Cooja Simulator for IoT Security

The simulator is based on Contiki OS, used for IoT systems.

1. Install the simulator

You need to run a VM, so a virtualization software is needed:

- VirtualBox
- Parallels
- VMWare

1. When you have it available, download the Cooja VM from this link and extract the files
   https://sourceforge.net/projects/contiki/files/Instant%20Contiki/Instant%20Contiki%203.0/InstantContiki3.0.zip/download
2. Run VirtualBox (in my case) and create a new VM called
   - Name: "Contiki3.0"
   - Type: Linux
   - Version: Ubuntu 32-bit
   Click next.
3. Select memory and cores as you prefer
4. Choose to install "**Instant_Contiki_Ubuntu_12.04_32-bit.vmdk**" and finish the installation
   The password for the `user` is `user`.

1.A Alternative: install in your machine or Custom VM

You can try to install it in your machine but you need JDK **at most 8.x**.

```
$ git clone https://github.com/contiki-os/contiki.git

$ cd contiki/tools/cooja

# for java! Only if you need it
$ sudo apt-get install openjdk-8-jdk
$ sudo update-alternatives --config java # runtime
$ sudo update-alternatives --config javac # compiler

export JAVA_HOME=/usr/lib/jvm/java-8-openjdk-amd64
```

I had problem in later stage: `git submodule update --init`, so I cannot confirm the proper functioning.

2. Try the simulator

```
$ cd contiki/tools/cooja
$ ant run
```

If there is an error, type

```
$ git submodule update --init
```

and run again.

Note: pay attention to go to `contiki` and not `contiki-3` or whatever, I lost too much time on the things not working just because I was in the wrong folder :)

Now we can create a new simulation `File -> Create new simulation`.
Select a new `Mote` type, e.g. Sky, and set the name and the file to use (the `hello_world.c` is fine). Compile it and start the simulation selecting the number of nodes and run the simulation.