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NIM : 825200049  
Prodi : Sistem Informasi

## UAS ETL & Data Warehouse

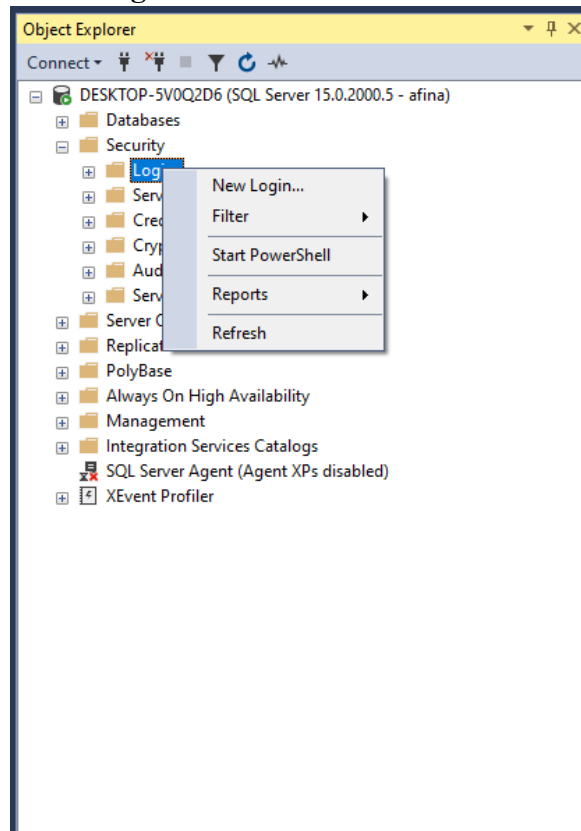
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Langkah - langkah proses pemodelan ETL & Data Warehouse

I. SQL Server

A. Create New Login

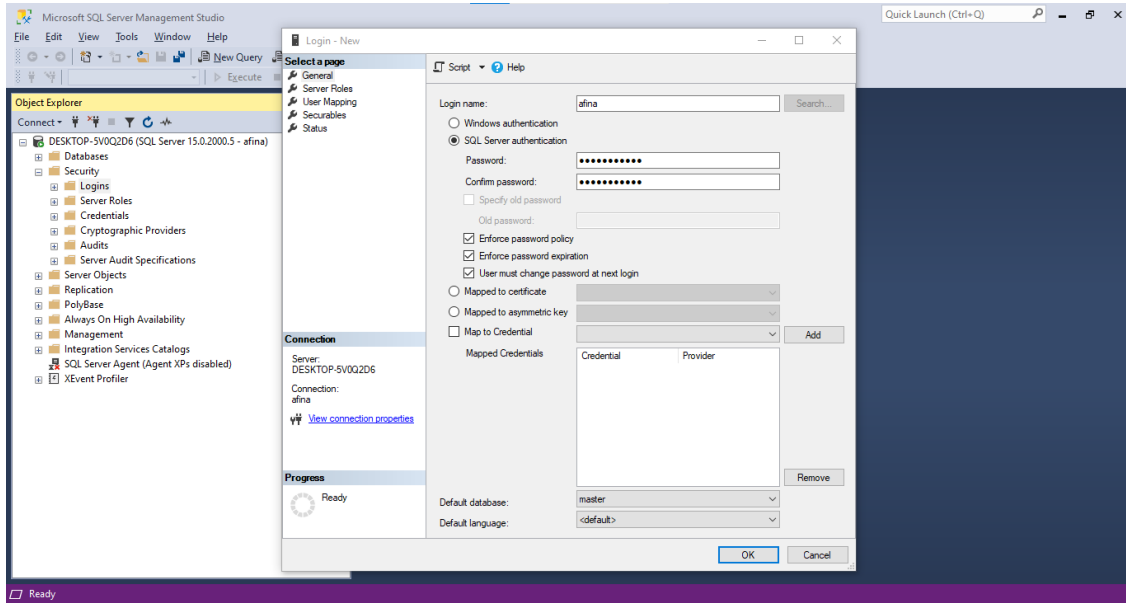
1. Buka **SQL Server Management Studio**
2. Click kanan **Login** di **Object Explorer > Security > Login**
3. Click **New Login**



#### 4. Page Login - New

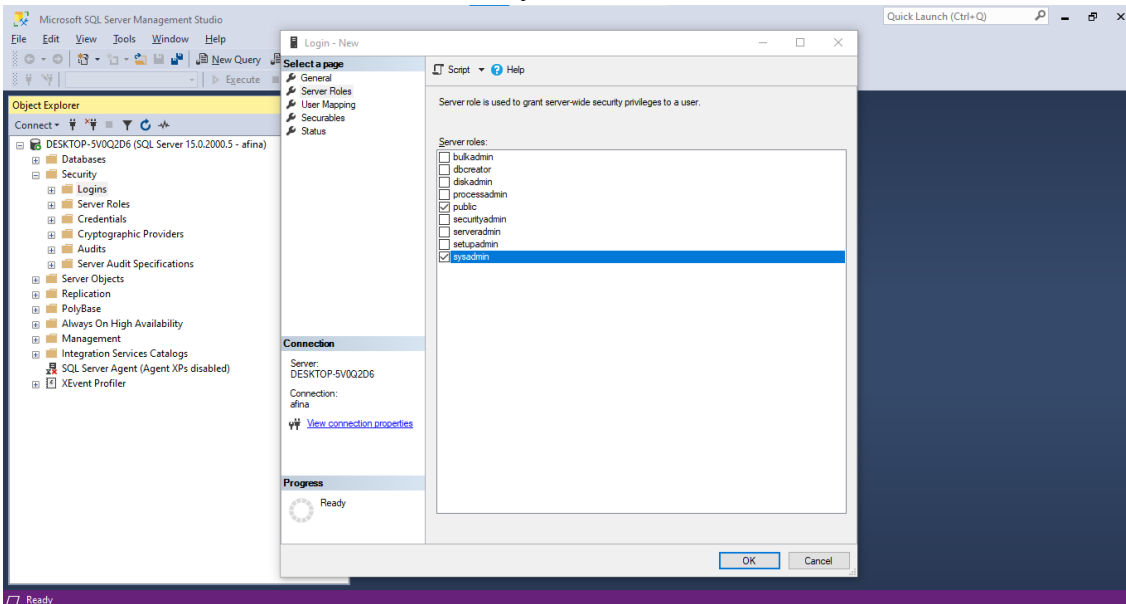
##### - General

- Select **SQL Server Authentication**
- Input
  - Login Name : afina
  - Input Password : <yourpassword>
  - Confirm Password : <yourpassword>

