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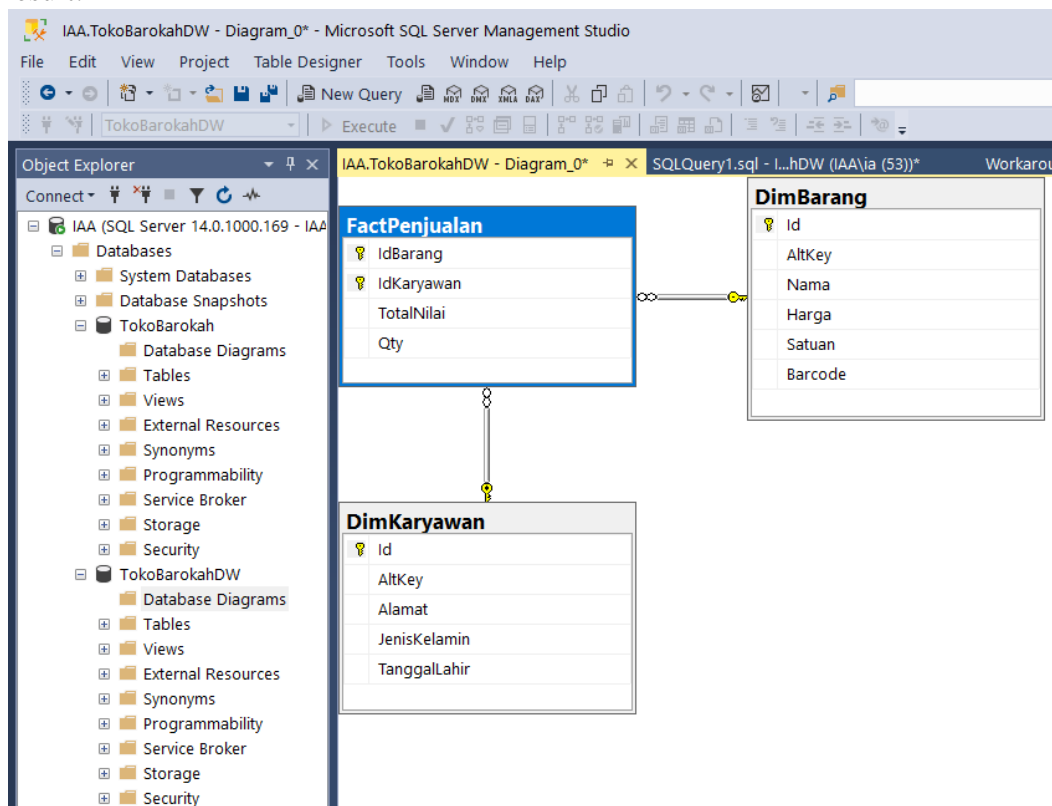


## Business Intelligence

### Jobsheet Week 3 - Introduction to SSIS & Star Schema

#### Practicum

1. Setting Up Sample Data Source and Data Warehouse Schema
  - For the steps I followed the same as in the practicum part 1 jobsheet. And here is the result:



## 2. Creating SSIS Packages with Export/Import Wizard

- For the steps I followed the same as in the practicum part 2 jobsheet. And here is the result:

