Extractors Manual

3213 West Main Street #119
Rapid City, SD 57702-2314

Revision: February 4, 2012
Version: 1.917

Table of Contents

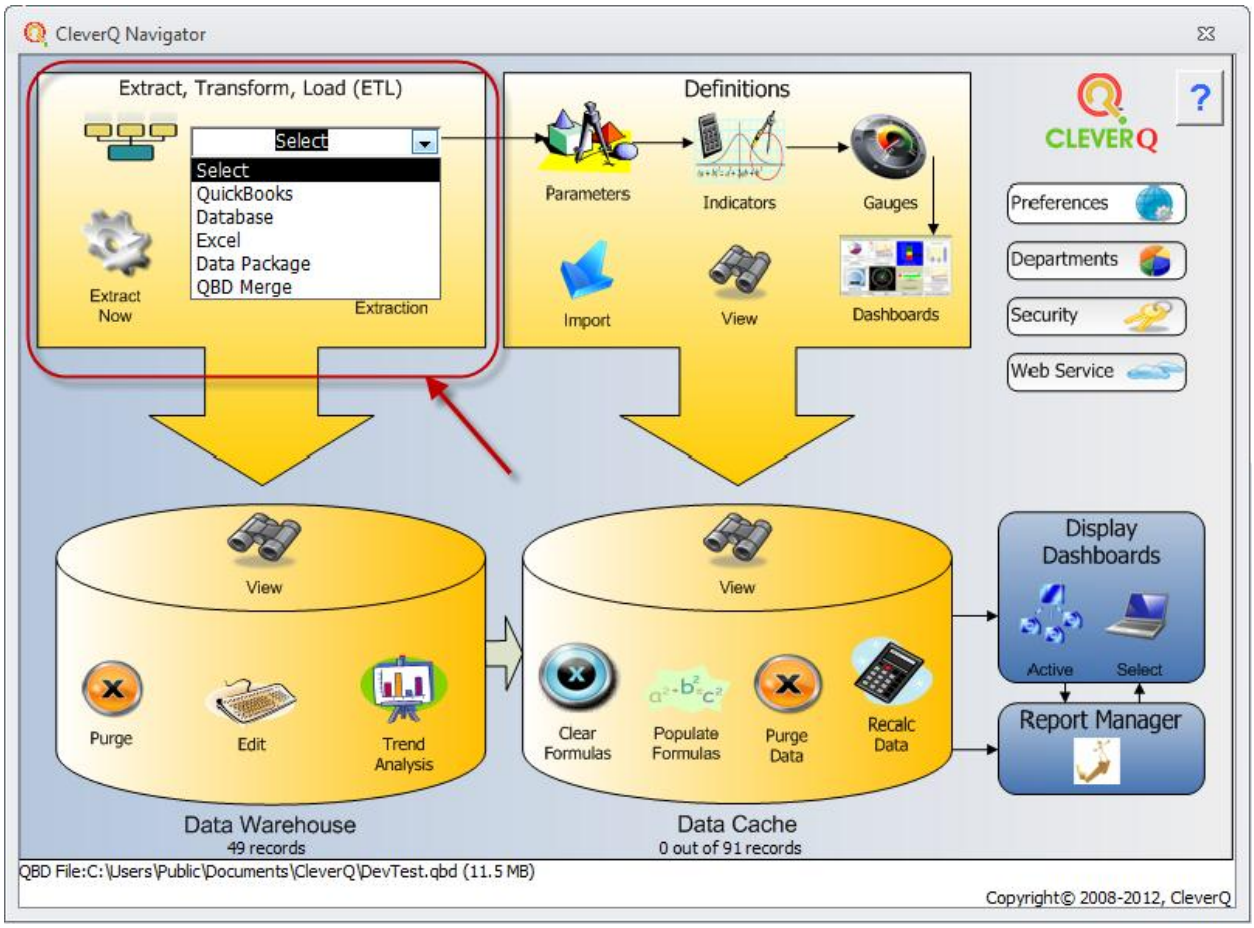
Introduction

This document describes the Extractors to be used with the CleverQ™ software which includes:

QuickBooks®
Microsoft Access
ODBC Databases
Microsoft Excel
Data Package Creator

It helps to understand how data is stored within CleverQ™. Please review the section on "Data Sources" in the "Customization Manual" to understand the concepts before reading further in this manual.

The Navigator provides a friendly way to work with the Extractors to see the flow of data as well as choose the functions within the program.



The Extract, Transform, Load (ETL) block on the Navigator has a drop-down list of the extractors available which include:

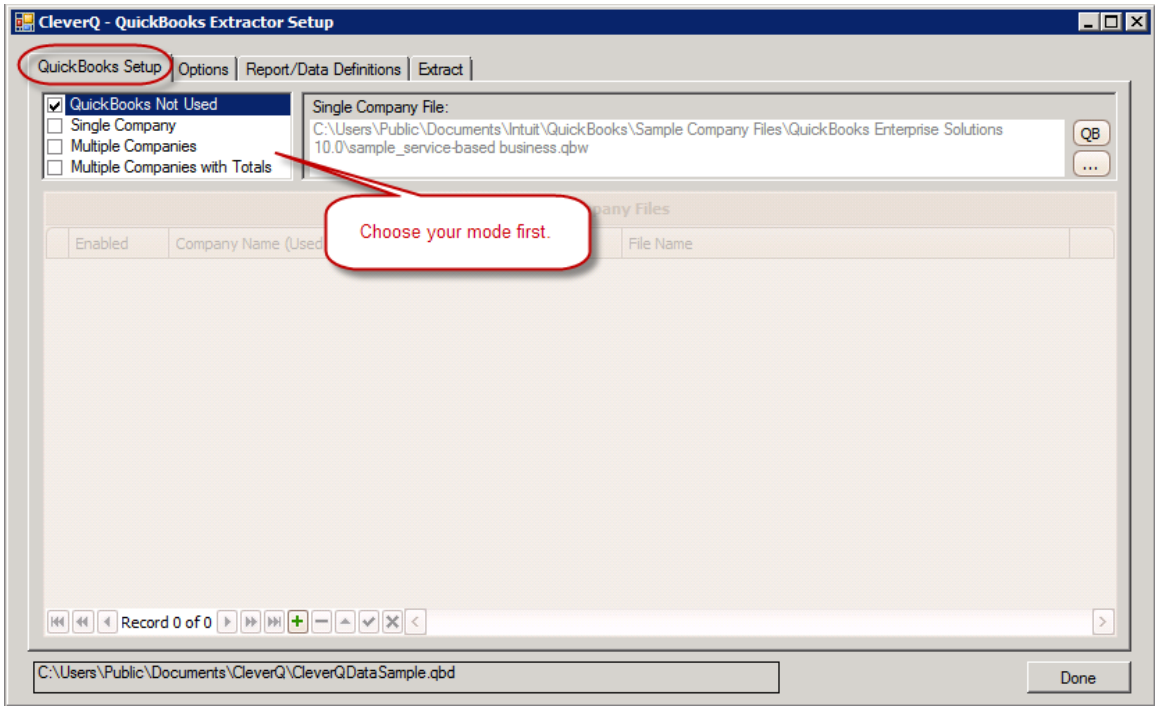
QuickBooks

Database
Excel
Data Package
QBD Merge

QuickBooks Extractor

Setup

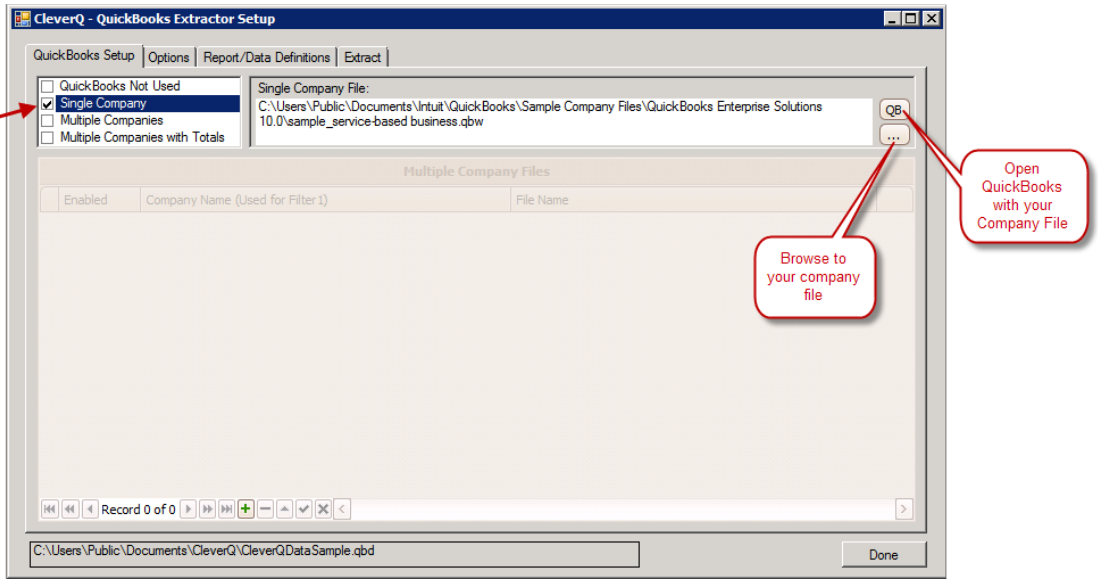
When you first startup the QuickBooks Extractor, you will notice a new window appearing outside of the CleverQ window. This occurs because the QuickBooks Extractor runs as a separate program from CleverQ so you can be doing one thing in CleverQ and something else in the extractor including extracting data. The program opens up connected to your CleverQ QBD file and on the "Setup" tab.



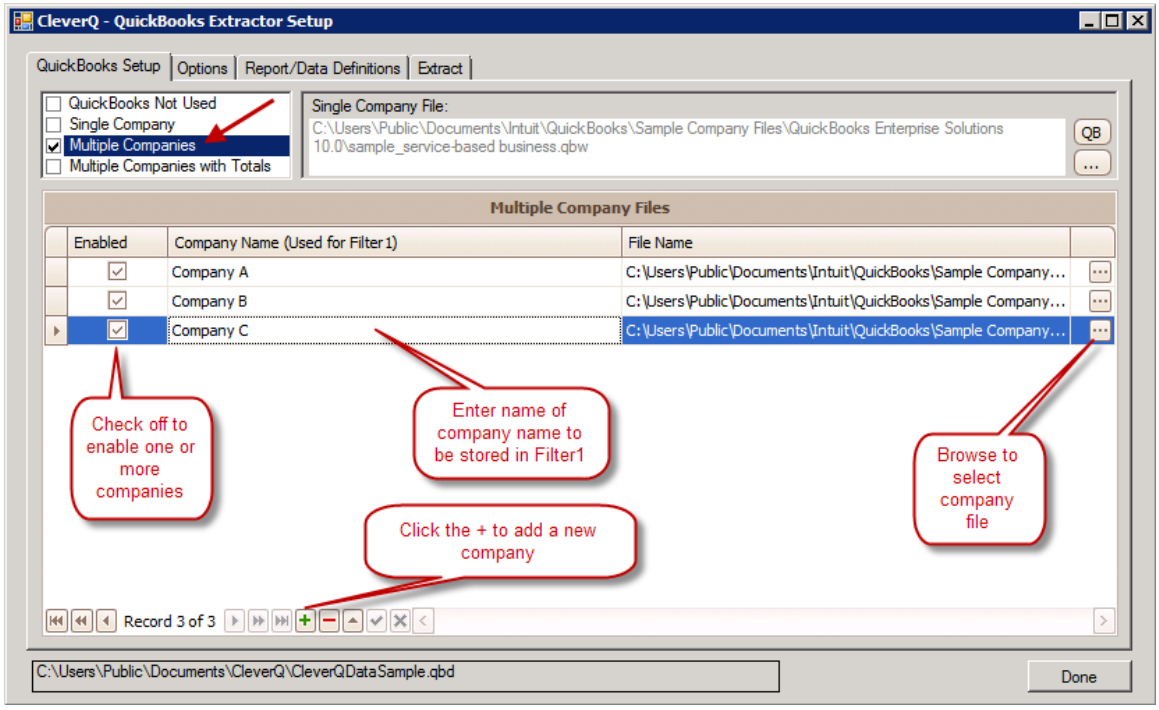
You can setup the extractor is one of four modes:

- No Extractions (QuickBooks Not Used)
- Single Company
- Multiple Companies
- Multiple Companies (with totals across all companies)

You most likely will use the Single Company mode and when you select this, you will be able to select your QuickBooks Company file.

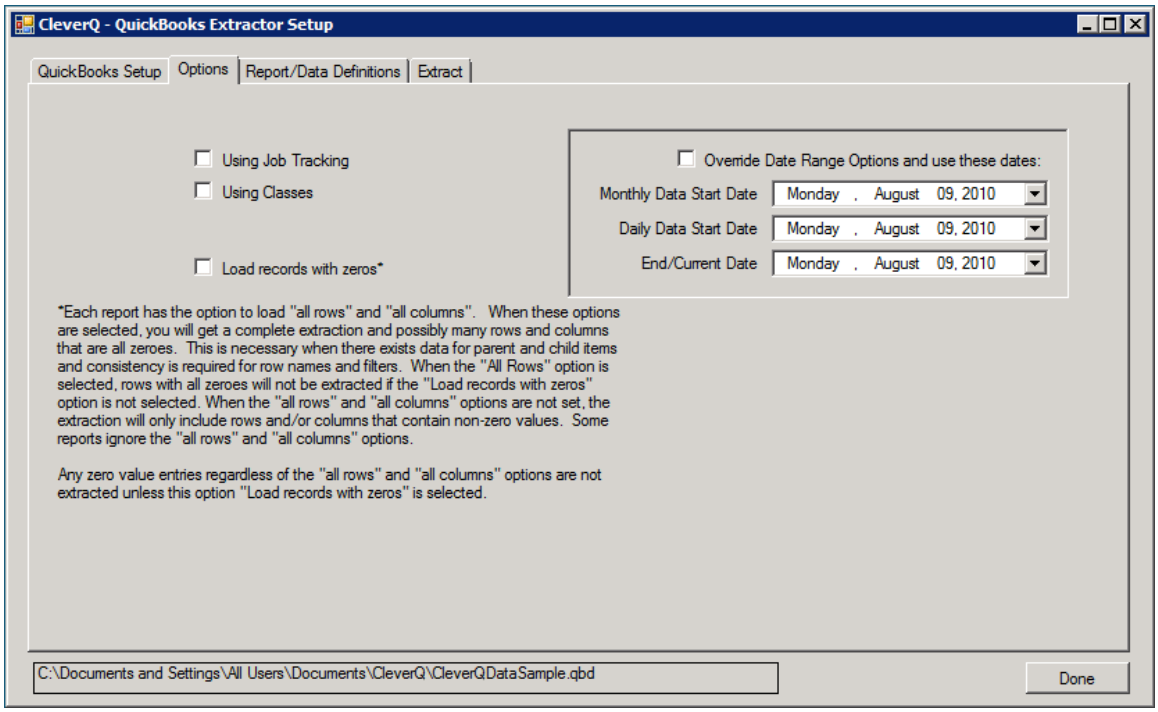


For multiple companies, you can choose any number of companies. The key to making this work is to have your first Filter in CleverQ set to "Company". This is where the Company name will be stored to match up with the data.



Options

After you have selected your mode and company file(s), select the "Options" tab.



On this tab you can set the following options.

Using Job Tracking

Job Tracking within QuickBooks provides the ability to segregate data by job. Use this option if you are using Job Tracking in QuickBooks. This basically allows you to set a job filter for certain reports and your extracted data can be utilized by job.

Using Classes

If you have setup Classes in QuickBooks and want to segregate data by classes, check off this option. You will be allowed to setup a filter for Classes for various reports.

Load Records with Zeros

If you choose to not load the records with zeros, the amount of data loaded will be smaller and this will improve the performance of the system. Without the records, you may be missing some report data you need to create parameters, so use this option with caution. Also note that the CleverQ calculation engine will fill in data gaps with zeros in report data or in other words getting data missing inside the report date range will return zero. While, getting data missing outside the report date range will return null. Nulls will usually result in a warning or error message.

Each report has the option to load "all rows" and "all columns". When these options are selected, you will get a complete extraction and possibly many rows and columns that are all zeroes. This is necessary when there exists data for parent and child items and consistency is required for row names and filters. When the "All Rows" option is selected, rows with all zeroes will not be extracted if the "Load records with zeros" option is not selected. When the "all rows" and "all columns" options are not set, the extraction will only include rows and/or columns that contain non-zero values. Some reports ignore the "all rows" and "all columns" options.

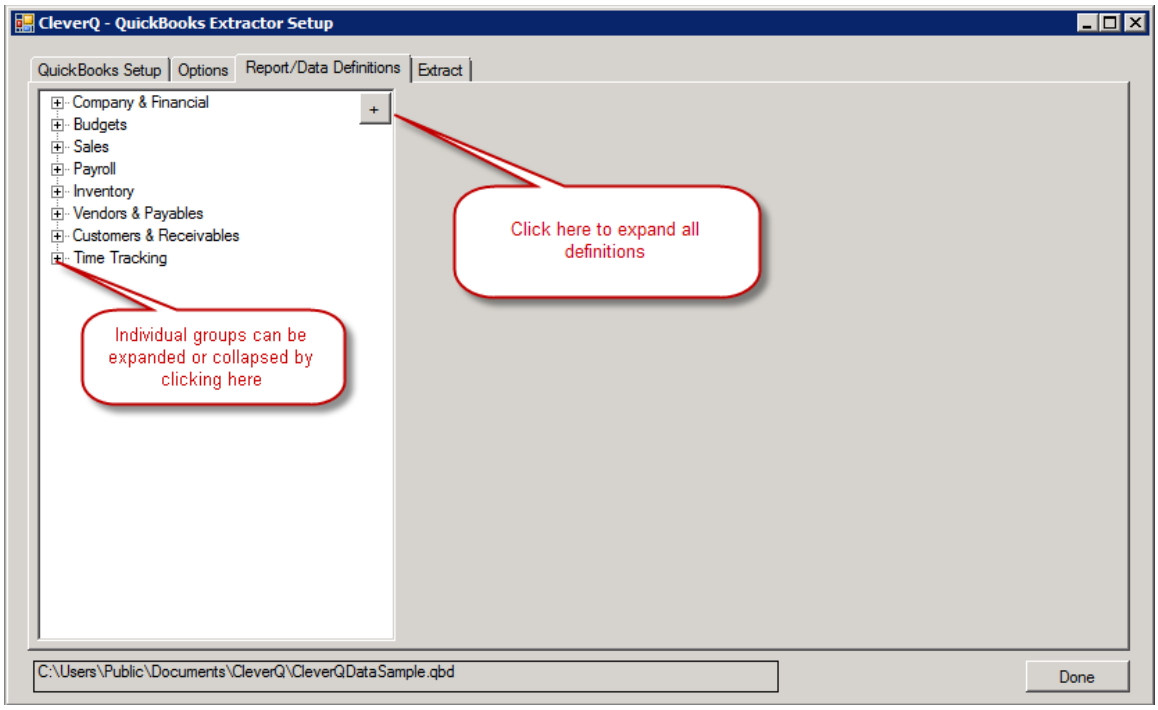
Any zero value entries regardless of the "all rows" and "all columns" options are not extracted unless this option "Load records with zeros" is selected.

Override Data Range

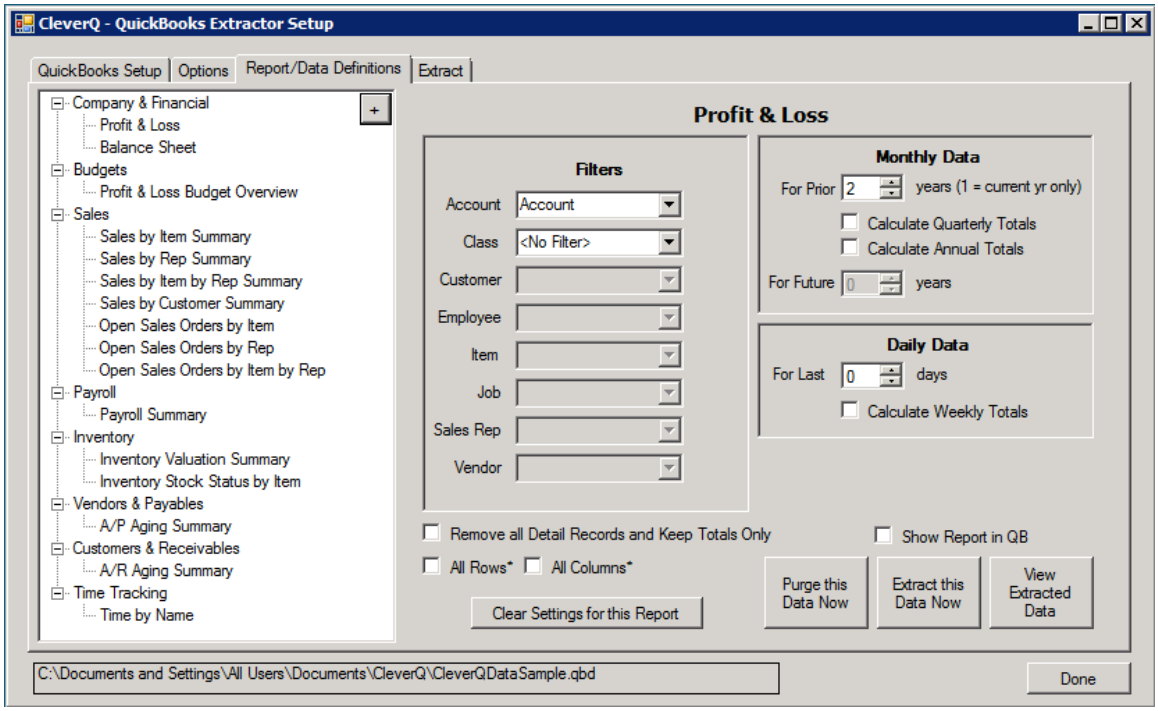
In some cases you may want to extract data for a specific data range and overwrite the options for each report. This is not a frequently used option, but comes in handy when working with the sample files in QuickBooks.

