Logo CADACOM

**Office**

**Visio® – The Book**

**Daniel DEVEAUX**

[Introduction 3](#_Toc342409980)

[Topic A: About the manual 3](#_Toc342409981)

[Introduction 3](#_Toc342409982)

[Hands-on activities 3](#_Toc342409983)

[Topic B: Setting your expectations 3](#_Toc342409984)

[Course prerequisites 3](#_Toc342409985)

[Course objectives 3](#_Toc342409986)

[Skills inventory 3](#_Toc342409987)

[Topic C: Re-keying the course 3](#_Toc342409988)

[Hardware requirements 3](#_Toc342409989)

[Software requirements 3](#_Toc342409990)

[Network requirements 3](#_Toc342409991)

[Unit 1 - Getting started 3](#_Toc342409992)

[Topic A: The Visio 2010 interface 3](#_Toc342409993)

[Explanation 3](#_Toc342409994)

[The Fluent interface and Ribbon 3](#_Toc342409995)

[*Do it!* A-1: Exploring the Visio 2010 interface 3](#_Toc342409996)

[Do it! A-2: Changing view settings 3](#_Toc342409997)

[Page navigation 3](#_Toc342409998)

[Visio Help 3](#_Toc342409999)

[Topic B: Windows, stencils, and objects 3](#_Toc342410000)

[Docked windows vs. anchored windows 3](#_Toc342410001)

[Floating windows 3](#_Toc342410002)

[Working with stencils 3](#_Toc342410003)

[Changing the stencil display 3](#_Toc342410004)

[Editing objects 3](#_Toc342410005)

[Saving a Visio file 3](#_Toc342410006)

[Scaling and resizing 3](#_Toc342410007)

[Unit 2 Drawing tools 3](#_Toc342410008)

[Topic A: Basic shapes and lines 3](#_Toc342410009)

[Drawing tools 3](#_Toc342410010)

[Page navigation 3](#_Toc342410011)

[Visio Help 3](#_Toc342410012)

[Topic B: Windows, stencils, and objects 3](#_Toc342410013)

[Docked windows vs. anchored windows 3](#_Toc342410014)

[Editing objects 3](#_Toc342410015)

[Moving an object 3](#_Toc342410016)

[Saving a Visio file 3](#_Toc342410017)

[Lines and arcs 3](#_Toc342410018)

[Reshaping an arc 3](#_Toc342410019)

[Topic B: Compound lines 3](#_Toc342410020)

[Freeform lines 3](#_Toc342410021)

[Using the Line and Arc tools to create compound lines 3](#_Toc342410022)

[Topic C: Editing objects 3](#_Toc342410023)

[Duplicating an object 3](#_Toc342410024)

[Maintain alignment when duplicating 3](#_Toc342410025)

[Using the F4 key to duplicate objects 3](#_Toc342410026)

[Object alignment 3](#_Toc342410027)

[Unit 3 - Basic diagrams 3](#_Toc342410028)

[Topic A: Planning a diagram 3](#_Toc342410029)

[Design tips 3](#_Toc342410030)

[Diagram shapes 3](#_Toc342410031)

[Topic B: Creating a basic diagram 3](#_Toc342410032)

[Inserting and connecting shapes 3](#_Toc342410033)

[AutoConnect 3](#_Toc342410034)

[Moving and deleting shapes 3](#_Toc342410035)

[Manually connecting shapes 3](#_Toc342410036)

[Topic C: Working with text 3](#_Toc342410037)

[Text blocks 3](#_Toc342410038)

[Editing text 3](#_Toc342410039)

[Formatting text 3](#_Toc342410040)

[Paragraph text 3](#_Toc342410041)

[Shape text 3](#_Toc342410042)

[Connectors and text 3](#_Toc342410043)

[Manipulating shape text 3](#_Toc342410044)

[Topic D: Organization charts 3](#_Toc342410045)

[Creating organization charts 3](#_Toc342410046)

[Unit summary: Basic diagrams 3](#_Toc342410047)

[Topic A 3](#_Toc342410048)

[Topic B 3](#_Toc342410049)

[Topic C 3](#_Toc342410050)

[Topic D 3](#_Toc342410051)

[Unit 4 - Formatting drawings 3](#_Toc342410052)

[Topic A: Formatting text 3](#_Toc342410053)

[Basic text formatting 3](#_Toc342410054)

[The Text dialog box 3](#_Toc342410055)

[Text block formatting 3](#_Toc342410056)

[Paragraph formatting 3](#_Toc342410057)

[Themes and effects 3](#_Toc342410058)

[Topic B: Formatting shapes and lines 3](#_Toc342410059)

[The Fill, Line, and Shadow tools 3](#_Toc342410060)

[The Shadow dialog box 3](#_Toc342410061)

[The Format Painter 3](#_Toc342410062)

[Unit 5 - Working with pages 3](#_Toc342410063)

[Topic A: File and print properties 3](#_Toc342410064)

[Viewing and setting file properties 3](#_Toc342410065)

[Page and print settings 3](#_Toc342410066)

[Printer paper size 3](#_Toc342410067)

[Print Preview 3](#_Toc342410068)

[Printing 3](#_Toc342410069)

[Topic B: Working with background pages 3](#_Toc342410070)

[Background pages 3](#_Toc342410071)

[Fields 3](#_Toc342410072)

[Page breaks 3](#_Toc342410073)

[Applying background pages to drawing pages 3](#_Toc342410074)

[Editing background pages 3](#_Toc342410075)

[Topic C: Working with links 3](#_Toc342410076)

[Hyperlinks 3](#_Toc342410077)

[Linking to detail pages 3](#_Toc342410078)

[Testing links in Visio 3](#_Toc342410079)

[Link multiple files 3](#_Toc342410080)

[Linking to other file types 3](#_Toc342410081)

[Unit 6 - Network and brainstorming diagrams 3](#_Toc342410082)

[Topic A: Network diagrams 3](#_Toc342410083)

[Network shapes 3](#_Toc342410084)

[Working with connection handles 3](#_Toc342410085)

[Add and connect topology shapes 3](#_Toc342410086)

[Hide extra connection lines 3](#_Toc342410087)

[Move shape text 3](#_Toc342410088)

[Topic B: Rack diagrams 3](#_Toc342410089)

[Creating rack diagrams 3](#_Toc342410090)

[Topic C: Brainstorming diagrams 3](#_Toc342410091)

[Elements of a brainstorming diagram 3](#_Toc342410092)

[The Brainstorming tab 3](#_Toc342410093)

[Creating brainstorming diagrams 3](#_Toc342410094)

[Applying brainstorming data 3](#_Toc342410095)

[Unit 7 - Customization and reporting 3](#_Toc342410096)

[Topic A: Layout and connection techniques 3](#_Toc342410097)

[Guides 3](#_Toc342410098)

[Creating new connection points 3](#_Toc342410099)

[Select objects by Type 3](#_Toc342410100)

[Shape connections 3](#_Toc342410101)

[Snap & Glue 3](#_Toc342410102)

[Topic B: Shape properties 3](#_Toc342410103)

[Define shape properties 3](#_Toc342410104)

[Custom properties 3](#_Toc342410105)

[Applying custom properties 3](#_Toc342410106)

[Topic C: Reporting 3](#_Toc342410107)

[Creating reports 3](#_Toc342410108)

[Running reports 3](#_Toc342410109)

[Report updates 3](#_Toc342410110)

[Modifying a Visio Table Report shape 3](#_Toc342410111)

[Course summary 3](#_Toc342410112)

[Topic A: Course summary 3](#_Toc342410113)

[Unit summaries 3](#_Toc342410114)

[Topic B: Continued learning after class 3](#_Toc342410115)

[Miscellaneous 3](#_Toc342410116)

# Introduction

After reading this introduction, you will know how to:

* Use manual in general.
* Use prerequisites, a target student description, course objectives, and a skills inventory to properly set your expectations for the course.
* Re-key this course after class.

## Topic A: About the manual

### philosophy

Our manuals facilitate your learning by providing structured interaction with the software itself. While we provide text to explain difficult concepts, the hands-on activities are the focus of our courses. By paying close attention as your instructor leads you through these activities, you will learn the skills and concepts effectively.

We believe strongly in the instructor-led class. During class, focus on your instructor. Our manuals are designed and written to facilitate your interaction with your instructor, and not to call attention to manuals themselves.

We believe in the basic approach of setting expectations, delivering instruction, and providing summary and review afterwards. For this reason, lessons begin with objectives and end with summaries. We also provide overall course objectives and a course summary to provide both an introduction to and closure on the entire course.

#### Manual components

The manuals contain these major components:

* Table of contents
* Introduction
* Units
* Course summary
* Glossary
* Index

Each element is described below.

### Introduction

The introduction contains information about our training philosophy and our manual components, features, and conventions. It contains target student, prerequisite, objective, and setup information for the specific course.

#### Units

Units are the largest structural component of the course content. A unit begins with a title page that lists objectives for each major subdivision, or topic, within the unit. Within each topic, conceptual and explanatory information alternates with hands-on activities. Units conclude with a summary comprising one paragraph for each topic, and an independent practice activity that gives you an opportunity to practice the skills you’ve learned.

The conceptual information takes the form of text paragraphs, exhibits, lists, and tables. The activities are structured in two columns, one telling you what to do, the other providing explanations, descriptions, and graphics.

#### Course summary

Introduction **v**

This section provides a text summary of the entire course. It is useful for providing closure at the end of the course. The course summary also indicates the next course in this series, if there is one, and lists additional resources you might find useful as you continue to learn about the software.

#### Glossary

The glossary provides definitions for all of the key terms used in this course. **Index**

The index at the end of this manual makes it easy for you to find information about a particular software component, feature, or concept.

#### Manual conventions

We’ve tried to keep the number of elements and the types of formatting to a minimum in the manuals. This aids in clarity and makes the manuals more classically elegant looking. But there are some conventions and icons you should know about.

**Item Description**

*Italic text* in conceptual text, indicates a new term or feature.

**Bold text** in unit summaries, indicates a key term or concept. In an independent practice activity, indicates an explicit item that you select, choose, or type.

Code font Indicates code or syntax.

Longer strings of ► In the hands-on activities, any code that’s too long to fit

code will look ► on a single line is divided into segments by one or more

like this. continuation characters (►). This code should be

entered as a continuous string of text.

Select **bold item** In the left column of hands-on activities, bold sans-serif

text indicates an explicit item that you select, choose, or type.

Keycaps like **H ENTER)** Indicate a key on the keyboard you must press.

### Hands-on activities

The hands-on activities are the most important parts of our manuals. They are divided into two primary columns. The “Here’s how” column gives short instructions to you about what to do. The “Here’s why” column provides explanations, graphics, and clarifications. Here’s a sample:

#### *Do it!* A-1: Creating a commission formula - Here’s how Here’s why

1 Open Sales This is an oversimplified sales compensation

worksheet. It shows sales totals, commissions, and incentives for five sales reps.

2 Observe the contents of cell F4

The commission rate formulas use the name “C\_Rate” instead of a value for the commission rate.

For these activities, we have provided a collection of data files designed to help you learn each skill in a real-world business context. As you work through the activities, you will modify and update these files. Of course, you might make a mistake and therefore want to re-key the activity starting from scratch. To make it easy to start over, you will rename each data file at the end of the first activity in which the file is modified. Our convention for renaming files is to add the word “My” to the beginning of the file name. In the above activity, for example, a file called “Sales” is being used for the first time. At the end of this activity, you would save the file as “My sales,” thus leaving the “Sales” file unchanged. If you make a mistake, you can start over using the original “Sales” file.

In some activities, however, it might not be practical to rename the data file. If you want to retry one of these activities, ask your instructor for a fresh copy of the original data file.

## Topic B: Setting your expectations

Introduction **vii**

Properly setting your expectations is essential to your success. This topic will help you do that by providing:

* Prerequisites for this course
* A description of the target student
* A list of the objectives for the course
* A skills assessment for the course

### Course prerequisites

Before taking this course, you should be familiar with personal computers and the use of a keyboard and a mouse. Furthermore, this course assumes that you’ve completed the following courses or have equivalent experience:

* Windows 7: Basic, Windows XP: Basic, or Windows Vista: Basic Target student

This course is for students who have little or no Visio experience. You will get the most out of the course if your goal is to become proficient using Visio to create flow diagrams, basic organization charts, and network diagrams.

### Course objectives

These overall course objectives will give you an idea about what to expect from the course. It is also possible that they will help you see that this course is not the right one for you. If you think you either lack the prerequisite knowledge or already know most of the subject matter to be covered, you should let your instructor know that you think you are misplaced in the class.

After completing this course, you will know how to:

* Navigate in a file, change view settings, identify interface components, use Visio Help; work with windows and stencils; and select, scale, and resize objects.
* Draw and reshape objects; work with compound lines; duplicate objects; and align, distribute, group, and rotate objects.
* Plan a flowchart; use master shapes; connect shapes in a diagram; work with text; and create a simple organization chart.
* Format text and text blocks, control attributes including font size, text colour, margins, alignment, and line spacing, apply style themes and effects, and format shapes and lines.
* Set file, page, and print properties; use Print Preview; create print headers and footers; print a drawing; work with background pages; use fields to display information; and create hyperlinks.
* Create network, rack, and brainstorming diagrams, and import and export data.
* Use guides to precisely align and glue shapes, add new connection points to a shape, set properties for shapes, create and apply custom properties, create and run reports, format a report table, and update a report.

### Skills inventory

Use the following form to gauge your skill level entering the class. For each skill listed, rate your familiarity from 1 to 5, with 5 being the most familiar. *This is flot a test*. Rather, it is intended to provide you with an idea of where you’re starting from at the beginning of class. If you’re wholly unfamiliar with all the skills, you might not be ready for the class. If you think you already understand all of the skills, you might need to move on to the next course in the series. In either case, you should let your instructor know as soon as possible.

| **Skill** | **1** | **2** | **3** | **4** | **5** |
| --- | --- | --- | --- | --- | --- |
| Creating a new file |  |  |  |  |  |
| Identifying interface components |  |  |  |  |  |
| Using Visio Help |  |  |  |  |  |
| Navigating in a Visio drawing |  |  |  |  |  |
| Changing View settings |  |  |  |  |  |
| Modifying stencils |  |  |  |  |  |
| Selecting, scaling, and resizing objects |  |  |  |  |  |
| Drawing objects and changing their size |  |  |  |  |  |
| Working with compound lines |  |  |  |  |  |
| Duplicating objects |  |  |  |  |  |
| Aligning, distributing, grouping, and rotating objects |  |  |  |  |  |
| Planning a flowchart |  |  |  |  |  |
| Using master shapes |  |  |  |  |  |
| Connecting shapes in a diagram |  |  |  |  |  |
| Working with text |  |  |  |  |  |
| Creating an organization chart |  |  |  |  |  |
| Formatting text and text blocks |  |  |  |  |  |
| Formatting shapes and lines |  |  |  |  |  |
| Applying style themes and effects |  |  |  |  |  |
| Setting file properties |  |  |  |  |  |
| Creating and applying background pages |  |  |  |  |  |
| Creating hyperlinks |  |  |  |  |  |
| Using Print Preview |  |  |  |  |  |
| Creating print headers and footers |  |  |  |  |  |
| Printing a diagram |  |  |  |  |  |
| Creating network diagrams |  |  |  |  |  |
| Creating rack diagrams |  |  |  |  |  |
| Creating brainstorming diagrams |  |  |  |  |  |
| Importing and exporting XML data |  |  |  |  |  |
| Using guides to precisely align and glue shapes |  |  |  |  |  |
| Creating new connection points |  |  |  |  |  |
| Setting properties for shapes |  |  |  |  |  |
| Creating custom properties |  |  |  |  |  |
| Creating and modifying reports |  |  |  |  |  |

## Topic C: Re-keying the course

If you have the proper hardware and software, you can re-key this course after class. This section explains what you’ll need in order to do so, and how to do it.

