



**LibreOffice**  
The Document Foundation

## Calc Guide

# *Chapter 5*

## *Using Graphics in Calc*

## Copyright

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## Contributors

Barbara Duprey  
Hal Parker

## Feedback

Please direct any comments or suggestions about this document to:  
[documentation@libreoffice.org](mailto:documentation@libreoffice.org)

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Jean Hollis Weber  
Alexandre Martins

Emma Kirsopp  
Kashmira Patel

Peter Kupfer  
Iain Roberts

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## Note for Mac users

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Some keystrokes and menu items are different on a Mac from those used in Windows and Linux. The table below gives some common substitutions for the instructions in this chapter. For a more detailed list, see the application Help.

<i>Windows/Linux</i>	<i>Mac equivalent</i>	<i>Effect</i>
<b>Tools</b> → <b>Options</b> menu selection	<b>LibreOffice</b> → <b>Preferences</b>	Access setup options
<i>Right-click</i>	<i>Control+click</i>	Open context menu
<i>Ctrl (Control)</i>	⌘ ( <i>Command</i> )	Used with other keys
<i>F5</i>	<i>Shift+⌘+F5</i>	Open the Navigator
<i>F11</i>	⌘+T	Open Styles & Formatting window

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## Graphics in Calc

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Calc is often used to present data and make forecasts and predictions. Graphics can turn an average document into a memorable one. Calc can import various vector (line drawing) and raster (bitmap) file formats. The most commonly used graphic formats are GIF, JPG, PNG, and BMP. See the Help for a full list of the formats LibreOffice can import.

Graphics in Calc are of three basic types:

- Image files, such as photos, drawings, and scanned images
- Diagrams created using LibreOffice's drawing tools
- Charts and graphs created using LibreOffice's Chart facility

This chapter covers images and diagrams. Charts are described in Chapter 3, Creating Charts and Graphs.

Although using graphics in Calc is very similar to using graphics in any other component of LibreOffice, this chapter explains some of the differences in their use. It also covers some of the more advanced graphics functions and how they can further enhance your spreadsheet.

### Note

The term *graphics* refers to both pictures and drawing objects. Often the word *images* is used when referring to pictures and other graphics that are not drawing objects.

## Adding graphics (images)

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Images (also called *pictures* in LibreOffice), such as corporate logos and photographs of people and products, are probably the most common types of graphics added to a Calc document. They may be downloaded from the Internet, scanned, or created with a graphics program; or they may be photos taken with a digital camera.

Images can be inserted in four ways:

- Using the Insert File dialog
- By dragging and dropping a supported file
- From the gallery
- From the clipboard by copying and pasting


### Inserting an image file

Perhaps the most common way to insert graphics is to use an existing file.

To insert an image from a file, use either of the following methods:

- Insert Picture dialog
- Drag and drop

#### *Insert Picture dialog*

- 1) Click in the location in the Calc document where you want the image to appear. Do not worry too much about the exact placement of the image at this stage; placement can be changed easily as described in "Positioning graphics" on page 18.
- 2) Choose **Insert** → **Picture** → **From File** from the menu bar, or click the **Insert Picture** icon  on the Picture toolbar).

3) On the Insert Picture dialog, navigate to the file to be inserted, select it, and click **Open**.

### Note

The picture is inserted into Calc floating above the cells and anchored to the cell in which the cursor was placed. See “Positioning graphics” on page 18 for more about positioning and anchoring graphics.

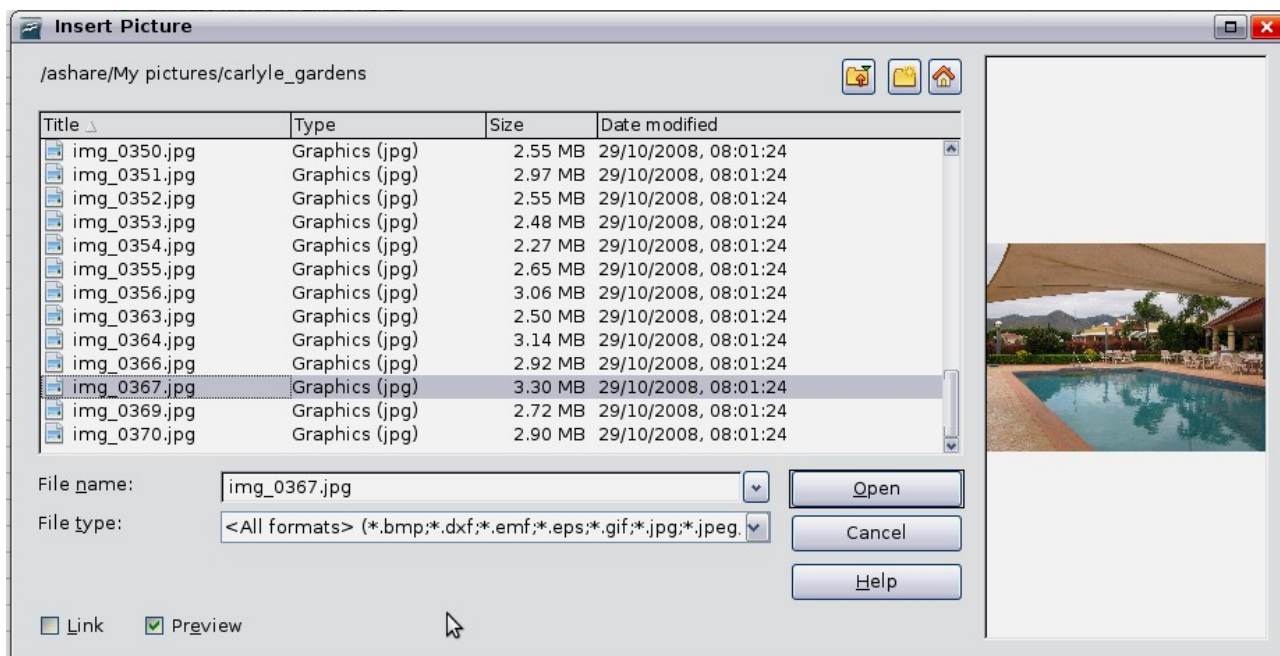


Figure 1: Inserting a picture from a file

At the bottom of the dialog are two options, **Preview** and **Link**. Select **Preview** to view a thumbnail of the selected image on the right, so you can verify that you have the correct file. The Link option is discussed on page 5. When the **Link** option is not selected, the picture is embedded in the Calc document.

