

Nama : Samuel P. Malau

NIM : 191402092

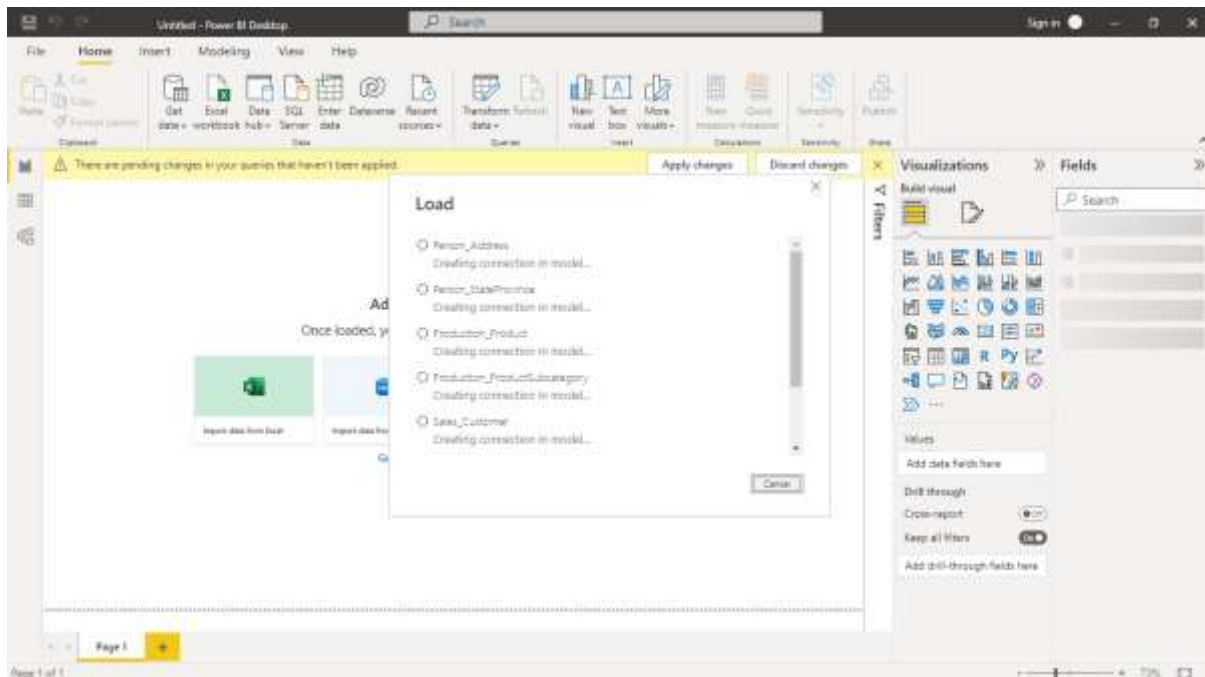
Tugas 2 DWBI

PowerBI

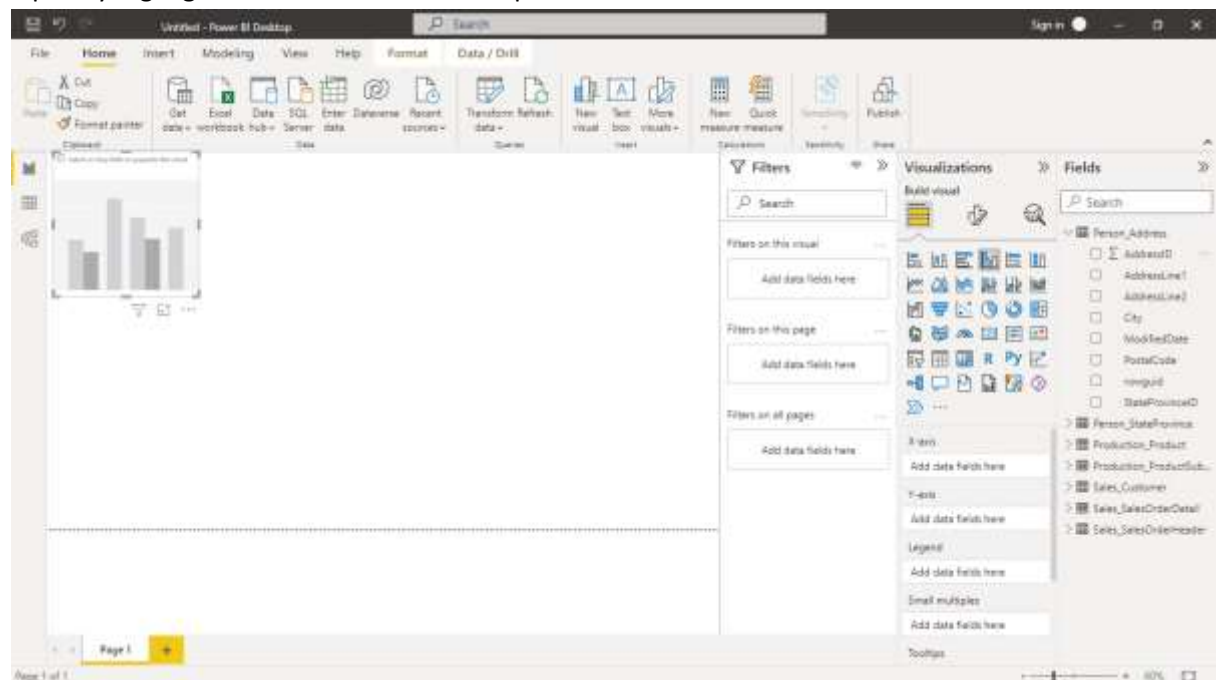
Microsoft Power BI adalah software intelligence bisnis Microsoft yang memungkinkan pengguna untuk mengolah data lebih detail dan menampilkannya dengan grafis yang lebih interaktif. Power BI berisi kumpulan lengkap layanan dan alat bantu yang digunakan untuk