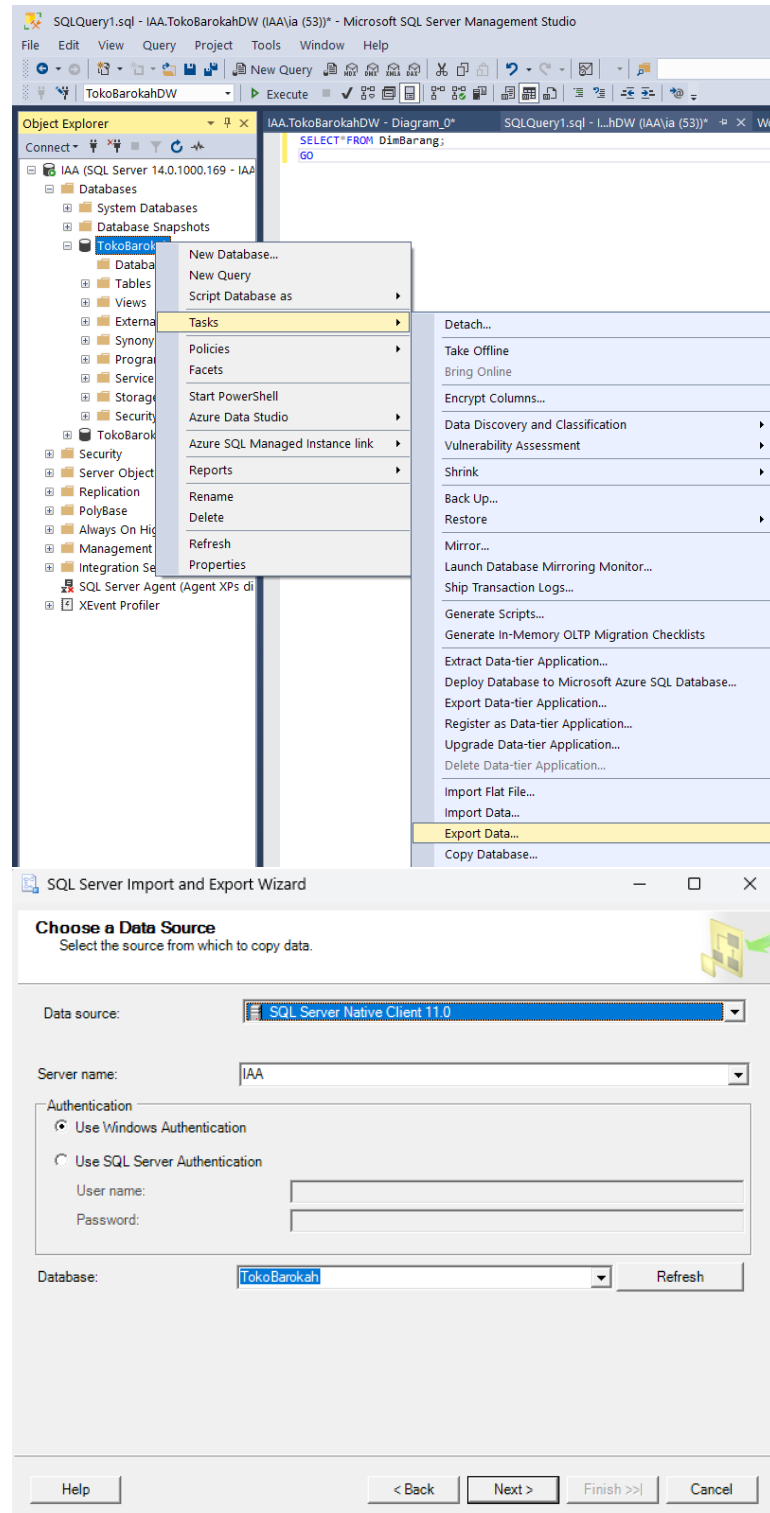
The screenshot displays the Microsoft SQL Server Management Studio interface. The 'Object Explorer' on the left shows the database structure for 'IAA (SQL Server 14.0.1000.169 - IAA)'. The 'Query Editor' on the right shows a query executed against the 'TokoBarokahDW' database, specifically the 'DimBarang' table. The query is: `SELECT * FROM DimBarang;`. The results are displayed in a table with 7 columns: Id, AltKey, Nama, Harga, Satuan, and Barcode. The table contains 31 rows of data, including items like 'MR SABUN MUTIARA 85 GR', 'SOKLIN SMART WHITE 800', 'NIVEA FAC SCRUB 100 GR', etc.

