LibreOffice

Getting Started Guide

Chapter 7
Getting Started with Draw

Vector Drawing in LibreOffice

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Feedback

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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 and/or right-click depending on computer setup	Open a context menu
Ctrl (*Control*)	⌘ (*Command*)	Used with other keys
F5	*Shift+⌘+F5*	Open the Navigator
F11	*⌘+T*	Open the Styles and Formatting window

Contents

What is Draw?

LibreOffice Draw is a vector graphics drawing program, although it can also perform some operations on raster graphics (pixels). Using Draw, you can quickly create a wide variety of graphical images.

Vector graphics store and display an image as an assembly of simple geometric elements such as lines, circles, and polygons, rather than a collection of pixels (points on the screen). Vector graphics allow for easier storage and scaling of the image.

Draw is fully integrated into the LibreOffice suite, and this simplifies exchanging graphics with all components of the suite. For example, if you create an image in Draw, reusing it in a Writer document is as simple as copying and pasting the image. You can also work with drawings directly from within Writer or Impress, using a subset of the functions and tools from **Draw**.

The functionality of LibreOffice Draw is extensive and, even though it was not designed to rival high-end graphics applications, it possesses more functionality than the drawing tools that are generally integrated with most office productivity suites.

A few examples of the drawing functions are: layer management, magnetic grid-point system, dimensions and measurement display, connectors for making organization charts, 3D functions that enable small three-dimensional drawings to be created (with texture and lighting effects), drawing and page-style integration, and Bézier curves.

This chapter introduces some features of Draw and does not attempt to cover all of the Draw features. See the *Draw Guide* and the Help for more information.

Draw main window

The main components of the Draw main window are shown in Figure 1.

Workspace

The large area in the center of the window (Workspace) is where you create your drawings and this drawing area can be surrounded with toolbars and information areas. The number and position of the visible tools vary with the task in hand and user preferences, therefore your setup may look different from Figure 1.

In LibreOffice Draw, the maximum size of a drawing is 300 cm by 300 cm.

Pages pane

You can split drawings in Draw over several pages. Multi-page drawings are used mainly for presentations. The *Pages* pane gives an overview of the pages that you create in your drawing. If the Pages pane is not visible, go to **View** on the Menu bar and select **Page Pane**. To make changes to the page order, drag and drop one or more pages.

Layers bar

A layer is a workspace where you insert your drawings elements and objects. The layers bar is located on the bottom of the workplace and contains the guides for layer selection and layer command. For more information on layers see "Working with layers" on page 9.

Sidebar

The *Sidebar* has four main sections in Draw. To expand a section, click on its icon or click on the small triangle at the top of the icons and select a section from the drop down list. Only one section at a time can be open. If the Sidebar is not visible, go to **View** on the Menu bar and select **Sidebar** from the context menu.
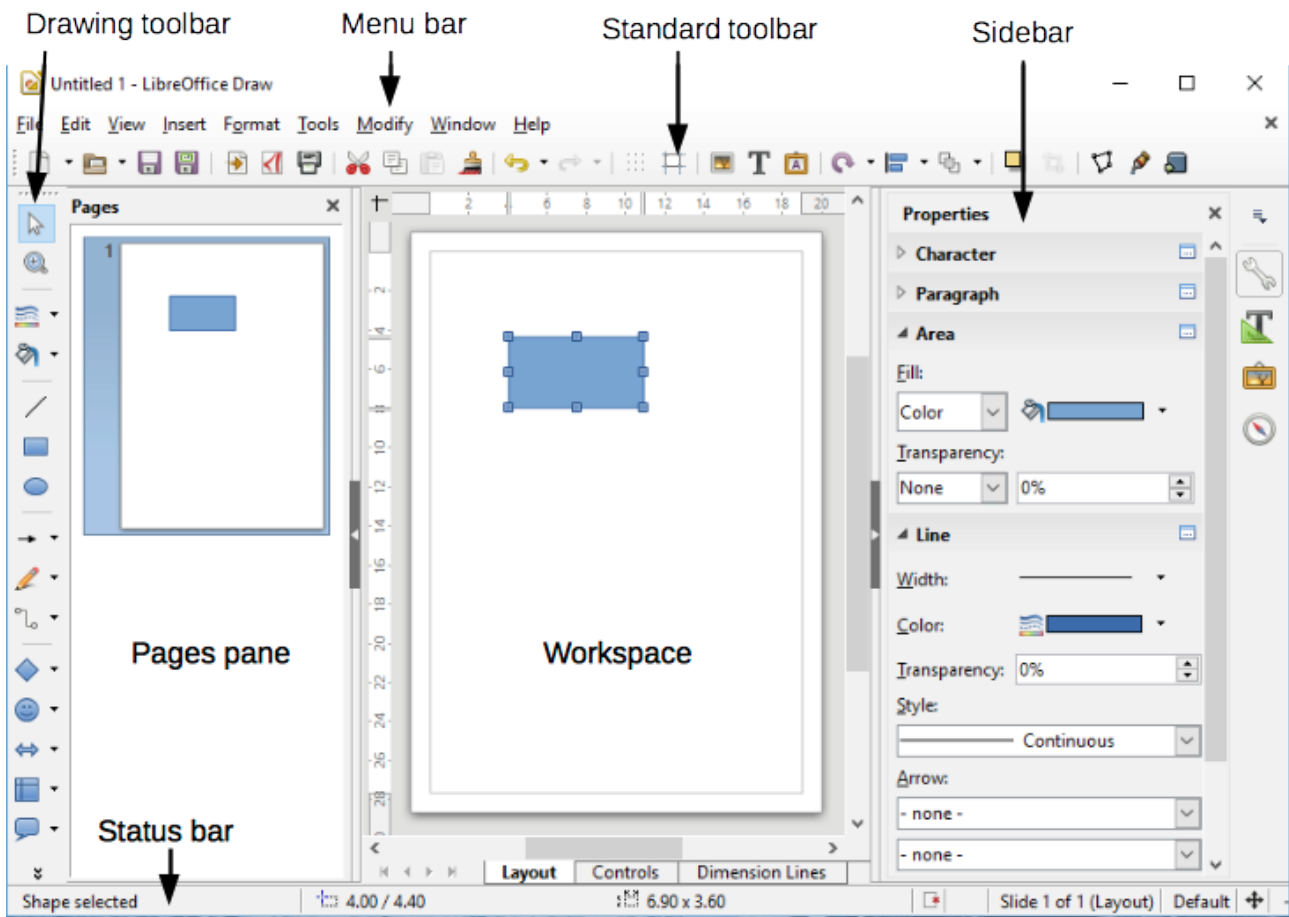
Figure 1: LibreOffice Draw workspace

Properties

Opens sub-sections for object properties that you can change to suit your requirements. The sub-sections are *Insert Shapes*, *Character*, *Paragraph*, *Area*, *Line*, and *Position and Size*.

Styles and Formatting

Here you can edit and apply image styles to objects within your drawing. When you edit a style, the changes are automatically applied to all of the elements formatted with this image style in your drawing.

Gallery

Opens the Drawing gallery where you can insert an object into your drawing either as a copy or as a link. A copy of an object is independent of the original object. Changes to the original object have no effect on the copy. A link remains dependent on the original object. Changes to the original object are also reflected in the link.

Navigator

Opens the Drawing navigator, in which you can quickly move between pages in your drawing or select an object on the drawing. It is recommended to give pages and objects in your drawing meaningful names so that you can easily identify them when using the Navigator.

Rulers

You should see rulers (bars with numbers) on the upper and left-hand sides of the workspace. If they are not visible, you can enable them by selecting **View > Ruler** in the Menu bar. The rulers show the size of a selected object on the page using double lines (highlighted in Figure 2). When no object is selected, they show the location of the mouse pointer, which helps to position drawing objects more accurately.

You can also use the rulers to manage object handles and guide lines, making it easier to position objects.

The page margins in the drawing area are also represented on the rulers. You can change the margins directly on the rulers by dragging them with the mouse. The margin area is indicated by the grayed out area on the rulers as shown in Figure 2.
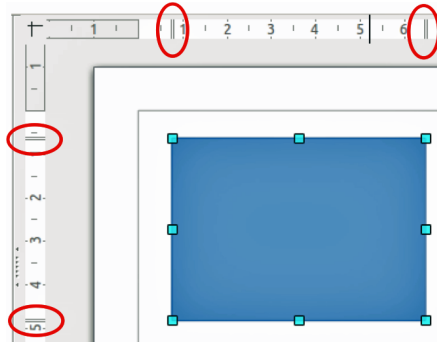
Figure 2: Rulers showing size of a selected object

To change the measurement units of the rulers, which can be defined independently, right-click on a ruler and select the measurement unit from the drop down list, as illustrated for the horizontal ruler in Figure 3.
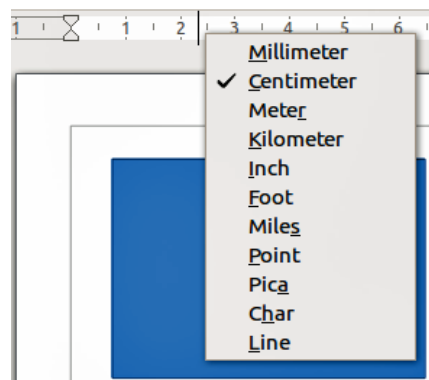
Figure 3: Ruler units

Status bar

The Status bar is located at the bottom of the workspace in all LibreOffice components. It includes several Draw-specific fields. For details on the contents and use of these fields, see Chapter 1, Introducing LibreOffice, in this guide and Chapter 1, Introducing Draw, in the *Draw Guide.*
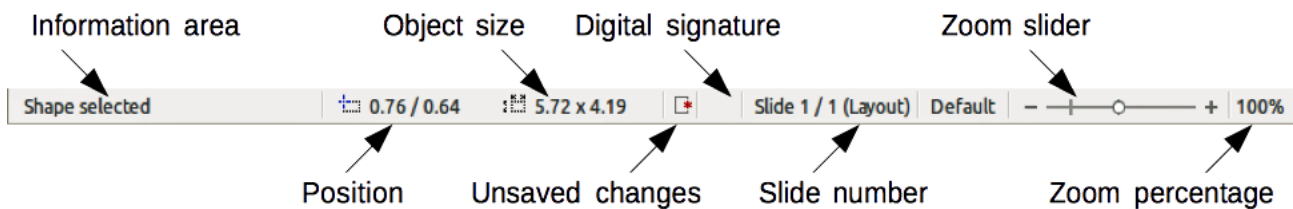
Figure 4: Draw status bar

Note

The sizes are given in the current measurement unit. They might not be the same as the ruler units. The measurement unit on the Status bar is defined in **Tools > Options > LibreOffice Draw > General**, where you can also change the scale of the page.

