

TUGAS 2

MATA KULIAH

DATA WAREHOUSE DAN BISNIS INTELLIGENCE

DISUSUN OLEH :

NAMA : ANDRIAN SEBAYANG

NIM : 181402084

KOM : C



UNIVERSITAS SUMATERA UTARA

FAKULTAS ILMU KOMPUTER DAN TEKNOLOGI INFORMASI

PROGRAM STUDI TEKNOLOGI INFORMASI

2021

## Soal

### 1. Load the Data Cube

- a. Select the preloaded OLAP cube Microsoft Adventure Works (same cube used in tutorial) from the Demo list to create the pivot table.
- b. Take some time exploring the data cube before beginning on the details of the assignment.

### 2. Create the Pivot Table

Create a customized pivot table that shows the following:

- a. Expand the “Promotions” dimension in the Fields List.
- b. Select “Promotions” field inside the “Promotions” dimensions in the Rows area.
- c. Expand the “Delivery Date” dimension in the Fields List.
- d. Select “Delivery Date.Month of Year” in the Columns area. If it appears in the Rows area, move it from the Rows to the Columns area.
- e. Expand the Measures in the Fields List.
- f. Select “Average Sales Amount” in the values area
- g. Take a screen snapshot and paste it into a document as the snapshot for part 2 of the WebPivotTable assignment. The snapshot should show All Promotions and All Periods with complete expansion on the rows and columns with Average Sales Amount in the cells.
- h. Keep the sheet open for the next part.

### 3. Extend the Pivot Table

- a. Add “Source Currency” level (Do NOT include “ALL” level) from the Source Currency dimension to the Filters area.
- b. Create a filter such that the pivot table displays value only for “Canadian Dollar” and “US Dollar”.
- c. Take a screen snapshot and paste it into a document as the snapshot for part 3 of WebPivotTable assignment. The snapshot should show a complete expansion of All Periods and All Promotions with January Average Sales Amount in the cells.
- d. Keep the sheet open for the next part.

#### 4. Extend the Pivot Table with Filter Changes and Rollups

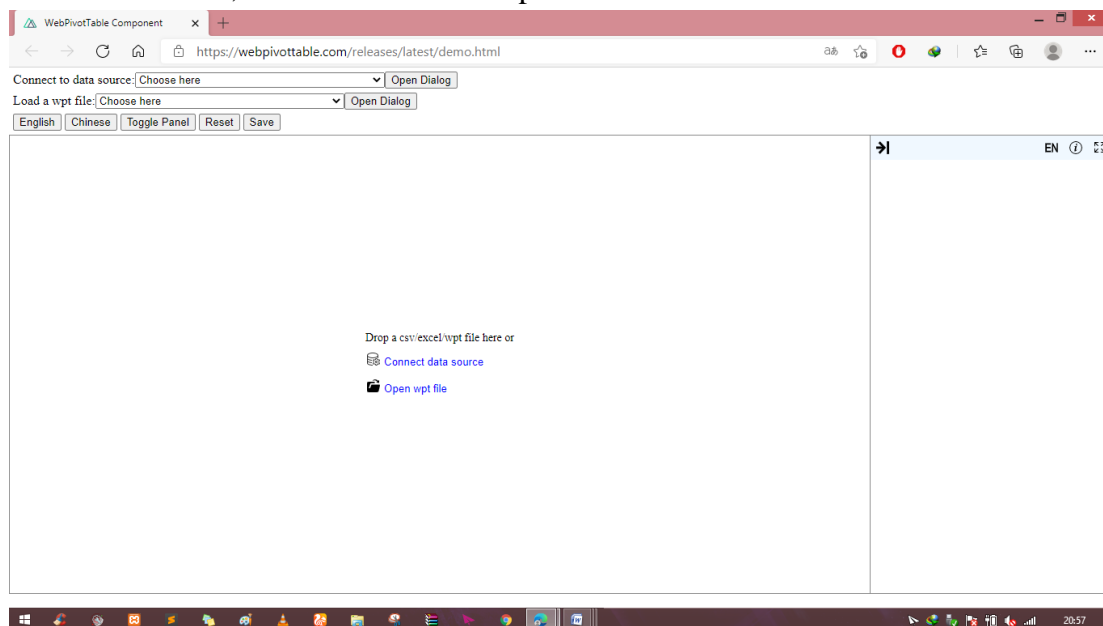
- a. Modify the filter to show results only for the source Currency “EURO”.
- b. Collapse all reseller promotions except for Excess Inventory. Show only the subcategories within the Excess Inventory item.
- c. Remove the pivot chart so that the sheet only displays the pivot table.
- d. Take a screen snapshot and paste it into a document as the snapshot for part 4 of the WebPivotTable assignment. The snapshot should show the Average Sales Amount for All Periods along with a subset of the expansion of All Promotions for Excess Inventory promotions.

