Wrocław University
of Science and Technology

Faculty of Microsystem Electronics and Photonics

Operating systems

Lab. 1.

I. Issues to prepare

- Virtual machine

- Linux, distributions

- Package management system

II. Outline

1. Environment for operating systems preparation

2. Chosen Linux distribution preparation

3. Getting familiar with Linux

III. Tasks

1. Create your own unique folder inside which you will store all files, instructions, downloaded data, etc.

2. Download and install the newest version of Oracle VM VirtualBox, dedicated for proper host system (Windows).

Warning!

There is experimental, sophisticated module for automatic answering every question, called "Google", installed onto every laboratory computer. Please use it to answer any question like "Where can I download it from?".

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3. Download **Oracle VM VirtualBox Extension Pack.**

4. If needed, change VirtualBox language:
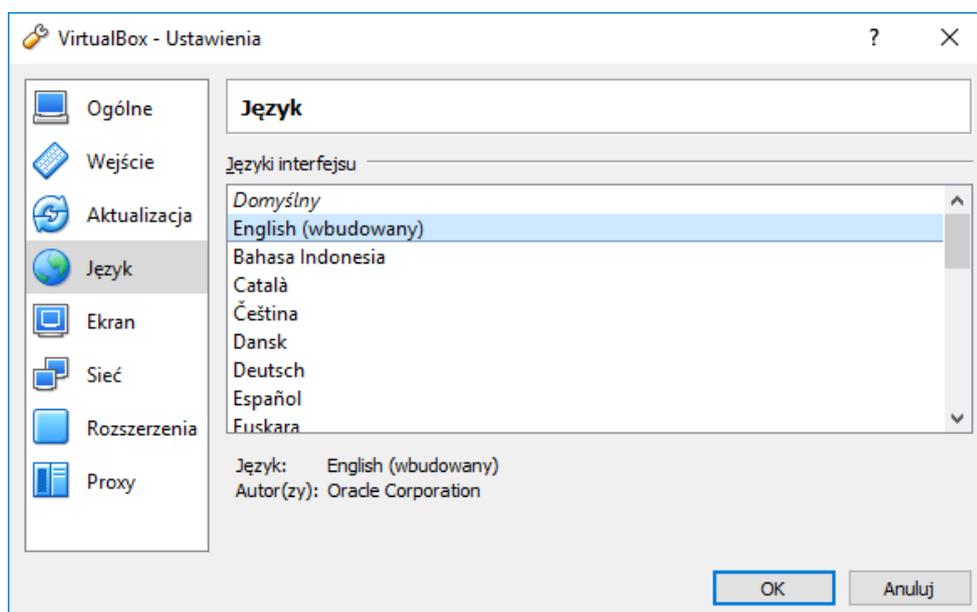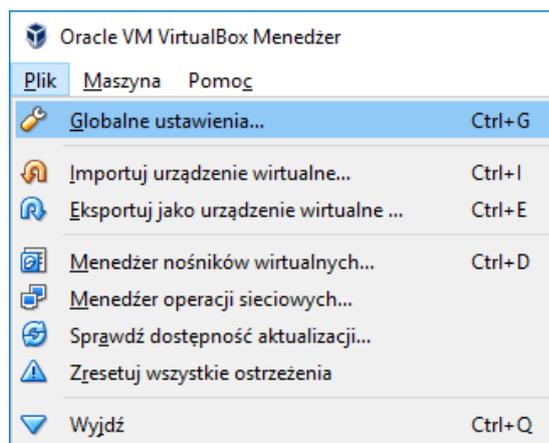
5. Configure VirtualBox soft (File/Preferences):

   - *Set Default Machine Folder to your unique one*
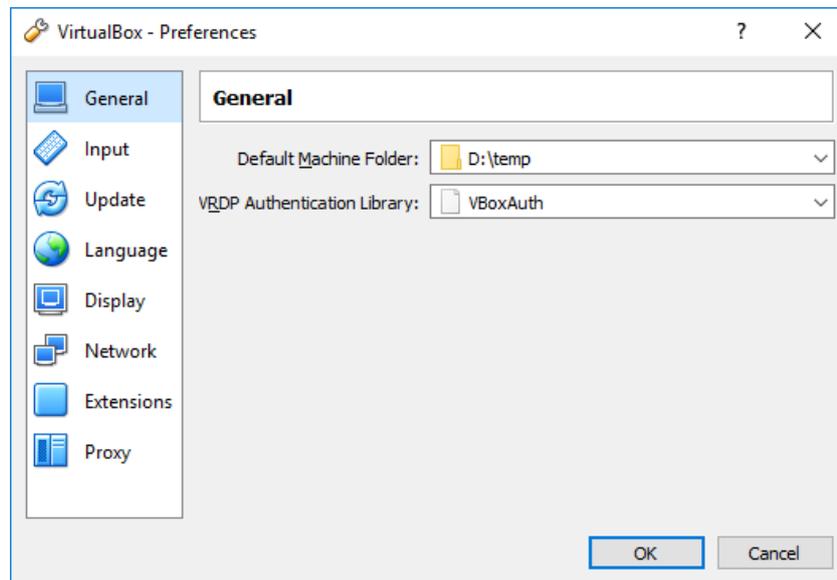
   - *In Extensions please add downloaded **Extension Pack***

6. Now, when you feel that virtual machine monitor is ready, please download the newest image of Linux based on Debian – Linux Mint **LMDE 2 Betsy**, Cinnamon, 32 bit. You can choose any download mirror.