Toolbars

To display or hide the various Draw toolbars, go to **View > Toolbars** on the Menu bar. On the View menu, select which toolbars you want to display. For more about working with toolbars, see Chapter 1, Introducing LibreOffice, in this guide.

The tools available in the Draw toolbars are described below. The appearance of the toolbar icons may vary depending on your operating system and the selection of icon size and style in **Tools > Options > LibreOffice > View**.

Standard toolbar

The **Standard** toolbar is the same for all LibreOffice components and is not described in detail in this chapter. By default, it is located just under the Menu bar.

Drawing toolbar

The **Drawing** toolbar is the most important toolbar in **Draw**. It contains all the necessary functions for drawing various geometric and freehand shapes and for organizing them on the page. By default, it is docked vertically on the left side of the Draw window.

Line and Filling toolbar

Use the **Line and Filling** toolbar to modify the main properties of a drawing object. The icons and pull-down lists vary according to the type of object selected. For example, to change the style of a line, click on the up and down arrows for Line Style and select the required style.

The functions on this toolbar are also provided in the Properties pane of the sidebar when a drawing object is selected. By default, the Line and Filling toolbar is not shown, but you can display it from the **View > Toolbars** menu.

Text Formatting toolbar

If the selected object is text, the Sidebar shows relevant formatting choices in the Properties pane. By default, the Text Formatting toolbar is not shown, but you can display it from the **View > Toolbars** menu. If you have enabled both the Line and Filling toolbar and the Text Formatting toolbar, Draw switches between them depending on what object is selected.

Options toolbar

Use the **Options** toolbar to activate or deactivate various drawing aids. By default, the Options toolbar is not shown, but you can display it from the **View > Toolbars** menu.

Working with layers

Use layers to create a complex drawing by stacking simpler drawings in each layer. The area of a layer that does not contain an object is transparent. You can add any number of layers in a drawing document. A layer can be set to visible or hidden, it can be printable or not. Layers are common to all pages of the drawing.

A Draw document contains three default layers that you cannot delete or rename. Here are the common ways of using them:

- **Layout**: Here you place title, text, and object placeholders on your page.
- **Controls**: This layer is always on the top of any other. Here you put buttons and other controls of your drawing.
- **Dimension lines**: Here you place the dimension lines for your object, if relevant.

For more information on layers, see Chapter 11, Advanced Draw Techniques, in the *Draw Guide.*

Adding a layer

To add a layer to your drawing, select **Insert > Layer...** from the menu bar or right-click any layer tab in the Layers bar on the bottom of the workspace (Figure 1) and choose **Insert Layer...** The Insert Layer dialog opens (Figure 5).

Add a name, title, and description of the layer. Select if you want it printable or not, visible or hidden, or locked to prevent further changes or accidental edits.

A hidden layer still shows in the Layers bar, but its name is in blue. You cannot reorder layers in the Layers bar.

⬤ **Note**

Layers do not determine the stacking order of objects on the page, except for the Controls layer which is always in front of other layers. The stacking order of objects is determined by the sequence in which you add the objects. You can rearrange the stacking order by **Modify > Arrange**.
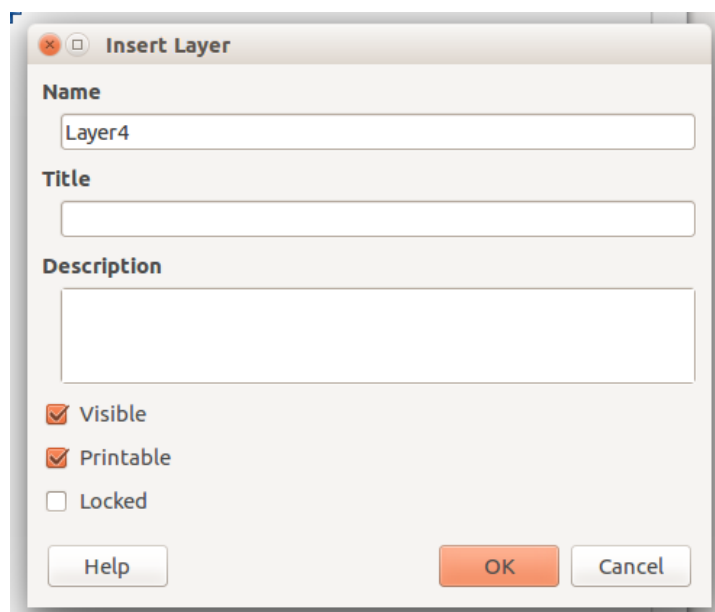

Figure 5: The Insert Layer dialog

Choosing and defining colors

To display the color palette currently in use (Figure 6), select **View > Toolbars > Color Bar**. By default, the Color Bar is displayed below the workspace. You can hide or show it by clicking on its Hide/Show button. Here you can rapidly choose the color of objects in your drawing (lines, areas, and 3D effects). The first box corresponds to none (no color).
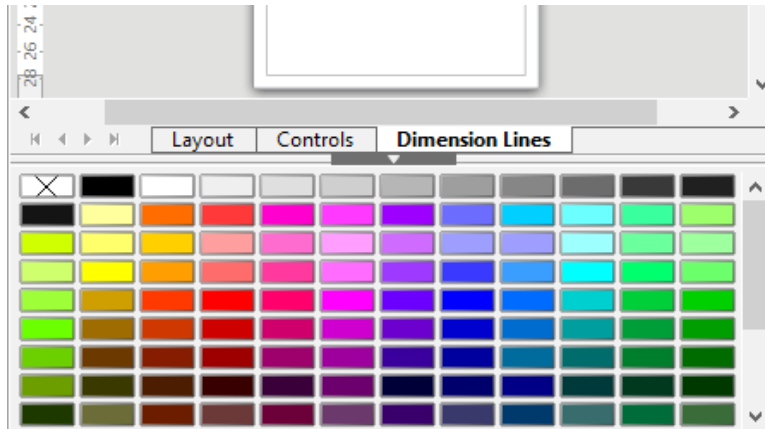
Figure 6: Color bar

You can access several specialized color palettes in Draw, as well as change individual colors to your own taste. To do this, use the Area dialog by selecting **Format > Area** on the Menu bar or clicking the *Area* icon on the Sidebar, then selecting the **Colors** tab (Figure 7).

To load another palette, click on the **Load Color List** icon. The file selector dialog asks you to choose one of the standard LibreOffice palettes (files with the file extension `*.soc`). For example, `web.soc` is a color palette that is adapted to creating drawings for placing in web pages. These colors will display correctly on workstations with screens capable of at least 256 colors.

Figure 7: Area dialog – Colors page

The color selection box also lets you individually change any color by modifying the numerical values in the fields provided to the right of the color palette. You can use the color schemes known as CMYK (Cyan, Magenta, Yellow, Black) or RGB (Red, Green, Blue).

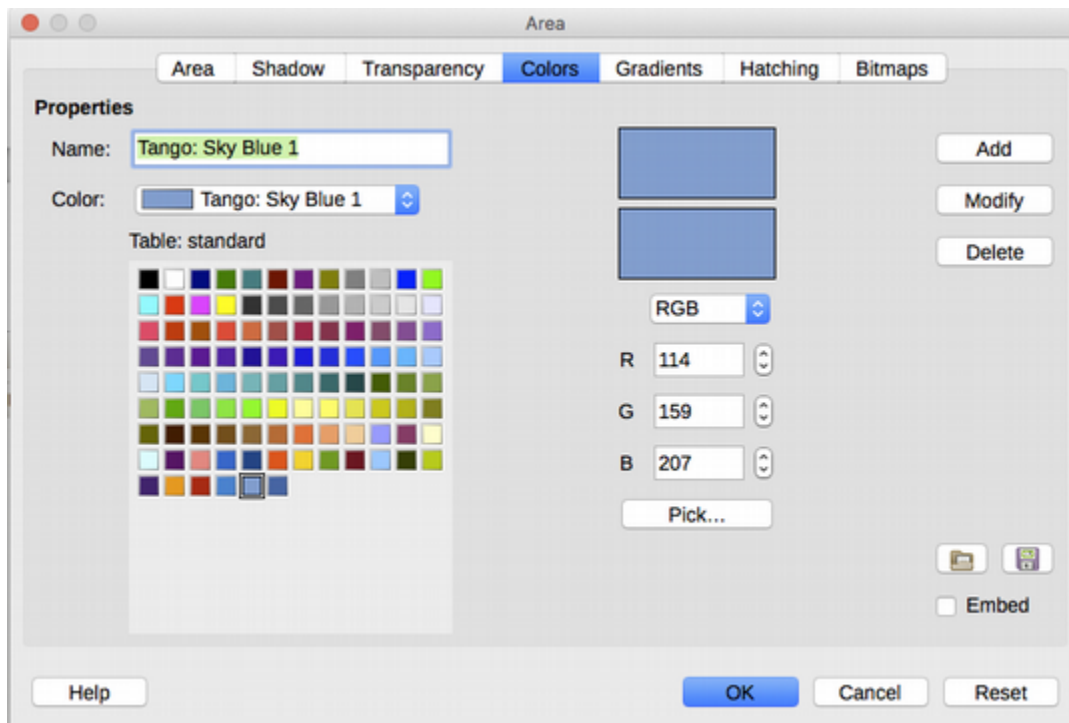Click on the **Pick** button to open the Pick a Color dialog, where you can set individual colors. See "Color options" in Chapter 2, Setting Up LibreOffice, in this guide.

For a more detailed description of color palettes and their options, see Chapter 11, Advanced Draw Techniques, in the *Draw Guide.*

Drawing basic shapes

Draw provides a wide range of shapes, located in palettes accessed from the Drawing toolbar.

This section describes only a few of the basic shapes, including text, which are treated as objects in Draw. See the *Draw Guide* for a complete description of the shapes available.

Some of the icons on the Drawing toolbar will change according to the shape that has been selected from the choices available. Icons with tool palettes available are indicated by a small triangle to the right of the icon.

Note

> When you draw a basic shape or select one for editing, the *Info* field at the left side in the status bar changes to reflect the present action: for example *Line created*, *Text frame xxyy selected*, and so on.

