Linux

Unix, Linux, History

Lection №1

(версия 1.0)

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Teacher

Senior teacher
(Information system department)

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Room: A-512

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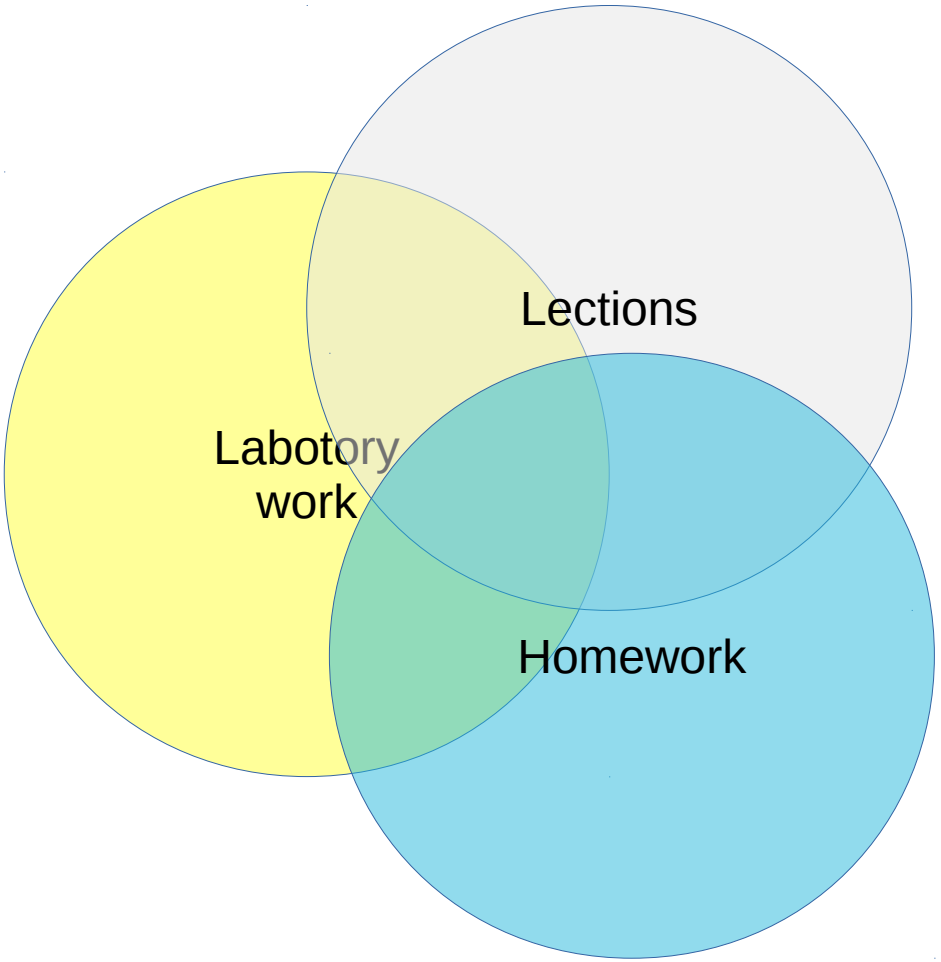
Состав курса



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Structure of the course

- Introduction
- Installation
- Configuration
- Shell commands
- Graphical interface
- Security
- Networking
- Programming (?)