#### Jawaban:

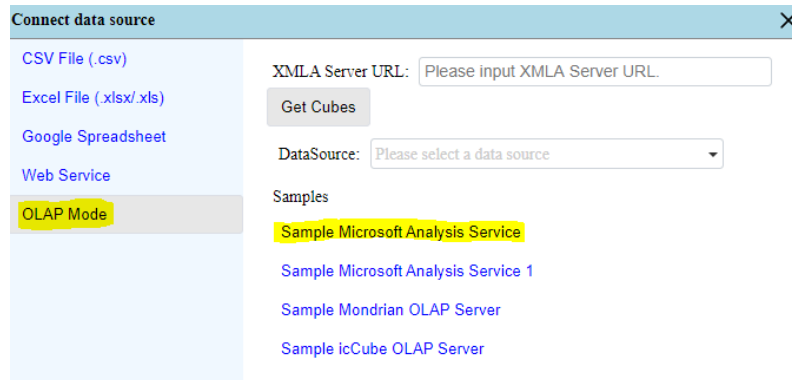
Pada pengerjaan tugas kedua ini, saya akan menggunakan aplikasi WebPivotTable yang dapat kita akses pada <https://webpivottable.com/releases/latest/demo.html>. WebPivotTable adalah sebuah aplikasi business intelligence open source berbasis Javascript murni, sehingga dapat digunakan di browser apa pun tanpa plugin. Dengan menggunakan WebPivotTable, kita bisa menyesuaikan tabel pivot dan memperluasnya untuk menampilkan lebih banyak bidang teragregasi.

### 1. Load the Data Cube

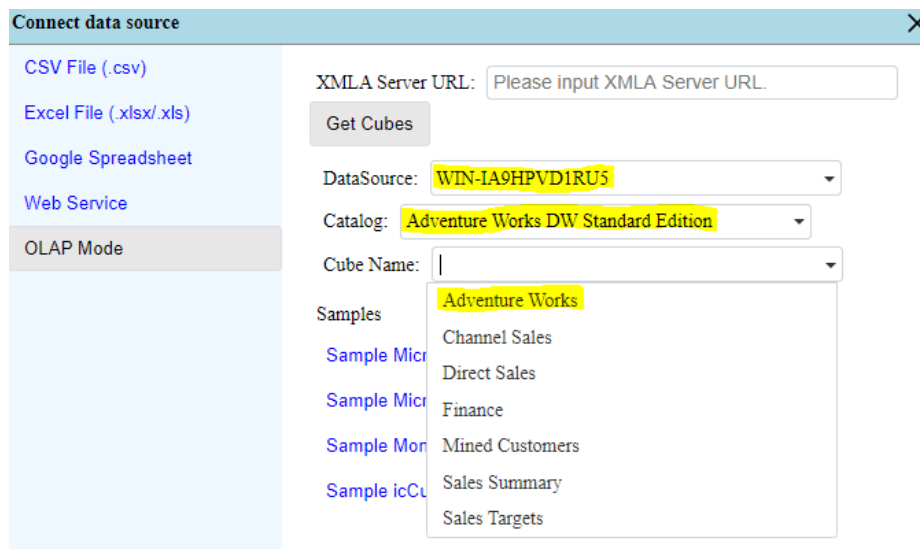
Pertama-tama, kita akan membuka aplikasi WebPivotTable.



