

## Using Chart Reader

i2® Chart Reader provides read-only viewing of i2 Analyst's Notebook® charts. Charts can be distributed electronically by email, disk, or Internet/Intranet, and then viewed by the recipient with Chart Reader.

Anyone with a basic knowledge of Windows applications can use Chart Reader, and Chart Reader is freely distributable according to the Software License Agreement.

The following types of chart files can be opened in Chart Reader:

- i2® Analyst's Notebook Chart (\*.anb)
- i2 Analyst's Notebook Exchange Chart (\*.anx)
- i2 Text Chart Visualization (\*.tcv)

Charts opened using Chart Reader are available in read-only format, and you cannot have more than one chart open at a time. It is not possible to:

- Move chart items to a new location
- Edit or change any of the information contained in the chart
- Alter the appearance of chart items

If you want to work with the information displayed in Chart Reader, you can save the details as a new chart file and edit it in the usual way.

## Viewing charts

You can choose to view the information on your charts in the way best suited to your investigation.

You have a fine level of control when choosing how to view the information on your chart. Analyst's Notebook provides you with many ways to navigate the chart, and the ability to investigate specific areas in more detail. You can change the scale of the display and zoom in on a single item or a selection of items. You can view the chart at actual size, or scale the chart to fit the size of the chart window. You can also select options that change the appearance of your chart, take snapshots or reveal hidden items.

## Navigating through the chart

You can move through a chart by using the keyboard or the mouse.

To:	Key press	Scroll bar	Mouse Wheel
Scroll up	Up arrow	Scroll up arrow	Rotate forward
Scroll down	Down arrow	Scroll down arrow	Rotate backward
Scroll left	Left arrow	Scroll left arrow	Shift+Rotate forward
Scroll right	Right arrow	Scroll right arrow	Shift+Rotate backward
Page right	Shift+Right arrow		
Page left	Shift+Left arrow		
Page up	Shift+Up arrow		
Page down	Shift+Down arrow		

If your mouse has a wheel, you can use it to navigate through the chart as follows:

- To scroll up and down through the chart, hold down the `Ctrl` key and rotate the wheel forward and back.
- To scroll left and right across the chart, hold down the `Shift` key and rotate the wheel forward and back.
- To zoom in and out of the chart, rotate the wheel forward and back.

### Panning in any direction using the mouse wheel

Click the mouse wheel button to create an origin mark on the chart.

As you move the mouse around the origin mark, the mouse pointer changes to a direction arrow.

The chart automatically pans in the direction of the arrow. To speed up panning, drag the arrow farther from the origin mark; drag closer to slow down.

To stop panning, click again with the wheel button, or right-click anywhere. The origin mark is removed.

## Zooming in and out of the chart

When you open a chart it is automatically displayed to be fitted in the window. You can zoom in to see a smaller area of the chart at a larger scale, or zoom out to see more of the chart.

### Zooming in

To zoom into the chart, do one of the following steps:

- Click the **Zoom In** option on the toolbar.
- Press the `Page Up` key.
- Select **View > Zoom In**.
- Hold down the `Ctrl` key and rotate the mouse wheel forward.

The zoom is centered on the last location you clicked the chart.

To zoom in further, repeat the action, or hold down the `Page Up` key to zoom in as far as possible. When you reach the zoom limit, the button and command are unavailable.

### Zooming out

To zoom out of the chart, do one of the following steps:

- Click the **Zoom Out** toolbar button.
- Press the `Page Down` key.
- Select **View > Zoom Out**.
- Hold down the `Ctrl` key and rotate the mouse wheel backward.

The zoom is centered on the last location you clicked the chart.

To zoom out further, repeat the action or hold down the `Page Down` key to zoom out as far as possible. When you reach the zoom limit, the button and command are unavailable.

## Zooming to an area of the chart

If there is a specific item of the chart that is of interest, you can select that area before zooming.

- You can zoom to an area of the chart by:

- Clicking an area of the chart to center the chart and zoom in by one level to that area
- Defining a specific area you want to zoom to by dragging a rectangle

Put the mouse pointer in Zoom to Area mode by doing one of the following steps:

- Click the **Zoom to Area** toolbar option.
- Select **View > Zoom to Area**.

The mouse pointer changes to a magnifying glass.

