

C2110 *UNIX and programming*

Lesson 2

PS / 2020 Distance form of teaching: Rev2

Petr Kulhanek

kulhanek@chemi.muni.cz

National Center for Biomolecular Research, Faculty of Science
Masaryk University, Kamenice 5, CZ-62500 Brno

Revision

- **Terminals**
- **Command Line**
- **Remote Access**

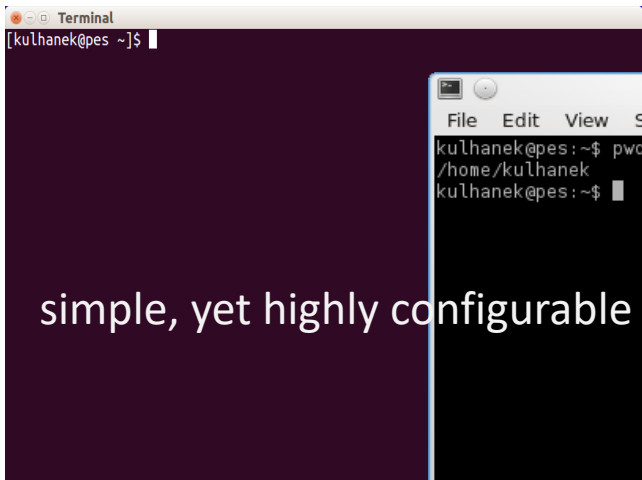
Terminals

The command line is accessible directly from text terminals. In the X11 graphical environment, it is necessary to run a suitable application emulating a text terminal:

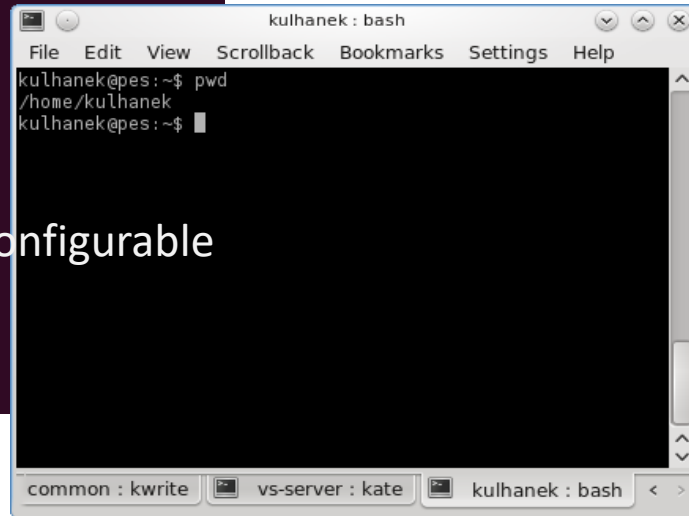
- **gnome-terminal (Terminal)**
- **console**
- **xterm**

The default directory is: **/home/username**

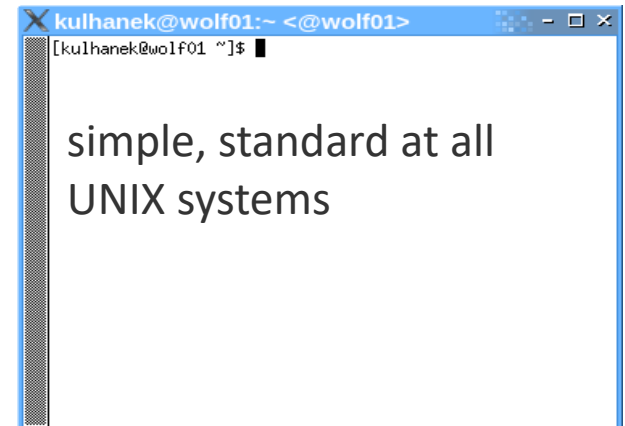
gnome-terminal



console

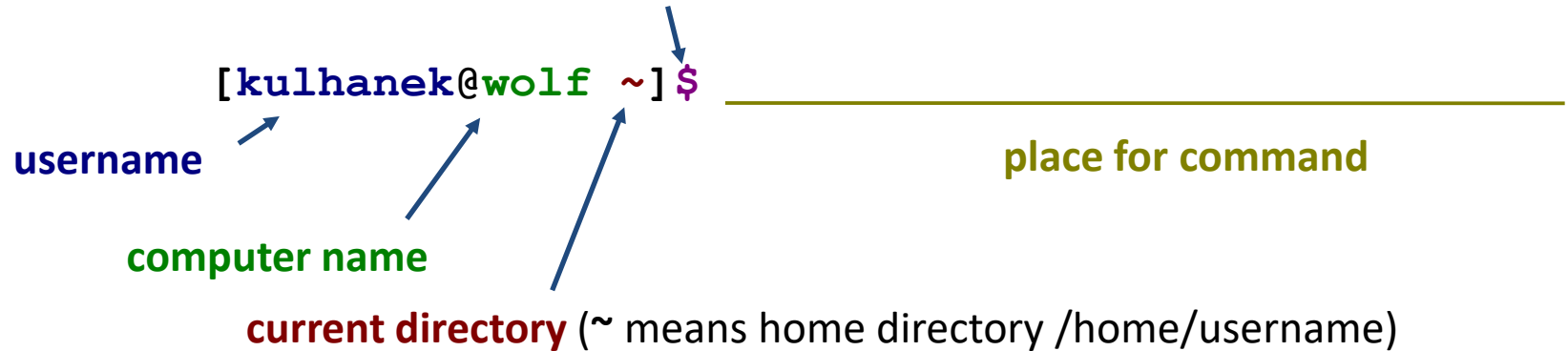


xterm



Command Line

Prompt - type of user / prompt (\$ regular user, # super user, other possible %, >)



The command is executed by pressing **Enter key**.