Drawing a straight line

Click on the **Line** icon and place the cursor at the point where you want to start the line (Figure 8). Drag the mouse while keeping the mouse button pressed. Release the mouse button at the point where you want to end the line. A selection handle appears at each end of the line, showing that this object is the currently selected object. The selection handle at the starting point of the line is slightly larger than the other selection handle.
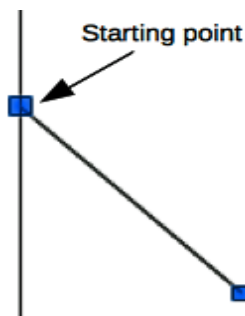
Figure 8: Drawing a straight line

Keep the *Ctrl* key pressed while drawing a line to enable the end of the line to snap to the nearest grid point.

Note

> This is the default behavior of the *Ctrl* key. However, if the **Snap to Grid** option on the **View > Grid** menu has been selected, the *Ctrl* key deactivates the snap to grid activity.

Keep the *Shift* key pressed while you draw a line to restrict the drawing angle of the line to a multiple of 45 degrees (0, 45, 90, 135, and so on).

Note

This is the default behavior of the *Shift* key. However, if the option *When creating or moving objects* in the *Snap position* section of **Tools > Options > LibreOffice Draw > Grid** has been selected, the action of the *Shift* key is the opposite. Lines will automatically be drawn at a multiple of 45 degrees *unless* the *Shift* key is pressed.

Hold down the *Alt* key while drawing a line to cause the line to extend outwards symmetrically in both directions from the start point. This lets you draw lines by starting from the middle of the line.

When a line is drawn, it uses default attributes. To change any of these attributes, select a line by clicking on it, then *right-click* and select **Line** from the context menu or go to **Format > Line** on the Menu bar to open the **Line** dialog (Figure 9). Alternatively, click on the Properties icon on the Sidebar and open the Line sub-section. Line style, line width, and line color can also be changed using the controls in the Line and Filling toolbar at the top of the workspace.
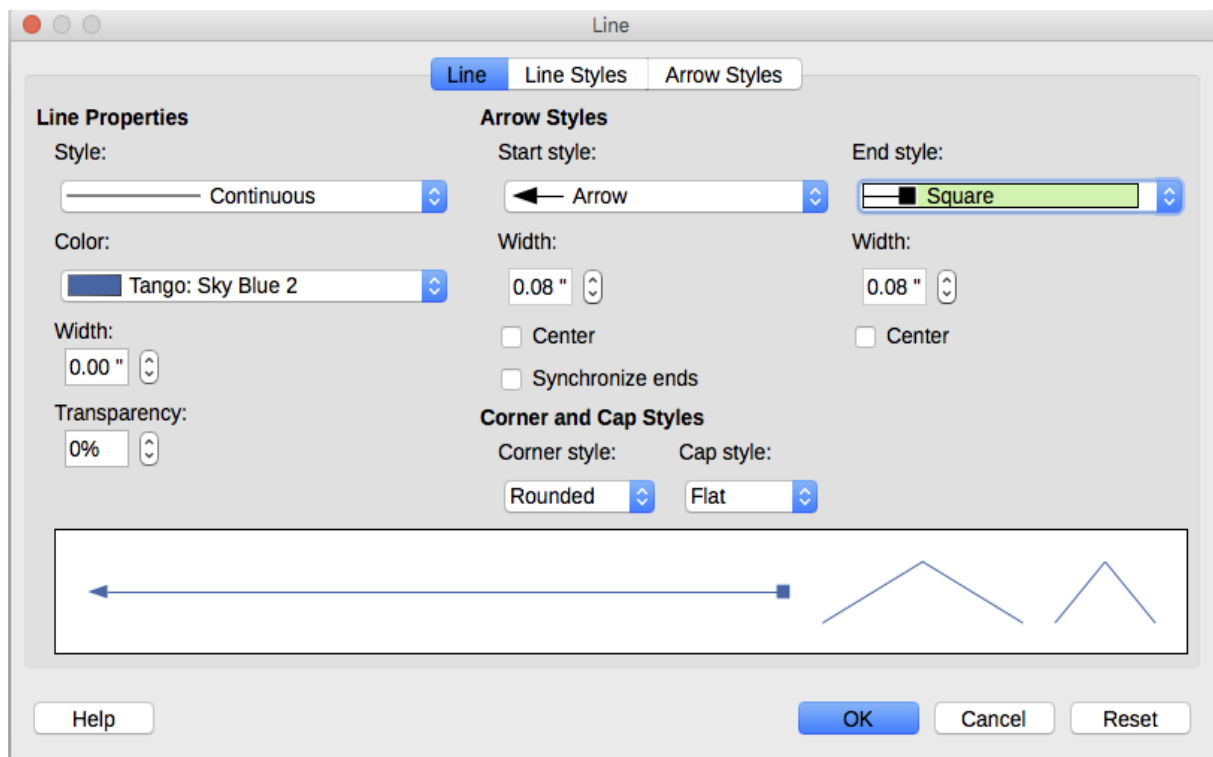

Figure 9: Line dialog

Drawing an arrow

Arrows are drawn like lines. Draw classifies *arrows* as a subgroup of lines: lines with arrowheads. The information field on the status bar shows them only as lines. Click on the **Line Ends with Arrow** icon on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties to draw an arrow. The arrowhead is drawn at the end point of the arrow when you release the mouse button.

Choosing line endings

Several types of line endings (arrows, circles, squares, and others) are available in Draw. Click on the small triangle to the right of the **Lines and Arrows** icon on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties to open a tool palette containing tools for drawing lines and arrows. Alternatively, go to **View > Toolbars > Arrows** to open the Arrows toolbar as a floating

toolbar (Figure 10). The icon for the tool used most recently will be shown on the Drawing toolbar to make it easier to use the same tool again.

After drawing the line, you can change the arrow style by clicking on the **Arrowheads** icon in the Line and Filling toolbar and select the arrow start and end options.
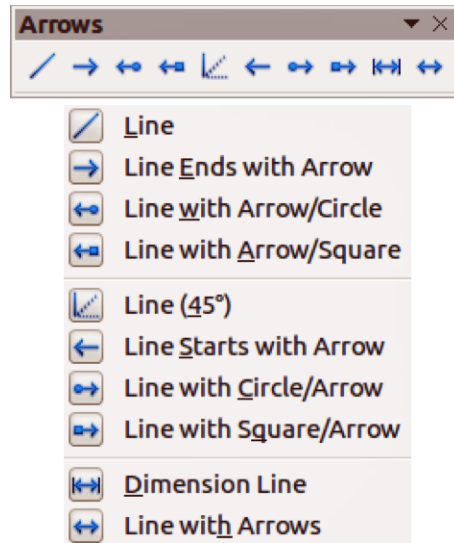

Figure 10: Arrows toolbar and available tools

Drawing a dimension line

Dimension lines display a measurement of an object in the drawing (Figure 11). The dimension line does not belong to the object itself but it is usually placed close to it. An object can have as many dimension lines as necessary to indicate measures of its sides, edges, and distances.
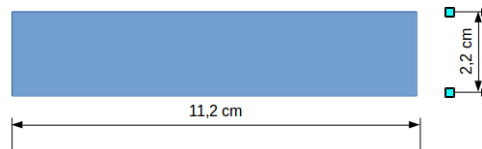

Figure 11: Measuring an object with dimension lines

Dimension lines automatically calculate and display linear dimensions.

To draw a dimension line, open the **Arrows** toolbar (Figure 10) and click the **Dimension Line** icon. Move your pointer to where you want the line to start and drag to draw the dimension line. Release when finished.

You can control the display of the dimension line's components and appearance by selecting it, right-clicking, and choosing **Dimensions...** in the context menu to display the Dimension line dialog (Figure 12).

Drawing rectangles or squares

Drawing a rectangle is similar to drawing a straight line. Click on the **Rectangle** icon in the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. As you draw the rectangle with the mouse cursor, the rectangle appears with its bottom right corner attached to the cursor.

Squares are rectangles with all sides of equal length. To draw a square, click on the **Rectangle** icon and hold down the *Shift* key while you draw a square.
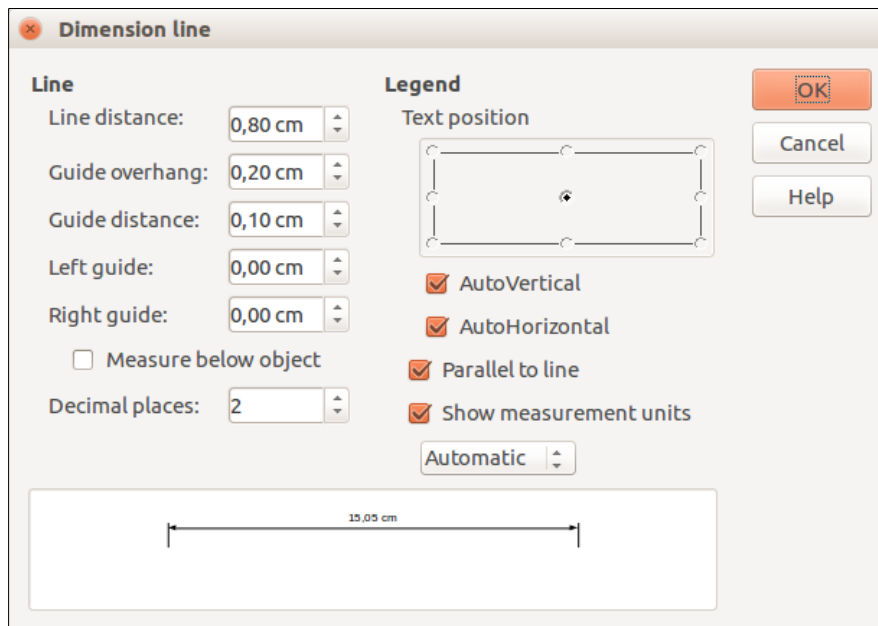
Figure 12: Dimension line settings dialog

🟢 **Note**

> If the option *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > General**, the action of the *Shift* key is reversed: the Rectangle tool draws a square. To draw a rectangle, you have to press the *Shift* key when drawing. This *Shift* key reversal also applies when drawing ellipses and circles.

To draw a rectangle or square from its center rather than the bottom right corner, position your cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The rectangle or square uses the start point (where you first clicked the mouse button) as the center.

Drawing circles or ellipses

To draw an ellipse (also called an oval), click on the **Ellipse** icon on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. A circle is an ellipse with both axes the same length. To draw a circle, click on the **Ellipse** icon and hold down the *Shift* key whilst you draw a circle.

To draw an ellipse or circle from its center, position your cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The ellipse or circle uses the start point (where you first clicked the mouse button) as the center.

🟢 **Note**

> If you first press and hold down the *Ctrl* key and then click on one of the icons for Line, Rectangle, Ellipse, or Text, a standard sized object is drawn automatically in the work area; the size, shape, and color are all standard values. These attributes can be changed later, if desired. See the *Draw Guide* for more information.

