

The Software Environment at RISC

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No matter, on which Linux machine you login at RISC, you will always have full access to your home directory `/home/<loginname>` (where `loginname` is the name of your Linux account). This directory is regularly backed up, thus you should store your essential files only here. However, since space on these directories is limited, you should also store all non-essential files (audio and movie clips etc) in the directory `/scratch/<loginname>`, which is **not** backed up at all. In the following I'll give short information about the X-Window System and about the most frequently used programs at RISC.

1 X-Window Environment

On the Linux workstations at RISC the `xdm` display manager is used to show the login prompt. After logging in into Debian, you can choose between two major desktop environments: KDE and Gnome (but more others are available, too). Both KDE and Gnome have more or less the same functionality, thus it is more a matter of taste which one to use. The SAG has a preference to use the KDE environment, using this you will get support. You can set your window manager in your `.xsession` file. e.g. adding the following lines to the `.xsession` file will start the KDE window manager:

```
# start KDE
if test -x /usr/bin/kde2; then
    exec /usr/bin/kde2
fi
exec /usr/bin/kde
fi
```

The desktop allows to execute various applications by selection from menu lists, but you should also get familiar with working on the command line using a terminal window which is sometimes necessary and often even more productive. The SAG suggest to use the `konsole` command `/usr/bin/konsole` as the terminal window.

When you open a terminal window, you get access to a Linux shell `tcsh` which can be configured by editing the file `.cshrc` in your home directory. In particular, you can add to this file the module commands mentioned in Section 5.2 and you can add a command that lets the environment variable `PATH` to point to additional directories where executable applications can be found. For example,

```
setenv PATH $PATH:/dir1/sdir1:/dir2/sdir2
```

will add two directories `/dir1/sdir1` and `/dir2/sdir2` to the `PATH` variable.

For many commands/applications installed, the shell command `man <command>` will display a corresponding manual page. You should check the available documentation also in `/usr/share/doc/` directory. Of course, you can use Google to find documentation for most software on the Web.

I'll list in the following sections some major software tools that you probably might want to use at RISC :

2 Browsers and email clients

- **Firefox** (use command “`firefox`”) is a very popular Web browser provided by the Mozilla suite. It is a browser only solution. The Firefox team works intensively on the improvement. For more information, see <http://www.mozilla.org/products/firefox/>.
- **Thunderbird** (use command “`thunderbird`”) is a very popular email client provided by the Mozilla suite. To use it you have first to create a new email account in “Tools/Account Settings”. For the mail server configuration please choose `pop.risc.uni-linz.ac.at` as the POP server for incoming mails and `mail.risc.uni-linz.ac.at` as the SMTP server for outgoing mails. For more information, see <http://www.mozilla.org/products/thunderbird/>
- **Netscape** (use command “`netscape`”) is another popular Web browser. The Netscape package involves the email client of Netscape, too. Netscape is not so intensively developed as the Mozilla derivatives.

3 The Open Office Package

Open Office is an office suite providing open source replacements of the Windows Office applications Word, PowerPoint, Excel, etc. With the Open Office tools, you can edit/change e.g. Word files or PowerPoint presentations or create new office documents. All files can be exported in the portable document format PDF. For more information, see <http://www.openoffice.org/>.

Open Office is a part of the Debian Sarge release so you can use the Open Office components directly. If your workstation runs yet the Woody version of Debian, you have to load Open Office by means of the `modul` system. At the moment only some old Linux PCs run the Woody version.

Some of the Open Office components are listed here:

- “`oowriter`” The text processing program.
- “`oocalc`” The spreadsheet program.

- “**ooimpression**” The program for creating, changing, etc. presentation.
- “**oomath**” The equation editor program.

4 PDF Reader

There are more pdf (Portable Document Format) reader available. The most popular is the Adobe program.

- **Acrobat Reader** (use command “**acroread**”): this is the most popular PDF file viewer. For more information, see <http://www.adobe.com/products/acrobat/readermain.html>
- **KDE PDF Reader** (use command “**kpdf**”) You can of course use the builtin KDE PDF reader program.
- **another KDE PDF Reader** (use command “**KGhostView**”) It is a PDF/PS reader of KDE.

