Configura Basic Course

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This course brings up basic principles for working with Configura. The course documentation contains theory, examples and illustrations.

Published by:
Configura Sverige AB
Box 306
SE-581 02 Linköping
Sweden

www.configura.com

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1 Introduction

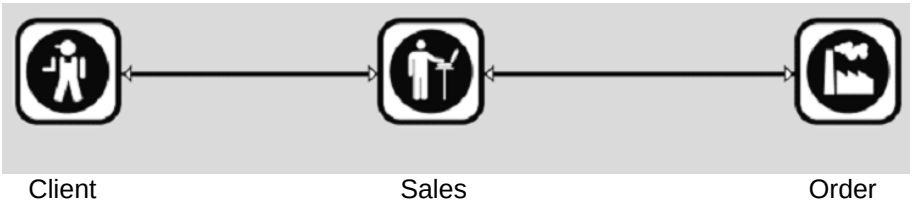
In a traditional sales process, the steps from an enquiry to an order are often very time-consuming as people use different software solutions. However, Configura® offers a complete solution for designing and selling products.

1.1 What is Configura®?

Configura is the leading graphical product configurator on the market. Our software automates the sales process for the following industries:

- Kitchen & Bath
- Commercial Furniture
- Material Handling
- Industrial Machinery

In the Configura software you work with simple graphical symbols, which allow you to focus on the space planning and the design of your products. The software is rule-based; it knows the capabilities and limitations for each individual product and does not allow you to make mistakes. When you have finished with your layout, all required information (product specifications, quotes, 3D renderings and order data) has been generated automatically.



Configura simplifies the process from the customer enquiry to an order.

Configura allows you to be at the customer's site, offering the optimal business solution right there on the spot.

For more information, please ask for one of our brochures or visit our website at www.configura.com

1.2 Purpose of this Material

This guide is designed to complement our teacher-controlled training courses and is used throughout the **Basic Course.** Here you will find the majority of the exercises that we work with during the two days. This is a reference material which you can go back to, to repeat the different items after the course.

The **Basic Course** teaches essential skills and concepts that can be applied to any customization of Configura. After the course you will have received a great deal of inspiration, tips and ideas!

For additional orders of this material, please contact training@configura.com

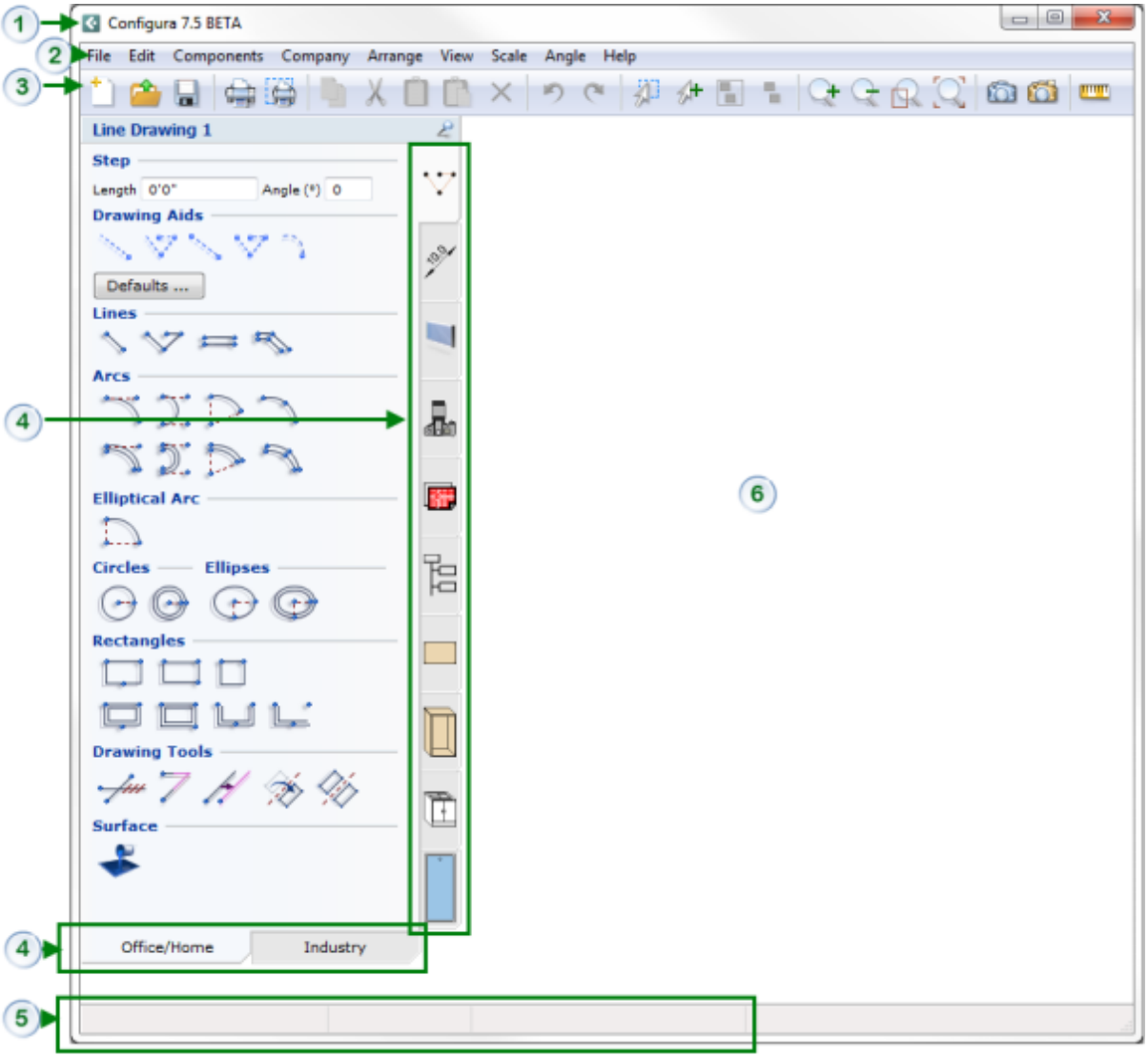
2 Getting Familiar with Configura

Together with your product knowledge, learning the basics of the core application (hereby referred to as “Configura Core”) will enable you to quickly get started with your new sales tool.

2.1 Work Area

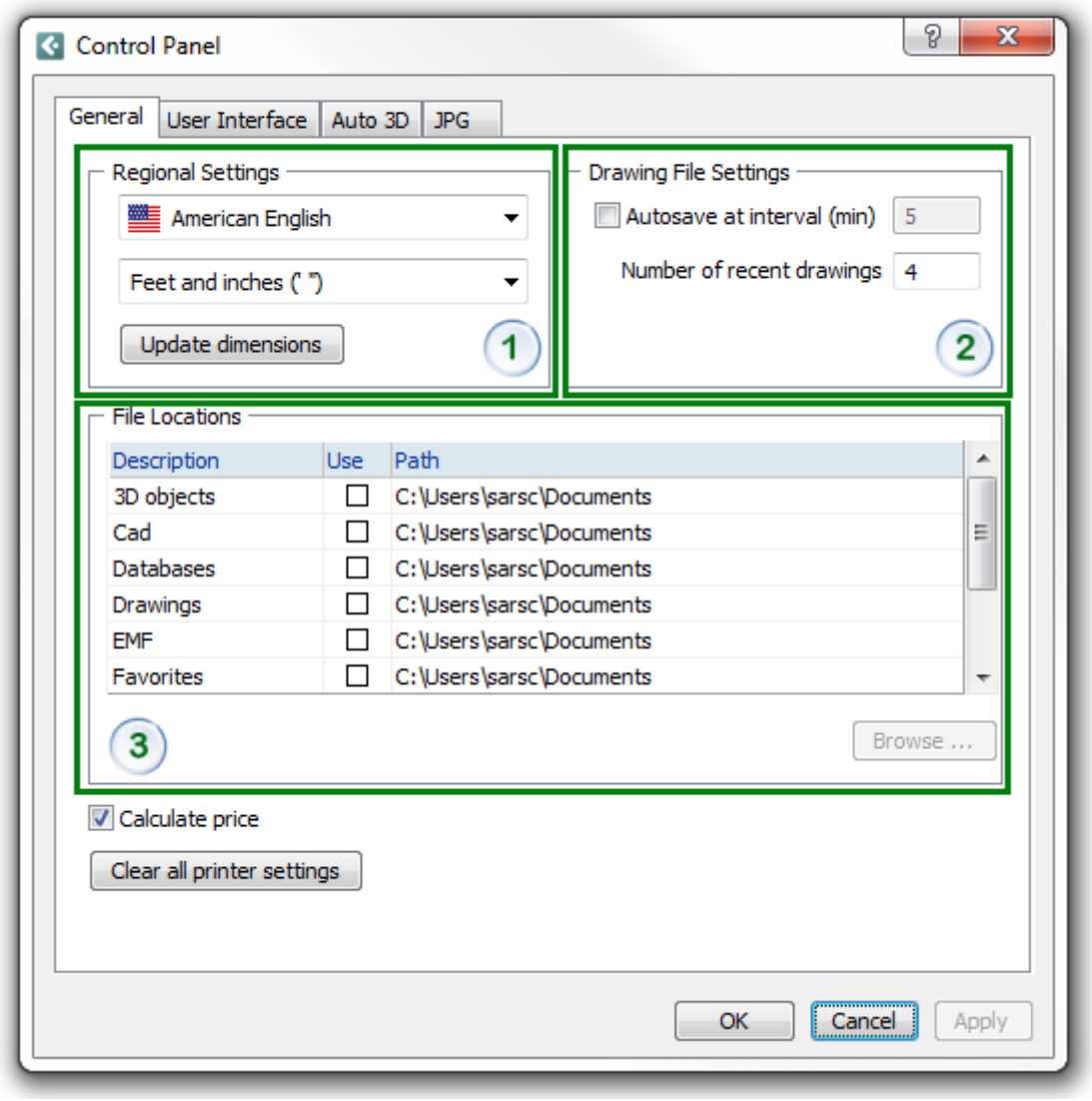
The Configura work area has a clear and simple design. Starting at the top and then working our way down, it is made up of a title bar with the name and the version number of the customized version, the menu bar and the toolbar. On the left, below the toolbar, are the component tabs and on the right the drawing area.

1. Title bar
2. Menu bar
3. Toolbar
4. Component tabs (vertical and horizontal)
5. Status bar (with price and scale)
6. Drawing area (unlimited size - click and drag it to any direction)



2.2 Adjusting Default User Settings

Selecting the language, in which you would like to run Configura, is one of the initial default settings that you need to do after you have installed the program for the first time. In order to do so, go to the **File** menu and select **Control Panel** to display a dialog with four tabs – **General, User Interface**, **Auto 3D** and **JPG**. All settings made in this dialog will be saved and you do not need to select them again when installing new versions of Configura.



Configura's Control Panel.

The **General** tab in the **Control Panel** contains three main fields: **Regional Settings** (1), **Drawing File Settings** (2) and **File Locations** (3). On this tab, you will find the settings which are most important at an initial stage.

In the **Regional Settings** field (1) you select the language in which you would like to run the program as well as the desired dimension unit.

In the **Drawing File Settings** field (2), we recommend you to activate the **Auto save at interval** function. This way, your work is being saved at regular intervals. In the text field to the right, you can enter how often your work should be saved (every 1 to 60 minutes). Auto save only saves the 10 most recent versions of your drawing. To find the drawings that Configura has saved automatically, go to the **File** menu and choose **Open Autosaved Drawing**. In the text field next to **Number of recent drawings** you decide how many of your recently opened files you want to be displayed when clicking on **Recent Drawings** in the **File** menu. The minimum number is 1 and the maximum is 12.

In the **File Locations** field (3) you can define paths to many of the different types of files, which are opened and saved during your work in the program.

In order to define new paths to one of the alternatives above, proceed as follows:

1. Select the desired alternative by clicking on it, for example the **Favorites** option, to determine where all your favorites you create should be saved.
2. Click the **Browse** button and define the desired path.
3. In the **Use** column, make sure that the box is checked.

Below the two main fields, you will see the **Calculate price** option. Checking this box will allow the price of the component(s) that you place in the drawing area to be displayed. The price information is shown in the status bar in the bottom left-hand corner of the Configura window**.**

Note:

- Once you have chosen the language and dimension unit, the **Control Panel** closes, when you click on **OK** or **Apply**. This is so that Configura can be updated according to the changes you have made. To select additional settings, you must open the dialog box from the **File** menu, and choose **Control Panel** again.
- The content of the **Control Panel** dialog might vary, depending on the number of functions that have been included in the different customizations of Configura.
- The menu item **Open Autosaved Drawings** does not appear in the **File** menu until you activate the **Auto save at interval** option in the **Control Panel**.

3 Working with Components

In the program, all objects that can be picked from one of the component tabs in the left-hand part of the program window and then positioned in the drawing area are referred to as "components". If you hover the mouse pointer over a component, a short help text is displayed with the name of the component along with the information about it.

3.1 Applying Pre-Settings for Components

Before placing the desired component on to the drawing area, you have to start from the top of the component tab and work your way down in order to apply the desired pre-settings.

3.2 Picking and Placing

You position most components in the drawing area by choosing a component on the tab by clicking on it, moving the mouse pointer (***Note**: You do not need to keep the mouse button pressed down!)* to the drawing area and by clicking the component in the desired position. In Configura, this process is called “pick and place”.

After you have positioned a component in the drawing area, you can click an almost unlimited number of times to add new occurrences of the same component in the drawing area. *One* click for each component is all that is needed. If you do not want to position several components of the same type, move the pointer outside the drawing area. The pointer drops the current component.

3.3 Selecting Components

To be able to alter a component in the drawing area, it has to be selected first. When a component is selected, its yellow snap points are visible. A component is automatically selected when it is placed in the drawing area. You can:

- select a component by clicking it.
- deselect/clear the selection by clicking somewhere else in the drawing area, another component or by placing a new component in the drawing area.
- select multiple components by pressing and holding the **Ctrl** key whilst clicking the desired components. You can also use the **Select Rectangle** feature on the toolbar or press and hold down the **Shift key**, whilst pressing the left mouse button and dragging the mouse pointer diagonally across the group of components you want to select.
- select only one in a group by first disconnecting the component. See *Disconnecting Components* for further details.

3.4 Snapping Components

Most components in Configura have yellow snap points (see figure further down). These snap points allow components to automatically attach to each other (snap into place). Snapping works in various ways. Some components snap together at their edges. Others snap together leaving space in between, and others along a line. The snapping behavior is rule-based.

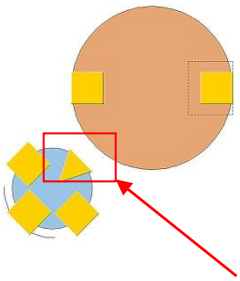
- The yellow square identifies that the component is selected and not snapped to another component at that connection point.
- The yellow triangle identifies that the component is selected and snapped to another component at that connection point.

3.4.1 Disconnecting Components

When two or more components are attached (snapped together) and selected, the snap points are visible. Snapped components automatically form a group. This means that if one component is moved, the other components in the group will move automatically as well. Consequently, it also means that if one component is removed, the other components in the group will also be removed.

To move or remove only one component in the group, the component must be disconnected. Follow these steps:

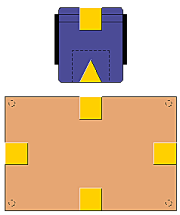
1. Click on the component to select it.
2. Click on the yellow triangular snap point to disconnect the component (see figure below).

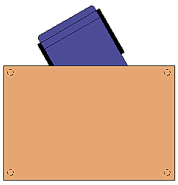


The yellow triangle indicates that the chair is snapped to the desk and that the two components are grouped. Click on the triangle to disconnect the chair from the desk.

3.4.2 Deactivating Snapping

There may be times when you want to temporarily turn off automatic snapping. You can deactivate automatic snapping by pressing and holding down the **Shift** key while working with the components.





*When placing a chair beside a desk, the chair is automatically attached to the desk. If you want to place the chair close to the desk but not in the position that Configura suggests, press **Shift** on the keyboard while moving the chair. It is now possible to place the chair exactly where you want it.*

***Note:** You can also deactivate snap points by clicking it. The snap point turns gray which means that the snap point is deactivated.*

3.4.3 Rotating Components

You can either place the component first and then rotate it, or rotate it while you place it. The two different ways are described below:

Follow these steps to rotate a component already placed in the drawing area:

1. Select the component by clicking it.
2. Click and hold the yellow square point and drag it in the desired direction.
3. While rotating the component, the component's angles are shown. Continue rotating until you have the desired angle.
4. Release the mouse button when the component has been rotated to the desired position.

