Ex0: Reptilian Setup

Overview

You will setup and build Reptilian, a pairing of the Android and Ubuntu user space environments sharing the Linux kernel. You'll then take a screenshot showing the Reptilian terminal and submit it through Canvas.

Instructions

This exercise is broken into three steps: installing VMWare, Importing Reptilian, and building a fresh kernel.

Software Setup

First, we need to get the virtual machine and terminal software set up.

Download
VMWare WorkStation: www.vmware.com/products/workstation-pro/workstation-pro-evaluation.html
Reptilian VM Image: http://www.cise.ufl.edu/research/reptilian/downloads/Reptilian-latest.ova

Note - you can install the VMWare evaluation for now, but make sure you get a key from OnTheHub.

Installation
1) Install VMWare Workstation Pro **15.5** or later
2) Double-click on the Reptilian VM image file, then click "Import".
3) Optionally, as a sound card (right-click on VM → Settings → Add → Sound Card → Finish).
4) Install WSL (WSL2 Recommended): https://docs.microsoft.com/en-us/windows/wsl/install-win10

VM Command Line

To connect to the VM, you will need its IPv4 address. To get it, start the VM, open the start menu, and go to Settings → System → About Tablet → IP Address. With it, you can connect to the VM through SSH via WSL (replace with your IP address):

```
finn@BMO:~$ ssh reptilian@192.168.11.130
```
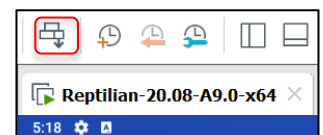*Password is* '`reptilian`'

Building a Fresh Kernel

Once connected, change to the **/usr/rep/src** directory and clone the kernel repository:

```
reptilian@localhost$ cd /usr/rep/src
reptilian@localhost$ git clone https://github.com/uf-cise-os/reptilian-kernel.git
reptilian@localhost$ cd reptilian-kernel
```

Finally, build the kernel from source and install it into the operating system:

```
reptilian@localhost$ make
reptilian@localhost$ sudo make install; sudo make modules_install
```

Once the kernel is built / installed, take a snapshot, then reboot the VM. Make sure to properly shut down; otherwise, the kernel might not be properly written!
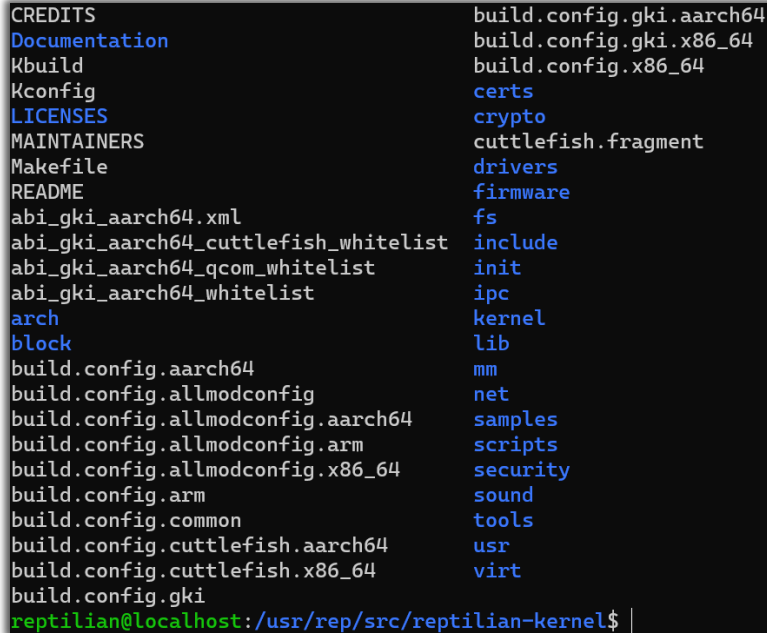
Submissions

You will submit the following at the end of this exercise (**do not zip files**):

- Screenshot of a terminal window, connected via SSH, showing the kernel source directory (using **ls**)
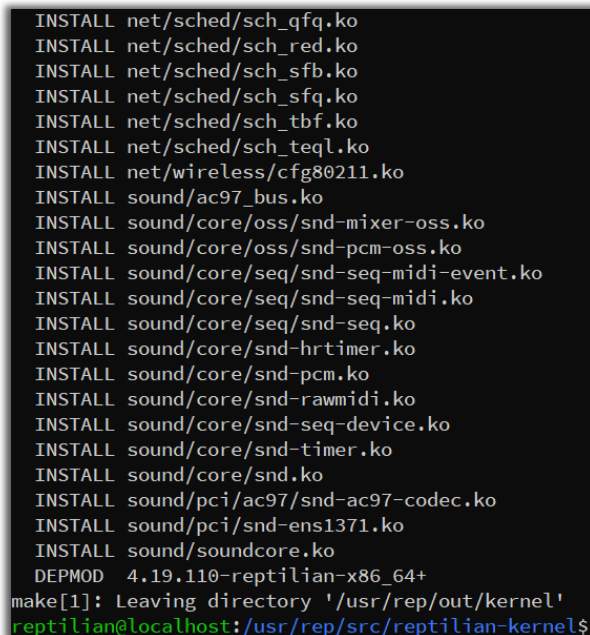- Screenshot after running the `sudo make modules_install` command

Example Screenshots

Here are some examples of what your screenshots should look like:

Figure 1. Screenshot showing the source in **/usr/rep/src/reptilian-kernel**

Figure 2. Screenshot showing terminal after running `sudo make modules_install`