- To center the chart on a particular area and zoom in by one level, move the mouse pointer to the middle of where you want to zoom in, and click.
- To define a specific area to zoom to:
  1. Select one corner of the area you want to zoom to.
  2. Hold down the left mouse button and drag the mouse pointer to the opposite corner of the required area.

As you drag across the chart, a rectangle is drawn.

3. Release the mouse button.

The selected area is displayed to fill the window.

- If you drag a rectangle across the chart with the right mouse button, you can select the action to perform on items within that rectangle from the menu:

<b>Select Only Enclosed</b>	Selects all the items within the rectangle. Clears all other items on the chart.
<b>Deselect Enclosed</b>	Removes all the items within the rectangle from the current selection.
<b>Select Enclosed</b>	Adds all the items within the rectangle to the current selection, if any.
<b>Zoom to Area</b>	The selected area is displayed to fill the window.

If you drag with the right mouse button, when the mouse pointer is in Zoom to Area mode, you can select only **Zoom to Area**.

## Fitting to the chart window

The chart can be zoomed to fit all the chart items on your screen, just the selected chart items, or adjusted to fit the height of the chart.

- To see all the chart in the current window, complete one of the following steps:
  - In the toolbar, click **Fit Chart in Window**.
  - Select **View > Fit Chart in Window**.
  - Press the `End` key.

The entire chart is displayed in the window, shown at the largest possible scale which enables all the chart items to be shown in your window.

**Note:** Hidden items are not taken into account when fitting the view to the window.

- To view all the currently selected chart items in the window, complete one of the following steps:

- In the toolbar, click **Fit Selection in Window**.
- Select **View > Fit Selection in Window**.
- Press the `Ctrl + End` keys.

The chart is redrawn at a scale to allow all the selected items to be displayed in your current window. The view of the chart is centered on the selected item or items.

- In the toolbar, click **Fit Height in Window**.
- Select **View > Fit Height in Window**.
- Press the `Shift + End` keys.

The chart is redrawn at the maximum zoom level in which the top and bottom of the chart can be seen in the same window. The chart is centered on the last location you clicked. The chart height is determined by the topmost and bottommost item. These items might not be visible when you fit height to the window if they are at the left or right edge of the chart.

**Note:** Hidden items are not taken into account when fitting the height to the window.

## Viewing the chart at actual size

The 'actual size' of the chart refers to the size at which it prints, subject to changing the printing scale in Page Setup. The size at which charts are displayed depends on the size and resolution of your screen.

To view the chart at its actual size, do one of the following steps:

- On the toolbar, click **Actual Size**.
- Press the `Home` key.
- Select **View > Actual Size**.

## Changing the chart appearance

The chart can store information that is not displayed by default. There are several options available to change the appearance of your chart.

Chart appearance difference	Description
Viewing snapshots of the chart	<p>A snapshot is a saved view of the chart. Snapshots are captured when the chart is created. A snapshot can be of any area of a chart at any magnification. A series of snapshots is often used to highlight different aspects of a chart.</p> <p>To view a snapshot, select <b>View &gt; Snapshots</b>, then select the required snapshot and click <b>Restore</b>. The selected snapshot is shown.</p> <p>With a snapshot displayed, to view the next snapshot, do one of the following steps:</p> <ul style="list-style-type: none"> <li>• On the toolbar, click <b>Next Snapshot</b>.</li> <li>• Select <b>View &gt; Next Snapshot</b>.</li> <li>• Press <code>Ctrl+T</code>.</li> </ul>

