER (52))\*

```
Drop view dbo.SalesByProduct
```

100 %

Messages

Commands completed successfully.

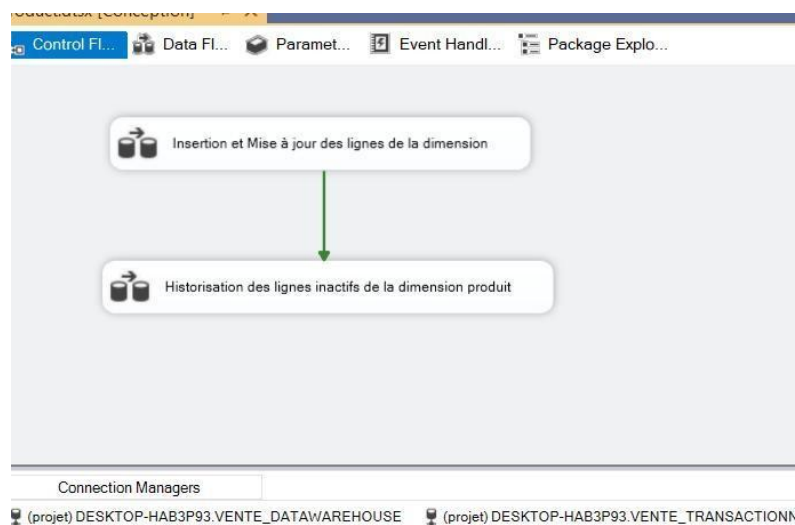
Completion time: 2023-03-16T20:32:07.8993616+01:00

## TP5

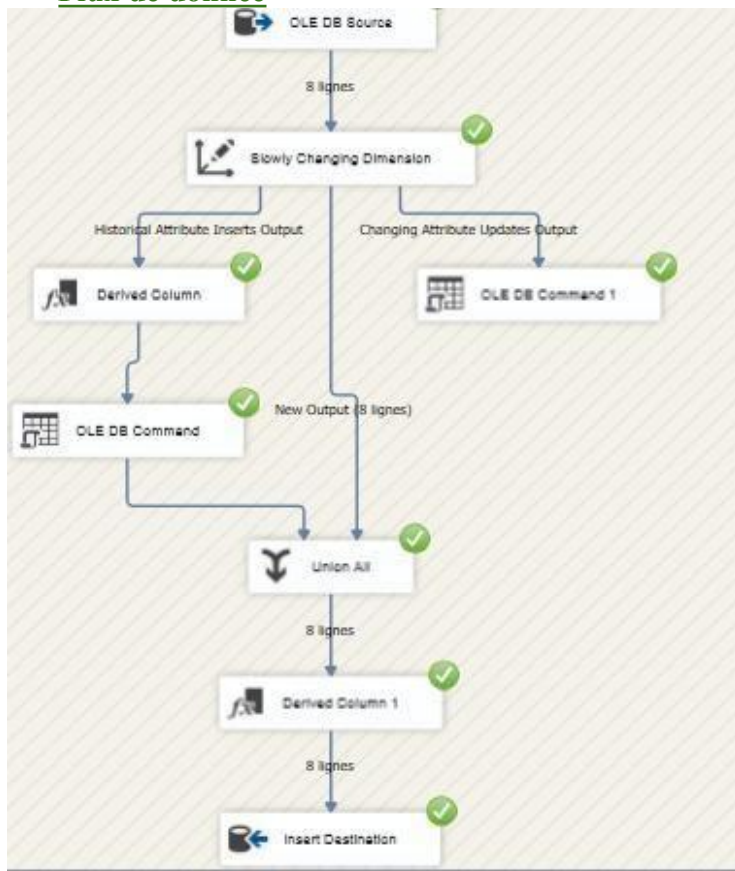
### Création des Bases de Données VENTE\_TRANSACTIONNEL et VENTE\_DATAWAREHOUSE

```
Script_BD.sql - (\\...-HAB3P93\USER (59))  
CREATE DATABASE VENTE_TRANSACTIONNEL  
Go  
CREATE DATABASE VENTE_DATAWAREHOUSE  
Go  
USE VENTE_TRANSACTIONNEL  
Go  
100 %  
Messages  
(1 row affected)  
(1 row affected)  
(1 row affected)  
(1 row affected)  
(1 row affected)  
(1 row affected)  
(1 row affected)  
(1 row affected)  
(1 row affected)  
Completion time: 2023-03-16T20:43:55.8845834+01:00
```

### Définition de la source et de la cible de donnée



## Flux de donnée



## Exécution



## TP6

The screenshot displays the SQL Server Data Tools (SSDT) interface for designing a dimension. The main window is titled 'Dim Product.dim [Conception]'. It features three primary panes: 'Attributs' (Attributes), 'Hiérarchies' (Hierarchies), and 'Vue de source de données' (Data Source View).

**Attributs:** A list of attributes for the dimension. The 'English Product Name' attribute is highlighted. Other attributes include 'End Date', 'English Description', 'English Product Category Name', 'English Product Subcategory Name', 'Finished Goods Flag', 'French Description', 'French Product Category Name', 'French Product Name', 'French Product Subcategory Name', 'German Description', 'Hebrew Description', 'Japanese Description', 'Large Photo', 'List Price', 'Model Name', 'Product Alternate Key', 'Product Category Alternate Key', 'Product Category Key', 'Product Key', 'Product Line', and 'Product Subcategory Alternate Key'.

**Hiérarchies:** A pane for defining the hierarchy of the dimension. It shows a hierarchy with 'Hiérarchie' as the root. The hierarchy structure is as follows:

- Hiérarchie
  - English Product Category Name
    - English Product Subcategory Name
      - Model Name
        - English Product Name

Below the hierarchy, a message states: 'Pour créer une hiérarchie, faites glisser un attribut à cet emplacement.' (To create a hierarchy, drag an attribute to this location.)

**Vue de source de données:** A pane for defining the data source view for the dimension. It is currently empty.

**Explorateur de solutions:** A pane on the right showing the project structure. It includes a search bar, a list of solutions, and a tree view of the project 'SSAS\_proj1'. The tree view shows the following structure:

- Solution 'SSAS\_proj1' (1 sur 1)
  - Sources de données
    - Adventure Works DW
  - Vues des sources de données
    - Adventure Works DW
  - Cubes
  - Dimensions
    - Dim Product.dim
  - Structures d'exploration
  - Rôles
  - Assemblys
  - Divers