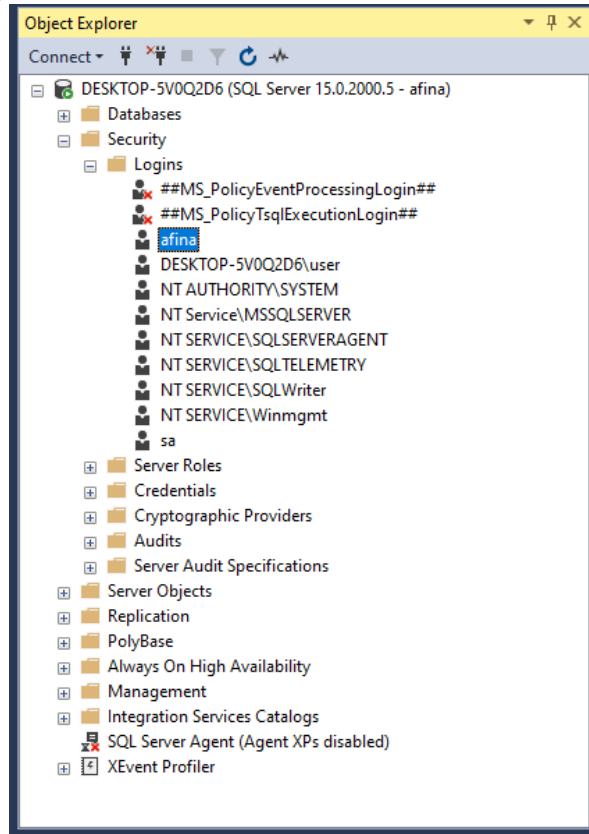


##### - Server Roles

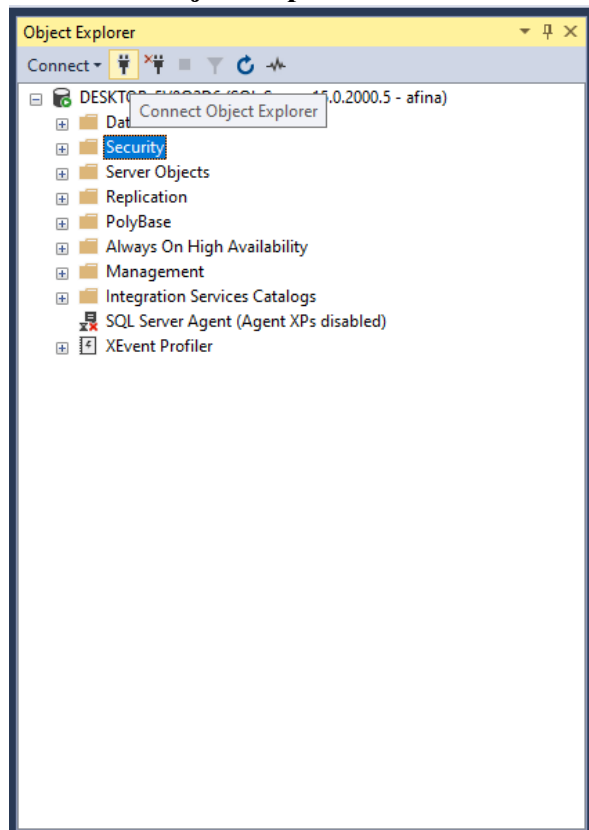
- Checklis
  - Public
  - Sysadmin



5. Selanjutnya click **OK** dan new login yang dibuat tadi akan masuk ke list **Login**

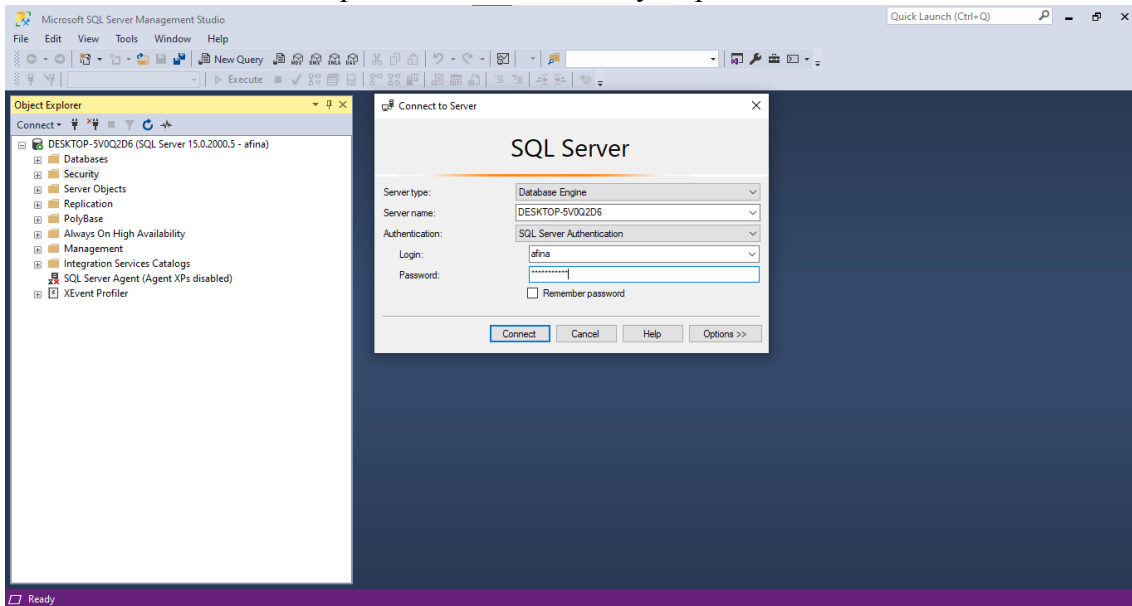


6. Click **Connect Object Explorer**



7. Login menggunakan Login Name & Password yang telah dibuat pada new login sebelumnya

- Login Name : afina
- Input Password : <yourpassword>



8. Selanjutnya click **Connect**, SQL Server sudah menggunakan Connection dengan login **afina**

## B. Restore .bak to SQL Server

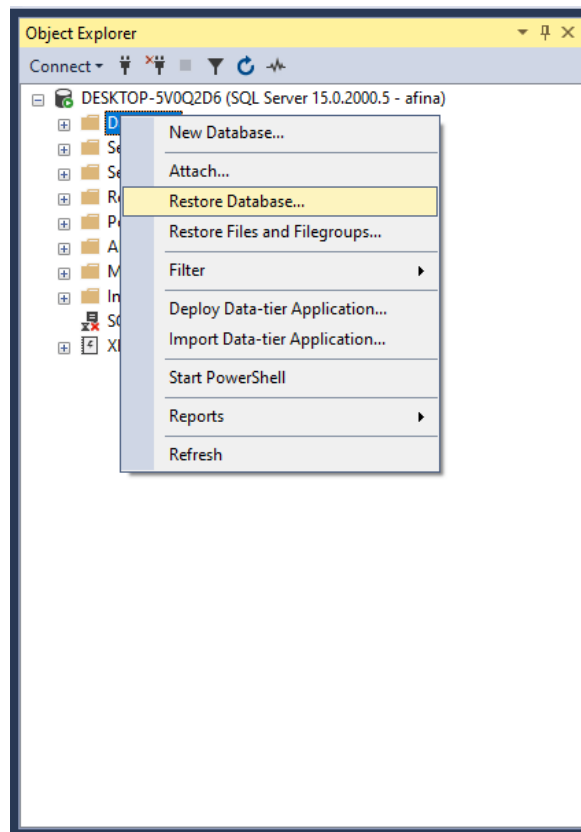
1. Buka website ini

<https://docs.microsoft.com/en-us/sql/samples/adventureworks-install-configure?view=sql-server-ver15&tabs=ssms>

2. Download OLTP AdventureWorks2019.bak

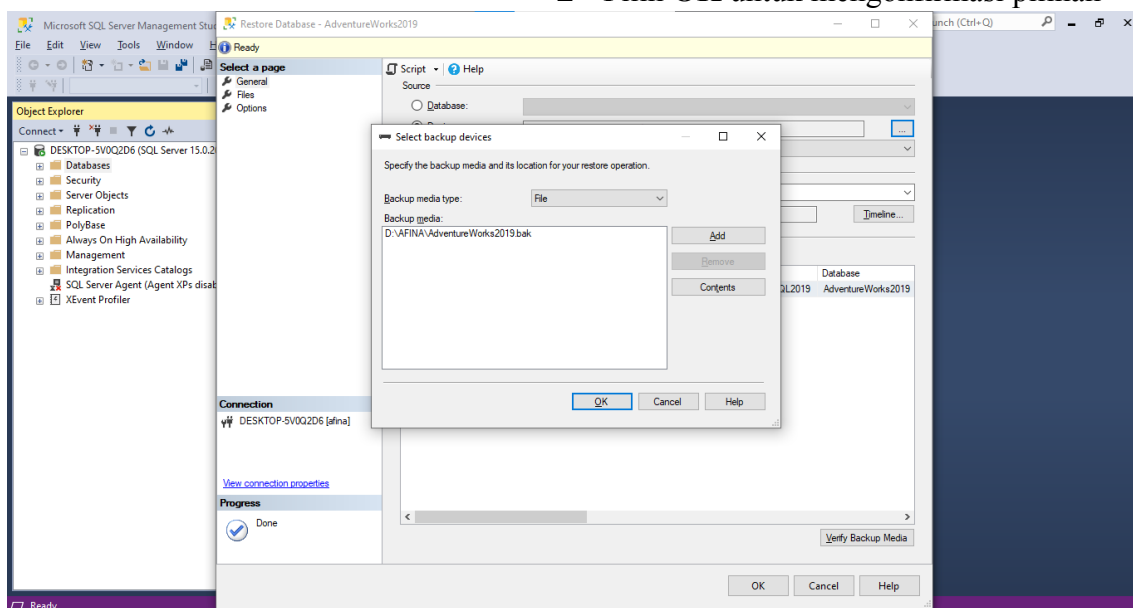
OLTP	Data Warehouse	Lightweight
<a href="#">AdventureWorks2019.bak</a>	<a href="#">AdventureWorksDW2019.bak</a>	<a href="#">AdventureWorksLT2019.bak</a>
<a href="#">AdventureWorks2017.bak</a>	<a href="#">AdventureWorksDW2017.bak</a>	<a href="#">AdventureWorksLT2017.bak</a>
<a href="#">AdventureWorks2016.bak</a>	<a href="#">AdventureWorksDW2016.bak</a>	<a href="#">AdventureWorksLT2016.bak</a>
<a href="#">AdventureWorks2016_EXT.bak</a>	<a href="#">AdventureWorksDW2016_EXT.bak</a>	N/A
<a href="#">AdventureWorks2014.bak</a>	<a href="#">AdventureWorksDW2014.bak</a>	<a href="#">AdventureWorksLT2014.bak</a>
<a href="#">AdventureWorks2012.bak</a>	<a href="#">AdventureWorksDW2012.bak</a>	<a href="#">AdventureWorksLT2012.bak</a>
<a href="#">AdventureWorks2008R2.bak</a>	<a href="#">AdventureWorksDW2008R2.bak</a>	N/A

3. Balik ke SQL Server
4. Click kanan **Database** di **Object Explorer > Database**
5. Click **Restore Database** untuk meluncurkan wizard Restore Database

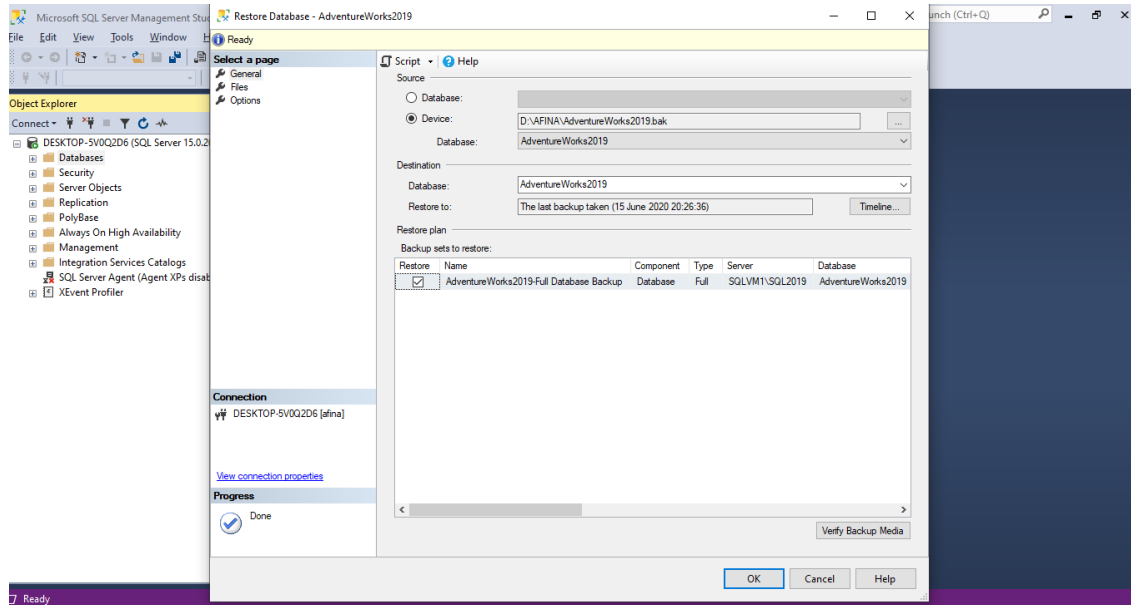


6. Restore Database  
- General

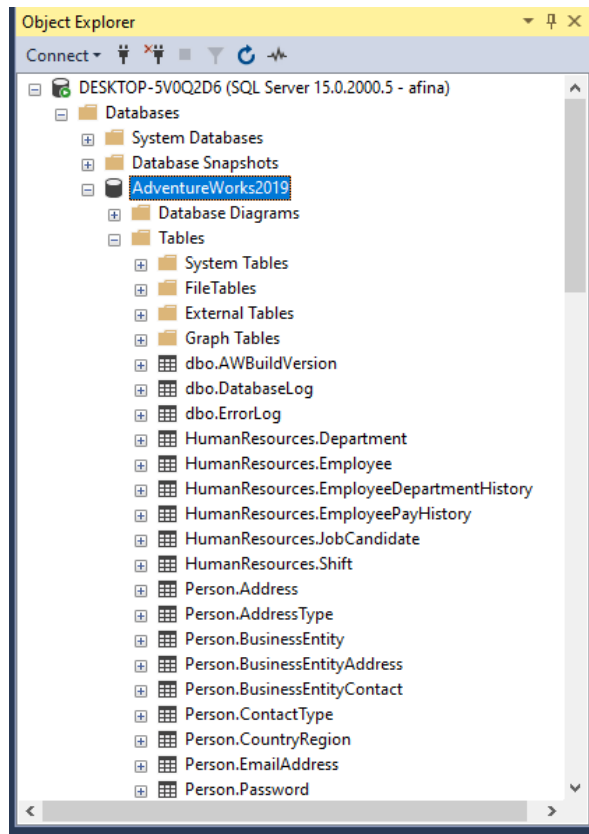
- Select Device
- Pilih elips (...) untuk memilih backup device
  - Page Select Backup Devices
    - Add dan pilih .bak file yang baru saja di download (**AdventureWorks2019.bak**)
    - Pilih **OK** untuk mengonfirmasi pilihan



