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U3M3.LW.Implementing Data Flow

#### Kiryl Bucha

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# 1. Exercise 1: Creating new database for HR department

You have to create a new database for HR department. The name of the database must be «HumanResources».The database must contain the following tables:

**dbo.EmployeesExternal:**

|  |  |  |
| --- | --- | --- |
| Column name | Type | Null? |
| EmployeeID (key) | INT | NOT NULL |
| FirstName | NVARCHAR(50) | NOT NULL |
| LastName | NVARCHAR(50) | NOT NULL |
| JobTitle | NVARCHAR(50) | NOT NULL |
| EmailAddress | NVARCHAR(50) | NULL |
| City | NVARCHAR(50) | NOT NULL |
| StateProvinceName | NVARCHAR(50) | NOT NULL |
| CountryRegionName | NVARCHAR(50) | NOT NULL |

**dbo.EmployeesAW:**

|  |  |  |
| --- | --- | --- |
| Column name | Type | Null? |
| BusinessEntityID (key) | INT | NOT NULL |
| FirstName | NVARCHAR(50) | NOT NULL |
| LastName | NVARCHAR(50) | NOT NULL |
| JobTitle | NVARCHAR(50) | NULL |

**dbo.EmailAddressesAW:**

|  |  |  |
| --- | --- | --- |
| Column name | Type | Null? |
| EmailAddressId (key) | INT | NOT NULL |
| BusinessEntityID | INT | NOT NULL |
| EmailAddress | NVARCHAR(50) | NOT NULL |

Create sql script to achieve the requirements above.

Result: SQL scripts that created needed objects.

# 2. Exercise 2: Creating ETL solution to import employees from different sources

You were given a few files that must be imported to the new database (see LabFiles). Your task is to create appropriate ETL solution. The following things should be taken into account:

* All import process must be executed within one package
* All files must be imported to the table Employees External and the solution should work if the numbers of files will be increased
* The import process can be executed more than once ( the destination tables are truncated every time )
* The table dbo.EmployeesAW must contain all employees from the database Adventure Works ( use tables HumanResources.Employee and Person.Person to get needed data)
* The table dbo.EmailAddressesAW must contain all emails of employees from the database Adventure Works (see table Person.EmailAddress)
* In case of any error during the process the tables does not contain partially loaded data (they must be empty)
* If the import process is successful then the package sends an email message with the subject «Employees have been imported successfully», otherwise the subject should be «Error loading employees».

Result: SSIS solution.

# 3. Exercise 3: Creating ETL solution to export the data from HumanResourcesdb

You should generate two comma separated text files with names EmpSales.txt and EmpNotSales .txt based on employee data (dbo.EmployeesAW and dbo.EmailAddressesAW). The files must have the following structures:

EmpSales.txt:

FirstName, Last Name, EmailAddress

EmpNotSales.txt:

FirstName, LastName, EmailAddress

Employee e-mail addresses are stored separately from employee details, so your data flow must include a lookup to retrieve e-mail addresses based on the employee ID (using SQL Query to join the data is not allowed). The data in the files must be sorted by the employees' last names and then first names. The first text file should include only employees with JobTitle = “Sales Representative”. The second text file should include all other employees. The files should be generated within one data flow task.

Result: SSIS solution and the output files.

# 4. Exercise 4: Using Data Viewers

Now that you have created your data flows, you need to verify and test their functionality using data viewers.

This exercise's main tasks are:

1. Add a grid data viewer.
2. Run the package, and view the data viewer.
3. Remove the data viewer.

Result: Screenshots of the viewers