Report/Data Definitions

On the Report/Data Definitions tab, you will see a tree view of all the reports and data definitions available.



When you click on a specific definition (Profit & Loss shown in the next figure), the right side of the form will fill in with the options for that report.



Filters and other controls on this form will be enabled depending on the options and specific report type.

You can assign filters or not.

Data is either extracted by month, by day, or for the current date depending on the report. You can choose to include any number of prior years of data including the current year. You can also calculate quarterly or annual totals based on the monthly data. For daily data, you can choose the last x days and optionally calculate weekly data. When an extraction occurs and you have chosen not to purge all data, only the data for the data range specified will be cleared before the extraction. This gives you the ability to build up the data without extracting all the data all the time. In other words, once you have extracted the prior years, just extract the current year.

Future years are enabled when you extract budget data.

You can optionally “Remove all Detail Records and Keep Totals Only”. With this selected, only row names coming from QuickBooks starting with the word “Total” are extracted.

Each report has the option to load "all rows" and "all columns". When these options are selected, you will get a complete extraction and possibly many rows and columns that are all zeroes. This is necessary when there exists data for parent and child items and consistency is required for row names and filters. When the "All Rows" option is selected, rows with all zeroes will not be extracted if the "Load records with zeros" option is not selected. When the "all rows" and "all columns" options are not set, the

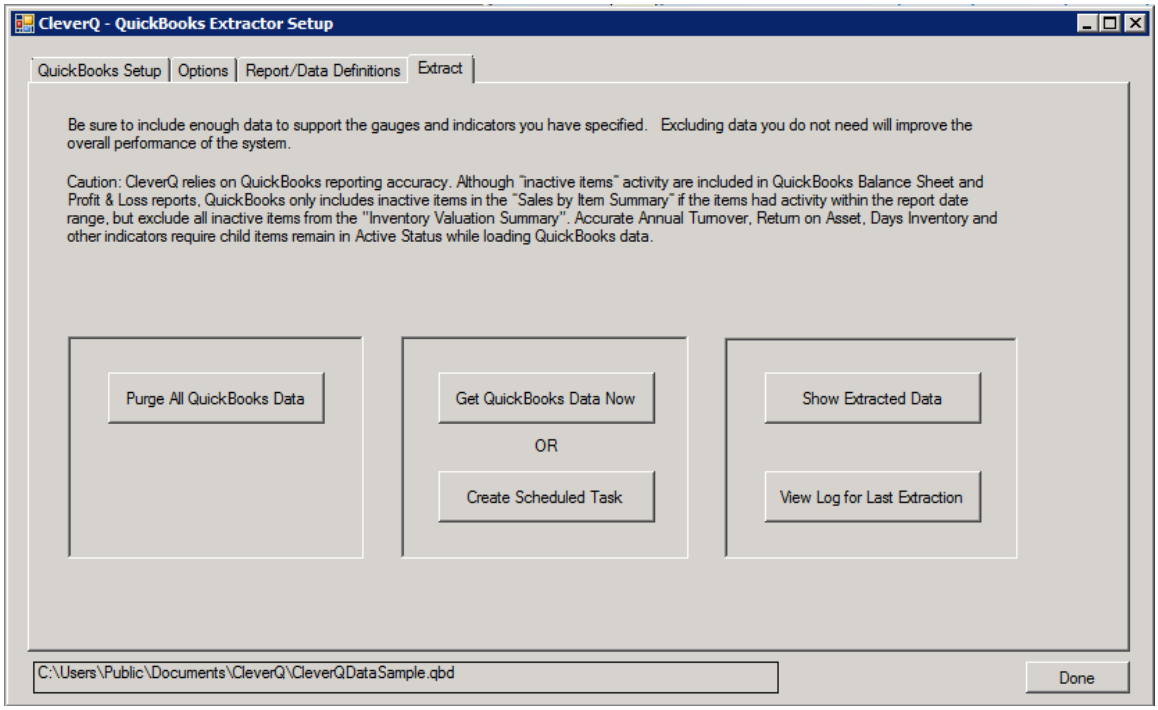
extraction will only include rows and/or columns that contain non-zero values. Some reports ignore the "all rows" and "all columns" options. Any zero value entries regardless of the "all rows" and "all columns" options are not extracted unless this option "Load records with zeros" is selected.

The extractor provides for you to extract only one report at a time which is helpful in troubleshooting. This is done by the button on this tab called “Extract Data Now”. If you want to purge the data first, press the “Purge this Data Now” button. If QuickBooks is opened to this company file, you can actually see the report(s) that are being extracted in QuickBooks, if you check the “Show Report in QB” checkbox. After the extraction, you can view the data just for this definition by pressing the “View Extracted Data” button. More about that later.

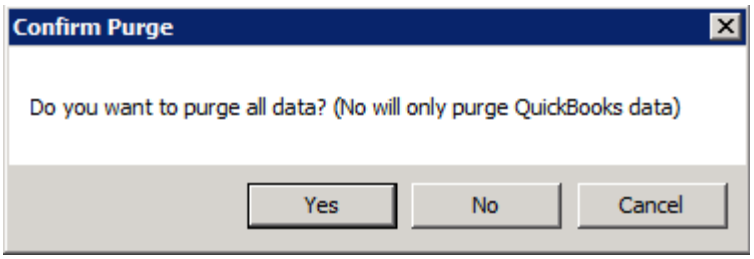
Extracting

Manual Extraction

After all the report/data definitions are set and you are ready to really extract the data, go to the “Extract” tab.

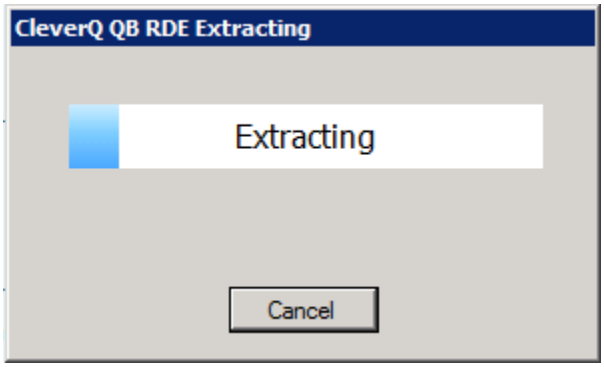


First, if you want to clear out all extracted data, press the “Purge All QuickBooks Data” button. You will normally not do this, but occasionally it is necessary to start with all new extracted data. You will be prompted with this message....



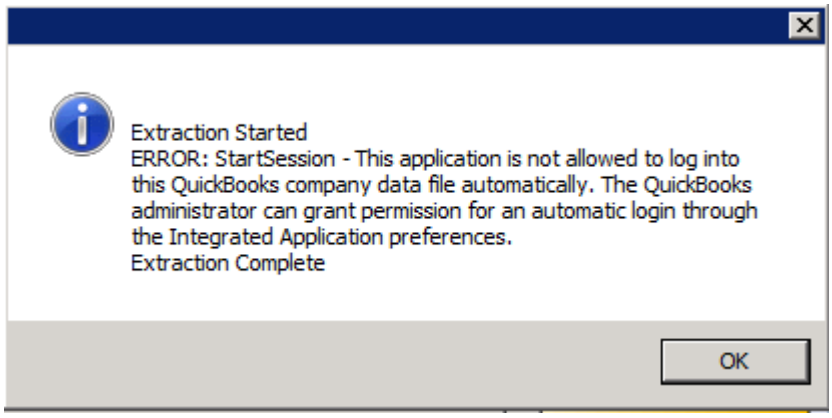
Press "Yes" to purge all data not just QuickBooks data. Press "No" to just purge QuickBooks data, or press "Cancel" to not purge anything.

Pressing the "Get QuickBooks Data Now" will start an extraction process and you will see a progress bar window.

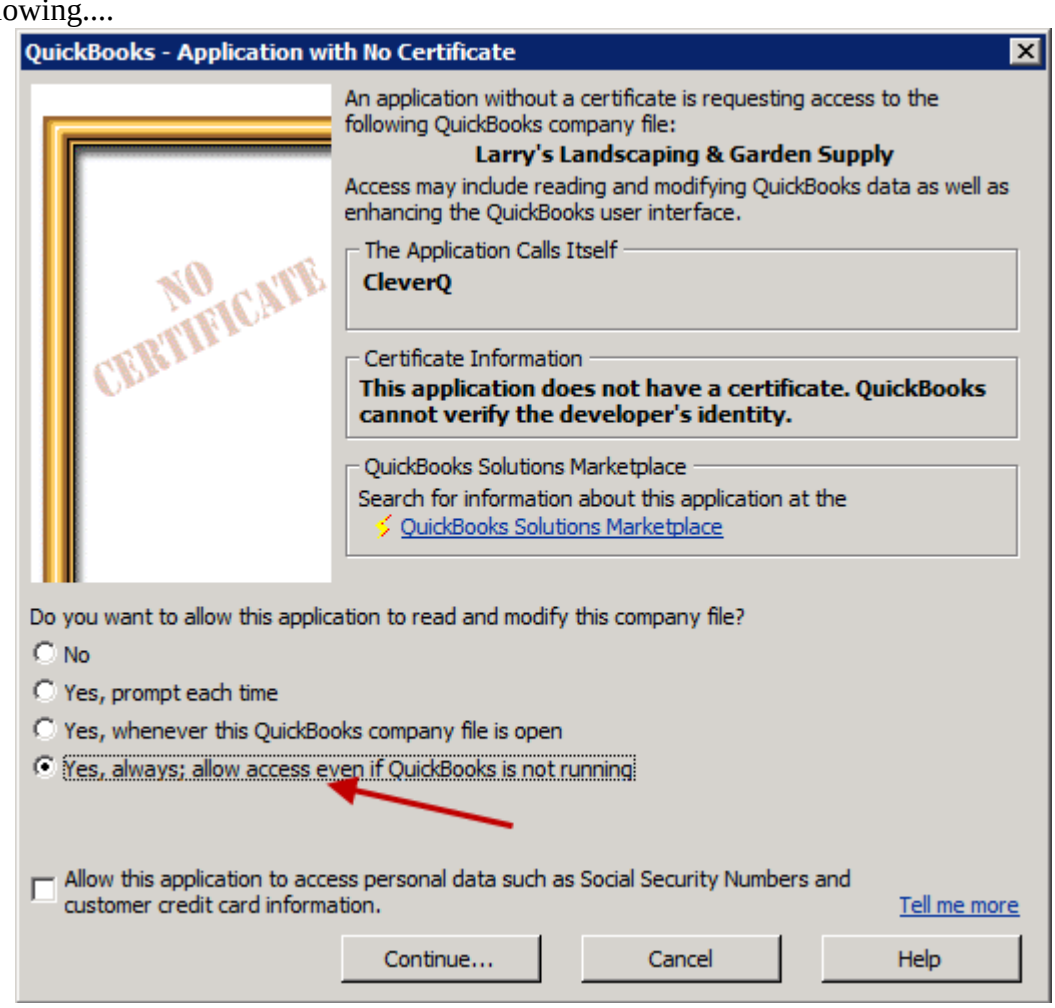


Depending on options you have set, the number of reports, the number of companies, and the amount of data, the extraction could take a few minutes to a few hours. You should be able to use your computer for other things during the extraction. You can also view the progress by clicking on the "View Log for Last Extraction" button and pressing the "Refresh" button.

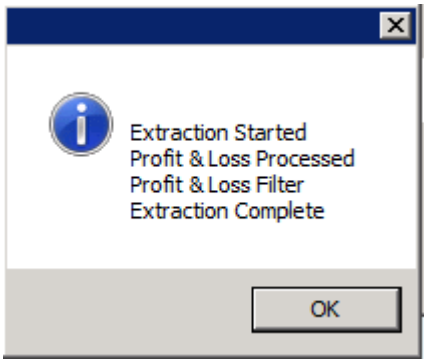
NOTE: Make sure you open QuickBooks the first time you do an extraction or you will probably see this message.



This occurs if you have not enabled CleverQ through QuickBooks Integrated Applications. The first time this occurs you will see a window similar to the following....



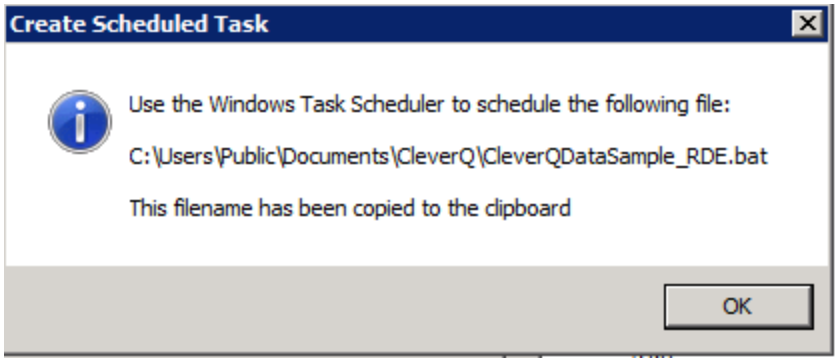
After the extraction is complete, you will see a message similar to the following depending on the reports you have chosen.



Automatic Extraction

You can automate the extraction of QuickBooks data so it can occur in the evening after the days transactions are complete. It is also good to do this since the extraction can take some time. This is done from the "Create Scheduled Task" button on the Extract tab. *NOTE: This is a different process than scheduling the extractions from the CleverQ Navigator. You may need to do both, depending on the data to be extracted.*

By pressing this button you will see a message similar to the following:



Automatic extraction is done using the Windows Task Scheduler. CleverQ has automatically created a batch job file as listed in the message box and pasted the name of the file to the clipboard for creating a scheduled task using Windows.

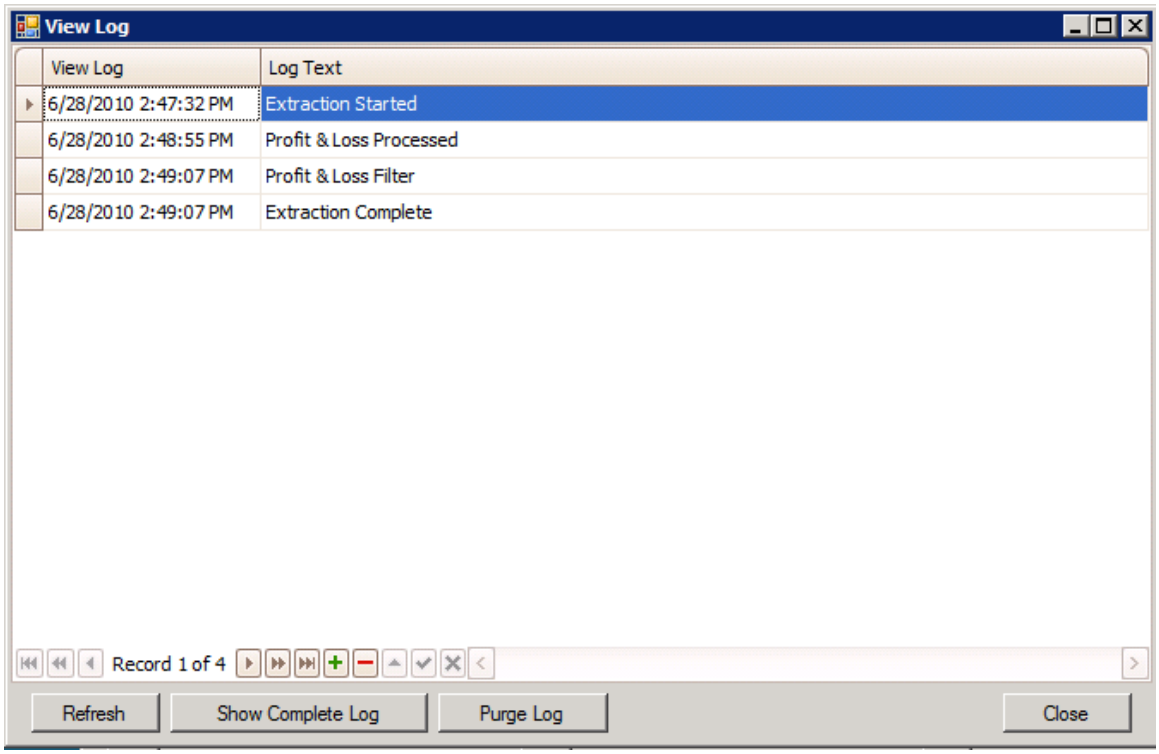
Since there are so many different versions of Windows now and each has its own interface, the details of how to do this is not covered here. You can refer to numerous online references about Scheduled Tasks.

For Windows XP Users press the Start button, All Programs, Accessories, System Tools, and Scheduled Tasks.

If you are using the Report Manager, you may want to extract this data first and then schedule the report processor to run after all the extraction are completed.

Viewing the Log

Any activity associated with the extraction process is done in the background and status is stored in a log. To view the log, press the "View Log for Last Extraction " button. You will see this form where all activity is logged including errors.

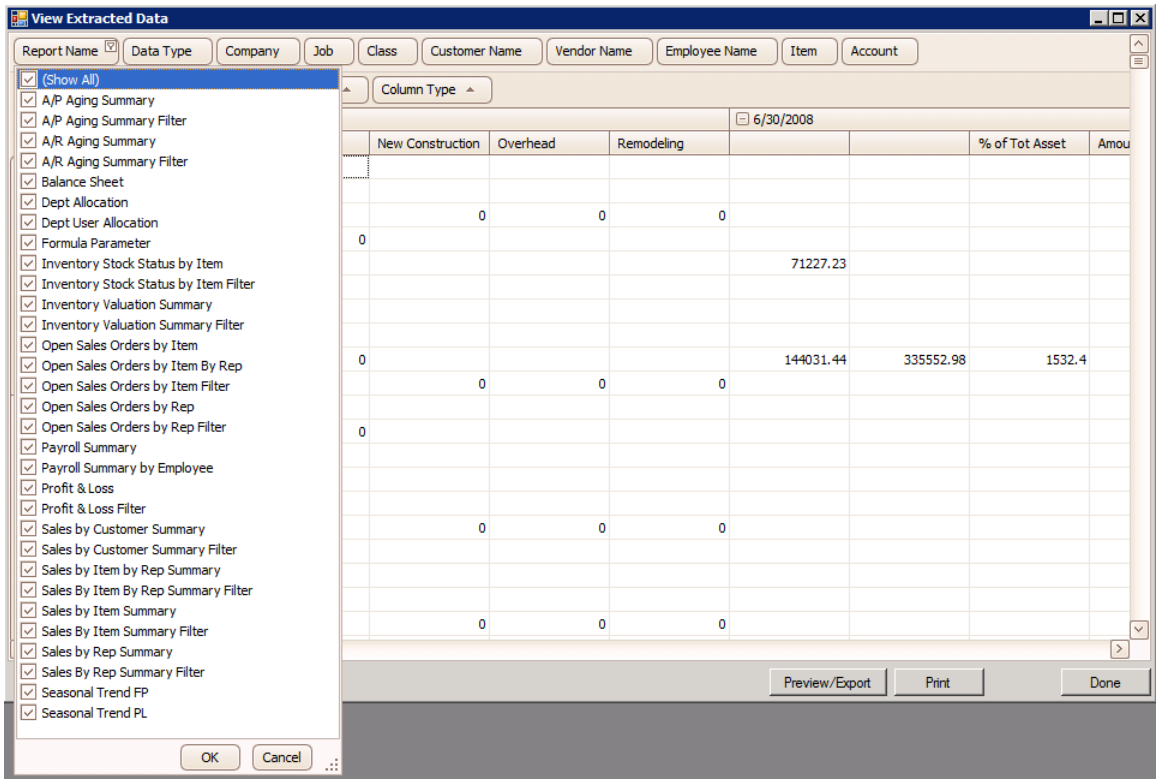


This form also provides for viewing the complete CleverQ log, not just for QuickBooks extractions. You can purge the log if you choose. Pressing the "Refresh" button will update the form every few seconds so you can see the progress of activity especially if you are doing a long extraction.