visualisasi data bisnis. Berikut tampilan loading Power BI :



Data dapat dimasukkan pada saat di awal aplikasi, sistem meminta pengguna memasukkan data. Saya menggunakan data berbentuk xlsx yaitu Retail Database.



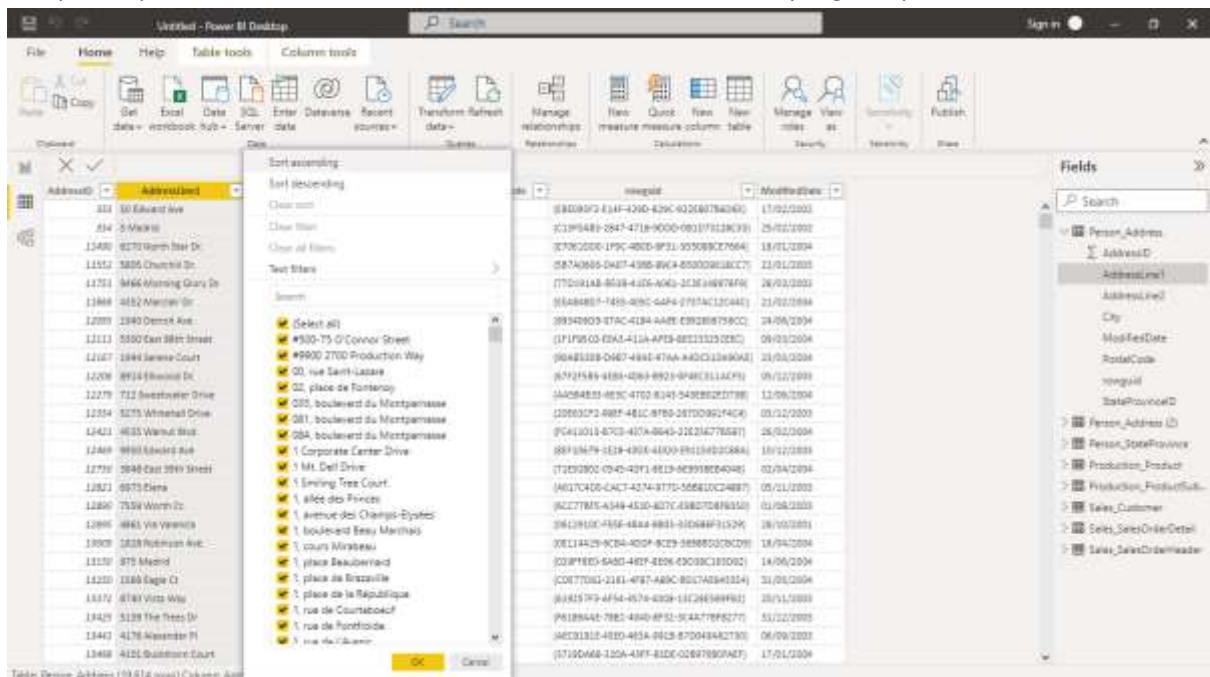
Sesudah data di-input maka tampilan yang dimunculkan adalah sebagai berikut. Tampilan berikut adalah tampilan yang digunakan untuk membuat report :