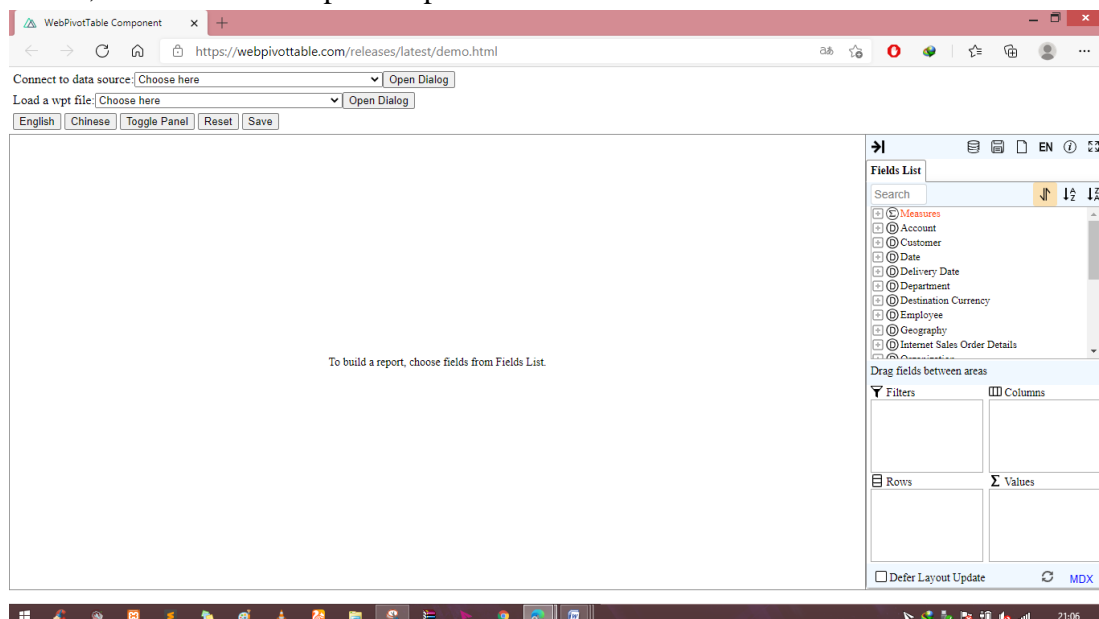
Setelah itu kita akan memuat data yang akan digunakan. Pada jendela Connect data source, kita akan memilih OLAP Mode dan juga Sample Microsoft Analysis Service.



Selanjutnya, untuk kolom DataSource, Catalog, dan Cube Name akan kita isi sesuai pada gambar di bawah:



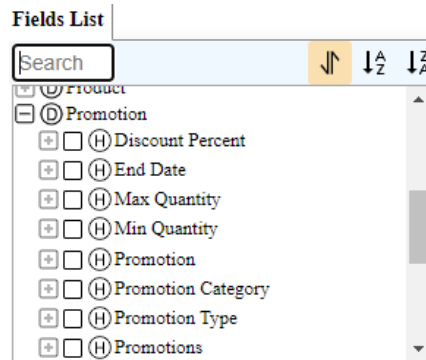
Setelah itu, akan muncul tampilan seperti berikut:



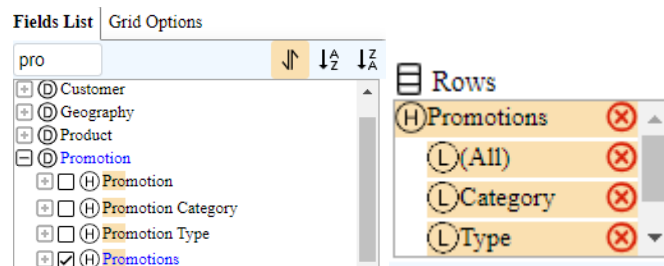
## 2. Create the Pivot Table

Disini kita akan membuat pivot table sesuai dengan yang diminta pada soal.