### Hardware requirements

Your personal computer should have:

* A keyboard and a mouse
* 500 MHz processor (or higher)
* At least 256 MB RAM
* At least 1.5 GB of available hard disk space
* A CD-ROM or DVD drive
* An SVGA monitor (1024×768 or higher resolution)

### Software requirements

You will also need the following software:

* Windows 7, Windows XP, or Windows Vista, updated with the most recent service packs

1. This course was written using Windows 7. If you use another version of Windows, the screens will look different.

* Microsoft Visio Professional 2010
* Microsoft Excel 2010 or later (If this is not installed, you will not be able to complete activities C-2, C-3, and C-4 in the unit titled “Customization and reporting.”)
* If you are using a version of Windows older than Windows 7, install a printer driver. (An actual printer is not required, but if a printer driver is not installed on older versions of Windows such as XP or Vista, activities A-2 and A-3 in the unit titled “Working with pages” might not work as written.)

### Network requirements

The following network components and connectivity are also required for rekeying this course:

* Internet access, for the following purposes:
  + Downloading the latest critical updates and service packs
  + Downloading the student data files from [www.axzopress.com](http://www.axzopress.com) (if necessary)
* Setup instructions to re-key the course
* Before you re-key the course, you will need to perform the following steps.

1. Use Windows Update to install all available critical updates and service packs.
2. If using a flat panel display, we recommend using the panel’s native resolution   
   for best results. Colour depth/quality should be set to High (24 bit) or higher.

Please note that your display settings or resolution may differ from the author’s, and so your screens might not exactly match the screen shots in this manual.

1. If necessary, reset any Visio defaults that you have changed. If you do not wish to reset the defaults, you can still re-key the course, but some activities might not work exactly as documented.
2. If you have the data disc that came with this manual, locate the Student Data folder on it and copy it to the desktop of your computer.

#### If you don’t have the data disc, you can download the student data files for the course:

1. Connect to [www.axzopress.com](http://www.axzopress.com).
2. Under Downloads, click Instructor-Led Training.
3. Browse the subject categories to locate your course. Then click the course title to display a list of available downloads. (You can also access these downloads through our Catalogue listings.)
4. Click the link(s) for downloading the student data files.
5. Create a folder named Student Data on the desktop of your computer.
6. Double-click the downloaded zip file(s) and drag the contents into the Student Data folder.

# Unit 1 - Getting started

Complete this unit and you’ll know how to:

1. Identify components of the Visio 2010 interface, navigate a Visio drawing, and get help using Visio.
2. Manipulate windows and stencils, and select, scale, and resize objects.

## Topic A: The Visio 2010 interface

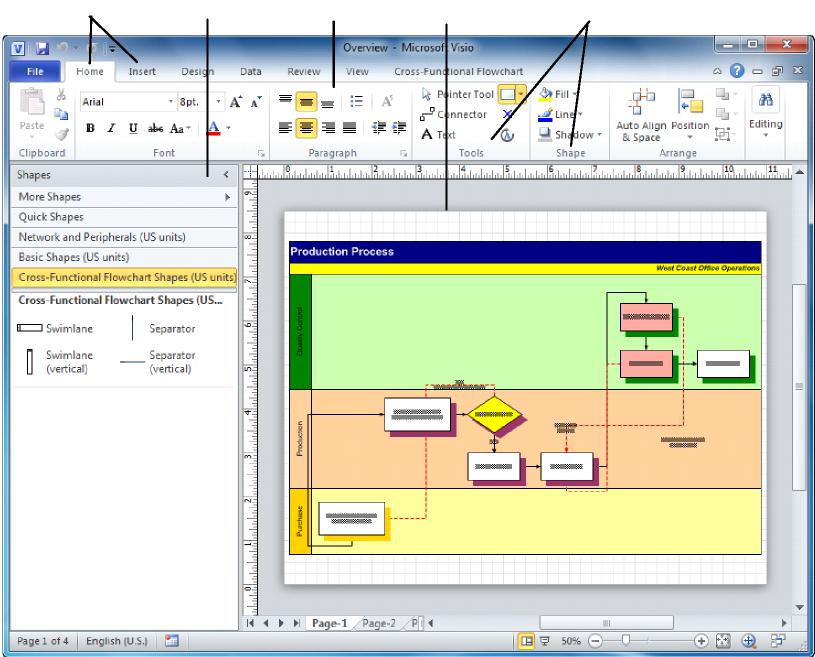
### Explanation

With Visio 2010, you can create a variety of complex diagrams that are dynamic and data-driven. For example, you can create organizational charts, floor plans, circuit diagrams, network diagrams, and Web site maps, to name just a few. After you create a diagram in Visio, you can use it in other Office applications, such as Word, Excel, and PowerPoint. Before you begin creating graphics in Visio, you should become familiar with the Visio interface and tools.

### The Fluent interface and Ribbon

Visio 2010 uses Microsoft’s “Fluent interface,” which makes it faster and easier for you to find the commands you need. The *Ribbon* is the main feature of the interface and shows the most frequently used commands rather than hiding them inside menus.

When you click a Ribbon tab (such as Home, Insert, or Design), the Ribbon displays separate groups of related commands. For example, Exhibit 1-1 points to the Tools and Shape groups on the Home tab. Some tools are buttons you click to take an immediate action, while others expand to display menus, lists, or galleries with more options. (A *gallery* is a collection of style options represented graphically to provide a simple preview.) While most of Visio’s interface components are unique to Visio, several features and commands are common to all Microsoft Office 2010 applications.



Ribbon tabs Shapes window Ribbon Drawing window Ribbon groups

Exhibit 1-1: The Visio 2010 interface

**Components of the interface**

The Visio workspace is divided into two main sections, the Shapes window and the Drawing area or “page.” The elements of the workspace are described in the following table.

|  |  |
| --- | --- |
| **Item** | **Description** |
| Ribbon | Contains Visio’s tools and commands, which are organized in logical groups and divided across separate tabs, which change based on the current file or template in use |
| Ribbon tabs | Each tab displays groups of related commands. Visio’s main Ribbon tabs are File, Home, Insert, Design, Data, Review, and View. Some Ribbon tabs are contextual— they appear only if the object they control is inserted or selected. |
| Ribbon groups | Commands on each Ribbon tab are organized logically in groups. For example, commands for formatting text are arranged together in the Font and Paragraph groups on the Home tab |

Shapes window displays the stencils associated with the current file or template. Stencils are collections of related shapes. Each stencil is specialized for a specific type of drawing. You can open multiple stencils with each drawing.

|  |  |
| --- | --- |
| Drawing window | The area of the interface that displays the page you’re working on. The top and left sides of the Drawing window show rulers that display measurement units to help you precisely position objects in a drawing. Rulers also provide access to guides that help you align objects and shapes while drawing. Page tabs at the bottom of the Drawing window allow you to switch between pages in a multi-page drawing. To switch to a different page, click one of the tabs. You can also use the navigation buttons to the left to scroll page tabs. |

1. DD : You are not able to select more than 1 tab at each.

Visio also incorporates standard Office application components such as the title bar, which displays the name of the current document at the top of the window, and the status bar, which is located at the bottom of the application window and displays the page number, View commands, and the Zoom controls.

#### Minimizing the ribbon

While the Ribbon makes it easy to access frequently used commands, it also takes up a lot of space on the screen. You might prefer to minimize the Ribbon at times to have more screen space in which to work. You can minimize the Ribbon either by clicking the Minimize the Ribbon button or by double-clicking the active tab. The Minimize the Ribbon button is the caret-shaped button at the right end of the Ribbon.

When the Ribbon is minimized, you can click a tab to temporarily show it to access a command. The Ribbon will be displayed until you click a command or click elsewhere in the window. Then it will be hidden again. To expand the Ribbon and keep it expanded, click the Expand the Ribbon button (the downward-pointing caret) or double-click a tab.

#### The Quick Access toolbar

The *Quick Access toolbar*, provides a convenient location for frequently used commands. By default, the Save, Undo, and Repeat/Redo commands are available. You can personalize the Quick Access toolbar by adding commands that you use frequently. The Quick Access toolbar is located above the Ribbon by default, but you can display it below the Ribbon. To do so, click the arrow on the right side of the toolbar and choose Show Below the Ribbon from the Quick Access Toolbar menu.

Quick Access Dialog box

2. toolbar launchers

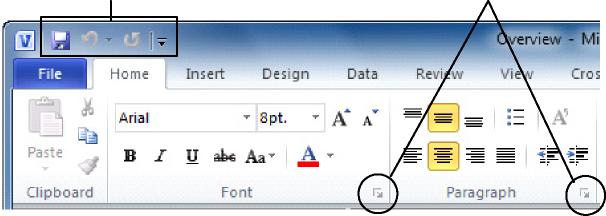


Exhibit 1-2: Additional interface components **Dialog box launchers**

In some Ribbon groups there are more commands and settings than can be displayed on the Ribbon. Dialog boxes are available to display more options when necessary. To open a dialog box, click the dialog box launcher in the lower-right corner of a Ribbon group, as shown in Exhibit 1-2. In this example, the launchers in both groups open the Text dialog box, with either the Font tab or Paragraph tab active by default.

#### The Backstage view

The “Backstage view” displays commonly used file-management commands, such as Open, Save As, and Print. This is where you manage your documents and related data. To open the Backstage view, click the File tab. In Backstage view, you can also create a file or see a list of recently opened files, manage information about a file, such as permissions and properties, and change application settings.

#### Visio file types

There are three types of Visio files:

* drawings (.vsd files),
* stencils (.vss files)
* templates (.vst files).

Templates contain the associated stencils, page layout, and styles used to format shapes, text, and other drawing objects. You can use one of Visio’s built-in templates, or you can create your own.

By default, the Open dialog box displays only Visio drawing files. To select a different file type, use the File types list, which includes all Visio file types as well as file types from some other applications. When you import a drawing from another application, the file is converted to Visio format.

### *Do it!* A-1: Exploring the Visio 2010 interface

|  |  |
| --- | --- |
| Here’s how | Here’s why |
| 1 Click **Start** | (The Start button.) To display the Start menu. |
| Choose **All Programs, Microsoft Office**, M**icrosoft Visio 2010** | To start Visio. |
| 2 Locate the File tab | The blue File tab is active by default. This displays the Backstage view, which provides options for creating new files and managing documents. |
| 3 Click **Open** | The Open dialog box appears. |
| Navigate to the current topic folder |  |
| Select **Overview.vsd** |  |
| Click **Open** | To open the file. |
| 4 Locate the title bar | The title bar shows the name of the open file and the application name. |
| 5 Locate the Quick Access toolbar | This area of the interface provides a convenient location for the most frequently used commands. You can customize the commands that appear on the Quick Access toolbar. |
| 6 Locate the Ribbon | The Ribbon is divided into tabs. When you open a file, the Home tab is active by default. |
| 7 Locate the Shapes window | (The left pane.) This area displays the stencils associated with the current file or template. Stencils are collections of related shapes. |
| 8 Observe the Home tab | The Home tab is divided into groups: the Clipboard, Font, Paragraph, Tools, Shape, Arrange, and Editing groups. Each group contains related commands and menus. |
| 9 Click the **Insert** tab |  |
| In the Illustrations group, point as shown | To display its command groups on the Ribbon.    After a few moments, a ScreenTip appears, describing the functionality of the Picture button. You can point to any command to view information about that command. |
| 10 Locate the Drawing window | This area displays the pages that you’ll create and edit. By default, a grid is visible on empty areas of the page. You can use the grid to help you place objects precisely. |
| Locate the rulers | (On the top and left sides of the Drawing window.) The rulers can help you to line up and arrange objects precisely. |
| 11 Click the Design tab | To view the design-related commands and options. |
| 12 In the Page Setup group, click | (The dialog box launcher is in the lower-right click corner of the Page Setup command group.) To open the Page Setup dialog box. You can use dialog boxes to access additional options. |
| Click Cancel | To close the dialog box. |
| 13 At the right end of the Ribbon, click | To minimize the Ribbon, giving you more space to work with your diagrams. |
| 14 Click | To expand the Ribbon. |
| 15 Double-click the Design tab | To minimize the Ribbon. |
| 16 Click the Insert tab | To temporarily expand the Ribbon. |
| Click an empty area on the page | The Ribbon is minimized again. Clicking a tab once does not return the Ribbon to its default state. |
| 17 Double-click the Home tab | To expand the Ribbon. Click an empty area on the page The Ribbon is not minimized—double-clicking a tab when the Ribbon is minimized returns the Ribbon to its default state. |

Visio is a vector-based illustration tool. *Vector images* are composed of mathematically computed lines, resulting in sharp images that are not resolution-dependent (as bitmap images are). *Bitmap images* are composed of dots called *pixels*, the smallest unit of colour that a monitor can display. The number of pixels per square inch determines the *resolution*, or fineness of detail*.* The more pixels per inch an image has, the greater its resolution. High-resolution images are sharp but can result in large files. Although Visio is a vector-based application, you can include bitmap images, such as photographs, in your illustrations.

#### Shapes, stencils, and styles

The basic drawing object in a Visio file is a shape. Shapes are grouped together on *stencils*. Stencils hold the basic *master shapes*, or building blocks, used for specific types of drawings. Stencils are designated by the type of drawing they’re best suited for. For example, for flowchart diagramming, you use the flowchart stencil.

In addition, you can use drawing tools to create basic objects such as lines and boxes. By drawing and editing basic shapes, you can create different elements that you can combine with other objects to create complex drawings.

By modifying object attributes, called *styles*, you can produce a variety of design features and effects. For example, you can apply colours, shadows, fill patterns, line properties, and many other formats.

#### Navigation and viewing tools

As you work, you’ll likely need to open or close certain windows, or zoom in and out of certain areas of a drawing to see things more clearly. Visio provides several tools that you can use to view and navigate a drawing.

##### The View tab

You can quickly change view settings by using the commands and options on the View tab. For example, you can show or hide various elements of the work area, enable or disable visual aids, and zoom in and out of a particular region.

##### Zooming

While working on a drawing, you might want to zoom in to see certain areas more clearly. One way to zoom in and out is to use the Zoom dialog box. On the View tab, click the Zoom button to open the Zoom dialog box, which contains several magnification levels to choose from, as shown in Exhibit 1-3. You can also select Percentage and then enter your own zoom level. Another way to open the Zoom dialog box is to click the percentage value on the right side of the status bar.

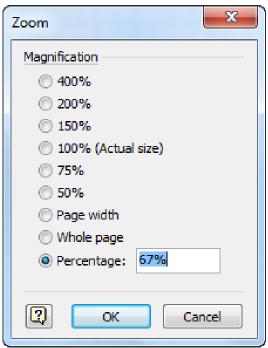


Exhibit 1-3: The Zoom dialog box **Zooming with the keyboard**

You can also zoom in and out of drawings quickly by using combined keyboard commands and mouse clicks. To zoom in, press Ctrl+Shift and click the drawing. To zoom out, press Ctrl+Shift and right-click the drawing.

##### The Zoom slider

Another option for adjusting the display magnification is the Zoom slider, shown in Exhibit 1-4. The Zoom slider is located on the right side of the status bar, at the bottom of the Visio window. You can click the minus sign to zoom out or the plus sign to zoom in. Or, you can drag the slider to the left or right to set the desired zoom level. The current zoom level is displayed to the left of the Zoom slider.

Zoom level Zoom slider Pan & Zoom



*Exhibit 1-4: The Zoom slider* **Pan & Zoom**

You can also use the Pan & Zoom tool to navigate a drawing. When you click the Pan & Zoom Window button, shown in Exhibit 1-4, a small window opens, showing a thumbnail of the current drawing. A red box represents the area on the drawing currently in view in the Drawing window. You can click anywhere on the thumbnail to move the focus to that region, or drag from inside the red box to move the focus. This is called *panning.* You can also use the keyboard arrow keys to control panning in the Pan & Zoom window.

You can drag on the thumbnail to define a new panning region (red box). To close the Pan & Zoom window, click the X in the lower-right corner of the Pan & Zoom window.

