

LAPORAN TUGAS 2

DATA WAREHOUSE DAN BUSINESS INTELLIGENCE



Oleh :

Jessica Rameylin Gultom

181402114

TEKNOLOGI INFORMASI

FAKULTAS ILMU KOMPUTER DAN TEKNOLOGI INFORMASI

UNIVERSITAS SUMATERA UTARA

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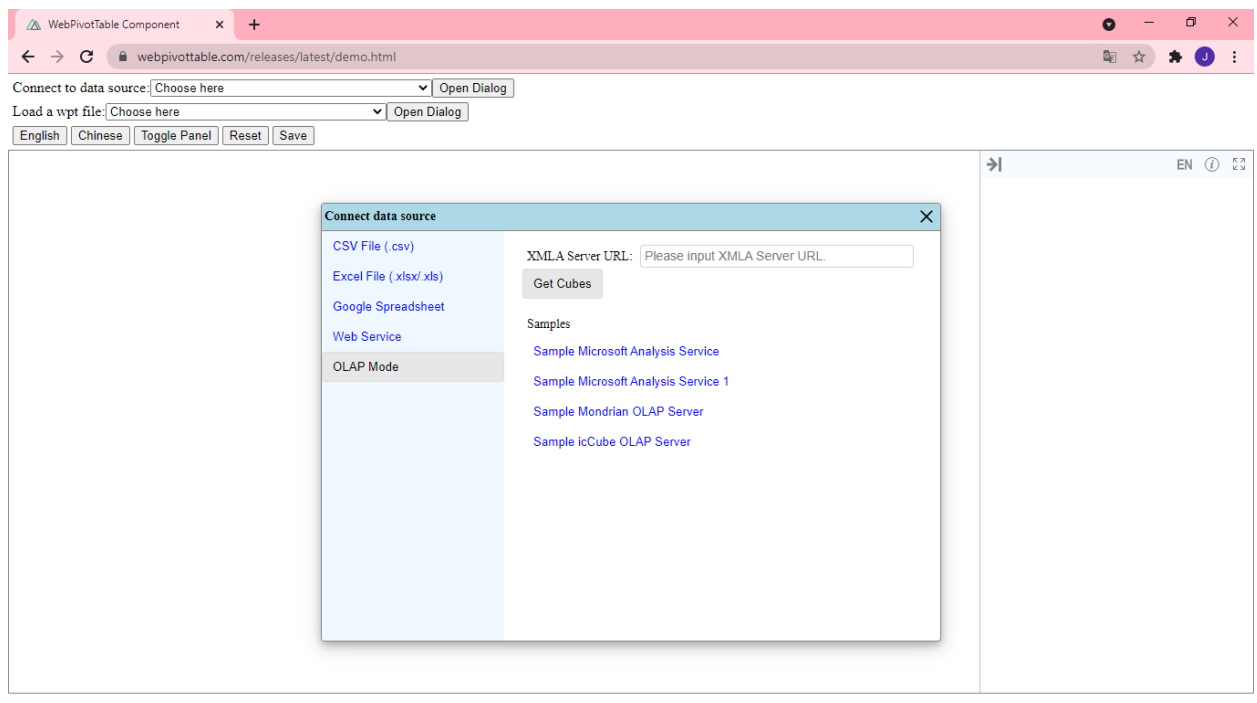
Module 2 Assignment using Web PivotTable

Assignment 1 provides experience with WebPivotTable, an open source application for business intelligence. Using WebPivotTable, you will customize a pivot table and extend it to show more aggregated fields. WebPivotTable is a pure Javascript application that can be used in any browser without plugins.