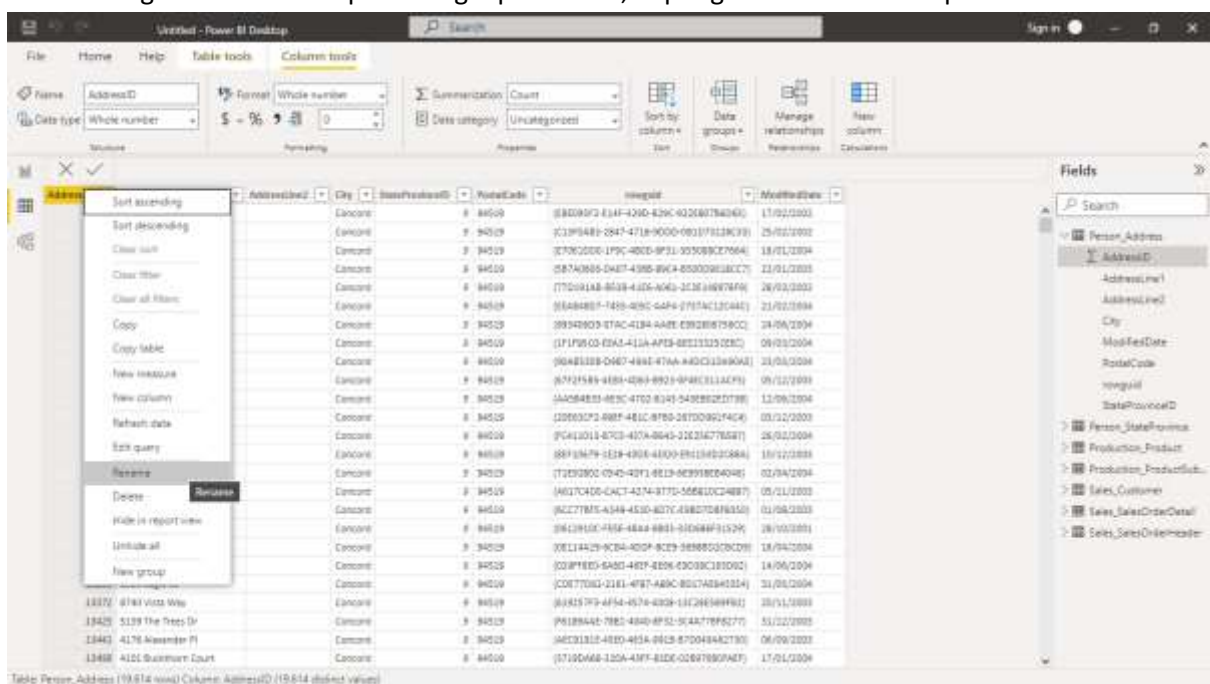
Untuk mengubah tampilan menjadi table, klik menu di sebelah kiri :

