LibreOffice
The Document Foundation

Draw Guide

Chapter 4
Changing Object Attributes

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Note for Mac users

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.

Windows or Linux	Mac equivalent	Effect
Tools > Options menu selection	**LibreOffice > Preferences**	Access setup options
Right-click	Control+click or right-click depending on computer setup	Opens a context menu
Ctrl (Control)	⌘ (Command)	Used with other keys
F5	Shift+⌘+F5	Opens the Navigator
F11	⌘+T	Opens the Styles and Formatting window

Documentation for LibreOffice is available at http://www.libreoffice.org/get-help/documentation

Contents

Formatting lines

In LibreOffice the term *line* indicates both a freestanding segment (line), the outer edge of a shape (border), or an arrow. In most cases the properties of the line you can modify are its style (solid, dashed, invisible, and so on), its width, and its color.

Line and Filling toolbar

To quickly format a line using the Line and Filling toolbar (Figure 1):

Figure 1: Line and Filling toolbar

1) Make sure the line is selected.
2) On the Line and Filling toolbar, select the line style you want to use from the **Line Style** drop-down list [image] .
3) On the Line and Filling toolbar, either type the line width in the **Line Width** text box [0.00 "] , or use the up and down arrows to change the line width.
4) On the Line and Filling toolbar, click on the small triangle to the right of the **Line Color** icon [image] and select a color from the dialog that opens.

Figure 2: Sidebar Properties Line subsection

Sidebar

To quickly format a line using the Sidebar (Figure 2):

1) Make sure the line is selected in your drawing.

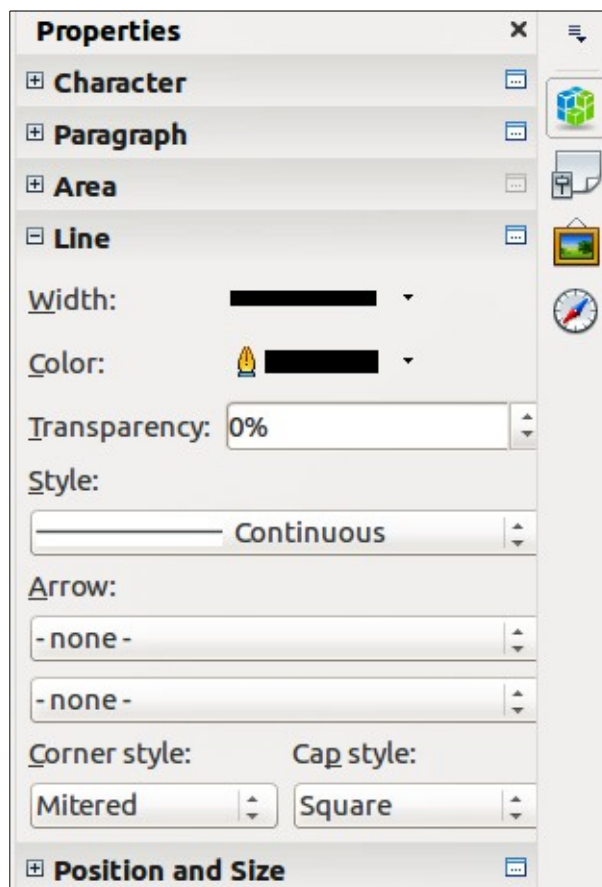2) Click on the **Properties** icon on the Sidebar, then click on the plus sign on the left of the Line title bar to open the **Line** subsection.

3) Use the various options in the **Line** subsection to format the width, color, transparency, and style of the selected line.

4) Select from the drop-down lists in the *Arrow* option to change the line into an arrow. The upper drop-down list adds an arrow head to the beginning of the line. The lower drop-down list adds an arrow head to the end of the line.

5) If the line is segmented, then select the type of *Corner style* and *Cap style* to use from the drop-down lists. For more information, see "Corner and cap styles section" on Page 8.

6) Deselect the line to save your changes to the line.

Line dialog

If you want to fully change the appearance of a line, then you need to use the Line dialog.

1) Select the line on your drawing.

2) Go to **Format > Line** on the main menu bar, or right-click on the line and select **Line** from the context menu, or select the **Line** icon from the Line and Filling toolbar to open the Line dialog (Figure 3), where you can set various options for the selected line. This dialog consists of four pages: *Line*, *Shadow*, *Line Styles*, and *Arrow Styles*. The options on these pages are explained in the following sections.

3) When you have made all your changes to the selected line, click **OK** to close the dialog and save your changes. The preview box at the bottom of the dialog shows the effect of your changes on a line.
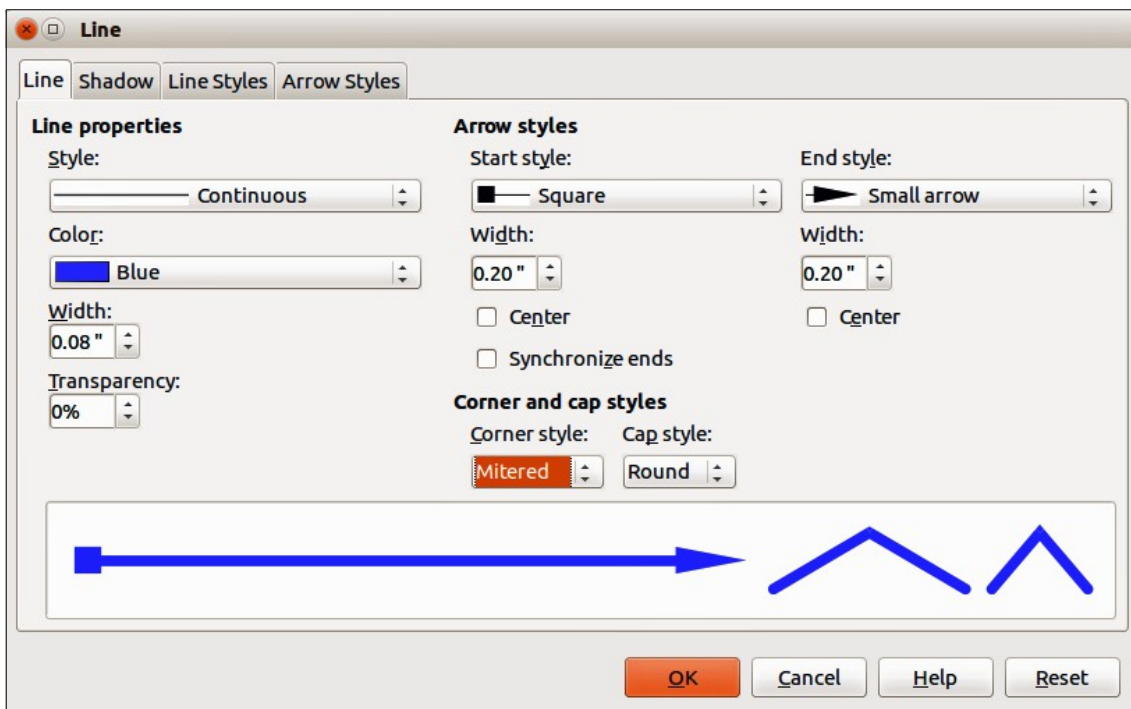

Figure 3: Line properties dialog – Line page

Line properties

The *Line* page is where you can set the basic parameters of the line and is divided into four sections as follows.

Line properties section

Use the *Line Properties* section on the left side to set the following parameters:

- **Line style** – several line styles are available from the drop-down list, but more line styles can be defined if necessary.
- **Color** – choose from the predefined colors in the drop-down list or create a new color.
- **Width** – specifies the thickness of the line.
- **Transparency** – sets the transparency of a line. Figure 4 shows the effects of different percentages in transparency levels to lines when placed over an object.
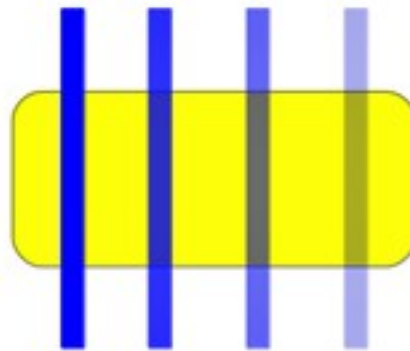
Figure 4: Line transparency effect (0%, 25%, 50%, 75% left to right)

Arrow styles section

The *Arrow styles* section of the *Line* dialog is only applicable to individual lines and is not used for lines that form the borders of a shape.

- **Style** – sets the style of the two ends of a line. The left drop-down menu is for where you start the line and the right drop-down menu is for where you end the line.
- **Width** – specifies the thickness of the arrow endings
- **Center** – moves the center of the arrow endings to the end point of the line. Figure 5 shows the effects of selecting this option.
- **Synchronize ends** – makes the two line ends identical.

Figure 5: Default arrowheads (left) and centered arrowheads (right)

Corner and cap styles section

Corner and cap styles determine how the connection between two segments looks. To appreciate the difference between these styles, choose a thick line style and observe how the preview changes.

- **Corner style** – select the shape to be used at the corners of the line. In case of a small angle between lines, a mitered shape is replaced with a beveled shape.
- **Cap style** – select the style of the line end caps. The caps are added to inner dashes as well.

Arrowheads

A quick way to set the arrowheads for a selected line is to click on the **Arrow Style** icon in the Line and Filling toolbar to open the *Arrowheads* menu (Figure 6). Here you can select one of the many predefined arrowhead styles for the start and ending of the selected line.

Note	Arrowheads are only applicable to lines. They have no effect on the border of an object.
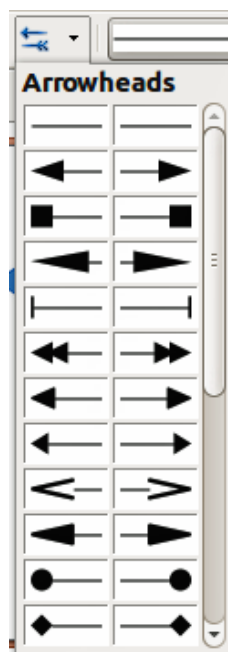
Figure 6: Arrowheads menu

Line shadows

Use the *Shadow* page (Figure 7) of the Line dialog to add and format the line shadow. The settings on this page are the same as those for shadows applied to other objects and are described in "Formatting shadows" on page 25.