### Do it! A-2: Changing view settings

|  |  |
| --- | --- |
| **Here’s how** | **Here’s why** |
| Click the **View** tab | To display the View commands and options. |
| In the Show group, uncheck **Ruler** | To turn off the rulers. The rulers can help you to arrange items precisely. |
| Uncheck **Grid** | To turn off the grid display on empty areas of the page. The grid is another visual aid to help to you place and arrange items precisely. |
| 2 Turn the ruler and grid back on |  |
| 3 Click **Zoom** | To open the Zoom dialog box. |
| Select **100%** and click **<OK>** |  |
|  | To view the page at actual size. |
| 4 In the status bar, click **100%** | To open the Zoom dialog box again. (The status bar displays the current zoom level.) |
| Select **Percentage** | You’ll specify a magnification value that is not a default option in the list. |
| Type **67** and press Enter | To set the zoom level to 67%. |
| 5 Press and hold Ctrl + Shift | The mouse pointer changes to a magnifying glass with a plus sign in the middle. |
| Click the yellow diamond shape three times | (While continuing to hold Ctrl+Shift.) To zoom in on the diamond shape. |
| What is the current zoom level? |  |
| 6 Press and hold Control + shift |  |
| Using the right mouse button, drag the pointer across the page | (While continuing to hold Ctrl+Shift and the right mouse button.) The pointer changes to a small hand and drags the page around the drawing area. You might prefer this method to using the horizontal and vertical scroll bars. |
| 7 Right-click an area of the page  Release [CTRL) + [SHIFT) | (While continuing to hold Ctrl+Shift.) To zoom three times out. |
| 8 On the Status bar, click a few times | To zoom out. |
| 9 Drag the slider to the right, as shown | To zoom in |
| 10 On the status bar, click | (The Pan & Zoom Window button.) The Pan & Zoom window opens in the lower-right corner. A red rectangle shows the area currently visible in the Drawing window. |
| From inside the red box, drag to another location in the thumbnail | To pan to that region of the drawing. |
| Click any shape in the thumbnail outside of the red box The red box moves to that location, bringing the shape into view in the Drawing window. |  |
| 11 Close the Pan & Zoom window | Click the “X” in the lower-right corner. |
| 12 Click | (To the right of the Zoom slider.) To fit the page into the current window size. |

### Page navigation

Getting started **1**–**11**

Drawings may contain more than one page. To navigate through a multi-page drawing, click the page tabs at the bottom of the Drawing window. You can also cycle through drawing pages by pressing Ctrl+Page Up and Ctrl+Page Down.

If your file contains many pages, some of the page tabs might be hidden, and you’ll need to scroll to view them. You can navigate page tabs by using the controls on the left side, shown in Exhibit 1-5. Using these controls brings only page tabs into view, not actual drawing pages.

Page tab Page tabs

controls

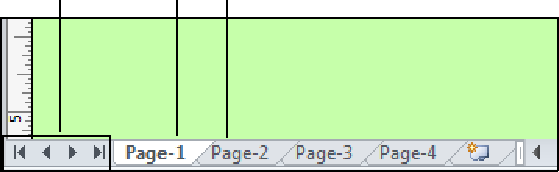


Exhibit 1-5: Page tabs and controls

#### Renaming pages

By default, pages are numbered (Page-1, Page-2, Page-3, etc.), but you can rename them more descriptively. Renaming pages is useful if the drawing has many pages, because you can locate the exact chart or diagram you want based on the page title instead of cycling through to find the one you want.

To rename a page, double-click the page tab, type the new name, and press Enter. Or, you can right-click the page tab, choose Rename from the menu, type the new name, and press Enter.

### Visio Help

As you begin to work with Visio on your own, you’ll likely encounter windows or stencil objects that you aren’t familiar with. Visio provides a comprehensive Help system to support you as you work. There are several ways you can get information about Visio components and techniques.

#### The Help window

The Visio Help window, shown in Exhibit 1-6, provides assistance and information on practically all Visio-related topics. You can use it to search for specific content by using keywords or by selecting from a list of topics in the table of contents.

To open the Visio Help window, click the question-mark icon in the upper-right corner of the Visio window, or press F1. You can also open the Help window by clicking the “More...” links in the ScreenTips.

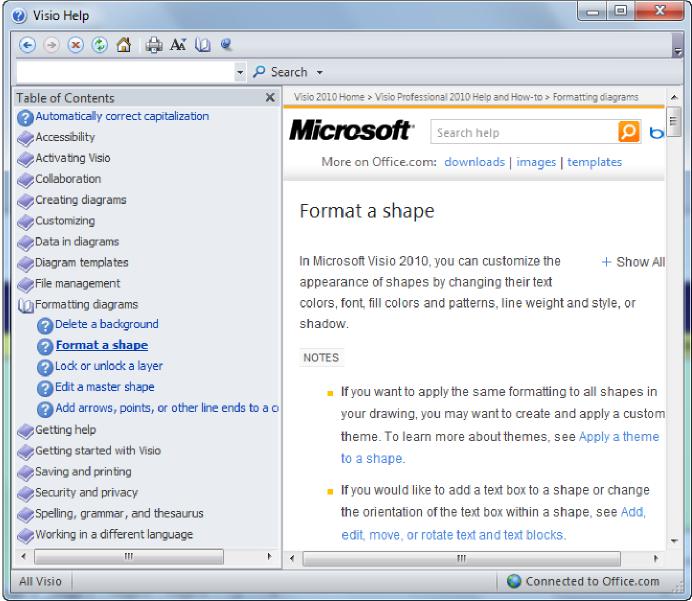


Exhibit 1-6: The Visio Help window with an expanded table of contents **ScreenTips**

ScreenTips are another way you can get more information about components of the Visio environment. As shown in Exhibit 1-7, ScreenTips appear when you point to Ribbon tools or stencil shapes.

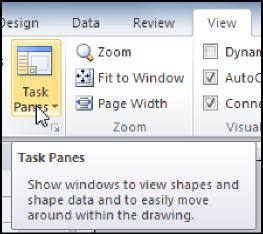


Exhibit 1-7: An example of a ScreenTip

Getting started **1**–**13**

## Topic B: Windows, stencils, and objects

As you work on a diagram, you might want to change the default layout of the Shapes window or individual stencils. You can customize many items of the workspace to suit your preferences.

### Docked windows vs. anchored windows

You can either dock windows or anchor them. A *docked* window is attached to the left or right side of the application window, and it stretches across the entire height of the screen, regardless of its content. The default position of the Shapes window is an example of a docked window.

To dock a window, drag it to the left or right side of the application window until it snaps into place.

An *anchored* window is attached to an edge of the Drawing window, and you can manually change its width and height. You can also temporarily hide or expand anchored windows by clicking the Auto Hide button. With Auto Hide activated, the window’s contents are shown only when you point to the window. When you point outside the window, it collapses automatically.

To anchor a window, slowly drag from its title bar toward an edge of the Drawing window until it snaps into place.

### Floating windows (Try with shapes only)

A floating window is neither docked nor anchored, but floats independently wherever you want it on screen. For example, Exhibit 1-8 shows the Basic Shapes stencil as a floating window. You can manually resize a floating window by pointing to any of its four edges and then dragging.

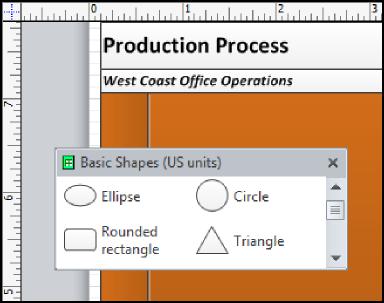
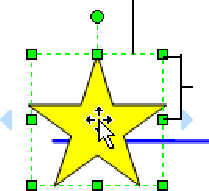


Exhibit 1-8: A floating stencil window

To float a docked or anchored window, drag its title bar toward the centre of the Drawing window. You can also right-click the title bar and choose Float Window. After you have floated a window, you can drag it anywhere in the work area. However, if you drag too close to an edge of the work area, the window will automatically snap to that edge and will be either anchored or docked. You can prevent this by holding down the Ctrl key as you drag. To dock a floating window, right-click its title bar and choose Dock Window.

### Working with stencils

Getting started **1**–**15**

Show the stencils place and numbers of !(Find \*.VSS) 

Close manually a stencil

Reopen-it manually

Saving a document with personal stencil

[C:\Program Files (x86)\Microsoft Office\Office14\Visio Content\1033](file:///C:\Program%20Files%20(x86)\Microsoft%20Office\Office14\Visio%20Content\1033)

When you create a drawing based on a template, only the stencils associated with the template are shown by default. You can open new stencils by choosing them from the More Shapes menu. By default, open stencils are grouped together in the Shapes window, and only one set of stencil shapes is visible at a time. To switch stencils, click the title bar of the stencil you want to view. To close a stencil, right-click its title bar and choose Close.

You can arrange stencil windows using the same techniques mentioned earlier, except there’s no Dock Window command. To dock a floating stencil, drag it onto the Shapes window.

### Changing the stencil display

You can view additional information on individual stencil shapes by right-clicking a stencil’s title bar and choosing an option from the View submenu. The options are Icons and Names (the default option), Names Under Icons, Icons Only, Names Only, and Icons and Details.

### Editing objects

In Visio, *object*s are shapes, connector lines, or any other items in a drawing. You need to select objects before you can change them. For example, after you select an object or group of objects, you can move or resize them.

#### Selection methods

To select an object, first verify that the Pointer tool is selected and then click the object you want to select. (The Pointer tool is on the Home tab, in the Tools group.) When you select an object, a *selection box* appears around it, as shown in Exhibit 1-9. The selection box has eight *selection handles.* You can use the handles to resize or rotate the object.

Selection box - Selection handles



1. *Exhibit 1-9: A selected object*

At times you’ll need to select more than one object. For example, you might want to move objects simultaneously or change their colour. Instead of selecting and changing each object individually, you can select them all and make your changes to all of them at the same time.

You can select multiple objects by:

* Holding the Shift key as you click the objects
* Dragging a marquee around the objects

You can also use the options in the Select menu, in the Editing group on the Home tab.

* Click Select and choose Select All. This selects all objects on the page.
* Click Select and choose Select by Type. Then select the desired options and click OK.
* Click Select and choose Lasso Select. Then draw a freeform shape around the objects.

#### Moving an object Alone + Shift !

After you select one or more objects, you can drag them to a new location in the drawing. When you want to move an object, remember to point to the middle of the object. Otherwise, if the pointer gets too close to a selection handle, you might accidentally resize the object instead of moving it. If you inadvertently resize or move an object, press Ctrl+Z to undo the change, or click the Undo button on the Quick Access toolbar.

### Saving a Visio file

Getting started **1**–**19**

You should save your work regularly. To save a file, you have two options: Save and Save As. When you use the Save command, Visio updates the open file with its current name in its current location. You can use the Save button on the Quick Access toolbar or press Ctrl+S.

Use the Save As command to save the active file with a different name and/or in a different location. (This creates a copy of the file, unless you’re saving it for the first time.) If you’re working on a new drawing that has never been saved, you’ll automatically be prompted to provide a name and location for the file in the Save As dialog box.

### Scaling and resizing

You can scale and resize an object by dragging its selection handles. *Scaling* maintainsthe height‑to-width proportions, while *resizing* changes the size without maintaining the proportions.

#### Scaling an object

To scale an object, select it and point to any corner selection handle until the pointer changes to a double-headed arrow. Then, drag away from the object to increase the size proportionally, or drag toward the centre of the object to decrease the size proportionally.

Use corner handles to scale objects

Use centre handles to resize objects

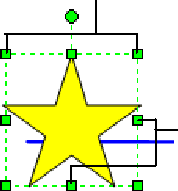
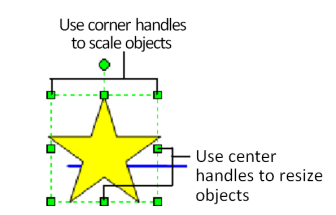


Exhibit 1-10: Scaling and resizing an object **Resizing an object**

Use the centre selection handles to resize an object without maintaining its proportions. This is useful if you want to stretch an object or otherwise change one of its proportions. To resize an object, point to any of the centre selection handles and drag.

You can also maintain an object’s proportions by holding down the Shift key and dragging a centre selection handle.

# **Unit 2** Drawing tools

Complete this unit, and you’ll know how to:

* Draw and manipulate shapes.
* Work with compound lines and use several methods to duplicate objects.
* Align, distribute, group, and rotate objects.

## Topic A: Basic shapes and lines

If the stencils don’t provide all the shapes you need, you can draw your own. Visio provides several tools for drawing shapes and lines.

### Drawing tools

To draw your own shapes, you use the Drawing tools, located in the Tools group on the Home tab. The drawing tools are described in the following table.

|  |  |
| --- | --- |
| **Tool** | **Button Use it to...** |
| Line | Create single-segmented lines. |
| Arc | Create simple arcs. |
| Rectangle | Draw rectangles and squares. Hold the Shift key while using this tool to create a square. |
| Ellipse | Create ovals and circles. Hold the Shift key while using this tool to create a circle |
| Pencil | Draw lines and arcs without changing tools, and reshape other objects. |
| Freeform | Create multi-segmented curved lines. |

To create basic shapes, select the Rectangle, Ellipse, Arc, or Line tool, and then drag on the drawing area. An example is shown in Exhibit 2-1.

|  |  |  |
| --- | --- | --- |
| Starting point |  | Drag to create the shape. |

Exhibit 2-1: Using a drawing tool to create a basic shape

### Page navigation

Drawings may contain more than one page. To navigate through a multi-page drawing,

Click the page tabs at the bottom of the Drawing window. You can also cycle through drawing pages by pressing Ctrl+Page Up and Ctrl+Page Down.

If your file contains many pages, some of the page tabs might be hidden, and you’ll need to scroll to view them. You can navigate page tabs by using the controls on the left side, shown in Exhibit 1-5. Using these controls brings only page tabs into view, not actual drawing pages.

Page tab Page tabs

controls

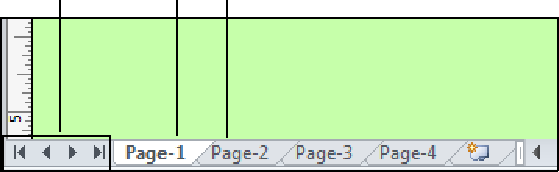


Exhibit 1-5: Page tabs and controls **Renaming pages**

By default, pages are numbered (Page-1, Page-2, Page-3, etc.), but you can rename them more descriptively. Renaming pages is useful if the drawing has many pages, because you can locate the exact chart or diagram you want based on the page title instead of cycling through to find the one you want.

To rename a page, double-click the page tab, type the new name, and press Enter. Or, you can right-click the page tab, choose Rename from the menu, type the new name, and press Enter.

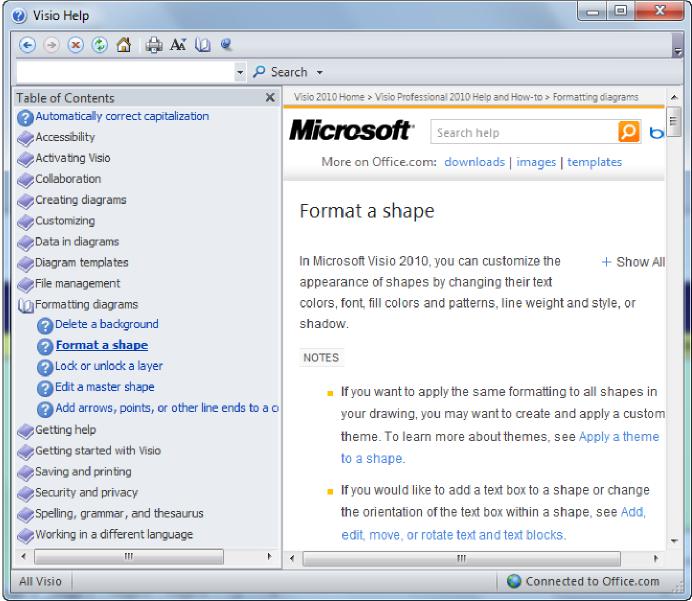
### Visio Help

As you begin to work with Visio on your own, you’ll likely encounter windows or stencil objects that you aren’t familiar with. Visio provides a comprehensive Help system to support you as you work. There are several ways you can get information about Visio components and techniques.