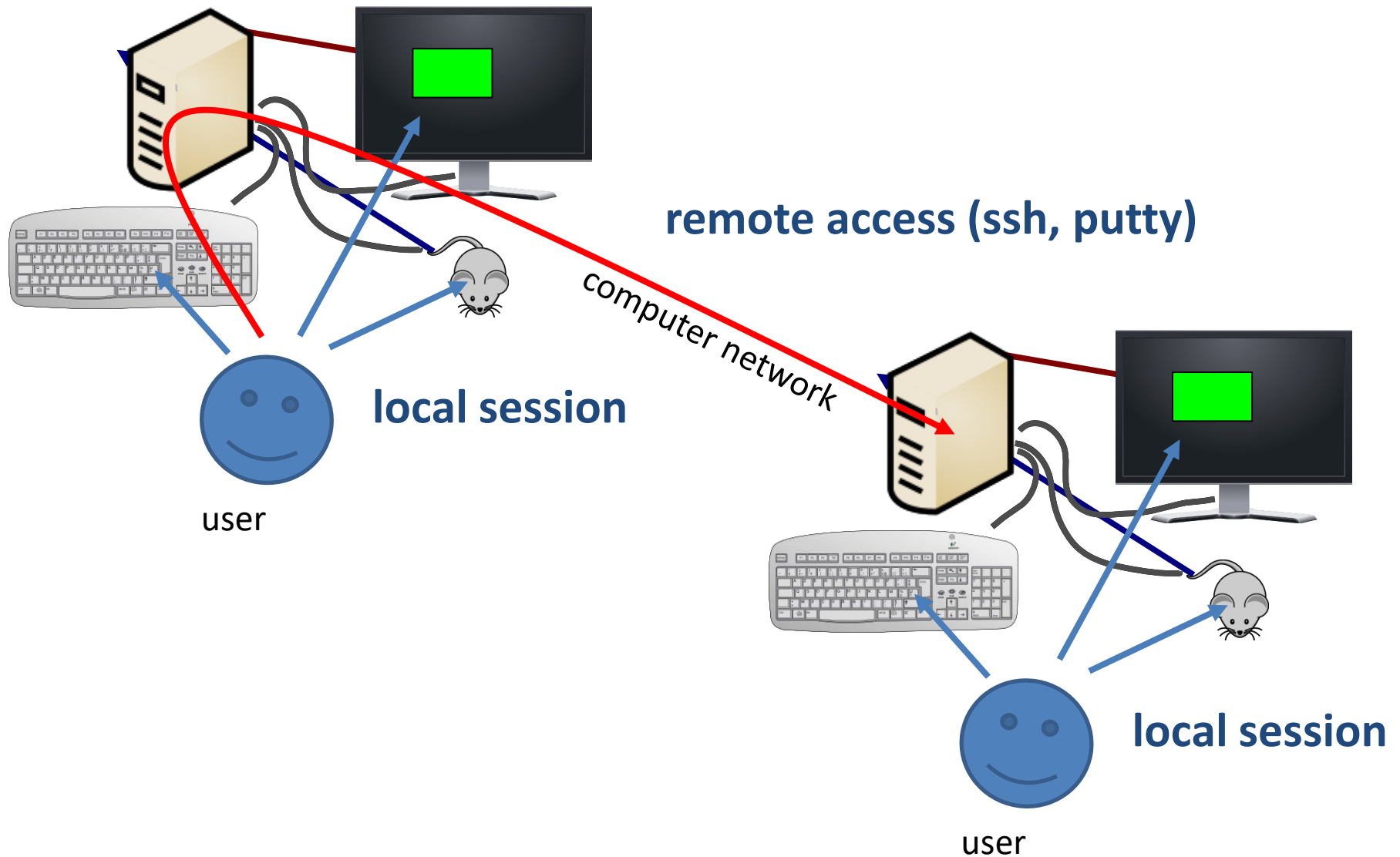
History: Use the up and down arrow keys to scroll through the list of commands you have already entered. The history command can be reused or modified and then used. The history is also accessible by command **history**.

Notation:

```
$ ls -L  
$ ssh wolf01.ncbr.muni.cz ls -l  
# apt-get install firefox
```

Indicates that this is a command line entry. The \$ a # character itself is not written into it.

Remote Access



Linux vs UNIX

UNIX is a trademark in computer science created in Bell's laboratories of the American company AT&T in 1969. The trademark is currently owned by a consortium The Open Group and can only be used by systems that are certified under Single UNIX Specification.

There are different systems that are **compatible with UNIX to a varying degrees**, but they cannot or do not want to pay license fees, so they often use name variants that refer to the UNIX name (for example, XENIX, MINIX, **Linux**), but also can be named differently (for example, BSD variants OpenBSD, NetBSD, but also **Mac OS X** etc.). We collectively refer to them as Unix systems (or unix-like).

GNU/Linux or just briefly **Linux** is a computer science term for an operating system based on **Linux core**. The first version of the kernel was programmed by Linus Torvalds in 1991. He further actively participates in its development.

Adapted from:

<https://cs.wikipedia.org/wiki/Unix>

<https://cs.wikipedia.org/wiki/Linux>

https://cs.wikipedia.org/wiki/Linux_%28j%C3%A1dro%29

Next Subject

- **Basic work with linux**

Content

➤ Kerberos

- authentication tickets, methods of work, basic commands

➤ Commands

- documentation (manual pages), basic detection commands

➤ File system

- structure, differences from MS Windows, relative and absolute paths, wildcards, basic commands

➤ Remote file transfer

- scp, wget
- data transfer between Unix/macOS OS and MS Windows (WinSCP)