| AddressID | AddressLine1 | City | StateProvinceID | PostalCode | ModifiedDate |
|-----------|-----------------------|--------|-----------------|------------|--------------|
| 333 | 16 Edward Ave | Cancon | 9 | 94009 | 17/02/2003 |
| 334 | 5 Main St | Cancon | 9 | 94009 | 25/02/2002 |
| 13480 | 8270 North Star Dr | Cancon | 9 | 94009 | 18/01/2004 |
| 11552 | 5805 Churchill Dr | Cancon | 9 | 94009 | 22/01/2003 |
| 12751 | 9465 Manning Quay Dr | Cancon | 9 | 94009 | 26/03/2003 |
| 13466 | 4152 Mansel Dr | Cancon | 9 | 94009 | 21/02/2004 |
| 12091 | 1940 Derek Ave | Cancon | 9 | 94009 | 24/06/2004 |
| 12111 | 5300 Elm Hill Street | Cancon | 9 | 94009 | 06/03/2004 |
| 12107 | 1944 Sarnes Court | Cancon | 9 | 94009 | 21/03/2004 |
| 12006 | 8914 Riverside Dr | Cancon | 9 | 94009 | 09/12/2003 |
| 12278 | 712 Sweetwater Drive | Cancon | 9 | 94009 | 12/06/2004 |
| 12354 | 5275 Whitehall Drive | Cancon | 9 | 94009 | 03/12/2003 |
| 12421 | 4135 Walnut Blvd | Cancon | 9 | 94009 | 26/02/2004 |
| 12469 | 9950 Edwards Ave | Cancon | 9 | 94009 | 16/12/2003 |
| 12739 | 3846 East 26th Street | Cancon | 9 | 94009 | 02/04/2004 |
| 12821 | 6573 Elena | Cancon | 9 | 94009 | 05/11/2003 |
| 12860 | 7534 Worth Dr | Cancon | 9 | 94009 | 01/08/2003 |
| 12895 | 4861 Via Venezia | Cancon | 9 | 94009 | 26/10/2003 |
| 13007 | 1828 Robinson Ave | Cancon | 9 | 94009 | 18/04/2004 |
| 13130 | 375 Main St | Cancon | 9 | 94009 | 14/06/2004 |
| 14230 | 1569 Eagle Cr | Cancon | 9 | 94009 | 31/06/2004 |
| 14470 | 8740 Vista Way | Cancon | 9 | 94009 | 30/11/2003 |
| 14429 | 5139 The Trees Dr | Cancon | 9 | 94009 | 31/12/2003 |
| 14443 | 4176 Alexander Pl | Cancon | 9 | 94009 | 06/09/2003 |
| 13468 | 4155 Burnham Court | Cancon | 9 | 94009 | 17/01/2004 |

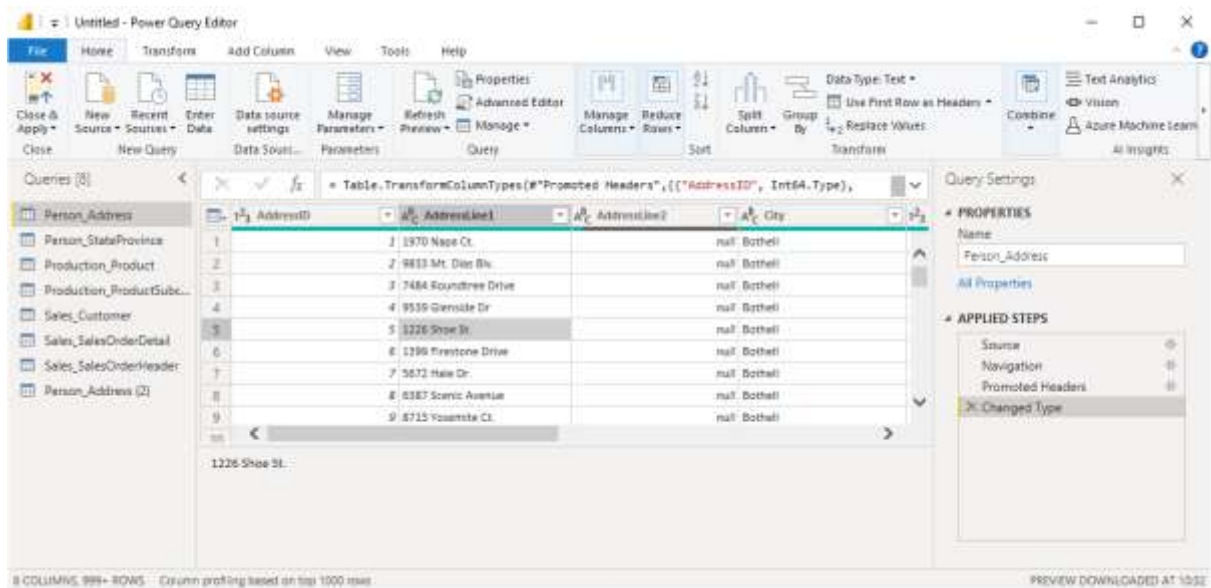
Jika panah pada kolom diklik, maka akan muncul daftar isi datum yang ada pada kolom tersebut :



Untuk mengubah nama ataupun menghapus kolom, dapat gunakan klik kanan pada header tabel :



Tampilan transformasi data :



