

Project 1 –

PRODUCT TRADER

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1. INTRODUCTION:

1.1. Source of Data:

The data used in this project is sourced from a portion of the artificial dataset named Northwind, published by Microsoft. The database contains sales data for Northwind Traders, a fictitious specialty foods export-import company. During the processing of the Northwind dataset, I removed some tables that didn't contain relevant data: *CustomerCustomerDemo*, *CustomerDemoGraphics*, etc., in order to focus on tables that help address my pre-defined business questions. After processing and removing some unnecessary data, I named this dataset "product_trader".

1.2. Business Analytical Questions:

In this Project 1, I will focus on exploring revenue generated from product sales. Since the data revolves around sales from 1996 to 1998, I formulated the following business questions based on this dataset:

1. Which are the top 10 countries with the highest sales revenue in 1998 (assuming the current year is 1998)?
2. Which are the top 20 countries with the highest sales revenue, and which products are the best sellers within those countries?
3. Which category is currently the best-selling in the most recent quarter? In which country?
4. Is there a growth or decline in industry sales in Q2 1998 compared to the same period in 1997 (Q2 1997)?
5. Who are the top 5 employees with the highest sales performance in the most recent month, and which products are they selling?

2. INSTRUCTIONS



On Github, there are files named as follows:

0. Project1_ReadMeFirst_MaiPham
1. Project1_Database_MaiPham
2. Project1_ETLprocedure_MaiPham
3. Project1_DataMart_MaiPham
4. Project1_Modelling_MaiPham

Kindly, download them into your computer. Then, do the following steps:

#1 – Reading file 0. Project1_ReadMeFirst_MaiPham will let you know the overview of the project

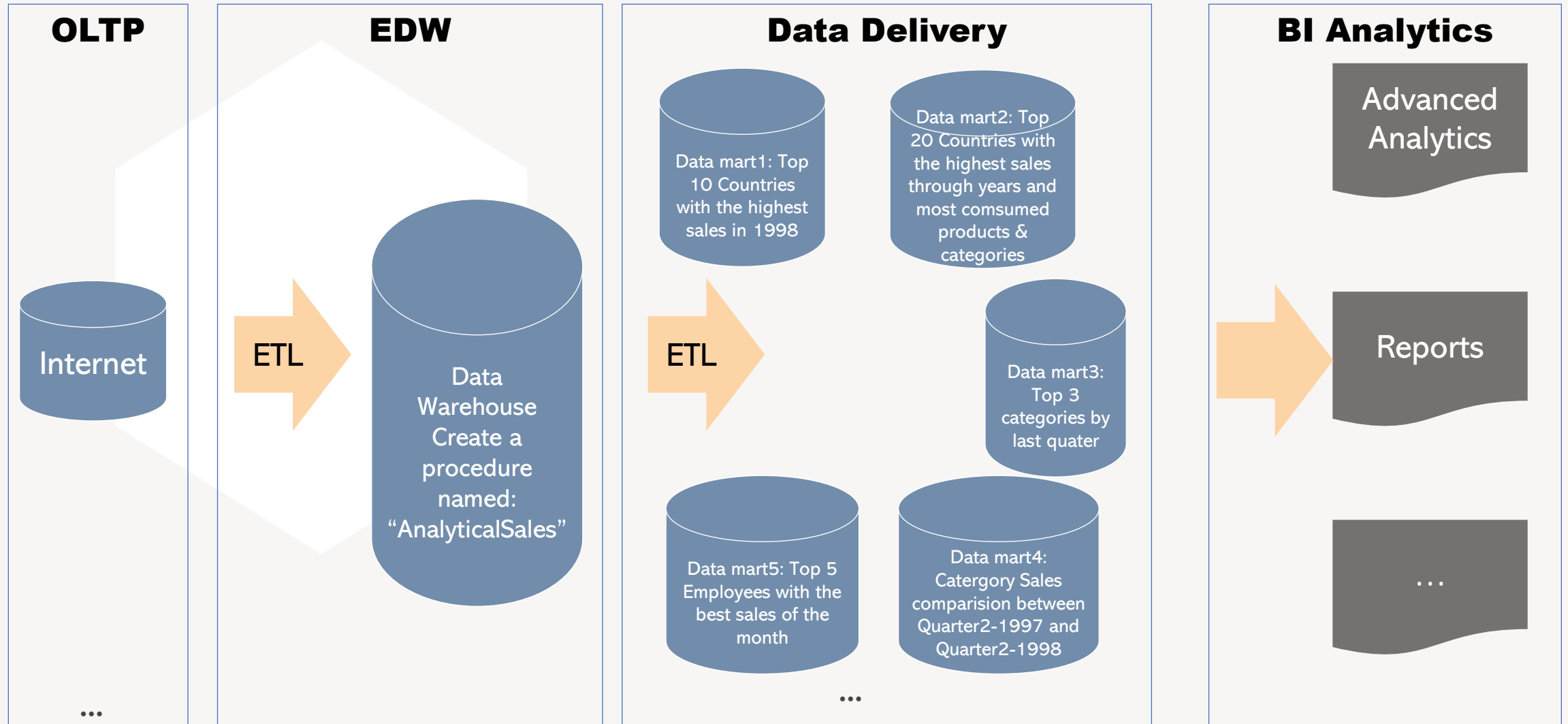
#2 – Opening files: number from 1 to 4 on MySQL Workbench

#3 – Executing the commands in each files in the following order:

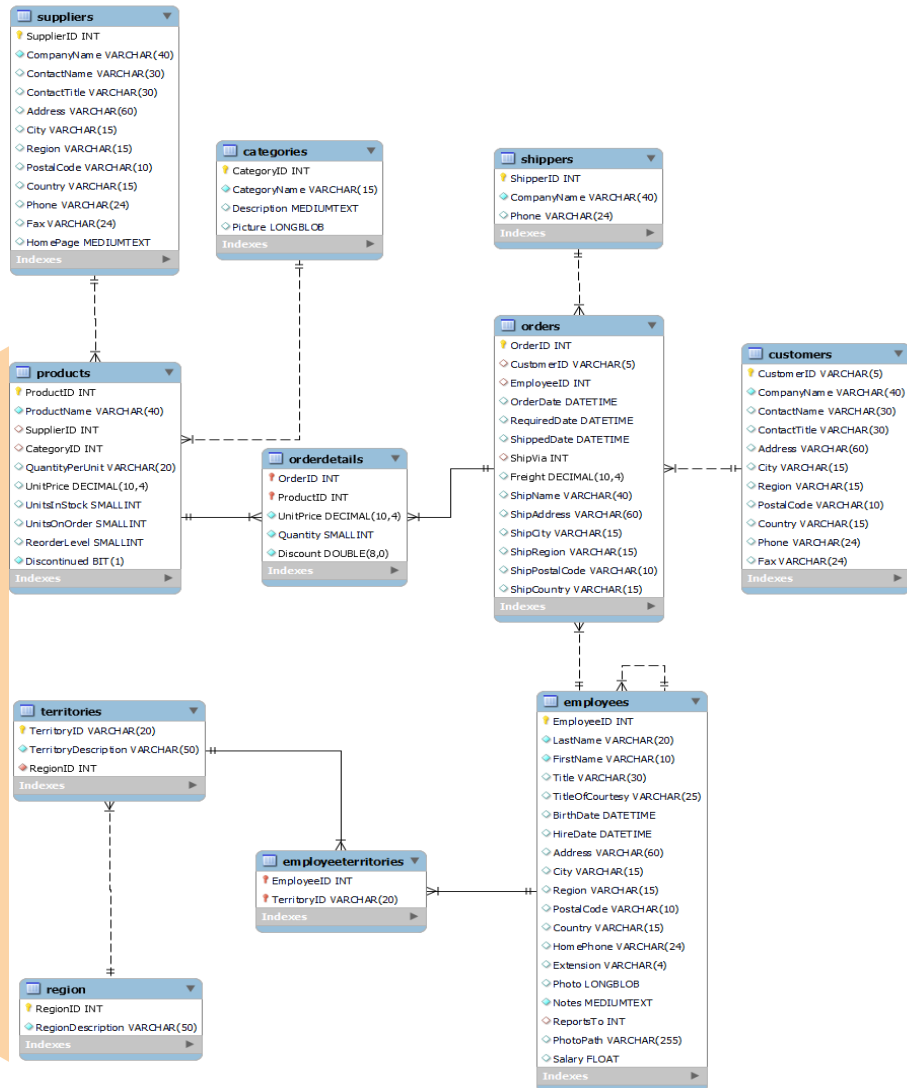
- 1. Project1_database_MaiPham
- 2. Project1_ETLprocedure_MaiPham
- 3. Project1_DataMart_MaiPham

#4 – Reading File 4. Project1_Modelling_MaiPham on MySQL Workbench will let you know the relationships among tables in the dataset

3. BI Architecture



4. Data Model & Dimensions



SELECT

```

YEAR(o.OrderDate) AS Year,
QUARTER(o.OrderDate) AS Quarter,
MONTH(o.OrderDate) AS Month,
p.ProductID,
p.ProductName,
cat.CategoryName,
SUM(od.Quantity * od.UnitPrice) AS TotalSales,
c.Country,
em.EmployeeID,
em.LastName,
em.FirstName

```

FROM Products p

INNER JOIN Categories cat ON p.CategoryID = cat.CategoryID

INNER JOIN OrderDetails od ON p.ProductID = od.ProductID

INNER JOIN Orders o ON od.OrderID = o.OrderID

INNER JOIN Customers c ON o.CustomerID = c.CustomerID

INNER JOIN Employees em ON em.EmployeeID = o.EmployeeID

4. Data Model & Dimensions

Time Dimension

Location (Market) Dimension

Product Dimension

Fact

Employee Dimension

	Year	Quarter	Month	Country	ProductID	ProductName	CategoryName	TotalSales	EmployeeID	FirstName	LastName
►	1996	3	7	Austria	2	Chang	Beverages	760.00	1	Nancy	Davolio
	1996	3	7	Austria	5	Chef Anton's Gumbo Mix	Condiments	1105.00	1	Nancy	Davolio
	1996	3	7	Austria	32	Mascarpone Fabioli	Dairy Products	153.60	1	Nancy	Davolio
	1996	3	8	Finland	36	Inlagd Sill	Seafood	456.00	1	Nancy	Davolio
	1996	3	8	Finland	43	Ipoh Coffee	Beverages	920.00	1	Nancy	Davolio
	1996	3	8	Italy	24	Guaran Fantstica	Beverages	43.20	1	Nancy	Davolio
	1996	3	8	Italy	59	Radette Courdavault	Dairy Products	264.00	1	Nancy	Davolio
	1996	3	8	Germany	1	Chai	Beverages	648.00	1	Nancy	Davolio
	1996	3	8	Germany	40	Boston Crab Meat	Seafood	588.00	1	Nancy	Davolio
	1996	3	8	Germany	53	Perth Pasties	Meat/Poultry	943.20	1	Nancy	Davolio