#### The Help window

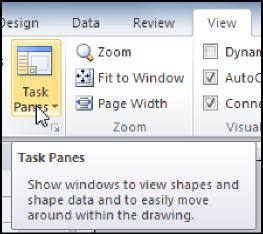
The Visio Help window, shown in Exhibit 1-6, provides assistance and information on practically all Visio-related topics. You can use it to search for specific content by using keywords or by selecting from a list of topics in the table of contents.

To open the Visio Help window, click the question-mark icon in the upper-right corner of the Visio window, or press F1. You can also open the Help window by clicking the “More...” links in the ScreenTips.



*Exhibit 1-6: The Visio Help window with an expanded table of contents* **ScreenTips**

ScreenTips are another way you can get more information about components of the Visio environment. As shown in Exhibit 1-7, ScreenTips appear when you point to Ribbon tools or stencil shapes.



*Exhibit 1-7: An example of a ScreenTip*

Getting started **1**–**13**

## Topic B: Windows, stencils, and objects

As you work on a diagram, you might want to change the default layout of the Shapes window or individual stencils. You can customize many items of the workspace to suit your preferences.

### Docked windows vs. anchored windows

You can either dock windows or anchor them. A *docked* window is attached to the left or right side of the application window, and it stretches across the entire height of the screen, regardless of its content. The default position of the Shapes window is an example of a docked window.

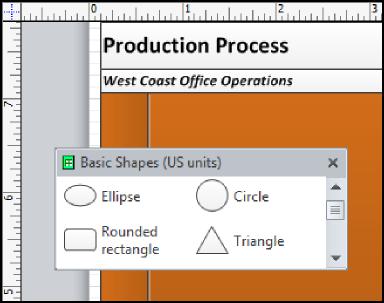
To dock a window, drag it to the left or right side of the application window until it snaps into place.

An *anchored* window is attached to an edge of the Drawing window, and you can manually change its width and height. You can also temporarily hide or expand anchored windows by clicking the Auto Hide button. With Auto Hide activated, the window’s contents are shown only when you point to the window. When you point outside the window, it collapses automatically.

To anchor a window, slowly drag from its title bar toward an edge of the Drawing window until it snaps into place.

#### Floating windows

A floating window is neither docked nor anchored, but floats independently wherever you want it on screen. For example, Exhibit 1-8 shows the Basic Shapes stencil as a floating window. You can manually resize a floating window by pointing to any of its four edges and then dragging.



*Exhibit 1-8: A floating stencil window*

To float a docked or anchored window, drag its title bar toward the centre of the Drawing window. You can also right-click the title bar and choose Float Window. After you have floated a window, you can drag it anywhere in the work area. However, if you drag too close to an edge of the work area, the window will automatically snap to that edge and will be either anchored or docked. You can prevent this by holding down the Ctrl key as you drag. To dock a floating window, right-click its title bar and choose Dock Window.

#### Working with stencils

When you create a drawing based on a template, only the stencils associated with the template are shown by default. You can open new stencils by choosing them from the More Shapes menu. By default, open stencils are grouped together in the Shapes window, and only one set of stencil shapes is visible at a time. To switch stencils, click the title bar of the stencil you want to view. To close a stencil, right-click its title bar and choose Close.

You can arrange stencil windows using the same techniques mentioned earlier, except there’s no Dock Window command. To dock a floating stencil, drag it onto the Shapes window.

#### Changing the stencil display

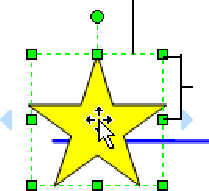
You can view additional information on individual stencil shapes by right-clicking a stencil’s title bar and choosing an option from the View submenu. The options are Icons and Names (the default option), Names Under Icons, Icons Only, Names Only, and Icons and Details.

### Editing objects

In Visio, *object*s are shapes, connector lines, or any other items in a drawing. You need to select objects before you can change them. For example, after you select an object or group of objects, you can move or resize them.

#### Selection methods

To select an object, first verify that the Pointer tool is selected and then click the object you want to select. (The Pointer tool is on the Home tab, in the Tools group.) When you select an object, a *selection box* appears around it, as shown in Exhibit 1-9. The selection box has eight *selection handles.* You can use the handles to resize or rotate the object.

Selection box

Selection handles

*Exhibit 1-9: A selected object*

At times you’ll need to select more than one object. For example, you might want to move objects simultaneously or change their colour. Instead of selecting and changing each object individually, you can select them all and make your changes to all of them at the same time.

You can select multiple objects by:

* Holding the Shift key as you click the objects
* Dragging a marquee around the objects
* You can also use the options in the Select menu, in the Editing group on the Home tab. Click Select and choose
  + Select All. This selects all objects on the page.
  + Click Select and choose Select by Type. Then select the desired options and click OK.
  + Click Select and choose Lasso Select. Then draw a freeform shape around the objects.

### Moving an object

After you select one or more objects, you can drag them to a new location in the drawing. When you want to move an object, remember to point to the middle of the object. Otherwise, if the pointer gets too close to a selection handle, you might accidentally resize the object instead of moving it. If you inadvertently resize or move an object, press Ctrl+Z to undo the change, or click the Undo button on the Quick Access toolbar.

### Saving a Visio file

Getting started **1**–**19**

You should save your work regularly. To save a file, you have two options: Save and Save As. When you use the Save command, Visio updates the open file with its current name in its current location. You can use the Save button on the Quick Access toolbar or press Ctrl+S.

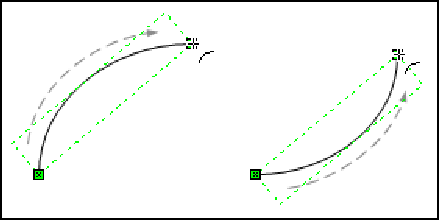
Use the Save As command to save the active file with a different name and/or in a different location. (This creates a copy of the file, unless you’re saving it for the first time.) If you’re working on a new drawing that has never been saved, you’ll automatically be prompted to provide a name and location for the file in the Save As dialog box.

### Lines and arcs

Drawing tools **2**–**5**

You can create and edit lines and arcs by using the Line and Arc tools. To draw straight lines, select the Line tool and drag on the page. By default, Visio is configured to snap lines to 45-degree increments. When the line is at a 45-degree angle, a grey guideline appears and extends across the page. To constrain lines to 45-degree increments *only*, press and hold the Shift key as you drag.

You can draw curved lines with the Arc tool. The direction of the arc depends on the direction you drag, as illustrated in Exhibit 2-2. For example, if you drag up and to the right, the arc will bend up and to the right. If you drag slightly down, and then up and to the right, the arc will bend in the opposite direction.



*Exhibit 2-2: Drawing curved lines with the Arc tool*

### Reshaping an arc

You can fine-tune an arc by reshaping and rotating it. If you select an arc with the Pointer tool, a control handle appears in the middle of the arc, in addition to endpoints at both ends. To change the curve of the arc, drag the centre control handle, as shown in Exhibit 2-3.

Drag the centre control handle to reshape the arc’s curve

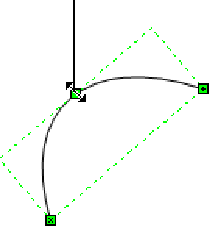


Exhibit 2-3: Reshaping an arc **Reshaping with the Pencil tool**

You can also reshape arcs by using the Pencil tool. When you select the Pencil tool, the control handle in the centre of the arc changes from a square to a circle, and eccentricity handles extend from it, as shown in Exhibit 2-4. You can drag the eccentricity handles to reshape the arc’s curve.

Eccentricity handles

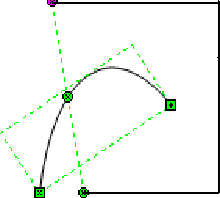


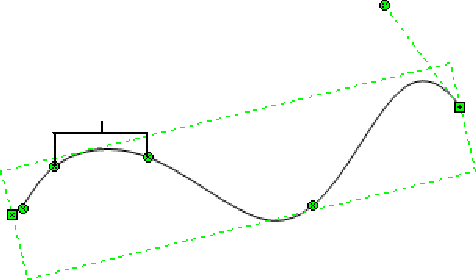
Exhibit 2-4: Adjusting an arc with the Pencil tool

## Topic B: Compound lines

Simple lines consist of a single line segment. Compound lines consist of multiple line segments. You can create two types of compound lines in Visio. You can create a freeform line with the Freeform tool, or you can connect line segments by using the Line, Arc, and Pencil tools.

### Freeform lines

If you want to create a free-flowing compound line, use the Freeform tool. This tool creates exactly what you draw as you drag the pointer, similar to the way you draw with a pencil and paper. When you drag with the tool, Visio automatically creates multiple control points as needed to shape the curves, as shown in Exhibit 2-5.

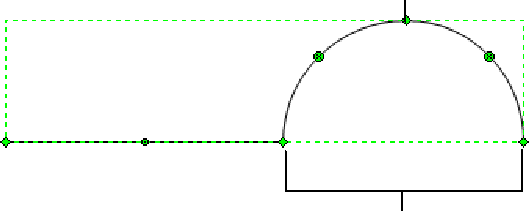


Control points

*Exhibit 2-5: A freeform line*

### Using the Line and Arc tools to create compound lines

Another way you can create compound lines is to use the Line and Arc tools. Select the tool you want and then create each segment in succession. To begin a new segment, point to the endpoint of the previous segment and then drag. When you use this technique, the segments are connected by *vertex points*, the diamond-shaped points shown in Exhibit 2-6.



Vertex points

*Exhibit 2-6: A compound line drawn with the Line and Arc tools*

#### Using the Pencil tool to create compound lines

You can also create compound lines with the Pencil tool, which can function as both the Line and Arc tools combined. The type of line segment you create is determined by the way you drag with the tool. Drag in a straight line to create straight line segments, and drag in the shape of an arc to create curved segments.

#### Adjusting compound lines

Drawing tools **2**–**15**

You can adjust compound lines by manipulating the control and vertex points. If you created a freeform line, you can make adjustments by moving the control points with either the Pointer tool or the Pencil tool. If you created a compound line with the Line, Arc, or Pencil tools, you can move control points as well as vertex points.

In both types of compound lines, you can convert control points to vertex points, and you can add vertex points where there previously weren’t any. To do both, you need to use the Pencil tool. To convert a control point to a vertex point, Ctrl+click the control point you want to convert. To add a vertex point, point to a location on a segment where you want to add the point, and then Ctrl+click the segment.

## Topic C: Editing objects

Drawing tools **2**–**17**

There are many ways you can edit shapes and lines. Some of the common techniques include duplicating, aligning, distributing, grouping, and rotating shapes.

### Duplicating an object

You can duplicate an object by using several methods. You can use the Copy and Paste commands on the Home tab (or use the keyboard shortcuts Ctrl+C and Ctrl+V). Or, you can hold down the Ctrl key as you drag an object. When you do this, Visio creates a duplicate of the object. You can also select an object and press Ctrl+D.

### Maintain alignment when duplicating

If you duplicate an object by pressing Ctrl as you drag it, you can also use the Shift key to maintain its alignment. Be sure you do not press Shift until after you start dragging; otherwise, the tool will change to the Magnification tool.

### Using the F4 key to duplicate objects

The F4 key functions as a Repeat key. In many cases, it repeats your last action. This can be useful when you’re duplicating an object by dragging because you not only get a duplicate of the object, but you also duplicate the distance you dragged that object.

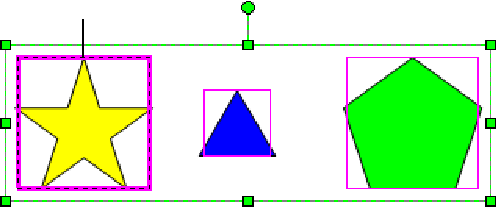
### Object alignment

You’ll probably spend a lot of time moving and aligning objects in your drawings.

There are many ways to accomplish these actions, but the easiest way to align objects is to use the options in the Position menu. For example, you can select several adjacent objects and then select Align Centre from the Position menu to centre the objects precisely.

#### Reference objects

When you align objects, the order in which you select them is critical. The first object you select is the *reference object:* all other objects you select will be aligned to it. When you select multiple objects, the reference object has a thick pink border, while the other selected objects have thin pink borders, as shown in Exhibit 2-7.



Reference object

Exhibit 2-7: A reference object in a group of selected objects **Use the Shift key to select multiple objects**

Earlier you learned how to select multiple objects by dragging to create a marquee. However, if you want to select specific objects but leave others unselected, you can hold down the Shift key and click the objects you want to select. You can also remove an object from a group of selected objects by Shift+clicking it.

#### Live preview

You can preview the effect of an alignment command by pointing to an option in the Position menu. For example, if you have selected multiple objects, open the Position menu and point to different alignment options; the objects move on the page to show you how that selected command will affect the shapes.

#### Object distribution

Distributing objects evenly spaces them from either their centres or their edges. The distance between the first and last objects determines the overall distance. All other objects are distributed evenly to fill the space between the first and last objects. You can distribute objects vertically or horizontally.

To distribute objects, open the Position menu, point to Space Shapes, and select an option from the submenu. Or, you can select More Distribute Options to open the Distribute Shapes dialog box. The following table shows the buttons you’ll find in the Distribute Shapes dialog box and describes their function.

##### Button Function

* Top and bottom inside edges are spaced evenly apart.
* Top edges of objects are spaced evenly apart. Vertical centres of objects are spaced evenly. Bottom edges are spaced evenly apart. Left and right inside edges are spaced evenly apart. Left edges are spaced evenly apart.
* Horizontal centres of objects are spaced evenly apart.
* Right edges are spaced evenly apart.

#### Grouping

You can avoid the problem of staggered arrangements by *grouping* objects before youalign or distribute them. *Grouping* holds objects together and allows them to act as a single object. Then, when you distribute or align the group, all of the objects in the group move together.

To group objects, select the objects you want to group, click Group, and choose Group. To ungroup objects, select the group, click Group, and choose Ungroup. You can also group and ungroup objects by using the keyboard shortcuts Ctrl+G (to group) and Shift+Ctrl+U (to ungroup).

#### Rotating objects

Drawing tools **2**–**25**

You rotate objects around a point called the *centre of rotation* by using rotate handles.

When you select an object with the Rotate tool, the centre of rotation appears in the middle of the object. In addition, a round Rotate Shape tool appears at the top of the selected object. You can use this tool to rotate the object clockwise or counter clockwise around the centre of rotation.

#### Moving the center of rotation

You can move an object’s centre of rotation. You might want to do this if you need to rotate one object around another. To move a centre of rotation, you drag it to a new location. It’s still associated with the original shape.

# **Unit 3 -** Basic diagrams

**3–1**

Complete this unit, and you’ll know how to:

* Plan a diagram.
* Create a basic diagram and insert, connect, and modify shapes.
* Insert and format text.
* Create and modify organization charts.

## Topic A: Planning a diagram

With diagrams, you can present complex information graphically. One type of diagram is a flowchart, which typically represents a process. For example, a flowchart could depict the assembly of a motor on an assembly line. Another type of diagram is an organization chart, which shows a company’s structure. Visio provides other types of charts and diagrams you can use to represent a variety of information.

### Design tips

Effective design begins with an audience analysis. Ask yourself these questions to identify and understand your audience:

* Who will use this diagram?
* Why will they use it?
* What information is most important to them?

The answers to these basic questions will help you target the right diagram to the right people. If you have a wide audience, the questions might be harder to answer. No matter who your audience is, it’s typically best to keep the diagram as simple as possible.

Next, consider the design and purpose of your diagram. Will it be distributed online across a company network? Will you be printing the diagram? If so, will you print in colour or black and white? If you are printing in colour, use highly contrasting colours to make it easy for your audience to read the diagram and distinguish its components.

### Diagram shapes

Each step, action, or idea in a diagram is represented by a shape. Some shapes are standard across most processes, such as those used in process mapping. If you’re creating a flowchart, your company might have a standardized set of flowchart symbols that you can use as a guide. Visio organizes commonly used shapes in stencils and incorporates these stencils into diagram templates. When you use a Visio template, the stencils most commonly used for that type of diagram are included in the file.