### Note

Your Insert Picture dialog may look quite different from the one shown here, depending on your operating system and your choice in **Tools** → **Options** → **LibreOffice** → **General** of whether to use the LibreOffice Open and Save dialogs.

## Drag and drop

- 1) Open a file browser window and locate the image you want to insert.
- 2) Drag the image into the Calc document and drop it where you want it to appear. A faint vertical line marks where the image will be dropped. The picture will be anchored to the cell where it was dropped.

This method always embeds (saves a copy of) the image file in the Calc document.

## Linking an image file

To create a link to the file containing the image instead of saving a copy of the image in the Calc document, use the Insert picture dialog and select the **Link** option. The image is then displayed in the document, but when the document is saved, it contains only a reference to the image file—not the image itself. The document and the image remain as two separate files, which are merged temporarily only when you open the document again.

Linking an image has two advantages and one disadvantage:

- **Advantage** – You can modify the image file separately without changing the document because the link to the file remains valid, and the modified image will appear when you next open the document. This can be a big advantage if you (or someone else, perhaps a graphic artist) is updating images.
- **Advantage** – Linking can reduce the size of the document when it is saved, because the image file itself is not included. The file size is usually not a problem on a modern computer with a reasonable amount of memory, unless the document includes many large graphics files. Calc can handle quite large files.
- **Disadvantage** – If you send the document to someone else, or move it to a different computer, you must also send the image files, or the receiver will not be able to see the linked images. You need to keep track of the location of the images and make sure the recipient knows where to put them on another machine, so the Calc document can find them. For example, you might keep images in a subfolder named Images (under the folder containing the Writer document); the recipient of the Calc file needs to put the images in a subfolder with the same name (under the folder containing the Writer document).

### Note

When inserting the same image several times in the document, it might appear beneficial to create links. However, this is not necessary, as LibreOffice embeds only one copy of the image file in the document. (Deleting one or more of the copies does not affect the others.)

### Embedding linked images

If you originally linked the images, you can easily embed (save in the Calc document) one or more of them later if you wish. To do so:

- 1) Open the document in Calc.
- 2) Choose **Edit** → **Links** from the menu bar.

The Edit Links dialog shows all the linked files. In the *Source file* list, select the files you want to change from linked to embedded.

- 3) Click the **Break Link** button.

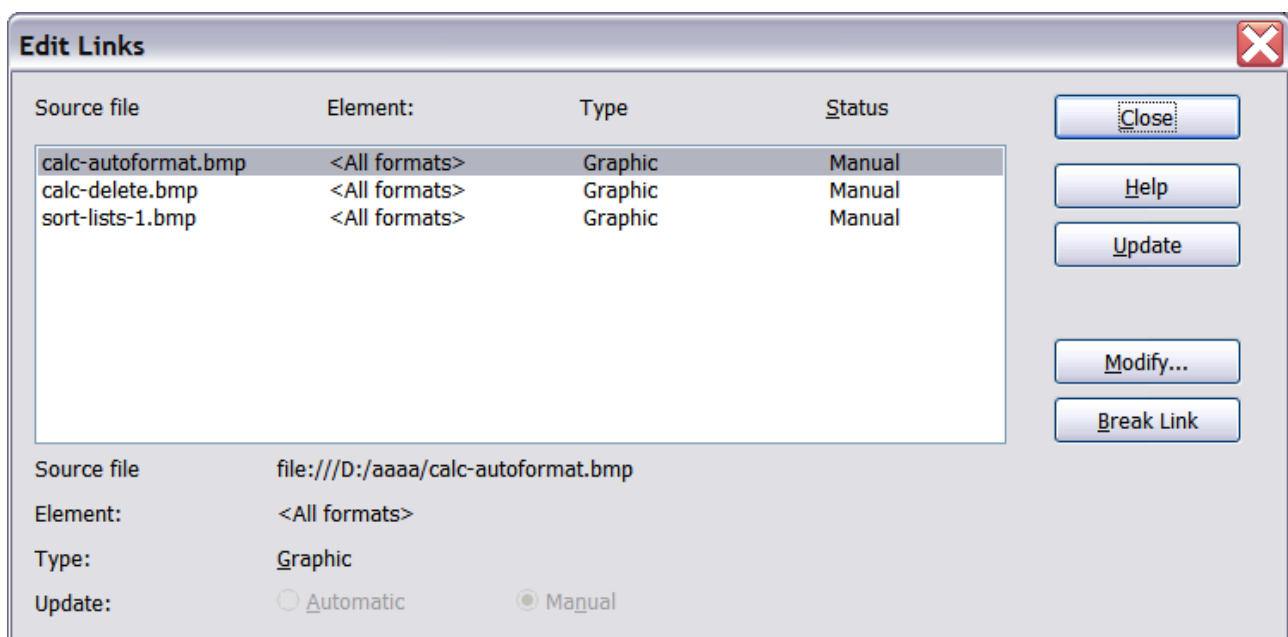


Figure 2: The Edit Links dialog

## Note

Going the other way, from embedded to linked, is not so easy—you must delete and reinsert each image, one at a time, selecting the **Link** option when you do so.

## Inserting an image from the clipboard

Using the clipboard, you can copy images into a Calc document from another Calc document, from another component of LibreOffice (Writer, Draw, and so on), and from other programs.

To do this:

- 1) Open both the source document and the Calc document into which you want to copy the image.
- 2) In the source document, select the image to be copied.
- 3) Press *Control*+*C* to copy the image to the clipboard.
- 4) Switch to the Calc window.
- 5) Click to place the cursor where the graphic is to be inserted.
- 6) Press *Control*+*V* to insert the image.

## Caution




If the application from which the graphic was copied is closed before the graphic is pasted into Calc, the image stored on the clipboard could be lost from the clipboard.

## Inserting an image from the Gallery

The Gallery provides a convenient way to group reusable objects such as graphics and sounds that you can insert into your documents.