A quicker way to apply a shadow to a line is using the **Shadow** icon on the Line and Filling toolbar. The main disadvantage of using the **Shadow** icon is that the shadow appearance will be constrained by the shadow settings of the default graphics style.
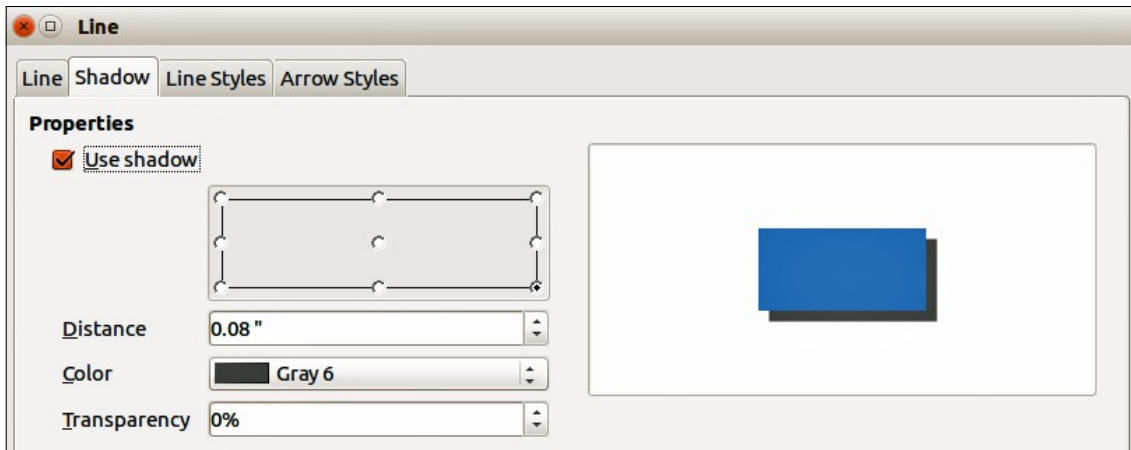
Figure 7: Line properties dialog – Shadow page

Line styles

Use the *Line Styles* page (Figure 8) of the Line dialog to create new line styles as well as to load previously saved line styles. It is normally better to create new styles when necessary than modify predefined styles.
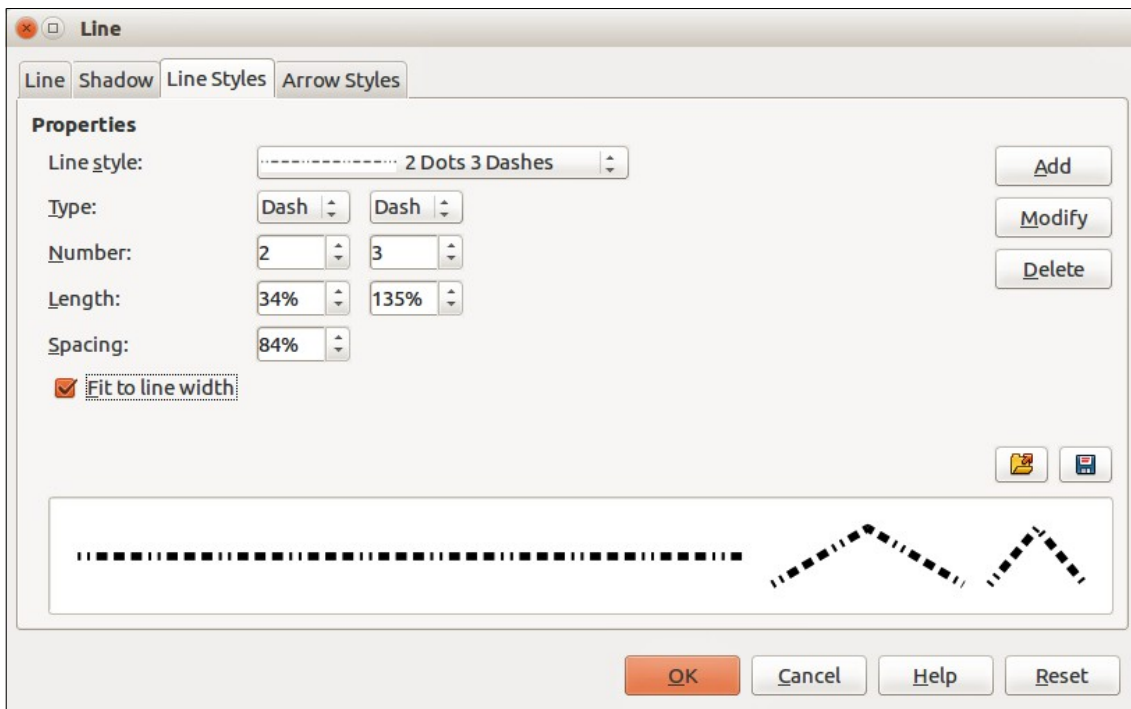
Figure 8: Line dialog – Line Styles page

Creating line styles

To create a new line style:

1) Choose **Format > Line** on the main menu bar, or right-click on the line and select **Line** from the context menu, or select the **Line** icon 🖐 on the Line and Filling toolbar to open the Line dialog.
2) Click on the **Line Styles** tab.
3) Select from the **Line style** drop-down menu a style similar to the style you want to create.
4) Click **Add** and type a name for the new line style in the dialog that opens, then click **OK**.

5) Now define the new style. Start by selecting the line type for the new style. To alternate two line types (for example, dashes and dots) within a single line, select different types in the two **Type** boxes.

6) Specify the **Number** and **Length** (not available for dot style) of each of the types of line selected.

7) Set the **Spacing** between the various elements

8) If necessary, select **Fit to line width** so that the new style fits the width of the selected line.

9) The new line style created is available only in the current document. If you want to use the line style in other documents, click the **Save Line Styles** icon ![icon] and type a unique filename in the *Save as* dialog that opens. Saved styles have the file extension of .sod.

10) To use previously saved line styles, click the **Load Line Styles** icon ![icon] and select a style from the list of saved styles. Click **Open** to load the style into your document.

11) If necessary, click on the **Modify** button to change the name of the style.

12) Click **OK** to close the dialog and save any changes you have made.

Arrow styles

Use the *Arrow Styles* page (Figure 9) of the Line dialog to create new arrow styles, or modify existing arrow styles, or load previously saved arrow styles.
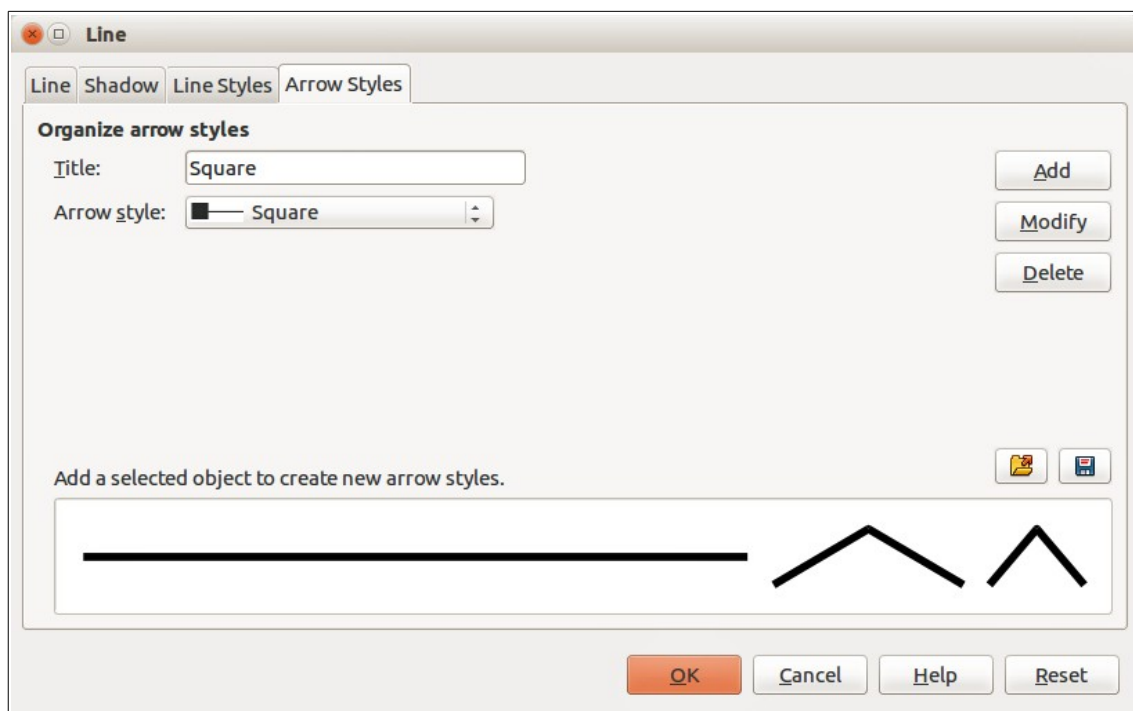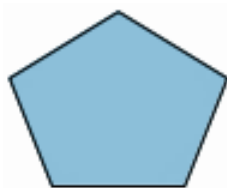

Figure 9: Line dialog – Arrow Styles page

Figure 10: Using shapes for arrow styles

Creating arrow styles

To create a new arrow style:

1) First draw a curve in the shape you want to use for the arrowhead, or create a shape and convert to a curve. The top of the shape must face upward, as shown in Figure 10, because this becomes the point of the arrow.

Note	The arrowhead must be a curve, which is something you can draw without lifting a pencil from the paper. For example, a star can be a curve, but a smiley face cannot be a curve because you have to reposition the pencil on the paper to draw eyes and a mouth on the face.

2) Select the shape and, if necessary, right-click and choose **Convert > To Curve** to convert the shape to a curve. If the shape is already a curve, **To Curve** will not be available.

3) With the selection handles showing, select **Format > Line** from the menu bar, or right-click and choose **Line** from the pop-up menu.

4) Go to the *Arrow styles* page, click the **Add** button, type a name for the new arrow style, and click **OK**. The new arrowhead style will be shown in the preview.

5) Now you can access the new style from the Arrow style list. When you select the name of the new style, it is shown at the bottom of the dialog.

6) The new arrowhead style created is available only in the current document. If you want to use this arrowhead style in other documents, click the **Save Line Styles** icon ⊞ and type a unique filename in the *Save as* dialog that opens. Saved styles have the file extension of .sod.

7) To use previously saved arrowhead styles, click the **Load Line Styles** icon 📁 and select the style from the saved list of styles. Click **Open** to load the style into your document.

8) If necessary. click on the **Modify** button to change the name of the style.

9) Click **OK** to close the dialog and save any changes you have made.

Formatting fill area

The term **area fill** refers to the inside of an object, which can be a uniform color, gradient, hatching pattern, or bitmap as shown in Figure 11. An area fill can be made partly or wholly transparent and can throw a shadow.
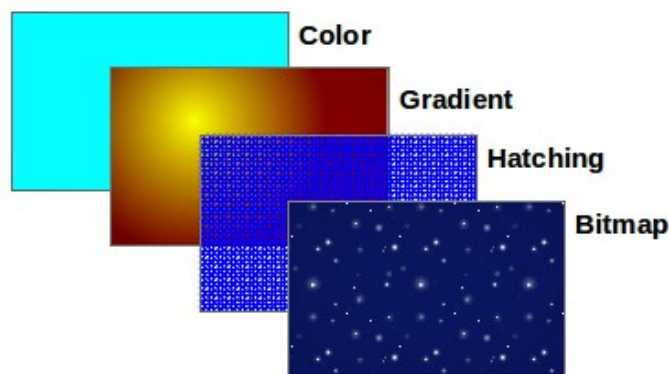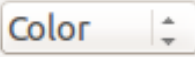

Figure 11: Different types of area fill

Line and Filling toolbar

Tools on the Line and Filling toolbar (Figure 1) provide a wide number of default fillings readily available to quickly format graphic objects. If this toolbar is not showing, go to **View > Toolbars > Line and Filling** on the main menu bar. To format the area of an object:

1) Select an object so that the selection handles are displayed.

2) Click on the left **Area Style/Filling** [Color] drop-down list and select the type of fill required (*None*, *Color*, *Gradient*, *Hatching*, or *Bitmap*) (Figure 12).

3) Click on the right **Area Style/Filling** drop-down list [Tango: Sl] and select one of the available options for the selected type of area fill as shown in Figure 13, Figure 14, Figure 15 and Figure 16. For more information on area fills, see "Area dialog" on Page 13.

4) Deselect the object to save your changes to the object.