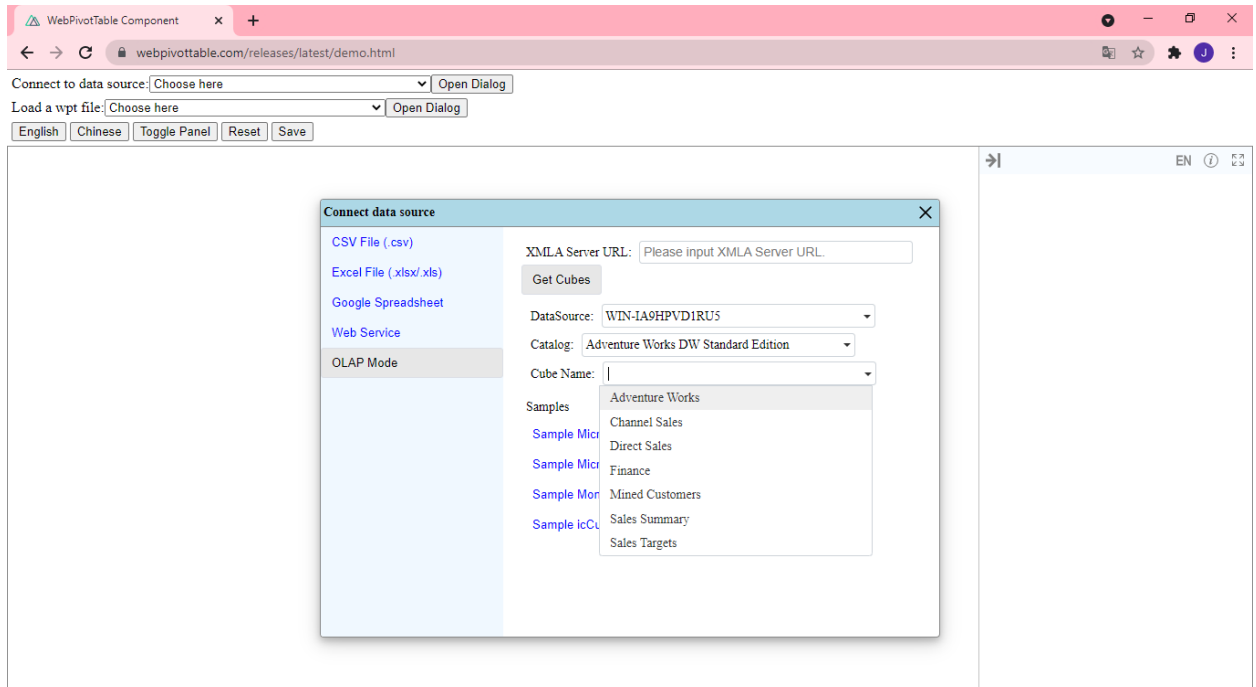
Before starting this assignment, you should read the Web pivot table tutorial. The tutorial demonstrates the usage of WebPivotTable and the OLAP cube source used for this assignment. It also demonstrates MDX to specify a pivot table. If you have not read the tutorial yet, please refer to it prior to starting this assignment.

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.



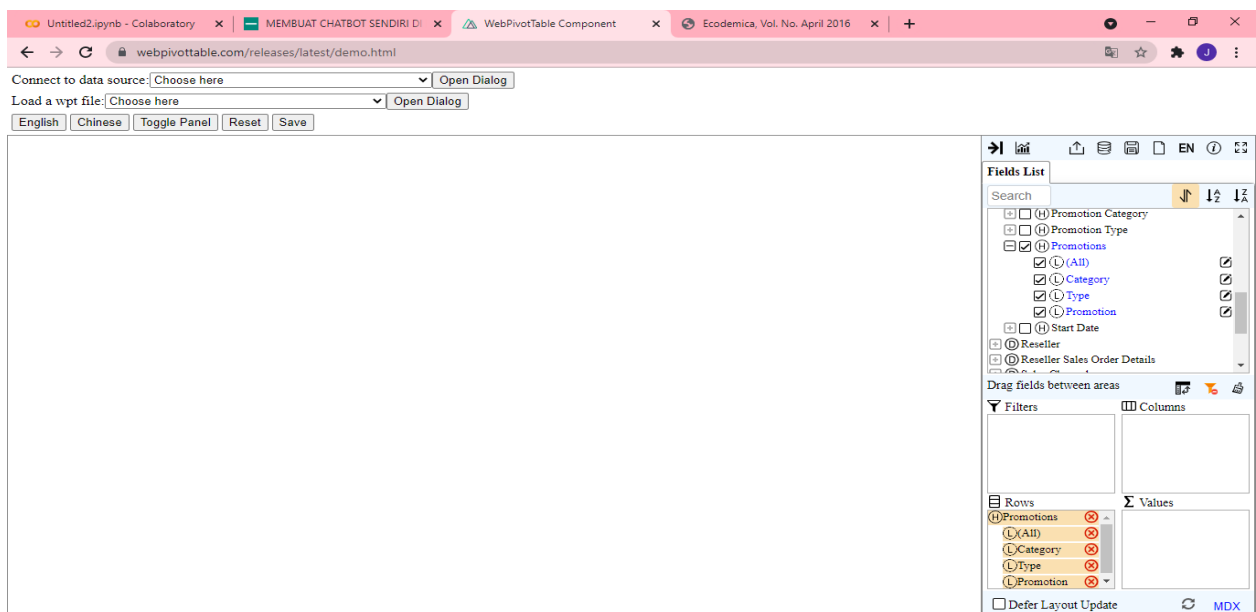
- b. Take some time exploring the data cube before beginning on the details of the assignment.



