EXCEL INTERFACE Enhanced EXCEL INTERFACE (TK-SQL Version)



Preface:

TimeKeeper-SQL is a full-featured OLE 2.0 client. This means that you can export your TimeKeeper-SQL data to spreadsheet applications and graphics packages. Below you will find detailed specific instructions about exporting your TK data to Excel and using Excel to generate graphs and charts.

Step 1: Accessing the Excel Interface program.

Select the Reports & Graphs option on the top Menu Bar and then select Chart & Graphs (Excel).



Step 2: Selecting a New or Existing Data Source.

After selecting Chart & Graphs (Excel), you will see the following screen. You can then choose to either create a new data source or open an existing one. Select the "Generate New Source" option and click on the "Create / Open Source".

🜉 Excel Interface		×
Choose Source	Selected Data	Export Options
Generate New Source	<u>6 o o</u>	pen Existing Source
🖃 🖓 Profiles List		<u> </u>
📥 🔍 🔍 DAILY - DAILY (DAILY	ATTN./ABSENCE ACTIVITY/TK)	
	EE (EMPLOYEE DETAILS/SHARED)	
PERIOD - PERIOD - (P.P	. ATTN./ABS. TOTALS/TK)	
PERIOD		
📥 🔍 TCDAY - TCDAY (DAI	_Y JOB TRANSFERS/TC)	
TCDAY		• • • • • • • • • • • • • • • • • • •
3		



Step 3: Selecting the Primary ("Master") table/file.

You will now see a screen with several tabs (Master Table, Linked Tables, Displayed fields etc.). Each tab covers a different step/topic involved in the process of creating a complete "export profile". Some steps are mandatory while others are optional. At the end of the process, the "export profile" you create can be saved and retrieved later on when needed for re-use.

SQL String Builder					×
Master Table Linked Tables Displayed Fields	Group By	Total Fields Fi	ilter Records 🛛 🤅	Sort By 📔 Query Result	۱ ₋
Select Master Table from all Database Tables					
	ј М.	aster Table Name			
	E	MPLOYEE			
Emplog - EMPLOG (EMPLOYEE FI	De	escription			
Employee - EMPLOYEE (EMPLOY)		MPLOYEE (EMPLO	DYEE DETAILS	(/SHARED)	
	Re	lated Tables			
Emplu02 - CUDES TABLE 2					
Empluos - CODES TABLE 3		Master Ta	ble	Description	
Emplu05 - CODES TABLE 5		ABSFOLOW	ABSF	OLOW (BENEFIT ACC	EMI
Emplu06 - CODES TABLE 6	-	BADGE	BADG	E (BADGE USAGE HIS TMNT (DEPT, DEFINI	
Emplu07 - CODES TABLE 7		EMPCOD	EMPL	OYEE CODES TABLE	EMI
🔜 🔤 Emplu08 - CODES TABLE 8		EMPLOG	EMPI	NG (EMPLOYEE FILE	(EMI
>				Cancel	OK

On the left side of the Master Table screen, you will see a list of all the available tables/files in TK-SQL. Select a file from that list by highlighting it and then clicking on the \blacktriangleright button.

The right side of the screen will automatically display a list of all "linked" tables/files. These are automatically "available" for all export functionality. If your "profile" requires a link to a table/file that is NOT automatically linked, you can specify additional linked tables "manually". To manually link a file select the "Linked Tables" tab.

Step 4 (optional): Specifying additional linked files/tables.

Once you select the "Linked Tables" tab, the following screen will be displayed:



Select the file you wish to (manually) link by highlighting it and clicking on the **>** button. After you have added the table/file and it appears on the right side of the screen, highlight the file/table on the right side and click on the



Add Linkage button . You will then need to specify the "linkage fields": the Master Field is the Key field in the Master file/table and the Slave Field is the "related" Key field in the file you are linking to.

The screen below displays the results of manually linking the Employee Memo (EMPMEMO) table/file.

💦 SQL Strin	g Builder							×
Master Table	Linked Tables	Displayed Fields	Group B	y 📔 Total Fields 🗎	Filter Records	Sort By	Query Result	
Add Linked T	able							
	lu17 - CODES TA lu18 - CODES TA lu19 - CODES TA lu20 - CODES TA memo - EMPMEN walj - EMPVALJ walj - EMPVALJ	BLE 17	•		EMO - EMPHON	YEE (EMP 10(EMPLO	YYE MEMO DA	AILS7
	war - EMPLOTEE wec - EMPLOTEE rs_dutch rs_english rs_hebrew	VAR. FILE VECTOR FI		Master EMPLOY	Link Field EE	Table Sla EMPL	ve Field	
>						C	ancel	OK

Step 5: Specifying the Displayed fields.