Figure 12: Area fill types

Figure 13: Color area fill

Figure 14: Gradient area fill

Figure 15: Hatching area fill

Figure 16: Bitmap image area fill

Figure 17: Sidebar Properties Area subsection

Sidebar

To quickly format the area of an object using the Sidebar (Figure 17):
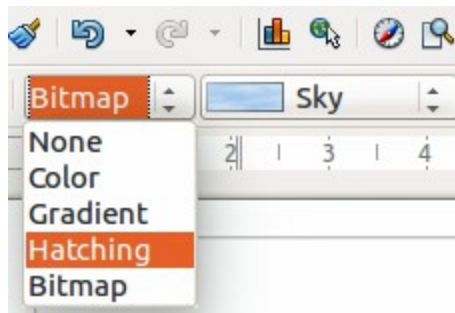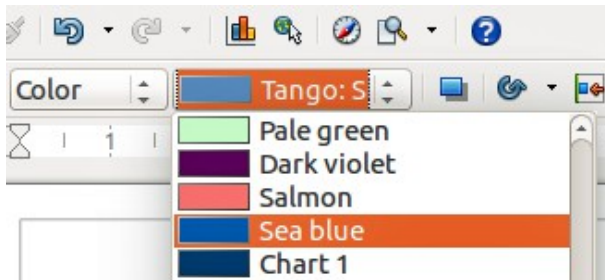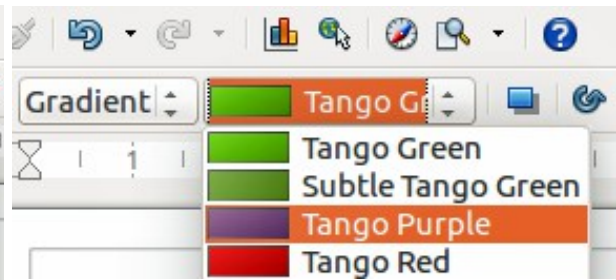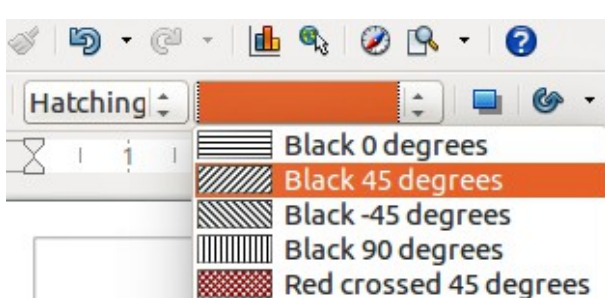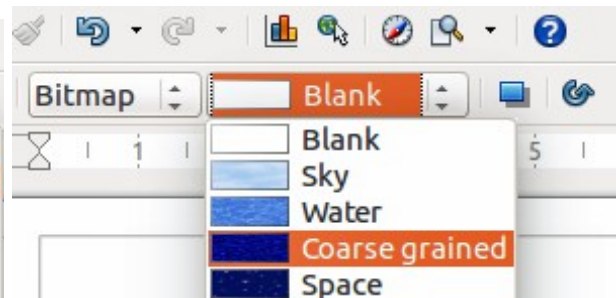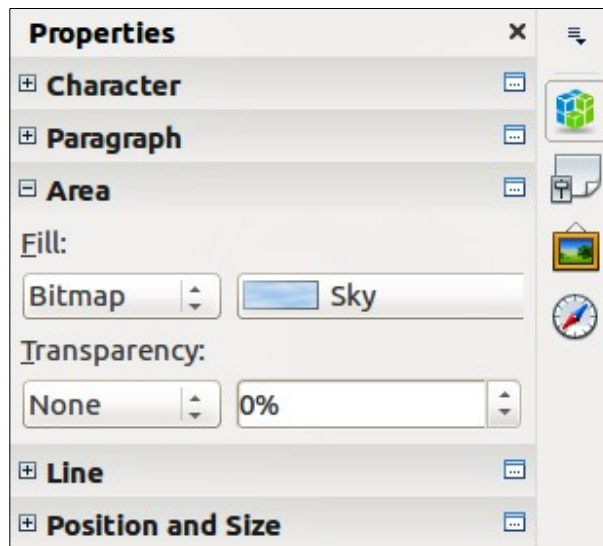
1) Make sure the object is selected in your drawing.

2) Click on the **Properties** icon on the Sidebar, then click on the plus sign on the left of the Area titlebar to open the **Area** subsection.

3) Use the various options in the drop-down lists of the **Area** subsection to format the fill and transparency of the object. For more information on area fills, see "Area dialog" below.

4) Deselect the object to save your changes.

Note	If you have selected a transparency, the options available will depend on the type of transparency selected. For more information on transparencies, see "Transparency formatting" on Page 25.

Area dialog

Use the Area dialog to apply existing area fills with greater control or create your own area fill.

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Area* tab to open the Area page and to apply an area fill. LibreOffice includes several area fills already defined, but you can create area fills yourself. See "Creating new area fills" on page 15 for more information.

4) Select the type of area fill from the drop-down list: *None*, *Color*, *Gradient*, *Hatching*, or *Bitmap*. Types of area fill are explained below.

5) Select the style of area fill from the options that become available. The number of available options will depend on the type of area fill selected above.

6) Click **OK** to close the dialog and save your changes. The area fill will then appear in the selected object.
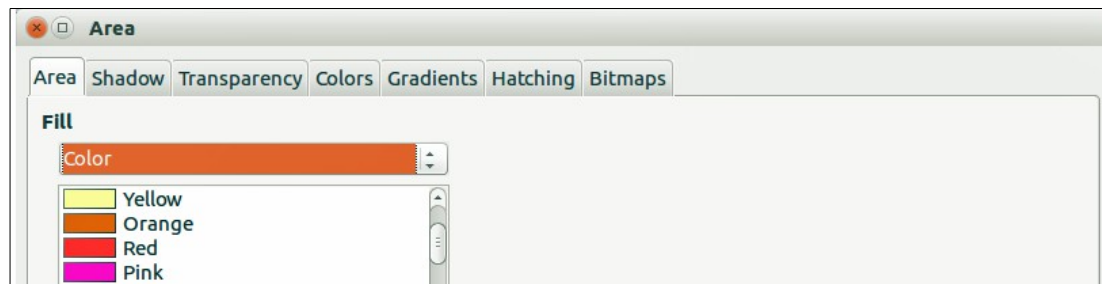
Figure 18: Area dialog – Area page available colors

Types of area fill

- **Color fills** – select **Color** from the *Fill* drop-down list and then select your required color from the list of available colors (Figure 18). A preview of the selected color appears at the bottom of the dialog.

- **Gradient fills** – select **Gradient** from the drop-down list and then select your required gradient from the list of available gradients (Figure 19). You can override the number of steps (increments) that should be applied to the gradient transition. To do so, deselect the **Automatic** option under *Increments* and then enter the number of steps required in the box to the right. A preview of the selected gradient appears at the bottom of the dialog.

Figure 19: Area dialog – Area page available gradients

- **Hatching fills** – select **Hatching** from the drop-down list and then select your required hatching from the list of available hatchings (Figure 20). You can apply a different background color by selecting the **Background color** option and choosing a color from the drop-down list. A preview of the selected hatching appears at the bottom of the dialog.
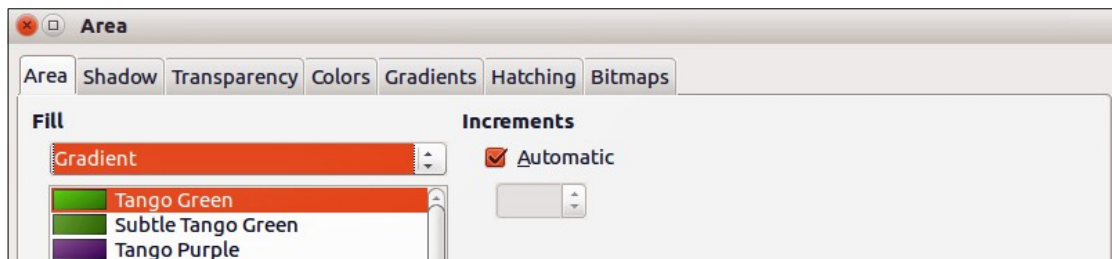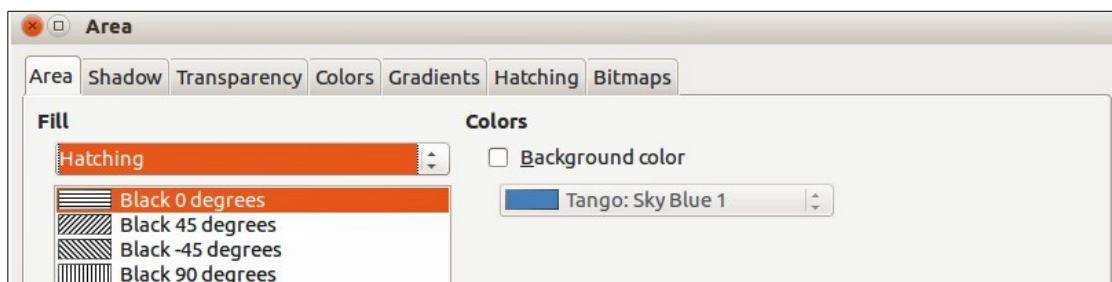

Figure 20: Area dialog – Area page available hatchings

- **Bitmap fills** – select **Bitmaps** from the drop-down list and then select your required bitmap from the list of available bitmaps (Figure 21). You can customize a large number of parameters. A preview of the selected bitmap appears at the bottom of the dialog.
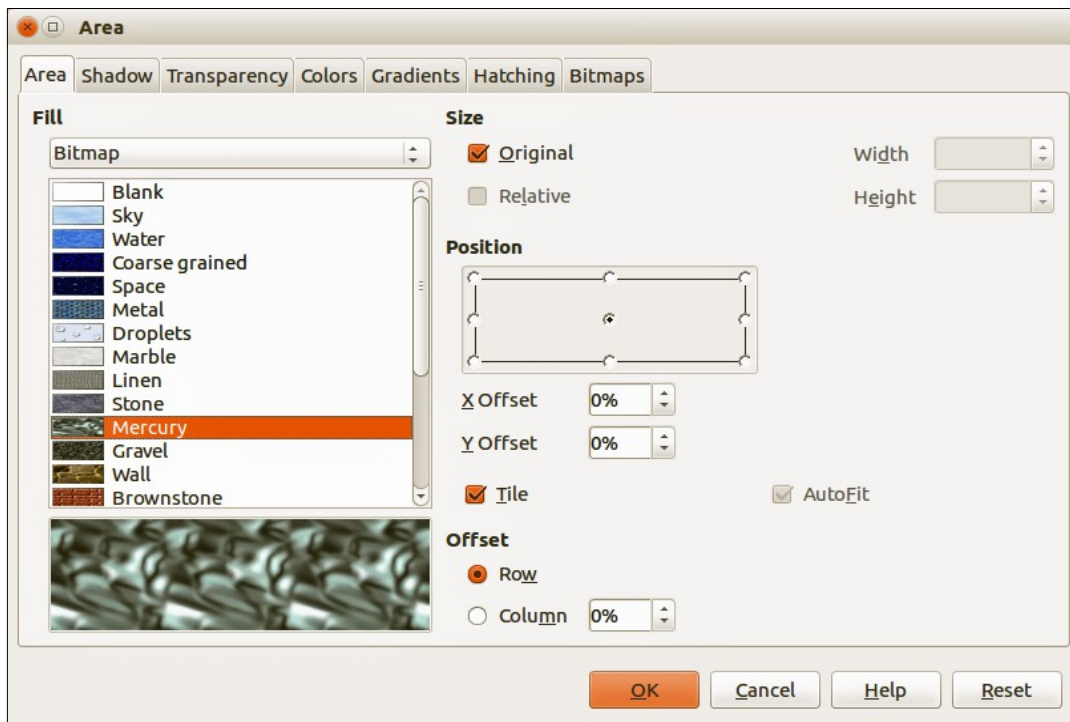
Figure 21: Area dialog – Area page available bitmaps

Creating new area fills

The following sections describe how to create new fills and how to apply them.

Although you can change the characteristics of an existing fill and then click the **Modify** button, it is recommended that you create new fills, or modify custom fills rather than the predefined ones, as these may be reset when updating LibreOffice.

Creating custom colors

On the *Colors* page (Figure 22), you can modify existing colors or create your own. You can also specify a new color either as a combination of the three primary colors Red, Green, and Blue, (RGB notation) or by percentages of Cyan, Magenta, Yellow, and Black (CMYK notation).

Creating new color

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Colors* tab to open the Colors page.

4) Enter a name for the new color in the *Name* box.

5) Select whether to define the color in RGB or CMYK. For RGB, specify the red (R), green (G) and blue (B) component on a 0 to 255 scale. For CMYK, specify the cyan (C), magenta (M), yellow (Y) and black (K) components from 0% to 100%.

6) Click the **Add** button. The color is now added to the *Color* drop-down list.