Drawing curves or polygons

To draw a curve or polygon, click the **Curve** icon on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. Click on the triangle to the right of the icon to open the tool palette containing tools that are available for drawing curves and polygons (Figure 13). The icon for the tool used most recently is on the Drawing toolbar to make it easier to use the same tool again.

Move the mouse cursor over one of the icons to show a tooltip with a description of the function.
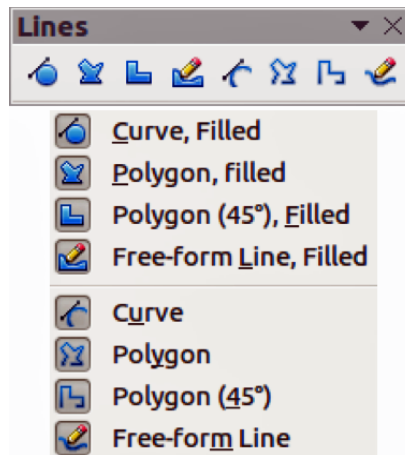

Figure 13: Curves (Lines) toolbar and available tools

Note

Hovering the mouse pointer over this icon gives a tooltip of *Curve*. If you open the floating toolbar, the title is *Lines*, as shown in Figure 13.

Hold down the *Shift* key when drawing lines with the Curve or Polygon tools to restrict the angles between the lines to 45 or 90 degrees.

Curves

Click and hold the left mouse button to create the starting point of your curve, then, while holding down the left mouse button, drag from the starting point to draw a line. Release the left mouse button and continue to drag the cursor to bend the line into a curve. Click to set the end point of the curve and fix the line on the page. To continue with your line, drag the mouse cursor to draw a straight line. Each mouse click sets a corner point and allows you to continue drawing another straight line from the corner point. A double click ends the drawing of your line.

A filled curve automatically joins the last point to the first point to close off the figure and fills it with the current standard fill color. A curve without filling will not be closed at the end of the drawing.

Polygons

Click and draw the first line from the start point with the left mouse button held down. As soon as you release the mouse button, a line between the first and second points is drawn. Move the cursor to draw the next line. Each mouse click sets a corner point and allows you to draw another line. A double-click ends the drawing.

A filled polygon automatically joins the last point to the first point to close off the figure and fills it with the current standard fill color. A polygon without filling will not be closed at the end of the drawing.

Polygons 45°

Like ordinary polygons, these are formed from lines, but the angles between lines are restricted to 45 or 90 degrees.

Freeform lines

Using the freeform line tools is similar to drawing with a pencil on paper. Press and hold the left mouse button and drag the cursor to the line shape you require. It is not necessary to end the drawing with a double-click, just release the mouse button and the drawing is completed.

If Freeform Line Filled is selected, the end point is joined automatically to the start point and the object is filled with the appropriate color.

Adding text

To activate the text tool, click on the **Text** icon for horizontal text or the **Vertical Text** icon for vertical script. If the Vertical Text icon is not visible, check that *Asian* has been selected in **Tools > Options > Language Settings > Languages**. You can display the Text Formatting toolbar (**View > Toolbars**) or use the Character section in the Properties pane of the Sidebar to select font type, font size, and other text properties before you start typing.

After activating the Text command, click at the location where you want to position the text. A small text frame appears, containing only the cursor. This frame can be moved like any other object. A text frame is also dynamic and grows as you enter text.

The information field in the status bar shows that you are editing text and also provides details about the current cursor location using paragraph, row, and column numbers (Figure 14).
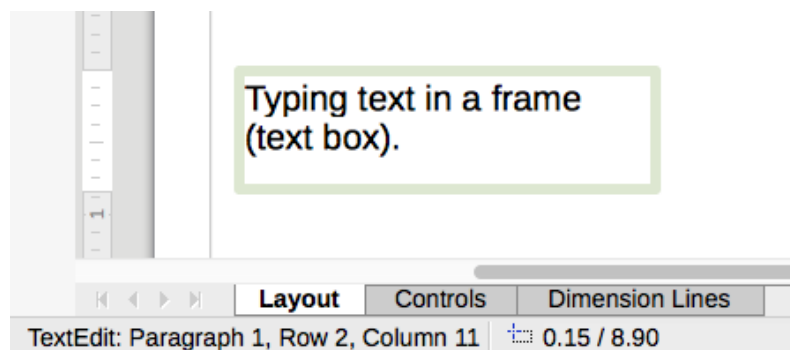

Figure 14: Text information on the Status Bar

You can insert a line break with the *Shift+Enter* key combination or start a new paragraph with the *Enter* key. The insertion of line breaks or new paragraphs does not terminate text editing or deselect the text frame. When you have finished typing text, click outside the text frame to cancel adding or editing text.

Text properties can also be changed during text input, with any changes taking effect from the cursor position onwards. To change the properties for all of the text in the text frame, you have to highlight all text in the text frame.

You can create Graphic styles that you can reuse for other text frames. Select **Format > Styles and Formatting** or press *F11* to open the Styles and Formatting dialog, or click on the Styles and Formatting icon on the Sidebar. Graphic styles affect all of the text within a text frame. To only format parts of the text, use direct formatting with the Text Formatting toolbar or the *Character* and *Paragraph* sub-sections in Sidebar Properties.

Text frames can also have fill colors, shadows, and other attributes, just like any other Draw object. You can rotate the frame and write the text at any angle. These options are available by right-clicking on the text frame itself.

If you double-click on a graphic object, or press *F2* or click on the **Text** icon when an object is selected, you can add text to the graphic object. This text then becomes part of the graphic object.

A graphic object is not dynamic and does not behave like a text frame. To keep text within the borders of the object, you have to use paragraphs, line breaks, or smaller text size, increase the object size, or combine all four methods.

For more information about text, see Chapter 2, Drawing Basic Shapes, and Chapter 9, Adding and Formatting Text, in the *Draw Guide*.

Glue points and connectors

Glue points

All Draw objects have glue points, which are not normally displayed. Glue points become visible when the **Connectors** icon is selected on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. Most objects have four glue points (Figure 15). You can add more glue points and customize glue points, using the **Glue Points** toolbar (Figure 16). Go to **View > Toolbars > Glue Points** on to open the toolbar.
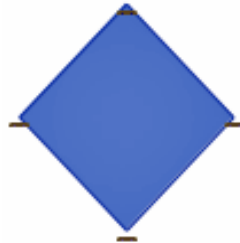

Figure 15: Glue points

Glue points are not the same as the selection handles of an object. The handles are for moving or changing the shape of an object. Glue points are used to fix or glue a connector to an object so that when the object moves, the connector stays fixed to the object. For a more detailed description on the use of glue points, see Chapter 3, Working with Objects and Object Points, and Chapter 8, Connections, Flowcharts, and Organization Charts, in the *Draw Guide*.
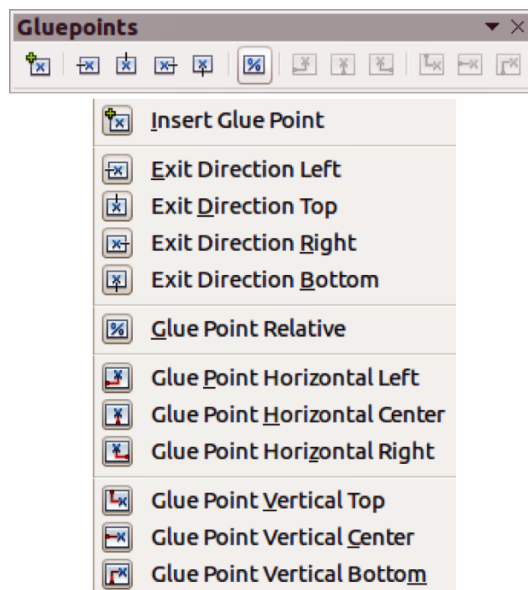

Figure 16: Glue Points toolbar and available tools

Connectors

Connectors are lines or arrows whose ends automatically snap to a glue point of an object. Connectors are especially useful in drawing organization charts, flow diagrams, and mind-maps. When objects are moved or reordered, the connectors remain attached to a glue point. Figure 17 shows an example of two objects and a connector.

Draw offers a range of different connectors and connector functions. On the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties, click on the triangle next to the **Connector** icon to open the **Connectors** toolbar (Figure 18). For a more detailed description of the use of connectors, see Chapter 8, Connections, Flowcharts, and Organization Charts, in the *Draw Guide*.
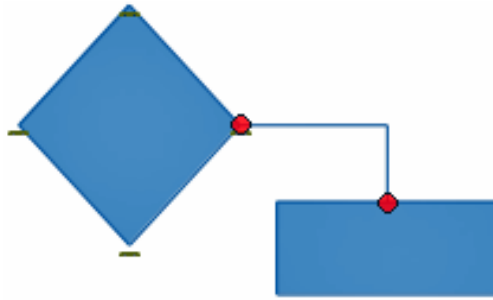
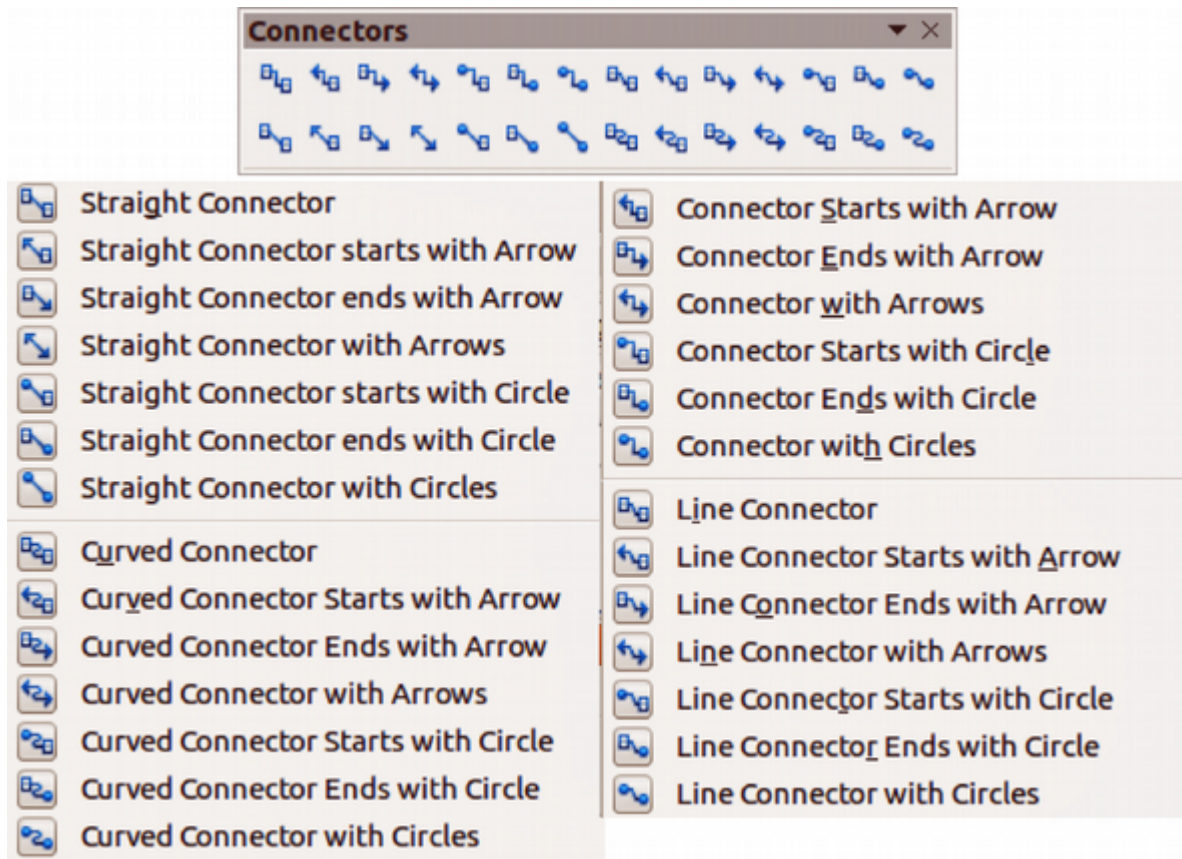*Figure 17: A connector between two objects*