5 Postscript viewer

We mention the most popular programs only:

- **GhostView** (use command “**gv**”): a program for viewing PostScript files.
- **KGhostView** (use command “**kghostview**”): a PS/PDF viewer in KDE.

6 Text editors

There is a huge assortment of the text editors in Linux. You have to check some of them and choose one. Below you’ll find a list, which are mostly used at RISC.

- “**emacs**” is a very popular and powerfull text editor.
- “**kedit**”
- “**gedit**”
- “**nedit**” uses syntax highlighting.

You can invoke the programs with there listed names.

7 TEX/LaTeX utilities

We assume, that you are already familiar with the **TEX/LaTeX** environment. That's why we list only some programs available for you for preparing **TEX/LaTeX** documents. You can use the following commands:

- “`latex`” for compiling TEX/LaTeX document into *dvi* format,
- “`xdvi`” for viewing dvi files,
- “`dvips`” for converting dvi files to PostScript format,
- and “`dvipdf`” for converting dvi files to pdf format.
- and “`ps2pdf`” for converting ps files to pdf format.

8 Tools for Printing

If you want to print a document you can use the programs listed below. Please read the detailed description about the

Printing at: <http://www.risc.uni-linz.ac.at/internals/resources/services/>

at RISC.

- **X Printing Panel** (use command “`xpp`”) is a printing dialog window application, which provide an easy way to choose a printer and set certain printer options for a print job.
- **KDE Print** (use command “`kprinter`”) is a powerful graphical desktop environment for printing. It contains the KDE printing subsystem. It can use CUPS, lpd-ng or the traditional lpd. It also includes support for fax and pdf printing.

9 Computer Algebra Systems

There are more products available at RISC in this area (e.g. Mathematica, Maple). All these programs are available in more versions. You can load the programs by using the **modul** system.

- **Maple v9.5** (command “`maple`”) is a widely-used computer algebra system. The latest version of Maple, V10 will be available soon at RISC. For more information, see <http://www.maplesoft.com>.
- **Mathematica v5.1** (command “`mathematica`”) is a widely-used computer algebra system originally developed by Stephen Wolfram and

sold by his company Wolfram Research. Mathematica is also a powerful programming language emulating multiple paradigms on top of term-rewriting. For more information, see <http://www.wolfram.com/products/mathematica/index.html>.

10 File Transfer

You can login to any other machine of the RISC environment by using the Secure Shell client `ssh`. You can transfer files from/to other machines using `scp` and `sftp`. But this is not necessary within the RISC environment since your home directory can be accessed from any machine at RISC.

gFTP is a GTK-based FTP client for X windows. It has a very comfortable graphical connection manager. gFTP supports the FTP, FTPS (control connection only), HTTP, HTTPS, SSH and it allows simultaneous downloads, resumption of interrupted file transfers and file queues. FSP protocols.

Strong recommendation: before you starts to use `gftp`, always choose and set the **SSH2** protocoll in the upper right corner of the gFTP window as the applied transfer protocol.

For more information, see <http://gftp.seul.org>.

11 Drawing

You can use the **Xfig** drawing program (use command “`xfig`”) for preparing diagrams and other line-oriented drawings. Xfig is an open source vector graphics editor which runs under the X Window System. In xfig, figures may be drawn using objects such as circles, boxes, lines, spline curves, text, etc. It is also possible to import images in formats such as GIF, JPEG, SVG, EPSF (PostScript), etc. Those objects can be created, deleted, moved or modified. Attributes such as colors or line styles can be selected in various ways. For text, 35 fonts are available. Xfig saves figures in its native text-only Fig format, but they may be converted into various formats such as PostScript, GIF, JPEG, HP-GL, etc. xfig has facility to print figures to a PostScript printer, too.

12 Image management and image manipulation tools

We can group the programs which deal with images in two groups:

- **image management** programs, which help you to sort, group your images in an archive. These programs enable you to carry out some image manipulation function, too.