Chart appearance difference	Description						
	<p><b>Note:</b> The toolbar button and the menu option are unavailable if you viewed the last snapshot.</p> <p>To view the previous snapshot.</p> <p>With a snapshot displayed, do one of the following steps:</p> <ul style="list-style-type: none"> <li>• On the toolbar, click <b>Previous Snapshot</b>.</li> <li>• Select <b>View &gt; Previous Snapshot</b>.</li> <li>• Press <b>Ctrl+Shift+T</b>.</li> </ul> <p><b>Note:</b> The toolbar button and the menu option are unavailable if you viewed the first snapshot.</p>						
Revealing hidden chart items	<p>Items might be hidden in a chart. The Show or Hide status for chart items is set in Analyst's Notebook when the chart was created and cannot be altered in Chart Reader. The <b>Reveal Hidden</b> option reveals hidden items.</p> <p>To reveal hidden items, select <b>View &gt; Reveal Hidden</b>. When the option is selected it has a check mark next to it, and hidden items are visible. The Status Bar shows whether the <b>Reveal Hidden</b> option is selected.</p>						
Showing or hiding the Status Bar	<p>The Status Bar, located along the bottom of the Chart Reader window, displays information about toolbar buttons and procedures. When the cursor is over a button or command, the Status Bar displays an explanation of its purpose. The Status Bar is shown by default.</p> <p>To view the status bar, select <b>View &gt; Status Bar</b>.</p> <p>The Status Bar can also display the following information:</p> <table border="1" data-bbox="852 1417 1446 1900"> <tbody> <tr> <td data-bbox="852 1417 1149 1633">REVEAL HIDDEN</td> <td data-bbox="1149 1417 1446 1633">Indicates that all chart items on the chart are being displayed. Use <b>View &gt; Reveal Hidden</b> to select this option.</td> </tr> <tr> <td data-bbox="852 1633 1149 1822">PAGES</td> <td data-bbox="1149 1633 1446 1822">The page boundaries are displayed on the chart. Use <b>View &gt; Page Boundaries</b> to select this option.</td> </tr> <tr> <td data-bbox="852 1822 1149 1900">CAP</td> <td data-bbox="1149 1822 1446 1900">Caps Lock is turned on.</td> </tr> </tbody> </table>	REVEAL HIDDEN	Indicates that all chart items on the chart are being displayed. Use <b>View &gt; Reveal Hidden</b> to select this option.	PAGES	The page boundaries are displayed on the chart. Use <b>View &gt; Page Boundaries</b> to select this option.	CAP	Caps Lock is turned on.
REVEAL HIDDEN	Indicates that all chart items on the chart are being displayed. Use <b>View &gt; Reveal Hidden</b> to select this option.						
PAGES	The page boundaries are displayed on the chart. Use <b>View &gt; Page Boundaries</b> to select this option.						
CAP	Caps Lock is turned on.						

Chart appearance difference	Description	
	NUM	Number Lock is turned on.
Showing or hiding the toolbar	<p>You can select buttons on the toolbar to perform various actions. The same actions are also available as commands on the menus. The toolbar is shown by default, hiding it gives more window space to display the chart.</p> <p>To view the toolbar, select <b>View &gt; Toolbar</b>.</p>	

## Chart items

A chart item is a graphical piece of information placed on the chart. There are two main sorts of chart items, entities and links.

### Entities

An entity is a visual representation of a piece of information. Entities can be used to represent a wide variety of real-world data that occur in your investigations such as people, objects, locations, events, documents and accounts.

Icon	Used to represent a person, object, or place.
Theme Line	Represents one of the key elements of the investigation, for example a victim, witness, suspect, or location. Theme lines provide a common thread, typically to connect a sequence of events over time.
Event Frame	Used for a significant occurrence or instance, often at a specific date and time.
Circle	Any piece of information. Often used for annotation.
Box	Used to represent organizations or groups of other entities.
Text Block	Any piece of information. Often used for annotation.
OLE Object	An object created with another application and incorporated into the chart, for example a spreadsheet, word-processor document, or graphic file.
Label	Text used to annotate the chart.

## Links

A link is a line between two entities that represents a relationship between them. They can have direction, for example, to show the flow of transactions. They can also have no direction to represent a general association. The line style can be used to reflect the confidence in the relationship.

Links are categorized into types.

## Attributes

All chart items can contain attributes that contain additional information.

An attribute is a marker that is placed below entities or links to indicate additional information or common features. For example, attributes might be used to display the nationality of people on the chart, or the color of vehicles. Symbols can be used to indicate a characteristic, and textual or numeric values.

### Analysis attributes

Analysis attributes are another category of attribute. They are never displayed on your chart and are only used for searching and other analysis. They are listed on the Analysis page of the Chart Item Properties window.

### Automatic attributes

Some attributes are generated automatically by Analyst's Notebook. They appear in the attribute classes list with a yellow background and can be displayed on the chart. Selection sets are examples of this type of attribute.