2. Create the Pivot Table

Create a customized pivot table that shows the following:

- Expand the “Promotions” dimension in the Fields List.
- Select “Promotions” field inside the “Promotions” dimensions in the Rows area.



- 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.

The screenshot shows the WebPivotTable Component interface. The main data table displays sales data for various products and promotions. The Fields List panel on the right shows the following configuration:

- Columns:** Delivery Date.Month of Year
- Rows:** Promotions, Category, Type, Promotion
- Values:** (Empty)

The data table shows columns for various products and their sales amounts. The Fields List panel includes a search bar and checkboxes for different field types (Columns, Rows, Values, Filters).

- e. Expand the Measures in the Fields List.

- f. Select “Average Sales Amount” in the values area

The screenshot shows the WebPivotTable Component interface with the Fields List panel updated. The configuration is as follows:

- Columns:** Delivery Date.Month of Year
- Rows:** Promotions, Category, Type, Promotion
- Values:** Average Sales Amount

The data table now shows the average sales amount for each product category. The Fields List panel includes a search bar and checkboxes for different field types (Columns, Rows, Values, Filters).

- 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.

Connect to data source: Choose here Open Dialog

Load a wpt file: Choose here Open Dialog

English Chinese Toggle Panel Reset Save

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	\$3,412.12
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	\$3,356.91
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	\$1,250.55
Discontinued Product	\$3,218.92								
Mountain-100 Clean	\$10,455.32								
Mountain-500 Silver	\$417.73								
Excess Inventory	\$819.44	\$924.91	\$751.04						
Road-650 Overstock	\$819.44	\$924.91	\$751.04						
New Product	\$7,184.00	\$8,419.12	\$8,010.33	\$6,375.83	\$1,836.83				
Touring-3000 Prom...	\$3,785.88	\$4,429.97	\$3,838.18	\$3,557.97	\$742.35				
Touring-1000 Prom...	\$5,371.27	\$5,531.04	\$6,025.90	\$4,926.44	\$2,384.07				
Seasonal Discount	\$250.75	\$250.75							
Sport Helmet Disco...	\$206.91	\$206.91							
Sport Helmet Disco...	\$303.36	\$303.36							
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	\$1,250.55
Volume Discount 1...	\$1,851.21	\$3,158.55	\$2,844.99	\$2,853.76	\$1,516.82	\$1,775.85	\$1,516.82	\$1,516.82	\$1,516.82
Volume Discount 1...	\$2,990.33	\$4,936.52	\$2,529.87	\$3,377.11	\$4,783.66	\$3,558.51	\$3,558.51	\$3,558.51	\$3,558.51
Volume Discount 2...	\$1,748.57	\$690.36	\$982.53	\$2,573.99	\$4,758.23	\$1,251.09	\$1,251.09	\$1,251.09	\$1,251.09
Volume Discount 4...	\$868.49								

Rows: Volume Discount 41 to 60
Columns: Average Sales Amount
Values: null
DoubleClick to drill through.

