TEKLYNX®

LABELVIEW™

TUTORIAL

TEKLYNX

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About this manual

Typographical conventions

This manual distinguishes between different types of information using the following conventions:

- Terms taken from the interface itself, such as commands, appear in **bold**.
- Key names appear in all caps. For example: ''Press the SHIFT key.''
- Numbered lists indicate that there is a procedure to follow.
- When the conjunction -or- appears next to a paragraph, it means there is the choice of another procedure for carrying out a given task.
- When a menu command contains submenus, the menu name followed by the command to select appears in bold. Thus, ''Go to **File > Open**'' means choose the **File** menu, then the **Open** command.

About your product

Some of the functions described in this manual may not be available in your product.

For the complete list of specific features available in your software, refer to the specification sheet provided with the product.

Connecting to a database

Overview

In this chapter we are going to link a label (the container) with a database (the content). To do this, we will use ODBC (Open DataBase Connectivity) or OLE DB connections.

Databases allow you to store data. All data is organized into two-dimensional tables in what is called a relationship. Each row in a table is called a record. The purpose of a record is to manage an object, the properties of which are organized across the different columns of the table in the form of fields.

A database can contain a number of tables. To link the different tables within a given database, we use joins. A concrete example later in this chapter demonstrates how joins are created.

ODBC

ODBC data sources make it possible to access data belonging to a wide range of database management systems. ODBC makes it easy to link an application such as your label design software with a certain number of databases. The software comes with several ODBC drivers. These enable you to access the most common types of databases.

Some of the more common drivers are listed below:

- Microsoft Access Driver (*.mdb)
- Microsoft Excel Driver (*.xls)
- Microsoft FoxPro Driver (*.dbf), etc.

OLE DB

OLE DB is a set of interfaces that gives access to all data, regardless of type, format or location. It provides components such as access interfaces, query drivers, and so on. These components are called "providers".

The example below describes a connection process when a database is not connected to your software.

Installing an ODBC data source

The process described below uses the direct creation mode. If you want, you can use the wizard by selecting **Wizard** in the context menu.

Connecting to the TKTraining.mdb database

1. In LABELVIEW, choose **Tools > Administrator ODBC**.
2. Click on the **System Data Source** tab (DSN), and then click **Add**.

Note: You can define data sources with system Data Sources Names (DSNs). These data sources are unique to a specific computer but not to a specific user. Any user with the necessary rights can access a system DSN.

3. Select **Microsoft Access Driver** then click **Finish**.
4. Enter "TK Training Level 2" in the **Data source name** field.
5. Click **Select** and select the database TKTraining.mdb database, which can be found in the InstallDir\Samples\Forms\Tutorial directory.
6. Click the **Options** button. Check the **Read Only** option. This option makes it possible to open the database at the same time as your labelling software without causing any read/write problems.
7. Click **OK** in the **ODBC Microsoft Excel Setup** dialog box.

Importing data

After the database is connected to your software, you have to connect it to your document.

1. Open the PRODUCT_WS3 label.
2. Choose **Data source > Database > Create/Modify query**.
3. Select TK Training Level 2 in the **Select data source** list.
4. Select "Fruits" in the **Select table** list.
   The database fields appear in the **Select fields** list.
5. Select the "ProdName", "Origin", "Weight", and "Reference" fields.
6. Click the button. It allows the selected records to be sorted into alphabetical or numeric order, ascending, or descending.
7. Select "Reference" as the **Sort Key** and "Ascending" as the **Sort Order**.
8. Save the query in the InstallDir\Samples\Forms\Tutorial\PRODUCT_WS4_ODBC.CSQ directory.
9. Click **OK**.
   The variables are created automatically and are listed in the **Database** branch in the **Data sources** view.

To view or print the different values that your object can take, use the navigation bar. You can also print from the **Query result** window.

Creating variable objects

1. Select the created variables listed in the **Database** list in the **Data sources** view, then drag and drop it into the workspace.
2. Select **Text** in the context menu.

Defining the properties of a Table lookup data source

Command: **Data sources > Table lookup > Properties**.

1. Select the data source from the **Select data source** list.

   Note: To create a new data source, click the **New data source** button. This gives you the option of using the wizard or choosing between an ODBC or OLEDB data source.

2. By default, **Standard** creation mode is activated. You can use **Advanced SQL creation** mode to create your query.

Standard creation mode

3. In the **Select table** list, select a table where the search is to be carried out.
4. In the **Select result field** list, select the field whose value will be transferred into your variable.
5. Click to add a row.
6. Select the field in the external table on which the search will be carried out.
7. Select the current document variable containing the search value.
8. Click the **Test** button to display the result.

Advanced SQL creation mode

3. Click **SQL** mode.
4. Enter your query in SQL format.
   - or -
   Click **SQL Query Builder** to access Query Builder. This provides an easy-to-use interface for building SQL database queries. You can create new requests graphically orinsert existing requests in your document.
5. Click the **Test** button to display the result in the **Query** dialog box.

Active Query Builder

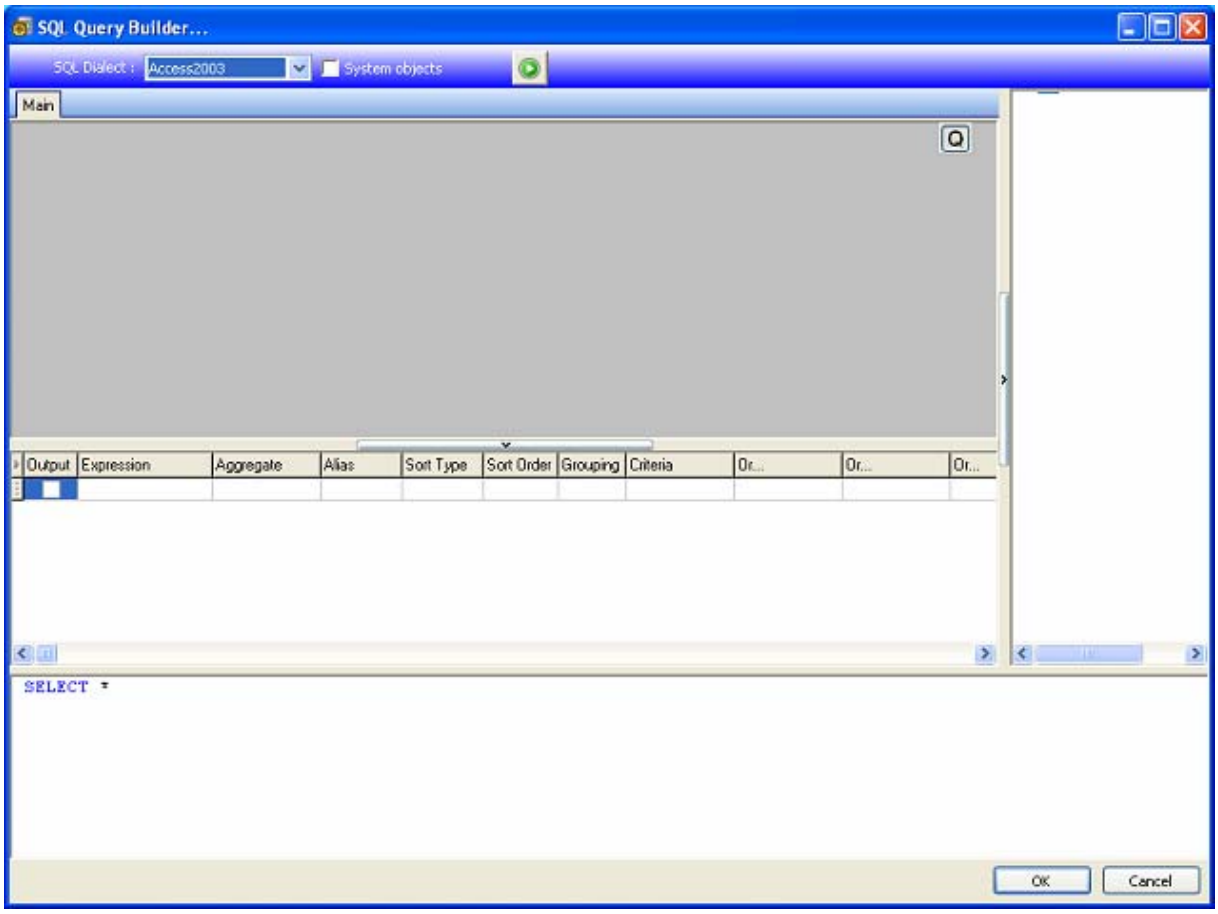
Active Query Builder is a visual query builder component that allows you to build complex SQL queries using an intuitive visual query building interface.