Follow these steps to rotate a component while placing it in the drawing area:

1. Pick a component and move it to the drawing area.
2. Hold the mouse button down and move the component along the depth axis. Note that if you move it in the wrong direction, its width stretches instead.
3. While rotating the component, the component's angles are shown. Continue rotating until you have the desired angle.
4. Release the mouse button when the component has been rotated to the desired position.

3.5 Changing Component Properties after Placement

The majority of the components in Configura have a dialog where settings can be made after they have been placed in the drawing area. You access the **Settings** dialog by right-clicking on the component in the drawing area and choosing **Settings** from the pop-up menu.

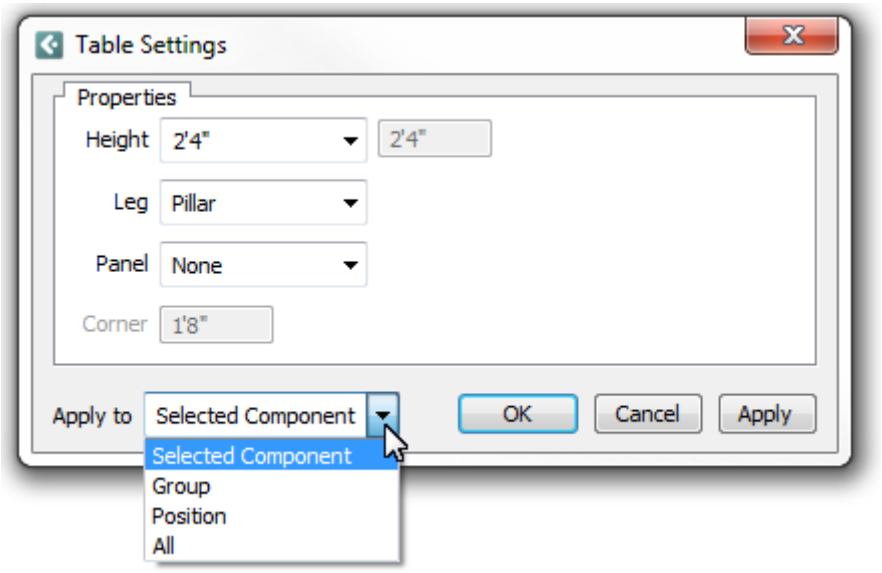
For some components in Configura, double-clicking on them evokes a special feature or behavior. This could be a door of a cabinet component opening, a newspaper component going from open to closed etc. If a component does not contain this special behavior, the double-click will simply open its **Settings** dialog.

Most settings dialog boxes for components contain the field **Apply to**, in which you can choose all the components that you want to change. This can be a group of components, components in a selected position or all the same type of components in the drawing area. The changes can affect, for example, the size, material or color of the components.

Apply to can be accessed simply by right-clicking on the component you want to change and select **Settings** from the pop-up menu which appears, or choose **Material/Color**, depending on what you want to change.

In the bottom left-hand corner of these dialog boxes you will find the following options in the **Apply to** pull-down list:

- The **Selected component** option changes the component that you have selected.
- **Group** changes a group of components. The components make up a temporary group.
- **Position** changes components, which have been enclosed by one of the **Positioning Components** on the **Tools** tab.
- The **All** option changes all similar components in the drawing area. For example, this could be all the desks or all the doors in a large drawing.



*This dialog box is displayed when you right-click on one of the office desks in Configura. Should you wish to change several components at the same time, do not forget to select **Group**, **Position**, or **All** under **Apply to**.*

3.6 Confirming Settings

When you have chosen the settings you desire in any of Configura's dialog boxes, you can click on **OK**, **Apply** or **Cancel**:

- **OK:** When you click on **OK**, you confirm your selection and the dialog box is closed. If you are sure that you have chosen the right settings, click on OK.
- **Apply:** If you are not sure that you have chosen the right settings, test them first by clicking on **Apply:** When you click on **Apply**, the settings you have chosen are displayed, but the dialog box is not closed. When you are happy with your choice, click on **OK**.
- **Cancel: Cancel** deletes the settings you have chosen and closes the dialog box.

3.7 Removing Components

To remove a component from the drawing area, use the standard procedure for deletion: select the desired component/group and press the **Delete** key on the keyboard.

3.8 Stretching and Shrinking Components

Some components in Configura can be stretched in width, depth and height dimensions. The snap points are used to stretch and shrink components.

There are two methods that can be used for stretching components:

Method 1 – Stretch after placement:

1. Select the component by clicking it.
2. Click and hold the snap point, and then drag it in the direction you would like to stretch the component to.
3. An input box appears displaying the component's permitted widths. Drag to the desired width.
4. Release the mouse button.

Method 2 – Stretch during placement:

1. Pick a component and move it to the drawing area.
2. Hold down the mouse button and drag it in the direction you would like to stretch it. Note that you can only stretch the component's width using this method.
3. An input box appears with the component's permitted widths. Drag to the desired width.
4. Release the mouse button.

3.9 Moving Components

A component or groups of components can easily be moved in the drawing area:

1. Select the component or the group.
2. Click and drag the component/group to the desired location in the drawing area. Release the mouse button when done.

You can also move components or groups of components, by selecting the component/group and then pressing one of the four arrow keys on your keyboard. When using the arrow keys to move components, the snapping feature is turned off.

Note: If you would like to move the component more gradually within the drawing area, hold down the **Ctrl** key and use the arrow keys.

3.10 Cut, Copy and Paste

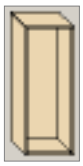
Cut, **Copy** and **Paste** work in Configura just as they work in any Windows based program.

3.11 Using Elevation Views

An elevation view shows a component at the front in the drawing area and is a complement to the plan view. In Configura Core, elevation views are only used for some of the program's components, for example, cupboards with different front panels or amount of shelves. In order to be able to alter components like these, they have to be visualized in another view than the plan view. In Configura Core, those components that have elevations connected to them are found under the main section **Office/Home** on the **Storage** tab.

A cabinet from the **Storage** tab is not complete until it has a **Base** and a **Storage Frame** (see below).

Base



Storage Frame

The **Base** is the main component that you have to start with. In the drawing area, the base appears as the object would look from above in a plan view. When the **Storage Frame** is added, you have a cabinet that can be viewed in 3D.

To position a base and its elevation in the drawing area, follow the instructions below:

1. Select the **Base** component and position it in the drawing area. The base has dashed lines and a red cross on the component indicates that it is not complete.
2. Select the **Storage frame** component and move it onto the drawing area. When it snaps to the **Base**, click to position it. The dashed lines on the base are now solid and the cross disappears. Now you have a complete cabinet.
3. Continue to add the desired set of doors, shelves or drawers, by snapping them onto the frame.

***Note**:*

- In Configura Core, the word 'elevation' is used. However in some customized versions of our program, elevations are also referred to as references, front views, side views etc.
- You can move an elevation view in the drawing area without affecting the base.
- The **Base** can be stretched, rotated and moved in the same way as other components.
- The height of the **Storage Frame** can be adjusted, by clicking on the topmost snap point on the elevation view and stretching it height wise. However, this has to be done before you add an interior (doors, shelves, drawers etc.) to the frame.
- You cannot remove an elevation view by activating it and pressing **Delete**. Instead, select the **Base** and delete it. The elevation view will be removed automatically.

4 Navigating in Configura

4.1 Zooming and Panning

In Configura you can adjust the drawing-area view using the mouse wheel. All you need is a scroll-wheel mouse.

This will enable you to:

- Zoom in and out of a drawing in order to view it in different scales.
- Pan around, i.e. move the drawing area, in different directions while holding a component without changing the drawing magnification.

Note:

- If you are working on a large drawing and you want to shift between magnified close-up views and a smaller-scale overview, proceed in one of the following ways:
  a) Scroll the mouse wheel.
  b) Use the **Ctrl** key and double-click in the drawing area simultaneously. To magnify a detail, press and hold down the **Ctrl** key at the same time as you press and hold the mouse button. Then drag the rectangle diagonally across the components you want to zoom in on and release the mouse button. To return to your previous zooming position, simply double-click in the drawing area.

- If you need to drag the drawing area during an active command, use the program's panning options. For example, let us assume that you are adding dimensions to a drawing. In order to snap the dimension to the correct starting point, you need to zoom in to get a detailed close-up view. Now, however, you can no longer see the end point because of this close-up. To be able to move the plan view at his stage (without losing your dimension component), press and hold the mouse wheel. The "hand" tool now appears which enables you to move the drawing area around to view the desired area.

5 Using the Drawing Functions

The following section of this documentation provides information about the different drawing options in Configura.

5.1 Creating a New Drawing

To create a new drawing in Configura, follow the steps below:

1. Go to the **File** menu and select **New** or click the **New Drawing** icon on the toolbar.
2. If you have already positioned some components in the drawing area, a "Do you want to save the changes…?" dialog box appears. To save the current drawing, select **Save**. To close the drawing without saving, select **Do not save.**
3. A new, blank drawing area appears.

5.2 Saving and Naming a Drawing

The recommended next step is to name and save your drawing. Follow these steps:

1. Go to the **File** menu and select **Save As** or click the **Save** icon on the toolbar.
2. The **Save As** dialog box opens. Browse to the location where you wish to save your drawing.
3. Name the drawing in the **File name** field.
4. Click the **Save** button. The file will be saved in the .om file format.

If you have saved and named the drawing from the start, you only need to click **Save** occasionally while you are working and after you have finished. The auto-save feature will also periodically create a backup file of your drawing.

5.3 Opening a Drawing

To locate and open a saved drawing, follow these steps:

1. Go to the **File** menu and select **Open** or click the **Open** icon on the toolbar.
2. The **Open** dialog box opens. Browse to the desired drawing.
3. Select the .om file that you would like to open and select **Open**.

5.4 Undoing/Redoing

Use the **Undo** option to remove the most recent action. To use undo, click the **Undo** icon on the toolbar or select **Undo** from the **Edit** menu. Undo can be clicked several times to remove multiple steps.

Use the **Redo** option to re-apply a previous action. To use redo, click the **Redo** icon on the toolbar or select **Redo** from the **Edit** menu. You can click on **Redo** several times to re-apply multiple steps.

5.5 Using Favorites

Use **Save as favorites/Paste Favorites** (from the **Edit** menu) to save and insert a common setup or any combination of selected components that you frequently use. While cut, copy and paste allow you to re-use selected components, favorites are saved files that can be inserted in drawings and shared with others.

Creating a Favorite

1. Right-click on the selected component or group of components.
2. Select **Save as favorites.**
3. The **Save as** dialog opens.
4. Enter a **File name.**
5. Click **Save**.

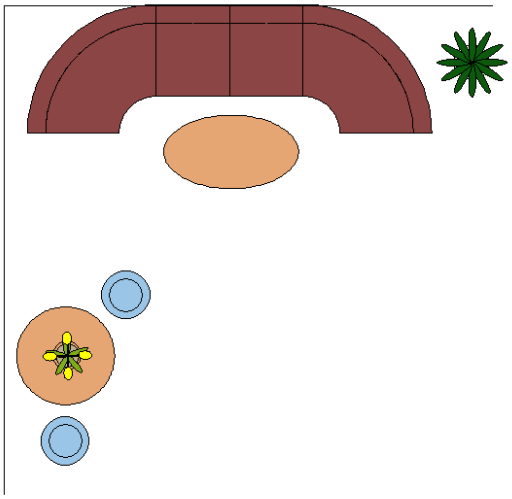
Inserting a Favorite

1. Right-click in the drawing area.
2. Select **Paste favorites**.
3. The **Open** dialog box opens. Select your favorite.
4. Click **Open**.
5. The favorite will appear with the mouse pointer.
6. Click in the drawing area where the favorite should be inserted.
7. To continue pasting favorites, click in the drawing area.
8. To stop inserting favorites, move the mouse pointer outside the drawing area.

Exercise 1- Creating a Drawing

Proceed as follows:

1. Go to **File > Control Panel** to choose language and dimension unit. Activate the **Auto save** function.
2. If the drawing area is empty, click on **Save as** in the **File** menu to name the file from the start and determine where it should be saved. If the drawing area is not empty, click on **New drawing** and then **Save as.**
3. Create a simple drawing layout by adding two walls and a couple of components. Try rotating and stretching the components and see how they snap. Press the **Shift** key to see how the snap function is deactivated.
4. When the drawing is ready, go to the **File** menu and choose **Save** or simply click on the **Save** button in the toolbar.



5. To open the drawing again, go to the **File** menu and choose **Open**. Search for the destination where you saved the drawing.

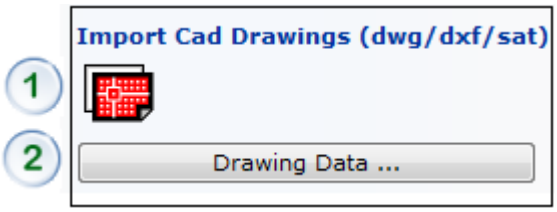
Note:

To avoid having to build from scratch each time, it is a good idea to create favorites of commonly used groups. This will give you quick access to product combinations that you use often. To create a favorite, you first have to make a temporary group of components. Press and hold the **Ctrl** key as you click on and, thereby, select each of the components. Place the mouse pointer on one of the selected components, right-click and choose **Save as favorites**. Name the file and save it in a folder on your network. It also allows you full flexibility, as any group can be built from these basic components. To paste the favorite, right-click in the white drawing area and select **Paste favorites.** In the folder where you saved the file, select it and choose **Open**. The favorite is placed at the position of the mouse pointer. You can paste the component as many times as you want.

6 Importing Cad

Cad (**C**omputer **A**ided **D**esign) systems are used for creating architectural and construction drawings. Configura supports import and export of the two most common Cad file formats - dwg and dxf. All import and export options are found on the **Import and Export** tab (see figure below).

The **Import Cad Drawings (dwg/dxf)** section contains two features that enable the import of dxg and dxf files:

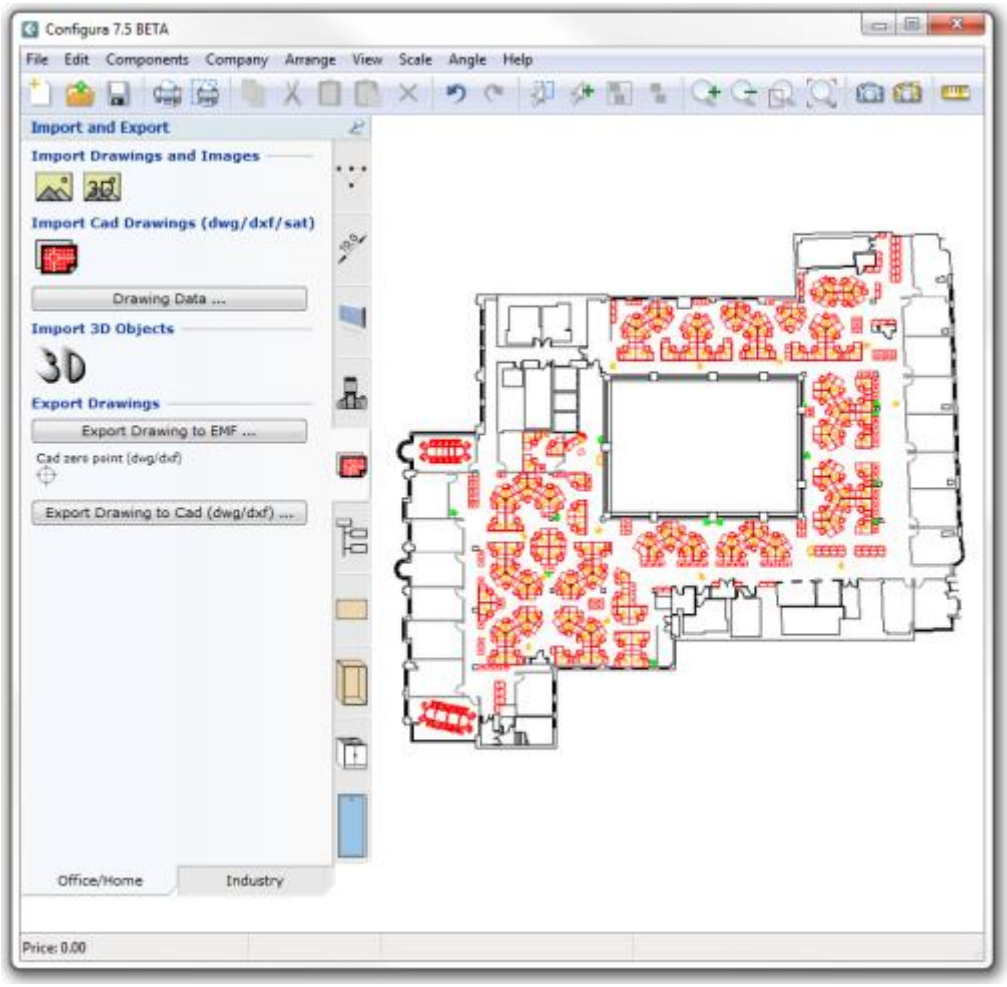


1. **Import Cad Drawing (dwg/dxf)**

   Place the red component in the drawing area to bring up a dialog to enable the import of dwg and dxf drawings and models.