The Gallery is available in all components of LibreOffice. It does not come with many graphics, but you can add your own pictures or find extensions containing more graphics. The Gallery is explained in more detail in Chapter 11, Graphics, the Gallery, and Fontwork, in the *Getting Started* guide. For more about extensions, see Chapter 14, Setting Up and Customizing Calc, in this book.

This section explains the basics of inserting a Gallery image into a Calc document.

- 1) To open the Gallery (Figure 3), click on the Gallery icon  (located in the right side of the Standard toolbar) or choose **Tools** → **Gallery** from the menu bar.
- 2) Navigate through the Gallery to find the desired picture.
- 3) To insert the picture, either right-click on the picture and choose **Insert** → **Copy** or click and drag the picture from the Gallery into the Calc document.

By default, the Gallery is docked above the Calc workspace. To expand the Gallery, position the pointer over the line that divides it from the top of the workspace. When the pointer changes to parallel lines with arrows, click and drag downward. The workspace resizes in response.

To expand the Gallery without affecting the workspace, undock it so it floats over the workspace. To do so, hold down the *Control* key and double-click on the upper part of the Gallery next to the View icons. Double-click in the same area while holding down the *Control* key to dock it again (restore it to its position over the workspace).

When the Gallery is docked, to hide it and view the full Calc workspace, click the **Hide/Show** button in the middle of the thin bar separating the Gallery from the workspace (circled in Figure 3).

To close the Gallery, choose **Tools** → **Gallery** to uncheck the Gallery entry, or click on the Gallery icon again.



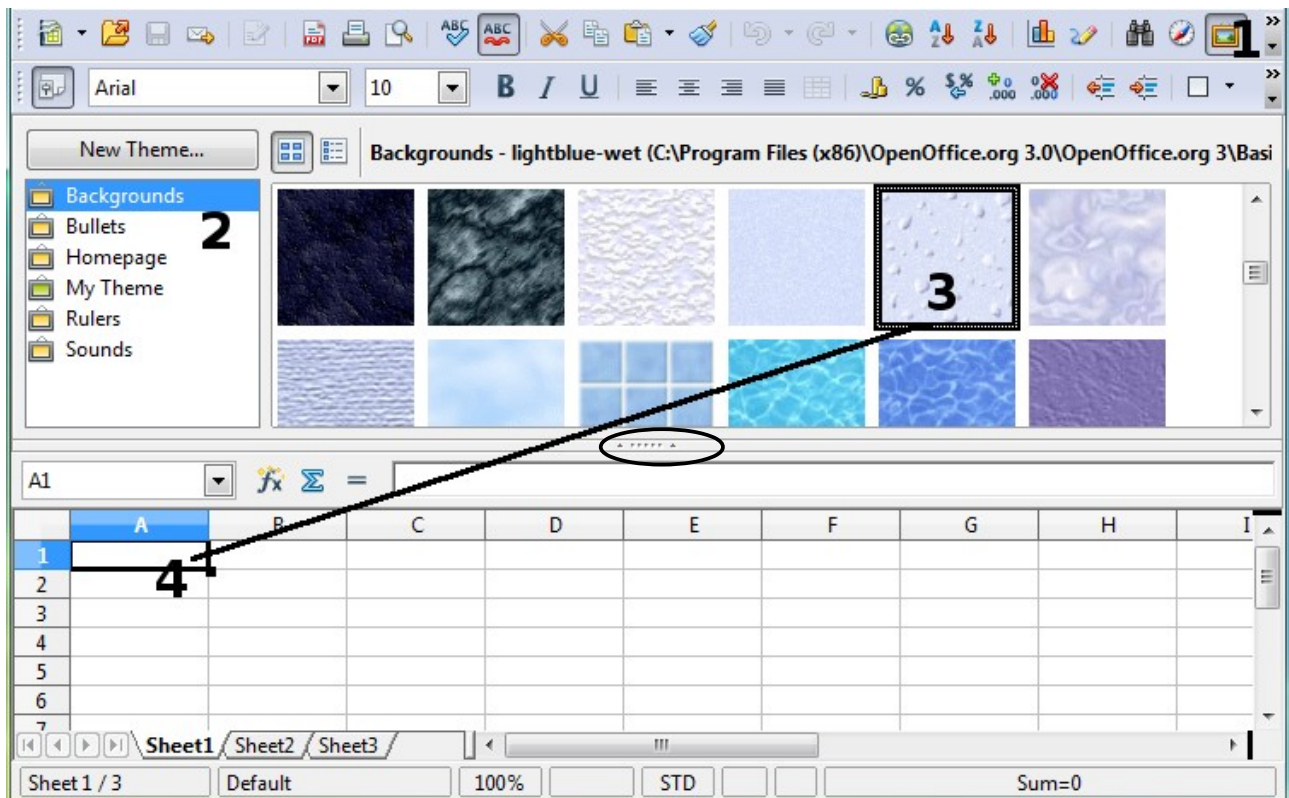


Figure 3: Gallery in Calc

## Modifying images

When you insert a new image, you may need to modify it to suit the document. This section describes the use of the Picture toolbar, resizing, cropping, and a workaround for rotating a picture. Changes made in Calc do not affect the original picture, whether it is embedded or linked.

Calc provides many tools for working with images. These tools are sufficient for most people's everyday requirements. However, for professional results it is generally better to use an image manipulation program such as GIMP to modify images (for example, to crop, resize, rotate, and change color values) and then insert the result into Calc. GIMP is an open-source graphics program that can be downloaded from <http://www.gimp.org/downloads/>.

### Using the Picture toolbar

When you insert an image or select one already present in the document, the Picture toolbar appears. You can set it to always be present (**View** → **Toolbars** → **Picture**). Picture control buttons from the Picture toolbar can also be added to the Standard Toolbar. See Chapter 14, Setting Up and Customizing Calc, for more information.

This toolbar can be either floating or docked. Figure 4 shows the Picture toolbar when it is floating. A brief explanation of the tools is given in Table 1. See the *Draw Guide* for a more detailed explanation.