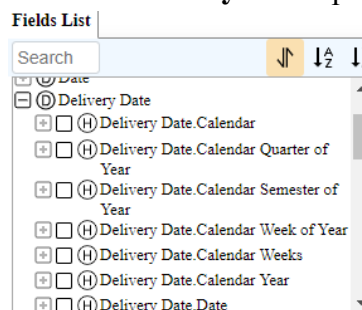
- Pertama, kita akan memperluas field **“Promotions”** pada kolom Field List.



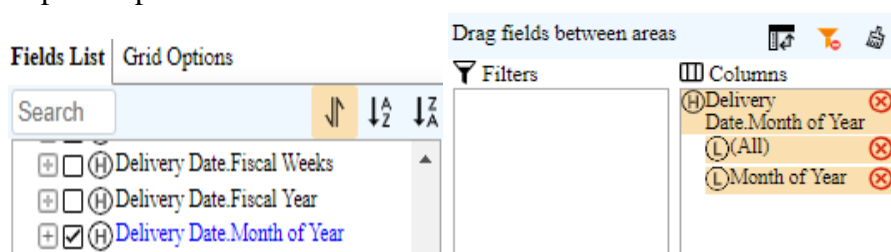
Setelah itu pilih field **“Promotions”** yang terdapat dalam field **“Promotion”** dan tempatkan pada area **Rows**.



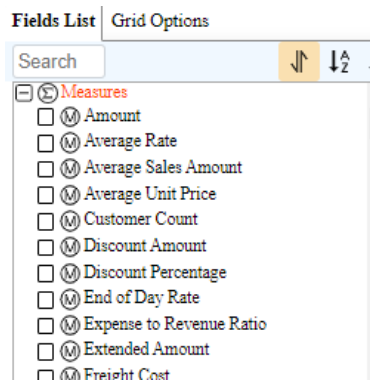
- Kemudian, kita akan memperluas field **“Delivery Date”** pada kolom Field List.



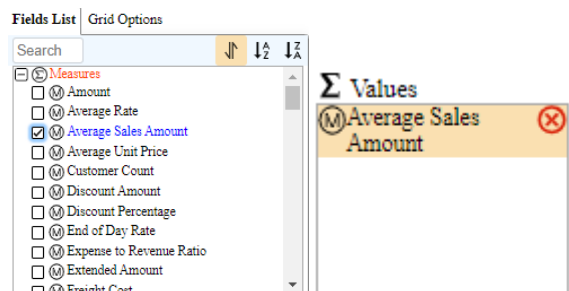
Setelah itu pilih field **“Delivery Date.Month of Year”** yang terdapat dalam field **“Delivery Date”** dan tempatkan pada area **Columns**.



- Kemudian, kita akan memperluas field “**Measures**” pada kolom Field List.



Kemudian itu pilih field “**Average Sales Amount**” yang terdapat dalam field “**Measures**” dan tempatkan pada area **Columns**.



Setelah itu akan muncul pivot table sesuai dengan field yang telah kita pilih sebelumnya. Berikut tampilannya:

