openSUSE

11.1

www.novell.com

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Application Guide

Application Guide

Contents

About This Guide

This manual introduces you to a variety of applications shipping with openSUSE®. It guides you through using these applications and helps you perform key tasks. It is intended mainly for end users.

The manual is subdivided into the following parts:

OpenOffice.org Novell Edition
: Introduces the OpenOffice.org suite, including Writer, Calc, Impress, Base, Draw, and Math. Learn which additional features are included in the Novell edition of OpenOffice.org.

Information Management
: Get to know the e-mailing and calendaring software provided by your product. Learn how to synchronize your data to handheld devices and how to use protected information transfer by signing and encrypting your documents or mails. Make use of note taking applications to collect and sort information and to organize your ideas.

Communication and Collaboration
: Stay in contact with others and communicate via network connections using Instant Messaging or Voice over IP.

Internet
: Enjoy searching information on the Web with browsers combining the latest browsing and security technologies. Make use of file transfers client to transfer data from the Internet.

Graphics
: Get to know The GIMP, an image manipulation program that meets the needs of both amateurs and professionals. Learn how to download digital photographs from your camera and how to manage your image collection by creating albums or exporting them to image galleries on the Web.

Multimedia
: Introduces your desktop's applications for playing music and movies. Find how to create data or audio CDs and DVDs for archiving your data.

Many chapters in this manual contain links to additional documentation resources. This includes additional documentation that is available on the system as well as documentation available on the Internet.

For an overview of the documentation available for your product and the latest documentation updates, refer to http://www.novell.com/documentation/opensuse111 or to the following section.

1 Available Documentation

We provide HTML and PDF versions of our books in different languages. The following manuals for users and administrators are available on this product:

Start-Up (↑Start-Up)
: Guides you through the installation and basic configuration of your system. For newcomers, the manual also introduces basic Linux concepts such as the file system, the user concept and access permissions and gives an overview of the features openSUSE offers to support mobile computing. Provides help and advice in troubleshooting.

KDE User Guide (↑KDE User Guide)
: Introduces the KDE desktop of openSUSE. It guides you through using and configuring the desktop and helps you perform key tasks. It is intended mainly for users who want to make efficient use of KDE as their default desktop.

GNOME User Guide (↑GNOME User Guide)
: Introduces the GNOME desktop of openSUSE. It guides you through using and configuring the desktop and helps you perform key tasks. It is intended mainly for end users who want to make efficient use of GNOME desktop as their default desktop.

Application Guide (page 1)
: Learn how to use and configure key desktop applications on openSUSE. This guide introduces browsers and e-mail clients as well as office applications and collaboration tools. It also covers graphics and multimedia applications.

Reference (↑Reference)
: Gives you a general understanding of openSUSE and covers advanced system administration tasks. It is intended mainly for system administrators and home users with basic system administration knowledge. It provides detailed information about

advanced deployment scenarios, administration of your system, the interaction of key system components and the set-up of various network and file services openSUSE offers.

Security Guide (↑Security Guide)
: Introduces basic concepts of system security, covering both local and network security aspects. Shows how to make use of the product inherent security software like Novell AppArmor (which lets you specify per program which files the program may read, write, and execute) or the auditing system that reliably collects information about any security-relevant events.

Lessons For Lizards
: A community book project for the openSUSE distribution. A snapshot of the manual written by the open source community is released on an equal footing with the Novell/SUSE manuals. The lessons are written in a cook book style and cover more specific or exotic topics than the traditional manuals. For more information, see `http://developer.novell.com/wiki/index.php/Lessons_for_Lizards`.

In addition to the comprehensive manuals, several quick start guides are available:

KDE Quick Start (↑KDE Quick Start)
: Gives a short introduction to the KDE desktop and some key applications running on it.

GNOME Quick Start (↑GNOME Quick Start)
: Gives a short introduction to the GNOME desktop and some key applications running on it.

Novell AppArmor Quick Start
: Helps you understand the main concepts behind Novell® AppArmor.

Find HTML versions of most openSUSE manuals in your installed system under `/usr/share/doc/manual` or in the help centers of your desktop. Find the latest documentation updates at `http://www.novell.com/documentation` where you can download PDF or HTML versions of the manuals for your product.

For information where to find the books on your installation media, refer to the Release Notes of this product. The Release Notes are available from your installed system under

/usr/share/doc/release-notes/ or in the help centers of your KDE or GNOME desktop.

2 Feedback

Several feedback channels are available:

- To report bugs for a product component or to submit enhancements requests, please use https://bugzilla.novell.com/. If you are new to Bugzilla, you might find the *Submitting Bug Reports* article—available under http://en.opensuse.org/Submitting_Bug_Reports helpful. Frequently asked questions on reporting bugs are available under http://en.opensuse.org/Bug_Reporting_FAQ.

- We want to hear your comments and suggestions about this manual and the other documentation included with this product. Please use the User Comments feature at the bottom of each page of the online documentation and enter your comments there.

3 Documentation Conventions

The following typographical conventions are used in this manual:

- /etc/passwd: directory names and filenames

- *placeholder*: replace *placeholder* with the actual value

- PATH: the environment variable PATH

- ls, --help: commands, options, and parameters

- user: users or groups

- Alt, Alt + F1: a key to press or a key combination; keys are shown in uppercase as on a keyboard

- *File*, *File* > *Save As*: menu items, buttons

- *Dancing Penguins* (Chapter *Penguins*, ↑Another Manual): This is a reference to a chapter in another manual.

4 About the Making of This Manual

This book is written in Novdoc, a subset of DocBook (see http://www.docbook.org). The XML source files were validated by xmllint, processed by xsltproc, and converted into XSL-FO using a customized version of Norman Walsh's stylesheets. The final PDF is formatted through XEP from RenderX.

5 Source Code

The source code of openSUSE is publicly available. To download the source code, proceed as outlined under http://www.novell.com/products/suselinux/source_code.html. If requested we send you the source code on a DVD. We need to charge a $15 or €15 fee for creation, handling and postage. To request a DVD of the source code, send an e-mail to sourcedvd@suse.de [mailto:sourcedvd@suse.de] or mail the request to:

SUSE Linux Products GmbH Product Management openSUSE Maxfeldstr. 5 D-90409 Nürnberg Germany

6 Acknowledgments

With a lot of voluntary commitment, the developers of Linux cooperate on a global scale to promote the development of Linux. We thank them for their efforts—this distribution would not exist without them. Furthermore, we thank Frank Zappa and Pawar. Special thanks, of course, goes to Linus Torvalds.

Have a lot of fun!

Your SUSE Team

Part I. OpenOffice.org Novell Edition

The OpenOffice.org Office Suite

1

OpenOffice.org is a powerful open-source office suite that provides tools for all types of office tasks, such as writing texts, working with spreadsheets, or creating graphics and presentations. With OpenOffice.org, you can use the same data across different computing platforms. You can also open and edit files in other formats, including Microsoft Office, then save them back to this format, if needed. This chapter contains information that applies to all of the OpenOffice.org modules and gives an overview of the features specific to the Novell edition of OpenOffice.org that is shipped with openSUSE®.

1.1 OpenOffice.org Modules

OpenOffice.org consists of several application modules (subprograms), which are designed to interact with each other. They are listed in Table 1.1 . A full description of each module is available in the online help, described in Section 1.10, "For More Information" (page 15).

Table 1.1 *The OpenOffice.org Application Modules*

Module	Purpose
Writer	Word processor application module
Calc	Spreadsheet application module
Impress	Presentation application module

Module	Purpose
Base	Database application module
Draw	Application module for drawing vector graphics
Math	Application module for generating mathematical formulas

The following chapters cover individual OpenOffice.org modules:

Chapter 2, *OpenOffice.org Writer* (page 17)
Introduces OpenOffice.org Writer.

Chapter 3, *OpenOffice.org Calc* (page 27)
Introduces OpenOffice.org Calc.

Chapter 4, *Further OpenOffice.org Modules* (page 31)
Introduces OpenOffice.org Impress, Base, Draw, and Math.

1.2 What's New in OpenOffice.org 3.0?

For a list of new core features available with OpenOffice.org 3.0, refer to `http://www.openoffice.org/dev_docs/features/3.0/`.

1.3 Novell Edition of OpenOffice.org

openSUSE® includes the Novell edition of OpenOffice.org. The Novell edition includes several enhancements that are not yet included in the standard edition:

Excel VBA Macro Interoperability:
OpenOffice.org Novell edition eases the migration of many macros from Microsoft Excel. Although not all macros can be successfully migrated, this interoperability offers more than the standard edition, which does not support migration of macros.

Data Pilots:

Data Pilots are interoperable with Microsoft Office PivotTables*. OpenOffice.org Novell edition substantially improves the Data Pilot feature, making it possible to edit pilots after creation.

Enhanced Fonts:

Licensed fonts from Agfa* Monotype* which are metrically identical and visually compatible with some of the key Microsoft fonts. This allows OpenOffice.org Novell edition to match fonts when opening documents originally composed in Microsoft Office, and very closely match pagination and page formatting.

EMF+Support:

The ability to render EMF+ formatted graphics.

SVG Support:

The ability to import scalable vector graphics.

Import File Formats:

Microsoft Works, WordPerfect* text and graphics, T602 files, Office Open XML, and more.

GroupWise® Integration:

OpenOffice.org Novell edition includes improved integration with ODMA (Open Document Management Architecture) services, for example for GroupWise. If you have the GroupWise client installed on the machine, OpenOffice.org Novell edition will offer to open documents from GroupWise, or save documents in GroupWise.

You can also use the standard edition of OpenOffice.org rather than the Novell edition. If you install the latest version of OpenOffice.org, all of your Novell edition files remain compatible. However, the standard edition does not contain the enhancements made in the Novell edition.

1.4 Compatibility with Other Office Applications

OpenOffice.org can work with documents, spreadsheets, presentations, and databases in many other formats, including Microsoft Office. They can be seamlessly opened like other files and saved back to the original format. Though some work has already been

invested in interoperability, occasionally there are still formatting issues. If you have problems with your documents, consider opening them in the original application and resaving them in an open format such as RTF for text documents. In case of migration problems with spreadsheets however, it is advisable to re-save them as Excel file and use this as intermediate format (with CSV format you would lose all cell formatting and CVS sometimes leads to incorrect cell type detection for spreadsheets).

TIP: OpenOffice.org Migration Guide

For good information about migrating from other office suites to OpenOffice.org, refer to the OpenOffice.org Migration Guide at `http://documentation.openoffice.org/manuals/oooauthors2/0600MG-MigrationGuide.pdf`.

1.4.1 Converting Documents to the OpenOffice.org Format

OpenOffice.org can read, edit, and save documents in a number of formats. It is not necessary to convert files from those formats to the OpenOffice.org format to use those files. However, if you want to convert the files, you can do so. To convert a number of documents, such as when first switching to OpenOffice.org, do the following:

1. Select *File* > *Wizards* > *Document Converter*.
2. Choose the file format from which to convert.

   There are several StarOffice and Microsoft Office formats available.
3. Click *Next*.
4. Specify where OpenOffice.org should look for templates and documents to convert and in which directory the converted files should be placed.

   Documents retrieved from a Windows partition are usually in a subdirectory of `/windows`.
5. Make sure that all other settings are appropriate, then click *Next*.

6 Review the summary of the actions to perform, then start the conversion by clicking *Convert*. When everything is done, close the Wizard by clicking *Close*.

The amount of time needed for the conversion depends on the number of files and their complexity. For most documents, conversion does not take very long.

1.4.2 Sharing Files with Users of Other Office Suites

OpenOffice.org is available for a number of operating systems. This makes it an excellent tool when a group of users frequently need to share files and do not use the same system on their computers.

When sharing documents with others, you have several options.

If the recipient needs to be able to edit the file
: Save the document in the format the other user needs. For example, to save as a Microsoft Word file, click *File* > *Save As*, then select the Microsoft Word file type for the version of Word the other user needs.

If the recipient only needs to read the document
: Export the document to a PDF file with *File* > *Export as PDF*. PDF files can be read on any platform using a PDF viewer.

If you want to share a document for editing
: Agree on a common exchange format that works for everyone. TXT and RTF formats, although limited in formatting, might be a good option for text documents.

If you want to e-mail a document as a PDF
: Click *File* > *Send* > *E-mail as PDF*. Your default e-mail program opens with the file attached.

If you want to e-mail a document to a Microsoft Word user
: Click *File* > *Send* > *E-mail as Microsoft Word*. Your default e-mail program opens with the file attached.

Send a document as the body of an e-mail
: Click *File* > *Send* > *Document as E-mail*. Your default e-mail program opens with the contents of the document as the e-mail body.

1.5 Starting OpenOffice.org

To start the OpenOffice.org suite, press Alt + F2 and enter `ooffice`. The OpenOffice.org window opens.

In the selection dialog, choose the module you want to open or which file type you want to create. If any OpenOffice.org application is open, you can start any of the other applications by clicking *File > New > Name of Application*.

You can also start individual OpenOffice.org modules from your main menu or by pressing Alt + F2 and entering the command for the respective module. For example, enter `oowriter` to start OpenOffice.org Writer, or `oocalc` to start Calculator, or `ooimpress` to start Impress.

1.6 Saving OpenOffice.org Files with a Password

You can save files, no matter in which OpenOffice.org format, with a password. Note that this offers limited protection only. For stronger protection, use encryption methods as described in Chapter 11, *Encrypting Partitions and Files* (↑Security Guide). To save a file with a password, select *File > Save* or *File > Save As*. In the dialog that opens, activate the *Save with password* check box and click *OK*. After you have typed and

confirmed your password, your file will be saved. Next time a user opens the file, he will be prompted for the password.

To change the password, either overwrite the same file by selecting *File > Save As* or select *File > Properties* and click *Change Password* to access the password dialog.

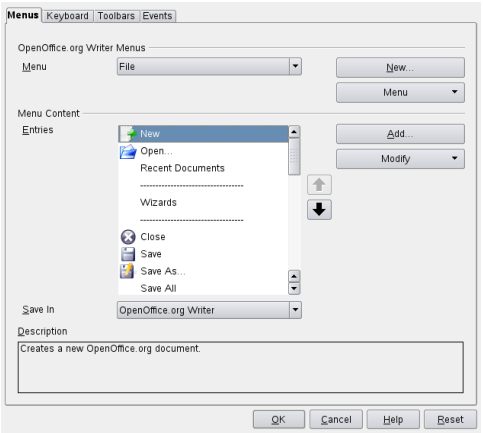
1.7 Customizing OpenOffice.org

You can customize OpenOffice.org to best suit your needs and working style. Toolbars, menus, and keyboard shortcuts can all be reconfigured to help you more quickly access the features you use the most. You can also assign macros to application events if you want specific actions to occur when those events take place. For example, if you always work with a specific spreadsheet, you can create a macro that opens the spreadsheet and assign the macro to the Start Application event.

This section contains simple, generic instructions for customizing your environment. The changes you make are effective immediately, so you can see if the changes are what you wanted and go back and modify them if they were not. See the OpenOffice.org help files for detailed instructions.

To access the customization dialog in any open OpenOffice.org module, select *Tools > Customize*.

Figure 1.1 *Customization Dialog in Writer*



Procedure 1.1 *Customizing Toolbars*

1. In the customization dialog, click the *Toolbar* tab.
2. From the *Toolbar* drop-down list, select the toolbar you want to customize.
3. Select the check boxes next to the commands you want to appear on the toolbar, and deselect the check boxes next to the commands you do not want to appear. A short description for each command is shown at the bottom of the dialog.
4. With *Save In*, select whether to save your customized toolbar in the current OpenOffice.org module or in the current document. If you decide to save it in the OpenOffice.org module, the customized toolbar is used whenever you open that module. If you decide to save it together with the current document, the customized toolbar is used whenever you open that document.
5. Repeat to customize additional toolbars.
6. Click *OK*.

If you want to switch back to the original settings again, open the customization dialog, click the *Toolbar*drop-down list and select *Restore Default Settings*. Click *Yes* and *Reset* to proceed.

Procedure 1.2 *Showing or Hiding Buttons in the Toolbar*

1. Click the arrow icon at the end of the toolbar you want to change.
2. Click *Visible Buttons* to display a list of buttons.
3. Select the buttons in the list to enable (check) or disable (uncheck) them.

Procedure 1.3 *Customizing Menus*

You can add or delete items from current menus, reorganize menus, and even create new menus.

1. Click *Tools* > *Customize* > *Menus*.
2. Select the menu you want to change, or click *New* to create a new menu.

Click *Help* for more information about the options in the *Customize* dialog.

3 Modify, add, or delete menu items as desired.

4 Click *OK*.

Procedure 1.4 *Customizing Keyboard Shortcuts*

You can reassign currently assigned keyboard shortcuts and assign new shortcuts to frequently used functions.

1 Click *Tools* > *Customize* > *Keyboard*.

2 Select the keys you want to assign to a function, or select the function and assign the keys or key combinations.

Click *Help* for more information about the options in the *Customize* dialog.

3 Modify, add, or delete keyboard shortcuts as desired.

4 Click *OK*.

Procedure 1.5 *Customizing Events*

OpenOffice.org also provides ways to assign macros to events such as application startup or the saving of a document. The assigned macro runs automatically whenever the selected event occurs.

1 Click *Tools* > *Customize* > *Events*.

2 Select the event you want to change.

Click *Help* for more information about the options in the *Customize* dialog box.

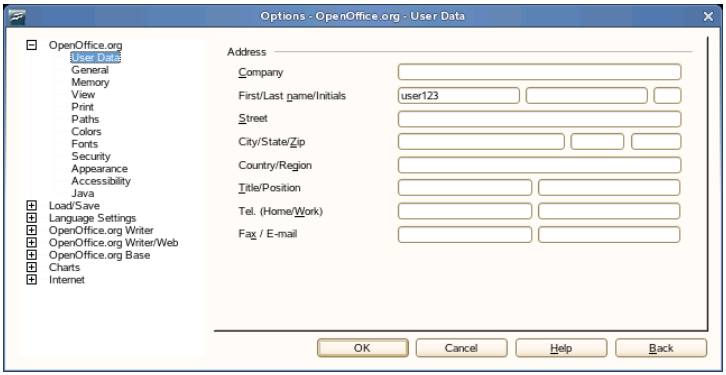
3 Assign or remove macros for the selected event.

4 Click *OK*.

1.8 Changing the Global Settings

Global settings can be changed in any OpenOffice.org application by clicking *Tools* > *Options* on the menu bar. This opens the window shown in the figure below. A tree structure is used to display categories of settings.

Figure 1.2 *The Options Window*



The settings categories that appear depend on the module you are working in. For example, if you are in Writer, the OpenOffice.org Writer category appears in the list, but the OpenOffice.org Calc category does not. The OpenOffice.org Base category appears in both Calc and Writer. The Application column in the table shows where each setting category is available.

The following table lists the settings categories along with a brief description of each category:

Table 1.2 *Global Setting Categories*

Settings Category	Description	Application
OpenOffice.org	Various basic settings, including your user data (such as your address and e-mail), important paths, and settings for printers and external programs.	All

Settings Category	Description	Application
Load/Save	Includes the settings related to the opening and saving of several file types. There is a dialog for general settings and several special dialogs to define how external formats should be handled.	All
Language Settings	Covers the various settings related to languages and writing aids, such as your locale and spell checker settings. This is also the place to enable support for Asian languages.	All
OpenOffice.org Writer	Configures the global word processing options, such as the basic fonts and layout that Writer should use.	Writer
OpenOffice.org Writer/Web	Changes the settings related to the HTML authoring features of OpenOffice.org.	Writer
OpenOffice.org Calc	Changes the settings for Calc, such as those related to sort lists and grids.	Calc
OpenOffice.org Impress	Changes the settings that should apply to all presentations. For example, you can specify the measurement unit for the grid used to arrange elements.	Impress
OpenOffice.org Draw	Includes the settings related to the vector drawing module, such as the drawing scale, grid properties, and some print options.	Draw
OpenOffice.org Math	Provides a single dialog to set special print options for formulas.	Math
OpenOffice.org Base	Provides dialogs to set and edit connections and registered databases.	Base

Settings Category	Description	Application
Charts	Defines the default colors used for newly created charts.	All
Internet	Includes the dialogs to configure any proxies and to change settings related to search engines.	All

IMPORTANT: Settings Apply Globally

All settings listed in the table are applied *globally* for the specified applications. They are used as defaults for every new document you create.

1.9 Using Templates

A template is a document containing only the styles (and content) that you want to appear in every document of that type. When a document is created or opened with the template, the styles are automatically applied to that document. Templates greatly enhance the use of OpenOffice.org by simplifying formatting tasks for a variety of different types of documents. For example, in a word processor, you might write letters, memos, and reports, all of which look different and require different styles. Or for spreadsheets, you might want to use different cell styles or headings for certain types of spreadsheets. If you use templates for each of your document types, the styles you need for each document are always readily available.

OpenOffice.org comes with a set of predefined templates, and you can find additional templates on the Internet. For details, see Section 1.10, “For More Information” (page 15). If you want to create your own templates, this requires a little bit of up-front planning. You need to determine how you want the document to look so you can create the styles you need in that template. You can always change your template, but a little planning can save you a lot of time later.

A detailed explanation of templates is beyond the scope of this section. Creating OpenOffice.org Templates (page 15) only shows how to generate a template from an existing document.

Procedure 1.6 *Creating OpenOffice.org Templates*

For text document, spreadsheets, presentations, and drawings, you can easily create a template from an existing document as follows:

1. Start OpenOffice.org and open or create a document that contains the styles and content that you want to re-use for other documents of that type.
2. Click *File* > *Templates* > *Save*.
3. Specify a name for the template.
4. In the *Categories* box, click the category you want to place the template in. The category is the folder where the template is stored.
5. Click *OK*.

NOTE: Converting Former Microsoft Word Templates

You can convert Microsoft Word templates like you would any other Word document. See Section 1.4.1, "Converting Documents to the OpenOffice.org Format" (page 6) for information.

1.10 For More Information

OpenOffice.org contains extensive online help. In addition, a large community of users and developers support it. The following lists shows some of the places where you can go for additional information.

OpenOffice.org Online Help Menu
: Extensive help on performing any task in OpenOffice.org.

`http://support.openoffice.org/index.html`
: Official OpenOffice.org support page. provides manuals, tutorials, user and developer forums, users@openoffice.org mailing list, Frequently Asked Questions, and much more

http://documentation.openoffice.org/manuals/oooauthors2/0600MG-MigrationGuide.pdf

OpenOffice.org Migration Guide. Provides information about migrating to OpenOffice.org from other office suites, including Microsoft Office.

http://www.taming-openoffice-org.com/

Taming OpenOffice.org: Books, news, tips and tricks.

http://www.pitonyak.org/oo.php

Extensive information about creating and using macros.

http://documentation.openoffice.org/Samples_Templates/User/template_2_x/index.html

The OpenOffice.org documentation Web site provides templates for Writer, Calc, Impress, and Draw. Including thesis templates, Curriculum Vitae or templates for CD cases, fax cover sheets, and much more.

http://www.worldlabel.com/Pages/openoffice-template.htm

Various templates for creating labels with OpenOffice.org.

http://documentation.openoffice.org/HOW_TO/index.html

Detailed HOWTOs for various OpenOffice.org tasks, including how to create and use templates.

2 OpenOffice.org Writer

OpenOffice.org Writer is a full-featured word processor with page and text formatting capabilities. Its interface is similar to interfaces for other major word processors, and it includes some features that are usually found only in expensive desktop publishing applications.

This chapter highlights a few key features of Writer. For more information about these features and for complete instructions for using Writer, look at the OpenOffice.org help or at the sources listed in Section 1.10, “For More Information” (page 15).

Much of the information in this chapter can also be applied to other OpenOffice.org modules. For example, other modules use styles similarly to how they are used in Writer.

2.1 What's New in Writer?

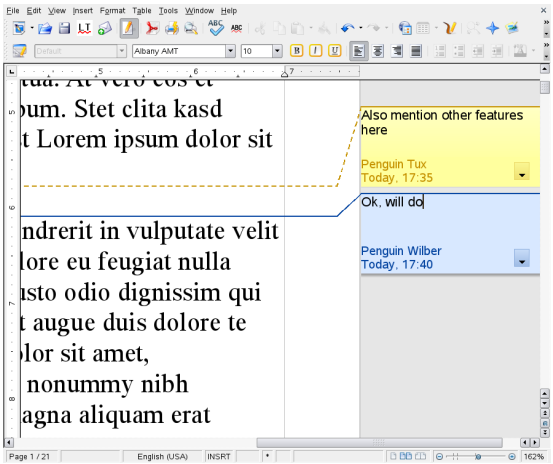
Find some major enhancements listed below.

Displaying Multiple Pages in Editing Mode

OpenOffice.org now includes a set of icons at the right corner of the status bar with that allow you to display multiple pages in the editing mode. With the slide bar, zoom seamlessly in and out of the document. When zooming out, OpenOffice.org displays more pages of your document.

Display and Usability of Notes

When editing or reviewing a document, users can add notes to the text. In contrast to earlier versions of OpenOffice.org where notes were only shown as small rectangles within the text, the notes are now displayed on the side of the document. Notes from different users are displayed in different colors and also show editing date and time.



The Novell edition of OpenOffice.org includes additional features available also in Writer, like enhanced fonts, support of certain file formats or GroupWise integration. For more details, refer to Section 1.3, “Novell Edition of OpenOffice.org” (page 4).

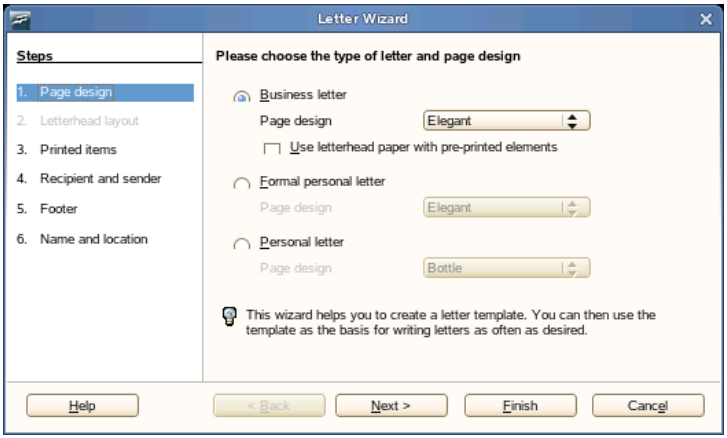
2.2 Creating a New Document

There are two ways to create a new document:

To create a document from scratch, click *File* > *New* > *Text Document*.

To use a standard format and predefined elements for your own documents, try a wizard. Wizards are small utilities that let you make some basic decisions and then produce a ready-made document from a template. For example, to create a business letter, click *File* > *Wizards* > *Letter*. Using the wizard's dialogs, easily create a basic document using a standard format. A sample wizard dialog is shown in Figure 2.1 .

Figure 2.1 *An OpenOffice.org Wizard*



Enter text in the document window as desired. Use the *Formatting* toolbar or the *Format* menu to adjust the appearance of the document. Use the *File* menu or the relevant buttons in the toolbar to print and save your document. With the options under *Insert*, add extra items to your document, such as a table, picture, or chart.

2.3 Sharing Documents with Other Word Processors

You can use Writer to edit documents created in a variety of other word processors. For example, you can import a Microsoft Word document, edit it, and save it again as a Word document. Most Word documents can be imported into OpenOffice.org without any problem. Formatting, fonts, and all other aspects of the document remain intact. However, some very complex documents—such as documents containing complicated tables, Word macros, or unusual fonts or formatting—might require some editing after being imported. OpenOffice.org can also save in many popular word processing formats. Likewise, documents created in OpenOffice.org and saved as Word files can be opened in Microsoft Word without any trouble.

This means, if you use OpenOffice.org in an environment where you frequently share documents with Word users, you should have little or no trouble exchanging document files. Just open the files, edit them, and save them as Word files.

2.4 Formatting with Styles

OpenOffice.org uses styles for applying consistent formatting to various elements in a document. The following types of styles are available:

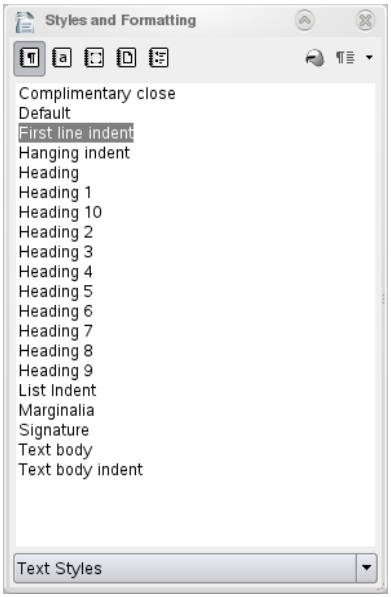
Table 2.1 *About the Types of Styles*

Type of Style	What it Does
Paragraph	Applies standardized formatting to the various types of paragraphs in your document. For example, apply a paragraph style to a first-level heading to set the font and font size, spacing above and below the heading, location of the heading, and other formatting specifications.
Character	Applies standardized formatting for types of text. For example, if you want emphasized text to appear in italics, you can create an emphasis style that italicizes selected text when you apply the style to it.
Frame	Applies standardized formatting to frames. For example, if your document uses sidebars, you can create frames with specified graphics, borders, location, and other formatting so that all of your sidebars have a consistent appearance.
Page	Applies standardized formatting to a specified type of page. For example, if every page of your document contains a header and footer except for the first page, you can use a first page style that disables headers and footers. You can also use different page styles for left and right pages so that you have bigger margins on the insides of pages and your page numbers appear on an outside corner.
List	Applies standardized formatting to specified list types. For example, you can define a checklist with square check boxes and a bullet list with round bullets, then easily apply the correct style when creating your lists.

2.4.1 Opening the Styles and Formatting Window

The *Styles and Formatting* window (called the *Stylist* in earlier versions of OpenOffice.org), is a versatile formatting tool for applying styles to text, paragraphs, pages, frames, and lists. To open this window, click *Format* > *Styles and Formatting*.

Figure 2.2 *Styles and Formatting Window*



OpenOffice.org comes with several predefined styles. You can use these styles as they are, modify them, or create new styles. From the drop-down list at the bottom of the window, select which kind of styles you want to see in the window. Or use the icons at the top of the window to display formatting styles for the most common elements like paragraphs, frames, pages, or lists.

2.4.2 Applying a Style

To apply a style, select the element you want to apply the style to, and then double-click the style in the *Styles and Formatting* window. For example, to apply a style to a

paragraph, place the cursor anywhere in that paragraph and double-click the desired paragraph style.

TIP: Docking the Style and Formatting Window

By default, the *Styles and Formatting* window is a floating window; that is, it opens in its own window that you can place anywhere on the screen. To make it appear always in the same part of the Writer interface, you can `dock` the *Styles and Formatting* window. To do so, drag its title bar to the left or right side of the main Writer window until a grey frame appears, then release the mouse button to position it there. To undock the window and make it appear as a floating window again, just drag its title bar to a different place.

The docking/undocking mechanism applies to some other windows in OpenOffice.org as well, including the Navigator.

2.4.3 Using Styles Versus Using Formatting Buttons and Menu Options

Using styles rather than the *Format* menu options and buttons helps give your pages, paragraphs, texts, and lists a more consistent look and makes it easier to change your formatting. For example, if you emphasize text by selecting it and clicking the *Bold* button, then later decide you want emphasized text to be italicized, you need to find all of your bolded text and manually change it to italics. If you use a character style, you only need to change the style from bold to italics and all text that has been formatted with that style automatically changes from bold to italics.

Text formatted with a menu option or button overrides any styles you have applied. If you use the *Bold* button to format some text and an emphasis style to format other text, then changing the style does not change the text that you formatted with the button, even if you later apply the style to the text you bolded with the button. You must manually unbold the text and then apply the style.

Likewise, if you manually format your paragraphs using *Format* > *Paragraph*, it is easy to end up with inconsistent paragraph formatting. This is especially true if you copy and paste paragraphs from other documents with different formatting. However, if you apply paragraph styles, formatting remains consistent. If you change a style, the change is automatically applied to all paragraphs formatted with that style.

2.4.4 Changing a Style

With styles, you can change formatting throughout a document by changing a style, rather than applying the change separately everywhere you want to apply the new formatting.

1. In the *Styles and Formatting* window, right-click the style you want to change.
2. Click *Modify*.
3. Change the settings for the selected style.

   For information about the available settings, refer to the OpenOffice.org online help.
4. Click *OK*.

2.4.5 Creating a Style

OpenOffice.org comes with a collection of styles to suit many users' needs. However, most users eventually need a style that does not yet exist. To create a new style:

1. Right-click in any empty space in the *Styles and Formatting* window.

   Make sure you are in the list of styles for the type of style you want to create. For example, if you are creating a character style, make sure you are in the character style list.
2. Click *New*.
3. Click *OK*.
4. Name your style and choose the settings you want applied with that style.

   For details about the style options available in any tab, click that tab and then click *Help*.

2.5 Working with Large Documents

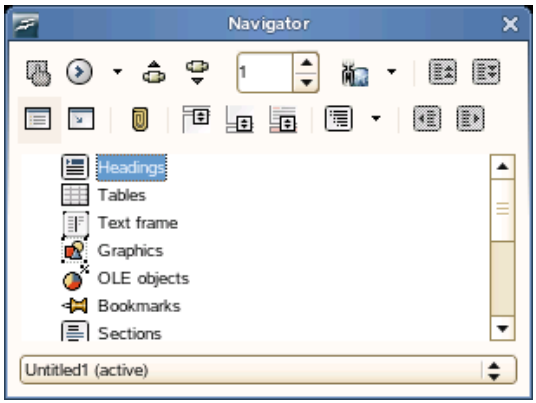
You can use Writer to work on large documents. Large documents can be either a single file or a collection of files assembled into a single document.

2.5.1 Navigating in Large Documents

The Navigator tool displays information about the contents of a document. It also lets you quickly jump to different elements. For example, you can use the Navigator to get a quick overview of all images included in the document.

To open the Navigator, click *Edit* > *Navigator* or press F5. The elements listed in the Navigator vary according to the document loaded in Writer.

Figure 2.3 *Navigator Tool in Writer*



Click an item in the Navigator to jump to that item in the document.

2.5.2 Using Master Documents

If you are working with a very large document, such as a book, you might find it easier to manage the book with a master document, rather than keeping the book in a single file. A master document enables you to quickly apply formatting changes to a large document or to jump to each subdocument for editing.

A master document is a Writer document that serves as a container for multiple Writer files. You can maintain chapters or other subdocuments as individual files collected in the master document. Master documents are also useful if multiple people are working on a document. You can separate each person's portion of the document into subdocuments collected in a master document, allowing multiple writers to work on their subdocuments at the same time without fear of overwriting other people's work.

Procedure 2.1 *Creating a Master Document*

1. Click *New > Master Document*.

   or

   Open an existing document and click *File > Send > Create Master Document*.

2. Insert subdocuments.

3. Click *File Save*.

The OpenOffice.org help files contain more complete information about working with master documents. Look for the topic entitled *Using Master Documents and Subdocuments* .

TIP: Styles and Templates in Master Documents

The styles from all of your subdocuments are imported into the master document. To ensure that formatting is consistent throughout your master document, you should use the same template for each subdocument. Doing so is not mandatory; however, if subdocuments are formatted differently, you might need to do some reformatting to successfully bring subdocuments into the master document without creating inconsistencies. For example, if two documents imported into your master document include different styles with the same name, the master document will use the formatting specified for that style in the first document you import.

2.6 Using Writer as an HTML Editor

In addition to being a full-featured word processor, Writer also functions as an HTML editor. Writer includes HTML tags that can be applied as you would any other style in a Writer document. You can view the document as it will appear online, or you can directly edit the HTML code.

Procedure 2.2 *Creating an HTML Document*

1. Click *File > New > HTML Document*.
2. Press F11 to open the *Styles and Formatting* window.
3. Click the arrow at the bottom of the *Styles and Formatting* window.
4. Select *HTML Styles*.
5. Create your HTML document, using the styles to tag your text.
6. Click *File > Save As*.
7. Select the location where you want to save your file, name the file, and select *HTML Document (.html)* from the *Filter* list.
8. Click *OK*.

If you prefer to edit HTML code directly, or if you want to see the HTML code created when you edited the HTML file as a Writer document, click *View > HTML Source*. In HTML Source mode, the *Formatting and Styles* list is not available.

The first time you switch to HTML Source mode, you are prompted to save the file as HTML, if you have not already done so.

3 OpenOffice.org Calc

Calc is the OpenOffice.org spreadsheet and data plotting module. Spreadsheets consist of a number of sheets, containing cells which can be filled with elements like text, numbers, or formulas. A formula can manipulate data from other cells to generate a value for the cell in which it is inserted. Calc also allows you to define ranges, filter and sort the data or creates charts form the data to present it graphically. By using DataPilots, you can combine, analyze or compare larger amounts of data.

As with the entire OpenOffice.org suite, Calc can be used across a variety of platforms. It provides a number of exchange formats (including export to PDF documents), and can also read and save files in Microsoft Excel's format. Its interoperability is constantly ameliorated.

This chapter can only introduce some very basic Calc functionalities. For more information and for complete instructions, look at the OpenOffice.org help or at the sources listed in Section 1.10, “For More Information” (page 15). Power users can find a list of new features in Section 3.1, “What's New in Calc?” (page 28).

NOTE: VBA Macros

Calc can process many VBA macros in Excel documents; however, support for VBA macros is not yet complete. When opening an Excel spreadsheet that makes heavy use of macros, you might discover that some do not work.

3.1 What's New in Calc?

Find some major enhancements listed below.

Spreadsheet Collaboration

It is now possible to share a spreadsheet with other users. To do so, click *Tools* > *Share Document*. In the dialog that appears, activate the sharing mode and save the document. This creates a lock file `.~sharing. .ods#` in the same directory to store the list of users who are currently accessing the document. When a different user, tux opens the file, he is informed about the sharing mode and can make his changes to the file. When he wants to save his changes (and the document has been modified by another user in the meantime), a message appears. Upon saving the document, the changes of both users will be merged.

NOTE: Access Permissions

Note that all writers working on the shared document need writing permission for both the shared file and the lock file.

Higher Number of Columns Per Calc Sheet

Instead of only 256 columns per spreadsheet, OpenOffice.org can now handle 1024 columns per spreadsheet.

The Novell edition of OpenOffice.org includes the following additional features available in Calc:

Variable Formula Syntax Support (Calc A1, Excel A1, and Excel R1C1)

Accessible from the *Options* dialog: Click *Tools* > *Options* > *OpenOffice.org Calc* > *Calculate* and select the respective *Formula Syntax*.

Support of External Range Names

Allows users to access named ranges in external documents like you can in Microsoft Excel. For example,

```
=SUM('file:///external.ods'#NamedRange)
```

Support for Encrypted Excel Export

Allows you to save to an *.xls file with password and encrypt its content. Click *File* > *Save As...* and select the *Microsoft Excel 97/2000/XP (.xls)* format. Set the checkbox *Save with password*, save and type your password.

Protecting Sheets

Allows you to protect sheets and the contents of locked cells with a password. Click *Tools* > *Protect Document* > *Sheet* to access the available options.

Changing Source Data Ranges of DataPilots

Allows you to change the source data range of a DataPilot after the table has been created.

Toggling Grid Lines Per Sheet

Allows you to hide or show the grid lines individually for each sheet. The grid line settings are saved with the document. Access the function from the right end of the toolbar.

Argument Separators in Formula Expressions

The argument separators in formula expression are dependent on locales. In the English locale you can use a comma instead of a semicolon as a separator for expressions. For example, you can write `=SUM(A1,A2,A3)` instead `=SUM(A1;A2;A3)`.

3.2 Creating a New Document

Start OpenOffice.org and select *File* > *New* > *Spreadsheet* to create a new spreadsheet from scratch. Access the individual sheets by clicking the respective tabs at the bottom of the window.

Enter data in the cells as desired. To adjust the appearance, either use the *Formatting* toolbar or the *Format* menu—or define styles as described in Section 3.3, "Using Formatting and Styles in Calc" (page 29) . Use the *File* menu or the relevant buttons in the toolbar to print and save your document.

3.3 Using Formatting and Styles in Calc

Calc comes with a few built-in cell and page styles to improve the appearance of your spreadsheets and reports. Although these built-in styles are adequate for many uses,

you will probably find it useful to create styles for your own frequently used formatting preferences.

Procedure 3.1 *Creating a Style*

1. Click *Format* > *Styles and Formatting*.
2. In the *Styles and Formatting* window, click either the *Cell Styles* or the *Page Styles* icon.
3. Right-click in the *Styles and Formatting* window, then click *New*.
4. Specify a name for your style and use the various tabs to set the desired formatting options.
5. Click *OK*.

Procedure 3.2 *Modifying a Style*

1. Click *Format* > *Styles and Formatting*.
2. In the *Formatting and Styles* window, click either the *Cell Styles* or the *Page Styles* icon.
3. Right-click the name of the style you want to change, then click *Modify*.
4. Change the desired formatting options.
5. Click OK.

Further OpenOffice.org Modules

4

Besides OpenOffice.org Writer and OpenOffice.org Calc, OpenOffice.org also includes the modules Impress, Base, Draw, and Math. With these you can create presentations, design databases, draw up graphics and diagrams and create mathematical formulas.

4.1 Using Presentations with Impress

Use OpenOffice.org Impress to create presentations for screen display or printing, such as slide shows or transparencies. If you have used other presentation software, you can move comfortably to Impress, which works very similarly to other presentation software.

Impress can open and save Microsoft Powerpoint presentations, which means you can exchange presentations with Powerpoint users, as long as you save your presentations in Powerpoint format.

4.1.1 What's New in Impress?

The Novell edition of OpenOffice.org allows you to use 3D transitions for your slides. Access the available transitions by selecting *Slide Show* > *Transitions*.

4.1.2 Creating a Presentation

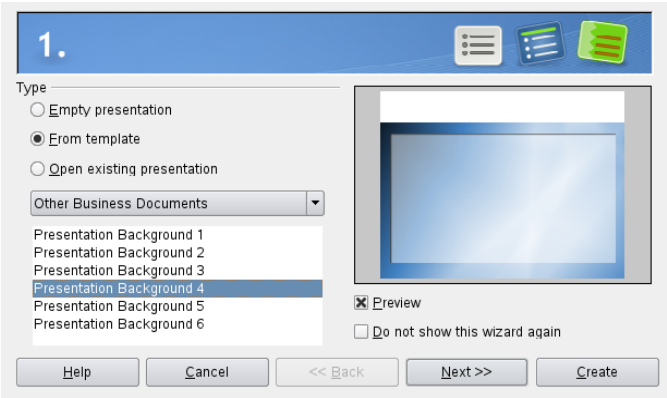
You can either create a new presentation from scratch, without any preformatted slides, or use an existing template or presentation for your new document. Impress uses styles

and templates the same way other OpenOffice.org modules do. See Section 1.9, “Using Templates” (page 14) for more information about templates. A wizard leads you through the options available for creating new presentations.

1. Start OpenOffice.org Impress directly or in OpenOffice.org, click *File* > *New* > *Presentation*.

2. Select one of the options for creating a new presentation.

3. If you decide to create a presentation from a template, choose one of the templates from the drop-down list and click *Next*.



4. From a variety of backgrounds and ready-made presentations, select a slide design. To create your own design, select *Original*.

5. Select an output medium. The output medium is the form the final presentation will take, such an overhead sheet, paper, or a screen slide show, among other choices.

   Select *Preview* for a thumbnail showing your choices. If all options are set according to your wishes, click *Next*.

6. If you want to use effects for slide transitions, select the *Effect* you want to use and specify the *Speed* .

7. Either use the default presentation type or choose *Automatic* to specify the amount of time each page displays and the length of the pause between presentations.

8 If all options are set according to your wishes, click *Create*.

The presentation opens, ready for editing.

4.1.3 Using Master Pages

Master pages give your presentation a consistent look by defining the way each slide looks, what fonts are used, and other graphical elements. Impress uses two types of master pages:

Slide Master
: Contains elements that appear on all slides. For example, you might want your company logo to appear in the same place on every slide. The slide master also determines the text formatting style for the heading and outline of every slide that uses that master page, as well as any information you want to appear in a header or footer.

Notes Master
: Determines the formatting and appearance of the notes in your presentation.

Creating a Slide Master

Impress comes with a collection of preformatted master pages. Eventually, most users will want to customize their presentations by creating their own slide masters.

1 Start Impress, then create a new empty presentation.

2 Click *View* > *Master* > *Slide Master*.

   This opens the current slide master in *Master View*.

3 Right-click the left-hand panel, then click *New Master*.

4 Edit the slide master until it has the desired look.

5 Click *Close Master View* or *View* > *Normal* to return to *Normal View*.

TIP

When you have created all of the slide masters you want to use in your presentations, you can save them in an Impress template. Then, any time you want to create presentations that use those slide masters, open a new presentation with your template.

Applying a Slide Master

Slide masters can be applied to selected slides or to all slides in the presentation.

1. Open your presentation, then click *View* > *Master* > *Slide Master*.

2. (Optional) If you want to apply the slide master to multiple slides, but not to all slides, select the slides that you want to use that slide master.

   To select multiple slides, pressCtrl in the *Slides Pane* while clicking on the slides you want to use.

3. In the Tasks Pane, right-click the master page you want to apply.

   If you do not see the *Task Pane* , click *View* > *Task Pane*.

4. Apply the slide master by clicking one of the following:.

   - *Apply to All Slides*

     Applies the selected slide master to all slides in the presentation.

   - *Apply to Selected Slides*

     Applies the selected slide master to the current slide, or to any slides you select before applying the slide master. For example, if you want to apply a different slide master to the first slide in a presentation, select that slide, then change to *Master View* and apply a slide master to that slide.

4.2 Using Databases with Base

OpenOffice.org includes a database module: Base. Use Base to design a database to store many different kinds of information, from a simple address book or recipe file to a sophisticated document management system.

Tables, forms, queries, and reports can be created manually or using convenient wizards. For example, the Table Wizard contains a number of common fields for business and personal use. Databases created in Base can be used as data sources, such as when creating form letters.

It is beyond the scope of this document to detail database design with Base. More information can be found at the sources listed in Section 1.10, "For More Information" (page 15).

4.2.1 Creating a Database Using Predefined Options

Base comes with several predefined database fields to help you create a database. A wizard guides you through the steps to create a new database. The steps in this section are specific to creating an address book using predefined fields, but it should be easy to follow them to use the predefined fields for any of the built-in database options.

The process for creating a database can be broken into several subprocesses:

Creating the Database

1. Click *File* > *New* > *Database*.
2. Select *Create a new database* > *Next*.
3. Click *Yes, register the database for me* to make your database information available to other OpenOffice.org modules, select both check boxes in the bottom half of the dialog, then click *Finish*.
4. Browse to the directory where you want to save the database, specify a name for the database, then click *OK*.

Setting Up the Database Table

Next, define the fields you want to use in your database table.

1. In the *Table Wizard*, click *Personal*.

   The *Sample tables* list changes to show the predefined tables for personal use. If you had clicked *Business*, the list would contain predefined business tables.

2. In the *Sample tables* list, click *Addresses*.

   The available fields for the predefined address book appear in the *Available fields* menu.

3. In the *Available fields* menu, click the fields you want to use in your address book.

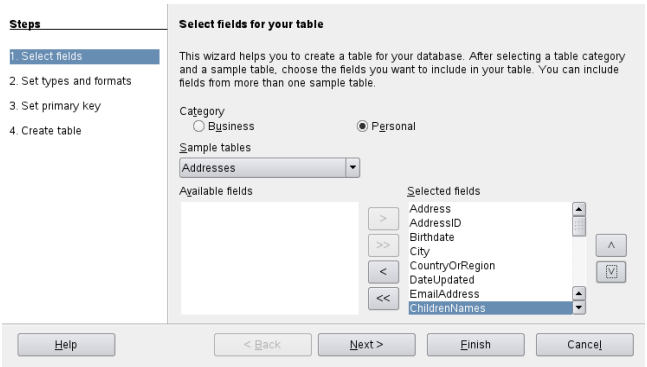
   You can select one item at a time, or you can shift-click multiple items to select them.

4. Click the single arrow icon to move the selected items to the *Selected fields* menu.

   To move all available fields to the *Selected fields* menu, click the double right-arrow.

5. Use the ↑ and ↓ keys to adjust the order of the selected fields.

   The fields appear in the table and forms in the order in which they are listed.



6. Click *Next*.

7. Make sure each of the fields is defined correctly.

   You can change the field name, type, whether the entry is required, and the maximum length of the field (the number of characters that can be entered in that field). For this example, leave the settings as they are.

8. Click *Next*.

9. Click *Create a primary key*, click *Automatically add a primary key*, click *Auto value*, then click *Next*.

10. Accept the default name for the table, select *Create a form based on this table*, then click *Finish*.

Creating a Form

Next, create the form to use when entering data into your address book.

1. In the *Form Wizard*, click the double right-arrow icon to move all available fields to the *Fields in the form* list, then click *Next* twice.

2. Select how you want to arrange your form, then click *Next*.

3. Select the option to use the form to display all data and leave all of the check boxes empty, then click *Next*.

4. Apply a style and field border, then click *Next*.

   For this example, accept the default selections.

5. Name the form, select the *Modify the form* option, then click *Finish*.

Modifying the Form

After the form has been defined, you can modify the appearance of the form to suit your preferences.

1. Close the form that opened when you finished the previous step.

2. In the main window for your database, right-click the form you want to modify (there should be only one option), then click *Edit*.

3. Arrange the fields on the form by dragging them to their new locations.

   For example, move the First Name field so it appears to the right of the Last Name field, and then adjust the locations of the other fields to suit your preference.

4. When you have finished modifying the form, save it and close it.

What's Next?

After you have created your database tables and forms, you are ready to enter your data. You can also design queries and reports to help sort and display the data.

Refer to OpenOffice.org online help and other sources listed in Section 1.10, "For More Information" (page 15) for additional information about Base.

4.3 Creating Graphics with Draw

Use OpenOffice.org Draw to create graphics and diagrams. You can save your drawings in today's most common formats and import them into any application that lets you import graphics, including the other OpenOffice.org modules. You can also create Flash versions of your drawings.

The OpenOffice.org documentation contains complete instructions on using Draw. See Section 1.10, "For More Information" (page 15) for more information.

4.3.1 What's New in Draw?

The Novell edition of OpenOffice.org allows you to import Scalable Vector Graphics (*.svg) and WordPerfect Graphics (*.wpg). Select *File* > *Open* and use the *Filter* drop-down list to view which file formats can be opened.

4.3.2 Creating and Inserting Graphics

Procedure 4.1 *Creating a Graphic*

1. Press Alt + F2 and enter `oodraw` to open OpenOffice.org Draw.
2. Use the toolbar at the bottom of the window to create a graphic.
3. Save the graphic.

To embedd an existing Draw graphic into an OpenOffice.org document, select *Insert* > *Object* > *OLE Object*. Select *Create from file* and click *Search* to navigate to the Draw file to insert. If you insert a file as OLE object, you can easily edit the object later by double-clicking it.

Procedure 4.2 *Opening Draw From Other OpenOffice.org Modules*

One particularly useful feature of Draw is the ability to open it from other OpenOffice.org modules so you can create a drawing that is automatically imported into your document.

1. From an OpenOffice.org module (for example, from Writer), click *Insert* > *Object* > *OLE Object* > *OpenOffice.org 3.x Drawing* > *OK*.

   This opens Draw.
2. Create your drawing.
3. Click in your document, outside the Draw frame.

   The drawing is automatically inserted into your document.

4.4 Creating Mathematical Formulas with Math

It is usually difficult to include complex mathematical formulas in your documents. The OpenOffice.org Math equation editor lets you create formulas using operators, functions, and formatting assistants. You can then save those formulas as objects that can be imported into other documents. Math functions can be inserted into other OpenOffice.org documents like any other graphic object.

NOTE

Math is not a calculator. The functions it creates are graphical objects. Even if they are imported into Calc, these functions cannot be evaluated.

Part II. Information Management

Kontact: E-Mailing and Calendaring

5

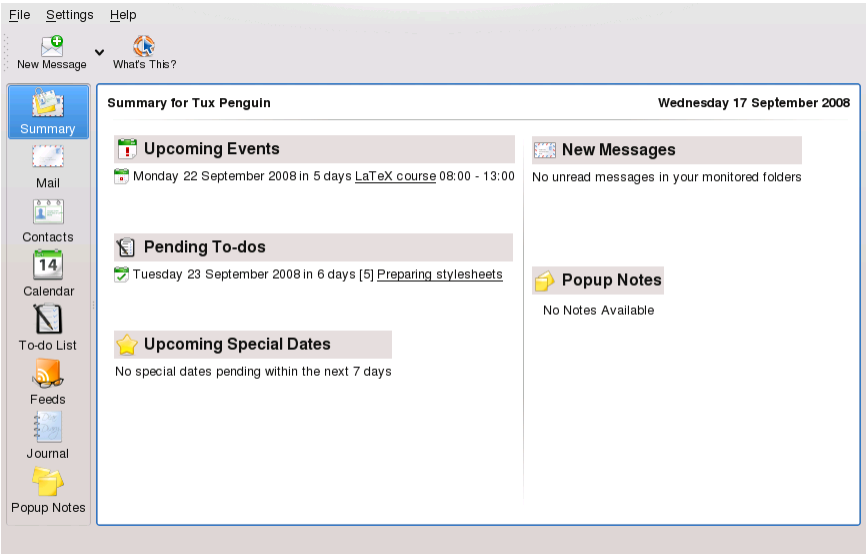
Kontact combines the functionality of a number of KDE applications into a convenient, single interface for personal information management. These applications include KMail for e-mail, KOrganizer for the calendar, KAddressBook for contacts, KNode for newsgroups, and KNotes for notes. Kontact integrates easily with the rest of the KDE desktop and connects to a variety of groupware servers. It includes extra features, such as journal entries, Spam and virus filtering, and an RSS reader.