7. Go back to VirtualBox. Create the new virtual machine, *New* button.
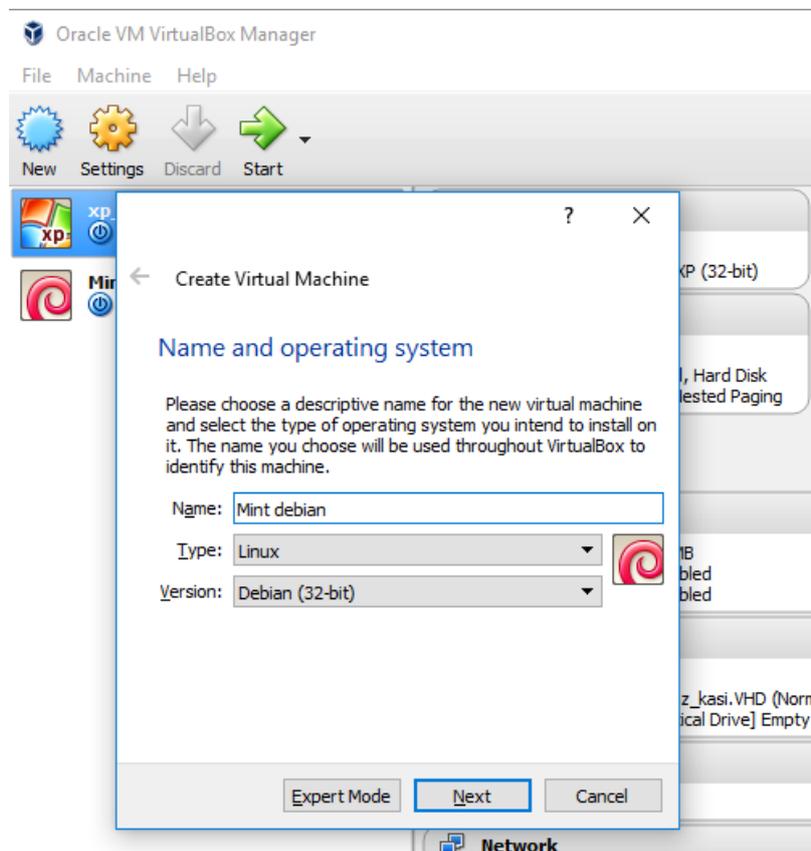
8. Note, if you use proper machine name, type and version of operating system will be chosen automatically.

9. Please set default amount of RAM memory setting.

10. Next, please create new virtual dynamically allocated disk drive (do not forget to set file path to your unique folder).

File location and size

Please type the name of the new virtual hard disk file into the box below or click on the folder icon to select a different folder to create the file in.

D:\temp\Mint_debian2\Mint_debian2.vdi

Select the size of the virtual hard disk in megabytes. This size is the limit on the amount of file data that a virtual machine will be able to store on the hard disk.

8,00 GB

4,00 MB   2,00 TB

11. After virtual machine creation, please change it settings to:

- Shared Clipboard: Bidirectional

- Enable I/O APIC

- Activate 2 Processors

- Enable 3D Acceleration.

12. Start virtual machine.

13. Select downloaded Linux ISO image as start-up disk, what simulates inserting DVD disc.

14. Start Linux Mint (live mode).

15. Install Linux.

Note

You are running virtual machine using virtual hard drive which is completely isolated from host machine. There is no possibility to break the computer. In case of any troubles you can easily remove virtual equipment and again create the new one.

16. After installation when machine is booting again remember to choose *Boot from local drive* option, as you have already installed operating system onto virtual hard drive and no longer need to boot from DVD.

17. Log in.

18. Check out how Linux looks like.

19. Run Terminal. Terminal is the powerful tool to execute every command you need instead of looking for proper item to click by mouse. In some cases it is much faster.

20. Update package management system, called APT:

student@wirtualny ~ $ sudo apt update

Command *sudo* is used to execute current operation with temporary elevated permissions.

You can easily search for any packages using *apt search pckg_name* and install it by *sudo apt install pckg_name*.

student@wirtualny ~ $ apt search gedit

student@wirtualny ~ $ sudo apt install gedit

21. Find and install text editor *gedit*. Note what package manager do in case of lack of any needed package.

22. Installed package you can run from START menu or by typing its name in terminal.

23. Basic Termin commands:

pwd	Shows place where are you now
ls	Lists content of folder
ls –lh	Lists content of folder, but well formatted
Arrows	Shows last used commands
TAB	Autocomplete commands

24. Install package *gnome-games.*

25. Check which of the games is the most interesting.