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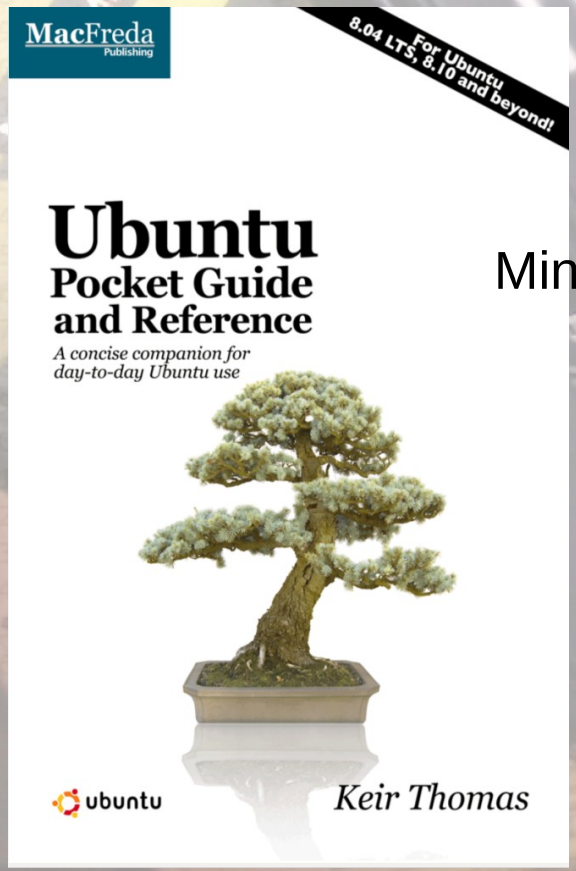
Literature



20 years of experience

Slackware, Debian, Red Hat,
Mint, ASPLinux, Fedora, Ubuntu, Mandriva,
SUSE, OpenSUSE, DSL and more

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URL

Training materials, lections

http://elab.pro/

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Virtual Machine

This is a full guest operating system (which may or may not be Linux) which runs on top of a Hypervisor program on a host machine, which can be running any operating system with an available hypervisor, including all flavors of Windows, Linux and Mac OS.

An advantage of using the virtual machine images is that you can't fundamentally destroy your host system while running them, and they run as an unprivileged application, which may be more compatible with company IT policies, if applicable. A further advantage, especially with on-line classes, is that a system failure does not take you off-line.

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Virtual Machine

Here are two easily obtainable low- or no-cost solutions:

- **Oracle Virtual Box** - Can be downloaded from http://www.virtualbox.org

Exists for Windows, Linux, MacOS and Solaris operating systems.

- **Vmware** - Exists in full-featured products such as VMware Workstation but also in a freely downloadable version, VMware Player which can be reached at http://www.vmware.com/try-vmware.html. While VMware Player is free of charge only for Windows and Linux host operating systems, VMware Fusion is a low cost program for the MacOS.

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Task 01

- Install VirtualBox
- Create virtual machine (RAM 2GB, HDD 10Gb)
- Connect ISO-image with Ubuntu
- Start virtual machine
- Start installing Ubuntu