7. Pastikan semua data sudah sesuai, selanjutnya click **OK** Restore Database



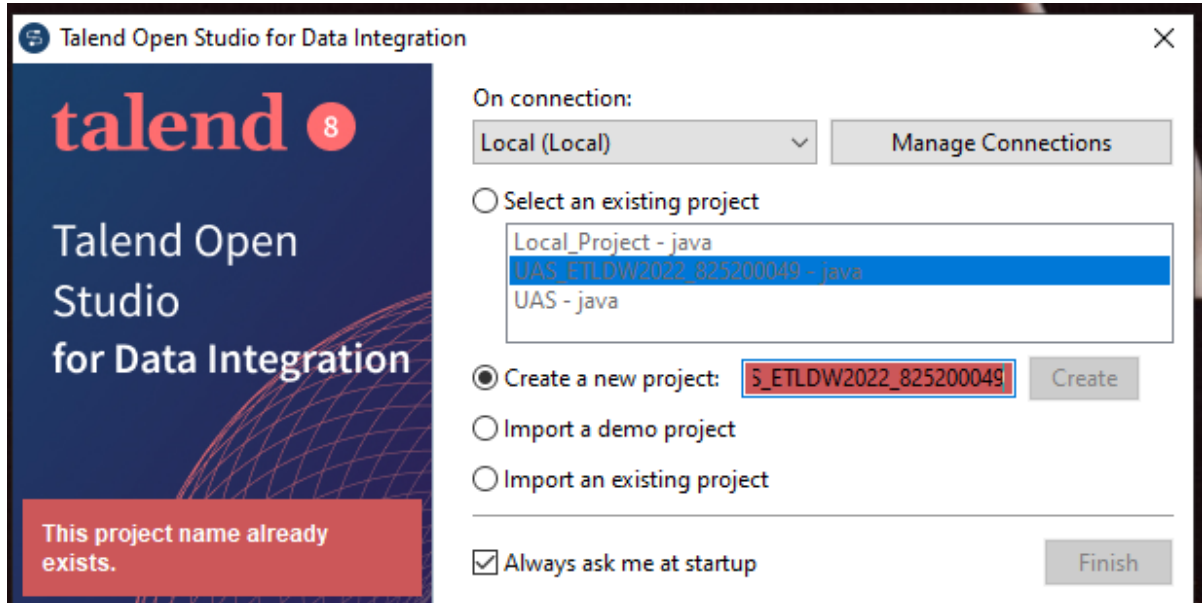
8. **AdventureWorks2019.bak** akan masuk ke list **Databases**



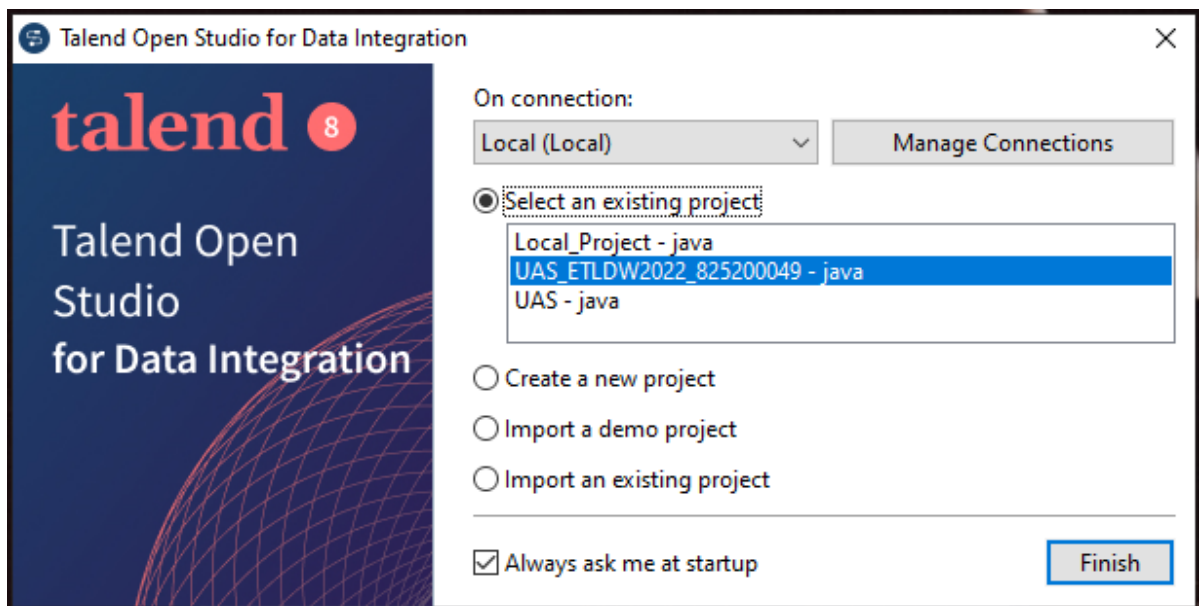
## II. Talend

### A. Create Project

1. Buka **Talend Open Studio for Data Integration**
2. Select **Create a new project**
  - Input
    - Project Name : UAS\_ETLDW2022\_82520049
3. Click **Create**

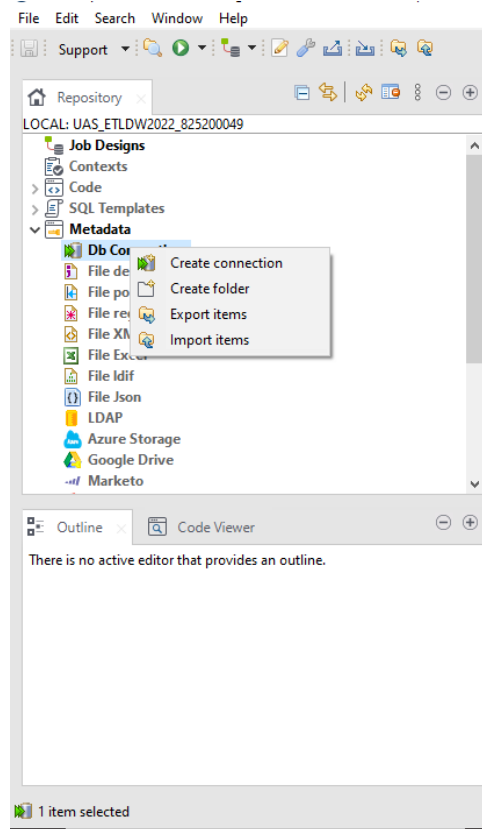


4. Nama project yang discrete sebelumnya akan muncul di list **Select an existing project**
5. Select **Select an existing project**
  - Input
    - Project Name : UAS\_ETLDW2022\_82520049
6. Click **Finish**



