Power Data

for the Nokia Communicator

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1. Introduction.

Welcome to Power Data! Power Data is an easy-to-use and high performance database management system (DBMS) for the Nokia Communicator. Power Data allows you to capture, store and retrieve information about similar items.

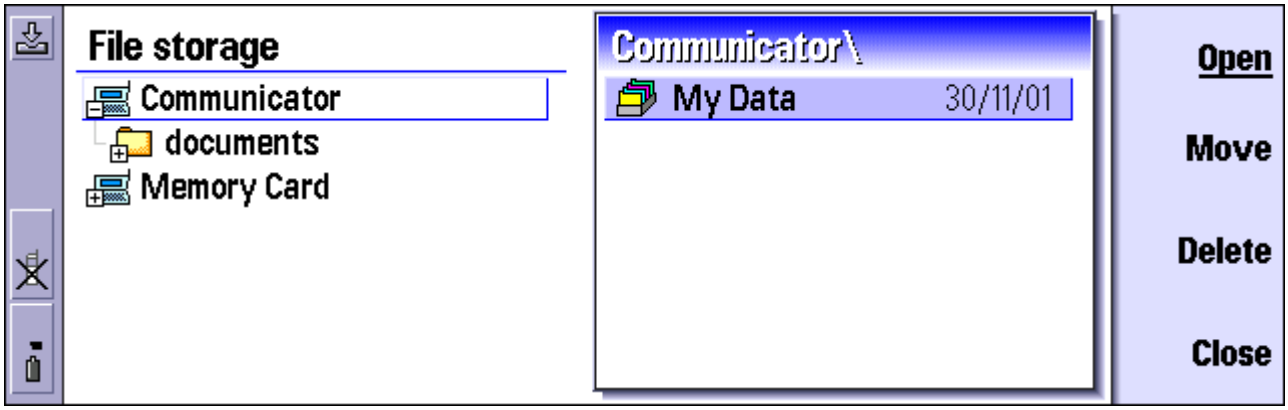
Power Data offers you a wide range of powerful tools for managing databases like finding, sorting, and filtering records. It allows you to have multiple tables in a single database. Power Data supports import from and export to CSV and dBase (DBF) files.

You can download the latest version of Power Data from http://www.epocware.com.

2. Key concepts.

2.1. Database.

A **Database** is a file that contains structured information that's related to a particular subject or purpose, such as tracking customer orders or maintaining a music collection. It may contain one or more **Tables**.



2.2. Tables.

A **Table** is a collection of data about a specific topic, such as products or orders. Tables organize data into columns (called **Fields**) and rows (called **Records**).

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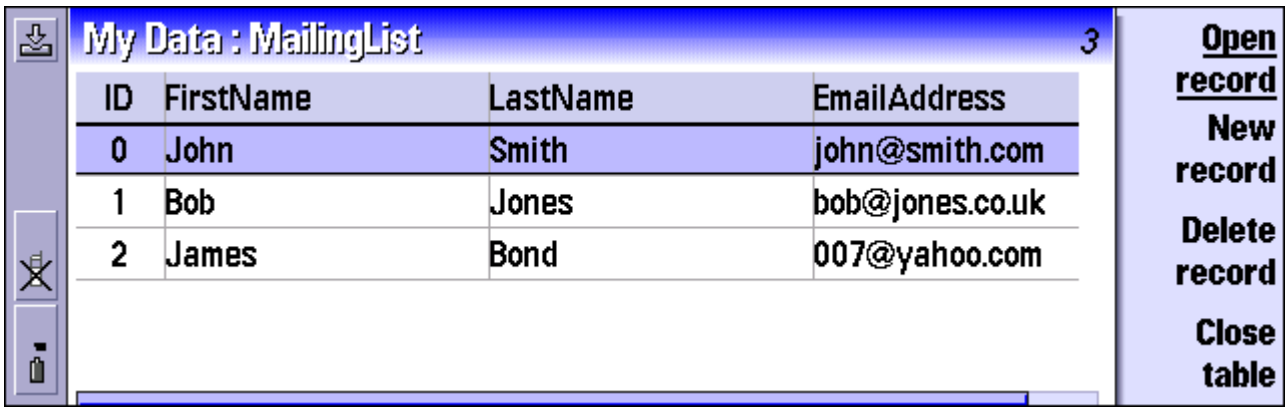
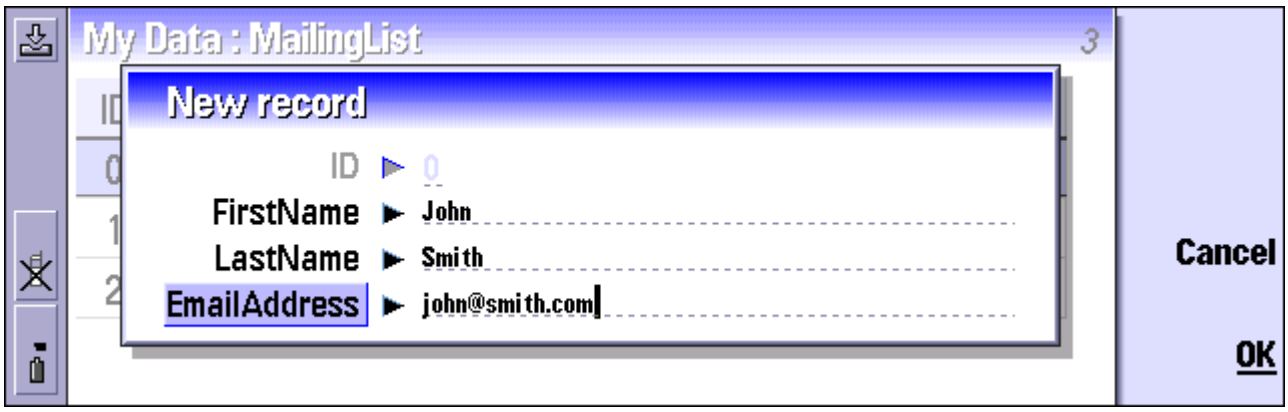


2.3 Records and Fields.

A **Record** is a collection of data arranged in one or more **Fields**. Each record describes some unique "real word" entity such as person, product or order.



Each **Field** represents some aspect or attribute of the entity such as name, address, or date of birth of a person. The definition of a field includes the name of the field and the type of data to be recorded.

Power Data supports wide range of field types, including text strings, numbers (integers), yes/no (Boolean), floating point (currency) and date fields.

3. Tutorial.

The best way to learn a program is to create something in it. This chapter will take you through the process of making a database to store a mailing list data.

3.1. Creating a database.

To create a new database, select the **New database** command form the **File** menu. The **New database** dialog will appear, where you can choose the name and the folder for the database file.

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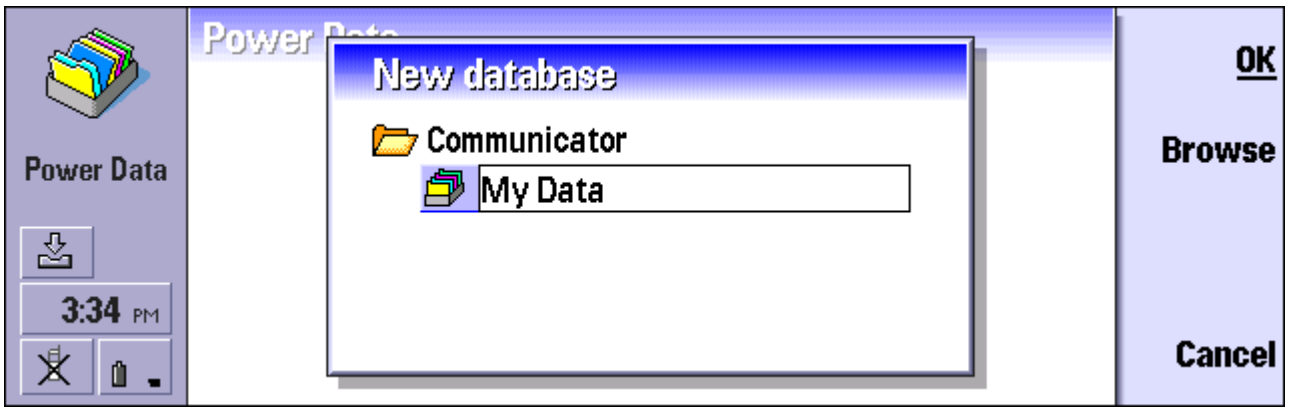
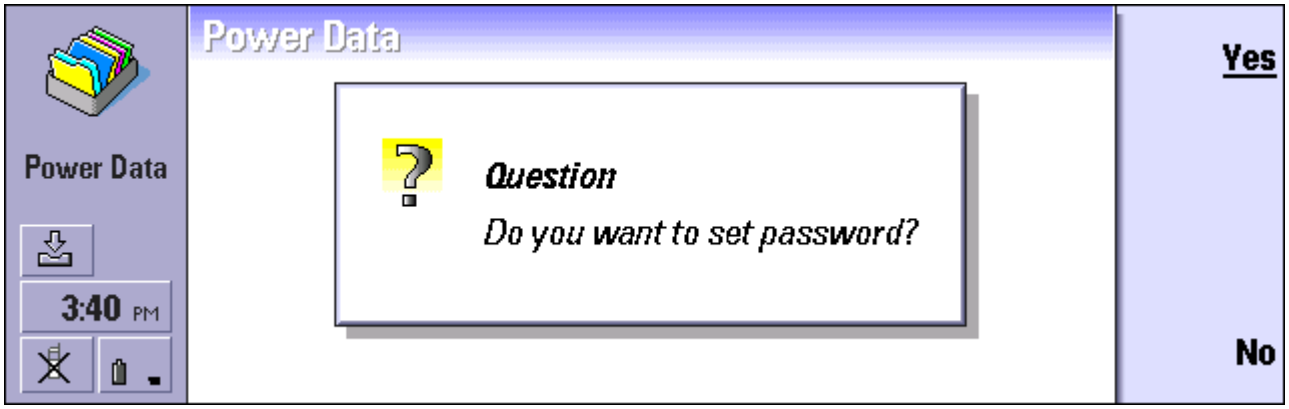
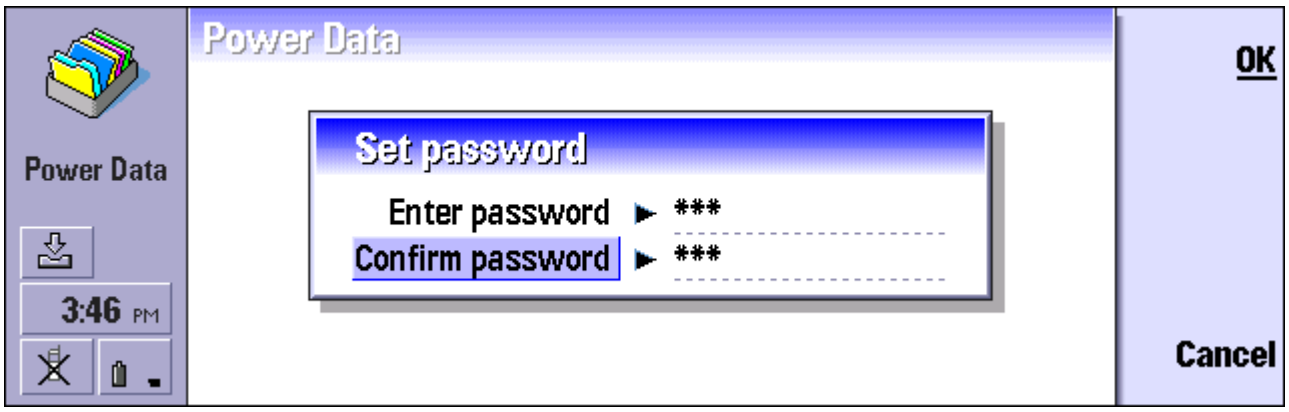


Then you will be asked if you want to password protect the new database.



If you choose to set the password, then you will be prompted to enter it.



Note 1: You will be able to change the password later by selecting the **Change password** command from the **File > More** menu.

Note 2: If you choose not to set a password, then you won't be able to set it later.

Now the database is created. There are no tables in it. The next step is adding a table.

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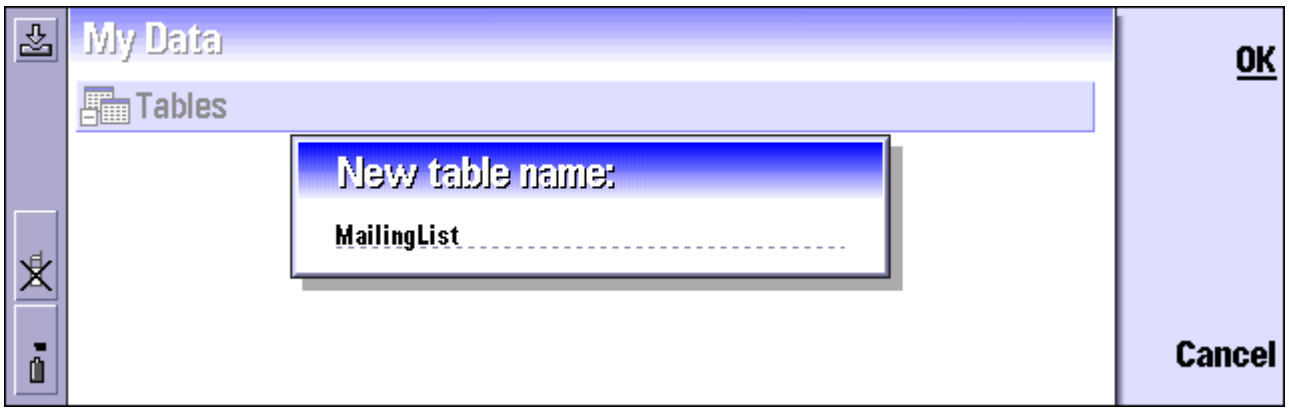
3.2. Adding tables to a database.

To add a new table to a database, press the **New table** button. Enter the name for the new table:



Once you entered the name, the **Templates** dialog will appear, where you can choose a template for the new table. If you don't want to use the templates, select the **Other (blank)** item.

We choose the **Mailing List** template for our tutorial. Then the process of defining the fields within the table begins.

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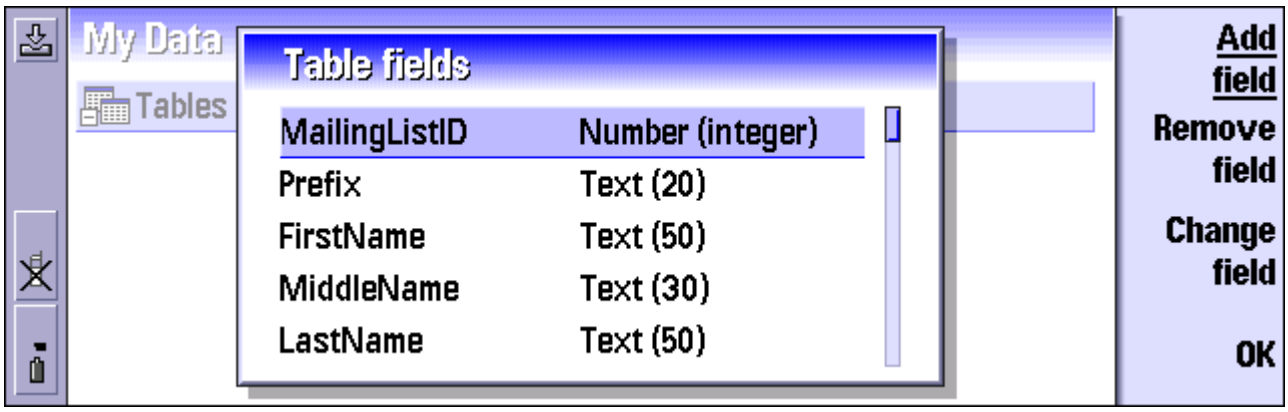
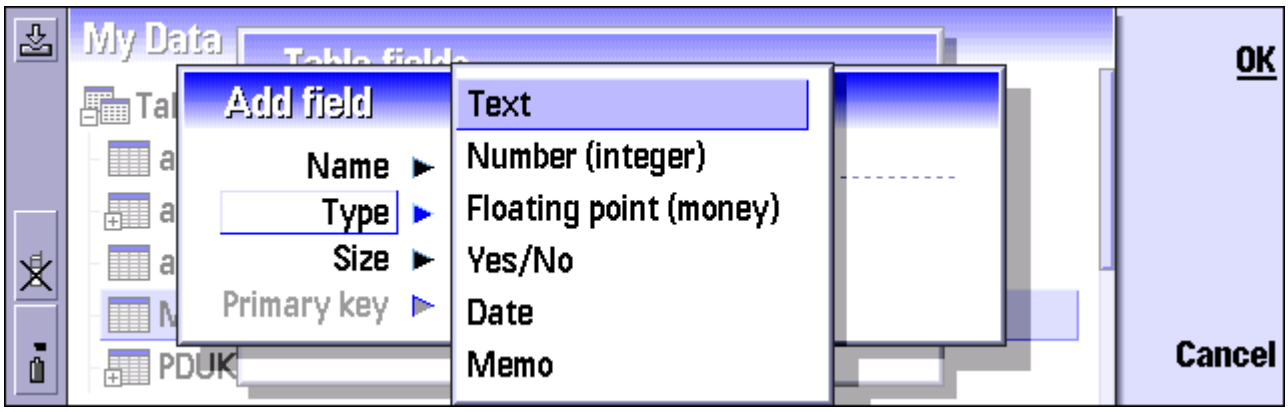


In the **Table fields** dialog you can see a list of predefined fields with their types. To remove a field, select it in the list and press the **Remove field** button. To add a new field, press the **Add field** button. In the appeared **Add field** dialog enter a name for the new field and select the field type.