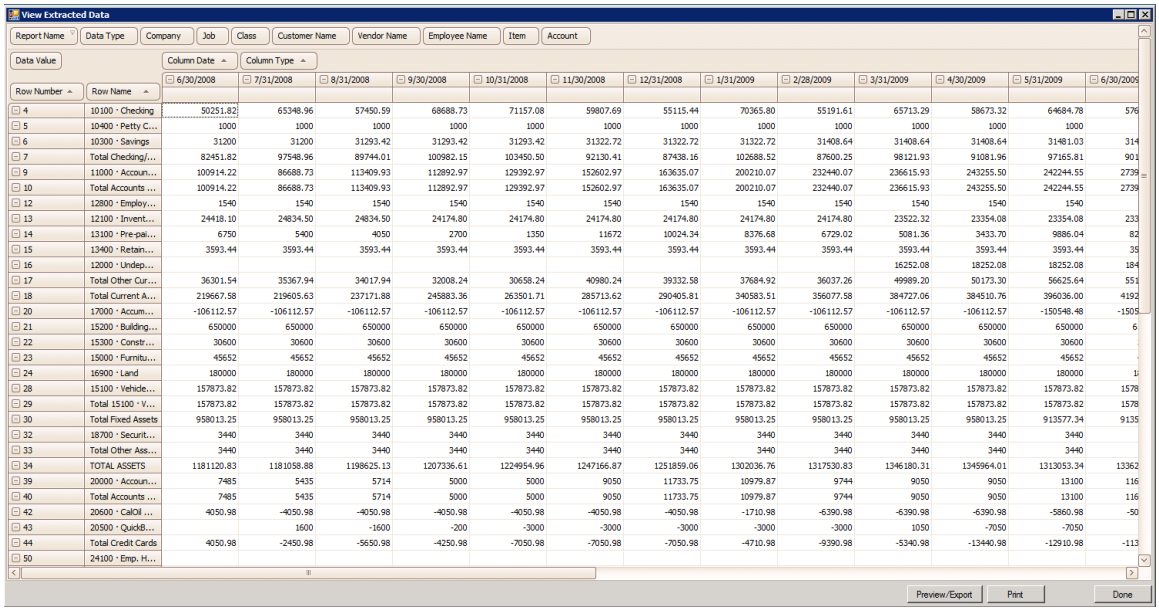
Viewing Extracted Data

You can view extracted data for a specific report on the Report/Data Definitions tab byh pressing the "View Extracted Data" button or for any report by pressing the "Show Extracted Data" button on the Extract tab.

The form will open with the Report Name filter dropdown open. Uncheck "Show All" and then select the report you want to see.



The form can be resized to you can see more data if you want. The data is shown in a pivot table and there are many options for looking at this data.



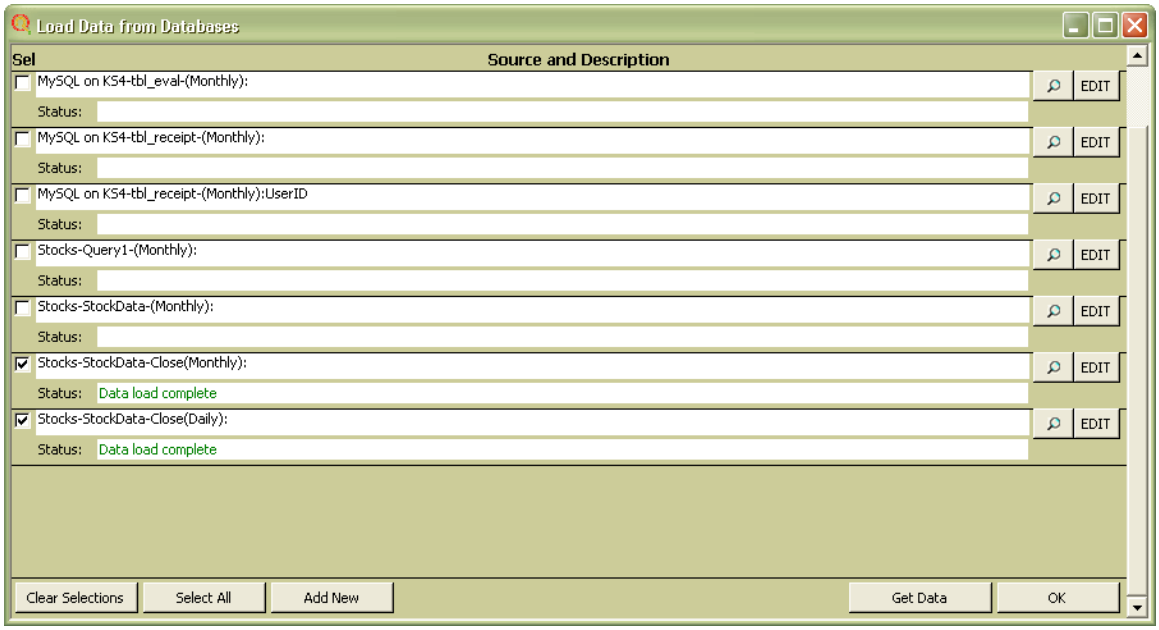
You can filter, sort, rearrange, expand and collapse, group, print, and export the data. Refer to the section later in this document titled “Viewing Extracted Data Using the PivotGrid“.

Database Extractor

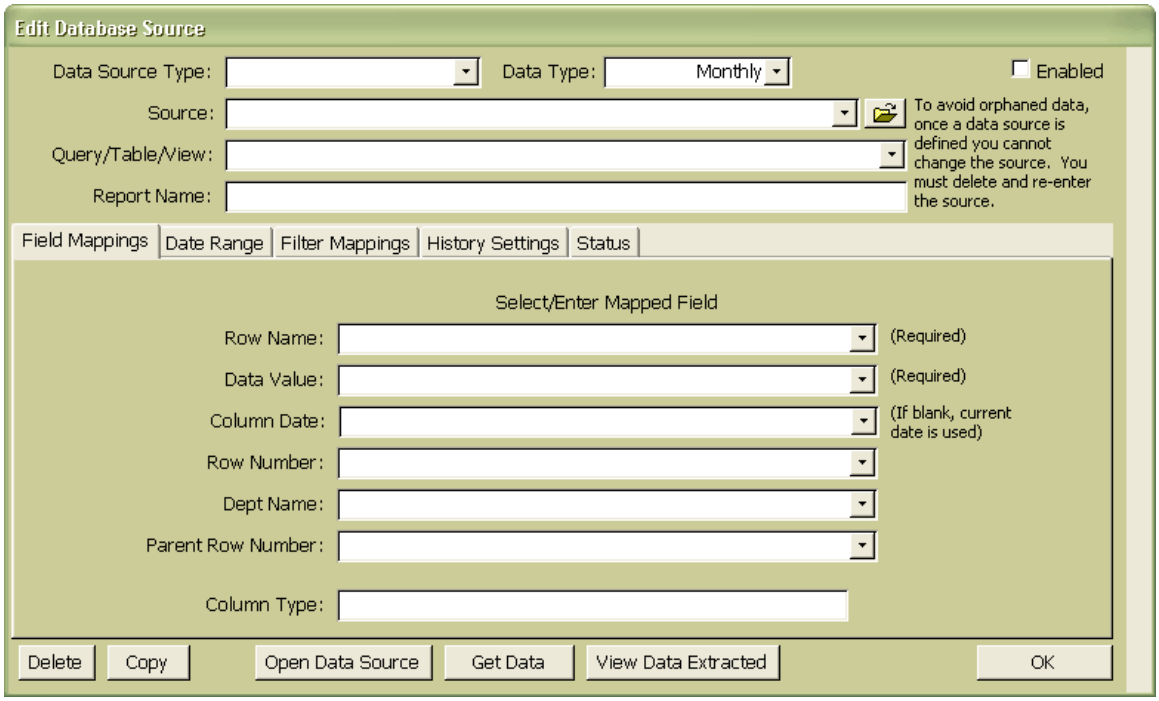
The CleverQ Database Extractor is a powerful interface that allows you to extract data from Microsoft Access or any ODBC compliant database. ODBC stands for Open DataBase Connectivity. This can include SQL Server, MySQL, Oracle, InterBase, Sybase, and others. There are even ODBC drivers for QuickBooks so you can extract data independently from the predefined QuickBooks-CleverQ interface. This will give you unlimited access to all the QuickBooks data.

Setup

Using the main menu and selecting "Setup – Data Sources – Database", or selecting Database in the Extractor Definitions block on the Navigator, will bring up the "Load Data from Databases" form as shown in the figure below.



On this form you will see a list of individual extraction definitions. On this list there is a selection box which enables the individual definition when the actual extraction occurs. A description of the extraction is shown on the first line for each definition. This description is a combination of the report name, data type, column type, and filters. The second line will show the status of the extraction. The buttons to the right include a button to view the extracted data and an Edit button to edit the individual definition. To add a new definition, press the "Add New" button. This will display a blank form as shown in the next figure.



Data Sources

The Data Source Type dropdown box will give you a choice of two options: Access or ODBC.

Microsoft Access

If you choose to connect to a Microsoft Access database, press the  button to browse to the MDB or MDE file. This file cannot be password protected. You can then use the dropdown box labeled "Query/Table/View" to choose either a table or query in the database. Once you do that, the dropdown for the various field mappings will automatically have the field names for that table or query. You can even press the "Open Data Source" button to look at the raw data. CleverQ will open up a new instance of Microsoft Access and automatically display the table or query in read only mode.

ODBC

If you choose to connect to an ODBC source, the ODBC source must have already been established through Windows. You will generally find the program to setup ODBC connections under the Administrative Tools in Windows. The ODBC sources listed as System DSN's are available in the dropdown list of sources.

NOTE: If you are running on a x64 machine, you must use the 32 bit ODBC administrator that can be found at %windir%\SysWOW64\odbcad32.exe.

You can then use the dropdown box labeled "Query/Table/View" to choose either a query/table/view in the database. Once you do that, the dropdown for the various field mappings will automatically have the field names for that table or query. You can even

press the "Open Data Source" button to look at the raw data. CleverQ will open up a query and automatically display the data in read only mode.

Report Name

After you select your Access or ODBC data source, you can enter a report name or leave it blank and CleverQ will automatically assign a report name based on the source. Multiple definitions can have the same report name.

Data Type

You must select a data type. This basically tells CleverQ whether the data to be extracted will be stored in the data cache as monthly, daily, annual, quarterly, weekly, or current data. This affects how the data maybe totaled in the extraction as well and how the data will be made available to the CleverQ ACE and VP.

Field Mappings

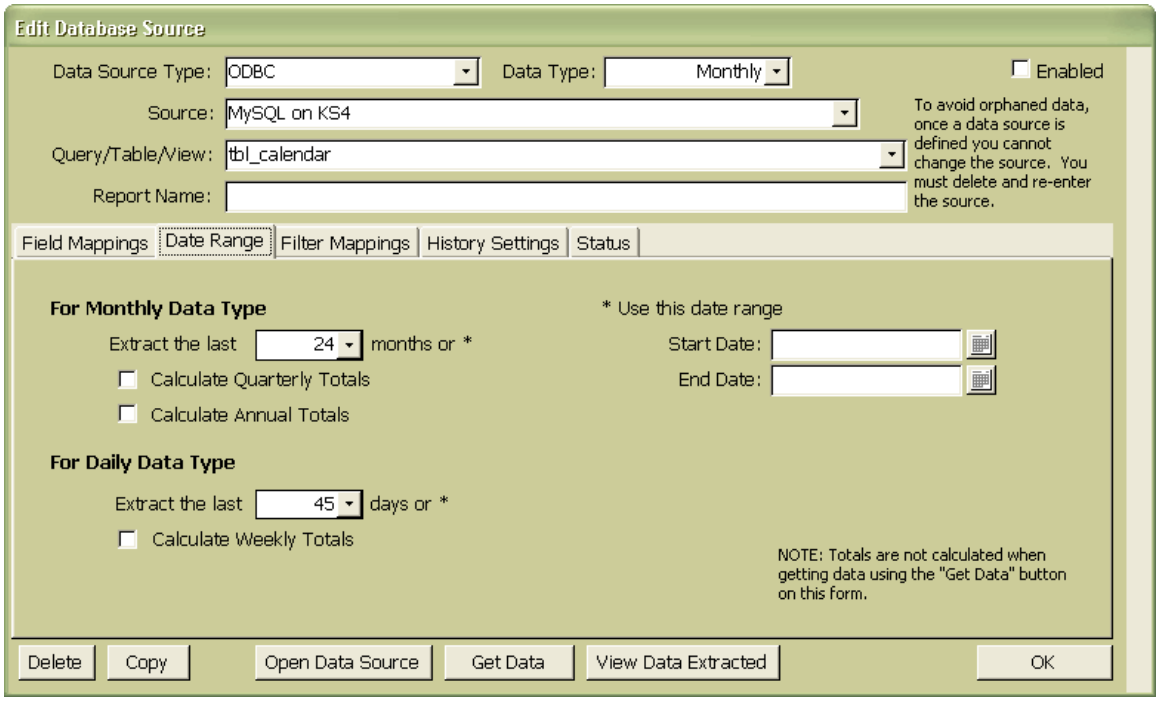
You must at a minimum assign a field to the Row Name and Data Value mappings. Essentially if you were to input a simple list of items, these would be the only items you need. The Row Name must be mapped to a string field and the Data Value must be mapped to a numeric field. If you leave the Column Data blank, the current data will be used.

You can also enter a fixed value rather than a field for the Row Name by enclosing a string is single quotes. This may be useful if you are going to use the filter fields.

For the remaining fields, please review the section on "Data Sources" in the "Customization Manual".

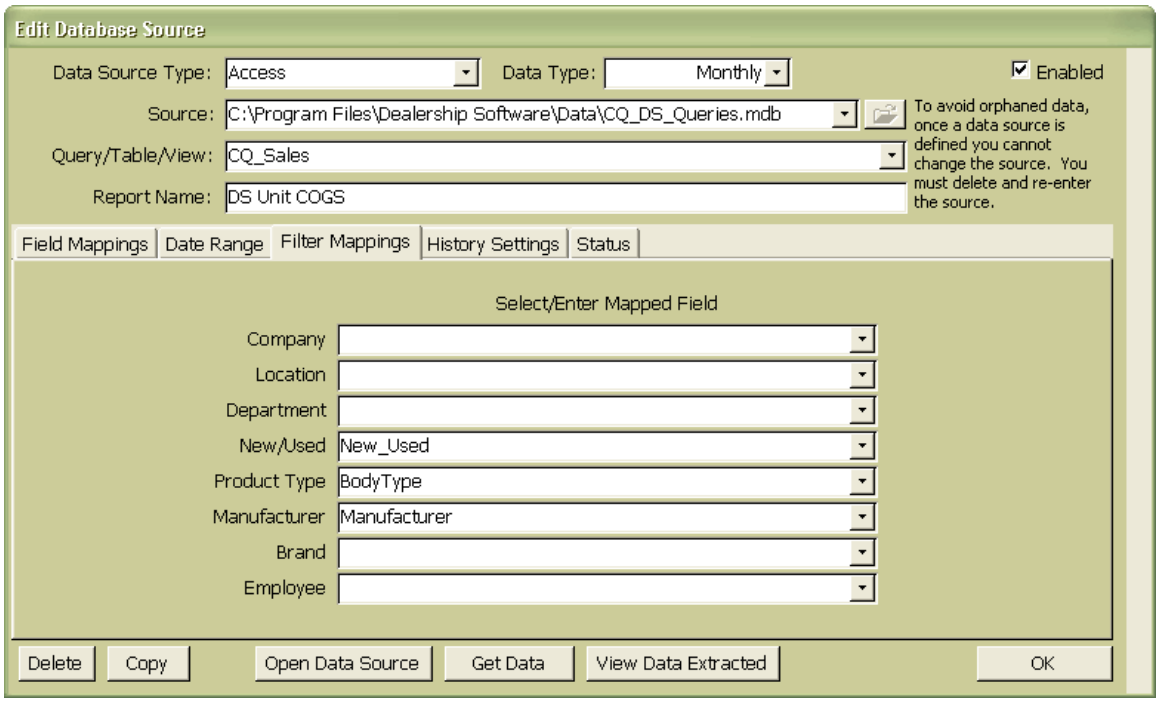
Date Range

On the Date Range tab, you can leave the entire tab blank and then all the data from the source will be extracted. Or you can choose various options for the monthly or daily data types. For the other types, use the specific data ranges set on the right side of the form.



Filter Mappings

If you have setup your QBD file with filters (See the Preference form), you can map fields in your extractions to the filters.



There is a subtle understanding that is necessary here. If you setup an extraction as shown in the previous diagram, three filters are selected. This means that only records with all three fields will be extracted and monthly totals will only exist when all three

filters are specified. In other words, if you need a total for, in this case, Product Type only, it will not be available in the extracted data. You will need to add a new extraction only specifying the Product Type as a filter. If you wanted all combinations of filters extracted you will need many definitions. So it is necessary to know what combinations of filters you will be using in your dashboards, scorecards, and reports and make sure you have specified all the extraction definitions you need. If you bring in combinations you will not use, you will be making the time to extract and calculate longer than necessary in addition to making your QBD file larger than necessary. Here is a helpful analysis if you want to bring in all combinations:

For 1 filter, you will need 2 extraction definitions: one with the filter and one without the filter.

For 2 filers, you will need 4 extraction definitions: one with no filters, one with only filter1, one with only filter 2, and one with both filters.

For 3 filters, you will need 8 extractions.

Filter 3	Filter 2	Filter 1
No	No	No
No	No	Yes
No	Yes	No
No	Yes	Yes
Yes	No	No
Yes	No	Yes
Yes	Yes	No
Yes	Yes	Yes

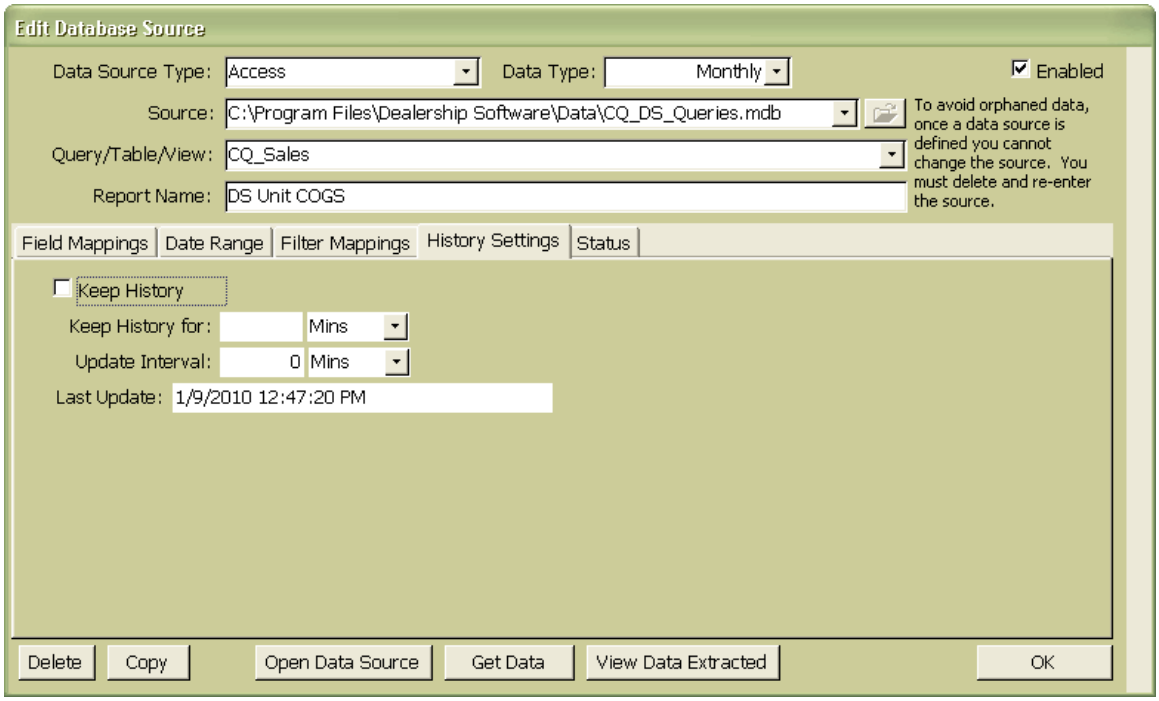
For 4 filters, you will need 16 separate extractions.

And for more filters, the number of extractions can be calculated using the formula:

$$\text{Number of Extractions} = 2^{\text{Number of Filters}}$$

History Settings

On the History Setting tab, you can set options for doing real time extractions.



Keeping History

Normally whenever you load the data from a query, all the previous data from that query will be deleted. You can keep this data so it doesn't get deleted by checking off the option "Keep History". This is useful if you want to maintain the data for plotting or comparing values. The "Last Data Loaded at" field will tell you the data and time when the last load was performed. If you only want to keep history for a specific period of time, enter a value next to the caption "Keep History for:" This can be as little as 1 minute or as long as hundreds of days.

Automatic Loading

You can setup the software to automatically load periodically by entering an "Update Interval". This can be a value in terms of minutes, hours, or days. When the current time and the "Last Data Load at" value exceed the update interval, the data is loaded in the background. This can provide a real-time update of data and gauges on a dashboard. Don't forget to set your preference for "Auto Update Dashboard".