Figure 18: Connectors toolbar

Drawing geometric shapes

The icons for drawing geometric shapes are located on the Drawing toolbar. The geometric shapes are explained in the following sections. Clicking on the triangle to the right of the icon on the Drawing toolbar opens a floating toolbar giving access to the tools for that shape.

▶ **Tip**

The use of these tools for geometric shapes is similar to the tool used for drawing rectangles or squares. For more information, see page 13 and Chapter 2, Drawing Basic Shapes, in the *Draw Guide*.

> ⬤ **Note**
>
> The icons for geometric shapes displayed on the Drawing toolbar will change shape according to the last tool selected and used to draw an object.

Basic shapes

Click on the triangle to the right of the **Basic Shapes** icon ◆ to open the **Basic Shapes** toolbar. This toolbar also includes a rectangle tool identical to the one on the Drawing toolbar.

Figure 19: Basic Shapes toolbar

Symbol shapes

Click on the triangle to the right of the **Symbol Shapes** icon ☺ to open the **Symbol Shapes** toolbar.
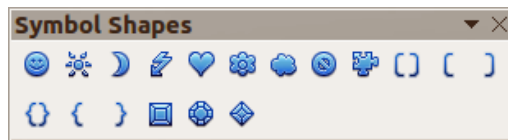

Figure 20: Symbol Shapes toolbar

Block arrows

Click on the triangle to the right of the **Block Arrows** icon ⬌ to open the **Block Arrows** toolbar.

Figure 21: Block Arrows toolbar

Flowcharts

Click on the triangle to the right of the **Flowcharts** icon 🔲 to open the **Flowchart** toolbar for symbols used in drawing flowcharts. The creation of flowcharts, organization charts, and similar planning tools is further described in Chapter 8, Connections, Flowcharts, and Organization Charts in the *Draw Guide*.

Figure 22: Flowcharts toolbar

Callouts

Click on the triangle to the right of the **Callouts** icon 💬 to open the **Callouts** toolbar.

Figure 23: Callouts toolbar

Stars and banners

Click on the triangle to the right of the **Stars** icon to open the **Stars and Banners** toolbar.

Figure 24: Stars and Banners toolbar

🟢 **Note**

> You can add text to all of these geometric shapes. For more information, see Chapter 2, Drawing Basic Shapes, and Chapter 11, Advanced Draw Techniques, *in* the *Draw Guide*.

Selecting objects

Direct selection

The easiest way to select an object is to click directly on it. For objects that are not filled, click on the object outline to select it. One click selects; a second click deselects. To select or deselect more than one object, hold the shift button down while clicking.

Selection by framing

You can also select several objects at once by dragging the mouse cursor around the objects. This cursor dragging draws a rectangle around the objects and only objects that lie entirely within the rectangle will be selected.

To select multiple objects by framing, the **Select** icon on the Drawing toolbar must be active.

🟢 **Note**

> When dragging the mouse cursor to select multiple objects, the selection rectangle being drawn is also known as a marquee.

Selecting hidden objects

Even if objects are located behind others and not visible, they can still be selected. Hold down the *Alt* key and click on the object at the front of where the hidden object is located, then click again to select the hidden object. If there are several hidden objects, keep holding down the *Alt key* and clicking until you reach the object you want. To cycle through the objects in reverse order, hold down the *Alt+Shift keys* and click.

When you click on the selected object, its outline will appear briefly through the objects covering it.

Note

Using the *Alt* key method works on computers using a Windows or Mac operating systems. On a computer using a Linux operating system the *Tab* key method, described below, has to be used.

To select an object that is covered by another object using the keyboard, use the *Tab* key to cycle through the objects, stopping at the object you want to select. To cycle through the objects in reverse order, press *Shift+Tab*. This is a very quick way to reach an object, but it may not be practical if there a large number of objects in a drawing.

Arranging objects

In a complex drawing, several objects may be stacked on top of one another. To rearrange the stacking order by moving an object forward or backward, select an object, click **Modify > Arrange** on the Menu bar and select **Bring Forward** or **Send Backward**. Alternatively, right-click the object, select **Arrange** from the context menu, then **Bring Forward** or **Send Backward**.

The arrange options are also available by clicking on the small triangle to the right of the **Arrange** icon on the Line and Filling toolbar. This opens the **Position** toolbar giving access to the various arrangement options (Figure 25).
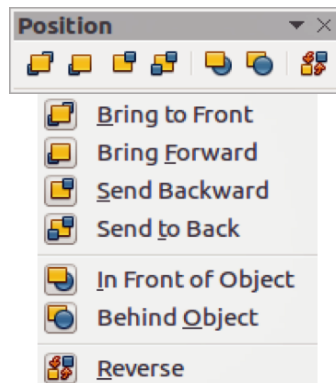

Figure 25: Position toolbar and available tools

Moving and adjusting object size

When moving an object or changing its size, check the left-hand area of the status bar at the bottom of the Draw window (Figure 26). The area on the left of the Status bar, from left to right, shows what object is selected, its position on the drawing in X/Y coordinates and dimensions of the object. The units of measurement are those selected in **Tools > Options > LibreOffice Draw > General**.

For more information on moving and adjusting object size, see Chapter 3, Working with Objects and Object Points, in the *Draw Guide.*
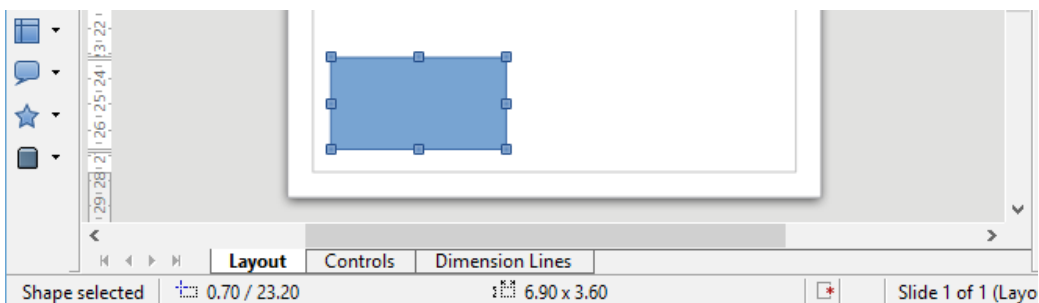

Figure 26: Left end of status bar when moving or adjusting an object

Moving objects

To move an object (or a group of objects), select it and then click within the object borders and hold down the left mouse button while dragging the mouse. During movement, a ghost image of the object appears to help with repositioning (Figure 27). To locate the object at its new location, release the mouse button.
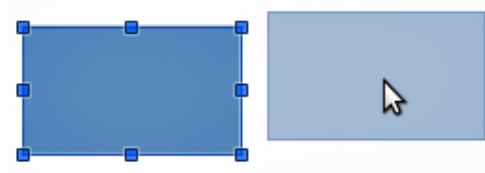
Figure 27: Moving an object

Adjusting object size

To change the size of a selected object (or a group of selected objects), move the mouse cursor to one of the selection handles. The mouse cursor will change shape to indicate the direction of movement for that selection handle. As you change the size of the object, a ghosted outline of the object appears (Figure 28). When you have reached the desired size of the object, release the mouse button.

The results depend on which selection handle you use. To resize an object along one axis, use a side handle. To resize along both axes, use a corner handle.
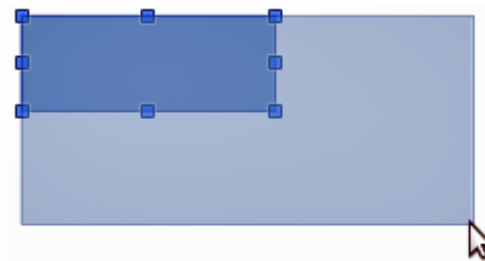
Figure 28: Adjusting object size

Note

If you press the *Shift* key while resizing an object, the change in size will be carried out symmetrically with respect to the two axes so that the aspect ratio of the object remains the same. This *Shift* key behavior works on all selection handles.

This is the default behavior of the *Shift* key. However, if *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key is reversed and the aspect ratio will be preserved *unless* the *Shift* key is pressed.

Rotating and slanting an object

For more information on rotating and slanting an object, see Chapter 3, Working with Objects and Object Points, in the *Draw Guide.*

Rotating an object

To rotate an object (or a group of objects), select the object, then go to rotation mode using one of the following methods:

- Click on the Rotate icon on the Line and Filling toolbar.

- Go to **View > Toolbars > Mode** and select the Rotate icon .