## B. Create Connection Talend to SQL Server

### 1. Click kanan **Db Connection** di **Repository > Metadata > Db Connection**



### 2. Click **Create connection** untuk meluncurkan wizard **Database Connection**

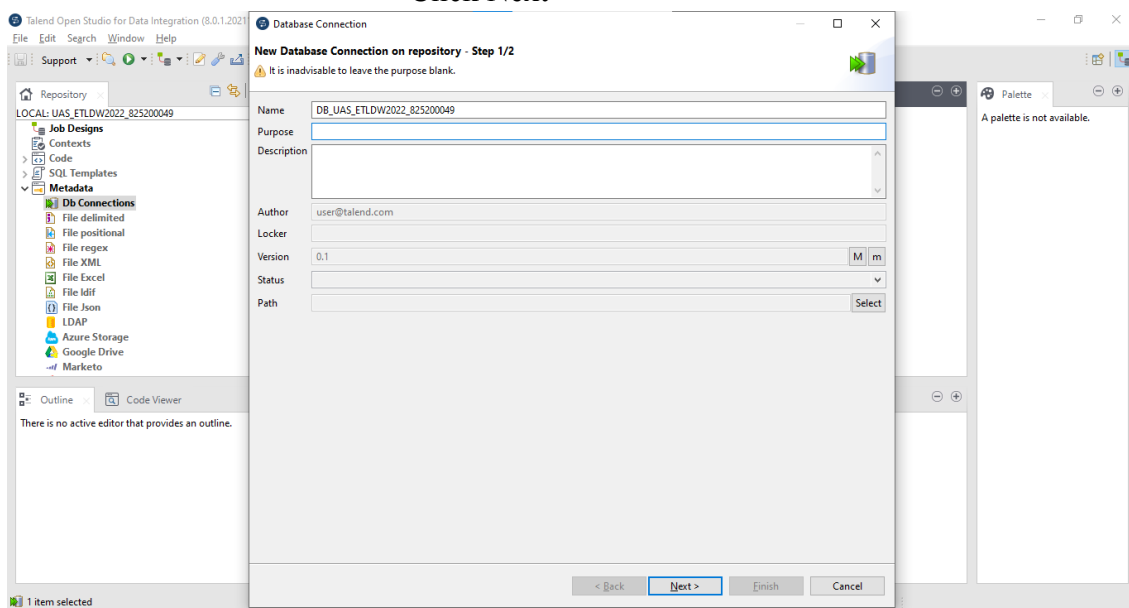
### 3. Database Connection

#### - New Database Connection on Repository - Step 1/2

- Input

- Name : DB\_UAS\_ETLDW2022\_825200049

- Click Next

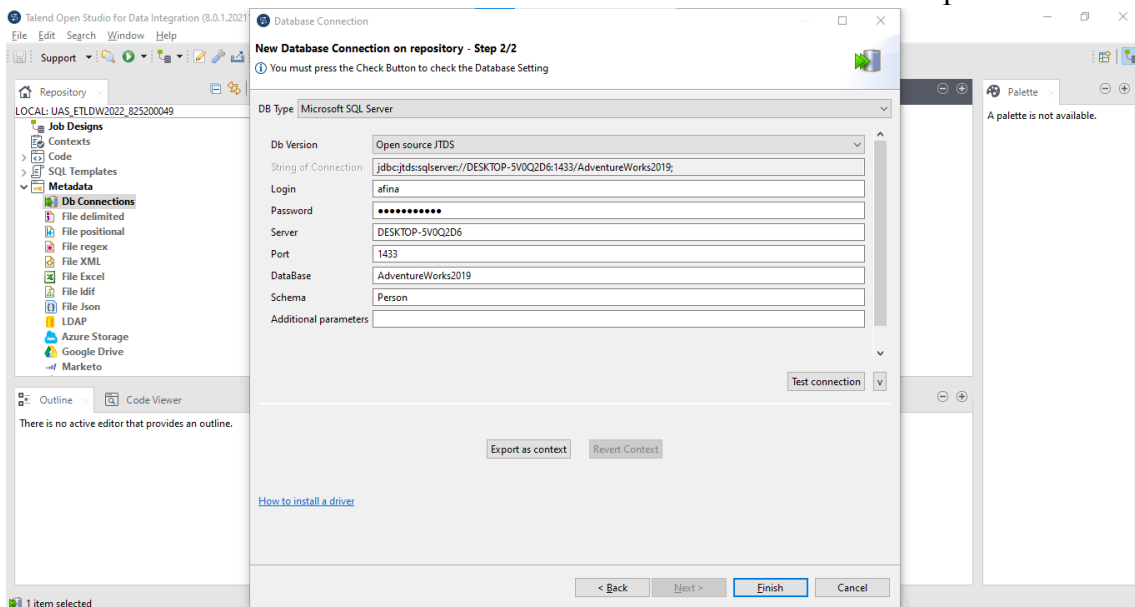




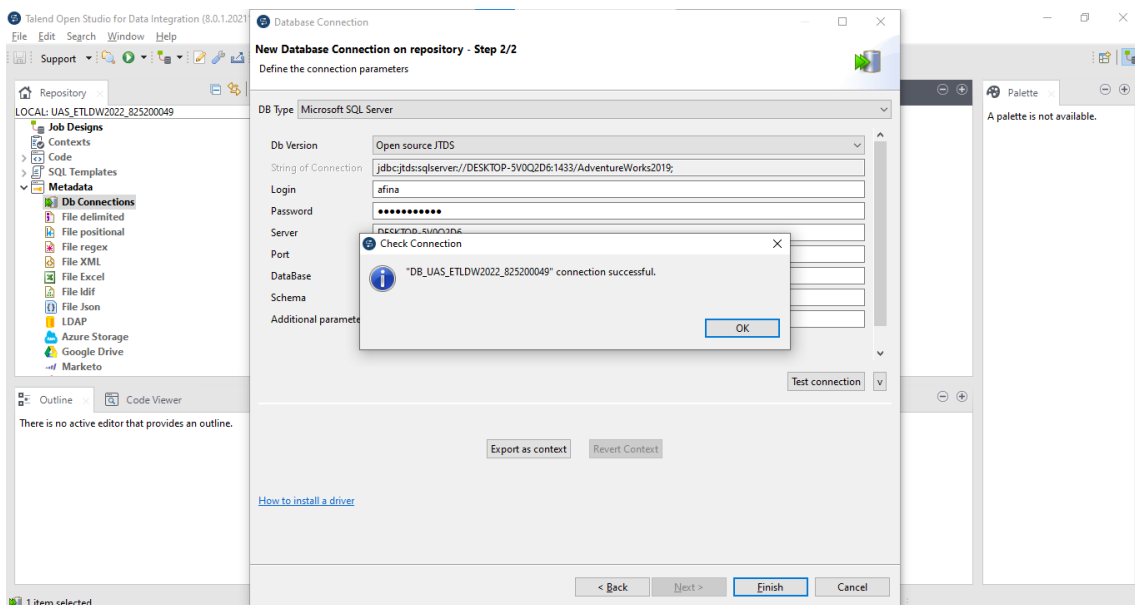
## - New Database Connection on Repository - Step 2/2

### ● Input

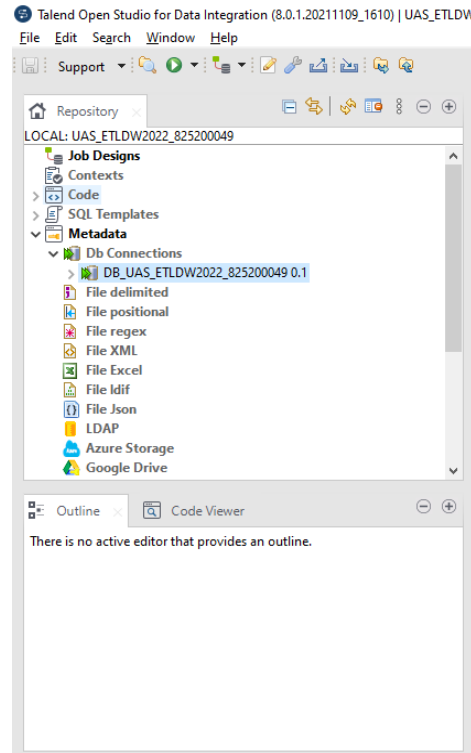
- DB Type : Microsoft SQL Server
- Db Version : Open Source JTDS
- Login Name SQL Server : afina
- Password SQL Server : <password>
- Server Name SQL Server : DESKTOP-5V0Q2D6
- Port : 1433
- Database di SQL Server : AdventureWorks2019
- Scema : <optional>



## 4. Click **Test Connection** untuk check apakah connection talend to SQL Server sudah berhasil atau belum

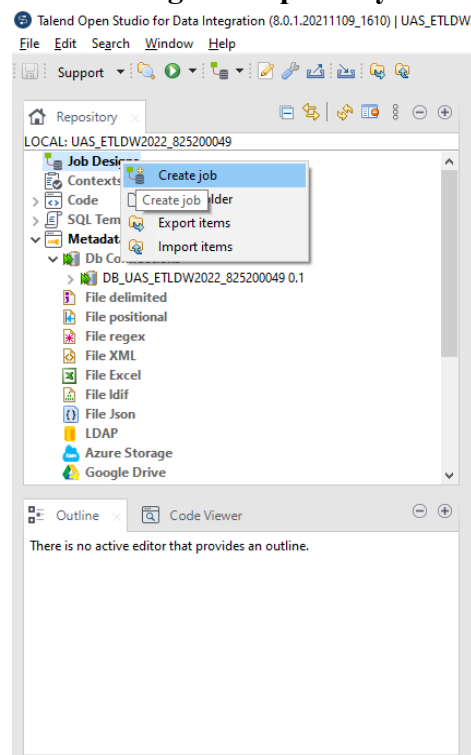


5. Jika connection successfully, click **OK** dan **Finish** Database Connection
6. Database connection yang dibuat tadi akan masuk ke list **Db Connection**

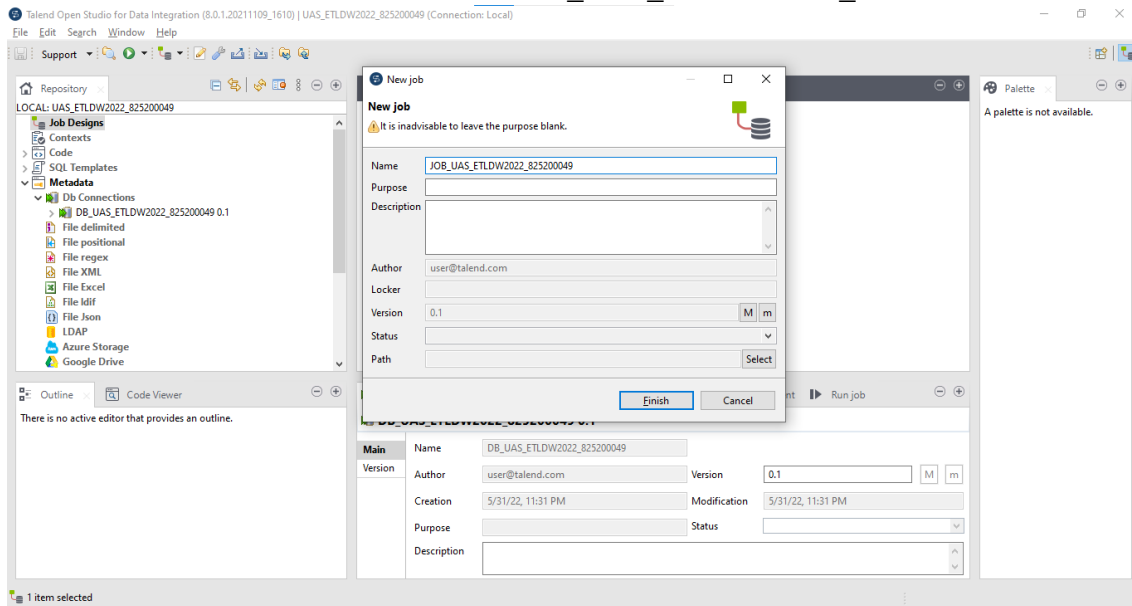


### C. Create Job Design

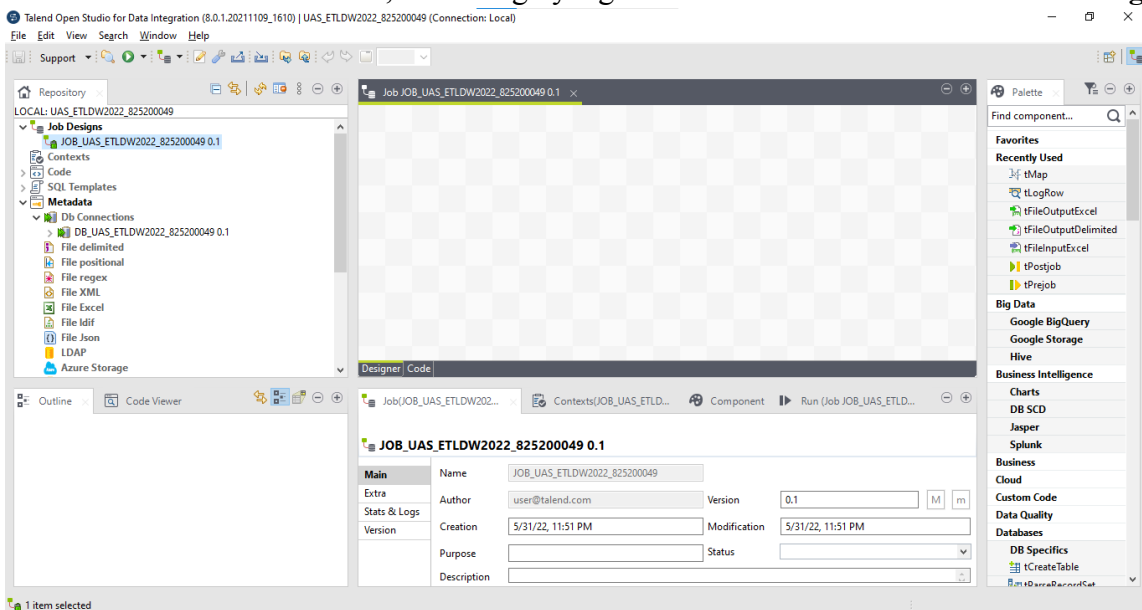
1. Click kanan **Job Design** di **Repository** > **Job Design**



2. Click **Create job** untuk meluncurkan wizard **New Job**
3. New Job
  - Input
    - Name : **JOB\_UAS\_ETLDW2022\_82520049**

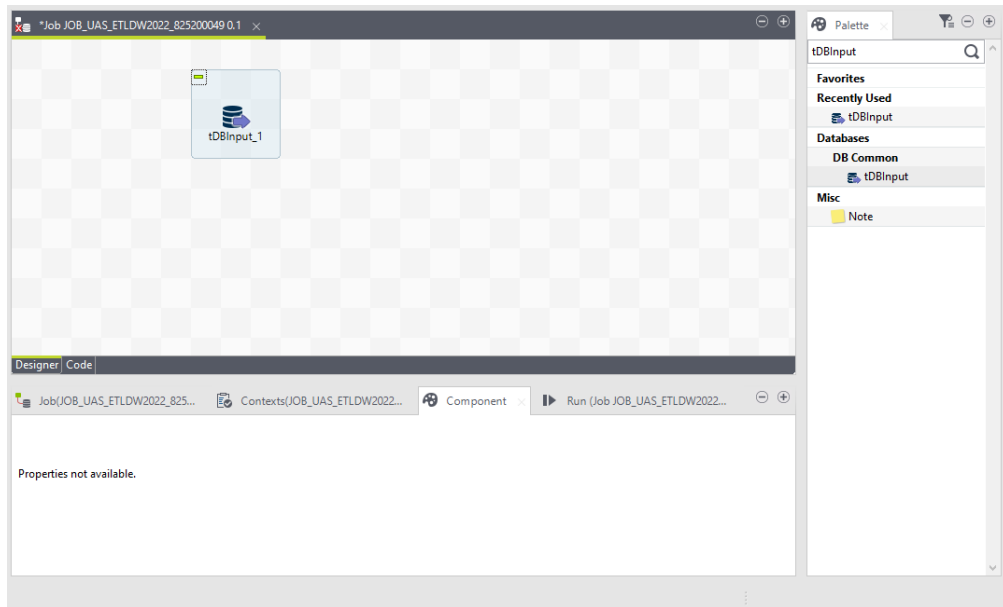


4. Click **Finish**, Job Design yang dibuat tadi akan masuk ke list **Job Design**



#### D. Output Data ke Console

1. Buka Job Design **JOB\_UAS\_ETLDW2022\_82520049**
2. Cari **tDBInput** pada **Palette > Databases > DB Common**
3. Drag **tDBInput** ke Job Design



