

Learning Resource

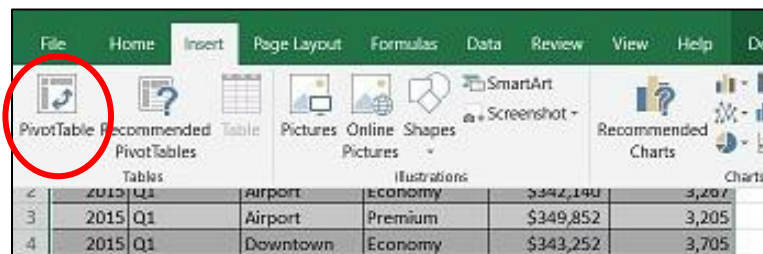
Pivot Tables and Averages

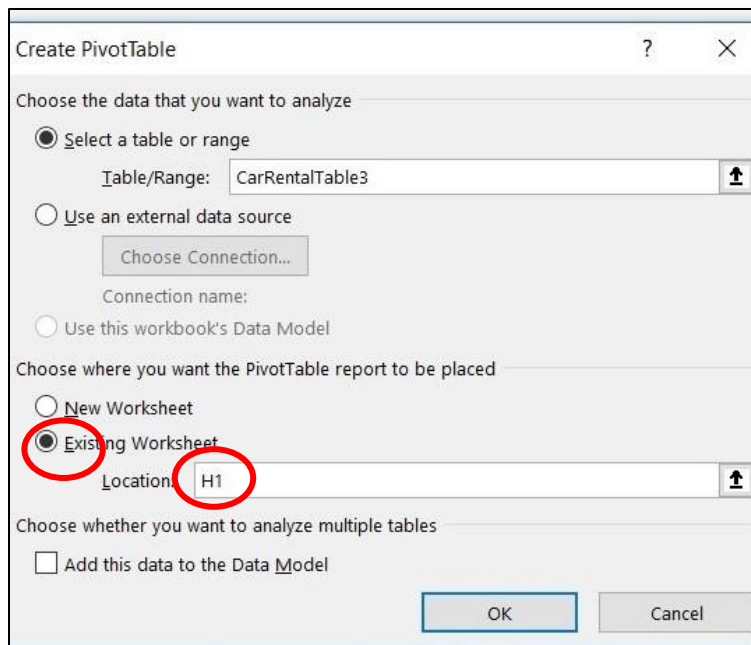
Using the same workbook and tables created in previous tutorials (CarRentalTable) we want to create a pivot table that displays average quarterly revenue. Here is a look at the data for 2015 and 2016.

	A	B	C	D	E	F
1	Year	Quarter	Location	CarClass	Revenue	NumCars
2	2015	Q1	Airport	Economy	\$342,140	3,267
3	2015	Q1	Airport	Premium	\$349,852	3,205
4	2015	Q1	Downtown	Economy	\$343,252	3,705
5	2015	Q1	Downtown	Premium	\$351,060	3,477
6	2015	Q2	Airport	Economy	\$422,192	4,068
7	2015	Q2	Airport	Premium	\$370,128	3,487
8	2015	Q2	Downtown	Economy	\$455,424	4,800
9	2015	Q2	Downtown	Premium	\$296,120	2,897
10	2015	Q3	Airport	Economy	\$580,576	3,214
11	2015	Q3	Airport	Premium	\$752,272	3,581
12	2015	Q3	Downtown	Economy	\$504,800	4,200
13	2015	Q3	Downtown	Premium	\$471,816	3,500
14	2015	Q4	Airport	Economy	\$533,744	3,576
15	2015	Q4	Airport	Premium	\$496,840	3,192
16	2015	Q4	Downtown	Economy	\$582,504	3,350
17	2015	Q4	Downtown	Premium	\$619,900	3,199
18	2016	Q1	Airport	Economy	\$486,252	3,440
19	2016	Q1	Airport	Premium	\$701,460	3,787
20	2016	Q1	Downtown	Economy	\$415,016	3,430
21	2016	Q1	Downtown	Premium	\$552,324	3,629
22	2016	Q2	Airport	Economy	\$486,056	3,424
23	2016	Q2	Airport	Premium	\$626,232	3,392
24	2016	Q2	Downtown	Economy	\$488,588	3,551
25	2016	Q2	Downtown	Premium	\$585,156	3,440
26	2016	Q3	Airport	Economy	\$503,212	3,287
27	2016	Q3	Airport	Premium	\$665,548	3,474
28	2016	Q3	Downtown	Economy	\$483,256	3,515
29	2016	Q3	Downtown	Premium	\$643,168	3,493
30	2016	Q4	Airport	Economy	\$555,768	3,848
31	2016	Q4	Airport	Premium	\$687,844	3,327
32	2016	Q4	Downtown	Economy	\$421,120	3,947
33	2016	Q4	Downtown	Premium	\$527,900	3,371