Connect to data source: Choose here Open Dialog

Load a wpt file: Choose here Open Dialog

English Chinese Toggle Panel Reset Save

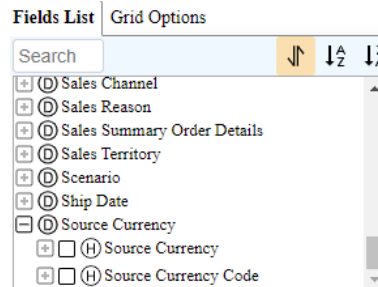
[Promotion].[Promotions]	Σ All Per...	January	February	March	April	May	June	July	August	September	October	November	December
Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...	Σ Average ...
Σ All Promotions	\$3,590.42	\$4,484.31	\$5,727.83	\$4,197.65	\$3,105.24	\$4,441.60	\$3,575.58	\$2,412.12	\$3,415.14	\$3,110.92	\$2,836.69	\$3,707.16	\$3,066.49
Σ No Discount	\$3,407.78	\$4,007.91	\$5,289.69	\$3,735.02	\$2,939.88	\$4,319.94	\$3,444.39	\$2,356.91	\$3,354.99	\$3,052.51	\$2,702.87	\$3,597.40	\$2,893.60
Σ Reseller	\$2,474.75	\$4,416.00	\$3,886.08	\$4,406.66	\$2,082.00	\$2,110.07	\$1,953.38	\$1,250.55	\$1,590.88	\$1,311.17	\$1,965.25	\$1,617.58	\$2,313.47
Σ Discontinued Product	\$3,218.92											\$417.07	\$4,963.47
Mountain-100 Clearance Sale	\$10,455.32												\$10,455.32
Mountain-500 Silver Clearance ...	\$417.73											\$417.07	\$418.48
Σ Excess Inventory	\$819.44	\$924.91	\$751.04										
Road-650 Overstock	\$819.44	\$924.91	\$751.04										
Σ New Product	\$7,184.00	\$8,419.12	\$8,010.33	\$6,375.83	\$1,836.83								
Touring-3000 Promotion	\$3,785.88	\$4,429.97	\$3,838.18	\$3,557.97	\$742.35								
Touring-1000 Promotion	\$5,371.27	\$5,531.04	\$6,025.90	\$4,926.44	\$2,384.07								
Σ Seasonal Discount	\$250.75	\$250.75											
Sport Helmet Discount-2002	\$206.91	\$206.91											
Sport Helmet Discount-2003	\$303.36	\$303.36											
Σ Volume Discount	\$2,166.60	\$4,042.45	\$3,191.03	\$3,511.68	\$2,085.39	\$2,110.07	\$1,953.38	\$1,250.55	\$1,590.88	\$1,311.17	\$1,965.25	\$1,665.78	\$1,652.52
Volume Discount 11 to 14	\$1,851.21	\$3,158.55	\$2,844.99	\$2,853.76	\$1,516.82	\$1,775.85	\$1,795.21	\$1,215.43	\$1,524.28	\$1,251.88	\$1,573.24	\$1,584.37	\$1,465.60
Volume Discount 15 to 24	\$2,990.33	\$4,936.52	\$2,529.87	\$3,377.11	\$4,783.66	\$3,558.51	\$2,285.79	\$1,487.06	\$2,367.85	\$1,836.43	\$3,147.90	\$1,513.42	\$1,593.14
Volume Discount 25 to 40	\$1,748.57	\$690.36	\$982.53	\$2,573.99	\$4,758.23	\$1,251.09	\$691.28	\$478.67			\$803.27	\$473.64	\$6,749.77
Volume Discount 41 to 60	\$868.49										\$1,097.62	\$639.37	

Activate Windows  
Go to PC settings to activate Windows.

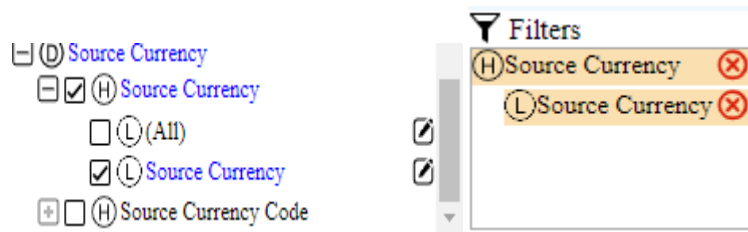
### 3. Extend the Pivot Table

Disini kita akan memperluas Pivot Table yang telah kita buat sebelumnya sesuai dengan yang diminta pada soal.