Fields List: Measures (Amount, Average Rate, Average Sales Amount, Average Unit Price, Customer Count, Discount Amount, Discount Percentage, End of Day Rate, Expense to Revenue Ratio). Rows (Promotions, Customer, Excess Inventory, Mountain Tire Sale, Seasonal Discount, Half-Price Pedal Sale, No Discount, Reseller, Discontinued Product, Mountain-100 Clean, Mountain-500 Silver, Excess Inventory, Road-650 Overstock, LL Road Frame Sale, New Product, Touring-3000 Prom..., Touring-1000 Prom..., Seasonal Discount, Sport Helmet Disco..., Sport Helmet Disco..., Volume Discount, Volume Discount 1..., Volume Discount 1..., Volume Discount 2..., Volume Discount 4...). Columns (Delivery, Date, Month of Year, (All), Month of Year, Average Sales Amount, End of Day Rate). Filters (Source Currency, Source Currency Code). Rows (Promotions, Customer, Excess Inventory, Mountain Tire Sale, Seasonal Discount, Half-Price Pedal Sale, No Discount, Reseller, Discontinued Product, Mountain-100 Clean, Mountain-500 Silver, Excess Inventory, Road-650 Overstock, LL Road Frame Sale, New Product, Touring-3000 Prom..., Touring-1000 Prom..., Seasonal Discount, Sport Helmet Disco..., Sport Helmet Disco..., Volume Discount, Volume Discount 1..., Volume Discount 1..., Volume Discount 2..., Volume Discount 4...). Columns (Delivery, Date, Month of Year, (All), Month of Year, Average Sales Amount, End of Day Rate). Filters (Source Currency, Source Currency Code).

h. Keep the sheet open for the next part.

3. Extend the Pivot Table

- Add "Source Currency" level (Do NOT include "ALL" level) from the Source Currency dimension to the Filters area.

Connect to data source: Choose here Open Dialog

Load a wpt file: Choose here Open Dialog

English Chinese Toggle Panel Reset Save

All Promotions	3,590.42	1.00	\$4,484.31	1.00	\$5,727.83	1.00	\$4,197.65	1.00	\$3,105.24
Customer		1.00		1.00		1.00		1.00	
Excess Inventory		1.00		1.00		1.00		1.00	
Mountain Tire Sale		1.00		1.00		1.00		1.00	
Seasonal Discount		1.00		1.00		1.00		1.00	
Half-Price Pedal Sale		1.00		1.00		1.00		1.00	
No Discount	3,407.78	1.00	\$4,007.91	1.00	\$5,289.69	1.00	\$3,735.02	1.00	\$2,939.88
Reseller	2,474.75	1.00	\$4,416.00	1.00	\$3,886.08	1.00	\$4,406.66	1.00	\$2,082.00
Discontinued Product	\$3,218.92	1.00		1.00		1.00		1.00	
Mountain-100 Clean	\$10,455.32	1.00		1.00		1.00		1.00	
Mountain-500 Silver	\$417.73	1.00		1.00		1.00		1.00	
Excess Inventory	\$819.44	1.00	\$924.91	1.00	\$751.04	1.00		1.00	
Road-650 Overstock	\$819.44	1.00	\$924.91	1.00	\$751.04	1.00		1.00	
LL Road Frame Sale		1.00		1.00		1.00		1.00	
New Product	7,184.00	1.00	\$8,419.12	1.00	\$8,010.33	1.00	\$6,375.83	1.00	\$1,836.83
Touring-3000 Prom...	3,785.88	1.00	\$4,429.97	1.00	\$3,838.18	1.00	\$3,557.97	1.00	\$742.35
Touring-1000 Prom...	5,371.27	1.00	\$5,531.04	1.00	\$6,025.90	1.00	\$4,926.44	1.00	\$2,384.07
Seasonal Discount	\$250.75	1.00	\$250.75	1.00		1.00		1.00	
Sport Helmet Disco...	\$206.91	1.00	\$206.91	1.00		1.00		1.00	
Sport Helmet Disco...	\$303.36	1.00	\$303.36	1.00		1.00		1.00	
Volume Discount	2,166.60	1.00	\$4,042.45	1.00	\$3,191.03	1.00	\$3,511.68	1.00	\$2,085.39
Volume Discount 1...	1,851.21	1.00	\$3,158.55	1.00	\$2,844.99	1.00	\$2,853.76	1.00	\$1,516.82
Volume Discount 1...	2,990.33	1.00	\$4,936.52	1.00	\$2,529.87	1.00	\$3,377.11	1.00	\$4,783.66
Volume Discount 2...	1,748.57	1.00	\$690.36	1.00	\$982.53	1.00	\$2,573.99	1.00	\$4,758.23
Volume Discount 4...	\$868.49	1.00		1.00		1.00		1.00	
Volume Discount 4...		1.00		1.00		1.00		1.00	

Rows: Volume Discount 41 to 60
Columns: Average Sales Amount
Values: null
DoubleClick to drill through.