To work with Active Query Builder, you must have basic knowledge of SQL concepts. Active Query Builder will help you to write correct SQL code hiding technical details, but you must have an understanding of the SQL principles to achieve desired results.

Getting started

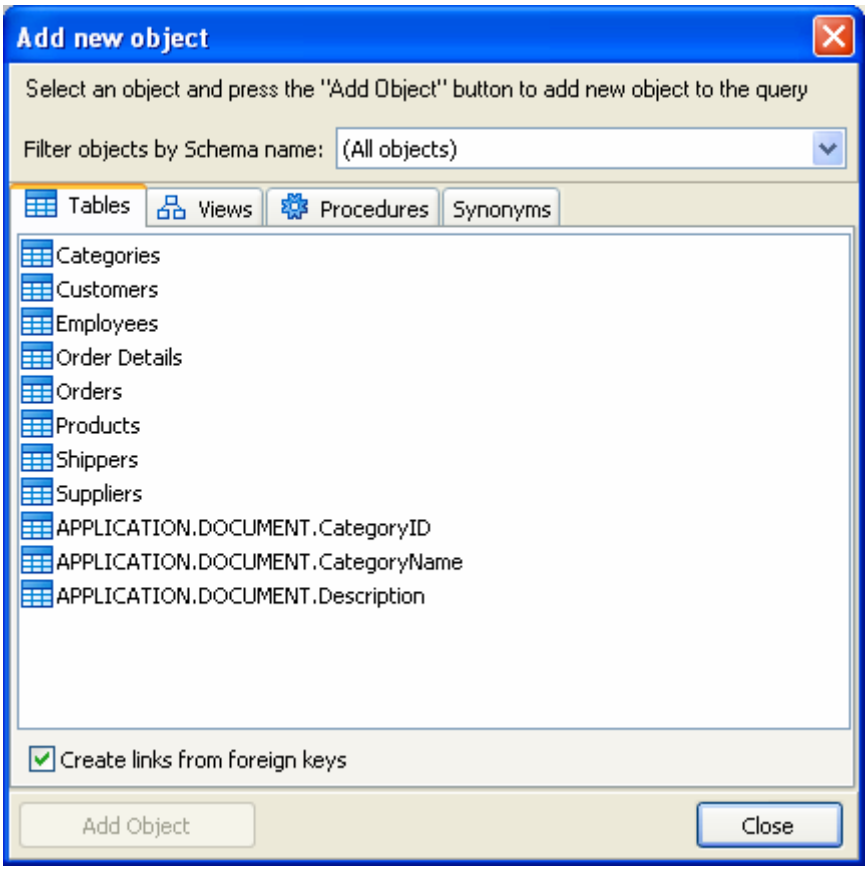
The main Active Query Builder window is divided into the following parts:

- The **Query Building area** is the main area where the visual representation of query will be displayed. This area allows you to define source database objects and derived tables, define links between them and configure properties of tables and links.
- The **Columns pane** is located below the Query Building area. It is used to perform all necessary operations with query output columns and expressions. Here you can define field aliases, sorting and grouping, and define criteria.
- The **Query Tree pane** is located at the left. Here you may browse your query and quickly locate any part of it.
- The page control above the Query Building area will allow you to switch between the main query and sub-queries.
- The small area in the corner of the Query Building area marked by the letter Q is the union sub-query handling control. Here you can add new union sub-queries and perform all necessary operations.



Adding an object to the query

To add an object to the query, right-click the Query Building area and select the **Add Object** item in the drop-down menu.



The **Add New Object** window allows you to add multiple objects at once. The objects are grouped according to their type in four tabs: **Tables, Views, Procedures** (or Functions) and **Synonyms**. You may select one or several objects by holding the **CTRL** key and then press the **Add Object** button to add these objects to the query. You may repeat this operation several times. After you finish adding objects, click the **Close** button to hide this window.

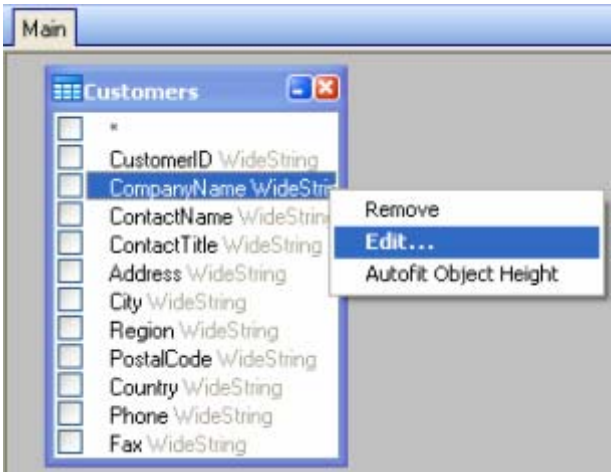
To remove an object from the query, select it and press the **DELETE** key or simply click the **Close** button in the object header.

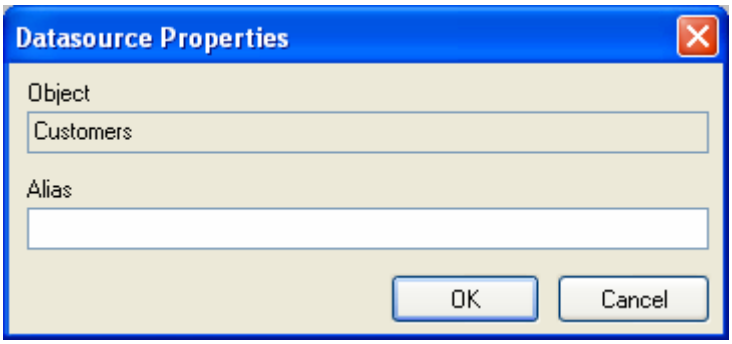
For those servers that have schemas or allow selection of objects from different databases, you can filter objects by database or schema name by selecting the necessary schema or database from the combo box at the top of the window.

Active Query Builder can establish links between tables based on information about foreign keys in the database. This ability is turned on by default. To turn it off, clear the **Create links from foreign keys** checkbox.

Editing object properties

You can change the properties of each object added to the query by right-clicking the object and selecting the **Edit** option from the drop-down menu or simply by double-clicking the object header.