Start Kontact from the main menu. Alternatively, press Alt + F2 and enter `kontact` . You can also open the individual components instead of the combined application if you only need partial functionality.

5.1 Kontact Overview

The default window view is shown in Figure 5.1, "The Kontact Summary View" (page 44). Use the icons in the left section to access the different components. The *Summary* provides basic information, including upcoming birthdays and to-dos and the number of new mail messages. The news section can access RSS feeds to provide updated news of interest to you. Use *Settings* > *Configure Summary View* to configure the information displayed.

Figure 5.1 *The Kontact Summary View*



Mail

The folder area to the left contains a list of your mail folders (mail boxes) indicating the total number of messages and how many are still unread. To select a folder, simply click it. The messages in that folder appear in the top right frame. The number of messages in that folder is also shown in the status bar at the bottom of the application window.

The subject, sender, and time of receipt of each message are listed in the header area to the right. Click a message to select it and display it in the message window. Sort the messages by clicking one of the column headers (subject, sender, date, etc.). The contents of the currently selected message are displayed in the message frame of the window. Attachments are depicted as icons at the end of the message, based on the MIME type of the attachment, or they can be displayed inline.

Contacts

The upper left frame of this component shows all addresses in the currently activated address books. The lower left frame lists your address books and shows whether each one is currently active. The right frame shows the currently selected contact. Use the search bar at the top to find a particular contact.

Calendar

The calendar view is divided into a number of frames. By default, view a small calendar of this month and a week view of the current week. Also find a list of to-dos, a detailed view of the current event or to-do, and a list of calendars with the status of each. Select a different view from the toolbar or the *View* menu.

To-Do List

To-do List shows your list of tasks. Click the field at the top to add a new item to the list. Right-click in a column of an existing item to make changes to the value in that column. An item can be broken into several subitems. Right-click and select *New Sub-to-do* to create a subitem. You can also assign to-dos to other people.

Journal

The *Journal* provides a place for your reflections, occurrences, or experiences. Choose a date in the calendar frame and click *Add Journal Entry* to add a new entry. If a journal entry already exists for the chosen date, edit it in the right frame.

Notes

Use the Notes component to keep sticky notes to yourself. If you are using KDE, use the KNotes icon in the system tray to make your notes visible on the desktop.

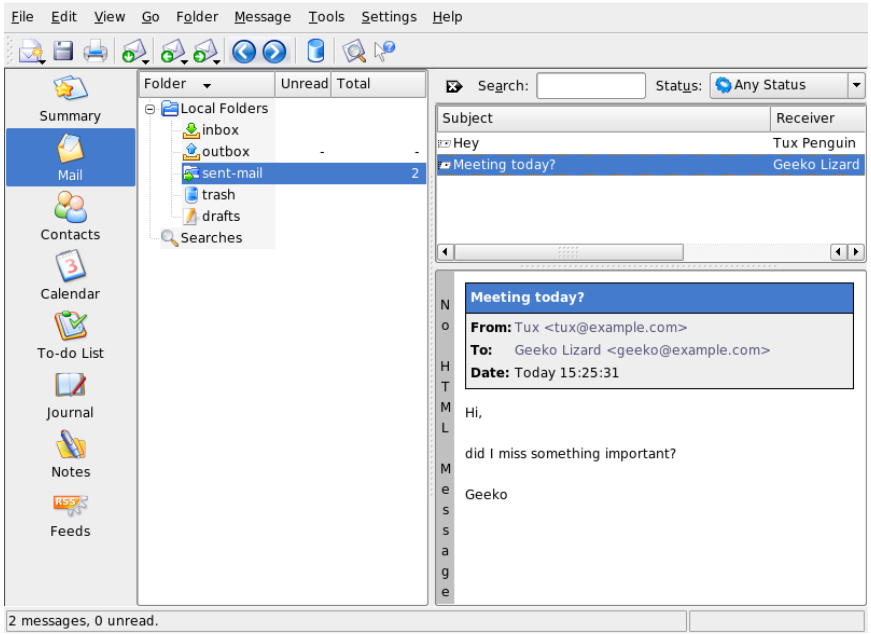
Feeds

The *Feeds* window is divided into three frames—a tree view with RSS feeds on the left, an article list on the top right, and the article view on the bottom right side. Click a feed in the tree view to display it. Right-click a feed to update, edit, or delete it. Right-click a folder in the tree view to open a menu where you can add a new feed or manipulate existing feeds within this folder.

5.2 Mail

Kontact uses KMail as its e-mail component. You can also start it separately with the command `kmail`. To configure it, open the mail component then select *Settings* > *Configure KMail*. KMail is a fully-featured e-mail client that supports a number of protocols.

Figure 5.2 *The Kontact Mail Component*



5.2.1 Configuring Identities

KMail can manage multiple e-mail accounts, such as your private e-mail and your business ones. Creating separate identities for your different e-mail accounts allows you to associate different sender addresses, cryptography settings and signatures with each of them. To create an identity, select *Settings* > *Configure KMail* and choose *Identities* > *Add*. Determine whether to create a new identity from scratch, use the user settings from *Personal Settings* > *Password & User Account*, or whether to duplicate an existing identity.

To create a new identity from scratch, enter the name of the new identity and enter your name, organization and e-mail address in the *General* tab. Optionally, configure one or several of the following options:

Cryptography
Set the keys to use for signing and encrypting messages. For the encryption to work, first create a key with KGpg, as described in Chapter 9, *Encryption with KGpg* (page 95).

Advanced
Enter a default reply-to and a default blind carbon-copy address, choose a dictionary, select the folders for draft, sent messages, and templates, and define by which sending account the messages should be sent.

Templates
Define templates to use for new messages, for default replies to senders and lists, and for forwarded messages. To use templates activate *Use Custom Message Templates*, first.

Signature
Click *Enable Signature* first to use it. Decide how your messages should be signed. Use the input field below to configure your signature or obtain it from a file or the output of a command.

Picture
Use this tab to include a picture in the X-Face format in your messages. X-Face can only hold black and white images with a dimension of 48 × 48 pixels. You can obtain the picture from an external source or of the input field below.

5.2.2 Creating Accounts

Before you can send or receive e-mails, create one or several accounts. The settings under *Accounts* determine how Kontact receives and sends e-mail. Many of these settings vary depending on the system and network in which your mail server is located. If you are not sure about the settings or items to select, consult your ISP or system administrator.

1 Start Kontact and select *Settings* > *Configure KMail* > *Accounts*.

2 Create an incoming account by clicking on the *Receiving* tab:

2a Click *Add* and choose the account type. The following dialog box shows only the respective entries of your selected type.

2b If you have selected POP3, IMAP or disconnected IMAP, enter username, password and hostname. Depending on the chosen account type, configure additional parameters such as the mail checking interval, the hiding folders, security settings, and others.

2c If you selected local mailbox or maildir mailbox, enter the folder location.

2d Proceed with *OK*.

3 Create an outgoing account by clicking on the *Sending* tab and click *Add* to choose either *SMTP* or *Sendmail*:

- If you select SMTP, enter an account name, the host name of the SMTP server. Should the server require login and password, also check *Server requires authentication* and enter the required credentials. Optionally, configure additional security settings using the *Security* tab.
- If you select Sendmail, no further configuration efforts are required.

4 Apply your settings and leave the account configuration dialog with *OK*.

5.2.3 Composing Messages

To compose new messages, select *Message* > *New Message* or click the corresponding icon in the toolbar. To send messages from different e-mail accounts, select one of the identities as described in Section 5.2.1, "Configuring Identities" (page 46). Select *View* > *Identity* to show a popup menu. In *To*, enter an e-mail address or part of a name or address in your address book. If Kontact can match what you enter to something in the address book, a selection list opens. Click the desired contact or complete your input if none matches. To select directly from the address book, click the *Select...* button next to the *Address* field.

To attach files to your message, click the paper clip icon and select the file to attach. Alternatively, drag a file from the desktop or another folder to the *New Message* window or select one of the options in the *Attach* menu. Normally, the format of a file is recognized correctly. If the format is not recognized, right-click the icon. From the menu that appears, select *Properties*. Set the format and filename in the next dialog and add a description. In addition, decide whether the attached file should be signed or encrypted.

When you are finished composing your message, send it immediately with *Message > Send* or move it to the outbox with *Message > Send Later*. If you send the e-mail, the message is copied to `sent-mail` after having been sent successfully. Messages moved to the `outbox` can be edited or deleted.

5.2.4 Managing Folders

Message folders help organize your messages. By default, they are located in the `~/.kde/share/apps/kmail/mail` directory. When starting KMail for the first time, the program creates several folders. If you are using IMAP, the IMAP folders are listed below the local folders. Each incoming mail server has its folders in the Folder list.

If you want to organize your messages in additional folders, create new folders by selecting *Folder > New Folder*. This opens a window in which to specify the name and format of the new folder.

Right-click the folder for a context menu offering several folder operations. Click *Expire* to specify the expiration date for read and unread messages, what should happen with them after expiration, and whether expired messages should be deleted or moved to a folder. If you intend to use the folder to store messages from a mailing list, set the necessary options under *Folder > Mailing List Management*.

To move one or several messages from one folder to another, drag them from the upper window and drop them into the appropriate folder in the left window. Messages can also be moved by highlighting the messages then pressing M or selecting *Message > Move to*. In the list of folders that appears, select the folder to which to move your messages.

Additionally, you can add folders to the *Favorite Folders* pane. This enables you to go quickly to your frequently used mail folders, especially if your folders are deeply structured. Choose the respective folder and select *Add to Favorite Folders*.

5.2.5 Signing and Encrypting E-Mails

E-mail is an insecure medium as anyone could theoretically read your e-mails or send some in your name. By signing your e-mails you enable the recipient of your e-mails to verify the sender of the messages as the key used to sign is only available to you. By

encrypting the contents of your e-mails make sure that they can only be read by the recipient. KMail supports both the signing and encryption of e-mails.

Set up KMail for signing and encrypting e-mails:

1. Generate a key pair as described in Section 9.2, “Generating a New Key Pair” (page 96) and export your public key as described in Section 9.3, “Exporting the Public Key” (page 99).

2. Configure the details of the encryption procedure in KMail:

   2a Start KMail and go to *Settings* > *Configure KMail* > *Identities*.

   2b Select the identity under which to send encrypted and signed messages. Click *Modify...* and proceed to *Cryptography*.

   2c Change the *OpenPGP signing key* by clicking on *Change...* and selecting your key from the dialog box.

   2d Change the *OpenPGP encryption key* by clicking on *Change...* and selecting your key from the dialog box.

3. Apply your settings and leave the configuration dialog with *OK*.

Sending Signed Mails

Sign your e-mails to allow the recipient to verify whether these have really been sent by you. KMail uses your private key to sign your messages and the recipient can verify the signature using your public key available on key servers. To sign an e-mail, proceed as follows:

1. Compose your e-mail as usual.

2. Select *Options* > *Sign Message*.

3. Select *Attach* > *Attach My Public Key* to create an attachment to your e-mail containing your public key.

4 Send your message as usual via *Message* > *Send Mail* and enter your key's passphrase when prompted. KMail signs your message using your private key and the recipient can verify the signature by the public key attached to your message.

Sending Encrypted Mails

Use encryption on your e-mails whenever you want to make sure that only the recipient can read the contents. To be able to exchange encrypted e-mails with another party, get the appropriate public key and use it to encrypt your message. At the other end, the private key is then used to decrypt the contents of your message. Of course, you can use both signatures and encryption on your messages.

To send an encrypted e-mail, proceed as follows:

1 Start KGpg with Alt + F2 and entering `kgpg`.

2 Get the recipient's public key:

- If you get it directly from the recipient, import the key with KGpg via *Keys* > *Import Key*.
- Access a public key server and import it from there. Select in KGpg *File* > *Key Server Dialog*, and search for the key. Select the respective key and import it into your keyring.

3 Compose a new message.

4 Select *Options* > *Encrypt Message*. If you want additionally sign it with your key, select the respective menu entry.

5 Send the mail.

6 Check whether all keys are correct.

7 Enter your passphrase.

5.2.6 Importing E-Mail from Other Mail Programs

To import e-mail from other applications, select *File* > *Import Messages* from the mail view in Kontact. It currently features import filters for Outlook Express, the mbox format, e-mail text format, Pegasus Mail, Opera, Evolution, and more. The import utility can also be started separately with the command `kmailcvt`.

Select the corresponding application and confirm with *Continue*. A file or a folder must be provided, depending on the selected type. KMail then completes the process.

5.2.7 Filters

Filters are a convenient method of automatically processing incoming mail. They use aspects of the mail, such as sender or size, to move mail to certain folders, delete unwanted mails, bounce mails back to the sender, or perform a number of other actions.

Setting Up a Filter

To create a filter based on an existing message, right-click the desired message then select *Create Filter* and the desired filter criteria. To create a filter from scratch, select *Settings* > *Configure Filters*.

Select the match method for filter criteria (all or any). Then select criteria that applies only to the desired messages. In *Filter Actions*, set what the filter should do to the messages that meet the criteria. The *Advanced* tab provides control over whether the filter is applied for specific accounts only.

Applying Filters

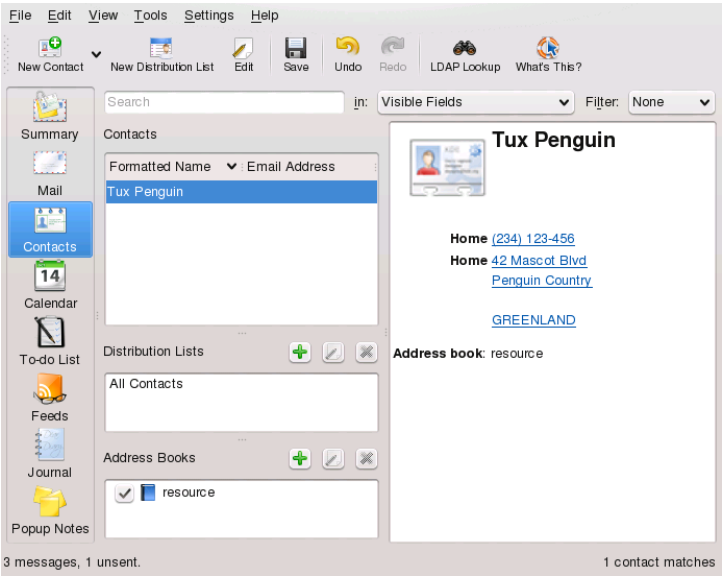
Filters are applied in the order listed in the dialog accessed with *Settings* > *Configure Filters*. Change the order by selecting a filter and clicking the arrow buttons. Filters are only applied to new incoming messages or sent messages as specified in the filter's advanced options. To apply filters to existing messages, right-click the desired messages and choose *Messages* > *Apply Filter* and the desired filter.

If your filters do not act as expected, monitor them with *Tools* > *Filter Log Viewer*. When logging is enabled in this dialog, it shows how messages are processed by your filters and can help locate the problem.

5.3 Contacts

The contacts component uses KAddressBook. You can also start it separately with the command `kaddressbook`. Configure it with *Settings* > *Configure KAddressBook*. To search for a particular contact, use the search bar. With *Filter*, select to display only contacts in a certain category. Right-click a contact to open a menu in which to select from a variety of options, such as sending the contact information in an e-mail.

Figure 5.3 *The Kontact Address Book*



5.3.1 Adding Contacts

To add a contact with the name and e-mail address from an e-mail, right-click the address in the mail component and select *Open in Address Book*. To add a new contact without using an e-mail, select *File > New Contact* in the address component. Both methods open a dialog in which to enter information about the contact.

In the *General* tab, enter basic contact information, such as name, e-mail addresses, and telephone numbers. Categories can be used to sort addresses. *Details* contains more specific information, such as birthday and spouse's name.

If your contact uses an instant messenger, you can add these identities in *IM Addresses*. If you do this and have Kopete or another KDE chat program running at the same time as Kontact, view status information about these identities in Kontact. In *Crypto Settings*, enter the contact's encryption data, such as public key.

Misc has additional information, such as a photograph and the location of the user's Free/Busy information. Use *Custom Fields* to add your own information to the contact or address book.

Contacts can also be imported in a variety of formats. Use *File > Import* and select the desired format. Then select the file to import.

5.3.2 Creating a Distribution List

If you frequently send e-mail messages to the same group of people, a distribution list enables you to store multiple e-mail addresses as a single contact item so that you do not need to enter each name individually in every e-mail you send to that group. To create a distribution list, proceed as follows:

1. Click *Settings > Show Extension Bar > Distribution List Editor*. A new section appears.
2. Click *New List*.
3. Enter a name for the list and click *OK*.
4. Add contacts to the list by dragging them from the address list and dropping them in the distribution list window.

5 Use this list like you would an individual contact when creating an e-mail.

5.3.3 Adding Address Books

IMPORTANT: Groupware Address Books

The best way to add groupware resources is with the Groupware Wizard, a separate tool. To use it, close Kontact then run `groupwarewizard` in a command line or from the Office group of the KDE menu. Select the server type, such as SLOX, GroupWise, or Exchange, from the list offered then enter the address and authentication data. The wizard then adds the available resources to Kontact.

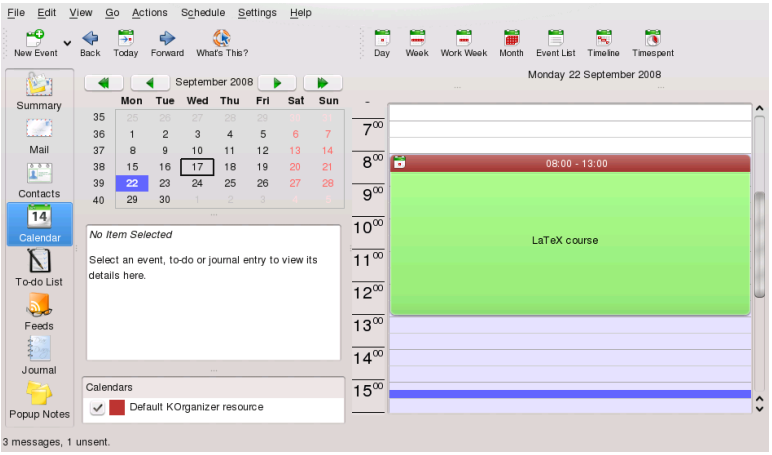
Kontact can access multiple address books, such as shared ones offered by Novell GroupWise or an LDAP server. Select *View* > *Address Books* to view the current address books. Press *Add* to add one then select the type and enter the required information.

The check boxes in front of the address books show the activation status of each address book. To prevent the display of a book without deleting it, uncheck it. *Remove* deletes the selected book from the list.

5.4 Calendar

Kontact uses KOrganizer as its calendar component. You can also start it separately with the command `korganizer`. To configure it, use *Settings* > *Configure Calendar*. With the calendar, enter appointments and schedule meetings with others. If desired, you can be reminded of upcoming events. You can also import, export, and archive calendars with the options in *File*.

Figure 5.4 *The Kontact Calendar*



5.4.1 Scheduling an Event

Add a new event or meeting with *Actions* > *New Event*. Enter the desired details. Under *Reminder*, specify the exact time (minutes, hours, or days in advance) when the attendees should be reminded of the event. If an event recurs, specify the appropriate interval. Another way to create an event at a specific point in the calendar is to double-click the corresponding field in one of the program's calendar views. This opens the same dialog window as that available from the menu. Alternatively, select a time range in the Calendar view and right-click.

Specify the attendees of an event by entering their data manually in the dialog or by inserting data from the address book. To enter data manually, select *New*. To import data from the address book, click *Select Addressee* then select the corresponding entries from the dialog. To schedule the event based on the participants' availability, go to *Free/Busy* and click *Pick Date*.

Use the *Recurrence* tab to configure an event that happens on a regular basis. *Attachments* can be convenient for linking other information with the event, such as an agenda for a meeting.

5.4.2 Adding Calendars

IMPORTANT: Groupware Calendars

The best way to add groupware resources is with Groupware Wizard, a separate tool. To use it, close Kontact then run `groupwarewizard` in a command line or from the Office group of the KDE menu. Select the server type, such as SLOX, GroupWise, or Exchange, from the list offered then enter the address and authentication data. The wizard adds the available resources to Kontact.

The calendar module can connect to multiple calendars simultaneously. This is useful, for example, to combine a personal calendar with an organizational one. To add a new calendar, click *Add* then select the calendar type. Complete the necessary fields.

The check boxes in front of the calendars show the activation status of each. To prevent the display of a calendar without deleting it, uncheck it. *Remove* deletes the selected calendar from the list.

5.5 For More Information

Kontact includes help for itself and its various components. Access it with *Help* > *Kontact Handbook*. The project's Web page, `http://www.kontact.org`, is also informative.

Evolution: E-Mail and Calendaring

6

Evolution™ makes the tasks of storing, organizing, and retrieving your personal information easy, so you can work and communicate more effectively with others. It's a highly evolved groupware program, an integral part of the Internet-connected desktop.

Evolution can help you work in a group by handling e-mail, addresses, and other contact information, and one or more calendars. It can do that on one or several computers, connected directly or over a network, for one person or for large groups.

With Evolution, you can accomplish your most common daily tasks quickly. For example, it takes only one or two clicks to enter appointment or contact information sent to you by e-mail, or to send e-mail to a contact or appointment. People who get lots of e-mail will appreciate advanced features like search folders, which let you save searches as though they were ordinary e-mail folders.

This chapter introduces you to Evolution and helps you get started using it. For more details, refer to the Evolution documentation.

6.1 Starting Evolution for the First Time

Start the Evolution client by clicking *Computer* > *Evolution*, or by typing `evolution` in a terminal window.

6.1.1 Using the Setup Assistant

The first time you run Evolution, it creates a directory called `.evolution` in your home directory, where it stores all of its local data. Then, it opens a Setup Assistant to help you set up e-mail accounts and import data from other applications.

Using the Setup Assistant takes two to five minutes.

Later on, if you want to change this account, or if you want to create a new one, click *Edit* > *Preferences*, then click *Mail Accounts*. Select the account you want to change, then click *Edit*. Alternately, add a new account by clicking *Add*.

The Setup Assistant helps you provide the information Evolution needs to get started.

Defining Your Identity

The Identity window is the first step in the assistant.

Here, you enter some basic personal information. You can define multiple identities later by clicking *Edit* > *Preferences*, then clicking *Mail Accounts*.

When the First-Run Assistant starts, the Welcome page is displayed. Click *Forward* to proceed to the Identity window.

1. Type your full name in the *Full Name* field.
2. Type your e-mail address in the *E-Mail Address* field.
3. (Optional) Select if this account is your default account.
4. (Optional) Type a reply to address in the *Reply-To* field.

Use this field if you want replies to e-mails sent to a different address.

5 (Optional) Type your organization name in the *Organization* field.

This is the company where you work, or the organization you represent when you send e-mail.

6 Click *Forward*.

Receiving Mail

The Receiving E-mail option lets you determine the server where you want to receive your e-mail.

You need to specify the type of server you want to receive mail with. If you are not sure about the type of server, contact your system administrator or ISP.

- Select a server type in the *Server Type* list.

  The following is a list of available server types:

  Novell GroupWise: Select this option if you want to connect to Novell® GroupWise®. Novell GroupWise keeps e-mail, calendar, and contact information on the server.

  Microsoft Exchange: Available only if you have installed the connector for Microsoft* Exchange. You can connect to a Microsoft Exchange 2000, 2003 or 2007 server, which stores e-mail, calendar, and contact information on the server.

  IMAP: Keeps the e-mail on your server so you can access your e-mail from multiple systems.

  IMAP4rev1: Keeps the e-mail on your server so you can access your e-mail from multiple systems.

  POP: Downloads your e-mail to your hard disk for permanent storage, freeing up space on the e-mail server.

  USENET News: Connects to the news server and downloads a list of available news digests.

Local Delivery: If you want to move e-mail from the spool and store it in your home directory, you need to provide the path to the mail spool you want to use. If you want to leave mail in your system's spool files, choose the Standard Unix Mbox Spool option instead.

MH Format Mail Directories: If you want to download your e-mail using mh or another MH-style program, you need to provide the path to the mail directory you want to use.

Maildir Format Mail Directories: If you download your e-mail using Qmail or another maildir-style program, you should use this option. You need to provide the path to the mail directory you want to use.

Standard Unix Mbox Spool or Directory: If you want to read and store e-mail in the mail spool on your local system, choose this option, you need to provide the path to the mail spool you want to use.

None: If you do not plan to check e-mail with this account, select this option. There are no configuration options.

Remote Configuration Options

If you have selected Novell GroupWise, IMAP, POP, or USENET News as your server, you need to specify additional information.

1. Type the hostname of your e-mail server in the *Hostname* field.

   If you are not sure about the hostname, contact your system administrator.

2. Type your username for the account in the *Username* field.

3. Select a secure (SSL) connection.

   If your server supports secure connections, enable this security option. If you are not sure about secure connections, contact your system administrator.

4. Select your authentication type in the *Authentication* list.

   or

Click *Check for Supported Types* to have Evolution check for supported types. Some servers do not announce the authentication mechanisms they support, so clicking this button is not a guarantee that available mechanisms actually work.

If you are not sure about the required server type, contact your system administrator.

5 Select if you want Evolution to remember your password.

6 Click *Forward*.

7 (Conditional) If you chose Microsoft Exchange, provide your username in the *Username* field and your Outlook Web Access (OWA) URL in the *OWA Url* field. OWA URL and user names should be entered as in OWA. If the mail box path is different from the username, OWA path should include mail box path also. You should see something similar to this: http://<server name>/exchange/<mail box path>

When you have finished, continue with Section "Receiving Mail Options" (page 63).

Local Configuration Options

If you selected *Local Delivery*, *MH-Format Mail Directories*, *Maildir-Format Mail Directories*, or *Standard Unix Mbox Spool or Directory*, you must specify the path to the local files in the path field. Continue with Section "Receiving Mail Options" (page 63).

Receiving Mail Options

After you have selected a mail delivery mechanism, you can set some preferences for its behavior.

- Section “USENET News Receiving Options” (page 67)
- Section “Local Delivery Receiving Options” (page 67)
- Section “MH-Format Mail Directories Receiving Options” (page 68)
- Section “Maildir-Format Mail Directories Receiving Options” (page 68)
- Section “Standard Unix Mbox Spool or Directory Receiving Options” (page 68)

Novell GroupWise Receiving Options

If you select Novell GroupWise as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.

   If you select this option, you need to specify how often Evolution should check for new messages.

2. Select if you want to check for new messages in all folders.

3. Select if you want to apply filters to new messages in the Inbox on the server.

4. Select if you want to check new messages for junk content.

5. Select if you want to only check for junk messages in the Inbox folder.

6. Select if you want to automatically synchronize remote mail locally.

7. Type your Post Office Agent SOAP port in the *Post Office Agent SOAP Port* field.

   If you are not sure what your Post Office Agent SOAP port is, contact your system administrator.

8. Click *Forward*.

When you have finished, continue with Section “Sending Mail” (page 69).

Microsoft Exchange Receiving Options

If you select Microsoft Exchange as your receiving server type, you need to specify the following options.

1. Select if you want Evolution to automatically check for new mail.

   If you select this option, you need to specify how often Evolution should check for new messages.

2. Specify the Global Catalog server name in the *Global Catalog Server Name* field.

   The Global Catalog Server contains the user information for users. If you are not sure what your Global Catalog server name is, contact your system administrator.

3. Select if you want to limit the number of Global Address Lists (GAL).

   The GAL contains a list of all e-mail addresses. If you select this option, you need to specify the maximum number of responses.

4. Select if you want the password expire warning period.

   If you select this option, you need to specify how often Evolution should send the password expire message.

5. Select if you want to automatically synchronize remote mail locally.

6. Click *Forward*.

When you have finished, continue with Section "Sending Mail" (page 69).

IMAP and IMAP4rev1 Receiving Options

If you select IMAP or IMAP4rev1 as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.

   If you select this option, you need to specify how often Evolution should check for new messages.

2 Select if you want Evolution to use custom commands to connect to Evolution.

   If you select this option, specify the custom command you want Evolution to use.

3 Select if you want Evolution to show only subscribed folders.

   Subscribed folders are folders that you have chosen to receive mail from by subscribing to them.

4 Select if you want Evolution to override server-supplied folder namespaces.

   By choosing this option you can rename the folders that the server provides. If you select this option, you need to specify the namespace to use.

5 Select if you want to apply filters to new messages in the Inbox.

6 Select if you want to check new messages for junk content.

7 Select if you want to check for junk messages in the Inbox folder.

8 Select if you want to automatically synchronize remote mail locally.

9 Click *Forward*.

When you have finished, continue with Section "Sending Mail" (page 69).

POP Receiving Options

If you select POP as your receiving server type, you need to specify the following options:

1 Select if you want Evolution to automatically check for new mail. If you select this option, you need to specify how often Evolution should check for new messages.

2 Select if you want to leave messages on the server.

3 Select if you want to disable support for all POP3 extensions (support for POP3).

4 Click *Forward*.

When you have finished, continue with Section “Sending Mail” (page 69).

USENET News Receiving Options

If you select USENET News as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.If you select this option, you need to specify how often Evolution should check for new messages.

2. Select if you want to show folders in short notation.

   For example, comp.os.linux would appear as c.o.linux.

3. Select if you want to show relative folder names in the subscription dialog box.

   If you select to show relative folder names in the subscription page, only the name of the folder is displayed. For example the folder evolution.mail would appear as evolution.

4. Click *Forward*.

When you have finished, continue with Section “Sending Mail” (page 69).

Local Delivery Receiving Options

If you select Local Delivery as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.If you select this option, you need to specify how often Evolution should check for new messages.

2. Click *Forward*.

When you have finished, continue with Section “Sending Mail” (page 69).

MH-Format Mail Directories Receiving Options

If you select MH-Format Mail Directories as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.If you select this option, you need to specify how often Evolution should check for new messages.

2. Select if you want to user the `.folders` summary file.

3. Click *Forward*.

When you have finished, continue with Section "Sending Mail" (page 69).

Maildir-Format Mail Directories Receiving Options

If you select Maildir-Format Mail Directories as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.If you select this option, you need to specify how often Evolution should check for new messages.

2. Select if you want to apply filters to new messages in the Inbox.

3. Click *Forward*.

When you have finished, continue with Section "Sending Mail" (page 69).

Standard Unix Mbox Spool or Directory Receiving Options

If you select Standard Unix Mbox Spool or Directory as your receiving server type, you need to specify the following options:

1. Select if you want Evolution to automatically check for new mail.If you select this option, you need to specify how often Evolution should check for new messages.

2. Select if you want to apply filters to new messages in the Inbox.

3 Select if you want to store status headers in Elm, Pine, and Mutt formats.

4 Click *Forward*.

When you have finished, continue with Section "Sending Mail" (page 69) Section "Sending Mail" (page 69).

Sending Mail

Now that you have entered information about how you plan to get mail, Evolution needs to know about how you want to send it.

- Select a server type from the *Server Type* list.

  The following server types are available:

  Sendmail: Uses the Sendmail program to send mail from your system. Sendmail is more flexible, but is not as easy to configure, so you should select this option only if you know how to set up a Sendmail service.

  SMTP: Sends mail using an outbound mail server. This is the most common choice for sending mail. If you choose SMTP, there are additional configuration options.

SMTP Configuration

1 Type the host address in the *Host* field.

  If you are not sure what your host address is, contact your system administrator.

2 Select if your server requires authentication.

  If you selected that your server requires authentication, you need to provide the following information:

  2a Select your authentication type in the *Authentication* list.

  or

  Click *Check for Supported Types* to have Evolution check for supported types. Some servers do not announce the authentication mechanisms they

support, so clicking this button is not a guarantee that available mechanisms actually work.

2b Type your username in the *Username* field.

2c Select if you want Evolution to remember your password.

3 Select if you use a secure connection (SSL).

4 Click *Forward*.

Continue with Section "Account Management" (page 70).

Account Management

Now that you have finished the e-mail configuration process you need to give the account a name. The name can be any name you prefer. Type your account name on the *Name* field, then click *Forward*.

Continue with Section "Time Zone" (page 70).

Time Zone

In this step, you need to select your time zone either on the map or select from the time zone drop-down list.

When you have finished, click *Forward*, then click *Apply*. Evolution opens with your new account created.

If you want to import e-mail from another e-mail client, continue with Section "Importing Mail (Optional)" (page 71). If not, skip to Section 6.2, "Using Evolution: An Overview" (page 71).

Importing Mail (Optional)

If Evolution finds e-mail or address files from another application, it offers to import them.

Microsoft Outlook* and versions of Outlook Express after version 4, use proprietary formats that Evolution cannot read or import. To import information, you might want to use the Export tool under Windows*.

Before importing e-mail from Netscape*, make sure you have selected *File* > *Compact All Folders*. If you don't, Evolution will import and undelete the messages in your Trash folders.

NOTE

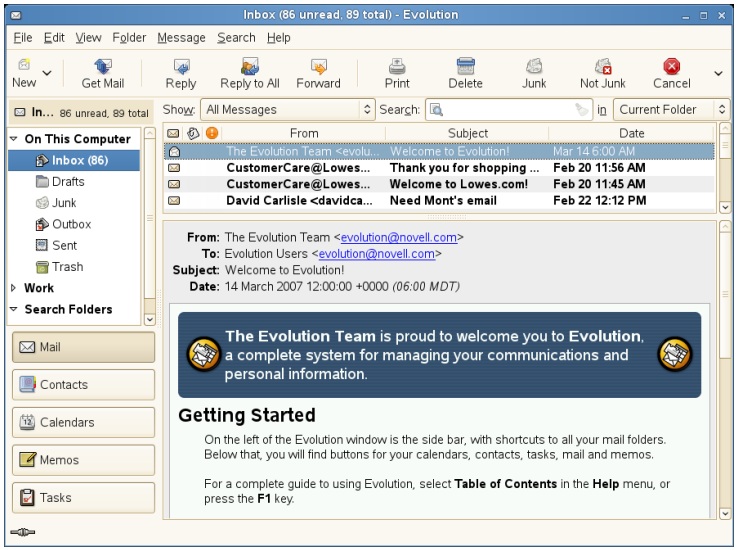
Evolution uses standard file types for e-mail and calendar information, so you can copy those files from your `~/.evolution` directory. The file formats used are `mbox` for e-mail and `iCal` for calendar information.

Contacts files are stored in a database, but can be saved as a standard vCard*. To export contact data, open your contacts tool and select the contacts you want to export (press Ctrl+A to select them all). Click *File* > *Save as VCard*.

6.2 Using Evolution: An Overview

Now that the first-run configuration has finished, you're ready to begin using Evolution. Here's a quick explanation of what's happening in your main Evolution window.

Figure 6.1 *Evolution Window*



Menu Bar

The menu bar gives you access to nearly all of Evolution features.

Folder List

The folder list gives you a list of the available folders for each account. To see the contents of a folder, click the folder name and the contents are displayed in the e-mail list.

Toolbar

The toolbar gives you fast and easy access to the frequently used features in each component.

Search Tool

The search tool lets you search for e-mails either in the current account or in all accounts. You can filter e-mails, contacts, calendar entries and tasks using different criteria. The Search tool can also save frequently used searches and save these in a search folder.

Message List

The message list displays a list of e-mails that you have received. The radio button abnove tthe list lets you view mesasages according to predifened and custom labels. To view an e-mail in the preview pane, click the e-mail in the e-mail list.

Shortcut Bar

The shortcut bar lets you switch between folders. At the bottom of the shortcut bar there are tool buttons that let you switch tools, and above that is a list of all the available folders for the current tool. If you have the Evolution Connector for Microsoft Exchange installed, you have an Exchange button in addition to buttons for the other tools.

Status Bar

The status bar periodically displays a message, or tells you the progress of a task. This most often happens when you're checking or sending e-mail. These progress queues are shown in the previous figure. The Online/Offline indicator is here, too, in the lower left of the window.

Preview Pane

The preview pane displays the contents of the e-mails that is selected in the e-mail list.

6.2.1 The Menu Bar

The menu bar's contents always provide all the possible actions for any given view of your data. If you're looking at your Inbox, most of the menu items relate to e-mail.

Some content relates to other components of Evolution and some, especially those in the File menu, relates to the application as a whole.

File: Anything related to a file or to the operations of the application usually falls under this menu, such as creating things, saving them to disk, printing them, and quitting the program itself.

Edit: Contains useful tools that help you edit text and move it around. Lets you access the settings and configuration options in the Edit menu.

View: Lets you decide how Evolution should look. Some of the features control the appearance of Evolution as a whole, and others the way a particular kind of information appears.

Folder: Contains actions that can be performed on folders. You can find things like copy, rename, delete, and so on.

Message: Contains actions that can be applied to a message. If there is only one target for the action, such as replying to a message, you can normally find it in the Message menu.

Search: Lets you search for messages, or for phrases within a message. You can also see previous searches you have made. In addition to the Search menu, there is a text entry box in the toolbar that you can use to search for messages. You can also create a search folder from a search.

Help: Opens the Evolution Help files.

6.2.2 The Shortcut Bar

Evolution's most important job is to give you access to your information and help you use it quickly. One way it does that is through the shortcut bar, which is the column on the left side of the main window. The buttons, such as Mail and Contacts, are the shortcuts. Above them is a list of folders for the selected Evolution tool.

The folder list organizes your e-mail, calendars, contact lists, and task lists in a tree, similar to a file tree. Most people find one to four folders at the base of the tree, depending on the tool and their system configuration. Each Evolution tool has at least one, called On This Computer, for local information. For example, the folder list for the e-

mail tool shows any remote e-mail storage you have set up, plus local folders and search folders.

If you get large amounts of e-mail, you might want to create more folders than just your Inbox. You can create multiple e-mail folders, address books, calendars, task lists, or memo lists.

To create a new folder:

1. Click *Folder* > *New*.
2. Type the name of the folder in the *Folder Name* field.
3. Select the location of the new folder.
4. Click *OK*.

Folder Management

Right-click a folder or subfolder to display a menu with the following options:

New Folder: Creates a new folder or subfolder in the same location.

Copy: Copies the folder to a different location. When you select this item, Evolution offers a choice of locations to copy the folder to.

Move: Moves the folder to another location.

Delete: Deletes the folder and all contents.

Mark Messages As Read: Marks all the messages in the folder as read.

Rename: Lets you change the name of the folder.

Refresh: Refreshes the folder.

Disable: Disables the account.

Properties: Checks the number of total and unread messages in a folder, and, for remote folders, lets you select whether to copy the folder to your local system for offline operation.

You can also rearrange folders and messages by dragging and dropping them.

Any time new e-mail arrives in a e-mail folder, that folder label is displayed in bold text, along with the number of new messages in that folder.

6.2.3 E-Mail

Evolution e-mail is like other e-mail programs in several ways:

- It can send and receive e-mail in HTML or as plain text, and makes it easy to send and receive multiple file attachments.
- It supports multiple e-mail sources, including IMAP, POP3, and local mbox or mh spools and files created by other e-mail programs.
- It can sort and organize your e-mail in a wide variety of ways with folders, searches, and filters.
- It lets you guard your privacy with encryption.

However, Evolution differs from other e-mail programs in some very esential ways. First, it's built to handle very large amounts of e-mail. The junk e-mail, message filtering and searching functions were built for speed and efficiency. There's also the search folder, an advanced organizational feature not found in some e-mail clients. If you get a lot of e-mail, or if you keep every message you get in case you need to refer to it later, you'll find this feature especially useful. Here's a quick explanation of what's happening in your main Evolution e-mail window. You can also run Evolution now in Windows.

Message List

The message list displays all the e-mails that you have. This includes all your read and unread messages, and e-mail that is flagged to be deleted. With the Show radio button above the message you can filter the message list view using several predifned and custom labels.

Preview Pane

This is where your e-mail is displayed.

If you find the preview pane too small, you can resize the pane, enlarge the whole window, or double-click the message in the message list to have it open in a new window. To change the size of a pane, drag the divider between the two panes.

As with folders, you can right-click messages in the message list and get a menu of possible actions, including moving or deleting them, creating filters or search folders based on them, and marking them as junk mail.

E-mail-related actions, like Reply and Forward, appear as buttons in the toolbar and are also located in the right-click menu and as keyboard shortcuts.

6.2.4 The Calendar

To begin using the calendar, click Calendar in the shortcut bar. By default, the calendar shows today's schedule on a ruled background. At the upper right, there's a Tasks list, where you can keep a list of tasks separate from your calendar appointments. Below that, there's a list for memos.

Appointment List

The appointment list displays all your scheduled appointments.

Month Pane

The month pane is a small view of a calendar month. You can also select a range of days in the month pane to display a custom range of days in the appointment list.

Tasks

Tasks are distinct from appointments because they generally don't have times associated with them. You can see a larger view of your task list by clicking Tasks in the shortcut bar.

Memos

Memos, like Tasks, don't have times associated with them. You can see a larger view of your Memo list by clicking Memos in the shortcut bar.

6.2.5 The Contacts Tool

The Evolution contacts tool can handle all of the functions of an address book or phone book. However, it's easier to update Evolution than it is to change an actual paper book, in part because Evolution can synchronize with Palm OS* devices and use LDAP directories on a network.

Another advantage of the Evolution contacts tool is its integration with the rest of the application. For example, you can right-click on an e-mail address in Evolution mail to instantly create a contact entry.

To use the contacts tool, click *Contacts* in the shortcut bar. By default, the display shows all your contacts in alphabetical order, in a minicard view. You can select other views from the *View* menu, and adjust the width of the columns by clicking and dragging the gray column dividers.

The largest section of the contacts display shows a list of individual contacts. You can also search the contacts in the same way that you search e-mail folders, using the search tool on the right side of the toolbar.

Synchronizing a Handheld Computer with KPilot

7

Handheld computers are in widespread use among users who need to have their schedules, to-do lists, and notes with them everywhere they go. Often users want the same data available on both the desktop and the portable device. This is where KPilot comes in—it is a tool to synchronize data on a handheld with that used by the KDE applications KAddressBook, KOrganizer, and KNotes, which are part of Kontact.

7.1 Configuring the Handheld Connection

To be able to use KPilot, first set up the connection with the handheld computer. The configuration depends on the type of cradle (docking unit) used with the handheld. There are two types of these:

USB
: Normally, a USB cradle is autodetected.

Serial
: With a serial cradle, you need to know which serial port it is actually connected. Serial devices are named `/dev/ttyS?`, starting from `/dev/ttyS0` for the first port.

Before proceeding further, add your user to the group `uucp` that will use the handheld. Start YaST and choose the *Security and Users* > *User and Group Management* module. Go to the *Groups* tab and select from *Set Filter* the entry *System Groups*. Search for the `uucp` group, select *Edit* and add all those users that are allowed to use the handheld. Proceed with *Ok* and *Finish*.

The easiest way to set up the connection is by using the configuration assistant. Do the following:

1. Start KPilot and select *Settings* > *Configuration Wizard* to start the assistant.

2. Enter your username and the name of the device to which the handheld is connected. The device depends on your type (USB or serial) which is describe in the list above.

3. Choose from one of the following options:

   - Select *Autodetect Handheld & Username* if you want the assistant to detect your handheld.

   - Click *Next* to configure it manually.

4. Specify the applications that should be used for synchronization. You can choose among the KDE application suite (default), Evolution, and none. After selecting, close the window with *Finish*. Logout from your current desktop and login again to have

5. If you use a serial device, open *Settings* > *Configure KPilot...* and change the speed in the *Device* tab. In most cases, the value 57600 should be correct, but for older PalmPilot models you have to leave it at 9600. Sometimes you have to experiment with a correct value. Check also *Workarounds*, if you own a special handheld.

7.2 Conduits, Communication and Synchronization

The main purpose of KPilot is to allow sharing of data between the applications of a handheld computer and their KDE counterparts. KPilot does come with its own built-in memo viewer, address viewer, and file installer, but these cannot be used outside the KPilot environment. Independent KDE applications are available for all functions except the file installer.

For communication between the handheld and the different desktop programs, KPilot relies on conduits. Conduits are external programs that perform synchronization actions. KPilot itself is the program that oversees any data exchange between the two computer devices. Using a particular function of the handheld on your desktop computer requires that the corresponding conduit is enabled and configured. For the most part, these conduits are designed to interact with specific KDE programs, so in general they cannot be used with other desktop applications.

The time synchronization conduit is special in that there is no user-visible program for it. It is activated in the background with each sync operation, but should only be enabled on computers that use a network time server to correct their own time drift.

When a synchronization is started, the conduits are activated one after another to carry out the data transfer. There are two different sync methods: a HotSync operation only synchronizes the data for which any conduits have been enabled while a backup operation performs a full backup of all data stored on the handheld.

Some conduits open a file during a sync operation, which means that the corresponding program should not be running at that time. Specifically, KOrganizer should not be running during a sync operation.

7.3 Conduits Used by KPilot

The conduits used by KPilot can be enabled and configured after selecting *Settings* > *Configure KPilot*. The following is a list of some important conduits:

Addressbook
: This conduit handles the data exchange with the handheld's address book. The KDE counterpart for managing these contacts is KAddressBook. Start it from the main menu or with the command `kaddressbook`.

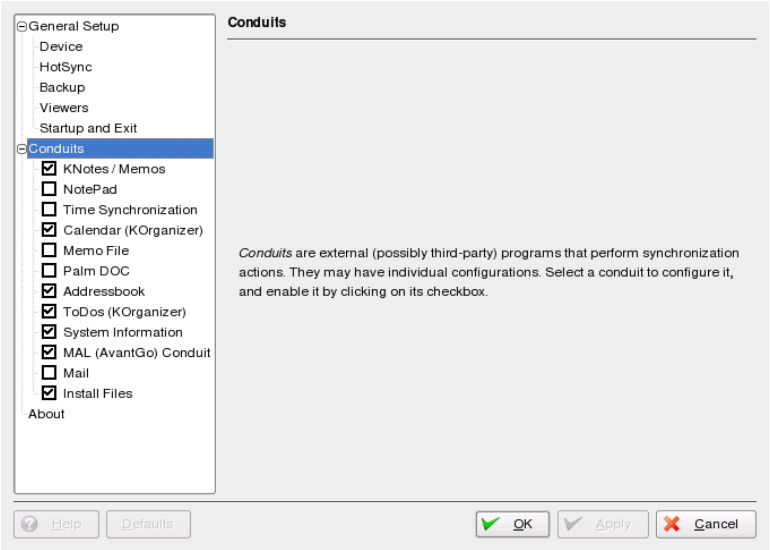
KNotes/Memos
: This conduit allows you to transfer notes created with KNotes to the handheld's memo application. Start the KDE application from the main menu or with the command `knotes`.

Calendar (KOrganizer)
: This conduit is responsible for syncing the appointments (events) of the handheld. The desktop equivalent is KOrganizer.

ToDos (KOrganizer)
: This conduit is responsible for syncing to-do items. The desktop counterpart is KOrganizer.

Time Synchronization
: Enabling this conduit adjusts the handheld's clock to that of the desktop computer during each sync operation. This is only a good idea if the clock of the desktop computer itself is corrected by a time server at fairly frequent intervals.

Figure 7.1 *Configuration Dialog with the Available Conduits*



7.4 Synchronizing with KOrganizer

On the KDE desktop, calendars, to-dos (tasks) and events (appointments) are mangaged with KOrganizer.

7.4.1 Managing your Calendar Appointments

KPilot allows you to sync your appointments and display them in KOrganizer. By default, KPilot uses the standard KOrganizer file. However, this is not always a good idea. If save your appointments into a different file, you can easily switch on or off the calendar in KOrganizer and make it distinguish it from other sources. Proceed as follows:

1. Start KOrganizer: press Alt + F2 and enter `korganizer`.

2. Create a new calendar file. Right-click in the lower left pane (named with *Calendar*) and choose *Add...*. If it is currently hidden, select *Settings* > *Sidebar* > *Show Resource View* to enable it.

3 Choose *Calendar in local file*. A new dialog window opens.

4 Insert a name into the text field (for example “Palm”) and choose the location of your calendar file. It is recommended to use the directory `~/.kde/share/apps/korganizer/`. Proceed with *Ok*.

5 Start KPilot.

6 Go to *Settings* > *Configure KPilot*. The configuration dialog appears. Enable *Conduits* > *Calendar (KOrganizer)* and in *Calendar Destination* switch to *Calendar file*. Select the calendar file that you have created in KOrganizer. Finish with *Ok*.

The next time you synchronize your appointments, it will be saved into the new file.

7.4.2 Managing ToDo Items and Events

Initially, it should be sufficient to enable the ToDos conduit without changing any of the defaults. If you want to store your Todo list in the same file as shown in Section 7.4.1, “Managing your Calendar Appointments” (page 83), proceed as follows:

1 Start KPilot and select *Settings* > *Configuring KPilot*.

2 Enable the *ToDos (KOrganizer)* conduit.

3 Select in the *To do Destination* the entry *Calendar file*. Point it to the file that you have created in Step 2 (page 83).

The next time you synchronize your todos, it will be saved into the above file.

7.5 Configuring the KAddressBook Conduit

Initially, it should be sufficient to enable the KAddressBook conduit without changing any of the defaults. However, it can be sometimes useful to separate your handheld addresses from the rest of your addressbooks. It is almost the same as in the KOrganizer case. If you want to separate your addresses, proceed as follows:

1. Start KAddressbook: press Alt + F2 and enter `kaddressbook`.

2. Create a new address book. Click on the green cross icon in the lower left pane (named with *Address Books*). If it is currently hidden, select *View* > *Address Books* to enable it.

3. Choose *File*. A new dialog window opens.

4. Insert a name into the text field (for example "Palm Addressbook") and choose the location of your calendar file. It is recommended to use the directory `~/.kde/share/apps/kabc/`. Proceed with *Ok*.

5. Start KPilot.

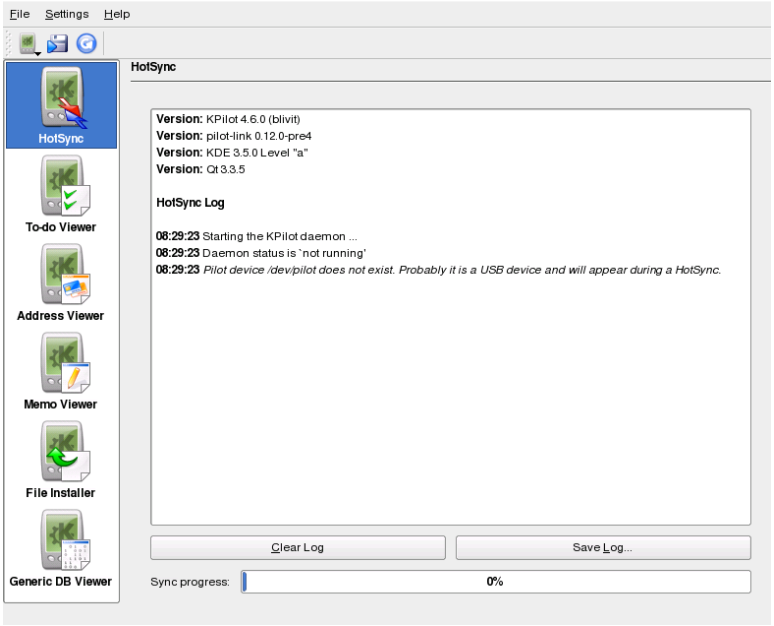
6. Go to *Settings* > *Configure KPilot*. The configuration dialog appears. Enable *Conduits* > *Addressbook* and in *Sync Destination* switch to *vCard file*. Select the addressbook file that you have created in KAddressbook. Finish with *Ok*.

The next synchronization will save all your addresses into the new file.

7.6 Working with KPilot

Synchronizing the data of KDE applications with those of the handheld computer is easy. Simply start KPilot then press the HotSync button on the cradle or cable to initiate the sync operation.

Figure 7.2 *The Main Window of KPilot*



7.6.1 Backing Up Data from the Handheld

To do a full backup, select *File* > *Backup*. The backup is performed during the next sync operation. After that, switch back by selecting *File* > *HotSync* from the menu. Otherwise, the time-consuming full backup will be performed again during the next sync operation.

After a full backup, all copies of the handheld's programs and databases are found in `~/.kde/share/apps/kpilot/DBBackup/USERNAME`, where *`USERNAME`* is the name of the user registered on the handheld.

The two built-in KPilot viewers can be used for a quick lookup of addresses or memos, but they are not designed to actually manage this data. The KDE applications mentioned above are much more suited for these tasks.