Two other toolbars can be opened from this one: the Graphic Filter toolbar, which can be torn off and placed elsewhere on the window, and the Color toolbar, which opens as a separate floating toolbar.



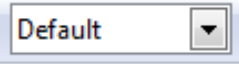

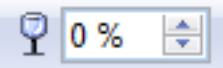







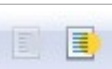

From these three toolbars, you can apply small corrections to the graphic or obtain special effects.





Figure 4: The Picture Toolbar

Table 1: Picture toolbar functions (from left to right)

Icon	Name	Behavior
	From File	Use of this icon is described in “Inserting an image file” on page 4.
	Filter	Displays the Graphic Filter toolbar. See page 10.
	Graphics Mode	Provides several color modes in the drop-down list. See page 10.
	Color	Opens the Color toolbar, described on page 11.
	Transparency	Sets the transparency of the selected image. See page 11.
	Line	Adjusts the border style of the selected image.
	Area	Fills an area with the selected color or pattern.
	Shadow	Adds a drop shadow to the edges of the picture.
	Crop	Opens the Crop dialog, where you can remove a selected part of the picture. See page 11.
	Anchor	Toggles between anchoring the image to the cell or to the page. See page 19.
	Bring to Front	Brings the selected image to the front of the stack. See page 18.
	Send to Back	Pushes the selected image to the rear of the stack. See page 18.
	To Foreground / Background	Allows image to float in the foreground or makes it part of the background (behind the cells). See page 18.
	Alignment	If two or more pictures are selected, adjusts the horizontal and vertical alignment of the pictures in relation to each other. See page 20.


## Choosing a graphics mode

You can change color images to grayscale by selecting the image and then selecting **Grayscale** from the Graphics mode list.

Table 2: Graphics modes

Graphics mode	Behavior
Default	Keeps the picture the same as it was inserted.
Grayscale	Shows the picture in gradual shades of gray.
Black / White	Converts the picture into a monochromatic black and white image.
Watermark	Makes the picture into a watermark that blends into the background.

## Using graphic filters

Click the Filter icon  to display the Graphic Filter toolbar, which provides options for applying basic photographic and effect filters to images from within Calc. To “tear off” this toolbar and place it anywhere on the screen, click on the three parallel lines and drag it away.

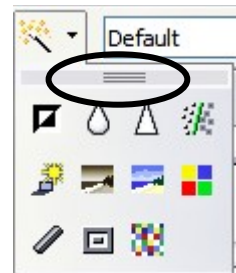













Table 3: Graphic filters and their effects

Icon	Name	Behavior
	Invert	Inverts the colors in the picture like a negative.
	Smooth	Applies a Gaussian Blur to the image which softens edges.
	Sharpen	Sharpens the image.
	Remove Noise	Applies crude noise reduction.
	Solarization	Reverses a portion of the tones, then produces pronounced outlines of the highlights.
	Aging	Applies a Sepia filter.
	Posterize	Opens a dialog to determine the number of poster colors. This effect is based on the reduction of the number of colors. It makes photos look like paintings.
	Pop Art	Applies a Pop Art style to the image.
	Charcoal Sketch	Applies a Charcoal Sketch look to the image.
	Relief	Displays a dialog for creating reliefs. The position of the imaginary light source that determines the type of shadow can be chosen.
	Mosaic	Joins small groups of pixels into rectangular areas of the same color. The larger the individual rectangles are, the fewer details the graphic image has.

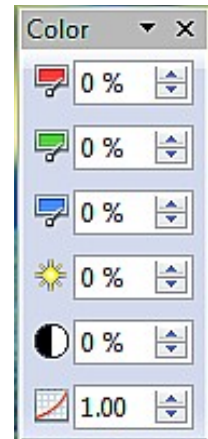
## Caution



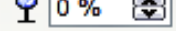
Applying LibreOffice picture filters to any image consecutively will progressively degrade the quality of the image. The picture filters used in Calc utilize what is known as a Destructive Editing algorithm, whereby each filter is applied to the image immediately, changing the original data of the image. Successive transformations result in less and less original data remaining, thus compromising the quality of the inserted picture. While this might be acceptable for use in simple documents, it is still recommended that dedicated photo or image editing software be used to perform anything but the simplest of manipulations.

## Adjusting colors

Use the Color toolbar to adjust an image's red, green, and blue channels independently, as well as its brightness, contrast and gamma.



## Setting transparency


Modify the percentage value in the *Transparency* box  on the Picture toolbar to make the image more transparent. This is particularly useful when creating a watermark or when wrapping an image in the background.

## Customizing lines, areas, and shadows

The Line, Area, and Shadow icons open dialogs where you can customize these elements. Details are in the *Draw Guide*.

## Cropping pictures

When you are only interested in a section of the image for the purpose of your document, you may wish to crop (cut off) parts of it. The user interface in Calc for cropping an image is not very friendly, so it may be a better choice to use a graphics package.

Click the Crop icon  to open a dialog where you can select which portion of the image you want to remove.

It is not possible to use the mouse to select the area to be cropped, as you can in Draw. Instead, in the Crop dialog, specify how far from the top, bottom, left and right borders of the image the crop should be, as illustrated in Figure 5. On the thumbnail in the figure, notice that the cropped selection is highlighted with an inner rectangle.

On the Crop dialog, you can control the following parameters:

### Keep scale / Keep image size

When **Keep scale** is selected (default), cropping the image does not change the scale of the picture.

When **Keep image size** is selected, cropping enlarges (for positive cropping values), shrinks (for negative cropping values), or distorts of the image so that the image size remains constant.

### Left, Right, Top, and Bottom

The image is cropped by the amount entered in these boxes. For example, a value of **3cm** in the *Left* box cuts 3 cm from the left side of the picture.

- When **Keep scale** is selected, the size of the image also changes, so in this example the width will be reduced by 3 cm.

- When **Keep image size** is selected, the remaining part of the image is enlarged (when you enter positive values for cropping) or shrunk (when you enter negative values for cropping) so that the width and height of the image is not changed.