The following guidelines can help you to select the proper shapes for your diagram:

* First, check to see if the shape you want to use is a standard shape for a particular action or function. Often the shapes found on the Basic stencil are enough to get started. If they’re not, many other stencils are available.
* Don’t try to reinvent the wheel. Research what your company has done in the past, and find out if there are any company standards you should be following.
* Choose a graphic whenever you can’t find the right shape. Often, a graphic can effectively convey a simple idea or action. Consider using a universal type of graphic, such as an industry icon.

As you create the diagram, you don’t need it to be perfect. You might find a shape that’s better suited to the idea you want to convey after you’ve created the drawing. You can always go back and replace a shape without rebuilding the entire diagram.

## Topic B: Creating a basic diagram

*Master shapes* are the basic building blocks of a Visio diagram. When you begin a diagram, stencils containing specific master shapes are automatically displayed in the Shapes window.

### Inserting and connecting shapes

You can add shapes to a diagram by dragging shapes from the stencils onto the page. Each shape serves a specific purpose and demonstrates a particular process or function in the diagram. For example, decision shapes in flowchart diagrams represent decisions within a flow of events, while process shapes represent specific steps or tasks.

### AutoConnect

You can save time by using Auto Connect to connect shapes as you add them to the page. Auto Connect is optional but active by default in Visio 2010. When you point to a shape, direction handles appear, as shown in Exhibit 3-1.

|  |  |
| --- | --- |
|  | Auto Connect handles |

Exhibit 3-1: Auto Connect handles

When you ***point*** to any of these handles, a toolbar of shapes is displayed, as shown in Exhibit 3-2. The shapes that are displayed are from the currently selected stencil. You can point to a shape to preview a connection, or click one to add and connect the shape.

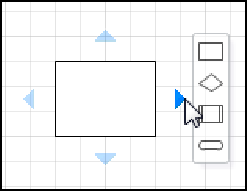


Exhibit 3-2: The Auto Connect toolbar

You can also add and connect new shapes by using the following techniques:

* Point to a shape on the page and click an Auto Connect handle. When you do, the last shape you selected in the stencil will automatically be added to the drawing and connected to the shape.
* Drag a shape from the stencil and hold it over an existing shape until the Auto Connect handles appear. Then move the shape over any of the Auto Connect handles and release the mouse button to add and connect it to the shape.

### Moving and deleting shapes

Basic diagrams **3**–**5**

You will likely need to make ongoing adjustments as you work on a diagram. To delete a shape, select it and press delete. To move a shape, drag it to a desired location. When you move a shape, orange guides appear, indicating the alignment and spacing for precise shape placement. If you want to move multiple shapes at once, select them and drag the selection box to the desired location. Moving shapes does not remove their connections to other shapes.

### Manually connecting shapes

Basic diagrams **3**–**9**

After you have added shapes to a drawing, you can connect them to illustrate their relationship or flow. You have already connected shapes by using Auto Connect features. You can also manually connect drawings with the Connector tool.

#### The Connector tool

At times, you’ll probably want to connect shapes that are not next to each other. You can use the Connector tool to connect shapes that are not adjacent. On the Home tab, in the Tools group, select the Connector tool and then drag the pointer from a connection point on one shape to a connection point on another shape. Connect shapes in the direction of the process flow because arrows are automatically added to connecting lines that point in the direction in which the connection is made.

To ensure that your shapes are properly connected, you can attach them at their connection points. When connected properly, the shapes are “glued.” This secures the shapes together so that when a shape is moved, the connection is not broken.

#### Point-to-point connections

When the Connector tool is selected and you point to a shape, the shape’s connection points come into view—the small blue x on each side. When you point to a connection point, it’s highlighted by a red box. You can drag a connector from one shape’s connection point to the connection point of another shape to create a *point-to-point connection*. With this type of connection, the connector remains “glued” to those connection points even if a shape is moved.

#### Shape-to-shape connections

You can also create a shape-to-shape connection if you want the connector to stay glued to the shape if it’s moved, but not necessarily glued any particular connection point on the shape. To create a shape-to-shape connection, select the Connector tool and drag from the centre of a shape to the centre of another shape.

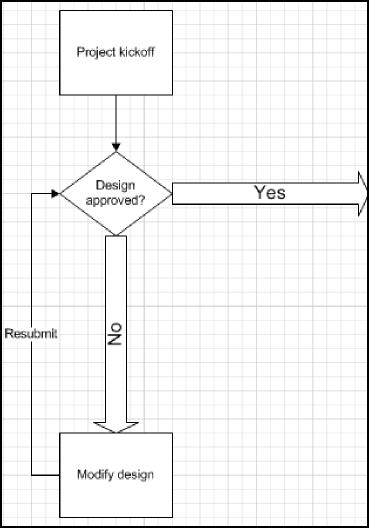
#### Using AutoConnect for adjacent shapes

If two shapes are next to each other, you can quickly connect them by using Auto Connect. With the Pointer tool, simply point to one of the shapes to display the Auto Connect handles. Then click the handle that points to the other shape.

#### Connector shapes

You can use various connector shapes to achieve specific results. For example, if you want to add text to a connector shape you can use large arrows that provide space for text, as shown in Exhibit 3-3. Connector shapes are located on various stencils, but you can view them all at once on the Connectors stencil.

To open the Connectors Stencil, click More Shapes in the Shapes window. Then choose Visio Extras, Connectors.



*Exhibit 3-3: An example of alternate connector shapes*

## Topic C: Working with text

You can add text to a diagram, format the text, and apply text to shapes and connectors to provide important information and instruction.

### Text blocks

Unlike in a typical word processor, text in Visio is contained in a *text block*, a container for the text. When you add text to a drawing, there are two things at work: the text block and the text itself. Each has its own properties and can be formatted separately. You can add text blocks to shapes, connectors, and other objects. Exhibit 3-4 shows an example of text in shapes and connectors.

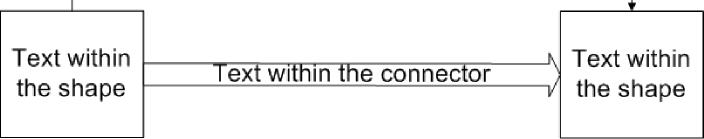


Exhibit 3-4: Examples of text in objects

Text blocks give you added flexibility in how text is displayed. For example, you can rotate a text block so that the text is diagonal or vertical. You can format a text block independently of the shape that it’s associated with.

### Editing text

If you need to change text after you’ve added it to a drawing, you can return to text mode. Simply select the Text and then click the text you want to edit. When you’re finished editing, press Esc or click outside the text block.

### Formatting text

To format text, select the text block and then use the options in the Font and Paragraph groups to apply the desired formatting. For example, if you want to change the text size, select the text block and select a new font size from the Font Size list in the Font group. To align text in its text block, select the text block and then click an alignment button in the Paragraph group.

You can also format specific sections of text within a text block. For example, you can make a single letter or word larger than other text in a text block, or change the text colour or font face. You can also resize a text box as needed by selecting it and then dragging a handle with the Pointer tool.

### Paragraph text

Basic diagrams **3**–**19**

When you need to add a large amount of text, such as a long paragraph, you can select the text tool, click on the page where you want to add the text, and begin typing until you’re finished. The text box will increase in size to accommodate the text that you enter. You can then move and resize the text block as needed by using the Pointer tool.

Or, you can create a large text block first, and then begin typing. In this way, you can control how large the text area will be before you add text. Select the Text tool and drag to draw a text box of the desired size. The insertion point will be placed in the centre of the text box automatically so that you can begin typing immediately. Text automatically wraps when it reaches the end of the text block area.

### Shape text

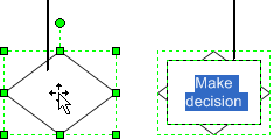
You can add text to shapes to describe the steps in a diagram or provide other important information. As soon as you add a new shape to a drawing, you can type to add text in the centre of the shape. To add text to an existing shape, select the shape with the Pointer tool or the Text tool and then start typing. (You can also double-click a shape with the Pointer tool.) Visio automatically enters text mode and if necessary, zooms in so that you can see the text more easily.

Exhibit 3-5 shows a Decision shape in text mode—the text block becomes visible. When you’re done adding text, you can click away from the shape or press Esc to exit text mode and return to the previous page magnification.

Double-click a In text mode, the

shape to enter text block border

text mode is visible



*Exhibit 3-5: Adding text to a shape*

### Connectors and text

Connectors are also considered shapes. This means you can add text to connectors by using the same methods you use for adding text to shapes. There are advantages to adding text to connectors: The text moves with the connector, and if the connector length is changed, the text is adjusted automatically.

### Manipulating shape text

Every shape contains a text block area you can move and manipulate by using either the Text tool or the Text Block tool.

#### The Text tool vs. the Text Block tool

Use the Text tool when you want to add or edit text. When you use the Text tool to select a text block, you enter text mode. You can press Esc to exit text mode and select the text block itself. You can then move, resize, or rotate the text block as needed. When you use the Text Block tool, the text block is selected, not the text inside the block. Like the Text tool, you can use the Text Block tool to rotate the text within its shape, and move and resize a text block.

#### Rotating a text block

You can rotate a text block by selecting it with either the Text tool or the Text Block tool. A round rotation handle appears outside the text block, as shown in Exhibit 3-6. Drag this handle to rotate the text. It’s best to use the Text Block tool when you want to rotate text because you don’t need to exit text mode before you rotate the text. As soon as you click a text block with the Text Block tool, it’s selected and ready to be moved, rotated, or resized.

You can’t rotate text by using the Pointer tool. When you use the Pointer tool to select a shape, the rotation handle rotates the shape, not the contents of the shape.

|  |  |
| --- | --- |
|  | Rotation handle |

*Exhibit 3-6: A rotation handle*

## Topic D: Organization charts

An *organization chart* depicts the systematic flow of authority and responsibility. You can use these charts to show superior-subordinate relationships, report hierarchies, and inter-department links in an organization. For example, you can use an organization chart to show the hierarchy of your company’s department structure.

### Creating organization charts

To create an organization chart, you use the Organization Chart template. When you use this template, the Organization Chart stencil opens and the Org Chart tab is added to the Ribbon.

To get started with the Organization Chart template, click the File tab, click New, select Organization Chart, and click Create. Then start building the organization chart by dragging shapes from the Organization Chart stencil to the page. Each organization chart shape typically contains the name and title of a particular person in the organization.

#### Adding multiple shapes

You can add more than one shape of the same type to an organization chart. For example, you might need five Manager shapes under an Executive shape. You can insert all of the Manager shapes at once by dragging the Multiple Shapes shape onto the page. This opens the Add Multiple Shapes dialog box, shown in Exhibit 3-7. In this dialog box, enter the number of shapes you want to create, select the shape type, and click OK.

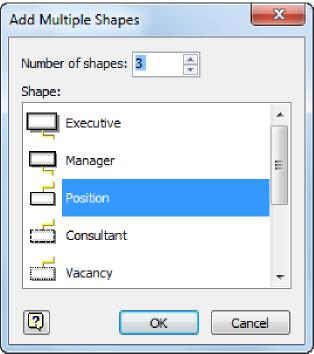


Exhibit 3-7: The Add Multiple Shapes dialog box **Automatic linking**

If you want to create a reporting relationship automatically when you add a new organization shape, you can drag the new shape onto the shape that represents the person or position to which it reports.

#### Modifying layouts (Donne de drôles de résulstats

A *layout* defines the way in which shapes are arranged. You might want to change the layout of the shapes to change the hierarchy in an organization chart. The options on the Org Chart tab provide various layout styles, such as horizontal and vertical layouts. Changing the layout of a superior shape changes the layout of all subordinate shapes.

## Unit summary: Basic diagrams

Basic diagrams **3**–**31**

### Topic A

In this topic, you learned how to plan a basic flowchart. You also learned some tips for using **flowchart shapes**.

### Topic B

In this topic, you learned how to create a basic diagram. You learned how to insert shapes by dragging from **stencils** and by using **Auto Connect**. Then you learned how to **connect** and **move shapes**, and apply different connector types.

### Topic C

In this topic, you learned how to **add text** to a drawing and **format text**. You learned how to apply text to a page, and to individual shapes and connectors. You also learned how to **rotate** text blocks.

### Topic D

In this topic, you learned how to create and modify an **organization chart**.

# **Unit 4 -** Formatting drawings

Complete this unit and you’ll know how to:

* Format text and text blocks, and apply themes and effects.
* Format shapes and lines, create a shadow effect, and use the Format Painter.

## Topic A: Formatting text

A Visio drawing has three basic elements: shapes, lines, and text. You can format each of these elements to make your diagrams appealing and impactful. For example, you can apply different font faces, alignments, colours, shadows, and line properties.

To format the elements of a drawing, you can use the tools in the Font, Paragraph, and Shape groups on the Home tab, or you can use the Text dialog box.

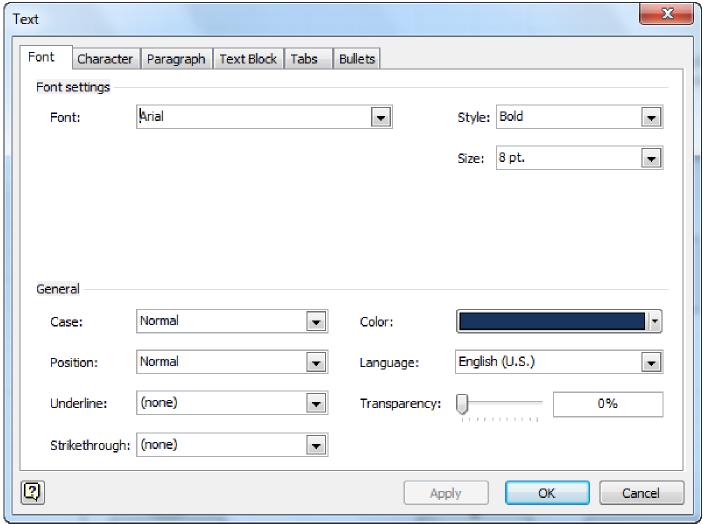
### Basic text formatting

To apply basic text formatting such as bold and italic, or change fonts, font sizes, and text colour, you can use the commands in the Font group on the Home tab.

You can select a text block to apply formatting to the entire block of text, or you can select and format individual letters or words. To format specific letters or words, double-click the text to enter text mode, and then select the letters or words that you want to format.

### The Text dialog box

You can also click the dialog box launcher in the Font or Paragraph groups to open the Text dialog box, shown in Exhibit 4-1. With this dialog box you can apply additional formatting options that aren’t available by default on the Ribbon, such as transparency, spacing, margins, and background colour.



*Exhibit 4-1: The Text dialog box with the Font tab active*

The Text dialog box contains six tabs. Choose the desired options from each tab and then click Apply. When you’re finished, click OK to close the dialog box. The tabs and their functions are described in the following table.

|  |  |
| --- | --- |
| **Tab** | **Use it to...** |
| Font | Change font styles, such as font face, size, style, colour, casing, and transparency. |
| Character | Set character spacing and scaling. |
| Paragraph | Set paragraph alignment, spacing, and indentation. |
| Text Block | Set margins, alignment, background colour, and background transparency. |
| Tabs | Define the position and alignment of tab stops in text blocks. |
| Bullets | Select bullet styles and related options. |

### Text block formatting

As mentioned earlier, you can format text blocks by using the Text Block tab in the Text dialog box. The following table describes the options on the Text Block tab.

|  |  |
| --- | --- |
| **Option** | **Used to...** |
| Alignment | Position text vertically within the text box. The options are top, middle, and bottom. |
| Margins | Specify the distance between the text and each of the four sides of the text box. This option is useful if you have visible borders on a text box and you want to ensure that the text is sufficiently offset from the edges of the text box. |
| Text background | But only the text background. You can also control the transparency level of the background colour by dragging the Transparency slider. |

### Paragraph formatting

On the Paragraph tab of the Text dialog box, you can control horizontal alignment, indents, and spacing. If you select the text box, the formatting you apply affects all the text in that text block. You can also select only certain paragraphs in a text block and then open the Text dialog box to format only the selected paragraphs. The following table describes the formatting options on the Paragraph tab.

|  |  |
| --- | --- |
| **Option** | **Used to...** |
| Alignment | Align the selected paragraphs horizontally. The options are left, right, centred, and justified. |
| Indentation | Set paragraph indentation. You can indent from the left or the right margin, or only the first line of a paragraph. |
| Spacing | Specify the gap between paragraphs. |

### Themes and effects

*Themes* are predefined sets of colours and styles that you can quickly apply to a drawing. Each theme consists of a colour scheme and styles for fonts, shadows, and connectors. To apply a theme, click the Design tab and then point to a theme in the Themes group. Live Preview shows you the effect the theme will have on your drawing. Click a theme to apply it. Or, click the downward-pointing arrow at the end of the Themes group to open the Themes gallery, which displays all available pre-configured themes, as shown in Exhibit 4-2.