The selection handles will change shape and color (Figure 29). Also a rotation point will appear in the center of the object. As you move the mouse cursor over the handles, the cursor changes shape. The corner handles are for rotating an object and the top, bottom and side handles are to slant an object.
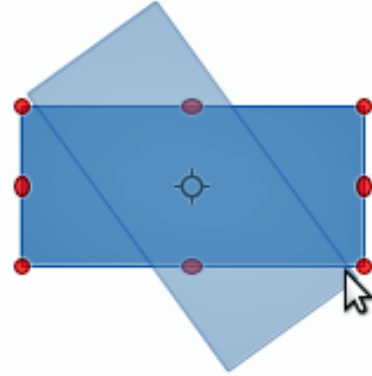
Figure 29: Rotating an object

Move the mouse cursor to one of the corner handles and it normally changes to an arc with an arrow at each end. Click and hold the mouse button, then start to move the cursor to rotate the object. A ghost image of the object being rotated appears and the current angle of rotation is shown in the status bar.

🟢 **Note**

Rotation works differently for 3D objects because rotation occurs around global axes and not around a single axis. For more information, see Chapter 7, Working with 3D Objects, in the *Draw Guide*.

The rotation point is normally located at the center of an object. To change the position of the rotation point, click on the object with the mouse cursor and drag the object until the rotation point is at the desired position. This rotation point can even be outside of the object.

🟢 **Note**

If you press the *Shift* key while rotating an object, rotation will be restricted to 15° of movement.

This is the default behavior of the *Shift* key. However, if *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key is reversed and rotation will be restricted to 15° of movement *unless* the *Shift* key is pressed.

Slanting an object

To slant an object, use the handles located at the midpoints on the top, bottom and sides of a selected object. The mouse cursor changes when it hovers over one of these midpoint handles. The axis used for slanting an object is the object edge directly opposite the midpoint handle being used to slant the object. This axis stays fixed in location while the other sides of the object move in relation to it as you drag the mouse cursor.

Click and hold the mouse button, then move the cursor to shear the object. A ghost image of the object being slanted appears (Figure 30) and the current angle of slant is shown in the status bar.

> ![green ball icon] **Note**
>
> If you press the *Shift* key while slanting an object, slanting will be restricted to 15° of movement. This is the default behavior of the *Shift* key. However, if *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key is reversed and slanting will be restricted to 15° of movement *unless* the *Shift* key is pressed.
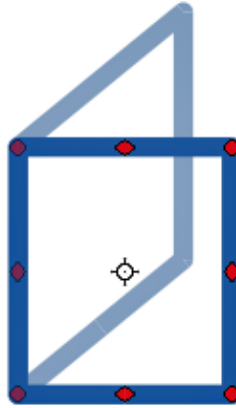

Figure 30: Slanting an object

Editing objects

To edit an object or change attributes such as color or border width, the Line and Filling toolbar, the Text Formatting toolbar, the Sidebar Properties section, or a context menu can be used. For more information on editing objects and changing attributes, see Chapter 4, Changing Object Attributes, in the *Draw Guide.*

Line and Filling toolbar

By default, the **Line and Filling** toolbar is not shown in Draw. To display it, go to **View > Toolbars > Line and Filling** on the Menu bar to open the toolbar (Figure 31) at the top of the workspace. The most common object attributes can be edited using this toolbar. You can also open the Line dialog by clicking on the **Line** icon ![line icon] and the Area dialog by clicking on the **Area** icon ![area icon] for access to more formatting options.
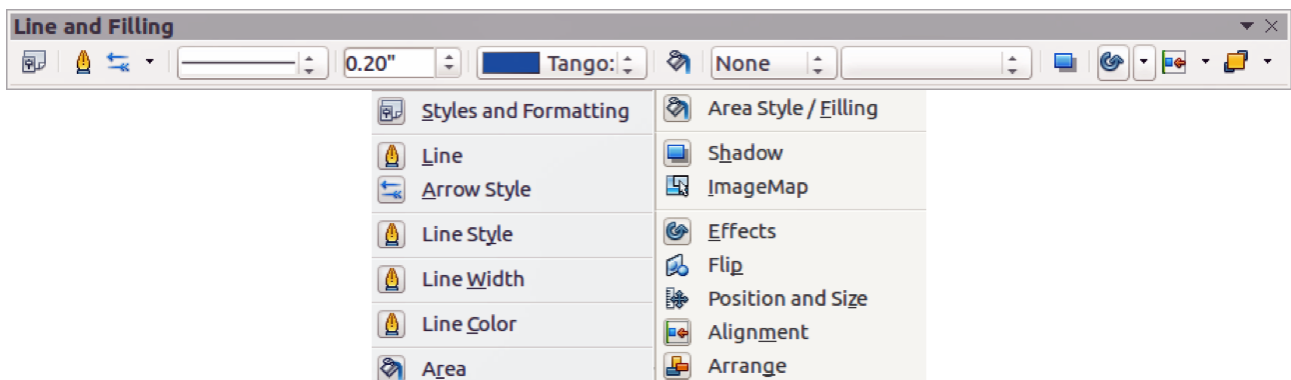

Figure 31: Line and Filling toolbar and its available tools

Text Formatting toolbar

You can open the Text Formatting toolbar by selecting **View > Toolbars > Text Formatting** on the Menu bar. The tools on this toolbar will not become active until text has been selected.
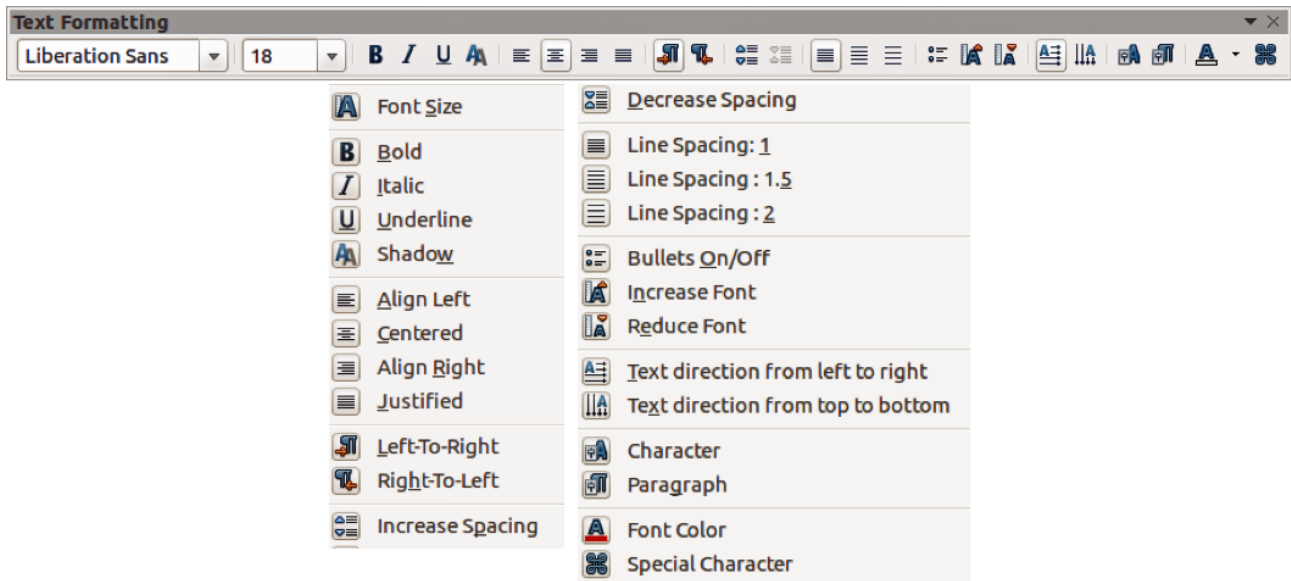

Figure 32: Text Formatting toolbar and its available tools

Sidebar Properties

When you select an object in your drawing, the sub-sections in Sidebar Properties become active (Figure 33). You can change the properties or options of an object without having to open a dialog or use any of the available tools on the various toolbars provided by Draw. To expand a sub-section, click on the plus (+) sign or arrow next to the sub-section title.
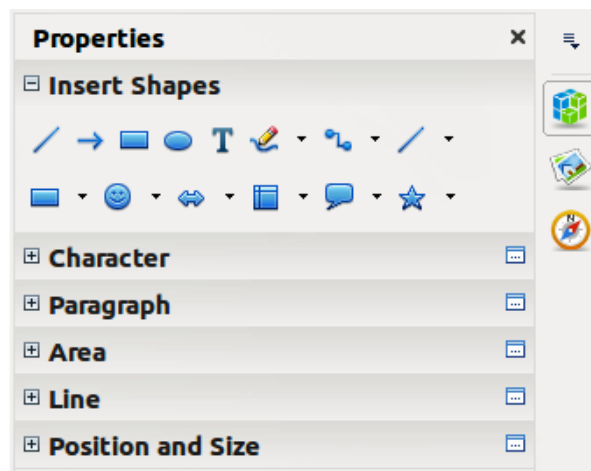

Figure 33: Sub-sections in Sidebar Properties

Context menu

When an object is selected and you right-click on the object, a context menu (Figure 34) opens that applies to the selected object. You can change object attributes without having to open a dialog. Menu entries with a small arrow on the right-hand side contain a submenu.
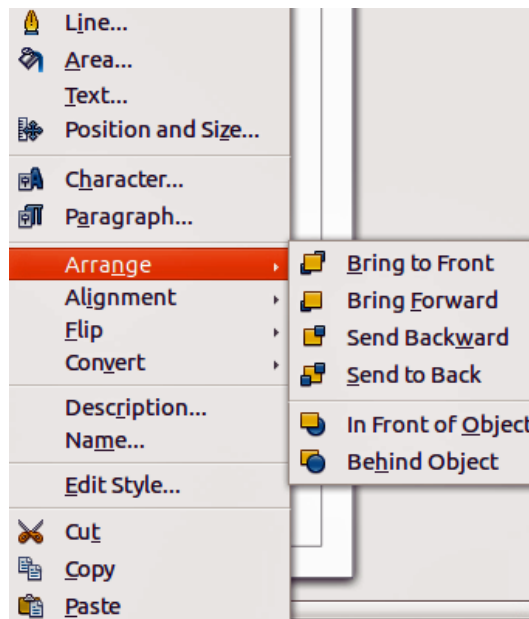
Figure 34: Example of a context menu

Formatting lines and borders

In LibreOffice the term *line* indicates both a freestanding segment (line), 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.

Select the line you need to format and then use the controls on the Line and Filling toolbar to change the most common options (highlighted in Figure 35).

Figure 35: Common line properties (style, color, width)

If you need to fine tune the appearance of a line, choose **Format > Line** from the 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. All of these methods open the **Line** dialog (Figure 10 on page 13), where you can set line properties. This dialog consists of three pages: *Line*, *Line Styles*, and *Arrow Styles*. Alternatively, use the *Line* sub-section in Sidebar Properties to change the appearance of a line.