Untuk mengubah/memperbaiki Value data, bisa dengan mengklik Replace Values, lalu mengubah value seperti dibawah ini.

| | |
|----------|------|
| December | 2014 |
| December | 2014 |
| Mach | 2014 |
| May | 2014 |

Cancel

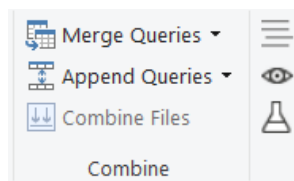
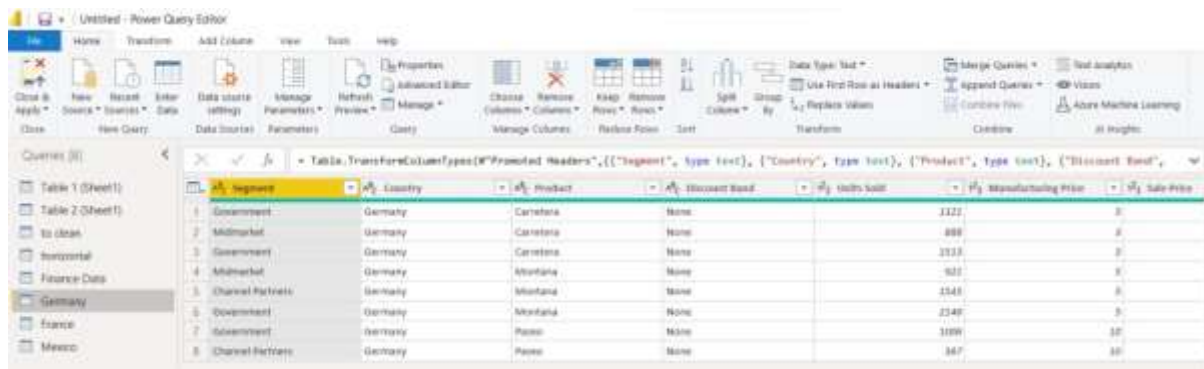
5

Cancel

1

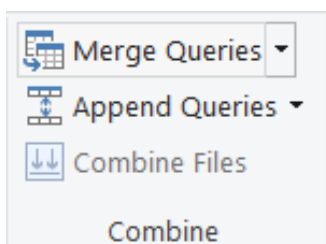
2

Pada PowerBI, terdapat fitur untuk menggabungkan 2 buah tabel yaitu merge dan append table. Append table adalah mensisipkan table ke table utama.



Merge Table.

Merge Table ialah menyatukan 2 buah jenis table kedalam 1 Table. Bisa dilakukan dengan menekan tombol Merge Queries.



Merge

Select a table and matching columns to create a merged table.

Sales_SalesOrderHeader (2)

| PurchaseOrderNumber | AccountNumber | CustomerID | ContactID | SalesPersonID | TerritoryID | BillToA |
|---------------------|----------------|------------|-----------|---------------|-------------|---------|
| PO522145787 | 10-4020-000676 | 676 | 378 | 279 | 5 | |
| PO18850127500 | 10-4020-000117 | 117 | 216 | 279 | 5 | |
| PO18473189620 | 10-4020-000442 | 442 | 282 | 282 | 6 | |
| PO18444174044 | 10-4020-000227 | 227 | 564 | 282 | 6 | |

Sales_Customer

| CustomerID | TerritoryID | AccountNumber | CustomerType | rowguid | Mod |
|------------|-------------|---------------|--------------|--|--------|
| 1 | 1 | AW00000001 | 5 | {3F5AE95E-B87D-4AED-95B4-C3797AFCB74F} | 13/10/ |
| 2 | 1 | AW00000002 | 5 | {E552F657-A9AF-4A7D-A645-C429D6E02491} | 13/10/ |
| 3 | 4 | AW00000003 | 5 | {130774B1-DB21-4EF3-98CB-C1048CD6ED6D} | 13/10/ |
| 4 | 4 | AW00000004 | 5 | {FF862851-1DAA-4044-BE7C-3E85583C054D} | 13/10/ |

Join Kind

Inner (only matching rows)

☐ Use fuzzy matching to perform the merge

Fuzzy matching options

Similarity threshold (optional)

☒ Ignore case

☐ Match the maximum number of matches

✓ The selection matches 5199 of 5199 rows from the first table, and 4173 of...