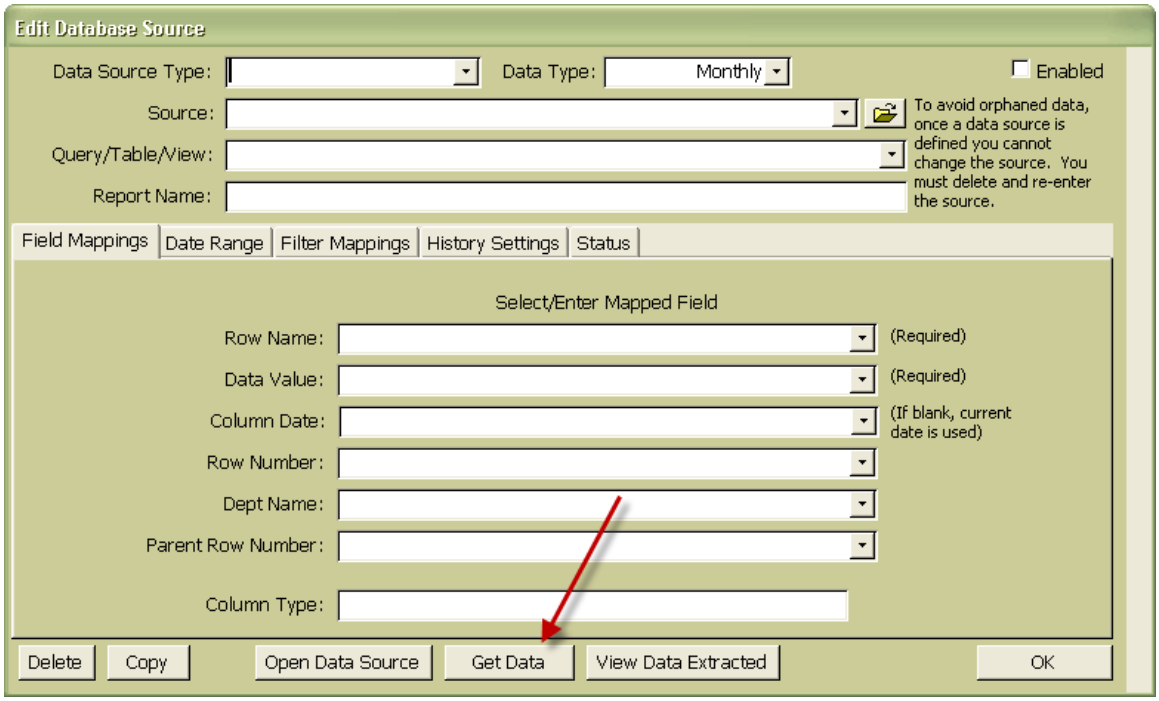
Getting Data

There are 4 places where you can extract database data:

- Edit Database Source form
- Load Data from Databases form
- Extract Now on the Navigator (see later section)
- Schedule Extraction (see later section)

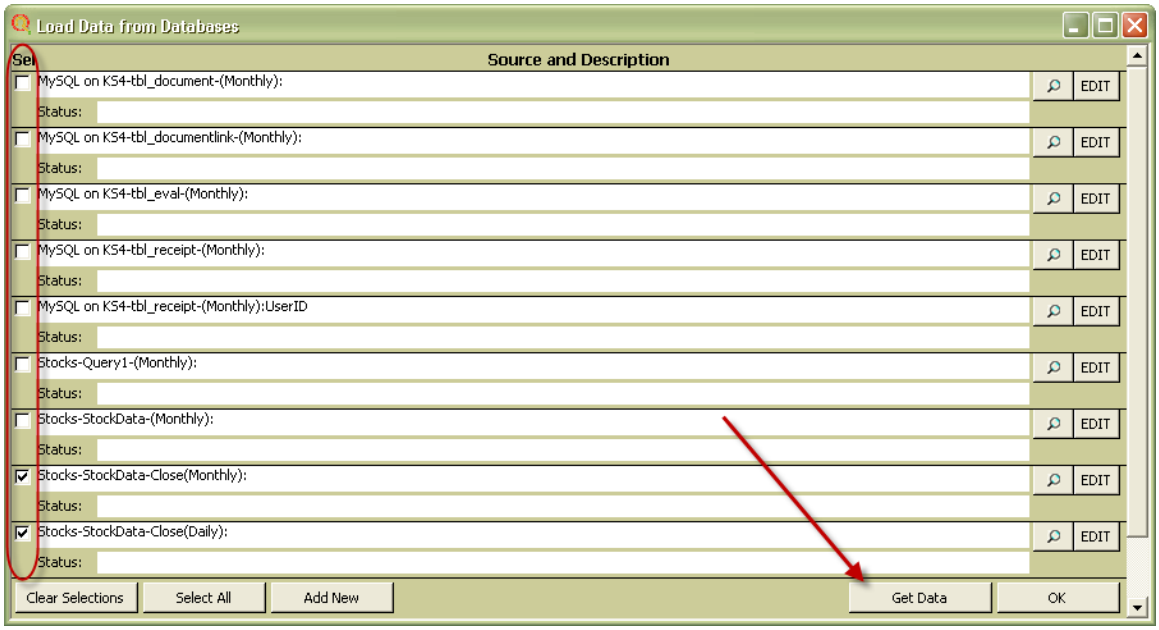
Edit Database Source Form

Using the "Get Data" button on the Edit Database Source form will only extract the data for the specific data source. If calculation of totals is selected on the Date Range tab, they will not be calculated when extracting data from this form. This option is good for testing your extractions since you can view the data source, get the data, and then view the extracted data all from this form.



Load Data from Databases Form

Using the "Get Data" button on the Load Data from Databases form will only extract the data for the sources that have been selected. If calculation of totals is selected on the Date Range tab, they will be calculated when extracting data from this form.



Microsoft Excel Extractor

NOTE: Starting with version 1.908 of CleverQ, the Microsoft Excel Extractor has been redesigned and previous extraction definitions will not work. You will need to edit your workbooks and definitions.

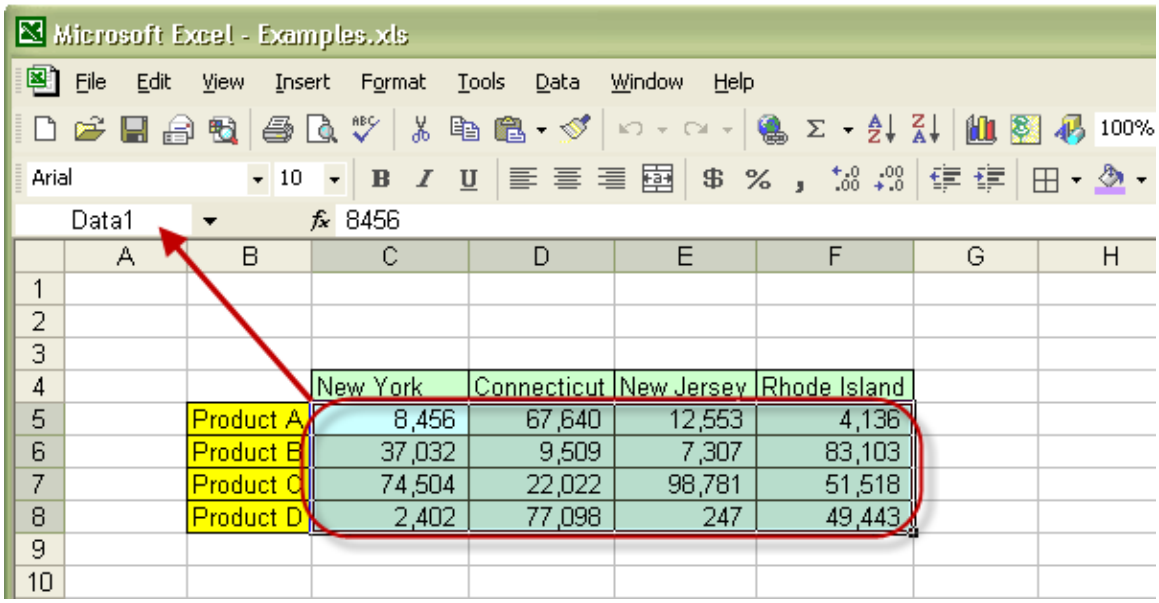
CleverQ™ can connect to one or more Microsoft Excel workbook files and pull data from one or more named ranges within the workbooks. The data ranges are blocks of data with rows and columns. There must be row names and optionally column names as well as some date associated with the data. If your requirements are to pull data from individual cells and you want to map the cells to specific names, then refer to the Data Package Excel Extractor for an alternative method of loading Excel data.

Setting up a Source

The Excel Workbook requires you name sets of cells using the Named Range feature of Excel. This allows CleverQ™ to find the correct set of cells. Refer to the Microsoft Excel Help system to understand how to name a range of cells. One method to name a range is described below.

To name a range of cells in Excel:

1. Select the range of adjacent cells
2. Click the "Name" box on the left end of the formula bar
3. Type the name for the cells
4. Press Enter



You can have as many named ranges within one worksheet or workbook as you want.

There are different types of named ranges required for importing to CleverQ. Again, it helps to understand how data is stored within CleverQ™. Please review the section on "Data Sources" in the "Customization Manual" to understand these concepts.

At a minimum, CleverQ requires a range of cells that contain numeric data. This will be referred to as the "Data Value" range. As shown in the next figure, the light blue areas is where the data values are so these would be the "Data Value" range.

1										
2										
3										
4			New York	Connecticut	New Jersey	Rhode Island				
5		Product A	8,456	67,640	12,553	4,136				
6		Product B	37,032	9,509	7,307	83,103				
7		Product C	74,504	22,022	98,781	51,518				
8		Product D	2,402	77,098	247	49,443				
9										
10										
11										
12			5/31/08	6/30/08	7/31/08	8/31/08				
13		Product A	18,889	47,245	27,943	87,782				
14		Product B	59,563	43,625	22,057	23,063				
15		Product C	43,926	62,206	9,026	60,135				
16		Product D	18,607	36,941	71,491	45,367				
17										
18										
19			New York	Connecticut	New Jersey	Rhode Island	New York	Connecticut	New Jersey	Rhode Island
20			5/31/08	5/31/08	5/31/08	5/31/08	6/30/08	6/30/08	6/30/08	6/30/08
21		Product A	75,869	65,997	68,480	87,043	75,366	67,483	48,034	78,803
22		Product B	69,347	73,246	15,951	70,929	94,741	21,075	18,623	77,772
23		Product C	7,286	1,444	22,766	86,254	872	66,906	35,429	86,897
24		Product D	21,664	74,035	50,713	44,102	95,604	46,225	77,642	34,391
25										
26										
27				1	2	3	4			
28				Product A	Product B	Product C	Product D			
29	5/31/08	New York		78,099	15,709	3,336	25,821			
30	5/31/08	Connecticut		97,236	27,553	61,815	48,875			
31	5/31/08	New Jersey		87,993	32,859	14,280	7,680			
32	5/31/08	Rhode Island		97,125	81,154	13,440	17,655			
33	6/30/08	New York		22,788	40,588	48,775	29,004			
34	6/30/08	Connecticut		47,806	15,235	75,922	16,598			
35	6/30/08	New Jersey		24,603	28,846	40,175	15,039			
36	6/30/08	Rhode Island		36,555	38,856	73,121	13,328			
37										

Data can be presented in an Excel worksheet in various formats as shown in the previous figure (and the figure is not showing the only formats that could exist). We need to extract the appropriate row and column headers surrounding the data. Generally there is always a row name (as shown in the yellow cells in the figure). This is referred to as the "Row Name" range and you will need to name that group of cells separate from the data value range. Note that the row name range does not have to be adjacent to the data value range as shown in the next figure.

	10/7/2010 7:49															
				Last	Previous Close	High	Low	Volume	Change	% Change	52 Wk High	52 Wk Low	Market Cap	EPS	P/E Ratio	# Shares Out
	Dow Jones Industrial Average Index	Chart	News	10940.52	10944.72	10974.16	10918.57	113,647,413	-4.2	-0.04%	11258.01	9601.26	0	0	0	0
	Apple Inc.	Chart	News	289.06	288.94	291.99	285.26	19,851,030	0.12	0.04%	294.73	185.55	264,074,489,644	13.28	21.8	913,562,900
	Amazon.com Inc.	Chart	News	155.8	160.87	160.88	154.6	4,581,711	-5.07	-3.15%	161.78	88.4	69,772,257,022	2.42	66.5	447,825,000
	Citrix Systems Inc.	Chart	News	60.81	70	69.34	59.74	14,233,696	-9.19	-13.13%	71.93	36.75	11,367,791,252	1.26	55.5	186,939,500
	CVS Caremark Corp.	Chart	News	32.34	32.06	32.41	31.96	5,690,227	0.28	0.87%	38.27	26.84	43,924,770,327	2.6	12.3	1,358,218,000
	eBay Inc.	Chart	News	24.48	24.59	24.78	24.25	6,704,006	-0.11	-0.45%	28.37	19.06	32,121,553,799	1.9	12.9	1,312,155,000
	Google Inc.	Chart	News	533.01	538.23	539.95	529.94	2,194,696	-5.22	-0.97%	629.51	433.63	169,873,541,473	23.11	23.3	318,706,100
	Hewlett-Packard Co.	Chart	News	40.57	40.81	41.22	40.44	19,778,500	-0.24	-0.59%	54.75	37.32	92,002,332,818	3.58	11.4	2,267,743,000
	Wal Mart Stores Inc.	Chart	News	54.53	54	54.63	53.9	7,658,826	0.53	0.98%	56.27	47.77	198,300,903,471	3.89	13.8	3,636,547,000
	ICx Technologies Inc.	Chart	News	7.6	7.6	0	0	0	unch	0.00%	10.49	4.65	265,480,765	-0.3	0	34,931,680
	Advanced Micro Devices Inc.	Chart	News	6.83	6.98	7.05	6.78	19,453,267	-0.16	-2.22%	10.24	4.33	4,603,940,804	1.59	4.4	674,570,100
	Intel Corp.	Chart	News	19.21	19.15	19.37	19.13	44,127,878	0.06	0.31%	24.37	17.6	106,961,274,902	1.67	11.5	5,568,000,000
	OSI Systems Inc.	Chart	News	34.71	36.8	35.76	34.49	189,162	-2.09	-5.68%	36.84	17.03	638,823,996	1.27	28.9	18,404,610
	Pfizer Inc.	Chart	News	17.18	17.23	17.38	17.17	26,239,187	-0.05	-0.30%	20.36	14	138,097,618,493	1.26	13.6	8,038,278,000
	Microsoft Corp.	Chart	News	24.36	24.35	24.54	24.13	35,873,311	0.01	0.04%	31.58	22.73	210,800,897,402	2.11	11.6	8,653,567,000
	Regeneron Pharmaceuticals Inc.	Chart	News	29.32	28.45	29.64	28.45	561,997	0.87	3.06%	30.58	15.02	2,407,563,104	-1.16	0	82,113,340
	UnitedHealth Group Inc.	Chart	News	34.12	35.07	35.22	33.94	10,117,625	-0.96	-2.72%	36.07	23.5	38,354,404,707	3.72	9.4	1,124,268,000
	DragonWave Inc.	Chart	News	6.45	6.26	6.87	6.22	743,170	0.19	3.04%	14.1	4.4	237,293,945	1.14	5.4	36,789,760
	Vertex Pharmaceuticals Inc.	Chart	News	34.22	34.72	34.83	34.22	877,384	-0.5	-1.44%	44.24	31.25	6,940,897,600	-3.52	0	202,831,600
	Johnson & Johnson	Chart	News	63.13	62.8	63.16	62.5	7,879,568	0.33	0.53%	66.2	56.86	173,888,115,792	4.84	13	2,754,445,000
	AT&T Inc.	Chart	News	28.49	28.94	29.05	28.24	38,376,796	-0.45	-1.55%	29.43	23.78	168,347,408,648	2.14	13.7	5,909,000,000
	Ford Motor Co.	Chart	News	13.21	13.01	13.45	13.04	77,449,968	0.2	1.54%	14.57	6.81	45,433,404,121	1.49	8.7	3,439,319,000
	Clearwire Corp.	Chart	News	7.42	7.77	7.84	7.3	2,163,974	-0.35	-4.50%	8.82	5.35	7,313,171,367	-1.93	0	985,602,600
	Oculus Innovative Sciences Inc.	Chart	News	1.42	1.44	1.46	1.42	19,880	-0.02	-1.39%	3.2	1.34	37,313,992	-0.29	0	26,277,460
	Garmin Ltd.	Chart	News	30.01	30.19	30.29	29.6	1,239,963	-0.19	-0.61%	40.47	26.11	5,838,864,819	3.31	9.1	194,596,400
	Kraft Foods Inc.	Chart	News	31.34	31.28	31.5	31.24	4,174,570	0.06	0.19%	31.98	25.85	54,650,055,833	2.73	18.2	1,744,058,000

Another unique aspect of the row name range occurs when you export data from QuickBooks® into an Excel worksheet (See the next figure). Note that the row names take up multiple columns in Excel. If you define a row name range with multiple columns, the text from all the columns will be concatenated into one row name.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1								Nov 1, 08	Nov 8, 08	Nov 15, 08	Nov 22, 08	Nov 29, 08	Nov 30, 08
2	ASSETS												
3		Current Assets											
4			Checking/Savings										
5				00002 · Warranty Credits/Uncoll				4,861.08	4,861.08	4,861.08	4,861.08	4,861.08	4,861.08
6				00003 · WASH-OUT				208.25	208.25	208.25	208.25	208.25	208.25
7				10000 · Cash Accounts									
8					10100 · Cash on Hand			200.00	200.00	200.00	200.00	200.00	200.00
9					10200 · Checking Accounts								
10						10210 · Reserve		1,480.92	1,480.92	1,480.92	1,480.92	1,480.92	1,480.92
11						10220 · Main Checking		-118,270.92	-118,270.92	-118,270.92	-118,270.92	-118,270.92	-118,270.92
12						10230 · Petty Cash Checking		1,912.61	1,912.61	1,912.61	1,912.61	1,912.61	1,912.61
13						10240 · Credit Unio		150,537.23	150,537.23	150,537.23	150,537.23	150,537.23	150,537.23
14						Total 10200 · Checking Accounts		35,659.84	35,659.84	35,659.84	35,659.84	35,659.84	35,659.84
15						10300 · SWEEP ACCOUNT		691,148.21	691,148.21	691,148.21	691,148.21	691,148.21	691,148.21
16						Total 10000 · Cash Accounts		727,008.05	727,008.05	727,008.05	727,008.05	727,008.05	727,008.05
17						Total Checking/Savings		732,077.38	732,077.38	732,077.38	732,077.38	732,077.38	732,077.38
18						Accounts Receivable							
19						12000 · Accounts Receivable								
20						12200 · Contracts In Transit		34,995.35	34,995.35	34,995.35	34,995.35	34,995.35	34,995.35
21						12400 · Internal Adjustments		16,167.76	16,167.76	16,167.76	16,167.76	16,167.76	16,167.76
22						12500 · Warranty Receivables		9,612.35	9,612.35	9,612.35	9,612.35	9,612.35	9,612.35
23						12800 · Dealer Reserve Receivable		10,599.94	10,599.94	10,599.94	10,599.94	10,599.94	10,599.94
24						12000 · Accounts Receivable - Other		-982.83	-982.83	-982.83	-982.83	-982.83	-982.83
25						Total 12000 · Accounts Receivable		70,392.57	70,392.57	70,392.57	70,392.57	70,392.57	70,392.57
26						Total Accounts Receivable		70,392.57	70,392.57	70,392.57	70,392.57	70,392.57	70,392.57
27						Other Current Assets							
28						12999 · Undeposited Funds		123,577.76	124,577.76	124,577.76	124,577.76	124,577.76	124,577.76
29						13000 · Inventory							
30						13100 · RV Inventory							
31						13110 · New Motorhomes							
32						13111 · Class A Diesel		445,835.00	445,835.00	445,835.00	445,835.00	445,835.00	445,835.00
33						13112 · Class A Gas		161,949.00	161,949.00	161,949.00	161,949.00	161,949.00	161,949.00
34						Total 13110 · New Motorhomes		607,784.00	607,784.00	607,784.00	607,784.00	607,784.00	607,784.00
35						13120 · New TT & 5th Wheels							
36						13121 · Travel Trailers		403,512.00	403,512.00	403,512.00	403,512.00	403,512.00	403,512.00
37						13122 · Sport Utility Travel Trailers		73,392.00	73,392.00	73,392.00	73,392.00	73,392.00	73,392.00
38						13123 · Fifth Wheels		729,907.00	729,907.00	729,907.00	729,907.00	729,907.00	729,907.00
39						13124 · Sport Utility Fifth Wheels		535,625.00	535,625.00	535,625.00	535,625.00	535,625.00	535,625.00
40						Total 13120 · New TT & 5th Wheels		1,742,436.00	1,742,436.00	1,742,436.00	1,742,436.00	1,742,436.00	1,742,436.00
41						13130 · New FD & PUC							

There are other range names that can be defined. Dates are referred to "Column Dates", although they do not have to be across columns, and can consist of a single cell or a range of cells. In the previous figures the date ranges are shown with a tan background. Another range is referred to as a "Column Type" and is shown with a light green background in the figures. This is optional. You might also want to define what is called a "Row Number" range. This is a set of numerical values that generally is used to maintain the same order of data in the extraction. This is optional and CleverQ can auto number as necessary.

