

Workspace Setup for online web-based ILT Training course from kaiwanTECH

Instructions for participants follow; please read them carefully and follow ...

What you require

As a participant in the online training session, we expect you to have:

- A recent model PC or laptop (x86_64 or Mac), with (ideally):
 - a recent version of Windows OS (Win 7 Pro / Win 10 / Mac OS)
 - decent camera, speaker/headset
 - RAM: ≥ 8 GB RAM
 - Available disk space ≥ 100 GB (≥ 250 GB available disk space if Embedded Linux with *Yocto* is being covered)
 - you **must** ensure that within the system BIOS Virtualization Extension (VT-x for Intel, SV for AMD processors) support is enabled
- ‘Meet’ software (typically provided by your organization)
- 7Zip free software (to uncompress downloads; [link](#))
- A good quality internet connection.

Installing the custom Linux VM (Seawolf) on your system

Here we assume your host system is running the Windows OS; if you’re running Linux natively, the instructions remain similar:

1. Install the hypervisor software, **Oracle VirtualBox**; please locate, download and install the latest stable version from here:
<https://www.virtualbox.org/wiki/Downloads>
(as of this writing, it’s [this one](#))

(In theory, one could use any recent hypervisor by exporting the VirtualBox VDI disk file to the appropriate format; I have tested the Seawolf VM on VirtualBox, plus it’s FOSS, so am suggesting it’s use).

2. You must also download and install it's 'accelerator' software called the *VirtualBox Extension Pack*; as of this writing:
https://download.virtualbox.org/virtualbox/6.1.6/Oracle_VM_VirtualBox_Extension_Pack-6.1.6.vbox-extpack

You must ensure that the version of the *Extension Pack* matches that of the main VirtualBox package. (During installation, simply accept the default terms and configuration options)



3. *Download*: this is a download link to a custom Linux VM, **Seawolf**
The Seawolf VM contains the base OS (Ubuntu 18.04.4 LTS), the full course-ware materials, source code, tools, utilities, etc:

https://www.dropbox.com/s/xlj36w73iowp4rb/Seawolf_Dev_1.4.8_06May2020.7z?dl=0

passphrase: v\$A8B*6bxGT6ARjg

Download it from the above link and save the (large) compressed 7zip file to any convenient folder on your system

4. *Extract* the just downloaded Seawolf 7zip file using the 7Zip software utility; it's big (close to 8 GB) and will take some time...

Once extracted, you should see two files:

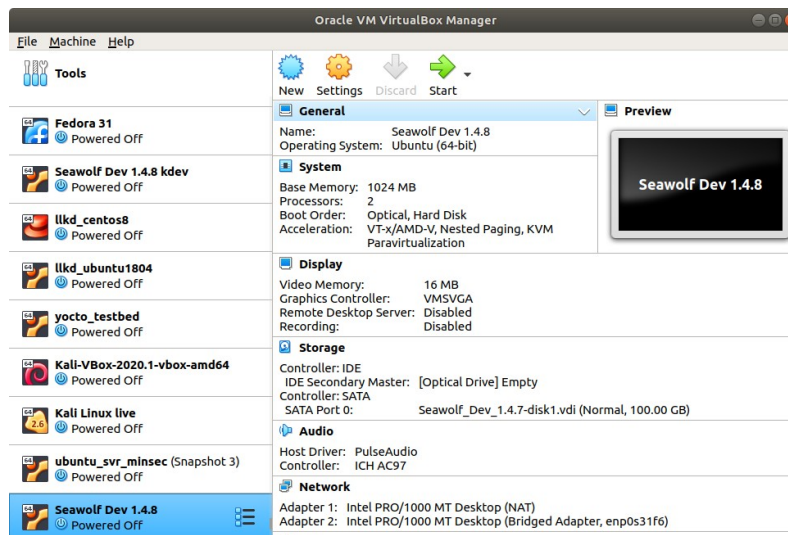
- the VirtualBox disk file: `Seawolf_Dev_<ver#>-disk1.vdi`
- the VirtualBox config file: `Seawolf Dev <ver#>.vbox`

Tip: verify the integrity of the download by verifying the SHA256 checksum (this is the original SHA256 checksum for the compressed 7z Seawolf file:
bd0fce7d22ef9bcbdeceac532b159e116c1148843bb3830e2871dcf2e491734a

You can generate the checksum on the file you downloaded by doing (on Linux):
`sha256sum <downloaded-file>`

(or equivalent on Windows/Mac)

5. Launching the Seawolf VM from VirtualBox



1. To start it up:

Simply double-click on the configuration file you extracted (the `.vbox` one); it will open the VM in VirtualBox; select the Seawolf VM from the left bar, and click on the green Start -> button

2. VirtualBox will launch the (virtual) system

Issues:

- You might see an error message stating that VirtualBox refuses to load; this is usually the case when BIOS/firmware Virtualization Extensions (VT-x / ADM-SV) have not been enabled; please shut down, boot into the BIOS/firmware, enable VT-x/ VtT-d/SV, save and reboot (it's a one-time activity only!)
- You might see a warning regarding the network interfaces; it's no issue, simply go to VirtualBox Settings / Network / Adapter 2 : Bridged Adapter / Name : select the appropriate network interface on your *host* system, save and exit
- (If you have difficulties, please refer the '*Seawolf Dev VM - Troubleshooting Tips.pdf*' document provided; it has more explanation and screenshots)

3. The GRUB bootloader menu displays; allow it to auto-timeout (3s); it will boot into the default kernel and root filesystem

4. You will be auto-logged into the system in GUI mode (At a later time, to login:

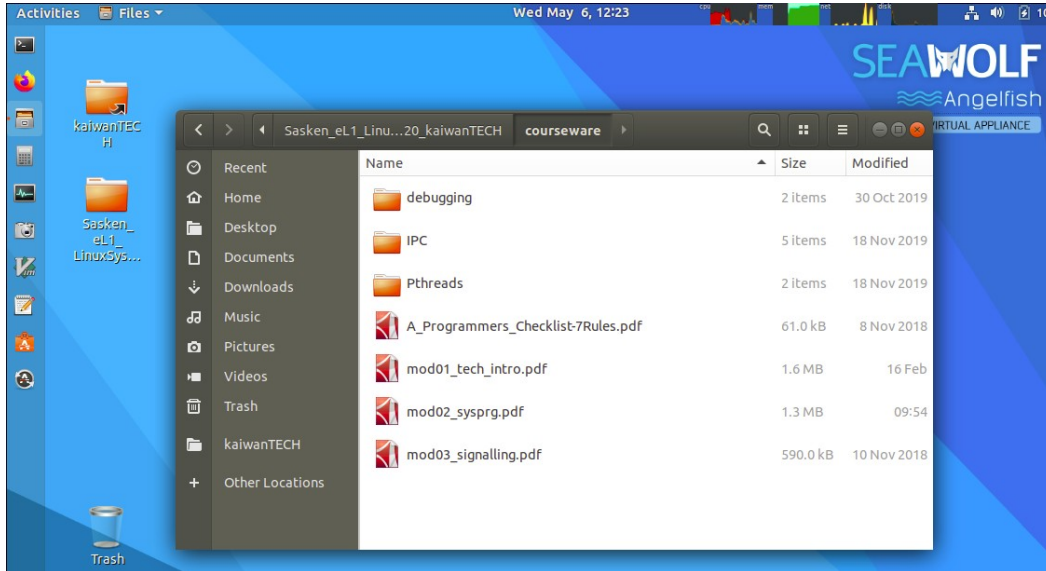
Logging in to the Seawolf VM:

username: seawolf

password: welcome

As a security best practice, be sure to change the passphrase to a secure one).

5. Once in the Seawolf VM, the course-ware is available as a folder under the *Desktop*; the screenshot below shows this (and it's been opened in the Gnome File Manager app):



Tips:

- Don't attempt to create a VM yourself within VirtualBox, it's already been done; simply double-click on the configuration file you extracted (the .vbox one) and it will launch
- Please Ensure that Virtualization Extension (VT-x/VT-d/AMD-SV) support is enabled in your system BIOS!
- In case you face issues, please read the short "Seawolf Dev VM - Troubleshooting Tips" PDF document provided
- Useful: [‘Share Folders between Host and Guest OS in VirtualBox’](#)
- Do read through the useful notes on maximizing your experience with the Seawolf VM (it's available as the file `kaiwanTECH_web_trg_files_1/README_seawolf_dev_usefulnotes.txt` OR you can simply read the same under VirtualBox / *Settings (for Seawolf VM) / General / Description*.
- To be completely safe, it's highly recommended you back up your system before running this code - obviously, especially kernel modules and drivers
 - Running the code on an isolated Virtual Machine (VM) - one which does not contain any important data – is definitely recommended.

Licensing:

- In a nutshell, the *source code* provided is licensed under the MIT License, keeping it simple and reusable with attribution. (IOW, you can certainly use the source code provided here; you must attribute the original source)
- **VERY IMPORTANT** :: before using this source(s) in your project(s), you **MUST** check with your organization's legal staff that it is appropriate to do so
- The courseware PDFs are **not** under the MIT License, they are proprietary, to be kept confidential, non-distributable without explicit written consent, for your private personal internal study use only.

For further info/program code etc please look up the URLs provided in your courseware.

Hope this helps! As is often said with regard to Linux, "*Above all, have fun!*"

Warm Regards,

And all the very best,

Kaiwan.

< kaiwan -at- kaiwantech -dot- com >

Additional Resources:

<https://www.virtualbox.org/>

Install Linux Inside Windows Using VirtualBox by Abhishek (It's FOSS!, Aug 2019) :

<https://itsfoss.com/install-linux-in-virtualbox/>

Install Ubuntu on Oracle VirtualBox:

<https://brb.nci.nih.gov/seqtools/installUbuntu.html>

[*Share Folders between Host and Guest OS in VirtualBox*](#)

<End document>