4. Click **tDBInput**

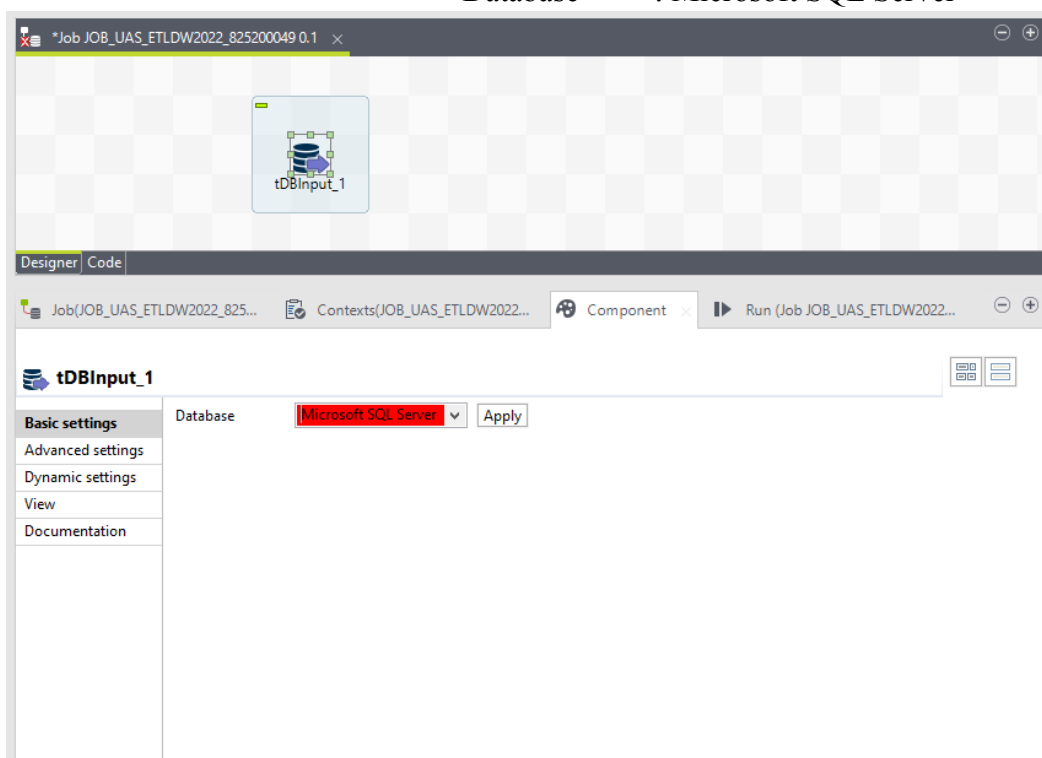
5. Pilih tab **Component**

- Database

• Apply

○ Database

: Microsoft SQL Server



- Property

• Select

○ Property Type : Repository

○ Repository Content :

DB\_UAS\_ETL\_DW2022\_825200049

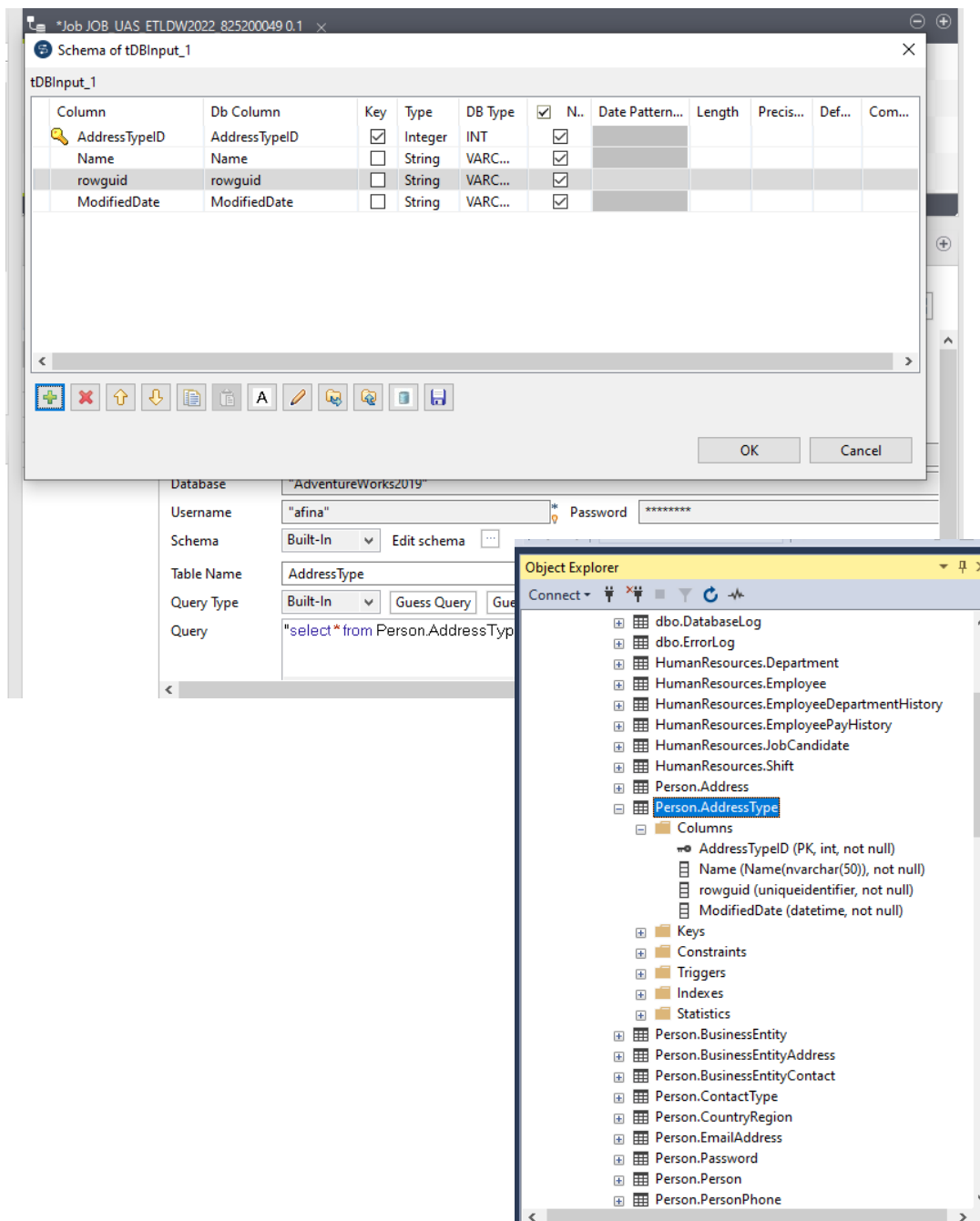
- Schema

- Select

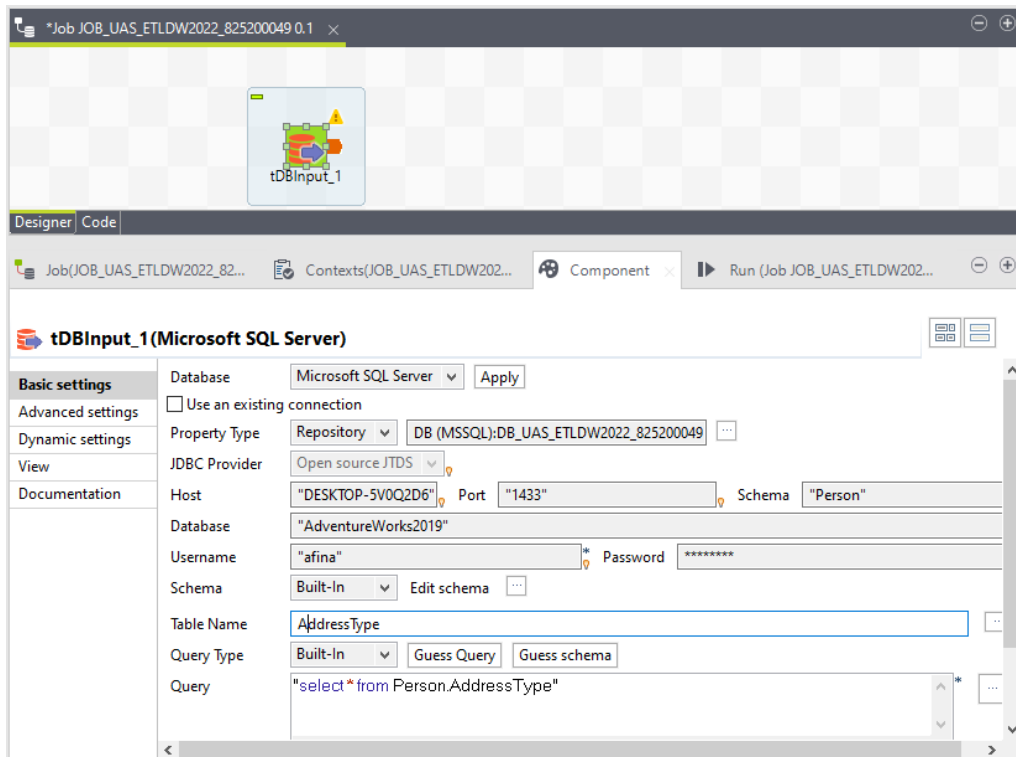
- Schema : Built-In
    - Table Name : Address Type (inheritance Schema Person)

- Edit Schema, karena memakai table AddressType, maka schema harus disamakan dengan yang di table AddressType, yaitu dengan Add:

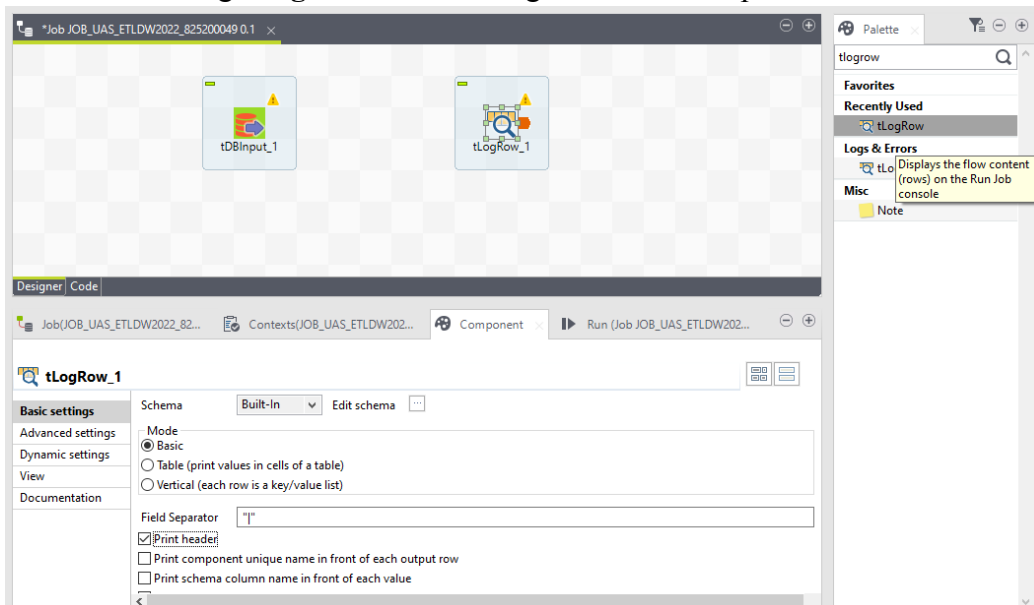
- AddressTypeID
    - Name
    - Rowguide
    - ModifiedDate