- **image manipulation** programs. The program enables you to carry out the manipulation of the image on a professional level. Only **Gimp** can satisfy this goal.

12.1 Image management programs

There are a lot of programs in Sarge, to manage your image archive. We only will list them, without giving detailed information about the programs. You have to try them and choose one or more, which you found to work best for your requirements. You can invoke the programs with the names listed below:

`kvview`, `digikam`, `showimg`, `gtksee`, `gqview`, `gimv`.

12.2 The Gimp image manipulation program

You can manipulate graphics with the **Gimp** program (use command “`gimp`”) on a professional level. The GIMP (GNU Image Manipulation Program) is a bitmap graphics editor, a program for creating and processing raster graphics. It also has some support for vector graphics. The GIMP can be used to process digital graphics and photographs. Typical uses include creating graphics and logos, resizing and cropping photos, changing colors, intensity, etc. of images, combining images using a layer paradigm, removing unwanted image features, and converting between different image formats. The GIMP can also be used to create simple animated images. GIMP has the same functionality as Photoshop under Window. GIMP is free and available also for the Windows OS.

13 Writing a CD/DVD

At the moment not all computers are equipped with a CD/DVD writer at RISC, only some of them. So you can write a CD/DVD under Linux only on some computers.

K3b is the best **KDE cd/dvd burning** application (command “`k3b`”). K3b is a GUI frontend to the cd/dvd recording programs `cdrdao` and `cdrecord`. Its aim is to provide a very user friendly interface to all the tasks that come with cd/dvd recording. For more information (features, installation, etc.), see the following links:

<http://packages.debian.org/stable/otherosfs/k3b> and

<http://www.k3b.org/>.

14 Playing multimedia sources

There are more programs for playing an audio CD or an audio file. The mostly used are **kscd** and **xmms**.

For playing a movie from a dvd drive or from a file more programs are available: **totem**, **xine**.

There is also a non free multimedia player, **mplayer**.

- The **kscd** program is the default KDE CD player. It is simple, but all the necessary features are available.
- The **X Multimedia System** (use command “**xmms**”) is a free audio player very similar to Winamp, that runs on many Unix-like operating systems. XMMS currently supports the following audio and video file formats: Audio CD, libmikmod(.XM, .MOD, .IT), MPEG Layer 1,2 and 3 (MP3), Vorbis and WAV. With some third party plugin, XMMS also supports TTA, WavPack, speex, FLAC, AAC and WMA formats. For more information, see <http://www.xmms.org>.
- **Totem** Movie Player (use command “**totem**”) is a GNOME media player (audio and video). It is officially included in GNOME starting from version 2.10 (released in March 2005). For more information, see <http://www.gnome.org/projects/totem/>.
- **Xine video player** (use command:”**xine**”) is an X11 based GUI for the libxine video player library. It provides xine, a skin based media player that can play all the audio/video formats that libxine supports. Currently, this includes MPEG1/2, some AVI and Quicktime files, some network streaming methods and disc based media (VCD, SVCD, DVD). A more complete list can be found on <http://xinehq.de/index.php/features/>.

15 Internet Telephony

Today there is no problem anymore to use the Internet for some kind of telephony. There are also a lot of software available for the VoIP (Voice over IP) service, for which you have to register yourself and pay by a provider.

- The **Skype** program is a tool for Internet telephony. The system has a reputation for working across different types of network connections (including firewalls and NAT). Skype users can speak to other Skype users for free, call traditional telephone numbers for a fee (SkypeOut), receive calls from traditional phones for a fee (SkypeIn), and receive voicemail messages for a fee. For more information, see <http://www.skype.com/>.

- The

<http://www.voipbaster.com/> web page offer you a software solution for Windows to use your computer for VoIP, to call a phone number from your PC or laptop. There are some destinations, some countries, to which you can call without a fee, but if you use the pay service of VOIPBASTER to phone, it is very cheap. (You have this service by SKYPE, too.)