After you have completed specifying the Master table and all Linked Tables (whether automatic or "manual") you will need to specify the fields you wish to "display" (or export). Select the Displayed Fields tab. The following screen will be displayed.

SQL String Builder						
Master Table Linked Tables Displayed Fields	Group B	y 1	「otal Fields Filter	r Records	Sort By Query Result	
Select Fields for Output						
Tcdef.L2_BATCH_9 - L2_BATC			Description	Туре	Table Name	
- Tcdef.L3 PART 9-L3 PART		►	EMPLOYEE	char	EMPLOYEE	EI
Tcdef.L4 PROC 9 - L4 PROC			LAST_NAME	char	EMPLOYEE	L/
Todef CONTR 9 - CONTR 9	•		FIRST_NAME	char	EMPLOYEE	FI
Todef PBOFE 9 - PBOFE 9	44		NAME	varchar	PLANTS	PI
	44		NAME	varchar		D
Todef PERCENT 9, PERCEN1	5	I.	HIRF FRIM	datetime	FWPITIYEE	
				Navigato	v	
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				<u> </u>	•	
		Ro	w Limited			
EXPRESSION FIELDS		IN	Hows		▼ 100	
>					Cancel	ок

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You can now:

- ◆ Select ALL the displayed fields by clicking on the ▶ button.
- Remove ALL the (previously) selected fields by clicking on the *«* button.
- Select and remove individual fields by highlighting them and then clicking on the ➤ button and the < button respectively.
- Create a formula (using the TK's expression generator) by clicking on the calculator button.
- Select number of rows by specifying the "rows limited" and a value.

How to create a formula using the expression Generator?

- a. Hit the Expression (Calculator) button
- b. Specify the formula/expression you wish to add to the query

	жр	ression Builder (M	Maximal Length : 1024, Current Length :	23)		×
			Expression String			
[EM	PLOYEE].[RATE] / 10	00			-
						-
ĺ		File Name	File Description		Functions	
	►	EMPLOYEE	EMPLOYEE (EMPLOYEE DETAILS/SHARED)			
L		EMPMEMO	EMPMEMO(EMPLOYYE MEMO DATA)	-	String	
		Field Name	Field Description	<u> </u>	Math	
	►	EMPLOYEE	Employee No.		Logic	Ē
	_	PLANT	Plant		Esõis	÷
	_	SITE	Site		Date / Time	
-	_	DEPARTMENT	Department		Additional	
L		BUDGET_COD	Budget Code	-	,	
			<u>Ok</u> <u>V</u> erify <u>C</u>	ancel]	

- c. Verify and save the formula
- d. Scroll to "Expression Fields" section:

💦 SQL String Builder					×
Master Table Linked Tables Displayed Fields Gr	roup By 📔	Total Fields 📔 Filte	r Records	Sort By Query Result	
Select Fields for Output					
🔚 🖃 Sort4.FREE1 - FREE1 📃 🔳	• 🗌	Description	Туре	Table Name	
E Sort4.FREE2 - FREE2		EMPLOYEE	char	EMPLOYEE	Emplo
E Sort4.FREE3 - FREE3		DEPARTMENT	char	EMPLOYEE	Depa
E Sort4.FREE4 - FREE4	• -				
E Sort4.CLOCKS - CLOCKS	4				
🖶 🧾 EMPMEMO - ABSFOLOW (BENEFIT A	··· _				
EMPLOYEE - EMPLOYEE	. I				
E SEQ_NUM - SEQ_NUM	F	Fie	ld Naviga	tor	
🔚 🔚 FLDMEMO - FLDMEMO 🦳 🦳	~		†	+	
E EXPRESSION FIELDS	E B	ow Limited			
		Rows		▼ 100	
>				Cancel	ок

e. And add the expression to the displayed fields using the > button.

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SQL String	Builder						×
Master Table	Linked Tables	Displayed Fields	Group By	Total Fields Fil	er Record:	s Sort By Query Result	1
Select Fields	for Output						
E Sort4	FREE1 - FREE1	-	▶	Description	Туре	Table Name	
E Sort4	FREE2 - FREE2	\sim		EMPLOYEE	char	EMPLOYEE	Emplo
Sort4	FREE3 - FREE3		Ŀ	DEPARTMENT	char	EMPLOYEE	Depai
Sort4	FREE4 - FREE4			<1>	expr	EMPLOYEE	[EMPL
E Sort4	LCLOCKS - CLOO	xs	••				
	MU - ABSFULUV	V (BENEFII A		-1 -1			
EMP	LUYEE - EMPLU	YEE		<u> </u>		1	
E SEQ	_NUM - SEQ_NU	M	f.		ield Naviga	ator	
FLDI	MEMO - FLDMEM	10			1	↓	
🗄 🔛 EXPRE	SSION FIELD	S	Г	Row Limited			
<i>≸</i> ∎ <1>:	[EMPLOYEE].[RA	TE] / 100					
				N Rows		▼ 100	
<u> </u>						Connect	04
V							UN

Step 6 (optional): Specifying the "Group By" and "Total" fields.

