Computing Basics Stefanie Mühle 03 April 2019

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TENNA	FLAG_CMD	SPECTRAL_WINDOW	toble.f12	table.119	table.f23	table.f7
DM_ANTENNA	HISTORY	STATE	table.f13	table.f2	table.f23_TSM1	table.f8
DM_CALWVR	OBSERVATION	SYSCAL	table.f14	table.f20	table.f24	table.f9
DM_STATION	POINTING	SYSPOWER	table.f15	table.f20_TSM0	table.f24_TSM1	table.inf
LDEVICE	POLARIZATION	table.dat	table.f16	table.f21	table.f3	table.loc
TA_DESCRIPTION	PROCESSOR	table.f1	table.f17	table.f21_TSM1	table.f4	WEATHER
ED	SORTED_TABLE	table.f10	table.f17_TSM1	table.f22	table.f5	
ELD	SOURCE	table.f11	table.f18	table.f22_TSM1	table.f6	
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Working with a terminal	Со		
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mmand-line linux

e current working directory

- change to directory <path>
- ange to parent directory
- to home directory
- current working directory

lirectories

- ne> create (make) a directory called <name>
- ie> remove directory <name>
- <name2> rename dir. <name1> to <name2>
- **ath>** move directory <name> to location <path>
- e> <path> copy dir. <name> to location <path>

Command-line linux

- Handling files
 - mv <name1> <name2> rename file <name1> to <name2>
 - mv <name> <path> - move file <name> to location <path>
 - cp <name> <path> copy file <name> to location <path>
 - rm -i <name> - remove file <name> GONE!
 - Text editing
 - emacs, gvim, gedit, …
- Miscellaneous
- 1s -1rth show (list) content of current directory
- 1s -1rth <path> show content of directory <path>
- more show content of a text file
- man <command> help on <command>, available options
- ssh -X log into a different machine/computer (secure shell)
- exit log out of machine, close a terminal/tab/...

Command-line linux

- An example of command-line linux:
- mkdir mytestdir create a new directory
- cd mytestdir change into this directory
- gedit test.txt & create a new text file
- write some text into this file, save it and exit
- more test.txt inspect the content of the file
- **1s** inspect the content of the directory
- 1s -1rth same as above, but with several options [1, r, t, h]
- man 1s explore the options available for 1s
 - mv test.txt .../ move the file into the parent dir, i.e. one level up
 - 1s inspect the content of the directory again
 - cd ... / change to the directory one level up (parent directory)
 - **ls** inspect the content of this directory
 - cp test.txt mytestdir copy the file to directory mytestdir
 - ls mytestdir - inspect the content of directory mytestdir

Computing Basics I

Hands-on exercise in class:

- Please log into the computer in front of you (University-ID + password)
- Window manager starts automatically
- "Show applications" icon → search for "terminal" → right click: "add to favorites" *terminal = input for commands*
- Open the browser (Firefox)
- Navigate to the course homepage
- https://www.astro.uni-bonn.de/ARC/events/RI2019/
- [Bookmark this page]
- Go to materials' page and download the material for this week's hands-on exercise "exercise1" and "FTP upload instructions" (note the target location!)

Computing Basics II

Hands-on exercise in class:

- Open a text editor, e.g. emacs, gedit, gvim, ...
- Inspect your terminal: *What is your prompt?* copy and paste it into your text file
- pwd (= print working directory): What is your working directory?
 copy and paste it into your text file
- 1s (= list): Which files and directories reside in your current working directory? copy and paste it into your text file
- Ls -lrth: What has changed? Copy and paste the output into your text file
- man ls (= manual of "ls"): What do the options 1, r, t, and h mean? Write a short explanation into your text file
- Save your text file as "basics.txt"

Computing Basics III

Command-line linux:

- Locate the files ex1.tar.gz and ftp.pdf (ls, ls <path>)
- Go to the directory where the files reside (cd <path>)
- Move the files into your home directory (mv <filename> ~/)
- Move to your home directory (cd ~/)
- Unzip the file ex1.tar.gz (gunzip ex1.tar.gz)
- Untar the file ex1.tar (tar -xvf ex1.tar) What does tar do? What do the options x, v, f mean? Write a brief explanation into your text file
- Save your text file!
- What is the content of ex1.tar? Write a brief explanation into your text file

Computing Basics IV

Command-line linux:

- · Go to the subdirectory exercise1
- Make a new subdirectory my_dir
- Copy your text file to my_dir
- Copy figure1.png to my_dir
- Move ALMAantennas.jpg to my_dir
- How many antennas do you see in ALMAantennas.jpg? -[Hint: use one of your "favorites" on the left-hand side] open your text file in my_dir and write down the answer
- List the content of my_dir in long format and copy the output to your text file *What is your user name and your group affiliation?* Write it into your text file
- Save your text file!

Computing Basics V

Command-line linux:

- · Go to your home directory
- Package the entire directory exercise1 into the file <myname>.tar (tar -cvf <myname>.tar exercise1)
- Compress <myname>.tar (gzip <myname>.tar)
- Upload the compressed file to the ftp area following the instructions in ftp.pdf
- Log out of the computer: System User \rightarrow log out
- Switch off the screen (NOT the computer!)

Congratulations, that's it!