

Electronic Computer Center
Al-Nahrain University
Linux Module
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Lecture 3 & 4



- Installation (Single/Dual mode – Virtual Box – Portable)



Downloading & Preparing ISO Memory Stick/ DVD

- [Debian](#)
- [Ubuntu](#) LTS
- [AOMEI](#) Partition Assistant
- Bootable Memory Stick ([Rufus](#))
- Bootable DVD ([IsoCreator](#), [Free ISO Burner](#))
- [Virtual Box](#)



1- Single Mode (only one OS) easy straight forward

2- Parallel Dual Mode (Win / Linux) depending on system hardware VGA, RAM, CPU core, Boot BIOS (basic input/output system) / UEFI (Unified Extensible Firmware Interface) (precisely updated UEFI)

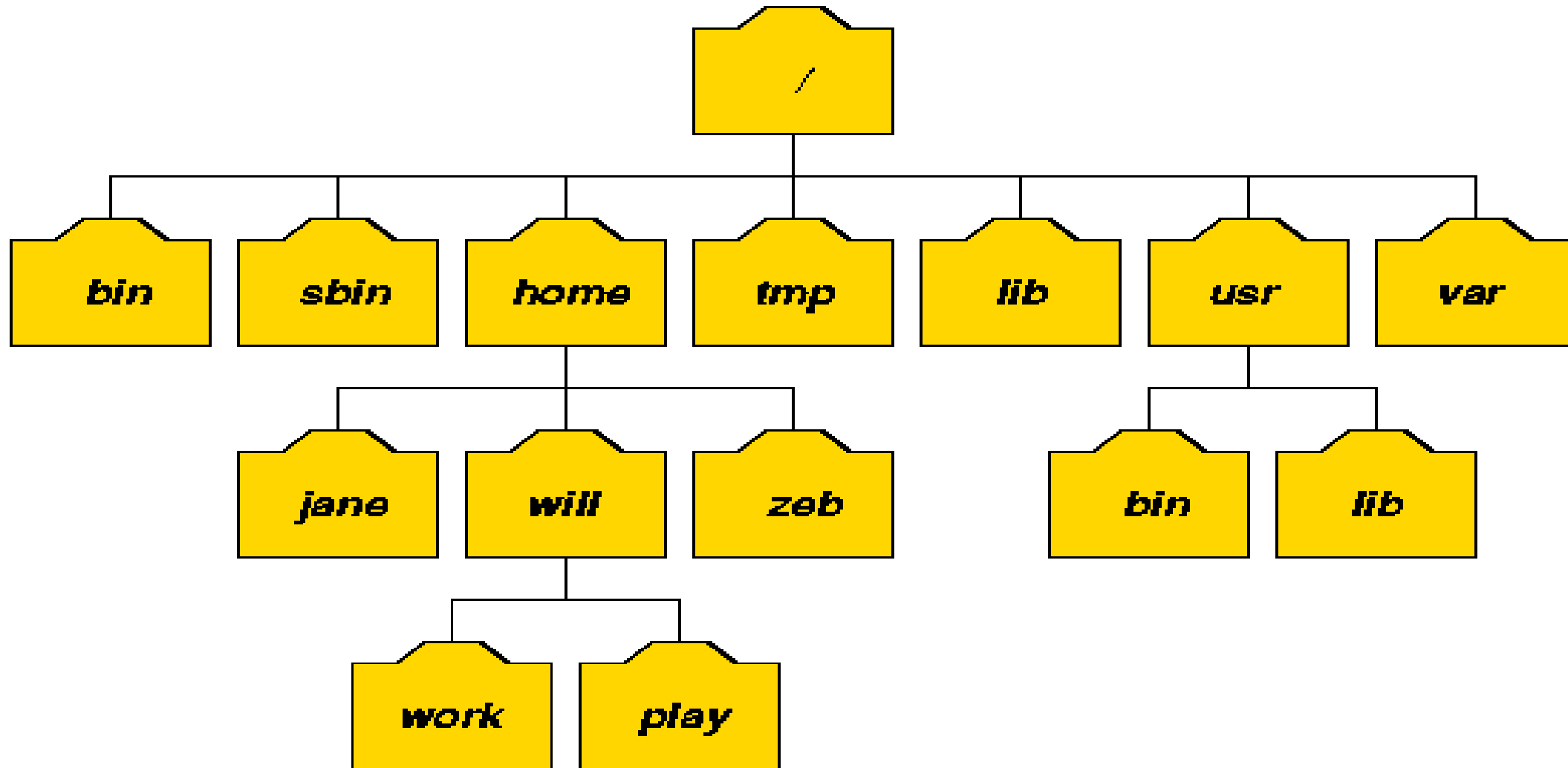
Installation Error Requires Community following for solutions.

3- Virtual Box Dual Mode window main platform

4- Portable Mode Memory Stick



Typical UNIX Directory Structure



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<u>Directory</u>	<u>Typical Contents</u>
/	The "root" directory
/bin	Essential low-level system utilities
/usr/bin	Higher-level system utilities and application programs
/sbin	Superuser system utilities (for performing system administration tasks)
/lib	Program libraries (collections of system calls that can be included in programs by a compiler) for low-level system utilities
/usr/lib	Program libraries for higher-level user programs
/tmp	Temporary file storage space (can be used by any user)
/home or /homes	User home directories containing personal file space for each user. Each directory is named after the login of the user.
/etc	UNIX system configuration and information files
/dev	Hardware devices
/proc	A pseudo-filesystem which is used as an interface to the kernel. Includes a sub-directory for each active program (or process).



Linux Filesystem Categories

Every item stored in a UNIX filesystem belongs to one of four types:

1 - Ordinary files can contain text, data, or program information.

2 - Directories are containers or folders that hold files, and other directories.

3 - Devices To provide applications with easy access to hardware devices, UNIX allows them to be used in much the same way as ordinary files. There are two types of devices in UNIX - **block-oriented** devices which transfer data in blocks (e.g. hard disks) and **character-oriented** devices that transfer data on a byte-by-byte basis (e.g. modems and dumb terminals).

4 - Links A link is a pointer to another file. There are two types of links - a **hard link** to a file is indistinguishable from the file itself. A **soft link** (or symbolic link) provides an indirect pointer or shortcut to a file.



Youtube

https://www.youtube.com/watch?v=9t_gJWC32zk

Linux Handout & Tutorial

<http://www.guru99.com/unix-linux-tutorial.html>

William Knottenbelt Imperial college London 2001

<http://www.doc.ic.ac.uk/~wjk/UnixIntro/index.html>

WORLD OF ASIC 2014

<http://www.asic-world.com/scripting/unix3.html>

