UNIX summary of the most important commands

1. The Session

1.1 login

Type in username and password to prompt.

1.2 logout

type in "logout" or CTRL-d. (CTRL-d means: pressing Control and dkeys simultanously)

1.3 syntax of Unix-commands

command –options arg1 ... argn <RETURN> (also see man intro)

2. Users

who is logged in? who find out your own username: who am i whoami id finger <username> find out username

3. Help

show help for commands man < command> window-based **xman** other possibilities http://www.google.de

4. Account

in which groups am i? groups how much disk space do i use, and how are my limits? quota –v <username> disk usage for current directory du ... for directory < directory> du <directory> show free disk space df-H

5. Paths

5.1 path names

simple A name for a file or directory, for getting access a file/directory in the current directory. absolute A list of directories, which begin with the root

directory '/', up to the desired

file/directory. Partial paths are separated with

the help of '/'.

A list of directories, which begin in the current relative

directory. Partial paths are separated with the

help of '/'.

5.2 changing between directories

print working directory	pwd
change to home directory	cd
change to any directory	cd <dirname></dirname>

5.3 abbriviations

home-directory

home directory of <username> ~<username>

present directory predecessor of curent directory

6. Listing Files

in current (i.e. working) directory	ls
in other directory	ls <dirname></dirname>
list all information for files	ls −al
list all, sorted by time	ls −alt
show directories only	ls −d

7. inspecting files

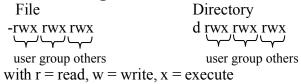
show the complete file	cat <filename></filename>
inspect file page by page	less <filename></filename>
	pg <filename></filename>
show the first 20 lines	head - 20 <filename></filename>
show the last 20 lines	tail -20 <filename></filename>

8. Security

8.1 passwords

Good passwords contain upper and lower cases, numbers, and special characters. The should contain at least 8 characters. Bad passwords are names, word from dictionaries, phone numbers etc.

8.2 access rights



access rights are changed with:

```
chmod w?y <filename>
w = u, g, o, a for user/group/other/all
? = +, -, for adding/removing rights
y = r, w, x for read/write/execute
```

alternative:

chmod abc <filename>

abc is specified as follows:

weet is specifical as felic ws.			
	a: user	b: group	c: other
read	4	4	4
write	2	2	2
execute	1	1	1

for desired rights, the colums are summed up. example: chmod 760 < filename > assigns the rights rwx rw---- to the file < filename >

9. Creating Files

e.g. with the help of editor, file-redirection commands, or touch

echo 'Hello World!' > < newfile > creates a new file with

content "Hello World!"

touch <newfile> creates a new emty file

10. Creating Directories

mkdir < directory> creates a new directory with name < directory>

11. Copying Files

cp <oldfile> <newfile></newfile></oldfile>	copies <oldfile> to <newfile></newfile></oldfile>
cp <oldfile> <dirname></dirname></oldfile>	copies <oldfile> to directory</oldfile>
_	<pre><dirname> with the same</dirname></pre>
	filename <oldfile></oldfile>

12. Renaming Files

renames <oldfile></oldfile>
moves the file <oldfile> to the</oldfile>
directory <dirname></dirname>
renames the directory <olddir></olddir>
moves teh file <olddir> into</olddir>
the directory <dirname></dirname>

13. Removing Files/Directories

deletes the file <filename></filename>
asks the user again, before
<filename> is deleted</filename>
(-i = interactive)
deletes a directory and all its
content
= rm with options $-i$ and $-r$
deletes the file <filename>,</filename>
no interaction, opposite of –i
deletes empty directory

14. Printing Files

lpr -P<printername> <filename>prints the postscript file <filename> on the printer <printername> shows the printer-queue of printer <pname> deletes the print job with number <jobnr>

from the printer queue of printer pname>

a2ps < fname is a program which converts a raw

textfile into postscript format.

→ not standard, may be not available

15. History

history shows the past commands

16. Redirection of In- and Output

command > < fname> redirects the output of the command to the file <fname> redirects the output of the command >& <fname> command, as well as all erroroutput to the file <fname> command >> <fname> appends the output of the command to the file <fname> command < <fname> reads inpout from file <fname> command1 | command2 (Pipe) Output of command 1 is used as input for command2 command | tee <fname> Output is printed to screen and to file <fname>

With the following construction, the standards output and the standard err output can be written to different files: (command > <stdoutfile>) >& <stderrfile>

17. Processes

ps show my processesps -ef show all processes

top show process information interactively kill <PID> finishes job with id <PID>; you can

kill only processes that you own

command & starts command in background

CTRL-z interrupts active job

bg sends an interrupted job to backgroundfg brings interrupted job to foreground

18. bash

18.1 Environment Variables

global environment variables are:

HOME absolute path of my home directory

PATH which paths are scanned for executables?

TERM which terminal-type do i use?

USER my name

DISPLAY where is output printed?

PRINTER default printer

...

- a variable MYVAR is set with the: MYVAR="xyz"
- it is possible to unset a variable: **unset** MYVAR
- **echo** \$<VAR> shows the content of variable <VAR>
- set or env shows all environment variables
- HOMEPATH=\$HOMEPATH:'/newpath' adds newpath to the HOMEPATH-variable

18.2 Masking Special Characters

via "", ' ', \

19. Other Useful Commands

file <fname> what kind of file is file <fname>? which <fname> which path leads to <fname>? grep, fgrep search expression in files

find ... search for files in directory tree

sort ... sort lines of a textfile diff ... compare two files

wc ... count characters, words and lines in a

textfile

gzip <file> compress file gunzip <file> uncompress file tar ... build an archive

vi ... text editor emacs ... text editor