7.6.2 Installing Programs on the Handheld

The *File Installer* module is an interesting and useful tool for the installation of handheld programs. These programs normally have the extension `.prc` and they are ready to start immediately after uploading them to the handheld. Before using such add-on programs, read their licenses as well as the instructions included.

7.7 For More Information

See the homepage http://cvs.codeyard.net/kpilot/ of KPilot for more information.

Synchronizing Your Handheld Devices with GNOME Pilot

8

GNOME Pilot lets you integrate your GNOME desktop with handheld computers. You can use it to set up and perform synchronization between PDAs and your GNOME desktop.

The `gnome-pilot` package, along with the optional conduits in `evolution-pilot`, allows you to move information between your handheld device and your GNOME desktop. You must run the setup tool before synchronizing. The setup tool starts the GNOME Pilot daemon, `gpilotd`. If it is not running, you can start the daemon with the `/usr/lib/gnome-pilot/gpilotd` command. You can also use the GNOME Pilot applet to start the daemon.

To start the GNOME Pilot applet, click *Computer* > *More Applications* > *System* > *GNOME Pilot* or start `/usr/bin/gpilotd-control-applet`.

8.1 GNOME Pilot Configuration Tool

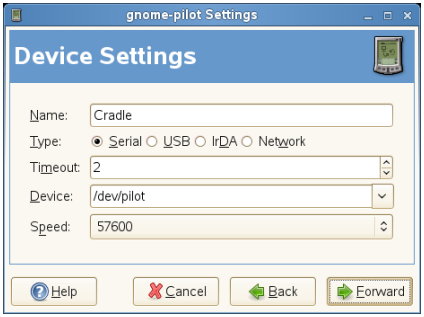
To start the GNOME Pilot configuration tool, click *Computer* > *More Applications* > *System* > *GNOME Pilot*.

There are three tabs in the Pilot Settings tool: *PDAs*, *Devices*, and *Conduits*. The first time you run the GNOME Pilot tools, you will be guided through the initial setup by an assistant.

8.1.1 The GNOME Pilot Setup Assistant

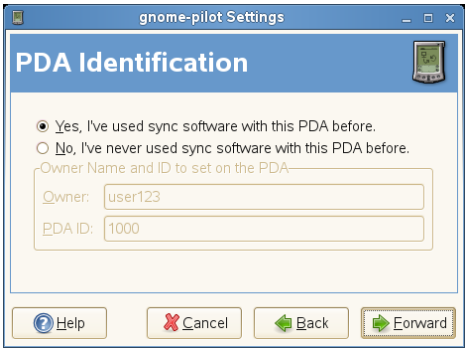
The setup assistant guides you through getting your handheld device ready to synchronize with your desktop system.

1 Click *Computer* > *More Applications* > *System* > *GNOME Pilot*. Proceed with *Forward* to start the GNOME Pilot Setup Assistant.



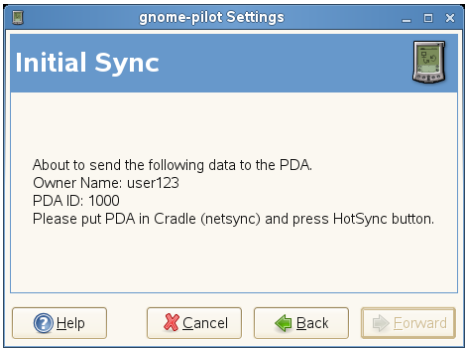
2 Describe your handheld's cradle in the Device Settings dialog box. Proceed with *Forward*.

See Section 8.1.3, “Adding or Editing an Entry On the Device Settings Tab” (page 92) for more information about the information requested by this step.

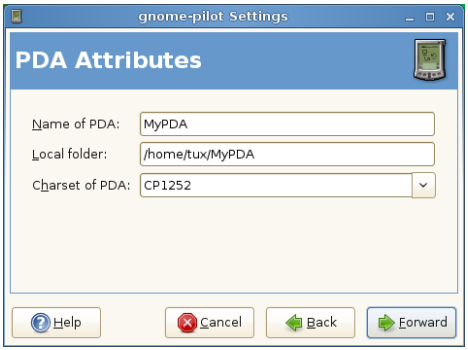


3 Decide, if you need to syncronize your data on your PDA. Proceed with *Forward*. Depending on your selection, press the hotsync button on your PDA.

If you have previously used synchronization software with this PDA, it will already have a synchronization ID that your desktop can get from it. If you have not, you can set the username and ID on the PDA from your desktop. Proceed with *Forward* to contact your PDA device.



4 Set the name and other information on the Initial Sync dialog box.



Choose a name to use when referring to the PDA, and a directory on your desktop system where you will store backups and other data. Proceed with *Forward*.

8.1.2 Adding or Editing a Handheld Entry

The PDAs tab lists the handheld devices you have configured. If you have not used the Pilot Settings tool before, you will not have any items in this list, and the tool will open

a new window to walk you through the process of creating one. To add a new pilot, click *Add*. To edit an existing pilot entry, select it and click *Edit*.

When editing or creating an entry, you will be asked for five pieces of information:

- ***Owner*:** This is the owner of your Pilot. If your pilot already has a name configured, you can get it from the pilot by clicking the *Get from PDA* button. You can also set it on the pilot by clicking the *Send to PDA* button.
- ***PDA ID*:** This is the user ID number from your pilot. You can get this value from the handheld by clicking the *Get from PDA* button. You can also set it on the handheld by clicking the *Send to PDA* button.
- ***Name of PDA*:** This is the name by which your handheld will be identified. For example, you could call it MyPilot, or Palm5, or Roger.
- ***Local folder*:** This is the directory where you will store information backed up from your handheld.
- ***Charset of PDA*** The character set (encoding) which is used on your PDA.

8.1.3 Adding or Editing an Entry On the Device Settings Tab

The Device Settings tab controls the way your desktop system looks at your handheld as hardware. To add an entry to the list, click *Add*. To edit a device, select it, then click *Edit*.

For each entry, you can specify the following options:

- **Name:** This is the name used to display the device in a list.
- **Type:** Select the type of connection you have: Serial, USB, IrDA (infrared), or Network.
- **Timeout:** Specifies the amount of time to try to connect to the system, in seconds. If there is no communication between the desktop and the handheld for this many seconds, the system will stop trying.

- **Device:** In most cases, `/dev/pilot` is fine. Other possible values are `/dev/ttyS0` or `/dev/ttyS1` for serial cradles.

  Before proceeding further, add your user to the group `uucp` that will use the handheld. Start YaST and choose the *Security and Users* > *User and Group Management* module. Go to the *Groups* tab and select from *Set Filter* the entry *System Groups*. Search for the `uucp` group, select *Edit* and add all those users that are allowed to use the handheld. Proceed with *Ok* and *Finish*.

  If you have not chosen the correct device, you will get an error message when you click *OK*.

- **Speed:** Select a number from the drop-down menu. The higher the number, the faster you are asking the system to transfer information. Normally, you should not change this option, because it is set by default for the fastest value that your connection type can provide. If you experience problems at high speeds, reducing the transfer speed might help.

8.1.4 Conduit Settings

A Conduit is a specialized program that channels data between your computer and your handheld. The gnome-pilot package includes several, and you can also install additional conduits such as those for Evolution.

Each configured handheld might have its own set of conduits and conduit settings.

If a conduit is disabled, that type of data will be ignored when you HotSync. If a conduit is enabled, its data will be synchronized according to its settings. To enable or disable a conduit, select it and click the *Enable* or *Disable* button on the right side of the list of conduits.

To edit the settings, select a conduit and click the *Settings* button. Each conduit will have at least two settings: an *Action* to perform whenever you synchronize, and a *One Time Action*, performed only the next time you synchronize.

Not all conduits will have all of these actions. The list of possible actions includes the following:

- **Disabled:** Do nothing.

- **Synchronize:** Ensures that data is the same in both places, copying new data from the pilot to the desktop, and from the desktop to the computer.

- **Copy to pilot:** Copies all data from the desktop to the pilot. New data added on the pilot will not be copied to the desktop.

- **Copy from pilot:** Copy all data from the pilot to the desktop. New data added on the desktop will not be copied to the pilot.

Other settings might be available as well, including *Conduit Priority*, which determines the order in which conduits will be used, and *Sync Private Records*, which determines whether to copy private information as well as public, or just the public data.

8.2 The Pilot Applet

The GNOME Pilot panel applet sits in your panel until you are ready to synchronize your handheld device. If the pilot access daemon is running, the applet will appear in black and white. If it is not running, the applet will appear red and black. If the daemon is paused, the applet will be yellow and black.

To add the applet into your panel, right-click on a free space on the panel and select *Add to Panel...*. A window opens. Search for *Pilot Applet* and click on *Add*.

Click the applet button to start the GNOME Pilot configuration tool. The following actions for the applet are available in the right-click menu:

- **Restore:** If your PalmOS device has lost all data, select this item to restore it from a backup you made earlier.

- **Pause Daemon:** Pauses the GNOME Pilot daemon gpilotd. If the daemon is paused, this item will read *Continue*.

- **Restart:** Stops and restarts the daemon.

- **Last Log:** Displays the results of the last synchronization performed.

- **Preferences:** Click this item to select what happens when you click the applet, and whether to display notices in dialog boxes.

9 Encryption with KGpg

You can sign or encrypt data with KGpg, a graphical user interface for GnuPG. This program helps you to generate and manage all needed keys. Use its editor function for the quick creation and encryption of files or use the applet in your panel to encrypt or decrypt by dragging and dropping. Other programs, such as your mail program (Kontact or Evolution), access the key data to process signed or encrypted contents. In the following sections, learn how to execute the following steps necessary for signing and encrypting data with KGpg:

1. Generating a New Key Pair (page 96)
2. Exporting the Public Key (page 99)
3. Importing Public Keys from Others (page 99)
4. Encrypting Your Data (page 103)

9.1 Why Signing and Encrypting?

Signing
: Signing means attaching electronic signatures to mails or even software to prove its correct derivation. To avoid that someone writes mails using your name and to protect both you and the people you send them to, you should sign your mails. Signatures help you to easily check the sender of the mails you receive and to distinguish good-natured mails from malicious.

Software developers sign their software so you are able to check its integrity. Even if you have the software from an unofficial server, you can verify the package with the signature.

Encrypting
: You might have sensitive information you want to protect from other parties. Encrypting helps you to transform data and make it unreadable for others. This is especially important for companies who must protect internal information as well as the employees' privacy.

9.2 Generating a New Key Pair

To be able to exchange encrypted messages with other users, first generate your own key pair. One part of it—the *public key*—is distributed to your communication partners, who can use it to encrypt the files or e-mail messages they send. The other part of the key pair—the *private key*—is used to decrypt the encrypted contents.

IMPORTANT: Private Key versus Public Key

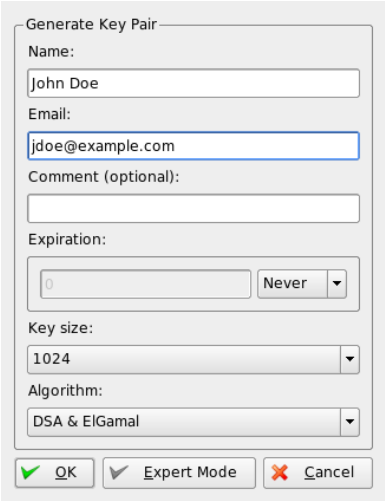
The public key is intended for the public and should be distributed to all your communication partners. However, only you should have access to the private key. Do not grant other users access to this data.

Your private key is protected with a passphrase. Choose the passphrase carefully: do not use words from a dictionary and mix alphabetic with non-alphabetic characters.

Start KGpg from the main menu or press Alt + F2 and enter `kgpg`. When you start the program for the first time, a wizard appears to guide you through the configuration. Follow the instructions up to the point where you are prompted to create a key.

If you have already generated a key pair, select *Keys* > *Generate Key Pair* if you want to create a new key pair.

Figure 9.1 *KGpg: Creating a Key*



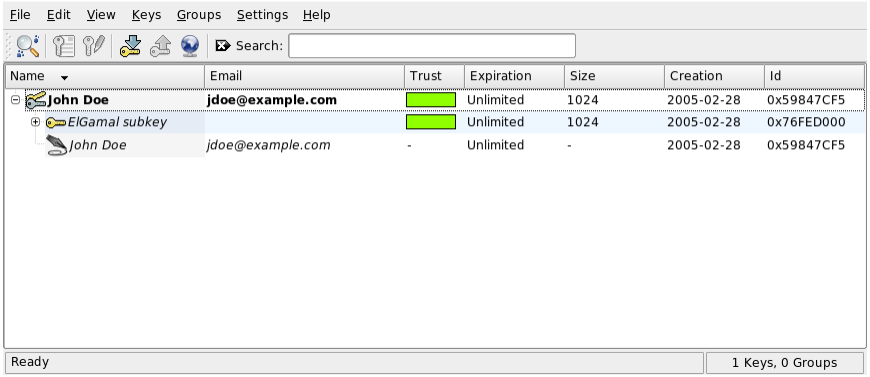
Enter a name, an e-mail address, and, optionally, a comment. If you do not like the default settings provided, also set the expiration time for the key, the key size, and the encryption algorithm used. To generate a standard key, just confirm your settings with *OK*.

NOTE: Expert Mode

If you are an experienced user, use the *Expert Mode* to define more options. This takes you to a terminal window where you can set the type of key to be generated, the key size in bits and the expiration date. After entering your name and e-mail address, you are prompted for a passphrase to protect your private key.

After clicking *OK*, a dialog prompts you to enter a passphrase twice. The passphrase protects your private key. After you have entered a passphrase, the key pair is generated. This can take some time. When it is finished, the program displays a summary. Save and print a revocation certificate right away and keep it in a save place. You will need the certificate to revoke your passphrase if you forgot it. After you have confirmed with *OK*, KGpg displays its main window.

Figure 9.2 *KGpg Main Window: Key Management*



The main window shows the keys that belong to your key ring: your own key and the keys from other persons that you have already imported. As GnuPG uses a more sophisticated implementation of key pairs, for each user name, several sub keys are displayed but these can be neglected for the purpose of this chapter. Apart from some other details like expiration date or creation date of the key and the ID, the main windows also shows the level of trust for each key, indicated by colors. White means that the trust level is unknown, blue indicates a high level of trust. For more information, see Section 9.4.2, “Trusting Keys” (page 101).

NOTE: KGpg Icon and Main Window

When you start KGpg in later sessions, only a small icon with a padlock appears in the system tray. Click that icon to display the main KGpg window on your desktop.

9.3 Exporting the Public Key

After generating your key pair, make the public key available to other users. This enables them to use it to encrypt or sign the messages or files they send you. For example, if you want to encrypt a message for user tux, you encrypt it using tux' public key. To decrypt the message, tux uses his private key. If tux wants to send you a message, he encrypts it using your public key and you decrypt the message with your private key.

To make the public key available for others, select *Keys* > *Export Public Keys*. The dialog that opens offers four options:

Email
: Your public key is sent to a recipient of your choice by e-mail. If you activate this option and confirm with *OK*, the dialog for creating a new e-mail message with your default mail program appears. Enter the recipient and click *Send*. The recipient receives your key and can then send you encrypted contents.

Clipboard
: You can place your public key here before continuing to process it.

Default Key Server
: To make your public key available to a wide audience, export it to one of the key servers on the Internet. For more information, refer to Section 9.5, "The Key Server Dialog" (page 101).

File
: If you prefer to distribute your key as a file on a data medium instead of sending it by e-mail, click this option, confirm or change the file path and name, and click *OK*.

9.4 Importing Public Keys from Others

If you receive a key in a file (for example, as an e-mail attachment), integrate it in your key ring with *Import Key* and use it for encrypted communication with the sender. You can also import keys from a public server if the person you want to communicate with has stored his public key there. For more information, see Section 9.5, "The Key

Server Dialog" (page 101). The procedure is similar to the procedure for exporting keys already described.

9.4.1 Signing Keys

Keys can be signed like every other file to guarantee their authenticity and integrity. If you are absolutely sure an imported key belongs to the individual specified as the owner, express your trust in the authenticity of the key with your signature.

IMPORTANT: Establishing a Web of Trust

Encrypted communication is only secure to the extent that you can positively associate public keys in circulation with the specified user. By cross-checking and signing these keys, you contribute to the establishment of a Web of Trust. For these reasons, make really sure you only sign keys you personally checked.

Before you can use your key, you need to sign it yourself.

Procedure 9.1 *Signing A Key*

1. In the *Key Management* window, select the key to sign in the key list.
2. Select *Keys* > *Sign Keys*.
3. In the following dialog, select the private key to use for the signature. An alert reminds you to check the authenticity of this key before signing it. In the drop down list, select how you carefully you have checked that the key belongs to the person with whom you want to communicate.
4. Click *Continue* and enter your passphrase in the next step. With entering the passphrase, you sign the key with your own private key. The signed key now appears green in the trust column.

Other users can now check the signature by means of your public key.

9.4.2 Trusting Keys

Normally, you are asked by the corresponding program whether you trust the key, or rather, whether you assume it is really used by its authorized owner. This happens each time a message needs to be decrypted or a signature has to be checked. To avoid this, edit the trust level of the newly imported key. To trust a key and set a certain trust level, do the following:

1. Right-click the key and select *Key Properties*.

2. In the *Owner Trust* drop-down list, adjust the trust level. This value indicates how much you trust the owner of this key to correctly verify the identity of the keys he signs.

3. Close the property dialog. If you have set the trust level to *Fully* or *Ultimately*, the key now appears blue in the trust column.

The lower the trust level is, the less you trust the signer of the key to have checked the true identity of the keys signed. You may be entirely sure about the signer's identity, but he may not check other people's identities properly before signing their keys. Therefore, you could still trust him and his own key, but assign lower trust levels to the keys signed by him. Notice that the trust level does not trigger any automatic actions by KGpg.

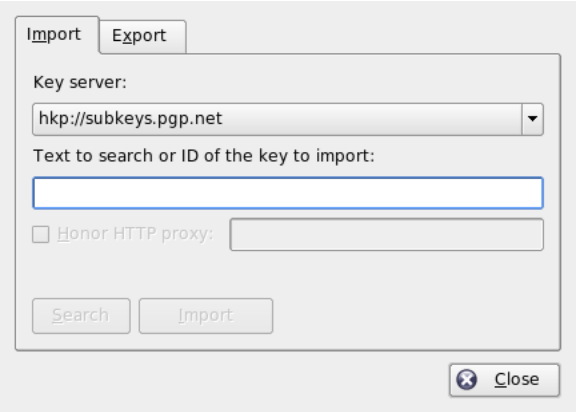
9.5 The Key Server Dialog

Several Internet-based key servers offer the public keys of many users. To engage in encrypted communication with a large number of users, use these servers to distribute your public key. For this purpose, export your public key to one of these servers. Similarly, KGpg enables you to search one of these servers for the keys of certain people and import their public keys from the server. Open the key server dialog with *File* > *Key Server Dialog*.

9.5.1 Importing a Key from a Key Server

By means of the *Import* tab in the key server dialog, import public keys from one of the Internet-based key servers. Select one of the preconfigured key servers and enter a search string (e-mail address of the communication partner) or the ID of the key to find. When you click *Search*, your system connects to the Internet and searches the specified key server for a key that matches your specifications.

Figure 9.3 *Search Screen for Importing a Key*

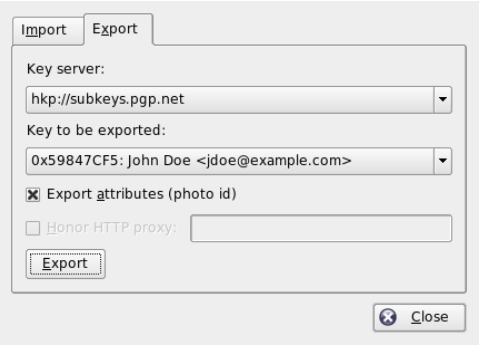


If your search on the key server is successful, a list of all retrieved server entries is displayed in a new window. Select the key to include in your key ring and click *Import*. Confirm the following message with *OK* then exit the key server dialog with *Close*. The imported key then appears in the main overview of the key manager and is ready for use.

9.5.2 Exporting Your Keys to a Key Server

To export your key to one of the freely accessible key servers on the Internet, select the *Export* tab in the key server dialog. Designate the target server and the key to export by means of two drop-down menus. Then start the export with *Export*.

Figure 9.4 *Exporting a Key to a Key Server*



9.6 Encrypting Your Data

After you have generated your key pair, exported your public key and imported public keys from others, you can also send or receive encrypted mails. Refer to Section 5.2.5, "Signing and Encrypting E-Mails" (page 49) to learn how to make use of those options in KMail.

KGpg also offers the possibility to encrypt text or clipboard contents. Right-click the padlock icon and find the options *Encrypt clipboard* and *Decrypt clipboard* as well as the option for opening the integrated editor.

9.6.1 Encrypting and Decrypting the Clipboard

Files copied to the clipboard can easily be encrypted with a few clicks. Right-click the KGpg padlock icon and select *Encrypt Clipboard*. Select the key to use. A status message about the encryption procedure is displayed on the desktop. The encrypted contents can now be processed from the clipboard as needed. The decryption of clipboard contents is just as easy. Simply open the menu on the panel, select *Decrypt Clipboard*, and enter the passphrase associated with your private key. The decrypted version is now available for processing in the clipboard and in the KGpg editor. Note that you can only encrypt or decrypt the current clipboard object, not all entries that clipboard tools like Klipper store for you.

9.6.2 Encrypting and Decrypting from a File Manager

KGpg is also integrated into file managers like Dolphin or Konqueror. In the file manager, encrypted files are designated with the suffix `.asc`. To encrypt or decrypt a file, right-click the file and select the respective menu item from the context menu.

9.6.3 The KGpg Editor

Instead of creating contents for encryption in an external editor then encrypting the file with one of the methods described above, you can use the integrated editor of KGpg. To open the editor, right-click the padlock icon in the panel and select *Open Editor*. In the editor, enter the desired text (or copy it into the editor from the clipboard), and click *Encrypt*. Then select the key to use and complete the encryption procedure. To decrypt files, use *Decrypt* and enter the password associated with the key.

Generating and checking signatures is just as easy as encrypting directly from the editor. Go to *Signature* > *Generate Signature* and select the file to sign from the file dialog. Then select the private key to use and enter the associated password. KGpg informs about the successful generation of the signature. Files can also be signed from the editor by simply clicking *Sign/Verify*. To check a signed file, go to *Signature* > *Verify Signature* and select the file to check in the following dialog. After you confirm the selection, KGpg checks the signature and reports the result of the operation. Another possibility is to load the signed file into the editor and click *Sign/Verify*.

9.7 For More Information

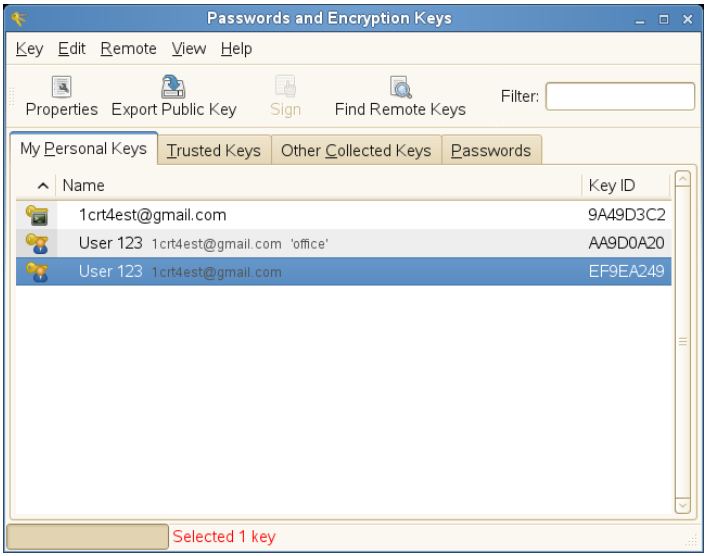
For comprehensive background information about the encryption method, refer to the GnuPG project pages at `http://www.gnupg.org/documentation/index.en.html`.

Encryption with Passwords and Encryption Keys

10

The GNOME Passwords and Encryption Keys program is an important component of the encryption infrastructure on your system. With the help of this program, you can create and manage PGP and SSH keys, import and export PGP and SSH keys, share your keys with others, back up your keys and keyring, cache your passphrase, and encrypt and decrypt the clipboard.

Figure 10.1 *Password and Encryption Keys Main Window*



10.1 Signing and Encryption

Signing means attaching electronic signatures to e-mail messages or even software to prove its correct derivation. To keep someone else from writing messages using your name, and to protect both you and the people you send them to, you should sign your mails. Signatures help you easily check the sender of the messages you receive and distinguish good-natured messages from malicious messages.

Software developers sign their software so that you can check the integrity. Even if you get the software from an unofficial server, you can verify the package with the signature.

You might also have sensitive information you want to protect from other parties. *Encryption* helps you transform data and make it unreadable for others. This is important for companies so they can protect internal information as well as their employees' privacy.

10.2 Generating a New Key Pair

To exchange encrypted messages with other users, you must first generate your own key pair. One part of it—the *public key*—is distributed to your communication partners, who can than use it to encrypt the files or e-mail messages they send. The other part of the key pair—the *private key*—is used to decrypt the encrypted contents.

IMPORTANT

The public key is intended for the public and should be distributed to all your communication partners. However, only you should have access to the private key. Do not grant other users access to this data.

10.2.1 Creating OpenPGP Keys

OpenPGP is a non proprietary protocol for encrypting e-mail with the use of public key cryptography based on PGP. It defines standard formats for encrypted messages, signatures, private keys and certificates for exchanging public keys.

1 Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2 Click *Key* > *Create New Key*.

3 Select *PGP Key*, then click *Continue*.

4 Specify your full name, e-mail address, and comment, if needed.

5 Click *Advanced key options* to specify the following advanced options for the key.

Encryption Type
: Specifies the encryption algorithms used to generate your keys. *DSA ElGamal* is the recommended choice because it lets you encrypt, decrypt, sign, and verify as needed. Both *DSA (sign only)* and *RSA (sign only)* allow only signing.

Key Strength
: Specifies the length of the key in bits. The longer the key, the more secure it is (provided a strong passphrase is used), but keep in mind that performing any operation with a longer key requires more time than it does with a shorter key. Acceptable values are between 1024 and 4096 bits. At least 2048 bits is recommended.

Expiration Date
: Specifies the date at which the key will cease to be usable for performing encryption or signing operations. You will have to either change the expiration date or generate a new key or subkey after this amount of time passes. Sign your new key with your old one before it expires to preserve your trust status.

6 Click *Create* to create the new key pair.

The *Passphrase for New PGP Key* dialog box opens.

7 Specify the passphrase twice for your new key, then click *OK*.

When you specify a passphrase, use the same practices you use when you create a strong password. The main difference between a password and a passphrase is that spaces are valid characters in a passphrase.

10.2.2 Creating Secure Shell Keys

Secure Shell (SSH) is a method of logging into a remote computer to execute commands on that machine. SSH keys are used in key-based authentication system as an alternative to the default password authentication system. With key-based authentication, there is no need to manually type a password to authenticate.

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2. Encryption and Keyrings Click *Key* > *Create New Key*.

3. Select *Secure Shell Key*, then click *Continue*.

4. Specify a description of what the key is to be used for.

   You can use your e-mail address or any other reminder.

5. Optionally, click *Advanced key options* to specify the following advanced options for the key.

   Encryption Type Specifies the encryption algorithms used to generate your keys. Select *RSA* to use the Rivest-ShamirAdleman (RSA) algorithm to create the SSH key. This is the preferred and more secure choice. Select *DSA* to use the Digital Signature Algorithm (DSA) to create the SSH key.

   Key Strength Specifies the length of the key in bits. The longer the key, the more secure it is (provided a strong passphrase is used), but keep in mind that performing any operation with a longer key requires more time than it does with a shorter key. Acceptable values are between 1024 and 4096 bits. At least 2048 bits is recommended.

6. Click *Just Create Key* to create the new key, or click *Create and Set Up* to create the key and set up another computer to use for authentication.

7. Specify the passphrase for your new key, click *OK*, then repeat.

   When you specify a passphrase, use the same practices you use when you create a strong password. The main difference between a password and a passphrase is that spaces are valid characters in a passphrase.

10.3 Modifying Key Properties

You can modify properties of existing OpenPGP or SSH keys.

10.3.1 Editing OpenPGP Key Properties

The descriptions in this section apply to all OpenPGP keys.

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2. Double-click the PGP key you want to view or edit. (or select the key, then click on *Properties* in toolbar).

3. Use the options on the*Owner* tab to add a photo to the key or to change the passphrase associated with the key.

   Photo IDs allow a key owner to embed one or more pictures of themselves in a key. These identities can be signed just like normal user IDs. A photo ID must be in JPEG format. The recommended size is 120×150 pixels.

   If the chosen image does not meet the required file type or size, Passwords and Encryption Keys can resize and convert it on the fly from any image format supported by the GDK library.

4. Click the *Names and Signatures* tab to add a user ID to a key.

   See Section “Adding a User ID” (page 111) for more information.

5. Click the *Details* tab, which contains the following properties:

   Key ID: The Key ID is similar to the Fingerprint, but the Key ID contains only the last eight characters of the fingerprint. It is generally possible to identify a key with only the Key ID, but sometimes two keys might have the same Key ID.

   Type: Specifies the encryption algorithm used to generate a key. DSA keys can only sign. ElGamal keys are used to encrypt.

Strength: Specifies the length, in bits, of the key. The longer the key, the more security it provides. However, a long key will not compensate for the use of a weak passphrase.

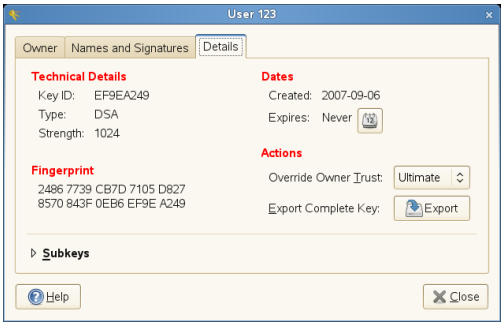
Fingerprint: A unique string of characters that exactly identifies a key.

Created: The date the key was created.

Expires: The date the key can no longer be used (a key can no longer be used to perform key operations after it has expired). Changing a key's expiration date to a point in the future re-enables it. A good general practice is to have a master key that never expires and multiple subkeys that do expire and are signed by the master key.

Overide Owner Trust: Here you can set the level of trust in the owner of the key. Trust is an indication of how sure you are of a person's ability to correctly extend the web of trust. When you are faced with a key you have not signed, the validity of that person's key will be determined based on the signatures they have collected and how well or not you trust the people who have made those signatures.

Subkeys: See Section "Editing OpenPGP Subkey Properties" (page 111) for more information.



6 Click *Close*.

Adding a User ID

User IDs allow multiple identities and e-mail addresses to be used with the same key. Adding a user ID is useful, for example, when you want to have an identity for your job and one for your friends. They take the following form:

```
Name (comment) <e-mail address>
```

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.
2. Double-click the PGP key you want to view or edit (or select the key, then click *Properties* in the toolbar).
3. Click the *Names and Signatures* tab, then click *Add Name*.
4. Specify a name in the *Full Name* field.

   You must enter at least five characters in this field.
5. Specify an e-mail address in the *Email Address* field.

   Your e-mail address is how most people will locate your key on a key server or other key provider. Make sure it is correct before continuing.
6. In the *Key Comment* field, specify additional information that will display in the name of your new ID

   This information can be searched for on key servers.
7. Click *Close*.

Editing OpenPGP Subkey Properties

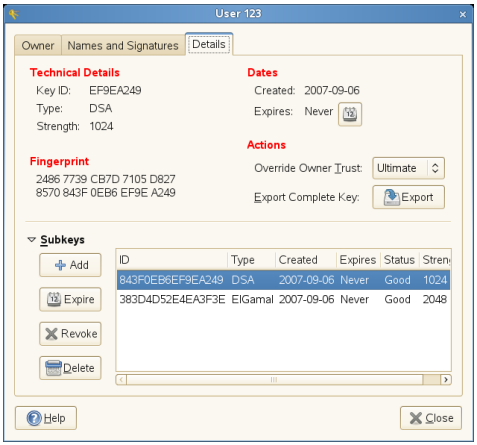
Each OpenPGP key has a single master key used to sign only. Subkeys are used to encrypt and to sign as well. In this way, if your sub key is compromised, you don't need to revoke your master key.

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2 Double-click the PGP key you want to edit (or select the key, then click *Properties* in the toolbar).

3 Click the *Details* tab, then click *Subkeys*.

4 Use the button to on the left of the dialog box to add, delete, expire, or revoke subkeys.



Each subkey has the following information:

ID: The identifier of the subkey.

Type: Specifies the encryption algorithm used to generate a subkey. DSA keys can only sign, ElGamal keys are used to encrypt, and RSA keys are used to sign or to encrypt.

Created: Specifies the date the key was created.

Expires: Specifies the date the key can no longer be used.

Status: Specifies the status of the key.

Strength: Specifies the length, in bits, of the key. The longer the key, the more security it provides. However, a long key will not compensate for the use of a weak passphrase.

5 Click *Close*.

10.3.2 Editing Secure Shell Key Properties

The descriptions in this section apply to all SSH keys.

1 Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2 Double-click the Secure Shell key you want to view or edit (or select the key, then click *Properties* in the toolbar).

3 Use the options on the *Key* tab to change the name of the key or the passphrase associated with the key.

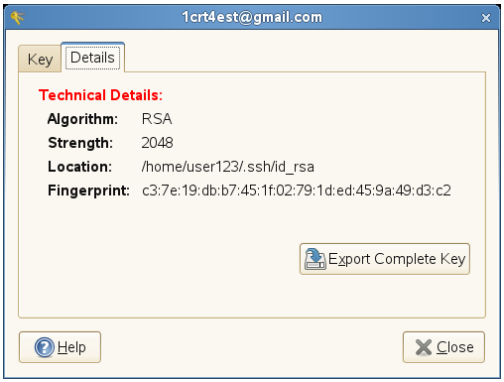
4 Click the *Details* tab, which contains the following properties:

Algorithm: Specifies the encryption algorithm used to generate a key.

Strength: Indicates the length in bits of a key. The longer the key, the more security it provides. However, a long key does not make up for the use of a weak passphrase.

Location: The location where the private key has been stored.

Fingerprint: A unique string of characters that exactly identifies a key.



5 Click *Close*.

10.4 Importing Keys

To import keys:

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.
2. Click *Key* > *Import*.
3. Select a file containing at least one ASCII armored public key.
4. Click *Open* to import the key.

You can also paste keys inside Passwords and Encryption Keys:

1. Select an ASCII armored public block of text, then copy it to the clipboard.
2. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.
3. Click *Edit* > *Paste Keys*

10.5 Exporting Keys

To export keys:

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.
2. Select the keys you want to export.
3. Click *Key* > *Export Public Key*.
4. Specify a filename and location for the exported key.
5. Click *Save* to export the key.

You can also export keys to the clipboard in an ASCII armored block of text:

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2. Select the keys you want to export.

3. Click *Edit* > *Copy Public Key*.

10.6 Signing a Key

Signing another person's key means that you are giving trust to that person. Before signing a key, carefully check the key's fingerprint to ensure that the key really belongs to that person.

Trust is an indication of how sure you are of a person's ability to correctly extend the web of trust. When you are faced with a key you have not signed, the validity of that person's key will be determined based on the signatures they have collected and how well or not you trust the people who have made those signatures. By default, an unknown key will require three signatures with marginal trust value or one fully trusted signature.

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2. Select the key you want to sign from the *Trusted Keys* or *Other Collected Keys* tabs.

3. Click *Key* > *Sign*.

4. Select how carefully the key has been checked, then indicate if the signature should be local to your keyring, and if your signature can be revoked

5 Click *Sign*.

10.7 File Manager Integration

Passwords and Encryption Keys integrates with the Nautilus file manager. You can encrypt, decrypt, sign, and verify files as well as import public keys from the file manager window without launching Passwords and Encryption Keys.

NOTE: Enabling File Manager Integration

The package `seahorse-plugins-nautilus` has to be installed to enable file manager integration.

10.7.1 Encrypting Files From Nautilus

1 In Nautilus, right-click the files you want to encrypt.

2 Select *Encrypt*.

3 Select the people (recipients) you want to encrypt the file to, then click *OK*.

10.7.2 Signing Files From Nautilus

1. In Nautilus, right-click the files you want to sign.
2. Select *Sign*.
3. Select a signer, then click *OK*.
4. If prompted, specify the passphrase of your private key, then click *OK*.

10.7.3 Decrypting Files From Nautilus

To decrypt an encrypted file in Nautilus, simply double-click the file you want to decrypt.

If prompted, specify the passphrase of your private key.

10.7.4 Verifying Signatures From Nautilus

To verify files, simply double-click the detached signature file. Detached signature file names often have a `.sig` extension.

10.8 Text Editor Integration

Passwords and Encryption Keys integrates with the gedit text editor. You can quickly encrypt, decrypt, sign, and verify text directly in the text editor.

NOTE: Enabling Text Editor Integration

The package `seahorse-plugins-gedit` has to be installed to enable file manager integration. The plugin has to be enabled in gedit by choosing *Edit* > *Preferences* > *Plugins* and checking *Text Encryption*.

10.8.1 Encrypting Text in gedit

1. In gedit, select the text you want to encrypt.
2. From menu, select *Edit* > *Encrypt*.
3. Select the people (recipients) you want to encrypt the file to, then click *OK*.

10.8.2 Signing Text in gedit

1. In gedit, select the text you want to sign.
2. From menu, select *Edit* > *Sign*.
3. Select a signer, then click *OK*.
4. If prompted, specify the passphrase of your private key, then click *OK*.

10.8.3 Decrypting Text and Verifying Its Signatures

1. In gedit, select the text you want to decrypt or the text which signature you want to verify.
2. From menu, select *Edit* > *Decrypt/Verify*.

10.9 Clipboard Integration

Passwords and Encryption Keys integrates with the clipboard in GNOME desktop. You can quickly encrypt, decrypt, sign, and verify text in the clipboard.

NOTE: Enabling Clipboard Integration

The package `seahorse-plugins-applet` has to be installed to enable clipboard integration. If it is installed, *Clipboard Text Encryption* applet can be added to the GNOME panel.

To encrypt, decrypt, sign, or verify text using the encryption applet, follow these steps:

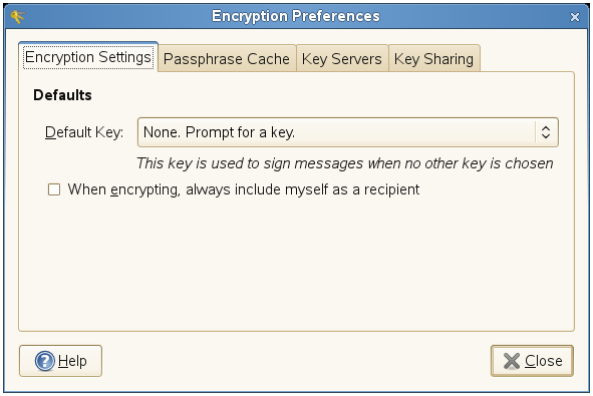
1. Copy the text to be encrypted, signed, decrypted, or verified to the clipboard.
2. Left-click the encryption applet icon in the panel and choose the appropriate action from the menu.
3. If you are encrypting, select recipients. If you are signing, select a signer. You may need to enter a passphrase.
4. You can paste encrypted, decrypted, signed, or verified text where needed.

10.10 Encryption Preferences

Functionality of the Password and Encryption Keys tool can be customized. Possible options are described in this section.

10.10.1 Encryption Settings

1. Click *Computer* > *Control Center* > *Personal* > *Encryption and Keyrings*.
2. Click *Encryption* tab.



3 Choose from the following options:

Default Key: Specifies the key you want to use to sign files. Files will be encrypted to this key if the *When encrypting, always include myself as a recipient* option is selected.

When encrypting, always include myself as a recipient: Select this option to add yourself to the recipients list for all files encrypted by Passwords and Encryption Keys. If you do not select this option, and you do not select yourself as a recipient, you cannot decrypt any files you encrypt.

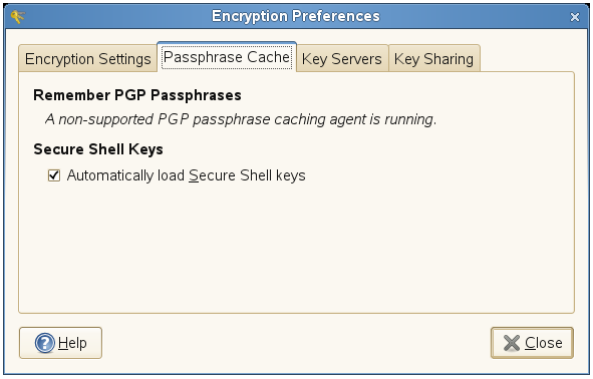
4 Click *Close*.

10.10.2 Passphrase Cache

Enabling Passwords and Encryption Keys's passphrase caching ability allows you to perform many operations that require entering your passphrase without reentering it every time `seahorse-daemon` takes the place of `gpg-agent`. Letting the cached passphrases expire is usually a good idea. This will then require reentering your passphrase, but adds security.

1 Click *Computer* > *Control Center* > *Personal* > *Encryption and Keyrings*.

2 Click the *PGP Passphrases* tab.



3 Choose from the following options:

Never remember passphrases: Select this option to not remember any passphrase.

Remember passphrases for ... minutes: Specifies the amount of time, in minutes, for storing passphrases.

Always remember passphrases whenever logged in: Select this option to remember any passphrases whenever you are logged in to the session.

Ask me before using a cached passphrase: Select this option to ask you before a stored passphrase is used.

Automatically load Secure Shell keys: Select this option to automatically cache any Secure Shell key.

4 Click *Close*.

10.10.3 Password Keyrings

You can use password keyring preferences to create or remove keyrings, to set the default keyring for application passwords or to change unlock password of a keyring. To create a new keyring, follow these steps:

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2. Click *Edit* > *Preferences*, then click the *Password Keyrings* tab.

3. Press *Add Keyring*.

4. Enter new keyring's name and pres *Add*.

5. Set *Location* where to save the new keyring. Set and confirm its *Password* and click *Create*.

To change unlock password of an existing keyring, click on the keyring in the list and press *Change Unlock Password*. You have to provide the old password to be able to change it.

To change the default keyring for application passwords, choose it from the drop-down list under *Default Keyring*.

10.10.4 Key Servers

You can keep your keys up to date by syncing keys periodically with remote keyservers. Syncing will make sure that you have the latest signatures made on all of your keys so that the web of trust will be the most useful.

1. Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2. Click *Edit* > *Preferences*, then click the *Key Servers* tab.

Passwords and Encryption Keys provides support for HKP and LDAP keyservers.

HKP Servers: HKP keyservers are ordinary Web-based keyservers such as the popular hkp://pgp.mit.edu:11371, also accessible at `http://pgp.mit.edu`.

LDAP Keyservers: LDAP keyservers are less common, but use the standard LDAP protocol to serve keys. ldap://keyserver.pgp.com is a good LDAP server.

You can *Add* or *Remove* keyservers to be used using the buttons on the left. To add a new keyserver, set its type, host and port, if necessary.

3 Set whether you want to automatically publish your public keys and which keyserver to use. Set whether you want to autopmatically retrieve keys from keyservers and whether to synchronize modified keys with keyservers.

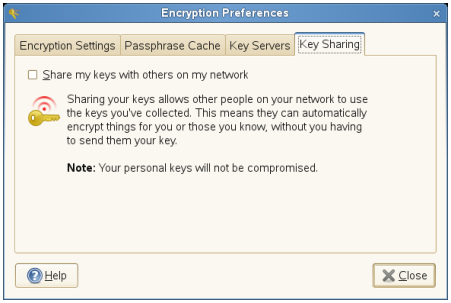
4 Click *Close*.

10.10.5 Key Sharing

Key Sharing is provided by DNS-SD, also known as Bonjour or Rendevous. Enabling key sharing adds the local Passwords and Encryption Keys users' public key rings to the remote search dialog box. Using these local key servers is generally faster than accessing remote servers.

1 Click *Computer* > *More Applications* > *Utilities* > *Passwords and Encryption Keys*.

2 Click *Edit* > *Preferences*, then click the *Key Sharing* tab.



3 Select *Share my keys with others on my network*.

4 Click *Close*.

11 Taking Notes with BasKet

BasKet is a note-taking application that allows you to collect and sort all kind of data. It helps with writing down your ideas, making to do lists, and allocating your contacts. You can sort the data in hierarchies and share it with other people. If needed, you can even protect some of your baskets with passwords.

11.1 Creating Baskets

A basket is a document in which you can place notes. Create baskets that include different topics, contents, or projects and give each its own layout.

1. To start BasKet, open a shell with Alt + F2 and enter `basket`.

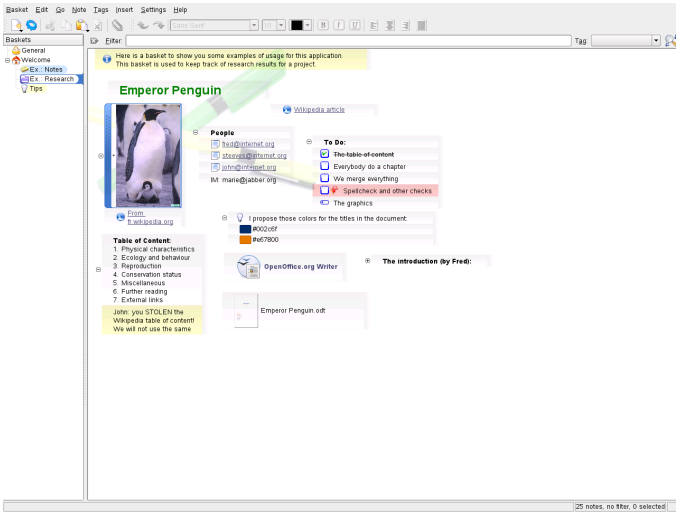
2. To create a basket, select *Basket* > *New* > *New Basket*.

3. Enter a name for your basket and select a template for its column structure.

4. The basket tree on the left side shows all your baskets.

   Right-click a basket in the tree and select *Properties* to give it a special appearance (background color or image and text color), change its disposition (column format), or create a shortcut for it.

Figure 11.1 *Basket in Use*



NOTE: Saving your Baskets

There is no need to save your work. It is saved automatically.

To assure a clearly arranged structure, you may want to create sibling baskets or sub-baskets as well. You can do this by selecting *Basket* > *New* > *New Sub-Basket*. The sub-basket appears one level down the parent basket. By selecting *Basket* > *New* > *New Sibling-Basket* you create a basket in the same level as the parent basket. In both cases the new baskets inherit the appearance and disposition from their parent baskets.

11.2 Working with Baskets

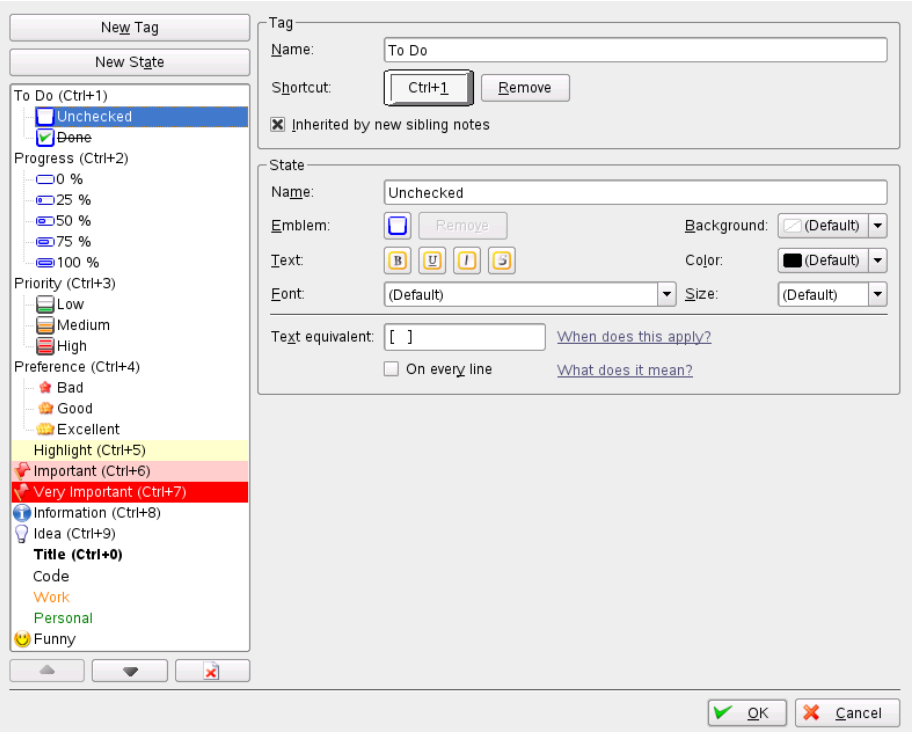
After creating your baskets and sub-baskets, fill them with different notes. Notes can include different types of data, for example text, images, URLs, application launchers as well as links, e-mail addresses, files and colors.

11.2.1 Filling and Personalizing your Baskets

To insert notes into baskets, just right-click the area on the right side and choose the type of data you need to add. You can import screen shots or colors picked from the screen into your baskets. For a screen shot, select *Insert* > *Grab from screen*. To select a screen color, use *Insert* > *Color from Screen*.

You may want to assign tags to your notes to structure them. Tags are marks that represent the priority, preference, or progress of a note. Select *Tags* and simply check or uncheck the tags to assign or remove them from the selected notes. Customize the available tags by selecting *Tags* > *Customize*.

Figure 11.2 *Customizing Tags*



To group notes that belong together select the ones you want to group, right-click on them and select *Group*. To break up a group of notes, make sure you selected the whole group of notes, then right-click and select *Ungroup*.

You can move a note within a group of notes by selecting *Note* > *Move Up*. If you want to move a note from within a group of notes outside it, select *Note* > *Move On Top*.

11.2.2 Importing and Exporting Baskets

If you worked with other note-taking applications in the past and do not want to lose the collected information, import these files to BasKet. You can import data from the applications KNotes, KJots, and StickyNotes. To do that, right-click either in the tree structure on the left side or directly on the basket into which you want to import the notes and select *Import*.

After collecting and sorting a lot of data, you might want to share it with other people. There are two ways to prepare your notes for sharing:

- Export a basket into HTML files by right-clicking the basket you want to export and selecting *Export* > *HTML Web Page*.
- For others to be able to open and modify your baskets, export them into basket archives. Right-click the basket you want to export and select *Export* > *Basket Archive*.

11.2.3 Protecting Baskets

There might be baskets that you want to protect with a password so you are the only person who can access them. To protect a basket using a password or private and public keys Right-click the basket and select *Password*.

11.2.4 Finding Data

Once you have several baskets, finding specific data can be challenging. You have different possibilities to find the information you are looking for very quickly even without remembering its exact title:

- Find notes by simply typing a word or two in the filter box.
- If you are searching for notes with a certain tag assigned to them, select the desired tag in the tag box.

- The icon on the right applies a filter to every basket.

The numbers in the basket tree on the left indicate how many notes match your search options. The lock icon indicates that the basket is currently locked, so has not been searched. For more information, see Section 11.2.3, “Protecting Baskets” (page 128).

11.2.5 Creating and Restoring Backups

Basket can backup your data for you. Select *Basket* > *Backup & Restore...* to open a dialog box. It shows you where your baskets are stored in. You can select a different folder when you select the buttons *Move to Another Folder...* or *Use Another Existing Folder...*, depending on your need. Start the backup process with *Backup...* and give your archive a name. A previously backup can be restored with *Restore a Backup...* and select the respective archive.

11.3 For More Information

The official home page of BasKet is `http://basket.kde.org/index.php`. This site offers a tour through the application, news of the latest versions, and a collection of screen shots showing different use cases.

12 Taking Notes with Tomboy

Tomboy is a GNOME desktop application for taking notes that gives you the ability to organize the ideas and information you deal with every day. Among other things, it can help you collect and sort all kind of data, write down your ideas, make to do lists, and allocate your contacts.

Tomboy also has some useful editing features to help you customize your notes, including:

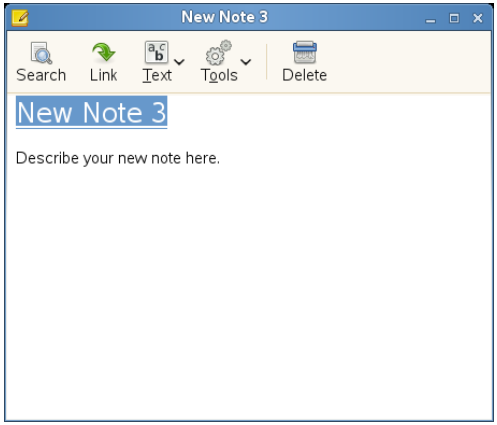
- Highlighting search text
- Inline spell checking
- Auto-linking Web and e-mail addresses
- Undo/redo support
- Font styling and sizing
- Bulleted lists

Tomboy is located on the GNOME panel (), and by default, is started automatically when you log into GNOME. You can also access Tomboy by clicking *Computer* > *More Applications* > *Tools* > *Tomboy Notes*.

