Linux

Files, home

Lection №2

(версия 1.0)

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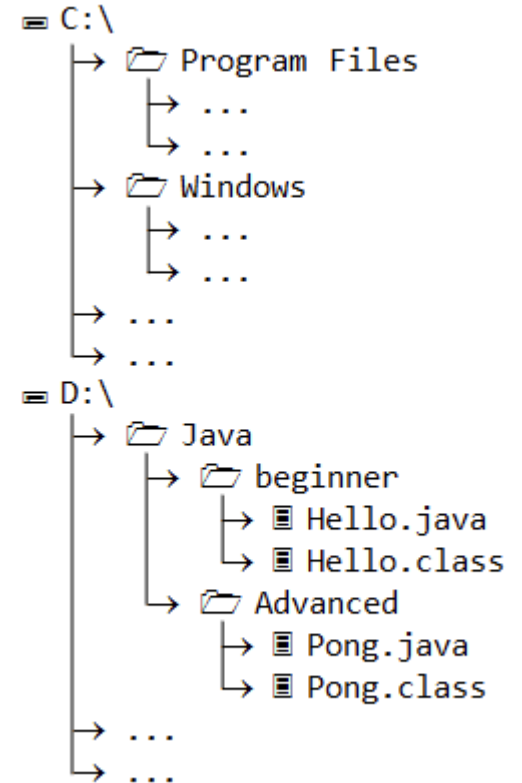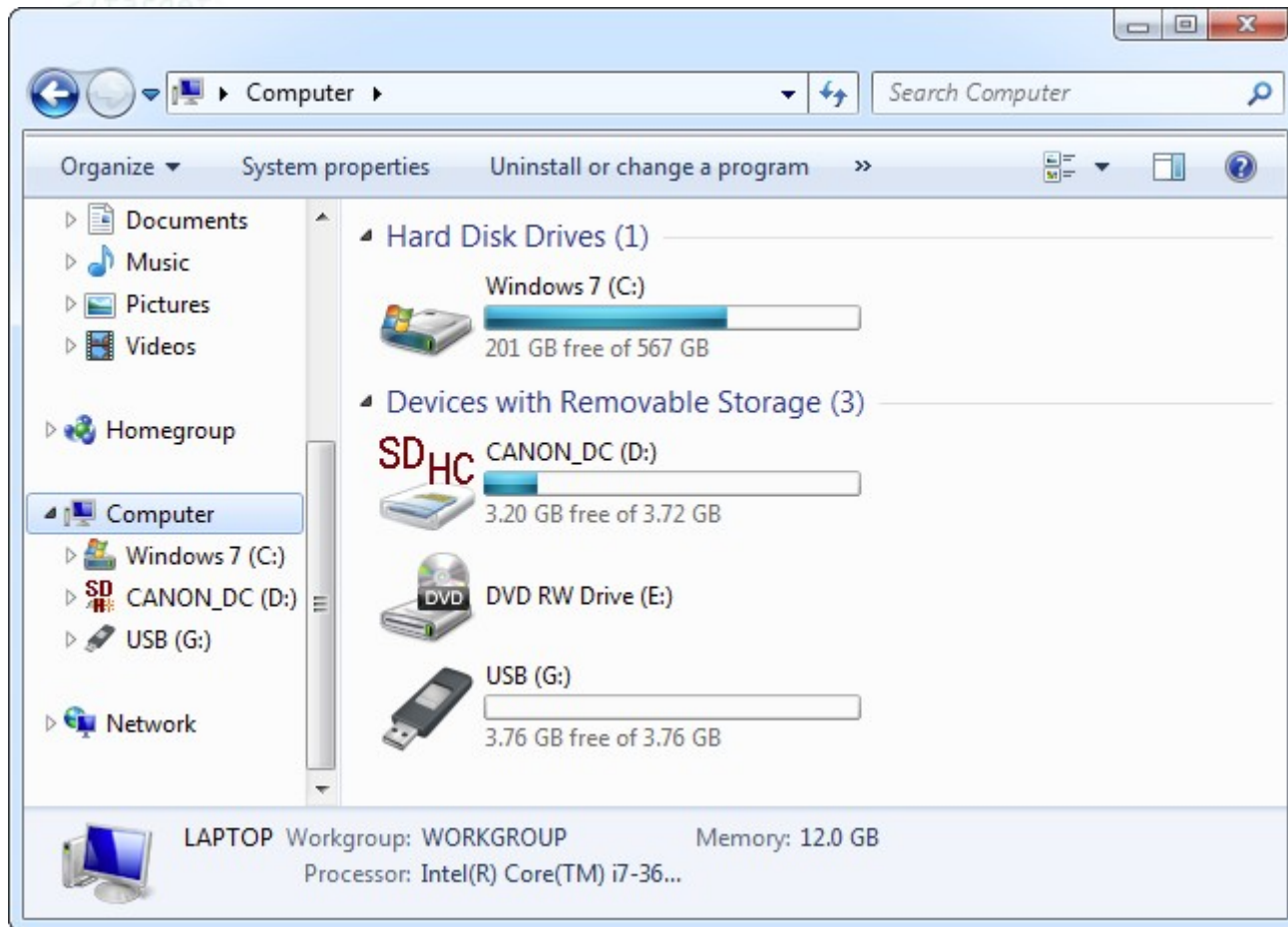
Windows

Windows

- A: — Floppy disk drives, 3.5" or 5.25", and possibly other types of disk drives, if present.