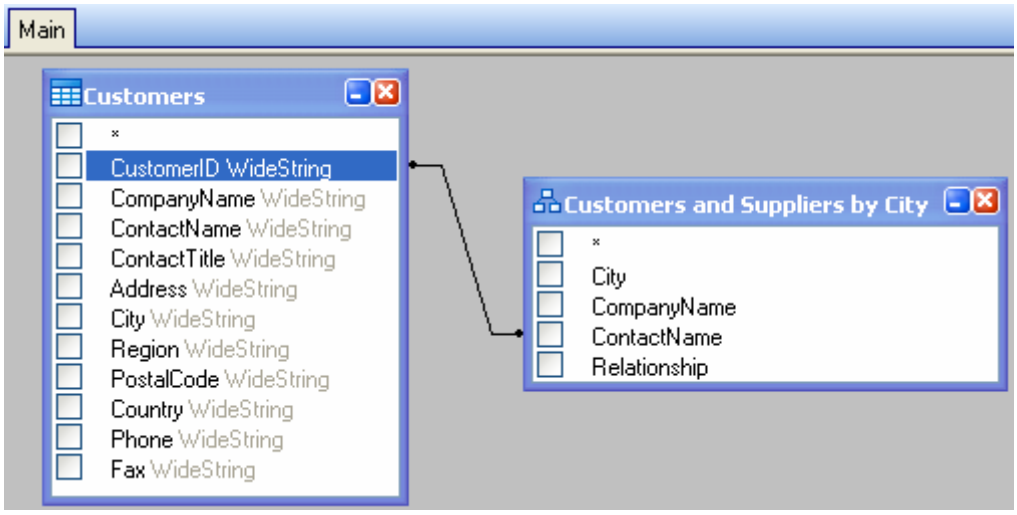




The **Datasource Properties** dialog may vary from server to server, but the **Alias** property is the same for all database servers.

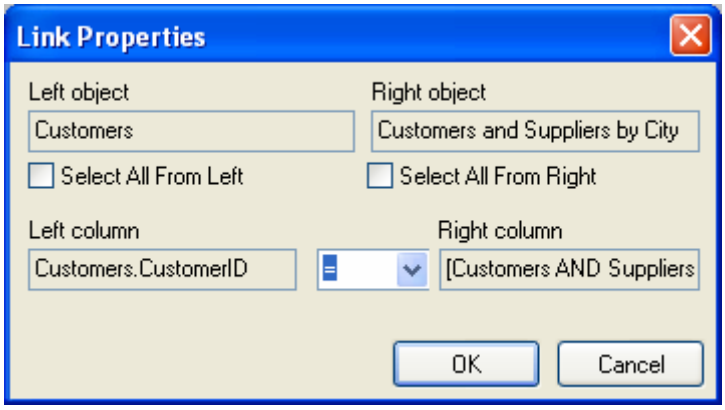
Joining tables

To create a link between two objects (i.e., join them), you should select the field to link the objects and drag it to the corresponding field of the other object. After drag the field to the other object, a line connecting the linked fields will appear.



The default join type is INNER JOIN. This means that only matching records in both tables will be included in the resulting dataset. To define other types of joins, right-click the link and select the **Edit** option in the drop

down menu or double-click it to open the **Link Properties** window. This window allows you to define join type and other link properties.



To remove a link between objects, right-click the link line and select the **Remove** option in the drop-down menu.

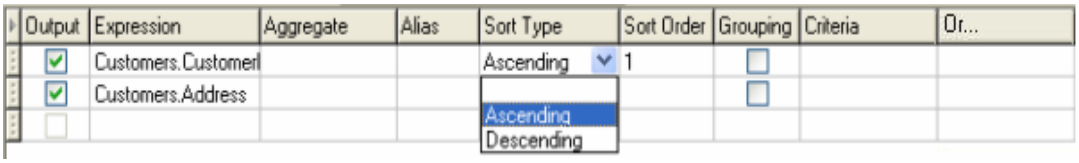
Sorting output fields

To sort of output query fields, use the **Sort Type** and **Sort Order** columns in the **Columns Pane**.

The **Sort Type** column allows you to specify the way the fields will be sorted, either in the **Ascending** or **Descending** order.

The **Sort Order** column allows you to set up the order in which fields will be sorted if more than one field will be used for sorting..

To disable sorting by a field, clear the **Sort Type** column for the field.



Defining criteria

To define criteria for the expression listed in the **Columns Pane**, use the **Criteria** column.

In this column, write the criterion omitting the expression itself. For example, to get the following criterion in your query:

WHERE (field >= 10) **AND** (field <= 20)

you should write
>= 10 **AND** <= 20
in the **Criteria** column.

You can specify several criteria for a single expression using the **Or** columns. These criteria will be concatenated in the query using the **OR** operator.

Defining a parameterized query

Query Builder lets you create a parameterized query where the value of the parameter is held in a variable.

Note: You must first create a variable before you can define parameters..

1. Drag and drop the table on which your query is to be carried out.
2. Select the field(s) to which the criterion or criteria is/are to apply.
3. In the **Criterion** column or in the **SQL-format edit** field, specify the variable to be used as the object of a search criterion.

   Example: To look for the value of the variable Var0:

- **In SQL:**

  SELECT [Table].*
  FROM [Table]
  WHERE [Table].Field = APPLICATION.DOCUMENT.Var0

- **Criterion column**

  = APPLICATION.DOCUMENT.Var0

4. Click to display the result of your query.

The Query result grid

To access the **Query result** grid, click the button in the Defining a query dialog box, in the **Merge database** browser toolbar or via the **Data source > Database** menu.

This grid allows the result of a query to be displayed and allows you to search for a particular term and all its occurrences and print the corresponding labels.

The **Query result** grid contains:

- **Search functions** :

  Search field, which allows you to enter the field you want to search.
  Data to search for, which allows you to enter the value to search for.
  Search for the value anywhere in the field or at the start of the field .

