COMP311
Linux OS Laboratory

By

Alaa' Omar

Schedule

Day	Time	Room	Section
Saturday	11 - 13:40 AM	O.Abdulhadi152	7
Monday	2 - 4:40 PM	Masri402	6
Thursday	8 – 11:40 AM	Masri405	5

You can schedule an appointment
Contact via email: anairat@birzeit.edu

Office Hours - Masri416

Day	7	8	9	10	11	12	13	14	15	16	17	18
Saturday			O. H.		COMP311			O. H.				
Sunday												
Monday								COMP311				
Tuesday												
Wednesday												
Thursday		COMP311										
Friday												

COMP 311 Linux Lab
Module 0: Course Overview

Alaa' Omar

- alaa-omar-22105717@linkedin
- Eng-aomr (Github)
- http://alaa-omar.me (Personal website)

Computer Engineering
Class 2009

Software Engineering
Class 2022

Job Roles :

- Software Engineer
- Network Administrator
- Data Scientist
- NLP Engineer Researcher
- Lecturer

PLEASE ..

While in class!!

- Phones:
  - Silent or vibrate
  - Do not use it for social media and texting

- Drinks and food are not allowed in the lab

Class page on ITC

- Planning to use it for the class
- Course outline
- Announcements
- Exams
- Slides
- Resources

Course Outcome

1. Learn to navigate and manipulate the Linux file system comfortably.
   تعلم ادارة ومعالجة نظام ملفات اللينكس بسهولة.
2. Be able to customize and manage their own Linux shell environment.
   القدرة على تعديل وادارة بيئة قشرة اللينكس الخاصة بهم..
3. Learn to write shell programs to automate and facilitate different tasks.
   تعلم كتابة البرامج للقيام بالعمليات بشكل أوتوماتيكي وسهل

What I am excepting form you

- Attend class at time
  - Participate in class
- Review the lectures
- Do your projects alone

- Copying form each other is cheating
- Copying for external resources such as ChatGPT is also cheating.
- Both cheater and cheated-from will get ZERO
- Projects are individuals not teams.
- Handed in work must be yours.

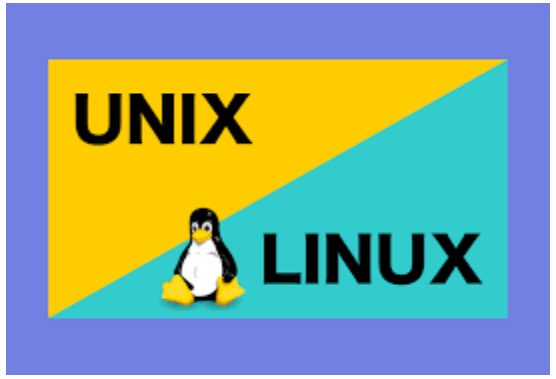
Zero Tolerance Policy

Lab 1 outline

Course Outline
Background information about Linux.
Linux Disruptions.
Linux installation and Environment setup.
Linux command basic structure.
Identify some important Linux Files .

FRICTION BETWEEN UNIX AND LINUX

Are Linux and Unix the same?



PARAMETER	LINUX	UNIX
Inception Year	1991	1969
Standard	free, open source, and cooperatively developed.	Operating system can only be used by its copywriters
Target use	Can be used by anyone including home user and developer.	Developed mainly for servers, workstations and mainframes.
Cost	LINUX is freely available and distributed with no associated cost.	UNIX variants come as customized cost.
Security	60-100 viruses listed till date	85-120 viruses listed till date
Interface type	Primarily uses GUI with option of CLI	Primarily uses CLI
Variants	Ubuntu, Kali, Red Hat, Open Suse, etc.	Solaris, AIS, HP-UX, IBM's AIX, etc