2. **Drawing Data**

   Having imported a Cad file, you can select the **Drawing Data** option to open a dialog that contains information of the current drawing. From here, you can modify layer color, hide information in certain layers or turn on/off their 3D information.



The picture shows a Cad file that has been imported to Configura's drawing area.

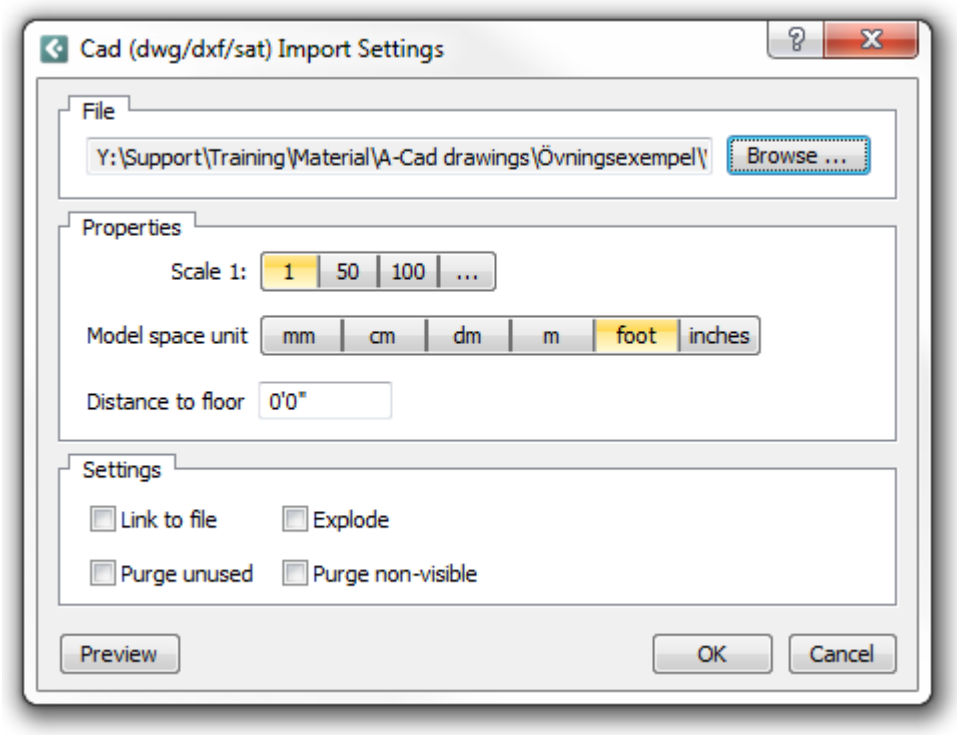
Exercise 2 – Importing a Cad Drawing

Using the program's Cad feature, **Import Cad Drawing (dwg/dxf)** (picture 1), you can import drawings and models saved in the file formats dwg or dxf.

Proceed as follows:

1. Select the **Import Cad Drawing (dwg/dxf)** component (picture 1) from the **Import and Export** tab and position it in the drawing area. The **Cad (dwg/dxf) Import Settings** dialog box is displayed (see picture 2).

Picture 1



Picture 2

2. In the **File** field, click on the **Browse** button to find the dwg/dxf file that you want to import.
3. In the **Properties** field, select the desired **Scale** (i.e. the drawing scale which the drawing was made in). Click on one of the pre-defined buttons or enter the desired scale in the text field shown when selecting the rightmost button.
4. Select the **Model Space Unit**, i.e. the geometrical unit that was used for the original drawing.
5. When you are happy with your settings, click on **OK**.
6. When the Cad drawing is imported, all its entities are placed in one single block. This means that you have imported one single drawing object to the drawing area, which enables a quick import.
7. If you use the **Select Rectangle** to select the whole drawing, you will see a yellow snap point in the upper left-hand corner of the drawing. This snap point is a reference to the whole block.

Exercise 3 – Working with the Imported Drawing

In Configura there are several ways of changing the drawing information that has been imported from Cad. You can change the color of the different layers and also move, rotate or delete Cad entities from the drawing area.

When a Cad drawing is first imported to the drawing area all of its entities are placed in one single block. If you select the whole drawing using the **Select Rectangle,** a yellow snap point representing this block will appear in the top left-hand corner of the drawing. All entities have their own individual snap point, which is always shown in the top left corner.

- **Note:** The Cad term "entity" simply means an object (block or smaller parts) in a dwg/dxf drawing.
- The snap point could be difficult to notice in certain drawings. In order to spot it easier zoom in on the drawing after using the **Select Rectangle**.

Before importing a Cad drawing it is important to consider what you intend to do with the drawing. These are the following alternatives:

A. Use the drawing as a background for your future planning in Configura.
B. Explode and modify the original imported drawing, for example, to move, rotate or remove entities.
C. Crop the Cad drawing.
D. Convert the Cad drawing into a Configura drawing.

A. If you simply want to use the drawing as a background, select the file, choose the desired **Scale** and **Model Space Unit** and confirm with **OK**. Then continue as follows:
    1. Click on the button **Drawing Data**. A dialog box is displayed.
    2. Turn off the layers that you do not require. Go to the column where it says **On/Off** and click on each individual layer that you do not require. This means that you turn off, or hide, that information temporarily on the drawing. An easy way of identifying what information a certain layer has, is to allow the mouse pointer to hover over the part of the drawing that you are interested in. A help text is then displayed, which tells you what information that layer has.
    3. Click **Apply** or **OK**.
    4. Plan the space with your products in Configura and complete the layout proposal.

B. If you wish to modify the imported drawing for various reasons, proceed as follows after you have selected the file, chosen the desired **Scale** and **Model Space Unit** and confirmed with **OK**.

1. Turn off the layers that you do not require.
2. Explode the drawing into smaller entities by right-clicking on the yellow snap point in the top left-hand corner of the drawing or on an optional block entity within the drawing (for example a text block which is easy to select). The **Explode block** option appears as an alternative in the menu.
3. Select **Explode block**. The drawing now retains its original block division.
4. It is now possible to select an individual entity on the drawing by clicking on it or by using the **Select Rectangle**. When the entity's yellow snap point is visible, you can move, rotate or remove the entity.
5. It is also possible to split a block entity into its constituent parts. This is done by right-clicking on the entity and then choosing **Explode block**.

Note:

- The fact that all entities initially are grouped in one single block results in a faster importing process. When you have exploded the drawing for the first time, you retain the original dwg/dxf block division.
- When exploding a larger drawing a great deal of memory is used. However, working with the drawing (such as zooming in/out in the drawing area) will be much faster.

C. You can crop larger dwg/dxf drawings to get rid of unnecessary drawing information. In order to use the **Crop** command, proceed as follows after you have imported the drawing:

1. Turn off the layers that you do not require.
2. Choose **Explode block** to split the drawing into smaller entities according to B.
3. Select the entities that you want to keep in the drawing area using the **Select Rectangle**.
4. Place the mouse pointer on a yellow snap point in the selected group, right-click and select **Crop**. All selected entities will now remain in the drawing area, whereas the remaining ones are deleted.
5. Select any possible remainders that were not included in the cropping and delete these manually using the **Delete** key.

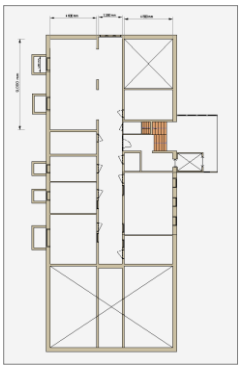
D. All entities in a dwg/dxf drawing can be converted into Configura information. It is however not recommended to convert a whole drawing; simply select the entities that you wish to convert. In order to convert drawing information, proceed as follows after you have imported the drawing:
   1. Turn off the layers that you do not require.
   2. Explode the drawing according to B.
   3. Crop the drawing according to C.
   4. Select the entities that you want to convert using the **Select Rectangle**.
   5. Place the mouse pointer on a yellow snap point in the selected group, right-click and select **Convert to Line Drawing**.

Tips

When working with imported dwg/dxf files, keep the following in mind:

- Always turn off the layers that you do not require.
- Working with the drawing (such as zooming in/out in the drawing area) will be much faster if you explode the drawing.
- Crop larger dwg/dxf drawings to get rid of unnecessary drawing information.
- Only convert entities that you require.

7 Drawing Building Architecture Characteristics



Drawing made in Configura

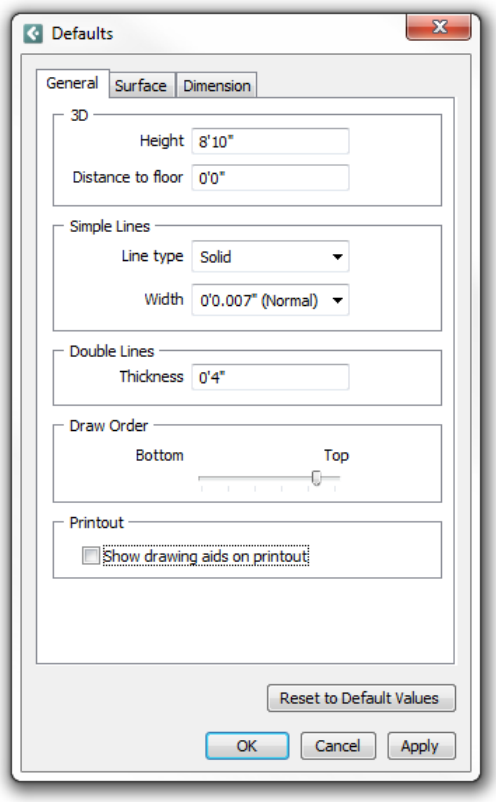
The program's drawing module is divided into two tabs - **Line Drawing 1** and **Line Drawing 2**. Here you can create anything from a simple office layout to large warehouses using the measurements you took at the customer's facility. Provided that you set a height to the various components (lines, arcs, circles etc.), you will also be able to view your layout in 3D. On the line drawings you can also add dimensions and calculate surface areas.

7.1 Saving and Naming from the Start

A basic principle is to name the drawing and decide where to save it from the start. This is done in the usual way by going to **File** and selecting **Save as.**

7.2 Pre-setting the Defaults

Before you start making a drawing layout, it is a good idea to pre-set the values that are known. You do this in the **Defaults** dialog, accessed by clicking on the **Defaults** button at the top of both line drawing tabs. These settings will only apply to components which have not yet been positioned in the drawing area. The dialog has three main tabs: **General**, **Surface** and **Dimension**. At the bottom of the dialog is a **Reset to Default Values** button where at any stage, you can reset the dialog to the default values.



The dialog box contains three tabs:

- **General:** Here you pre-set values for the lines, arcs, circles, ellipses and rectangles found on the Line Drawing 1 tab.
- **Surface:** On the **Surface** tab, you pre-set values for the Surface component on the Line Drawing 1 tab. A surface can be added to decorate the drawing or simply to calculate the square meters of a room. It is also possible to add a thickness to the surface and the distance from the surface to the floor and use it as a floor, ceiling etc. in 3D. Here, you can also pre-select the color that you want the surface to have in the drawing area.
- **Dimension:** On the **Dimension** tab, you pre-set the properties for the dimensions that you find under the Line Drawing 2 tab.

7.3 Finding Active Information in each Drawing Component

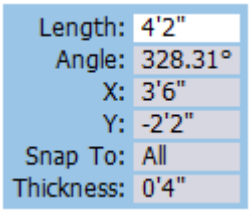
Line drawing components snap to one another. When you move a new line drawing component towards another, which is already positioned in the drawing area, the new component automatically finds specific points on the positioned component:

- Configura automatically finds the end and the middle of straight lines and the end and the center of arcs and circles.
- When you stretch a line, Configura finds the perpendicular connection to both lines and arcs.
- On arcs, Configura also finds the point where a line touches the arc.

When Configura finds these points, a help text is displayed.

7.4 Placing a Line Component in the drawing area

A line component is picked and placed in the same way as other components in Configura. However, line components are never positioned after just one click, which is indicated by a blue input display. Here you enter the desired component parameters, such as length, depth and angle. Every entered value is confirmed by pressing **Enter**.



Note:
*If you move the mouse pointer outside the drawing area before you have specified all the required values for a specific component, the component will still stay in the drawing area and adjust to the values typed in so far. If, for any reason, you would like to avoid this behavior, press the **Esc** key (whilst the component is still on your mouse pointer).*

This is how the blue input displays work:

1. You enter the values you want by using the keyboard. When you enter a value, it is highlighted in bold and the component is "locked" on the basis of the specified settings.
2. You open a locked value using the **Space bar** key.
3. You lock a value using the **Space bar** key.
4. You can delete a locked value using the **Backspace** key.
5. You move between the text fields using the **Tab** key.
6. If a question is asked in an input display, you only need to enter the first letter of the answer: **Y** for yes, **N** for no, **L** for left and **R** for right.

You confirm dimensions and choices you have entered in input displays by:

- Clicking with the mouse button.
- Pressing **Enter**.
- Pressing an arrow key (replaces the two alternative commands above and confirms the fed-in value at the same time as it specifies the direction).

7.5 Changing Components after Placement in the drawing area

In order to change a component that has already been positioned in the drawing area, right-click on it and chooses **Settings**. Make the desired changes in the **Settings** dialog box that appears. You can also stretch and shrink line drawing components after you have positioned them, just as you can most other components in Configura. In this case, however, you cannot enter an exact value.

To change the length of line and enter an exact value without having to right-click and open its **Settings** dialog, follow these instructions:

1. Double-click on one of the line's snap points and move the pointer slightly.
2. Enter a new value in the input display that appears automatically.
3. Confirm the length by clicking the mouse button.

7.6 Using the Drawing Aids

The top row of components on the **Line Drawing 1** tab is called **Drawing Aids** and consists of five components. **Drawing Aids** are, as their name suggests, tools to help you when you are creating a drawing. The drawing aids do not appear on printouts.

The five components are used for different purposes. They are described below from left to right:

- The **Reference point** is an artificial snap point. You fix other line drawing components to it.
- The **Multiple reference points** component is used to create a number of reference points one after another.
- The **Help line** is used, for example, to create intersections or a network of coordinates in the drawing area.
- The **Multiple help lines** component is used to draw several help lines one after another.
- The **Reference point on arc** is used in the same way as the standard reference point, but on arcs.

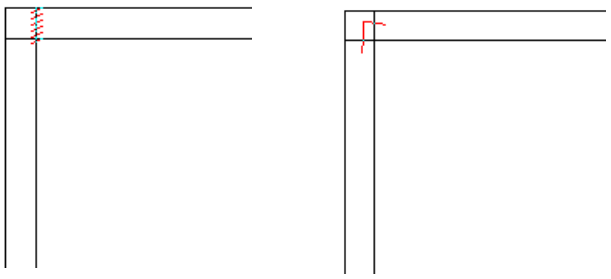
7.7 Using the Drawing Tools

Using the three tools **Trim line**, **Join lines** and **Double line or arc,** you can delete parts of lines, fill gaps and create double lines.

7.7.1 Trimming a Line

Using **Trim line**, you can delete a specific part of one line or of several lines at the same time.
It can be used in two different ways:

- “Erase” one line at a time.
- Allow the red line to cross one or several lines that you wish to remove.