- B: — Reserved for a second floppy drive, if present.

- C: — First hard disk partition.

- D: to Z: — Other disk partitions get labeled here. The letter D: or E: are often assigned to CD-ROM, DVD drives but not always. In fact, Windows assigns the next free drive letter to the next drive it encounters while enumerating the disk drives on the system during installation. Drives can be partitioned, thereby creating more drive letters. This applies to MS-DOS, as well as all Windows operating systems. Windows offers other ways to change the drive letters, either through the Disk Manager (Windows NT, 2000, XP and later) or through the Device Manager found in the Control Panel. MS-DOS typically uses parameters on the line loading device drivers inside the CONFIG.SYS file.

- F: — First network drive if using Novell NetWare.

- H: — "Home" directory on a network server.

Windows
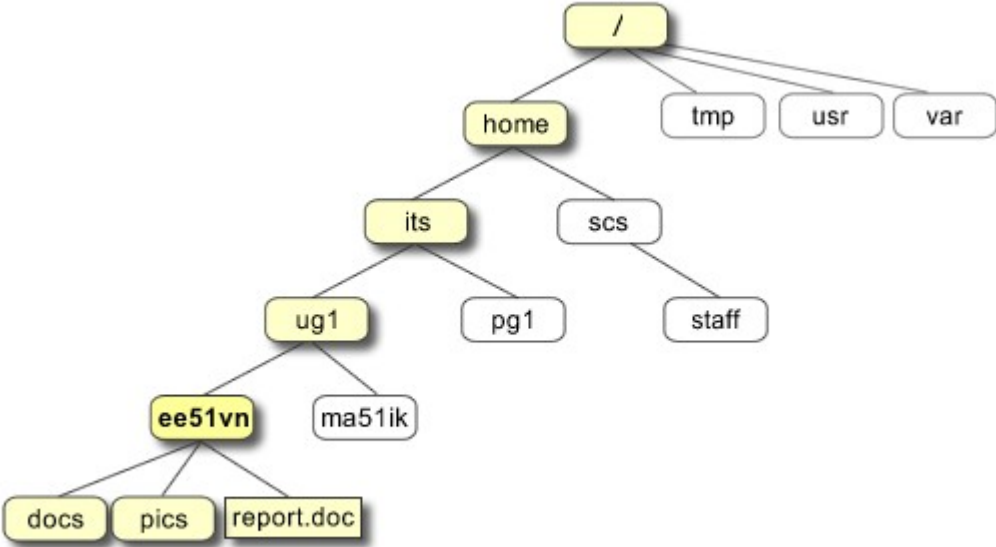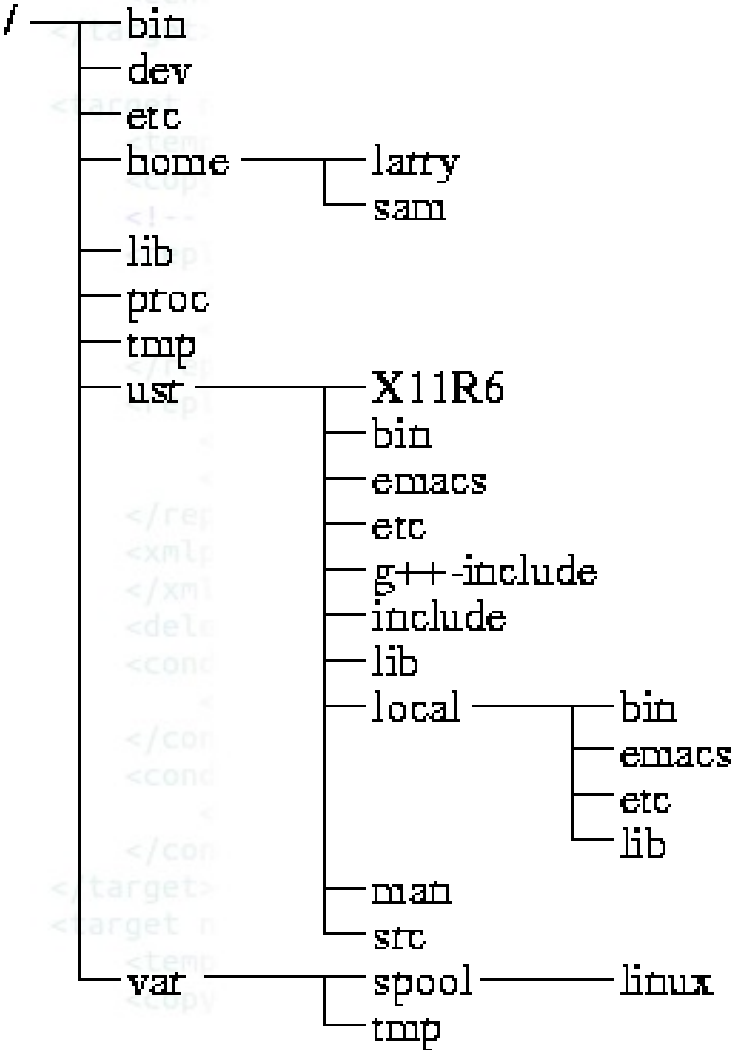
Linux