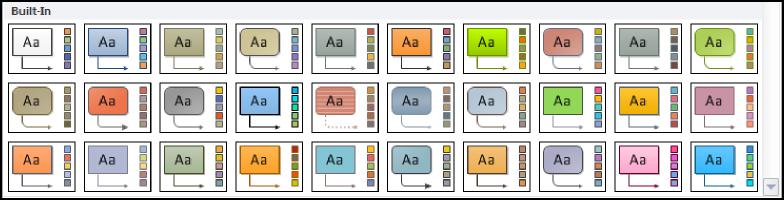


Exhibit 4-2: The Themes Gallery **The Effects list**

In addition to the pre-built themes in the Themes gallery, you can use the options in the Effects list to quickly apply eye-catching effects and styles. Pre-built effects will override any existing line, connector, text, and shadow styles.

## Topic B: Formatting shapes and lines

In addition to the pre-built formats available in the Themes gallery, you can create your own shape, line, and connector styles by using the tools in the Shape group on the Home tab. You can also use the commands on the Design tab to apply colours and effects, and customize the background and layout.

### The Fill, Line, and Shadow tools

When applying colours, each shape has a separate line and fill. The *line colour* is the border around the shape; you can also customize the line style and thickness. The *fill colour* is the shape’s background colour. If your shape contains text, it’s important that the text colour and the fill colour have sufficient contrast so that the text is easy to read and does not strain the eyes.

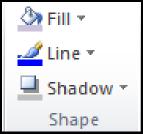
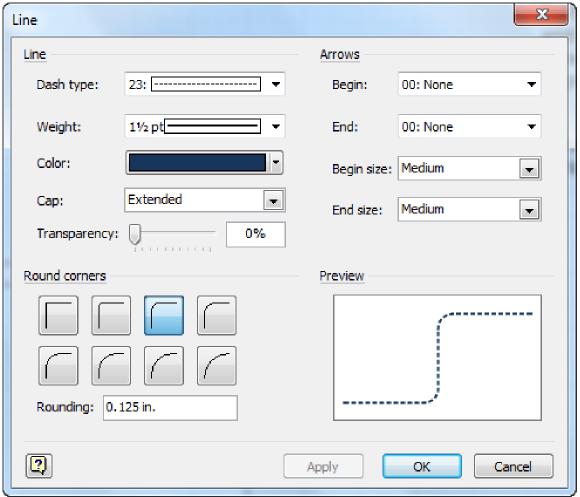


Exhibit 4-3: The Fill, Line, and Shadow tools, in the Shape group on the Home tab

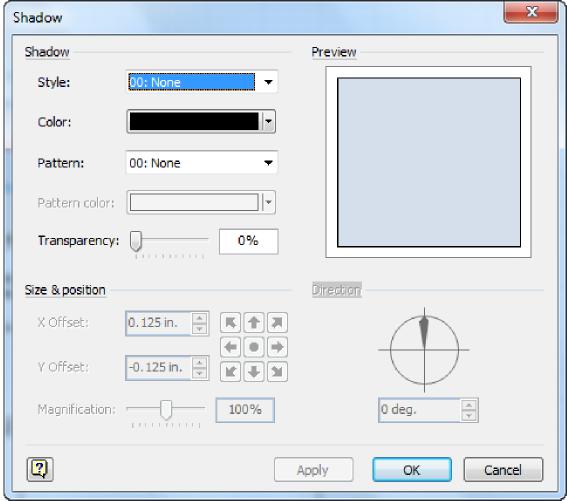
You can use the Line dialog box, shown in Exhibit 4-4, to customize the appearance of a selected line. For example, you can apply rounded corners, set dashed or dotted lines, and control the line fill transparency. To open the Line dialog box, open the Line list and choose Line Options.



*Exhibit 4-4: The Line dialog box*

### The Shadow dialog box

You can use the Shadow dialog box to create a custom shadow effect. For example, you can control the shadow colour, transparency, and angle. To open the Shadow dialog box, click Shadow and choose Shadow Options.



*Exhibit 4-5: The Shadow dialog box*

### The Format Painter

After you have formatted a shape, you might want to apply the same styles to other shapes in the drawing. You can do this by using the Format Painter, which applies the formatting attributes of one shape to one or more other shapes. To use the Format Painter, first select the shape that contains the formatting attributes you want to copy, and then click the Format Painter button, located in the Clipboard group on the Home tab. Then, click another shape in the drawing to apply the same formatting.

If you want to format multiple shapes, double-click the Format Painter button. This prevents Visio from switching back to the previous tool after you format a shape. To deselect the Format Painter, press Esc.

# **Unit 5 -** Working with pages

Complete this unit and you’ll know how to:

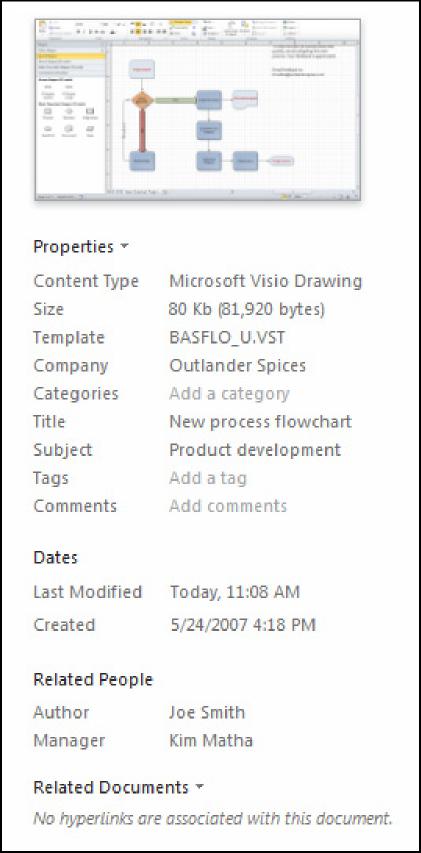
* Set file, page, and print properties, use Print Preview, create headers and footers, and print a diagram.
* Create and apply background pages, use fields to display information, and add a graphic to a page.
* Create hyperlinks to internal detail pages, external files, multiple files, and specific locations in a file.

## Topic A: File and print properties

When you create a diagram, you might want to add important information about the file. For example, you might want to put your name and company name on the file, the manager for the project, and a brief title or description. In addition, you should prepare your diagram to print successfully, which entails checking and modifying page and printer properties.

### Viewing and setting file properties

To view and set properties for a file, click the File tab to open the Backstage view. Then click Info to view information about the file. As shown in Exhibit 5-1, a thumbnail preview of the page is shown, followed by various properties such as file size, the company name, the file’s title and subject matter, and the people working on the file. To specify a property, click the prompt to the right of the property and enter a value.



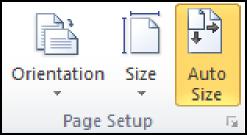
*Exhibit 5-1: File properties in the Info category of the File tab*

### Page and print settings

It’s important to consider the page size and orientation. When printing a diagram, you’ll want to choose a page orientation and size that best suits the size or layout of the diagram. You can use the commands in the Page Setup group on the Design tab, and the Page Setup dialog box, to make sure that the printer paper size is optimized for the drawing page you want to print. If the drawing extends beyond the printer paper size, content will be cut off and printed on a separate page.

#### Page orientation

The page orientation defines how the drawing will be printed on the page. The options are Portrait (210 x 297) or Landscape (297 x 210). For example, if your diagram is wider than it is long, you can change its orientation to Landscape so that as much content as possible can be printed on a page. The default orientation depends on the template in use. To change the page orientation, click the Design tab, click the Orientation button in the Page Setup group, and select either Portrait or Landscape.

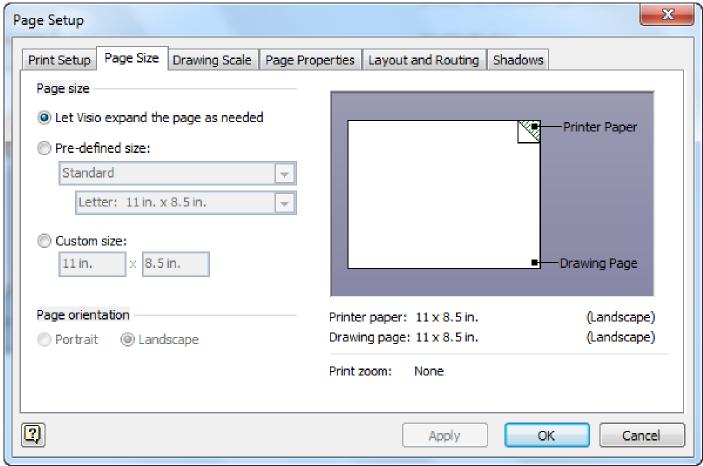


*Exhibit 5-2: The Page Setup command group on the Design tab* **The Auto Size feature**

With the Auto Size feature enabled, the page expands if you add or move content beyond the current page boundaries, which can be helpful when you’re working with a large diagram. This feature is on by default. To turn it off, click the Auto Size button in the Page Setup group on the Design tab, shown in Exhibit 5-2.

#### The Page Setup dialog box

You can use the Page Setup dialog box to control page size and printer settings. In many templates, the option “Let Visio expand the page as needed” is selected by default, as shown in Exhibit 5-3. This is the Auto Size feature. You can disable this by selecting Pre-defined size and then selecting a page size from the lists below it.



*Exhibit 5-3: The Page Setup dialog box with the Page Size tab active*

Working with pages **5**–**5**

The Page Setup dialog box contains six tabs, each described in the following table.

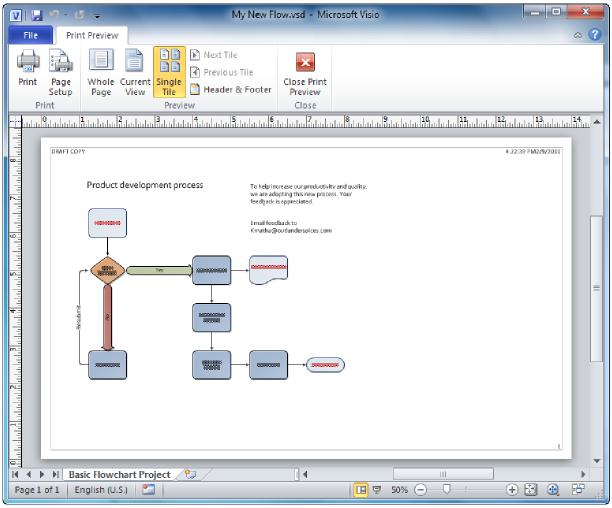
|  |  |
| --- | --- |
| **Tab** | **Description** |
| Print Setup | Contains settings for the current printer. The Preview window shows the orientation of the paper against the drawing page. |
| Page Size | Contains size and orientation settings for the drawing page. You can define the page size for each page in a drawing. The Preview window shows the orientation of the paper against the drawing page. |
| Drawing Scale | Defines a scale for the drawing. This is helpful for floor plans and other architectural drawings. |
| Page Properties | Use this tab to specify a name for the page, set the desired measurement units, and assign a background page. |
| Layout and Routing. | Use this tab to define how shapes and lines will appear in print |
| Shadows | Use this tab to define shadow settings for a page. |

### Printer paper size

You can change the printer paper size by using the Size options in the Page Setup command group. Click the Size button and select a page size. Or, open the Page Setup dialog box, click the Print Setup tab, and select a paper size from the list.

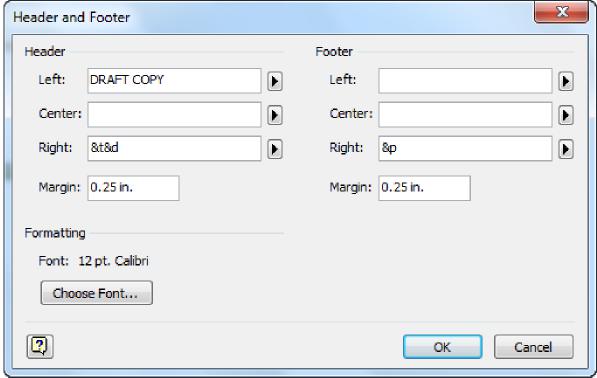
### Print Preview

You can use Print Preview to see how a page will look before you print it. You can also use Print Preview to add headers and/or footers. To open Print Preview, click the File tab and select the Print category. Then click Print Preview. The application window changes to show only the File tab and a new Print Preview tab, which contains several print options and controls, as shown in Exhibit 5-4.



*Exhibit 5-4: The Print Preview window* **Headers and footers**

You can add headers and footers to your printed pages. *Headers* appear at the top of each page, and *footers* appear at the bottom of each page. To add page headers and/or footers in Print Preview, click the Header & Footer button to open the Header and Footer dialog box. Under Header and Footer, type values in the Left, Centre, and Right boxes, as needed. Or, click the arrows next to each position and select an option from the list. For example, to show the file name in the top centre of the page, select File name. The box displays a variable that will be replaced with the file name when the page is printed. Headers and footers created in Print Preview appear only in print.

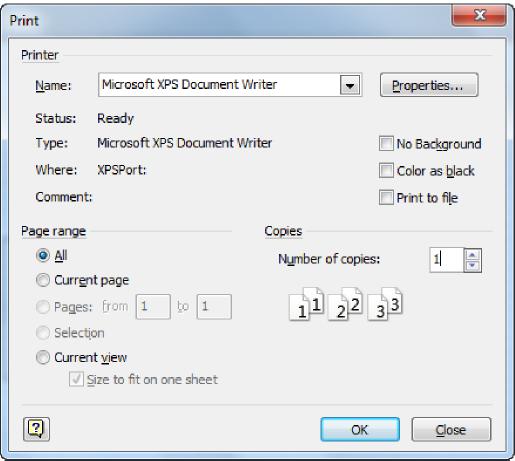


*Exhibit 5-5: The Header and Footer dialog box*

### Printing

Working with pages **5**–**11**

After you’ve previewed your document and confirmed that its content and layout are correct, you’re ready to print. You can print from inside the Print Preview window by clicking the Print button. If Print Preview is not open and you’re ready to print, click the File tab and then select the Print category. Then click Quick Print to send the document to the default printer, or click Print to open the Print dialog box, shown in Exhibit 5-6. In the Print dialog box, you can select the printer and choose which pages to print and the number of copies to print. Click OK to send the document to the selected printer. You can also press Ctrl+P to open the Print dialog box.



*Exhibit 5-6: The Print dialog box*

## Topic B: Working with background pages

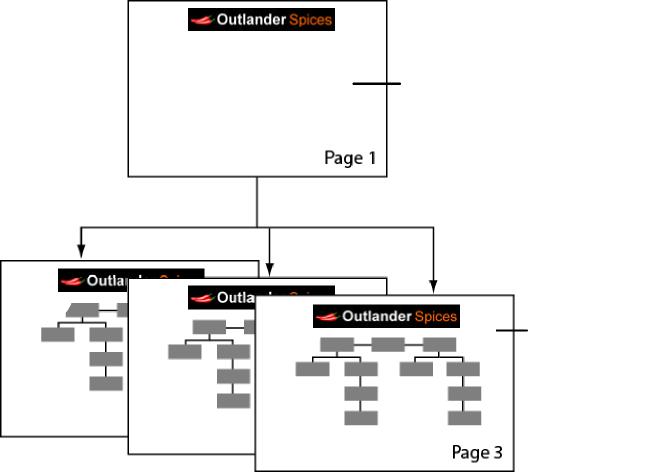
You can use background pages to display information you want to repeat on multiple pages in a drawing.