- Query
  - Select
    - Query Type : Built-In
  - Input
    - Query : select \* from Person.AddressType



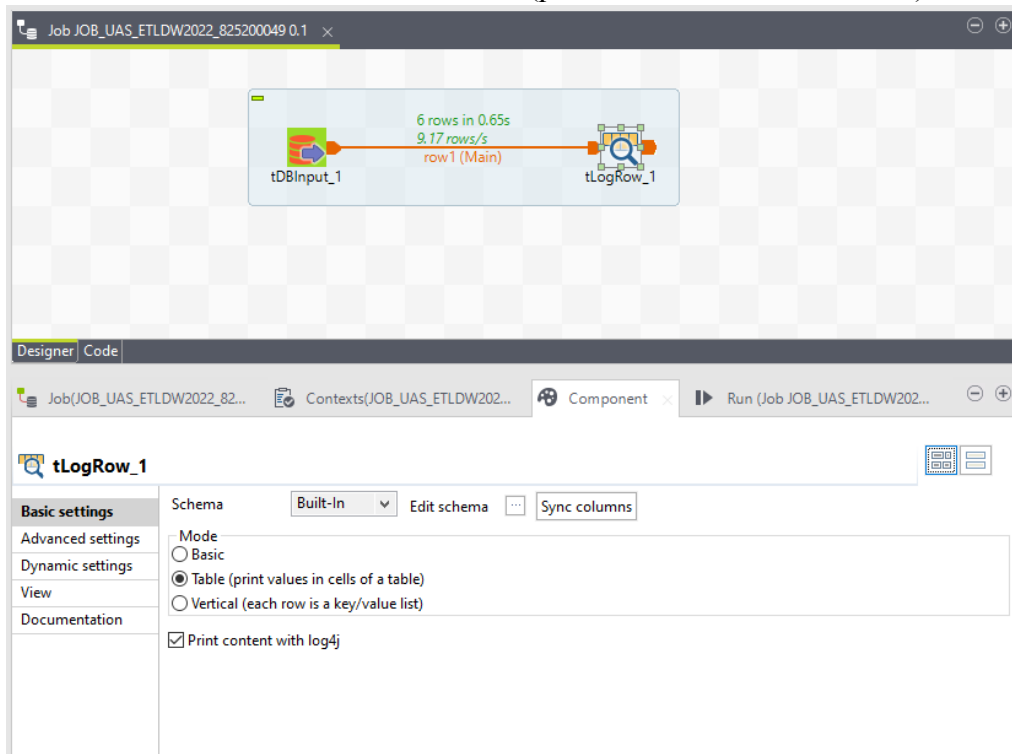
6. Cari **tLogRow** pada **Palette > Logs & Errors**
7. Drag **tLogRow** ke Job Design untuk menampilkan data di console



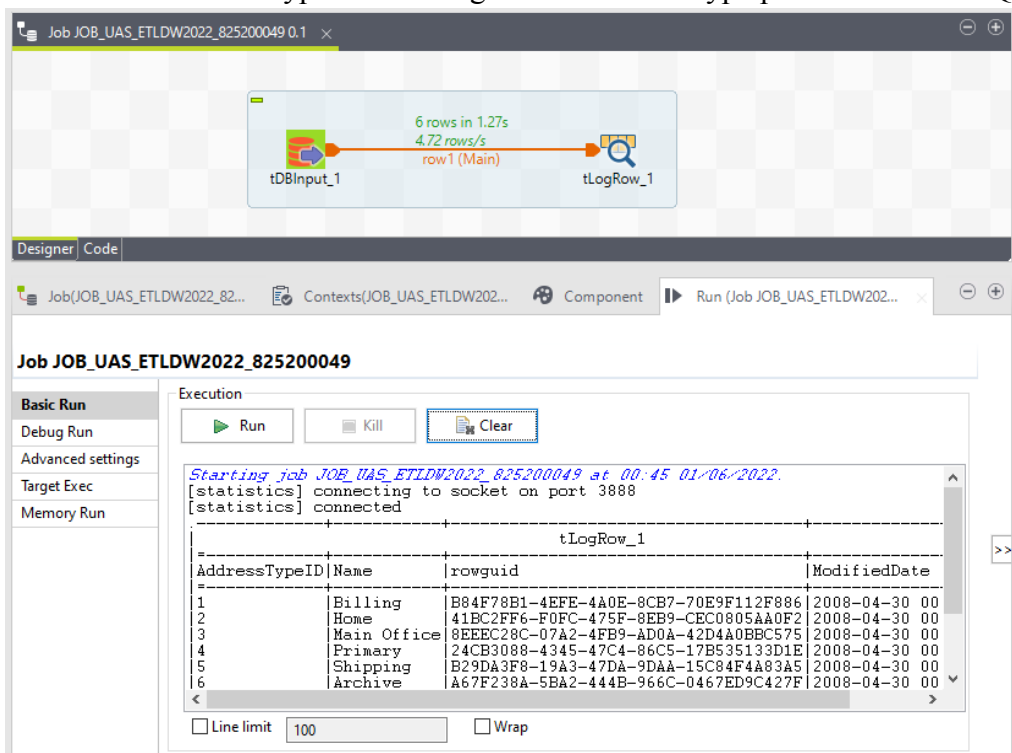
8. Connect-an **tDBInput** dengan **tLogRow**
9. Click **tLogRow**

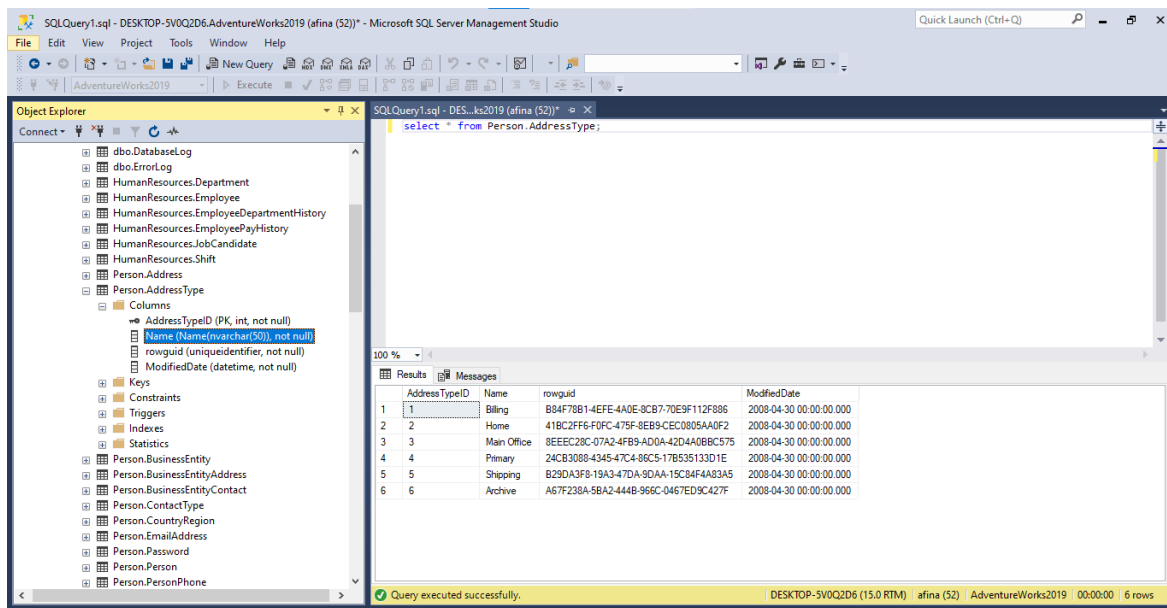
## 10. Pilih tab **Component**

- Basic Settings
  - Select
    - Table (print values in cells of a table)



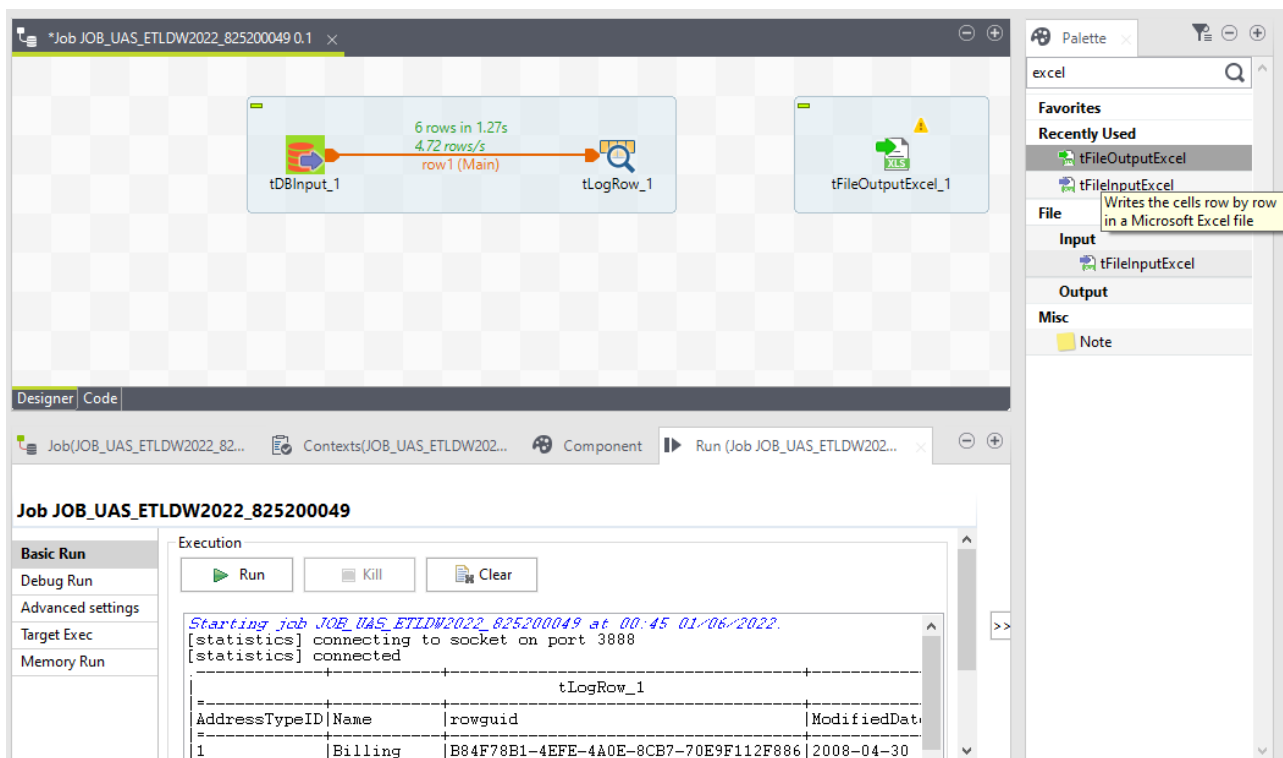
## 11. Pilih tab **Run Job** → Click **Run** dan diconsole akan menampilkan data AddressType sesuai dengan data AddressType pada database diSQL Server