- **Navigation functions for browsing query result records:**

  First record
  Previous record
  Next record
  Last record

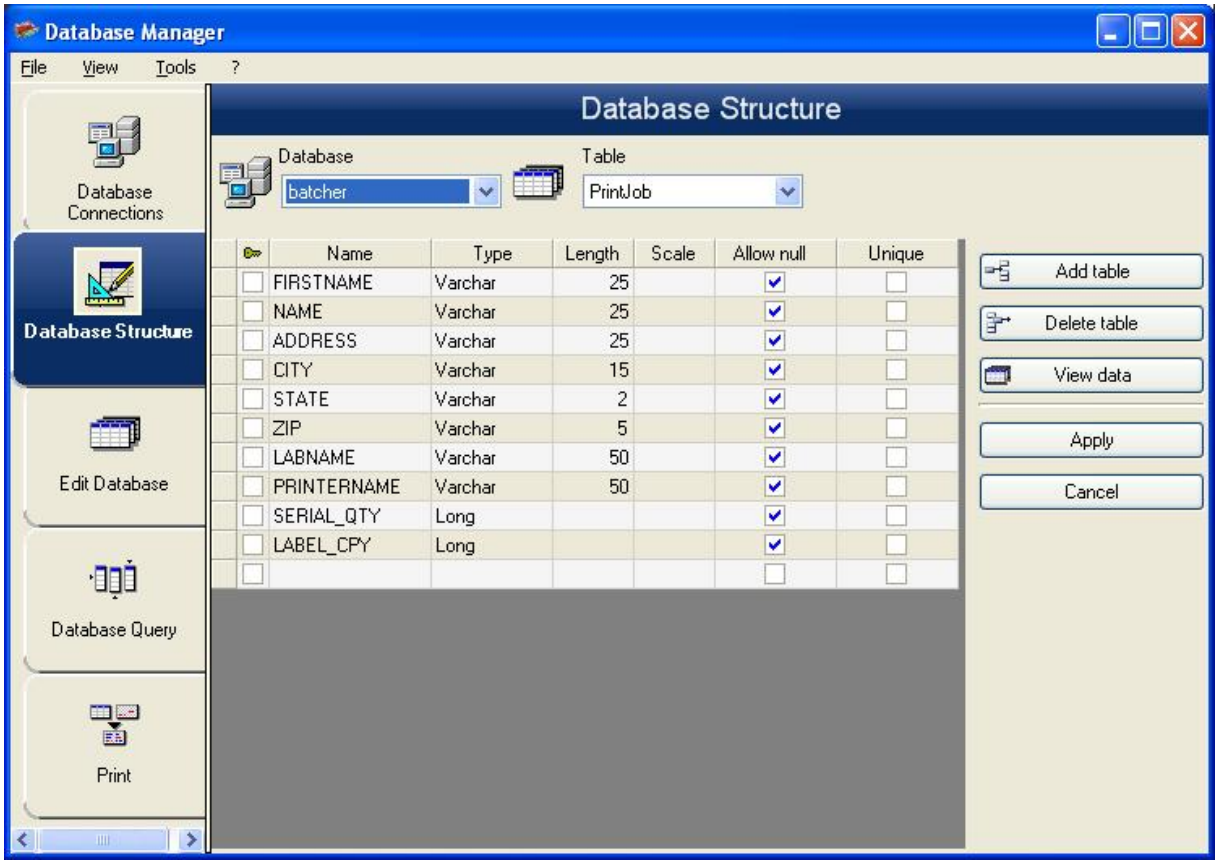
- **The results grid**

  Displays the search results.
- **Requery**

  Requery the request and update the grid.

Database Manager

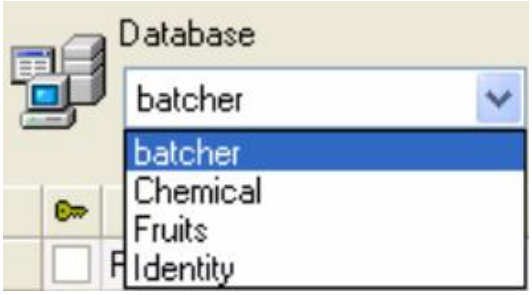
Database Structure Window



The Database Structure window is used to manage the structure of the database file. From this window, you can add, modify or delete tables/fields, etc.

Choose a database from the list of connections

1. Click the **Database** drop-down list.
2. Select the required database.

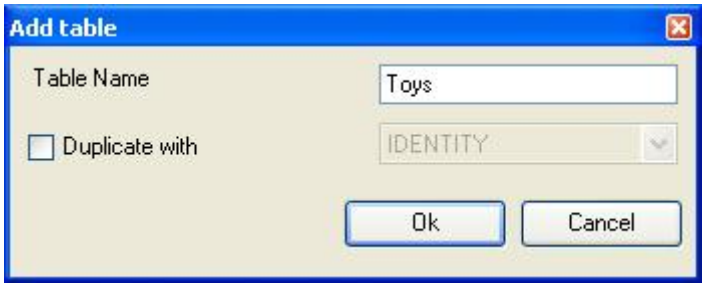


Choose a table in a database

1. Click the **Table** drop-down list.
2. Select the required table.

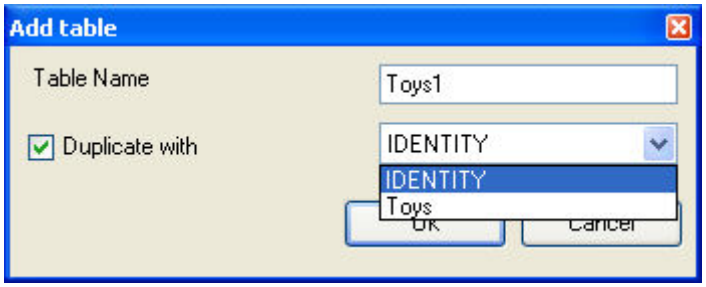
Add a table to the active database

1. Click **Add table**.
2. Enter the name of the new table.
3. Click **OK**.



You can also copy the structure of the table from a table that already exists in the selected database. To copy a table:

1. Select the **Duplicate with** check box.
2. Click on the drop-down list.
3. Select the required data.
4. Click **OK**.



Delete a table in the active database

1. Click the **Table** drop-down list.
2. Click on the data required.
3. Click **Delete** table.

View/hide active table's data

1. Click **View** data.

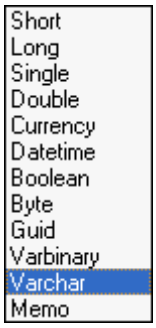
Define a key field

1. Select the check box next to the required field.

2. Click **Apply**.

Define a field's content type

1. Click the required field in the **Type** column.
2. Click the drop-down list button.
3. Select the required data.



4. Click **Apply**.

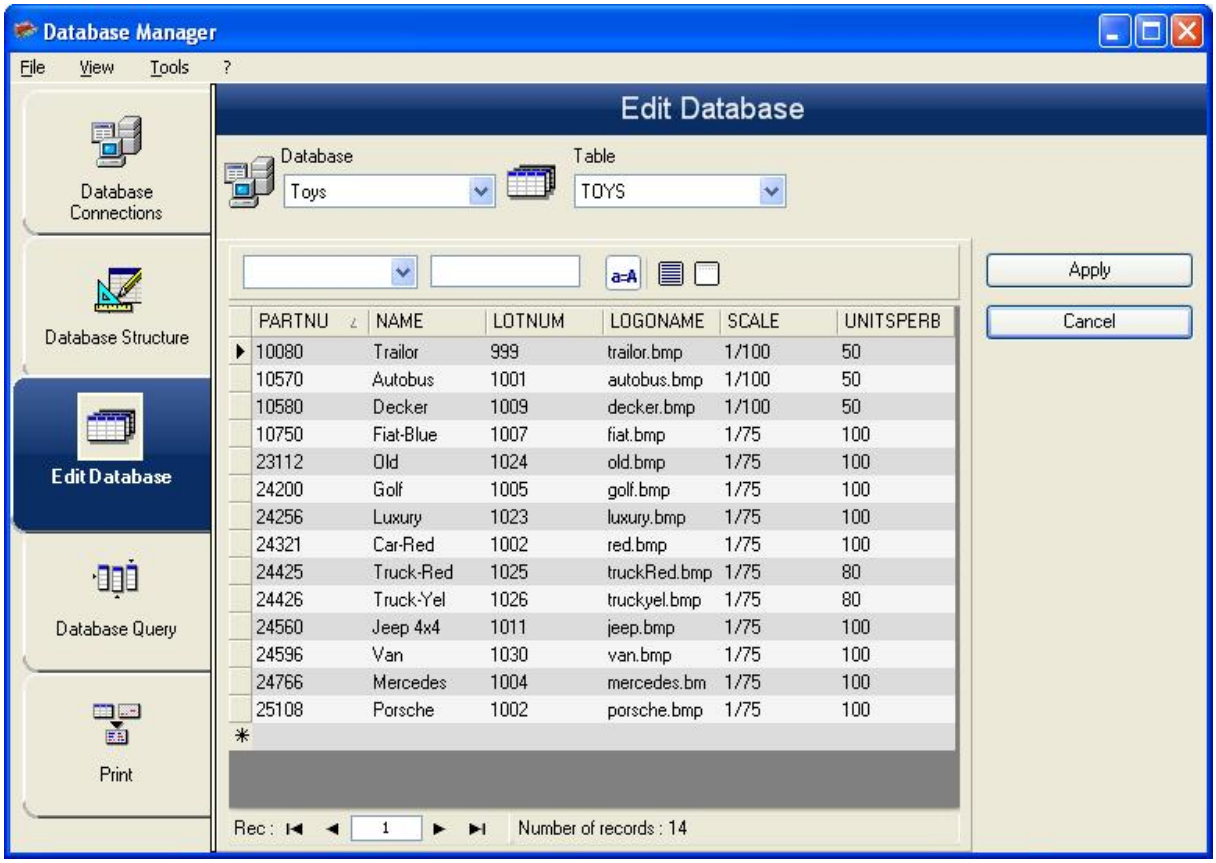
Define a field's maximum size

1. Click the required field in the **Length** column.
2. Enter the value required.
3. Click **Apply**.

Allow an empty field

1. Select the **Allow Null** check box for the required field.
2. Click **Apply**.

Edit Database window



The Edit Database window is used to manage the contents of the database file. In this window, you can add, modify, or delete data.