### Background pages

*Background pages* provide additional information for foreground pages. When you designate a page as background, the fields you add to the page appear on multiple foreground pages, as illustrated in Exhibit 5-7. You can use background pages to consistently display important information such as a company logo or page numbers.

You can have more than one background page in a file, but you can apply only one background page to a foreground page. The same background page is automatically applied to each new page that you add to a drawing. You can use the Page Properties tab in the Page Setup dialog box to remove a background page from a foreground page.

You can use background pages to create headers and footers in your drawings. These differ from headers and footers created in Print Preview, which only appear in print. When you create headers and footers using a background page, the content appears on each drawing page.



Drawing pages

Background page

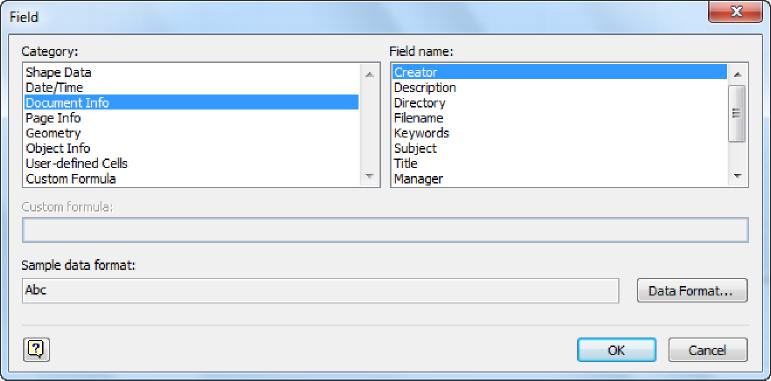
*Exhibit 5-7: A background page and foreground pages*

### Fields

*Fields* are variables that provide information about a drawing, such as the company name, the file name, or the file’s author. You can also use fields to display information such as the current date and page numbers. Field data is automatically updated in a drawing. After you add fields, you can format them as ordinary text.

To add a field:

1. Create a text box or select an existing text box.
2. On the Insert tab, click Field to open the Field dialog box, shown in Exhibit 5-8.
3. In the Category list, select a category for the information you want to add.
4. In the Field name list, select a field.
5. Click OK. Repeat these steps to add more fields.



*Exhibit 5-8: The Field dialog box* **Page breaks**

### Page breaks

Displaying page breaks can help you arrange items in a drawing. With page breaks showing, you can avoid placing objects or fields too close to margins. Page breaks are determined by the page’s print margins.

### Applying background pages to drawing pages

After you create a background page, you can apply it to any drawing page. You need to manually apply each background page to the desired drawing page by using the Page Properties tab in the Page Setup dialog box. After you apply a background page, each new foreground page that you add to the drawing will use this same background.

### Editing background pages

You can edit the lines and shapes on a background page in the same way you would edit them on a foreground page. You can also add graphics, such as a logo, to a background page.

To insert a graphic on a page:

1. On the Insert tab, click Picture. The Insert Picture dialog box opens.
2. Navigate to the location of the file you want to insert.
3. Select the file and click Open. (Or double-click the file.)
4. Resize and position the graphic if necessary.

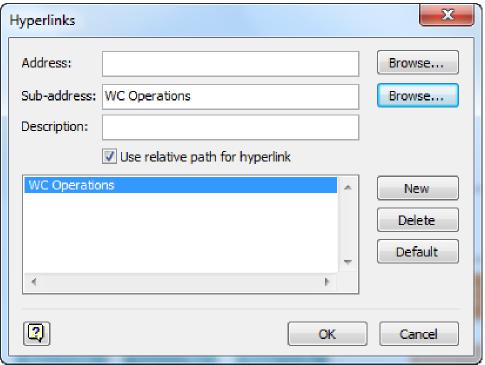
## Topic C: Working with links

When you create a complex drawing in Visio, the drawing might extend over several pages. If this happens, you can link the pages. You can also link diagrams to other Visio files, to Internet addresses, or to files of other types, such as Excel worksheets.

### Hyperlinks

*Hyperlinks* connect a shape to another page, an external file, an Internet address, or a network address. To link a shape to another page or external resource:

1. Select the shape that you want to contain a hyperlink.
2. On the Insert tab, click Hyperlink to open the Hyperlinks dialog box, shown in Exhibit 5-9.
3. In the Address box, enter an Internet address or the path of the file to which you want to link. Or, click Browse to navigate to the file you want to link to.
4. Click OK.



*Exhibit 5-9: The Hyperlinks dialog box*

### Linking to detail pages

When a drawing does not fit on one page, you can create additional pages, each containing varying degrees of detail. Typically, you begin with an overview and then expand the detail based on logical sections. For example, the main drawing page might depict an organization’s structure, and additional pages would show the structure of the various departments. You can then link shapes from the main page to detail pages by using the Sub-address field in the Hyperlinks dialog box.

### Testing links in Visio

To test your links, press and hold the Ctrl key and then click the shape that contains the link. Page links will open in the same Visio window. Links to external files open in a new Visio window.

### Link multiple files

You can link multiple files to a single shape. This is helpful if there are several files that are related to one shape in a drawing. To link a shape to multiple files, select the shape, open the Hyperlinks dialog box, and click New. Then create the desired links and click OK. To delete a link, select the link in the Hyperlinks dialog box and click Delete.

### Linking to other file types

If you have supporting information in another format, such as an Excel worksheet, you can link your Visio drawing to it. You can also designate a specific location that the linked file should display when it opens.

# **Unit 6 -** Network and brainstorming diagrams

Complete this unit, and you’ll know how to:

* Create and modify network diagrams.
* Create and modify rack diagrams.
* Create brainstorming diagrams, and import and export XML data.

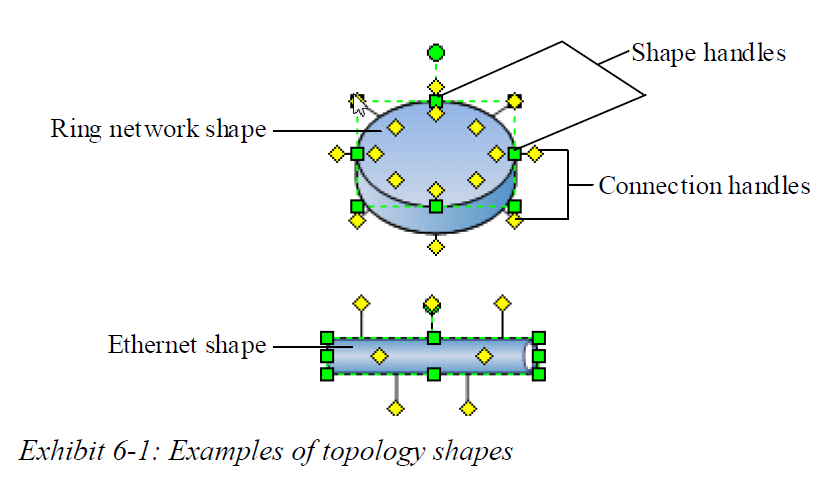
## Topic A: Network diagrams

*Explanation* Visio makes it easy to illustrate complex network layouts for documentation and visualization purposes. A clear and well-documented network diagram is helpful to a network administrator.

### Network shapes

Many of Visio’s network diagram shapes are industry-standard topology shapes. *Topology shapes* represent industry configurations such as ring and pipeline topologies often used in a network designs. These shapes provide connection points for the devices that are arranged according to the network layout. Because these are industry-standard shapes, their use in network diagrams ensures common understanding.

Topology shapes have square shape handles at their ends and in the middle, as shown in Exhibit 6-1. They also have diamond-shaped connection handles that you can use to connect to other shapes.



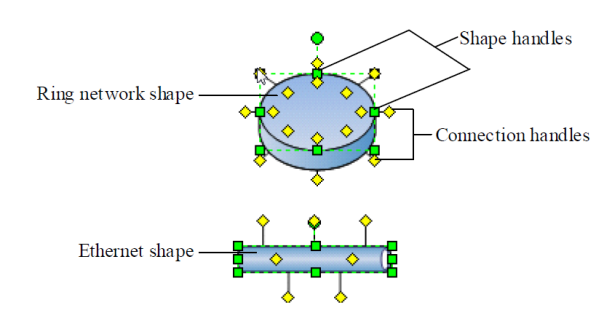


Exhibit 6-1: Examples of topology shapes

### Working with connection handles

When you’re working with topology shapes, you can create additional connections to expand the network diagram. Simply drag a yellow diamond connection handle from inside the shape, as shown in Exhibit 6-2. You can also move connection handles by dragging them to new locations.

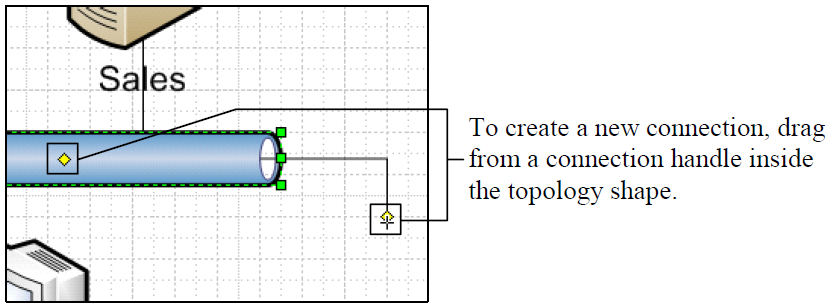


Exhibit 6-2: Creating a new connection

### Add and connect topology shapes

You can add more topology shapes to a diagram in several ways. You can drag a shape from the stencil, copy and paste a shape, or press the Ctrl key while dragging a shape already on the drawing page. When you create a duplicate of a topology shape, the duplicate maintains the same shape connections as the original. If you want a duplicate that has no connections, then duplicate the shape before using the connection handles or drag a new shape from a stencil. If you add a shape from a stencil, you can often quickly make connections by using the Auto Connect feature.

### Hide extra connection lines

Topology shapes will often have connection lines that you don’t need. You can hide extra connections by dragging the connection handles to the centre of the shape. The connection handles are still visible when the shape is selected, but the lines are hidden, as shown in Exhibit 6-4.

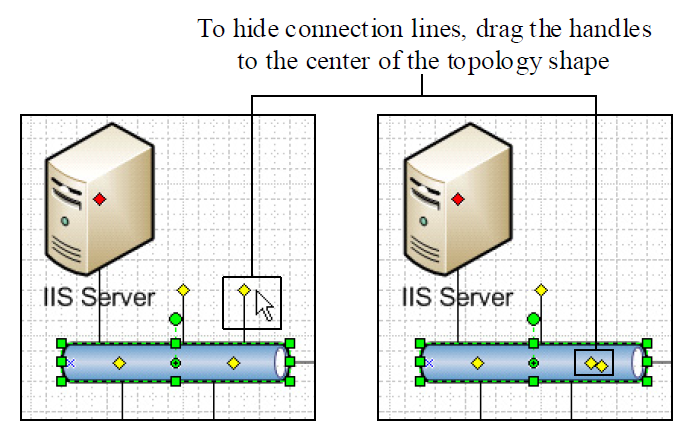


Exhibit 6-3: Hiding an extra connection handle

### Move shape text

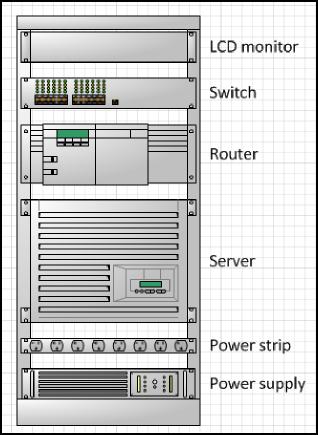
In addition to using the Text tool to move text blocks, many shapes provide control handles that you can use to move shape text interactively. To move shape text, select the shape whose text you want to move, and then drag the yellow control handle to the new text location. Moving text can often improve the readability of your diagram, especially if the text overlaps lines or other shapes.

## Topic B: Rack diagrams

You can create diagrams to show the structure of a rack system. Network administrators use rack diagrams to show or model the configuration of computer components. They also use them to optimize storage space because they can clearly view the space requirements for each component.

### Creating rack diagrams

A *rack diagram* documents a rack system, as shown in Exhibit 6-4. A *rack system* is a collection of computer hardware devices and components mounted in a rack. Visio’s network equipment shapes conform to industry standards and are designed to fit together precisely. The rack diagram template is available in the Network category.



*Exhibit 6-4: A rack diagram*

# Topic C: Brainstorming diagrams

*Brainstorming* is a method commonly used to solve problems or generate ideas. You can use Visio to document a brainstorming session to help you to capture ideas, evaluate options, and determine the best course of action.

### Elements of a brainstorming diagram

In a brainstorming diagram, the *main topic* represents the central problem statement or the core heading that forms the basis for planning. For example, to document ideas for new products, the main topic in a brainstorming session might be “New product line.” *Topics* are consideration points or factors that you need to discuss to solve the problem.

*Legend* shapes provide additional information about the items in a diagram, such as the priority level, exceptions, or a factor that you define. When you add Legend shapes to a diagram, the legend is automatically updated.

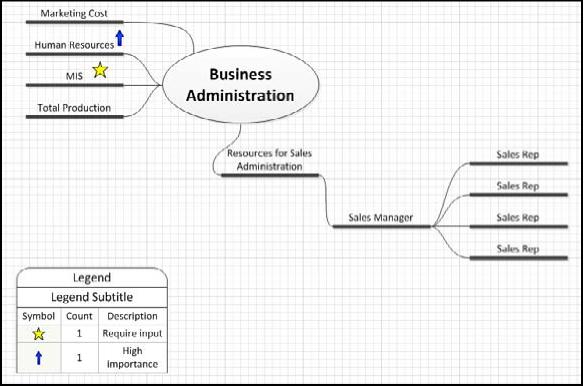
### The Brainstorming tab

When you create a file based on the Brainstorming template, the Brainstorming tab appears on the Ribbon. This tab contains commands you can use to create and manage brainstorming diagrams. The following table describes some of the commands on the Brainstorming tab.

|  |  |
| --- | --- |
| **Command** | **Description** |
| Auto-Arrange | Automatically arranges topics in a brainstorming diagram. |
| Main | Inserts a Main Topic shape in the diagram. |
| Subtopic | Attaches a subtopic to the selected topic. |
| Peer | Inserts a topic at the same level as the selected topic. |
| Multiple Subtopics | Opens the Add Multiple Subtopics dialog box, which you can use to insert several subtopics simultaneously. |
| Change Topic | Opens the Change Shape dialog box, which you can use to change the shape of a selected topic. |

### Creating brainstorming diagrams

As mentioned earlier, brainstorming diagrams provide a visual way of understanding a problem and potential solutions. For example, if you’re the manager of an organization and you need to determine how to most effectively allocate resources among various departments, you can create a brainstorming diagram that shows all the departments, similar to the example shown in Exhibit 6-5. Then, you can experiment with various resource allocations to visualize possible solutions.



*Exhibit 6-5: A brainstorming diagram*

### Applying brainstorming data

#### You can export

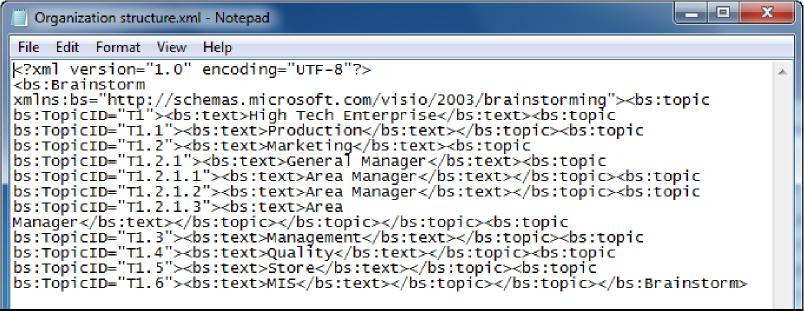
the data in a brainstorming diagram to a Microsoft Word document, a Microsoft Excel workbook, or an XML file. XML stands for Extensible Markup Language and is a widely accepted standard for exchanging data across applications and platforms.