| Id | AltKey | Nama                        | Harga    | Satuan | Barcode       |
|----|--------|-----------------------------|----------|--------|---------------|
| 1  | 1000   | MR SABUN MUTIARA 85 GR      | 13406.25 | PCS    | 8995151110291 |
| 2  | 1003   | SOKLIN SMART WHITE 800      | 17250.00 | DOS    | 8998866605809 |
| 3  | 1004   | NIVEA FAC SCRUB 100 GR      | 14113.75 | PCS    | 8999777811242 |
| 4  | 1005   | NIVEA GENTLE FAC WASH 100   | 15682.50 | PCS    | 8999777811112 |
| 5  | 1006   | NIVEA GENTLE FCL SCRUB 40   | 6118.75  | PCS    | 8999777811495 |
| 6  | 101    | DELFI BRIKO VAN 125 GR      | 6270.00  | PCS    | 8991001780218 |
| 7  | 102    | SELAMAT WFR CHOCO 198       | 6270.00  | PCS    | 8991001780492 |
| 8  | 1026   | NUVO REFF KUNING/GOLD 250   | 7115.00  | PCS    | 8998866602990 |
| 9  | 1027   | NUVO REFF HIJAU 250         | 7187.50  | PCS    | 8998866602983 |
| 10 | 1028   | NUVO FAMILY MERAH 80G       | 1281.25  | PCS    | 8998866602556 |
| 11 | 1029   | NUVO FAMILY BIRU 80GR       | 1393.75  | PCS    | 8998866602549 |
| 12 | 1030   | NUVO FAMILY KNG 80GR        | 1393.75  | PCS    | 8998866602570 |
| 13 | 1031   | NUVO FAMILY HIJAU 80GR      | 1281.25  | PCS    | 8998866602563 |
| 14 | 1032   | SOKLIN SMART COLOUR SASET   | 2971.25  | PCS    | 8999999392963 |
| 15 | 1034   | NUVO REFF MERAH 250ML       | 7187.50  | PCS    | 8998866602976 |
| 16 | 1035   | NUVO REFF PUTIH 250         | 7115.00  | PCS    | 8998866602969 |
| 17 | 1037   | BOOM JERUK NIPIS 1 KG       | 5625.00  | PCS    | 8999999390525 |
| 18 | 1038   | NUVO FAMILY COOL            | 1393.75  | PCS    | 8998866606158 |
| 19 | 104    | SEPATU GHEST 0901           | 10075.00 | PCS    | 104           |
| 20 | 1041   | ROMA SARI GANDUM ROLL 149   | 3951.25  | DOS    | 8996001302248 |
| 21 | 1042   | IMPERIAL BW ERIG 250        | 11825.00 | PCS    | 8999999390549 |
| 22 | 1046   | DAHLIA REF CF ALL VAR K-241 | 10057.50 | PCS    | 8886012824139 |
| 23 | 1051   | MUKENA AL MADINAH TERUS...  | 6460.00  | PCS    |               |
| 24 | 1056   | HIT AER EXPERT BLOOM TEA... | 1082.50  | PCS    | 8992745705604 |
| 25 | 1057   | SEPATU KITANO KN            | 1662.50  | PCS    | 1057          |
| 26 | 1059   | SERENA EGG ROLL CHOCO55     | 9013.75  | PCS    | 8888166994232 |
| 27 | 1060   | FRES SB ORANGE 80           | 1300.00  | PCS    | 8998866800204 |
| 28 | 108    | MR.P KCG MADU R.25          | 1098.75  | PACK   | 8992709818258 |
| 29 | 1080   | SHINZU'I HANA 90            | 2763.75  | PCS    | 8992946512223 |
| 30 | 1081   | SHINZU'I KIREI 90           | 2763.75  | PCS    | 8992946512285 |
| 31 | 109    | MR.P KCG BALADO R. 20       | 1098.75  | PACK   | 8992709838256 |

## Exercise

1. Export data from a dbo table. Employees in the TokoBarokah database into a CSV file. You can use the T-SQL syntax or the Export/Import Wizard.

These are the steps:



SQL Server Import and Export Wizard

**Choose a Destination**  
Specify where to copy data to.

Destination: Flat File Destination

Select a file and specify the file properties and the file format.

File name: C:\sql\karyawan\_toko\_barokah.csv Browse...

Locale: English (United States) ☐ Unicode

Code page: 1252 (ANSI - Latin I)

Format: Delimited

Text qualifier: <none>

☒ Column names in the first data row

Help < Back Next > Finish >> Cancel

SQL Server Import and Export Wizard

**Specify Table Copy or Query**  
Specify whether to copy one or more tables and views or to copy the results of a query from the data source.

☒ **Copy data from one or more tables or views**  
Use this option to copy all the data from the existing tables or views in the source database.