The desired Pivot Table should show years (2015 and 2016) and quarters (Q1, Q2, Q3, Q4). The choice is a 4 row and 2 column or a 2 row and 4 column pivot table. Since 4 rows and 2 columns presents a narrower footprint (width), this tutorial will use a 4 x 2 (Row, Column) Pivot Table.

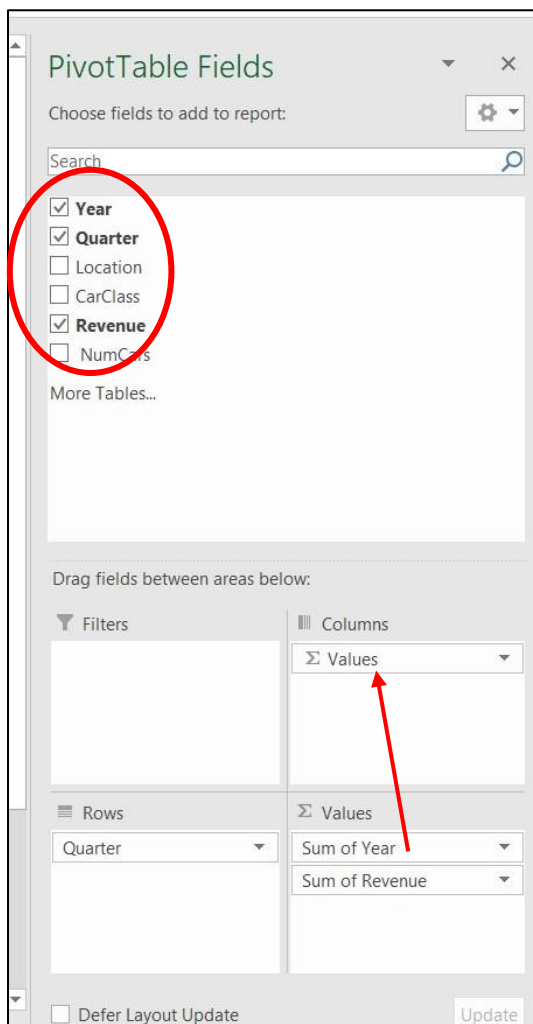
1. Select all the data in the table, click on Insert/Pivot Table. Locate the table on the existing worksheet and positioned in cell H1.