3.2.1. Field types.

Type name	*Description*	*Examples of use*
Text	Text string. You can set the **Size** of text field up to 255 characters.	Name, Address, Email, Note.
Number (integer)	Integer number. (You can set the **Primary key** option to Yes, if you want to get a unique auto incremented field.)	Count, ID, Quantity.
Floating point	Floating-point number.	Price, Expenses.
Yes/No	Boolean field. You can only store Yes or No in this field.	Yes/No values.
Date	Date.	Date.
Memo	Text string of unlimited length.	Note, Memo, Address.
Embedded file	Embedded document or image file.	Maps, Documents, Photos.

We need the following fields for our simple Mailing List database:

1. ID (unique Id of each record).
2. First Name.
3. Last Name.
4. Email.

Remove all other fields.

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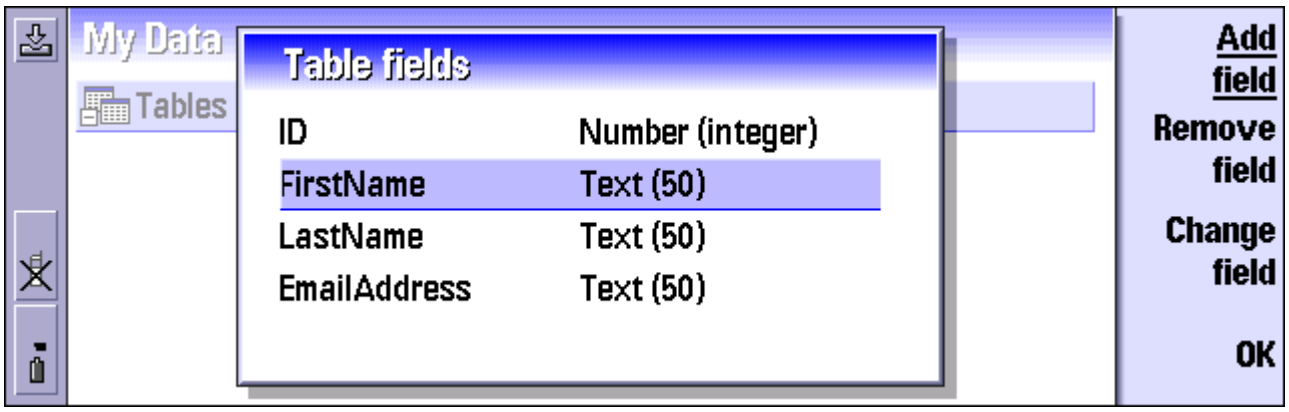
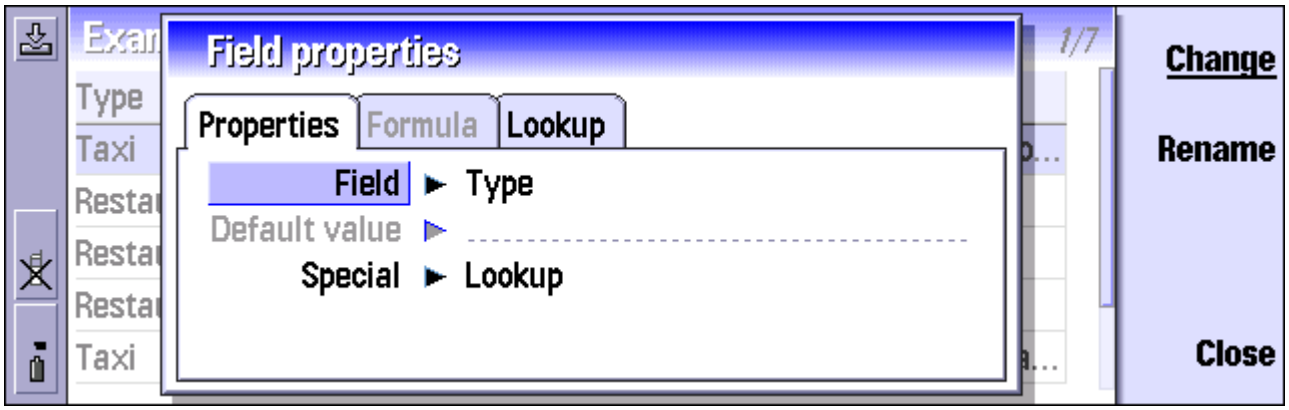


Then press the **OK** button to finish creation of the table. The next step is adding new records to the table.

3.2.2. Field properties.

Select the **Field properties** command from the **Table** menu to set special (additional) field properties. The **Field properties** dialog will appear.



Select a field in the **Field** choice list, and then you can set a special ability for this field in the **Special** choice list. By default it's **None**. You can also choose **Lookup** and **Formula.**

Lookup

The field with Lookup ability will be presented in the record as a choice list. You will be able to choose its value from a pre-build set of values. Go to the **Lookup** pane of the **Field properties** dialog to define these values.

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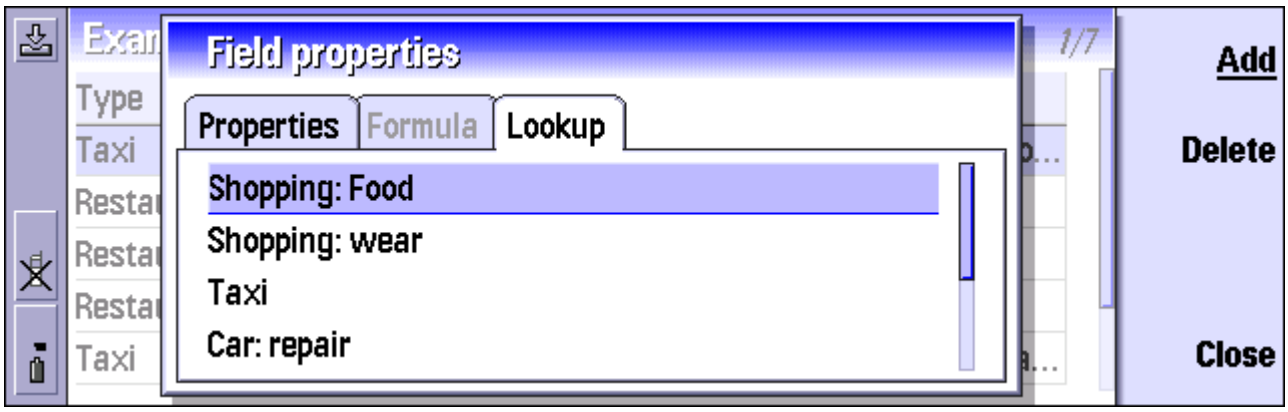
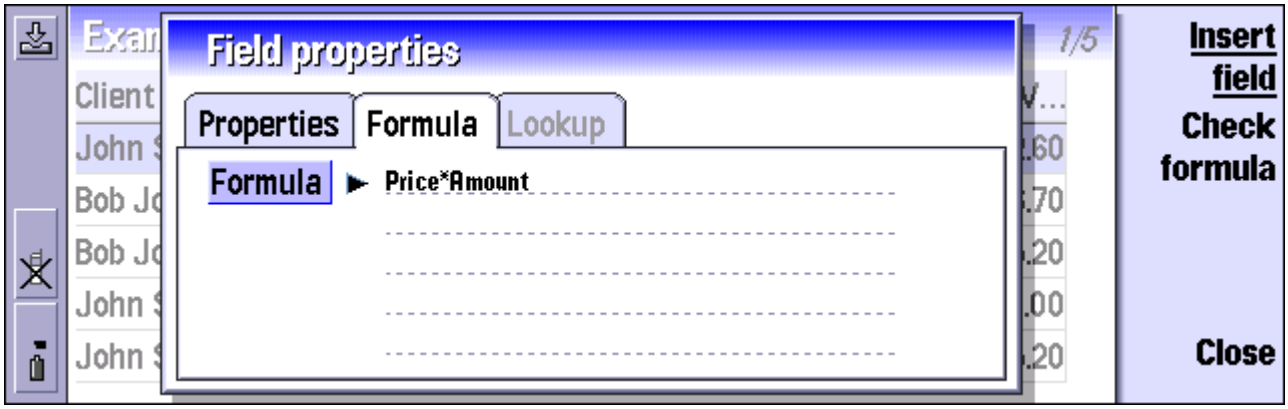


Formula
The field with Formula ability is not entered directly, but calculated from the others record values. Go to the **Formula** pane of the **Field properties** dialog to define the formula. Use the **Insert formula** button for quick inserting field names.



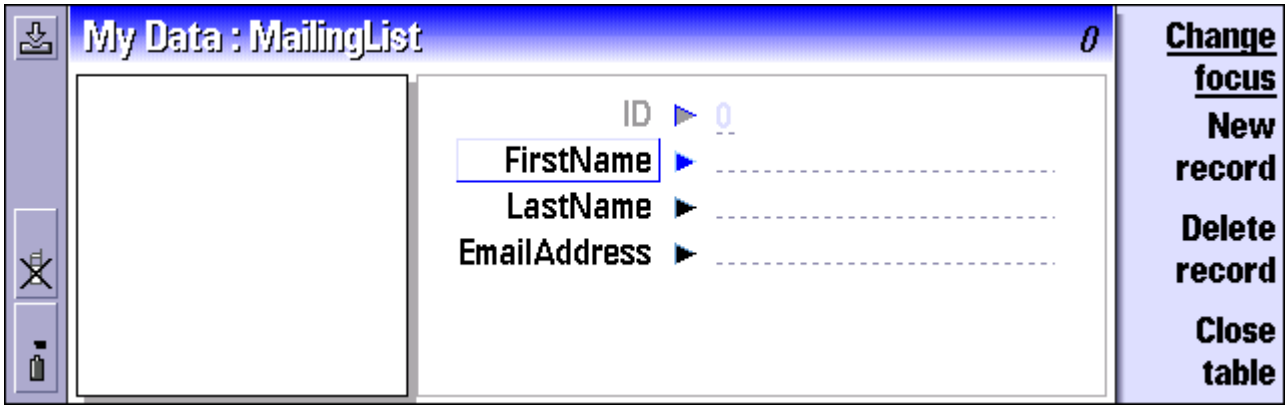
Use the **Check formula** button to check your formula.

Example: You have **Price, Amount** and **Total** fields. Enter values only in **Price** and **Amount** fields. And define **Total** as a formula field, where the formula is **Price*Amount**.

You can also rename fields and define default field values in the **Field properties** dialog.

3.3. Adding records to a table.

To add a record to a table, you need to open the table first: select the table and press the **Open table** button.



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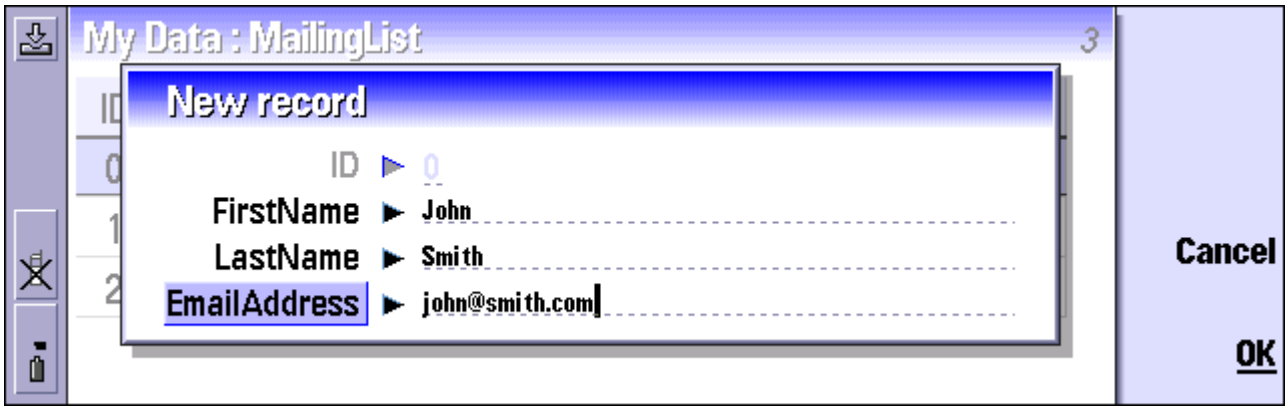
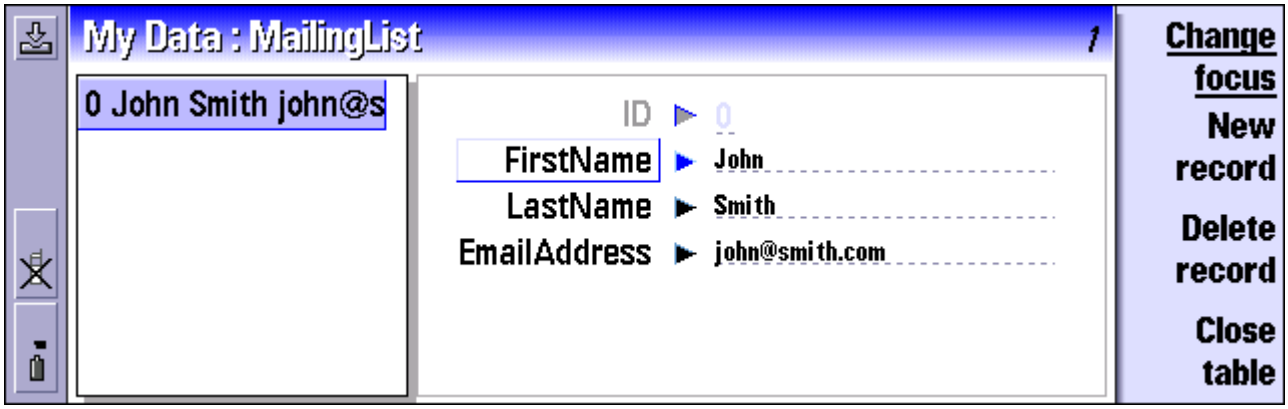
You will see the contents of the table. The new table is empty. To add a new record, press the **New record** button and enter the details of the new record. Then press the **OK** button.