☐ **Write a query to specify the data to transfer**  
Use this option to write an SQL query to manipulate or to restrict the source data for the copy operation.

Help < Back Next > Finish >> Cancel

SQL Server Import and Export Wizard

### Configure Flat File Destination

Source table or view: [dbo].[Karyawan]

Specify the characters that delimit the destination file:

Row delimiter: {CR}{LF}

Column delimiter: Comma (,)

Edit Mappings... Preview...

Help < Back Next > Finish >> Cancel

SQL Server Import and Export Wizard

### Save and Run Package

Indicate whether to save the SSIS package.

☒ Run immediately

☒ Save SSIS Package

☐ SQL Server

☒ File system

Package protection level:

Encrypt sensitive data with user key

Password:

Retype password:

Help < Back Next > Finish >> Cancel

SQL Server Import and Export Wizard

**Save SSIS Package**  
You can save the SSIS package for reuse. You must save the package to schedule it for later execution.

Name: export\_karyawan

Description: SSIS Package Description

Target: File System

File name: C:\sql\export\_karyawan.dtsx Browse...

Help < Back Next > Finish >>| Cancel

SQL Server Import and Export Wizard

**Complete the Wizard**  
Verify the choices made in the wizard and click Finish.

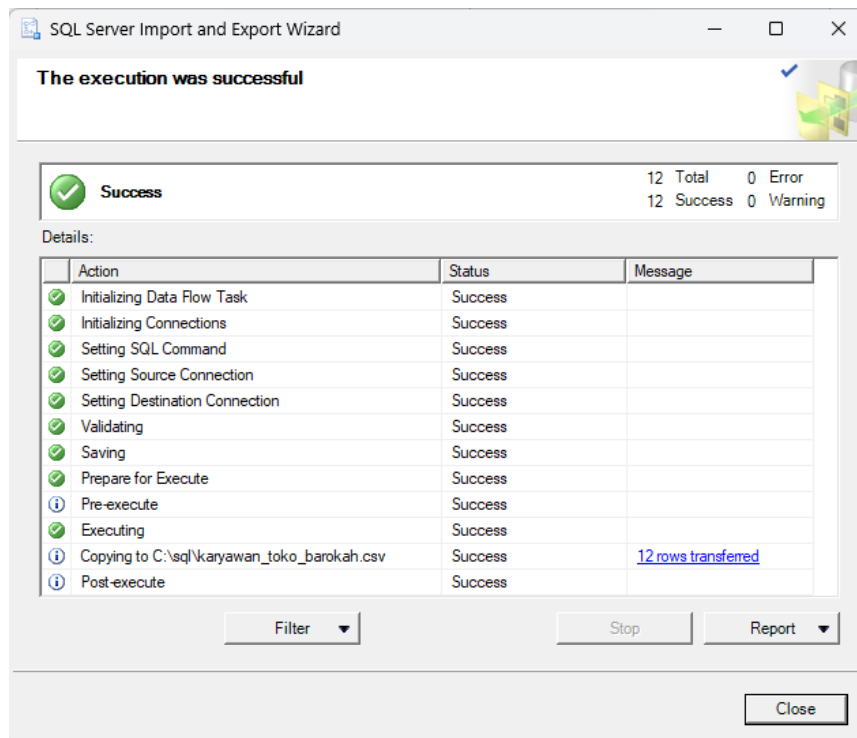
**Click Finish to perform the following actions:**

Source Location : IAA  
Source Provider : SQLNCLI11

- Copy rows from [dbo].[Karyawan] to C:\sql\karyawan\_toko\_barokah.csv  
The new target table will be created.
- The package will be saved to the package file "C:\sql\export\_karyawan.dtsx".
- The package will be run immediately.

