Installing and Using the TDT4258 Virtual Machine

Version: 2015-08-20

Follow these instructions to install the TDT4258 virtual machine on your own computer. Steps 1-4 are not necessary for the lab computers, since the VM is already installed there.

1. **Install VirtualBox:** First, install [VirtualBox](#) on your own computer. Windows, OS X and Linux are all supported as host operating systems. Use version 5.0 and above.
   a. A relatively modern machine with at least 4 GB of RAM is recommended.
   b. You must also install the "Oracle VM VirtualBox Extension Pack" (https://www.virtualbox.org/wiki/Downloads)
   c. **Linux only:** You must add your user to the vboxusers group for access to USB devices, e.g `sudo adduser <yourusername> vboxusers`. Logout and login again for changes to take effect.

2. **Download OVA:** Download the TDT4258.ova file for importing the virtual machine -- check It's Learning for the link.

3. **Import virtual machine**: Launch VirtualBox, select File -> Import Appliance, select the downloaded OVA file and go forward.
   a. Make sure you have 10 GB of free disk space before you do this.
   b. The OVA file can be deleted afterwards, it's only necessary if you want to import a new copy of the virtual machine.

4. *(Optional)* **Set up shared folder:** To easily exchange files between your host computer and the virtual machine, you can set up shared folders. Press Ctrl-S with the new virtual machine entry selected in VirtualBox, and go to the Shared Folders tab. See the VirtualBox documentation or use Google for help with this.

5. **Enable access to USB devices:** Start the TDT4258 virtual machine from VirtualBox. A new window should open and you should see Ubuntu 12.04 booting inside.Connect the development kit (and the USB-to-serial converter, for exercise 3) to your computer. With

the virtual machine running, go to the Devices -> USB Devices menu, and check the "Energy Micro" and "USB to serial converter" items.

a. You don't need to install any drivers on your own computer (the host operating system) for this.

b. Use the `lsusb` command from the terminal to verify that the VM has access to the development kit -- you should see an entry for "SEGGER J-Link ARM" and another for the USB to serial converter. Like this:
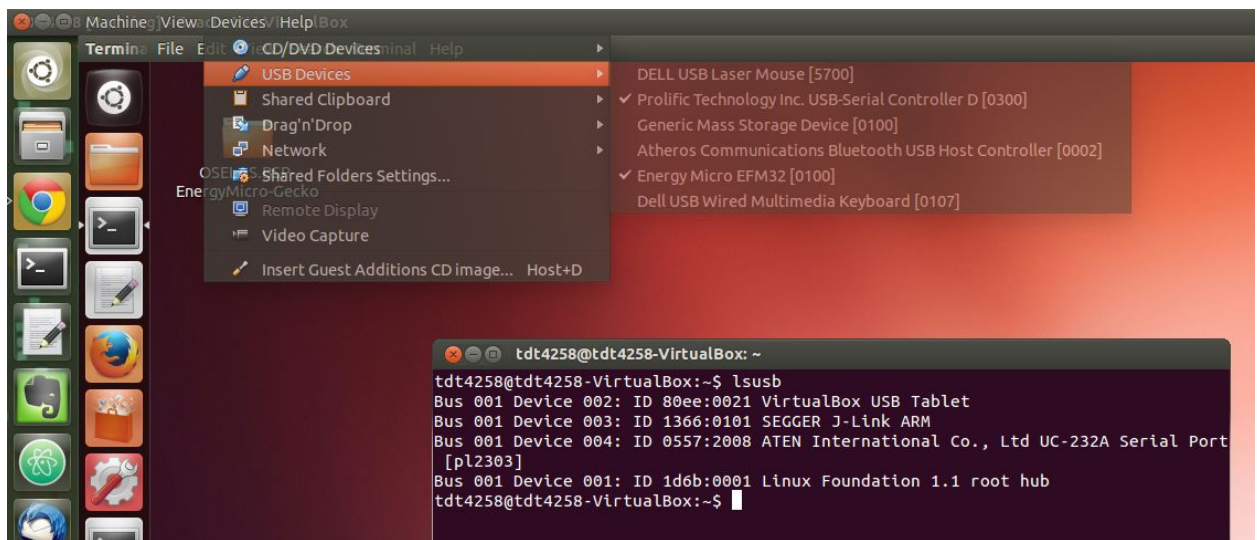
6. **Check if it works:** Try it out, see that it works as a regular Ubuntu install would.

a. All required software should be already installed and the login works without any username/password, but use **username: tdt4258** / **password: tdt4258** if you need sudo access. No sudo access to the VMs in the lab, as these are shared machines.

b. Try launching eACommander and flashing the gamepad-test.bin file (from exercise 0) to make sure the setup works and the development kit is detected.

7. **Exercise support files:** The support-files directory under the home folder contains the exercise support files, though we highly recommend downloading latest versions from It's Learning as they might have been updated.

8. **Done!** You can now use this virtual machine for the lab exercises. Commands like arm-none-eabi-gcc, eACommander.sh, eAProfiler.sh and ptxdist can be executed from the terminal.