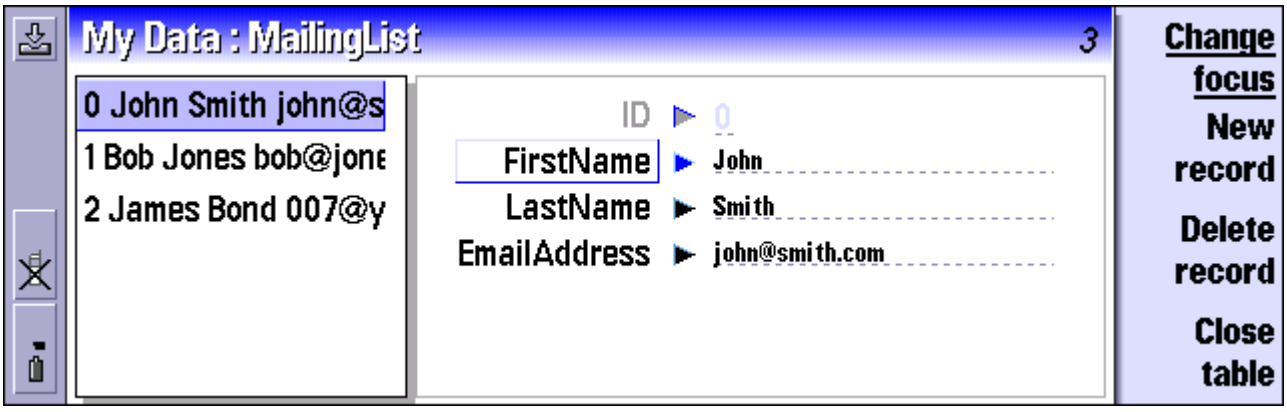
The new record was added to the table:



3.4. Views and view options.

There are two different ways for viewing the records of a table:

1. **Cards view**. There are two panels in this view. The left panel (**Browser**) shows a list of the records. The right panel (**Card**) shows the fields of the current record. You can switch between these two panels by pressing the **Change focus** or the **Tab** buttons.



Cards view.

2. List view. This view presents a grid in which each record represents a row and the fields are shown in the columns. Multiple records can be shown simultaneously.

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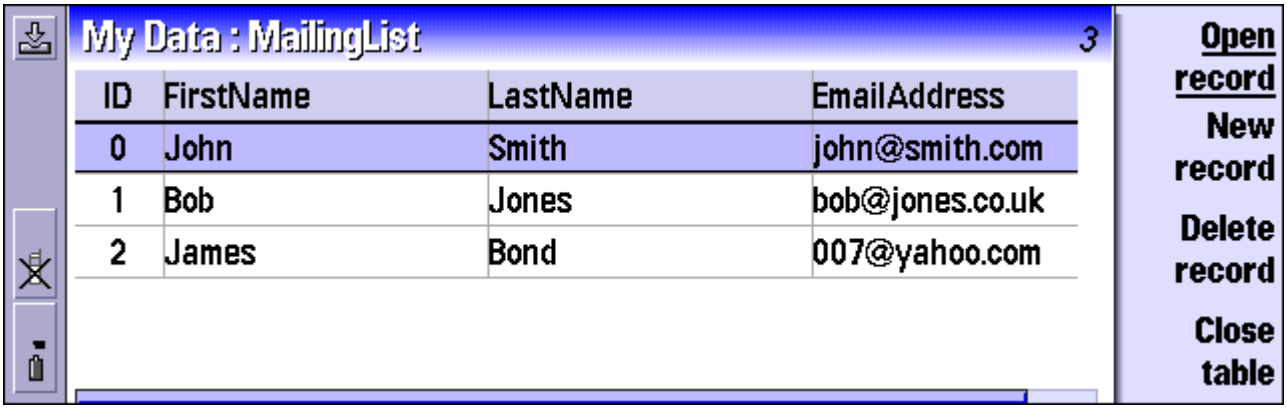


List view.

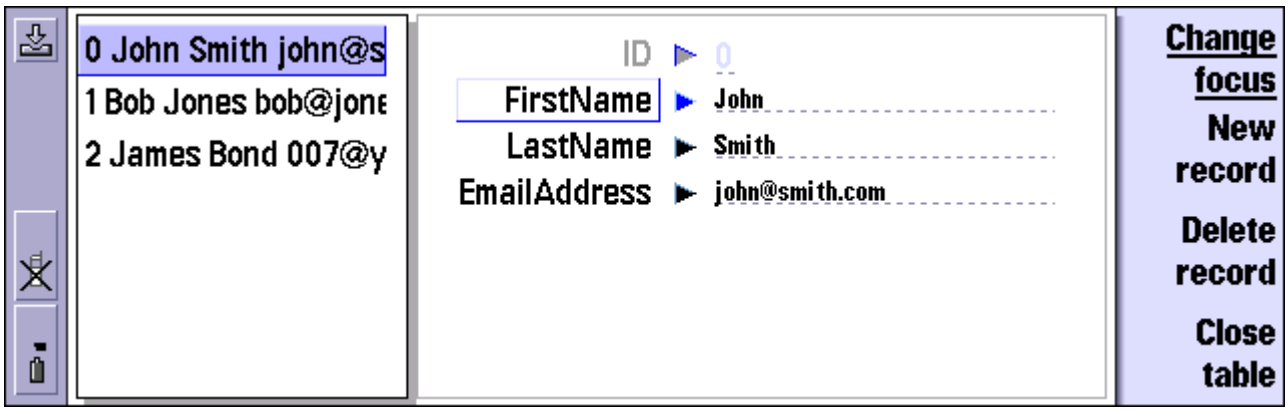
By default the Cards view is used. To switch between the views select the **Switch view** command from the **View** menu or use the **Ctrl+Q** hotkey.

3.4.1. Zoom.

Use the **Zoom keys** to zoom in/out the contents of a table in the both Cards and List views.

3.4.2. Title.

The **Title** shows the names of the current database and table. It also contains the number of records in the table.



No title.

You can show/hide the title by selecting the **Show title** command from the **View** menu.

3.4.3. Full screen.

In the List and Cards view you can select the **Full screen** command from the **View** menu to enlarge the working screen area.

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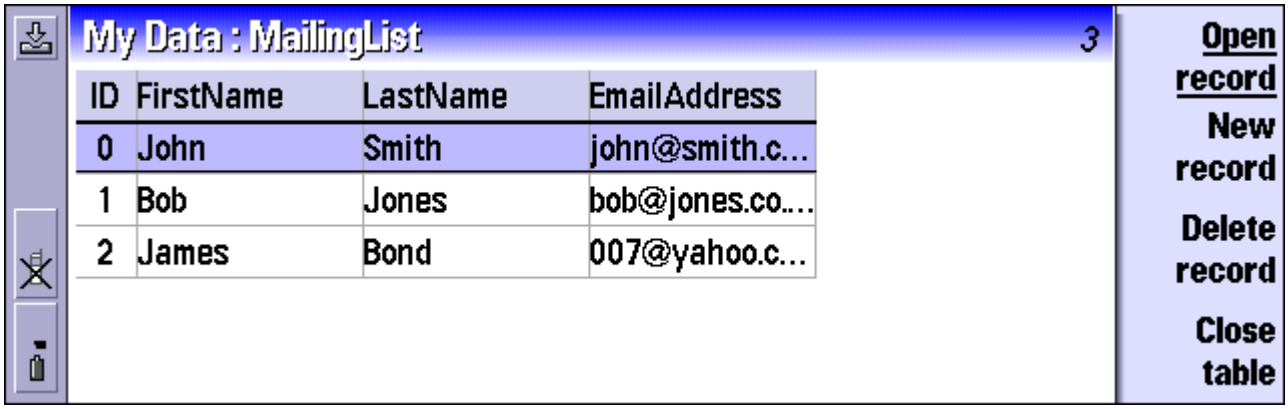
My Data : MailingList 3

ID	FirstName	LastName	EmailAddress
0	John	Smith	john@smith.com
1	Bob	Jones	bob@jones.co.uk
2	James	Bond	007@yahoo.com

3.4.4. Column width.

In the List view you can change the width of the columns by selecting the **Columns width** command from the **View** menu or use the **Ctrl+W** hotkey. Make the width smaller to see more columns on the screen.

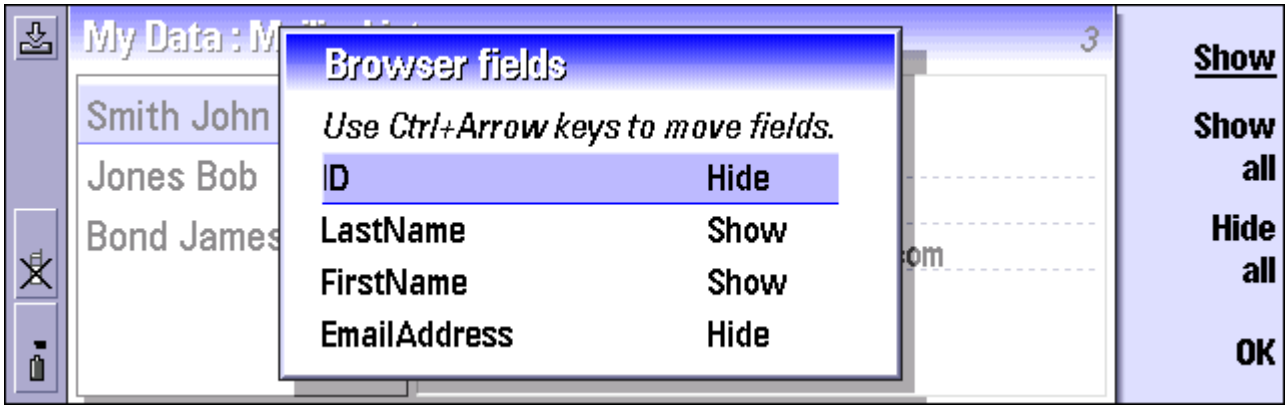


Small column width.

Make the width larger to see the entire contents of the columns. Or select the **Fit to screen** option to fit all the columns into the screen.

3.4.5. Browser fields in Cards view.

In the Cards view you can configure what fields to show in the Browser window. Select the **Browser fields** command from the **View** menu. For example, to show LastName + FirstName:



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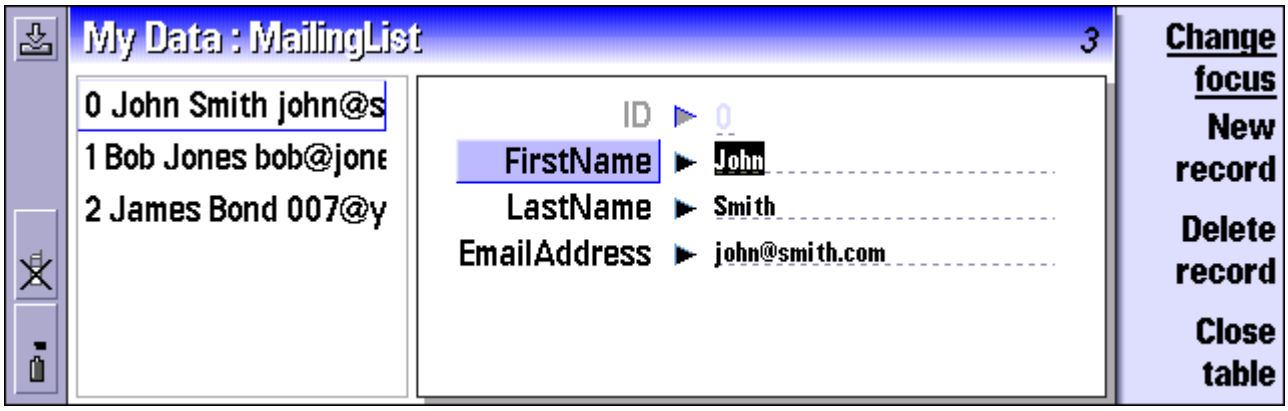
3.5. Editing records.

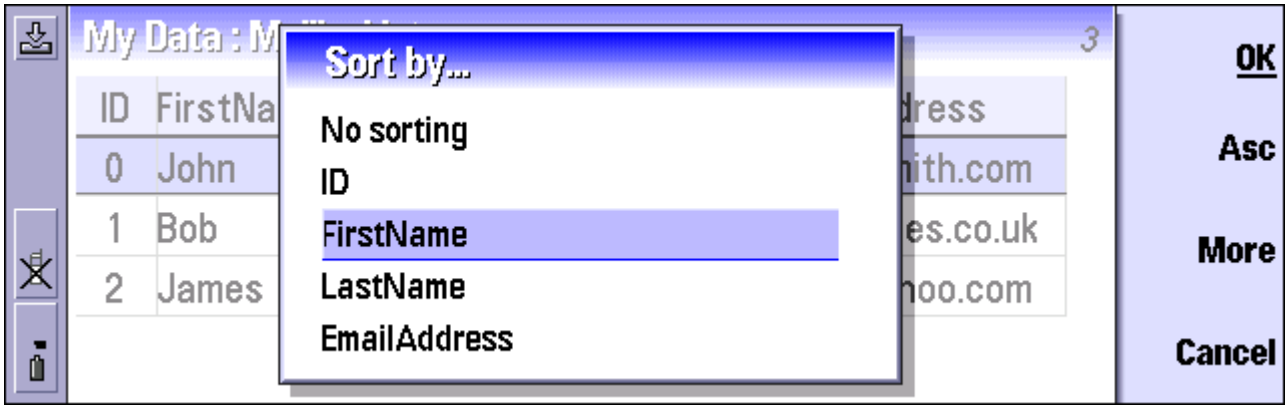
To edit a record in the Cards view, select the record in the Browser and press the **Change focus** or the **Tab** buttons to move the focus to the Card. Edit the record in the Card, then press the **Change focus** button again to move back to the Browser.



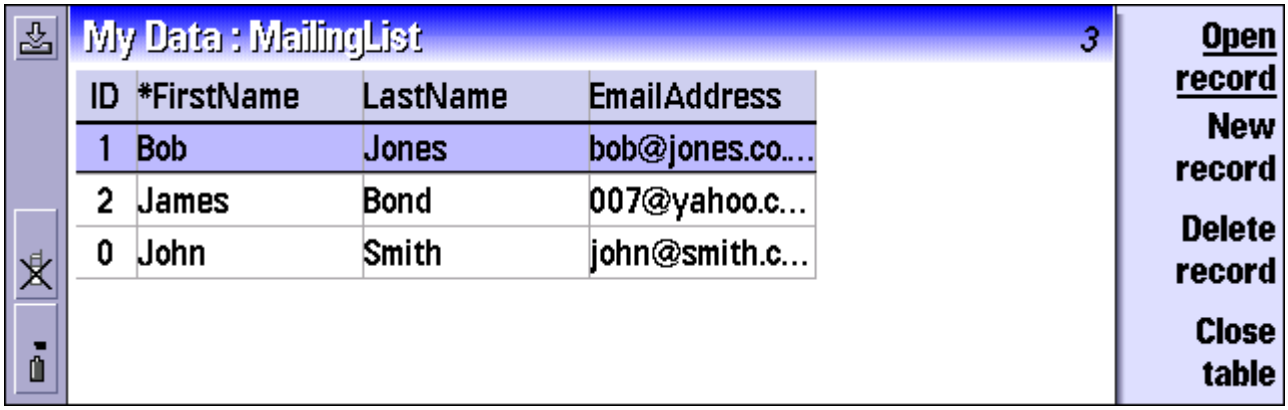
To edit a record in the List view, select the record and press the **Open record** button.

3.6. Sorting records.

To sort the records in the table select the **Sort by** command from the **Find&Sort** menu or use the **Ctrl+S** hotkey. In the **Sort by** dialog select the field to sort by and press the **OK** button.



The records will be sorted by the selected field:



To change the sort order from ascending to descending, select the **Sort order** command from the **Find&Sort** menu.

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Note: The * character in the header (the first row) indicates the field that's used for sorting.