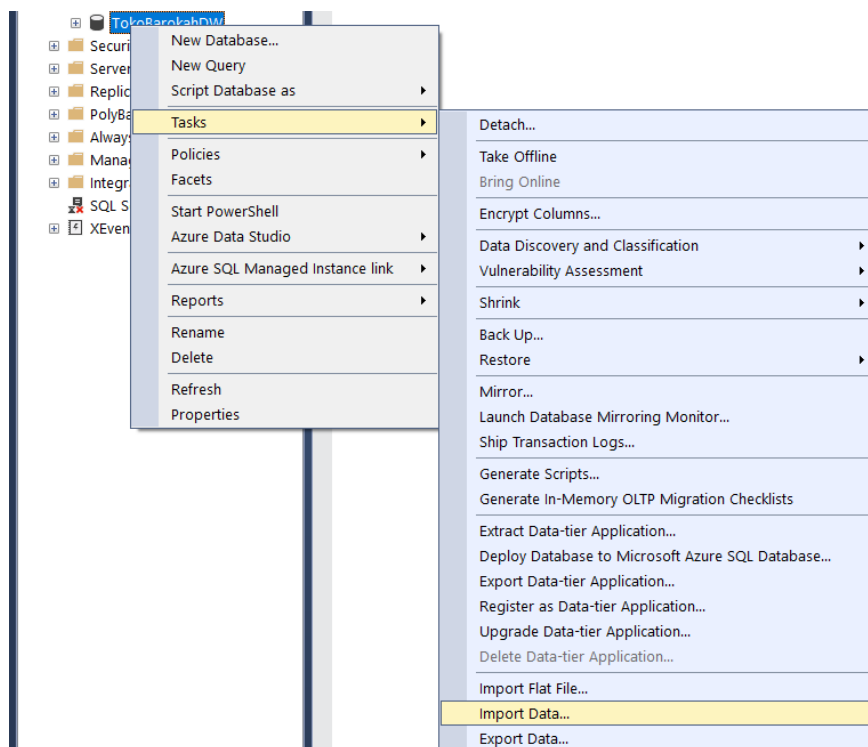
Provider mapping file : C:\Program Files (x86)\Microsoft SQL Server Management Studio 19\Common7\IDE\Extensions\Microsoft\SSIS\160\MappingFiles\MSSQLToSSIS10.XML

Help < Back Next > Finish Cancel



2. Create an SSIS package to import the CSV file data on question number 1 into the DimKaryawan table in the TokoBarokahDW database!

These are the steps:



SQL Server Import and Export Wizard

**Choose a Data Source**  
Select the source from which to copy data.

Data source: Flat File Source

Select a file and specify the file properties and the file format.

File name: C:\sql\karyawan\_toko\_barokah.csv Browse...

Locale: English (United States) ☐ Unicode

Code page: 1252 (ANSI - Latin I)

Format: Delimited

Text qualifier: <none>

Header row delimiter: [CR][LF]

Header rows to skip: 0

☒ Column names in the first data row

Columns are not defined for this connection manager.

Help < Back Next > Finish >> Cancel

SQL Server Import and Export Wizard

**Choose a Destination**  
Specify where to copy data to.

Destination: SQL Server Native Client 11.0

Server name: IAA

Authentication

☒ Use Windows Authentication

☐ Use SQL Server Authentication

User name:

Password:

Database: TokoBarokahDW Refresh New...

Help < Back Next > Finish >> Cancel



SQL Server Import and Export Wizard

**Select Source Tables and Views**  
Choose one or more tables and views to copy.

Tables and views:

| Source   | Destination: IAA                             |
|--|--|
| <input checked="" type="checkbox"/> C:\sql\karyawan_toko_barokah.csv | <input type="checkbox"/> [dbo].[DimKaryawan] |

Edit Mappings... Preview...

Help < Back Next > Finish >> Cancel

Column Mappings

Source: C:\sql\karyawan\_toko\_barokah.csv  
Destination: [dbo].[DimKaryawan]

☐ Create destination table Edit SQL...  
☐ Delete rows in destination table Drop and re-create destination table  
☒ Append rows to the destination table Enable identity insert

Mappings:

| Source       | Destination  | Type    | Nullable                            | Size | Precision | Scale |
|--------------|--------------|---------|-------------------------------------|------|-----------|-------|
| Username     | AltKey       | varchar | <input checked="" type="checkbox"/> | 50   |           |       |
| Alamat       | Alamat       | varchar | <input checked="" type="checkbox"/> | 50   |           |       |
| JenisKelamin | JenisKelamin | char    | <input checked="" type="checkbox"/> | 1    |           |       |
| TanggalLahir | TanggalLahir | date    | <input checked="" type="checkbox"/> |      |           |       |

Source column: Username string [DT\_STR] (50)

OK Cancel

SQL Server Import and Export Wizard

**Review Data Type Mapping**  
Select a table to review how its data types map to those in the destination and how it handles conversion issues.