https://ipwithease.com/linux-vs-unix/

UNIX and Linux System Administration Handbook

LINUX DISTRIBUTIONS

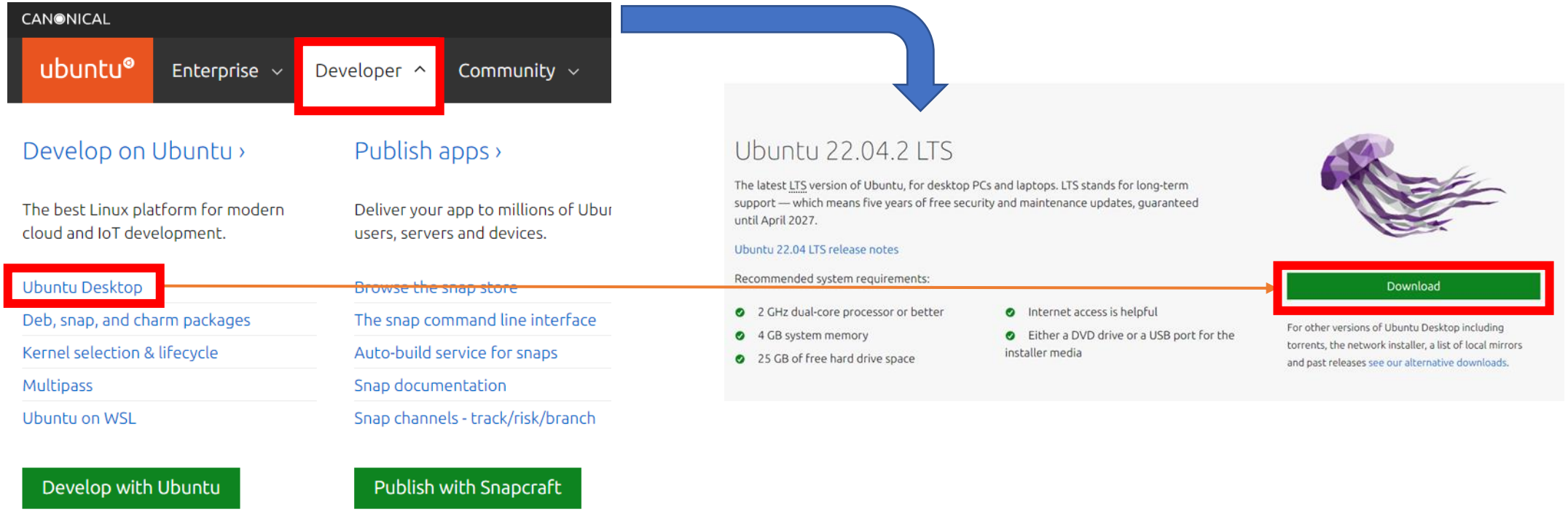
Most popular general-purpose Linux distributions

Distribution	Web site	Comments
CentOS	centos.org	Free analog of Red Hat Enterprise
Debian	debian.org	Closest to GNU
Fedora	fedoraproject.org	De-corporatized Red Hat Linux
Gentoo	gentoo.org	Compile-it-yourself, optimized
Linux Mint	linuxmint.com	Ubuntu-based, elegant apps
Mandriva	mandriva.com	Long history, "easy to try"
openSUSE	opensuse.org	Free analog of SUSE Linux Enterprise
Oracle Enterprise Linux	oracle.com	Oracle-supported version of RHEL
PCLinuxOS	pclinuxos.com	Fork of Mandriva, KDE-oriented
Red Flag	redflag-linux.com	Chinese distro, similar to Red Hat
Red Hat Enterprise	redhat.com	Reliable, slow-changing, commercial
Slackware	slackware.com	Grizzled, long-surviving distro
SUSE Linux Enterprise	novell.com/linux	Strong in Europe, multilingual
Ubuntu	ubuntu.com	Cleaned-up version of Debian

UNIX and Linux System Administration Handbook

Installation Manual for Ubuntu 22.04.2 LTS

- **First: download the latest version of Ubuntu from the official website: https://ubuntu.com/**



Installation Manual for Ubuntu 22.04.2 LTS

- **Second: Download VirtualBox**

https://www.virtualbox.org/wiki/Downloads

Common Problems:

➢ **Terminal is not showing:** to solve this problem, just change the language from the settings to one of the listed (See the link).

➢ **Fix Full Screen problem in VirtualBox:** To solve this problem. follow the steps provided by the following video (see the link)

➢ **Fix copy paste from hot to vm and vise versa** :

To enable copy and paste between your pc and vm, follow the steps in the following video (see the link)

Full installation manual from Ubuntu

- https://ubuntu.com/tutorials/install-ubuntu-desktop#1-overview

Linux Command Line Structure

A **command** is a program that tells the Unix system to do something. It has the form:

command [***options***] [***arguments***]

where an **argument** indicates on what the command is to perform its action, usually a file or series of files. An option modifies the command, changing the way it performs.

Commands are case sensitive. ***command*** and ***Command*** are not the same.

Options are generally preceded by a hyphen (-), and for most commands, more than one option can be strung together, in the form:

command -[option][option][option]

e.g.:

ls -alR

will perform a long list on all files in the current directory and recursively perform the list through all sub-directories.

For most commands you can separate the options, preceding each with a hyphen, e.g.:

command -option1 -option2 -option3

https://sci.informatik.uni-kl.de/rechnerzugang/unix/unix_book.pdf

Linux Basic Commands in a nutshell

ls: Lists the files and directories in the current directory or a specified directory.

who: Shows a list of users who are currently logged in to the system.

finger: Displays information about a specific user, such as their full name, login shell, and the date and time they last logged in.

write: Sends a message to another user who is currently logged in to the system.

mesg: Controls whether other users can send messages to your terminal using the write command.

uname: Displays information about the current system, such as the kernel version and operating system name.

man: The manual pages system on Linux, which provides documentation and help for various commands and utilities.

Linux Basic Commands in a nutshell

whoami: Displays the username of the current user.

echo: Prints text to the terminal or writes it to a file.

script: Starts a new shell session and records everything that is displayed on the terminal into a file.

cp: Copies files from one location to another. Can also be used to copy directories and their contents recursively. Syntax: cp [source] [destination]

date: Displays or sets the system date and time.