These actions depend on the type of database. Excel file records cannot be modified.

Select records according to their content

Use the content of a field to find a record.

1. Click the table drop-down list button.
2. Click the data required.
3. Click the **Data Input** field.
4. Enter the value required in the **Data Input** field.

Select all identical records

At least one record must have been found.

1. Click the drop-down list button.
2. Click the data required.
3. Click the **Data Input** field.
4. Enter the required data in the **Data Input** field.
5. Click the **Select all** button ( ).

Select an identical record

At least one record must have been found. There must be several identical records in the **Search** field.

To select a record, use the search tool:

Create a new record

1. Click a field in the row marked with an asterisk.
2. Enter the values required in the corresponding fields.
3. Click **Apply**.

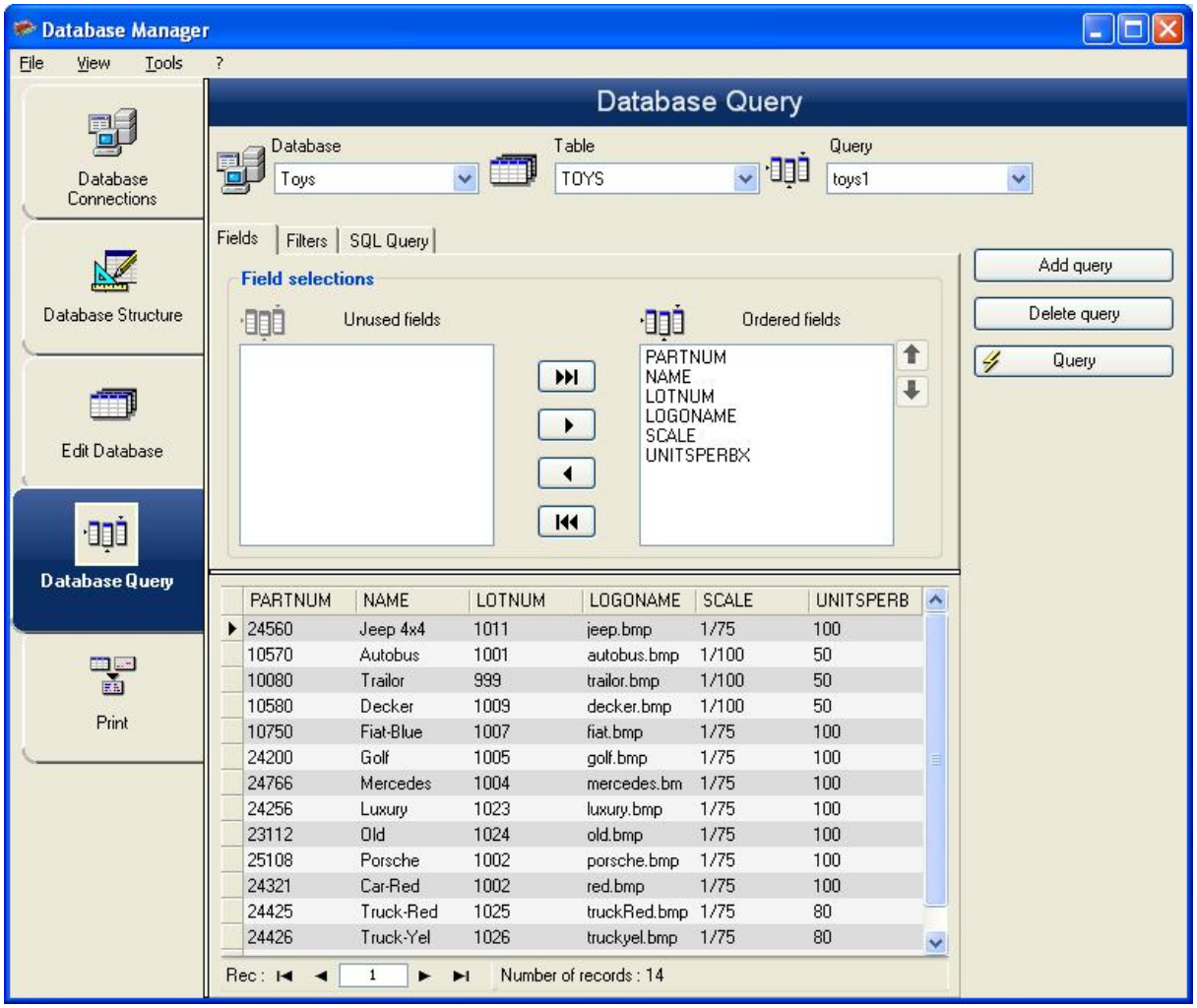
Modify a record

1. Click the data you want to modifiy.
2. Enter the required data .
3. Click **Apply**.

Delete a record

1. Click the database cursor for the required field.
2. Right-click the database cursor for the required field.
3. Click **Delete Record**.

Database Query window



The Database Query window is used to create and apply various filters.

Add a query

1. Click **Add query** on the **Fields** tab.
2. Enter a name for the query.
3. Click **OK**.

Select/deselect one or more fields

1. Use to select the required (fields).
2. Click **Query** to refresh the database preview.

Modify the order of fields selected

1. Click the required field in the **Ordered fields** window.
2. Click the up or down arrow to reorder the fields.
3. Click **Query** to refresh the database preview.

Create a filter using predefined data

1. Select the **Filters** tab.
2. Click the **Add row** button ( ).
3. In the **Field** field, select in the drop-down list the data required.
4. In the **Operator** field, select the desired operator from the drop-down list..
5. In the **Value** field, enter the required value .
6. Click **Query** to view the result.

Apply a logical operator to several filters

1. Click the **Add row** button ( ).
2. In the **Logical** field, select the desired logic (AND or OR) from the drop down list..
3. Create a filter (as described above).
4. Click **Query** to view the result.

Remove a filter

Note: At least one filter must exist.

1. Click the database cursor for the required field.
2. Click the **Delete** row button ( ).

Modify a filter in SQL

Note: At least one filter must exist.

1. Select the **SQL Query** tab.
2. Check **Modify the query in SQL language** to activate the SQL Query and make manual changes.
3. Click **Query** to view the result.

The Print window

The Print window is used to select files for printing, assign printers, and define various parameters before printing is launched.

Select a document to be printed

1. Select a document from a file
2. Select the **File** check box in the **Label** name group.

   - or -

1. Click the **Label Creation Wizard** button ( ).
2. Follow the on screen instructions.

Note: Creating a label in relation to the database allows you to define exactly which elements are required to position each database field.

Select an existing label template

1. Click the **Open an existing document** button ( ).
2. Select a file.
3. Click **OK**.

Note: The Field radio buttons in the Label name and Printer name groups of options allow you to choose the required label or printer, when these options are defined in one of the fields of the active database.