## Background items

Background items are items that are placed on a layer beneath the chart. When an item is in the background, it is still visible but your interaction with it is limited.

You can think of background items as being trapped behind a sheet of glass. They are visible behind normal items, but cannot be selected, linked to or searched for like normal items. They are useful for:

- Maps
- Floor plans
- Organizational crests
- Watermarks

Any chart item can be set as a background item. Chart items include all entity representations (icons, theme lines, event frames, boxes, and so on) and links.

### Actions that apply to background items

Items in the background:

- Can be controlling, that is, they control the time bar at their location if they have a date and time and are ordered
- Can be linked to normal items, if the link was added before the item was sent to the background

### Actions that do not apply to background items

Items in the background:

- Cannot be selected with left-click, like normal items

- Will not be listed in the results of a search

## Selecting items

A chart item is selected with all the text associated with the item (its label, description, and attributes) displayed inverted. For items that have no visible text, a small black square is displayed indicating that the item is selected.

### Selecting chart items

- Click a chart item to select it. Other selected items are cleared when you select a new item.
- To select a chart item and add it to the current selection, hold down the `Ctrl` key and click the item.
- To select a group of items, hold down the `Shift` key and select item.
- To select all the items on the chart, do one of the following steps:
  - Click the **Select All** toolbar button
  - From the **Edit** menu, select **Select All**
  - Right-click anywhere on the chart background and select **Select All**
  - Press `Ctrl+A`

### Clearing chart items

- To clear all chart items, click anywhere on the chart background.
- To clear a chart item and keep all other selected items selected, hold down the `Ctrl` key and click the item.

**Note:** Holding down the `Ctrl` key and clicking an item changes the selection state between being selected and cleared.

### Inverting a selection

To invert the current selection, do one of the following steps:

- Click the **Invert Selection** toolbar button
- From the **Edit** menu, select **Invert Selection**

## Selecting a group of items

You can select multiple items on the chart. For example, you can view the properties of several items at the same time.

To select several items on the chart, you can either:

- Select the first chart item, hold down the `Ctrl` key and click each additional chart item.
- Drag a selection box around the chart items you want to select.

When all the items you want to select are within a certain area of the chart, it is easier to select them all by dragging a box around them.

To create the selection box, hold down the left mouse button and drag around all the items you want to select. A gray dotted line shows the extent of the box. When you release the mouse button, all the items enclosed within the box are selected.

- To add the enclosed items to an existing selection, hold down the `Shift` key as you drag. A small addition sign is shown at the lower right edge of the selection box.



- To remove the enclosed items from an existing selection, hold down the `Ctrl` key as you drag. A small subtraction sign appears at the lower right edge of the selection box.

An item must be completely within the box to be selected. For example:

- To select a link, both ends of the link must be wholly within the box.
- To select an icon, all the displayed text beneath the icon, including attributes must be within the box.
- To select a theme line, the theme line icon and all the displayed text beneath it must be within the box. Both ends of the theme line do not have to be enclosed.
- To select a box or a circle, all of the box edge and circle circumference must be within the box.

When you drag a rectangle across the chart by using the right mouse button, you can select what action to perform on items within that rectangle from the menu:

Select Only Enclosed	Selects all the items within the rectangle. Clears all other items on the chart.
Deselect Enclosed	Removes all the items within the rectangle from the current selection.
Select Enclosed	Adds all the items within the rectangle to the current selection, if any.
Zoom to Area	The selected area is displayed to fill the window.

## Extending a selection along links

You can extend your current selection to include links that connect an entity, the entities at both ends of a link, and other links in a connection.

To extend your current selection in this way, right-click an item or selection of items. Depending on the items in your current selection, one or more of the following menu commands are available:

Selected	Menu commands	Result
One or more entities which are linked to other entities	<b>Select Connections</b>	Adds all the links connected to the selected entities to the selection.
One or more links	<b>Select Ends</b>	Adds entities at both ends of the selected links to the selection.
A link which is one of several links on a connection	<b>Select Sibling Links</b>	Adds all other links on a connection to the selection.

To select all event frames attached to a theme line:

1. Right-click the theme-line
2. Select **Select Connections**.

All links that are connected to the theme line are selected. If they are diverting the links might not be visible on the chart.

3. Select **Select Ends**.

All event frames attached to the theme line are selected, and any other entities linked to the theme line.