Arrows, arrowheads, and line endings

Arrows, arrowheads, and other line endings are usually referred to as arrows and can be treated the same as lines when editing and changing attributes. Select a line and click on the **Arrow Style** icon ⇤ from the Line and Filling toolbar to open the **Arrowheads** menu (Figure 36).

Figure 36: Arrowheads menu

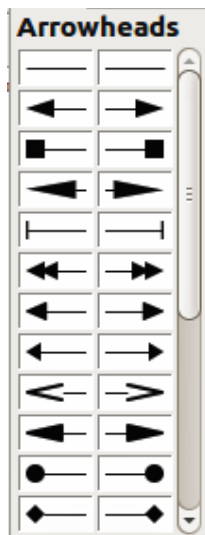Several types of arrowheads are available. Each end of a line can have a different arrowhead or no arrowhead). Arrowheads are only applicable to lines and they have no effect on the border of an object.

Formatting area fill

The term **area fill** refers to the inside of an object, which can be a uniform color, gradient, hatching pattern, or bitmap (Figure 37). An area fill can be made partly or wholly transparent. In most cases, you will choose one of the standard fill options, which are all available from the Line and Filling toolbar, or the *Area* sub-section in Sidebar Properties. You can also define your own area fills. For more information on area fill, see Chapter 4, Changing Object Attributes, in the *Draw Guide.*
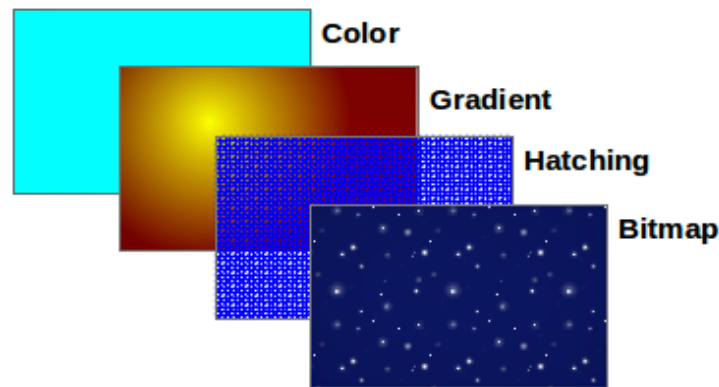
Figure 37: Different types of area fill

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 format (a style) and then apply that format to multiple objects. For more information on styles, see Chapter 3, Using Styles and Templates, in this guide; Chapter 8, Introduction to Styles, in the *Writer Guide;* and Chapter 4, Changing Object Attributes, in the *Draw Guide.*

Positioning objects

Snap function

In Draw, objects can be accurately and consistently positioned using the snap function. Grid points, snap points and lines, object frames, individual points on objects, or page edges can all be used with the snap function.

Snap function is easier to work with at the highest zoom values that are practical for your display. Two different snap functions can be used at the same time; for example snapping to a guide line and to the page edge. It is recommended, however, to activate only the functions that you really need.

For more detailed information about the snap function, see Chapter 3, Working with Objects and Object Points, and Chapter 11, Advanced Draw Techniques, in the *Draw Guide.*

Snap to grid

Use Snap to grid to position an object to a grid point. Go to **View > Grid > Snap to Grid** on the Menu bar or click on the **Snap to Grid** icon on the **Options** toolbar to turn on or off the snap to grid function. If the Options toolbar is not visible, go to **View > Toolbars > Options** on the Menu bar.
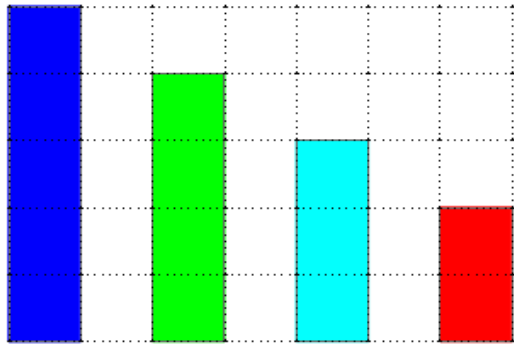

Figure 38: Positioning with snap to grid

Displaying the grid

To display the grid in Draw or to switch off the grid, go to **View > Grid > Display Grid** on the Menu bar or click on the **Display Grid** icon on the Options toolbar.

Configuring the grid

The resolution, snap and snap position of the grid points can be configured. Go to **Tools > Options > LibreOffice Draw > Grid** on the Menu bar to open the options dialog for the grid.

- Vertical and horizontal spacing of the dots in the grid. You can also change the unit of measurement used in the general Draw options by going to **Tools > Options > LibreOffice Draw > General**.

- The resolution is the size of the squares or rectangles in the grid. If the resolution is 1 cm horizontal and 2 cm vertical, the grid consists of rectangles 2 cm high and 1 cm wide.

- Subdivisions are additional points that appear along the sides of each rectangle or square in the grid. Objects can snap to subdivisions as well as to the corners of the grid.

- The pixel size of the snap area defines how close you need to bring an object to a snap point or line before it will snap to it.

- The default color of the grid is light gray. To change the color of the grid points, go to **Tools > Options > LibreOffice > Appearance** on the Menu bar.
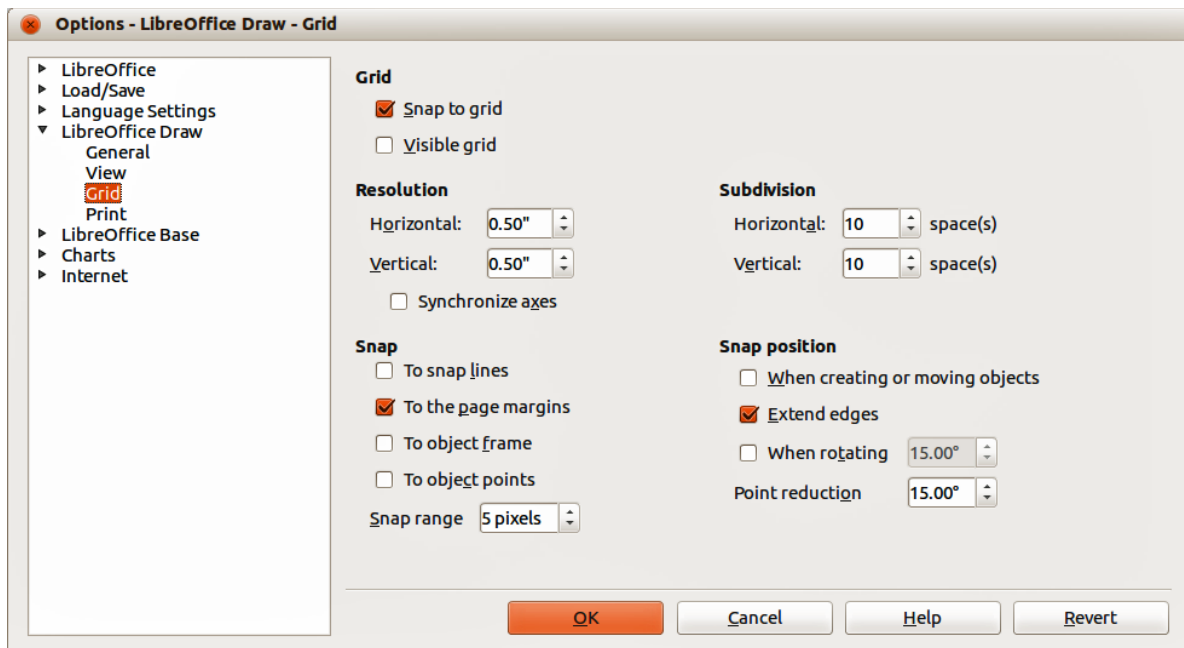
Figure 39: Configuring the grid

Help lines

Draw has help lines to easily allow you to position an object using the rulers at the top and left side of the workspace. To turn on or off the help lines, go to **Tools > Options > LibreOffice Draw > View** on the Menu bar and select **Snap Lines when moving** option or go to the Options toolbar and click on the **Helplines While Moving** icon .

Applying special effects

With Draw, you can apply many special effects to objects and groups of objects. This section is an introduction to some of these effects. For more information on special effects, see Chapter 4, Changing Object Attributes, *in the Draw Guide.*

To access the tools used for special effects, go to **View > Toolbars > Mode** (Figure 40). **Rotate** and **Flip** can also be accessed by going to **Modify** on the Menu bar or by right-clicking on the object and using the context menu.

Flipping objects

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

1) Click on a graphic object and the selection handles will show.
2) Right-click and select **Flip > Vertically** or **Horizontally**, or go to **Modify > Flip > Vertically** or **Horizontally** on the Menu bar and the selected object will be flipped to face the other direction.

However, the **Flip** tool on the Mode or Drawing toolbar provides greater control over the flipping process. You can use the Flip tool to change the position and angle that the object flips over, as described in Chapter 4, Changing Object Attributes, in the *Draw Guide.*
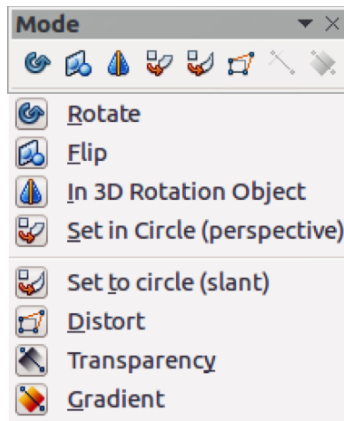
Figure 40: Mode toolbar and its tools

Mirror copies

At the moment no mirror command exists in Draw. However, mirroring an object can be emulated by using the **Flip** tool, as described in Chapter 4, Changing Object Attributes, in the *Draw Guide.*

Distorting an object

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

Distort tool 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. See Chapter 4, Changing Object Attributes, in the *Draw Guide* for more information on how to distort an object.

Dynamic transparency gradients

You can control transparency gradients in the same manner as color gradients. 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 regular gradient, the fill changes from one color to another, but the degree of transparency remains the same.

The **Transparency** and **Gradient** tools on the Mode toolbar dynamically control transparency and color gradients. See Chapter 4, Changing Object Attributes, in the *Draw Guide* for more information on how to create transparencies and gradients in an object.

Duplication

Duplication makes copies of an object while applying a set of changes such as color or rotation to the duplicates that are created.

1) Click on an object or group of objects and go to **Edit > Duplicate** on the Menu bar or use the keyboard shortcut *Shift+F3* to open the **Duplicate** dialog (Figure 41).