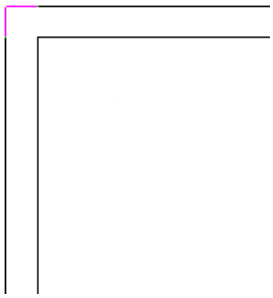


1 2

Note: The **Trim line** tool trims a line up to where it meets another line. For example, if you trim one side of a square or rectangle, the whole of that side will disappear.

7.7.2 Joining Lines

Using the **Join lines** tool, you can join lines in corners.



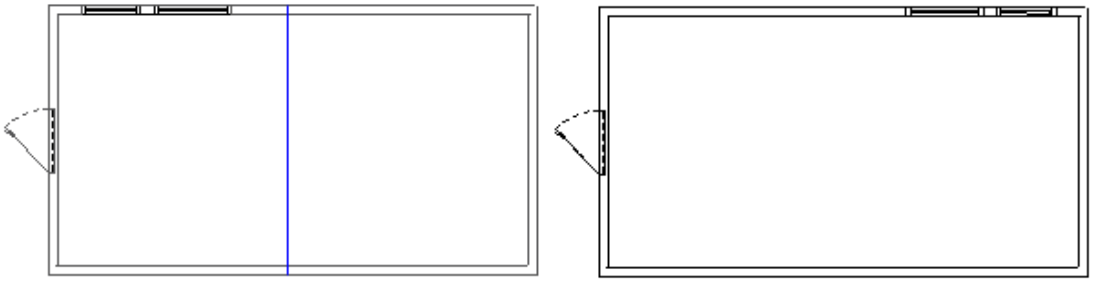
The gap between the lines is filled automatically

7.7.3 Doubling Single Lines

It is easy to make double versions of single components, using the **Double line or arc** tool. It is also possible to choose on which side you wish to place the double line.

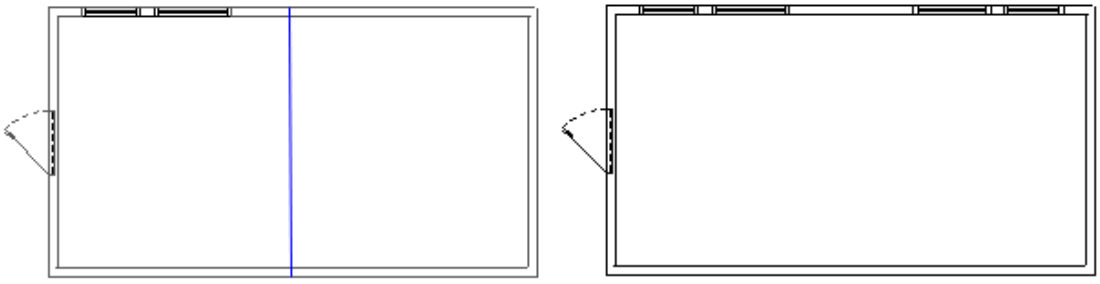
7.7.4 Mirror Components

By using the **Mirror components** tool, you can mirror items at the other side of a line, e.g. a window placed on a wall.



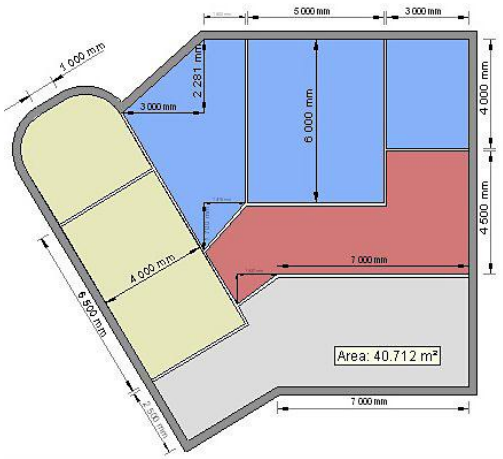
7.7.5 Mirror and Copy Components

By using the **Mirror and copy components** tool, you can mirror and duplicate items at the other side of a line, e.g. if you wish to mirror and copy two windows that you have placed on a wall.



7.8 Coloring the Drawing / Calculating the Square Meters

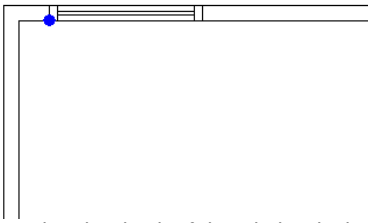
On the **Line Drawing 1** tab you will find the **Surface** component. It is possible to apply a surface within a closed area on the drawing, to make quick surface calculations (calculate the square meters) or simply to add some color to the drawing. Add desired color to a surface by right clicking the surface and select **Material/Color**.



Drawing with surfaces in different colors.

7.9 Placing a Window

The windows are found at the top of the **House Components** tab. Before you start drawing, it is possible to pre-set values for the windows. Click on the **Defaults** button in the upper part of the menu.

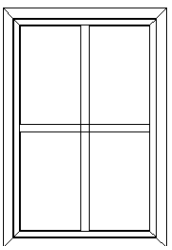


It is important that the depth of the window is the same as the thickness of the wall!

To place a window, proceed as follows:

1. Place a reference point on the inner wall.
2. Select a window from the component tab and move the mouse pointer towards the reference point until the window snaps to the point.
3. Click to place the window in the drawing area.
4. Enter the desired window length in the input display and click.
5. Move the pointer across the wall (point at the outer wall). The window depth is now automatically adjusted to the wall thickness.
6. Confirm by clicking.

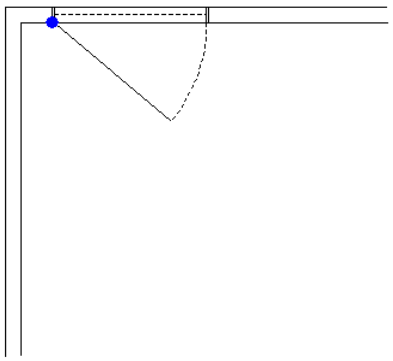
By right-clicking on the window you can change the type of window and its features in the usual way. Change the orientation of the window under **Settings** and select **Window** (that is if the pane should be placed along the inner or the outer wall) or add a horizontal division under **Details**, to create a transom window.



Transom window

7.10 Placing a Door

The doors are found in the same tab as the windows. Before you start drawing, it is possible to pre-set values for the doors. Click on the **Defaults** button on the upper part of the tab



It is important that the depth of the door is the same as the thickness of the wall!

To place a door, proceed as follows:

1. Place a reference point on the inner wall.
2. Select a door from the tab move the mouse pointer towards the reference point until the door snaps to the point.
3. Click to place the door in the drawing area.
4. Enter the desired door length in the input display and click.
5. Move the pointer across the wall (point at the outer wall). The door depth now automatically adapts to the wall thickness.
6. Confirm by clicking.
7. Move the mouse pointer in the desired direction to select door side and door angle and click.

By right-clicking on the door and select **Settings** you can change type of door and its features in the usual way.

7.11 Exploding a Double Line

Line–drawing components built up as entities, such as rectangles or a double lines, can be exploded. This means that the entity is split up in separate lines. Right-clicking on the component and choosing **Explode** accesses this function.

7.12 Locking the Line Drawing

When you have finished working with the building on the drawing layout and you want to start working with the interior and placing your products, go to **View** in the menu and activate the function **Lock Line Drawing**. All the components on the **Line Drawing** and **House Components** tabs are now deactivated on the component tabs and locked in one layer in the drawing area.

Tips

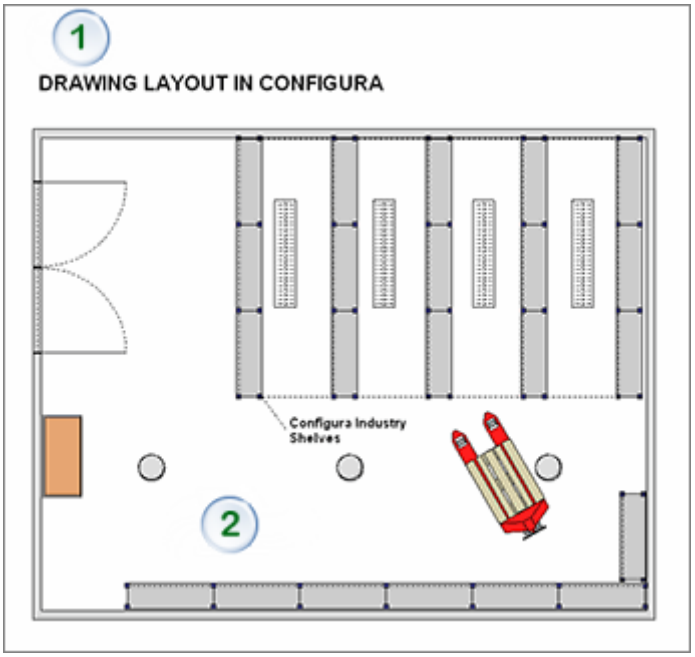
- Preparatory information is important: What dimensions do I need? What other information is important to have before I start drawing?
- Plan your drawing work: Are the default values the correct settings for what I am about to draw? Do I need to use the drawing-aid components?

Exercise 4 – Adding Text

You can create text blocks, type in text and place them anywhere in the drawing area. The text block can either be attached to another component or be placed freely in the drawing area.

To attach text to a component, proceed as follows:

1. Select **Text** from the **Tools** tab.
2. In the drawing area, move the mouse pointer close to the component you want to snap the text to. The text snaps to other components. Before clicking the text into position, determine its angle by moving the mouse pointer in the desired direction. Click the text into position. Two snap points appear - one is triangular and the other rectangular.
3. The **Text Settings** dialog is displayed. In the **Font** field, select the desired font, whether it should be in **Bold** or **Italic**, enter its **Size** and select **Font** color.
4. Move down to the white text box and enter the desired information.
5. In the **Properties** field, check or uncheck the **Frame** box, depending on your preferences. Select the desired Line style from the drop-down list.
6. Click on **OK** or **Apply**.
7. If you want the text to be at a short distance away from the component it is snapped to, click on the rectangular snap point and drag the text the required distance away. Release the mouse button when you have finished moving the text. A dashed line appears between the text and the component.
8. If you want to remove the text, disconnect it first by clicking on the triangle shaped snap point and then delete it in the usual way.



The picture shows an example of the text placed freely as a heading (1), as well as pointing directly to an object (2).

To place the text freely, proceed as follows:

1. Go to the **Tools** tab. Select the **Text** component and move it to the drawing area.
2. Press the **Shift** key on the keyboard to avoid the automatic snapping to other components and place the component in the desired position.
3. Move the pointer outside the drawing area to release the new text component that automatically appears.
4. The **Text Settings** dialog is displayed. In the **Font** field, select the desired font, whether it should be in **Bold** or **Italic**, enter its **Size** and select **Font** color.
5. Move down to the white text box and enter the desired information.
6. In the **Properties** field, check or uncheck the **Frame** box, depending on your preferences. Select the desired **Line style** from the drop-down list.
7. Click on **OK** or **Apply**.

Note: All lists (quotation, bill of material etc.) that Configura generates automatically, are created in real time from the contents of the Configura drawing. Therefore one cannot add text directly to such a list. For example, addition of extra descriptive text for certain articles will be done as described above, thus applying the text as a property to the objects in the Configura drawing.

Exercise 5 – Dimensioning

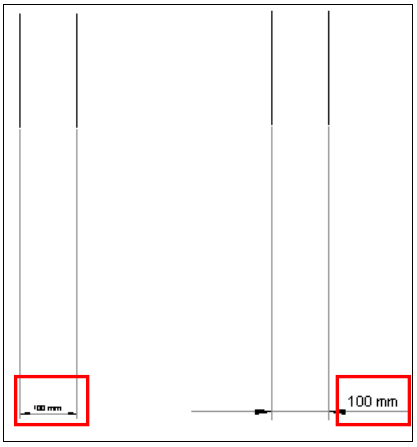
You can display different types of dimensions on the drawing layout. You find the dimensions on the tab **Line Drawing 2.**

In order to display a dimension along a line, proceed as follows:

1. From the **Line Drawing 2** tab, select either the **Horizontal** dimension or the **Vertical** dimension.
2. Position the dimension at the end of the line you want to dimension. The dimension will snap to the line. When you click, an input display appears.
3. Drag the dimension to the other end of the line and click it in position.
4. In the **Distance** field in the input display, you enter the distance between the dimension line and the line you are dimensioning. The default value is 500 mm.
5. In the **Gap** field in the input display, you enter the size of the gap between the adjacent dimension lines and the line you are dimensioning. You move to the **Gap** field using the **Tab** key.
6. Choose which side of the line where the dimension should be by dragging it with the mouse and click it into place.
7. Choose the position of the dimension text by moving the mouse pointer along the line of the dimension, thus allowing Configura to automatically find three possible positions for the text.
8. Finally click the dimension into position.

Note:

- On the tab, below the dimensions, a number of various arrow types are found.
- Right-clicking on a dimension in the drawing area and choosing Settings, enables you to change its settings (text size, arrow type, distance, gap etc.) in the usual way.
- According to the description above you determine where to place the text by allowing Configura to find three possible positions, before finally placing the dimension in the drawing area. However, it is important to remember that when placing a dimension on a small component, the text should be positioned outside the actual dimension and not in the middle of it. If the text is fitted within the dimension, it becomes very small that it will be hard to read. In order to change the text position afterwards, click on the yellow snap point located right beneath the text, press the mouse button and drag the snap point to the left or to the right (up or down). The text will move outside the help lines and be enlarged. Release the mouse button.



Before *After*

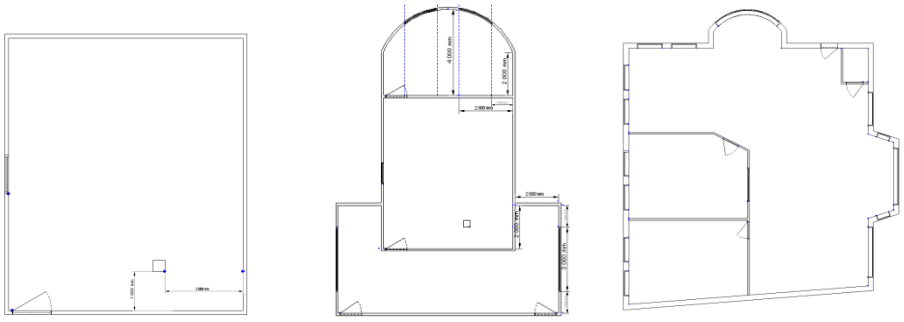
Exercise 6 – Making Drawing Layouts from Handmade Sketches

Components to be used:

Sketch I
- Double rectangle
- Reference points
- Door
- Window
- Square

Sketch II
- Double line
- Double arc through three points
- Join lines
- Trim line
- Reference points
- Help lines
- Curved window
- Multiple reference points
- Double rectangle

Sketch III
- Outer walls with planning for inner walls
- Multiple reference points *(Note: Add 100 mm!)*
- Multiple lines
- Double line or arc
- Reference point on arc (chord length)
- Inner walls
- Windows and doors
- Floor surface
- Top surface on inner and outer walls
- Dimensions

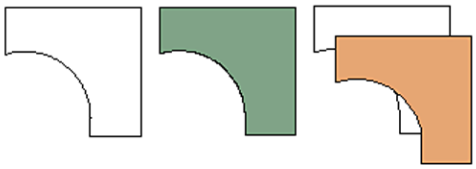


The handmade sketches turned into drawing layouts in Configura

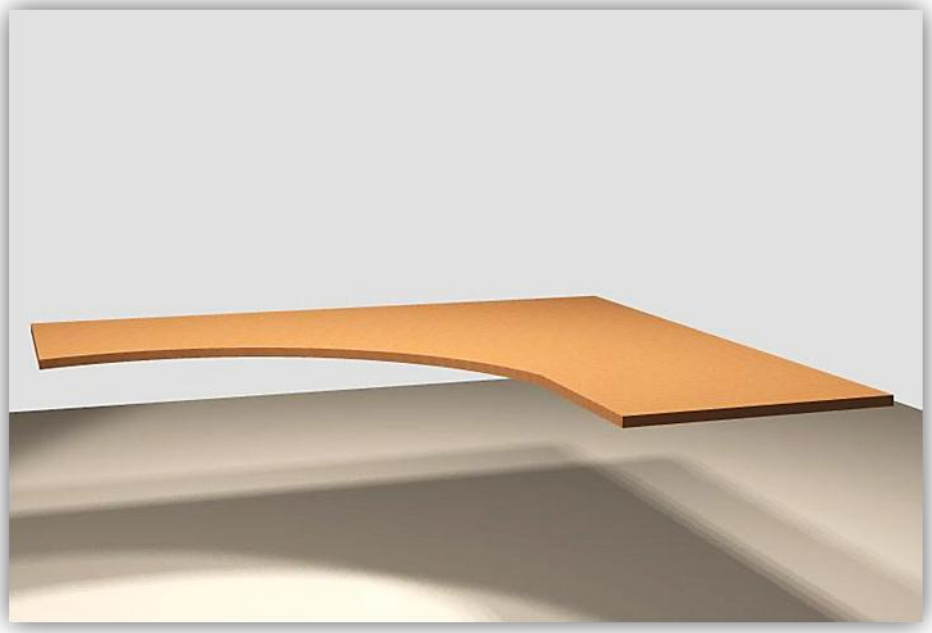
Exercise 7- Designing a Desktop Using Lines and a Surface

Proceed as follows:

1. Design the shape of the desktop by using lines and arcs from the **Line Drawing 1** tab.
2. Apply a surface (found on **Line Drawing 2**) within this line frame.
3. Right-click on the surface and choose **Settings**. Enter the height (thickness) of the surface and the distance to the floor.
4. Right-click on the surface again and choose **Material/Color.** Choose **Predefined/Beech** as the material of the desktop.
5. Click on the surface and drag it outside the line frame. Delete the lines.
6. Experiment with the surface by changing its height and distance to floor.
7. Continue drawing the legs of the desk using the same principal. Use your imagination!