Fields List: Measures (Amount, Average Rate, Average Sales Amount, Average Unit Price, Customer Count, Discount Amount, Discount Percentage, End of Day Rate, Expense to Revenue Ratio). Rows (Promotions, Customer, Excess Inventory, Mountain Tire Sale, Seasonal Discount, Half-Price Pedal Sale, No Discount, Reseller, Discontinued Product, Mountain-100 Clean, Mountain-500 Silver, Excess Inventory, Road-650 Overstock, LL Road Frame Sale, New Product, Touring-3000 Prom..., Touring-1000 Prom..., Seasonal Discount, Sport Helmet Disco..., Sport Helmet Disco..., Volume Discount, Volume Discount 1..., Volume Discount 1..., Volume Discount 2..., Volume Discount 4...). Columns (Delivery, Date, Month of Year, (All), Month of Year, Average Sales Amount, End of Day Rate). Filters (Source Currency, Source Currency Code). Rows (Promotions, Customer, Excess Inventory, Mountain Tire Sale, Seasonal Discount, Half-Price Pedal Sale, No Discount, Reseller, Discontinued Product, Mountain-100 Clean, Mountain-500 Silver, Excess Inventory, Road-650 Overstock, LL Road Frame Sale, New Product, Touring-3000 Prom..., Touring-1000 Prom..., Seasonal Discount, Sport Helmet Disco..., Sport Helmet Disco..., Volume Discount, Volume Discount 1..., Volume Discount 1..., Volume Discount 2..., Volume Discount 4...). Columns (Delivery, Date, Month of Year, (All), Month of Year, Average Sales Amount, End of Day Rate). Filters (Source Currency, Source Currency Code).

- b. Create a filter such that the pivot table displays value only for “Canadian Dollar” and “US Dollar”.

WebPivotTable Component

Connect to data source: Choose here Open Dialog

Load a wpt file: Choose here Open Dialog

English Chinese Toggle Panel Reset Save

	1.00								
Mountain Tire Sale	1.00								
Half-Price Pedal Sale	1.00								
Mountain-100 Clearance Sale	1.00	\$10.4							
Mountain-500 Silver Clear...	1.00	\$8							
Road-650 Overstock	1.00								
LL Road Frame Sale	1.00								
Touring-3000 Promotion	1.00	\$3.7							
Touring-1000 Promotion	1.00	\$5.3							
Sport Helmet Discount-2002	1.00	\$2							
Sport Helmet Discount-2003	1.00	\$3							
Volume Discount 11 to 14	1.00	\$1.8							
Volume Discount 15 to 24	1.00	\$2.5							
Volume Discount 25 to 40	1.00	\$1.7							
Volume Discount 41 to 60	1.00	\$8							
Volume Discount over 60	1.00								

Source Currency

Filter By

Not filter Label

Manually include

Manually exclude

Please manually pickup labels which should be included

us do All None Total 1 20/page 1

☒ US Dollar [[Source Currency].[Source Currency].[US Dollar]]

OK

Fields List Grid Options

Search

Sales Channel Sales Reason Sales Summary Order Details Sales Territory Scenario Ship Date Source Currency

Source Currency (All) Source Currency Source Currency Code

Drag fields between areas

Filters

Source Currency Date.Month of Year (All) Month of Year

Rows

Promotions Average Sales Amount End of Day Rate Gross Profit Margin

Columns

Delivery Date.Month of Year (All) Month of Year

Values

Average Sales Amount

Defer Layout Update MDX

- 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.