12.1 Creating Notes

To create a new note, click the Tomboy Notes icon ( ) in your GNOME Panel, then select *Create New Note*.

Figure 12.1 *A New Tomboy Note*



To edit the note, click the content area, then use the keyboard to add and remove content. The first line of the note contains its title. By default, this is populated with the text `New Note #`. You can change the title by clicking the line and using the keyboard to change the title. By default, focus is given to the content area upon creation of a new note, so you can immediately start editing the note without clicking the content area. For more information on formatting the contents of a note, see Section 12.5, "Formatting Text in Notes" (page 135).

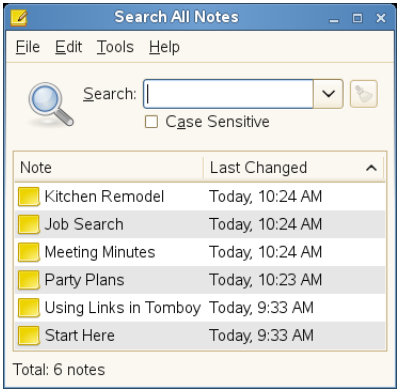
Your note is saved automatically.

You can then organize the notes you create by linking related notes and ideas together. Fore more information, see Section 12.3, "Linking Notes" (page 134).

12.2 Searching All Notes

To get an overview of all your notes, click , then select *Search All Notes*. By default, the Search All Notes dialog box displays your notes in the order they were last modified. Click the *Note* or *Last Changed* column headings to change the sort order. Click the column heading a second time to toggle between ascending and descending order.

Figure 12.2 *Search All Notes Dialog Box*



You can find specific notes by entering text into the *Search* field. The list of notes automatically updates to list only the notes that contain matching text.

To open a note listed in the Search All Notes dialog box, do any of the following:

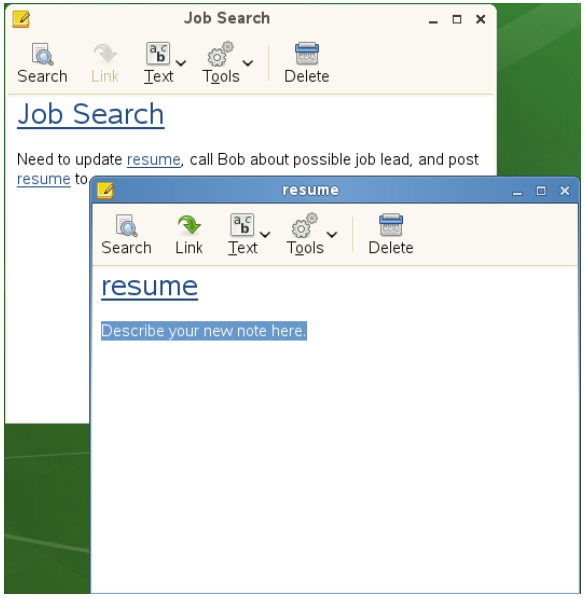
- Double-click a note.
- Select a note, then click *File* > *Open*.
- Right-click a note, then select *Open*.
- Select a note, then press Ctrl + O.

12.3 Linking Notes

You can link notes in Tomboy by highlighting text in your current note, then clicking the *Link* button in the toolbar. This creates a new note and underlines the note's title in the current note.

For example, if your current note contains the phrase “resume,” you can select this text, then click *Link* to create a new note with the title “resume.” A link is also created in the current note which you can click to open the new “resume” note.

Figure 12.3 *Links in Tomboy Notes*



If you change the title of a note, the links in other notes to the note whose title you changed are automatically updated. Typing the name of another note in your current note automatically links that note for you. To see what other notes link to the current note, click *Tools* > *What links here?*

12.4 Accessing Your Notes

To access your notes, click the Tomboy icon ( ) on the GNOME panel, then select one of the notes you recently viewed or created from the menu, or search for older notes (see Section 12.2, "Searching All Notes" (page 133) for more information).

To force a note to always appear in the panel menu regardless of when you last accessed it, click the thumbtack icon to the right of the note to "pin" it to the menu. Notes that are pinned to the panel menu have a thumbtack icon that look like this: . Notes that are not pinned to the panel menu have thumbtack icons that look like this: .

12.5 Formatting Text in Notes

You can use the *Text* button on the Tomboy toolbar to format text within your notes. The *Text* button displays a drop-down menu with the following options:

Undo
: Allows you to revert previous changes made to your note during the current session. To undo your last change using the keyboard, press Ctrl + Z.

Redo
: Allows you to put back changes that were removed using the *Undo* feature. To redo your last change using the keyboard, press Shift + Ctrl + Z.

Bold
: To make text within your note bold, select the text you want to modify, then select the *Bold* option from the *Text* drop-down menu. You can also press Ctrl + B after selecting text.

Italic
: To make text within your note italic, select the text you want to modify, then select the *Italic* option from the *Text* drop-down menu. You can also press Ctrl + I after selecting text.

Strikeout

Puts a line through the selected text. To add a strikeout, select the text you want, then select the *Strikeout* option from the *Text* drop-down menu. You can also press Ctrl + S after selecting text.

Highlight

Puts a yellow background around the selected text. To add a highlight, select the text you want, then select the *Highlight* option from the *Text* drop-down menu. You can also press Ctrl + H after selecting text.

Fixed Width

The fixed width style allows text to use a fixed width font. To change existing text, select the text you want to modify, then select the *Fixed Width* option from the *Text* drop-down menu. You can also select the *Fixed Width* option from the *Text* drop-down menu before you start typing to have the text you type be in a fixed width style.

Font Size

There are four options in this part of the menu: *Small*, *Normal*, *Large*, and *Huge*. Each of these options represents a font size you can use for the selected text in the note. To modify the font size, select the text you want to modify, then select one of the *Font Size* options from the *Text* drop-down menu.

Bullets

Select the *Bullets* option from the *Text* drop-down menu to begin or end a bulleted list. If your cursor is inside a bulleted list, the *Increase Indent* and *Decrease Indent* options are enabled.

For more information on bullets, see Section 12.5.1, “Using Bulleted Lists” (page 137).

Increase Indent

With the cursor on a bulleted list line, select this option to shift the current line to the right.

Decrease Indent

With the cursor on a bulleted list line, select this option to shift the current line to the left.

Find in This Note

Lets you search for text within the current note. Selecting this option causes a *Find* bar to open at the bottom of the note. To open the *Find* bar using the keyboard, press Ctrl + F.

Enter the text you want to find. After entering text, any matches are highlighted. Click *Find Next* to highlight the next match and place the cursor there. Click *Previous* to move to the previous match.

To close the find bar, click *X* on the far left or press the Escape key.

12.5.1 Using Bulleted Lists

Tomboy's bulleted lists are useful for creating hierarchically structured content. Creation and formatting of bulleted lists is described in this section.

Beginning a Bulleted List

To begin a bulleted list, use any of the following methods:

- Select *Bullets* from the *Text* drop-down menu.
- Write a line of text immediatelly after the automatically created bullet, then press Enter.

Ending a Bulleted List

To end a bulleted list, do any of the following:

- Select *Bullets* from the *Text* drop-down menu.
- Press Enter on a blank bulleted line.
- Select *Decrease Indent* from the *Text* drop-down menu until the current line is no longer part of the bulleted list.
- Press Shift + Tab until the current line is no longer part of the bulleted list.

Increasing Indentation

To increase the line indentation in a bulleted list, select *Increase Indent* from the *Text* drop-down menu, or press the Tab key.

Decreasing Indentation

To decrease the line indentation in a bulleted list, select *Decrease Indent* from the *Text* drop-down menu, or press Shift + Tab.

12.6 Exporting Notes to HTML

You can create an HTML (Hypertext Markup Language) document from one or more notes.

1. In the note you want to export, select the *Export to HTML* option from the *Tools* drop-down menu.
2. Specify where to save the HTML file.
3. If you want to export any notes for which a link exists in the current note, select *Export linked notes*. To export all notes for which a link exits in any of the notes, select *Include all other linked notes*.
4. Click *Save*.

12.7 Deleting Notes

To delete a note, click the *Delete* button on the Tomboy toolbar. You will see a dialog box asking if you want to permanently delete the note and its contents. Click *Delete* to discard the note permanently, or click *Cancel* to abort the process.

Links to this note from other notes will still exist, but will re-create the note upon activation.

12.8 Printing Notes

Select the *Print* option on the *Tools* drop-down menu to print the current note. You will be presented with the standard GNOME print dialog box.

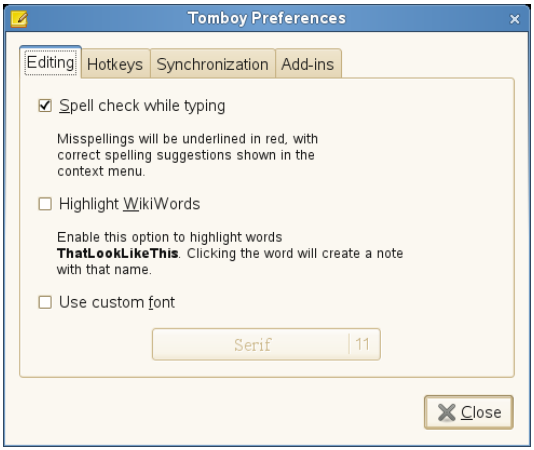
12.9 Configuring Tomboy Preferences

To modify preferences for Tomboy, right-click the Tomboy icon ( ) on the GNOME panel, then select *Preferences*. You can set preferences related to *Editing*, *Hotkeys*, *Synchronization* and *Add-ins* on respective tabs.

12.9.1 Editing Preferences

The *Editing* tab of the *Preferences* dialog lets you set options related to editing of notes.

Figure 12.4 *Tomboy Editing Preferences*



The Editing preferences include the following:

Spell check while typing
: Underlines misspellings in red, and provides suggestions in the right-click context menu.

Highlight WikiWords

Creates links for phrases `ThatLookLikeThis`. Clicking the link creates a new note with the title corresponding to the link text.

Use custom font

Sets a custom font to be used in your notes. If this option is disabled, the default system font will be used.

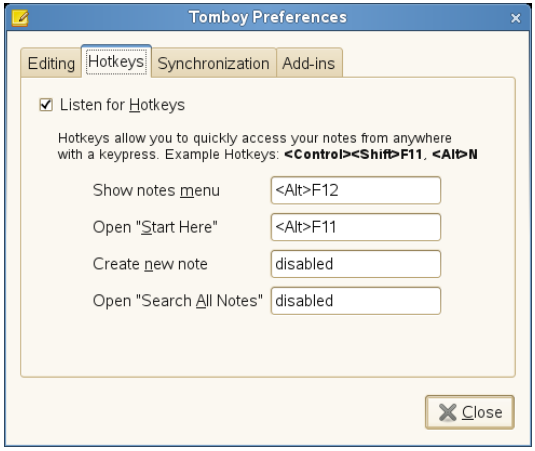
New note template

Sets the default text that is used for any new created note.

12.9.2 Hotkey Preferences

The *Hotkeys* tab of the *Preferences* dialog lets you set global key combinations to perform different functions in Tomboy. To set key combinations, the *Listen for Hotkeys* checkbox must be selected. Press Alt + H to toggle this option on or off.

Figure 12.5 *Tomboy Hotkey Preferences*



The Hotkey preferences include the following:

Show notes menu

Specify the key combination to open the notes menu.

Open “Start Here”
: Specify the key combination to open the “Start Here” note, which is preinstalled with Tomboy.

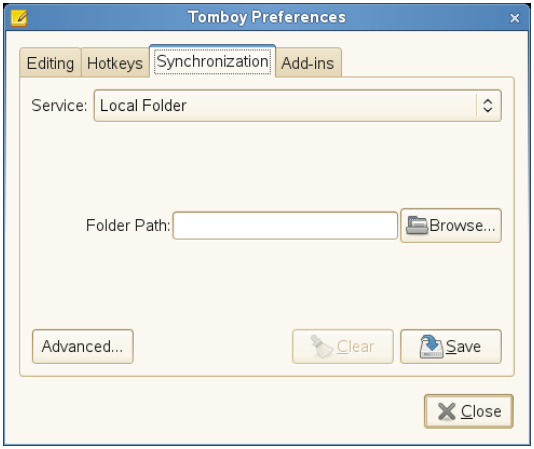
Create new note
: Specify the key combination to create a new note.

Open “Search All Notes”:
: Specify the key combination to open the *Search All Notes* dialog box.

12.9.3 Synchronization Preferences

The *Synchronization* tab of the *Preferences* dialog lets you share notes, announce notes, receive announcements, and get notes from other instances of Tomboy. This can be useful, for example, if you want to work on a single set of notes in separate instances of Tomboy running on your desktop and your laptop.

Figure 12.6 *Tomboy Synchronization Preferences*



The Synchronization preferences include the following:

Service
: Specify the location of the synchronized files. By default, you can select a local folder or WebDAV server. To synchronize to a remote location, click the *Add-ins*

tab, select *Synchronization* > *SSH Sync Service Add-in*, then click *Enable*. This adds an *SSH (sshfs FUSE)* option to the *Service* drop-down list.

Specify the information required for the Service you selected, then click *Save*.

Advanced
: Specify what happens when a conflict is detected between a local note and a note on the configured synchronization server. You can choose to be prompted when a conflict occurs, to rename the local note, or to replace the local note with the note on the synchronization server.

Clear
: Clears your current synchronization settings. If you choose to clear your synchronization settings, you might have to synchronize your notes again when you save new settings.

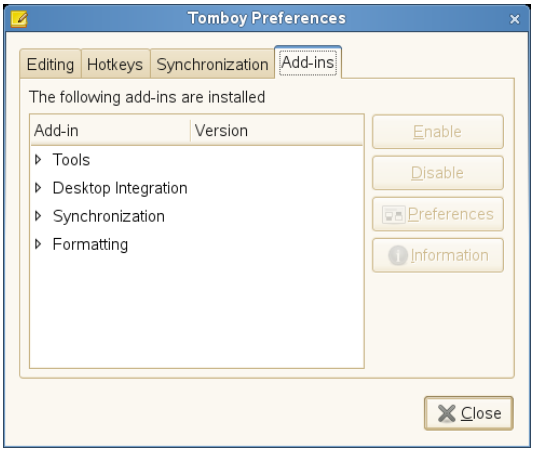
To synchronize your notes, click *Tools* > *Synchronize Notes* in any open note.

12.9.4 Add-ins Preferences

The Add-ins tabbed page lets you enable and configure Tomboy add-ins (formerly called plugins). Tomboy comes with several pre-installed add-ins, such as Backlinks, Bugzilla Links, Evolution Mail Integration, Export to HTML, Fixed Width, Note of the Day, Printing Support, and Sticky Notes Importer.

The list of installed add-ins is shown on the left of the Add-ins tabbed page. To enable or disable an add-in, select the plug-in you want, then click *Enable* or *Disable*.

Figure 12.7 *Tomboy Add-ins Preferences*



Additional add-ins can be found in the Tomboy Add-ins [`http://live.gnome.org/Tomboy/PluginList`] page. Place new add-ins in the `$HOME/.tomboy/addins` folder.

Part III. Communication and Collaboration

Instant Messaging with Kopete

13

Kopete is an online messenger application allowing multiple partners connected to the Internet to chat with each other. Kopete currently supports all common messenger protocols, such as AOL* Instant Messenger (AIM), GroupWise® Messenger, ICQ, Jabber*, Lotus* Sametime, MSN, SMS, and Yahoo!*.

13.1 Configuring Kopete

Before you can chat with your friends, you need to create an account:

1. Open Kopete by pressing Alt + F2 and entering `kopete`. If Kopete does not start, check if the package `kde4-kopete` is installed.

2. Select *Settings* > *Configure* and click *Add Accounts...*. The configuration wizard appears.

3. Select your messaging service. Generally, this is mostly determined by what service your friends are using.

4. If the messaging services requires registration but you do not have an account for this service yet, click *Register New Account*. In the browser window that opens, enter your user data to register.

5. Switch back to Kopete and enter the data received on registration with the messaging service. This usually consists of the nickname or e-mail address and a password. Complete the configuration of your account by clicking *Finish*.

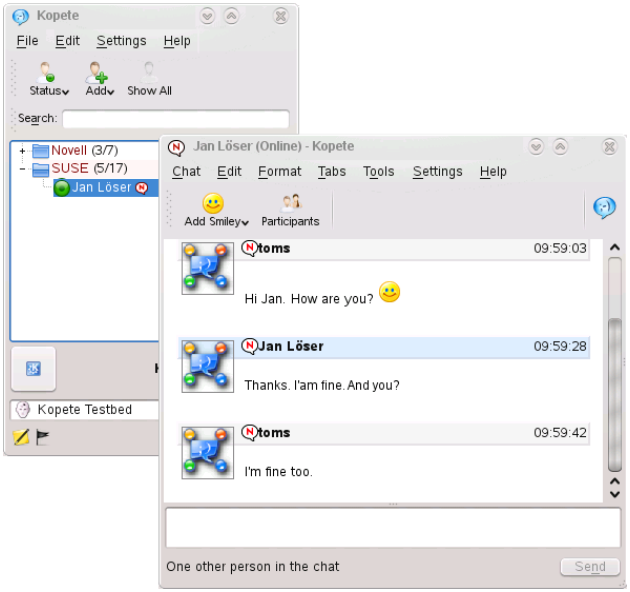
After you have configured your account you need to add contacts to chat with them. If you have already created an account on another PC, this data is imported and automatically added to your contact list after login. To manually create a contact entry, click *File > Add Contact*. A new assistant appears to help with creation. However, you must be online and connect with Kopete to the selected messaging service to add a contact to your list.

13.2 Chatting with Friends

It is necessary to be connected to the Internet to be able to chat with other participants. When this is done, you should set your status by clicking *File > Set Status > Online*. This establishes a connection between Kopete and the selected messaging service. After the successful login, you are visible to others.

The main application windows features a list of contacts. You must have contacts to chat with others. To add a new contact, click on *File > Add Contact* and choose your identity. After you have entered the respective data (which can vary depending on your account) you see your new contact. When you right-click a contact marked as online, a menu opens with various options. Send that person a message or start a chatting session. A chat allows invitation of additional participants for real-time discussion. Connection to all participants is closed when the creator of the chat session closes it.

Figure 13.1 *Chat Window*



If you want to see your previous chat session, select a contact and go to *Tools* > *Latest History*. This menu item shows your chat sessions with this person. Alternatively you can select *Edit* > *View History*. This opens a window where you can see an overview of all contacts and there saved messages.

You can view other options by right-clicking a username. A pop-up menu opens. An important option is *Start Chat* to start a chatting session. With *Rename Contact* and *Remove Contact*, you can run the respective action. The pop-up menu also contains a submenu item with the username where you can block the user or get user information.

TIP: Scrolling Through Old Chat Sessions

If you want to know what you wrote during one of the last chat sessions with a person, click a contact to open the chat window again and press Alt + ← or Alt + → to scroll through your sessions. Alternatively, use the arrow icons in the toolbar to scroll back and forth.

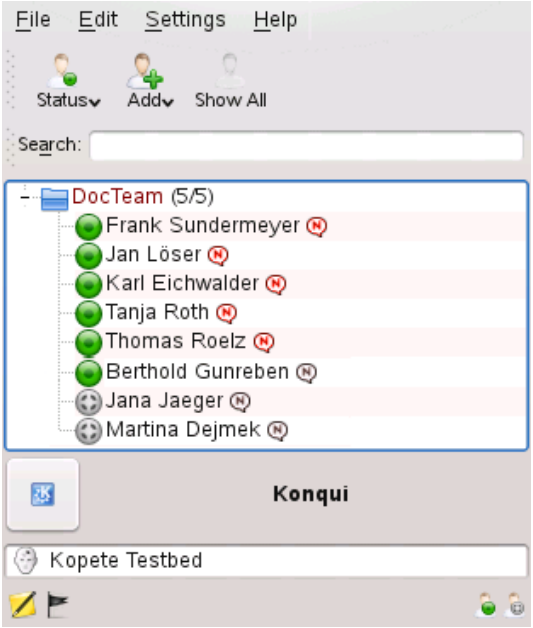
13.3 Customizing Kopete

Kopete offers numerous options to customize it according to your needs. Find some examples in the following sections.

13.3.1 Adding Groups

Grouping contacts in your list can give a better overview. Click *File* > *Create New Group*. Name the group and confirm this with *OK*. A new folder appears in the contact list that can be used to store the desired contacts. Drag and drop contacts into the desired folder.

Figure 13.2 *The Main Kopete Window*



Empty groups can be disabled by activating *Settings* > *Hide Empty Groups*. To customize a special group only, right-click the respective entry and select *Properties* in the popup window that opens. Now change the icons or your notifications.

13.3.2 Using an Identity

Kopete can manage several accounts, which is helpful if you have friends using different messenger protocols. Each account can be associated with a different identity. This is useful for privacy or business reasons and if you do not want to reveal your name. To create a new identity, proceed as follows:

1. In Kopete, select *Settings* > *Configure* and go to the *Accounts* tab. The configuration window appears.
2. Select *Add Identity...* and enter a name, nickname, and other information.
3. If you want to use the new identity for different accounts, simply move your account into your new identity.

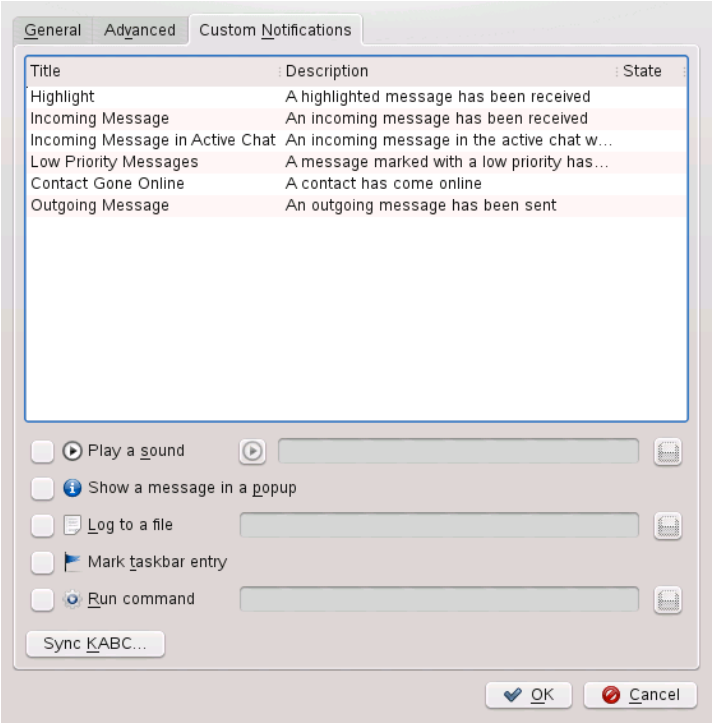
13.3.3 Configuring Notifications

Kopete allows you to configure notifications for events such as contacts coming online or going offline or an incoming message for you. This can be done globally, for a specific group or a single contact.

To activate the notifications option proceed as follows:

1. Make sure all your contacts are shown in the Kopete window. If not, select *Settings* > *Show Offline Users*.
2. Right-click your preferred contact and select *Properties*. The notification dialog appears, see Figure 13.3

Figure 13.3 *Notification Dialog in Kopete*



3 Go to the *Custom Notification* tab and select *Contact Gone Online*.

4 Decide which action should be executed for this event: *Play a Sound*, *Show a Message in a Popup*, *Log to a File*, *Mark Taskbar Entry*, or *Run Command*.

5 Click *OK* to confirm your settings.

To modify the default notification options, select *Settings* > *Notifications*. Select which event is important for you and change the notification settings. For example, if you want to be informed by a sound when any of your contacts has come online, select *A contact has come online* and activate *Play a sound*. Select the sound and click *OK* to close the configuration dialog.

13.3.4 Configuring Kopete Plug-ins

Kopete offers some nice extensions for you chat sessions which can be accessed from *Settings* > *Configure Plugins*. For example, you can auto replace text, encrypt outgoing messages, highlight text if the message contains some interesting words, render LaTeX formulas, or translate messages.

13.4 For More Information

More information about Kopete and chats can be found on the following Web sites:

- Kopete Home Page [http://kopete.kde.org/]
- Common Abbreviations Used in Chat Sessions [http://www.webopedia.com/quick_ref/textmessageabbreviations.asp]
- KDE Forum [http://www.kde-forum.org]

14 Instant Messaging with Pidgin

Pidgin (formerly called Gaim) is an instant messaging (IM) client that allows you to connect to multiple accounts simultaneously. Chat live with your contacts in one tabbed interface, regardless of which IM system they use. Pidgin supports the following instant messaging protocols: AOL* Instant Messenger (AIM), Bonjour, Gadu-Gadu, Google Talk, GroupWise Messenger, ICQ, IRC, Jabber/XMPP, MSN Messenger, MySpaceIM, QQ, SILC, SIMPLE, Yahoo!*, and Zephyr*. Pidgin also supports many features of the various networks, such as file transfer, away messages, and typing notification.

In the following, learn how to set up Pidgin and how to communicate with your contacts.

14.1 Configuring Accounts

To use Pidgin, you must already have accounts on the systems you want to use. For example, to use Pidgin for your AIM account, you must first have an AIM account. Once you have those accounts, set them up in the Pidgin *Add Account* dialog.

Procedure 14.1 *Adding and Editing Accounts*

1. Start Pidgin from the main menu or press Alt + F2 and enter `pidgin`. If Pidgin does not start, check if the package `pidgin` is installed.

   If you start Pidgin for the first time, a message appears, prompting you to configure an account. Otherwise, Pidgin opens the Buddy List window, showing your contacts.

2 To add or edit an account from there, select *Accounts* > *Manage Accounts*.

3 In the *Accounts* dialog, click *Add* to add a new account or select an existing account and click *Modify*.

4 On the *Basic* tab, select the protocol. The dialog to add or modify accounts differs for each protocol, depending on what setup options are available for that protocol.

5 Enter the data received on registration with the messaging service. This usually consists of the username or e-mail address and a password. Your protocol might support additional options, such as a buddy icon, alias, login options, or others.

6 On the *Advanced* tab, enter the *Server* and *Port* you got from your messaging service or system administrator.

7 Click *Save*.

8 If needed, add accounts for each additional protocol as described above.

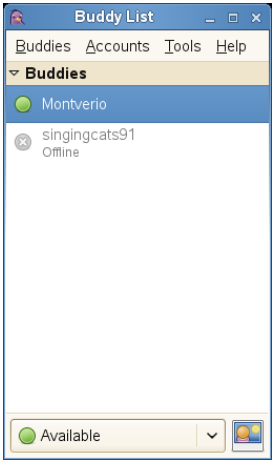
After an account is added, you can log in to that account by entering your password in the Pidgin login dialog box. Use the *Accounts* menu to view and enable or disable accounts that you have configured.

14.2 Managing Your Contacts

Use the Buddy List to manage your contacts, also known as buddies. You can add and remove buddies from your Buddy List, and you can organize your buddies in groups so they are easy to find.

After your accounts are set up, all buddies who are online appear in your Buddy List. If you also want your buddies who are not online to appear in the Buddy List, click *Buddies* > *Show Offline Buddies*.

Figure 14.1 *Pidgin Buddy List*



To add a buddy to your Buddy List, click *Buddies* > *Add Buddy*, then enter the information about that buddy.

NOTE: Adding Contacts for Certain Protocols

For some protocols, you cannot add a buddy in the Pidgin interface. You must use the client for those protocols if you want to add to your buddy list. After you have added a buddy in the protocol's client, that buddy appears in your Buddy List.

To remove a buddy from the list of contacts, right-click on that buddy's name in the Buddy List, then click *Remove*.

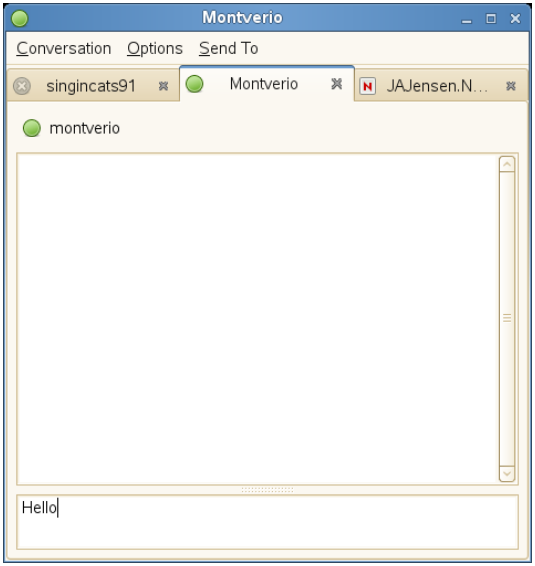
14.3 Chatting with Friends

It is necessary to be connected to the Internet to be able to chat with other participants. After successful login, you are usually marked as *Available* in the Buddy List and thus visible to others. To change your status, click the drop-down list at the bottom of the Buddy List and select another option.

To open a chat session, double-click a buddy name in the Buddy List. The Chat screen opens. Type your message, then press *Enter* to send it.

Each chat session you open appears as a tab in the Chat screen. Click on a buddy's tab to chat with that buddy. Close a chat session by closing the tab for that buddy.

Figure 14.2 *Pidgin Chat Session*



14.4 For More Information

This chapter explained the Pidgin options you need to know about to set up Pidgin and communicate with your contacts. It does not explain all of Pidgin features and options. For more information, open Pidgin, then click *Help* > *Online Help* or press F1.

15 Using Voice over IP with Ekiga

Modern telecommunication means far more than just making a phone call. It is also about exchanging text messages and sometimes even video conferencing. Roaming enables you to be reachable under one phone number all across the world. Ekiga brings these features to your Linux desktop, allowing you to communicate over broadband Internet.

Before starting, make sure that the following requirements are met:

- Your sound card is properly configured.
- A headset or a microphone and speakers are attached to your computer.
- For dialing in to regular phone networks, a SIP account is required. SIP (*Signaling protocol for Internet Telephony*) is the protocol used to establish sessions for audio and video conferencing or call forwarding. There are many VoIP providers all over the world. For a quick start, have a look at the service that the Ekiga project provides at `http://www.ekiga.net`.
- For video conferencing, a Web cam is connected to your computer.

15.1 Configuring Ekiga

On first start, Ekiga opens a configuration assistant that requests all data needed to configure your instance of Ekiga. To configure Ekiga, proceed as follows:

1. Enter your full name (name and surname).

2. Enter your `ekiga.net` account data or choose not to sign up with `ekiga.net`.

   To add other accounts later, configure them using *Edit* > *Accounts*.

3. Enter your `Ekiga Call Out Account` data or choose not to sign up with `ekiga.net`.

4. Determine your connection type.

5. Choose the audio manager to use. Accept the default setting *ALSA*, as it guarantees the best sound quality and other sound systems, like OSS, are not available on openSUSE.

   By default, there is no ringing device set. If you a ring tone, change this to one of your available audio devices.

6. Choose the video input device if available.

7. Check the summary of your settings and apply them.

8. If registration fails after you made changes to your configuration, just restart Ekiga.

Ekiga allows you to maintain multiple accounts. To configure an additional account, proceed as follows:

1. Open *Edit* > *Accounts*.

2. Choose *Accounts* > *Add <account type>*. If unsure, select *Add a SIP Account*.

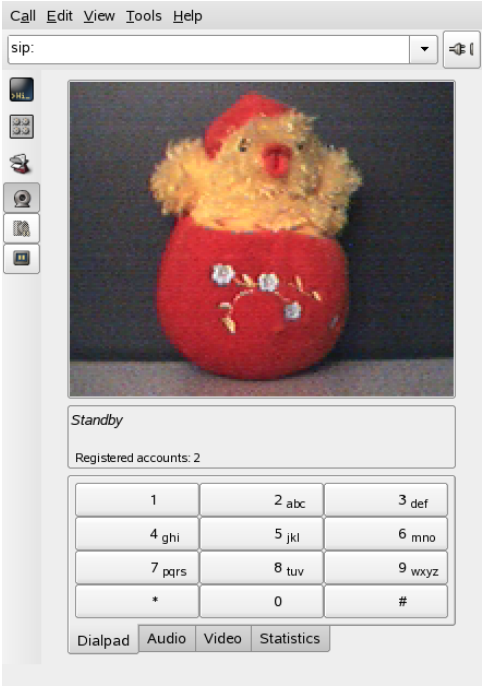
3. Enter the *Registrar* to which you want to register. This is usually an IP address or a host name that will be given to you by your Internet Telephony Service Provider. Enter *User*, and *Password* according to the data provided by your provider.

4. Leave the configuration dialog with *OK* and activate the account. The status of your account displayed in the Ekiga main window changes to *Registered*.

15.2 The Ekiga User Interface

The Ekiga user interface has several tabs available. The first tab is the *Contacts* tab, the second is the *Dialpad* and the last one is the *Call History*. In addition to this, there is a *Call Panel* available, that can display pictures and videos of local or remote webcams.

Figure 15.1 *Ekiga User Interface*



The user interface has different modes. To switch between views, use the tab line. By default, Ekiga opens the *Contacts* tab. There, a local addressbook lets you quickly open connections to often used numbers. To get a full view with webcam support, and audio controls, activate the *Call Panel* with *View* > *Show Call Panel*.

At the bottom of the *Call Panel*, there are icons for several controls like *Audio Settings*, *Video Settings*, *Video Display* and *Hold Call*. All icons provide a tool tip that is activated by the mouse pointer hovering over the icon. Some settings like the *Audio* settings may only be changed during a phone call.

Many of the functions of Ekiga are available with keyboard shortcuts. Table 15.1, “Keyboard Shortcuts for Ekiga” (page 162) summarizes the most important ones.

Table 15.1 *Keyboard Shortcuts for Ekiga*

Ctrl Sequence	Description
Ctrl + O	Initiate a call with the current number.
Esc	Hang up.
Ctrl + N	Add a contact to your address book.
Ctrl + B	Open the *Address Book* dialog.
H	Hold the current call.
T	Transfer the current call to another party.
M	Suspend the audio stream of the current call.
P	Suspend the video stream of the current call.
Ctrl + W	Close the Ekiga user interface.
Ctrl + Q	Quit Ekiga.
Ctrl + E	Start the account manager.
Ctrl + J	Activate the *Call Panel* on the main user interface.
Ctrl + +	Zoom in to the picture from the Web cam.
Ctrl + -	Zoom out on the picture from the Web cam.
Ctrl + 0	Return to the normal size of the Web cam display.
F11	Use full screen for the Web cam.

15.3 Making a Call

Once Ekiga is configured appropriately, making a call is straightforward.

1. Start Ekiga using the menu or the command line.
2. Enter the SIP address of the party to call at the *SIP address* prompt. The address should look like:
   - for direct local calls: `sip:username@domainname` or `username@hostname`
   - `sip:username@domainname` or `userid@sipserver`
3. Click *Call* or type Ctrl + O and wait for the other party to pick up the phone.
4. To end the call, click *Hang up* or type Esc.

If you need to tweak the sound parameters during a call, click on the *Audio Settings* icon in the *Call Panel*. A interface that holds the *Audio* options for *Playback level* and *Recording level* is displayed. Use the sliders to adjust the levels to fit your needs.

15.4 Answering a Call

Ekiga can receive calls in two different ways. First, the user may be called directly with `sip:user@host`. Alternatively, make your calls via a SIP provider. Most SIP providers enable you to get calls from a normal landline to your VoIP account. Depending on the mode in which Ekiga is run, there are several ways in which you would notice an incoming call:

Normal Application
: Incoming calls can only be received and answered if Ekiga is already running. You hear the ring sound on your headset or your speakers. If Ekiga is not running, the call cannot be received.

Panel Applet
: Normally, the Ekiga panel applet would run silently without giving any notice of its existence. This changes as soon as a call comes in. The main window of Ekiga opens and you hear a ring sound on your headset or speakers.

Once you have noticed an incoming call, just click *Accept* to answer the call then start talking. If you do not want to accept this call, click *Reject*. It is also possible to transfer the call to another SIP address.

15.5 Using the Address Book

Ekiga offers to manage your SIP contacts. All of the contacts are displayed in the *Contacts* tab, shown in the main window after startup. To add a contact, or a new contact group, run *Chat* > *Add Contact*.

If you want to add a new group, enter the group name into the bottom input field and press *Add*. The new group is then added to the group list and preselected.

The following entries are required for a valid contact:

Name
: Enter the name of your contact. This may be a full name, but you can also use a nickname here.

SIP Address
: Enter a valid SIP address for your contact.

Groups
: If desired, add your own groups if you have many different contacts.

To call any contact from the address book, double-click this contact. The call is initiated immediately.

15.6 For More Information

The official home page of Ekiga is `http://www.ekiga.org/`. This site offers answers to frequently asked questions as well as more detailed documentation.

For information about the support of the H323 teleconferencing protocol in Linux, see http://www.voip-info.org/wiki/view/H.323. This is also a good starting point when searching for projects supporting VoIP.

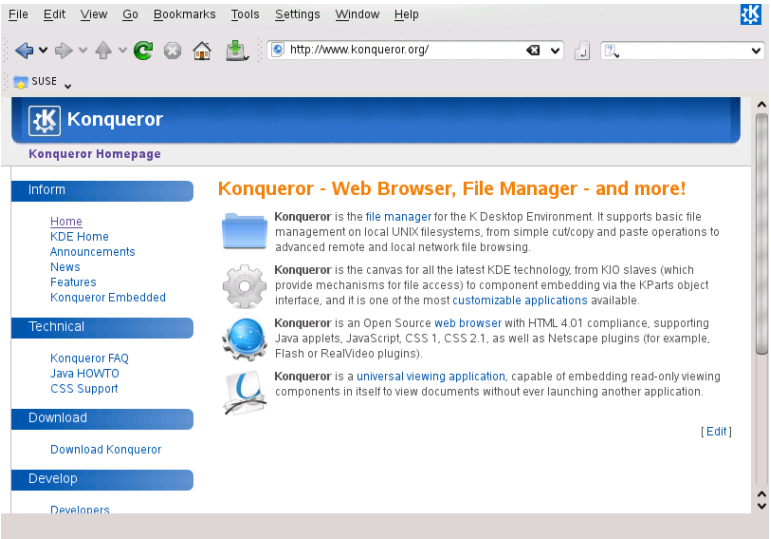
To set up a private telephone network, you might be interested in the PBX software Asterisk http://www.asterisk.org/. Find information about at http://www.voip-info.org/wiki-Asterisk.

Part IV. Internet

16 Browsing with Konqueror

Konqueror is a modern Web browser, but can also be used as a file manager. However, to manage your files and directories, it is recommended to use Dolphin. If you start the browser with the icon in the panel, Konqueror opens with the Web browser profile. As a browser, Konqueror offers tabbed browsing, the possibility of saving Web pages with graphics, Internet keywords, bookmarks, and support for Java and JavaScript.

Figure 16.1 *The Browser Window of Konqueror*



Start Konqueror from the main menu or by entering the command `konqueror`. If Konqueror does not start, check if the package `kde4-konqueror` is installed. To

load a Web page, enter its address in the location bar, for example, `http://www.opensuse.org`. Konqueror now tries to reach the address and displays the page. Entering the protocol at the beginning of the address (`http://` in this case) is not strictly required. The program is able to complete the address automatically, but this only works reliably with Web addresses. For an FTP address, always enter `ftp://` at the beginning of the input field.

16.1 Tabbed Browsing

If you often use more than one Web page at a time, tabbed browsing may make it easier to switch between them. Load Web sites in separate tabs within one window. The advantage is that you keep more control over your desktop because you only have one main window. After logout, the KDE session management allows for saving your Web session in Konqueror. The next time you log in, Konqueror loads the exact URLs visited last time.

To open a new tab, select *Window* > *New Tab* or press Ctrl + Shift + N. To change the behavior of tabs, go to *Settings* > *Configure Konqueror*. In the dialog box that opens, select *Web Behavior* > *Tabbed Browsing*. To open new tabs instead of windows, enable *Open Links in New Tab Instead of in New Window*. You can also hide the tab bar with *Hide the Tab Bar When only One Tab is Open*. To see more options, press *Advanced Options*.

16.2 Automatic Scrolling

In general, scrolling with the mouse is the normal way to view information farther down a Web page. However, there are sometimes occasions when it is preferable not to use a mouse. It can be very convenient to use key combinations instead of removing hands from the keyboard.

To scroll down automatically, use Shift + ↓. This scrolls down the page without further intervention. Increase the speed by pressing Shift + ↓ again. Pressing Shift + ↑ slows down. To stop scrolling, use ↓.

16.3 Profiles

Section 16.1, "Tabbed Browsing" (page 170) described how to handle tabs in Konqueror. You can save your tabs with URLs and the position of the window in a profile. This differs from the session management already mentioned. With profiles, your saved tabs are at hand without the intensive start-up time of session management.

To create a profile, do the following:

1. Go to *Settings* > *Configure View Profiles*.
2. In the dialog box that appears, insert a name in *Profile Name*.
3. To save your URLs, select *Save URLs in Profile*.
4. To freeze the position and size of the windows, select *Save Window Size in Profile*.
5. Approve with *Save*.

The next time you need your tab collection, go to *Settings* > *Load View Profile* and find the name listed in the menu. After you select it, Konqueror restores your tabs.

16.4 Saving Web Pages and Graphics

As in other browsers, you can save Web pages. To do this, select *File* > *Save As* and specify a name for your HTML file. However, images are not saved. To archive an entire Web page including the images, select *Tools* > *Archive Web Page*. Konqueror suggests a filename that you can usually accept. The filename ends with `.war`, the extension for Web archives. To view the saved Web archive later, simply click the respective file and the Web page is displayed in Konqueror along with its images.

16.5 Searching with Konqueror

Searching with Konqueror is very convenient. You can use the search bar or Web shortcuts.

16.5.1 Using the Search Bar

Konqueror contains a search bar where you can choose from many search engines. If you want to search for a specific term, proceed as follows:

1. Locate the search bar in Konqueror. It is on the right side after the location bar.
2. Click the icon inside the search bar. Choose a search engine from the pop-up menu.
3. Insert your search term and press Enter. The result is displayed in Konqueror.

If you need a search engine that is not listed in the pop-up menu, add it as follows:

Procedure 16.1 *Adding More Search Engines*

1. In Konqueror, click the icon in the search bar.
2. Choose *Select Search Engines...*.
3. Make sure that *Enable Web Shortcuts* is activated.
4. Enable the respective search engine and close the dialog with *OK*. You can see your selected search engine if you click the icon in the search bar.

16.5.2 Using Web Shortcuts

Each search engine defined is attached to a *web shortcut*. This shortcut can be entered in the location bar.

To see which are already defined, go to *Settings* > *Configure Konqueror* > *Web Shortcuts*. You can see the names of the search providers and the shortcuts. Konqueror defines many search engines: Google, Yahoo, and Lycos, and a number of less common resources, like an acronym database, the Internet movie database, and KDE application searches.

If you do not find your preferred search engine here, you are able to define a new one very easily. For example, to search our home page for some interesting articles, go to `http://en.opensuse.org/`, enter your query and look for the appropriate results.

Procedure 16.2 *Creating New Web Shortcuts*

1. Go to the search bar, click the icon, and select *Select Search Engines*.

2. Make sure that *Enable Web Shortcuts* is activated.

3. Click *New*.

4. Create a new Web shortcut:

   4a Assign your Web shortcut a name in *Search Provider Name*.

   4b Enter the search URI. For example, if you want to search in openSUSE, use `http://en.opensuse.org/Special:Search?search=\{@}`. The search query is specified as `\{@}`. Get more information by clicking in the text field labeled with *Search URI* and pressing Shift + F1.

   4c Enter your abbreviations in *URI Shortcuts*. There can be entered more than one, separated by commas.

5. Proceed with *OK*.

After creating a new Web shortcut, you can use it in the location bar. The result is displayed in the current window.

TIP: Using Shortcuts Directly without Opening Konqueror

You do not need to open Konqueror and enter the Web shortcut. You can use it directly: select *Run Command* from the main menu or press Alt + F2. After the dialog box appears, enter your shortcut, a colon (:), and your search term.

16.6 Bookmarks

Instead of remembering and reentering addresses for sites visited often, you can bookmark these URLs using the *Bookmark* menu. As well as Web page addresses, you can also bookmark any directories of your local disk in this way.

To create a new bookmark in Konqueror, click *Bookmarks > Add Bookmark*. Any bookmarks added previously are included as items in the menu. It is a good idea to arrange the bookmark collection by subjects in a hierarchical structure, so that you do not lose track of the different items. Create a new subgroup for your bookmarks with *New Bookmark Folder*. Selecting *Bookmarks > Edit Bookmarks* opens the bookmark editor. Use this program to organize, rearrange, add, and delete bookmarks.

If you are using Netscape, Mozilla, or Firefox as additional browsers, it is not necessary to recreate your bookmarks. *File > Import > Import Netscape Bookmarks* in the bookmark editor enables you to integrate your Netscape and Mozilla bookmarks into your most current collection. The reverse is also possible via *Export as Netscape Bookmarks*.

Change your bookmarks by right-clicking the entry. A pop-up menu appears in which to select the desired action (cut, copy, delete, etc.). When you are satisfied with the result, save the bookmarks with *File > Save*. If you only want to change the name or link, just right-click the entry in the bookmark toolbar and select *Properties*. Change the name and location and confirm with *Update*.

To save your bookmark list and have instant access to it, make your bookmarks visible in Konqueror. Select *Settings > Toolbars > Bookmark Toolbar (Konqueror)*. A bookmark panel is automatically displayed in the current Konqueror window.

16.7 Java and JavaScript

Do not confuse these two languages. Java is an object-oriented, platform-independent programming language from Sun Microsystems. It is frequently used for small programs (applets), which are executed over the Internet for things like online banking, chatting, and shopping. JavaScript is an interpreted scripting language mainly used for the dynamic structuring of Web pages, for example, for menus and other effects.

Konqueror allows you to enable or disable these two languages. This can even be done in a domain-specific way, which means that you can permit access for some hosts and block access for others. Java and JavaScript are often disabled for security reasons. Unfortunately, some Web pages require JavaScript for correct display.

16.8 Enabling Advertisement Blockers

Some Web pages open annoying advertisements. With the help of Konqueror, these windows can be blocked. Proceed as follows:

Procedure 16.3 *Blocking Advertisements*

1. Select *Settings* > *Web Browsing* > *AdBlock Filters* in Konqueror.
2. Activate *Enable Filters*.
3. Enter an expression for the Web page to filter. For example:

   `http://www.example.com/*`

   This filters everything that comes from that URL.
4. Click *Insert*.

If you need the entries on another computer, click *Export*, save the file, move it to your other computer and import it there in Konqueror from the same dialog box.

16.9 For More Information

For any questions or problems that arise when working with Konqueror, refer to the application's handbook, which is available from the *Help* menu. Konqueror also has a Web page, located at `http://www.konqueror.org`.

17 Browsing with Firefox

Included with your openSUSE® is the Mozilla Firefox Web browser. With features like tabbed browsing, pop-up window blocking, and download and image management, Firefox combines the latest browsing and security technologies with an easy to use interface. Using tabs you can view more than one Web page in a single window. You can suppress annoying advertisements and disable images for faster browsing. Firefox's easy access to different search engines helps you find the information you need.

Start Firefox from the main menu or by entering the command `firefox`. The main program features are described in the following sections.

17.1 Navigating Web Sites

Firefox has much the same look and feel as other browsers. It is shown in Figure 17.1, "The Browser Window of Firefox" (page 178). The navigation toolbar includes *Forward* and *Back*, the smart location bar for a Web address, and the search bar. Bookmarks are also available for quick access from the bookmarks toolbar. For more information about the various Firefox features, use the *Help* menu.

Figure 17.1 *The Browser Window of Firefox*

17.1.1 The Smart Location Bar

When typing into the location bar, an auto-completion drop-down menu opens, showing the addresses matching what you have typed. The phrase that is matched is highlighted with bold letters. The drop-down menu shows all matching addresses, bookmark and page titles and tag names from your browsing history and your bookmarks list. Matching even works across word boundaries. Entries visited most frequently and recently are listed first.

List entries from the bookmark list are marked with a star. Bookmarks with tags are marked with an additional label followed by the tag names. List entries from the browsing history are not marked.

Use ↑ and ↓ or the mouse wheel to scroll through the list. Press Enter or click on an entry to go to the selected page. Del removes an entry from the list if it is an entry from the history. Bookmarked entries can only be removed by deleting the associated bookmark.

17.1.2 Zooming

Firefox offers two zooming options: page zoom, the default, and text zoom. Page view zooms the entire page as is, with all elements of a page, including graphics, expanding equally while text zoom only changes the text size.

To toggle between page and text zoom, choose *View* > *Zoom* > *Zoom Text Only*. To zoom in or out either use the mouse wheel while holding the Ctrl key, or use Ctrl + + and Ctrl + -. Reset the zoom factor with Ctrl + 0

17.1.3 Tabbed Browsing

If you often use more than one Web page at a time, tabbed browsing makes it easier to switch between pages. It allows you to load Web sites in separate tabs within one window.

Opening tabs
: To open a new tab, select *File* > *New Tab* or press Ctrl + T. This opens an empty tab in the Firefox window. To open a link on a web page or a bookmark in a tab, middle-click it. Alternatively, right-click a link and select *Open Link in New Tab*. You may also open an address in the location bar in a new tab by pressing Ctrl + Enter.

Closing Tabs
: Right-click on a tab to open a context menu giving you access to tab managing options such as closing, reloading, or bookmarking. To close a tab, you may also use Ctrl + W or click the close button. Any closed tab can be restored by choosing from *History* > *Recently Closed Tabs*. In order to reopen the last closed tab either choose *Undo Close Tab* from the context menu or by pressing Ctrl + Shift + T.

Sorting Tabs
: By default tabs are sorted in the order you opened them. Rearrange the tab order by dragging and dropping a tab to the desired position. If you have opened a large number of tabs, they will not all be displayed in the tab bar. Use the arrows at the ends of the bar to move left or right-click on the down arrow at the right end of the tab bar to get a list of all tabs.

Dragging and Dropping
: Drag and drop also works with tabs: drag a link onto an existing tab to open it in that tab or drag and drop a link on an empty space in the tab bar to open a new tab.

17.1.4 Using the Sidebar

Use the left side of your browser window for viewing bookmarks or the browsing history. Extensions may add new ways to use the sidebar as well. To display the sidebar, select *View* > *Sidebar* and select the desired contents.

17.2 Finding Information

There are two ways to find information in Firefox: use the search bar to search the Internet with a search engine and the find bar to search the page currently displayed.

17.2.1 Finding Information on the Web

Firefox has a search bar that can access different engines, like Google, Yahoo, or Amazon. For example, if you want to find information about SUSE using the current engine, click in the search bar, type `SUSE`, and hit `Enter`. The results appear in your window. To choose your search engine, click the icon to the left of the search bar. A menu opens with a list of available search engines.

Customizing the Search Bar

If you want to change the order, add, or delete a search engine to the bar, establish an Internet connection and proceed as follows.

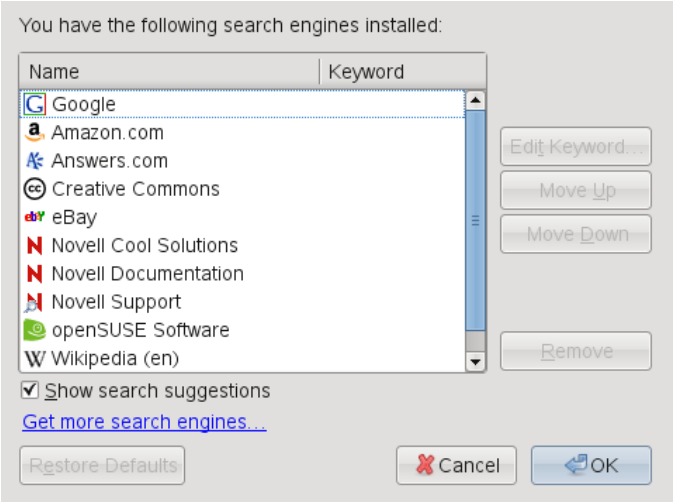
1. Click the icon to the left of the search bar.

2. Select *Manage Search Engines* from the menu.

3. Click *Remove* to delete an entry, *Move Up/Down* to change the order.

   To add a search engine, click *Get More Search Engines*. Firefox displays a Web page with available plug-ins. You can choose from Wikipedia, IMDB, Flickr, and others. Click on a plug-in link and choose *Add* to install it.

Figure 17.2 *Manage Search Engines*



Some Web sites offer search engines that you can add directly to the search bar. Whenever you enter such a Web site, the icon to the left of the search bar turns blue. Click on the icon and select the "Add" entry from the menu.

Adding Smart Keywords to Your Online Searches

Firefox lets you define your own *smart keywords*: abbreviations to use as a URL shortcut for a particular search engine. If you define `ws` as a smart keyword for the Wikipedia search for example, you can now type `ws` *`SEARCHTERM`* into the location bar to search Wikipedia for *`SEARCHTERM`*.

To assign a shortcut for a search engine from the search bar, click the icon to the left of the search bar and open the *Manage Search Engines* dialog. Mark a search engine and open the *Edit Keyword* dialog.