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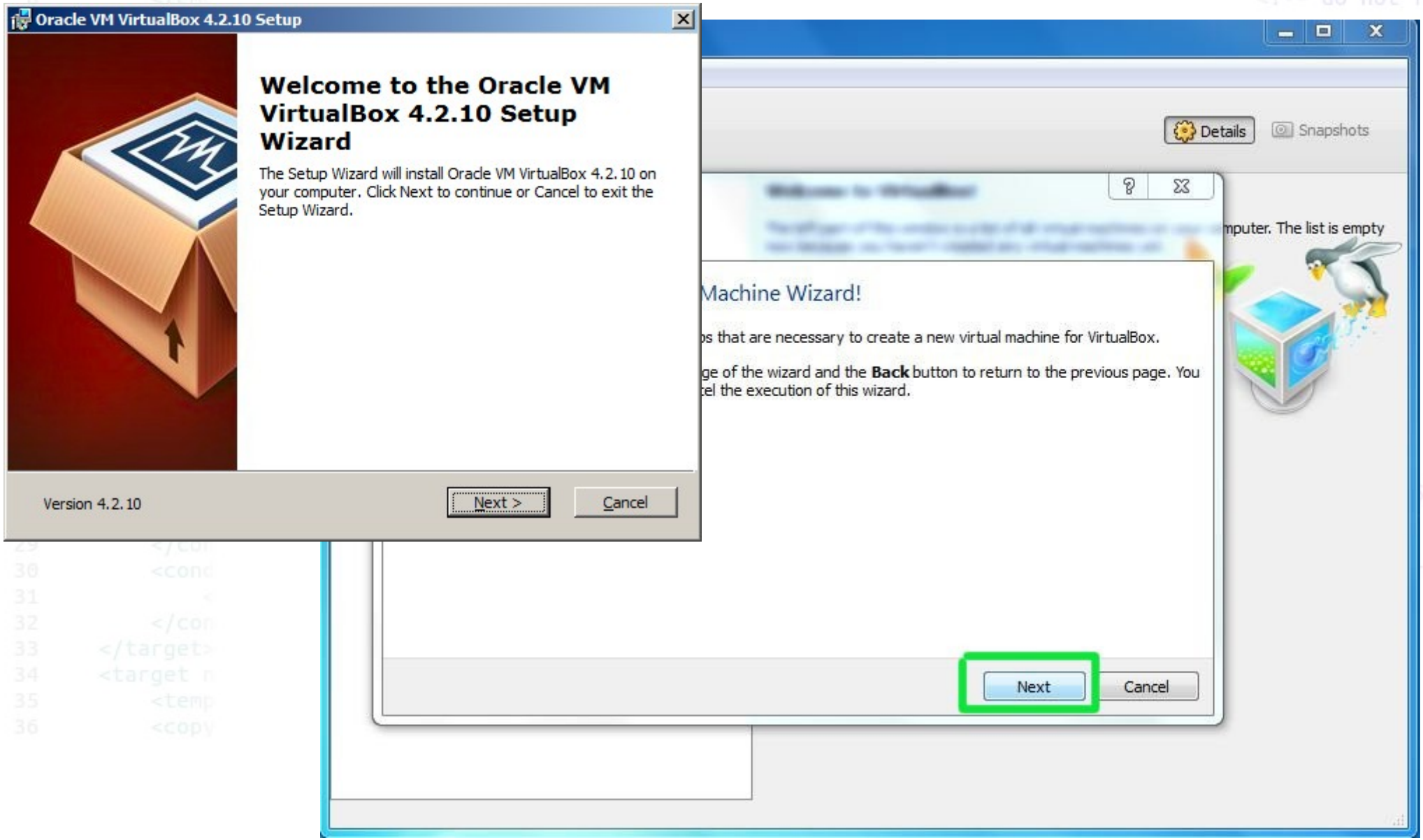
VirtualBox