**Note:** To select all the event frames attached to multiple theme lines, select all the required theme lines first, then repeat steps 2 and 3.

## Selection set commands

Selection set commands are available only by using keyboard shortcuts. There are no Selection Sets menu commands or toolbar buttons.

To select a previously defined selection set, press the number key assigned to the selection set:

To	Press
Select a set	n (where n is the number assigned to the set) For example, pressing 1 selects all the items in Selection Set 1.
Toggle the selection of a set on or off	Ctrl+n
Add the members of a set to the current selection	Shift+n

## Showing item properties

You can display the properties that store information about a chart item.

To show the properties of an item on the chart, double-click it, or complete one of the following steps:

- Double-click an individual item.
- Select an item, and select **Edit > Item Properties**.
- Right-click an item, and select **View Item Properties**.

Item property pages are listed in the following folders:

### Data

#### Statistics for a selection of items

When there is more than one item selected on the chart, you can view the properties of all the items together. The Statistics page show overview information about the number of items in the selection and their representation.

#### Link labels

Use the Identity page to display the label of the selected link. Links have only a label, which does not need to be unique. Multiple links between two entities often share a label, for example.

The link label is a textual description of the link which is displayed on the chart.

When viewing a label of a link, you can view: the label of the entity on each end of the link, the number of corners on the connection, and the number of sibling links. A sibling link is another link on the same connection, that is, between the same two entities.

#### Date and time

All items on the chart can have a date, a time, or both. If the item has a date, the **Date** checkbox is selected, and the date value displayed in the box beneath below. If the item has a time, the **Time** checkbox is cleared, and the time value is displayed in the box below.

**Note:** When viewing a selection of items with a date, time, or both, the value in the date or time box is left blank.

An item can have a textual description of when it occurred, rather than (or possibly in addition to) a specific date and time. This description is useful when the date or time is known. A description of when an item occurred, for example "After return to the United States" or "sometime in the afternoon", is used.

An item can have both a date and time description and also an exact date and time, but both cannot be displayed on the chart together.

The date and time of an item is quoted in a specific time zone, Time zones are all relative to Greenwich Mean Time (GMT).

### Identity

All entities have an identity. The identity uniquely identifies the entity on the chart, regardless of how it is displayed. Entities cannot share the same identity.

**Note:** Identities are case-sensitive. "Brian GREEN" and "Brian Green" are both allowed as different identities on the same chart.

The Database Identities area of the Identity page provides the following information about the item:

Database	The class and name of the source database.
Object	The database object type of the entity.
Key	The item's unique identifier. The database key comprises a series of characters which are unique in the database.
Semantic Type	A high-level classification for the database record that can be viewed in <i>Chart Reader</i> .

### Cards

To view a particular card attached to an item, do one of the following steps:

- Select the appropriate card page from the page list.
- Select the card in the cards table and click **Go To**.

### Attributes

Analysis attributes provide useful statistical information about chart items which might help your analysis. For example, they can help you determine which entity has the most links, or which item has the earliest date and time.

## Data records

Data records hold the database values that are associated with a chart item that has one or more database identities. For example, you can view the additional address details for a chart entity that is created from a data source.

You can only view data records for single selection of chart items and not multiple selections.

Each database instance for the chart item is represented by a subfolder. Opening each subfolder displays the individual Data Records pages for the database instance.

A Data Records page represents a single database record identified by a database key. A separate Data Records page is displayed for each database record that exists for the chart item, grouped by database instance. Data Records pages are listed in alphabetical order and display the following read-only information for each record:

Database: Instance	The class and name of the data source.
Object	The database object type of the chart item.
Key	The unique identifiers of an item. The database key comprises a series of characters that are unique within the database.
Semantic Type	The semantic type for the database key; for example Person or Event.

The Properties table lists the individual records for the database key; each line in the table represents a single database record.

Name	The name of the database record.
Value	The actual data for the database record such as text, numbers, Yes or No flags, or a date and time.
Semantic Type	The semantic type for the data record.

You can copy the contents of individual or multiple rows by selecting the required rows and pressing `Ctrl+C`. The row data is copied to the clipboard as text for pasting into another application.

## Showing the properties of a selection

You can view the properties of each chart item in a selection. Select all the items whose properties you want to view.