OK Cancel

Untuk menggabungkan 2 buah jenis table, kita harus melihat persamaan dari kedua dataset table tersebut. Bisa dilihat kalau kedua data memiliki kesamaan pada CustomerID sehingga data di cluster dan diurutkan dengan menjadikan CustomerID sebagai patokan data dan berikut hasil data Ketika sudah di Merge.

| Comment | rowguid | ModifiedDate | ContactFirstName | ContactLastName | Sales_Customer |
|---------|--|--------------|------------------|-----------------|----------------|
| nuw | {79B65321-39CA-4115-9CBA-8FE0903E12E...} | 08/07/2001 | James | Hendergart | Table |
| nuw | {AF51079C-10BB-4274-BB03-87D670CDB2...} | 08/10/2001 | James | Hendergart | Table |
| nuw | {170EB149-B1E3-4564-9CAB-8A8502CDBA...} | 08/02/2002 | James | Hendergart | Table |
| nuw | {5943CC34-5DC8-4CBB-80CB-4DE01571E5...} | 08/04/2002 | James | Hendergart | Table |
| nuw | {239F4B9C-19AC-4B60-B8B2-A3D68459A2...} | 08/07/2002 | James | Hendergart | Table |
| nuw | {006915F7-F25B-4310-9B80-E68222CE25A...} | 08/10/2002 | James | Hendergart | Table |
| nuw | {10354519-1808-40B8-8FC1-347DE198541...} | 08/01/2003 | James | Hendergart | Table |
| nuw | {D2745233-805B-409C-93BB-4451569F42...} | 08/08/2001 | Orlando | Gee | Table |
| nuw | {1A116F88-71FA-40A2-A32C-493ED8977D...} | 08/11/2001 | Orlando | Gee | Table |
| nuw | {F57AB920-675E-4B1D-B43C-8EAC91CF8F...} | 08/02/2002 | Orlando | Gee | Table |
| nuw | {629918D4-C42D-494F-9EF1-27548EC25F...} | 08/05/2002 | Orlando | Gee | Table |
| nuw | {738DC42D-D03B-48A1-8822-F95A67EA73...} | 08/07/2001 | Takiko | Collins | Table |
| nuw | {BB901788-017A-4714-8E6A-717A64299D...} | 08/10/2002 | Takiko | Collins | Table |
| nuw | {BA513B66-0699-470A-B301-796DD1CDBE...} | 08/06/2002 | Kerth | Harris | Table |
| nuw | {1FAAD98B-1DE0-4B80-A8D4-9F8886F289...} | 08/11/2002 | Kerth | Harris | Table |
| nuw | {091B9111-18A4-4A11-BC3A-90B6F53E9D...} | 08/07/2001 | Jauna | Elson | Table |
| nuw | {181D7624-F507-4186-9088-895899CA2B...} | 08/10/2001 | Jauna | Elson | Table |
| nuw | {2C419824-01F6-4D9D-B2BF-1E68389847...} | 08/01/2002 | Jauna | Elson | Table |
| nuw | {E2DB78F0-A87A-4755-B7BE-ED528478A8...} | 08/04/2002 | Jauna | Elson | Table |
| nuw | {61DF816F-0422-4A7A-9F94-C50FF7FF4D5...} | 08/07/2003 | Jauna | Elson | Table |
| nuw | {EE49BACF-F522-4957-A869-8AD7D88ADE...} | 08/10/2002 | Jauna | Elson | Table |
| nuw | {6D07E19C-0672-42E6-8C61-7658CEED52...} | 08/01/2003 | Jauna | Elson | Table |
| nuw | {0F0EB783-FA76-466D-9A0A-2F88C1C7ED...} | 08/09/2001 | Donna | Carerras | Table |
| nuw | {9718B1AD-7806-48F0-BC15-CE6097D6C9...} | 08/12/2001 | Donna | Carerras | Table |
| nuw | {4AD60909-5C6D-4A8B-A333-A35A00FC9...} | 08/03/2002 | Donna | Carerras | Table |
| nuw | {C7B826A2-1411-4EF1-93CA-D2A88BDF9...} | 08/06/2002 | Donna | Carerras | Table |
| nuw | {FF082778-9112-49EE-841C-BB2072A41E12} | 08/09/2002 | Donna | Carerras | Table |

Pada PowerBI kita bisa melihat dan membuat relasi antar dua buah jenis database. Yaitu dengan membuat Relationship dari kedua buah data. Untuk membuat Relationship bisa dengan klik new pada manage relationship.