7) Click **OK** to save your changes and close the dialog.
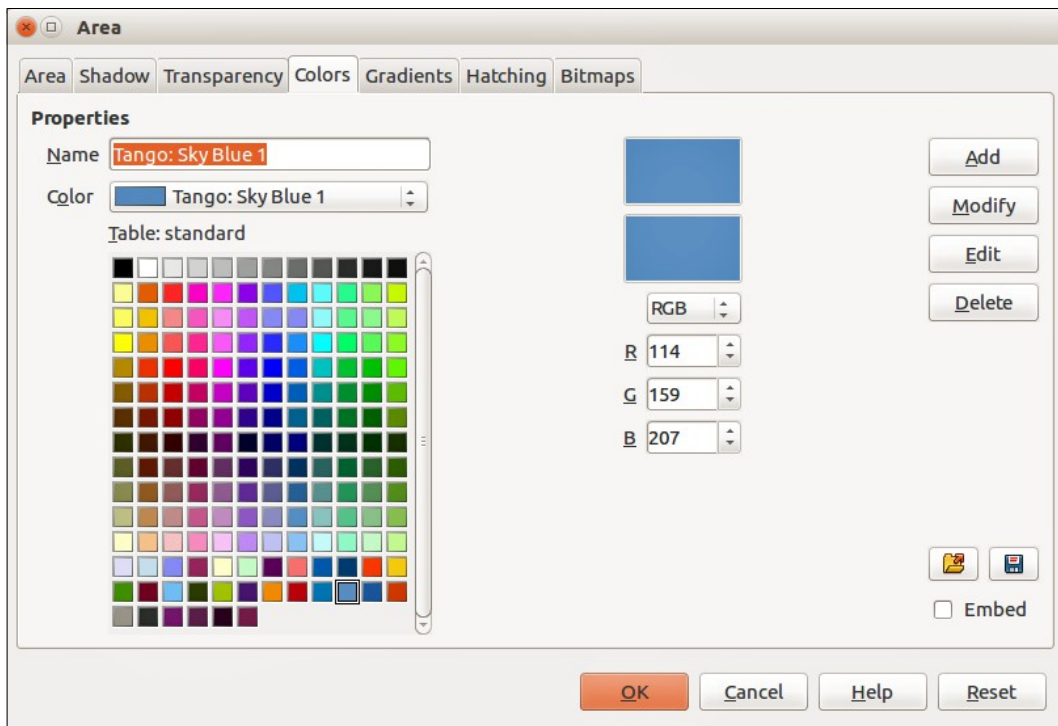
Figure 22: Area dialog – Colors page

Modifying colors

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Colors* tab to open the Colors page.

4) Select the color to modify from the list.

5) Enter the new values that define the color in RGB or CMYK.

6) Modify the name as required.

7) Click **Modify** to save your changes.

8) Click **OK** to close the dialog.

Editing colors

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Colors* tab to open the Colors page.

4) Select the color to edit from the list.

5) Click on the **Edit** button to open the Color Picker dialog (Figure 23).

6) Modify the color components as required using RGB, CMYK or HSB (Hue, Saturation, Brightness).

7) Click **OK** to exit the Color Picker dialog.

8) Modify the name as required.

9) Click **Modify** on the Color dialog to save your changes.

10) Click **OK** to close the dialog.
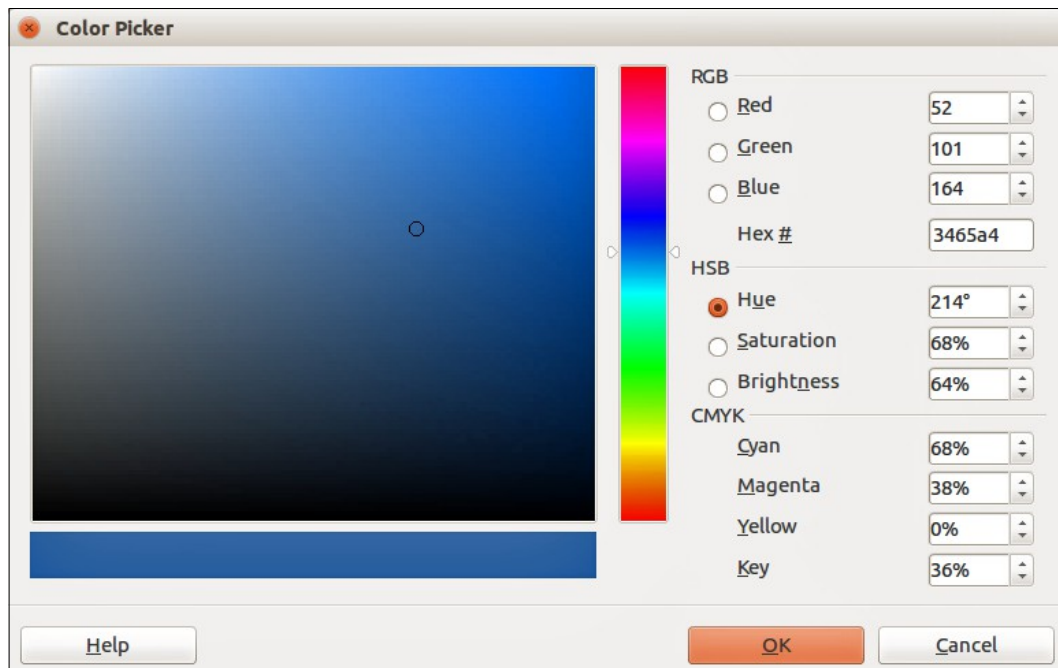
Figure 23: Color Picker dialog

Saving and using new colors

Any new color created is available only in the current document. If you want to use this color in other documents, click the **Save Color List** icon ![icon] and type a unique filename in the **Save as** dialog that opens. The saved colors list has the file extension of .soc.

To use a previously saved color list, click the **Load Color List** icon ![icon] and select from the file open dialog. Click **Open** to load the saved color list into Draw.

Tip	You can also add custom colors using **Tools > Options > LibreOffice > Colors**. This method makes the color available to all components of LibreOffice.

Creating custom gradients

To create a new gradient or to modify an existing one, select the Gradients tab from the Area dialog (Figure 24). Several types of gradients are predefined and in most cases changing the *From* and *To* colors will be sufficient to obtain the desired result.

It is highly recommended that you create a new gradient even if you just want to change the two colors, rather than modifying the predefined ones, which should only be used as starting points.

Creating new gradients

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Gradients* tab to open the Gradients page.

4) Select the *From* and *To* colors from the drop-down lists.

5) Select the type of gradient from the drop-down list: *Linear*, *Axial*, *Radial*, *Ellipsoid*, *Square* or *Rectangular*. A preview of the gradient type is shown in the dialog.
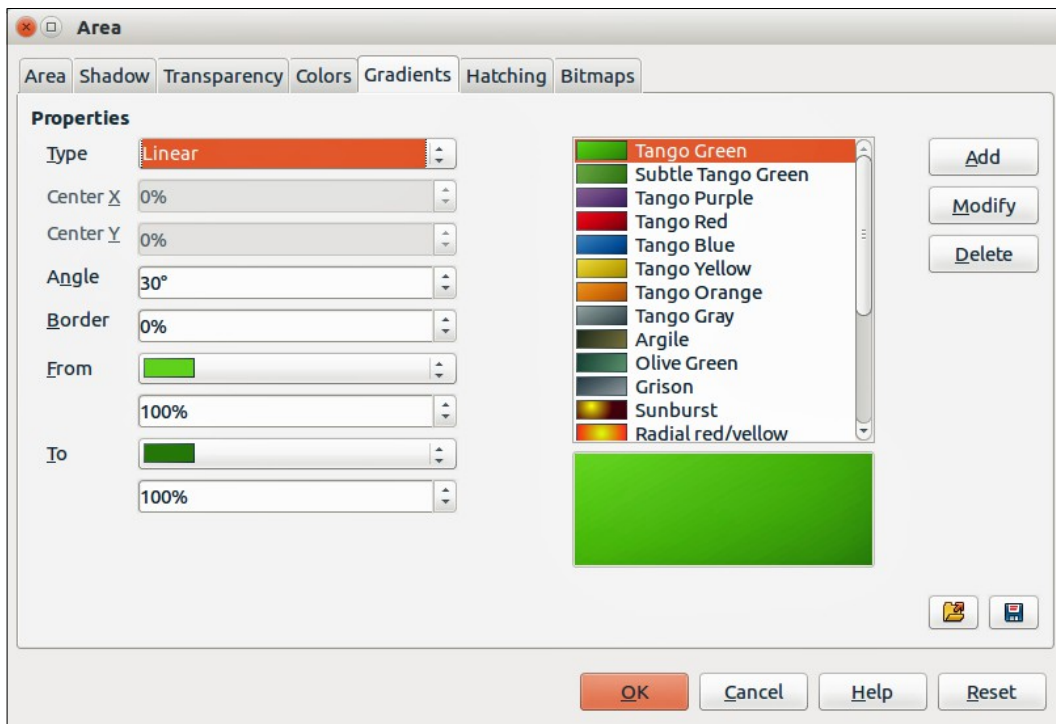
Figure 24: Area Dialog – Gradients page

6) Set all the properties as desired (very often the default values will work well). The properties used to create a gradient are summarized in Table 1. Depending on the type of gradient selected, some properties may be grayed out.

7) Click **Add** to add the newly created gradient to the list.

8) Type a name for the new gradient in the dialog that opens and click **OK**.

9) Click **OK** to close the dialog.

Table 1: Gradient properties

Property	Meaning
Center X	For Radial, Ellipsoid, Square and Rectangular gradients, modify these values to set the horizontal offset of the gradient center.
Center Y	For Radial, Ellipsoid, Square and Rectangular gradients, modify these values to set the vertical offset of the gradient center.
Angle	For all the gradient types, specifies the angle of the gradient axis.
Border	Increase this value to make the gradient start further away from the border of the shape.
From	The start color for the gradient. In the edit box below enter the intensity of the color: 0% corresponds to black, 100% to the full color.
To	The end color for the gradient. In the edit box below enter the intensity of the color: 0% corresponds to black, 100% to the full color.

Modifying gradients

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Gradients* tab to open the Gradients page.

4) Select the gradient to modify from the list.

5) Enter the new values for the properties that become available for change. See Table 1 for more information on gradient properties.

6) Click **Modify** to save your changes.

7) Click **OK** to close the dialog.

Saving and using new gradients

The new gradient created is available only in the current document. If you want to use this gradient in other documents, click the **Save Gradients List** icon ![save icon] and type a unique filename in the **Save as** dialog that opens. The saved gradients list has the file extension of .sog.

To use a previously saved gradients list, click the **Load Gradients List** icon ![load icon] and select from the file open dialog. Click **Open** to load the saved gradients list into Draw.

Advanced gradient controls

As discussed in "Creating custom gradients" on page 17, gradient properties can be configured using the properties given in the dialogs shown in Figure 24 and Table 1. However, LibreOffice provides advanced controls for gradients as follows.

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![area icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Gradients* tab to open the Gradients page (Figure 24).

Figure 25: Mode toolbar
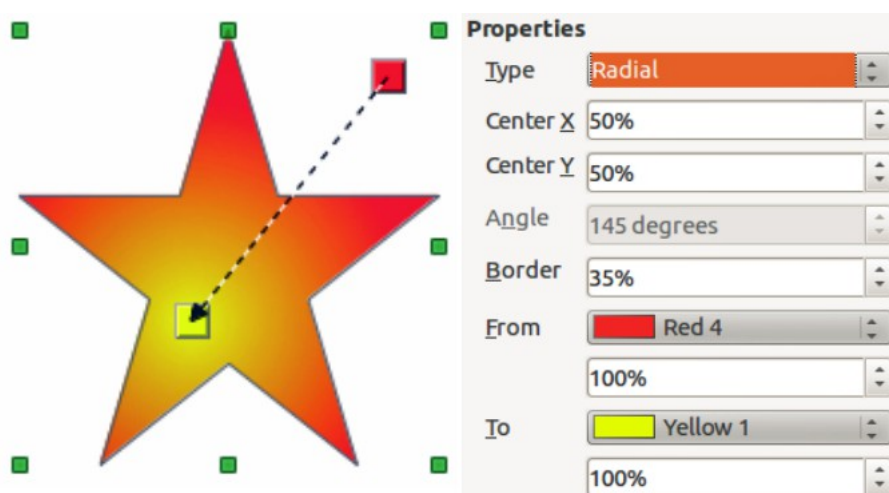
Figure 26: From Red 4 to Yellow 1 gradient

4) Select the type of gradient you want to use for the object from the *Type* drop-down list. Properties you can adjust will depend on the gradient type you have selected and these are explained below.