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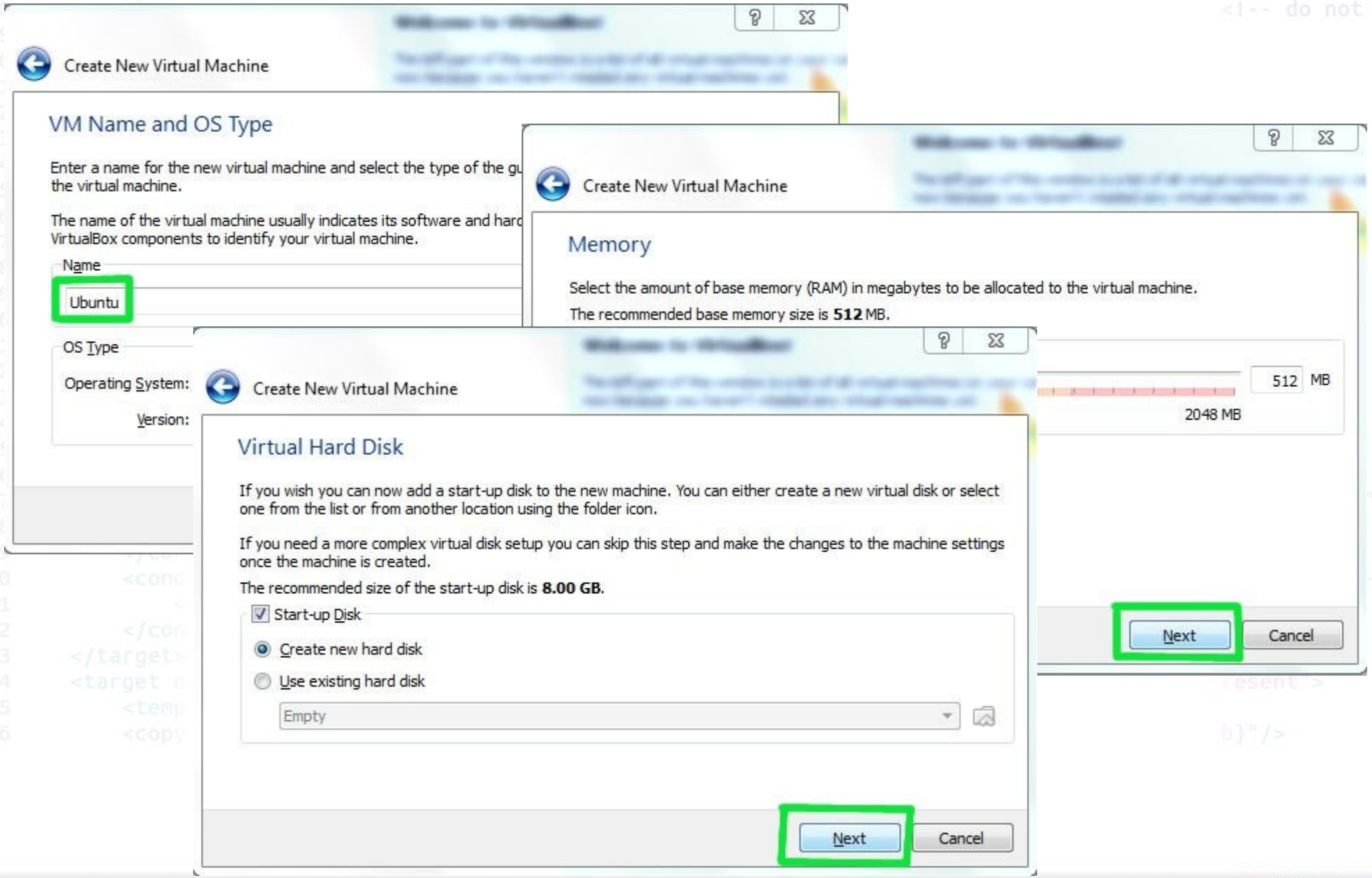
VirtualBox