It is also possible to define a smart keyword for any search field on a Web site. Proceed as follows:

1. Right-click on the search field and choose *Add a Keyword for this Search* from the menu that opens. The *Add Bookmark* dialog appears.

2. In *Name*, enter a descriptive name for this smart keyword.

3 Enter your *Keyword* for this search.

4 Choose the location where to save this smart keyword with *Create In*.

5 Finalize with *Add*.

TIP: Smart Keywords for Regular Web sites

Using smart keywords is not restricted to search engines. You can also add a smart keyword to a bookmark (via the bookmark's properties). For example, if you assign `nov` to the Novell home page bookmark, you can open it by just typing `nov` into the location bar.

17.2.2 Searching in the Current Page

To search inside a Web page, click *Edit* > *Find in This Page* or press Ctrl + F. The find bar opens. It is usually displayed at the bottom of a window. Type your query in the input field. Firefox finds the first occurrence of this phrase as you type. You can find other occurrences of the phrase by pressing F3 or the *Next* button in the find bar. Clicking the *Highlight All* button will highlight all occurrences of the pharse. Checking the *Match Case* option makes the query case-sensitive.

Firefox also offers two quick find options. Click anywhere you like to start a search on a Web page, type the key / immediately followed by the search term. The first occurrence of the search term will be highlighted as you type. Use F3 to find the next occurrence. It is also possible to limit quick find to only links. This search option is available by typing the key '.

17.3 Managing Bookmarks

Bookmarks offer a convenient way of saving links to your favorite Web sites. Firefox not only makes it very easy to add new bookmarks with just one mouse click, it also offers multiple ways to manage large bookmark collections. You can sort your bookmarks into folders, create filtered views—called smart bookmarks—that will be updated on the fly, or you can classify bookmarks with tags.

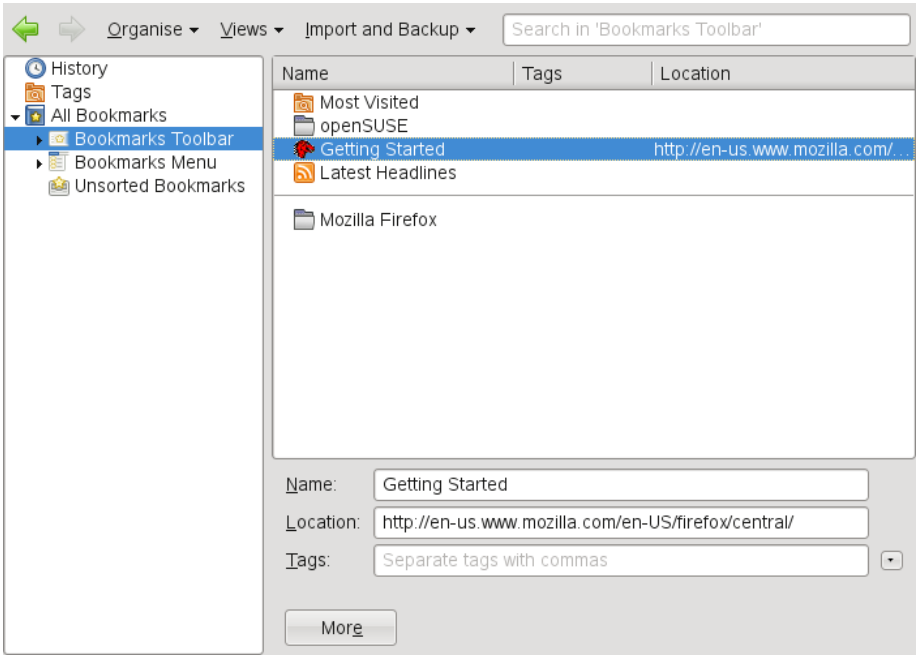
Add a bookmark by clicking on the star in the location bar. The star will turn yellow to indicate the page is bookmarked. Clicking once will save the bookmark in the *Unsorted Bookmarks* folder under the page title. Double clicking on the star opens a menu which lets you choose a location where to save the bookmark and lets you enter a name and tags. Bookmarking tabs is done via the context menu: right-click in a tab and choose whether to *Bookmark This Tab* or to *Bookmark All Tabs*. In the latter case Firefox asks you to create a new folder for the tab links.

To remove or edit a bookmark, open it and click on the star in the location bar. You can also choose *Bookmarks*, right-click the bookmark in the list, then click *Delete* to remove the bookmark or *Properties* to edit it.

17.3.1 Organizing Bookmarks

The *Library* can be used to manage the properties (name and address location) for each bookmark and organize the bookmarks into folders and sections. It resembles Figure 17.3, "The Firefox Bookmark Library" (page 183).

Figure 17.3 *The Firefox Bookmark Library*



To open the *Library*, click *Bookmark* > *Organise Bookmarks*. The library window is split into two parts: the left pane shows the folder tree view, the right pane the subfolders and bookmarks of the selected folder. Use *Views* to customize the right pane. The left pane contains three main folders:

History
: Contains your complete browsing history. You cannot alter this list other than deleting entries from it.

Tags
: Lists bookmarks for each tag you have specified. See Section 17.3.2, "Tags" (page 185) for more information on tags.

All Bookmarks
: This category contains the three main bookmark folders:

  Bookmarks Toolbar
  : Contains the bookmarks and folders displayed beneath the location bar. See Section 17.3.6, "The Bookmarks Toolbar" (page 187) for more information.

  Bookmarks Menu
  : Holds the bookmarks and folder accessible via the *Bookmarks* entry in the main menu or the bookmarks side menu.

  Unsorted Bookmarks
  : Contains all bookmarks created with a single click on the star in the location bar. This folder is only visible in the library and the bookmarks sidebar.

Organize your bookmarks using the right pane. Choose actions for folders or bookmarks either from the context menu that opens when you right-click on an item or from the *Organise* dialog. The properties of a chosen folder or bookmark can be edited in the bottom part of the right pane. By default, only *Name*, *Location*, and *Tags* are displayed for a bookmark. Click *More* to gain access to all properties.

Use drag and drop to rearrange your bookmarks. Left-click a bookmark and drag it to a new position while holding the mouse button pressed. Drop it by releasing the mouse button. You can use this technique to move a bookmark or a folder to a different folder, or to change the order of bookmarks in a folder.

17.3.2 Tags

Tags offer a convenient way to file a bookmark under several categories. You can tag a bookmark with as much terms as you want. For example, to access all sites tagged with `suse` enter `suse` into the location bar. Whats more, a smart bookmark folder for each tag is automatically created in the tags folder of the library. Drag and drop a smart bookmark for a tag onto your bookmark toolbar or into a folder of your bookmarks menu to easily access it.

To add tags to a bookmark, open the bookmark in Firefox and click on the yellow star in the location bar. The *Edit This Bookmark* dialog opens where you can add a comma separated list of tags. It is also possible to add tags via the bookmark's properties dialog which you can open in the library or by right-clicking on a bookmark in the menu or the toolbar.

17.3.3 Importing and Exporting Bookmarks

If you used a different browser in the past, you probably want to use your old bookmarks in Firefox, too. Firefox can automatically import bookmarks from other browsers installed on your system, such as Netscape or Opera. You also can import bookmarks from a file exported from a browser on different computer or from a backup.

To import bookmarks from another browser or from a file in HTML format, open the library by choosing *Bookmarks* > *Organise Bookmarks*. Start the Import Wizard by choosing *Import and Backup* > *Import HTML...* and choose an import location. Start the import by clicking *Next*. Bookmarks from another browser are imported to a separate folder under the bookmarks menu named `From`*`Browser Name`*. Imports from an HTML file are imported as is.

Exporting bookmarks is also done via the *Import and Backup* dialog in the library window. To save your bookmarks as an HTML file, choose *Export HTML...*. In order to create or restore a backup of your bookmarks, choose *Backup...* or *Restore*. Firefox uses the JavaScript Object Notation file format (`.json`) for backups.

17.3.4 Live Bookmarks

Live bookmarks display headlines in your bookmark menu and keep you up to date with the latest news. This enables you to save time with one glance at your favorite sites. Live bookmarks update automatically.

Many sites and blogs support this format. A Web site indicates this by showing an orange icon in the right part of the location bar. Click the icon and choose *Subscribe Now* in the page that opens. A dialog box opens in which to select the name and location of your live bookmark. Confirm with *Add*. This page also lets you choose alternative applications to subscribe to, such as *Bloglines*, or *My Yahoo*.

17.3.5 Smart Bookmarks

Smart bookmarks are virtual bookmark folders that are dynamically updated. By default, three smart bookmark folders are already predefined: the *Most Visited* links are available from your bookmarks toolbar, *Recently Bookmarked* links and *Recent Tags* are located in the bookmarks menu. You can create new smart bookmarks by searching for certain entries in your library.

To create a new smart bookmark, open the library by choosing *Bookmarks* > *Organise Bookmarks* and proceed as follows:

1. Either select one of the main folders (*History*, *Tags*, *All Bookmarks*) or a specific bookmarks folder.

2. Enter a search term into the input field, for example `Linux`. This will do a case insensitive search for all links containing the phrase `Linux` in either the Web page title, the tags, or the URL.

3. *Save* the search to create a new smart bookmark. A smart bookmark will always be saved to the bookmarks menu folder—drag and drop it to the desired location.

TIP

Creating a smart bookmark from your saved bookmarks creates an up-to-date filtered view on your bookmarks that only changes when you add or delete bookmarks matching the search term.

A smart bookmark folder based on your browsing history dynamically changes as you surf the Web. Every time you browse a site that matches the search term, it gets "added" to your smart bookmark. For this reason, it is recommended to use search terms as specific as possible. If you are interested in links to SUSE Linux specific topics as opposed to general Linux topics, use `SUSE Linux` rather than `Linux`.

WARNING

Clearing the private data also deletes the browsing history (unless configured otherwise) and so will also clear history based smart bookmarks!

17.3.6 The Bookmarks Toolbar

The `Bookmarks Toolbar` is displayed beneath the location bar and lets you quickly access bookmarks. You can also add, organize, and edit bookmarks directly. By default the `Bookmarks Toolbar` is populated with a predefined set of bookmarks organized in several folders (see Figure 17.1, "The Browser Window of Firefox" (page 178)).

To manage the `Bookmarks Toolbar` you can use the library as described in Section 17.3.1, "Organizing Bookmarks" (page 183). Its content is located in the *Bookmarks Toolbar Folder*. It is also possible to manage the toolbar directly. To add a folder, bookmark, or separator, right-click on an empty space in the toolbar and choose the appropriate entry from the pop-up menu. For adding the current page to the bar use drag and drop: left-click on the Web page's icon in the location bar and drag it to the desired position on the bookmarks toolbar while holding the mouse button pressed. Hovering over an existing bookmark folder for a short while will automatically open it, enabling you to place the bookmark within this folder.

To manage a certain folder or bookmark, right-click on it. A pop-up menu opens which lets you *Delete* it or change its *Properties*. To move or copy an entry, choose *Cut*, or *Copy* and *Paste* it to the desired position.

17.4 Using the Download Manager

Keep track of your current and past downloads with the help of the download manager. It automatically opens every time you download a file. To manually start the download manager, click *Tools* > *Downloads*. While downloading a file, a progress bar indicates the download status. If necessary, pause the download and resume it later. To open a downloaded file with the associated application, click *Open*. To open the location to which the file was saved, choose *Open Containing Folder*. *Remove From List* only deletes the entry from the download manager, it does not delete the file from the hard disk.

By default all files are downloaded to your desktop. To change this behavior, open the download manger's configuration window from *Edit* > *Preferences* and go to the *Main* tab. In the *Download* area, either choose another default location or *Always Ask Me Where to Save Files*.

TIP: Resuming Downloads

If your browser crashes or is closed while downloading, all pending downloads will automatically be resumed in the background when starting Firefox the next time. A download that was paused before the browser was closed can manually be resumed via the download manager.

17.5 Security

Since browsing the Internet has become more risky, Firefox offers various measures to make browsing safer. It automatically checks whether you are trying to access a site known to contain harmful software (malware) or a site known to steal sensitive data (phishing) and stops you from entering these sites. The Instant Web Site ID lets you easily check a site's legitimacy and a password manager as well as the pop-up blocker offer additional security.

17.5.1 Instant Web Site ID

Firefox allows you to check the identity of a Web page with a single glance. The color of the Web site's icon (also called favicon) in the location bar to the left of the address

indicates which identity information is available and whether communication is encrypted or not:

Gray
: The site does not provide any identity information and communication between Web server and browser is not encrypted. This is fine as long as you do not exchange sensitive information with this site. Most web sites will be “gray”.

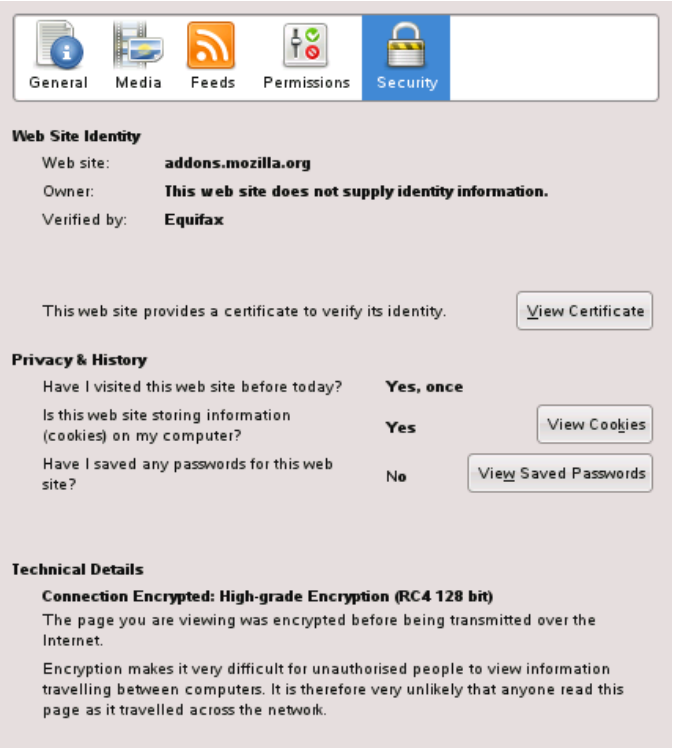
Blue
: A blue icon indicates that the domain has been verified by a certificate, so you can be sure that you are really connected to the very site it claims to be. Communication with a “blue” server is always encrypted.

Green
: Any site with a green icon completely identifies itself by a certificate that ensures a site is owned by the person or organization it claims to be. This is especially important when exchanging very sensitive data, for example when doing money transactions over the Internet. In this case you can be only sure to be on your bank's Web site when it sends complete identity information. Communication with a “green” server is always encrypted.

To view detailed identity information, click the Web site's icon in the location bar. In the opening pop-up click on *More Information...* to open the Page Info Window. Here, you can view the site's certificate and the encryption level as well as information about stored passwords and cookies.

With the *Permissions* view you can set per-site permissions for image loading, pop-ups, cookies and installation permissions. The *Media* view lists all images, background graphics and embedded objects from a site and displays further information on each item together with a preview. It also lets you save each individual item.

Figure 17.4 *The Firefox Page Info Window*



17.5.2 Password Management

Every time you enter a username and a password on a Web site, Firefox offers to store this data. A new toolbar on top of the page opens asking you whether you want Firefox to remember the password. If you accept by clicking *Remember*, the password will be stored on your hard disk in an encrypted format. Next time you access this site, Firefox will automatically fill in the login data.

To review or manage your passwords, open the password manager by clicking *Edit* > *Preferences* > *Security* > *Saved Passwords...*. The password manager opens with a list of sites and their corresponding usernames. By default, the passwords are not displayed—click on *Show Passwords* to display them. Delete single or all entries from the list using *Remove* or *Remove All*, respectively.

To protect your passwords from unauthorized access, you can set a master password that is required when managing or adding passwords. Open the *Security* tab on the *Preferences* dialog and check *Use a Master Password*.

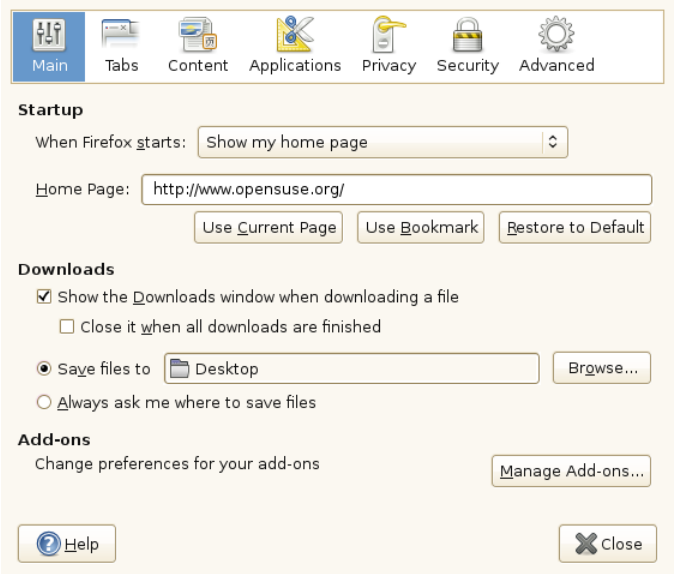
17.6 Customizing Firefox

Firefox can be customized extensively. You can not only change the way Firefox behaves by altering its preferences, but also add additional functionality by installing extensions or change the way it look and feels by installing new themes. With the Add-ons manager Firefox offers a convenient way to manage extensions, themes and plugins.

17.6.1 Preferences

Firefox offers a wide range of configuration options available via *Edit* > *Preferences*, see Figure 17.5, "The Preferences Window" (page 191). Each option is described in detail in the online help, which can be accessed by clicking the *Help* button.

Figure 17.5 *The Preferences Window*



Session management

By default, Firefox automatically restores your session—windows and tabs— only after it has crashed or after a restart when having installed an extension. However, it can be configured to restore a session every time it is started: Open the Preferences dialog as described in Section 17.6.1, "Preferences" (page 191) and go to the *Main* tab. Set *When Firefox Starts:* to *Show My Windows and Tabs from Last Time*.

When you have multiple windows open they will only be restored the next time when you close all of them at once with *File* > *Quit* or with Ctrl + Q. If you close the windows one by one, only the last window will be restored next time.

Clearing Private Data

When browsing the Web, Firefox always keeps track of your activities by storing your browsing history, cookies, and form data as well as by caching Web sites you have visited. Collecting and storing this data makes browsing more comfortable and faster. However, when you for example use a public terminal, you might want to delete this data. Select *Tools* > *Clear Private Data* or press Ctrl + Shift + Del and choose which data to delete.

To automatically delete private data every time you close Firefox, open the *Preferences* window as described in Section 17.6.1, "Preferences" (page 191) and go to the *Privacy* tab. Check *Always Clear My Private Data When I Close Firefox* and choose which data to delete by clicking the *Settings...* button.

Language Preferences for Web Sites

When sending a request to a Web server, the browser always sends the information, which languages are preferred by the user. Web sites that are available in more than one language and are configured to evaluate this language parameter will display their pages in the language the browser requests. On openSUSE the preferred language is preconfigured to use the same language as the desktop. To change this setting, open the *Preferences* window as described in Section 17.6.1, "Preferences" (page 191), go to the *Content* tab and *Choose* your preferred language.

Spell Checking

When typing into multiple line input fields, Firefox by default spell-checks what you type. Misspelled words are underlined red. To correct a word, right-click it and choose the correct spelling from the context menu. You may also add the word to the dictionary if it is correct.

To change or add a dictionary, right-click anywhere into a multi-line input field and choose the appropriate option from the context menu. You may also disable spell-checking for this input field here. If you want to globally disable spell checking, open the *Preferences* window as described in Section 17.6.1, "Preferences" (page 191) and go to the *Advanced* tab. Uncheck *Check My Spelling As I Type*.

17.6.2 Add-ons

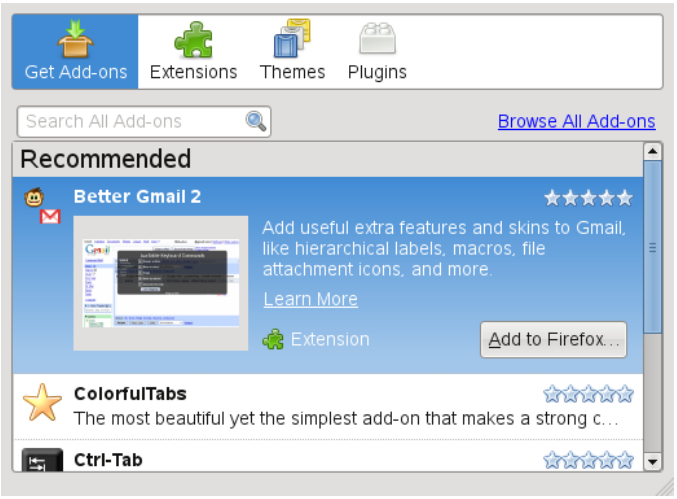
Extensions let you personalize Firefox to exactly fit your needs. With the help of extensions you can change Firefox's look and feel, enhance existing functionality (such as the download manager or tabbed browsing), or add functions such as a blog editor, Bit Torrent support or even a music player. Certain extensions also assist Web developers while others increase security by dynamically blocking active contents. More than 5000 extensions are available for Firefox. With the add-ons manager you cannot only install new extensions, but also disable, enable, or delete them. It also finds updates to installed extensions.

If you do not like the standard look and feel of Firefox, install a new *theme*. Themes do not change the functionality, only the appearance of the browser.

Installing Add-ons

To add an extension or theme, start the add-ons manager with *Tools* > *Add-Ons*. It opens with the *Get Add-Ons* tab either displaying a choice of recommended add-ons or the result of your last search. Use the *Search All Add-Ons* field to search for specific add-ons. Click on an entry in the list to view a short description and a screenshot. Install the add-on by clicking *Add to Firefox...* or open a Web page with detailed information by clicking the *Learn More* link.

Figure 17.6 *Installing Firefox Extensions*



If you just want to browse all available add-ons or would like to use advanced search options, click *Browse All Add-Ons*. This opens the Firefox add-ons Web page. To install an extension, click on the *Add to Firefox* button on the page describing the add-on.

In order to activate freshly installed extensions or themes, Firefox needs to be restarted via the *Restart Firefox* button in the add-ons manager. Restarting the browser with this button ensures that the complete session will be restored.

Managing Add-ons

The Add-ons Manager also offers a convenient interface to manage extensions, themes, and plugins. *Extensions* can be enabled, disabled or uninstalled. If an extension is configurable, its configuration options can be accessed via the *Preferences* button. In the *Themes* tab you may *Uninstall* a theme or activate a different theme by clicking on *Use Theme*. Pending extension or theme installations are also listed. Select *Cancel* to stop the installation. Although you cannot install *Plug-Ins* as a user, you may disable or enable them with the Add-ons manager.

Actions like uninstalling or disabling an add-on require a browser restart. Every time you perform such an action, the *Restart Browser* button is displayed in the add-ons manager.

17.7 Printing from Firefox

Before you actually print a Web page, you can use the print preview function to control how the printed page will look like. Choose *File* > *Print Preview*. Configure paper size and orientation per printer with *File* > *Page Setup*.

To print a Web page either choose *File* > *Print* or press Ctrl + P. The Printer dialog opens. To print with the default options just click *Print*.

The Printer dialog also offers extensive configuration options to fine-tune the printout. On the *General* tab, choose a printer, the range to print, the number of copies and the order. *Page Setup* lets you specify the number of pages per side, the scaling factor as well as paper source and type. You can also activate double-sided printing here if the printer supports it. Control how frames, backgrounds, header and footer are printed on the *Options* tab. You may also specify *Job* options, such as printing at a specific time, and the *Image Quality* in this dialog.

17.8 For More Information

Get more information about Firefox from the official knowledge base available via F1. More useful information is available from the following links:

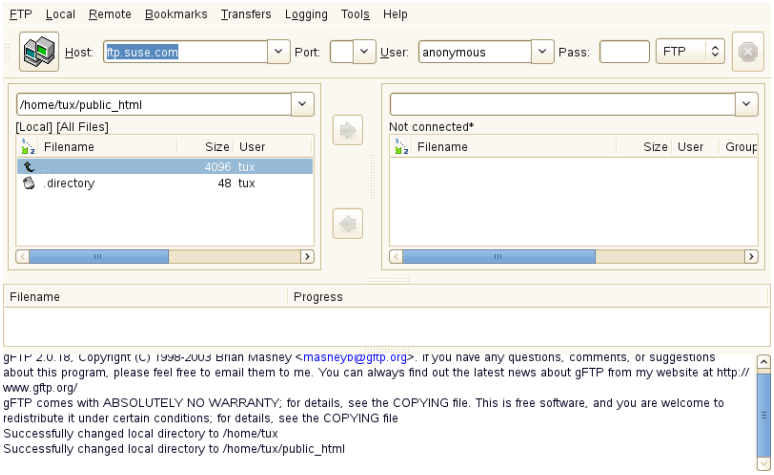
Support forum: http://support.mozilla.com/forum
Main Menu reference: http://support.mozilla.com/kb/Menu+reference
Preferences reference: http://support.mozilla.com/kb/Options+window
Keyboard shortcuts: http://support.mozilla.com/kb/Keyboard+shortcuts

Transferring Data From the Internet

18

GNOME FTP (gFTP) is a multithreaded file transfer client. It supports FTP, FTPS (control connection only), HTTP, HTTPS, SSH, and FSP protocols. Futhermore, it allows to transfer files between two remote FTP servers via FXP. To start GNOME FTP, press Alt + F2 and enter `gftp`.

Figure 18.1 *GNOME FTP*



18.1 ASCII vs. Binary Transfers

There are two common ways of transferring files via FTP: ASCII and binary. *ASCII* mode transfers files as text. ASCII files are `.txt`, `.asp`, `.html`, and `.php` files, for example. *Binary* mode transfers files as raw data. Binary files are `.wav`, `.jpg`, `.gif`, and `mp3` files, for example.

To change the transfer mode, either click *FTP* > *Binary* or *FTP* > *Ascii*.

For FTP transfers, you can also choose *FTP* > *Options*, click the FTP tab, and select the *Transfer Files in ASCII Mode* option.

18.2 Connecting to a Remote Server

To connect to a remote server, do the following:

1. In GNOME FTP, click *Remote* > *Open URL*.
2. Specify a URL to connect to, then enter a username and password.

   Leave the username blank to log in as anonymous user.
3. Click *Connect*.

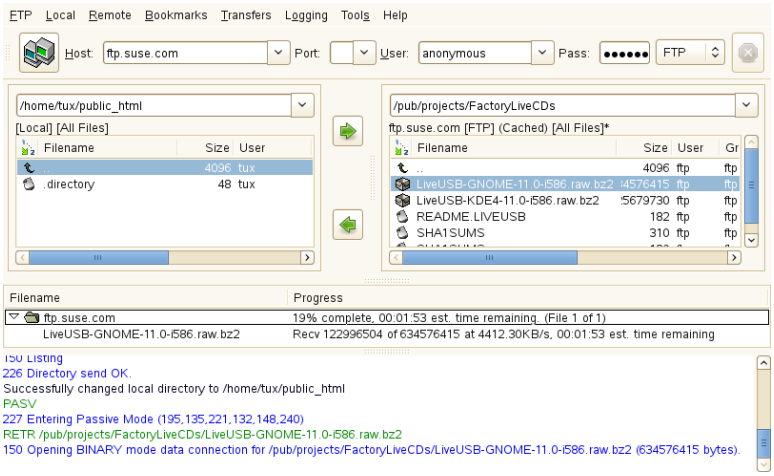
   If connection was successful, a list of the files on the remote server appears in the right part of the GNOME FTP window (the file list on the left side is your local computer's directory of files). You can now upload and download files.

To bookmark a site you access frequently, click *Bookmarks* > *Add Bookmark*. Specify a name for the bookmark, then click *Add*. The new bookmark is added to your list of bookmarks.

18.3 Transferring Files

In the following figure, the file list on the right contains the remote server's directory of files. The file list on the left side contains your local computer's directory of files (on your hard drive or network).

Figure 18.2 *gFTP File Transfer*



To download files, select the files you want to download in the remote list of files, then click the left arrow button. The progress of each download is listed in the field in the middle of the window. If the transfer is successful, the files appear in the directory listing on the left.

To upload a file, select the files you want to upload in your local directory listing on the left, then click the right arrow button. The progress of each download is listed in the field in the middle of the window. If the transfer is successful, the files appear in the remote directory listing on the right.

To modify preferences for your downloads, click *FTP* > *Options*.

18.4 Setting Up an HTTP Proxy Server

To set up an HTTP proxy server, do the following:

1. In GNOME FTP, click *FTP* > *Options*, then select the *FTP* tab.

2. Choose *HTTP Proxy* from the *Proxy Server Type* drop-down list, then specify your proxy server information in that dialog box.

3 Click the *HTTP* tab, and enter the same proxy server information as above in that dialog box.

4 Click *OK*.

18.5 For More Information

You can find more information about gFTP at http://www.gftp.org.

Part V. Graphics

Manipulating Graphics with The GIMP

19

The GIMP (*The GNU Image Manipulation Program*) is a program for creating and editing raster graphics. In most aspects, its features are comparable to those of Adobe Photoshop and other commercial programs. Use it to resize and retouch photographs, design graphics for Web pages, create covers for your custom CDs, or almost any other graphics project. It meets the needs of both amateurs and professionals.

Like many other Linux programs, The GIMP is developed as a cooperative effort of developers worldwide who volunteer their time and code to the project. The program is under constant development, so the version included in your system may vary slightly from the version discussed here. The layout of the individual windows and window sections is especially likely to vary.

The GIMP is an extremely complex program. Only a small range of features, tools, and menu items are discussed in this chapter. See Section 19.7, "For More Information" (page 218) for ideas of where to find more information about the program.

19.1 Graphics Formats

There are two main types of graphics—raster and vector. The GIMP is intended for working with raster graphics, which is the normal format for digital photographs or scanned images. Raster image is a collection of pixels—small blocks of color that together create the entire image. High resolution images contain large number of pixels and image files can easily become quite large because of this. It is also not possible to increase the size of a pixel image without losing quality. The GIMP supports all the common formats of raster graphics, like JPEG, PNG, GIF, BMP, TIFF, and more.

Unlike raster graphics, vector graphics do not store information for all individual pixels. Instead, it uses geometrical primitives such as points, lines, curves, and polygons. Vector images can be scaled very easily and image files can be smaller. The disadvanage of vector graphics is that it is not good at representing complex images with many different colors such as photographs. There are many specialized applications for vector graphics, for example Inkscape. The GIMP has only a very limited support for vector graphics. For example, the GIMP can open and rasterize vector graphics in SVG format or work with vector paths.

The GIMP 2.6 has still supports only limited selection of color spaces. It supports indexed images and grayscale or RGB images with 8 bits per channel (24 bits per pixel in RGB images without alpha channel). Many high-end digital cameras can produce image files with higher color depths. If you import such an image to the GIMP, you will loose some color information.

19.2 Starting The GIMP

Start The GIMP from the main menu. Alternatively, enter `gimp &` in a command line.

19.2.1 The Default Windows

Three windows appear by default. The toolbox, an empty image window with the main GIMP menu, and a window containing several docked dialogs. They can be arranged on the screen and, except the toolbox and the last image window, closed if no longer needed. Closing the toolbox or the last image window open closes the application. In the default configuration, The GIMP saves your window layout when you exit. Dialogs left open reappear when you next start the program.

The Image Window

The new, opened, or scanned image appears in its own window. If there is more than one open image, each image has its own image window. There is always at least one image window open. If there is currently no image open, the image window is empty, containing only the main GIMP menu and drop area, which can be used to open any file by dragging and dropping it there. Closing the last image window exits the application.

The menu bar in the top of the window provides access to all image functions. Alternatively, access the menu by right-clicking the image or clicking the small arrow button in the left corner of the rulers.

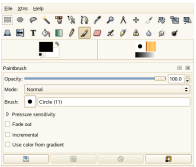
File offers the standard file options, such as *Save* and *Print*. *Close* closes the current image. *Quit* closes the entire application.

With the items in the *View* menu, control the display of the image and the image window. *New View* opens a second display window of the current image. Changes made in one view are reflected in all other views of that image. Alternate views are useful for magnifying a part of an image for manipulation while seeing the complete image in another view. Adjust the magnification level of the current window with *Zoom*. When *Fit Image in Window* is selected, the image window is resized to fit the current image display exactly.

The Toolbox

The toolbox contains important controls of the application. Closing it exits the application. At the very top, there is a drop area which can be used to open any image files by simply dragging and dropping them there. Below that, find icons for the various tools. Hover the mouse over an icon to display information about it.

Figure 19.1 *The Toolbox*



The current foreground and background color are shown in two overlapping boxes. The default colors are black for the foreground and white for the background. Click the box to open a color selection dialog. Swap the foreground and background color with the bent arrow symbol to the upper right of the boxes. Use the black and white symbol to the lower left to reset the colors to the default.

Under the toolbox, a dialog shows options for the currently selected tool. If it is not visible, open it by double-clicking the tool's icon in the toolbox.

Layers, Channels, Paths, Undo

In the first section, use the drop-down box to select the image to which the tabs refer. By clicking *Auto*, control whether the active image is chosen automatically. By default, *Auto* is enabled.

Layers shows the different layers in the current images and can be used to manipulate the layers. Information is available in Section 19.5.6, "Layers" (page 216). *Channels* shows and can manipulate the color channels of the image.

Paths are a vector-based method of selecting parts of an image. They can also be used for drawing. *Paths* shows the paths available for an image and provides access to path functions. *Undo* shows a limited history of modifications made to the current image. Its use is described in Section 19.5.5, "Undoing Mistakes" (page 216).

19.3 Getting Started

Although The GIMP can be a bit overwhelming for new users, most quickly find it easy to use once they work out a few basics. Crucial basic functions are creating, opening, and saving images.

19.3.1 Creating a New Image

To create a new image, select *File* > *New* or press Ctrl + N. This opens a dialog in which to make settings for the new image. If desired, select a predefined setting called a *Template*. To create a custom template, select *Windows* > *Dockable Dialogs* > *Templates* and use the controls offered by the window that opens.

In the *Image Size* section, set the size of the image to create in pixels or another unit. Click the unit to select another unit from the list of available units. The ratio between pixels and a unit is set in *Resolution*, which appears when the *Advanced Options* section is opened. A resolution of 72 pixels per inch corresponds to common screen display. It is sufficient for Web page graphics. A higher resolution should be used for images to print. For most printers, a resolution of 300 pixels per inch results in an acceptable quality.

In *Color space*, select whether the image should be in color (*RGB*) or *Grayscale*. For detailed information about image types, see Section 19.5.7, "Image Modes" (page 217). In *Fill With* select the color the image is filled with. You can choose between *Foreground Color* and *Background Color* set in the toolbox, *White* or *Transparency* for a transparent image. Transparency is represented by a gray checkerboard pattern. Enter a comment for the new image in *Comment*.

When the settings meet your needs, press *OK*. To restore the default settings, press *Reset*. Pressing *Cancel* aborts creation of a new image.

19.3.2 Opening an Existing Image

To open an existing image, select *File* > *Open* or press Ctrl + O. In the dialog that opens, select the desired file. You can also press Ctrl + L and type directly the path to the desired image. Then click *Open* to open the selected image or press *Cancel* to skip opening an image.

19.3.3 Scanning an Image

Instead of opening an existing image or creating a new one, you can scan one. To scan directly from The GIMP, make sure that the package `xsane` is installed. To open the scanning dialog, select *File* > *Create* > *XSane: Device dialog*.

Create a preview when the object to scan is smaller than the total scanning area. Press *Acquire preview* in the *Preview* dialog to create a preview. If you want to scan only part of the area, select the desired rectangular part with the mouse.

In the *xsane* dialog, select whether to scan a binary (black and white without shades of gray), grayscale, or color image and the required scan resolution. The higher the resolution you choose, the better is the quality of the scanned image. However, this also results in a correspondingly larger file and the scanning process can take a very long time at higher resolutions. The size of the final image (both in pixels and bytes) is shown in the lower part of the dialog.

In the *xsane* dialog, use the sliders to set desired gamma, brightness, and contrast values. These sliders are not available in binary mode. Changes are visible in the preview immediately. Once all settings have been made, click *Scan* to scan the image.

19.4 Saving Images

No image function is as important as *File > Save*. It is better to save too often than too rarely. Use *File > Save as* to save the image with a new filename. It is a good idea to save image stages under different names or make backups in another directory so you can easily restore a previous state.

When saving for the first time or using *Save as*, a dialog opens in which to specify the filename and type. Enter the filename in the field at the top. For *Save in folder*, select the directory in which to save the file from a list of commonly used directories. To use a different directory or create a new one, open *Browse for other folders*. It is recommended to leave *Select File Type* set to *By Extension*. With that setting, The GIMP determines the file type based on the extension appended to the filename. The following file types are frequently useful:

XCF
: This is the native format of the application. It saves all layer and path information along with the image itself. Even if you need an image in another format, it is usually a good idea to save a copy as XCF to simplify future modifications. Information about layers is available in Section 19.5.6, "Layers" (page 216).

PAT
: This is the format used for The GIMP patterns. Saving an image in this format enables using the image as a fill pattern in The GIMP.

JPEG
: JPG or JPEG is a common format for photographs and Web page graphics without transparency. Its compression method enables reduction of file sizes, but information is lost when compressing. It may be a good idea to use the preview option when adjusting the compression level. Levels of 85% to 75% often result in an acceptable image quality with reasonable compression. Saving a backup in a lossless format, like XCF, is also recommended. If editing an image, save only the finished image as JPG. Repeatedly loading a JPG then saving can quickly result in poor image quality.

GIF

Although very popular in the past for graphics with transparency, GIF is less often used now because of license issues. GIF is also used for animated images. The format can only save *indexed* images. See Section 19.5.7, "Image Modes" (page 217) for information about indexed images. The file size can often be quite small if only a few colors are used.

PNG

With its support for transparency, lossless compression, free availability, and increasing browser support, PNG is replacing GIF as the preferred format for Web graphics with transparency. An added advantage is that PNG offers partial transparency, which is not offered by GIF. This enables smoother transitions from colored areas to transparent areas (*antialiasing*).

To save the image in the chosen format, press *Save*. To abort, press *Cancel*. If the image has features that cannot be saved in the chosen format, a dialog appears with choices for resolving the situation. Choosing *Export*, if offered, normally gives the desired results. A window then opens with the options of the format. Reasonable default values are provided.

19.5 Editing Images

The GIMP provides a number of tools for making changes to images. The functions described here are those most interesting for home users.

19.5.1 Changing the Image Size

Once an image is scanned or a digital photograph is loaded from the camera, it is often necessary to modify the size for display on a Web page or for printing. Images can easily be made smaller either by scaling them down or by cutting off parts of them. Making an image larger is much more problematic. Because of the nature of raster graphics, quality is lost when an image is made larger. It is recommended to keep a copy of your original image before scaling or cropping.

Cropping an Image

Cropping an image works like cutting the edges off a piece of paper. Select the crop tool from the toolbox (it resembles a scalpel) or with *Tools* > *Transform Tools* > *Crop*. Click a starting corner and drag to outline the area to keep.

A rectangle showing the crop area will appear. To adjust the size of the rectangle, move your mouse pointer above any of the rectangle's sides or corners, click and drag to resize as desired. If you want to adjust both widht and height of the rectangle, use a corner, to adjust only one dimension, use a side. To move the whole rectangle to a different position without resizing, click anywhere near its center and drag to the desired position.

When you are satisfied with the crop area, click anywhere inside to crop the image. To cancel the cropping, click anywhere outside the crop area.

Advanced options for the crop tool are available in the *Tool Options* dialog.

Scaling an Image

Select *Image* > *Scale Image* to change the overall size of an image. Select the new size by entering it in *Width* or *Height*. To change the proportions of the image when scaling (this distorts the image), click the chain icon to the right of the fields to break the link between them. When those fields are linked, all values are changed proportionately when the value in one of the fields is changed. Adjust the resolution with *X resolution* and *Y resolution*.

The *Interpolation* option controls the quality of the resulting image. The default *Cubic* interpolation method is a good standard to use in most cases.

When finished adjusting the size, press *Scale* to scale the image. *Reset* restores the original values. *Cancel* aborts the procedure.

Changing the Canvas Size

Changing the canvas size is like putting a mat around an image. Even if the mat is smaller, the rest of the image is there, but you can only see part of it. If the mat is larger, you see the original image with extra space around it. To do this, select *Image* > *Canvas Size*.

In the dialog that opens, enter the new size. By default, the width and height maintain the same proportions as the current image. To change this, click the chain icon.

After adjusting the size, determine how the existing image should be positioned in comparison to the new size. Use the offset values or drag the box inside the frame at the bottom. When satisfied with the changes, click *Resize* to change the canvas size. Click *Reset* to restore the original values or *Cancel* to cancel the canvas resize.

19.5.2 Selecting Parts of Images

It is often useful to perform an image operation on only part of an image. To do this, the part of the image with which to work must be selected. Areas can be selected using the select tools available in the toolbox, using the quick mask, or combining different options. Selections can also be modified with the items under *Select*. The selection is outlined with a dashed line, called *marching ants*.

Using the Selection Tools

The main select tools are rather easy to use. The paths tool, which can also be used for more than selecting, is more complicated so is not described here. In the tool options for the other select tools, use one of the icons in the *Mode* row to determine whether the selection should replace, be added to, be subtracted from, or intersect with an existing selection.

Rect Select
: This tool can be used to select rectangular or square areas. To select an area with fixed aspect ratio, width, height or size, activate the *Fixed* option and choose the relevant mode in the *Tool Options* dialog. You can also activate the *Fixed* option by holding Shift while selecting a region.

Ellipse Select
: Use this to select elliptical or circular areas. The same options are available as with rectangular selection. The *Fixed* option or holding Shift during selection can be used to produce a circle.

Free Select (Lasso)
: With this tool, you can create a selection based on combination of freehand drawing and polygonal segments. To draw a freehand line, drag the mouse over the image with the left mouse button pressed. To create a polygonal segment, release the

mouse button where the segment should start and press it again where the segment should end.

Fuzzy Select (Magic Wand)
: This tools selects a continuous region based on color similarities. Set the maximum difference between colors in the tool options dialog in *Threshold*.

By Color Select
: With this, select all the pixels in the image with the same or similar color as the clicked pixel. The maximum difference between colors can be set in the tool options dialog in *Threshold*.

Intelligent Scissors
: Click a series of points in the image. As you click, the points are connected based on color differences. Click on the first point to close the area. Convert it to a regular selection by clicking inside it.

Using the Quick Mask

The quick mask is a way of selecting parts of an image using the paint tools. A good way to use it is to make a rough selection using the intelligent scissors or the lasso (the free selection tool). Then activate the quick mask by pressing the small icon with the dashed box in the lower left corner.

The quick mask displays the selection using an overlay of red. Areas shaded with red are not selected. Areas appearing as they did before the mask was activated are selected. To modify the selection, use the paint tools. Painting with white selects the painted pixels. Painting with black deselects pixels. Shades of gray (colors are treated as shades of gray) are a partial selection. Partial selection allows smooth transitions between selected and unselected areas.

To use a different color for displaying the quick mask, right-click the quick mask button then select *Configure Color and Opacity* from the menu. Click the colored box in the dialog that opens to select a new color.

After using the paint tools to adjust the selection as desired, convert from the quick mask view back to the normal selection view by clicking the icon in the lower left corner of the image window (currently displaying a red box). The selection is again displayed with the marching ants.

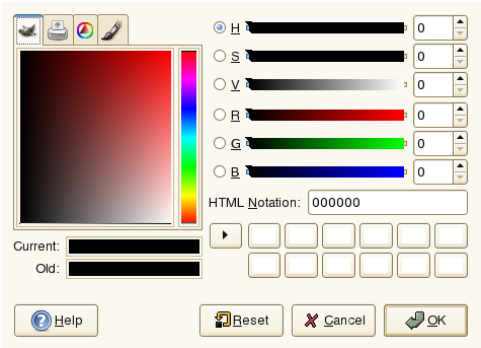
19.5.3 Applying and Removing Color

Most image editing involves applying or removing color. By selecting a part of the image, limit where color can be applied or removed. When you select a tool and move the cursor onto an image, the cursor's appearance changes to reflect the chosen tool. With many tools, an icon of the current tool is shown along with the arrow. For paint tools, an outline of the current brush is shown, allowing you to see exactly where you will be painting in the image and how large an area will be painted.

Selecting Colors

Paint tools use the foreground color. To select the color, first click the display box of the foreground color in the Toolbox. A dialog with five tabs opens. These tabs provide different color selection methods. Only the first tab, shown in Figure 19.2, "The Basic Color Selector Dialog" (page 213), is described here. The new color is shown in *Current*. The previous color is shown in *Old*.

Figure 19.2 *The Basic Color Selector Dialog*



The easiest way to select a color is using the colored areas in the boxes to the left. In the narrow vertical bar, click a color similar to the desired color. The larger box to the left then shows available nuances. Click the desired color. It is then shown in *Current*. If that color is not what you want, try again.

The arrow button to the right of *Current* enables saving a number of possible colors. Click the arrow to copy the current color to the history. A color can then be selected by clicking it in the history. A color can also be selected by directly entering its hexadecimal color code in *HTML Notation*.

The color selector defaults to selecting a color by hue, which is usually easiest for a new user. To select by saturation, value, red, green, or blue, select the corresponding radio button to the right. The sliders and number fields can also be used to modify the currently selected color. Experiment a bit to find out what works best for you.

When the desired color is shown in *Current*, click *OK*. To restore the original values shown when the dialog was opened, click *Reset*. To abort changing the color, click *Cancel*.

To select a color that already exists in your image, use the color picker tool, the icon for which resembles an eye dropper. With the tool options, set whether the foreground or background color should be selected. Then click a point in the image that shows the desired color. When the color is right, click *Close* to close the tool's dialog.

Painting and Erasing

To paint and erase, use the tools from the toolbox. There are a number of options available to fine-tune each tool. Pressure sensitivity options apply only when a pressure-sensitive graphics tablet is used.

The pencil, brush, airbrush, and eraser work much like their real-life equivalents. The ink tool works like a calligraphy pen. Paint by clicking and dragging. The bucket fill is a method of coloring areas of an image. It fills based on color boundaries in the image. Adjusting the threshold modifies its sensitivity to color changes.

Adding Text

With the text tool, easily add text to an image. With the tool options, select the desired font, font size, color, justification, indent, and line spacing. Then click a starting point in the image. A small dialog opens in which to enter your text. Enter single or multiple lines of text then press *Close*.

The text tool creates text on a special layer. To work with the image after adding text, read Section 19.5.6, “Layers” (page 216). When the text layer is active, it is possible to modify the text by clicking in the image to reopen the entry dialog. Change the settings by modifying the tool options.

Retouching Images—The Clone Tool

The clone tool is ideal for retouching images. It enables you to paint in an image using information from another part of the image. If desired, it can instead take information from a pattern.

When retouching, it is usually a good idea to use a small brush with soft edges. In this way, the modifications can blend better with the original image.

To select the source point in the image, press and hold Ctrl while clicking the desired source point. Then paint with the tool as usual. When you move the cursor while painting, the source point, marked by a cross, moves as well. If the *Alignment* is set to *None* (the default setting), the source resets to the original when you release the left mouse button.

19.5.4 Adjusting Color Levels

Images often need a little adjusting to get ideal print or display results. In many programs designed for inexperienced users, the brightness and contrast levels are modified. This can work and is also available in The GIMP, but better results can be obtained by adjusting the color levels.

To do this, select *Colors* > *Levels*. A dialog opens for controlling the levels in the image. Good results can usually be obtained by clicking *Auto*. To make manual adjustments to all channels, use the dropper tools in *All Channels* to pick areas in the image that should be black, neutral gray, and white.

To modify a channel individually, select the desired channel in *Channel*. Then drag the black, white, and middle markers in the slider in *Input Levels*. Alternatively, use the dropper tools to select points in the image that should serve as the white, black, and gray points for that channel.

If *Preview* is checked, the image window shows a preview of how the image would look with the modifications applied. When the desired result is achieved, press *OK* to apply the changes. With *Reset*, restore the original settings. *Cancel* aborts level adjustment.

19.5.5 Undoing Mistakes

Most modifications made in The GIMP can be undone. To view a history of modifications, use the undo dialog included in the default window layout or open one from the image window menu with *Windows* > *Dockable Dialogs* > *Undo History*.

The dialog shows a base image and a series of editing changes that can be undone. Use the buttons to undo and redo changes. In this way, you can work back to the base image. If you undo a modification then make a new one, the undone modification cannot be redone.

Changes can also be undone and redone with the *Edit* menu. Alternatively, use the shortcuts Ctrl + Z and Ctrl + Y.

19.5.6 Layers

Layers are a very important aspect of The GIMP. By drawing parts of your image on separate layers, change, move, or delete those parts without damaging the rest of the image. To understand how layers work, imagine an image created from a stack of transparent sheets. Different parts of the image are drawn on different sheets. The stack can be rearranged, changing which parts are on top. Individual layers or groups of layers can shift position, moving sections of the image to other locations. New sheets can be added and others set aside.

Use the *Layers* dialog to view the available layers of an image. The text tool automatically creates special text layers when used. The active layer is highlighted. The buttons at the bottom of the dialog offer a number of functions. More are available in the menu opened when a layer is right-clicked in the dialog. The two icon spaces before the image name are used for toggling image visibility (eye icon when visible) and for linking layers. Linked layers are marked with the chain icon and moved as a group.

19.5.7 Image Modes

The GIMP has three image modes—RGB, Grayscale, and Indexed. RGB is a normal color mode and is the best mode for editing most images. Grayscale is used for black-and-white images. Indexed limits the colors in the image to a set number. It is mainly used for GIF images. If you need an indexed image, it is normally best to edit the image in RGB then convert to indexed right before saving. If you save to a format that requires an indexed image, The GIMP offers to index the image when saving.

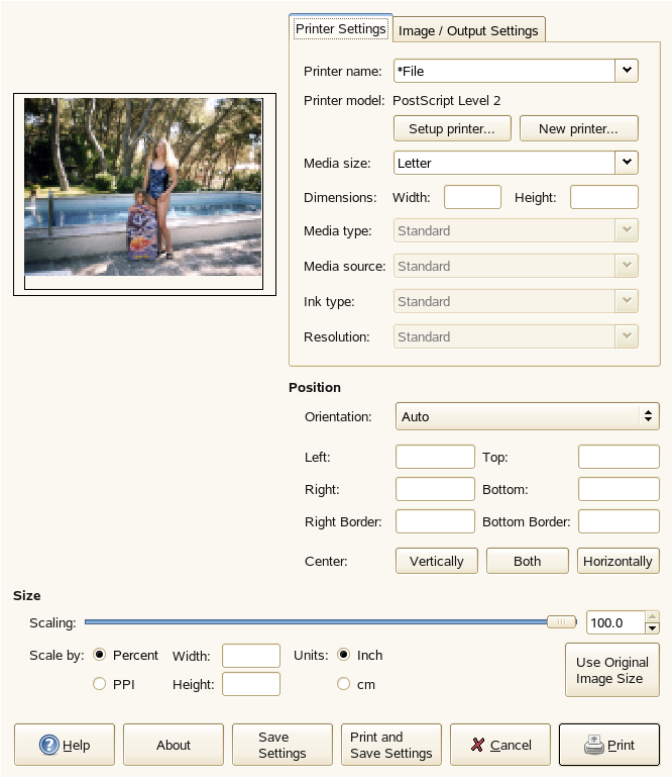
19.5.8 Special Effects

The GIMP includes a wide range of filters and scripts for enhancing images, adding special effects to them or making artistic manipulations. They are available in *Filters*. Experimenting is the best way to find out what is available.

19.6 Printing Images

To print an image, select *File* > *Print* from the image menu. If your printer is configured in the system, it should appear in the list. You can configure printing options on *Page Setup* and *Image Settings* tabs.

Figure 19.3 *The Print Dialog*



When satisfied with the settings, press *Print*. *Cancel* aborts printing.

19.7 For More Information

The following resources are very useful for users of The GIMP. They contain much more information about The GIMP than this chapter. If you want to use The GIMP for more advanced tasks, you should not miss these resourses.

- `http://www.gimp.org` is the official home page of The GIMP. News about The GIMP and related software are regularly posted on the frontpage.

- *Help* provides access to the internal help system including extensive GIMP User Manual. The package `gimp-help` has to be installed. This documentation is also available online in HTML and PDF formats at http://docs.gimp.org. Translations into many languages are available.

- A collection of many interesting GIMP tutorials is maintained at http://gimp.org/tutorials/. It contains basic tutorials for complete begginers as well as tutorials for advanced or expert users.

- Printed books about The GIMP are published regularly. You will find selection of the best ones with short annotations at http://gimp.org/books/.

- GIMP functionality can be extended with scripts and plug-ins. Many such scripts and plug-ins are distributed in the GIMP package, but other can be downloaded from the Internet. At http://registry.gimp.org/, you will find a database of GIMP scripts and plug-ins.

You can also use mailing lists or IRC channels to ask questions about The GIMP. Please always try to find answer in documentation mentioned above or in mailing list archives before asking your question. The time of experienced users present on GIMP lists and channels is limited and it is better spent on answering questions that are not covered in available documentation. Be polite and patient. It may take some time before your question is answered. And don't ask to ask, just ask.