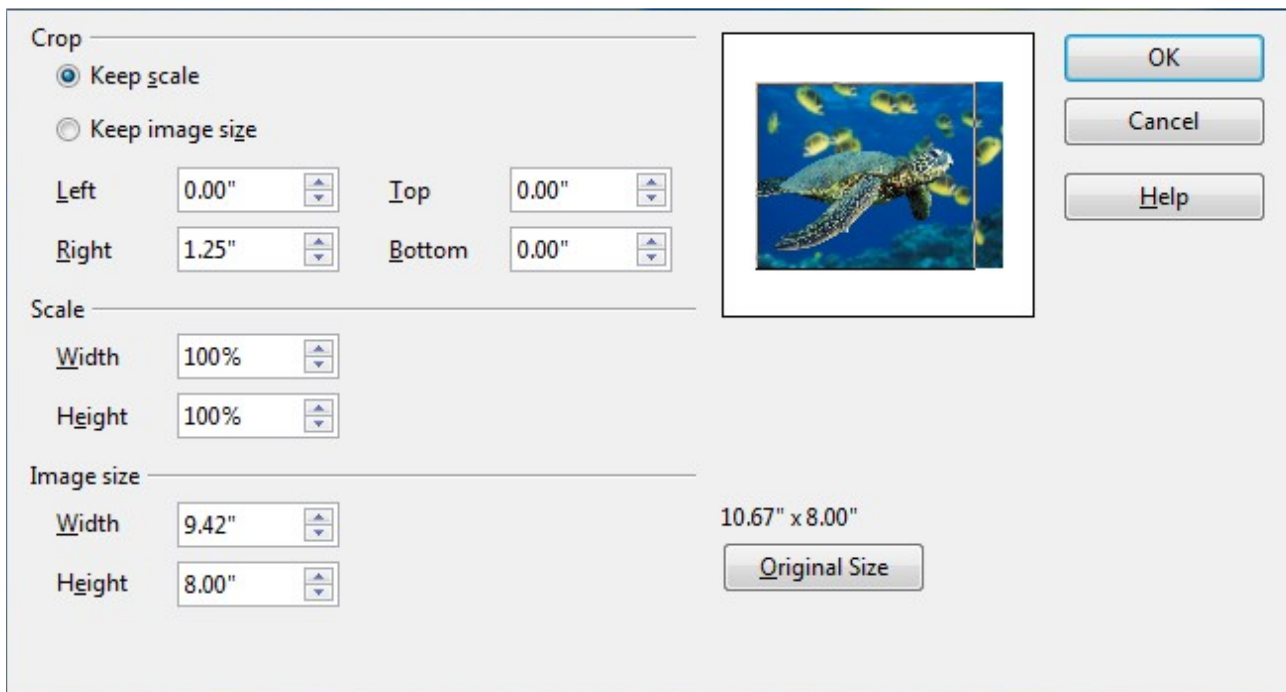


Figure 5: The Crop dialog

### Width and Height

The *Width* and *Height* fields under either *Scale* or *Image size* change as you enter values in the *Left*, *Right*, *Top*, and *Bottom* fields. Use the thumbnail next to these fields to determine the correct amount by which to crop.

The cropped shape is always a rectangle; more complex cropped shapes are not possible in Calc. Instead, use a dedicated photo or image editing software for the job, then import the image into Calc.

#### Note

If you crop an image in Calc, the picture itself is not changed. If you export the document to HTML, the original image is exported, not the cropped image.

## Resizing an image

To resize an image.

- 1) Click the picture, if necessary, to show the green resizing handles.
- 2) Position the pointer over one of the green resizing handles. The pointer changes shape giving a graphical representation of the direction of the resizing.
- 3) Click and drag to resize the picture.
- 4) Release the mouse button when satisfied with the new size.

The corner handles resize both the width and the height of the graphic object simultaneously, while the other four handles only resize one dimension at a time.

## Tip


To retain the original proportions of the graphic, *Shift+click* one of the corner handles, then drag. Be sure to release the mouse button **before** releasing the *Shift* key.

Resizing a bit-mapped (raster) image such as a photograph adversely affects the resolution, causing some degree of blurring. It is better to use a graphics package to size your picture correctly before inserting it into your document, if possible.

For more accurate resizing, use the Position and Size dialog, described on page 13.

## Rotating a picture

Calc does not provide a tool for rotating a picture, but you can use this workaround:

- 1) Open a new *Draw* or *Impress* document.
- 2) Insert the image you want to rotate.
- 3) Select the image, then in the Drawing toolbar (shown by default at the bottom of the window in Impress and Draw), select the **Rotate** icon .
- 4) Rotate the image as desired. Use the red handles at the corners of the picture and move the mouse in the direction you wish to rotate. By default the picture rotates around its center (indicated by a black crosshair), but you can change the pivot point by moving the black crosshair to the desired rotation center.

## Tip

To restrict the rotation angle to multiples of 15 degrees keep the *Shift* key pressed while rotating the image.

- 5) Select the rotated picture by pressing *Ctrl+A*, then copy the image to the clipboard with *Ctrl+C*.
- 6) Finish by going back to the Calc document, place the cursor where the image is to be inserted, and press *Ctrl+V*.

## Using the picture context menu

Many of the options accessible from the Picture toolbar can also be reached by right-clicking on an image to pop up a context menu. Some additional options are only available from the context menu; these are described in this section.

### Text

Opens a dialog where you can set the options for text that goes over a picture. To write text over a graphic, click on the graphic to select it, and then press Enter. There should be a cursor inside the graphic. Any text entered is part of the graphic, so if the graphic is moved the text will move with it.

### Position and Size

Opens the dialog shown below where you can change the size, location, rotation, slant and corner radius of the image.