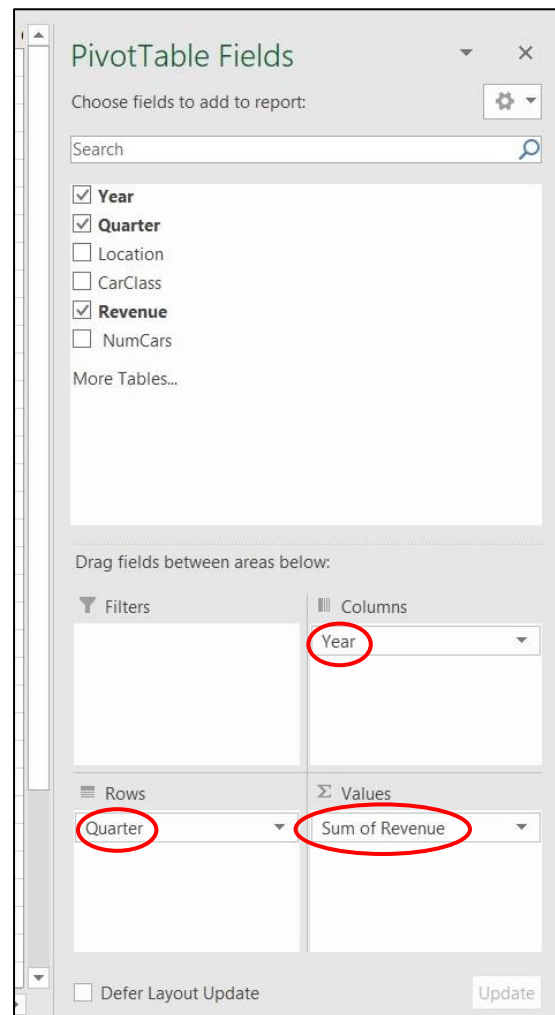


The 'Create PivotTable' dialog box is shown. It has three main sections. The first section, 'Choose the data that you want to analyze', has three radio buttons: 'Select a table or range' (selected), 'Use an external data source', and 'Use this workbook's Data Model'. The 'Table/Range' text box contains 'CarRentalTable3'. The second section, 'Choose where you want the PivotTable report to be placed', has two radio buttons: 'New Worksheet' and 'Existing Worksheet' (selected). The 'Location' text box contains 'H1'. The third section, 'Choose whether you want to analyze multiple tables', has a checkbox 'Add this data to the Data Model' which is unchecked. 'OK' and 'Cancel' buttons are at the bottom right.

2. Select the fields Year, Quarter, and Revenue. For Quarters to be displayed in Rows, drag Quarter to Row. Then drag Year to columns. Make sure (Sum of) Revenue is in Values.



The 'PivotTable Fields' task pane is shown. The 'Choose fields to add to report:' section has a search box and a list of fields: Year (checked), Quarter (checked), Location (unchecked), CarClass (unchecked), Revenue (checked), and NumCars (unchecked). The 'Drag fields between areas below:' section has four areas: Filters, Columns, Rows, and Values. The Columns area contains 'Σ Values'. The Rows area contains 'Quarter'. The Values area contains 'Sum of Year' and 'Sum of Revenue'. A red circle highlights the 'Year', 'Quarter', and 'Revenue' fields in the list. A red arrow points from the 'Sum of Revenue' in the Values area to the 'Sum of Year' in the Values area.



The 'PivotTable Fields' task pane is shown. The 'Choose fields to add to report:' section has a search box and a list of fields: Year (checked), Quarter (checked), Location (unchecked), CarClass (unchecked), Revenue (checked), and NumCars (unchecked). The 'Drag fields between areas below:' section has four areas: Filters, Columns, Rows, and Values. The Columns area contains 'Year'. The Rows area contains 'Quarter'. The Values area contains 'Sum of Revenue'. Red circles highlight 'Year' in the Columns area, 'Quarter' in the Rows area, and 'Sum of Revenue' in the Values area.

The default value for Pivot Tables is Sum; but the requirement is for Average.

3. Click “Sum of Revenue” in the upper left hand corner of the Pivot Table to bring up the Pivot Table Fields box. In the Pivot Table Fields box, left click on Sum of Revenue in the Values category (or click on the pulldown icon behind the title).