- There is number of mailing lists about The GIMP. You will find them at http://gimp.org/mail_lists.html. The GIMP User list is the most appropriate to ask user questions in. If you do not want to subscribe to the list but want to read its archives, visit http://lists.xcf.berkeley.edu/lists/gimp-user/.

- There is a whole IRC network dedicated to The GIMP and GNOME desktop environment—GIMPNet. You can connect to GIMPNet with your favourite IRC client by pointing it at irc.gimp.org server. The #gimp-users channel is the right place to ask question about using The GIMP. If you want to listen to developer's discussion, join the #gimp channel.

Managing Your Digital Image Collection with DigiKam

20

Managing digital photographs in Linux is very straightforward. KDE's digiKam downloads your images directly from your camera. It helps you organize and manipulate your images to get the best possible result to present to others. The application includes several useful plug-ins that can convert your images to various different formats. Image improvement plug-ins also include red eye reduction, speck removal and hot pixel removal. Various filter and effect plug-ins help create little works of art from your digital images.

Start digiKam from the main menu or by pressing Alt + F2 and entering `digikam`. On start-up, digiKam shows a window with two main areas: a list of your albums to the left and the images in the current album to the right. See Figure 20.1, "The Main Window of digiKam" (page 222). The rightmost edge of the window has a number of tabs attached which can be used to display important information about your images or to manipulate certain image-related data:

Properties
: Use this tab to access properties assigned to your images, such as file properties (permissions, ownership, modification date, etc.), image properties (dimensions, file format, etc.), and photograph properties (basic model, exposure and aperture information).

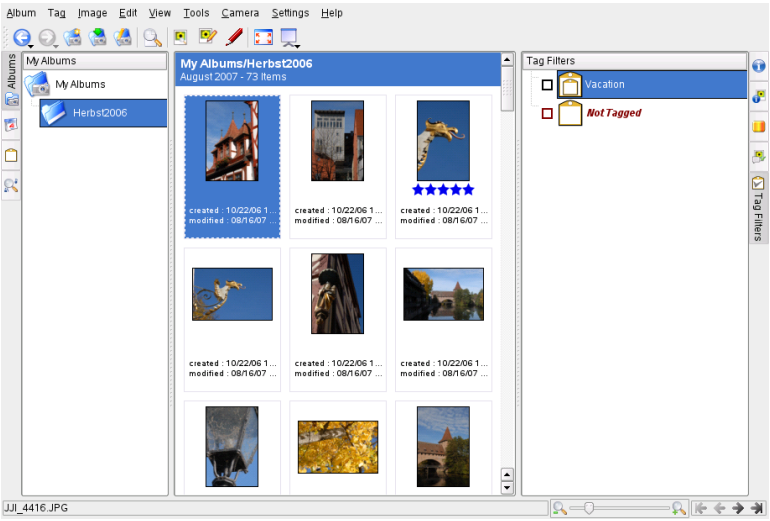
Metadata
: Use this tab to access various kinds of metadata associated with your images, such as EXIF and GPS, for example.

Colors
: Use this tab to access color management-related data and to analyze the histograms associated with your images.

Comments/Tags
: Use this tab to assign comments, tags or ratings to your images.

Tag Filters
: Use *Tag Filter* to filter the amount of images displayed in the main view using tagging information. For details about tagging in digiKam, refer to Section 20.4, “Managing Tags” (page 225).

Figure 20.1 *The Main Window of digiKam*



20.1 Configuring Your Camera

To download images from your digital camera, simply connect the camera to the USB port of your computer using the USB cable provided by the camera manufacturer. Depending on your camera model, you may need to switch your camera to a special data transfer mode. Consult the camera's manual about this.

There are four possibilities for accessing the pictures on the camera:

1. **USB Mass Storage** If your camera can be switched to a USB mass storage device, select this option. After you connect the camera to the USB port of your computer and turn the camera on, the new USB device is automatically detected and mounted. KDE lets you select the action to take in the event of any such device being mounted. You can choose to start digiKam or any other image viewing or processing application whenever a device of this type is mounted.

2. **PTP (Picture Transfer Protocol, also Known as PictBridge)** If your camera can be switched to PTP, select this option. Normally your camera is not automatically mounted in PTP mode but can be accessed through digiKam.

3. **Special Drivers and Gphoto2** If your camera neither supports USB mass storage nor PTP, try the special drivers provided by gphoto2, see Section 20.10, "Troubleshooting" (page 241)

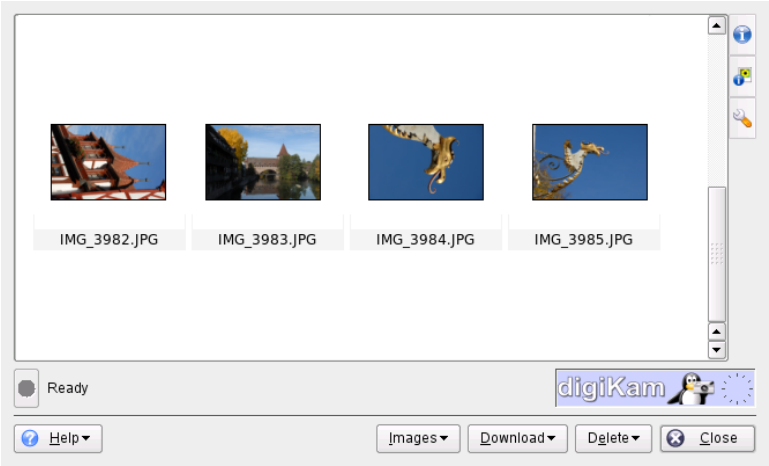
4. **Card Readers** Nowadays cameras can use different non-volatile memory cards, for example SD memory card, compact flash (CF), memory stick, to name a few. Some new computers have a card reader on board with different slots, to support all these formats. If you do not want to deal with cabels, protocols, or drivers, select this option as it simplifies a lot. Normally, card readers are detected as removeable devices and are automatically mounted in KDE.

To set up a camera in digiKam, select *Import* > *Camera* > *Add Camera*. First, try to detect the camera automatically with *Auto-Detect*. If this fails, browse the list of supported cameras for your model with *Add*. If your camera model is not included in the list, try an older model or use USB/IEEE mass storage camera and confirm with *OK*.

20.2 Downloading Pictures from the Camera

To download images from a camera that has been correctly configured, attach the camera to your computer and select the camera from the *Camera* menu. digiKam opens a window and begins to download thumbnails and display them as in Figure 20.2, "Downloading Pictures from a Camera" (page 224). Right-click an image to open a pop-up menu with the options to *View* the image, to *Download*, or *Delete* the image. Select the *Settings* tab to the right of the download window to rename the image files using *Renaming Options*. Review the EXIF data associated with the selected image using the *Metadata* tab.

Figure 20.2 *Downloading Pictures from a Camera*



TIP: Renaming Images

Mass renaming of your images comes in handy if your camera's filenames are not meaningful enough for your purpose. Provide a unique prefix, add an optional date, and let digiKam provide a sequence number.

Select all images to download from the camera by pressing the left mouse button or by clicking individual images with Ctrl pressed or by using one of the select modes provided by the *Images* menu at the bottom of the download window. Click *Download* and select the destination from the list or create a new album with *New Album*, which automatically suggests a filename with the current date. Confirm with *OK* to start the download process.

TIP: Downloading Images from the Storage Medium

To save your camera's battery power, you can also attach a USB hub to your computer providing an appropriate slot for your storage medium and download the files from there. Once the USB hub is connected to your computer, the KDE media handler dialog opens and offers to download the images from the medium you attached.

20.3 Managing Albums

digiKam creates a folder called *My Albums* by default to hold all of your images. You can move your images to subfolders later. The albums can be sorted by directory layout, by collection name set in the album properties, or the date that the albums were first created (this date can also be changed in the properties of each album).

To create a new album, use one of these methods:

- Upload new images from the camera and create the target album on-the-fly during the download.
- Create a new album by selecting the *My Albums* entry first and then *Album > New Album* from the main menu.
- Import an existing folder of images from your hard disk (select *Import > Add Folders...*).
- Right-click *My Albums* and select *New Album*.

Once you have chosen to create a new album, provide some basic administrative information about the new album, such as an album title. Optionally, choose a collection, insert some comments, and select an album date. Collections are a way of organizing your albums by a common label. This label is used when you select *View > Sort Albums > By Collection*. The comment is shown in the banner at the top of the main window. The album date is used when you select *View > Sort Albums > By Date*.

digiKam uses the first photograph in the album as the preview icon in the *My Albums* list. To select a different one, right-click the respective photograph and select *Set as Album Thumbnail* from the context menu.

20.4 Managing Tags

Managing lots of different images across various albums can be a nightmare. To manage your images by custom categories and across albums, digiKam provides the *My Tags* system. Tags categorize images and more than one tag can be assigned to an image.

For example, assume that you took several pictures of your friend, Joe, and distributed them across various albums. Now you are looking for an easy way to generate an overview of all pictures ever taken of Joe. Using digiKam's tags, proceed as follows for this scenario:

1. Select *Tag* > *New Tag* in the upper menu bar and enter a name for the new tag, in this case `Joe`.

   The dialog box allows you to create hierarchical tags, too. For example, to have a `Joe` tag which is underneath a `People` tag, insert `People/Joe` into the text field. Provide an optional icon and leave this dialog with *OK*.

2. Go to each album and tag all images showing Joe by right-clicking the image and selecting *Assign Tag* > *Joe*.

If you need to process a huge number of images, an easier way to do the tagging would be using the *Captions/Tags* tab from the tab bar at the right edge of the main window. This interface allows you to assign tags to this image, enter an optional descriptive comment, and rate this image. When you are done with the first image, stay in this dialog, click the right arrow button, and click *Apply* when finished to apply your settings. Do it with all your images of this album. Proceed similarly with all other albums and images.

To retrieve all images in your entire collection that carry a certain tag (in this case `Joe`), proceed as follows:

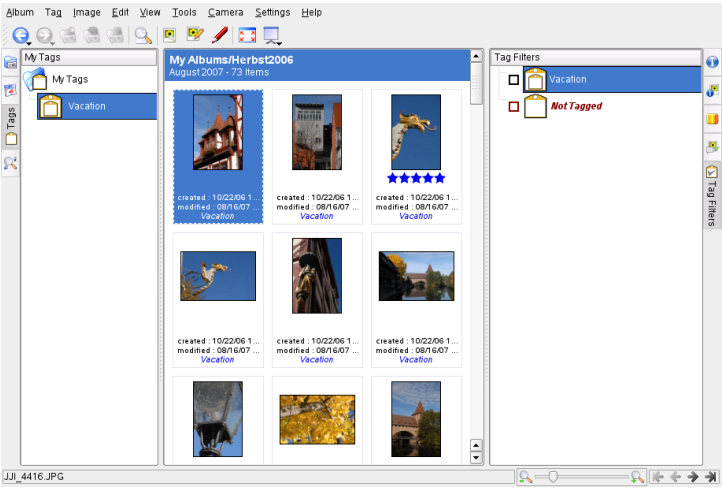
1. Open the *Tags* tab in the left tab bar.

2. Unfold the *My Tag* item.

3. Select the *Joe* tag.

   As a result, all images in your entire collection carrying this tag are displayed.

Figure 20.3 *Display Tagged Images Only*



The *Tag Filter* in the rightmost edge of the main window limits the number of images displayed for the current album to those marked by the tag or tags selected here.

20.5 Creating Powerful Search Filters

Any image collection soon becomes unmanageable if you do not find a means to search for the images you need and find them without much of a hassle. To help you organize your collection, digiKam offers you two search options:

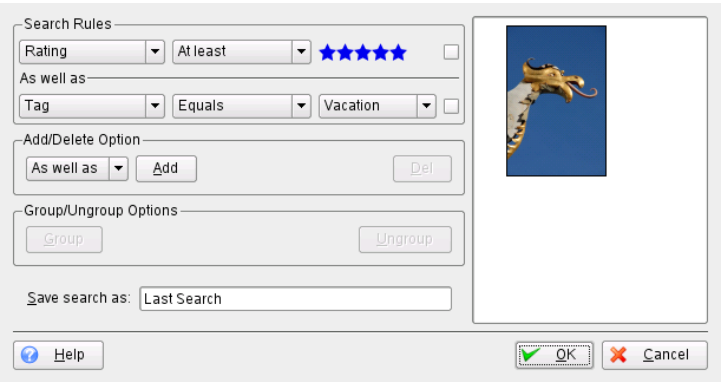
Simple Search
: A basic search. Select *Tools* > *Search* and enter a text string that might be associated with your image (image or tag name or comment) and hit *OK*. You can save this search for future use and edit other existing searches listed under *Searches* on the left edge of your digiKam window.

Advanced Search
: Complex search filter. Select *Tools* > *Advanced Search*, set up complex rules using any image property (album, tag, rating, date, etc.) and combine these options as needed. You can save your search filter for future use and edit other existing searches listed under *Searches*.

The following example illustrates how to create an *Advanced Search* using rating or tag information to search for images:

1. Select *Tools* > *Advanced Search* from the main menu.
2. Select the first search criterion. In this case, select `Rating+Equals+5 Stars` to search for all images that have been rated with five stars.
3. In the *Add/Delete Option* section, select *Or* and click *Add*. A new search rule is added below the existing one.
4. Select the second search criterion. In this case, select `Tag+Equals+Filters` to search for all images that have been tagged with a tag named *Filters*.
5. Add other search criteria if needed, group criteria, or delete them. The results of your search are displayed in the search window.
6. To save the search for future use, specify a name for this search and leave the *Advanced Search* dialog with *OK*.

Figure 20.4 *Creating an Advanced Search Filter*



20.6 Exporting Image Collections

digiKam provides several export options that help archive and publish your personal image collections. It offers archiving to CD or DVD (with k3b), HTML export, and export to a remote gallery.

To save your image collection to CD or DVD, proceed as follows:

1. Choose the album you want to export and select *Export > Archive to CD/DVD*.

2. Make your adjustments in the *Create CD/DVD Archive* dialog using its various submenus.

   2a With *Album Selection*, determine which part of your collection should be archived by selecting albums and tags.

   2b In *HTML Interface*, decide whether your image collection should be accessible through an HTML interface and whether automatic run functionality should be added to your CD or DVD archive. Set a selection title and image, font, and background properties.

   2c Change the settings for the volume description in *Media Volume Descriptor*, if necessary.

   2d Adjust the burning options to your needs in *Media Burning*, if necessary.

3. Click *OK* to initiate the burning process.

To create an HTML export of your image collection, proceed as follows:

1. Select *Export > HTML Gallery*.

2. Determine which part of your collection should be archived by selecting albums or tags in *Collection* and click *Next*.

3. Use *Theme* dialog to set the title and appearance of your HTML gallery and click *Next*.

4. Specify size, compression and file type for the thumbnails used for gallery navigation in *Image Settings* and click *Next*.

5. Determine the location of the gallery on disk with *Output* and click *Finish*.

To export your collection to an external image gallery on the Internet, proceed as follows:

1. Get an account for an external Web site to host your gallery.
2. Select *Export > Remote Gallery Sync* and provide URL, username, and password for the external site when asked for them. digiKam establishes a connection to the site specified and opens a new window called *Gallery Export*.
3. Determine the location of your new album in the gallery.
4. Click *New Album* and provide the information requested by digiKam.
5. Upload the images to the new album with *Add Photos*.

20.7 Viewing and Editing Images

digiKam comes with a comprehensive image viewing and editing suite consisting of various plug-ins. To enter digiKam's viewing or editing mode, right-click an image thumbnail and select *View* or *Edit* from the context menu. To use the plug-ins, you need to install the `digikamimageplugins` package.

To view one or more images you have the following options:

- To view a single image, browse to your album or collection and click on your image to display it. Another click brings you back to the previous view.
- To start a slide show with all images, use *View > Slide > All*.
- To start a slide show with selected images only, hold down the Ctrl key, select your images, and choose *View > Slide > Selection*.

To edit a selected image, use *Edit* from the main menu. It opens a window which contains some of the most frequently used basic editing options:

- Use the back/forward buttons to browse your album without having to go back to the full album view.
- Use the undo/redo menus to selectively undo or redo certain operations.

- Use the zooming options to zoom in or out or to fit the image view to the window size you are using. Use the looking glass icon to selectively zoom into a particular area of the image.
- Flip the image clockwise or counter-clockwise.
- Activate a slide show or full screen view of the selected image.

20.7.1 Applying Image Decorations

The editing mode contains more useful features. Use the *Decorate* menu to superimpose various kinds of graphics and text effects on your images without having to bother about filters and their fine-tuning:

Apply Texture
: Select the type of texture you want to apply to your image and determine how prominent this texture should be (*Relief*). digiKam applies the texture and saves the changes to the original copy of your image.

Add Border
: Select the type of border. Depending on the type of border you have selected, choose one or two colors to be used for the border and set the width of the border around your image. digiKam creates the border and saves the changes to the original copy of your image.

Insert Text
: Enter the text you want to superimpose on the image, choose font, font style and size. Select the text justification and decide whether the text should be rotated and to what degree. Add an optional border and semi-transparency. digiKam adds your text layer to the original image.

Template Superimpose
: Just as you can superimpose any text on your image, you can also apply ready-made templates to create funny greeting cards, posters and the like.

20.7.2 Manipulating Color Settings

The *Color* menu allows you to manage all kinds of different color-related settings. Its capabilities range from simple auto correction mechanisms to full-blown color management via color profiles:

Auto Color Correction
: If aiming for a straightforward color and exposure correction of your image, try this option. Choose from various preset modes and apply the one that matches best. Use the histograms to determine whether the result matches your needs.

Brightness/Contrast/Gamma
: This tool offers a simple way of fixing over or underexposed images.

Hue/Saturation/Lightness
: This tool helps you to optimize images that have been taken under very bright lighting conditions and appear somewhat washed out. Bring color saturation back to these images by manipulating the hue and saturation sliders. Depending on the level of color, you might also want to adjust the lightness to prevent the image from registering too dark. Of course, you can also use this tool to achieve the opposite effect if you need to brighten up an image that has been taken at low light conditions and contains far too much color saturation.

Color Balance
: Depending on the lighting conditions under which an image was taken or the quality of an image scan, the colors may appear somehow out of balance. Using the color balance tool, you can try to shift the balance towards another end of the color spectrum.

Invert
: Invert the color values.

Black & White
: Transform your color image into a black and white one. Use the *Film*, *Lens Filters*, *Tone*, and *Lightness* to tweak the end product. The *Film* tab offers you to emulate the effects various black and white films. To emulate color filters used with the camera lens, use the *Lens Filters* tab. Note that you can only apply one filter at a time. Using the *Tone* tab you can have your black and white image tinted in a particular way (sepia, for example).

Depth

Determine the color depth (in bit). Transform 8-bit into 16-bit images and vice versa.

Color Management

Color management via ICC color profiles helps you maintain color fidelity across multiple output devices (camera, display, printer).

Levels Adjust

Use this option to control multiple levels and to check the resulting image in just one tool. It lets you save the level settings you chose and thus enables you to apply the same corrections to multiple images if needed. This comes in handy if you know that your camera tends to use the same faulty color settings all the time and you would like to be able to correct them with just a single click.

Color Effects

This tool offers a selection of color effects like edge finding, solarizing, etc.

White Balance

Every source of light registers differently on your digital camera's chip. Depending on the light source, the color temperature tends to register either warmer (towards the red end of the spectrum) or cooler (towards the blue end of the spectrum) than standard daylight. Most cameras ship with preset white balance schemes that try to compensate these effects. If the resulting images registers faulty, use the white balance adjustment provided by digiKam. Either manipulate the color temperature directly by using the Kelvin slider or choose one of the preset white balance schemes.

Curves Adjust

This tool allows you to basically perform any operation available through the *Brightness/Contrast/Gamma* and the *Levels Adjust* tools, but in one tool and using free-function mapping. Therefore this tool is more powerful and flexible than the other two, but it may take some time to get used to its handling.

Channel Mixer

The channel mixer tool provides an alternative way of converting colored images to black and white. Using the *Monochrome* option and the channel sliders, you can selectively determine how much each of the color channels contributes to the overall image. The channel mixer option is much more flexible than the standard conversion to black and white, because you can manage each color channel separately.

20.7.3 Fixing and Tweaking Your Images

Use the *Enhance* menu to address a number of common defects related to digital imagery:

Blur , *Sharpen*
: Tweak the sharpness of your image or smooth it.

Red Eyes
: Reduce or eliminate red eyes caused by use of a flash.

Inpainting
: "Heal" defective areas of your image.

Noise Reduction
: Remove artifacts, such as those caused by dust on your lens or sensor. Compensate for pixel noise caused by high ISO settings of your digital camera and reduce noise and artifacts in low quality scans.

Hot Pixels
: Detect and erase problem pixels of your image caused by defective pixels of your camera's sensor.

Lens Distortion
: Compensate for barrel and pincushion distortion of your images caused by the use of strong wide-angle or telephoto lenses.

Restoration
: Provides an all-inclusive treatment to images suffering from all sorts of digital defects, such as noise and scratches.

Vignetting
: Compensates circular shades (*vignettes*) at the edges or in the center of your image that were caused by the use of strong wide-angle or telephoto lenses.

To observe the functionality of the *Fix* options, look at *Inpainting*, for example. Assume some dust or scratch on your lens ruined an image. To remove this kind of artifact, proceed as follows:

1. Open your image.

2 Use the mouse cursor to select the area to which to apply the fix.

3 Select *Enhance* > *Inpainting* or press Ctrl + E.

4 Determine the method to use to remove the artifact:

- Choose one of the preset options (*Remove Small Artifact*, *Remove Medium Artifact*, or *Remove Large Artifact*) and proceed with Step 6.
- Set the filter parameters on your own. Proceed with Step 5.

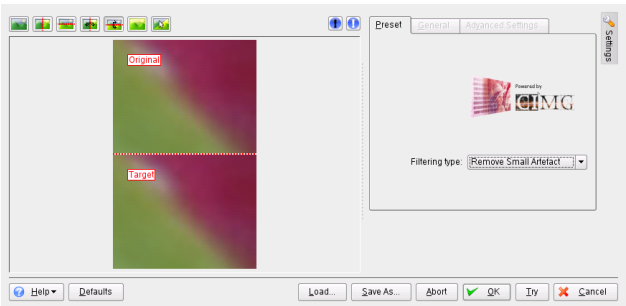
5 If you opted against using any of the preset filters (in the *Preset* tab), open the *General* and *Advanced Settings* tabs and adjust the settings to your needs.

6 Click *OK* to apply your settings and modify the image accordingly.

TIP: Creating and Reusing Your Own Filter Settings

If you need to use the same set of settings more than once, for example, if a scratch on the lens ruined an entire series of images, create your set of filter settings. Save them for later use by clicking *Save As* and saving them to a text file. For subsequent images, open the *Image Inpainting* dialog, click *Load*, then select the text file and apply the filter settings with *OK*.

Figure 20.5 *Using Inpainting to Remove Artifacts*



20.7.4 Applying Image Transformations

To scale or rotate an image, use the *Transform* menu:

Rotate, Flip, Free Rotation
: Rotate your image to a certain degree. *Rotate* rotates by multiples of 90 degrees. With *Free Rotation*, specify any angle you want.

Crop, Aspect Ratio Crop
: Crop your image. *Crop* cuts to any rectangular selection on top of your image. *Aspect Ratio Crop* crops the image following various sophisticated design principles.

Perspective Adjustment
: Adjust the perspective of an image. For example, if you notice some odd angles in shots containing vertical or horizontal lines, use this tool to set them right. Grab any of the four handles to the corners of your image and move them as much as needed. Use the *Crop* tool to remove the resulting black edges of your image and to trim it down.

Shear
: Shift one part of your image to one direction and the other to the opposite direction, either horizontally or vertically. Specify the angles for vertical and horizontal shear and use *Crop* to trim the resulting image.

Resize
: Scale your image. *Resize* offers a simple interface allowing you to manipulate your image size by pixel or percentage. Select whether to keep the aspect ratio. If you select *Restore photograph*, you can fine-tune the algorithms used to on your resized image and improve the quality of the end product. Note that this option might be considerably slower than a simple resize operation.

Assuming you have an image that is otherwise perfect, but you are not entirely satisfied with the composition yet or need to crop your image to match a certain paper format for reproduction. In this case, use *Aspect Ratio Crop* and proceed as follows:

1. Open your image.

2. Select *Transform* > *Aspect Ratio Crop*.

3. Determine the orientation and aspect ratio to use:

None
Specify a free crop of the image using the *X*, *Width*, and *Y*, *Height* sliders.

Custom
Select a custom ration of width versus height instead of using one of the preset values.

X:Y Ratio
These ratios match most of the common paper sizes used to print photographs. Pick the one that suits your purpose best.

Golden Ratio
A ratio (1:1.618) that is traditionally used by artists and architects to create harmonious results.

Use the *Max. Aspect* button to set the crop area to the maximum possible size of the ratio specified.

4 After determining the size of your crop selection, optionally apply compositional rules to it. The *Composition Guide* helps to create a crop selection that results in a visually pleasing image. Dotted lines are displayed that guide you to a better composition of your image.

TIP: For More Information

For a comprehensive description of the options, refer to `http://docs.kde.org/kde3/en/extragear-graphics/digikam/image-editor.html`

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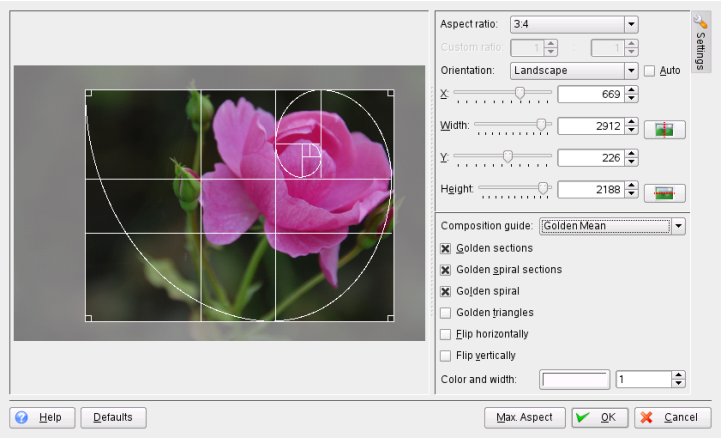
5 If the position of your crop does not follow the compositional rule to your satisfaction, move it.

6 Click *OK* to apply your crop selection and trim your image.

Figure 20.6 *Creating a Custom Crop Using Aspect Ratio Crop*



20.7.5 Applying Filters and Effects

You can select from a variety of basic effects and filters to apply to your images to give them a more artistic or over-the-top look:

Raindrops
: Apply raindrop effects to your image. Determine the size and number of the drops and finally specify the degree of distortion caused by the drops (*Fish eyes*).

Infrared Film
: Simulate the use of infrared film to achieve a slightly surreal effect. The result is strikingly different from the original image. Add additional film grain and tweak the sensitivity (ISO) to achieve a more artistic feel.

Oil Paint
: Simulate an oil painting. Determine the brush size and the degree of smoothing to apply to your image.

Emboss
: Pretend your image had been embossed to a sheet of paper. Choose an appropriate depth.

Distortion Effects

Apply various strange distortion effects, such as fish eyes, to your image. Determine type, level, and repetition.

Add Film Grain

Add film grain to your image to give it a rough look.

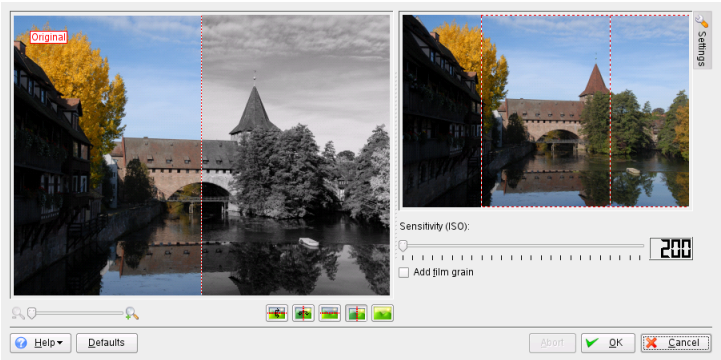
Blur Effects

Blur your image to simulate the image being out of focus or to mimic any kind of movement that was not there when you took the image.

Charcoal Drawing

Transform your image into a black and white charcoal drawing. Choose an appropriate pencil size and determine the degree of smoothing to apply to the image.

Figure 20.7 *Simulating IR Photography*



20.8 Useful Tools

digiKam offers several little helpers for organizing your image collection and for processing your images. Find them in the *Tools* menu. Some highlights:

Find Duplicate Images

If you suspect your collection to contain a number of duplicates, use this option to find and delete them. First, determine which album or tag to include in the scope of your search. Click *OK* to initiate the search. If your collection contains any du-

plicates, you get a split screen showing both images and can select one of them for deletion to eliminate the duplicate.

Create Calendar
: Create a simple calendar using a standard layout by just selecting the images to use and by selecting paper size and fonts.

RAW Image Converter
: digiKam supports converting images from various vendor-specific RAW formats to common image formats such as JPEG or PNG. Using this option, convert single images. If you need to convert several images, consider using a batch conversion (*Tools* > *Batch Processes* > *RAW Images Converter (Batch)*). To find out whether your camera's RAW format is supported by digiKam converter plug-in, check `http://www.cybercom.net/~dcoffin/dcraw/`.

20.9 Batch Processing

If you need to perform certain actions on a large number of files at once, use batch processing. Add borders, edit the colors, apply various effects and filters, rename and resize images, recompress them, or perform a RAW conversion.

An example batch processing of images could involve applying a solarizing effect to a number of images. To queue images for batch processing and perform the actual processing, proceed as follows:

1. Select *Batch* > *Image Effects* or right-click the album's name and select *Batch Processes* > *Image Effects*.

2. Set the effect to *Solarize* and click *Options* to determine the degree of the effect to be applied and display an optional preview.

3. Determine whether to rename or overwrite the original images or even have them removed after the transformation has taken place.

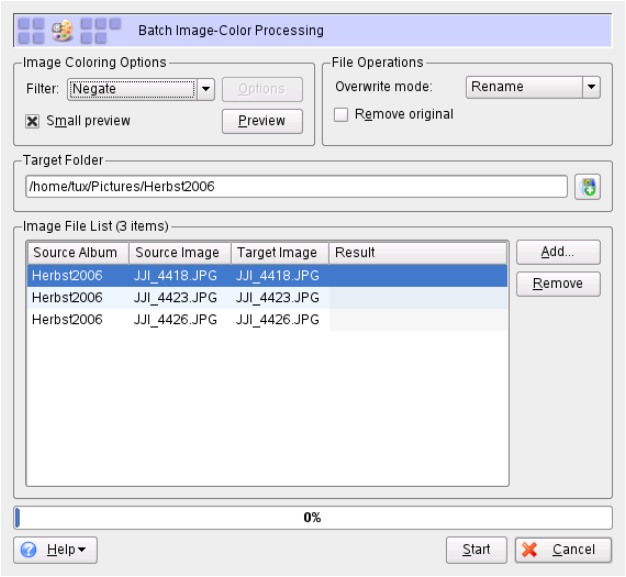
4. Set the target folder to hold the resulting images. If you do not want the new images to be written to the original folder, select *New* and add a new folder or subfolder. Select the new folder with your mouse pointer.

5. Accept or modify the list of images queued for the transformation.

6 Click *Start* to initiate the transformation.

digiKam informs you about the progress and the success of the transformation.

Figure 20.8 *Batch Processing: Solarizing Images*



20.10 Troubleshooting

Although openSUSE and digiKam support a broad range of cameras, you might occasionally hit one of the following problems when using your digital camera with openSUSE:

Downloading Images from Your Camera Fails

If downloading your images fails no matter which protocol you have chosen (PTP or USB), try using the command line instead of digiKam. The `gphoto2 --P` command initializes the camera and downloads the images if gphoto2 supports this camera.

Your Camera is not Officially Supported by digiKam

Try `gphoto2 --list-cameras` and the information at http://www.gphoto.org/ to obtain more information about the status of your camera's support by Linux.

If the camera is not listed there, remove the storage medium from the camera and use a card reader device (either an external or internal one). As soon as the medium is detected, it is mounted automatically and you can import the images to your digiKam collection with *Import* > *Add Images* or *Import* > *Add Folders*.

20.11 For More Information

For more information about using digital cameras with Linux, refer to the following Web sites:

- http://www.digikam.org>—The official homepage of digiKam
- http://www.digikam.org/drupal/docs—The official digiKam Handbook
- http://www.gphoto.org—Information about gPhoto2
- http://www.gphoto.org/proj/libgphoto2/support.php—A comprehensive list of supported cameras

Managing Your Digital Image Collection with F-Spot

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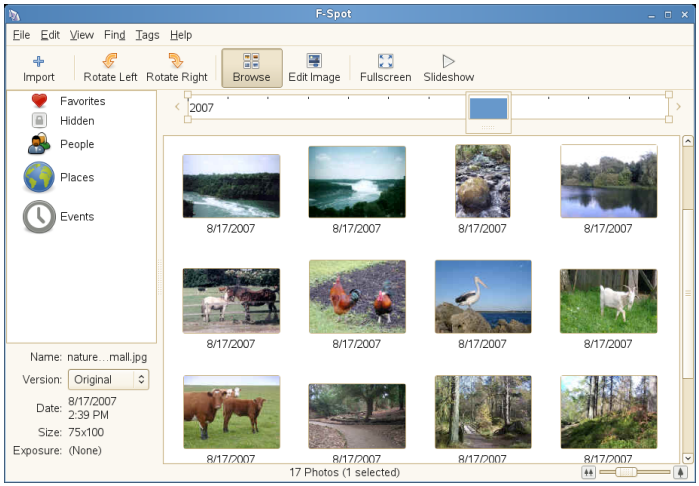
F-Spot is a management tool for your collection of digital images tailored for the GNOME desktop. It allows you to assign different tags to your images in order to categorize them and offers various image editing options. For example, you can remove red-eye, crop, and adjust brightness and colors. F-Spot supports sixteen common file types, including JPEG, BMP, GIF, TIFF, and RAW.

You can import photos from your hard drive, your digital camera, or your iPod. You can also use F-Spot to create photo CDs, generate a Website gallery, or export your photos to your Flickr, 23, Picasa Web, or SmugMug account.

To access F-Spot, click *Computer* > *F-Spot Photo Browser*. The first time you run F-Spot, you can tell it where to find the images you want to import into your collection. If you already have a collection of images stored on your hard drive, enter the path to the respective directory and optionally include subfolders. F-Spot imports these images into its database.

Figure 21.1 *F-Spot Main Window*



Thumbnails of your images are displayed in the right part of the window, and detailed information for a selected image is displayed in a sidebar to the left. By default, your photos are displayed in reverse-chronological order, so your newest photos are always at the top. You can sort your photos in chronological order or reverse-alphabetical order by clicking *View* > *Reverse Order*.

TIP: Contents of the Sidebar

At the top of the sidebar, you change its contents from *Tags* to *Metadata* or *Edit*. If the sidebar is not visible at all, press F9 or click *View* > *Components* > *Sidebar* to make the sidebar visible.

A menu bar at the top of the window allows you to access the main menus. A toolbar below the menu bar offers the following options:

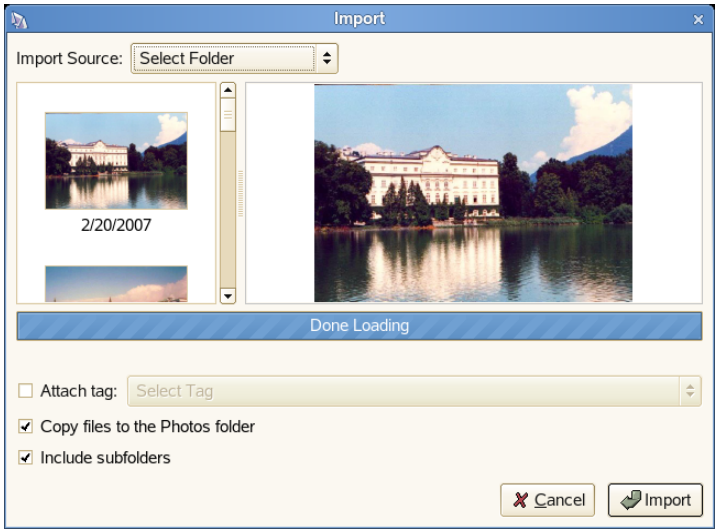
Table 21.1 *F-Spot Toolbar*

Icon	Description
Rotate (Left or Right)	Use this shortcut to change an image's orientation.
Browse	The Browse mode allows you to view and search your entire collection or tagged subsets of it. You can also use the time line to search images by creation date.
Edit Image	This mode allows you to select one image and do some basic image processing. Details are available in Section 21.7, "Basic Photo Editing" (page 255).
Fullscreen	Switch to fullscreen display mode.
Slideshow	Start a slide show.

21.1 Importing Photos

You can import photos from your hard drive or from your digital camera (see Section 21.2, "Downloading Pictures from Your Camera" (page 247) for more information). F-Spot automatically makes copies of photos imported from your hard drive. If you do not want to copy images, uncheck *Copy files to the Photos folder* on the Import dialog box, or press Shift when dragging photos into F-Spot.

Figure 21.2 *Importing Images into F-Spot*



By default, F-Spot copies your photos to the `/Photos` directory in your home directory. You can change the directory F-Spot uses by clicking *Edit* > *Preferences*.

If all the photos you are importing are from a particular event, or if they have some other characteristic in common, you can create a tag for them so you can easily find them at a later time. Enter tags separated by commas in the *Attach Tag* field, that you want to associate on the import to all new photos.

To import photos:

1. Click *Photo* > *Import*.
2. Select an import source, then click *Open*.
3. After the photos are finished loading, click *Import*.

   The photos are added to your catalog.

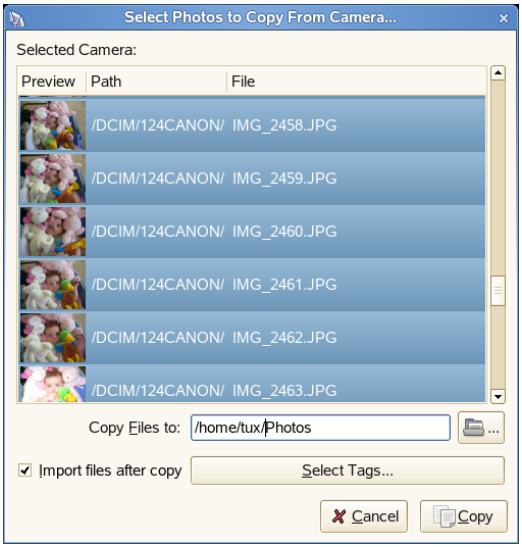
21.2 Downloading Pictures from Your Camera

You can import new images from your digital camera by connecting it to the USB port of your computer. The type of camera is detected automatically. When you import photos from your camera, F-Spot makes copies of them so that you can clear your camera's memory.

1 Click *Photo* > *Import*.

2 Select your camera as the import source.

   F-Spot launches a preview window displaying all the images that are available for download from your camera. The files are copied to the target directory specified via *Copy files to*. If *Import files after copy* is selected, all images copied from the camera are automatically imported to F-Spot's database. Tagging can be done on import, if you select the appropriate tag with *Select Tags*. If you do not want to import all images on your camera to your database, just deselect the unwanted ones in the preview window.



3 Click *Copy*.

4 When the photo transfer is complete, click *OK*.

The photos are added to your catalog.

21.3 Getting Photo Information

When you select an image, some basic statistical information is displayed in the lower-left part of the window. This includes the filename, its version (copy or original image), the date of creation, size, and the exposure used in creating this particular photo.

To view more detailed information on a photo, including the EXIF data associated with the file, select *Metadata* below the *Import* button, then click *Extended Metadata*.

21.4 Managing Tags

Use tags to categorize any of your photos to create manageable subsets of your collection. F-Spot comes with default tags, but you can change them and add new ones. If, for example, you want to organize your collection of portrait shots of your loved ones, do the following:

1 Select the *Browse* mode of F-Spot.

2 Activate the *Tags* view in the sidebar to the left.

3 In the sidebar, right-click the *People* category, then select *Create New Tag*.

3a Create a new tag called `Friends`.

3b Create a new tag called `Family`.

The new tags appear as subcategories below the *People* category.

4 Attach tags to images or groups of selected images.

Right-click an image, select *Attach Tag*, then select the appropriate tag for this image. To attach a tag to a sequence of images, click the first one, then press Shift and select the other ones without releasing the Shift key. To attach a tag to a group of selected images, press Control and select the images. Right-click for the tag menu and select the matching category.

You can also use the following methods to tag photos:

- Drag and drop a photo onto a tag.
- Drag and drop a tag onto the photo.
- Use the options on the *Tags* menu.
- Select a photo, then press t to display the Tags entry bar.

The first photo you associate with a tag is used for that tag's icon. To edit a tag's name, parent tag, or icon, right-click the tag, then select *Edit Selected Tag*.

You can change a tag's parent by dragging and dropping it where you want. You can also edit the name of a tag by selecting it and pressing F2.

After your photos have been tagged, you can browse your collection by tags. Using our earlier example, clicking *People* > *Family* limits the displayed collection to the photos tagged `Family`. Searching your collection by tag is also possible through *Find* > *Find Selected Tag*. The result of your search is displayed in the thumbnail overview window.

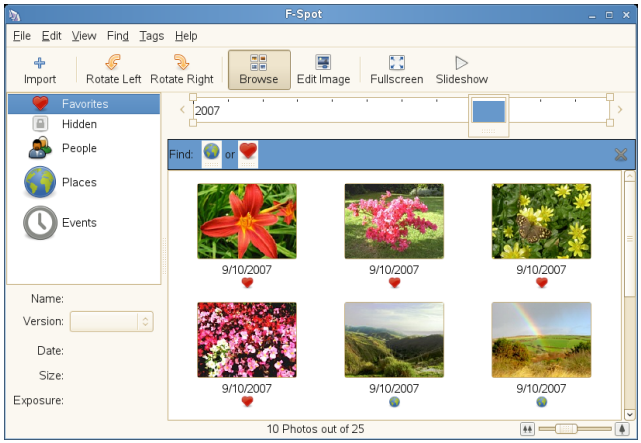
Removing tags from single images or groups of images works similarly to attaching them. The tag editing functions are also accessible on the *Tags* menu in the top menu bar.

21.5 Searching and Finding Photos

As mentioned in Section 21.4, "Managing Tags" (page 248), tags can be used as a means to find certain images. Another way to find images is to use the *Timeline* below the toolbar. By dragging the little frame along this time line, you can limit the images displayed in the thumbnail overview to those taken in a selected time frame. F-Spot starts with a default time line, but you can edit the time span by moving the sliders to the right and left of the time line.

You can also start a search by clicking *Find* > *Show Find Bar*. With the find bar displayed, you can drag tags from the tag view to the find bar.

Figure 21.3 *Show Find Bar in F-Spot*



To find photos that are tagged with more than one tag, select the first tag in the tag view (or drag the tag onto the Find bar), then drag the second tag and drop it on top of the first. You can also right-click the second tag in the tag view, or click *Find* > *Find Selected Tag With*, then select the first tag (or group of tags).

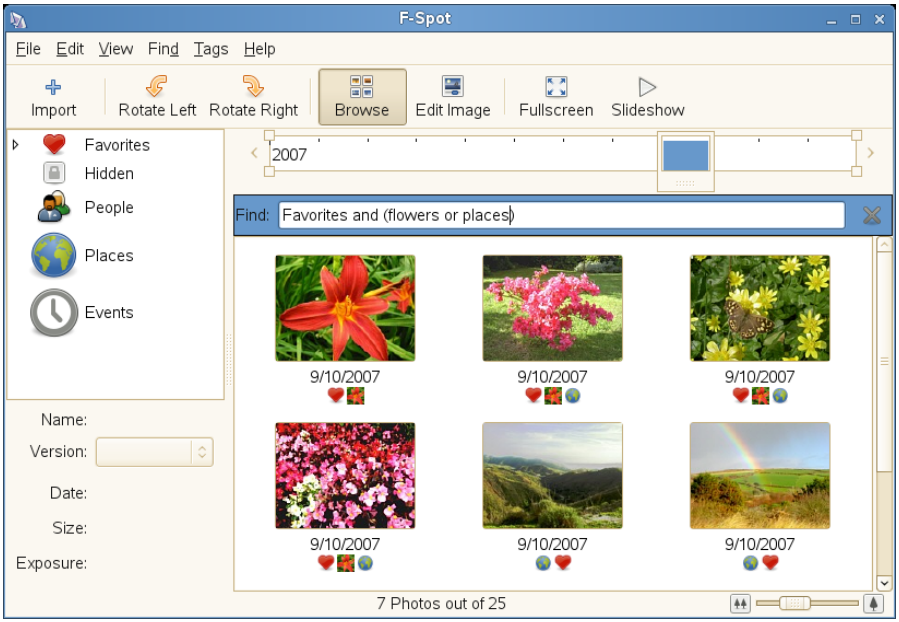
You can search for photos that do not have a particular tag by double-clicking a tag in the Find bar. Photos that do not have that tag (or any tag at all) are displayed. You can also right-click a tag in the Find bar, then select *Exclude*.

To remove a tag from the search, drag it away from the Find bar, or right-click the tag and select *Remove*.

By default, photos tagged Hidden will not be shown. You must explicitly include the Hidden tag in your search to show such photos.

There is also a type-to-find entry. Press the forward slash (/) to open it. It cannot be used at the same time as the Find bar. You can type queries such as “TagA and (TagB or (TagC and TagD))”. At any point, if F-Spot recognizes what you have typed as a valid query, it will update your search. The *not* operator is not yet supported.

Figure 21.4 *Type-to-find Search*



21.6 Exporting Image Collections

F-Spot offers a range of export functions for your photo collections: Section 21.6.1, "Generating a Website Gallery" (page 251), Section 21.6.2, "Exporting Photos to CD" (page 252), Section 21.6.3, "Exporting Photos to a Folder" (page 253), and Section 21.6.4, "Posting to a SmugMug, Flickr, 23hq, Zooomr, or Picasa Web Albums Account" (page 254).

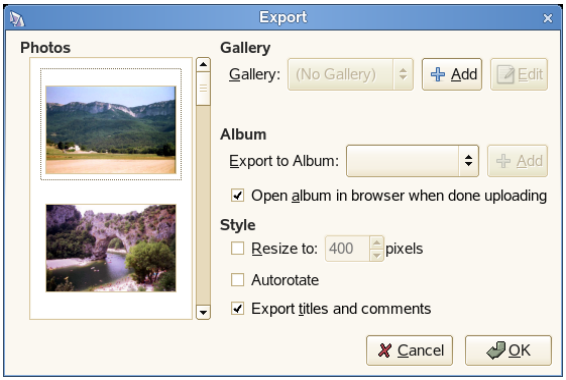
21.6.1 Generating a Website Gallery

If you use the PHP software known as Gallery [`http://gallery.sourceforge.net`], you can post your photos to your existing album. Ensure that the Remote module in your Gallery installation is enabled (*Site Admin* > *Plugins (Get More Plugins)* > *Remote*).

PennAve [http://pennave.sourceforge.net/] is another dynamic photo gallery application. It is designed to be used in conjunction with F-Spot to organize and manage your photos.

1 Select the photos you want to export.

2 Click *Photo* > *Export* > *Export to Web Gallery.*



3 Select a gallery you want to export your images to, or click *Add* to add a new gallery.

F-Spot establishes a connection to the Web location entered for your web gallery.

4 Select the album you want to export the images to, then specify whether to scale and rotate the images automatically and export titles and comments.

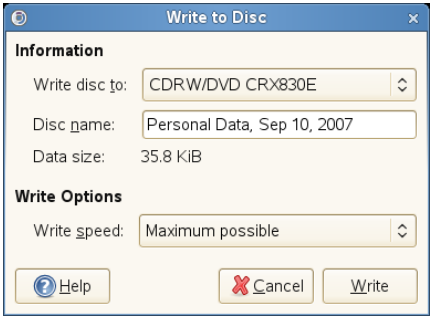
5 Click *Export*.

21.6.2 Exporting Photos to CD

1 Select the photos you want to burn to CD.

2 Click *Photo* > *Export* > *Export to CD,* then click *Export*.

F-Spot copies the files and opens the Write to Disc dialog box.



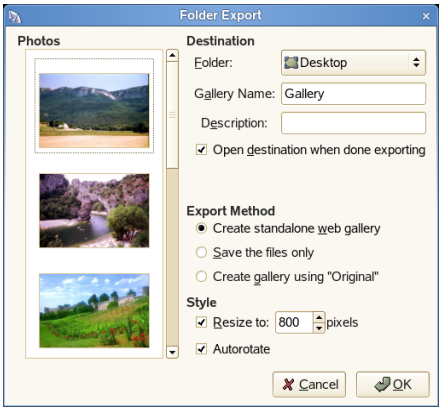
3 Assign a name to your image disk, then select the writing speed.

4 Click *Write* to start the CD writing process.

21.6.3 Exporting Photos to a Folder

1 Select the photos you want to export.

2 Click *Photo* > *Export* > *Folder*.



3 Choose from the following export methods:

Create standalone web gallery: Exports your photos to an interactive Website, ready for you to upload.

Save the files only: Exports your photos as files within directories, without putting them into a gallery.

Create gallery using "Original": Exports your photos ready for use with Jakub Steiner's Original Photo Gallery [http://jimmac.musichall.cz/original.php] software.

4 Click *Export*.

21.6.4 Posting to a SmugMug, Flickr, 23hq, Zooomr, or Picasa Web Albums Account

If you use SmugMug [http://www.smugmug.com/], Flickr [http://www.flickr.com/], 23hq [http://www.23hq.com/], Zooomr [http://www.zooomr.com/], or Picasa Web Albums [http://picasaweb.google.com/], you can post your files directly from F-Spot to your account.

1 Select the photos you want to export.

2 Click *Photo* > *Export* > *SmugMug*, *Flickr*, *23hq*, *Zooomr*, or *Picasaweb*.

3 Select or unselect the options you want in the Export dialog box.

The options displayed on the Export dialog box depend on the type of account you are exporting to. For example, Flickr and 23hq exports require authorization in order to upload photos. To do this, click *Authorize* to open a Web browser, then log in to your account.

4 Click *Export*.

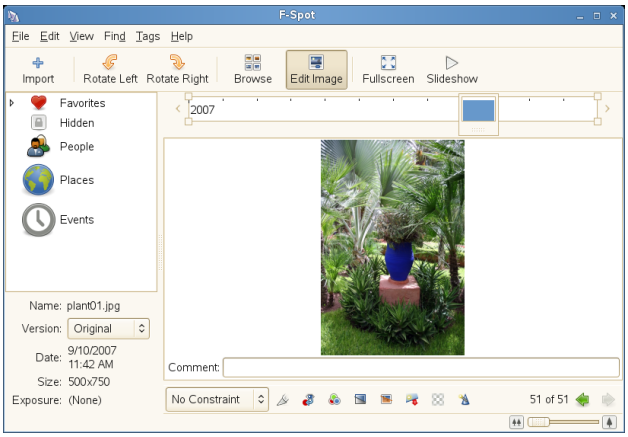
21.7 Basic Photo Editing

F-Spot offers several basic image editing functions, such as the ability to remove red-eye, crop, and adjust colors and brightness.

When you edit a photo, a new copy (called a version) is created, so your original photo is never altered. After your first edit to a photo, subsequent edits modify the same version. If you want to create multiple versions of a photo (for example, with different cropping or coloring), click *Photo* > *Create New Version*. To access a photo's original version, click *Photo* > *Version* > *Original*.

1 Select the photo you want to edit.

2 To enter edit mode, click the *Edit Image* icon in the toolbar, double-click the image, or press Enter.



3 Choose from the following edit functions, using the buttons of the sidebar to the left or the entries from the *Edit* menu:

Function	Description
Crop	Cropping an image is a great way to improve the quality of a photograph by improving how it is framed. You crop a photo by selecting the part of

Function	Description
	the photo you want to keep. If you want your photo to be the exact dimensions necessary for a certain print size, you can constrain the kind of selection F-Spot will allow you to draw by choosing the appropriate size from the *Constraint* drop-down list. See the description of the Remove Red-Eye function for details on making a selection on your photo. After you make your crop selection, click the *Crop* icon beneath the photo to finalize the crop. If you are working with the original photo, cropping creates a new version of your photo.
Red-Eye Reduction	To remove red-eye from a photo, select a zone containing the eyes. You might want to zoom in on the image to accurately select the eyes in the photo. You should be able to correct both eyes on the same person at once, or even the eyes from multiple people at once. If this does not work, or if the selected zone contains some vivid red parts (such as lips), you will probably have to correct one red eye at a time. To make your selection, click one corner of the rectangle that will be your selection, then drag your mouse to the diagonal corner and release it. You can resize your selection by dragging its edges, and you can move it by clicking in the middle of it and dragging it to where you want it. After you have selected a zone, remove the red by clicking the *Red-eye* icon beneath the photo.
Desaturate	Converts the photo to black and white.
Sepia Tone	Converts the photo to sepia tones.