- To view the selected properties in turn, right-click any selected item, then select **Individual Properties > Each Selected**.
- To view the combined properties of selected items, right-click any selected item, and select **Combined Properties**.

### Note:

In general, the following rules apply to properties with different values or settings:

- If none of the items in the selection have this setting turned on or they are all blank, the setting is shown as being empty.
- If all of the items in the selection have the setting turned on or use the same value, the value is displayed.
- If items have different values, the value is shown as hatched.

## Searching items

Use the Find Text window to find chart items which contain particular text. This tool is useful for analysis. For example, to find all the items that contain a particular street name, or a reference to a certain organization, or a phone number with a specific area code.

You define:

- The text to be searched for (the search pattern)
- The items and which parts of items to search
- The behavior on finding a match

1. Open the Find Text window:

- Click **Find Text**.
  - Select **Edit > Find Text**.
2. Type the text to search for, and the type of search to use.

Option	Description
<b>Complex Searching</b>	You can enhance your search by including regular expressions, or wild card characters. For more information about regular expressions, see <a href="#">Regular expressions</a> on page 14
<b>Find Items Not Matching</b>	Searches for items that do not contain the text.
<b>Search Cards</b>	Search for text in cards. Select the required card options in the Coverage area.

3. Select the Search Area. You can specify:
- Whether to search for text on entities, links, or entities or both.
  - To include hidden chart items in the search select **Reveal Hidden**.
  - To apply the search only to the chart items currently selected, select **Selection Only**.
4. Select the item elements that you want to search in the Coverage area.
5. In the Action area, specify the action you want to perform on the items found:

Edit First	Opens the Item Properties window for the first matching item at the page that contains the search pattern. The text is highlighted. Press the F3 key to find any further matches within this item and then move to the next item. Alternatively, close the Item Properties window and use <b>Find Next Text</b> to find the next matching item.
Select First	Selects the first item found which contains the search pattern. Press the F3 key or use <b>Find Next Text</b> to find the next matching item.
Select All	Selects all the items which contain the search pattern.
Add to Selection	Adds any matching items to the current selection. Only available when items are selected on the chart.
Remove from Selection	Removes any matching items from the current selection. Only available when items are selected on the chart.
Select Sibling Links	Selects all the links between 2 entities when 1 link matches. Only available when <b>Select First</b> or <b>Select All</b> is selected.

## Regular expressions

Regular expressions provide a way to search for a general pattern of text rather than a specific piece of text. For example, you use a regular expression to search for license plates. The search might be based on a partial sighting, that is you know some but not all of the required characters.

A regular expression is written as a sequence of characters. The syntax combines the text for which you are searching with special characters to define the pattern. Unlike a simple search, a regular expression search is case-sensitive.

Chart Reader does not support extended regular expression combinations `()`, `\(\)`, `\>`, `\<`, `\{, \}` and `\digit`.

### Examples

```
^Room [0-9]* Mill Court
```

Matches addresses of any room number in Mill Court, for example Room 4 Mill Court, Room 61 Mill Court but not Room 4a Mill Court.

```
^[0-9][ a-zA-Z]*[^0-9]$
```

Matches text that starts with a digit `^[0-9]`, followed by zero or more upper or lowercase characters `[ a-zA-Z]*` and which do not end with a digit `[^0-9]$`, for example 1aB, 1Ab, 2a.

The special characters you can use in a regular expression are described in the following table:

.	Matches a single character. For example, <code>fre.</code> matches <code>fred</code> and <code>free</code> . This is equivalent to the <code>?</code> character when searching for files by name in Windows Explorer.
^	Matches the start of a line. For example, <code>^free</code> matches <code>free</code> and <code>free-port</code> but not <code>post-free</code> .
\$	Matches the end of a line. For example, <code>free\$</code> matches <code>free</code> and <code>post-free</code> but not <code>free-port</code> .
*	Matches zero, one or more repeats of the previous character. For example <code>xx*</code> matches <code>xx</code> , <code>xxx</code> , <code>xxxx</code> .
[ ]	Matches any character inside the brackets. You can specify a range of characters, for example <code>[0-9]</code> , <code>[ a-z]</code> .
[ ^ ]	Matches any characters except the characters in the list.
	Matches either the expression before the bar OR the expression after the bar. For example, <code>abc\$   def\$</code> matches any text that ends <code>abc</code> or <code>def</code> .
\	Ignores the special meaning of the next character. For example, <code>abc\$   def\$   \   \$</code> matches any text that ends in <code>abc</code> , <code>def</code> or <code> </code> .