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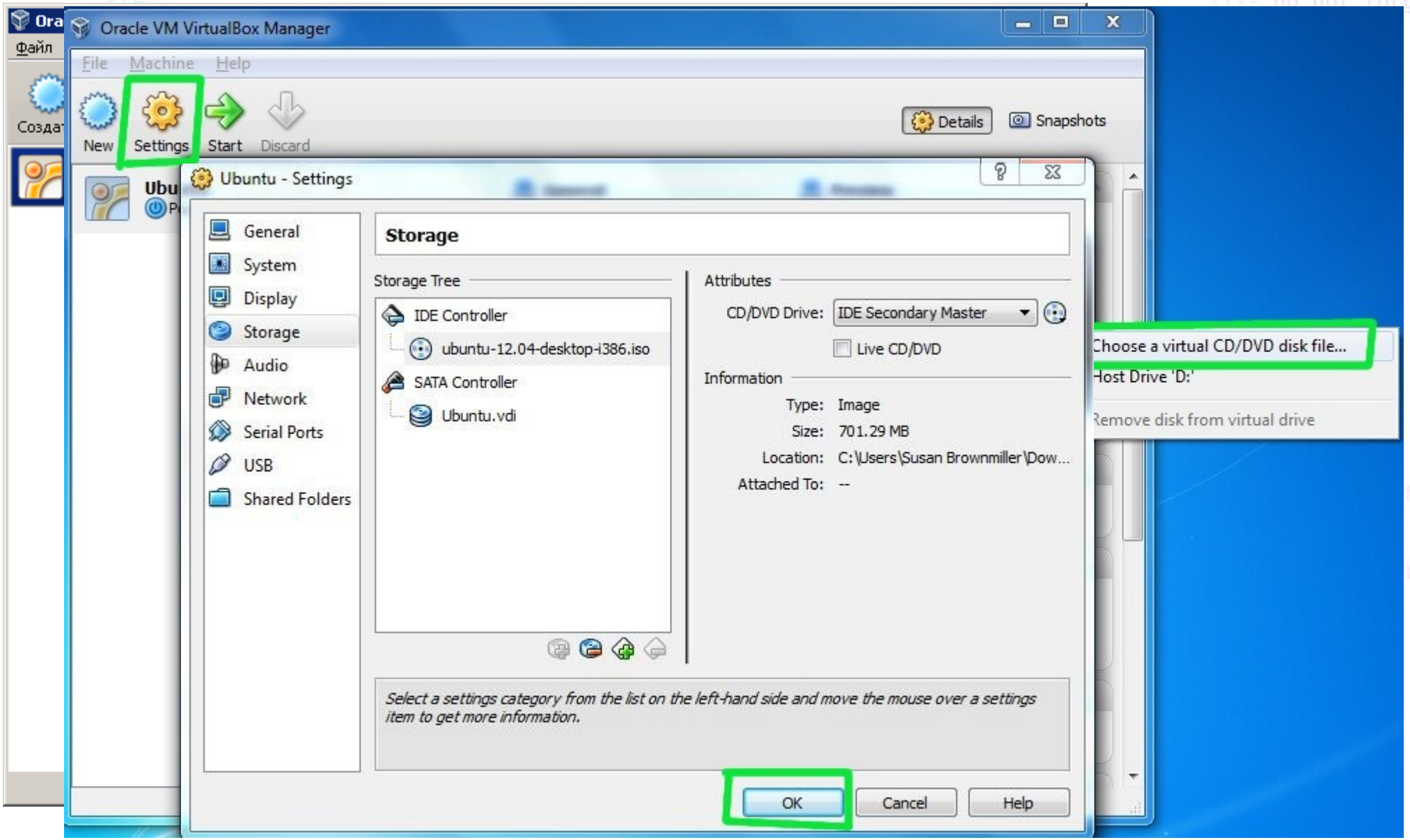
VirtualBox



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Ubuntu [Running] - Oracle VM VirtualBox

Machine View Devices Help

Install

Welcome

Asturianu
Bahasa Indonesia
Bosanski
Català
Čeština
Dansk
Deutsch
Eesti
English
Español
Esperanto
Euskara
Français
Gaeilge
Galego
Hrvatski
Íslenska
Italiano

Try Ubuntu

Install Ubuntu

You can try Ubuntu without making any changes to your computer, directly from this CD.

Or if you're ready, you can install Ubuntu alongside (or instead of) your current operating system. This shouldn't take too long.

You may wish to read the release notes.

Right Ctrl

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Linux

Linux (pronounced /ˈlɪnəks/ *LIN-uks* or, less frequently, /ˈlaɪnəks/ *LYN-uks*) is a *Unix-like* and mostly *POSIX-compliant* computer operating system assembled under the model of free and open-source software development and distribution. The defining component of Linux is the Linux kernel, an operating system kernel first released on 5 October **1991** by **Linus Torvalds**.

Linux was originally developed as a free operating system for Intel x86–based personal computers, but has since been ported to more computer hardware platforms than any other operating system. It is the leading operating system on servers and other big iron systems such as mainframe computers and supercomputers, but is used on only around 1.5% of desktop computers. Linux also runs on embedded systems, which are devices whose operating system is typically built into the firmware and is highly tailored to the system; this includes mobile phones, tablet computers, network routers, facility automation controls, televisions and video game consoles. **Android**, the most widely used operating system for tablets and smartphones, is built on top of the Linux kernel.