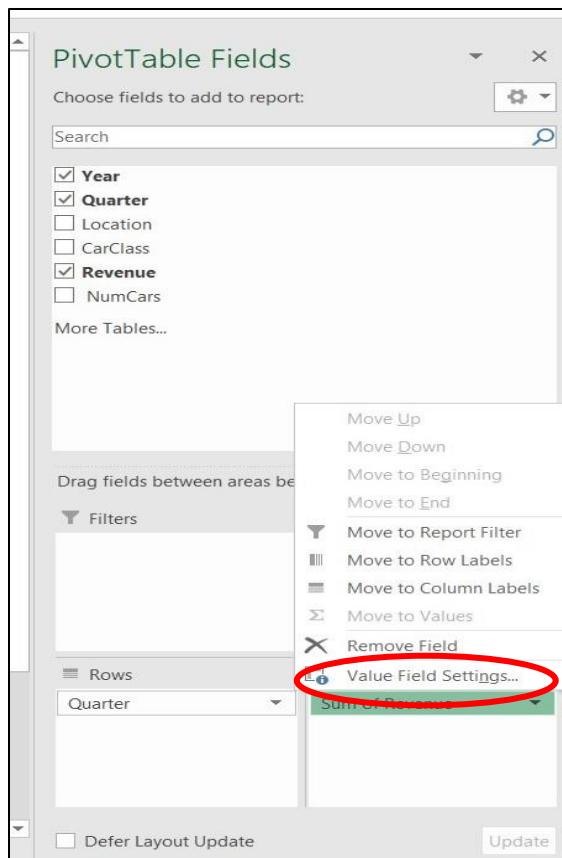
The screenshot displays an Excel PivotTable and the PivotTable Fields task pane. The PivotTable is structured with 'Sum of Revenue' as the Row Labels and '2015', '2016', and 'Grand Total' as Column Labels. The data is as follows:

Sum of Revenue	2015	2016	Grand Total
Q1	1386304	2155052	3541356
Q2	1543864	2186032	3729896
Q3	2309464	2295184	4604648
Q4	2232988	2192632	4425620
Grand Total	7472620	8828900	16301520

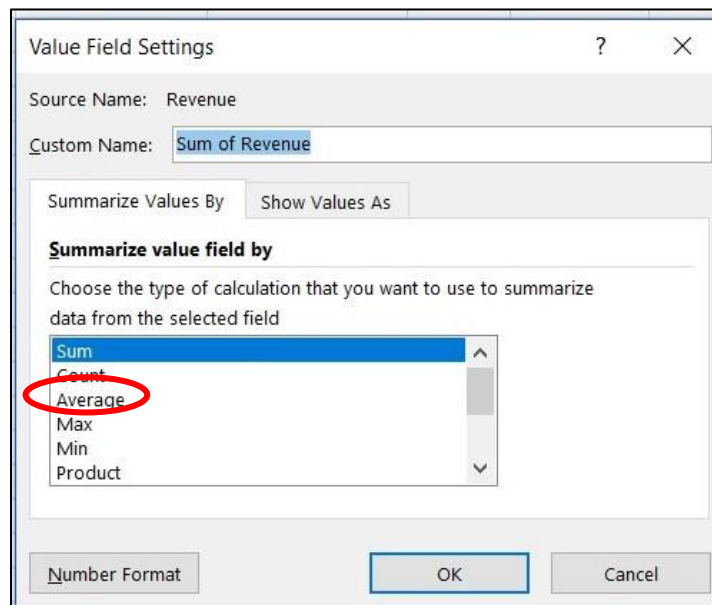
The PivotTable Fields task pane on the right shows the following configuration:

- Choose fields to add to report:** Year, Quarter, Location, CarClass, Revenue, NumCars. (Revenue is checked)
- Drag fields between areas below:**
 - Filters:** (Empty)
 - Columns:** Year
 - Rows:** Quarter
 - Values:** Sum of Revenue

A popup window is displayed. Select Value Field Settings



A new window is displayed. Select Average and click on OK.



The Pivot Table design box will reflect the calculation change. And the Pivot Table will reflect averages instead of the default sums.

PivotTable Fields

Choose fields to add to report:

Search

☒ Year
☒ Quarter
☐ Location
☐ CarClass
☒ Revenue
☐ NumCars
 More Tables...

Drag fields between areas below:

Filters

Columns
 Year

Rows
 Quarter

Values
 Average of Revenue

☐ Defer Layout Update Update

Be sure to format the data appropriately (Currency, no decimal places in this case).

	H	I	J	K
	Average of Revenue	Column Labels		
Row Labels		2015	2016	Grand Total
Q1		\$346,576	\$538,763	\$442,670
Q2		\$385,966	\$546,508	\$466,237
Q3		\$577,366	\$573,796	\$575,581
Q4		\$558,247	\$548,158	\$553,203
Grand Total		\$467,039	\$551,806	\$509,423