Table:

| Source                           | Destination         |
|----------------------------------|---------------------|
| C:\sql\karyawan_toko_barokah.csv | [dbo].[DimKaryawan] |

Data type mapping:

|                                     | Source Column | Source Type     | Destination Col... | Destination Type | Convert                             | On Error   | On Truncati... |
|-------------------------------------|---------------|-----------------|--------------------|------------------|-------------------------------------|------------|----------------|
| <input checked="" type="checkbox"/> | Username      | string [DT_STR] | AltKey             | varchar          |                                     |            |                |
| <input checked="" type="checkbox"/> | Alamat        | string [DT_STR] | Alamat             | varchar          |                                     |            |                |
| <input checked="" type="checkbox"/> | JenisKelamin  | string [DT_STR] | JenisKelamin       | char             |                                     |            |                |
|                                     | TanggalLahir  | string [DT_STR] | TanggalLahir       | date             | <input checked="" type="checkbox"/> | Use Global | Use Global     |

To view conversion details, double-click the row that contains the column source type to be converted.

On Error (global) Fail  
On Truncation (global) Fail

Help < Back Next > Finish >> Cancel

SQL Server Import and Export Wizard

**Save and Run Package**  
Indicate whether to save the SSIS package.

☒ Run immediately

☒ Save SSIS Package

☐ SQL Server

☒ File system

Package protection level:

Encrypt sensitive data with user key

Password:

Retype password:

Help < Back Next > Finish >> Cancel

Moves to the next wizard page

SQL Server Import and Export Wizard

**Save SSIS Package**  
You can save the SSIS package for reuse. You must save the package to schedule it for later execution.

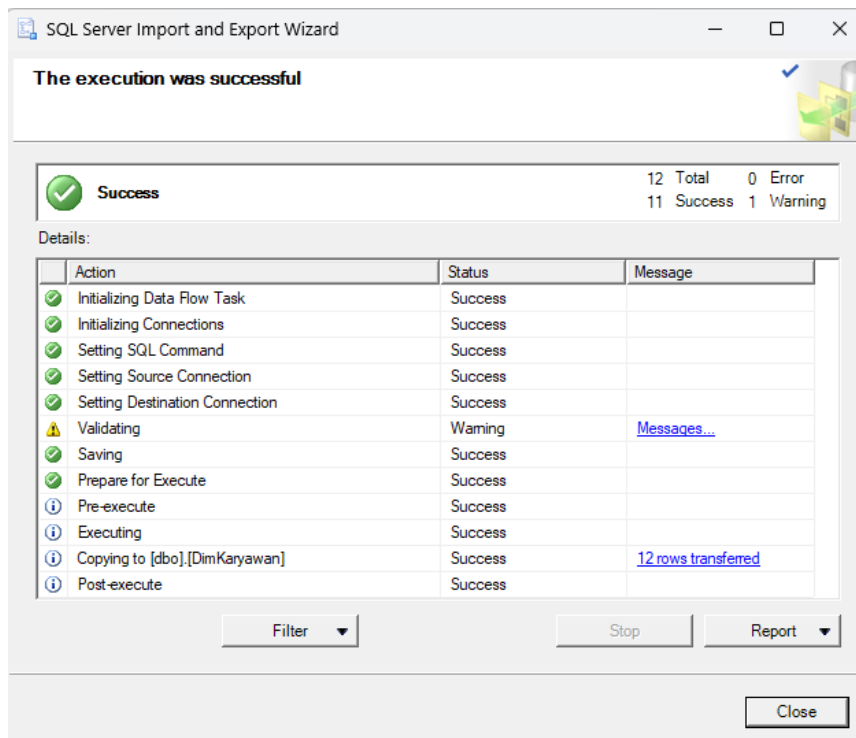
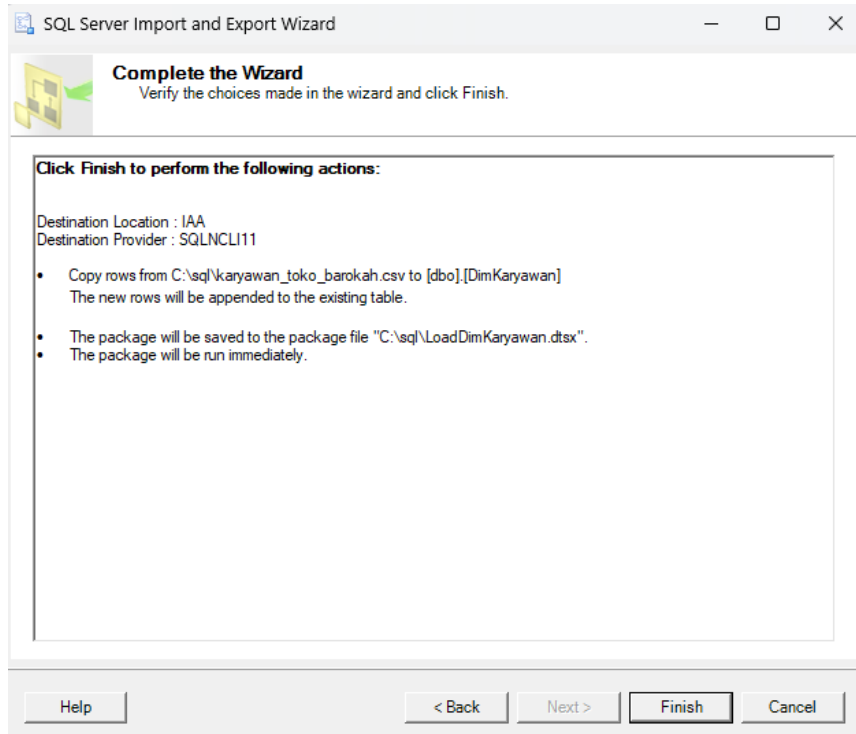
Name: LoadDimKaryawan