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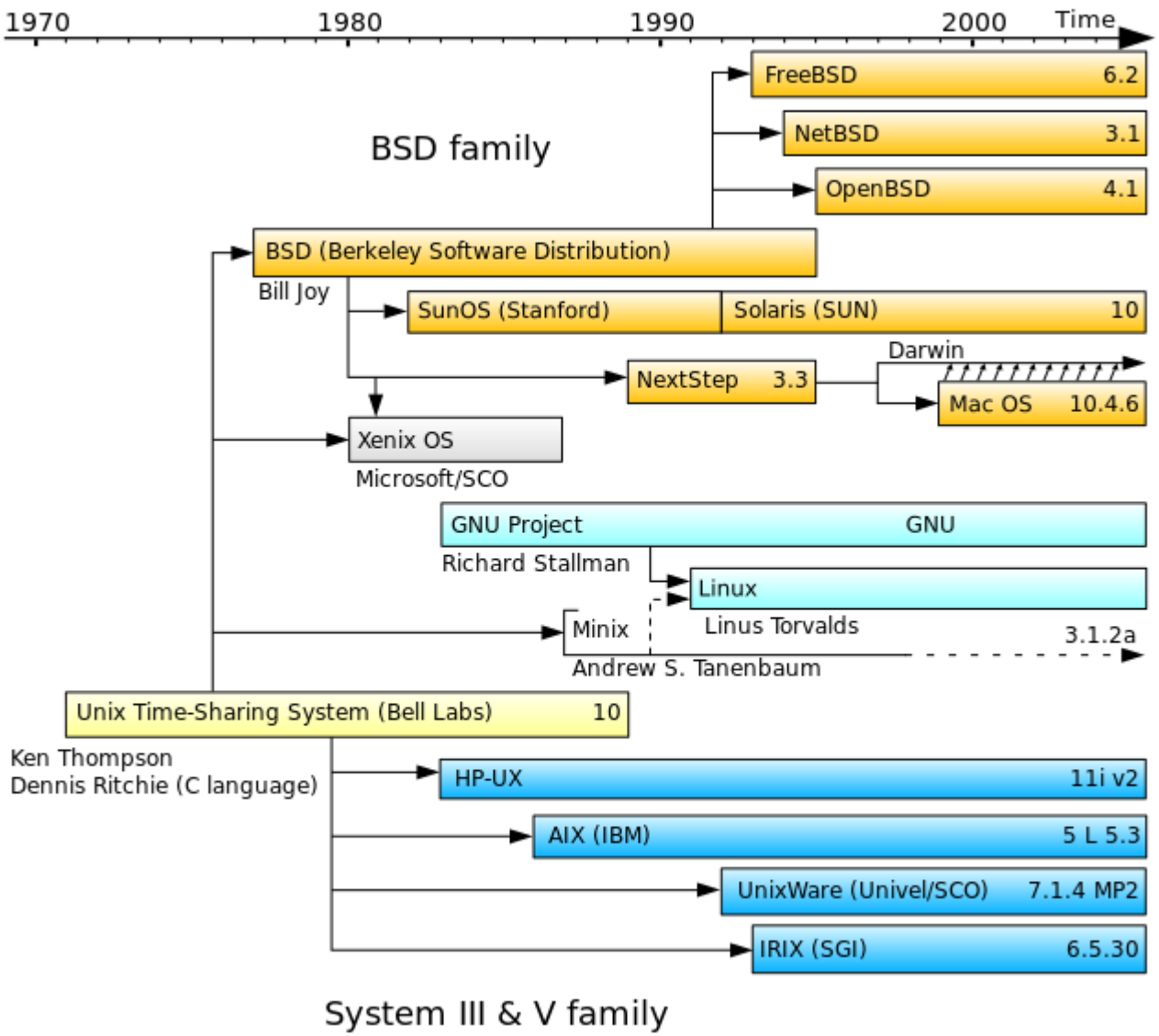
History



