Homework Assignment 1

Operating System Setup

Last edited: Oct 20th. 2020.

Learning objectives of this assignment are:

- Basic OS (Linux & DOS) setup and administration skills.
- Linux administration skills will be useful for many years to come.
- Linux skills will also be useful for automation using bash shell scripting (assignment#2).
- DOS skills will be required for setting up 8086 assembly language programming environment setup (Microsoft assembler, Turbo assembler) during Computer Organization course.
- DOS skill will also be useful for using batch scripting in DOS/Windows (assignment#2).
- DOS and Yocto (a slim linux) are predominantly used firmware OSes (eg IOT devices).

Task 1: Create a Debian 10 Virtual Machine (VM) using Linux virt-manager (KVM) on your local host (laptop/desktop).
- Create a VM with
    - 2 CPU
    - 1GB RAM
    - One hard-disk drive (10GB).
    - One CD drive
- Download debian 10 (amd64) CD image from here.
- Install Debian 10 on hard disk drive.
- Run the following command inside the VM
    - `sudo lshw > debian-lshw.txt`
- Run the following command in the host
    - `virsh dumpxml vmname > qemu-debian.txt`
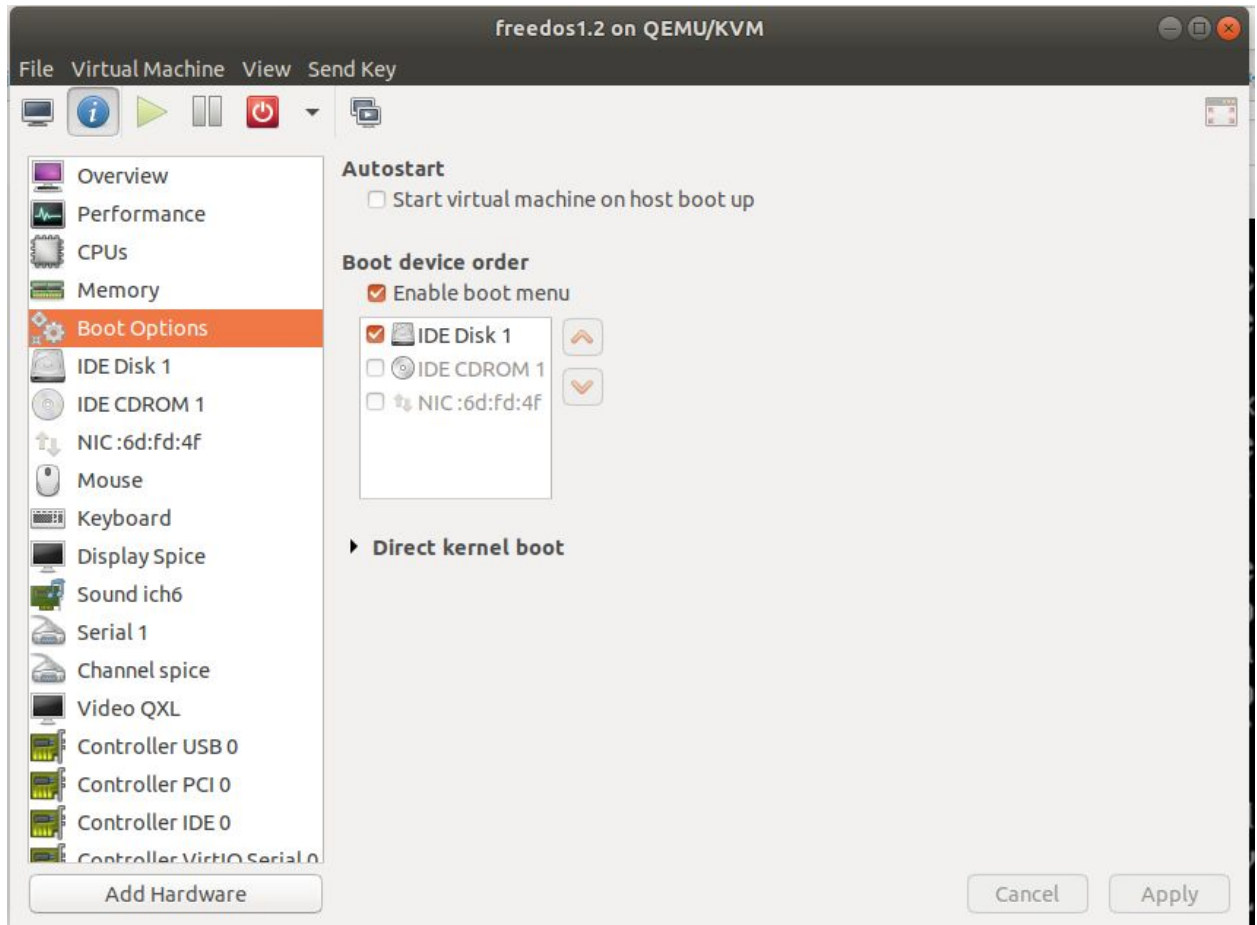- Submit the `debian-lshw.txt and qemu-debian.txt` files (not docx, pdf)

Task 2: Create a FreeDOS Virtual Machine (VM) using Linux virt-manager (KVM) on your local laptop/desktop.

- Create a VM with
    - 1 CPU
    - 64MB RAM
    - One hard-disk drive (1GB).
    - One floppy drive (A:) backed by a floppy image (1.44MB each)
      Hint: use `qemu-img create` command.
    - One CD drive
- Download freedos 1.2 CD image from here.
- Install Freedos 1.2 on hard disk drive. Install Howto
- Run the following command in the host

```
○   virsh dumpxml vmname > qemu-freedos.txt
```

NOTE:
- "Enable boot menu" in the VM you created to help choose CD drive for installation.

Deliverables:

1. **A PDF report, named <RollNo>_Plagiarism_Consent.PDF, with the below statement.**

PLAGIARISM STATEMENT

I certify that this assignment/report is my own work, based on my personal study and/or research and that I have acknowledged all material and sources used in its preparation, whether they be books, articles, reports, lecture notes, and any other kind of document, electronic or personal communication. I also certify that this assignment/report has not previously been submitted for assessment in any other course, except where specific permission has been granted from all course instructors involved, or at any other time in this course, and that I have not copied in part or whole or otherwise plagiarised the work of other students and/or persons. I pledge to uphold the principles of honesty and responsibility at CSE@IITH. In addition, I understand my responsibility to report honour violations by other students if I become aware of it.

Name:

Date:

Signature: <keep your initials here>

2. Upload all the files in submission URL (will provide in few days)

3. Post any queries in Great Learning discussion forum for assignment 1. Donot discuss/provide hints to solution in the discussion forum, help your classmates learn themselves.