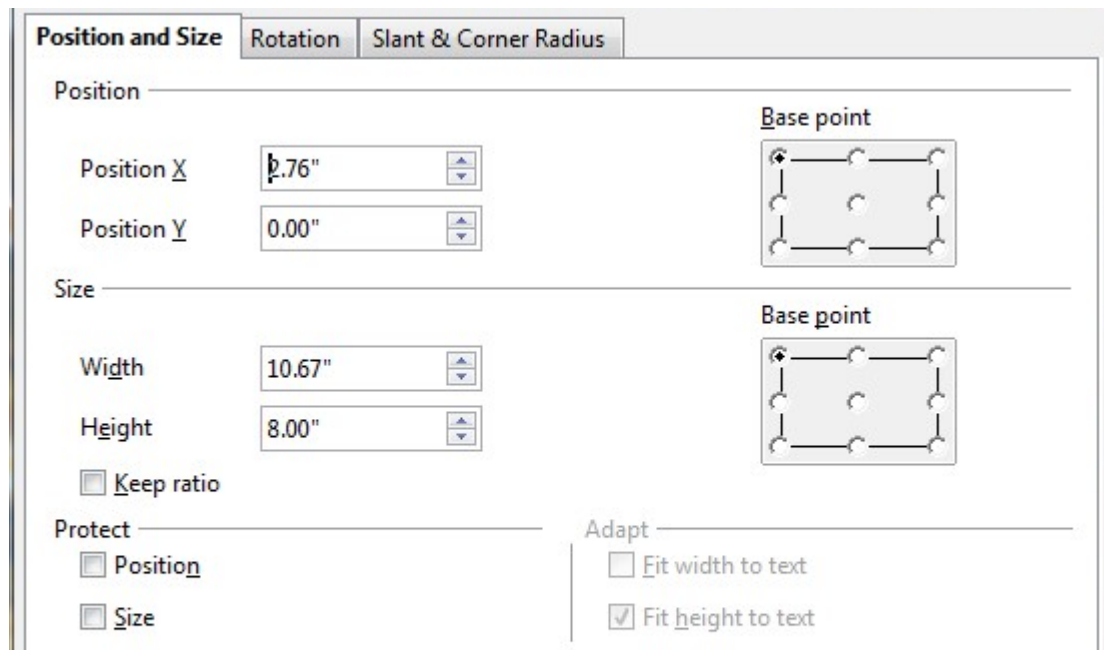


Figure 6: Position and Size dialog

## Original Size

Resets the dimensions of the image to the values when it was originally inserted into the document.

## Description

You can add metadata in the form of a title and description to the image. This information is used by accessibility tools (such as screen reader software) and as ALT (alternative) attributes if you export the document to HTML.

## Name

You can add a custom name to be assigned to the image, to make it easier to find in the Navigator.

### Tip

When collaborating with a team on a large, multi-page publication, it may be beneficial to give graphics, figures, and other objects meaningful names and descriptions to aid in clear communication.

## Flip

Flips the image either horizontally or vertically.

## Assign Macro

Adds programmable functionality to the image. Calc provides rich macro functionality. Macros are introduced in Chapter 12, Calc Macros.

## Group

To group images:

- 1) Select one image, then hold down the *Shift* key and click in turn on each of the others that you want to include in the group. The invisible “bounding box” (with the 8 green handles) expands to include all the selected images.
- 2) With the images selected, choose **Format** → **Group** → **Group** from the menu bar.

Or hover the mouse pointer over one of the images. When the pointer changes shape from an arrow to a hand, right-click and choose **Group** → **Group** from the context menu.

### Note

You cannot include drawing objects in a group with pictures.

After images are grouped, the context menu provides other choices (**Ungroup** and **Edit Group**) and the **Format** → **Group** menu includes **Ungroup** and **Enter Group**. For more information about grouping, see the *Draw Guide*.

## Using Calc's drawing tools

Calc, like the other components of LibreOffice, has a range of tools to create custom drawings. This chapter covers the default options in Calc. For a more detailed explanation of the drawing tools and their uses, see the *Draw Guide*.







In general, if you need to create complex drawings, it is recommended to use LibreOffice Draw or another drawing program.

To begin using the drawing tools, choose **View** → **Toolbars** → **Drawing**. The Drawing toolbar appears at the bottom of the screen. You can tear off this toolbar and move it to a convenient place on the window.



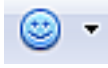










Figure 7: The Drawing toolbar showing default icons







Table 4: Drawing toolbar functions (from left to right)

Icon	Name	Behavior
	Select	Selects objects.
	Line	Draws a line.
	Rectangle	Draws a rectangle. To draw a square, hold down <i>Shift</i> while you drag.
	Ellipse	Draws an ellipse. To draw a circle, hold down <i>Shift</i> while you drag.
	Freeform Line	Draws a freeform line.
	Text	Draws a text box with no border.



<b>Icon</b>	<b>Name</b>	<b>Behavior</b>
	Callouts	Draws a line that ends in a rectangular callout.
	Basic Shapes	Opens the Basic Shapes toolbar.
	Symbol Shapes	Opens the Symbol Shapes toolbar.
	Block Arrows	Opens the Block Arrows toolbar of shapes.
	Flowcharts	Opens the Flowchart toolbar of shapes.
	Callouts	Opens the Callouts toolbar of shapes.
	Stars	Opens the Stars toolbar of shapes.
	Points	Allows editing of the points of a selected polygon.
	Fontwork Gallery	Opens the Fontwork Gallery.
	From File	Inserts a picture using the Insert Picture dialog.
	Extrusion On/Off	Opens the 3-D Setting toolbar and converts the selected shape (if any) to 3-D.

To display other icons, click the down-arrow at the right-hand end of the toolbar, select **Visible Buttons**, and then choose the tools you want to appear on the toolbar.

<b>Icon</b>	<b>Name</b>	<b>Behavior</b>
	Polygon	Draws a line composed of a series of straight line segments. Hold down the <i>Shift</i> key to position new points at 45 degree angles.
	Curve	Draws a smooth Bézier curve.
	Arc	Draws an arc.
	Ellipse Pie	Draws a filled shape that is defined by the arc of an oval and two radius lines in the current document. To draw a circle pie, hold down <i>Shift</i> while you drag.
	Circle Segment	Draws a filled shape that is defined by the arc of a circle and a diameter line in the current document. To draw an ellipse segment, hold down <i>Shift</i> while you drag.
	Text Animation	Inserts animated text.

If support for Asian languages has been enabled (in **Tools** → **Options** → **Language Settings** → **Languages**), two more tools can be added to the Drawing toolbar: Vertical Text and Vertical Callouts.