Select a document from a field

If your database contains the name of the label to be used for the printing job in one of the fields, you can define this field as the location where Database Manager is going to pick up the file. For example, consider the following database:

Ref	Designation	Qt	Code	Labname
6574	Ref1	1	9876546321	Label1
6354	Ref2	2	1236478855	Label2
6987	Ref3	3	6987456321	Label1
3684	Ref4	4	3698745632	Label3

1. Check **Field** box in the **Label name** group.
2. Select the required field .

Select a printer

1. Click on the **Add** or **Remove a printer** button ().
2. Select the required printer.

Formulas

The Formula data source

The Formula data source contains a list of data sources. These data sources are populated by combinations of operators, constants, data sources, control variables, formulas, and functions. Data can be numeric or alphanumeric.

In order to carry out a calculation within a document, you must first create a **Formula** data source.

This data source has a specific dialog box allowing you to define the required function(s) for a given formula.

About functions

Functions are predefined formulas that carry out calculations by using values called arguments, placed in a certain order, called syntax.

Functions are used to return a numeric, character string, or logical value, which is the result of a calculation or an operation.

There are six groups of functions in the formula definition:

- Check character calculation functions
- Conversion functions
- Date and time functions
- Logical functions
- Mathematical functions
- Text/Character string functions

Operators

Operators are mathematical symbols indicating an operation to be carried out. There are different types of operators: arithmetic, comparative, concatenation, and logical.

Arithmetic operators

Operator	Used
*	Multiply two numbers.
+	Add two numbers together.
-	Subtract one number from another, or assign a negative value to an operand.
/	Divide one number by another.
^	Raise a number to the power of the exponent.
%	Modulo.

Comparative operators

Operator	Meaning
<	Less than.
<=	Less than or equal to.
>	Greater than.
>=	Greater than or equal to.
=	Equal to.
<>	Different from.

Concatenation operator

Used to combine two strings.

Operator	Meaning
&	Concatenation of two strings.

Logical operator

(See also Logical Functions)

Operator	Meaning
!	Not logical.

Mathematical functions

int (*value*): Returns the largest integer less than or equal to the *value* argument.

Examples:
int (-5.863) = -6
int (5.863) = 5

mod (*val_1, val_2*): Returns the remainder of the division of the *val_1* argument by the *val_2* argument. The result has the same sign as the divisor.

Examples:
mod (7,2) = 1
mod (-7,2) = -1
mod (7,-2) = 1
mod (-7,-2) = -1

quotient (*val_1, val_2*): Returns the integer result of the division of the *val_1* argument by the *val_2* argument.

round (*val_1, val_2*): Returns the argument *val_1* rounded to the number of figures indicated by *val_2*.

- If *val_2* is greater than 0, *val_1* is rounded to the number of decimals indicated.
- If *val_2* is equal to 0, *val_1* is rounded to the closest integer.
- If *val_2* is less than 0, *val_1* is rounded off to the left of the decimal point.

Examples:
round (4.25,1) = 4.3
round (1.449, 1) = 1.4
round (42.6,-1) = 40

trunc (*value*): Returns the integer part of the *value* argument.

base10tobaseX(*string_1*,*string_2*): Converts *string_2* from base 10 to base *string_1.*

Examples
If the field named Base 16 contains the string "0123456789ABCDEF"
BASE10TOBASEX(Base16, 12) produces C
BASE10TOBASEX(Base16,10) produces A
BASE10TOBASEX("012345","9") produces 13

Note: This formula cannot accept negative decimal numbers for *string_2* parameter.

baseXtobase10(*string_1*,*string_2*): Converts *string_2* from base *string_1* to base 10.

Examples
If the field named Base 16 contains the string "0123456789ABCDEF"
BASEXTOBASE10(Base16, "E") produces 14
BASEXTOBASE10(Base16,10) produces A
BASEXTOBASE10("012345","9") produces 13

hex(*val_1*,*val_2*): Converts the *val_1* decimal number to hexadecimal format with a total value of *val_2*

Note: This formula cannot accept negative decimal numbers for *val_1* parameter.

Logical functions

Logical functions allow you to check whether one or more conditions have been fulfilled.

Note: TRUE equals 1 and FALSE equals 0.

and (*expr_1, expr_2*): Returns TRUE if both arguments are true, FALSE if at least one is false. The arguments must be calculated from logical values.

Example:
and(exact("string","string"),exact("string","string")) = 0
and(exact("string","string"),exact("string","string")) = 1

exact (*string_1, string_2*): Returns TRUE if the two strings are identical, FALSE if not. This function is case-sensitive.

Example:
exact("software","software") = 1
exact("software","software") = 0

if (*expr, Val_if_true, Val_if_false*): Returns the *Val_if_true* value if *Expr* is true and the *Val_if_false* argument if *Expr* is false.

Example:
if(exact("string", "string"), "true", "false") = false
if(exact("string", "string"), "true", "false") = true

not (*logical*): Gives the opposite of the *logical* argument.

Example:
not(exact("string", "string")) = 1
not(exact("string", "string")) = 0
not(False) = 1 or not(0) = 1
not(True) = 0 or not(1) = 0
not(1+1=2) = 0

or (*expr_1, expr_2*): Returns TRUE if one of the two arguments is true and FALSE if both arguments are false. The arguments must be calculated from logical values.

Example:
or(exact("string", "string"),exact("string", "string")) = 0
or(exact("string", "string"),exact("string", "string")) = 1
or(true,true) = 1 or or(1,1) = 1
or(true,false) = 1 or or(1,0) = 1
or(false,false)= 0 or or(0,0) = 0

Text functions

A character string can be assimilated into a table if each fields contains a character. It is defined by its length (total number of characters in the string, including spaces). The position of a character in the string corresponds to its place in the table. For example, the first character is at position one.

Example: Position 3 corresponds to the third character in the string.

cyclebasex *( )*: Allows counting to take place in any kind of database counting system. The numbering system must be defined within the linked expression. The start value, the value of each increment and the number of copies must also be specified for each number. All these values can be linked to other fields in the label, but the field names must not be enclosed in quotation marks.

Example:
If a field named Base 16 contains the character string 0123456789ABCDEF, then:
cyclebasex(base16, "8", 1 ,1) = 8,9,A,B,C
cyclebasex(base16, "F", -1,1) = F,E,D,C,B,A 9,8,7

cyclebasex(base16, "B0 ", 1,1) = B0, B1, B2;
cyclebasex("012345", "4",1,2) = 4,4,5,5,10,10,11,11;

cyclechar *( )*: Creates a user-defined set of characters for a complete cycle.

Example:
cyclechar("A", "C") = A B C A B C A B C;
cyclechar("A", "C", 1,2) = A A B B C C A A B B;

cyclenumber *( )*: Allows you to set your own sequence of numbers, instead of using the normal sequence of numbers or letters (0,1,2… or A,B,C;).

Example:
cyclenumber(1,3) will produce labels in the following sequence: 1 2 3 1 2 3 1 2 3...
cyclenumber(1,3,1,2) will produce labels in the following sequence: 1 1 2 2 3 3 2 2 1 1...

cyclestring *( )*: Allows you to create a group of words or characters using a complete cycle as an increment field. The whole string must be enclosed in quotation marks (" ") and each word or group of characters must be separated from the others by a semicolon (;).

Example:
cyclestring("Mon ; Tue ; Wed ; Thu ; Fri ; Sat ; Sun") = Mon Tue Wed Thu Fri Sat Sun
The following example is for labels that use all letters of the alphabet except for O and I.
cyclestring("A;B;C;D;E;F;G;H;J;K;L;M;N;P;Q;R;ST;U;V;W;X;Y;Z")

exact (*string_1, string_2*): Returns TRUE if the two strings are identical, FALSE if not.

