

DISCUS Workshop

September 24-26, 2008

A modern Linux distribution will offer a graphical user interface, very much like Windows or Apple operating systems. In the system that is installed here, you have access to a File browser, Office applications, an editor and many other programs. Linux really comes to life, if you forget all about the mouse and type commands in a command line based window. Fortunately one does not have to memorize too many commands.

Syntax of these instructions:

<text> A text in pointy brackets has to be replaced by a suitable command name or file name. Do not type the pointed brackets.

[text] Optional text. Do not type the brackets.

”text” Text to be typed as is. Omit the ”

Important Unix commands

- `man <command>`
Display informationen(=manual) for command <command>
- `info <command>`
Display informationen for command <command>, modern version
- `ls`
List the content of a directory
- `cd [<PATH>/]<dirname>`
Change into another directory
- `cp <from> <to>`
copy a file from to
- `mkdir [<PATH>/]<dirname>`
create a new directory
- `rmdir [<PATH>/]<dirname>`
removes a directory
- `rm <name>`
removes a file called <name>.

Warning: Unix usually does NOT ask "do you want to do this?, are you sure?, do you really want to do this?" ! What's gone is gone!

Most of the commands offer many more options. Just try it out, in many cases a parameter "- help" will give a short summary of the available options.

Examples

```
ls -a  List all files, that includes hidden files
ls -l  list a long listing that includes many details
ls -R  list recursively into sub directories as well
```

Unix offers many possibilities to work in a flexible manner with file names:

- * character string of any length
- ? exactly one character
- [a-z,A-Z] a character from interval a-z or A-Z. You may provide a single intervall as well, and also a range of numbers.

Examples

```
ls *.mac          List all files that end in ".mac"
ls data.0[0-9]1    List all files called data.001, data.011, to data.091
                  files called data.002 etc. are omitted
```

If you start a program that will open its own window, it is often convenient to add a space and then the "&" sign after the command name as in: "emacs &". This allows you to continue to use the command line window from which you started the program, which would otherwise be blocked by the program.

Edit a file:

- emacs & Powerful graphical editor, opens a separate window
- vi a very cryptic editor but really fast! With a bit of practice, task like substitution, search etc work much more efficiently.

Textprocessing

latex is *the* standard text processing utility for Linux

OpenOffice Graphical text processing utility

has all elements of modern Office suite like a writer, a presentation programme, (You can type real equations !), spread sheet drawing program, Data bank program

Main programs for this workshop:

discus Programm to simulate any crystal structure

kuplot Programm to plot and to manipulate data, and to plot a
 crystal structure

diffev Programm to refine disordered structures via the Differential
 Evolutionary Algorithm

xbs Programm to plot 3-d crystal structures

Each of these programs will be started by typing its name in a command line window. You should first change into the directory of your choice and then start the program.

Since the menus are in German, a translation of the main features is provided:

Main menu at top of screen:

Anwendungen	Orte	System
Applications	Locations	System
(program menu)	(file access)	(system configuration)

Anwendungen / Application Menu:

Bildung	education
Buro	office
Entwicklung	development
Grafic	graphics
Internet	internet
Sonstige	other applications
Spiele	Games
Systemwerkzeuge	system tools
Unterhaltungsmedien	audio applications
Wine	video applications
Zubehor	accessories

We will need only two applications:

Systemwerkzeuge ==>	Konsole	This will open a comand line window
Zubehor ==>	Emacs 22 (X11)	This opens the file editor

Orte / File location menue:

Personlicher Ordner	home directory	Opens a file browser
Desktop	desktop	
Dokumente	documents	
...	...	
Nach Dateien suchen	locate files	

Within the file browser the main German words are:

Datei	file
Bearbeiten	modify
Ansicht	view
Gehe zu	go to
Lesezeichen	bookmark
Hilfe	help
Zurück	back
Vor	forward
Hinauf	up
Aktualisieren	refresh
Suchen	search
Neues Fenster	new window
Ordner anlegen	create folder
Datei anlegen	create file
Alle Fenster schliessen	close all windows
schliessen	close
offnen	open
Umschalt	shift button
neu	new

At the top right corner of your desktop is the logout menu with the choices:

Abmelden	Bildschirm sperren	Benutzer wechseln
logout	lock the screen	change user