Linux

If there are no drive letters then how are other storage devices accessed, such as CD/DVD drives, or USB memory sticks?

The answer is that they're **mounted**—effectively, the filesystem of the storage device is magically plumbed through to a particular folder within the Ubuntu filesystem. Insert a CD/DVD, for example, and its contents will be visible when you browse to the /media/cdrom folder.

mount — *to attach device as a part of filesystem tree (to a directory)*

unmount — *to detach previously mounted device*

See file Directories.html

Task 01

- Look into /etc, /media, /root, /var, /home
- Find your home directory
- Mount new ISO image to the VirtualBox as a virtual CD-drive
- Find mounted point
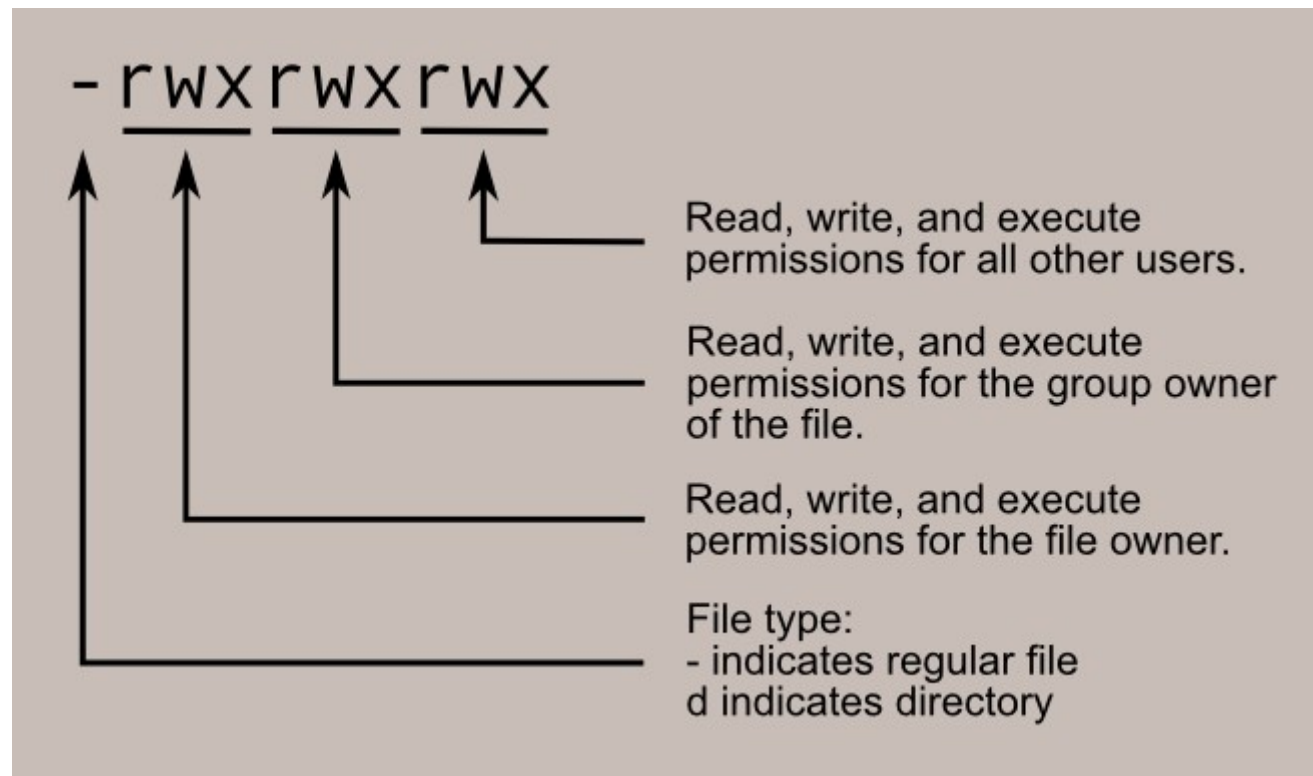- See files in a virtual CD-drive

Permissions

The Unix-like operating systems, such as Linux differ from other computing systems in that they are not only multitasking but also multi-user.