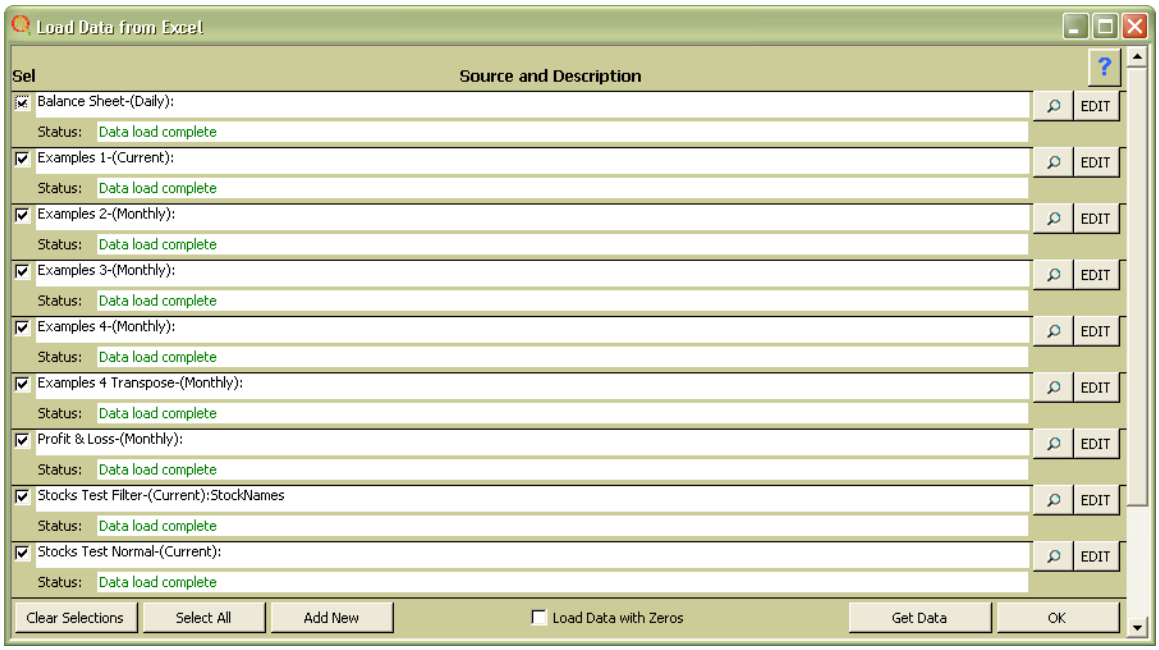
If you use Filters in CleverQ, you can also define filter ranges as you will see described further on. These can be used in place of row name ranges or column type ranges. Filter ranges can also be single cells. For example, you have multiple companies and you have

the company name located in a single cell of the worksheet. You can assign a range name to that single cell and then assign that range name to the Company filter in the extraction definition.

Defining the Extractions

Using the main menu and selecting "Setup – Data Sources – Excel", or selecting Excel in the Extractor Definitions block on the Navigator, will bring up the "Load Data from Excel" form as shown in the figure below.

Since you can have an unlimited number of extractions coming from the same or different Excel workbooks, the form lists each of the extraction definitions. On this form you can see a description of the extraction as well as the last status of the extraction.



There are checkboxes next to each definition to select which extractions will occur when you press the "Get Data" button on the bottom of the form. This is the manual method to get multiple extractions. You can also manually do one extraction at a time, which is available on another form that will be described later. The extractions can also be programmed to occur at a certain time. That is covered in another section of the user manuals. You can individually check of the selection box, or use the "Clear Selections" or "Select All" buttons. However you leave this form in terms of the selected definition, they will be remembered after it is closed. When you do a complete reload from the Main Menu using "File – Load Data from Sources", the selections on this form will be used to determine what data will get loaded.

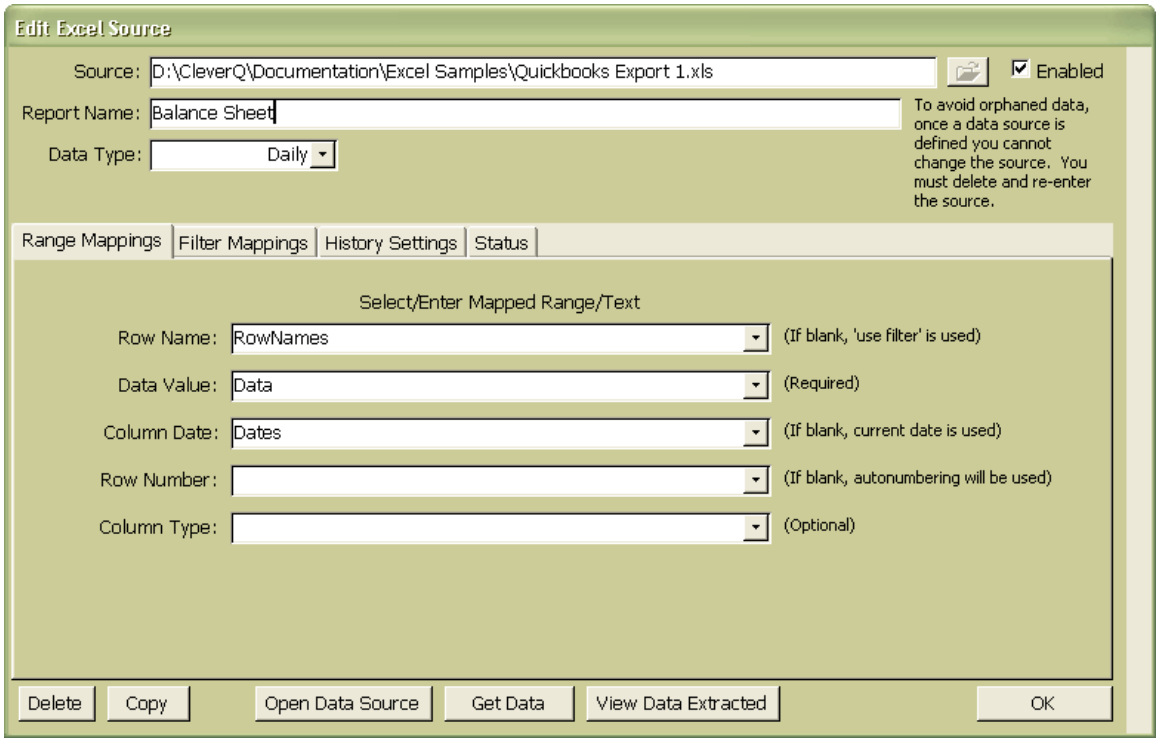
On option that is common to all extractions is to "Load Data with Zeros". This option is selected by checking off the box on the bottom of the form. When unchecked, any Excel data cells that are blank or zero, will not be loaded into CleverQ.

For each extraction, you can view the data extracted by pressing the button. To edit the extraction, press the button "EDIT" next to the definition.

Adding and Editing Definitions

To add a new extraction definition, press the "Add New" button on the bottom of the form.

The Edit Excel Source form is shown in the next figure. When adding a new source, first enter the filename of the Excel Workbook. There is a button to the right of the field where you put the Excel Workbook file. You can click this to get a file select dialog and browse your disk for the file you want to use. You can also just type in the name. The software will actually open the Excel Workbook in the background and gather the names of the named ranges in the workbook. You simple need to pick one on the rest of the form.



Once you have selected a workbook file, you can actually open it up in Excel very easily by clicking on the "Open Data Source" button. You can actually edit the workbook at this time, but any new named ranges will not show up on this dropdown lists. If you do add any named ranges, close the Edit Excel Source form and reopen it.

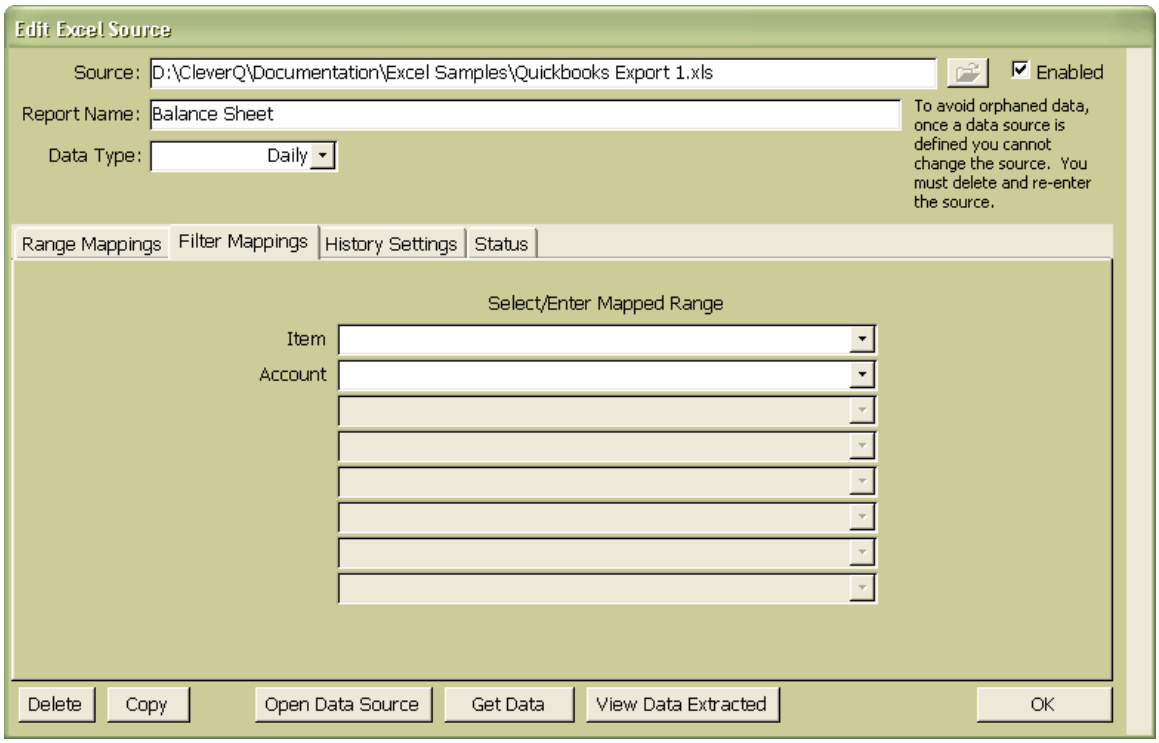
The next item you need to add is the Report Name you want to assign to the Extracted Data. You can have several extractions defined with the same name and all the data will be treated by CleverQ as the same data source. This is common for multiple companies, different dates, etc.

You then need to select a data type. This refers to whether the data is monthly, weekly, daily, quarterly, annual, or current.

Mappings

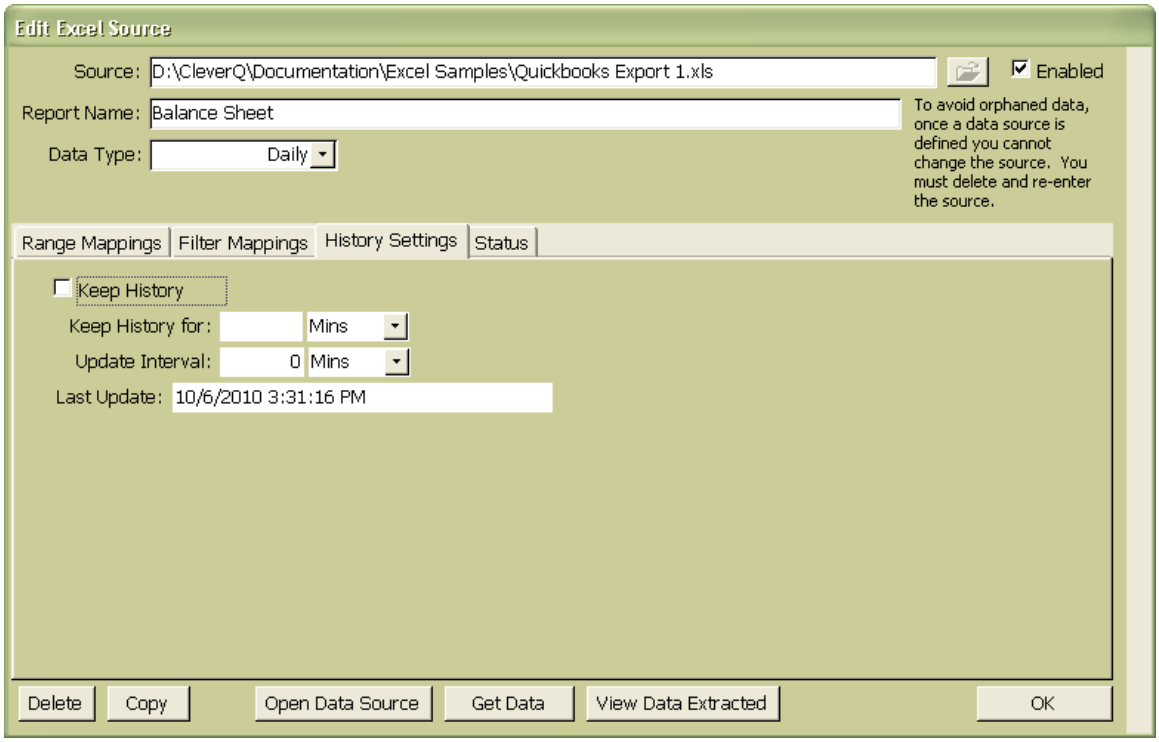
There are four (4) tabs showing various items. The most important is the "Range Mappings" tab. From the dropdown lists, choose the Row Name, Data Value, Column Date, Row Number, and Column Type ranges. Some of these can be left blank. Except for the Data Value entry, you can also enter text that is not in the list and this will be used as the value for all the records extracted.

On the Filter Mappings tab, you will see listed the filters specified on the CleverQ preferences form. For those filters enabled, you can use the dropdown list to select a range from the worksheet, or enter text that is not in the list and this will be used as the value for all the records extracted.



History Settings

The History Setting tab, gives you options for keeping historical data.



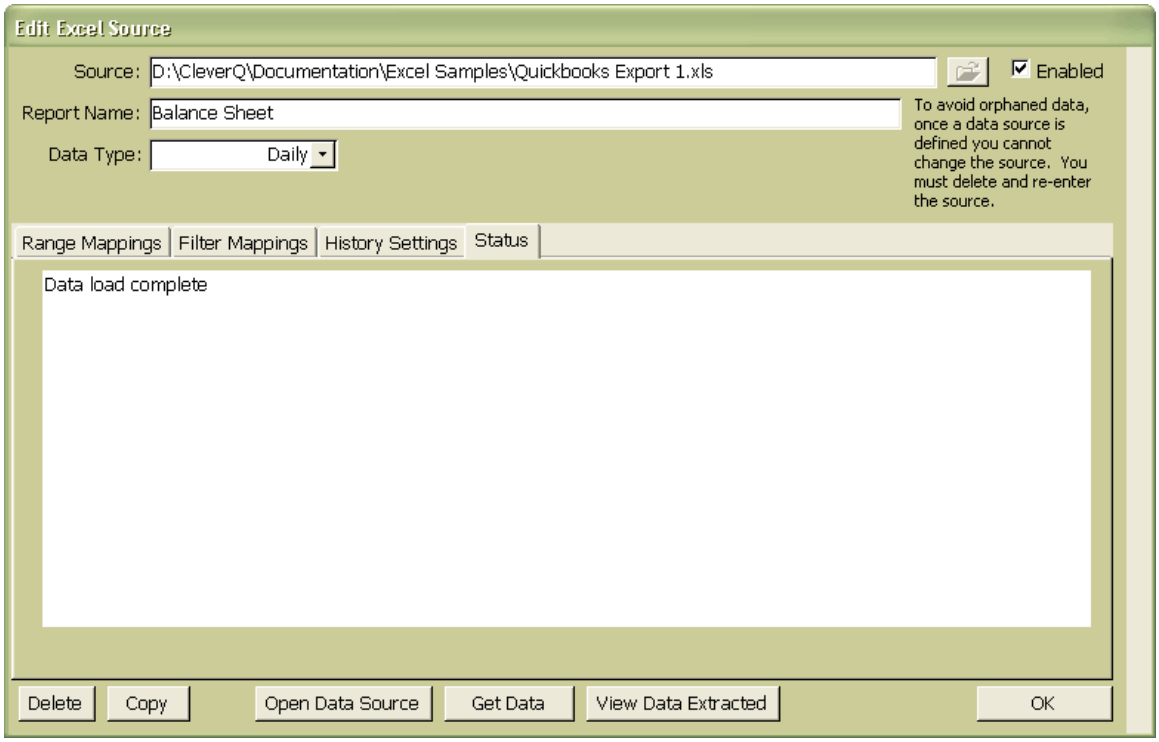
Normally whenever you load the data from a worksheet range, all the previous data from that source will be deleted. You can keep this data so it doesn't get deleted by checking off the option "Keep History". This is useful if you want to maintain the data for plotting or comparing values. The "Last Data Loaded at" field will tell you the data and time when the last load was performed. If you only want to keep history for a specific period of time, enter a value next to the caption "Keep History for:" This can be as little as 1 minute or as long as hundreds of days.

You can setup the software to automatically load periodically by entering an "Update Interval". This can be a value in terms of minutes, hours, or days. When the current time and the "Last Data Load at" value exceed the update interval, the data is loaded in the background. This can provide a real-time update of data and gauges on a dashboard. Don't forget to set your preference for "Auto Update Dashboard".

When data from an Excel worksheet is loaded, the worksheet is recalculated so the most current data is loaded. This includes updating any web-queries that are stored on the worksheet.

Status

And finally there is the Status tab. This simply shows the results of the last extraction including any error messages.



Deleting

To delete a selected definition, press the Delete button on bottom of the form. You will be prompted to delete any data with the same report name prior to completing the deletion.

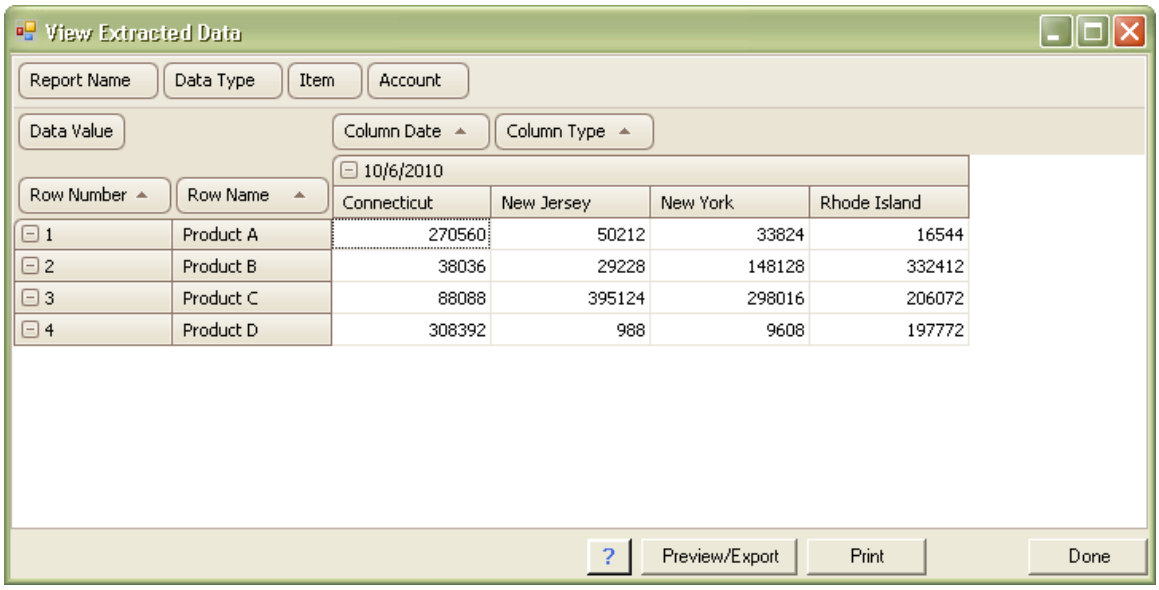
Copying

To make it easier to create definitions from existing ones, there is a "Copy" button. Press this button and a copy of the current definition will be made.

Testing

It is recommended when you setup an extraction to test it. This can be done from this form by pressing the "Get Data" button. The status of the extraction will be displayed on the Status tab.

Once the data is loaded you can view the data by pressing the "View Data Extracted" button. This could be used to verify you have loaded the data properly. The features of the View Extracted Data form are described in a section at the end of this manual.



Data Package

A Data Package is an external set of programs that are available with CleverQ for manually creating data or for extracting data from Excel is a different way than the Excel Extractor. The programs are referred to as:

- Data Package Creator
- Data Package – Excel Extractor

Data Package Creator (DPC)

Refer to the separate user manual called "Data Package Creator Manual" for details of using this program.