5) Go to **View > Toolbars > Mode** on the main menu bar, click on the **Effects** icon on the Line and Filling toolbar to open the Mode toolbar.

- Click on the **Gradient** icon in the **Mode** toolbar (Figure 25). This displays a dashed line connecting two colored squares. The colors show the *From* and *To* colors that are used for the selected gradient (Figure 26).
- For **linear gradients** – move the square corresponding to the *From* color to change where the gradient starts (border value). Move the square corresponding to the *To* color to change the orientation (angle value).
- For **axial gradients** – move the *To* color to change both the angle and border properties of the gradient. Only the square corresponding to the *To* color can be moved.
- For **radial gradients** – move the *From* color to modify the border property to set the width of the gradient circle. Move the *To* color to change the point where the gradient ends (Center X and Center Y values).
- For **ellipsoid gradients** – move the *From* color to modify the border property to set the size of the gradient ellipsoid. Move the *To* color to change the angle of the ellipsoid axis and the axis itself.
- For **square and rectangular gradients** – move the *From* color to modify the border to set the size of the gradient square or rectangle and the angle of the gradient shape. Move the *To* color to change the center of the gradient.

6) Click **OK** to save your changes and close the Area dialog.

Note	Moving the squares will have different effects depending on the type of gradient. For example, for a linear gradient, the start and end squares of the gradient will always be situated to either side of the center point of the object.

Creating custom hatching patterns

To create new hatching patterns or modify existing ones, select the *Hatching* tab of the Area dialog (Figure 27). As with gradients and colors, it is better to create a new hatching pattern rather than modify a predefined one. The properties that can be set for a hatching pattern are shown in Table 2.

Table 2: Hatching pattern properties

Property	Meaning
Spacing	Determines the spacing between two lines of the pattern. As the value is changed the preview window is updated.
Angle	Use the mini map below the numerical value to quickly set the angle formed by the line to multiples of 45 degrees. If the required angle is not a multiple of 45 degrees, just enter the desired value in the edit box.
Line type	Set single, double or triple line for the style of the pattern.
Line color	Use the list to select the color of the lines that will form the pattern.

Figure 27: Area dialog – Hatching page
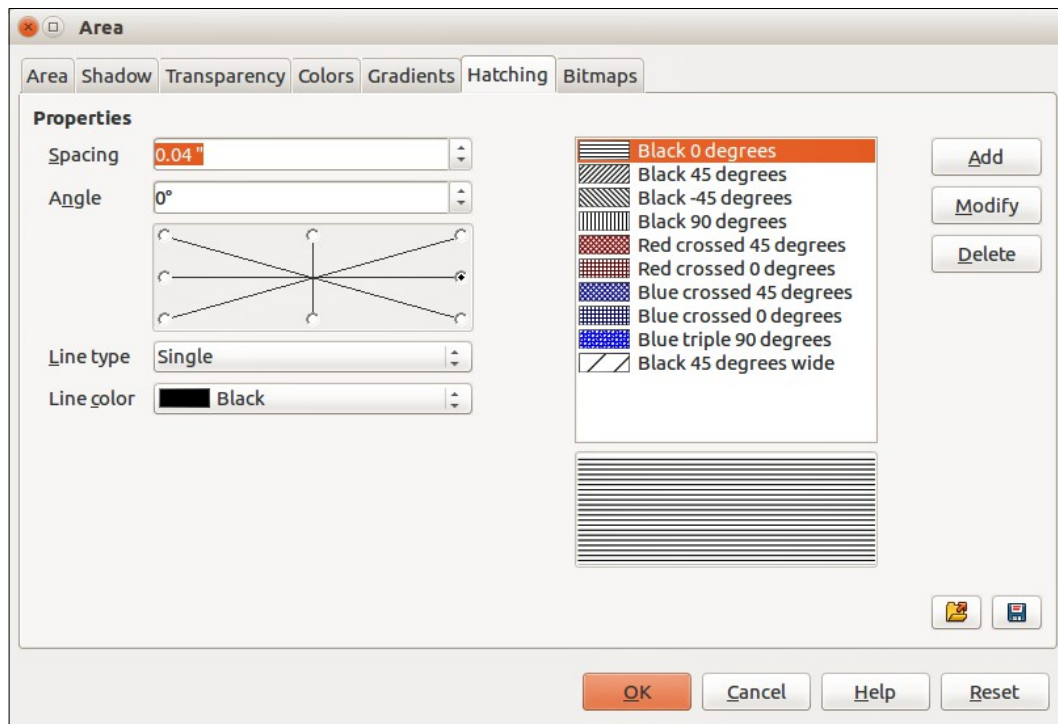
Creating new hatching patterns

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon [image] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Hatching* tab to open the Hatching page.

4) Select as a starting point a pattern similar to the one that will be created.

5) Modify the properties of the lines forming the pattern. A preview is displayed in the window below the available patterns. More information on hatching properties is shown Table 2.

6) Click **Add** and type a name for the new gradient in the dialog that opens, then click **OK**.

7) Click **OK** to close the dialog.

Modifying hatching patterns

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon [image] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Hatching* tab to open the Hatching page.

4) Select the hatching pattern to modify from the list.

5) Enter the new values for the properties that become available for change. See Table 2 for more information on gradient properties.

6) Click **Modify** to save your changes.

7) Click **OK** to close the dialog.

Saving and using new hatching patterns

The new hatching pattern created is available only in the current document. If you want to use this

hatching pattern in other documents, click the **Save Hatches List** icon ![save icon] and type a unique filename in the **Save as** dialog that opens. The saved hatches list has the file extension of .soh.

To use a previously saved hatches list, click the **Load Hatches List** icon ![load icon] and select from the file open dialog. Click **Open** to load the saved hatches list into Draw.

Working with bitmap fills

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![area icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Area* tab to open the Area page.

4) Select *Bitmap* from the *Fill* drop-down list (Figure 21 on Page 15).

5) Select from the list of bitmaps the one to be used to fill the area. Note that any imported bitmaps will become available in the list.

6) Set the size, position and offset parameters (as applicable). See Table 3 for more information on bitmap properties. The best way to acquire understanding of these parameters is to use them. Figure 21 on Page 15 shows some examples of bitmap fills and the parameters used.

7) Click **OK** to close the dialog.
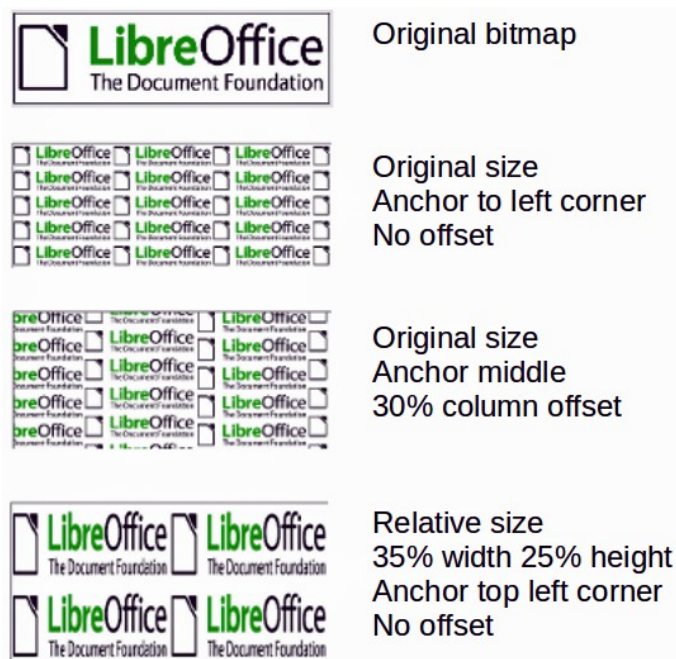
Figure 28: Examples of bitmap fill

Table 3: Bitmap fill properties

Property	Meaning
Size – Original	Select this box to retain the original size of the bitmap.
Size – Relative	To rescale the object, deselect Original and select Relative. The Width and Height edit boxes are enabled.

Property	Meaning
Size – Width	When Relative is selected 100% means that the bitmap original width will be resized to occupy the whole fill area width, 50% means that the width of the bitmap will be half that of the fill area.
Size – Height	When Relative is selected 100% means that the bitmap original height will be resized to occupy the whole fill area height, 50% means that the height of the bitmap will be half that of the fill area.
Position – Anchor Map	Select from the map the place within the area to which the bitmap should be anchored.
Position – Tile	When this option is selected, the bitmap will be tiled to fill the area. The size of the bitmap used for the tiling is determined by the Size settings.
Position – X offset	When Tile is enabled, enter in this box the offset for the width of the bitmap in percentage values. 50% offset means that Draw will place the middle part of the bitmap at the anchor point and start tiling from there.
Position – Y offset	This will have a similar effect to the X offset, but will work on the height of the bitmap.
Position – Autofit	Stretches the bitmap to fill the whole area. Selecting this option disables all the size settings.
Offset – Row	If Tile is enabled, offsets the rows of tiled bitmaps by the percentage entered in the box so that two subsequent rows are not aligned.
Offset – Column	If Tile is enabled, offsets the columns of tiled bitmaps by the percentage entered in the box so that two subsequent columns of bitmaps are not aligned.

Creating and importing bitmaps

You can add (import) new bitmap fills or create your own pattern on an 8x8 grid using the *Bitmaps* tab of the Area dialog (Figure 29).

Creating bitmap fills

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Bitmap* tab to open the Bitmap page.

4) Select **Blank** as the bitmap type to activate the **Pattern Editor**.

5) Select the **Foreground** and **Background** colors.

6) Start creating the pattern by clicking with the left mouse button the squares (pixels) that you want in the foreground color. Use the right mouse button to apply the background color. Check the preview window to see if the desired effect is achieved.

7) Click **Add** to save the pattern and type a name for the new gradient in the dialog that opens, then click **OK**.

8) Click **OK** to close the dialog.

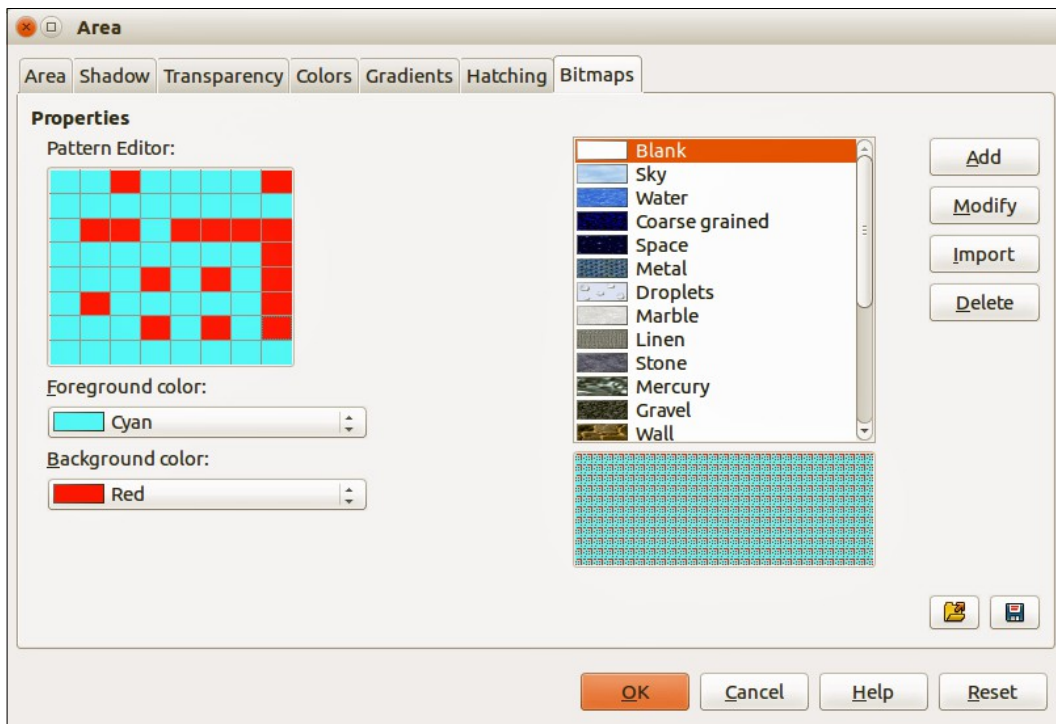|	
Note	You can only modify bitmaps that you have created in LibreOffice. The bitmaps supplied with LibreOffice or imported bitmaps cannot be changed or modified using LibreOffice.