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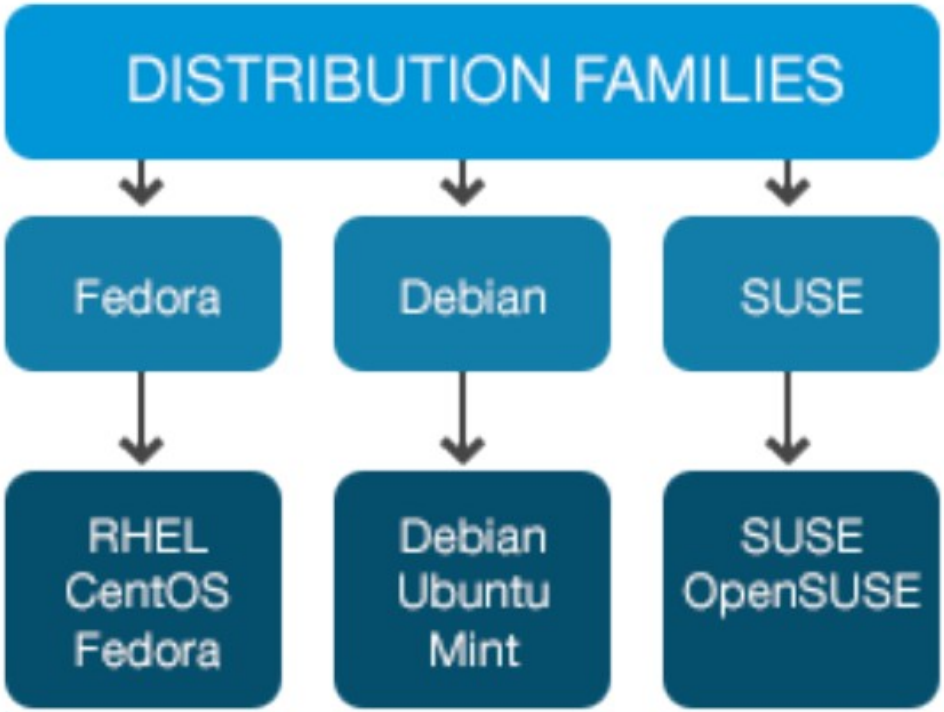
Linux Distributions

- **Fedora:** Including **Fedora, Red Hat Enterprise Linux (RHEL)**, and **CentOS**.
- **Debian:** Including **Debian**, **Ubuntu** and **Mint**.
- **SUSE:** Including **SUSE** and **OpenSUSE**.



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Linux Distributions

redhat Linux

debian

slackware linux

ubuntu

suse®
A NOVELL BUSINESS

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Linux Distributions

DISTRIBUTION	LOCATION
FEDORA	http://www.fedoraproject.org
REDHAT (RHEL)	http://www.redhat.com
CENTOS	http://www.centos.org
DEBIAN	http://www.debian.org
UBUNTU	http://www.ubuntu.com
MINT	http://www.linuxmint.org
SUSE	http://www.suse.com
OPENSUSE	http://www.opensuse.org

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Linux Images

All Linux distributions provide downloadable installation media in the form of optical media images (CD and/or DVD) which can be easily burned to a physical disk, or USB stick images, together with instructions on how to produce a USB drive that can be booted from for installation.

These images vary in type of machine (e.g., 64-bit or 32-bit; we recommend doing only 64-bit installs on modern hardware that supports it) or small or large (e.g., minimal or full desktop or server system).

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Linux Images

Many popular distributions provide Live CD, DVD, or USB media which can be used to run Linux without actually installing it on your disk drives. As you can imagine, this is the safest method of experimenting with Linux if you already have a computer running another operating system.

There are disadvantages however:

- Slow startup: every time you boot up the hardware has to be examined and the operating system set up as if you were doing a fresh install.
- Performance can be poor, so more memory and CPU power may be required to make things run acceptably.
- It can be awkward to save any work or other material either on the normal hard disk or to external media etc, although it can be done. In particular, any changes in setup or any other software that is installed may be lost each time one boots up.

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Startup procedure

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Task 02

- Shutdown VM
- Start VM
- See GRUB
- Start Ubuntu and press ESC
- See startup procedure

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Task 03

- Configure Ubuntu
  - System language
  - Keyboard layouts
  - Date and time
  - Information about system
  - Users

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