## Printing charts

Use the Printer Setup window to select a printer, and set print options.

When selecting a printer, you need to consider:

- The size of paper you want to print on
  - Whether you are printing in color, or black and white
1. Click **Properties** to manage the options for this printer. The Properties window that is displayed depends on the selected printer.
  2. If required, click **Advanced** to set advanced printing options.
  1. Select a printer.

Information about the selected printer is displayed:

Option	Description
<b>Status</b>	Whether the printer is ready.
<b>Type</b>	The make and model of the selected printer.
<b>Where</b>	The network location of the selected printer.
<b>Comment</b>	Further information might have been entered about the selected printer, such as whether it is a color printer or can print double-sided.

2. Click **Properties** to manage the options for this printer. The Properties window that is displayed depends on the selected printer.
3. Optional: Click **Advanced** to set advanced printing options.

## Advanced printer options

Use the Advanced Printer Setup window to override your printer driver settings.

You can specify:

- How icons are printed
- Whether the chart is printed in color or black and white
- How lines on the chart are printed

### Viewing printer information

You can find information about the specifications of the current printer in the Reported Printer Information area. The information states:

- If the printer is color or black and white
- Whether it prints bitmaps or outlines
- Its resolution in dots per inch

### Specifying general printing options

By default, the **Automatic Detection** option is selected, and the printer driver settings are used. You can turn on the following options to override the printer driver settings:

Outline	Prints icons as outlines.
Bitmaps	Prints icons as bitmaps.
Color	Prints charts in color.
Monochrome	Prints charts in black and white.

### Specifying line printing options

Always Draw Thin Lines	Draws all lines with a single stroke of the plotter pen, ignoring their widths as set in the chart.
Always Simulate Dotted Lines	Dotted lines are plotted automatically, rather than relying on the plotter.

### Specifying icon printing options

The Analyst's Notebook chart icon set incorporates transparency so that icons can be used on areas of the chart where the background is not white, for example, in filled event frames and on top of background items. The printing of these icons is complex and on some older computer and printer combinations there might be problems. In particular, the icons might not appear correctly, or printing might be slow. To overcome any such difficulties, two printing options are provided:

Always Simulate Transparent Icons	Uses an alternative, simpler means of printing transparent icons. Try this option if the icons do not appear correctly. Printing is slower using this option.
Use Basic Icon Drawing	Uses a basic means of printing icons. Try this option if the icons do not appear correctly or if printing is too slow. Printing does not include any transparency, icons, therefore, have a white square surround.

### Setting the scale

The page layout for printing takes account of the page size, the page orientation and the margins, borders, and annotations specified elsewhere in the window.

Before you set your scaling settings, you must first consider how many pages you want to fit your chart into, what scale you want to print at, and whether you want to print all or just part of your chart.

- Adjust -

You can automatically adjust the size of the printed chart based on one of the following options:



Best Fit	<p>Fits the chart into as few pages as possible, with a scale between 50% and 100%, to minimize the amount of blank space.</p> <p>Using Best Fit results in the following page setup:</p> <ul style="list-style-type: none"> <li>• For charts that print on one page at a scale of 100%, no change.</li> <li>• For charts that print on two or three pages at a scale of 100%, it reduces the number of pages, and adjusts the scale so.</li> <li>• For charts that print on a grid of 2x2 or more pages at a scale of 100%, it reduces the number of pages, and adjusts the scale so.</li> </ul> <p>A chart that would print on a grid of 2x2 pages at a scale of 100% prints on a single page.</p> <p>A chart that would print on a grid of 4x3 pages at 100% prints on a grid of 3x2 pages.</p>
Fill One Page	<p>This option sets the number of pages to 1x1 and adjusts the scale accordingly, so that the entire chart will be printed on one page. If the chart is smaller than 1x1 page, it is enlarged to fit the page.</p>

- Number of pages - Use these settings to select how many pages you want to fit your chart into.
- Scale - Use this option to specify printing your chart at a specific scale (compared to the actual size).