Figure 29: Creating a new bitmap

Modifying bitmaps

1) Select the object you wish to edit.
2) Go to **Format > Area** on the main menu bar, or click on the Area icon ![icon] on the Line and Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.
3) Click on the *Bitmap* tab to open the Bitmap page.
4) Select a bitmap that you have created from the list.
5) Make the changes to your bitmap using the **Pattern Editor** and the color drop-down lists.
6) Click **Modify** to save your changes.
7) If necessary, type a new name in the dialog that opens and click **OK**.
8) Click **OK** to close the dialog.

Importing bitmaps

To import a bitmap created in another program:

1) Click **Import** and a file browser dialog opens.
2) Browse to the directory containing the bitmap file and select it, then click **Open**.
3) Type a name for the imported bitmap and click **OK**.

Saving and using new bitmaps

The new bitmap created is available only in the current document. If you want to use this bitmap in

other documents, click the **Save Bitmap List** icon ![icon] and type a unique filename in the **Save as** dialog that opens. The saved bitmap list has the file extension of .sob.

To use a previously saved bitmap list, click the **Load Bitmap List** icon ![icon] and select from the file open dialog. Click **Open** to load the saved bitmap list into Draw.

Figure 30: Area dialog – Shadow page
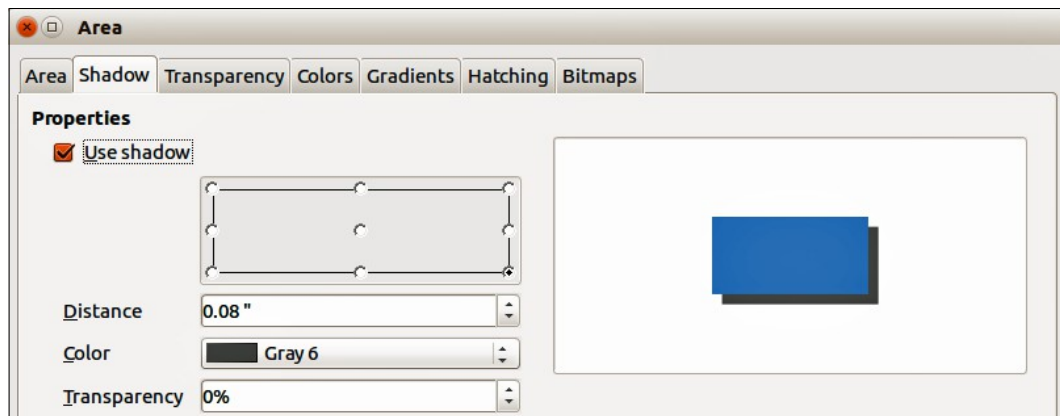
Formatting shadows

Shadowing can be applied to lines, shapes and text.

To quickly apply a shadow to a line or shape only, first select the object and then click on the
Shadow icon in the Line and Filling toolbar. The shadow applied using this method cannot be
customized and is set to default settings.

For a more control when adding shadows to an object, you have to use the Shadow page on the
Area dialog (Figure 30) as follows:

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon on the Line and
   Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Shadow* tab to open the Shadow page.

4) Select **Use shadow** and the shadow options become active.

5) In **Position** select the direction in which the shadow is cast.

6) In **Distance** enter a distance in the text box to set spacing between the object and the
   shadow.

7) In **Color** select a color form the drop-down list to determine the color of the shadow.

8) In **Transparency** enter a percentage in the text box to determine the amount of
   transparency for the shadow.

9) Click **OK** to save your changes and close the dialog.

Transparency formatting

Transparency is applicable to objects as well as shadows. To apply transparency to lines, refer to
"Formatting lines" on page 5; for shadows, refer to "Formatting shadows" above.

To apply transparency to objects using the Transparency page on the Area dialog (Figure 31):

1) Select the object you wish to edit.

2) Go to **Format > Area** on the main menu bar, or click on the Area icon on the Line and
   Filling toolbar, or right-click on the object and select **Area** to open the Area dialog.

3) Click on the *Transparency* tab to open the Transparency page.

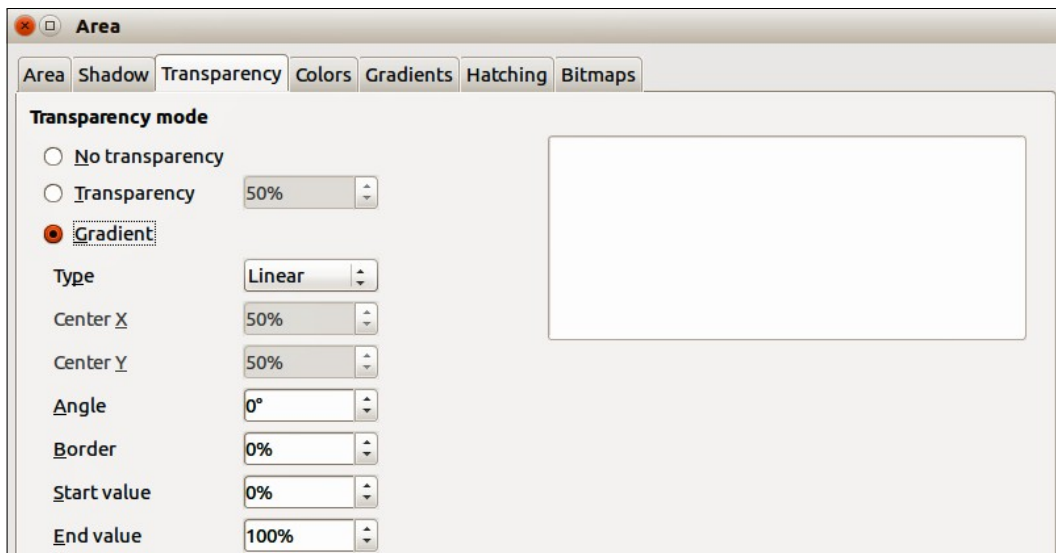4) To create a uniform transparency, select **Transparency** and enter a percentage in the text
   box.

Figure 31: Area dialog – Transparency page

5) To create a gradient transparency (so that the area becomes gradually transparent) select **Gradient** and select the type of gradient transparency from the drop-down list: *Linear*, *Axial*, *Radial*, *Ellipsoid*, *Quadratic* or *Square*.

6) Set the parameters for the type of the gradient transparency you selected above. Refer to Table 4 for a description of the properties. The available parameters will depend on the type of gradient transparency selected above.

7) Click **OK** to save your changes and close the dialog.

Table 4: Gradient transparency properties

Property	Meaning
Center X	For Radial, Ellipsoid, Quadratic and Square gradients, modify these values to set the horizontal offset of the gradient center.
Center Y	For Radial, Ellipsoid, Quadratic and Square gradients, modify these values to set the vertical offset of the gradient center.
Angle	For Linear, Axial, Ellipsoid, Quadratic and Square gradient, specifies the angle of the gradient axis.
Border	Increase this value to make the gradient start further away from the border of the object.
Start value	Value for the starting transparency gradient. 0% is fully opaque, 100% means fully transparent.
End value	Value for the ending transparency gradient. 0% is fully opaque, 100% means fully transparent.

Using styles

Suppose that you want to apply the same area fill, line thickness, and border to a set of objects. This repetitive process can be greatly simplified by the use of styles. Styles allow you to define a formatting template (a style) and then to apply that style to multiple objects. For more information on styles, see the *Writer Guide Chapter 6 Introduction to Styles*.

Linked drawing object styles

Drawing object styles support inheritance; that is, a style can be linked to another (parent) style so that it inherits all the formatting settings of the parent. You can use this property to create families of styles.

For example, if you need multiple boxes that differ in color but are otherwise identically formatted, the best way to proceed is to define a generic style for the box including borders, area fill, font, and so on. Then create a number of hierarchically dependent styles which differ only in the fill color attribute. If you then need to change the font size or the thickness of the border, it is sufficient to change the parent style and all the other linked styles will change accordingly.

Creating drawing object styles

You can create a new drawing object style in the following ways:

- Using the Styles and Formatting dialog.
- Using the Styles and Formatting section on the Sidebar.
- From a selected object.

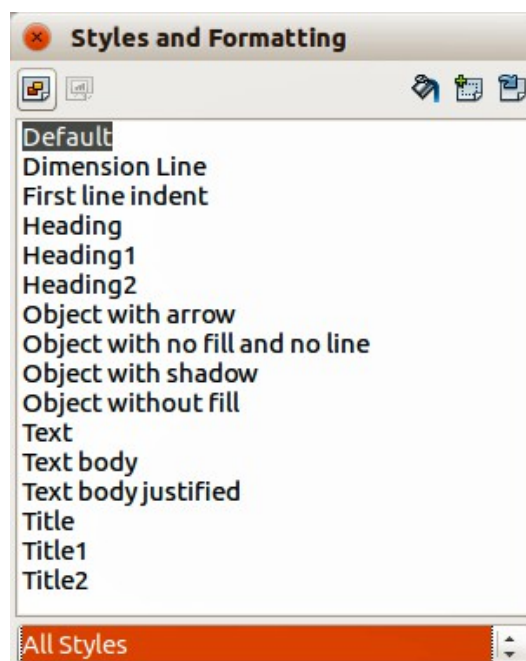| Note	In LibreOffice Draw, only Drawing Object Styles are available in the Styles and Formatting dialog and the Styles and Formatting section on the Sidebar.

Figure 32: Styles and Formatting dialog

Styles and Formatting dialog

1) Click on the **Styles and Formatting** [icon] icon on the Line and Filling toolbar or go to **Format > Styles and Formatting** on the main menu bar or press the *F11* key to open the Styles and Formatting dialog (Figure 32).
2) Select a style you want to use in the Styles and Formatting dialog.
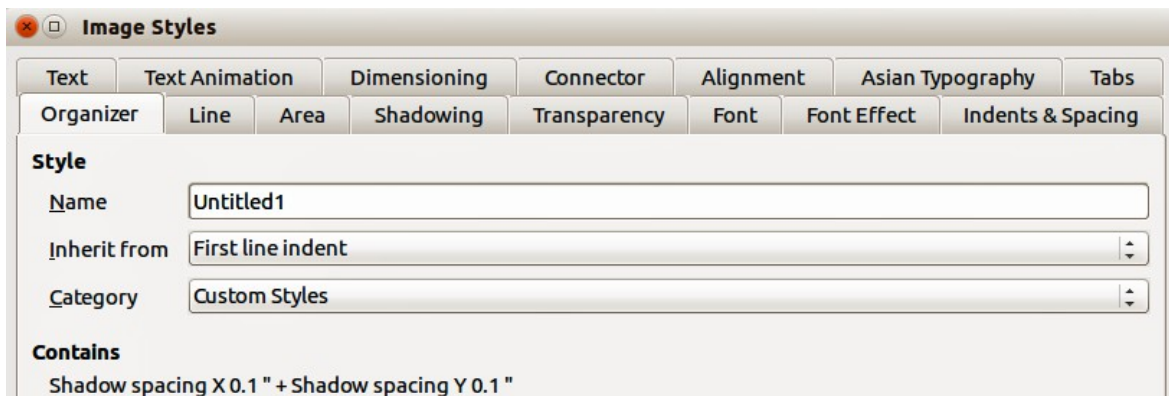3) Right-click and select **New** to open the Image Styles dialog (Figure 33).