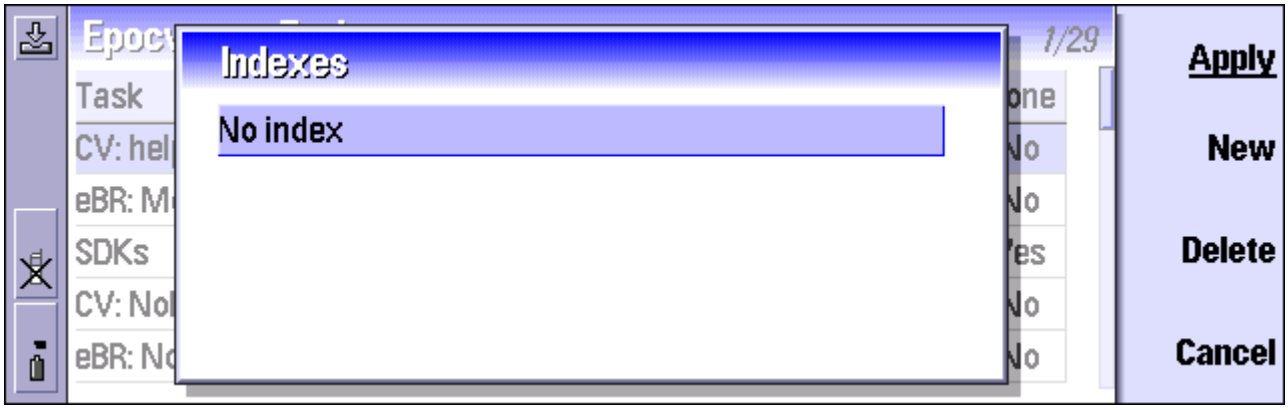
Note: You can break the sort order by modifying existing or adding new records. To restore it select the **Refresh** command from the **View** menu or use the **Ctrl+R** hotkey.

3.6.1. Indexes.

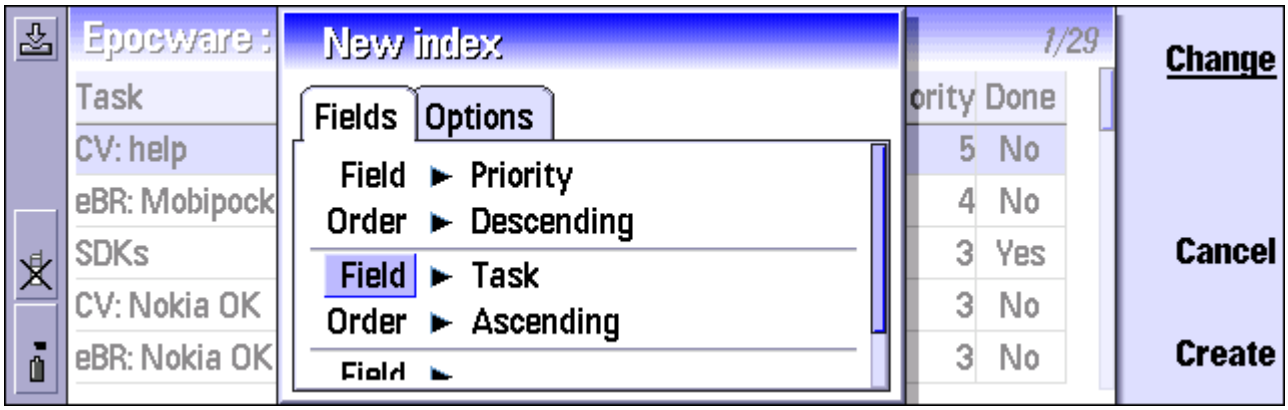
The **Indexes** is another way for sorting the records in a table. When you use the common Sorting, modifying or inserting new records can break the sort order. Furthermore, using the common Sorting in the big tables can few minutes every time when you apply sorting or open the table.

The Indexes provide the way to have always up-to-date (permanent) and fast sorting.

To create an index in a table, select the **Indexes** command from the **Find&Sort** menu or use the **Ctrl+I** hotkey. In the appeared **Indexes** dialog you will see the list of existing indexes (there is no one yet).



Then press the **New** button to create a new index. The **New index** dialog will appear.



Here you can select up to three fields to create index by. In the **Options** tab you can set how many characters of a text field are used for indexing.

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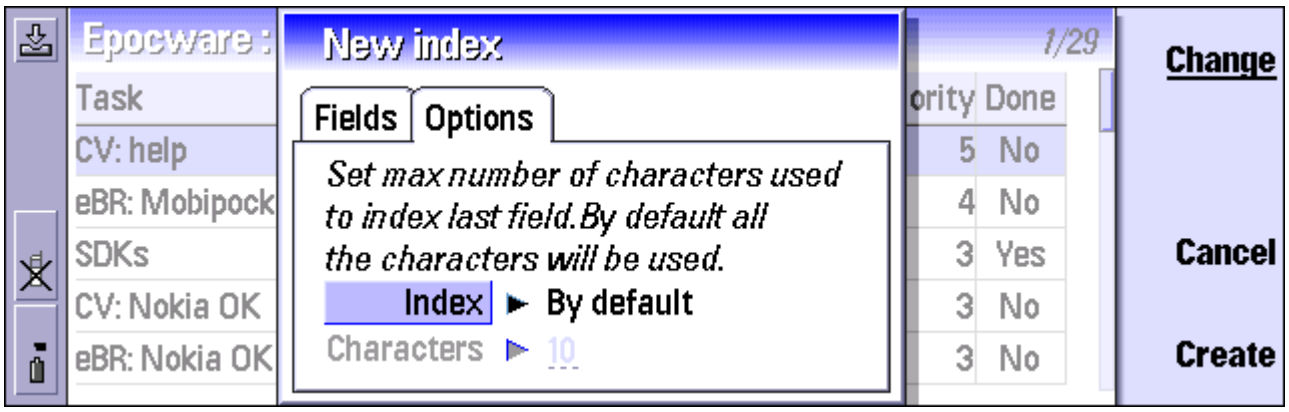
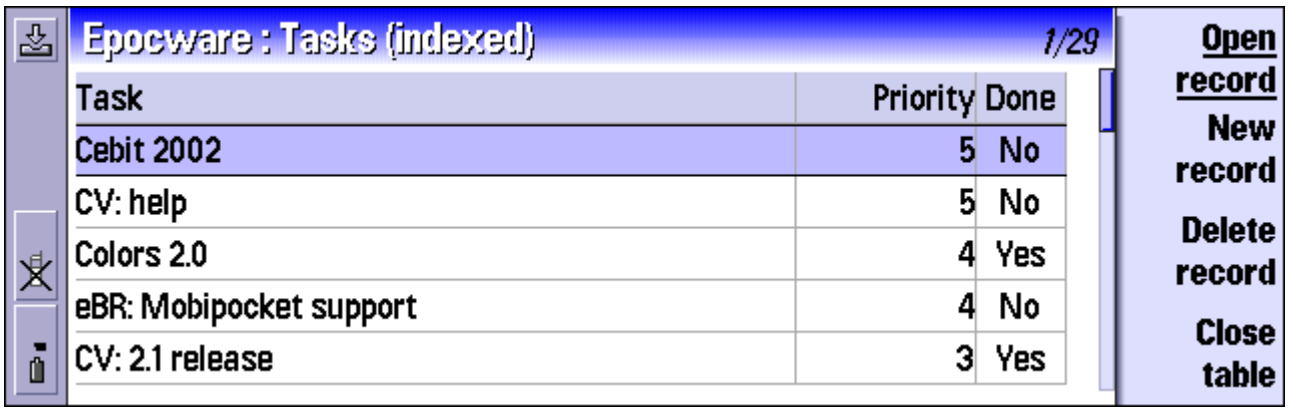
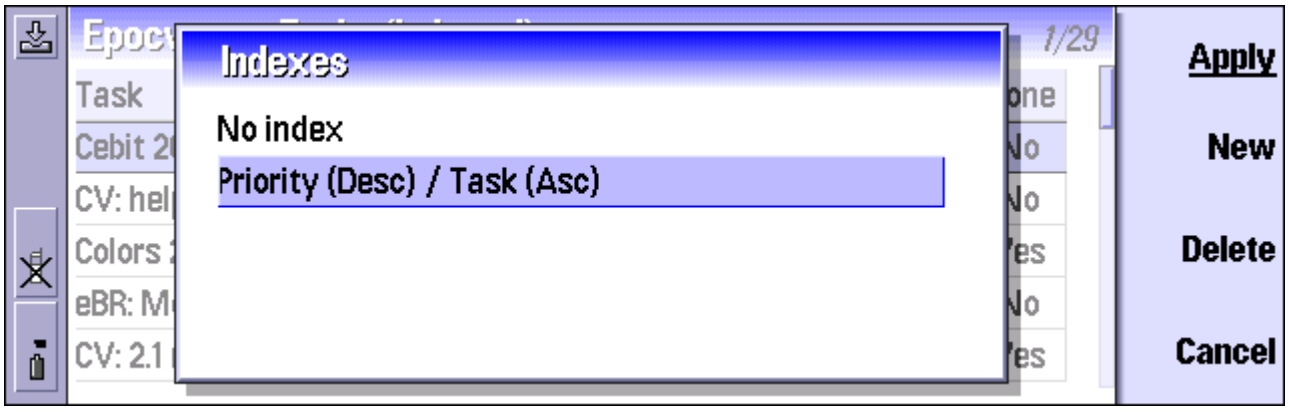


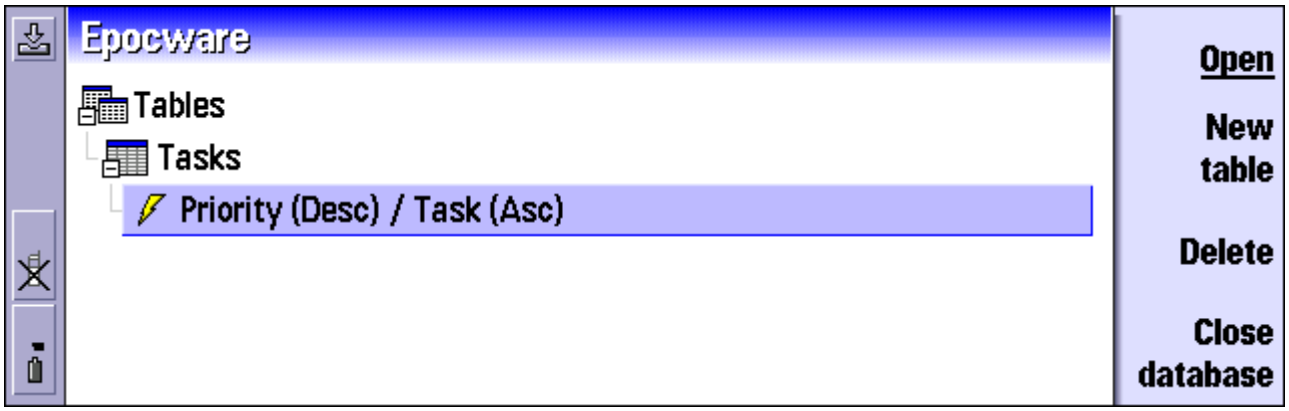
Then press the **Create** button and Power Data will create the desired index and apply it:



Later you can apply the index by selecting it in the **Indexes** dialog



or directly from the Tables view:



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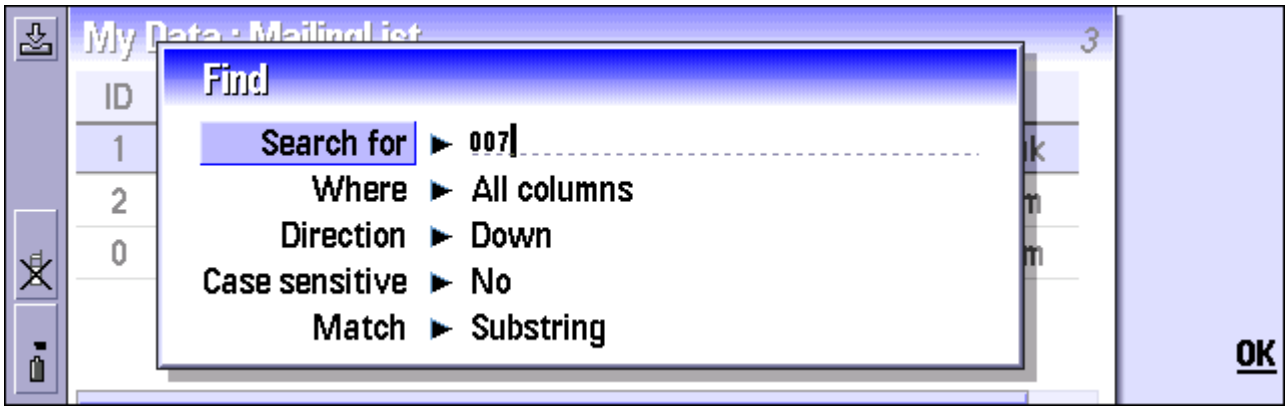
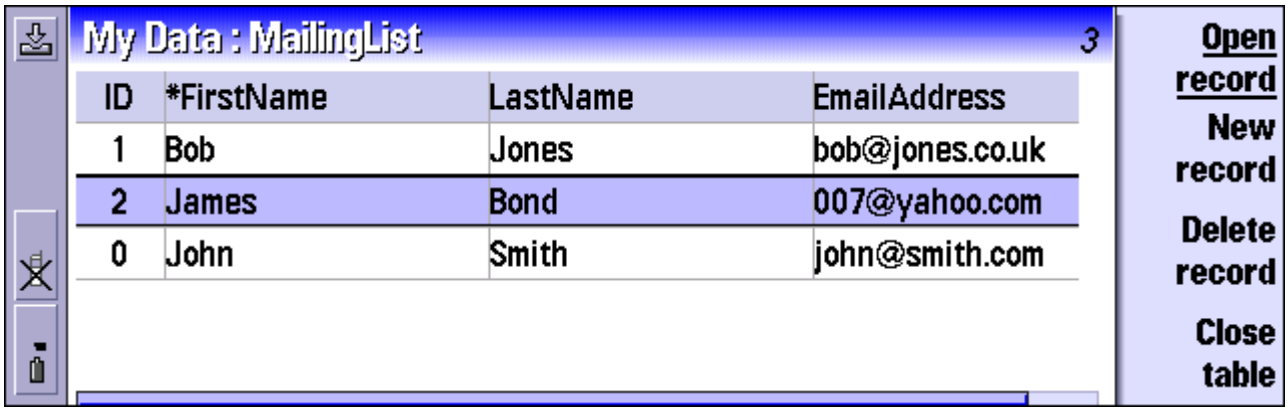
3.7. Finding.

To find a record in the table that contains some text, select the **Find** command from the **Find&Sort** menu or use the **Ctrl+F** hotkey. In the appeared **Find** dialog enter the text you want to search for and press the **OK** button.



Then the cursor (selection) will move to the next record that contains the desired text.



Note: To find the next record that contains this text, select the **Find again** command from the **Find&Sort** menu or use the **Ctrl+G** hotkey.

You can fine the search by specifying the following options:

Options	*Descriptions*
Where	Select the field where to search the text.
Direction	Set the direction of the search (Up or Down).
Case sensitive	If perform a case sensitive search or not.
Match	Select the **Substring** to search for a sub string. Select the **Exact** to search for an exact coincidence. Select the **Pattern** to search using a pattern (use the ? character instead of any character; use the * character instead of any sequence of characters).

3.7.1. Fast find.

The **Fast find** is intended for finding in huge tables (e.g. 100 000 records). The Fast find works 10-20 times faster. To perform the Fast find select the **Fast find** command from the **Find&Sort** menu.