To use a drawing tool:

- 1) Click in the document where you want the drawing to be anchored. You can change the anchor later, if necessary.
- 2) Select the tool from the Drawing toolbar (Figure 7). The mouse pointer changes to a cross-hair pointer.
- 3) Move the cross-hair pointer to the place in the document where you want the graphic to appear and then click-and-drag to create the drawing object. Release the mouse button. (Some tools have other requirements; see the Help or the *Draw Guide* for details.)  
The selected drawing function remains active, so you can draw another object of the same type.
- 4) To cancel the selected drawing function, press the *Esc* key or click on the **Select** icon (the arrow) on the Drawing toolbar.
- 5) You can now change the properties (fill color, line type and weight, anchoring, and others) of the drawing object using either the Drawing Object Properties toolbar (Figure 8) or the choices and dialog boxes reached by right-clicking on the drawing object.

## Set or change properties for drawing objects

To set the properties for a drawing object before you draw it:

- 1) On the Drawing toolbar (Figure 7), click the **Select** tool.
- 2) On the Drawing Object Properties toolbar (Figure 8), click on the icon for each property and select the value you want for that property.
- 3) For more control, or to define new attributes, you can click on the **Area** or **Line** icons on the toolbar to display detailed dialogs.

These default properties are applied only to the current document and session. They are is not retained when you close the document, and they do not apply to any other document. The defaults apply to all the drawing objects except text objects.

To change the properties for an existing drawing object, select the object and continue as described above.

Other tools and methods for modifying and positioning graphics are described in “Positioning graphics” below.



- |               |                        |                                  |              |
|---------------|------------------------|----------------------------------|--------------|
| 1 Line        | 5 Line Color           | 9 Change Anchor                  | 13 Alignment |
| 2 Arrow Style | 6 Area                 | 10 Bring to Front                |              |
| 3 Line Style  | 7 Area Style / Filling | 11 Send to Back                  |              |
| 4 Line Width  | 8 Rotate               | 12 To Foreground / To Background |              |

Figure 8. Drawing Object Properties toolbar

## Resizing a drawing object

Select the object, click on one of the eight handles around it and drag it to its new size. For a scaled resizing, select one of the corner handles and keep the *Shift* key pressed while dragging the handle.

For more control of the size of the object, use the Position and Size dialog (see “Position and Size” on page 13) to set the width and height independently. If the **Keep ratio** option is selected, then the two dimensions change so that the proportion is maintained, allowing for a scaled resizing.

## Grouping drawing objects

To group drawing objects:

- 1) Select one object, then hold down the *Shift* key and select the others you want to include in the group. The bounding box expands to include all the selected objects.
- 2) With the objects selected, hover the mouse pointer over one of the objects and choose **Format** → **Group** → **Group** from the menu bar or right-click and choose **Group** → **Group** from the context menu.

### Note

You cannot include an embedded or linked graphic in a group with drawing objects.

## Positioning graphics

Graphics can be positioned in LibreOffice Calc to work together and build more complex features.

## Arranging graphics

Graphics in a Calc document are maintained in a similar manner to a deck of cards. As you add more images to the document, each image occupies a new layer at the top of the stack. To arrange graphics, you tell Calc to change the order of layers in the stack.



Figure 9: Layering effect

Calc provides four basic options to re-arrange the order of images. These options can be accessed from both the Picture toolbar and the picture context menu:

### Bring to Front

Places the image on top of any other graphics or text.

### Bring Forward

Brings the image one level up in the stack (z-axis). Depending on the number of overlapping objects, you may need to apply this option several times to obtain the desired result.

### Send Backward

The opposite of Bring Forward; sends the selected image one level down in the object stack.

### Send to Back

Sends the selected graphic to the bottom of the stack, so that other graphics and text cover it.

### To Background and To Foreground

An image or a drawing object can be sent to the background as well. This is not the same as Bring Forward and Send Backward, which set the order of a number of overlapping graphics. This feature pushes a graphic behind the cells, allowing cells to be edited without affecting the graphic.

A graphic in the background will have To Foreground as a menu item, instead of To Background.

## Anchoring graphics

Anchors tell a graphic where to stay in relation to other items.

### Anchor to page

Anchoring a graphic to the page allows it to be positioned in a specific place on the page. The graphic does not move when cells are added or deleted. This is equivalent to an absolute reference. The graphic will always stay by cell B10 if that is where it is placed.

### Anchor to cell

Anchoring a graphic to a cell ensures that the graphic always stays with the content it is originally anchored to. If a graphic is anchored to cell B10, and a new row is inserted, the graphic will then be anchored to cell B11. This is equivalent to a relative reference.

For example, in Figure 10 the picture on the left is anchored *To Cell B2* (XXX shows where the picture is anchored). The picture on the right is anchored to the page.

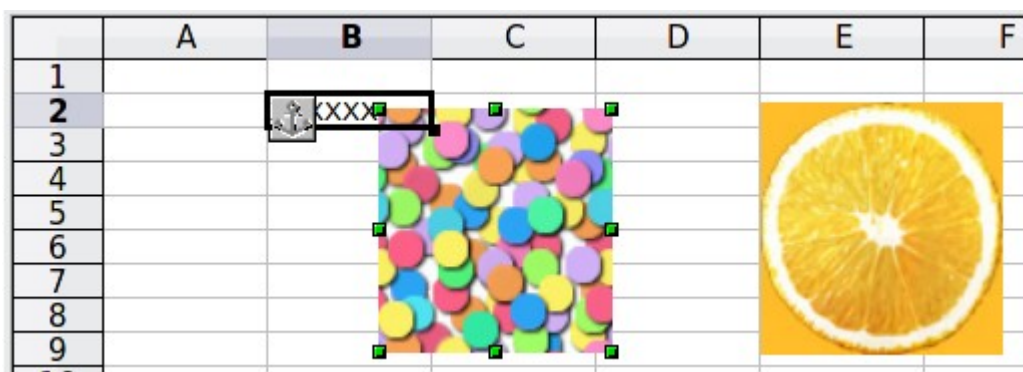


Figure 10: Anchoring 1

If two rows are inserted above the pictures, the picture anchored to a cell will shift down two rows and the anchor will change. The picture anchored to the page will not move. This is illustrated in Figure 11. Note that the anchor symbol and the XXX have moved down to cell B4.