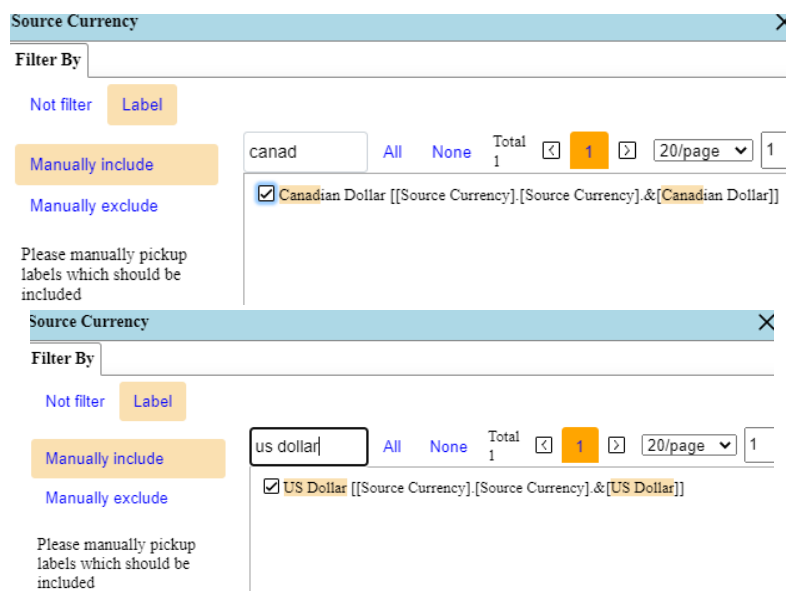
- Pertama, kita akan memperluas field “**Source Currency**” pada kolom Field List.



Setelah itu, kita akan menambahkan level “**Source Currency**” (tidak termasuk kategori “**all**”) yang terdapat pada field “**Source Currency**” pada area **Filters**.



Selanjutnya, kita akan membuat filter supaya pivot table hanya menampilkan data untuk “Canadian Dollar” dan “US Dollar” dengan cara mengklik menu Field Setting “Source Currency”. Maka akan muncul jendela “Filter By”, lalu pilih “Canadian Dollar” dan “US Dollar”.



Apabila sudah, klik OK

Setelah itu akan muncul pivot table sesuai dengan filter yang telah kita buat sebelumnya. Berikut tampilannya:

[Promotion].[Promotions]	January	February	March	April	May	June	July	August	September	October	November	December
All Promotions	\$4,331.38	\$5,485.85	\$7,048.03	\$4,974.65	\$3,788.71	\$5,520.58	\$4,192.04	\$2,828.23	\$4,206.93	\$3,629.64	\$3,394.37	\$4,532.67
No Discount	\$4,111.90	\$4,904.10	\$6,595.94	\$4,456.80	\$3,576.11	\$5,389.99	\$4,024.12	\$2,760.06	\$4,122.43	\$3,551.38	\$3,220.08	\$4,401.44
Reseller	\$2,667.13	\$4,999.50	\$3,627.81	\$4,741.38	\$2,193.95	\$2,088.10	\$2,142.87	\$1,358.94	\$1,656.81	\$1,393.44	\$2,271.26	\$1,787.00
Discontinued Product	\$3,589.83											\$420.35
Mountain-100 Clearance Sale	\$10,455.32											\$10,455.32
Mountain-500 Silver Clearance ...	\$421.13											\$420.35
Excess Inventory	\$796.18	\$822.14	\$779.86									
Road-650 Overstock	\$796.18	\$822.14	\$779.86									
New Product	\$6,969.55	\$10,428.79	\$6,808.83	\$6,253.15	\$2,384.07							
Touring-3000 Promotion	\$3,761.72	\$5,589.74	\$3,383.92	\$3,477.77								
Touring-1000 Promotion	\$5,277.55	\$6,873.46	\$5,259.63	\$4,896.13	\$2,384.07							
Seasonal Discount	\$224.90	\$224.90										
Sport Helmet Discount-2002	\$199.05	\$199.05										
Sport Helmet Discount-2003	\$261.54	\$261.54										
Volume Discount	\$2,379.28	\$4,904.20	\$3,251.99	\$3,943.75	\$2,191.59	\$2,088.10	\$2,142.87	\$1,358.94	\$1,656.81	\$1,393.44	\$2,271.26	\$1,866.11
Volume Discount 11 to 14	\$2,002.66	\$3,743.68	\$2,934.20	\$3,124.29	\$1,571.08	\$1,829.61	\$2,001.48	\$1,309.59	\$1,541.59	\$1,314.79	\$1,716.08	\$1,769.50
Volume Discount 15 to 24	\$3,017.97	\$5,586.41	\$2,285.43	\$3,438.79	\$4,841.48	\$2,861.50	\$2,086.70	\$1,665.11	\$2,768.82	\$1,952.84	\$3,621.28	\$1,587.73
Volume Discount 25 to 40	\$1,793.25	\$667.80	\$835.15	\$2,573.99	\$4,758.23	\$1,482.95	\$633.95	\$478.67			\$803.27	\$473.64
Volume Discount 41 to 60	\$868.49										\$1,097.62	\$639.37

## 4. Extend the Pivot Table with Filter Changes and Rollups

Disini kita akan memperluas Pivot Table yang telah kita buat sebelumnya sesuai dengan yang diminta pada soal.