Manage relationships

| Active | From: Table (Column) | To: Table (Column) |
|-------------------------------------|--|--|
| <input checked="" type="checkbox"/> | Finance Data (Segment) | to clean (Segment) |
| <input checked="" type="checkbox"/> | France (Segment) | to clean (Segment) |
| <input checked="" type="checkbox"/> | France-Germany (Segment) | to clean (Segment) |
| <input checked="" type="checkbox"/> | Person_Address (StateProvinceID) | Person_StateProvince (StateProvinceID) |
| <input checked="" type="checkbox"/> | Sales_SalesOrderHeader (2) (AccountNumber) | Sales_Customer (AccountNumber) |

New...
Autodetect...
Edit...
Delete

Close

Create relationship

Select tables and columns that are related.

Sales_SalesOrderHeader (2)

| ShipDate | Status | OnlineOrderFlag | SalesOrderNumber | PurchaseOrderNumber | AccountNumber | CU |
|------------------|--------|-----------------|------------------|---------------------|---------------|----------------|
| 16 February 2002 | 3 | -1 | 5045389 | | naF | 10-4030-011090 |
| 27 February 2002 | 3 | -1 | 5045468 | | naF | 10-4030-011171 |
| 07 March 2002 | 3 | -1 | 5045512 | | naF | 10-4030-011175 |

Sales_Customer

| CustomerID | TerritoryID | AccountNumber | CustomerType | rowguid | ModB |
|------------|-------------|---------------|--------------|--|---------|
| 11025 | 4 | AW00011025 | 1 | (F751B074-6882-4611-B9FC-F9FEEA11FD13) | 13/10/2 |
| 11026 | 4 | AW00011026 | 1 | (023843CA-22F8-42BF-AC37-F8F0F41300AC) | 13/10/2 |
| 11028 | 4 | AW00011028 | 1 | (A20318D8-44A8-4605-B08F-E3E19ECD7F54) | 13/10/2 |

Cardinality: * Cross filter direction: *

☒ Make this relationship active. ☐ Apply security filter in both directions

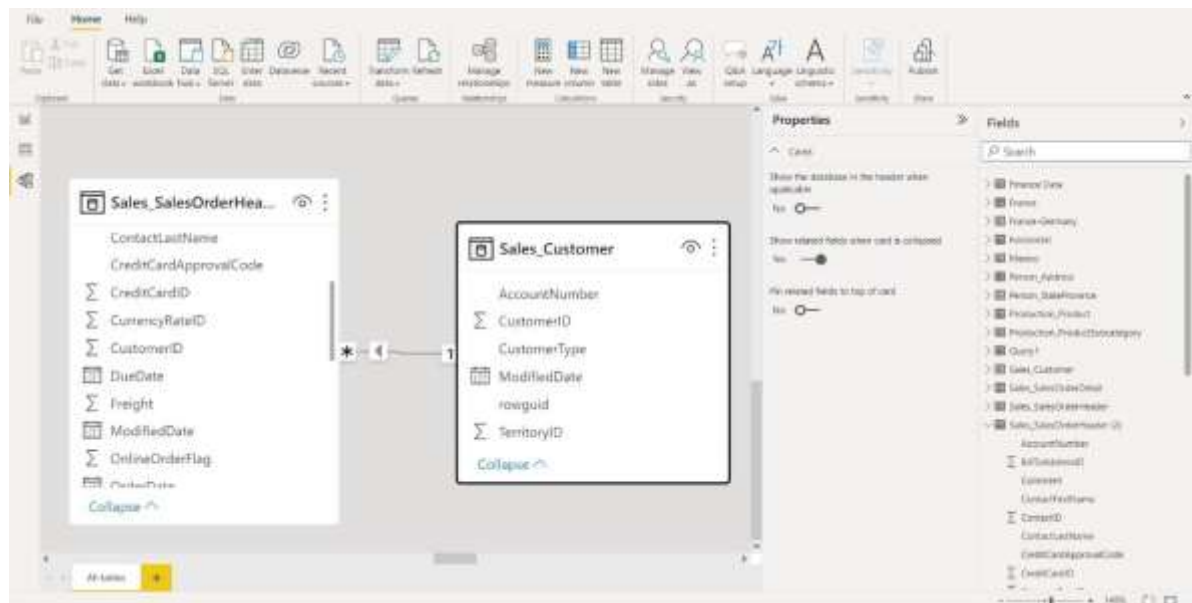
☐ Assume referential integrity

There's already a relationship between these two columns.