What exactly does this mean? It means that more than one user can be operating the computer at the same time. While your computer only has one keyboard and monitor, it can still be used by more than one user. For example, if your computer is attached to a network, or the Internet, remote users can log in via ssh (secure shell) and operate the computer. In fact, remote users can execute graphical applications and have the output displayed on a remote computer. The X Window system supports this.

The multi-user capability of Unix-like systems is a feature that is deeply ingrained into the design of the operating system. If you remember the environment in which Unix was created, this makes perfect sense. Years ago before computers were "personal," they were large, expensive, and centralized. A typical university computer system consisted of a large mainframe computer located in some building on campus and terminals were located throughout the campus, each connected to the large central computer. The computer would support many users at the same time.

File Permissions

On a Linux system, each file and directory is assigned access rights for the owner of the file, the members of a group of related users, and everybody else. Rights can be assigned to read a file, to write a file, and to execute a file (i.e., run the file as a program).


```
- rwx rwx rwx
```

Read, write, and execute permissions for all other users.

Read, write, and execute permissions for the group owner of the file.

Read, write, and execute permissions for the file owner.

File type:
- indicates regular file
d indicates directory

Task 02

- Find file
- Make it executable
- Try to execute it

Shell / Command line

Simply put, the shell is a program that takes commands from the keyboard and gives them to the operating system to perform. In the old days, it was the only user interface available on a Unix-like system such as Linux. Nowadays, we have graphical user interfaces (GUIs) in addition to command line interfaces (CLIs) such as the shell.

On most Linux systems a program called bash (which stands for Bourne Again SHell, an enhanced version of the original Unix shell program, sh, written by Steve Bourne) acts as the shell program. Besides bash, there are other shell programs that can be installed in a Linux system. These include: ksh, tcsh and zsh.

What's A "Terminal?"

It's a program called a terminal emulator. This is a program that opens a window and lets you interact with the shell. There are a bunch of different terminal emulators you can use. Most Linux distributions supply several, such as: gnome-terminal, konsole, xterm, rxvt, kvt, nxterm, and eterm.

Terminals

- 1-6 — console (Alt+Fn) (tty1-tty6)
- 7-9 — graphical manager (Ctrl+Alt+Fn)
- Graphical terminal (Ctrl+Alt+T)

Task 03

- Open tty1 and login into it
- Switch to tty2 and login again
- Return to graphical manager and run graphical terminal
- Use command *who* to see whois in the system
- Return to tty2 and *exit* from it
- Return to graphical manager
- Use command *who* to see who is in the system

pwd

Since a command line interface cannot provide graphic pictures of the file system structure, it must have a different way of representing it. Think of the file system tree as a maze, and you are standing in it. At any given moment, you are located in a single directory. Inside that directory, you can see its files and the pathway to its parent directory and the pathways to the subdirectories of the directory in which you are standing.

The directory you are standing in is called the working directory. To find the name of the working directory, use the pwd command.

```
[me@linuxbox me]$ pwd
/home/me
```

ls

To list the files in the working directory, use the ls command.

```
[me@linuxbox me]$ ls


Desktop     Xrootenv.0   linuxcmd
GNUstep     bin          nedit.rpm
GUILG00.GZ  hitni123.jpg nsmail
```

cd

To change your working directory (where you are standing in the maze) you use the cd command. To do this, type cd followed by the pathname of the desired working directory. A pathname is the route you take along the branches of the tree to get to the directory you want. Pathnames can be specified in one of two different ways; absolute pathnames or relative pathnames. Let's look with absolute pathnames first.

An absolute pathname begins with the root directory and follows the tree branch by branch until the path to the desired directory or file is completed. For example, there is a directory on your system in which most programs are installed. The pathname of the directory is /usr/bin. This means from the root directory (represented by the leading slash in the pathname) there is a directory called "usr" which contains a directory called "bin".

Let's try this out:

```
[me@linuxbox me]$ cd /usr/bin
[me@linuxbox bin]$ pwd
/usr/bin [me@linuxbox bin]$ ls


[                lwp-request
2to3             lwp-rget
2to3-2.6          lxterm
a2p              lz
```

Task 04

- Go to the root and see files
- Go to the /media, see its content
- Go to mounted CD-drive directory
- See files and try to execute

Sources

- http://linuxcommand.org/
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