The line frame is only used to get the shape of the desk and can be deleted after the surface has been placed.



Result in 3D

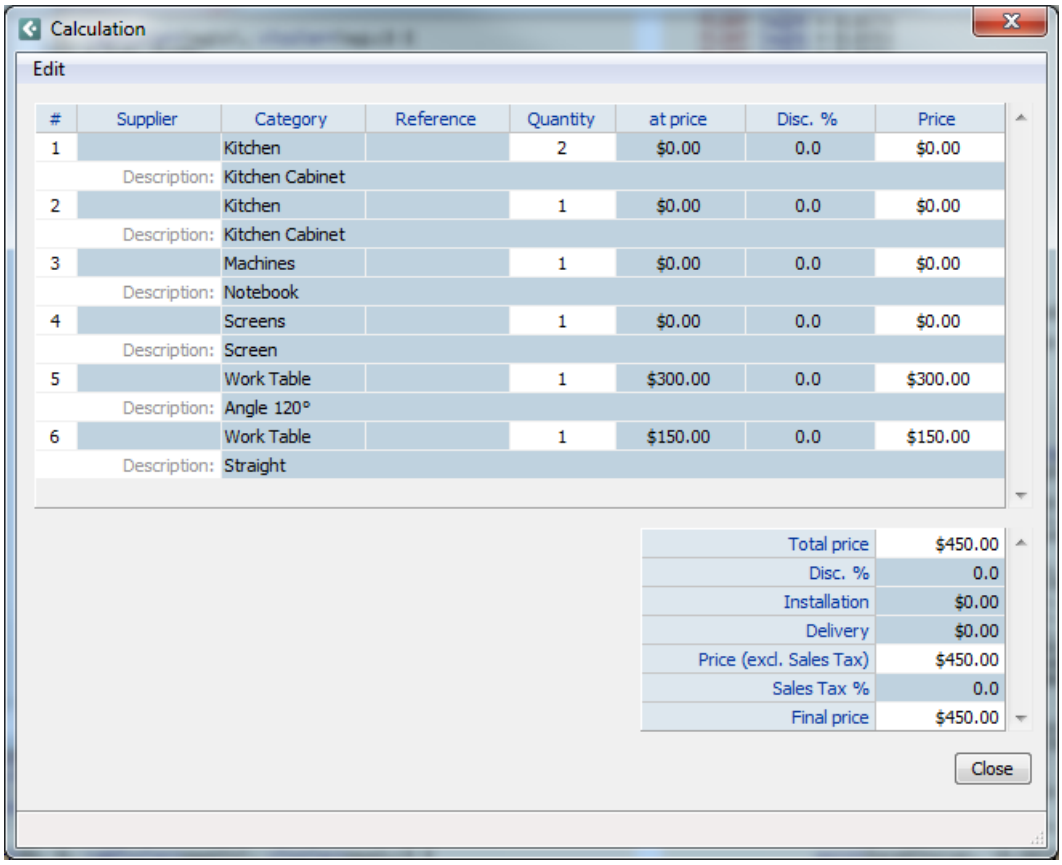
8 Reviewing and Adjusting Pricing

This section shows you how to review and modify the automatic pricing.

8.1 The Calculation Module

As products are added to the drawing area, the pricing and list of material are automatically generated. A total price is always shown in the down left corner of the program window.

To view the complete pricing calculation at any time, go to the **Company** menu and select **Calculation**. The **Calculation** dialog opens. All the customized versions of Configura have their own calculation dialog, which is tailored to the specific needs of each customer.

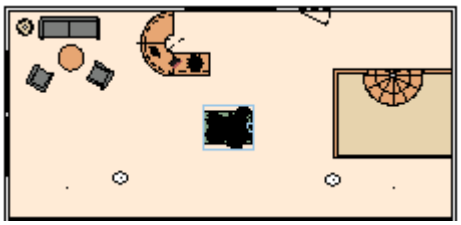


The Calculation dialog for Configura Core contains such information as article numbers and prices and can be used with the generic components in the program. When you enter figures or text into an editable text field of a column, you have to confirm the entered information by clicking Enter or Tab. By pressing Enter the cursor will jump to the next editable field in the row below. By pressing the Tab key, the cursor will jump to the next editable text field in the same row, which you are currently working in.

With the assistance of the calculation dialog you can price components, work with discounts and add sales tax. In most Configura customizations the **Company** menu also contains an option for entering quotation data.

9 Producing Output

Section 9 provides information about how to produce output in Configura. Configura significantly improves the quality of the sales documents that you hand over to your customer. The output is, apart from drawing layouts, material specifications, quotes and 3D renderings. You can either print the output or create a PDF file to send to the customer.



Drawing in 2D

3D rendering produced in Configura

Exercise 8 – Printing the Drawing Layout

The easiest way to print a drawing is simply to select the desired paper size (for example Letter or A1) for printing and then use the **Fit** button, which automatically chooses the optimal scale for printing all the components in the drawing area on the chosen paper size.

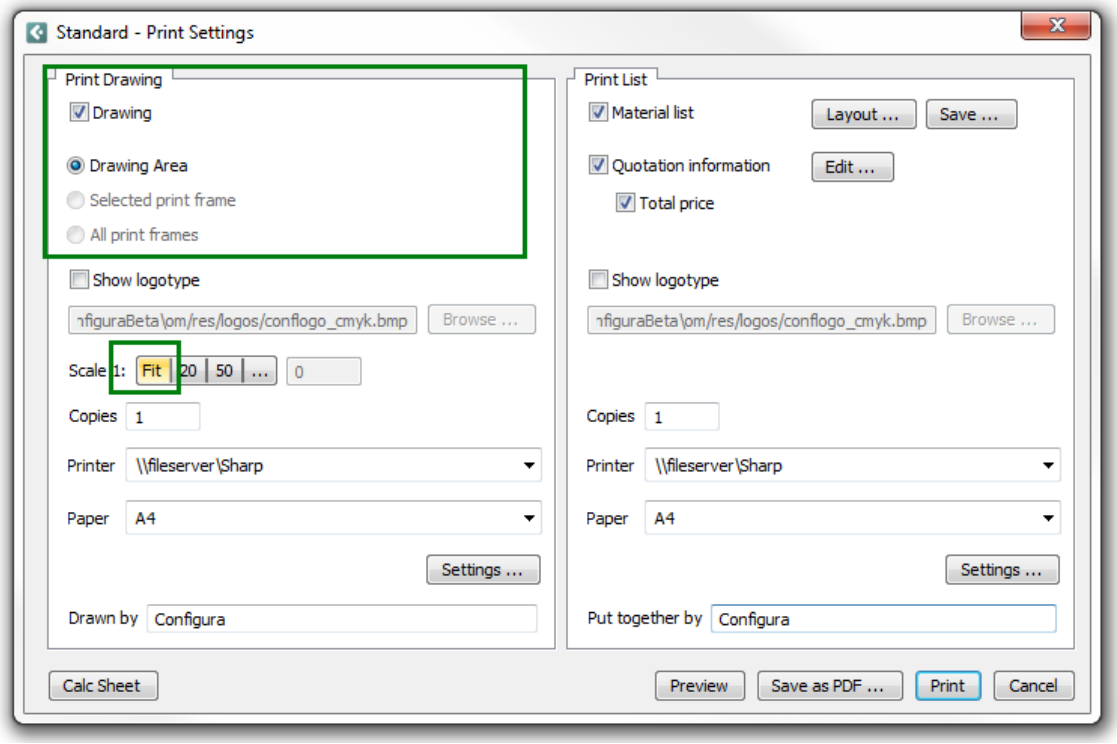
Note:
As this method fits all the components in the drawing area to the selected paper size, you might end up with unusual scales, for example 1:47 or 1:89.

Proceed as follows:

1. Go to the **File** menu and select **Print**. In the dialog, which is displayed, check the **Drawing** box in the **Print Drawing** field. The only selectable choice now shown is the **Drawing Area**. However, leave the checkboxes in the **Print List** field unchecked. At this point you only want to print out the drawing.
2. Next to the heading **Scale**, select the **Fit** button.

Note*:*
*The **Fit** button exists as an option in Configura Core. However, the layout of the print dialog box and its level of complexity vary in the different customized applications of the program.*

1. Enter the number of **Copies** you want to print.
1. Click on the **Printer** button, in order to select printer, paper size and orientation (portrait or landscape). Confirm with **OK**.
2. In the white field next to the heading **Drawn by**, type in a signature. This information will end up at the bottom of your drawing, together with the current date.
3. Click the **Preview** button to see what the drawing will look like before you print it.
4. In the **Print Preview** window, finally print the drawing by selecting the **Print** command in the menu with the same name. You can also click on the **Print** button furthest to the left in the toolbar.



Select the Fit button in order to fit all the components in the drawing area to the selected paper size.

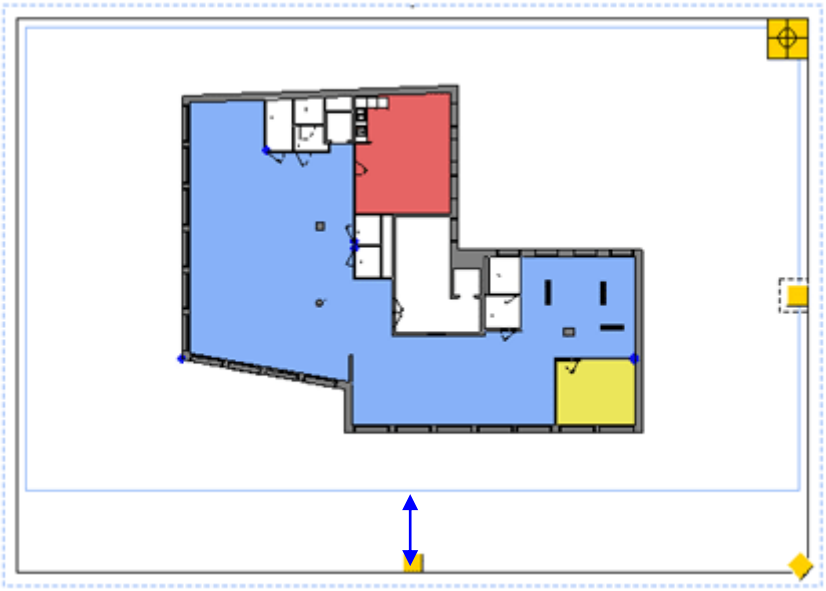
Exercise 9 - Using a Print Frame

The **Print Frame** makes it easier to position the drawing on the paper. You place the frame, your "paper", around the area to be printed and thereafter specify the desired paper size, orientation and drawing scale. This way, you can work with the drawing layout and view the result right away on the screen.

The print frame also enables to print a selected part of a larger drawing and is also recommended when you want to print at a certain scale.

Proceed as follows:

1. Select the **Print Frame** component from the **Tools** tab.
2. Move the mouse pointer onto the drawing area. A blue frame is attached to it.
3. Position and stretch the print frame in one step. Press and hold the left mouse button whilst dragging the mouse pointer diagonally across the drawing until desired frame size. Make sure that the items you want on your printout are inside the frame.
4. Release the mouse button. Leave the drawing area to drop the component. The **Print Frame Settings** dialog is shown.
5. Click on the **Printer** button. In the dialog box that appears, select the desired printer, paper size and orientation. Click on **OK** to confirm and to close the dialog.
6. Back in the **Print Frame Settings** dialog, select **Apply** in order to see how the frame adjusts to your settings and too see the drawing header.



7. Depending on the result in the drawing area, select a suitable printing **Scale**, by clicking on one of the buttons. Confirm with **Apply**.
8. In order to center the objects in the print frame, proceed to the drawing area. In the upper right-hand corner of the frame you will see a yellow little box. Click on the box once. The objects in your drawing are now centered in the printable area of the frame.
9. Click on the **Print Settings** button to open the dialog box **Standard – Print Settings.**
10. In the dialog, check the **Drawing** box in the **Print Drawing** field.

11. Make sure that the print frame is selected (i.e. that its yellow snap points are visible), the pre-set choice is now **Selected print frame**. If you have several print frames and want to print them all, check the button **All print frames**.
12. If you want a logotype to appear on the printout, check the **Show logotype** box and browse for the bitmap file.
13. Enter the number of copies you want to print.
14. If you want to see in advance what the printout will look like, click on **Preview**.
15. If you are happy with the result, click on **Print** to the far left in the toolbar.

Note:

- If, by accident, you have closed down the **Print Frame Settings** dialog, simply double-click between the broken blue line and the black line of the print frame to make it appear again.
- You select a print frame by clicking on the very edge of the frame, between the blue dotted line and the black solid one.
- There is a blue inner frame inside the black solid one. You can clearly see where the drawing header is. Make sure that the whole drawing is inside the blue frame - items placed outside will not appear on the printout.
- To be able to select the alternative **Selected print frame** in the print dialog, the frame must be selected.
- After you have placed and selected the frame in the drawing area and done your printer setup in the **Print Frame Settings** dialog, it is also possible to close the dialog and print out the drawing in the usual way by going to the **File** menu and select **Print** or by clicking on the icon in the toolbar.
- To move the print frame in the drawing area, click between the dashed blue line and the black line, and drag the frame.
- You can also set the drawing scale by stretching the print frame. Click on one of the three snap points on the right-hand side of the frame, hold down the mouse button and drag the frame until it is the size you want.
- When you print several print frames, you can print each one at a different scale and on a separate printer.

Exercise 10 – Printing the Quote

When the drawing is finished, the price calculations, quotations, bills of production and even technical calculations are automatically produced, thanks to the built-in information in all of the program's different components.

When the drawing (1) is finished, the calculations (2) and the quote (3) are automatically produced.

The calculation dialog can be opened either before or after the components have been placed in the drawing area. The calculation dialog will automatically list everything in the drawing area.

In order to use the calculation, proceed as follows:

1. If you prefer to have the **Calculation** dialog open from the start in order to watch it being updated as you add objects to the drawing area, go to the **File** menu and select **Control Panel.** On the **General** tab, turn on Configura's price calculation by checking the **Calculate price** box. Click **OK**. By activating the price calculation, the program will also automatically display the total price of all the components in the drawing area in the lower left-hand corner of the program window.
2. In the **Company** menu, choose **Calculation**. A dialog is displayed.
3. Place the components that you would like to have in the drawing area. Information about these components is added automatically to the **Calculation** dialog.

When you have previewed the listed products and the pricing, made the desired changes in the green, editable fields and confirmed these with **Enter** or **Tab**, it is time to print out the quote.