Function	Description
Straighten	The Straighten effect helps you level a photo and is useful when editing landscapes taken without a tripod (when the imaginary line of horizon is not at 0°). This tool rotates a photo by a specified angle and automagically crops the resulted image so that you always see a perfect rectangle.
Soft Focus	Sharpening one region of a picture while blurring all the rest is a way to emphasize a particular area and grab attention. The soft focus effect is a way to emulate a lens that allows shooting with a short distance in front of and beyond the subject that appears to be in focus. Choose the central point of the area you want to be in focus, then click the *Soft Focus* icon beneath the photo. Adjust the amount of blurring, then click *Apply*.
Auto Color	This effect automatically adjusts color levels to make a color-balanced picture. It works best for pictures taken with automatic white balance. Click the *Automatically adjust the colors* icon to access this feature.
Adjust Colors	To adjust the brightness, contrast, and colors of a photo, click the *Adjust the photo colors* icon to open the adjustment dialog box. Change the settings you want, then click *OK*.
Adjust Time	Access this function by clicking *Edit* > *Adjust Time*. Adjust date and time, then click *OK*.
Sharpen	Access this function by clicking *Edit* > *Sharpen*. Adjust the values for *Amount*, *Radius*, and *Threshold* to your needs, then click *OK*.

Function	Description
Comment	You can add a description or a comment to a photo by clicking the text entry box below the photo and entering text.

4 (Optional) If you want to edit another photo, use the arrow keys on the toolbar at the right to switch to a new photo.

5 To exit the edit mode, click *Browse* on the toolbar.

TIP

Professional image editing can also be done with The GIMP. For more information, see Chapter 19, *Manipulating Graphics with The GIMP* (page 203).

21.8 Sharing Photos

You can use either of the following methods to share your photos using F-Spot. Both methods share only the photos you have selected when you run them.

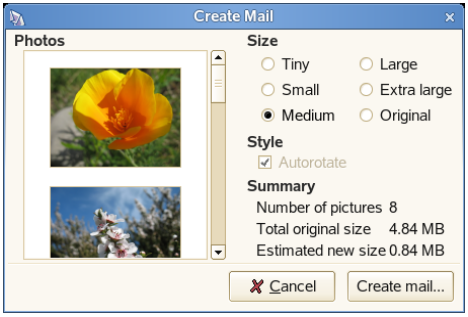
- Section 21.8.1, "E-mailing Photos" (page 258)
- Section 21.8.2, "Printing Photos" (page 259)

21.8.1 E-mailing Photos

You can e-mail your photos directly from F-Spot, sending them as-is (original size) or resizing them.

1 Select the photos you want to e-mail.

2 Click *Photo* > *Send by Mail*.



3 Select a size for your photos.

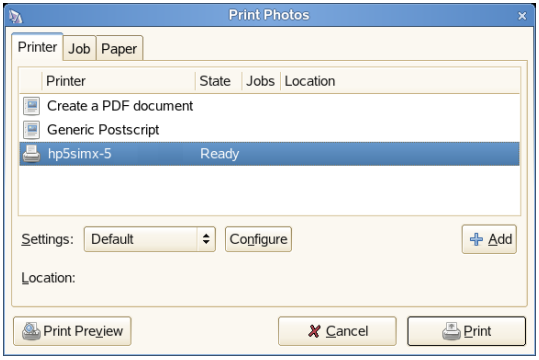
4 Click *Create Mail*.

Your default e-mail program opens, with your photos attached to a new mail message.

21.8.2 Printing Photos

1 Select the photos you want to print.

2 Click *Photo* > *Print*.



3 Select the print options you want, such as the printer you want to use or the page orientation, then click *Print* to print your photos.

Part VI. Multimedia

Playing Music and Movies: amaroK, Kaffeine and More

22

During installation, YaST normally identifies and configures the sound cards of your computer automatically. Otherwise (or if you installed a new sound card), start YaST and configure the sound card manually in the *Sound* module. For details, refer to Section "Setting Up Sound Cards" (Chapter 2, *Setting Up Hardware Components with YaST*, ↑Start-Up). When your sound card has been configured, you can control the volume and balance with a mixer and start other sound applications.

Linux includes a wide range of sound and multimedia applications. Some of these applications are installed on your Linux system by default. With the applications described here, control the volume and balance of playback and play CDs, music and movie files. You can also record and compress your own audio data.

In case one of the listed applications is not installed by default on your system, use YaST to install the missing packages. Use the search function of the YaST package management tool to find the package names. For details on installing software, see Chapter 3, *Installing or Removing Software* (↑Reference).

22.1 Mixers

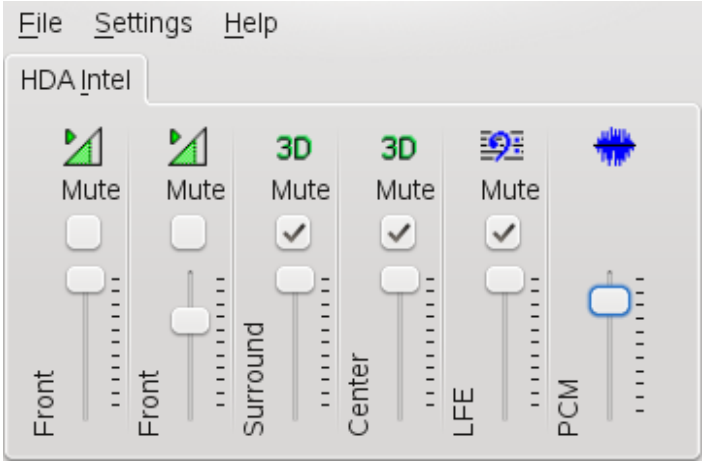
Mixers provide a convenient means of controlling the volume and balance of the sound output and input of computers.

The main difference between the various mixers is the outer appearance of the user interface. However, there are a number of mixers that are designed for specific hardware. From the mixers available, select the one that best suits your needs.

The default KDE mixer application is KMix. If the mixer icon (a loudspeaker symbol) is not visible in the panel of your desktop, press Alt + F2 and enter `kmix` or start the mixer from the main menu. By default, clicking the KMix icon in the system tray shows the master controller with which to increase or decrease the overall volume. To fine-tune your sound settings for several channels, right-click the KMix icon and select *Show Mixer Window*.

You can mute and increase or decrease the volume for all of the channels separately. If you need or want to change the channel to be used as master channel, right-click the KMix icon and click *Select Master Channel*. If you want more or less channels to appear in the mixer window, select *Settings* > *Configure Channels* and select the ones you want to show.

Figure 22.1 *The KMix Mixer*



TIP: Starting the Mixer

Generally, it is advisable to open a mixer application before opening other sound applications. Use the mixer to test and adjust the control settings for the input and output of the sound card.

22.2 Playing Music Files

In Linux, find a variety of programs for playing music files, such as Ogg Vorbis, or WAV files. Ogg Vorbis is a free audio compression format that is now supported by the majority of audio players and even portable MP3 players. The file types supported by the applications depend on the engine used.

NOTE: Playing MP3 Files

openSUSE® also comes with MP3 support. If your music collection consists of both MP3 and Ogg Vorbis files, you do not need to convert any files to a different format. Just open amaroK (KDE) and start listening.

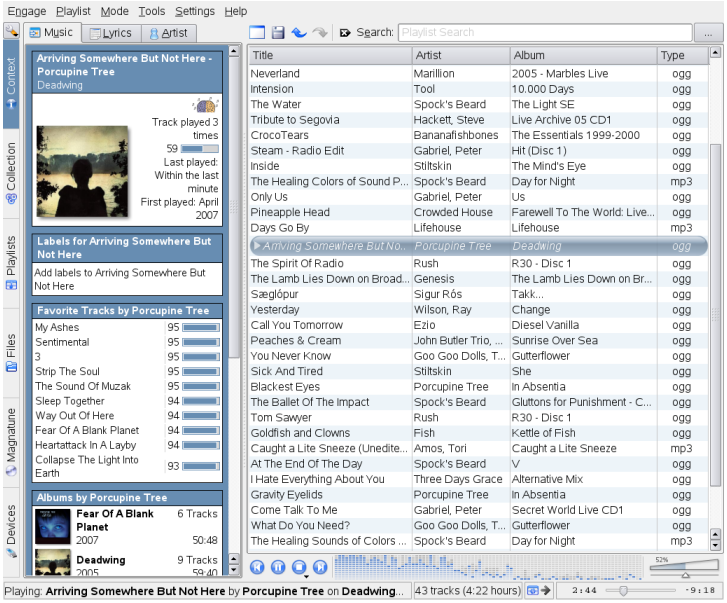
22.2.1 amaroK Media Player

The KDE 4 amaroK version is already available, but not installed by default. If you want to use the KDE 4 version, install the `kde4-amarok` package. This section describes the KDE 3 version of amaroK (`amarok` package) you can also use on your KDE 4 desktop.

The amaroK music player allows you to play various audio formats, create playlists, import music from removable media such as portable MP3 players or external hard disks (or upload files to removable media), and listen to streaming audio broadcasts of radio stations on the Internet. The file types supported depend on the engine used.

On first start, amaroK launches a *First-Run Wizard* with which to define the folders where amaroK should look for your music files. All the settings made with the wizard can be modified later in the configuration dialog by selecting *Settings* > *Configure AmaroK*.

Figure 22.2 *The amaroK Media Player*



Quick Start

On start-up, amaroK scans the folders that are part of your collection for music files. Although you can use amaroK without building a collection, it is recommended to do so, because most of the powerful, advanced features are only available with an existing collection.

The amaroK main window is divided into two parts. The sidebar on the left providing different views: your music collection, a context browser, your playlists, a file browser, etc. Change the browser by clicking a tab on the far left. The right part contains the playlist window and, below it, the player (if you have not configured it to be shown in a separate window).

To play music, just drag and drop items from any of the sidebar browsers to the playlist area. Use Shift or Ctrl to select multiple items. Double-click an item in the playlist to play it. You can add or delete items from the list during playback with the context menu. Use the icons located above the playlist area to *Clear* the playlist, to *Save playlist as*, to *Undo* and *Redo* changes or to *Search* for a certain track. To manipulate play modes,

either click the *Repeat* or *Random* icons in the amaroK status bar several times to switch mode or select the desired *Mode* from the main amaroK menu.

The Sidebar Browsers

Context

With this tab, view information and statistics related to the track currently being played. Switch to different views within the *Context* browser by clicking the tabs on top of the sidebar. For example, click *Artist* to make amaroK search for the appropriate Wikipedia article, which is then displayed in the context browser. To view a track's lyrics, click the *Lyrics* tab to start a search and display the results. The *Music* tab shows the album cover, if available, (see Section "The Cover Manager" (page 268)) and the listening statistics related to the current track.

Collection

Use this view to manage and display your personal collection of titles. The toolbar on top of the browser allows you to configure the way your collection is displayed and to reorganize the collection. Define the order your titles are displayed in the browser with *Group By*. You can choose between predefined criteria or create your own sort criteria using *Primary*, *Secondary*, and *Tertiary*. The next four icons let you toggle between tree view, flat view and iPod* view or *Show dividers* for better overview in large music collections. Use the wrench icon to add or delete folders amaroK should scan for music to add to your collection.

To search or filter your collection for a certain track or album, enter the title (or part of it) in the search field at the top. Each character you enter narrows down the search and the selection in the browser is adjusted as you type. To search for certain metadata such as *Genre* or *Bitrate* or to combine several search options, click the button to the right of the search field to open the *Edit Filter* dialog.

Playlists

You can access different playlists with the playlist browser. *Playlists* holds your personal playlists found in your collection folders. Every time you create and save a new playlist from the playlist window, it appears here. Right-click the *Playlist* folder to create or import a new playlist or to add a subfolder. To add new items from the playlist window to an existing playlist, just drag and drop them on the playlist in the browser window.

IMPORTANT: Sharing Playlists with Other Players

Save playlists in `m3u` format, so you can share them with any other players using this format.

Smart Playlists offer various views of your collection, such as tracks never played, newest tracks, or tracks by genre. For example, to create a random playlist from your collection, select *50 random Tracks* and drag the entry to the playlist area. Right-click the *Smart Playlists* folder to add subfolders or to create your own smart playlists.

Radio Streams lets you listen to live radio streams from the Internet. An extensive list is already shipped with amaroK. Right-click to add more or create subfolders.

Podcasts imports podcasts to amaroK. Right-clicking opens a menu where you can add podcasts and subfolders, refresh all podcasts, or set the scan interval.

Files
: This tab opens a file browser which corresponds to the standard KDE file manager dialog. Use the icons at the top to navigate the file system, change the view or to create bookmarks. Enter a URL or a path directly into the text input field. From the contents displayed, drag elements to the playlist to include them.

Magnatune
: On this tab, you can establish a connection to the Magnatune store where you can purchase music online. Click *Update* to view the available albums and titles at magnatune.com. Sort the album list by *Genre* and listen to some tracks with amaroK. To buy music, click *Purchase Album* and enter your payment details.

Devices
: If you own portable MP3 players or external hard disks, use this browser to configure your portable device and to access it from amaroK.

The Cover Manager

With amaroK, you can assign a cover to each album of your collection. With the *Cover Manager*, easily add, delete, and retrieve album covers.

Start the cover manager with *Tools* > *Cover Manager*. A tree view in the left part of the window lists all artists in your collection. The main part of the window lists the

covers of all albums. To filter the covers displayed, click an individual artist in the tree view or enter a term in the input field at the top of the window. Use *View* to toggle between displaying all albums, albums with covers, or albums without covers.

There are three different methods for assigning covers to the albums:

Automatically Assign Covers
: amaroK can automatically fetch all missing covers displayed in the main windows from Amazon. Use *Amazon Locale* to determine from which Amazon Web server the covers should be fetched then click *Fetch Missing Covers*.

IMPORTANT: Proper Tagging Needed

amaroK fetches the covers from Amazon using the query string `Artist - Album`. This information is extracted from the tags of your music files. The better they are tagged, the better the hit rate is when automatically fetching covers.

Manually Choose a Cover Fetched from Amazon
: If you want more control over what image to use and what query string to use to retrieve a cover, right-click an album in the main window and choose *Fetch From amazon.com*. *Next Cover* lets you cycle through all images available. *Save* selects the actual cover and assigns it to the album selected. If you are not satisfied with the covers displayed, use *New Search* to refine the search. Use *Amazon Locale* from the toolbar of the main window to determine from which Amazon Web server the covers should be fetched.

Manually Assign Covers
: If you already have your own cover images, you can assign them by right-clicking an album and choosing *Set Custom Cover*.

Visualizations

If visualizations for amaroK are installed, you can select various graphical effects for the music played with *Tools* > *Visualizations*. Native amaroK visualizations are displayed in the player window. Cycle through the various available display modes by clicking the animation.

The amaroK Tray Icon

Like other KDE applications, amaroK adds an icon to the KDE system tray. You can use this icon to control a large number of amaroK's features. Hovering the mouse pointer over the icon displays information about the track currently played, by scrolling the mouse wheel simultaneously you can reduce or increase the playback volume. A single left-click closes the application window without affecting playback. Click again to reopen the window. Clicking with the middle mouse button pauses playback—middle-click again to resume playback. Right-clicking opens a context menu where you have access to the player controls and can exit amaroK.

Using the Shift and Ctrl keys together with the mouse gives you access to more advanced features. Holding Shift while scrolling the mouse wheel seeks through the current track. Holding Ctrl while scrolling the mouse wheel skips through tracks in the playlist.

You may also drag items and drop them on the tray icon to add them to the current playlist. A pop-up menu opens, asking whether to append the track to the playlist, append and play it, or queue it after the current track.

22.2.2 JuK Jukebox

JuK (`kde4-juk` package) is a jukebox application that lets you manage your music file collection and playlists. JuK maintains a list of all files it knows about. This is called the collection list. The list is specific to JuK and is not shared with other applications. Independent of the collection list are playlists. You can have as many playlists as you want and you can share your JuK playlists with other media players. You can also edit the tags of your music files.

Start JuK with the main menu or press Alt + F2 and enter `juk`. On first start-up, you are prompted for the folders Juk should scan for your music collection. Find more information about JuK in the online help.

22.3 Handling Audio CDs

There are many ways to listen to your favorite music tracks. Either play a CD or play digitized versions of them. The following section features some CD player applications as well as some applications that can be used for digitizing audio CDs.

For information about how to create your own CDs, refer to Chapter 25, *Burning CDs and DVDs With K3b* (page 305).

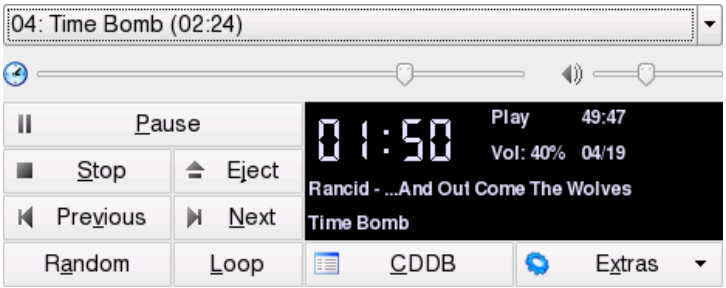
IMPORTANT: CDDA and Analog CD Playback

There are two different ways of playing audio CDs. CD and DVD drives capable of analog CD playback read the audio data and send it to the sound output device. Some external drives connected via PCMCIA, FireWire, or USB need to use CDDA (Compact Disk Digital Audio) to extract the audio data first then play it as digital PCM. The players featured in the following sections do not support CDDA. Use XMMS if you need CDDA support.

22.3.1 KsCD—Audio CD Player

KsCD is an easy-to-use audio CD player included in the `kde4-kscd` package. If it is installed, press Alt + F2 and enter `kscd` to start the application. KsCD integrates into your KDE panel and can be configured to start playing automatically after a CD has been inserted. To access the configuration menu, select *Extras* > *Configure KsCD*. Fetch album and track information from a CDDB server on the Internet if KsCD is configured accordingly. You can also upload CDDB information to share it with others. Use the *CDDB* dialog for information retrieval and upload.

Figure 22.3 *The KsCD User Interface*



22.3.2 Compressing Audio Data: Ripping

Audio compression can be handled by various tools. The following sections feature a command line approach to encoding and playing audio data as well as some graphical applications capable of audio compression.

Command Line Tools for Encoding and Playback of Audio Data

Ogg Vorbis (package `vorbis-tools`) is a free audio compression format that is now supported by the majority of audio players and even portable MP3 players. The Web page of the project is `http://www.xiph.org/ogg/vorbis`.

Your system comes with several tools supporting Ogg Vorbis. `oggenc` is a command line tool used for encoding WAV files to Ogg. Just run `oggenc myfile.wav` to transform a given `.wav` file into Ogg Vorbis. The `-h` option displays an overview of the other parameters. Oggenc supports encoding with a variable bit rate. In this way, an even higher degree of compression can be achieved. Instead of the bit rate, specify the desired quality with the parameter `-q`. `-b` determines the average bit rate. `-m` and `-M` specify the minimum and maximum bit rate.

ogg123 is a command line Ogg player. Start it with a command like `ogg123 mysong.ogg`.

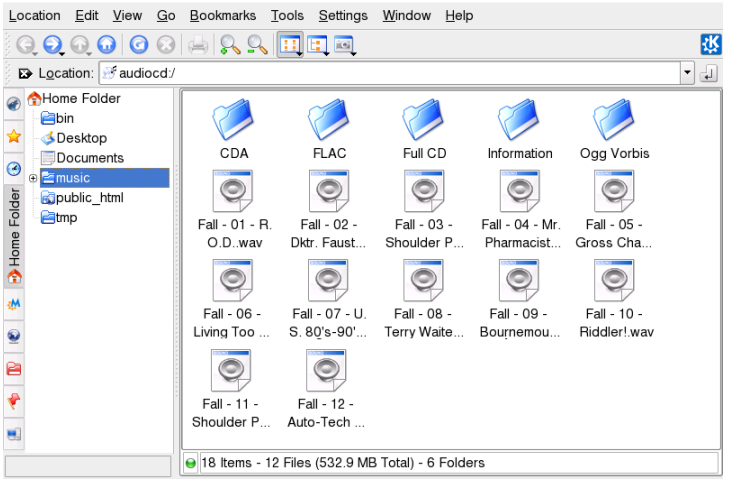
Compressing Audio CDs Using Konqueror

Konqueror is not only a browser and a file manager, it also allows you to rip audio CDs. Before you start the actual ripping process with Konqueror, configure the handling of audio CDs and the Ogg Vorbis encoder in the Personal Settings. From the main menu select *Configure Desktop*, then click *Advanced* > *Audio CDs*. The configuration module is divided into three tabs: *General*, *Names*, and *Ogg Vorbis Encoder*. Normally, a suitable CD device is detected automatically. Do not change this default setting unless the autodetection failed and you need to set the CD device manually. Error correction and encoder priority can also be set here. The *Ogg Vorbis Encoder* tab determines the quality of the encoding. To configure online lookup of album, track, and artist information for your ripped audio data, select *Add Track Information*.

To start Konqueror, press Alt + F2 and enter `konqueror`. Start the ripping process by inserting the CD into the CD-ROM drive and entering `audiocd:/` in the *Location* bar. Konqueror then lists the tracks of the CD and some folders.

To keep uncompressed audio data on your disk, just select the `.wav` files and drag them into another Konqueror window to copy them to their final destination. To start the Ogg Vorbis encoding, drag the `Ogg Vorbis` folder or files from this folder to another Konqueror window. The encoding starts as soon as you drop the Ogg Vorbis folder at its destination.

Figure 22.4 *Ripping Audio Data with Konqueror*



22.4 Playing Movie Files

You can choose between several movie players shipped with your openSUSE. Kaffeine, for example, can be run with several back-ends, such as Xine and MPlayer.

To start Kaffeine, press Alt + F2 and enter `kaffeine`.

The formats you can view with Kaffeine depends on the back-end (by default, Xine is used). Xine interprets many of the most common multimedia formats available. For more information, refer to `http://xinehq.de/`.

In case the format is not supported by the player's engine, openSUSE offers to search for a suitable codec which you can then install with YaST.

Figure 22.5 *Kaffeine Main Window*

Kaffeine can also play multimedia streamed over the Internet and can be used as a plug-in for Konqueror. It provides the usual options for playing files in full screen mode, navigating through files, and more. You can also take a snapshot of the video and save it as an image.

KDE 4 also ships with Dragon Player (`dragonplayer`) which uses the Phonon technology. Phonon is a multimedia API that connects to any of several multimedia frameworks. To start Dragon Player, press Alt + F2 and enter `dragon`. For more information on using Dragon Player, refer to the online help.

22.5 Troubleshooting

In case you do not get any audio output, check the following:

Sound Card Configured?
: Check if your sound card is properly configured with YaST. For more information, see Section "Setting Up Sound Cards" (Chapter 2, *Setting Up Hardware Components with YaST*, ↑Start-Up).

Volume Control in Mixer Application?

Check the volume control of the master channel and the other channels available in a mixer application. For more information, see Section 22.1, "Mixers" (page 263).

Volume Control via Keyboard?

Many keyboards also have keys for controlling the volume. Check the volume control keys of your keyboard.

Volume Control of the Application?

Most multimedia applications also provide volume controls. Check the volume control in the application you use to play music or movie files.

Sound Configuration in Personal Settings?

Check the defaults for the sound system configuration in the Personal Settings. Access them from the main menu by selecting *Configure Desktop*. In the Personal Settings, click *Sound* in the *Computer Administration* category.

External Devices Plugged In Properly?

In case you have external devices like loudspeaker or headphones connected to your machine, check if they are plugged in properly and if they are connected to the right ports.

Playing and Managing Your Music with Banshee

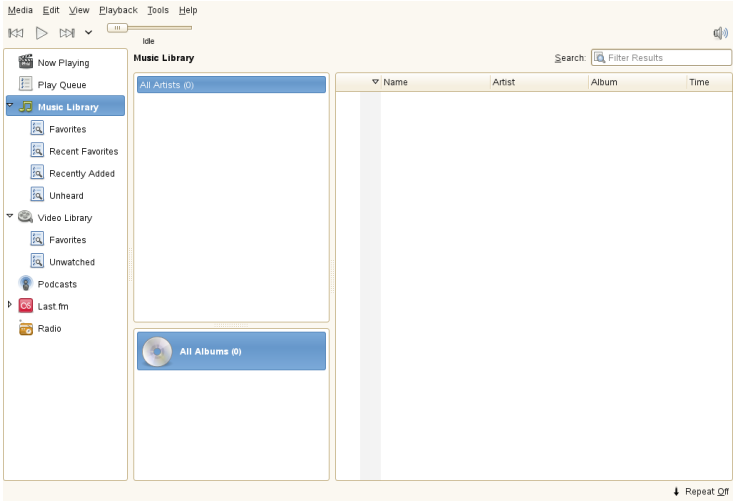
23

Banshee™ is a GNOME media management and playback application that lets you import CDs, sync your music and video collection to an iPod* or other digital audio player, play music directly from an iPod (or other digital audio player), create playlists with songs from your library, create audio and MP3 CDs from subsets of your library, and subscribe to, download, and listen to your favorite podcasts. Banshee also supports streaming audio through its Internet Radio plug-in.

To open Banshee, click *Computer* > *Banshee Media Player*.

The first time you open Banshee, the *Musik Library* window opens ready to import music and videos, or add Internet radio stations.

Figure 23.1 *Banshee Media Player*



23.1 Listening to Music

To listen to music, Banshee needs to know what is available to listen to. You can listen to music in your library, which means that you will need to import music from an external source such as a file, folder, or CD, or you can listen to music directly off a CD. You can also listen to music on Internet radio stations, podcasts, and your digital audio player (see Section 23.3, “Using Banshee with Your Digital Audio Player” (page 287) for more information).

Banshee also comes with MP3 support. If your music collection consists of both MP3 and Ogg Vorbis files, you do not need to convert any files to a different format. Just open Banshee and start listening.

If the format you are trying to play is not supported by the player's engine, Banshee offers to search for a suitable codec which you can then install with YaST.

23.1.1 Importing Music

Banshee can import music from a file, folder, CD, or an alternate music source (such as a digital audio player).

Figure 23.2 *Import Music Library*

1 In Banshee, click *Media* > *Import Media*.

2 Select an import source.

3 Click *Import Media Source*.

23.1.2 Playing Your Music

To play a song, simply select the song in the library and click the play button in the upper left corner. Use the other buttons to pause a song or play the next or previous song. Use the loudspeaker button on the right to adjust the volume. You can also use the items on the *Playback* menu to repeat or shuffle songs.

Banshee also has an integrated CD player. When you insert a music CD, your CD title appears in the left panel. Select the title and click the play button to play your full CD.

Notification Area Icon

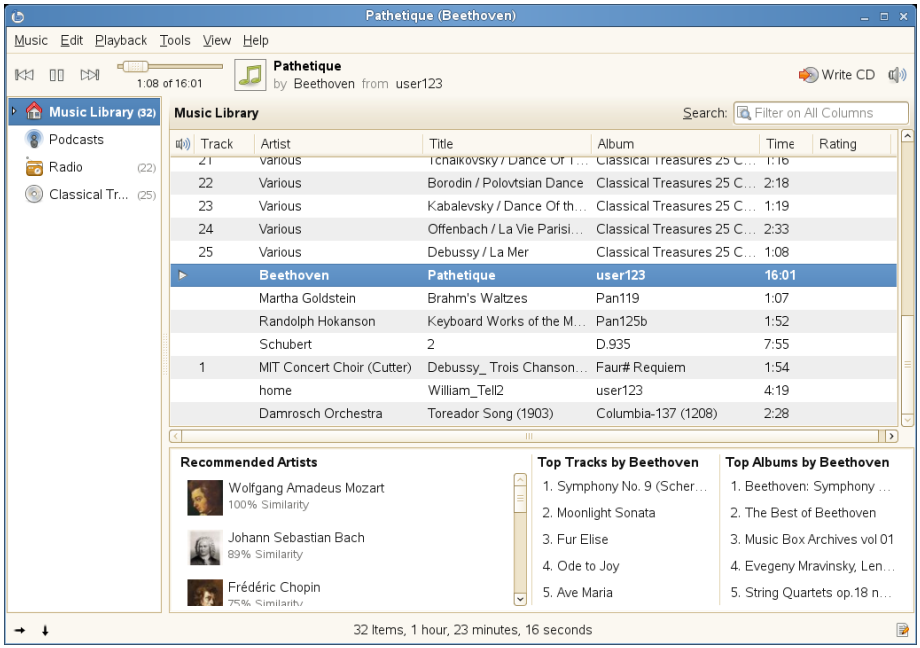
You can keep Banshee hidden in the notification area when you are not interacting with it by minimizing the Banshee window. You will only see pop-up bubbles identifying the current song when track changes happen.

If you do not want to see the pop-ups, click *Edit* > *Preferences* > *Extensions* > *Notification Area Icon* > *Disable*.

Music Recommendations

Banshee automatically recommends music that you might like, based on the currently playing song. It finds artists and popular songs that people with similar musical tastes enjoy.

Figure 23.3 *Banshee Music Recommendations*



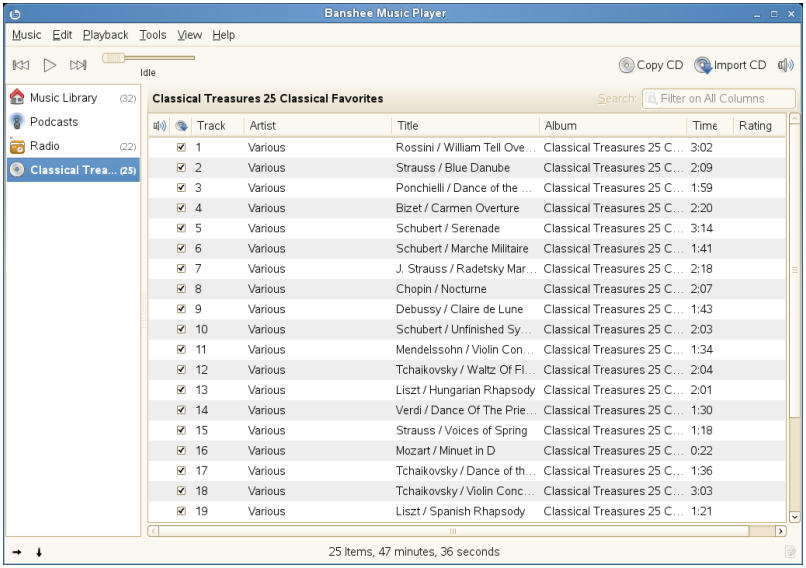
If you do not want to receive recommendations, click *View*, then deselect *Show Recommendations*.

23.1.3 Ripping Your Music

To rip music from a CD and add it to your library:

1. Insert a CD into your CD or DVD drive.

   Banshee automatically lists the CD as a source on the left sidebar.



2 Select the CD title in the source list on the left, then click *Import CD* in the upper right corner.

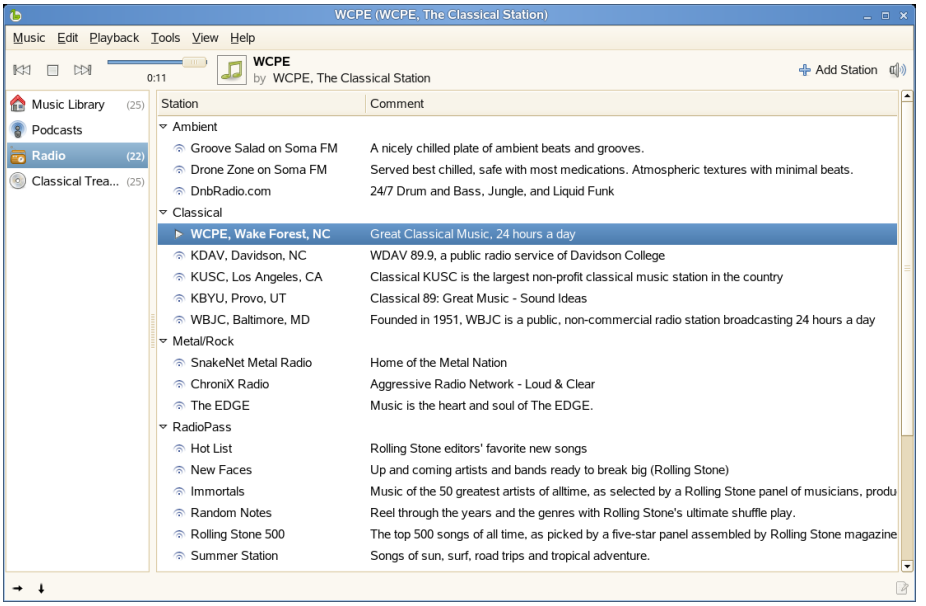
23.1.4 Listening to Internet Radio

You can use Banshee to listen to Internet radio stations and streaming audio. Add your own stations.

Listening to an Internet Radio Station

To listen to Internet radio stations, select *Radio* in the source list on the left, then double-click the station you want to listen to.

Figure 23.4 *Internet Radio Stations in Banshee*



Adding a New Internet Radio Station

1 Right-click *Radio* in the source list, then click *Add Station*.

2 Enter the stream details in the Add new radio station dialog box, then click *Save*.

The new station is added to your list.

23.1.5 Listening to Podcasts

Banshee lets you subscribe, download, and listen to your favorite Podcasts. Podcasting is a form of audio blogging where users subscribe to a feed of shows and the shows's episodes are downloaded and managed for offline listening.

Subscribing to a Podcast

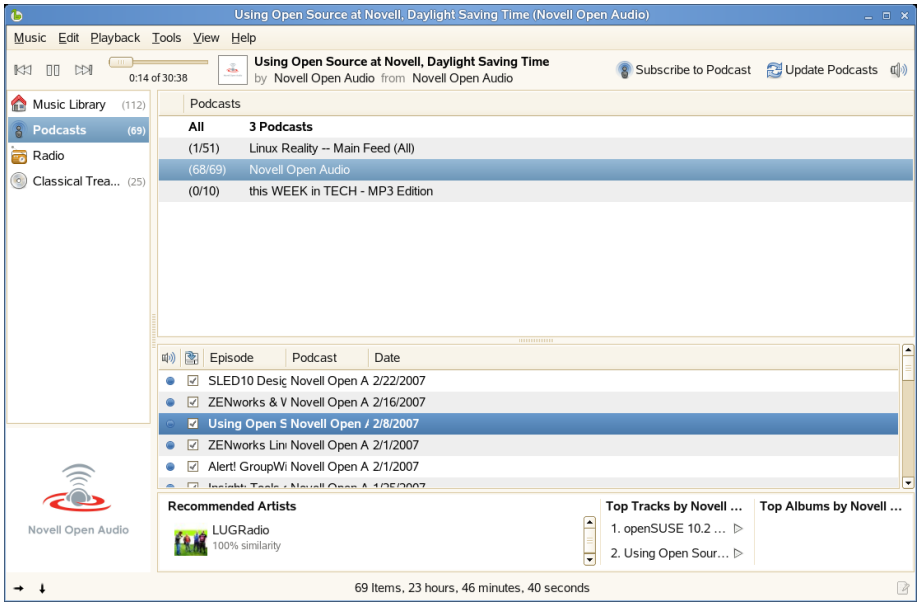
1. Click *Media* > *Subscribe to Podcast*.
2. Enter the URL of the podcast you want to subscribe to.
3. Select from the pull-down menu what happens when new episodes of this podcast are available.
4. Click *Subscribe*.

   The new podcast is added to your list.

Listening to a Podcast

To listen to a podcast, select *Podcasts* in the source list, then double-click the podcast you want to listen to.

Figure 23.5 *Podcasts in Banshee*



Right-click *Podcast* in the source list to update a podcast, subscribe to other podcasts, or find new podcasts.

23.2 Managing Your Music Library

Banshee gives you several ways to organize your music. You can create playlists, which allow you to put similar songs together, and you can sort and rate songs. You can also view a variety of information about your music collection, including playback statistics (when a song was last played and how many times).

23.2.1 Organizing Your Music

To create a new playlist, click *Media* > *New Playlist* (or press Ctrl + N). A new playlist is displayed below *Music Library* in the left panel. To rename it, right-click the playlist, select *Rename* and enter the name you want. To fill the new playlist, drag songs from the right-hand side of the window to the respective playlist entry and drop them, or use the options on the *Edit* menu to remove or delete songs and rename or delete playlists.

You can sort a playlist by clicking the title of the column. Click the column again to reverse the sort. You can also right-click *Music Library*, then click *Sort Playlists*.

You can edit the name of the artist, album, and title, as well as the track number and track count. Simply select a song, then click *Edit* > *Edit Track Information* (E), or in the main window right-click the song and select *Edit Track Information*. You can also rate your music, which gives you the ability to play only songs with a certain rating. To rate a song, select the number of stars you want to assign in the *Rating* field.

Figure 23.6 *Track Editor*

If you want to set all fields in a group to the same value, select multiple songs in a playlist, then click *Edit* > *Edit Track Information*. Make the changes you want, then click *Snyc all field values*. You can also use the *Back* and *Forward* buttons to cycle through the selected songs.

Click the *Properties* tab to view detailed information about the selected song, including the bit rate, the sample rate, when a song was last played, when it was imported, how long the song is, and how many times the song has been played.

23.2.2 Creating Smart Playlists

You can create playlists that automatically add and remove songs based on criteria you specify. For example, a smart playlist can contain songs you rated as five stars but that you have not listened to for six months. Another smart playlist can contain all songs published in 2006 that you have labeled with the *Classical* genre.

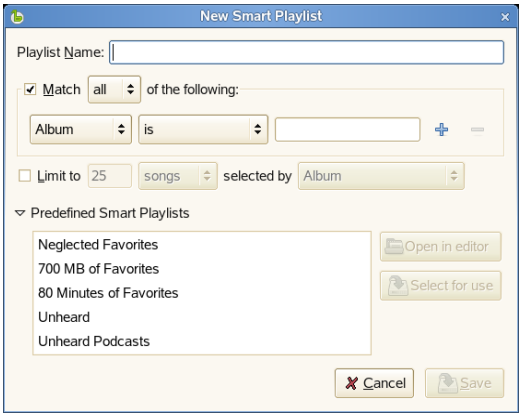
Banshee automatically updates all smart playlists when a change is made to your music library. If you import new songs, Banshee checks to see if they match any of your available smart playlists. When applicable, Banshee also updates your smart playlists if you just listened to a song or updated a song's metadata.

Creating a Smart Playlist

1 Activate *Music Library* in source list on the left side.

2 In Banshee, click *Media* > *New Smart Playlist*.

3 Specify a name for the smart playlist, then select the criteria for songs in this playlist to match.



Use the plus and minus symbols to add or remove criteria. To use an already defined smart playlist, click *Predefined Smart Playlists*, then select the playlist you want.

4 Click *Save*. The smart playlist is added to your music library.

23.3 Using Banshee with Your Digital Audio Player

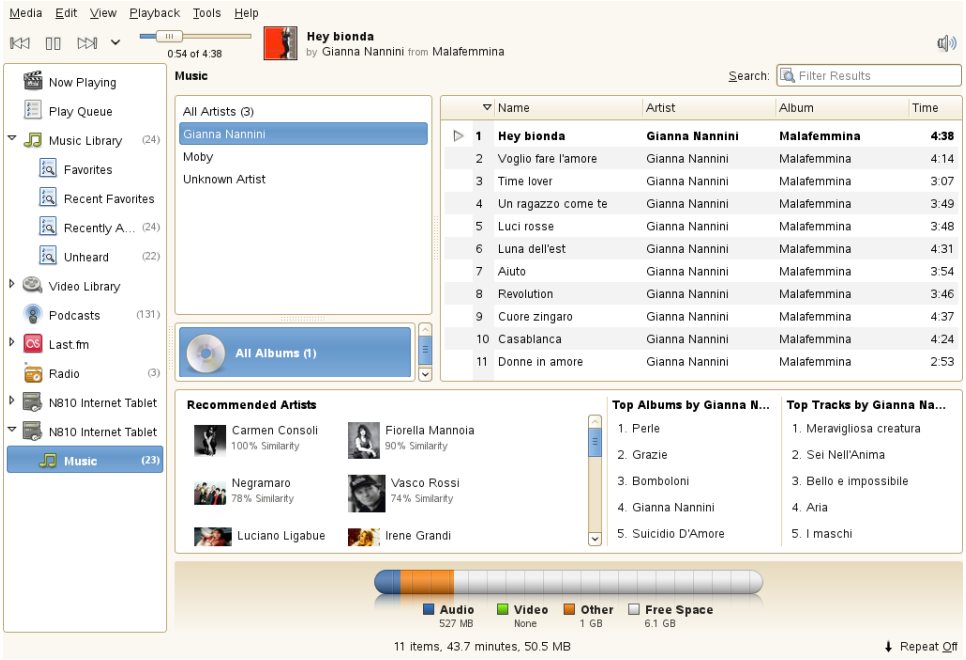
Banshee supports several digital audio players, including Apple* iPods, Creative* Nomads*, Dell* DJs, Nokia* N810, and almost any other generic USB Mass Storage player. Instead of having to use separate applications to get support for your audio devices, Banshee gives you integrated support and lets you copy your music to or from your device, no matter what format the music is in.

23.3.1 Playing Music from your Digital Audio Player

To play music from your digital audio player, simply plug your player into your system. After your system recognizes your device, an icon is displayed in the left panel in Banshee.

Select the icon to display the music on your device in the right panel. Double-click the song you want to listen to.

Figure 23.7 *Banshee MP3 Playback from a Nokia N810*



To view or change device properties, right-click your device, then select *Device Properties*. From there, you can view various pieces of information. For example, if you have an iPod, you can update the owner's name.

Figure 23.8 *Banshee iPod Device Properties*

23.3.2 Adding Music to Your Digital Audio Player

To add tracks to your player, simply drag the tracks you want from your Music Library to your device.

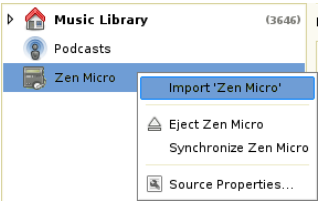
Banshee transparently supports transcoding of your songs for any device. You can have your music library in any number of formats (including, but not limited to, FLAC, Ogg Vorbis, MP3, and AAC), and it will be transparently transcoded before it is sent to your digital audio player.

To remove tracks, select your device in the list of sources, right-click the song you want to delete, then click *Delete from <device_name>*.

23.3.3 Copying Music on Your Digital Audio Player to Banshee

Banshee supports importing music from your digital audio player to your music library. Simply drag and drop the songs from your digital audio player to your Music Library and they are copied automatically. You can also import all of the music on your digital audio player by right-clicking your player in the source list and selecting *Import*.

Figure 23.9 *Importing Music from Your Digital Audio Player to Banshee*



23.3.4 Synchronizing Your Library

To keep your digital audio player up to date with your Banshee Library, select your player in the source list, disable *Manually manage this device*, then click *Synchronize* in the upper right corner.

Banshee also synchronizes your ratings and cover art in your tracks to your iPod.

23.4 Creating Audio and MP3 CDs

1. Insert a blank CD in your CD or DVD drive.
2. Select the songs you want to burn, then click the *Edit* > *Write CD*.
3. Click *Burn*. Brasero start where you can set additional options. For more information about Brasero, see Chapter 26, *Burning CDs and DVDs With Brasero* (page 313).

You can track the status of the burn in the bottom left corner of Banshee. A message box appears when the burn is complete.

4 Click *OK*.

23.5 Sharing Your Music

You can automatically update your online Scrobbler [http://www.last.fm] profile with the music you listen to in Banshee. This lets others see what you are listening to, and gives you access to charts detailing your listening history. If you join groups such as the Banshee Group [http://www.last.fm/group/Banshee], you can also see what other people are listening to.

Before you can share your music, you need to enable the Srobbler plug-in and enable song reporting.

1 In Banshee, click *Tools* > *Last.fm* > *Configure*.

2 If you have already registered with Last.fm [http://www.last.fm/], click *Enable song reporting*, then specify your Last.fm username and password.

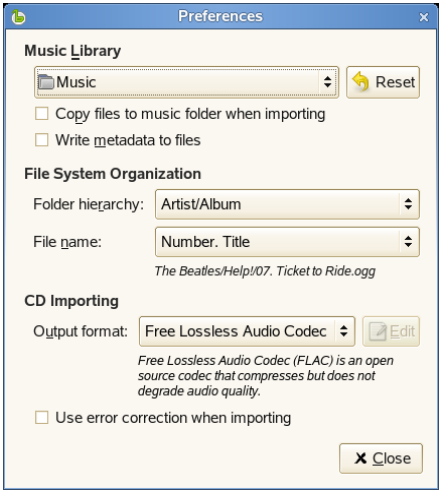
If you have not previously registered with Last.fm, click *Create an account*. This opens the Last.fm Web site where you can register. Click *Enable song reporting*, then specify your Last.fm username and password.

3 Click *Save and Log In*. Banshee starts reporting with the next song you play.

After Scrobbler is configured, use the options on the *Tools* > *Last.fm* > *Enable Song Reporting* menu to enable or disable song reporting, visit your user profile Web page, or visit the Web site of any Scrobbler groups you belong to.

23.6 Configuring Banshee Preferences

1 Click *Edit* > *Preferences*.



2 Choose from the following options in the *General* tab:

Music Library
: Lets you specify a music folder location. This location is used when you import music. Click *Copy files to music folder when importing* to place a copy of the files you import in your Banshee music folder.

File System Organization
: Lets you determine folder hierarchy in the music library, and how filenames are displayed.

Miscellaneus
: Lets disable features requiring Internet access.

For example, choose from the *Audio CD* tab:

Audio CD Importing
: Lets you determine encoding profiles for CD ripping. Select the output format you want, then click *Edit* to configure advanced options for that format.

Use error correction when importing

The error correction tries to work around problem areas on a disk, such as surface scratches, but can substantially slow down the time it takes to import.

In the *Extensions* tab enable or disable features such as *Cover Art Fetching* or *Internet Radio*.

3 Click *Close* to save your changes.

24 Playing Videos with Totem

Totem is the default movie player for the GNOME desktop. Totem provides the following multimedia features:

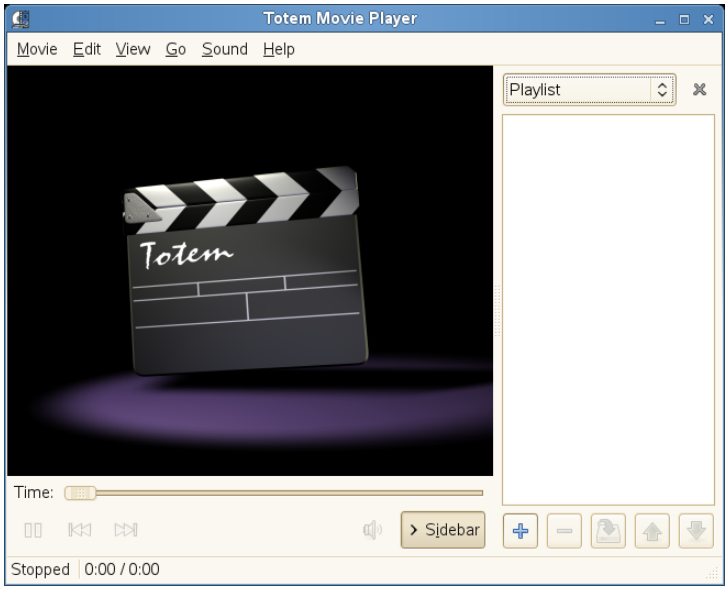
- Support for a variety of video and audio files
- A variety of zoom levels and aspect ratios, and a full screen view
- Seek and volume controls
- Playlists
- Complete keyboard navigation
- Video thumbnailer for GNOME
- Nautilus properties tab

To start Totem, click *Computer* > *More Applications* > *Audio & Video* > *Totem*.

24.1 Using Totem

When you start Totem, the following window is displayed.

Figure 24.1 *Totem Movie Player Start Up Window*



24.1.1 Opening a Video or Audio File

1. Click *Movie* > *Open*.

2. Select the files you want to open, then click *Add*

You can also drag a file from another application (such as a file manager) to the Totem window. Totem opens the file and plays the movie or song. Totem displays the title of the movie or song beneath the display area and in the titlebar of the window.

NOTE: Unrecognized File Format

If you try to open a file format that Totem Movie Player does not recognize, the application displays an error message and proposes a suitable codec.

You can double-click a video or audio file in the Nautilus file manager to open it on the Totem window.

24.1.2 Opening a Video or Audio File By URI Location

1. Click *Movie* > *Open Location*.
2. Specify the URI location of the file you want to open, then click *Open*.

24.1.3 Playing a DVD, VCD, or CD

To play a DVD, VCD, or CD, insert the disc in the optical device of your computer, then click *Movie* > *Play Disc*.

To eject a DVD, VCD, or CD, click *Movie* > *Eject*.

To pause a movie or song that is playing, click the button, or click *Movie* > *Play/Pause*. When you pause a movie or song, the statusbar displays *Paused* and the time elapsed on the current movie or song stops.

To resume playing a movie or song, click the button, or click *Movie* > *Play / Pause*.

To view properties of a movie or song, click *View* > *Sidebar* to make the sidebar appear, then click *Properties* in the drop-down list. The dialog contains the title, artist, year, and duration of movie or song, video dimensions, codec and framerate, and the audio bitrate and codec.

24.1.4 Seeking Through Movies or Songs

To seek through movies or songs, use any of the following methods:

To skip forward
: To skip forward a movie or song, click *Go* > *Skip Forward*.

To skip backward
: To skip backward a movie or song, click *Go* > *Skip Backward*.

To move to next movie or song

To move to the next movie or song, click *Go > Next Chapter/Movie,* or click the button.

To move to previous movie or song

To move to the previous movie or song, click *Go > Previous Chapter/Movie*, or click the button.

24.1.5 Changing the Zoom Factor

To change the zoom factor of the display area, use any of the following methods:

To zoom to full screen mode

Click *View > Fullscreen*. To exit fullscreen mode, click the Leave Fullscreen button or press Esc.

To zoom to half size (50%) of the original movie or visualization

Click *View > Fit Window to Movie > Resize 1:2*.

To zoom to size (100%) of the original movie or visualization

Click *View > Fit Window to Movie > Resize 1:1*.

To zoom to double size (200%) of the original movie or visualization

Click *View > Fit Window to Movie > Resize 2:1*.

To switch between different aspect ratios, click *View > Aspect Ratio*. The supported aspect ratios include:

- Auto
- Square
- 4:3 (TV)
- 16:9 (Widescreen)
- 2.11:1 (DVB)

The default aspect ratio is *Auto*.

24.1.6 Showing or Hiding Controls

To hide Totem window controls, click *View* > *Show Controls* to deselect the Show Controls option. To show the controls on the Totem Movie Player window, right-click the window, then select *Show Controls*.If the Show Controls option is selected, Totem Movie Player shows the menubar, time elapsed slider, seek control buttons, volume slider, and statusbar on the window. If the Show Controls option is not selected, the application hides these controls and shows only display area.

24.1.7 Managing Playlists

To show the playlist, click *View* > *Sidebar*, then click *Playlist* at the top of the sidebar. The Playlist dialog box is displayed.

You can use the Playlist dialog box to do the following:

- **To add a track or movie:** Click the *Add* button. Select the file you want to add to the playlist, then click *OK*
- **To remove a track or movie:** Select the filenames from the filename list box, then click *Remove*.
- **To save a playlist to file:** Click the *Save* button, then specify a filename
- **To move a track or movie up the playlist:** Select the filename from the filename list box, then click the *Up* button.
- **To move a track or movie down the playlist:** Select the filename from the filename list box, then click the *Down* button

To hide the playlist, click *View* > *Sidebar*, or click the Sidebar button.

To enable or disable repeat mode, click *Edit* > *Repeat Mode*. To enable or disable shuffle mode, click *Edit* > *Shuffle Mode*.

24.1.8 Choosing Subtitles

To choose the language of the subtitles, click *View* > *Subtitles*, then select the subtitles language you want to display.

To disable the display of subtitles, click *View* > *Subtitles* > *None*.

By default, Totem Movie Player chooses the same language for the subtitles that you use on your computer.

Totem Movie Player automatically loads and displays subtitles if the file that contains them has the same name as the video file and has an `asc`, `txt`, `sub`, `smi`, or `ssa` file extension.

24.1.9 Taking Screenshots

To take a screenshot of a movie or a visualization of song that is playing, click *Edit* > *Take Screenshot*. You can save a screenshot to either of the following:

- **File:** Select *Save screenshot to file*, then click the *Browse* button to specify a filename.
- **Desktop:** Select *Save screenshot to the desktop*.