Description: SSIS Package Description

Target: File System

File name: C:\sql\LoadDimKaryawan.dtsx Browse...

Help < Back Next > Finish >> Cancel



SQLQuery3.sql - IAA.TokoBarokahDW (IAA\ia (52))\* - Microsoft SQL Server Management Studio

File Edit View Query Project Tools Window Help

Object Explorer

Connect

IAA (SQL Server 14.0.1000.169 - IAA)

Databases

System Databases

Database Snapshots

TokoBarokah

TokoBarokahDW

Security

Server Objects

Replication

PolyBase

Always On High Availability

Management

Integration Services Catalogs

SQL Server Agent (Agent XPs di

XEvent Profiler

SQLQuery3.sql - I...hDW (IAA\ia (52))\*

IAA.TokoBarokahDW - Di

```
SELECT * FROM DimKaryawan
GO
```

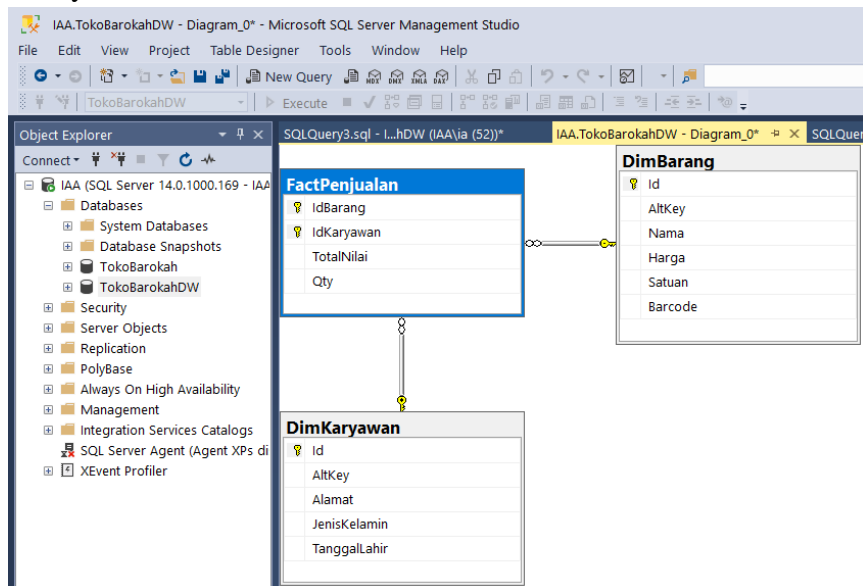
100 %

Results Messages

|    | Id | AltKey  | Alamat        | JenisKelamin | TanggalLahir |
|----|----|---------|---------------|--------------|--------------|
| 1  | 1  | ARIF    | Sukun         | L            | 1984-05-29   |
| 2  | 2  | AYU     | Sawojajar     | P            | 1982-06-13   |