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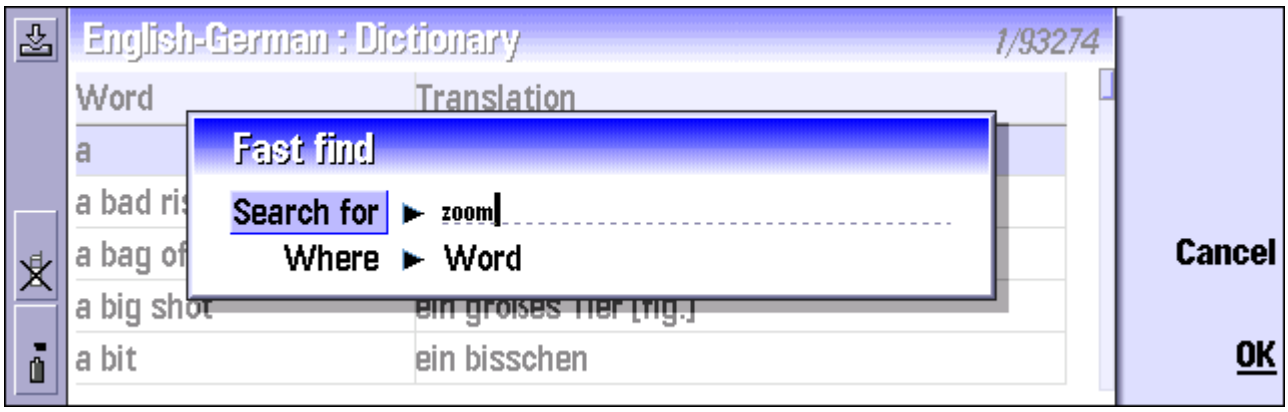
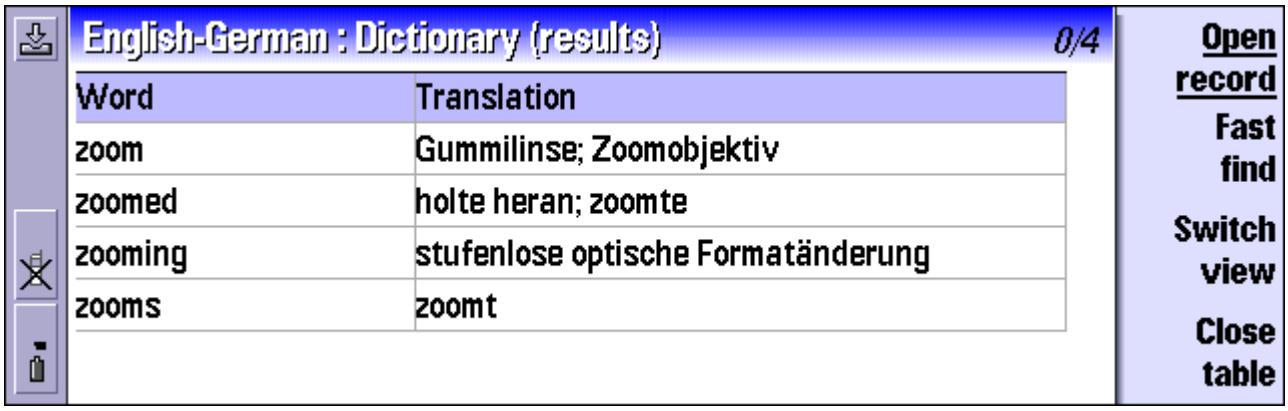


The Fast find searches a table and finds all the records that begin with entered text in the specified field. To perform a search the Fast find creates an index by the field. This can take few minutes at the first time, but the next time you use the Fast find, the already created index will be used.

Then the Fast find shows the found results:



Press the **Esc** button to return to the original table view.

3.7.2. Bookmarks.

You can use bookmarks when navigating through a table. Select the **Set bookmark** command from the **Record** menu (or press the **Ctrl+B** hotkey) to set a bookmark. Then select the **Go to bookmark** command from the **Record** menu (or press the **Ctrl+Shift+B** hotkey) to return to the marked record.

You can set multiple bookmarks. The bookmarks create a queue. When you select the **Go to bookmark** command, you will return to the last bookmark that you set.

3.8. Filtering records.

A **Filter** is a way to retrieve data (records) from a table by using criteria you specify. You can create filters using one of the following wizards:

3.8.1. Find filter.

The **Find filter** retrieves the records that contain some text. To apply the **Find filter** select the **Find filter** command from the **Filters** menu or use the **Crtl+Shift+F** hotkey. In the appeared **Find filter** dialog enter the text that filtered records must contain and press the **OK** button.

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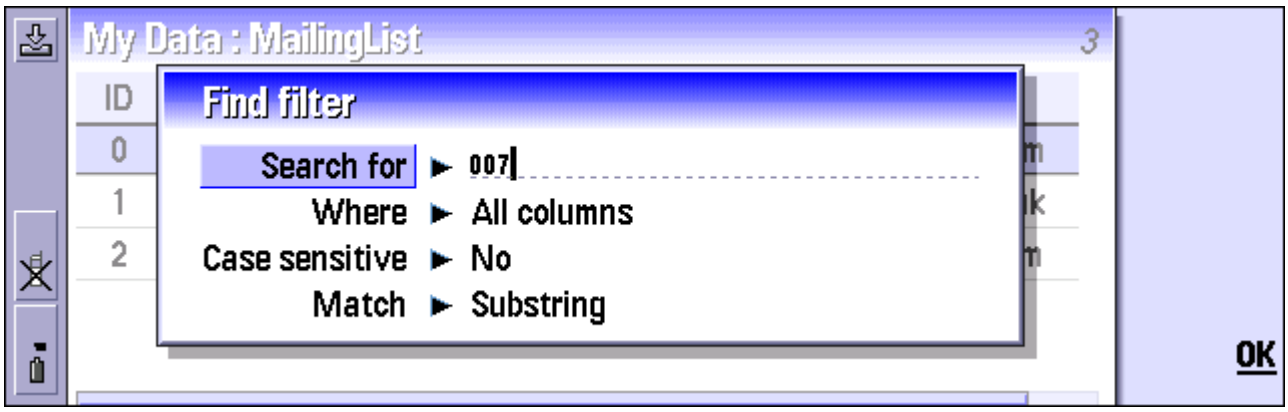
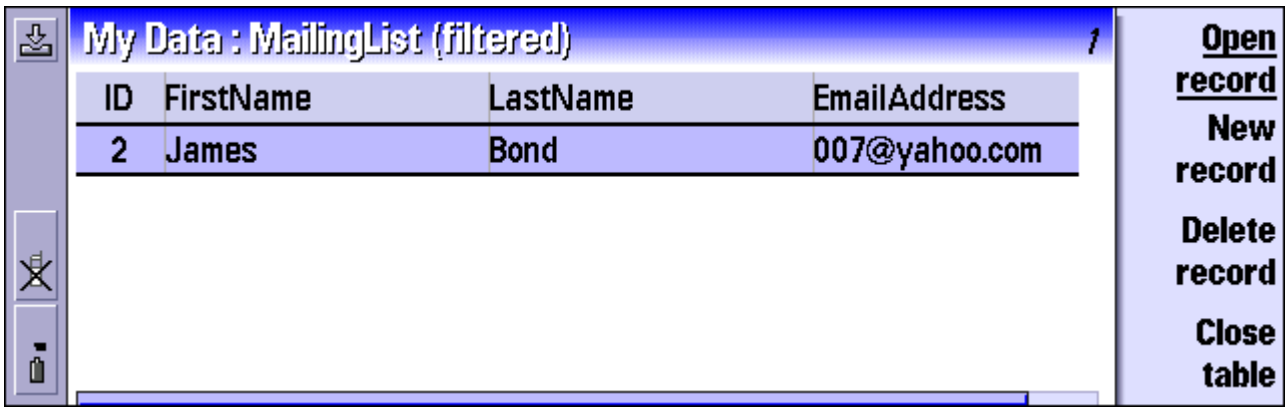


Only the records that contain the desired text will be shown in the filtered view.



Note: To remove the filter, press the **Esc** button.

You can fine the filter by specifying the following options:

Options	*Descriptions*
Where	Select the field where to search the text.
Case sensitive	If perform a case sensitive search or not.
Match	Select the **Substring** to search for a sub string. Select the **Exact** to search for an exact coincidence. Select the **Pattern** to search using a pattern (use the ? character instead of any character; use the * character instead of any sequence of characters).

3.8.2. Advanced filter.

You can create really complex filters with the **Advanced filter**. To apply the **Advanced filter** select the **Advanced filter** command from the **Filters** menu or use the **Crtl+Shift+A** hotkey. In the appeared **Advanced filter** dialog compose the criteria and press the **OK** button.

Example: To retrieve the records where the First Name begins with the J letter, use the following filter:

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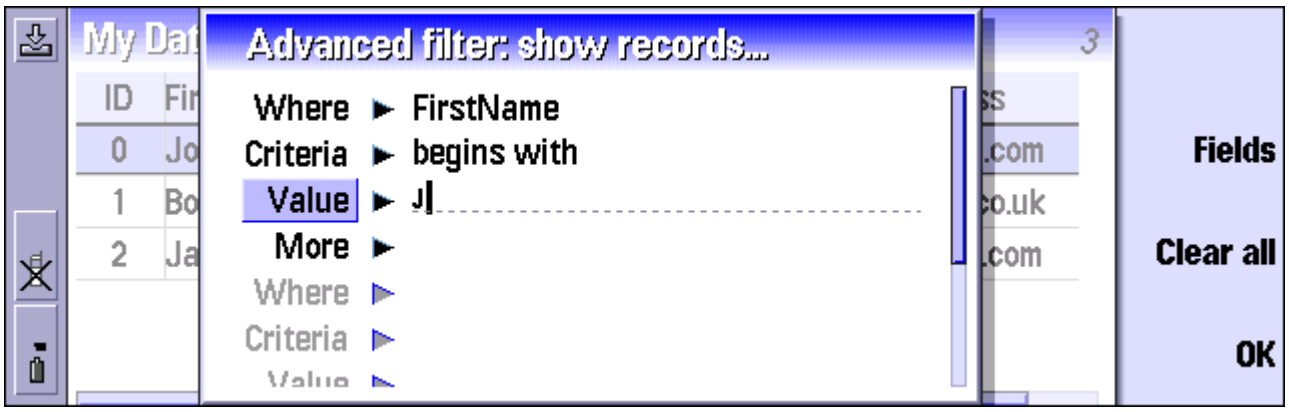
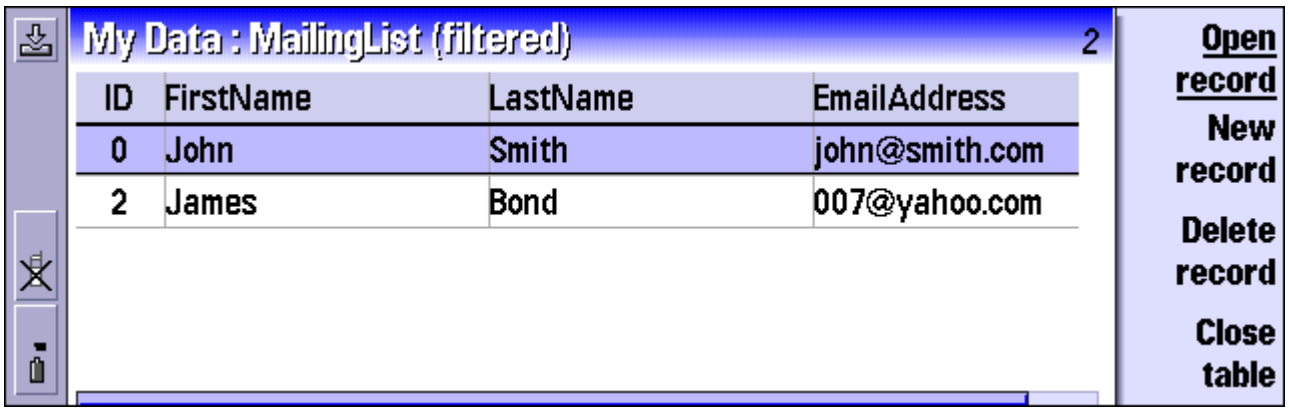
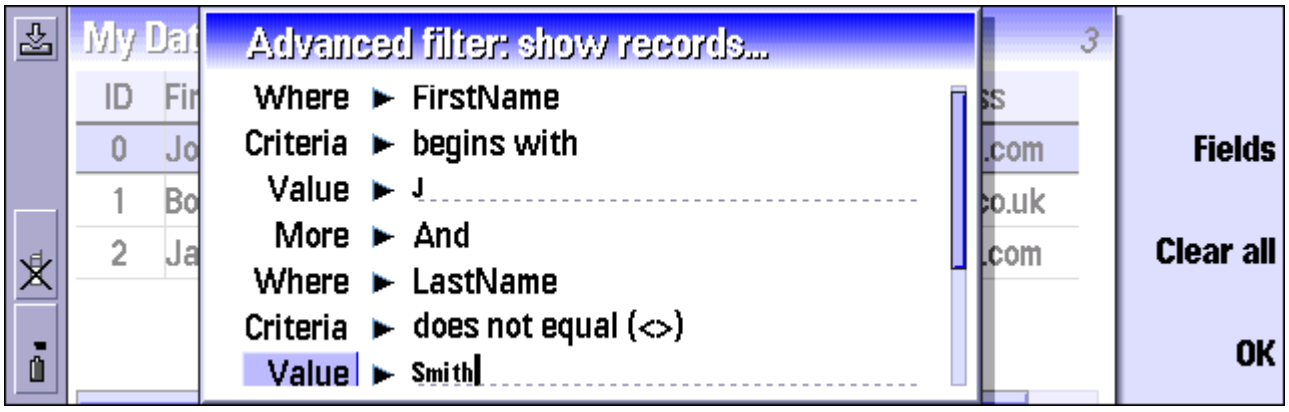


The result is:



You can set several conditions combined with the logical **OR** and **AND** operations. For example:



The result contains the records where the First Name begins with the J letter and the Last Name does not equal Smith:

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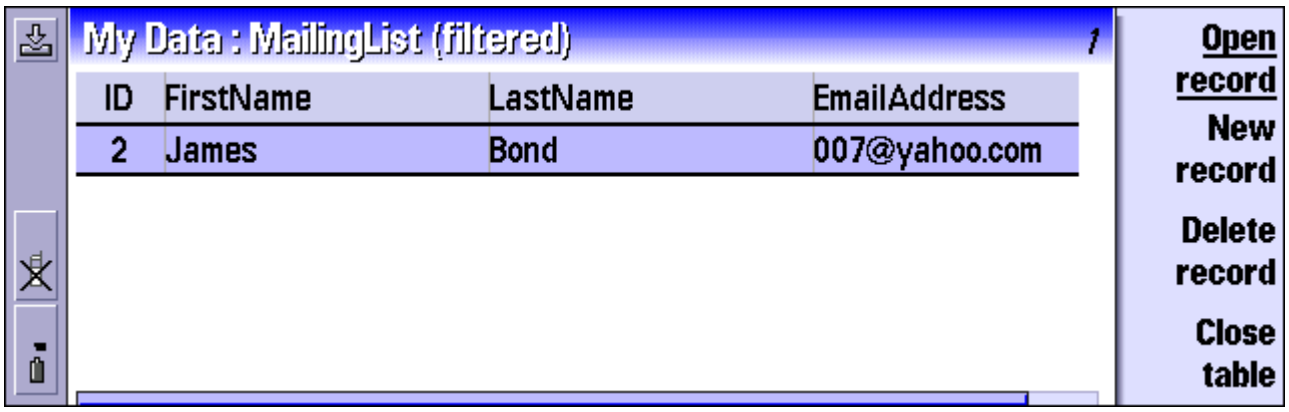
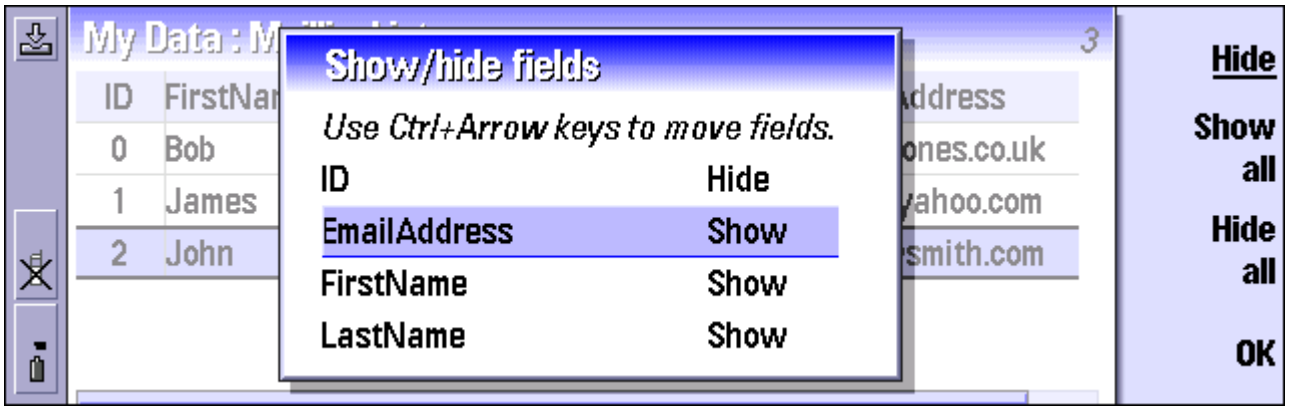
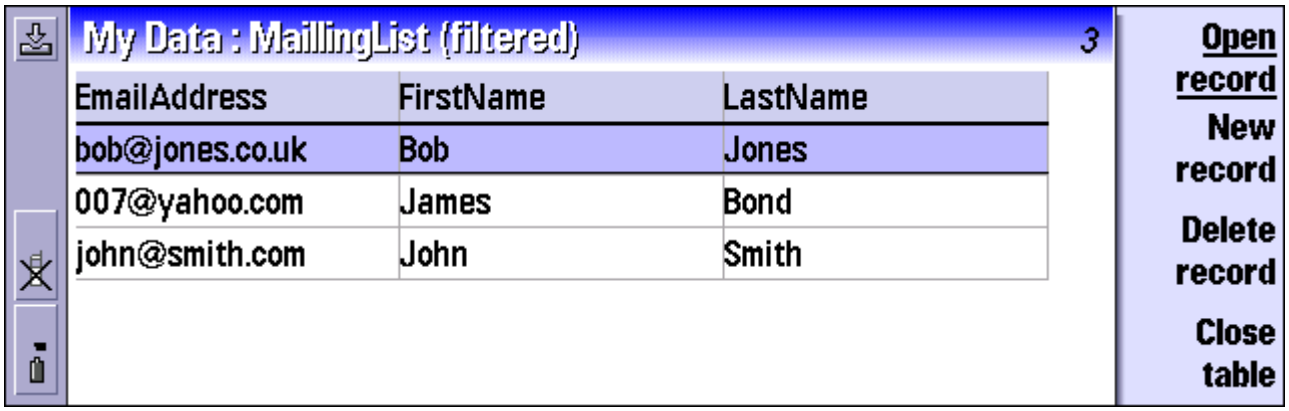


3.8.3. Show/hide fields.

Use the **Show/hide fields** filter to hide some fields (columns) and/or change the order of columns. To access the filter select the **Show/fide fields** command from the **Filters** menu.



The result is:



3.8.4. SQL filter.

If you are familiar with the SQL language, you can use it for creating filters. Select the **SQL filter** command from the **Filters** menu. Enter an SQL select query and press the **OK** button.

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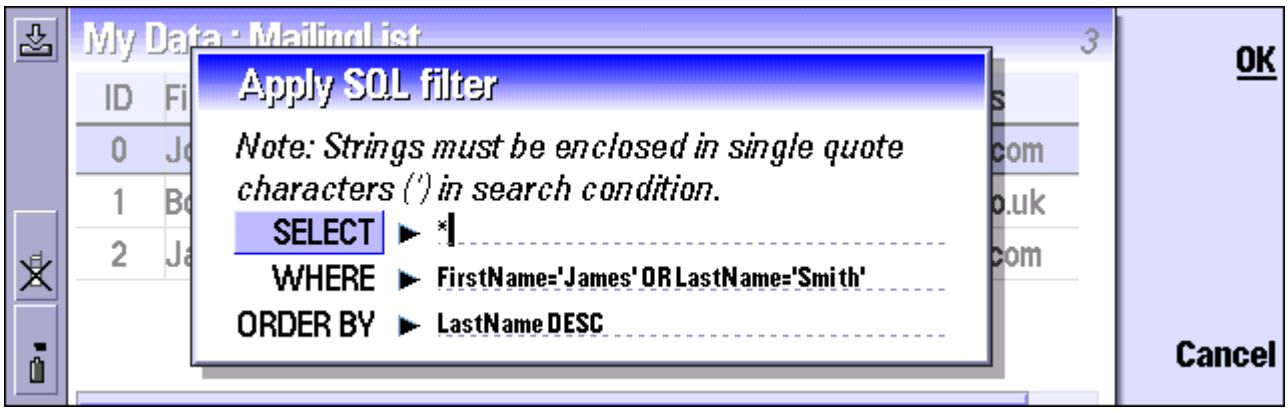


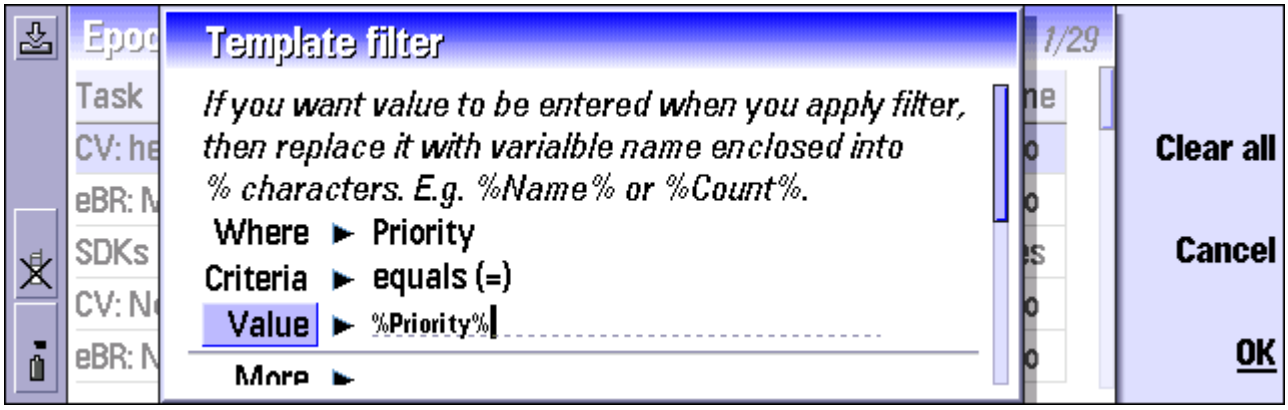
SQL syntax

	Description	*Examples*
SELECT	A list of field names to show in the filtered view or the * character (means all fields).	FirstName, EmailAddress *
WHERE	One or more conditions combined with the logical **OR**, **AND**, **NOT** operations. Allowed operations are =, >, <, >=, <=, <, >, **like**. String must be enclosed in single quote characters.	ID=0 FirstName<>'James' FirstName like 'J*' AND ID>0
ORDER BY	A list of field names to sort by. Use the **ASC** (default) and **DESC** keywords to specify the sort order.	FirstName FirstName DESC, EmailAddress ASC

3.8.5 Template filters.

Using the **Template filters** you can create filters where the conditions are not bound to concrete values, but the values are asked when you apply the filter.

Select the **Create filter>Template filter** command from the **Filters** menu. In the appeared **Template filter** dialog define the condition, but replace the values with variable names enclosed into **%** characters.



Then press the **OK** button and enter the name for the created template.

Now select the created template filter from the **Filters>Saved** menu.

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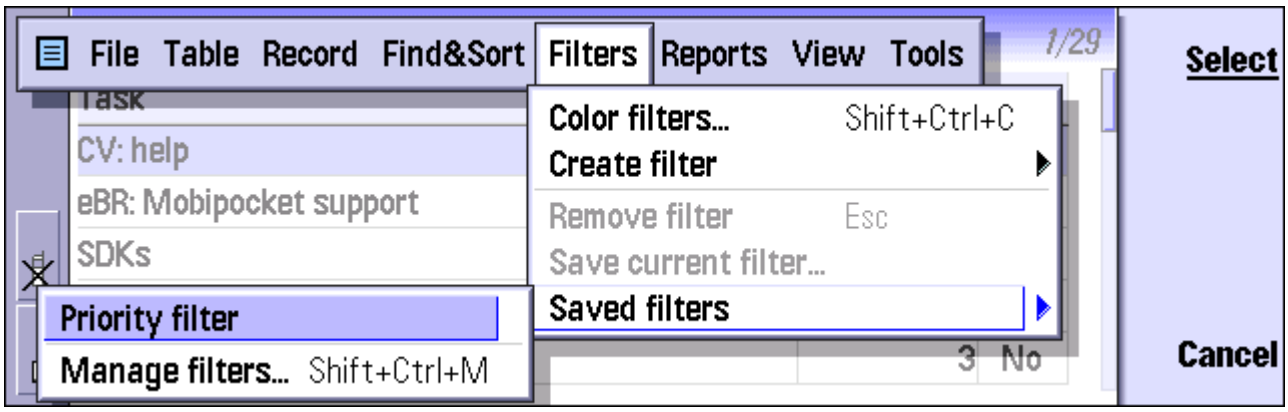
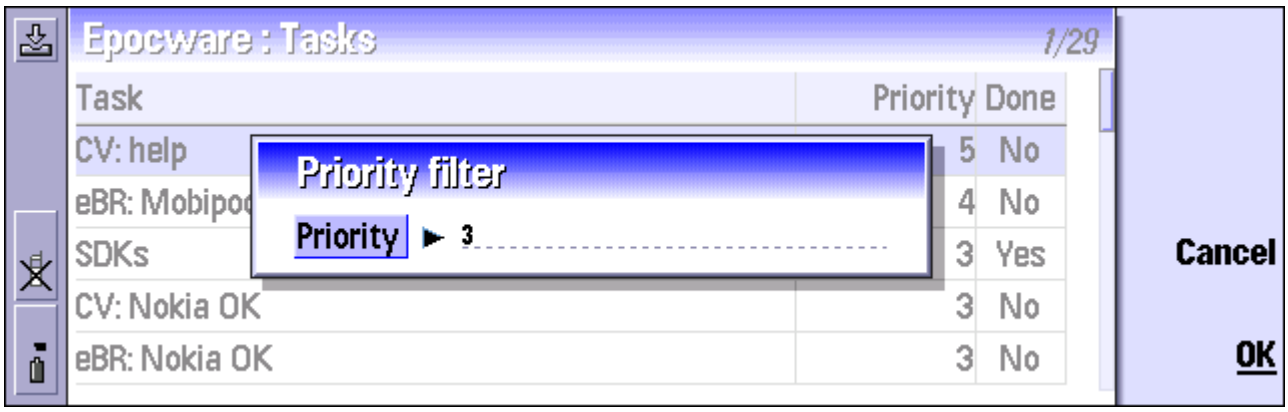
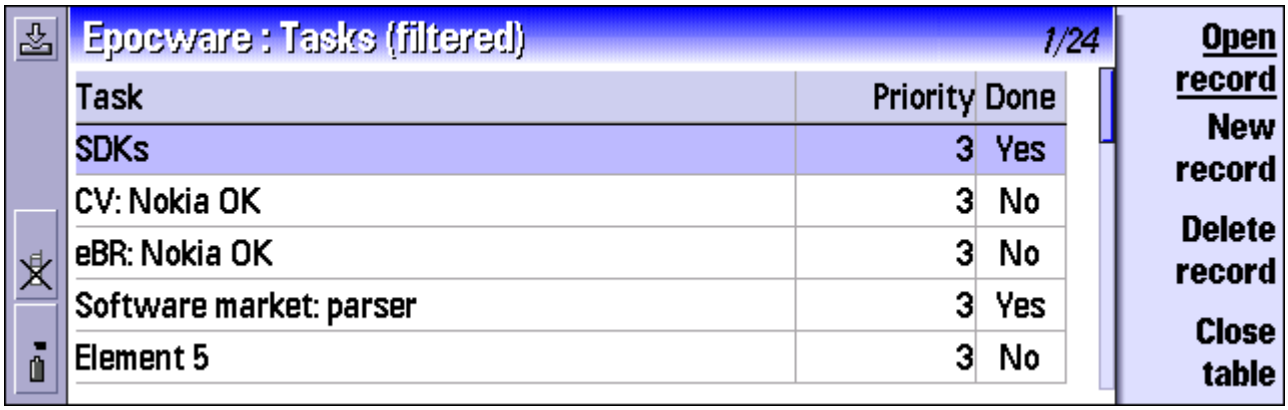


Power Data will ask you for the variable value:



Enter it and press the **OK** button. The filter will applied with the value that you entered:



3.8.6 Managing filters.

You can save a filter/sorting to apply it next time when you open a table. To save the current filter select the **Save current filter** command from the **Filters** menu.

To access the saved filters select the **Saved filters** item from the **Filters** menu. In the appeared menu pane select a filter that you want to apply.

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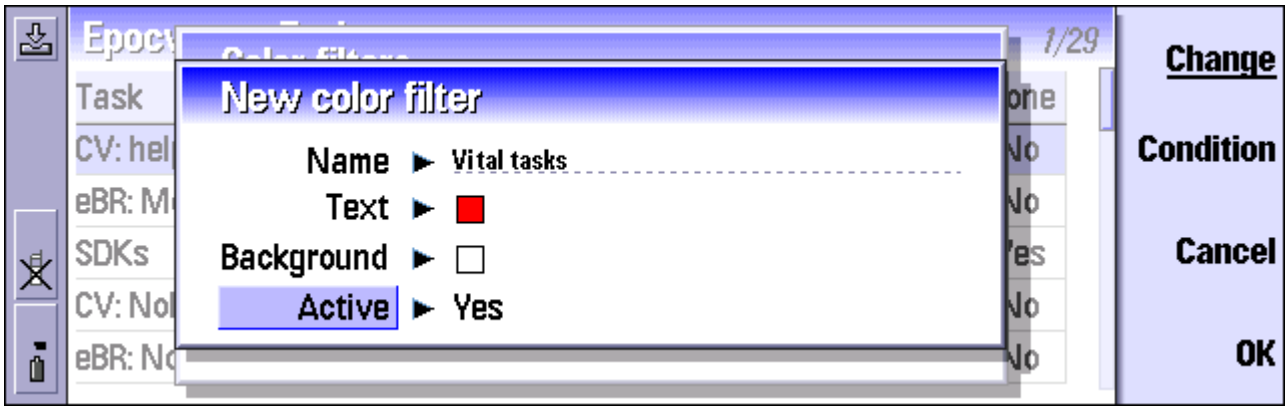
You can also access filters from the database view. Select a table and press the **Right arrow** key to expand it. When the table is expanded, the items for all saved filters are shown. Select the desired filter and press the **Open** button. The table will be opened and the selected filter will be applied.

3.8.7 Color filters.

The **Color filters** do not filter the records, that answer some condition, but highlight them with specified text or background color.

Select the **Color filters** command from the **Filters** menu. In the appeared **Color filters** dialog press the **New** button to create a new filter. The **New color filter** dialog will appear.



Enter a name for the new color filter. Select the text and background colors. Then press the **Condition** button and define the condition.

