

OS Lab

Session 8: Compile and Install the Linux Kernel

AUT – CEIT

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First steps

Install a distro on VM

- install oracle virtual box
- download and install Ubuntu 14.04 server iso on the VM.
- install Guest Additions CD Image.

Install Vbox Guest Additions CD Image

- 1) Start VirtualBox.
- 2) Start the host in question.
- 3) Once the host has booted, click Devices | Insert Guest Additions CD Image.
- 4) Log in to your guest server.
- 5) Mount the CD-ROM with the command `sudo mount /dev/cdrom /media/cdrom`.
- 6) Change into the mounted directory with the command `cd /media/cdrom`.
- 7) Install the necessary dependencies with the command `sudo apt-get install -y dkms build-essential linux-headers-generic linux-headers-$(uname -r)`.
- 8) Change to the root user with the command `sudo su`.
- 9) Install the Guest Additions package with the command `./VBoxLinuxAdditions.run`.
- 10) Allow the installation to complete.

Download and Extract Kernel Source

- Go to kernel.org and download the latest stable version
- `tar xf linux-X.X.X.tar.xz`
- `cd linux-X.X.X`
- `sudo apt-get update`
- `sudo apt-get install git fakeroot build-essential ncurses-dev xz-utils libssl-dev bc`

Configure the build

- `cd <linux_source_dir>`
- `cp /boot/config-$(uname -r) .config`
- `make menuconfig`

Compile and Install the Kernel

- `sudo make -j 4 && sudo make modules_install -j 4 && sudo make install -j 4`

Final Steps

- `update-initramfs -c -k X.X.X`
- `update-grubs`

Questions?