Figure 33: Image Styles dialog – Organizer page

4) Click on the *Organizer* tab to the Organizer page.

5) Give your new drawing object style a memorable file name.

6) Use the various pages and available options in the Image Styles dialog to format and categorize your new style.

7) Click **OK** when finished to save your new drawing object style and close the dialog.

The Image Styles dialog consists of several pages that may be grouped as follows:

- *Organizer* – contains a summary of the style and its hierarchical position.

- *Font*, *Font Effects*, *Indents & Spacing*, *Alignment*, *Tabs* and *Asian Typography* – set the properties of the text inserted in a text box or in a graphic object.

- *Dimensioning* – used to set the style of dimension lines.

- *Text*, *Text Animation*, *Connector*, *Line*, *Area*, *Shadowing*, and *Transparency* – determine the formatting of an object.

Note	When styles are linked, changing a color (for example) will change the color in all linked styles. Sometimes this is exactly what you want; at other times you do not want the changes to apply to all linked styles. It pays to plan ahead.

Sidebar Styles and Formatting section

Make sure your object is selected and click on the **Styles and Formatting** icon on the Sidebar to open the Styles and Formatting section. This section is identical to the Styles and Formatting dialog. To create a new drawing object style, see the procedure given in "Styles and Formatting dialog" above.

Using a selected object

You can create a new drawing object style from an object that has already been formatted.

1) Select the object you want to use to create your new style.

2) Open the Styles and Formatting dialog or the Styles and Formatting section on the Sidebar.

3) Click the **New Style from Selection** icon .

4) In the Create Style dialog that opens, type a name for the new style. This dialog also shows existing custom styles that are available.

5) Click **OK** to save the new style.

Modifying drawing object styles

To modify an existing style:

1) Right-click on the style in the Styles and Formatting dialog or the Styles and Formatting section on the Sidebar.

2) Select **Modify** from the context menu to open the Image styles dialog (Figure 33).

3) Make the required changes to the style.

4) Click **OK** to save your changes and close the dialog.

Updating from a selection

To update a drawing object style from a selected object:

1) Select an object that uses the format you want to adopt as a style.

2) In the Styles and Formatting dialog or the Styles and Formatting section on the Sidebar, select the style you want to update and then click the **Update Style** icon .

Applying drawing object styles

You can apply a drawing object style using the Styles and Formatting dialog or the Styles and Formatting section on the Sidebar. First make sure that the styles are shown (Figure 32), then do one of the following:

- Select the object to which you want to apply a style and double-click on the name of the style you want to apply.

- Click the **Fill Format mode** icon , position the cursor on the object to be styled and click the mouse button. This mode remains active until you turn it off, so you can apply the same style to several objects. To quit Fill Format mode, click the **Fill Format mode** icon again or press the *Esc* key.

- When Fill Format mode is active, a right-click anywhere in the document cancels the last Fill Format action. Be careful not to accidentally right-click and thus undo actions you want to keep.

Tip	At the bottom of the Styles and Formatting dialog or the Styles and Formatting section on the Sidebar there is a drop-down list. Here you can choose to show all styles or groups of styles such as applied styles or custom styles.

Deleting drawing object styles

You cannot delete any of the predefined styles in LibreOffice, even if you are not using them. You can only delete user-defined (custom) styles. However, before you delete a custom style, make sure the style is not in use. If an unwanted style is in use, make sure you replace it with another style. To see which style are in use, choose *Applied Styles* in the drop-down list at the bottom of the Styles and Formatting dialog.

To delete a custom style, right-click on the style in the Styles and Formatting dialog and choose **Delete** on the context menu. If the style is in use, a warning message will appear; you can click **Yes** to delete the style anyway. If the style is not in use, no confirmation message appears.
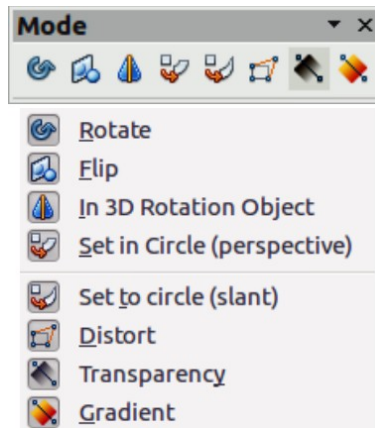
Figure 34: Mode toolbar and available tools

Applying special effects

As well as the basic actions of moving and resizing an object, a number of special effects can also be applied to objects in Draw. Several of these effects are readily available in the Mode toolbar (Figure 34). If the Mode toolbar is not showing, select it from **View > Toolbars > Mode**.

The tools available on the Mode toolbar are described in the following sections with the exception of the 3D rotation tool, which is described in *Chapter 7 Working with 3D Objects*.

Rotating objects

Rotation of an object can be carried out manually or using a dedicated dialog, just like changing object position and size.

Manual rotation

1) Click on an object and the selection handles will show.

2) Click the **Rotate** icon in the Line and Filling or Mode toolbars or click again on the selected object. The selection handles change shape and color (Figure 35).
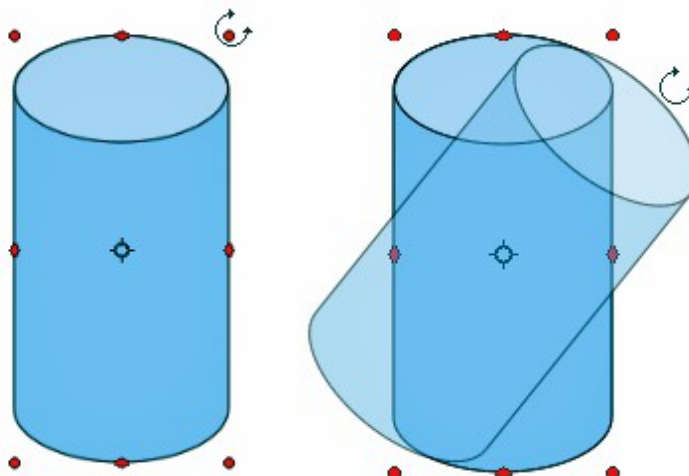

Figure 35: Object selected for rotation

3) If necessary, click and drag the pivot point for rotation to change the way an object is rotated. The pivot point is a circle and appears, by default, in the middle of the selected object. Normally the center of an object will be just fine, but on some occasions you may wish to rotate around a corner or even around a point outside the object.

4) Move the mouse over one of the corner handles and the cursor changes shape.

5) Click the mouse and move in the direction in which you want to rotate the object. Only the corner selection handles are active for rotation.

6) To restrict the rotation angles to multiples of 15 degrees, press and hold the *Shift* key while rotating the object. This is very handy for rotating objects through a right angle, for example from portrait to landscape.

7) When satisfied release the mouse button.

Sidebar rotation

To rotate an object using the Sidebar:

1) Click on an object and the selection handles will show.

2) Click on the **Properties** icon on the Sidebar, then click on the plus sign (+) next to the *Position and Size* subsection to open this subsection (Figure 36).

3) Click on the selected object again to change the selection handles into rotation handles.

4) Click on and then rotate the rotation indicator in Rotation or enter the rotation angle in the text box or select a predetermined rotation angle from the drop-down list.

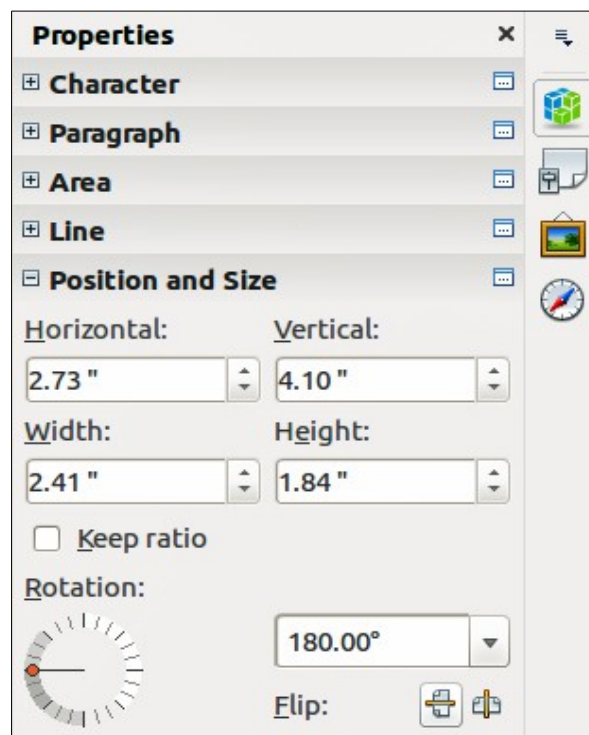5) When satisfied with the rotation of the object, click outside the object and the object is rotated.

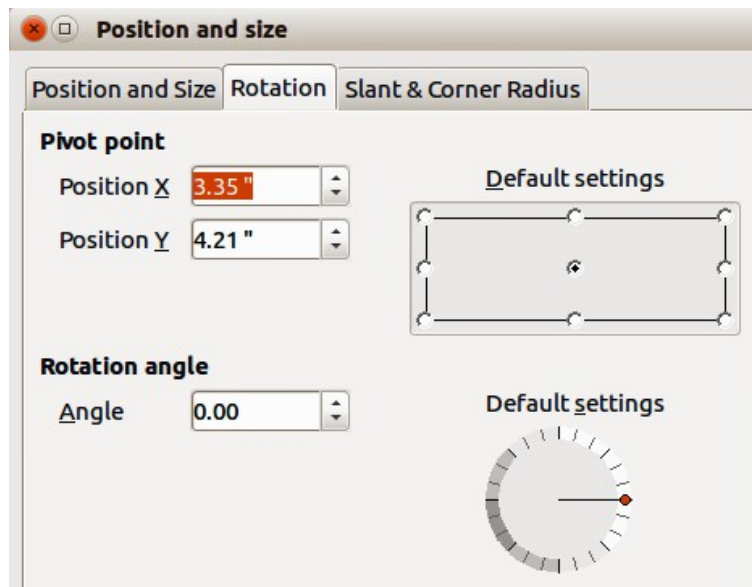*Figure 36: Sidebar Properties Position and Size subsection*

Figure 37: Position and Size dialog – Rotation page

Rotation dialog

Instead of rotating an object manually or using the Sidebar, you can use the Rotation dialog (Figure 37) for more precise control when rotating an object.

1) Select the object so that the selection handles are displayed.

2) Press *F4* key, or select **Format > Position and Size** on the main menu bar, or right-click on the object and select **Position and Size** from the context menu to open the Position and Size dialog.

3) Click the *Rotation* tab to open the Rotation page.

4) In the **Pivot point** section, enter a figure in **Position X** and/or **Position Y** boxes to reposition the pivot point relative to the top left corner of the drawing, or select a position for the pivot point in **Default settings**. The default position for the pivot point is the center of the object.

5) In the **Rotation angle** section, enter an angle in the **Angle** box by which to rotate the object, or click and drag the **Rotation Angle** indicator in **Default settings** until you reach the required angle. As you click and drag, the angle is shown in the **Angle** box.

6) Click **OK** to save your changes and close the dialog.

Flipping objects

Quick flipping

The quickest and easiest method to flip an object horizontally or vertically is as follows:

1) Select an object and the selection handles will be displayed.

2) Go to **Modify > Flip** and select **Horizontally** or **Vertically** on the main menu bar, or right-click and select **Flip > Horizontally** or **Flip > Vertically** from the context menu, or click on the vertical or horizontal **Flip** icons 🔲 🔲 in the *Position and Size* subsection on the Sidebar and the selected object will be flipped to face the other direction.