To export a brainstorming diagram to an XML file:

1. Open the brainstorming diagram you want to export.
2. On the Brainstorming tab, click Export Data and choose To XML. The File Save dialog box opens.
3. Navigate to the location where you want to save the XML file.
4. Click Save. Visio exports the data to XML. A message box appears indicating that the export is complete.
5. Click OK.

#### You can Import XML

Visio’s XML import and export features allow you to exchange XML data between Visio and many other applications. XML data is simple text made up of tags that describe the data they contain. Exhibit 6-6 shows the XML in the file “Organization structure.xml” when viewed in Notepad, the default text editor in Windows. Visio can display this XML data as a brainstorming diagram when you import the file.



*Exhibit 6-6: XML data viewed in Notepad*

To import XML data into a brainstorming diagram:

1. Create a drawing based on the Brainstorming Diagram template.
2. On the Brainstorming tab, click Import Data. The File Open dialog box appears.
3. Navigate to the location of the XML file you want to import.
4. Double-click the file, or select it and click Open.

# **Unit 7 -** Customization and reporting

Complete this unit, and you’ll know how to:

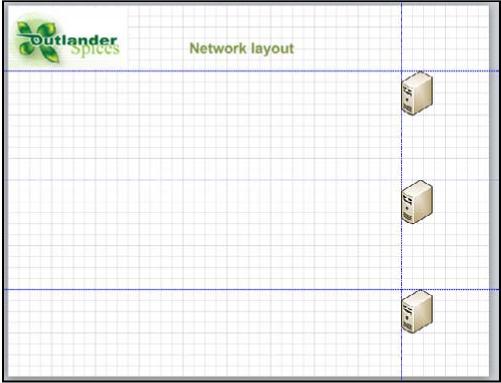
* Use guides to arrange objects, and customize shape connections.
* Set shape properties and create and apply custom properties.
* Create and modify property reports.

## Topic A: Layout and connection techniques

You can add guides to a drawing page to make it easier to position and align shapes precisely. Other techniques you can use to fine-tune a diagram include creating your own connection points on shapes and formatting connectors to clarify a message.

### Guides

*Guides* are non-printing lines that divide a drawing page into sections to help you precisely arrange shapes and lines. For example, Exhibit 7-1 shows three horizontal guides and one vertical guide. You can add guides to a drawing by dragging from the horizontal or vertical ruler onto the page. Guides are development aids only; they are not part of the final product and do not print. You can move guides as needed by dragging them on the page.



*Exhibit 7-1: One vertical and three horizontal guides* **Gluing shapes to guides**

Just as you glue shapes to connector lines, you can glue shapes to guides. This technique can help you to align objects precisely and move multiple shapes in unison.

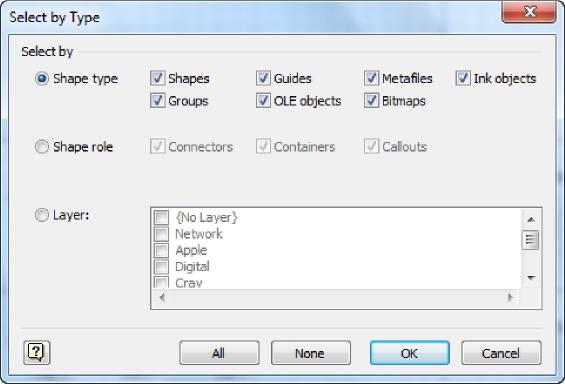
It’s typically best to place guides before adding shapes to a drawing page. If you place guides on a drawing page that already contains shapes, you’ll need to manually reposition the shapes on the guide to glue them. If you glue multiple shapes to a guide, all the shapes will move together if you move the guide.

### Creating new connection points

Most shapes have only one connection point on each side. If you want to create your own connection points, select the Connection Point tool on the Home tab. To add connection points, click the shape to select it. Then, press and hold Ctrl and click where you want to add the connection point. To remove a connection point, click it to select it and press Delete. You can move connection points by dragging them with the Connection Point tool.

### Select objects by Type

Sometimes you might want to select similar objects and shapes. For example, you might be working on a complex drawing and need to select multiple objects of the same type for editing. You can select each shape one by one, or you can use the Select by Type dialog box, shown in Exhibit 7-2. To open this dialog box, click Select in the Editing group on the Home tab, and choose Select by Type.



*Exhibit 7-2: The Select by Type dialog box*

### Shape connections

You can connect shapes to new connection points by using the same techniques you would use to connect unaltered shapes. However, if you want to precisely position the connections, you can use the Connector tool to draw the connections manually. Auto Connecting the shapes can produce undesired results. If you’ve already positioned shapes in a drawing, using the Connector tool can often produce better results.

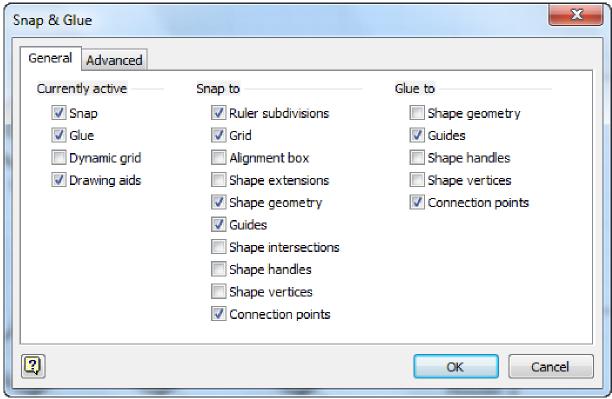
### Snap & Glue

Customization and reporting **7**–**11**

By default, when you position and adjust objects in a drawing, they snap to different items, such as the grid or ruler subdivisions. You can modify glue settings to use other parts of selected shapes as well.

#### Glue settings

You can use more than connection points to glue shapes. For example, you can glue to shape handles instead of, or in addition to, gluing to connection points. To control the way items snap, use the Snap & Glue dialog box, shown in Exhibit 7-3. To open the Snap & Glue dialog box, click the View tab and then click the dialog box launcher in the Visual Aids group.



*Exhibit 7-3: The Snap & Glue dialog box*

## Topic B: Shape properties

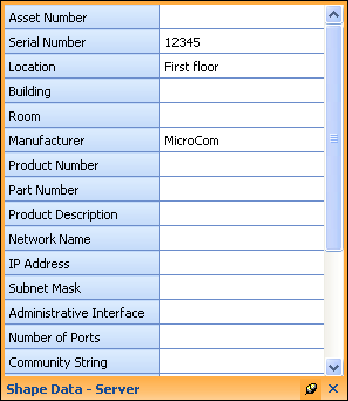
You can define properties to store and track information about elements of a drawing.

For example, you can store information about a server, such as its manufacturer, CPU speed, hard drive space, and IP address.

### Define shape properties

There are several pre-defined properties that you can set, as shown in Exhibit 7-4. You can also create custom properties. To define properties for a shape:

1. Right-click the shape and choose Properties to open the Shape Data panel.
2. In the appropriate data fields, enter the information you want to track.
3. Click the “X” in the corner to close the panel, if necessary.



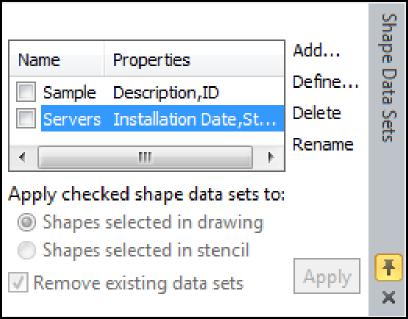
*Exhibit 7-4: The Shape Data panel*

### Custom properties

As mentioned earlier, all shapes have a predefined set of fields you can use to set properties. However, you might want to store information that isn’t defined in the default set. You can create one or more custom properties to track information that’s important to you or your organization. You can apply custom properties to multiple shapes.

To create a property set:

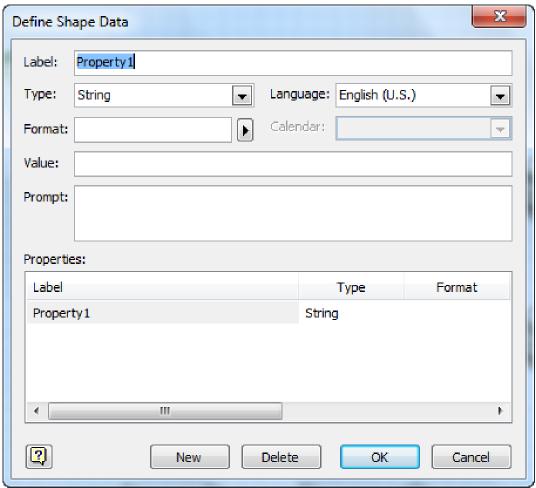
1. Right-click in the Shape Data panel and choose Shape Data Sets to open the Shape Data Sets panel, shown in Exhibit 7-5.
2. Click Add to open the Add Shape Data Set window.
3. Enter a descriptive name for the property set, select “Create a new set,” and click OK.



*Exhibit 7-5: The Shape Data Sets panel*

To add custom properties to a property set:

1. In the Shape Data Sets panel, select the property set you want to define custom properties for.
2. Click Define to open the Define Shape Data dialog box, shown in Exhibit 7-6.
3. Specify the information for the property.
4. Click New to add the property and reset the dialog box.
5. Using the same steps, add more properties if needed.
6. Click OK to close the dialog box.



*Exhibit 7-6: The Define Shape Data dialog box* **Custom properties for individual shapes**

When you create custom properties for a shape, the custom properties will be associated with that shape only. However, you can copy the properties of an individual shape into a custom property set if you want to use them for other shapes.

### Applying custom properties

After creating a custom property set, you can apply the properties to the shapes in your drawing. The new property set will be added to the existing property set for the shape.

To apply a custom property set to a shape:

1. Select the shape to which you want to apply the custom property set.
2. In the Shape Data Sets panel, check each property set you want to add to the selected shape.
3. Select whether to apply the checked property set(s) to shapes selected in the drawing or to shapes selected in the stencil.
4. If you want to remove a property set, check “Remove existing data sets.”
5. Click Apply.

## Topic C: Reporting

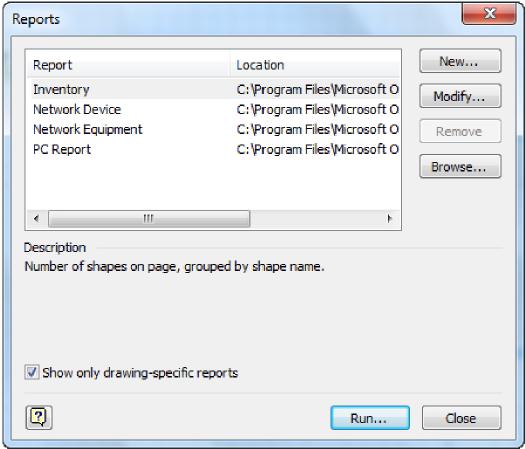
You can include shape property data in a drawing report. You can also modify a report, sort data, format report shapes, and update a report with modified data.

### Creating reports

To create a report, you use the Report Definition Wizard, which guides you through the steps for creating a report. As you create a report, you define the information that will be included and the layout for displaying and sorting the data.

To run the Report Definition Wizard:

1. On the Review tab, click Shape Reports to open the Reports dialog box, shown in Exhibit 7-7.
2. Click New to open the Report Definition Wizard.
3. Make the selections you want on each page of the wizard, and click Next to continue to the next page.
4. Click Finish to close the wizard.

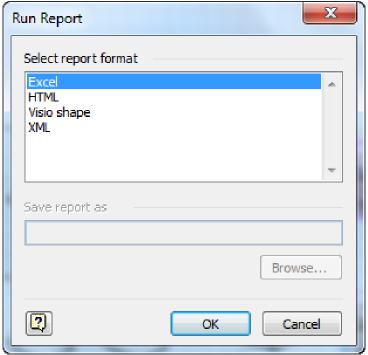


*Exhibit 7-7: The Reports dialog box*

### Running reports

After you’ve defined a report, you need to run it to view the results. To run a report:

1. If necessary, open the Reports dialog box.
2. In the list, select the report you want to run.
3. Click Run to open the Run Report dialog box, shown in Exhibit 7-8.
4. From the list, select the format you want for the report. In order to add the report as a shape within a Visio drawing, you must have Microsoft Excel installed on your computer.
5. Select whether you want to create a copy of the report or specify a link to the report.
6. Click OK.



*Exhibit 7-8: The Run Report dialog box*

### Report updates

You might need to update a report for a variety of reasons, such as changes in values or the addition of new shapes to a drawing. The process for updating a report will depend on the modifications you want to make.

#### Linked reports

If you link a report to a shape containing property data, when you run the report, you can update any property data that has changed. To do so, right-click the report and choose Update Report.

### Modifying a Visio Table Report shape

A Visio Table Report shape is actually an embedded Excel worksheet. You can format a Visio Table Report shape with colours other than the default colours used in the cells. Double-click the shape to activate the Excel chart and show Excel commands on the Ribbon. To format a cell, you must first select it by clicking it. If you want to apply formatting to multiple cells, press and hold Shift while selecting each cell and then apply the desired formatting. When you’re finished, press Esc.

# Course summary

**S–1**

This summary contains information to help you bring the course to a successful conclusion. Using this information, you will be able to:

* Use the summary text to reinforce what you’ve learned in class.
* Determine the next courses in this series, as well as any other resources that might help you continue to learn about Visio.

## Topic A: Course summary

Use the following summary text to reinforce what you’ve learned in class.

### Unit summaries

#### Unit 1

In this unit, you learned how to start Visio and create a file. You identified **interface components** and you learned how to use Visio **Help**. You also learned how to navigate in a drawing, change view settings, open **stencils**, move stencils in the Shapes window and **float** stencils in the drawing window. Then, you learned how to **select**, **move**, **scale**, and **resize** objects.

#### Unit 2

In this unit, you learned how to use **drawing tools** to create different shapes and reshape objects. You learned how to use the Freeform tool, create **compound lines**, and **duplicate**, **align**, and **distribute** objects. You also learned how to **group** and **rotate** shapes.

#### Unit 3

In this unit, you learned how to plan a basic **flowchart**. You learned how to create a basic diagram and **insert shapes** by dragging from stencils and by using **Auto Connect**. Then you learned how to **connect** and **move** shapes, apply different connector types, and insert and format **text**. You learned how to apply text to individual shapes and connectors, rotate text blocks, and create and modify an **organization chart**.

#### Unit 4

In this unit, you learned how to **format text** and **text blocks**, control attributes such as **font size**, **text colour**, **margins**, **alignment**, and **line spacing**, and apply style **themes** and **effects**. You learned how to **format shapes** and **lines**, apply line and **corner styles**, create a custom **shadow** effect, and use the **Format Painter** to copy formatting to one or more other shapes.

#### Unit 5

In this unit, you learned how to set **file properties**, set **page** and **printer settings**, use **Print Preview**, create **print headers** and **footers**, and print a drawing. You also learned how to work with **background pages**, create background headers and footers, and use **fields** to display information. Then you learned how to apply a background page to a drawing and insert a **graphic**. Finally, you learned how to add **hyperlinks** to a drawing.

#### Unit 6

In this unit, you learned how to create a basic **network diagram**, move control handles to create different **connection points**, and move text blocks connected to shapes. Then you learned how to create **rack diagrams** and **brainstorming diagrams**. You also learned how to **import data** into and **export data** from a diagram.

#### Unit 7

Course summary **S–3**

In this unit, you learned how to use **guides** to precisely align and glue shapes. You also learned how to add **new connection points** to a shape, select objects by type, and set **Snap & Glue** options. You learned how to **set properties** for shapes, create and apply **custom properties**, and create and run **reports**. Finally, you learned how to format a **report table** and update a report.

## Topic B: Continued learning after class

It is impossible to learn how to use any software completely in a single day. To get the most out of this class, students should begin working with Visio to perform real tasks as soon as possible. We also offer resources for continued learning.

# Miscellaneous

This product is totally free. If you enjoyed it, be nice enough to contribute as you deem that to the charity of your choice

Visit our website [www.cadacom.be](http://www.cadacom.be), everything is free ...