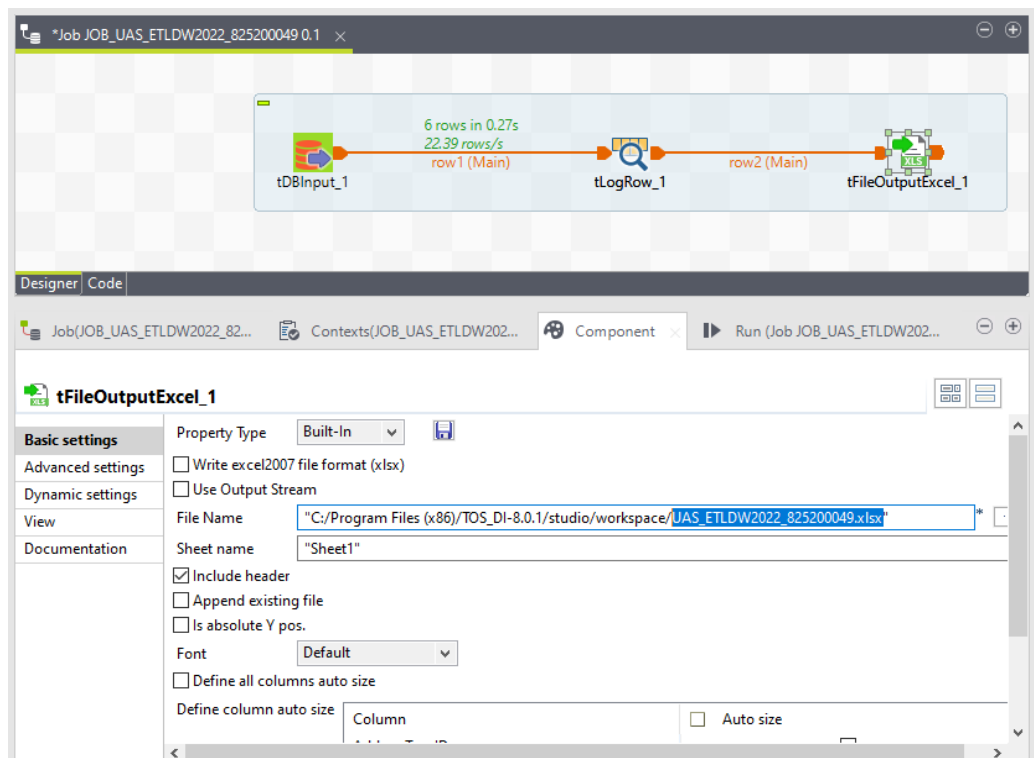
#### E. Output Data ke Excel (xlsx)

1. Cari **tFileOutputExcel** pada **Palette > File > Output**
2. Drag **tFileOutputExcel** ke Job Design untuk generate output data dalam bentuk excel

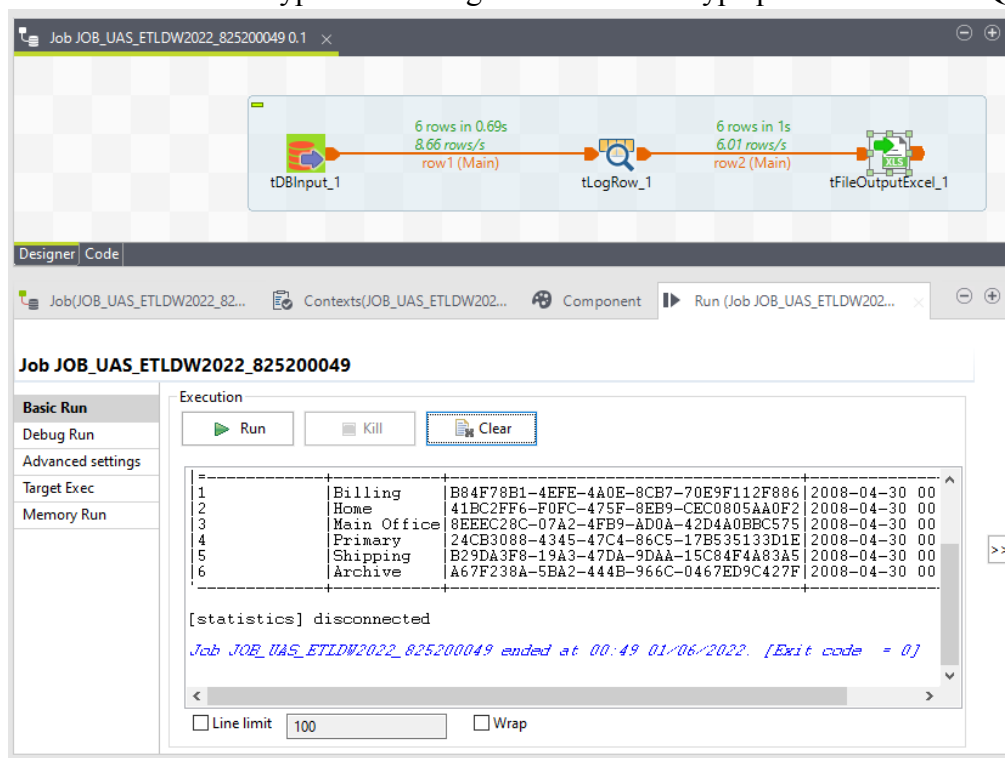


3. Connect-an **tLogRow** dengan **tFileOutputExcel**
4. Click **tFileOutputExcel**
  - Basic Settings
    - Update
      - o File Name : UAS\_ETL\_DW2022\_825200049.xlsx
    - Select
      - o Include header





5. Pilih tab **Run Job** → Click **Run** dan di console akan menampilkan data AddressType sesuai dengan data AddressType pada database diSQL Server



6. Check path sesuai yg tertera di File Name tFileOutputExcel "C:/Program Files(x86)/TOS\_DI-8.0.1/studio/workspace/UAS\_ETLDW2022\_825200049.xlsx"
7. Terdapat file UAS\_ETLDW2022\_825200049.xlsx dan akan menampilkan data AddressType sesuai dengan data AddressType pada database diSQL Server

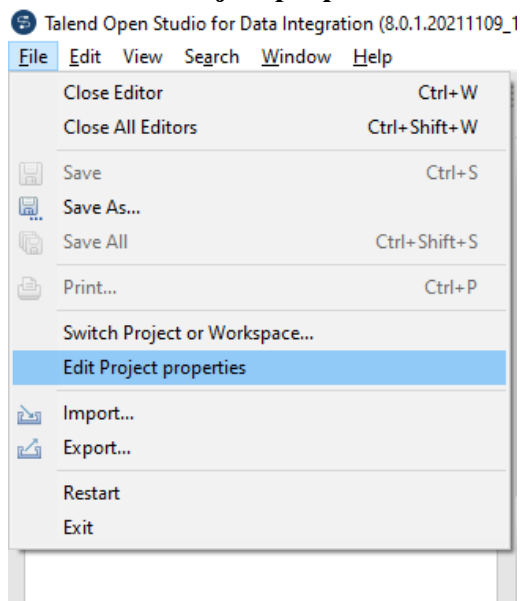
The screenshot shows a Windows File Explorer window with the path: This PC > Local Disk (C:) > Program Files (x86) > TOS\_DI-8.0.1 > studio > workspace. The 'UAS\_ETLDW2022\_825200049.xlsx' file is selected. The file list shows various folders and files, including 'Java', 'JETEmitters', '.metadata', 'LOCAL\_PROJECT', 'temp', 'UAS', 'UAS\_ETLDW2022\_825200049', 'out.csv', 'out.xls', and 'UAS\_ETLDW2022\_825200049.xlsx'.

The Excel preview shows the following data:

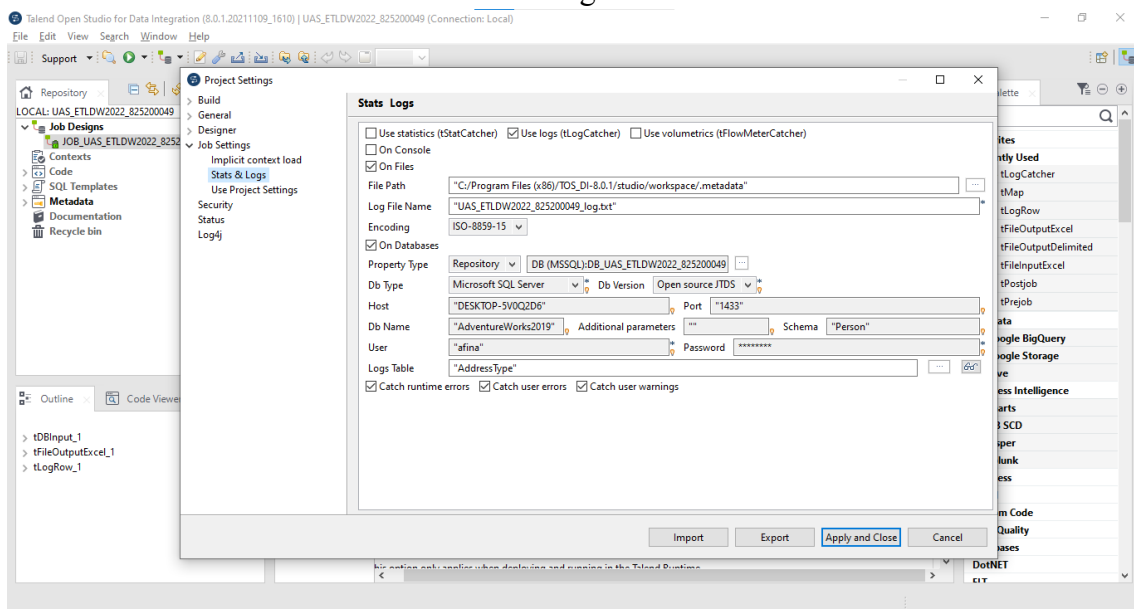
AddressType	Name	rowguid	ModifiedDate
1	Billing	B84F78B1	2008-04-30 00:00:00.0
2	Home	41BC2FF1	2008-04-30 00:00:00.0
3	Main Office	8EEEC28	2008-04-30 00:00:00.0
4	Primary	24CB308	2008-04-30 00:00:00.0
5	Shipping	B29DA3F1	2008-04-30 00:00:00.0
6	Archive	A67F2384	2008-04-30 00:00:00.0