Flip tool

The **Flip** tool on the Mode or Line and Filling toolbars can also be used to flip an object. Using this tool, you can also change the position and angle that the object flips over (Figure 38).
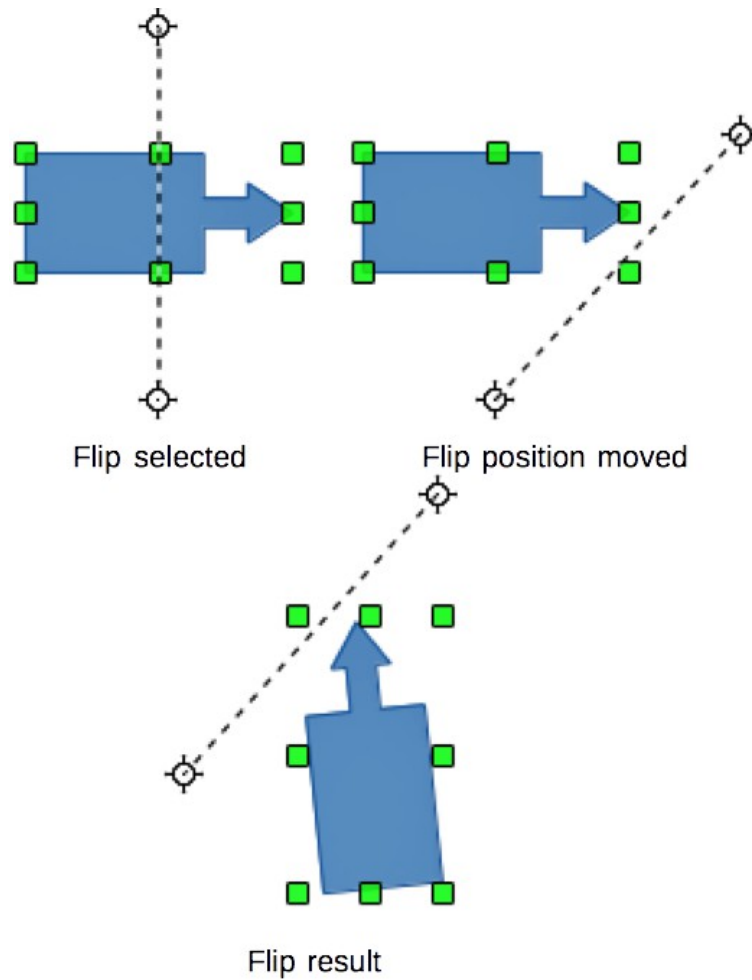
Figure 38: Using the Flip tool

1) Select an object and the selection handles will be displayed.

2) Click the **Flip** icon ![Flip icon] on the Mode toolbar and the *axis of symmetry* appears as a dashed line through the middle of the object. The object will be flipped about this axis of symmetry.

3) Click and drag one or both ends of the axis of symmetry to set the orientation of the axis.

4) Place the cursor over one of the object selection handles until it changes shape.

5) Click and drag the object across to the other side of the axis of symmetry until the object appears flipped over. The angle and position of the flip will depend on the angle and position of the axis of symmetry.

6) Release the mouse button and the object is flipped.

| Note	If you press the *Shift* key while moving the axis of symmetry, it will rotate in 45 degree increments.

Mirror copies

At the moment there is no mirror command existing in Draw. However, mirroring an object can be emulated by using the **Flip** tool as follows:

1) Select the object you want to make a mirror copy of and copy the object to the clipboard.

2) Select the **Flip** tool on the Mode or Line and Filling toolbars.

3) Move the axis of symmetry to the desired location of the mirror axis, then flip the object.

4) Click on an empty area of the page to deselect the object.

5) Paste from the clipboard to put a copy of the object back into its original location and now you have a mirror copy.

6) If necessary, select both objects and realign them by going to **Modify>Alignment** on the main menu bar, or right-click and select **Alignment** from the context menu and then select the type of alignment.

Distorting images

Three tools on the Mode toolbar let you drag the corners and edges of an object to distort the image.

- **Distort** distorts an object in perspective.

- **Set to Circle (slant)** creates a pseudo three-dimensional effect.

- **Set in Circle (perspective)** creates a pseudo three-dimensional effect.
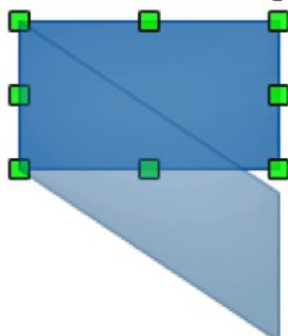
In all three cases you are initially asked if you want to transform the object to a curve. This is a necessary first step, so click **Yes**. Then you can move the object handles to produce the desired effect. The results of using these tools are shown in the following figures.
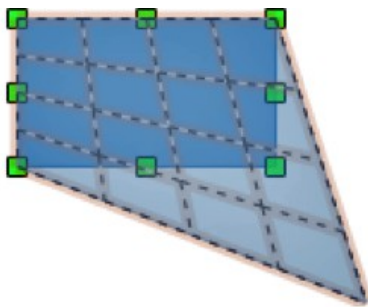
Using corner selection handle
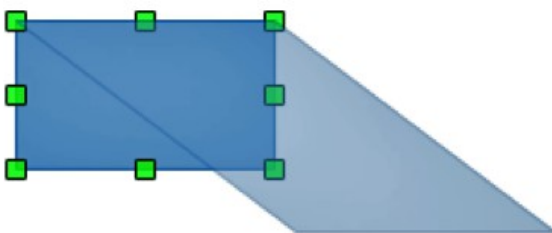
Using horizontal selection handle

Using vertical selection handle

Figure 39: Distorting an object

Distorting

Select an object and click on the **Distort** icon ⬜ on the Mode toolbar. After converting to a curve as requested, move the handles to stretch the object. The corner handles distort the corners, the vertical midpoint handles distort the figure horizontally and the horizontal ones distort it vertically (Figure 39).

Setting in circle (perspective)

Select an object and click on the **Set in Circle (perspective)** icon 🖌 in the Mode toolbar. After converting to a curve, click and move one of the selection handles to give a pseudo three dimensional perspective) (Figure 40).
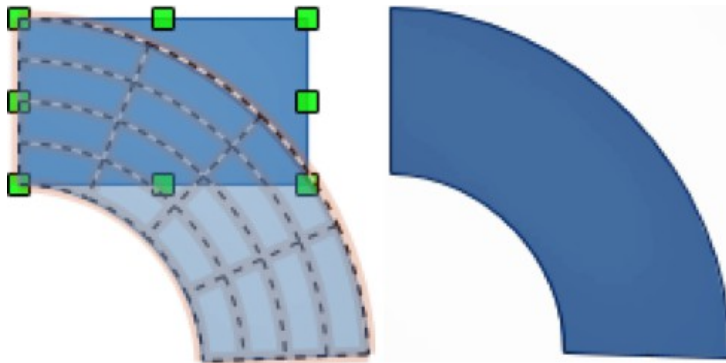

Figure 40: Setting an object to a circle with perspective

Setting to circle (slant)

Select an object and click on the **Set to Circle (slant)** icon 🖌 in the mode toolbar. After converting to a curve, click and move one of the selection handles to give a pseudo three dimensional slant perspective (Figure 41).
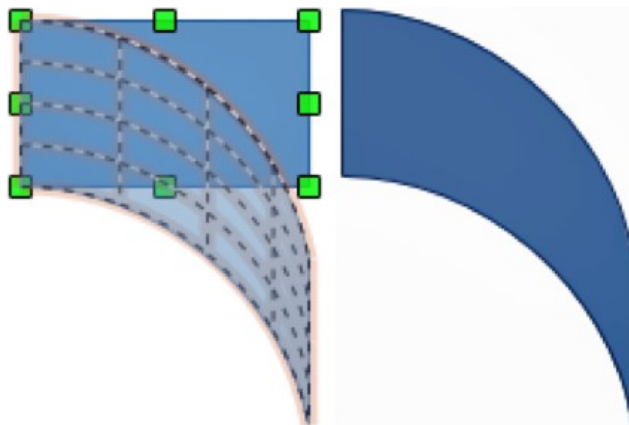

Figure 41: Setting an object to a circle with slant

Note	Transforming an object into a curve is a safe operation, but it cannot be reversed other than by clicking the **Undo** button.

Dynamic gradients

You can control transparency gradients in the same manner as color gradients and both types of gradient can be used together. With a transparency gradient, the direction and degree of object fill color changes from opaque to transparent. In a color gradient, the fill changes from one color to another, but the degree of transparency remains the same.

Two icons are present on the Mode toolbar to dynamically control transparency and color gradients. Even if you have not assigned transparency to an object with a color fill, you can control

the transparency by clicking on the **Transparency** icon ![icon]. This defines a transparency gradient and a dashed line connecting two squares appears on the object. Move the two squares to modify the gradient. You can define the direction of the gradient (vertical, horizontal, or at any angle) and the spot at which the transparency begins.

A regular color gradient is defined in the same manner. Select an object, then select a gradient fill

from the Gradients page of the Area dialog (Figure 24 on page 18). The **Gradient** icon ![icon] is now active on the Mode toolbar. When you click on the gradient icon, a dashed line connecting two squares appears on the object, just as it does for a transparency gradient.

In both transparency gradient and gradient fill, click outside the object to set the gradient.

Note	Moving the squares will have different effects, depending on the type of gradient. For example, for a linear gradient, the start and end squares of the gradient will always be situated to either side of the center point of the object.

Example 1

A single color object and a transparency gradient, covering part of the underlying object. The gradient can be dynamically adjusted; the direction of transparency by moving the white square or the distance over which it is applied by moving the black square (Figure 42).
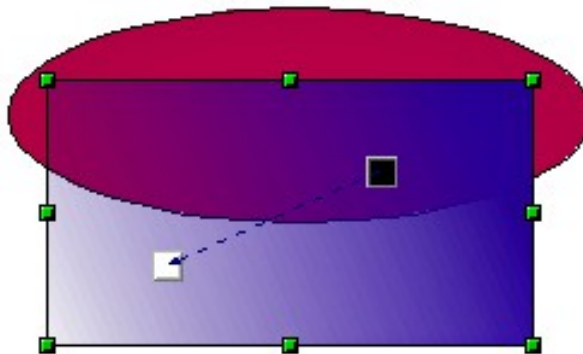

Figure 42: Example 1 of a dynamic gradient

Example 2

An object with a color gradient, completely covering another object. The gradient is adjusted dynamically by moving the squares – the color of the square relating to the increase or decrease in that color (Figure 43).
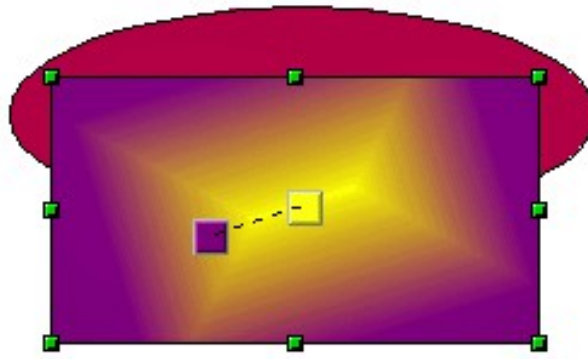
Figure 43: Example 2 of a dynamic gradient

Example 3

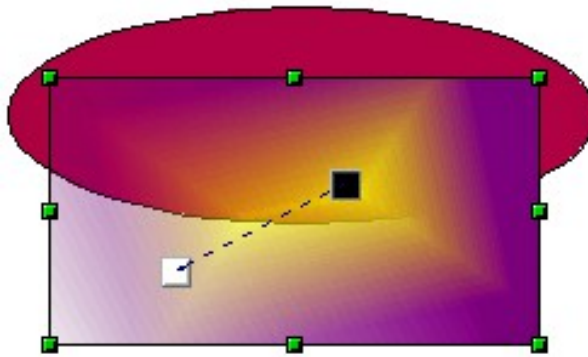An object with both color and transparency gradients, partly covering the underlying object (Figure 44).

Figure 44: Example 3 of a dynamic gradient