2) Select the required options chosen from the options available. For example, when the options in the dialog are applied to a rectangle, they produce the result shown in Figure 42.
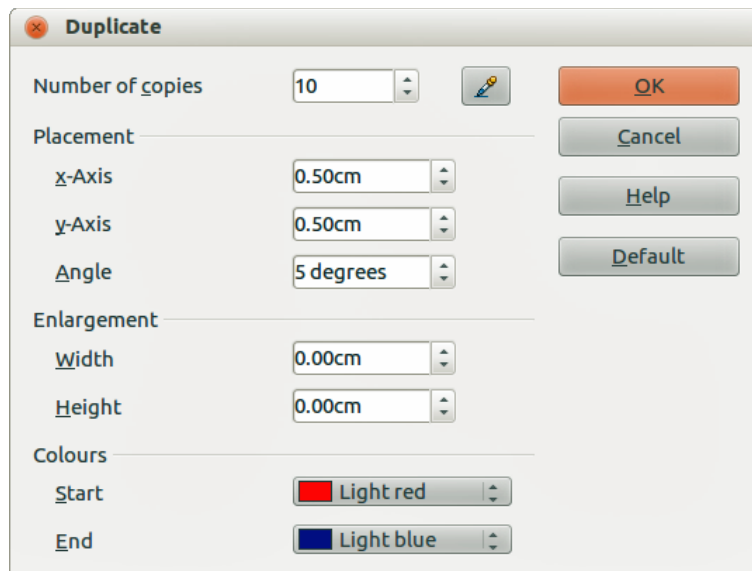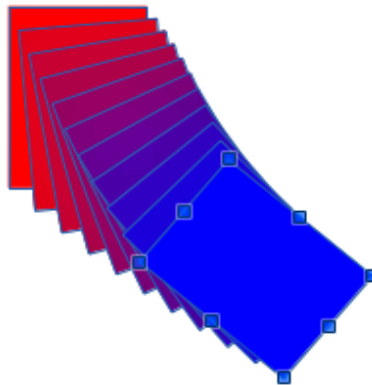
Figure 41: Duplicate dialog

Figure 42: Duplication result

Cross-fading

Cross-fading transforms one object shape to another object shape and only works when two objects are selected.

1) Select two differently shaped objects.

2) Go to **Edit > Cross-fading** on the Menu bar to open the **Cross-fading** dialog (Figure 43).

3) Select **Increments** to determine the number of shapes between the two objects.

4) Select **Cross-fading attributes** to apply a gradual change of line and fill properties between the two objects.

5) Select **Same orientation** to apply a smooth transition between the two objects.

6) Click on **OK** and the result is a new group of objects with the first object selected as the start object and the second object selected as the end object. For example, when the options in the dialog are applied to a rectangle and a triangle, the cross fade produces the result shown in Figure 44.
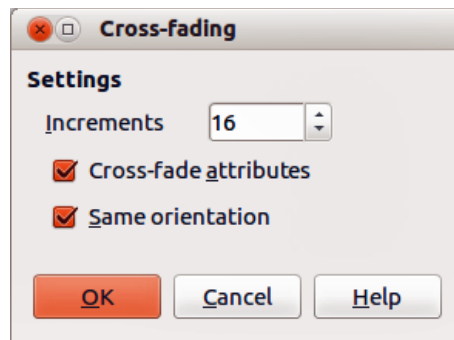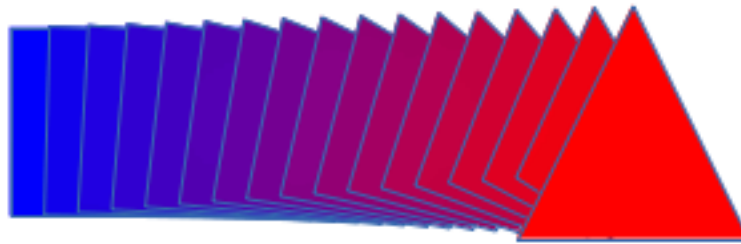
Figure 43: Cross-fading dialog

Figure 44: Cross-fading result

Combining multiple objects

Using Draw, you can group or combine objects together allowing you to treat multiple objects as one unit, or to merge objects to form a new shape. For more information, see Chapter 5, Combining Multiple Objects, in the *Draw Guide*.

Grouping of objects is similar to putting objects into a container. You can move the objects as a group and apply global changes to the objects within the group. A group can always be undone and the objects that make up the group can always be manipulated separately. The objects within a group also retain their own individual properties.

Combining objects is a permanent merging of objects that creates a new object. The original objects are no longer available as individual entities and cannot be edited as individual objects. Any editing of a combined object affects all the objects that were used when combination was carried out.

Grouping

Temporary grouping

A temporary grouping is when several objects are selected using the Select icon on the Drawing toolbar or using the mouse to drag a rectangle around the objects (also known as a marquee). Any changes to object parameters you carry out are applied to all of the objects within the temporary group. For example, you can rotate a temporary group of objects in its entirety.

To cancel a temporary grouping of objects simply click outside of the selection handles displayed around the objects.

Permanent grouping

A permanent grouping of objects can be created after you have selected your objects. Go to **Modify > Group** on the Menu bar, or right-click on the selection and select **Group** from the context menu, or use the keyboard shortcut *Ctrl+Shift+G*. When you deselect your selection, the objects remain grouped together.

When objects are permanently grouped, any editing operations carried out on that group are applied to all members of the group. If you click on one member of the group, the whole group is selected.

You can edit an individual member of a group without ungrouping or breaking the group. Select the group and go to **Modify > Enter Group**, or right-click and select **Enter Group** from the context menu, or use the keyboard shortcut *F3*, or double-click on the group.

When you have finished editing an individual member of a group, go to **Modify > Exit Group**, or right-click and select **Exit Group** from the context menu, or use the keyboard shortcut *Shift+F3*.

Ungrouping

To ungroup or break apart a group of objects, select the group then go to **Modify > Ungroup** on the Menu bar, or right-click and select **Ungroup** from the context menu or use the keyboard shortcut *Ctrl+Alt+Shift+G*.

Combining objects

Combining objects is a permanent merging of objects that creates a new object. The original objects are no longer available as individual entities and cannot be edited as individual objects. Any editing of a combined object affects all the objects that were used when combination was carried out.

Select several objects, then go to **Modify > Combine** on the Menu bar, or right-click on the objects and select **Combine** from the context menu, or use the keyboard shortcut *Ctrl+Shift+K*.

After you have selected your objects, the **Merge**, **Subtract**, and **Intersect** functions also become available so that you can create a new object from your selected objects. See Chapter 5, Combining Multiple Objects, in the *Draw Guide* for more information on these functions.

Arranging, aligning, and distributing objects

In Draw you can arrange, align, and distribute selected objects in relation to each other:

- Arrange the position of an object by moving it either forward or backward in relation to the order of objects.
- Align objects with respect to each other using **Left**, **Centered**, or **Right** for horizontal alignment and **Top**, **Center**, or **Bottom** for vertical alignment.
- Distribute objects so that the space between each of the objects is the same.

See Chapter 5, Combining Multiple Objects, in the *Draw Guide* for more information on arranging and aligning objects in relation to each other.

Inserting and editing pictures

Draw contains a number of functions for editing pictures or raster graphics (bitmaps); for example, photos and scanned images. This includes the import and export of graphics, and conversion from one graphic format to another.

Draw includes a large range of graphic filters so that it can read and display several graphic file formats. It also includes several tools for working with raster graphics, but does not have the same functionality as specialized graphic programs like Gimp or Adobe Photoshop. See Chapter 6, Editing Pictures, in the *Draw Guide* for more information.

You can add pictures from several sources:

- Directly from a scanner (**Insert > Picture > Scan**)
- Images created by another program, including photographs from a digital camera (**Insert > Picture > From File**)

- The Draw Gallery; see Chapter 11, Graphics, the Gallery, and Fontwork, in this guide for more information.

Working with 3D objects

Although Draw does not match the functionality of the leading drawing or picture editing programs, it is capable of producing and editing very good 3D drawings.

Draw offers two types of 3D objects: *3D bodies* and *3D shapes*. Depending on which type you choose, there are different methods of editing of a 3D object (rotation, illumination, perspective, and so on) with 3D shapes being simpler to set up and edit than 3D bodies. However, 3D bodies currently allow for more customization.

See Chapter 7, Working with 3D Objects, in the *Draw Guide* for more information.

Exporting graphics

Draw saves graphics and images in the open source format *.odg. To save a graphic or the entire file in another format, use **File > Export** and select a format from the list displayed. The graphic formats that Draw can export and save to are listed in Appendix B, Open Source, Open Standards, OpenDocument in this guide.

You can also export Draw files to HTML, XHTML, PDF, or Flash. PDF export for modules of LibreOffice is described in Chapter 10, Printing, Exporting, and E-mailing, in this guide.

HTML export uses a conversion wizard that creates as many web pages as there are pages in your Draw document. You can optionally choose to display pages in frames with a navigator and set an index page. For more information, see Chapter 12, Creating Web Pages, in this guide.

Inserting comments in a drawing

You can insert comments into your drawing in a similar process to the one used in Writer and Calc.

1) Go to **Insert > Comment** on the menu bar. A small box containing your initials appears in the upper left-hand corner of your drawing with a larger text box beside it (Figure 45). Draw automatically adds your name and the date at the bottom of this text box.

2) Type or paste your comment into the text box. You can apply basic formatting to parts of the text by selecting it, right-clicking, and choosing from the context menu. From this menu, you can also delete the current comment, all the comments from the same author, or all the comments in the document.

3) You can move the small comment markers to anywhere you wish on the drawing. Typically you might place it on or near an object you refer to in the comment.

4) To show or hide the comment markers, go to **View > Comments** on the Menu bar.
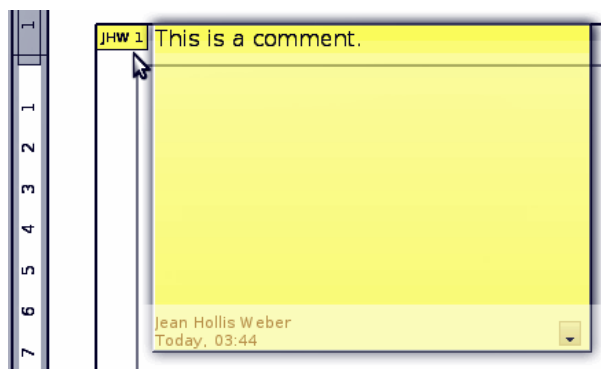

Figure 45: Inserting comments

You can go to **Tools > Options > User Data** to enter the name you want to appear in the Author field of the comment.

If more than one person edits the document, each author is automatically allocated a different background color.