Example:
exact("software","software") = 1
exact("sftware","software") = 0

extract («string», «sep», «pos»): Returns the substring from the character string «string» at the specified position «pos» that contains data separated by string «sep».

Example:
Extract("1;2;3;4", ";", 3) = 3

find (*string, key, start*): Returns the position of the first occurrence of the *key* argument in the *string* argument. The search in the *string* argument starts from the position returned by the *start* argument (*start* >= 1). The function resets to zero if no occurrence of the *key* argument is found. The function distinguishes between upper and lower case letters.

Example:
find("Peter McPeepert","P",1) = 1
find("Peter McPeepert","p",1) = 12

left (*string, num_char*): Returns the character string extracted from the *string* argument. This string starts at position one of the *string* argument and has a length equal to the *num_char* argument.

Example:
left("Peter McPeepert",1) = P
left("Peter McPeepert ",5) = Peter

len (*string*): Gives the length of the *string* argument. Spaces are counted as characters.

Example:
len("Paris, New York") = 15
len("") = 0
len(" ") = 1

lower (*string*): Converts all upper case letters in a text string into lower case letters.

Example:
lower("Paris, New York") = paris, new york

mid (*string, start, num_char*): Returns the character string extracted from the *string* argument. This string starts at the position corresponding to the value of the *start* argument (*start* >=1) and has a length equal to the *num_char* argument.

Example:
mid("Paris, New York",8,8) = New York

pad *( )*: Adds characters to the left of the field to assign a predefined length to the whole input. Any character can be selected as a padding character.

Example:
If a field named GREETING displays a value HELLO, then:
pad(GREETING,8,0) = 000HELLO
pad(5,3,0) = 005
pad(''Nine'',6,"a") = aaNine

replace (*string, start, num_char, new_string*): Returns the converted *string* argument. A number (equal to the *num_char* argument) of characters from the position defined in the *start* argument has been replaced by the *new_string* argument.

Example:
replace("Paris, New York",8,8,"Singapore") = Paris, Singapore

replaceString («string», «old_string», «new_string»): Replaces all occurrences of a specified «old_string» in character string «string» with another specified «new_string».

Example:
ReplaceString("abc12def12", "12", "") = abcdef

rept (*string, num_char*): Returns the character string where the *string* argument is repeated the number of times in the *num_char* argument.

Example:
rept("Ah Paris! ",2) = Ah Paris! Ah Paris!

right (*string, num_char*): Gives the character string composed of the last characters of the *string* and has a length equal to the *num_char* argument.

Example:
right("Purchase order",5) = order

search (*string, key, start*): Gives the position of the first occurrence of the *key* argument in the *string* argument. The search starts from the position defined by the *start* argument (*start* >= 1). The function resets to zero if no occurrence of the *key* argument is found.

Example:
search("Purchase order","order,1) = 10
search("Purchase order","c",1) = 4

trim (*string*): Returns the converted *string* argument. All spaces encountered at the beginning and end of the string are deleted. The number of spaces included between two words is reduced to one.

Example:
trim(" Purchase order") = Purchase order

trimall (*string*): Returns the converted *string* argument. All spaces encountered are deleted.

Example:
trimall("Paris / New York / Rome") = Paris/NewYork/Rome

upper (*string*): Gives the *string* converted into upper case.

Example:
upper("Purchase order") = PURCHASE ORDER

ztrim *( )*: Deletes all zeros, starting from the left, in fields that are entirely numerical.

Example:
If a field named WEIGHT displays a value of 000200, then:
ztrim(weight) = 200

Defining the properties of a Formula data source

Command: **Data sources > Formula > Properties**

1. Enter the formula directly in the **Edit** field.

   - or -

   Select the elements, and click **Insert.**

2. Click **Test** to verify that the syntax is correct. If an error occurs, follow the instructions displayed on the screen and make any necessary changes.
3. Click **OK**.

Hint: You can insert an element by double-clicking on it.

Note: If a variable used in the formula has a name containing one of the following characters &+-*/<>=^%,!\", it must be enclosed in brackets {}.

Note: You can check your formula by clicking **Test**. If the message displays the formula value, it means that your formula is correct. If the value is not correct, follow the instructions displayed on the screen to make the necessary modifications. If the value obtained is truncated, you must modify the maximum length specified in the **Output** tab.

Exercise: Creating a simple formula

Displaying the price of a product

In this example, the production label must show the price of the product as a function of its weight and the price per kilogram.

1. Open a label. Two variables have to be created: WEIGHT and PRICEPERKG.
2. For the WEIGHT variable, enter 788 (the weight of the product is 788 g) as the **Local value**, enter ''Please enter the weight in g'' in the **Prefix** field, then click **OK**.
3. For the PRICEPERKG variable, enter 15.70 (the price/kg is FF15.70) as the **Local value** of the variable, enter ''Please enter the price per kg'' in the **Prefix** field, then click **OK**.
4. Add a formula and name it **Price**.
5. Enter the formula WEIGHT*PRICEPERKG/1000, then click **OK**.
6. Save your label.

Exercise: Adding the "Warning" formula variable to display a warning message

In the following exercise, we will create a formula to display a warning message telling the user that the value of the Total_Weight shared variable exceeds 1,000 kg.

If the weight value exceeds 1,000 kg, the message ''Attention! Error! Total Weight exceeds maximum!'' will appear.

1. Open the label.
2. Create a formula and name it ''Warning''.
3. In the **Formula** dialog box, enter the following expression:
if(Total_Weight>1000, ''Attention: Total Weight exceeds maximum!'', '''')
4. On the **Output** tab, enter 50 in the **Maximum length** field and click **OK**.
5. Position the variable as text within the label.
6. In the **Text** dialog box, select **Scalable** as the font and set its **Height** to 12.70 mm.
7. On the **Paragraph** tab, select the **Wordwrap** option, then select **Centered** in the **Alignment** field.

Information on the IF function

The IF function returns one value if the condition you specify is TRUE, and another value if it is FALSE.

Use the IF function to carry out conditional tests on values and formulas.

Syntax
if("expr","val_if_true","val_if_false") "expr" represents any value or expression, the result of which can be TRUE or FALSE.

> *val_if_true* is the value returned if "*expr*" is TRUE. The *val_if_true* argument can be another formula.
> *val_if_false* is the value returned if "*expr*" is FALSE. The *val_if_false* argument can be another formula.

Exercise: Creating a specific modulo

In this exercise, we will convert the ''Customer_Code'' EAN8 barcode into a 2/5 Interleaved barcode using the "Formula_4_NewCustCode" Formula data source.

The barcode must have the following properties:

- Symbology: printer
- Height: 4 mm
- Narrow bar width: 1 mm
- Ratio: 2
- Human readable: below and centered
- Distance from the bars: 0 mm
- Characters font: printer font.

Open the ORDER_WS2 label.

To calculate the weight

Create the Formula_1_Weighted formula, keeping in mind that the first character of Customer_Code is multiplied by 1, the second character by 2, the third character by 1, the fourth character by 2, and so on.

The maximum output length of the variable is 6.

Formula_1_Weighted:
mid(Customer_Code,1,1)*1&mid(Customer_Code,2,1)*2&mid(Customer_Code,3,1)
1&mid(Customer_Code,4,1)*2

To add up the result of the weight calculation:

The next step involves adding together the figures resulting from the previous formula, bearing in mind that the maximum permitted length of this character string is 2.