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Connect to data source: Choose here Open Dialog

Load a wpt file: Choose here Open Dialog

English Chinese Toggle Panel Reset Save

	\$4,331.38	\$5,485.85	\$7,048.03	\$4,974.65	\$3,788.71	\$5,520.58	\$4,192.04	\$2,828.23	\$4.2
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	\$4.2
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	\$4.1
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	\$1.6
Discontinued Product	\$3,589.83								
Mountain-100 Clea...	\$10,455.32								
Mountain-500 Silve...	\$421.13								
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 Prom...	\$3,761.72	\$5,589.74	\$3,383.92	\$3,477.77					
Touring-1000 Prom...	\$5,277.55	\$6,873.46	\$5,259.63	\$4,896.13	\$2,384.07				
Seasonal Discount	\$224.90	\$224.90							
Sport Helmet Disco...	\$199.05	\$199.05							
Sport Helmer Disco...	\$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	\$1.6
Volume Discount 1...	\$2,002.66	\$3,743.68	\$2,934.20	\$3,124.29	\$1,571.08	\$1,829.61	\$2,001.48	\$1,309.59	\$1.5
Volume Discount 1...	\$3,017.97	\$5,586.41	\$2,285.43	\$3,438.79	\$4,841.48	\$2,861.50	\$2,086.70	\$1,665.11	\$2.7
Volume Discount 2...	\$1,793.25	\$667.80	\$835.15	\$2,573.99	\$4,758.23	\$1,482.95	\$633.95	\$478.67	
Volume Discount 4...	\$868.49								

Fields List Grid Options

Search

Sales Channel Sales Reason Sales Summary Order Details Sales Territory Scenario Ship Date Source Currency

Source Currency (All) Source Currency Source Currency Code

Drag fields between areas

Filters

Source Currency Date.Month of Year (All) Month of Year

Rows

Promotions Average Sales Amount End of Day Rate Gross Profit Margin

Columns

Delivery Date.Month of Year (All) Month of Year

Values

Average Sales Amount

Defer Layout Update MDX

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”.

The screenshot shows the webpivottable.com interface. A pivot table is displayed with columns for various metrics and rows for different promotion types. A dialog box titled 'Source Currency' is open, allowing the user to filter the data by source currency. The dialog includes a 'Filter By' section with a dropdown set to 'euro'. Below this, there are options to 'Manually include' or 'Manually exclude' specific currencies. The 'Manually include' section is currently empty, and the 'Manually exclude' section contains the text 'Please manually pickup labels which should be included'. The 'OK' button is at the bottom of the dialog.