## F. Extract Log File (.txt)

### 1. Click **File** → **Edit Project properties**

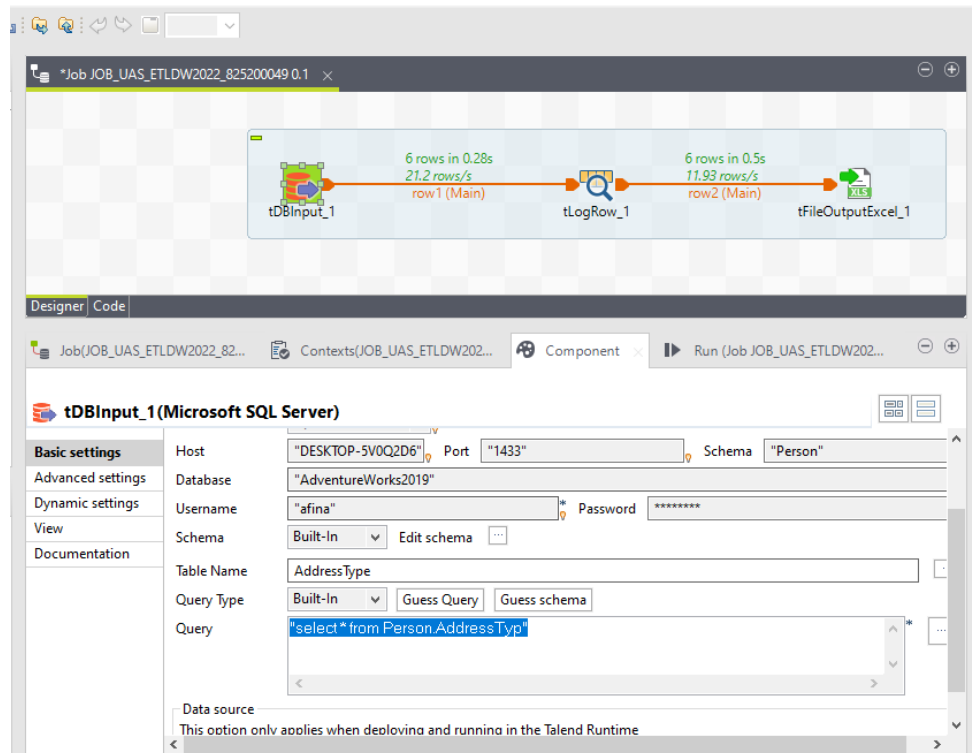


2. Pada **Project Settings** click **Job Setting > Stats & Logs**
3. Stats & Logs
  - Checklist Use Logs
    - Checklist On Files
      - Select
        - File Path
      - Input
        - Log File Name :  
UAS\_ETLDW2022\_825200049\_log.txt
    - Checklist On Databases
      - Select
        - Type Property : repository
        - Database :  
DB\_UAS\_ETL\_DW2022\_825200049
        - Db Type : Microsoft SQL Server
        - Db Version : Open Source JTDS
      - Input
        - Login Name SQL Server : afina
        - Password SQL Server : <password>
        - Server Name SQL Server :  
DESKTOP-5V0Q2D6
        - Port : 1433
        - Database di SQL Server :  
AdventureWorks2019
        - Scema : Person
        - Table Name : Address Type
    - Checklist Catch Error Time, Catch Error User, dan Catch Error Warning

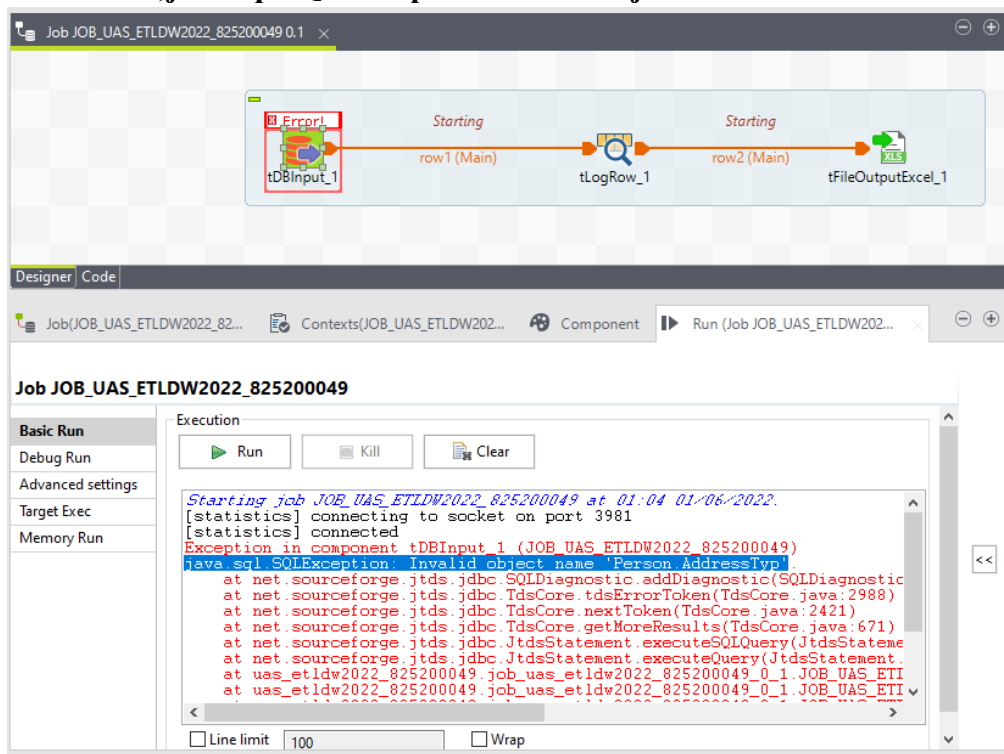


4. Click **Apply and Close**, selanjutnya jika ada error akan generate Log File **UAS\_ETLDW2022\_825200049\_log.txt**

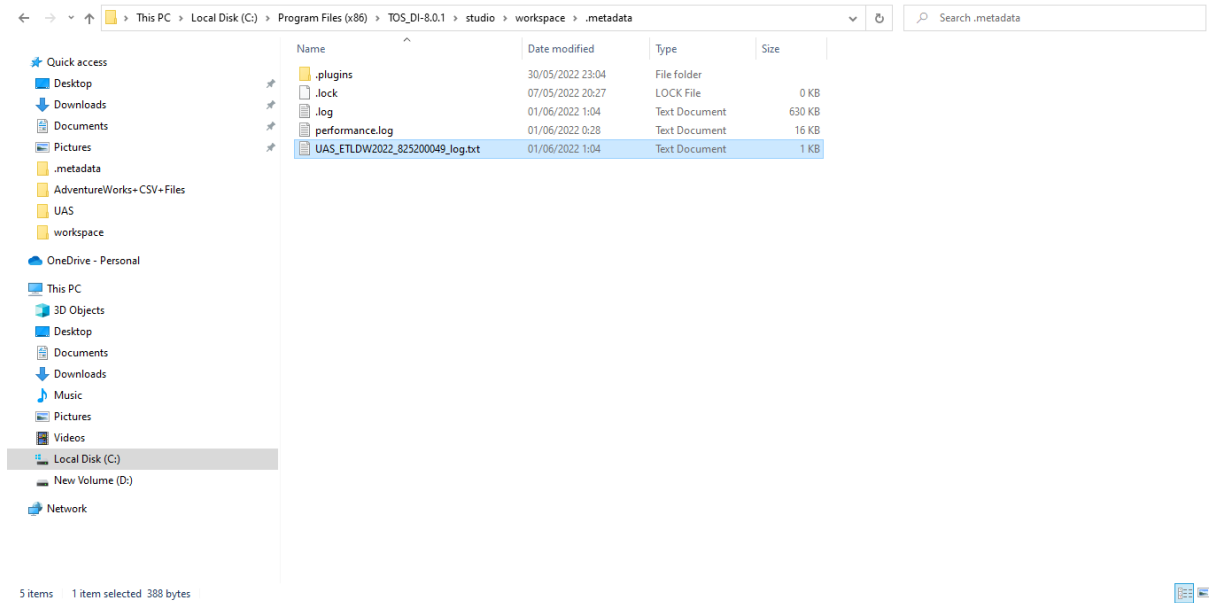
5. Untuk pengecekannya, disini saya coba ubah table name pada query menjadi “select \* form Person.AddressTyp”



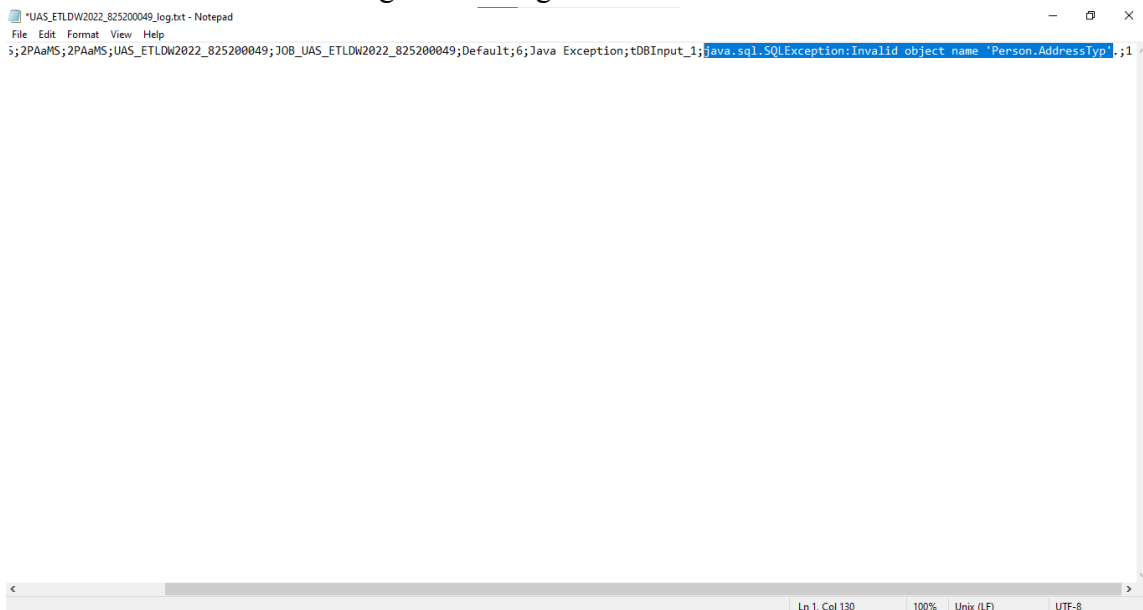
6. Pilih tab **Run Job** → Click **Run** dan diconsole menampilkan error **java.sql.SQLException: Invalid object name 'Person.AddressTyp'**



7. Check path sesuai yg tertera di File Path Stats & Logs "C:/Program Files (x86)/TOS\_DI-8.0.1/studio/workspace/.metadata"



8. Terdapat file UAS\_ETLDW2022\_825200049.txt dan akan menampilkan data error log sesuai dengan error di console



Detail:

**2022-06-0101:04:18;2PAaMS;2PAaMS;2PAaMS;UAS\_ETLDW2022\_825200049;JOB\_UAS\_ETLDW2022\_825200049;Default;6;Java Exception;tDBInput\_1;java.sql.SQLException:Invalid object name 'Person.AddressTyp'.;1**