"Grouping by" option is used for displaying a group of items having a "common denominator" in the same line e.g. total of employees per department, total of products per shipment, total of hours per site etc.

The following examples are given to illustrate the group by option:

Group by IS NOT used

Group by IS used

Employee No.	Department
1023	Electrical
1043	Electrical
1133	Electrical
1141	Electrical
1144	Electrical
1599	Electrical
1006	Painting
1016	Painting
1017	Painting
1021	Painting

Employee No.	Department
2	x
5	Assembly
6	Electrical
6	Painting
4	Quality Assurance

Grouping however has a meaning ONLY when using totals. How else can you show several items in one line without counting or summarizing? Only a combination of **summary** (e.g. labour cost per product) **count** (e.g. employees by department) or additional functions as **Average**, **Maximum** and **Minimum** Value will make grouping a valid option.

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How to create grouping?

Firstly, select the field you wish to group by:

💦 SQL String Builder	×
Master Table Linked Tables Displayed Fields Group By Total Fields Filter Records Sort By	Query Result
Set Fields to Group By	
GROUP BY	
Employee.EMPLOYEE - Employee No	
Dpartmnt.NAME - Department	
Field Navigator	
	Cancel OK

Then, set the totals accordingly:

🏹 SQL String Builder		×
Master Table Linked Tables Displayed Fields Group By Total Fields Filter Records Sor	rt By Query Result	
Create Query Conditions		
Field Name	Function	
Employee.EMPLOYEE - Employee No.	e No. COUNT 🖣	3
Field Navigator	1	
>	Cancel	ок

In this example, displaying **employees by department**, we have chosen the **COUNT** function. In addition, the following functions are available:

<u>SUM</u> Returns the sum of a numeric expression evaluated over a set

MAX Returns the maximum value in the expression.

MIN Returns the Minimum value in the expression.

AVG Returns the average of the values in a group. Null values are ignored

COUNT Counts the total number of rows that meet the qualifications of the query



Step 7 (optional): Filtering records

Select the records you wish to filter by highlighting it and clicking on the ► button. After you have added the required field and it appears on the right side of the screen, set the "Action" (e.g. Equal to. Greater Than, less than, between etc) AND the field value.

In the following example, only department 5 (= Painting) will be displayed:

🖏 SQL String Builder	×
Master Table Linked Tables Displayed Fields Group By Total Fields Filter Records Sort By Query Result	
Set Fields to Sort By	
EMPLOYEE - ABSCNF (BENEFIT / A EMPLOYEE - Employee No. PLANT - Plant Plants.NAME - Plant SITE - Site Sites.NAME - Site Expression Department.NAME - Department Department.NAME - Department BUDGET_COD - Budget Code Sort0.NAME - First Sort Sort1 - Second Sort	Action
Cancel	ОК

Getting Results:

	😽 SQL String Builder						
I	/last	ter Table	Linked Tables	Displayed Fields Grou	р Ву	Total Fields Filter Records Sort By Query Result	1
Γ	Re	cords Cour	nt:1				
	View Query Result					SQL String Builder	
		D	epartment	Employee No.			
		Painting	[6]		
	Cancel OK						



Another example for filtering data in a query is displaying a group of employees who have a birthday in a given month. We will then create a query displaying employee names and birthday, and set the filter as follows:

Select the records you wish to filter by highlighting it and clicking on the > button. After you have added the required field and it appears on the right side of the screen, set the "EXPRESSION":

😽 SQL String Builder	×
Master Table Linked Tables Displayed Fields Group B	y Total Fields Filter Records Sort By Query Result
Set Fields to Sort By	
RATE - Rate RATE_UNIT - Rate Unit PREM_TYPE - Premium Type OCCUP_TYPE - Occupation Ty	Field Name Bith Date Month
UPD_DATE_TIME - Update Da CLASS - Class RANK - Rank MARITAL - Marital Status	
POSITION - Position POSITION_N - Position No. BIRTH_DATE - Birth Date SENIORDATE - Seniority Date	is equal to
>	Cancel OK

🚰 Apply Expression to field	×
Field Name/Date Type	
[EMPLOYEE].[BIRTH_DATE] Date	
	-
Choose Expression	
Clear Month	
Verification	-1
Month([EMPLOYEE].[BIRTH_DATE])	
	51
Uelete ExpressionUK	

Query Results

	Employee No.	Last Name	First Name	Birth Date	
	1006	BURNS	DAVE	11-Nov-43	
	1144	SAMPAT	ORLANDO	18-Nov-67	
IΓ					