To print out the quote, proceed as follows:

1. In the **Company** menu, open **Quotation information** (or corresponding). Fill in the necessary information, such as the client name, office address and other details and confirm with **OK**.
2. Go to the **File** menu and select **Print**.
3. I the dialog box now displayed go to the right-hand field (**Print List**) and check the items that you would like to print out (**Material** list, **Quotation** etc.).
4. In order to insert a logotype (in the bitmap format) on the quotation, check the **Show logotype** box and then click on **Browse** in order to find the file that you would like to insert.
5. Enter the number of **Copies** you want to print.
6. Click on the **Printer** button, in order to select printer, paper size and orientation (portrait or landscape). Confirm with **OK**.
7. Click the **Preview** button to see what the drawing will look like before you print it.
8. In the **Print Preview** window, finally print the drawing by selecting the **Print** command in the menu with the same name. You can also click on the **Print** button furthest to the left in the toolbar.

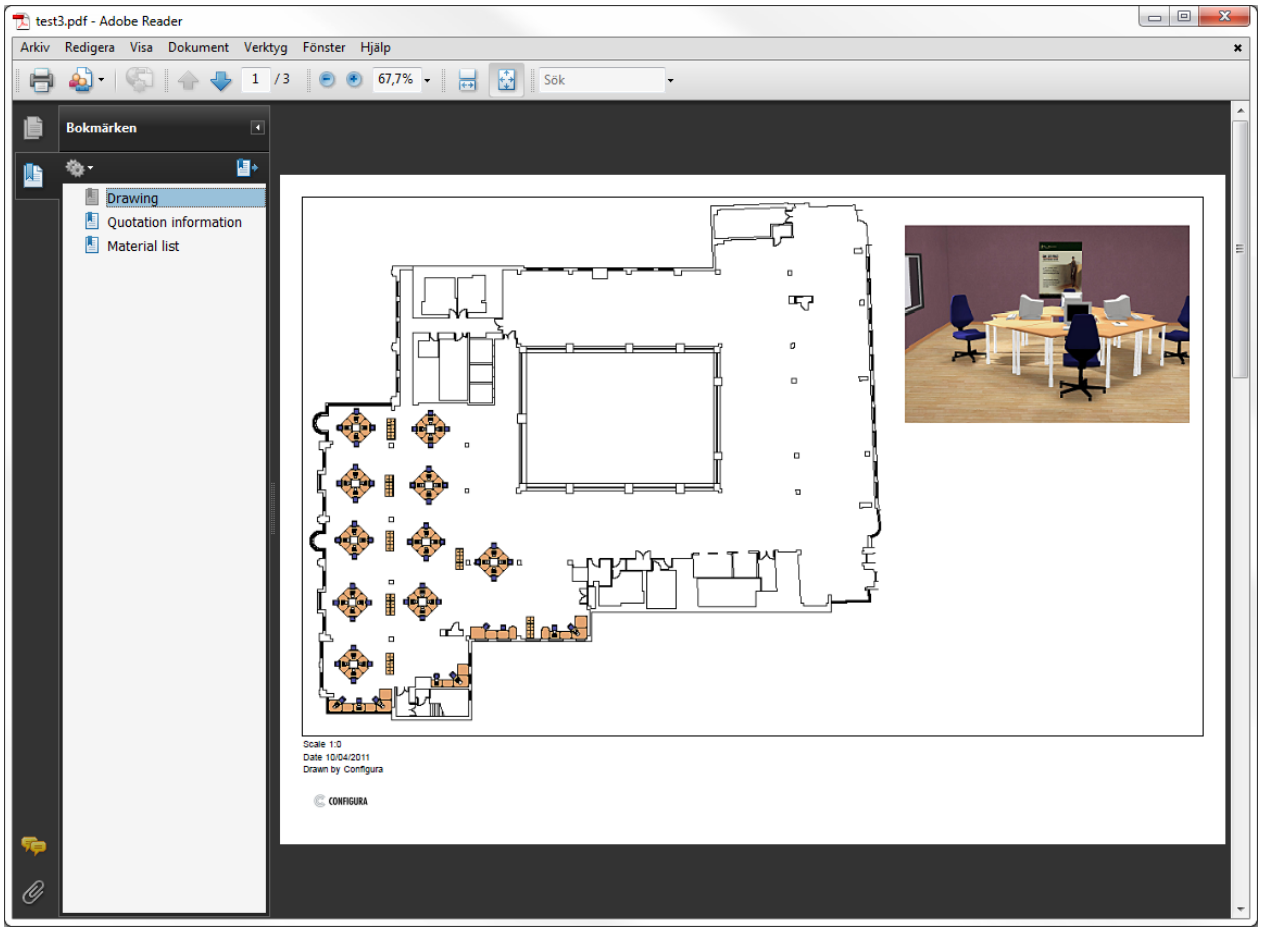
Exercise 11 – Creating a PDF File

To save reports and drawings in PDF format and send as an e-mail attachment straight from Configura, follow the steps below.

Note that the PDF functionality is included in Configura Core but has to be implemented in the customized applications.

Proceed as follows:

1. In the **Standard** – **Print Settings** dialog, click on the button **Save as PDF.**
2. Name the drawing and choose where to save it.
3. Click on **Save**.
4. The files (drawing and lists) are now opened up in **Adobe Acrobat Reader**, provided that you have this program installed on your computer.



Drawing with enclosed material lists saved as a PDF file in Configura and then opened in Acrobat Reader.

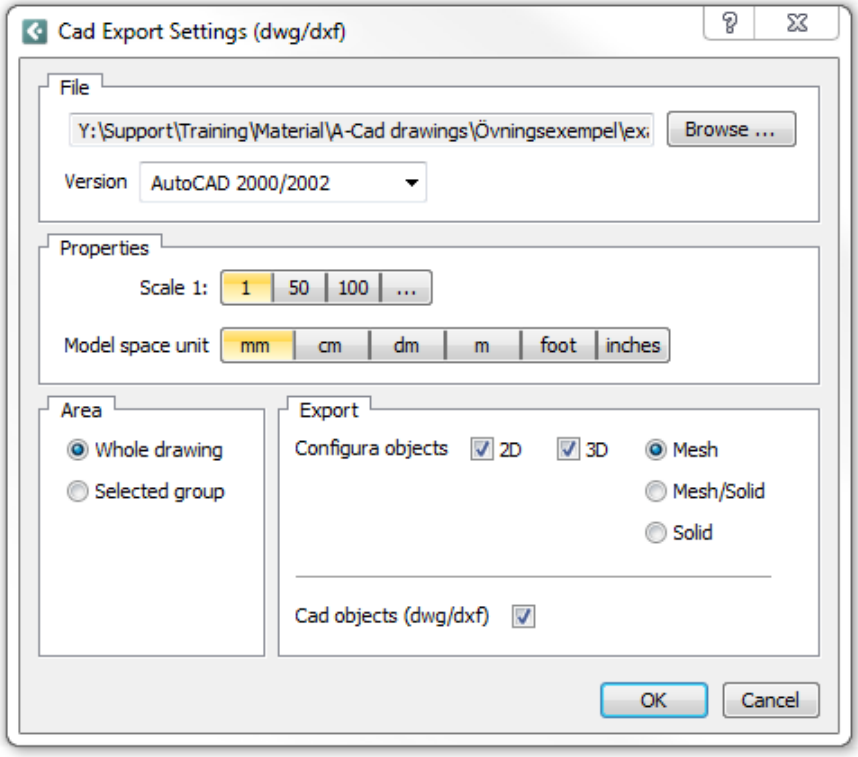
Exercise 12 – Exporting to Cad

You can export Configura drawings to the Cad file formats dwg and dxf. The option **Export Drawing to Cad (dwg/dxf)** on the **Import** and **Export** tab enables export of the drawings you have created in the program.

To export to dwg/dxf, proceed as follows:

1. On the **Import and Export** tab, select the button **Export Drawing to Cad (dwg/dxf)**. The dialog **Cad Export Settings (dwg/dxf)** is displayed.
2. In the **File** field, click on **Browse** to select a file destination, name the file and click on **Save**.
3. From the **Version** drop-down list, choose the AutoCAD version that you want to export to.
4. In the **Properties** field, choose the **Scale** using one of the pre-defined buttons or click on the rightmost button and enter the desired scale in the box. In the same field, also select the desired **Model Space Unit**.
5. In the **Area** field, choose whether you want to export the Whole drawing or a Selected group (objects that you have selected in the drawing area).
6. The **Export** field enables you to determine what kind of information you want to export. Selecting Configura objects will enable you to export not only the 2D information but also the 3D information in the drawing. You can also choose to export all (dwg/dxf) information in the Configura drawing by checking the Cad Objects (dwg/dxf) box.

1. Click on **OK** when you have finished your selections.



The Cad Export Settings (dwg/dxf) dialog box.

***Note**: In order to export a Configura drawing to one of the Cad formats dwg/dxf, the drawing has to have a Cad zero point (a starting point that determines the drawing's position in the drawing area). Configura automatically inserts a zero point in the drawing area, if it is missing when the drawing is about to be exported.*

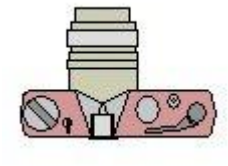
10 Rendering

The automatic rendering options in Configura's toolbar, **Auto 3D (Fast)** and **Auto 3D (Detailed),** are perfect for quick visualizations of the environment that you have created in the drawing area.

Configura's two camera options used to create automatic 3D renderings in Configura

It is also possible to manually create different types of 3D renderings; anything from simple black-and-white perspectives to photo-realistic full-color renderings where the camera angle and the lighting can be set. Just like real photography, it is then possible to make more advanced settings, such as determining the target point and the distance from the camera to the target, the camera height and the camera angle. This way you can make full use of the Configura system, creating the design together with the client and quickly being able to visualize their new space.

The **Camera** tool enables manual image rendering and is available on the **Tools** tab.



*The **Camera** component used to manually create 3D renderings in Configura.*

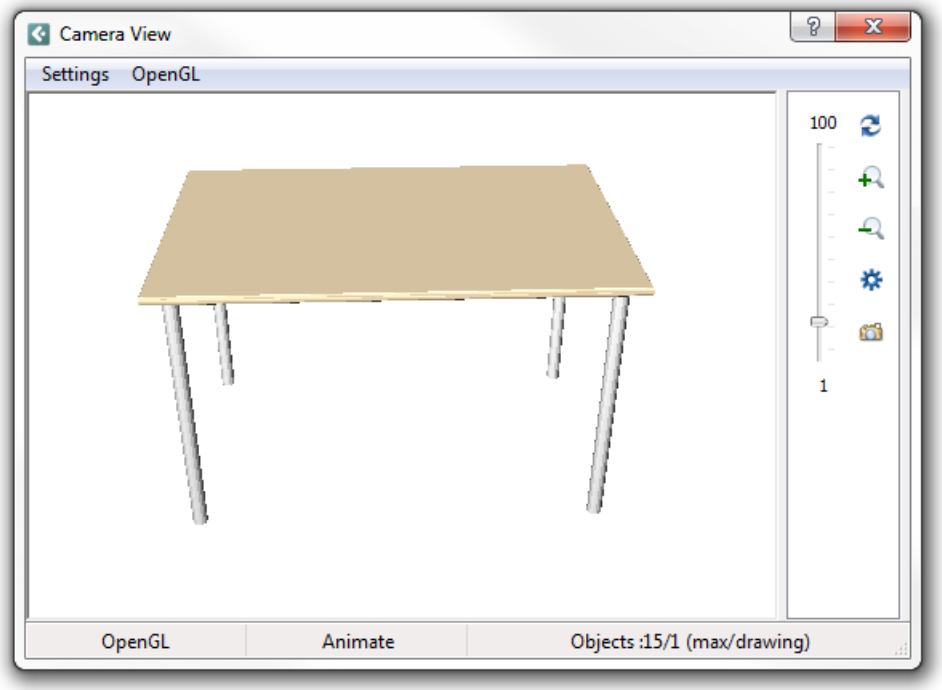
Below we will give an overview of the **Camera** tool, the **Camera View** where you preview your products and finally the different sections in the **Camera Settings** dialog.

10.1 The Camera Tool

The camera is found on the **Tools** tab. It is possible to position the camera and set its distance and angle in one step. When placing the camera in the drawing area (at some distance from the object that you are taking the picture of), continue to press and hold the mouse button and then drag until the desired distance and wide-angle. The **Camera View** dialog appears automatically. Click **Escape** to drop the new camera, which appears automatically. Double-click on the camera in the drawing area to open the **Camera Settings** dialog.

10.2 The Camera View

When a camera is placed in the drawing area, Configura's **Camera View** automatically appears. If the **OpenGL** (Open Graphic Library) feature is activated in the **Settings** menu, a full-color view is shown. If not, you will only see a black-and-white wireframe mode.



*The Camera view when the OpenGL feature is activated. Textures and other details are displayed if the quality is set to **High** in the **OpenGL** menu (see 8.2.2) at the top of the camera view.*

The **Camera View** enables you to navigate in real-time 3D while creating your design. Any changes you make in the floor plan (size, material etc.) are reflected in the 3D view. This is a great help when adjusting camera height and angle or when zooming in on a specific detail.

10.2.1 The Settings Menu

The **Settings** menu has four options, which are usually activated by default:

- **OpenGL:** Turn on/off the OpenGL feature in the **Camera View**.
- **Software:** The **Software** option controls the rendering in the camera view to some extent. By default, the OpenGL color view is rendered using software that is built into the program, as opposed to using hardware (i.e. the graphics card). Software rendering requires more processor power. If you find that the rendering in the camera view slows you down when you are designing, uncheck the **Software** option. Hardware rendering speeds up the animation and OpenGL rendering in the preview window. However, in order for the new setting to be activated, Configura has to be restarted.
- **Animate**. By default, the **Animate** function is checked when the **Open GL** feature is activated. **Animate** updates changes in the camera view right away, i.e. gives immediate response when you move the camera or the camera target. Turning off the animation will only update changes in the camera view after you have released the camera.
- **Preserve Aspect Ratio**: The **Preserve Aspect Ratio** option is checked by default. It will secure that the camera view always maintains the correct proportions when stretching the actual window to a different size. The camera view should always show the same result as a rendered image.

10.2.2 The OpenGL Menu

The **OpenGL** menu contains three quality options:

- **High**: For maximum image quality in the camera view. This option makes the rendering time of the image in the camera view slower.
- **Medium**: Slightly poorer quality of textures for example. However, a faster option to work with.
- **Low**: The lowest quality but, on the other hand, large drawings can be worked on more quickly.

10.2.3 The Slider Bar

The slider bar to the right of the **Camera View** is used to limit the number of objects, which are shown in the view and used as well for quicker navigation. The fewer objects, which are shown, the faster it will be to update changes in the camera view. The right-hand field at the bottom of the dialog displays the maximum number of objects that can be shown (**Max**) and the actual number of objects that are shown in the drawing (**Drawing**).

10.2.4 Re-render with Current Objects

The topmost button is used to update the camera view, for example, when another window has hidden the camera view and the rendered image has disappeared temporarily.

10.2.5 Zoom In/Out

The two zoom buttons enable you to quickly zoom in on, or zoom out of, objects in the camera view.