Create a second formula and name it Formula_2_Sum.

To calculate the check digit:

Using the previous result, we will now calculate the value of the check digit.

Create a third formula and name it Formula_3_CheckDigit.

The expression is as follows:
if ((Formula_2_Sum % 10) > 0,10 - Formula_2_Sum % 10,0)

To calculate the data to be encoded:

When creating the barcode, you must include the data to be encoded; for example, the value of the Customer_Code variable concatenated with the value of the check digit (Formula_3_CheckDigit).

Create a fourth formula and name it Formula_4_NewCustCode. This formula is the result of concatenating Customer_Code and Formula_3_CheckDigit.

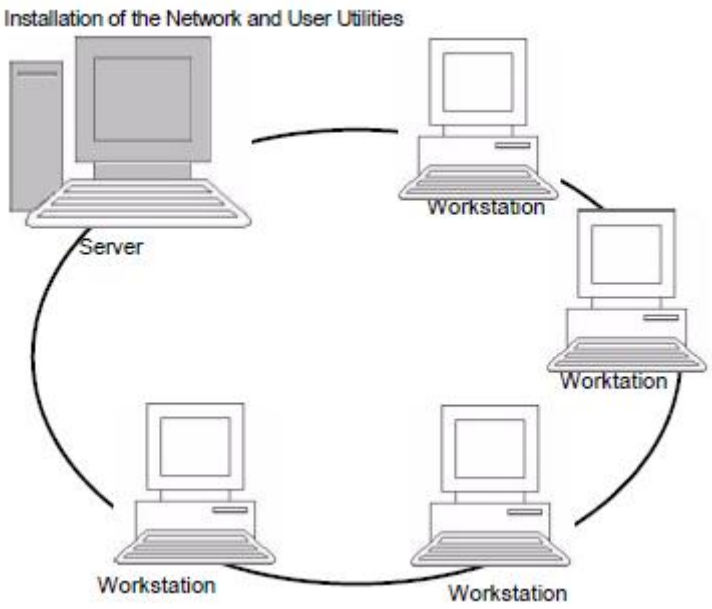
To create the barcode:

1. Select the Formula_4_NewCustCode formula then drag and drop it into the label over the Customer_Code barcode.
2. Define the properties of the barcode.

Installing the network version

Description

To use the network/multi-user version of LABELVIEW, you must first install Network and Users Utilities, either on the server or on a workstation that will act as the server, then install your labeling software on each workstation.



Installing the dongle

The dongle must be installed on the computer (server or workstation) on which the license manager is installed. A single dongle, pre-programmed with the number of licenses purchased, is included with the network version of your software.

The dongle must be installed before the license manager (License Manager or Service) can be started.

Note: When you start the program, if the dongle does not match the product version, a dialog box with the necessary instructions is displayed.

If you need to use a printer on the parallel port, connect it to the dongle. In this case, you might have to turn the printer on in order for the dongle to be recognized.

Network Installation procedure

Network configuration

Before you install the software, the network administrator must first define the structure of the network for the group of users:

- Define the license server on which the Network and Users Utilities and dongle will be installed.
- Define the workstations, or the client workstations that will use the labeling software.

Description of Network Manager

The Network and Users Utilities lets you use the network configuration of your labeling software. The Network Manager includes:

- The License Manager (License Service).
- Network Settings Wizard: The Network Settings Wizard helps you define the network configuration.
- User Manager: The User Manager is installed with the Network and Users Utilities so you can define access rights to the labeling software in a network setting.

Installing the Network and User Utilities on the server

Before installing the labeling software on all the workstations that will use it, you must install the Network and User Utilities on the server to configure the network.

1. Insert the CD for the installation in the appropriate drive.
   The Installation window is displayed.
   If the CD for the installation does not run automatically:
   Go to **Start > Run**, then type the letter of the CD-ROM drive, followed by index.hta (for example, type D:\index.hta).
2. Select **Network and Users Utilities**, which includes **License Manager**, **Service,** and **User Manager**. Then click the **Install** button.
3. Follow the on-screen instructions..
4. Share the [TKDONGLE] folder with full control, using TKDONGLE as the share name.
   The default access path for this folder is C:\Documents and Settings\All Users\ApplicationData\Teklynx\LicenseManager\TKDongle (Vista:C:\ProgramData\Teklynx\LicenseManager\TKDongle) > Right-click > Properties > **Sharing** tab and **Permissions** button.
5. If you want to define settings for your network configuration, start the **Network Settings Wizard** on the server. By default, if you do not modify the configuration, each workstation will have its own settings.

Note: For administrators: You can grant Write access to the network license by completing the following two steps:

1. Sharing the TKDongle folder and authorizing the user: C:\Documents and Settings\All Users\Application Data\Teklynx\LicenseManager\TKDongle (Vista: C:\Program Data\Teklynx\LicenseManager\TKDongle) > Right-click > **Properties** > **Sharing** tab and **Permissions** button.

2. Give **Write Access** to the user in the Security tab of the TKDongle properties.

Configuration

All the necessary tools to configure the network version are available from the **Network** tool bar, which can be accessed from **Start > Programs > Teklynx > Network and Users Utilities** > **Network**.

The **Network Settings Wizard** helps you define the settings for your network version.

1. To start the **Network Settings Wizard**, click on the icon .
2. In step 1 of the wizard, select a settings mode: **Generic, By user** or **By station**.

   - **Generic**: All users will use the same settings on all workstations. (user.ini).
   - **By user**: Each user can access his or her own settings on any workstation. (user name.ini).
   - **By station**: Each workstation has its own settings (station.ini).

3. In step 2, specify the location in which you want to store these settings. If you want to share these settings between various workstations, specify a network path that is accessible to all workstations.
4. In step 3, specify the location in which you want to store the shared data (variables, lists, printing logfile, etc.).

To configure the User Manager

If you want to define network access rights for all users of the labeling software, you must do so during installation (consult the **User Manager** help system). Click the **User Manager** icon available on the Network toolbar.

Starting the License Manager

Before installing the labeling software on all workstations, you must start the License Manager.

If the License Manager was installed as Service, you do not need to start it. In fact, Service starts when the workstation is turned on and runs as a background task as long as the workstation is on. However, if you installed the License Manager, you must start it manually.

To start the License Controller

- Click the icon available on the Network toolbar.

  -or

- Double-click the SLICENSECTRL.EXE file in the [DONGLE] folder in C:\PROGRAM FILES\TEKLYNX\9\COMMON\TOOLS\.

Note: To start License Manager automatically when a Windows session is started, copy the shortcut for the program to the **Start > Programs > Startup** menu in Windows.

Installing the software on the workstations

The labeling software must be installed on all the workstations on which it will be used.

To install the software on a workstation

1. Insert the CD-ROM in the appropriate drive.
   The Installation window is displayed.
   If the CD-ROM does not run automatically:
   Go to **Start > Run**, then type the letter of the CD-ROM drive, followed by index.hta (for example, type D:\index.hta).
2. Select the product to be installed, click the **Install** button and follow the instructions on the screen.
3. Start the labeling software. A message is displayed to inform you that no dongle has been found. Click **Yes** to start the software.
4. From the **Tools** menu, choose **Network Administration**.
5. Enable **Use Network License**.
6. Click **Modify** to select the server on which the license manager and dongle are installed.
   - or -
   Click **Browse** to automatically search for the server on which the license manager is installed.
   If the network has already been configured, a message asking if you want to use the current network configuration is displayed.
7. If you want to modify or configure the network settings, click the **Network Settings Wizard** button.
8. Click **OK**.
9. Restart LABELVIEW.

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