- Pertama, kita akan membuat filter supaya pivot table hanya menampilkan data untuk currency “Euro” dengan cara mengklik menu Field Setting “Source Currency”. Maka akan muncul jendela “Filter By”, lalu pilih “Euro”.

Source Currency

Filter By

Not filter

Label

Manually include

Manually exclude

Please manually pickup labels which should be included

euro

All

None

Total 1

1

20/page

1

☒ EURO [[Source Currency].[Source Currency].[EURO]]



- Selanjutnya, kita akan menyembunyikan semua data “**reseller promotions**” kecuali item dari sub kategori “**Excess Inventory**”

[Promotion].[Promotions]	<input type="checkbox"/> All Per...
	Average ...
<input type="checkbox"/> All Promotions	\$15,181.20
<input type="checkbox"/> No Discount	\$13,185.02
<input type="checkbox"/> Reseller	\$8,579.23
<input checked="" type="checkbox"/> Discontinued Product	\$316.39
<input checked="" type="checkbox"/> Excess Inventory	\$1,315.42
Road-650 Overstock	\$1,315.42
<input checked="" type="checkbox"/> New Product	\$10,310.87
<input checked="" type="checkbox"/> Seasonal Discount	\$445.07
<input checked="" type="checkbox"/> Volume Discount	\$6,676.94

- Setelah itu kita akan menghilangkan pivot chart sehingga layar hanya menampilkan pivot table saja yang berisi the **Average Sales Amount** untuk **All Periods** disertai dengan rincian **All Promotions** untuk **Excess Inventory**.

Berikut adalah tampilannya:

Connect to data source: Choose here

Load a wpt file: Choose here

English Chinese

[Promotion].[Promotions]	<input type="checkbox"/> All Per...	January	February	March	April	May	June	July	August	September	October	November	December
	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...	Average ...
<input type="checkbox"/> All Promotions	\$15,181.20	\$22,367.74	\$18,716.84	\$9,671.04	\$15,891.07	\$19,594.37	\$12,399.37	\$11,665.51	\$12,639.93	\$11,273.78	\$18,111.11	\$15,767.10	\$12,405.20
<input type="checkbox"/> No Discount	\$13,185.02	\$15,553.47	\$13,697.19	\$7,820.78	\$13,659.27	\$16,164.42	\$12,312.02	\$11,582.86	\$11,577.98	\$11,273.78	\$16,242.67	\$14,989.19	\$12,374.39
<input type="checkbox"/> Reseller	\$8,579.23	\$14,991.38	\$15,581.49	\$4,553.44	\$7,811.32	\$12,862.34	\$1,135.64	\$454.57	\$8,495.60		\$5,138.22	\$3,306.10	\$338.99
<input checked="" type="checkbox"/> Discontinued Product	\$316.39											\$305.09	\$338.99
<input checked="" type="checkbox"/> Excess Inventory	\$1,315.42	\$1,315.42											
Road-650 Overstock	\$1,315.42	\$1,315.42											
<input checked="" type="checkbox"/> New Product	\$10,310.87	\$15,750.65	\$11,484.55	\$5,873.31									
<input checked="" type="checkbox"/> Seasonal Discount	\$445.07	\$445.07											
<input checked="" type="checkbox"/> Volume Discount	\$6,676.94	\$6,152.31	\$10,329.53	\$835.85	\$7,811.32	\$12,862.34	\$1,135.64	\$454.57	\$8,495.60		\$5,138.22	\$4,204.74	

Activate Windows  
Go to PC settings to activate Windows.