| 3  | 3  | CATUR   | Blimbing      | L            | 1983-08-14   |
| 4  | 4  | DEWI    | Kedungkandang | P            | 1983-12-03   |
| 5  | 5  | ETIK    | Sukun         | P            | 1984-09-23   |
| 6  | 6  | ONNY    | Klojen        | L            | 1985-12-07   |
| 7  | 7  | PUSPITA | Lowokwaru     | P            | 1984-10-18   |
| 8  | 8  | RIANTI  | Blimbing      | P            | 1982-02-03   |
| 9  | 9  | RIDO    | Klojen        | L            | 1984-04-23   |
| 10 | 10 | RIZKY   | Lowokwaru     | L            | 1983-11-04   |
| 11 | 11 | SUGIONO | Klojen        | L            | 1983-02-27   |
| 12 | 12 | WIWIK   | Kedungkandang | P            | 1983-01-15   |

- Document the steps in tasks number 1 and 2 and provide your analysis of the table schema of the database to a report in PDF format. Collect it to each lecturer!

### Analysis Results:



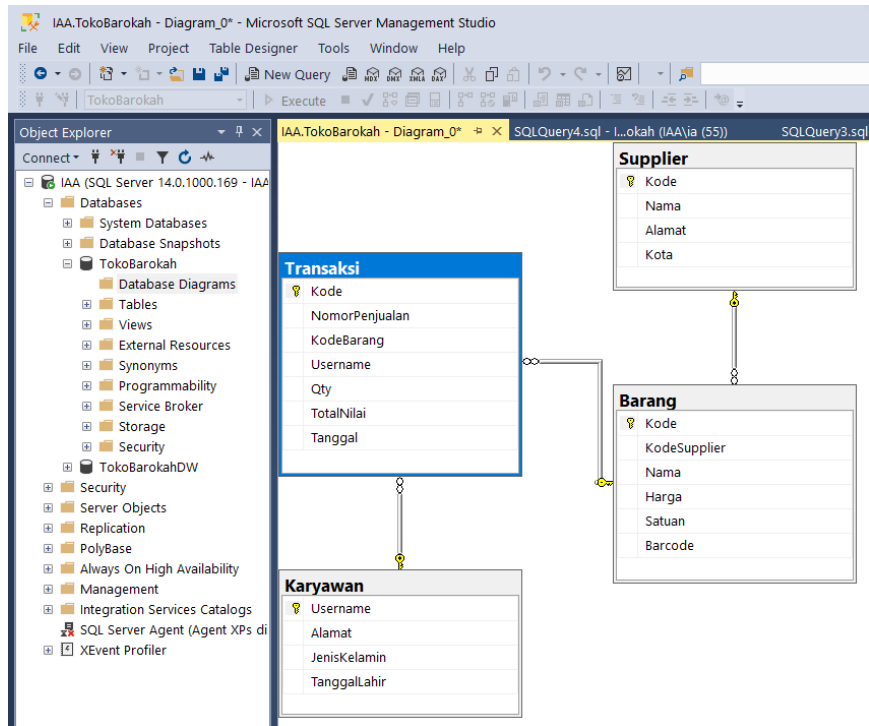
### Fact Table:

- FactPenjualan

### Dimension Table:

- DimBarang
- Dim Penjualan

## Analysis Results:



### Fact Table:

- Transaksi

### Dimension Table:

- Supplier
- Barang
- Karyawan