Step 8 (optional): Sorting By

Select the records you wish to ORDER by highlighting it and clicking on the > button. Once you have added the required field and it appears on the right side of the screen, you will be able to set the sort i.e. Ascending or Descending:

SQL String Builder	X
Master Table Linked Tables Displayed Fields Group By Total Fields Filter Records Sort By Query Result	
Show Result	
B-SORT BY Direction	
Employee.EMPLOYEE - Employee No.	
Cancel OK	

Step 9: Specify the export Options

Once the query is displayed correctly in the "query result", hit the OK button. The following screen will appear:

📟 Excel Interface		
Choose Source	Selected Data	Export Options
Main Table EMPLOYEE (EMPLOYEE DETAILS/SH	IARED) (EMPLOYEE)	
	Sele	cted Fields .EMPLOYEE NO LAST NAME FIRST NAME PLANT
Filter Records		
Group By		
?		



You can now:

- Proceed to Export options by selecting the export option tab
- Specify a query selection e.g. running the query for a date range, plant, site department etc.
- Change your selections by clicking the change selections tab

Step 10: Choosing a chart

If you wish to create a chart – select "Export source as a table and chart" If you wish to export to EXCEL Table – select "Export source as a table only"

🐺 Excel Interface		
Choose Source	Selected Data	Export Options
С Export Source a:	s Table and Chart	 Export Source As Table only Show Columns Title
Chart Title DAILY (DAILY ATTN./ABSENCE ACTIVI (DAILY)		
?	<u>e</u> <u>e</u> <u>e</u>	

If "Export source as a table and chart" has been selected, use [Change] button to select the chart format (e.g. Bar, pie, 3D Bar, Area, etc) and the type:

III Chart Selection		
Chart Title DAILY (DAILY ATTN./ABSENCE ACTIVITY/TK) (DAILY)	< >	
Chart Format/Type		
Column	Define Format	
Chart Auto Format 1	Define type	
Locate As Object C Locate as New Datasheet		Locate as an object
Legend and Data Labels		Create the chart in the
Show Chart Legend		same spreadsheet
		where the query
Axes and Data Labels		results are displayed.
X_Title	Clear	
Y_Title	Clear	
Cancel		

You may also specify the data labels X Axes and Y Axes. Once all the required information has been selected, hit the OK button.

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Step 11: Creating the chart in EXCEL

Once chart type has been selected, you may export to EXCEL Leg the button:



Getting Results:



As requested, a pie chart has been created according to the query results. The results of query will also be displayed in the same spreadsheet. If you wish to create the graph in a separate spreadsheet (i.e. one for the query results and one for the graph), set the chart format type to "Locate as a new datasheet".

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Step 12: Saving the export definitions (Query and Chart)

You may save the export definitions (query, selections and the chart type) by clice the button, and specify the export (profile) name:

😹 Save Profile	×
Profile Name Employees By Department	
Remarks According to Request subbrited by Arik	
-	Cancel OK

<u>Note</u>: There is a MAJOR difference between **changing the export definitions in TimeKeeper** to **saving the spreadsheet itself in MS-EXCEL**. Saving the export definitions in MS-EXCEL <u>stores the END-RESULT only (as is!)</u>, while saving of the profile <u>stores the entire process so you will be able to (i.e. dynamically) run the same query for a current, previous and future use.</u>

For Opening saved profiles

Select "Open Existing Source"

999 1	📱 Excel Interface 🛛 🔀					
<u> </u>	Choose Source	Selected D	ata	Export O	ptions	
Г	Generate New Source	<	P • 0p	en Existing Source	>	
	Profiles List				<u>~</u>	
		ATTN./ABSENCE ACTIVIT	үлтку			
	DAILY					
		'EE (EMPLOYEE DETAILS	/SHARED)			
	EMPLOYEE					
	📥 🔍 PERIOD - PERIOD -(P.F	». ATTN./ABS. TOTALS/TI	\$			
	PERIOD					
	TCDAY (DAILY JOB TRANSFERS/TC)					
	TCDAY				~	
?		e 🗧	*			

And choose the profile you wish to load:

5	Excel Interface		
	Choose Source	Selected Data	Export Options
	Generate New Source	ء م	pen Existing Source
	Profiles List		
	DAILY - DAILY (DAILY ATTN./ABSENCE ACTIVITY/TK)		
	EMPLOYEE - EMPLOY	EE (EMPLOYEE DETAILS/SHARED)	≡
	PERIOD - PERIOD -(P.F	ATTN./ABS. TOTALS/TK)	
	TCDAY - TCDAY (DAIL)	/ JOB TRANSFERS/TC)	
			<u> </u>
?		2 🚰 🔜 🔊 🔎	