

Linux – introduction



Purpose



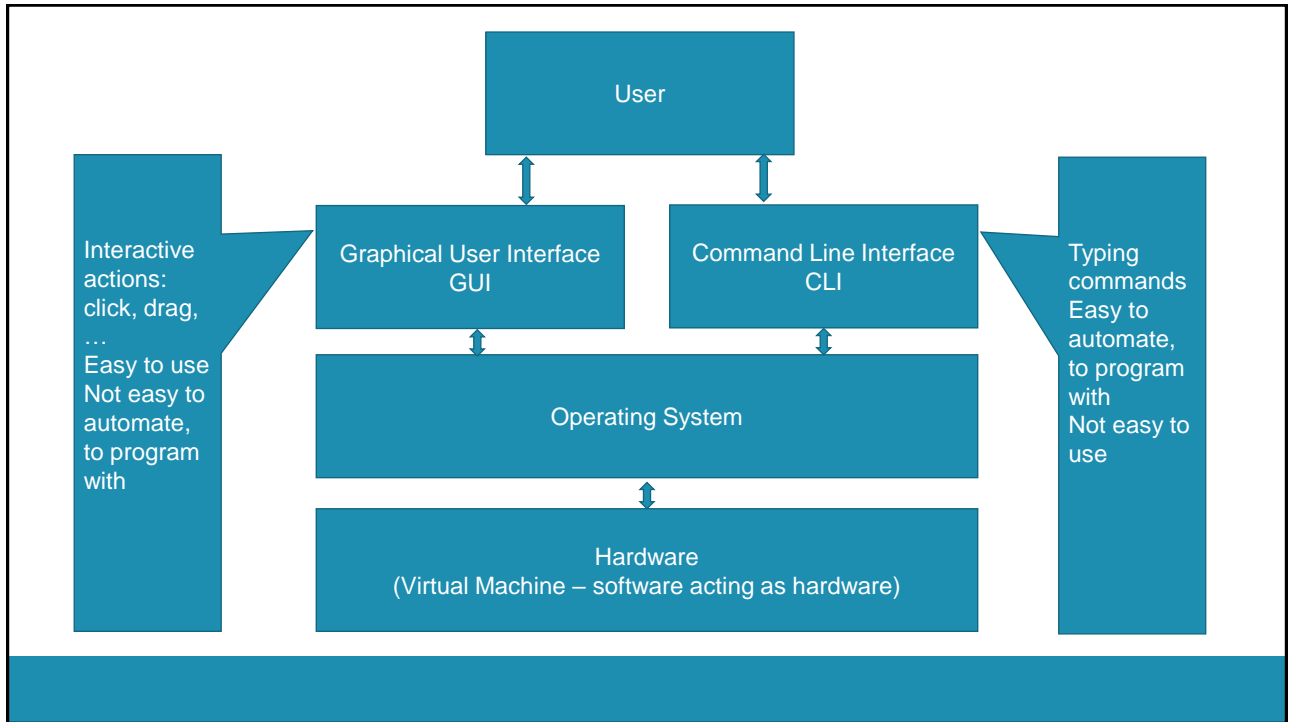
- Get a grip on the very basics: an introduction to the (basic) Linux commands as normally used for computational research.
- Focus on using the command line
- Short hands-on examples
- Based on the slides of Mag Selwa – ICTS @ KULeuven
 - <https://hpcleuven.github.io/Linux-intro/>
- <https://franklbvp.github.io/linuxintro/>

Outline

- Introduction - history
- Command line basics – getting help
- File system
- Working with files and directories
- More file handling
- The shell revisited
- Monitoring resources

Why cli?

- Fundamentally, there are two different ways to work with an operating system:
 - through a graphical user interface (GUI): user uses a pointing device to manipulate windows.
 - through the command line interface (CLI): user types commands at a prompt.



Running Linux?

- MacOS: open a terminal window
- Windows
 - Install virtual machine software
 - Vmware player
 - <https://www.vmware.com/products/workstation-player.html>
 - Virtualbox
 - <https://www.virtualbox.org/>
 - Install a linux distribution
 - Ubuntu <https://ubuntu.com/>
 - CentOS <https://www.centos.org/>
 - Opensuse <https://www.opensuse.org/>
- WSL: windows subsystem for linux
 - MobaXterm can be helpful



WSL

- Check for a detailed description:
- <https://www.cs.odu.edu/~zeil/FAQs/Public/win10Bash/> (also useful for C programming)
- <https://docs.microsoft.com/en-us/windows/wsl/install-win10>

MobaXterm

- <https://mobaxterm.mobatek.net/>
- MobaXterm is a convenient way to remotely access a computer/server.
 - allows use SSH to login and execute commands on a remote computer (similar to Putty).
 - built in X11 forwarding so you can run graphical applications remotely while having the application's output displayed on your local device.
 - ability to transfer files between servers
- MobaXterm detects WSL
 - Use built-in editor

Running Linux? Online

- Webminal (<https://webminal.org>)
- repl.it (<https://replit.com/>)
- CoCalc (<https://cocalc.com>)

Information



- Most of the presentation is based on the information found in:
<http://dontfearthecommandline.blogspot.com/>
(not accessible anymore)
Nicholas Marsh
Introduction to the Command Line (Second Edition)
- <http://linuxcommand.org/tlcl.php>
William Shotts
The Linux Command Line
- <http://www.oreilly.com/programming/free/ten-steps-to-linux-survival.csp?download=yes&order=1274753>
James Lehmer
Ten Steps to Linux Survival
- https://bootlin.com/doc/legacy/command-line/unix_linux_introduction.pdf
Michael Opdenacker & Thomas Petazzoni
The Unix and GNU/Linux command line

Information

- <https://cvw.cac.cornell.edu/Linux/>
- Nathan Haines, *Beginning Ubuntu for Windows and Mac Users*, Apress, 2017
- Philip Kirkbride, *Basic Linux Terminal Tips and Tricks*, Apress 2020
- Prateek Singh, *Learn Windows Subsystem for Linux*, Apress 2020

Websites?



- <https://www.howtogeek.com/t/linux/>
 - Includes help, tutorials, tips and how-to guides for Linux.
- <http://www.tldp.org>
 - The Linux Documentation Project
- <https://lwn.net>
 - Linux Weekly News: Covering the Linux and free software communities since 1998.
- <https://itsfoss.com/>
- <https://www.noobslab.com/>
- <https://www.tecmint.com/>