	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Figure 11: Anchoring

## Aligning graphics

You can align several graphics relative to each other. To do this:



- 1) Select all of the graphics to be aligned (*Shift+click* on each in turn). The graphics will be surrounded by an invisible bounding box with 8 green handles.
- 2) On the Picture toolbar, click on the Alignment icon and select one of the six options.  
Or, position the mouse pointer over any of the graphics. When the pointer changes shape from an arrow to a hand, right-click and choose Alignment, then select from the six options.

The six options include three for aligning the graphics horizontally (left, center, right) and three for aligning the graphics vertically (top, center, bottom).

## Creating an image map

An image map defines areas of an image (called *hotspots*) with hyperlinks to web addresses, other files on the computer, or parts of the same document. Hotspots are the graphic equivalent of text hyperlinks. Clicking on a hotspot causes Calc to open the linked page in the appropriate program (for example, the default browser for an HTML page; LibreOffice Calc for a .ODS file; a PDF viewer for a PDF file). You can create hotspots of various shapes, and include several hotspots in the same image.

To use the image map editor:

- 1) In your spreadsheet, select the picture where you want to define the hotspots.
- 2) Choose **Edit** → **ImageMap** from the menu bar. The ImageMap Editor (Figure 12) opens.
- 3) Use the tools and fields in the dialog (described below) to define the hotspots and links necessary.
- 4) Click the **Apply** icon  to apply the settings.
- 5) When done, click the **Save** icon  to save the imagemap to a file, then click the **X** in the upper right corner to close the dialog.



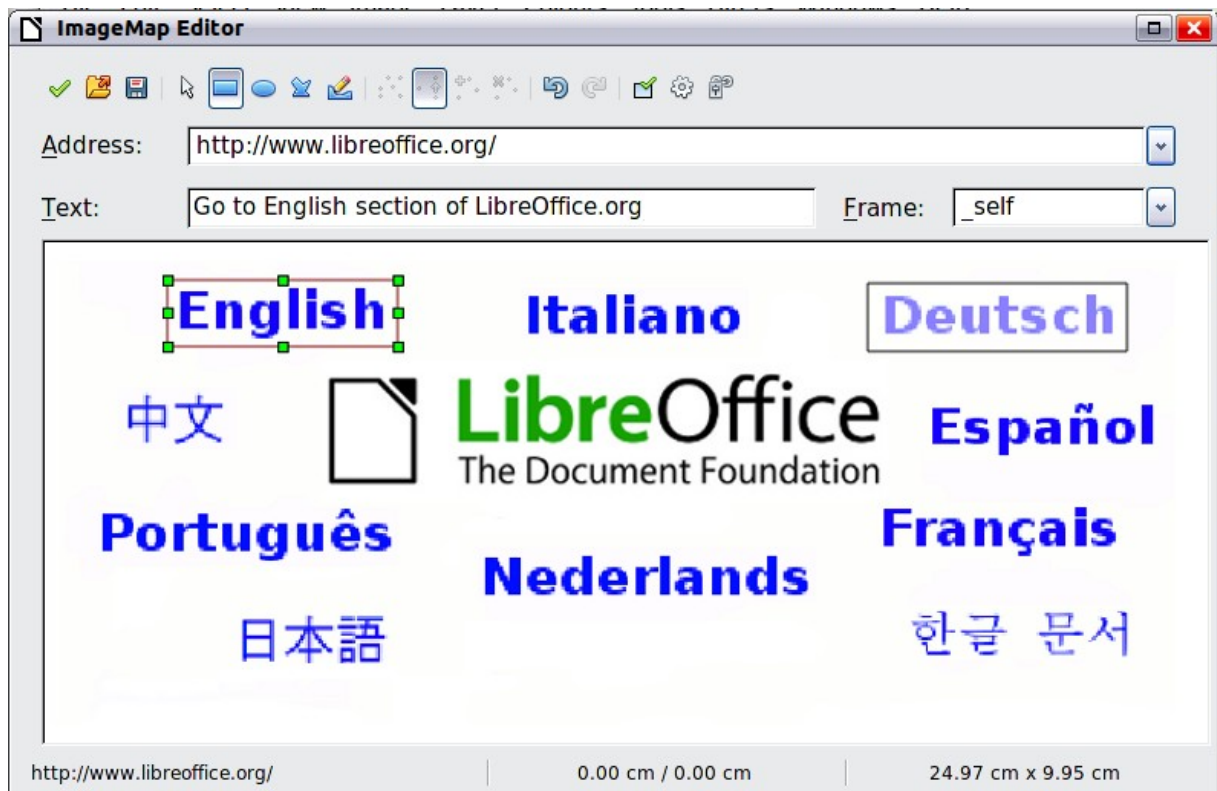


Figure 12: The dialog to create or edit an image map

The main part of the dialog shows the image on which the hotspots are defined. A hotspot is identified by a line indicating its shape.

The toolbar at the top of the dialog contains the following tools:

- **Apply** button: click this button to apply the changes.
- **Load, Save, and Select** icons.
- Tools for drawing a hotspot shape: these tools work in exactly the same way as the corresponding tools in the Drawing toolbar.
- **Edit, Move, Insert, Delete Points**: advanced editing tools to manipulate the shape of a polygon hotspot. Select the Edit Points tool to activate the other tools.
- **Active** icon: toggles the status of a selected hotspot between active and inactive.
- **Macro**: associates a macro with the hotspot instead of just associating an hyperlink.
- **Properties**: sets the hyperlink properties and adds the Name attribute to the hyperlink.

Below the toolbar, specify for the selected hotspot:

- **Address**: the address pointed by the hyperlink. You can also point to an anchor in a document; to do this, write the address in this format:  
**file:/// <path> /document\_name#anchor\_name**
- **Text**: type the text that you want to be displayed when the mouse pointer is moved over the hotspot.
- **Frame**: where the target of the hyperlink will open: pick among `_blank` (opens in a new browser window), `_self` (opens in the active browser window), `_top` or `_parent`.

### Tip

The value `_self` for the target frame will work just fine in the vast majority of occasions. It is therefore not recommended to use the other choices unless absolutely necessary.