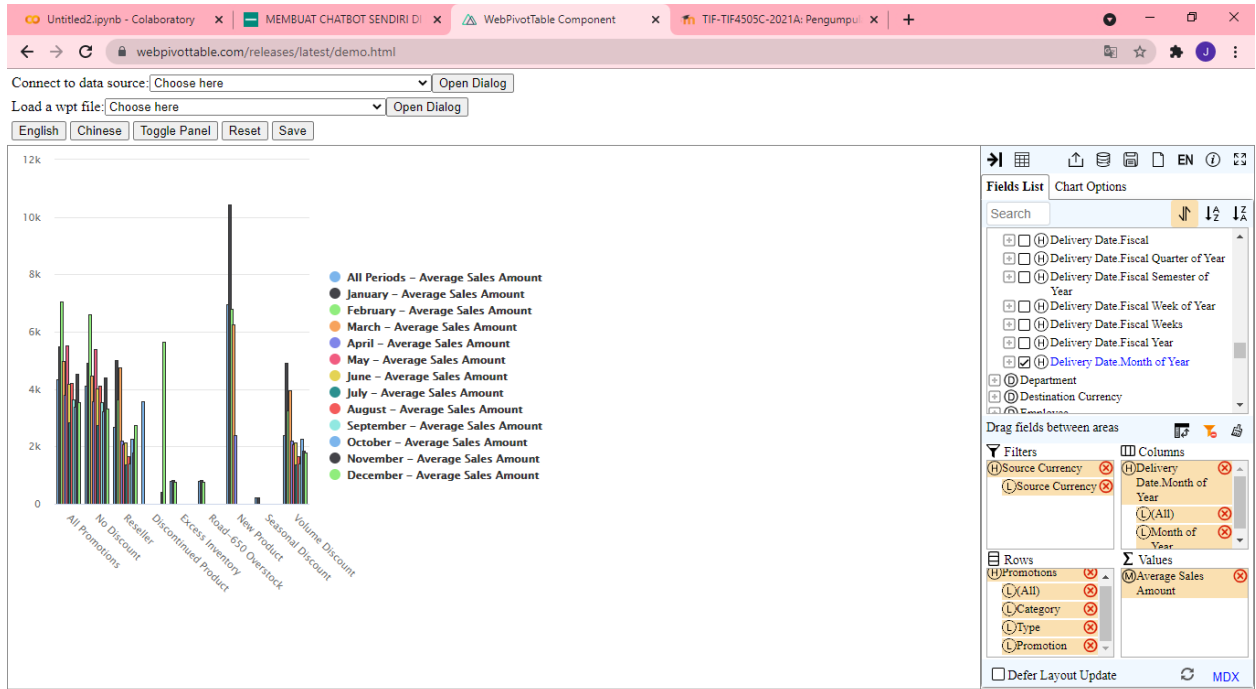
Promotions	Periods	\$	€	¥	£	₹	₪	₹	₹
All Promotions	\$4,517.15	\$5,644.84	\$7,211.77	\$5,012.13	\$3,907.44	\$5,646.84	\$4,247.84	\$2,885.14	\$4.2
No Discount	\$4,183.76	\$5,007.31	\$6,692.92	\$4,481.98	\$3,676.16	\$5,488.00	\$4,081.16	\$2,817.83	\$4.1
Reseller	\$2,778.68	\$5,278.68							\$1.7
Discontinued Product	\$3,465.52								
Mountain-100 Clea...	\$10,455.32								
Mountain-500 Silve...	\$415.42								
Excess Inventory	\$805.13	\$805.13							
Road-650 Overstock	\$805.13	\$805.13							
New Product	\$7,344.01	\$11,244.01							
Touring-3000 Prom...	\$4,014.88	\$5,714.88							
Touring-1000 Prom...	\$5,361.51	\$7,361.51							
Seasonal Discount	\$239.11	\$239.11							
Sport Helmet Disco...	\$203.31	\$203.31							
Sport Helmet Disco...	\$285.52	\$285.52							
Volume Discount	\$2,448.70	\$4,448.70							
Volume Discount 1...	\$2,051.51	\$3,051.51							
Volume Discount 1...	\$2,995.84	\$5,995.84							
Volume Discount 2...	\$1,789.59	\$3,789.59							
Volume Discount 4...	\$868.49	\$1,868.49							

b. Collapse all reseller promotions except for Excess Inventory. Show only the subcategories within the Excess Inventory item.

The screenshot shows the webpivottable.com interface. The pivot table now shows only the 'Excess Inventory' item under the 'Reseller' category. The 'Delivery Date' filter is applied, showing only the 'Month of Year' subcategory. The 'OK' button is at the bottom of the dialog.

Promotions	Periods	\$	€	¥	£	₹	₪	₹	₹
All Promotions	\$4,517.15	\$5,644.84	\$7,211.77	\$5,012.13	\$3,907.44	\$5,646.84	\$4,247.84	\$2,885.14	\$4.2
No Discount	\$4,183.76	\$5,007.31	\$6,692.92	\$4,481.98	\$3,676.16	\$5,488.00	\$4,081.16	\$2,817.83	\$4.1
Reseller	\$2,778.68	\$5,278.68							\$1.7
Discontinued Product	\$3,465.52								
Mountain-100 Clea...	\$10,455.32								
Mountain-500 Silve...	\$415.42								
Excess Inventory	\$805.13	\$805.13							
Road-650 Overstock	\$805.13	\$805.13							
New Product	\$7,344.01	\$11,244.01							
Touring-3000 Prom...	\$4,014.88	\$5,714.88							
Touring-1000 Prom...	\$5,361.51	\$7,361.51							
Seasonal Discount	\$239.11	\$239.11							
Sport Helmet Disco...	\$203.31	\$203.31							
Sport Helmet Disco...	\$285.52	\$285.52							
Volume Discount	\$2,448.70	\$4,448.70							
Volume Discount 1...	\$2,051.51	\$3,051.51							
Volume Discount 1...	\$2,995.84	\$5,995.84							
Volume Discount 2...	\$1,789.59	\$3,789.59							
Volume Discount 4...	\$868.49	\$1,868.49							

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.