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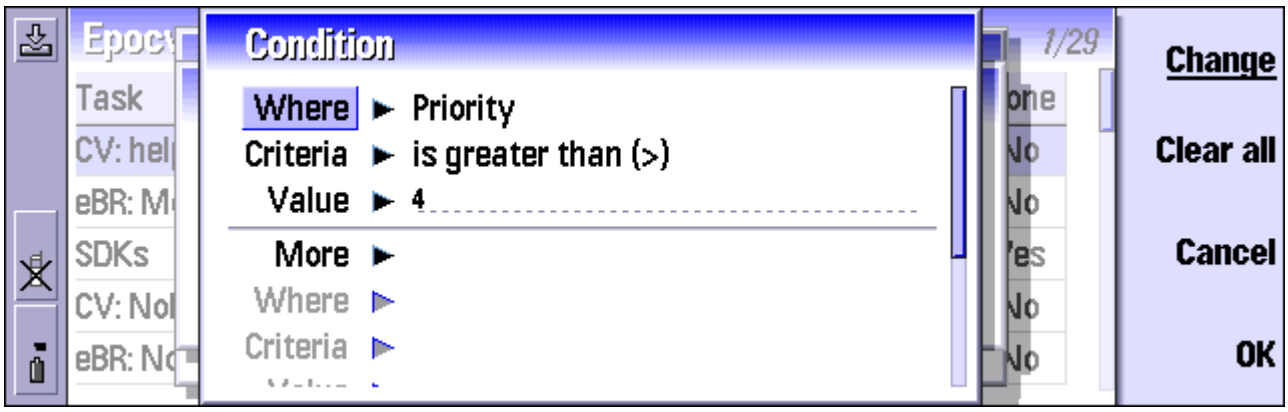
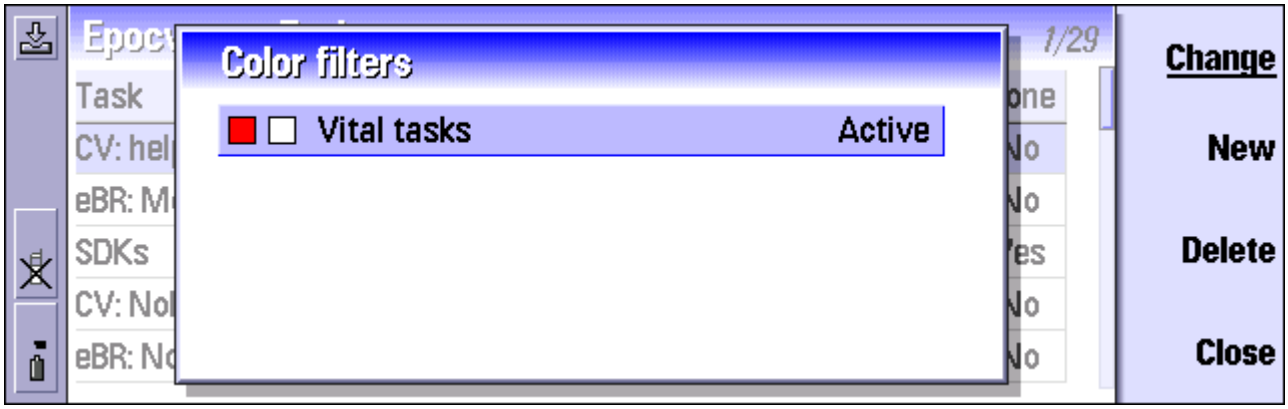
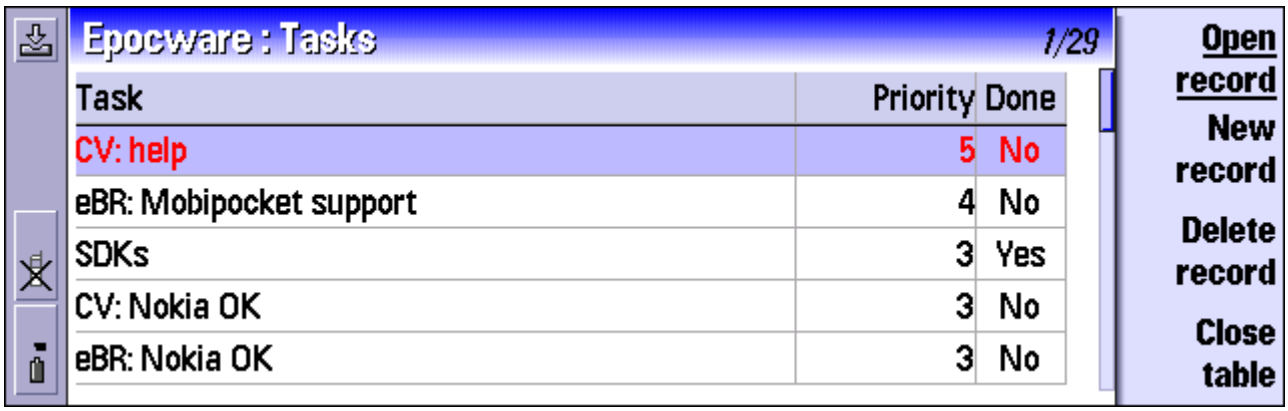


Press the **OK** button to close the **Condition** dialog. Then press the **OK** button to close the **New color filter** dialog.



Now press the **Close** button and you will see the result:



3.9. Reports.

Power Data gives you a powerful tool for analyzing your data – Reports. Using reports you can calculate summary of any field in a table. You can find minimum, maximum, average values of any field. You can group all records in the table by any field and calculate the count of records in each group.

3.9.1. Group amount report.

Open a table you want to create a report from. Then select the **Group amount** command from the **Reports** menu. The **Group amount** dialog will appear:

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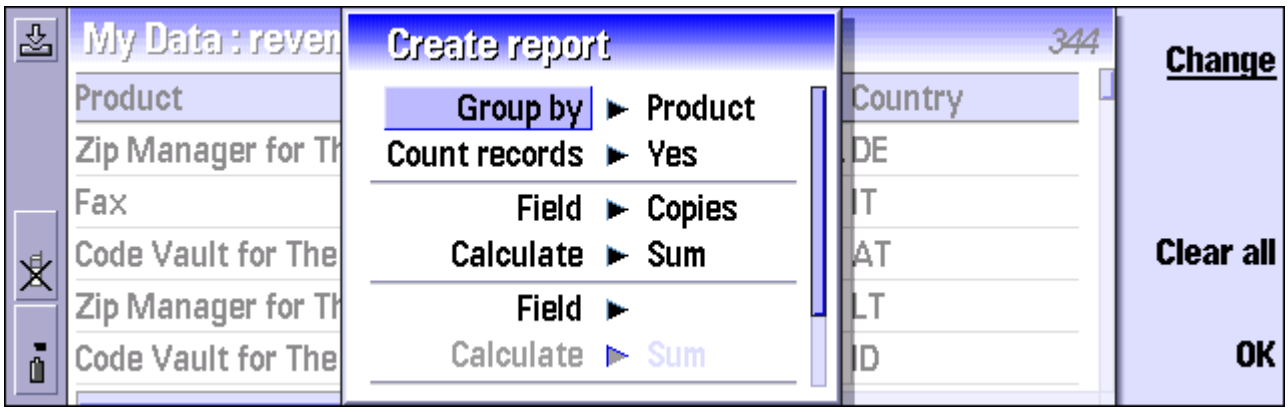


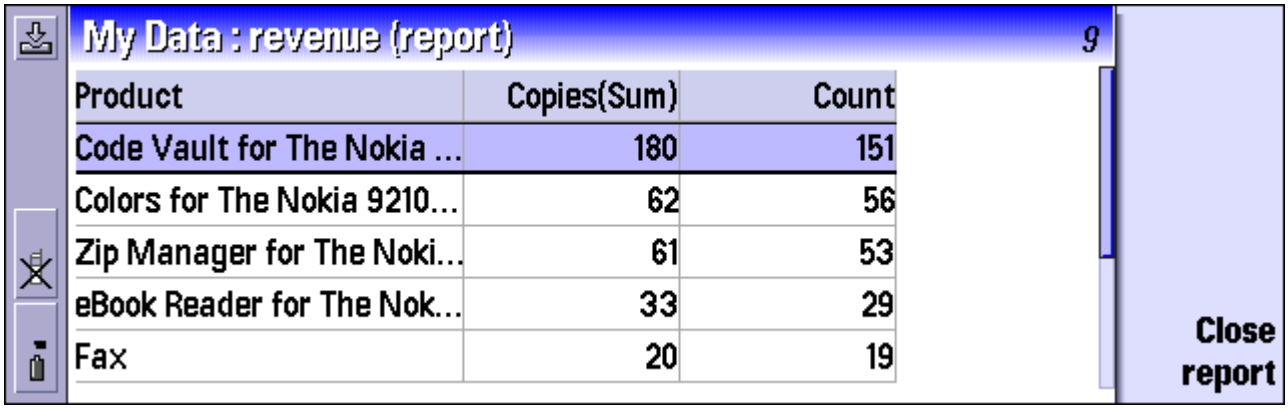
Here you can select a field to group the records by (optional). Set the **Count records** option to **Yes,** if you want to count the records.

You can also set up to three fields to calculate in each group. In the **Field** line select the desired filed and in the **Calculate** line select the operation (Sum, Min, Max, or Avg).

Example:
We have a table that contains orders. Each order (record) has the following fields: Product, User Name, Address, Email, Country, and Copies.

We want to create a report to see how many copies of each product were purchased. In the **Create report** dialog we should select Product in the **Group by** line. And select Copies and Sum in the **Field** and **Calculate** lines (see the screenshot above).

The result is the report that has three columns: Product, Copies (Sum) and Count. The Copies column contains the number of copies for each product. The Count column contains the number of orders for each product (one order might contain several copies).



You can sort the report by selecting the **Sort by** command from the **Find&Sort** menu.

You can export the record to a file by selecting the **Import/Export> Merge in** command from the **Files** menu.

3.9.2. Total amount report.

Open a table you want to create a report from. Then select the **Total amount** command from the **Reports** menu. The **Total amount** dialog will appear. Select the fields to show in the report and press **OK**. All the number fields will be summarized and the total amount will be placed in the last record.

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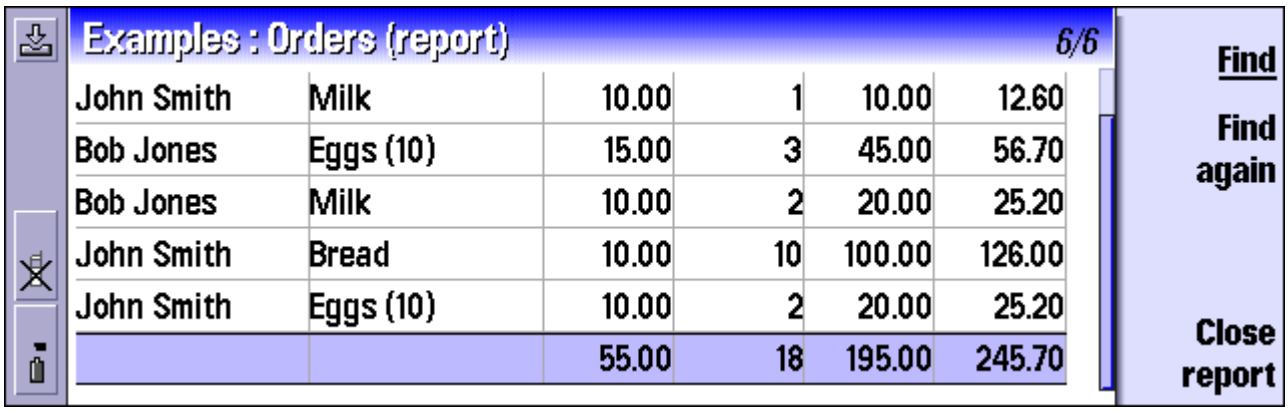
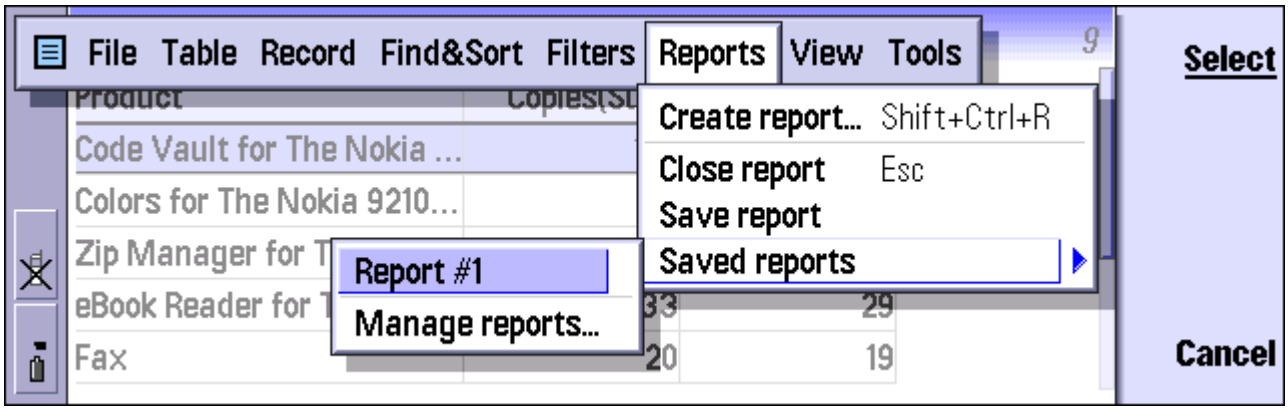


3.9.3. Managing reports.

You can save a report to apply it next time when you open a table. To save the current report select the **Save report** command from the **Reports** menu.

To access the saved reports select the **Saved reports** item from the **Reports** menu. In the appeared menu pane select a report that you want to apply.



You can also access reports from the database view. Select a table and press the **Right arrow** key to expand it. When the table is expanded, the items for all saved reports and filters are shown. Select the desired report and press the **Open** button. The table will be opened and the selected report will be applied.

3.10. Importing data.

Power Data provides functions to import records within a table. The external file formats supported by Power Data are CSV (Comma delimited plain text) files, DBF (dBase) files and Power Date files.

To import data into a new table, select the **Import/Export>Import new table** command from the **File** menu. Select the file to be imported in the **Import table** dialog.

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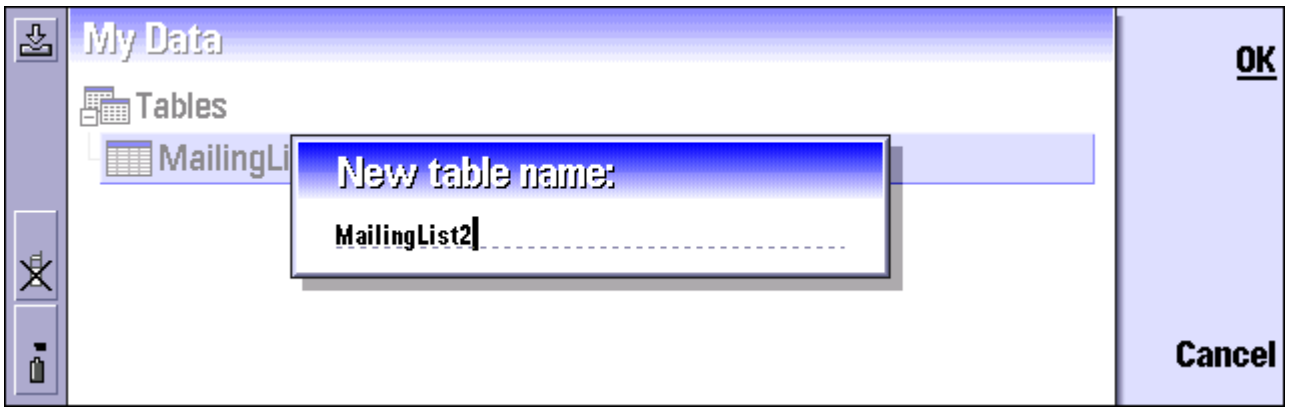
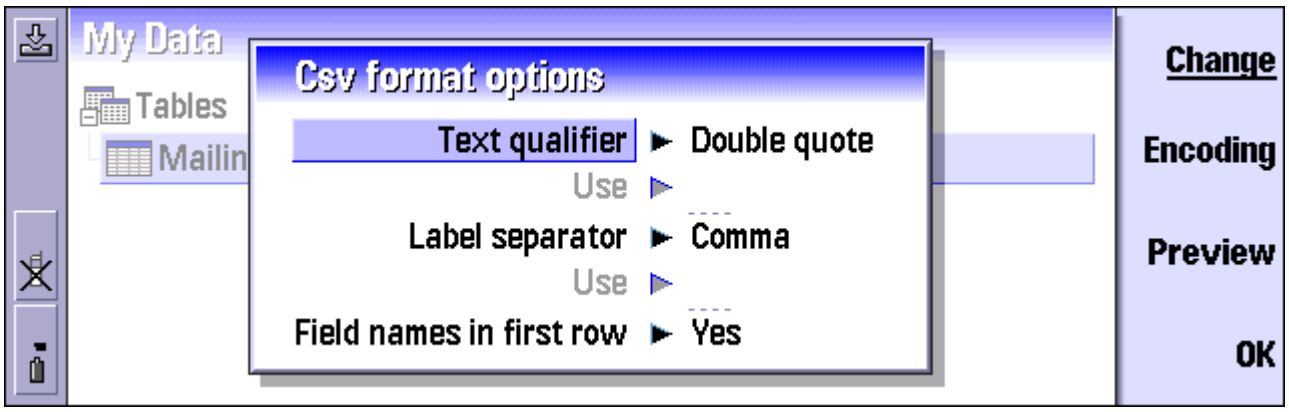
Enter a name for the new table:



If you import data from a CSV file, then the **Csv format options** dialog appears, where you can specify appropriate CSV options for your file. Use the **Preview** button to examine the contents of the file.