10.2.6 Camera Settings

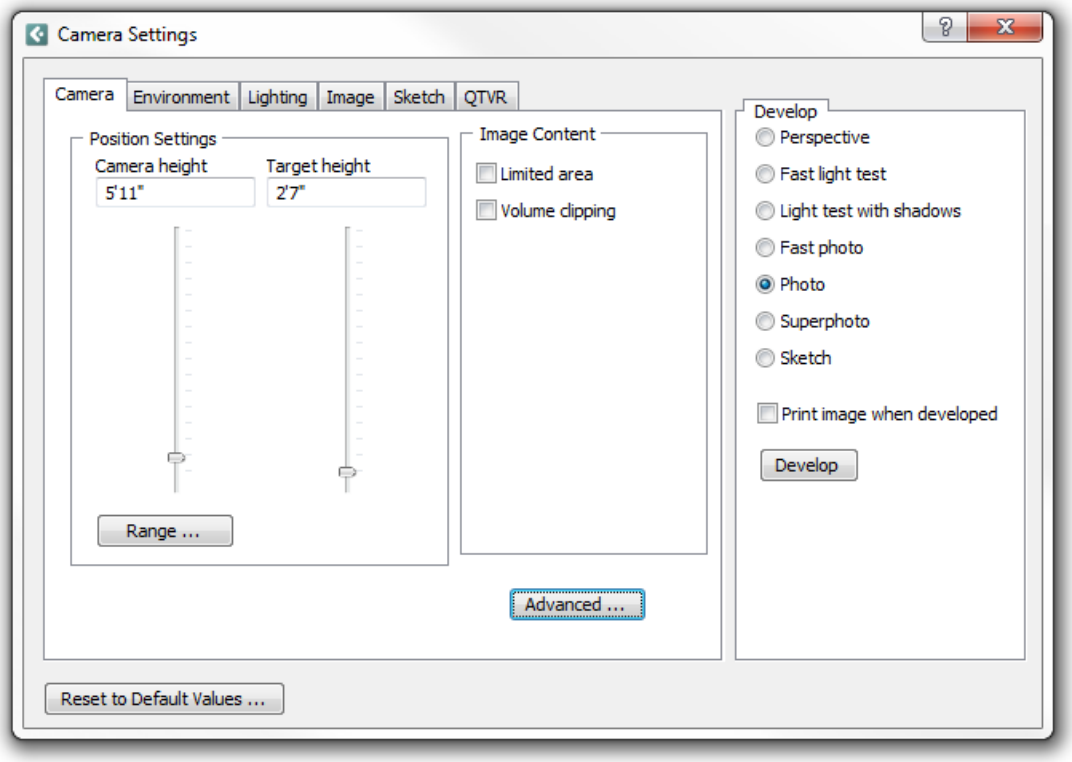
The fourth button from the top takes you directly to the **Camera Settings** dialog box (see 8.3). Note that nothing will happen if this dialog box is already open.

10.2.7 Develop

By clicking on one of the **Auto 3D** buttons a rendered image will instantly be created in a separate window. The same thing will also happen when you choose **Develop** in the **Camera Settings** dialog box.

10.3 The Camera Settings Dialog

The **Camera Settings** dialog box contains six main sections divided up on different tabs: **Camera, Environment, Lighting, Image, Sketch** and **QTVR**.



The Camera Settings dialog box with its six sub-divisions.

10.3.1 The Camera tab

With the **Camera** tab you can adjust the **Camera height** and the **Target height** by suing the two-slider bars. Adjusting these settings will change the camera's inclination angle.

Clicking the **Range** button will open a dialog where the maximum/minimum height limits can be changed for the camera and the target. Should you wish to apply some special effects to the rendered image, such as transparency or post-processing, click on **Advanced**.

It can be difficult to position the camera and to produce a good view in a smaller environment. The **Image Content** field offers two possibilities to get around this dilemma. Using one of the options **Limited area** or **Volume clipping**, you can clip a 3D rendering and restrict the rendering output in the 3D view. The **Limited area** feature will add a rectangular stretchable area to the camera angle (only shown when the camera tool is selected). Stretch out the rectangular area to the desired width and depth. Only the information inside this area will appear in the 3D rendering. The **Limited area** feature will also allow the camera to only focus on a part of a larger drawing and thereby reduce the time it takes to render the image.

***Note**: If you wish to use the **Limited area** option to be able to look into a rectangular room, the rectangle must first be divided into four separate walls. You do this by right-clicking on the rectangle and selecting **Explode**.*

10.3.2 The Environment tab

On the **Environment** tab you can make different types of changes to your 3D environment. Checking the boxes **Ceiling** and **Floor** will automatically add those items to your 3D rendering and the changes will be reflected in the **Camera View**. Enter the desired ceiling height, apply a color or a texture to the floor or the ceiling and change to a different background. Clicking the **Advanced** button enables you to apply different special effects to the rendered image.

10.3.3 The Lighting tab

The **Lighting** tab will help you achieve different lighting effects in your 3D renderings. For example, it is possible to set the color and the strength of the ambient lighting. The **Help Lighting** box is checked by default and will insert light sources temporarily when a photo is being rendered. The program will then automatically manage the lighting of the 3D rendering that you manually render using the **Camera** tool.

Note:

- The settings made on this tab will only affect image rendering done with the **Camera** tool.
- The default setting for ambient lighting is 600 lux. However, lighting up a large environment demands more light than one with only a few objects in it. It always a good idea to experiment a little and change the ambient lighting from case to case. Although you can set the ambient lighting to as much as 2000 lux, you should normally not exceed 1100 lux. If the light is too strong, this will affect the image quality negatively.
- Just changing the ambient lighting will not result in an ultimate result. A combination of different lighting tools (for example a spotlight, a sun or one of the lighting fittings that are available under **Lighting** on the **Accessories** tab) will give you a more realistic setting.
- A tip is to give the ambient lighting a warmer color by adding a more yellow tone to it. Under **Color**, click the **Browse** button and apply the desired color tone.

10.3.4 The Image tab

The **Image** tab enables you to set the desired size, format and resolution of the rendered image. Changing to a different **Window Size** in the **Preview** field will only change the size of the window in which the image is rendered. Clicking the **Show image** button will display the latest rendered image.

10.3.5 The QTVR tab

QuickTime VR is a method developed by Apple Computer that allows you to produce a 360-degree graphic of the client's proposed space that you have created in Configura. This will generate a small QuickTime file that can be e-mailed easily. To open the file, QuickTime Player (free of charge) is required.

There are three different kinds of 360-degree graphics, or "movies", that can be generated in Configura:

- **Panoramic:** Panoramic movies are used when you have created a complete environment (a building with surrounding walls). The graphic is then taken from a central position, as if you were standing in the middle of the room, rotating on the spot while holding the camera.
- **Object:** Object movies are suitable for visualizing freestanding objects. The graphic is created with the camera circulating around the objects whilst creating different shots.
- **Simple Object:** Simple object movies are suitable for visualizing free-standing objects. The graphic is created with the camera circulating around the objects whilst creating different shots. This generates smaller files than the option above.

Panoramic movies are best suited to visualize environments

10.3.6 Develop

You can click on the **Develop** button in the top-right corner of the **Camera Settings** dialog at any time. Before doing so, select one of the following rendering options:

- **Perspective** (creates a black-and-white perspective)
- **Fast light test** (creates a low-resolution image without shadow information or textures)
- **Light test with shadows** (creates a low-resolution image but still displays shadow information and textures)
- **Fast photo** (creates a low-resolution image without shadow information or textures)
- **Photo** (creates a high-resolution image with shadow information and textures displayed)
- **Superphoto** (creates a very high-resolution image with shadow information and textures displayed)

Note:
You normally have to render quite a few test images before you are satisfied with the result. During this phase, it is a good idea to select **Light test with shadows**, an option with fast rendering time that still produces a realistic result. For the final result, always choose **Photo**. **Superphoto** is only recommended for images that should go to print.

10.3.7 Reset to Default Values

The button **Reset to Default Values** in the bottom left corner of the **Camera Settings** dialog is always visible, irrespective of which tab you have selected. The reset function is useful when you have tried different settings in the dialog and when you no longer know which ones that are activated. Clicking this button will reset all of the settings you have made.

10.4 Tips for Better 3D Renderings in Configura

Here are some guidelines that you can use to get to a more realistic rendering and lighting result in Configura.

Camera

- Place the camera further away from the target and focus by reducing the wide angle, instead of trying to move in too close with the camera. This produces a better image with straighter lines.
- The camera height should not differ too much from the target height. Adjust to a realistic height.

Lighting

- Remember that a room needs both lights and shadows. Combine different kinds of lighting. In the same room, use electric fittings that make the light come from a certain direction light as well as fittings that spread the light.
- Avoid cross-shadows, which is light coming from different directions.
- Recreate a true sunlight – it will give a sense of realism to your image. Try to think about where the daylight would enter in a real setting!
- Remember that it is always better to prepare for the rendering first (place a camera with a good distance to target and a good angle, lighting etc.), before you start decorating the room. Since you will have to render quite a few test images before you are happy with the result, it is an advantage to keep the image as 'clean' as possible. An environment with less information will naturally speed up the rendering time of the image.

Examples of more advanced photography in Configura Core

Exercise 13 – Producing a 3D Rendering Automatically

The fastest way to create 3D visualizations is to click on one of the two cameras in the toolbar, **Auto 3D (Fast)** or **Auto 3D (Detailed).**

Auto 3D options

Camera and lighting will then be adjusted automatically and the picture will be taken from a set angle. The quality of the rendered image varies depending on which alternative you have chosen. **Auto 3D (Detailed)** has a slightly longer rendering time but is of considerably better quality (shadows and textures are only seen with this type of rendering).

Note:
You can determine what angle to take the automatic picture from. Go to the **File** menu and select **Control Panel**. Under the **Auto** 3D tab, select the camera position by clicking on the different arrows. If you select the cross in the middle, the camera will be positioned right above the components that you are about to photograph. The **Auto 3D** tab also contains settings for distance from target, light strength and environment.

Example of manual photography in Configura

For more advanced photography, work with the **Camera** tool manually (available under **Tools**). Double-click on the camera to display the **Camera Settings** dialog. Here you can make a whole series of settings for image resolution and image quality and also state what surroundings you want (background, floor, ceiling etc.).

Exercise 14 – Pasting a Rendered Image Next to the Drawing

After you have rendered an image in 3D, it can be pasted next to the drawing.

Proceed as follows:

1. Render an image (automatically or manually).
2. Click on **Image** in the top left-hand corner and then on **Paste**.
3. Name the file and decide where the image should be saved.
4. Click on **Save**.
5. Close the image. A 3D color rendering automatically appears next to your drawing. Click on the yellow frame, between the solid and the broken yellow line, that surrounds the rendering and drag it to desired position in the drawing area.

Drawing layout with a pasted 3D mage

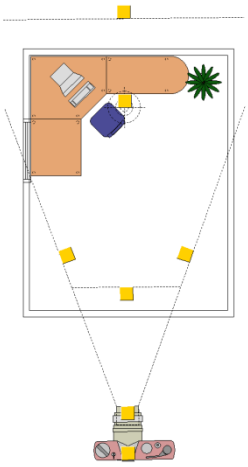
Exercise 15 – Rendering a Black-and-White Perspective

Black-and-white perspectives are easy to create in Configura. To create an environment and generate a perspective in black-and-white, proceed as follows:

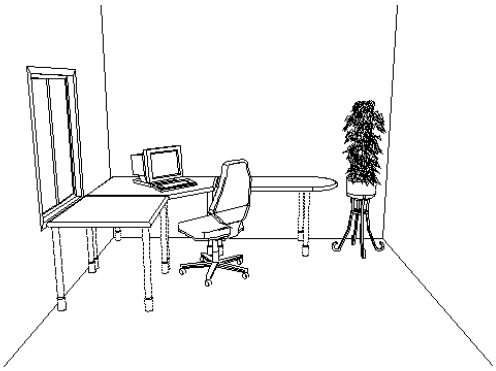
1. Draw a rectangular room. Place a window on the left-hand side. Furnish the room with a few objects, for example a desk and a chair.
2. Go to the **Tools** tab and select the **Camera**. Place it in the drawing area.
3. Set the camera's focal distance by clicking and dragging the yellow target point (furthest away from the camera tool with a circle around it) into the room, to determine your focus.
4. Then click and drag the snap point at the back of the camera to move the actual camera tool outside the room. Release the button when you have reached a good distance to the focal point (see Picture 1 below).
5. When you have placed the camera, the **Camera View** will be displayed automatically. In the button row on the left-hand side of the view, click on the **Camera Settings** button.

Note: If you have closed dialogs accidentally simply right-click on the camera and select **Camera View** or **Settings** right away.

6. In the **Camera Settings** dialog, select the Camera tab.
7. Go to the **Image Content** field and select **Volume clipping**. Click on each of the gray snap points to activate these. Then click and drag one point at a time, until they are positioned like in to Picture 1 below. The final rendering will only display the items between the two points, which will allow you to ignore the wall that blocks your view.
8. On the **Camera** tab, adjust the camera height and the target height.
9. Do you need to get closer with the camera? Zoom in by dragging one of the snap points that are placed along the camera angle and, thereby reduce the camera angle. Use the **Camera View** to make sure that your camera angle is correct.
10. On the right-hand side of the **Camera Settings** dialog, select **Perspective** as rendering option. Finally click **Develop**. The black-and-white perspective is being rendered (see Picture 2).



Picture 1 shows the placement of the camera



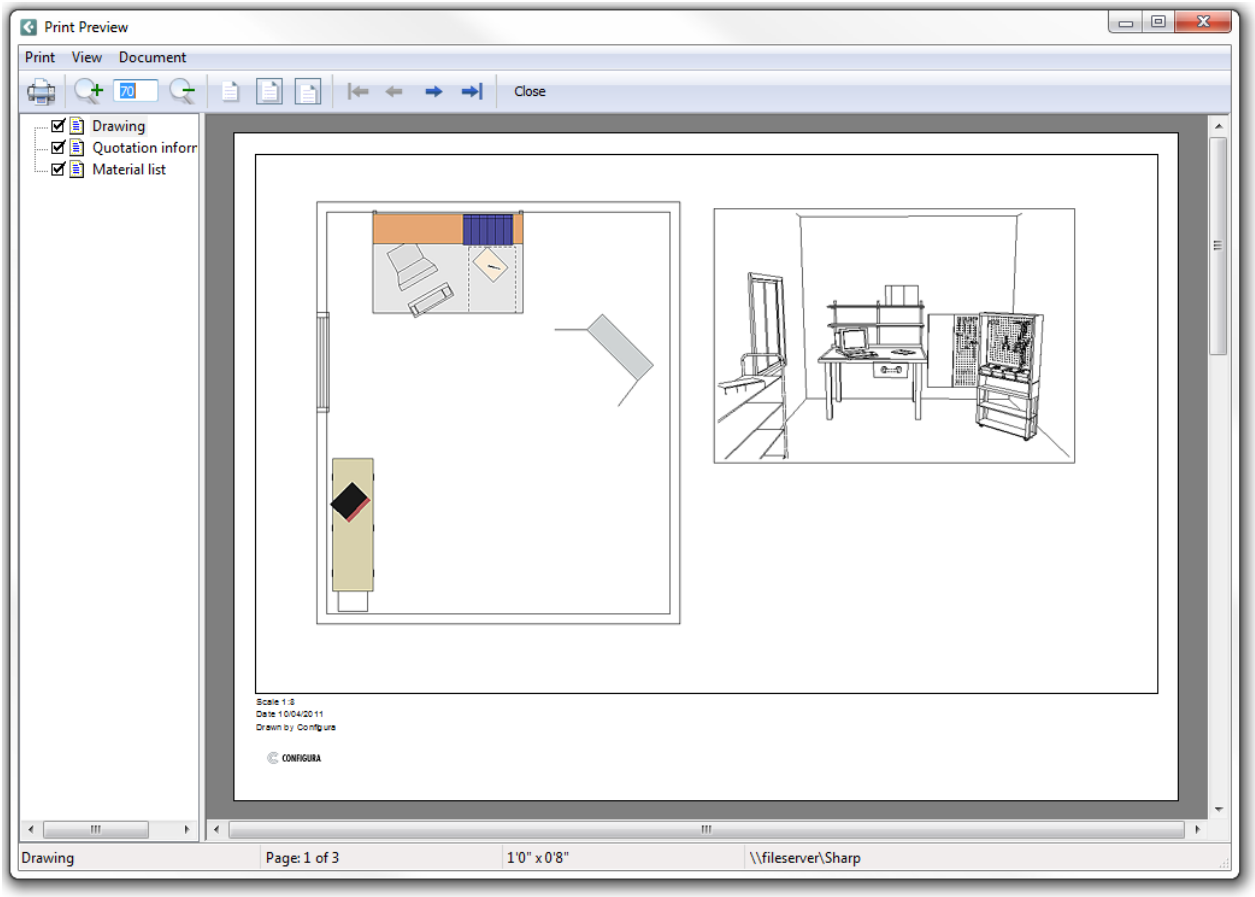
Picture 2 shows the result in 3D

Exercise 16 – Pasting the Perspective in the Drawing Area

Perspective renderings can then be pasted into the drawing.