Data Package - Excel Extractor (DPXE)

The CleverQ *Data Package – Excel Extractor* is an alternative way to get Excel data into the CleverQ software. Here are the features and limitations of this interface:

- Each Excel Workbook usually contains data for the same date.
- Each Workbook can contain multiple worksheets.
- There is no special format required within a worksheet. You map each cell to a data element using a template.
- There can be multiple reports contained within each worksheet where a template defines each report.
- Multiple identically formatted workbooks can be located within a single folder and the software will process all workbooks in the folder and keep track of which workbooks have been processed.

Setting up a Source

The Data Package - Excel Extractor (DPXE) File

When the software was installed, a blank DPXE file was put in the folder "C:\Documents and Settings\All Users\Documents\CleverQ" or "C:\Users\Public\Documents\CleverQ". The file name is "CleverQ DPXE.mdb". The file extension of mdb tells the system that the file is a Microsoft Access database. You will need to have Microsoft Access installed on your computer to use the DPXE. If you use the DPXE on the same machine that you installed CleverQ™ software, then you should be all set. If you use the DPXE on another machine, you will need to have Microsoft Access on that machine.

The file is self contained and includes the data that you will enter, the templates, and the software to enter the data.

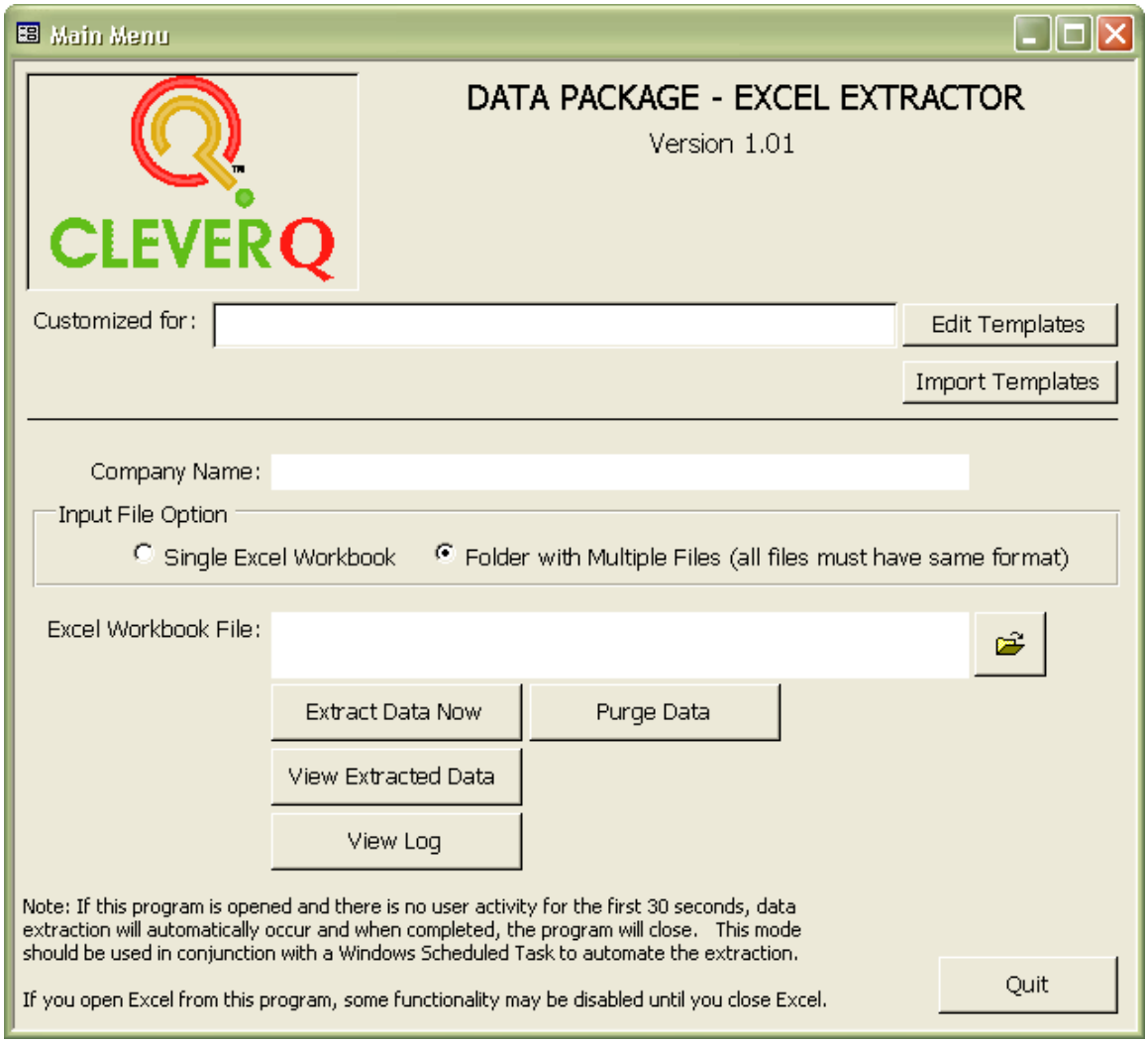
Creating a New DPXE File

Do not use the original file that was installed with the software. Make a copy and rename the file to something that is appropriate for the type of data it will contain. For example, if you are going to enter data for a particular company, then use the company name for the filename. For a department, you would use the department name. It does not matter what you use for the name, but ultimately the filename may be used as part of the report name in the CleverQ™ software, so it should be meaningful. When renaming the file, make sure to maintain the same file extension of "mdb".

Use the Windows menus or keys to copy the file. You can locate the file anywhere you want to as long as the CleverQ™ software will have access to it when it gets loaded.

Starting the DPXE

After copying and renaming the blank master file, simply double-click on the file, and Microsoft Access should open and load the file. After seeing the splash screen for a few seconds, you will see the main menu.



On this main menu, the text box "Customized for:" is optional. You must enter a company name and it **must match exactly** the company name in the CleverQ QBD file that you will be loading the data into.

You have a choice of working with a single Excel workbook file, or a folder with Multiple files. You will either enter the single file or the folder. There is a browse  button to allow you to point to the file or folder.

CleverQ Data Format

It is important to understand how data is stored both in the DPXE and CleverQ™. A group of related data gets a name and this is called the "Report Name". It is called a report because normally the data comes from a report.

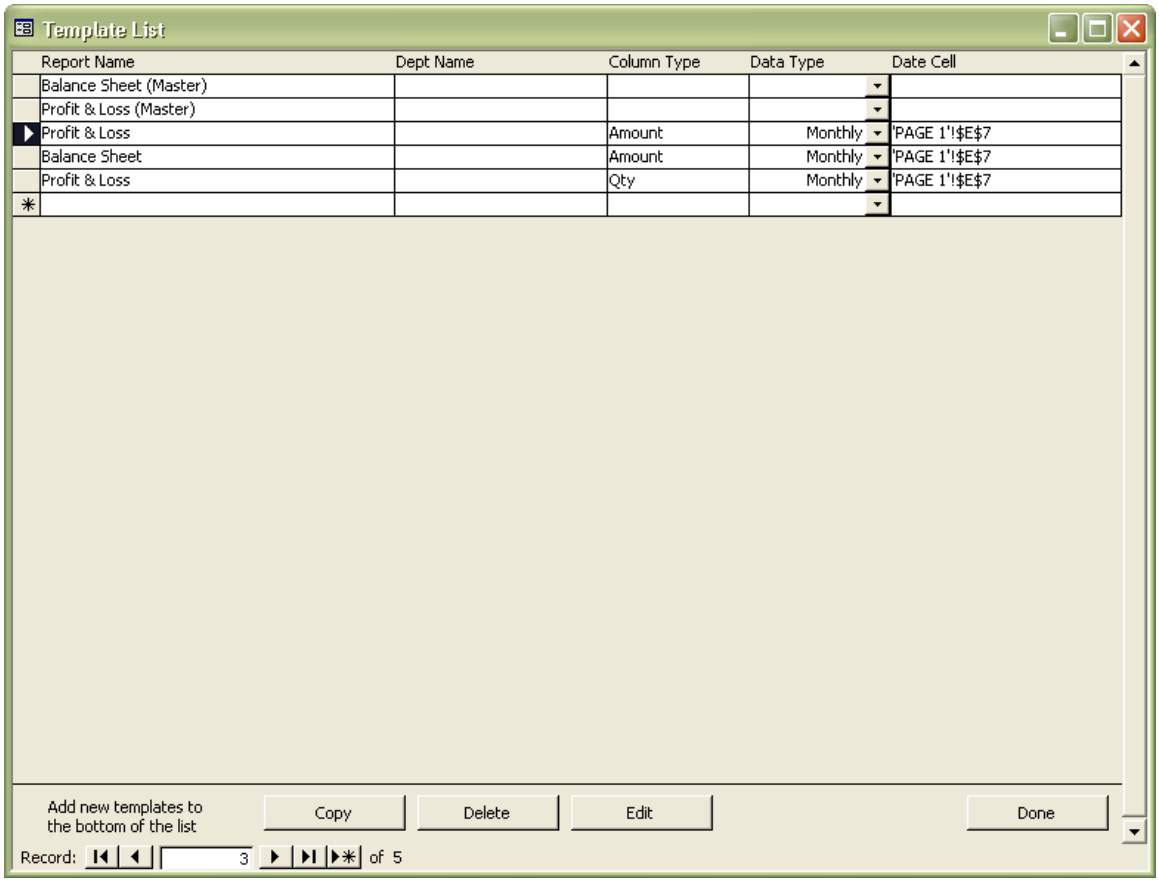
Within a report, you can specify a department if the data is associated with a department.

Data must also be associated with a date and a period of time. This is called the "Data Type". You can choose: Annually, Quarterly, Monthly, Weekly, Daily, and Latest. Dates. You always enter the last date within the period.

With the Report Name, Dept Name, and Data Type, you have enough to enter a table of data. The table is organized into rows(items) and columns (column types). The row name describes what the data value is for. The optional column type is usually used to describe the type of data. For example, Qty, Hours, Amount, Percent.

Templates

By pressing the "Edit Templates" button on the main menu, you will be presented with a Template List as shown in the next figure.



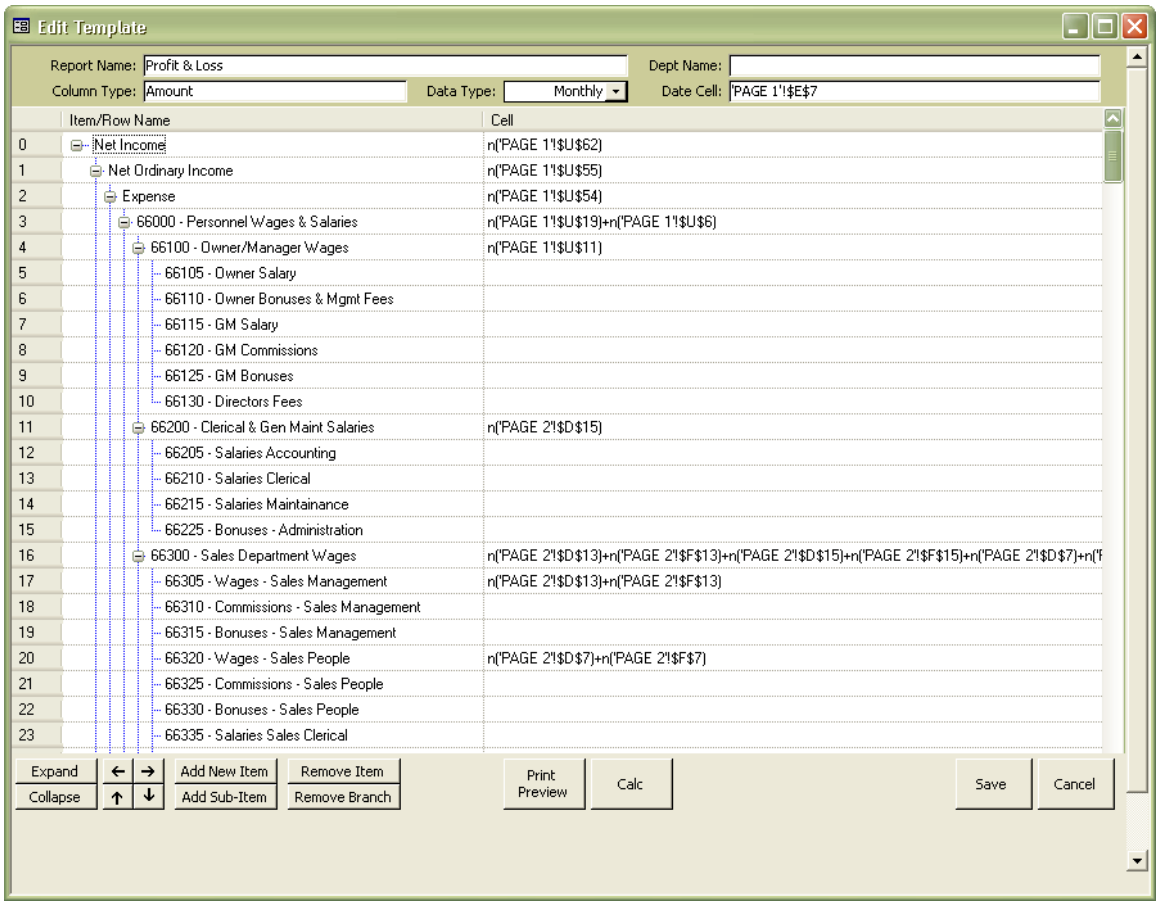
It will initially be blank you and can just start creating new templates by typing on the bottom of the list. Each template consists of:

- Report Name (will be used to define the CleverQ parameters)
- Dept Name (Optional)
- Column Type (Optional, if data has multiple column types, you will need to create a template for each type)
- Data Type (Required)
- Date Cell (This will point to a cell in the workbook that contains the date. If the cell does not return a date, the data extraction will not proceed.)

Templates can be copied, deleted, and edited. You can also import templates from other DPXE files from the main menu. Doing so, will delete any templates existing within the current DPXE file, so import first.

NOTE: Templates can be defined and not used. If the Data Type column is blank, the template will not be used during the data extraction.

Editing a template will bring up the form as shown in the next figure.



The top section of this form displays the same information on the template list and cannot be changed on this form. This form contains a tree or outline capable list where you specify an item or row name and the cell where the value can be found in the Excel workbook. The cell reference is formatted just like a cell reference if you were in Excel, which is

Worksheet name!Cell

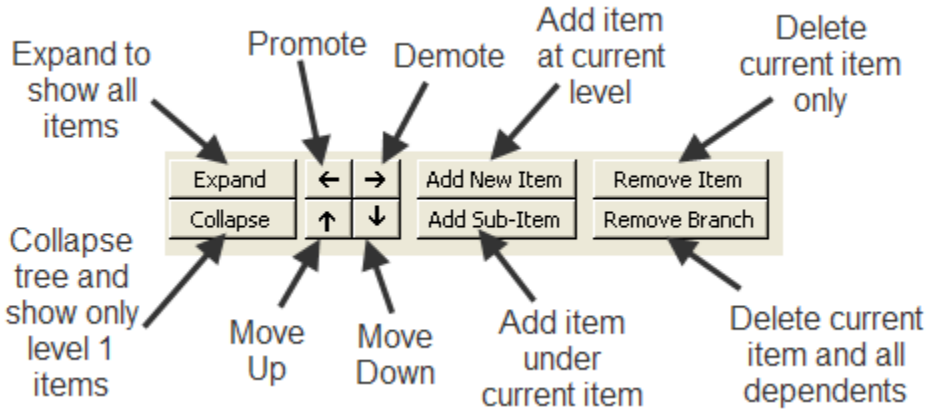
If the worksheet name contains a space, then enclose it with single quotes. The Cell reference is row first then column like "A1" for Column A Row 1. For absolute cell referencing, you will want to use the $ symbol (i.e. A1). You should refer to the Microsoft Excel documentation for more information about cell references. You might also want to enclose the entire worksheet cell reference within parenthesis and preceeded by the letter "n". This converts an empty cell to a zero value. If a cell is empty and you do not want to load it into CleverQ, then the n(...) is not needed. Your cell reference can also include a formula or calculation. It is evaluated just like Excel would evaluate it. This way the template could setup one item which could be the sum of several cells. You can include any of the arithmetic operations as well as the Excel built in functions.

If you are working with one workbook, then you can also select an item if it refers to a single cell and press the Calc button on the bottom of the form, and the value returned from the workbook will be displayed. This is a handy feature to make sure you have entered the cell reference correctly.

The Item/Row Name is text and is usually manually entered but can also reference text within the workbook. You can include a cell reference just like the value cell reference.

Both the Item/Row Name and the Cell Reference can also include the name of a range within the workbook. This will allow one item in the template to extract many rows in the extracted data. They must be ranges with one dimension either vertically or horizontally and both must be the same size. If you reference a range, that is the only thing that can be in the reference, you cannot include a formula. The Calc button will not work for a range reference.

Working with items involves using the various buttons located on the bottom of the form as shown in the following figure.



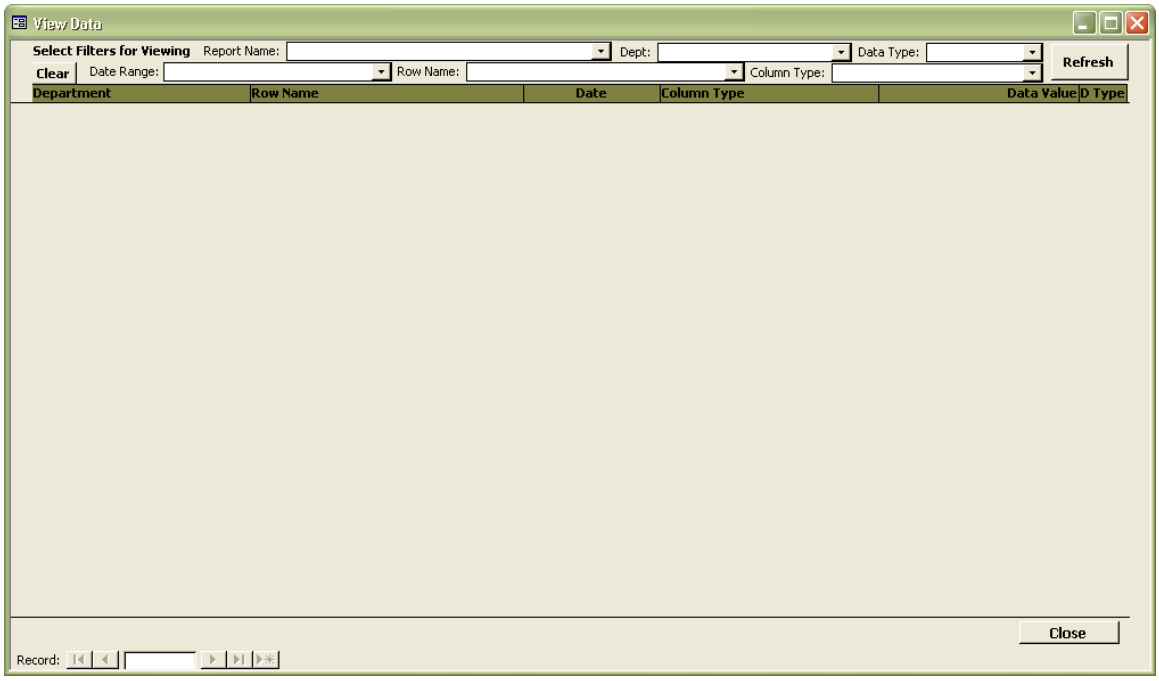
Be sure to Save your template before you close this form by pressing the Save button.

Extracting Data

With the templates defined, and the workbook or folder defined, you can now extract the data. This is done by pressing the "Extract Data Now" button on the main menu.

Viewing Extracted Data

To view the extracted data, press the "View Extracted Data" button. The View Data form will appear. This form is almost identical to the one within CleverQ to look at report data. Select your filters and press the Refresh button.



Viewing the Log

A log of activity associated with the DPXE can be viewed by pressing the "View Log" button on the main menu. The log will display the dates and times of all data extractions as well as any errors that occurred during the extraction. You should view this after each extraction to make sure there were no problems.

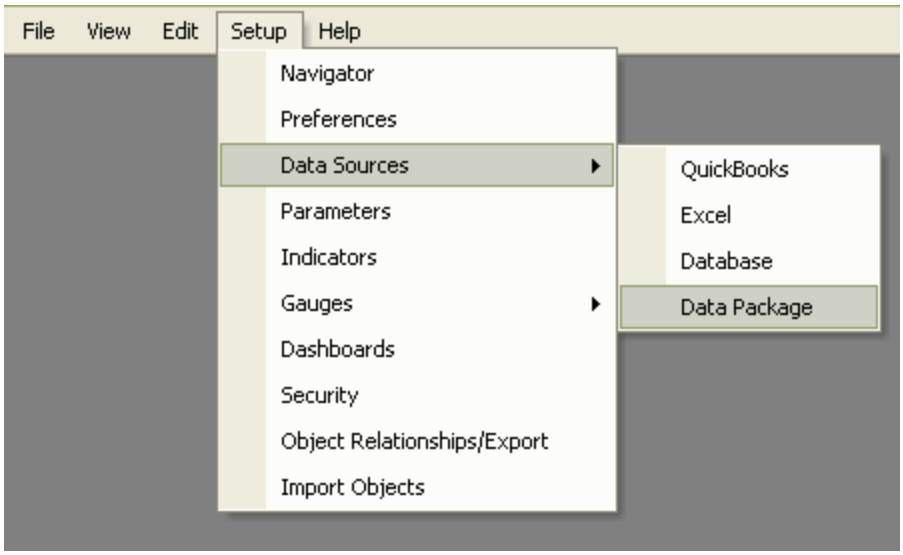
Automating the Extraction

When the DPXE file is opened and there is no user activity for the first 30 seconds, data extraction will automatically occur and when completed, the program will close. This mode should be used in conjunction with a Windows Scheduled Task to automate the extraction.