Note: Set the **Field names in first row** option to Yes if the first row in the CSV file contains the field names.

Note: If your CSV file is not in the Western European (Windows) encoding, then press the **Encoding** button and choose the correct encoding.

In the next **Choose fields to import** dialog you can select which fields you want to import. By default all the fields are imported. To change this select a field and press the **Import/Do not import** button.

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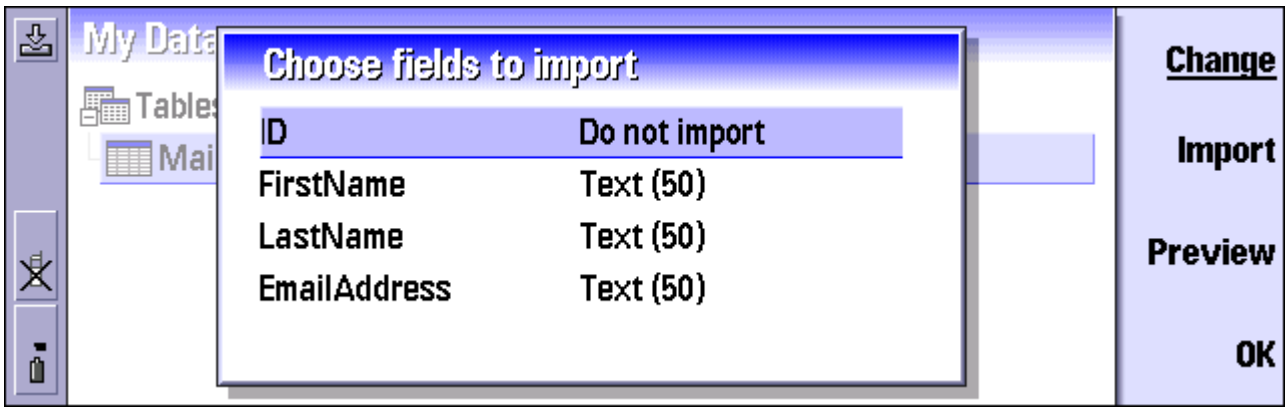
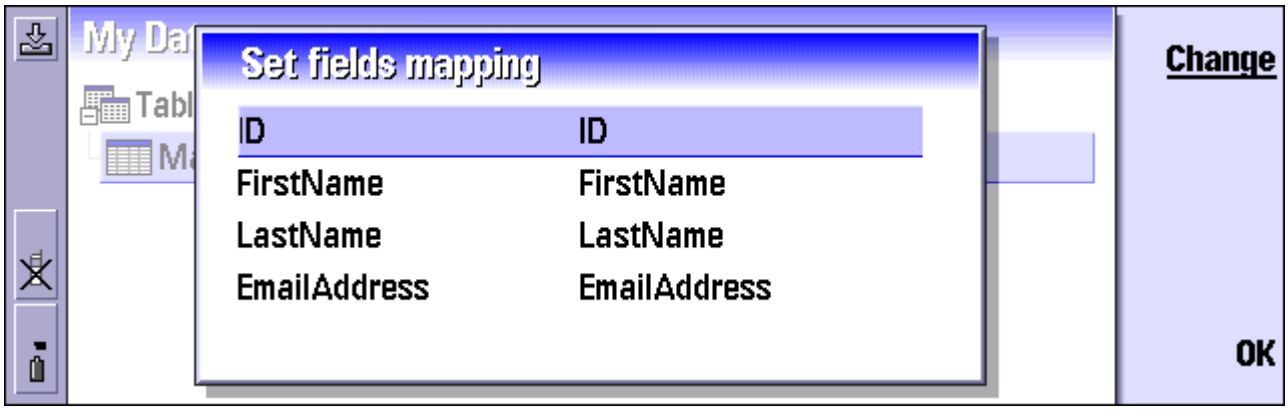


To change name and/or type of an imported field, select the field and press the **Change** button. Then press the **OK** button to finish the importing.

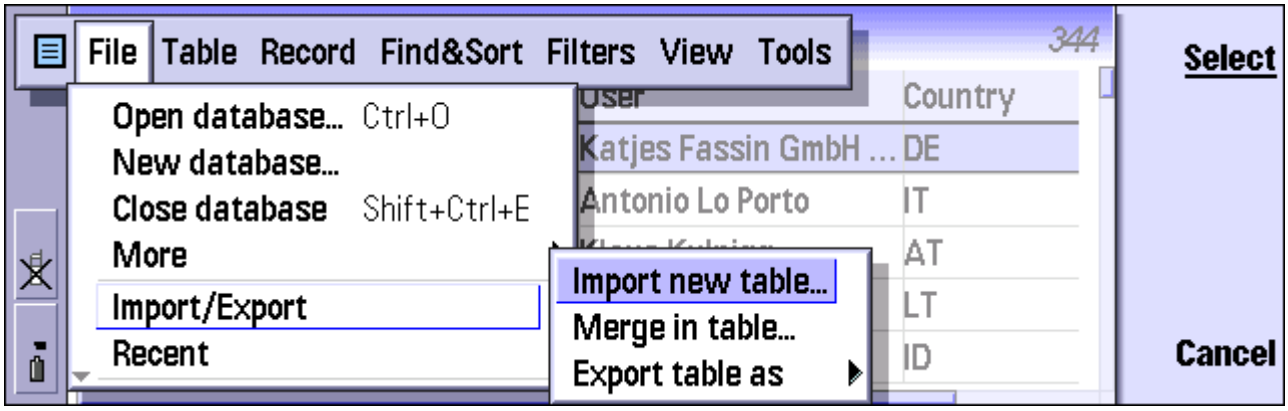
3.10.1. Merge in.

To import data into an existing table, either highlight the table name or open the table. Select the **Import/Export> Merge in** command from the **Files** menu. The subsequent process is very similar to importing a new table. The difference is that instead of the **Choose fields to import** dialog, the **Set fields mapping** dialog will be presented, where you need to establish the mapping between the source and target fields.



3.11. Exporting data.

To export records from a table, open the table first. Then select the **Import/Export>Export table as** command from the **Files** menu and select the export format.



Select a file name for the export file in the **Export table to** dialog.

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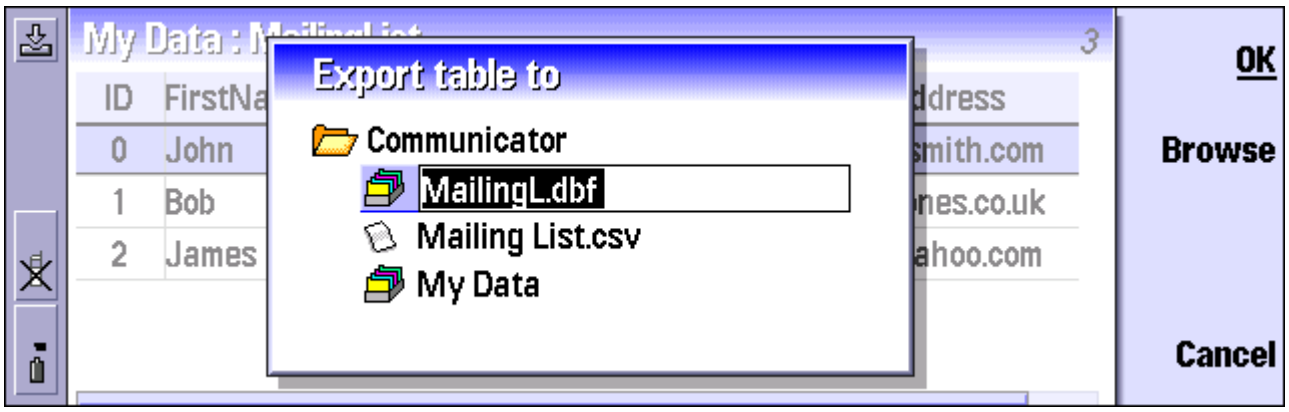


Then the **Csv format options** dialog appears if you selected the CSV export format. See the previous topic for more information about the CSV options.

After this the table will be exported.

Note: If you have a filter applied to the table, then only the filtered records will be exported.

3.12. Compacting a database.

When you delete records and tables from a database, the space occupied by this data is not automatically freed. You need to do it manually from time to time by selecting the **More>Compact database** command from the **File** menu.

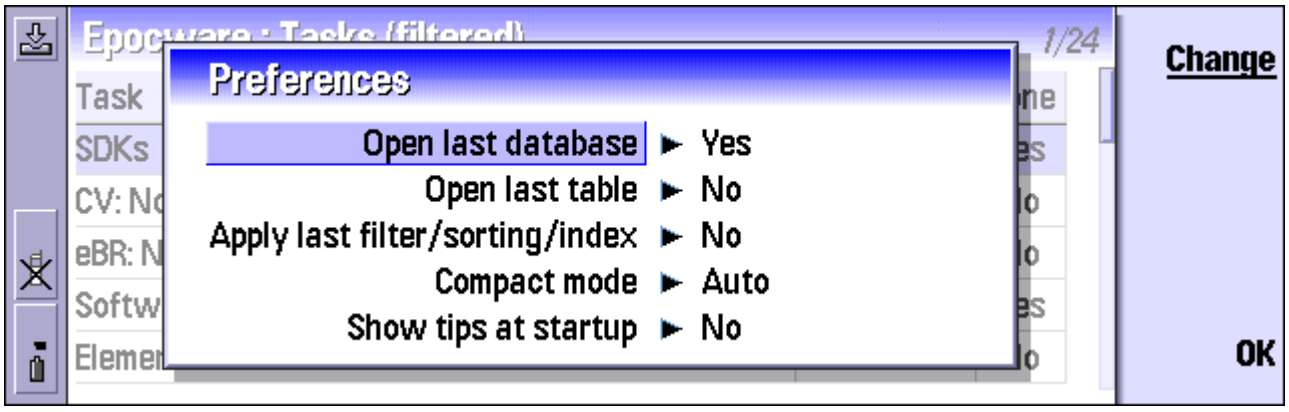
3.13. Compressing a database.

When you use a database only for viewing, you can choose to compress it. The compressed database will be about two times smaller, but you will not be able to add/modify its contents. This option is useful for references and dictionaries. To compress a database select the **More>Compress database** command from the **File** menu.

To decompress a database select the **More>Decompress database** command from the **File** menu.

3.14. Preferences.

To open the **Preferences** dialog choose the **Preferences** command from the **Tools** menu.



You can set the following options in the Preferences dialog:

- The **Open last database** option determines whether Power Data opens the last used database at startup or not.
- The **Open last table** option determines whether Power Data opens the last used table when you open a database or not.

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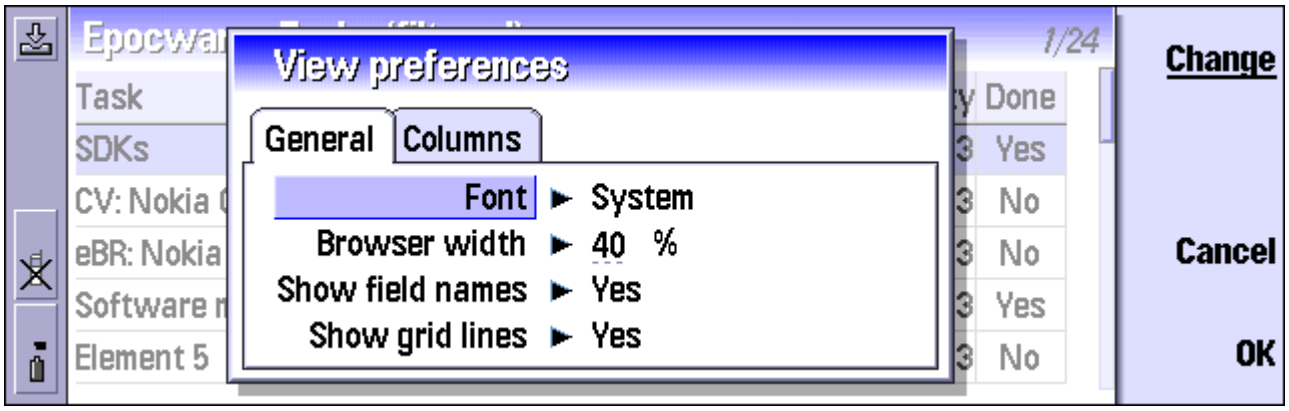
- The **Apply last filter/sorting/index** option determines whether Power Data applies the last used filter/sorting/index when you open a table or not.
- The **Show tips at startup** option determines whether Power Data shows the tips at startup.
- The **Compact mode** option switches between **Auto/Manual/With confirmation** modes of compacting databases.

3.14.1. View preferences.

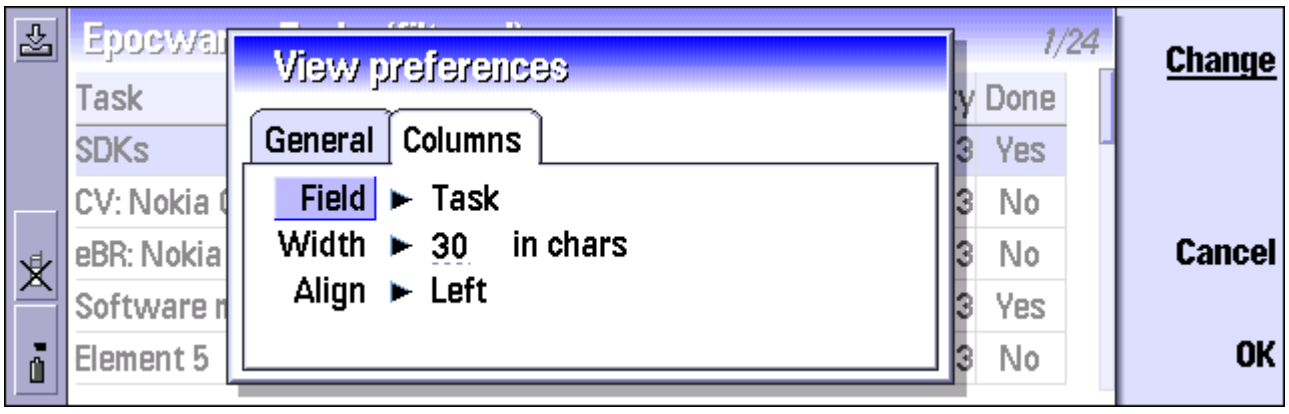
To open the **View preferences** dialog choose the **View preferences** command from the **Tools** menu.



You can set the following options in the View preferences dialog:

- The **Font** option determines what font is used to show your data.
- The **Browser width** option sets the width of the Browser window in the Cards view.
- The **Show field names** option determines whether Power Data shows field names in the Cards view.
- The **Show grid lines** option determines whether Power Data shows the grid lines in the List view.

The **Columns** tab allows you to specify the custom width and alignment for all the table columns in the List view:



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