Proceed as follows:

1. Render a **Perspective**.
2. Click **Image** in the top left-hand corner and then on **Paste**.
3. Close the image. A black-and–white perspective now appears in the drawing area. Click and drag the perspective to desired position.
4. Click the perspective's yellow right-hand snap point and drag to stretch the perspective in size. **Note**: You can only stretch perspectives – not color renderings.
5. Right-click on the rendering and choose **Settings**. Here you can add a frame around the perspective and/or to view it in full detail on screen. **Note**: Regardless of the setting you have here, the actual printout will always look ok.



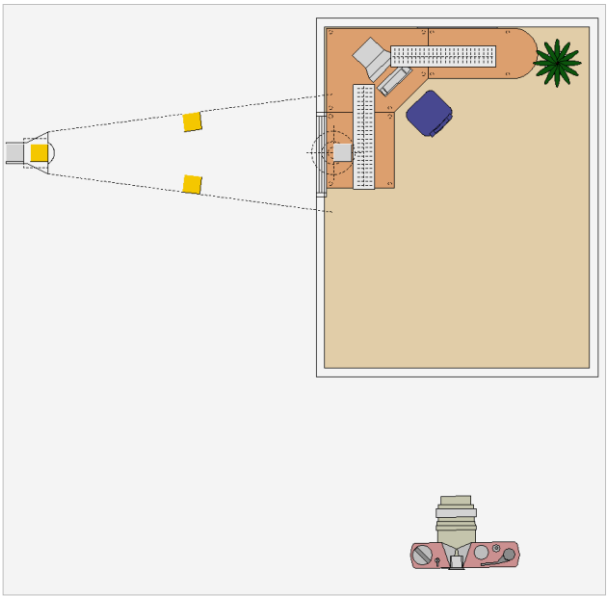
Print preview of a drawing with a perspective displayed next to the floor plan.

Exercise 17 – Producing a Color 3D Rendering

Here are a few general tips that might help you to produce 3D renderings with a more realistic camera setting and lighting.

Proceed as follows:

1. Use the drawing layout from *Exercise 16*.
2. Place a spotlight outside the room. Adjust the spotlight's target point to direct the light so that it shines through the window. You do this by clicking and dragging the yellow snap point which adjusts the distance from the spotlight to the target point (surrounded with a dotted circle) and placing it inside the room, in front of the window (see Picture 1).
3. Reduce the spotlight's spread angle by clicking and dragging one of the snap points positioned along the angle. The spread angle should be about as wide as the window in the wall (see Picture 1 below).



Picture 1 shows your drawing layout after placing and adjusting all the lighting.

4. Right-click the spotlight and chose **Settings**. In the dialog box that opens, set the target height to approximately 1100 mm. This way you allow the light to shine in through the window, i.e. preventing it from being blocked by the wall. Change the spotlight brightness to 150-200 Watt.
5. Select the **Light test with** shadows option in the **Camera settings** dialog to view the light result. Click the **Develop** button.
6. Place two fluorescent-lamp fittings (from the **Accessories** component tab) above the workstation (see Picture 1). Re-render to view the result.
7. If more light is necessary, go to the **Camera Settings** dialog and select the **Lighting** tab. Under **Brightness in lux,** increase the ambient lighting to 800-1000 Lux.
8. If required, change the color of the walls.
9. If necessary, place a supplementary ceiling light in the front of the room.
10. On the **Environment** tab, in the **Camera Settings** dialog, check the **Floor** box to automatically get a floor. Choose **Material/Color** to add a texture to the floor.

11. When you have created your environment and you are satisfied with the lighting, for the final rendering, it is recommended that you increase the image resolution. Select the **Image** tab in the **Camera Settings** dialog and set the resolution to 150-300 dpi.

12. Render a **Photo**. The final result is similar to what you see in Picture 2 below.

Picture 2 shows the result in 3D.

Exercise 18 – Saving and Printing the Rendered Image

When saving a rendered image you have to select what format to save the image in. Configura will save the rendered image in one of the following optional formats:

- JPEG (.jpg)
- Targa (.tga)
- DIB (.bmp)
- Tiff (.tif)
- LWI (.lwi)
- PDF (.pdf)

Note: *The JPEG format is recommended for most cases, as the image is compressed and creates smaller files. For print however, select the tiff format.*

To save a rendering, proceed as follows:

1. Render a **Photo**.
2. Click **Image** in the top left-hand corner of the window and then select **Save**.
3. Name the file, choose image format and where the rendering should be saved.
4. Click **Save**.

If you wish to print your 3D rendering right after the rendering, proceed as follows:

1. Click **Image** in the top left-hand corner of the window and then select **Print**.
2. Enter the printer settings the usual way and then click **OK**.

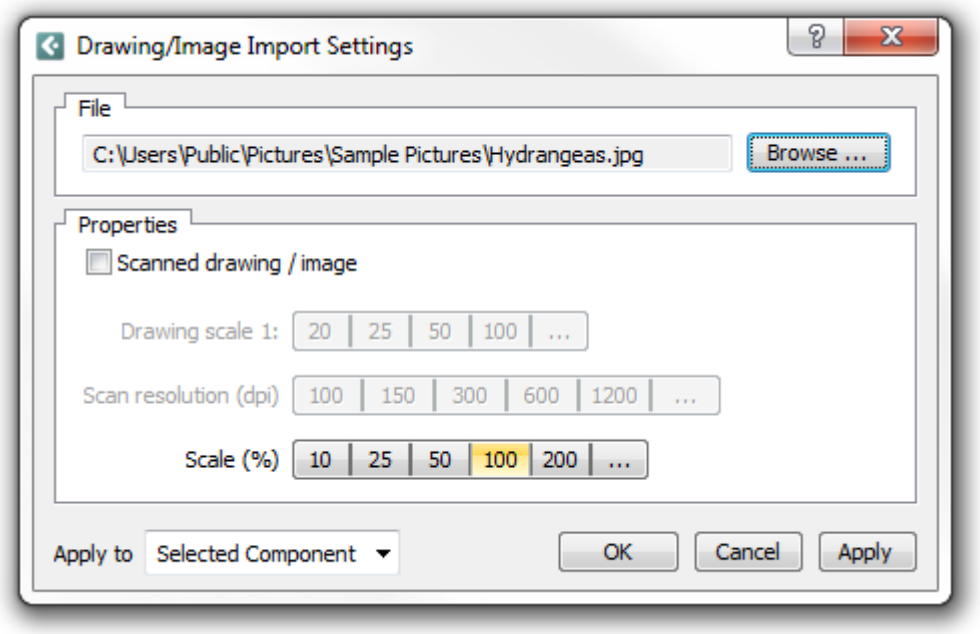
Note: The paper size you choose to print out on should not exceed the image-target size that you have already chosen in the **Camera Settings** dialog.

Exercise 19 – Importing an External Image into the Drawing Area

It is possible to import external images into the drawing area in Configura. Add a customer logo or any other image next to the floor plan to further enhance the drawing layout.

Proceed as follows:

1. Select the **Import and Export** component tab.
2. Under **Import Drawings and Images**, select the feature Import drawing/image as background and position it in the drawing area. The dialog **Drawing/Image Import Settings** is displayed.



3. Click on the **Browse** button to select the desired file.
4. At the bottom of the dialog, set the image size in the drawing area by selecting a value next to the **Scale (%)**.
5. Click on **OK** or **Apply**.
6. To re-position the image, click and drag the frame that surrounds the image to the desired position in the drawing area.

11 Changing Material or Color on Generic Components

In Configura, your own products already look, act and respond like they do in reality. But in order to recreate a realistic environment, maybe even an exact duplicate of the customer's premises, you need to make use of the possibilities of changing color or material also on other components in Configura Core.

3D rendering produced in Configura

The color of desks, chairs and flowers as well as the color of walls, floors and other surfaces can be varied and adjusted. Choose between Configura's predefined colors and materials, create colors yourself or use realistic textures (for example tiles, brick and wallpapers).

The **Material/Color Change** dialog box can be reached in two different ways:

1. Go to the **Edit** menu. Choose **Material/Color**. The menu option is only displayed if you have an selected a generic component in the drawing area
2. Right-click on the component that you want to change. Choose **Material/Color**.

11.1 Surface Name

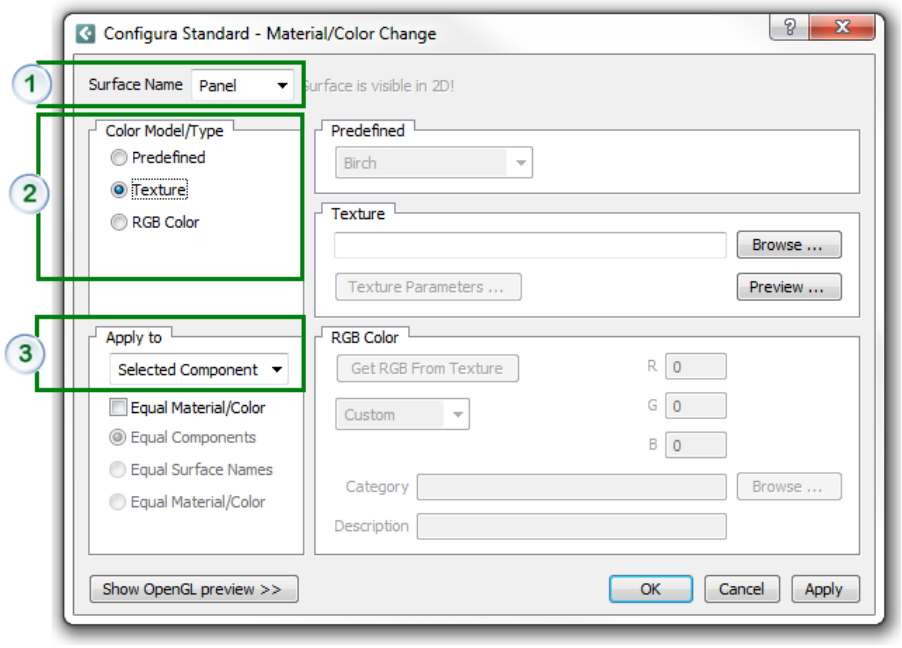
Under **Surface Name** (1), choose which part of the component the color change should apply to.
For example, on an office desk in Configura Core you can change the desktop, panel and legs.

11.2 Color Model/Type

The heading **Color Model/Type** (2) displays three color options: **Predefined**, **Texture** and **RGB Color**.

11.2.1 Predefined

Here you will find various predefined materials and colors, such as birch, aluminum and plastic.



All three options bring up the same Material/Color Change dialog.

11.2.2 Texture

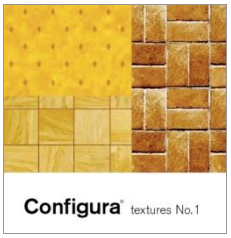
Textures are images of real materials, for example scanned or digital images of wallpaper, tiles and lino floor coverings. The textures must be stored on your PC or on your company's network in order for you to be able to use them. Adding textures to walls and floors is a simple, effective way of improving the quality and feeling of reality in a 3D picture. Textures are only visible in 3D.


Parquet flooring


Brick wall

Wallpaper

Examples of textures made from pictures taken with a digital camera



As part of the course, we hand out a CD – "Configura Textures No. 1" - with more than 300 handmade textures (worth a value of $60). We hope that you will find these useful! It is also possible to create your own library of scanned textures or pictures taken with a digital camera. For additional orders of the Configura textures, please send an email to training@configura.com.

11.2.3 RGB Color

There are ready-made RGB colors to select among in Configura. RGB colors are defined with values for **R**ed, **G**reen and **B**lue. Besides the ones that are included, you can simply expand the list by creating your own colors and save them in a color database.

11.3 Apply to

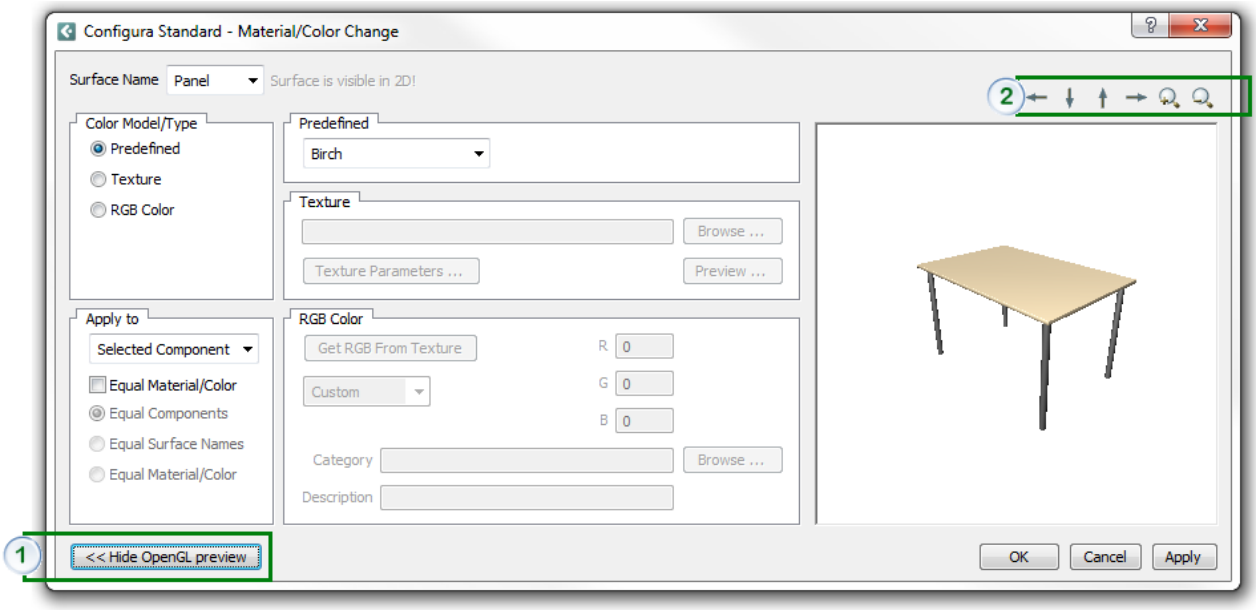
Under **Apply to** field **(3)** you specify which components you would like to be affected by your color or material change. This could be just one component, a group of components, components in a defined position or all similar components in the drawing area.

When you choose to apply the color or material changes to more than one component, the following sub-options are displayed.

- **Equal Components:** Changes material or color of all components of the same kind.
- **Equal Surface Names:** Changes a specific detail (the one selected under Surface Name) of several components in the drawing area, for example all desk legs of the desks in a selected group.
- **Equal Material/Color:** Changes material or color of all details with the same material or color as the selected detail under Surface Name.

11.4 Show/Hide OpenGL preview

At the bottom of the **Material/Color Change** dialog, you will find the button **Show OpenGL preview** or **Hide OpenGL preview** respectively (see nr **1** on picture below). When clicking on it, a new window will open on the right side of the dialog, showing the object that is selected in the drawing area. If you change the material of, for example, a desk in Configura you will see the change previewed directly in 3D, provided you have chosen to show the OpenGL preview. To hide the OpenGL preview, press the **Hide OpenGL** preview button.



Note:

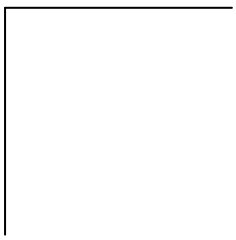
- To rotate the object in the OpenGL preview window, and thereby be able to view it from different angles, use the four arrow buttons placed directly above the window (see nr 2 on picture above). You can also rotate the object by placing the mouse pointer on the 3D rendering in the preview window and then pressing and holding the left mouse button and dragging the mouse in the desired direction.
- To zoom in and out in the preview window – i.e. enlarge or reduce the object - use the two buttons with magnifying glasses located at the top right of the window (see 2 on picture above). You can also place the mouse pointer on the 3D rendering, press and hold the right mouse button and move the mouse up or down.

Exercise 20 – Changing the Color of Walls

A fast and easy way to get a better 3D rendering result is to change the color of the walls in the environment that you have drawn.

Proceed as follows:

1. Draw two walls that form a corner – see below.



If you draw an open corner instead of a closed rectangle, it is easier to look into the room when rendering an automatic 3D image.

2. Select both walls so that the yellow snap points are visible, by pressing and holding the **Ctrl** key as you click on one wall at a time.
3. Place the pointer on a snap point and right-click. Choose **Material/Color**.
4. A dialog box is displayed. Choose **RGB Color** and thereafter the color you prefer.
5. In the field **Apply to**, select **Group** and **Equal Surface Names.** Click **OK.**
6. To see the result, render an **Auto 3D.**