Adding a Source to the Data Load

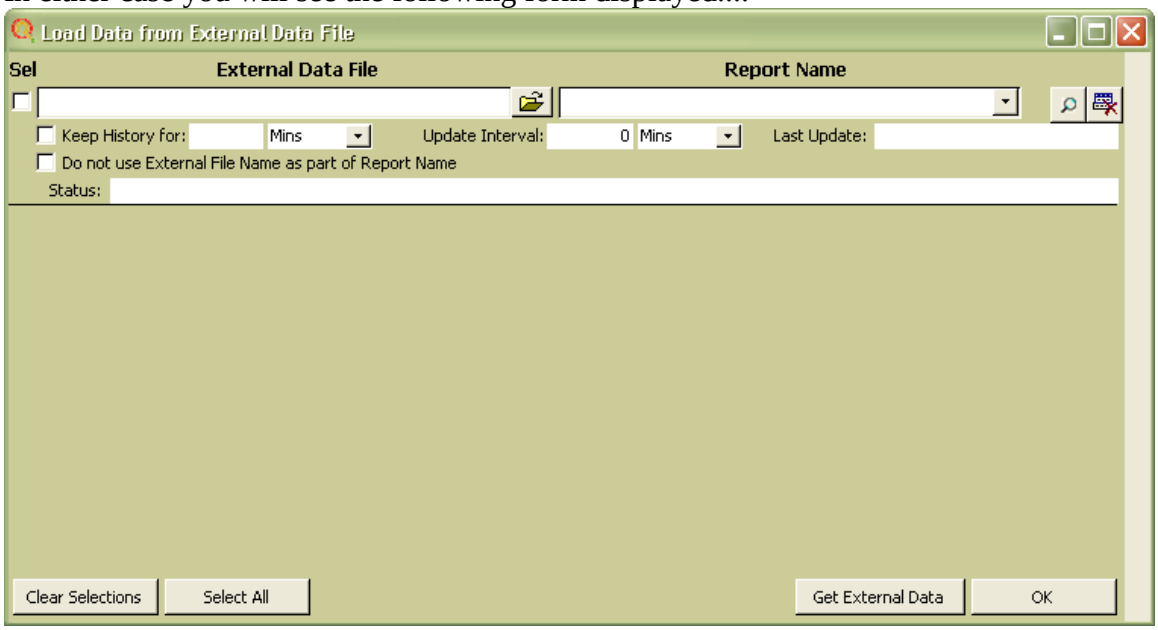
When you are in the CleverQ™ software, you can load the data entered with the Data Package Excel Extractor two ways:

1 - Using the main menu and selecting "Setup – Data Sources – External"

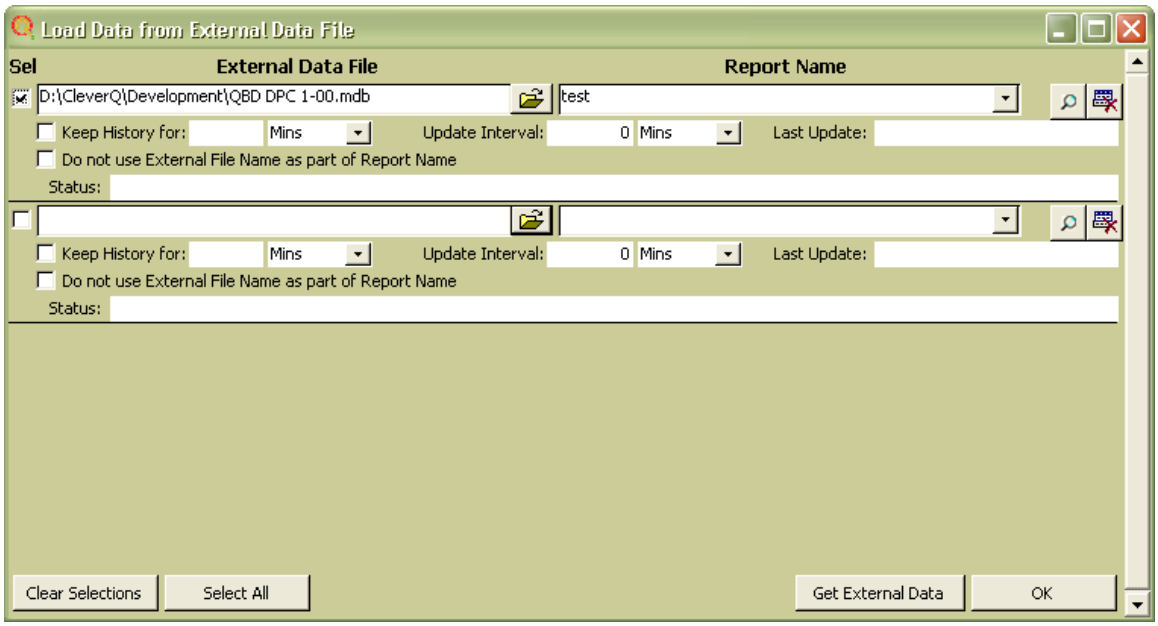


2 – Selecting "Data Package" from the dropdown list in the Extractor Definitions on Navigator, will bring up the "Load Data from External Data File" form as shown in the figure below.

In either case you will see the following form displayed....



With the form containing one or more entries it will look something like this....



Use the  button to browse to the file location of the data file mdb. Once the MDB file has been selected, you can choose the report name using the dropdown list under Report Name. Behind the scenes, CleverQ™ will open the MDB file and get a list of the report names and populate the drop down list.

To delete a selected report name from the list, press the  button on the appropriate line.

After the data is loaded you can view the data by pressing the  button. This could be used to verify you have loaded the data properly. Remember the Report Name is the name of the MDB followed by a dash followed by the report name unless you choose the option "Do not use External File Name as part of Report Name", in which case the Report Name will only be used. After optionally selecting the Date Range, Row Name, and/or Column Type, press the "Refresh" button.

You use the same form "Load Data from External Data File" to set up and execute the loading process. On the left side of the form are checkboxes. Check off those reports you want to load. You can select all of them by pressing the "Select All" button on the bottom of the form. You can de-select all of them by pressing the "Clear Selections" button on the bottom of the form.

To load the data, press the "Get External Data" button on the bottom of the form. You will be notified when the data is loaded and there will be a status message for each report under the MDB file name. Check these to see that there were no errors.

However you leave this form in terms of the selected reports to load, they will be remembered after it is closed. When you do a complete reload from the Main Menu

using “File – Load Data from Sources”, the selections on this form will be used to determine what data will get loaded.

Keeping History

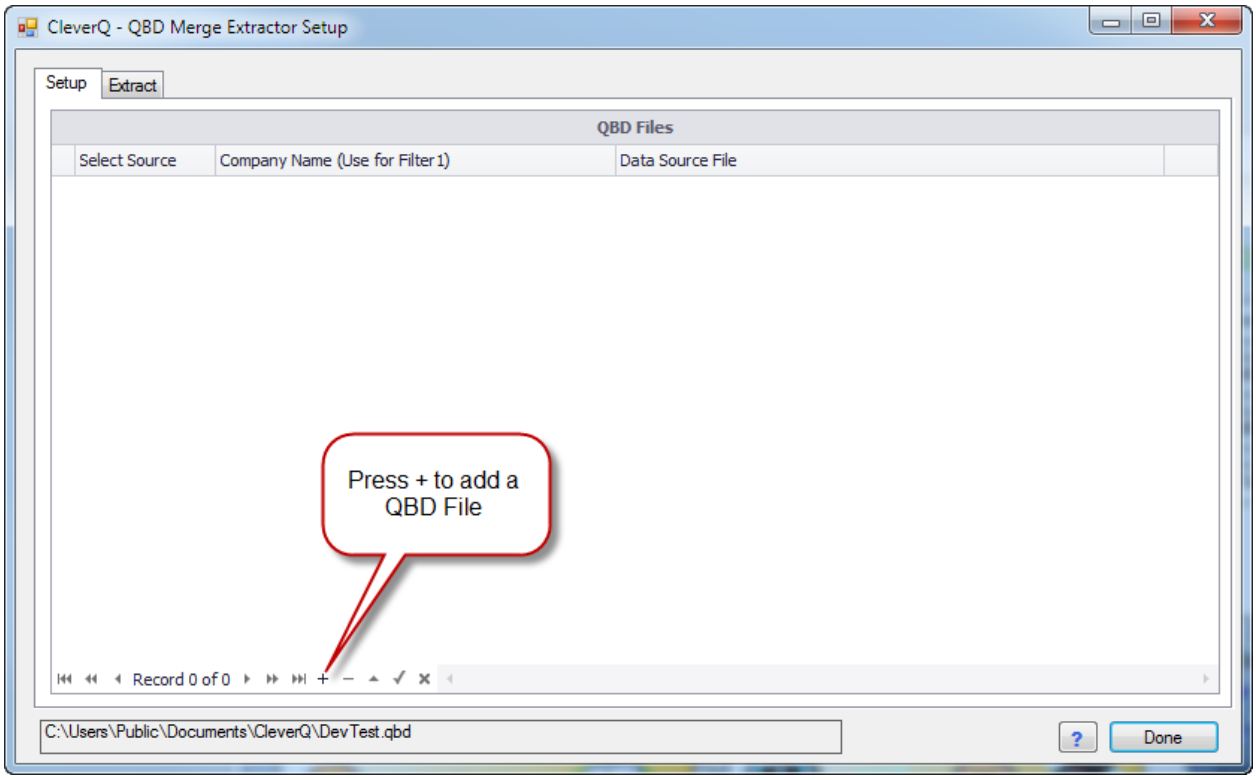
Normally whenever you load the data from a report, all the previous data from that report will be deleted. You can keep this data so it doesn’t get deleted by checking off the option “Keep History”. This is useful if you want to maintain the data for plotting or comparing values. The “Last Data Loaded at” field will tell you the data and time when the last load was performed. If you only want to keep history for a specific period of time, enter a value next to the caption “Keep History for:” This can be as little as 1 minute or as long as hundreds of days.

Automatic Loading

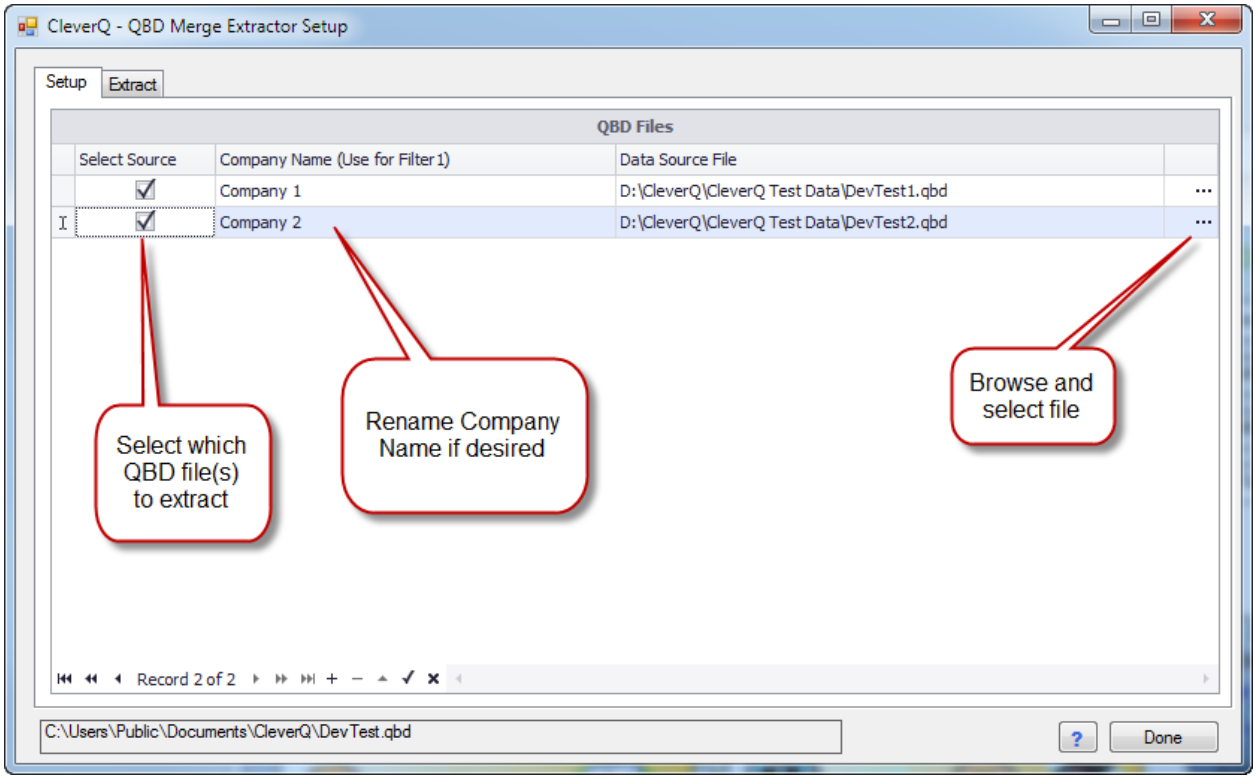
You can setup the software to automatically load periodically by entering an “Update Interval”. This can be a value in terms of minutes, hours, or days. When the current time and the “Last Data Load at” value exceed the update interval, the data is loaded in the background. This can provide a real-time update of data and gauges on a dashboard. Don’t forget to set your preference for “Auto Update Dashboard”.

QBD Merge

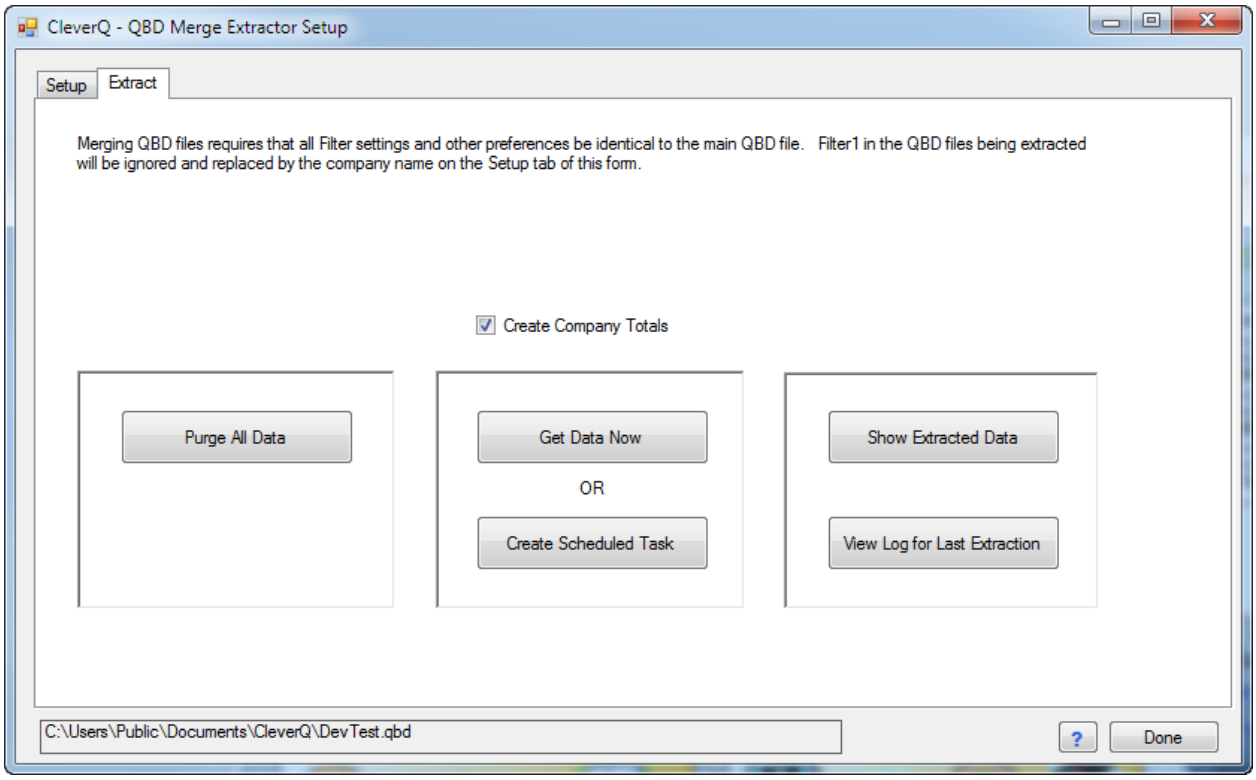
The QBD Merge extraction is only available for Multiple Company licenses. After choosing this extraction type you will see the following form:



Then Press … to select the file.



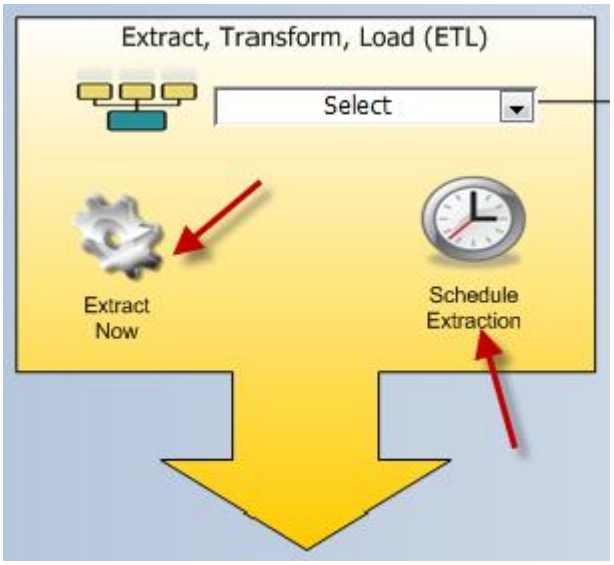
When you are ready to extract, go to the extract tab and choose from the various features available.


CleverQ - QBD Merge Extractor Setup
Setup
Extract
Merging QBD files requires that all Filter settings and other preferences be identical to the main QBD file. Filter1 in the QBD files being extracted will be ignored and replaced by the company name on the Setup tab of this form.
Create Company Totals
Purge All Data
Get Data Now
OR
Create Scheduled Task
Show Extracted Data
View Log for Last Extraction
C:\Users\Public\Documents\CleverQ\DevTest.qbd
?
Done

Extracting the Data

Extract Now on the Navigator

The Navigator has an icon labeled “Extract Now”. Clicking on this icon will extract data from all selected data sources. Depending on the amount of extraction, this could take a long time.

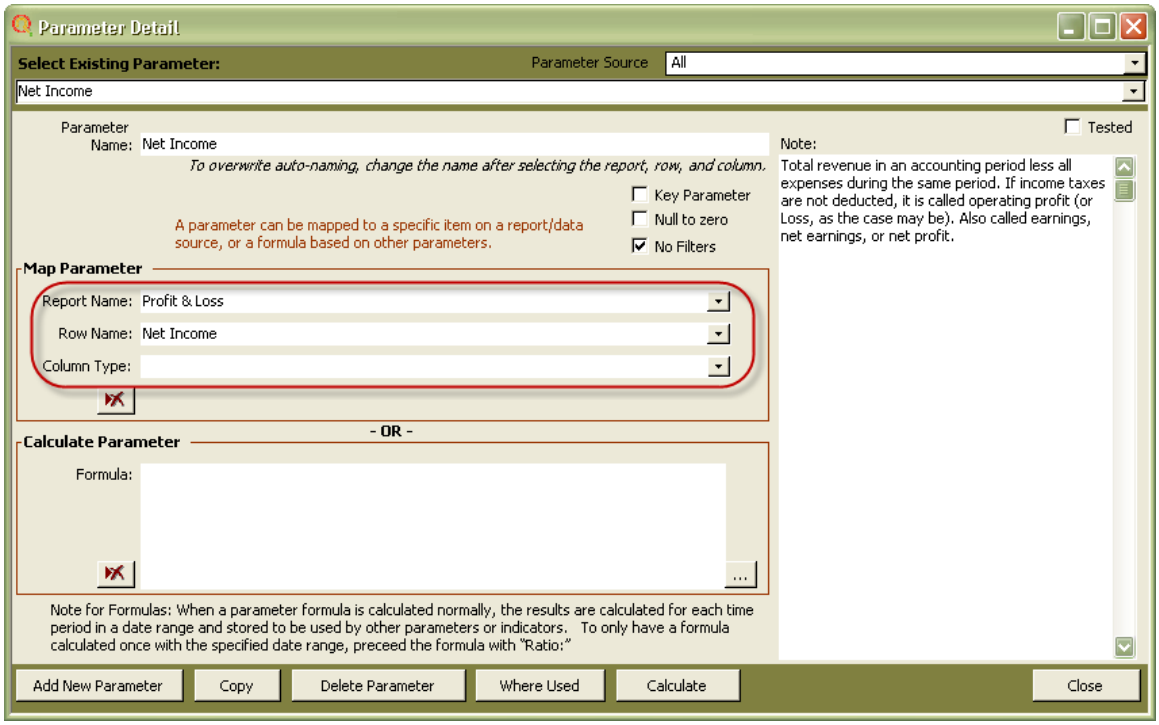


Schedule Extraction

Also on the Navigator form, you can click on the “Schedule Extraction” icon which will create a Windows Scheduled Task which will cause the data extraction to occur at a particular time. This is useful to schedule in the evening when the extraction takes a long time. In addition to extracting from all selected data sources including databases, the formulas are populated in the data cache and the data cache is recalculated.