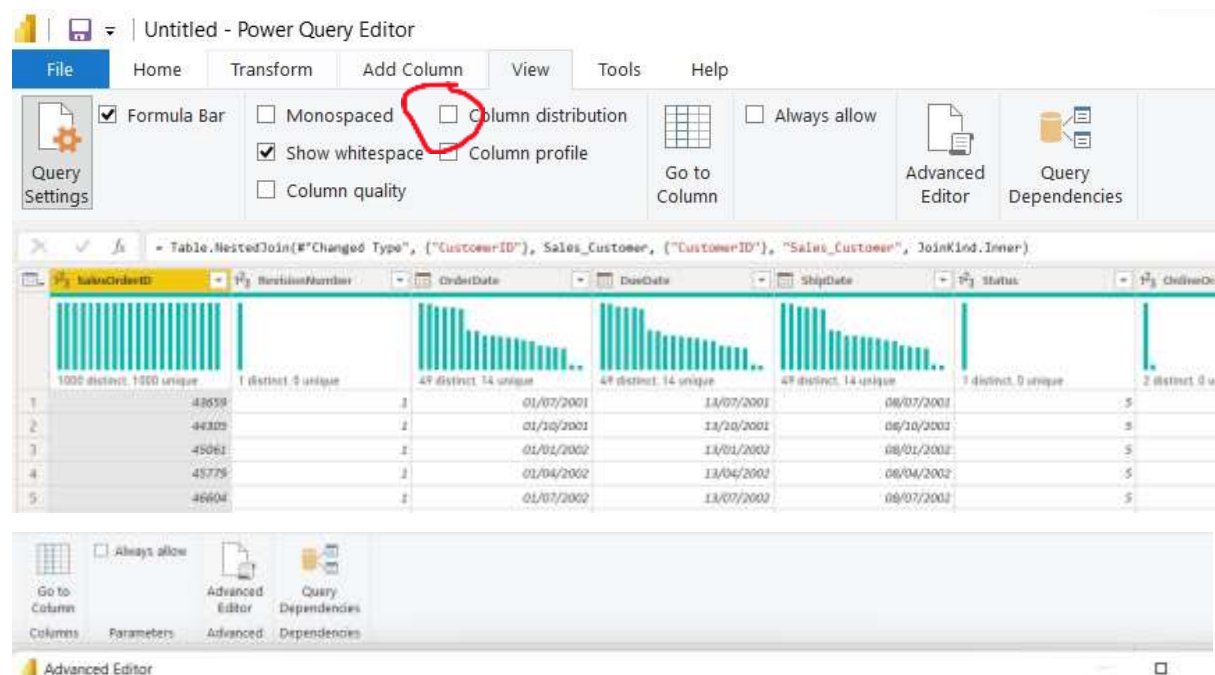
OK

Cancel

Dalam membuat Relationship, kita harus memastikan kedua buah data memiliki keterkaitan antar satu dengan yang lain. Jika bisa dibuat Relations dari kedua data maka data akan ditampilkan sebagai berikut.



Pada PowerBI kita bisa melihat Column Distribution dan Mengubah Query dengan fungsi Advance Director pada PowerBI



Sales_SalesOrderHeader (2)

Display Options ?

```
let
    Source = Excel.Workbook(File.Contents("C:\Users\ARANYA\Downloads\Compressed\Support Files\Retail Database.xlsx"), null, true),
    Sales_SalesOrderHeader_Sheet = Source[Item="Sales_SalesOrderHeader", Kind="Sheet"][Data],
    #Promoted Headers = Table.PromoteHeaders(Sales_SalesOrderHeader_Sheet, [PromoteAllScalars=true]),
    #Changed Type = Table.TransformColumnTypes(#Promoted Headers, {"SalesOrderID", Int64.Type}, {"RevisionNumber", Int64.Type}, {"OrderDate", Int64.Type}),
    #Merged Queries = Table.NestedJoin(#Changed Type, {"CustomerID"}, Sales_Customer, {"CustomerID"}, "Sales_Customer", JoinKind.Inner)
in
    #Merged Queries
```