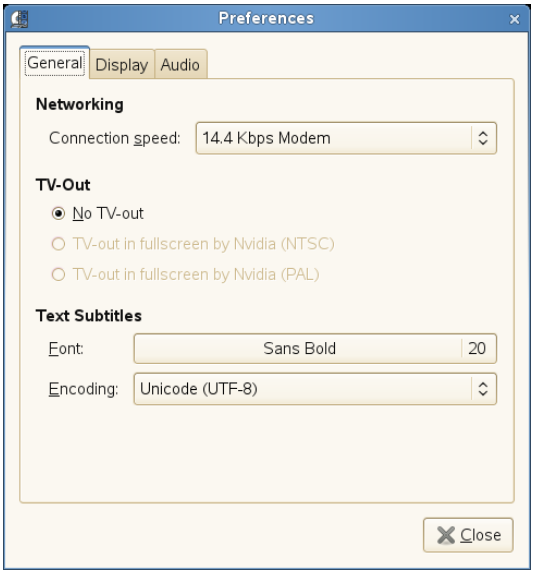
24.2 Modifying Totem Movie Player Preferences

To modify Totem Movie Player preferences, click *Edit* > *Preference*s. You can modify the following:

24.2.1 General Preferences

The Totem General Preferences let you select a network connection speed, specify a TV-out connection type, and change the font and encoding used to display subtitles.

Figure 24.2 *Totem General Preferences*



General Preferences include the following:

Networking
: Select network connection speed from the Connection speed drop-down list box.

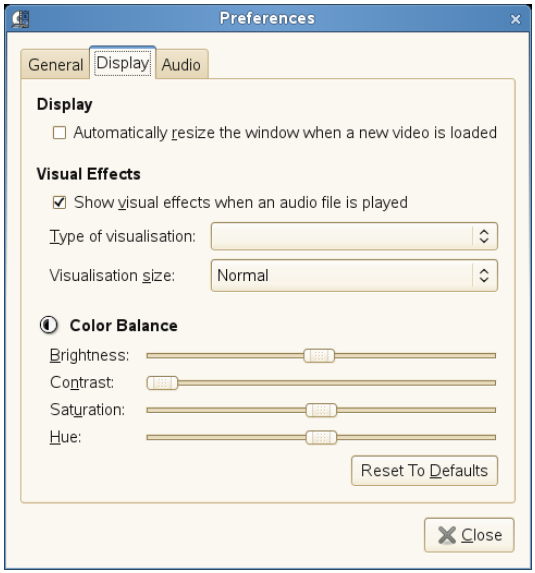
TV-Out
: Select *No TV-out* if you have no TV-out connection (this option is selected by default if you don't have a TV-out interface). Select *TV-out in fullscreen by Nvidia (NTSC)* if you want TV-out connection in NTSC, or select *TV-out in fullscreen by Nvidia (PAL)* if you want TV-out connection in PAL.

Text Subtitles
: Lets you change the font and encoding used to display subtitles.

24.2.2 Display Preferences

The Totem Display Preferences let you choose to automatically resize the window when a new video is loaded, change the color balance, and configure visual effects when an audio file is played.

Figure 24.3 *Totem Display Preferences*



Display Preferences include the following:

Automatically resize the window when a new video is loaded
: Select this option if you want Totem Movie Player to automatically resize the window when a new video is loaded.

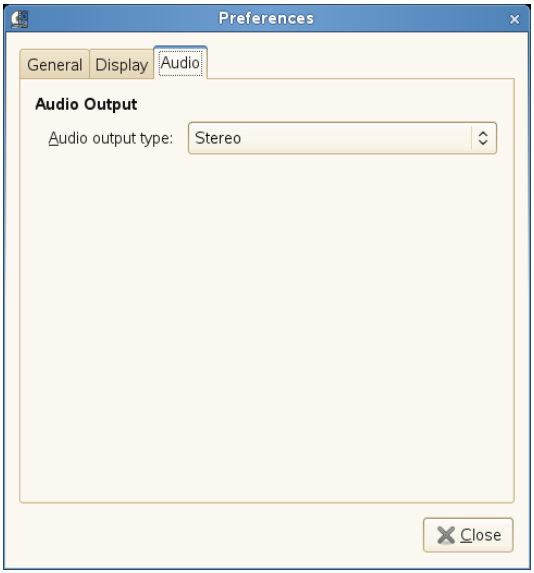
Visual Effects
: You can choose to show visual effects when an audio file is playing, select the type of visualization you want to show, and the visualization size.

Color Balance
: Specify the level of color brightness, contrast, saturation, and hue.

24.2.3 Audio Preferences

The Totem Audio Preferences dialog box lets you select the audio output type.

Figure 24.4 *Totem Audio Preferences*



Burning CDs and DVDs With K3b

25

K3b is a comprehensive program for writing data and audio CDs and DVDs. Start the program from the main menu or by entering the command `k3b`. The following sections brief you on how to start a basic burning process to get your first Linux-made CD or DVD.

25.1 Creating a Data CD or DVD

To create a data CD or DVD, proceed as follows:

1. Select *File > New Project > New Data CD Project* or *File > New Project > New Data DVD Project*, depending on your project. The project view appears in the lower part of the window .

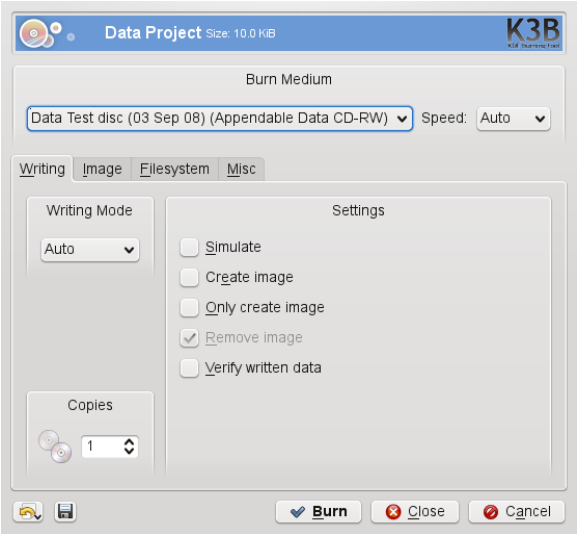
2. Drag the desired directories or individual files from your home directory to the project folder and drop them there.

3. Save the project under a name of your choice with *File > Save as*.

4. Select *Burn* from the toolbar or hit Ctrl + B. A dialog with four tabs offering various options for writing the CD or DVD opens. They are explained in the list below.

5. Start the process with *Burn*.

Figure 25.1 *Customizing the Burning Process*



The *Writing* tab has various settings for the burning device, the speed, and the burning options. The following options are offered here:

Burn Medium

The detected medium and writer are displayed under this pop-up menu. If you have more than one writer installed, choose which one you want to use here. You can select the speed here, too.

WARNING: Select the Writing Speed with Care

Normally, you should select *Auto*, which chooses the maximum writing speed possible. However, if you increase this value but your system is not able to send the data fast enough, you possibly get faulty disks due to buffer underruns.

Writing Mode

This option determines how the laser writes the CD or DVD. For CDs, there are three modes available: DAO (disk at once), TAO (track at once), and RAW. In DAO mode, the laser is not deactivated while the disk is written. This mode is recommended for the creation of audio CDs. In the TAO mode, a separate write process is used for each individual track. The RAW mode is not used very often,

because the writer does not perform any data corrections. For DVDs, there are two modes available: auto or DAO. It is recommended to select *Auto*, because it allows K3b to use the most suitable settings. Do not use the DAO mode if you want to create multisession DVDs.

Simulate
: This function can be used to check if your system supports the selected writing speed. The writing is performed with a deactivated laser to test the system.

Create Image
: This option allows you to create an ISO image of a CD or DVD. This image file is subsequently written to the CD or DVD. Use this option on low performance systems. Set the path for this file under *Temporary File* in the *Image* tab. Checking this option also activates the *Remove Image* option. If you do not want the image to be deleted after burning is finished, uncheck this option.

Only Create Image
: If this option is enabled, the ISO image file is created but it is not subsequently written on CD or DVD. Use this option if you want to write the image on CD or DVD at a later time. To do this, use *Tools* > *Burn CD Image* or *Tools* > *Burn DVD ISO Image*. If this option is used, all other options in this section are deactivated.

Remove Image
: Remove the temporary image file from hard disk when finished.

Verify Written Data
: Check the integrity of the written data by comparing the MD5 sums of the original and the burned data.

The *Image* tab is only useful if the *Create Image* or the *Only Create Image* option is set. In this case, determine the file in which you want to write the ISO.

In the *Filesystem* tab, set the *Volume Name*. If you click *More Fields*, you can add more information about the project, such as its publisher and preparer, copyright information and the application and operating system used in the creation of this project. You are able to set the used *File System* and determine how *Symbolic Links* and *White Space* should be handled.

The *Misc* tab contains two options. The first one, *Datatrack Mode* is available only for CDs. Here you can set up how data tracks should be written. In general, *Auto* is considered the best suited method. The *Multisession Mode* is used to append data to an already written but not finalized medium.

After adjusting all settings to your needs, start the actual burning process using *Burn*. Alternatively, save these settings for future use and adjustment with *Save*.

25.2 Creating an Audio CD

Basically, there are no significant differences between creating an audio CD and creating a data CD. Select *File > New Audio CD Project*. Drag and drop the individual audio tracks to the project folder. The audio data must be in WAV or Ogg Vorbis format. Determine the sequence of the tracks by moving them up or down in the project folder.

With the help of *CD Text*, you are able to add certain text information to a CD, such as CD title, artist name, and track name. CD players that support this feature can read and display this information. To add CD text information to your audio tracks, select the track first. Right-click and select *Properties* and enter your information in the new window that opens. You can also download track information from the Internet by clicking *Query Cddb*.

The dialog for burning an audio CD is not very different from the dialog for burning a data CD. However, the *Disk at Once* and the *Track at Once* modes have greater importance. In TAO mode the laser stops after each track and leaves a short break. The DAO mode uses one uninterrupted session and writes data to your disk sequentially. The *Track at Once* mode inserts an intermission of two seconds after each track.

TIP: Preserving Data Integrity

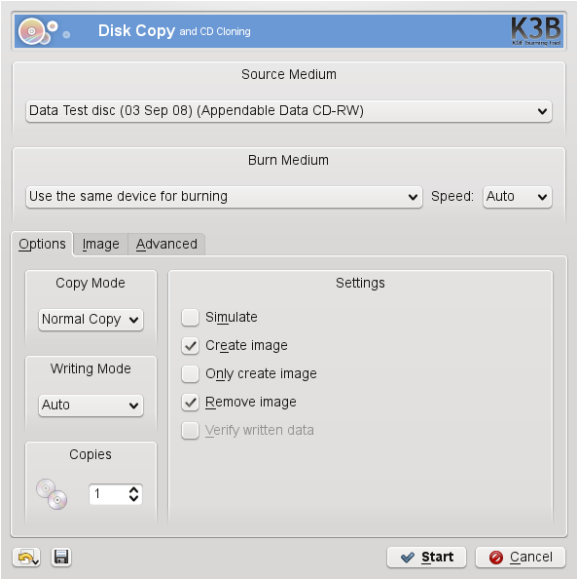
When burning audio CDs, choose a lower burning speed to reduce the risk of burning errors.

After adjusting all settings to your needs, start the actual burning process using *Burn*. Alternatively, save these settings for future use and adjustment by clicking on the floppy disk icon.

25.3 Copying a CD or DVD

Select *Tools* > *Copy Medium...*. In the dialog that opens, choose *Source Medium* and *Burn Medium* as shown in Figure 25.2, "Copying a Medium" (page 309). The writing options discussed are also available here. An additional function enables the creation of several copies of the CD or DVD.

Figure 25.2 *Copying a Medium*



Check *Create Image* to cache data to the hard disk before writing them on a target medium. Check *Only Create Image* to create an image in the path specified in the *Image* tab in the *Write Image Files To* option and burn the image later.

25.4 Writing ISO Images

If you already have an ISO image, go to *Tools* > *Burn CD Image* or *Tools* > *Burn DVD ISO Image*. Enter the location of the *Image to Burn* in the window that opens. K3b calculates a check sum and displays it in *MD5 Sum*. Make sure to compare ISO files

you downloaded from the Internet with the MD5 sum provided by the source of the image. If the sums are different, the image has not been downloaded correctly.

Choose the medium and writer to use in *Burn Medium*. Select the speed of writing. Set your preferences, such as number of copies in *Settings*. Their meaning is the same as if creating a new CD or DVD from sratch, see Section 25.1, "Creating a Data CD or DVD" (page 305). To burn the disk, click *Start*.

25.5 Creating a Multisession CD or DVD

Multisession disks can be used to write data in more than one burning session. This is useful, for example, for writing backups that are smaller than the media. In each session, you can add another backup file. The interesting part is that you are not only limited to data CDs or DVDs. You can also add audio sessions to a multisession disk.

NOTE: About Storage Space on Multisession Disks

Be aware that multisession disks need space to keep an account of all the entries from your sessions. This leads to a smaller amount of available space on your disk. The amount depends on the number of sessions.

To start a new multisession disk, do the following:

1. Create your data disk first and add all your files. You cannot start with an audio CD session. Make sure that you do not fill up the entire disk, because otherwise you cannot append a new session.

2. Burn your data with *Project* > *Burn*.

3. In the dialog box that appears, go to the *Misc* tab and select *Start Multisession*. If you want to burn a DVD, do not use the DAO writing mode, because it does not support multisession.

4. Configure other options if needed. See also Section 25.1, "Creating a Data CD or DVD" (page 305).

5. Start the burning session with *Burn*.

After a successful burning process, you have created a multisession disk. As long as the media contains enough space, you can append more sessions if you like. Finish disks with *Finish Multisession* only if you are sure you do not need any new sessions or the space is occupied.

25.6 For More Information

Apart from the functions described above, K3b offers other functions, such as ripping music from audio CDs, rewriting CDs, and more. You can find more informations about K3b at `http://k3b.org/`.

Burning CDs and DVDs With Brasero

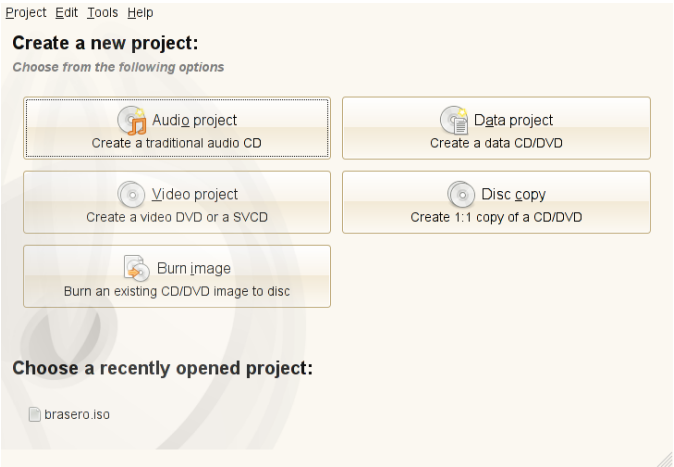
26

Brasero is a program for writing data and audio CDs and DVDs. Start the program from the main menu or by entering the command `brasero`. The following sections brief you on how to start a basic burning process to get your first Linux-made CD or DVD.

26.1 Creating a Data CD or DVD

After starting Brasero for the first time, the main window appears as shown in Figure 26.1 . To create a CD or DVD, click on *Data project*.

Figure 26.1 *Main View of Brasero*

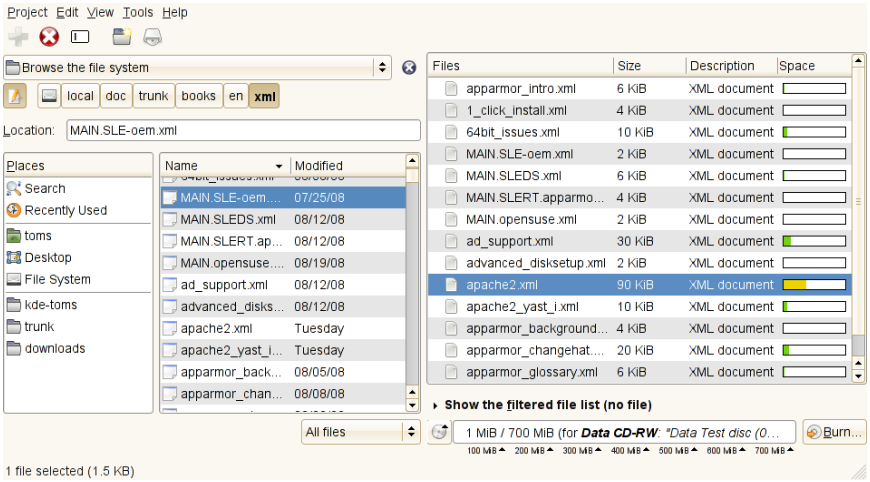


The project view appears. Drag and drop the desired directories or individual files either from your file manager or by clicking on *Add*. To show your directory structure directly in Brasero, select *View* > *Show side panel*. Save the project under a name of your choice with *Project* > *Save As...*. After you are finished, click *Burn*.

A new dialog box appears where you can select the disc device to write to. Alternatively you can save your CD or DVD as a ISO image file. Give your CD or DVD a name in *Label of the disc*, decide if you need compatibility with Windows systems and finish with *Burn*.

An overview of the dialog box can be seen at Figure 26.2 .

Figure 26.2 *Copying Dialog*



26.2 Creating an Audio CD

Basically, there are no significant differences between creating an audio CD and creating a data CD. Proceed as follows:

1. Select *Project* > *New Project* > *New Audio Project*.

2. Drag and drop the individual audio tracks to the project folder. The audio data must be in WAV or Ogg Vorbis format. Determine the sequence of the tracks by moving them up or down in the project folder.

3 Click *Burn* to open the Disc burning setup dialog box.

4 Specify a drive to write to.

5 Click *Properties* to adjust burning speed and other preferences. When burning audio CDs, choose a lower burning speed to reduce the risk of burning errors.

6 Click *Burn*.

26.3 Copying a CD or DVD

To copy a CD or DVD, proceed as follows:

1 Click *Disc Copy* or go to *Project* > *New Project* > *Copy Disc...*. The CD/DVD copy options dialog box opens.

2 Specify the source drive you want to copy.

3 Specify a drive or image file to write to.

4 If necessary, change the burning speed, the temporary directory and other options in *properties*.

5 Click *Copy*.

26.4 Writing ISO Images

If you already have an ISO image, click on *Burn image* or go to *Project* > *New Project* > *Burn Image...*. Choose the medium and writer and change parameters, if necessary, by clicking *Properties*. Choose the location of the image file with the popup menu, labeled *Path*. Start the burning process and click *Burn*.

26.5 Creating a Multisession CD or DVD

Multisession discs can be used to write data in more than one burning session. This is useful, for example, for writing backups that are smaller than the media. In each session, you can add another backup file. The interesting part is that you are not only limited to data CDs or DVDs. You can also add audio sessions in a multisession disc.

To start a new multisession disc, do the following:

1. Start with a data disc first as described in Section 26.1, "Creating a Data CD or DVD" (page 313). You cannot start with an audio CD session. Make sure that you do not fill up the entire disc, because otherwise you cannot append a new session.

2. Click on *Burn*. The *Disc Burning Setup* opens.

3. Select *Leave the disc open to add other files later* to make the disc multisession capable. Configure other options if needed.

4. Start the burning session with *Burn*.

26.6 For More Information

You can find more information about Brasero at `http://www.gnome.org/projects/brasero/`.

Part VII. Appendix

Getting to Know Linux Software

27

Linux* comes with a wealth of applications, often offering more than one solution to specific needs. The difficulty is finding the application that suits your needs best. The next few sections introduce some of the most powerful Linux counterparts of common Windows software. Each section is dedicated to one particular field of application and presents an overview of the Windows applications and Linux equivalents for several tasks. Below each table, find further information about the Linux applications with links to more information. This list is by no means complete, because software development is an evolutionary process and new applications are being created every minute.

TIP: Applications not Installed by Default

Not all applications mentioned below are installed on your system by default and some may not be shipped with your product. If the application you want to use is missing, ask your system administrator. If the application is provided by your product, you can install it with YaST. Use the search function of the YaST software management tool to find the name of the wanted package.

27.1 Office Applications

This section features the most popular and powerful Linux office and business software solutions. These include office suites, databases, accounting software, and project management software.

Table 27.1 *Office Software for Windows and Linux*

Task	Windows Application	Linux Application
Office Suite	Microsoft* Office	OpenOffice.org, StarOffice, KOffice
Word Processor	Microsoft Word, WordPerfect	OpenOffice.org/StarOffice Writer, KWord
Spreadsheet	Microsoft Excel	OpenOffice.org/StarOffice Calc, Gnumeric, KSpread
Presentation	Microsoft PowerPoint	OpenOffice.org/StarOffice Impress, KPresenter
Data Plotting	Microsoft Excel	OpenOffice.org Calc, Kst, Gnuplot, Grace (Xmgr), LabPlot
Local Database	Microsoft Access	OpenOffice.org Base, Rekall, kexi, Mergeant, PostgreSQL
Financial Accounting	Microsoft Money, Quicken	GnuCash, KMyMoney
Project Management	Microsoft Project	Planner, Taskjuggler
Mind Mapping	MindManager, Free Mind	VYM (View Your Mind), Free Mind, KDissert

27.1.1 Office Suites

OpenOffice.org

OpenOffice.org is a stable open source equivalent to Microsoft Office including a word processor (Writer), a spreadsheet (Calc), a database manager (Base), a presentation manager (Impress), a drawing program (Draw), and a formula editor for generating mathematical equations and formulas (Math). The user interface is similar to the Microsoft Office suite. For more details, see `http://www.openoffice.org/` or read Chapter 1, *The OpenOffice.org Office Suite* (page 3).

StarOffice

StarOffice, a proprietary office suite software developed by Sun Microsystems, is similar to OpenOffice.org. It is available on multiple platforms like Linux, Windows and Solaris. It contains the same modules as the OpenOffice.org suite. It includes certain advanced features not available with the open source version. For more details, see `http://www.sun.com/software/star/staroffice/`.

KOffice

KOffice is the fully integrated office suite designed for the KDE desktop. It comes with various modules, like word processing (KWord), spreadsheets (KSpread), presentations (Kpresenter), several image processing applications (Kivio, Karbon14, Krita), a database front-end (Kexi) and many other applications. For more details, see `http://www.koffice.org/`.

27.1.2 Word Processing

Writer

Writer is the stable word-processing and desktop publishing module of the OpenOffice.org and StarOffice. The StarOffice Writer features some advanced functionalities not available with OpenOffice.org. For more details, see `http://www.openoffice.org/product/writer` and `http://www.http://www.sun.com/software/star/staroffice`.

KWord

KWord is the stable frame-based word-processing module of the KOffice Suite. KWord's easy-to-use features help you to create professional looking documents and it can handle large amounts of texts. For more details, see http:///www.koffice.org/kword/.

27.1.3 Spreadsheets

Calc

Calc is the spreadsheet and data plotting module of the OpenOffice.org and StarOffice suites. It is easy to learn and offers a wide range of features. For more details, see http://www.openoffice.org/product/calc.html and http://www.sun.com/software/star/staroffice.

KSpread

KSpread is the spreadsheet module of the KOffice Suite. It is a scriptable spreadsheet program which provides both table-oriented sheets and support for complex mathematical formulas and statistics. For more details see http://www.koffice.org/kspread/.

Gnumeric

Gnumeric is a spreadsheet solution for the GNOME desktop environment that can also read files created with other spreadsheets. It's built-in functions and tools are extremely accurate. For more details, see http://www.gnumeric.org.

27.1.4 Presentations

Impress

Impress is the presentation module of the OpenOffice.org and StarOffice suites. Impress lets you create multimedia presentations with 2D and 3D clip art, special effects, animation, and drawing tools. Impress can create PDF files from your presentations, and it is able to view, edit and save files in several file formats, including the *.ppt format, which is used by Microsoft PowerPoint. For more details, see http://www.openoffice.org/product/impress.html. and http://www.sun.com/software/star/staroffice.

KPresenter

KPresenter is the presentation module of the KOffice Suite. KPresenter can prepare complete sets of slides containing text and graphics in a variety of formats, and embed all sorts of objects. KPresenter is also able to load presentations from Microsoft PowerPoint, MagicPoint and OpenOffice.org Impress documents. For more details see http://www.koffice.org/kpresenter/.

27.1.5 Data Plotting

Calc

See Calc (page 322).

Gnuplot

Gnuplot is a very powerful and portable command line controlled data plotting software. It is also available for MacOS and Windows platforms. Plots created by Gnuplot can be exported to various formats, such as PostScript, PDF, and SVG, allowing you to process these plots easily. For more details see http://www.gnuplot.info/index.html.

Grace

Grace is a 2D plotting tool for many platforms including Linux. It can create and edit plots with a graphical user interface. Grace supports an unlimited number of graphs per plot. For more details, see http://plasma-gate.weizmann.ac.il/Grace/

Kst

Kst is the data plotting module for the KOffice suite. It allows for real-time data viewing and plotting with basic data analysis. For more details, see http://kst.kde.org/.

LabPlot

LabPlot is a plotting tool for creating and managing 2D or 3D data plots and was written for KDE. Graphs can be produced both from data and functions and one plot may include multiple graphs. It also offers various data analysis methods. For more details, see http://labplot.sourceforge.net/.

27.1.6 Local Databases

Base

Base is the database module of the OpenOffice.org and StarOffice suites. It can be used to create "self-contained" database documents with all relevant data, table definitions, reports, and forms. For more details, see http://www.openoffice.org/product/base.html and http://www.sun.com/software/star/staroffice.

Gnome-DB

GNOME-DB provides a unified data access architecture to GNOME. It is useful for any application that accesses persistent data. It consists of a data abstraction layer (Libgda), a database widget library and a database front-end (Mergeant). For more details, see http://www.gnome-db.org/.

Kexi

Kexi is an integrated data management application. It can be used for creating databases, inserting data, performing queries, and processing data. Forms can be created to provide a custom interface to your data. For more details, see http://www.koffice.org/kexi/.

PostgreSQL

PostgreSQL is an object-relational database management system that supports an extended subset of the SQL standard, including transactions, foreign keys, subqueries, triggers, and user-defined types and functions. For more details, see http://www.postgresql.org/.

Rekall

Rekall is a database management tool that supports many database applications like MySQL,PostgreSQL and Xbase. Rekall can be used for many tasks such as reports, forms, queries and others. For more details, see http://www.thekompany.com/products/rekall/.

27.1.7 Financial Accounting

KmyMoney

KmyMoney is a personal financial manager for the KDE desktop. It enables users of open source operating systems to keep track of their personal finances and offers a broad array of financial features and tools. For more details, see http://kmymoney2.sourceforge.net.

GnuCash

GnuCash is a software tool to control personal and business finances. It enables users to keep track of income and expenses and it is also used to manage bank accounts, and stock portfolios. For more details, see http://www.gnucash.org/.

27.1.8 Project Management

Planner

Planner is a project management tool for the GNOME desktop aiming to provide functionality similar to the project management tools used under Windows. Amongst its features are Gantt charting and different display types for tasks and resources. For more details see http://wwwimendio.com/projects/planner/.

Taskjuggler

Taskjuggler is a project management tool that enables the user to control projects using Gantt charting features. It can also be used to generate reports in different formats (XML, HTML or CSV). Taskjuggler can be controlled from the command line but also offers a graphical front-end. For more details see http://www.taskjuggler.net.

27.1.9 Mind Mapping

FreeMind

FreeMind is a mind-mapping like tool for structuring ideas, thoughts and concepts. It can copy nodes or the style of nodes and paste texts from sources such as HTML, RTF, and mails. The mind maps can be exported into various formats, such as HTML and XML. For more details, see http://freemind.sourceforge.net/wiki/index.php/Main_Page.

VYM

VYM (View Your Mind) is a mind-mapping like tool for structuring ideas, thoughts and concepts. VYM mind maps are created in XML which can be exported to HTML. For more details see `insilmaril.de/vym`.

Semantik

Semantik (previously KDissert) is a mindmapping-like tool for structuring idea. Users can generate various outputs from the mind map, such as PDF files, text documents and HTML files. For more details see `http://freehackers.org/~tnagy/kdissert/`.

27.2 Network

The following section features various Linux applications for networking purposes. Get to know the most popular Linux browsers and e-mail and chat clients.

Table 27.2 *Network Software for Windows and Linux*

Task	Windows Application	Linux Application
Web Browser	Internet Explorer, Firefox*, Opera	Konqueror, Firefox, Opera, Epiphany
E-Mail Client/Personal Information Management	Microsoft Outlook*, Lotus Notes, Mozilla Thunderbird*	Evolution, Kontact, Mozilla Thunderbird
Instant Messaging/IRC Clients	MSN, AIM*, Yahoo!* Messenger, XChat, Gaim	Gaim, Empathy, Kopete, Konversation, XChat
Conferencing (Video and Audio)	NetMeeting, LifeMeeting	Ekiga
Voice over IP	X-Lite	Ekiga, Skype
FTP Clients	leechftp, wsftp	gftp, kbear

27.2.1 Browsers

Epiphany

Epiphany is a lean, but powerful Web browser for the GNOME desktop. Many of its features and extensions are similar to Firefox. For more details, see `http://projects.gnome.org/epiphany/`.

Firefox

Firefox is a Web browser that runs on various platforms, including Linux, MacOS, and Windows. Its main features include customizable searches, pop-up blocking, RSS news feeds, password management, tabbed browsing, and some advanced security and privacy options. For more details, see `http://www.mozilla.org/products/firefox/` or read Chapter 17, *Browsing with Firefox* (page 177).

Konqueror

Konqueror is a multiple application created for the KDE desktop. It acts as web browser, file manager and document viewer. It supports most common web standards, such as CSS(2), Java applets, JavaScript and Netscape plug-ins, DOM, and SSL. For more details, see `http://www.konqueror.org/` or read Chapter 16, *Browsing with Konqueror* (page 169).

Opera

Opera is a powerful web browser with an optional e-mail client and a chat module. Opera offers pop-up blocking, RSS feeds, built-in and customizable searches, a password manager, and tabbed browsing. For more details see `http://www.opera.com/`.

27.2.2 E-Mail Client / Personal Information Management

Evolution

Evolution is a personal information management application for the GNOME desktop. includes e-mail, calendar, and address book functionalities. For more details, see `http://projects.gnome.org/evolution/ftp` or read Chapter 6, *Evolution: E-Mail and Calendaring* (page 59).

Kontact

Kontact is the personal information management suite for the KDE desktop. It includes e-mail, calendar, address book and Palm sync functionalities. For more details, see http://www.kontact.org/ or read Chapter 5, *Kontact: E-Mailing and Calendaring* (page 43).

Mozilla Thunderbird

Mozilla Thunderbird is the e-mail client of the Mozilla suite. It is also available for Microsoft Windows and MacOS. For more details, see http://www.mozilla.com/en-US/thunderbird/.

27.2.3 Instant Messaging / IRC Clients

Empathy

Empathy is an instant messenger tool for the GNOME desktop. It consists of a rich set of reusable instant messaging widgets, and a GNOME client. For more details, see http://live.gnome.org/Empathy .

Konversation

Konversation is the IRC client of the KDE desktop with many functionalities. For more details, see http://konversation.kde.org.

Kopete

Kopete is an easy-to-use instant messenger tool supporting many protocols. For more details, see http://kopete.kde.org/ or read Chapter 13, *Instant Messaging with Kopete* (page 147).

Pidgin

Pidgin (previously Gaim) is a multi-platform instant messaging client supporting many commonly used instant messaging protocols, allowing the user to log into various different services from a single application. For more details, see http://pidgin.im/ or read Chapter 14, *Instant Messaging with Pidgin* (page 155).

27.2.4 VoIP, Video and Audio Conferencing

Ekiga

Ekiga (previously GNOMEMeeting) is a free and open source video conferencing and VoIP application. Ekiga supports both the SIP and H.323 protocols and is fully interoperable with Microsoft NetMeeting and LifeMeeting. For more details see http://www.ekiga.org/ or read Chapter 15, *Using Voice over IP with Ekiga* (page 159).

Skype

Skype is an application for several platforms (Linux, Windows, Mac Os X) that can be used for phone calls over the Internet with a good sound quality and with end-to-end encryption. When using Skype, configuring the firewall or router is not necessary. For more details, see http://www.skype.com/.

27.2.5 FTP Clients

gftp

gftp is an FTP client using the GTK toolkit. Its features include simultaneous downloads, resume of interrupted file transfers, file transfer queues, download of entire directories, FTP proxy support, remote directory caching, passive and non-passive file transfers, and drag and drop support. For more details, see http://gftp.seul.org/ or read Chapter 18, *Transferring Data From the Internet* (page 197).

KBear

KBear is a graphical FTP client that can connect to multiple hosts simultaneously. The user can copy or move files or directories between the hosts by drag and drop or cut and paste. It also has a dynamic site database. For more details, see http://sourceforge.net/projects/kbear/.

27.3 Multimedia

The following section introduces the most popular multimedia applications for Linux. Get to know media players, sound editing solutions, and video editing tools.

Table 27.3 *Multimedia Software for Windows and Linux*

Task	Windows Application	Linux Application
Audio CD Player	CD Player, Winamp, Windows Media Player	KsCD, Grip, Banshee
CD Burner	Nero, Roxio Easy CD Creator	K3b
CD Ripper	WMPlayer	KAudioCreator, Sound Juicer
Audio Player	Winamp, Windows Media Player, iTunes	amaroK, XMMS, Rhythmbox
Video Player	Winamp, Windows Media Player	Kaffeine, MPlayer, Xine, XMMS, Totem, RealPlayer
Audio Editor	SoundForge, Cooledit, Audacity	Audacity
Sound Mixer	sndvol32	alsamixer, Kmix
Music Notation	Finale, SmartScore, Sibelius	LilyPond, MusE, Noteedit, Rosegarden
Video Creator and Editor	Windows Movie Maker, Adobe Premiere, Media Studio Pro	Kino
TV Viewer	AVerTV, PowerVCR 3.0, CinePlayer DVR	xawtv, motv (analog), tvtime, kdetv, zapping, Kaffeine

27.3.1 Media Players

amaroK

amaroK is a powerful media player for the KDE desktop. It handles various audio formats and plays streaming audio broadcasts of radio stations on the Internet. For more details, see http://amarok.kde.org/ or read Section 22.2.1, "amaroK Media Player" (page 265).

Banshee

Banshee is a media player that can encode and decode various media formats. Banshee can play, import, and burn audio CDs. For more details, see http://banshee-project.org/ or read Chapter 23, *Playing and Managing Your Music with Banshee* (page 277).

Grip

Grip is a CD-player and ripper for the GNOME desktop. It has the ripping capabilities of cdparanoia built in, but can also use external rippers. For more details, see http://www.nostatic.org/grip/.

Kaffeine

Kaffeine is a multimedia application that supports many audio and video formats. For more details, see http://kaffeine.kde.org/.

KsCD

KsCD is a CD player application for the KDE desktop. Its user interface is very similar to that of a normal hardware CD player. For more details, see http://docs.kde.org/en/3.3/kdemultimedia/kscd/.

MPplayer

MPlayer supports many media formats and can also save all streamed content to a file. For more details, see http://www.mplayerhq.hu/.

RealPlayer

RealPlayer is a proprietary cross-platform media player by RealNetworks that plays a number of multimedia formats. For more details, see http://uk.real.com/player/.

Totem

Totem is the default multimedia player for the GNOME computer desktop environment. Totem is fully integrated with GNOME Nautilus. For more details, see http://projects.gnome.org/totem/ or read Chapter 24, *Playing Videos with Totem* (page 295).

Xine

Xine is a multimedia player for Linux that supports different front-end player applications. Another important feature is the ability to manually correct the synchronization of audio and video streams. For more details, see http://xinehq.de/.

XMMS

The X Multimedia System 2 (XMMS2) is an audio player for Linux systems that supports audio and video formats. For more details, see http://wiki.xmms2.xmms.se/wiki/Main_Page/.

27.3.2 CD Burners

Banshee

See above for Banshee (page 331).

Brasero

Brasero is a disc-burning program for the GNOME Desktop allowing users to burn audio and data CD/DVDs on the fly. For more details, see http://projects.gnome.org/brasero/ or read Chapter 26, *Burning CDs and DVDs With Brasero* (page 313).

K3b

K3b is a CD and DID authoring application for the KDE desktop environment for Unix-like computer operating systems. It provides a graphical user interface to perform most CD/DVD burning tasks and contains a built-in DID ripper. For more details, see http://www.k3b.org/ or read Chapter 25, *Burning CDs and DVDs With K3b* (page 305).

27.3.3 CD Rippers

Grip
: See above for Grip (page 331).

KAudioCreator
: KAudioCreator is a front-end tool for ripping audio CDs and encoding WAVE files. For more details, see http://www.icefox.net/programs/?program=KAudioCreator.

Sound Juicer
: Sound Juicer is a front-end application to the cdparanoia CD ripping library. It allows the user to extract audio output from compact discs and convert it into audio files that a personal computer or digital audio player can understand and play. It supports ripping to many audio codecs. For more details, see http://www.burtonini.com/blog/computers/sound-juicer.

27.3.4 Audio Editors

Audacity
: Audacity is a digital audio editor application. It's cross-platform allows users to mix tracks, apply effects to them, and export the results to WAV or Ogg Vorbis. For more details, see http://audacity.sourceforge.net/.

27.3.5 Sound Mixers

ALSA mixer
: ALSA mixer is the mixer program for the Advanced Linux Sound Architecture (ALSA). It is used to configure sound settings and to adjust the volume. It has an ncurses user interface and does not require the X Window System. It supports multiple sound cards with multiple devices. For more details, see http://www.alsa-project.org/main/index.php/Main_Page.

27.3.6 Music Notation

LiliPond

LilyPond is a music sheet editor. Because the input format is text- based, the user can work with any text editor to create note sheets. Users do not need to tackle any formatting or notation issues, like spacing, line-breaking, or polyphonic collisions. For more details, see http://lilypond.org/web/.

MusE

MusE is at the moment a MIDI/Audio sequencer with recording and editing capabilities. The project works on a complete multitrack virtual studio for Linux. For more details, see http://www.muse-sequencer.org/index.

Noteedit

Noteedit is a powerful score editor for Linux. It creates sheets of notes and exports and import scores to and from many formats. It features a graphical user interface. For more details, seehttp://noteedit.berlios.de/.

Rosegarden

Rosegarden is a free music composition and editing environment. It features an audio and MIDI sequencer and a score editor. For more details, see http://rosegardenmusic.com/.

27.3.7 Video Creators and Editors

Kino

Kino is an easy and reliable digital video editor with export to many formats. The program supports many basic video editing and assembling tasks. It captures video to disk in Raw DIV, AVI, and Quicktime formats. For more details, see http://www.kinodv.org.

27.3.8 TV Viewers and Editors

xawtv

xawtv is a TV viewer and recorder suite. It supports both analog and digital audio and video broadcasts using either a TV tuner or a Satellite receiver card DB-S. For more details, see http://linux.bytesex.org/xawtv/.

kdetv

kdetv is a TV viewer and recorder application for the KDE desktop supporting TV using a tuner card. For more details, see http://www.kdetv.org.

27.4 Graphics

The following section presents some of the Linux software solutions for graphics work. These include simple drawing applications as well as fully-fledged image editing tools and powerful rendering and animation programs.

Table 27.4 *Graphics Software for Windows and Linux*

Task	Windows Application	Linux Application
Simple Graphic Editing	Microsoft Paint	KolourPaint
Professional Graphic Editing	Adobe Photoshop, Paint Shop Pro, Corel PhotoPaint, The GIMP	The GIMP, Krita
Creating Vector Graphics	Adobe Illustrator, CorelDraw, Freehand	OpenOffice.org Draw, Inkscape, Dia
SVG Editing	WebDraw, Freehand, Adobe Illustrator	Inkscape, Dia, Kivio
Creating 3D Graphics	3D Studio MAX, Maya, POV-Ray, Blender	POV-Ray, Blender, KPovmodeler
Managing Digital Photographs	Software provided by the camera manufacturer	DigiKam, f-spot
Scanning	Vuescan	Vuescan, The GIMP
Image Viewing	ACDSee	gwenview, gThumb, Eye of Gnome, f-spot

Blender

Blender is a powerful rendering and animation tool available on many platforms, including Windows, MacOS, and Linux. For more details see http://www.blender.org/.

Dia

Dia is the Linux equivalent of Visio. It supports many types of special diagrams, such as network or UML charts. Export formats include SVG, PNG, and EPS. To support your own custom diagram types, provide the new shapes in a special XML format. For more details see http://projects.gnome.org/dia/.

digiKam

digiKam is a smart digital photo management tool for the KDE desktop. Importing and organizing your digital images is a matter of a few clicks. Create albums, add tags to spare you from copying images around different subdirectories, and eventually export your images to your own Web site. For more details see http://www.digikam.org/ or read Chapter 20, *Managing Your Digital Image Collection with DigiKam* (page 221).

Eye of Gnome (eog)

Eye of Gnome is an image viewer application for the GNOME desktop. For more details, see http://projects.gnome.org/eog/.

f-spot

f-spot is a flexible digital photograph management tool for the GNOME desktop. It lets you create and manage albums and supports various export options like HTML pages or burning of image archives to CD. You can also use it as an image viewer on the command line. For more details, see http://f-spot.org/Main_Page or read Chapter 21, *Managing Your Digital Image Collection with F-Spot* (page 243).

gThumb

gThumb is an image viewer, browser, and organizer for the GNOME desktop. It supports the import of your digital images via gphoto2, allows you to carry out basic transformation and modifications, and lets you tag your images to create albums matching certain categories. For more details, see http://gthumb.sourceforge.net/.

Gwenview

Gwenview is a simple image viewer for KDE. It features a folder tree window and a file list window that provides easy navigation of your file hierarchy. For more details, see http://gwenview.sourceforge.net/home/.

Inkscape

Inkscape is a free SVG editor. Users of Adobe Illustrator, Corel Draw, and Visio can find a similar range of features and a familiar user interface in Inkscape. Among its features, find SVG-to-PNG export, layering, transforms, gradients, and grouping of objects. For more details, see http://www.inkscape.org/.

Kivio

Kivio is a flow-charting application that integrates into the KOffice suite. Former users of Visio find a familiar look and feel in Kivio. For more details, see http://www.koffice.org/kivio/.

KolourPaint

KolourPaint is an easy-to-use paint program for the KDE desktop. You can use it for tasks such as painting or drawing diagrams and editing screen shots, photos, and icons. For more details, see http://kolourpaint.sourceforge.net/.

KPovmodeler

KPovmodeler is a POV-Ray front-end that integrates with the KDE desktop. KPovmodeler does not require a detailed knowledge of POV-Ray scripting because translates the POV-Ray language in an easy-to-understand tree view. Native POV-Ray scripts can be imported to KPovmodeler as well. For more details, see http://www.kpovmodeler.org.

Krita

Krita is KOffice's answer to Adobe Photoshop and The GIMP. It can be used for pixel-based image creation and editing. Its features include many of the advanced image editing capabilities you would normally expect with Adobe Photoshop or The GIMP. For more details, see http://www.koffice.org/krita.

OpenOffice.org Draw

See OpenOffice.org (page 321).

POV-Ray

POV-Ray (Persistence of Vision Raytracer) creates three-dimensional, photo-realistic images using a rendering technique called ray tracing. Because there is a Windows version of POV-Ray, it does not take much for Windows users to switch to the Linux version of this application. For more details, see http://www.povray.org/.

The GIMP

GIMP (GNU Image Manipulation Program) is an open source equivalent to Adobe Photoshop. It is a raster graphics editor used to process digital graphics and photographs. For more details, see http://www.gimp.org/ or read Chapter 19, *Manipulating Graphics with The GIMP* (page 203).

VueScan

VueScan is a scanning software available for several platforms. You can install it parallel to your vendor's scanner software. It supports the scanner's special hardware, like batch scanning, autofocus, infrared channels for dust and scratch suppression, and multiscan to reduce scanner noise in the dark areas of slides. It features simple and accurate color correction. For more details, see http://http://www.hamrick.com/vsm.html.

27.5 System and File Management

The following section provides an overview of Linux tools for system and file management. Get to know text and source code editors, backup solutions, and archiving tools.

Table 27.5 *System and File Management Software for Windows and Linux*

Task	Windows Application	Linux Application
File Manager	Windows Explorer	Dolphin, Nautilus, Konqueror
Text Editor	NotePad, WordPad, (X)Emacs	kate, GEdit, (X)Emacs, vim
PDF Creator	Adobe Distiller	Scribus

Task	Windows Application	Linux Application
PDF Viewer	Adobe Reader	Adobe Reader, Evince, Okular, Xpdf
Text Recognition	Recognita, FineReader	GOCR
Command Line Pack Programs	zip, rar, arj, lha, etc.	zip, tar, gzip, bzip2, etc.
GUI Based Pack Programs	WinZip	Ark, File Roller
Hard Disk Partitioner	PowerQuest, Acronis, Partition Commander	YaST, GNU Parted
Backup Software	ntbackup, Veritas	KDar, taper, dump

Adobe Reader

Adobe Reader for Linux is the exact counterpart of the Windows and Mac versions of this application. The look and feel on Linux are the same as on other platforms. The other parts of the Adobe Acrobat suite have not been ported to Linux. For more details, see `http://www.adobe.com/products/acrobat/readermain.html`.

Ark

Ark is a GUI-based pack program for the KDE desktop and supports common formats. You can view, select, pack, and unpack single files within an archive. For more details, read Section "Displaying, Decompressing, and Creating Archives" (Chapter 2, *Working with Your Desktop*, ↑KDE User Guide).

Dolphin

Dolphin is the default file manager for the KDE 4. Dolphin offers several view modes, file previews and split views. For more details, see `http://dolphin.kde.org/` or read Section "Using Dolphin File Manager" (Chapter 2, *Working with Your Desktop*, ↑KDE User Guide).

dump

The dump package contains both dump and restore. dump examines files in a file system, determines which ones need to be backed up, and copies those files to a specified disk, tape, or other storage medium. The restore command performs the inverse function of dump—it can restore a full backup of a file system. For more details, see http://dump.sourceforge.net/.

Evince

Evince is a document viewer for PDF and PostScript formats for the GNOME desktop. For more details, see http://www.gnome.org/projects/evince/.

File Roller

File Roller is a GUI-based pack program for the GNOME desktop. It provides features similar to Ark's. For more details, see http://fileroller.sourceforge.net/home.html.

GEdit

GEdit is the official text editor of the GNOME desktop. It provides features similar to Kate's. For more details, see http://www.gnome.org/projects/gedit/.

GNU Parted

GNU Parted is a command line tool for creating, destroying, resizing, checking, and copying partitions and the file systems on them. If you need to create space for new operating systems, use this tool to reorganize disk usage and copy data between different hard disks. For more details, see http://www.gnu.org/software/parted/.

GOCR

GOCR is an OCR (optical character recognition) tool. It converts scanned images of text into text files. For more details, see http://jocr.sourceforge.net/.

gzip, tar, bzip2

There are plenty of packaging programs for reducing disk usage. In general, they differ only in their pack algorithm. Linux can also handle the packaging formats used on Windows. `bzip2` is a bit more efficient than `gzip`, but needs more time,

depending on the pack algorithm. For more details about `gzip` and `tar`, refer to Section “File Administration” (Chapter 8, *Shell Basics*, ↑Start-Up).

Kate

Kate is a module of the KDE suite. It has the ability to open several files at once either locally or remotely. With syntax highlighting, project file creation, and external scripts execution, it is a perfect tool for a programmer. For more details, see http://www.kate-editor.org//.

KDar

Kerr stands for KDE disk archiver and is a hardware-independent backup solution. KDar uses catalogs (unlike tar), so it is possible to extract a single file without reading the whole archive and it is also possible to create incremental backups. KDar can split an archive into multiple slices and trigger the burning of a data CD or DVD for each slice. For more details, see http://kdar.sourceforge.net/.

Konqueror

Konqueror is a file manager that can also be used as a Web browser, document and image viewer, and CD ripper. For more details, see http://www.konqueror.org/ or read Chapter 16, *Browsing with Konqueror* (page 169) to learn about Konqueror's Web browsing functions.

Nautilus

Nautilus is the default file manager of the GNOME desktop. It can be used to create folders and documents, display and manage your files and folders, run scripts, write data to a CD, and open URI locations. For more details, see http://www.gnome.org/projects/nautilus/ or read Section “Managing Folders and Files with Nautilus” (Chapter 2, *Working with Your Desktop*, ↑GNOME User Guide).

Okular

Okular is the document viewer for KDE 4 which is replaces KPDF. Apart from PDF files, Okular allows you to view a great number of file formats. Its functionality can be easily embedded in other applications. For more details, see http://okular.kde.org/ or read Chapter 4, *Viewing PDF Files and Other Documents with Okular* (↑KDE User Guide).

taper

Taper is a backup and restore program that provides a friendly user interface to allow backup and restoration of files to and from a tape drive. Alternatively, files can be backed up to archive files. Recursively selected directories are supported. For more details, see at http://taper.sourceforge.net/.

vim

vim (vi improved) is a program similar to the text editor vi. Users may need time to adjust to vim, because it distinguishes between command mode and insert mode. The basic features are the same as in all text editors. vim offers some unique options, like macro recording, file format detection and conversion, and multiple buffers in a screen. For more details, see http://www.vim.org/.

GNU Emacs and XEmacs

GNU Emacs is an extensible, customizable, self-documenting, real-time display editor. XEmacs is based on GNU Emacs. Both offer nearly the same functionality with minor differences. Used by experienced developers, they are highly extensible through the Emacs Lisp language. They support many languages, like Russian, Greek, Japanese, Chinese, and Korean. For more details see http://www.xemacs.org/ and http://www.gnu.org/software/emacs/emacs.html.

Xpdf

Xpdf is lean PDF viewing suite for Linux and Unix-like platforms. It includes a viewer application and some export plug-ins for PostScript or text formats. For more details, see http://www.foolabs.com/xpdf/.

27.6 Software Development

This section introduces Linux IDEs, toolkits, development tools, and versioning systems for professional software development.

Table 27.6 *Development Software for Windows and Linux*

Task	Windows Application	Linux Application
Integrated Development Environments	Borland C++, Delphi, Visual Studio, .NET	KDevelop, Eric, Eclipse, MonoDevelop, Anjuta

Task	Windows Application	Linux Application
Toolkits	MFC, Qt, GTK+	Qt, GTK+
Compilers	VisualStudio	GCC
Debugging Tools	information about GDB at Visual Studio	GDB, Valgrind
GUI Design	Visual Basic, Visual C++	Glade, Qt Designer
Versioning Systems	Clearcase, Perforce, SourceSafe	CVS, Subversion

Anjuta
: Anjuta is an IDE for GNOME/GTK+ application development. It includes an editor with automated formatting, code completion, and highlighting. As well as GTK+, it supports Perl, Pascal, and Java development. A GDB-based debugger is also included. For more details see `http://anjuta.sourceforge.net`.

CVS
: CVS (Concurrent Versions System) is one of the most important version control systems for open source. It is a front-end to the Revision Control System (RCS) included in the standard Linux distributions. For more details, see `http://ximbiot.com/cvs/`.

Eclipse
: The Eclipse Platform is designed for building integrated development environments that can be extended with custom plug-ins. The base distribution also contains a full-featured Java development environment. For more details, see `http://www.eclipse.org`.

Eric
: Eric is an IDE optimized for Python and Python-Qt development. For more details, see `http://www.die-offenbachs.de/eric/index.html`.

GCC

GCC is a compiler collection with front-ends for various programming languages. Check out a complete list of features and find extensive documentation at http://gcc.gnu.org.

GDB

GDB is a debugging tool for programs written in various programming languages. For more details, see http://www.gnu.org/software/gdb/gdb.html.

Glade

Glade is a user interface builder for GTK+ and GNOME development. As well as GTK+ support, it offers support for C, C++, C#, Perl, Python, Java, and others. For more details, see http://glade.gnome.org/.

GTK+

GTK+ is a multi platform toolkit for creating graphical user interfaces. It is used for all GNOME applications, The GIMP, and several others. GTK+ has been designed to support a range of languages, not only C/C++. Originally it was written for GIMP, hence the name "GIMP Toolkit." For more details, see http://www.gtk.org. Language bindings for GTK+ are summarized under http://gtk.org/features.html#LanguageBindings.

KDevelop

KDevelop allows you to write programs for different languages (C/C++, Python, Perl, etc.). It includes a documentation browser, a source code editor with syntax highlighting, a GUI for the compiler, and much more. For more details, see http://www.kdevelop.org.

MonoDevelop

MonoDevelop is an open source integrated development environment for the Linux platform, primarily targeted for the development of software that uses both Mono and Microsoft .NET framework. MonoDevelop integrates features similar to that of Eclipse and Microsoft's Visual Studio such as Intellisense, source control integration, and an integrated GUI and Web designer. For more details, see http://www.monodevelop.com/.

Qt

Qt is a program library for developing applications with graphical user interfaces. It allows you to develop professional programs rapidly. For more details, see http://trolltech.com. Language bindings for Qt development are summarized under http://developer.kde.org/language-bindings/.

Qt Designer

Qt Designer is a user interface and form builder for Qt and the KDE development. It can run as part of the KDevelop IDE or in stand-alone mode. QtDesigner can be run under Windows and even integrates into the Visual Studio development suite. For more details see http://trolltech.com/products/qt/designer.html.

Subversion

Subversion does the same thing CVS does but has major enhancements, like moving, renaming, and attaching meta information to files and directories. For more details, see http://subversion.tigris.org/.

Valgrind

Valgrind is a suite of programs for debugging and profiling x86 applications. For more details, see http://valgrind.org/.

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Version 2, June 1991

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