Using the Data

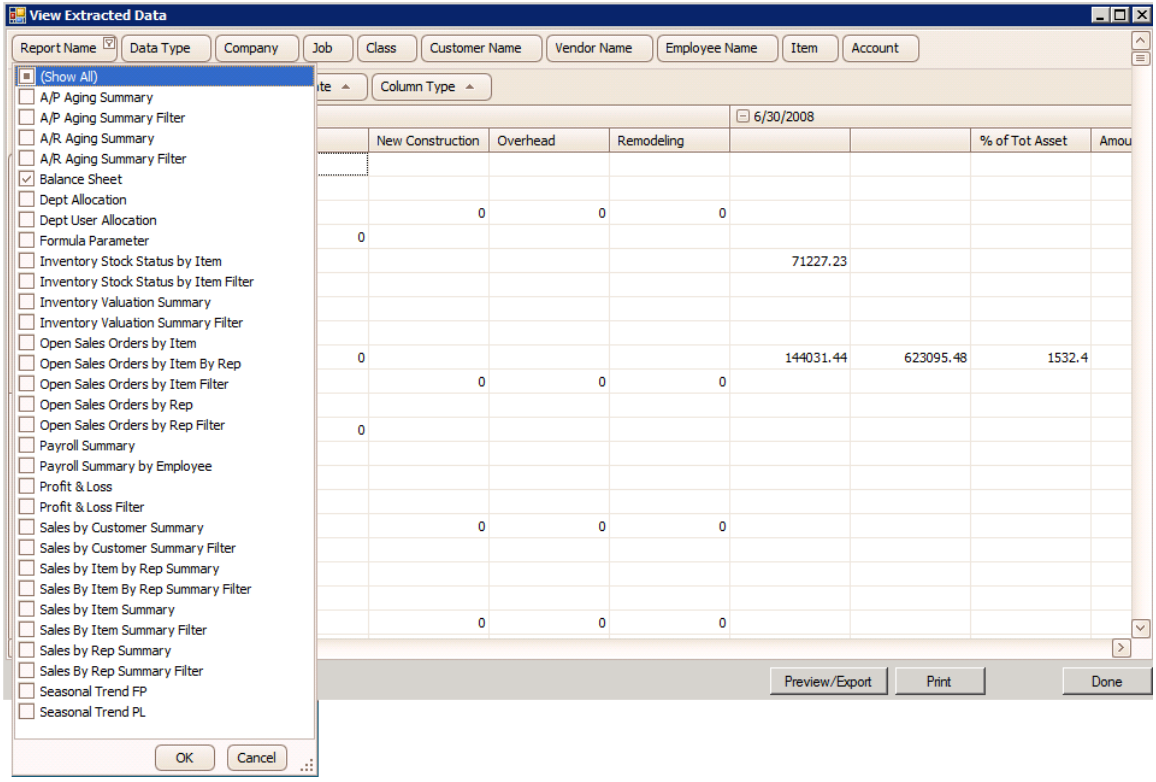
The data extracted can be used as a source for reports or as a source for parameters. As a source for parameters, they will be referenced by indicators and ultimately gauges.


Parameter Detail
Select Existing Parameter:
Parameter Source
All
Net Income
Parameter Name:
Net Income
To overwrite auto-naming, change the name after selecting the report, row, and column.
Tested
Note:
Total revenue in an accounting period less all expenses during the same period. If income taxes are not deducted, it is called operating profit (or Loss, as the case may be). Also called earnings, net earnings, or net profit.
Key Parameter
Null to zero
No Filters
A parameter can be mapped to a specific item on a report/data source, or a formula based on other parameters.
Map Parameter
Report Name:
Profit & Loss
Row Name:
Net Income
Column Type:
- OR -
Calculate Parameter
Formula:
Note for Formulas: When a parameter formula is calculated normally, the results are calculated for each time period in a date range and stored to be used by other parameters or indicators. To only have a formula calculated once with the specified date range, preceed the formula with "Ratio:"
Add New Parameter
Copy
Delete Parameter
Where Used
Calculate
Close

Viewing Extracted Data Using the PivotGrid

Some extractors provide a way to look at the extracted data using a powerful PivotGrid. In particular, the QuickBooks extractor provides this interface.

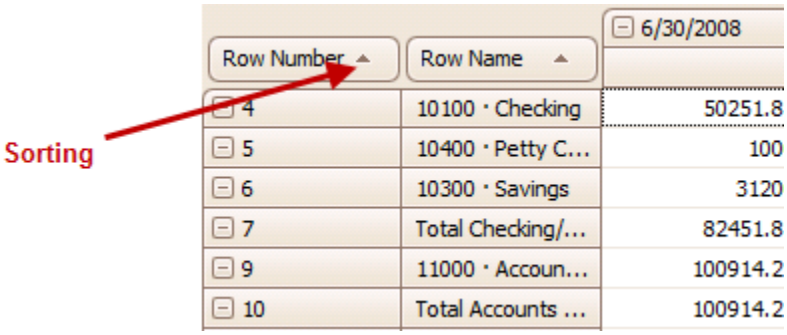
When the View Extracted Data form opens, you will be prompted to select a report. Uncheck “Show All” and check off the report you are interested in.



The form can be resized by dragging edges and more or less data can be shown.

Columns can be resized by moving the mouse over to the border of the column and dragging the edge.

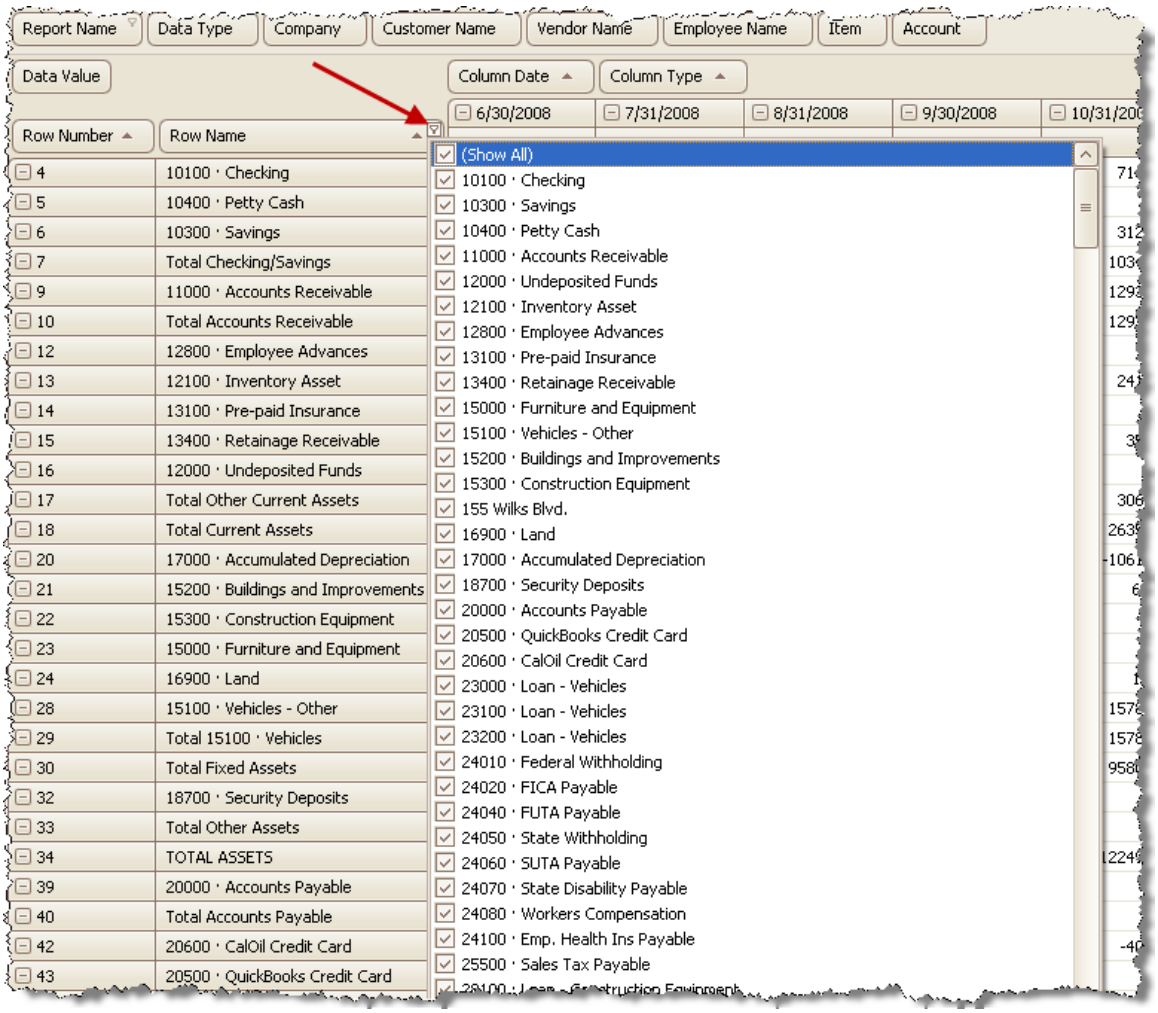
Sorting



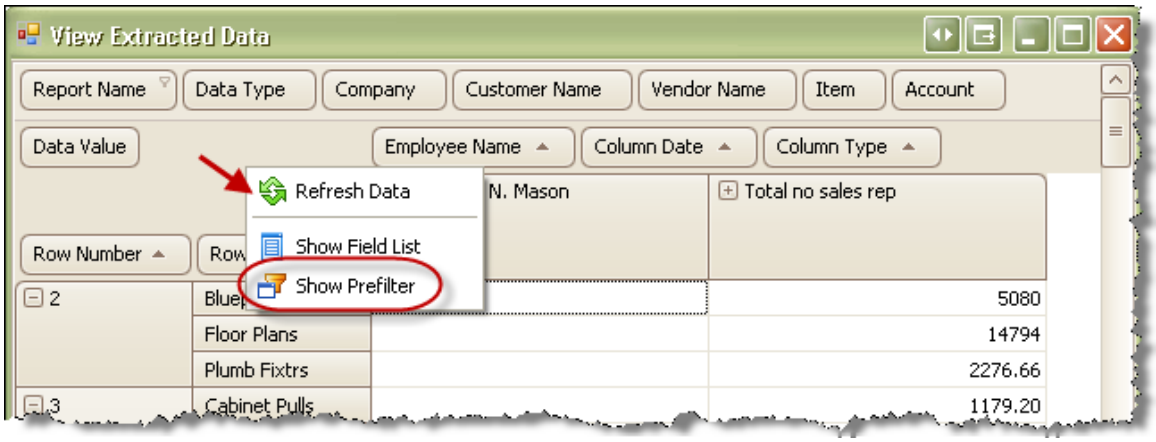
A dimension field is a row or column field and they are all arranged in ascending or descending order. The sort order is determined by an up or down arrow.

Filtering

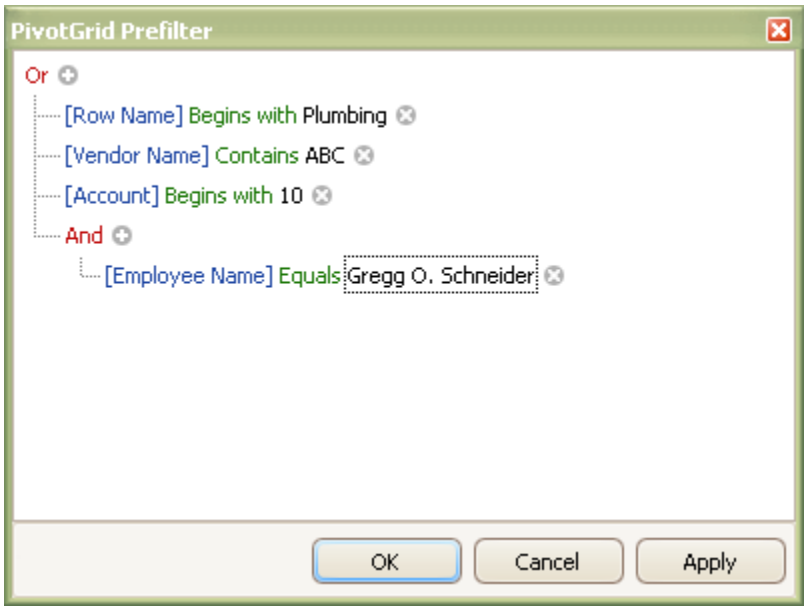
Any field except the data field can have a filter. You saw the filter for Report name when you first opened the form. Clicking on the top right portion of a field will show the filter icon and then you can filter by that field value.



In addition to filtering each column, you can create complex filters with “Prefilters”. Right mouse click on an empty space and choose Show Prefilter.

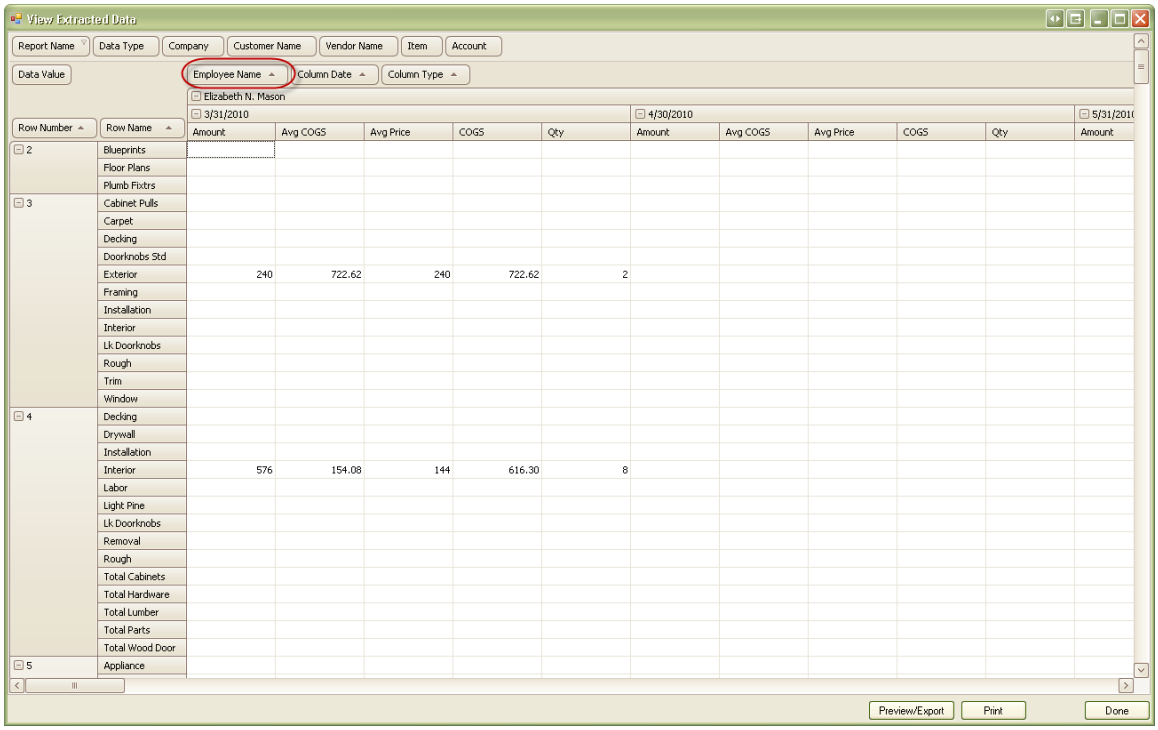


You will then get the PivotGrid Prefilter form where you can create complex filter expressions.

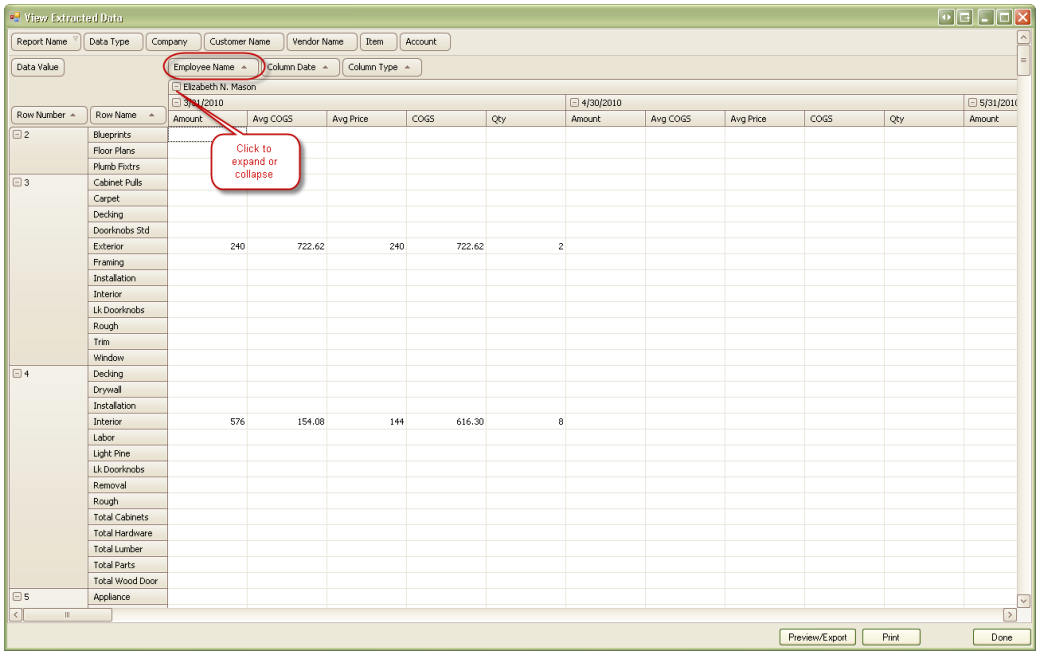


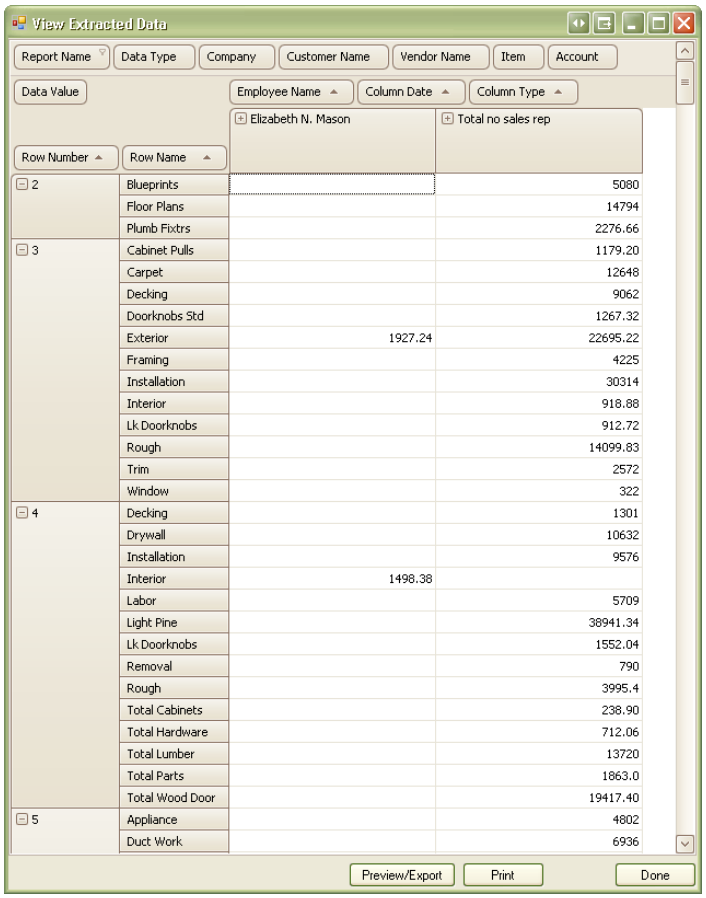
Grouping

In the following example for the Sales by Item by Rep Summary report, the Employee Name field was dragged into the column header area to facilitate grouping by Employee.



Expanding and Collapsing Groups





Printing

Press the Print button and the PivotGrid will be sent to your default printer. To select a printer, press the Preview/Export button instead.

Exporting

Press the Preview/Export button to view the PivotGrid as it would print. From here you can choose a printer and print or export the PivotGrid to a variety of formats including PDF, HTML, MHT, RTF, TXT, CSV, XLS, XLXS, BMP, EMF, GIF, JPEG, PNG, TIFF, and WMF. You can also directly email from this form.