Specify the scale at which the chart prints. Enter the number in the **Scale** box, or use the up/down arrows to change the value. The default scale is 100%, meaning the chart is printed at the same size as it appears on the screen.

You can then select **Adjust > Pages** to adjust the number of pages required to print all the chart at the scale specified.

## Centering and overlapping options

You can print your chart at the center of the number of pages required to print it.

To print your chart at the center of the number of pages required to print it, select the **Center Chart on Paper** checkbox. It is unlikely that you need to clear it as it is the default setting.

To print an overlap at the edges of adjoining pages, select **Overlap Adjacent Pages**. An area immediately next to each page break on both of the pages is printed. This ensures that when chart items are on a page edge, part of the item is printed on both pages so that you can line up the pages when trimming the edges.

## Setting up the page

Printer margins control the space between the outmost items and the edge of the page.

1. Select **File > Page Setup**
2. Choose the aspect of the page that you would like to modify:

Option	Description
<b>Margins</b>	<p>To set the page margins individually, use the small arrows to scroll up and down the values or type values into the appropriate boxes.</p> <ul style="list-style-type: none"> <li>• Click <b>Minimize</b> to set the margins to be the same size as the printer's own printing margins. As much of the paper, given the limits of the current printer or printer driver, is used. Any values you that are previously set are overwritten.</li> <li>• Click <b>Defaults</b> to set values that are typically slightly larger than the minimum printer margins of the currently selected printer and independent of paper size. The values that you are set previously are overwritten.</li> </ul>
<b>Borders</b>	<p>In the Border area, select one of these three options:</p> <ul style="list-style-type: none"> <li>• None - Prints the chart without a single line on the chart boundary.</li> <li>• Line - Draws a single line on the chart boundary.</li> <li>• Reference Grid - Draws a pair of solid lines on the chart boundary with reference numbers and letters.</li> </ul> <p>You can specify whether to print the background color in the Background Colors area. Select the background color to print:</p> <ul style="list-style-type: none"> <li>• Time Bar Background Color (this color is ignored if there is no time line on the chart)</li> <li>• Chart Background Color</li> </ul> <p><b>Note:</b> Printing background color might lead to large areas of your paper covered in ink, when your background color is non-white. Too much ink might be used which is not desirable.</p>
<b>Annotations</b>	<p>You can add the following annotations on the Annotation page:</p> <p><b>Time bar</b></p> <p>The time bar is only visible on charts created in Analyst's Notebook.</p> <p>By default the time bar is printed only on the pages along the top row of the printed chart. To print the time bar on every printed page, select <b>Every Page</b>.</p>

Option	Description
	<p>You can preview the look of the time bar by clicking <b>Preview Scale</b>. The chart is zoomed in or out to show the time bar at the scale that is used when printing.</p> <p><b>Theme line names</b></p> <p>Prints the name of theme lines along the left edge of the page.</p> <p>By default theme line names are printed only on the pages in the left-most column of the printed chart.</p> <p>To print Theme Line names on every printed page, select <b>Every Page</b>.</p> <p>You can also set the width of the theme line names from a minimum of 0 inches up to 3.8 inches (9.75cm), by either typing the distance in the <b>Width</b> box or clicking on the up and down arrows. Once the width is set, it will be applied to every page where theme line names are to be printed.</p>
<b>Headers and Footers</b>	<p>Use the Header and Footer page to add chart summary and custom property information to chart headers and footers. For example, you can print a page number at the bottom of every page, and a title in the upper left corner of every page.</p>

**Note:** If you change the printer in the Printer Setup window, you need to readjust the settings

## Exporting charts

Charts, items, or cards can be copied from Chart Viewer for use in other applications. When items are copied, they are stored in the clipboard for use in other applications.

Export type	Format	Description
Charts	Bitmap with associated metadata	To copy a chart, ensure that no items are selected before selecting <b>Edit &gt; Copy Chart</b> .
Chart items	Bitmap with associated metadata	To copy a selection of chart items, ensure that the items are selected before selecting <b>Edit &gt; Copy</b> .

Export type	Format	Description
Cards	Text	To copy cards, ensure that the items are selected before selecting <b>Edit &gt; Copy Cards</b> .