

Introduction to UNIX

"...the number of UNIX installations has grown to 10, with more expected..."
- Dennis Ritchie and Ken Thompson, June 1972 (Bell Lab.)

Universities, research institutes, government bodies and computer companies all began using the powerful UNIX system to develop many of the technologies which are now part of today's Linux system.

Guide to UNIX on the beginners level:

<http://www.ee.surrey.ac.uk/Teaching/Unix/>

Summary of some useful commands:

Some basic UNIX commands

<i>cd directory_name</i>	change to the directory <i>directory_name</i>
<i>cd ..</i>	change to the directory above the current directory
<i>cd ~</i>	change to the home directory
<i>cp file_1 file_2</i>	copy the file <i>file_1</i> to the file <i>file_2</i>
<i>ln -s source linkname</i>	link the file with the name <i>source</i> to the file <i>linkname</i>
<i>ls directory_name</i>	show the content of the directory <i>directory_name</i>
<i>ls -l directory_name</i>	show in detail the content of the directory <i>directory_name</i>
<i>ls -a directory_name</i>	show all files including hidden files of the directory <i>directory_name</i>
<i>mkdir directory_name</i>	create the new directory <i>directory_name</i>
<i>less file_name</i>	show the content of the file <i>file_name</i>
<i>tail file_name</i>	show the last part of a file <i>file_name</i>
<i>head file_name</i>	show the top part of a file <i>file_name</i>

<i>(x)emacs file_name</i>	edit the file <i>file_name</i> using the editor <i>xemacs</i>
<i>mv file_1 to file_2</i>	change the filename <i>file_1</i> to <i>file_2</i>
<i>rm -i file_name</i>	remove the file <i>file_name</i> (the system asks for confirmation)
<i>rm -ri directory_name</i>	remove all files recursive in the directory <i>directory_name</i>
<i>rmdir directory_name</i>	remove the directory <i>directory_name</i>
<i>find . -name file_name</i>	find a file with the name <i>file_name</i> in all directories starting in the current directory
<i>grep string file_name</i>	find in the file <i>file_name</i> the string pattern <i>string</i>
<i>command > file</i>	redirect standard output to a file
<i>command >> file</i>	append standard output to a file
<i>command1 command2</i>	pipe the output of <i>command1</i> to the input of <i>command2</i>
<i>cat file1 file2 > file0</i>	concatenate <i>file1</i> and <i>file2</i> to <i>file0</i>
<i>sort</i>	sort data
<i>chmod a+rw file_name</i>	give read and write permissions on the file <i>file_name</i>
<i>history</i>	show command history list
<i>!!</i>	recall last command
<i>!-3</i>	recall third most recent command
<i>!grep</i>	recall last command starting with <i>grep</i>
<i>tar -cvf file.tar directory_name</i>	create an archive of a set of files located in the directory <i>directory_name</i>
<i>tar -xvf file.tar</i>	unpack the archive <i>file.tar</i>

Commands concerning the system

<i>df</i>	show information about local and nfs mounted partitions of the hard disks
<i>w</i>	show information about all user and their usage of the system
<i>ps</i>	show all processes belonging to the login process
<i>ps aux grep string</i>	show all processes and select the one which contains string
<i>pstree</i>	show the full process tree
<i>top</i>	show a list of the current processes
<i>du -sk directory_name</i>	show disk usage of the directory <i>directory_name</i> as summary information
<i>kill processid</i>	kill process with process identifier <i>processid</i>

Common tools on UNIX systems

<i>g++</i>	C++ compiler
<i>f2c</i>	Fortran compiler
<i>make</i>	manage large programs or groups of programs
<i>gimp</i>	Manipulate graphics
<i>xfig</i>	Create and edit graphics
<i>gv</i>	View ps and eps files
<i>xv</i>	View gif or pdf files
<i>latex</i>	Type setting system for large documents
<i>firefox</i>	Web browser

Printing

Postscript and text can be printed by the following command

lpr -Pprinter_name file_name

The location of the printers is in the CIP pools, either P.I. or KIP.

Getting help

On Unix operating systems the command

man 'your command'

provides syntax and available optional parameters of the commands.