

Cooja Simulator

Overview

Via this lab, you can get familiar with Instant Contiki and how to create simulation with Cooja simulator.

Outline

- 1) Open a Cooja simulator
- 2) Create a new simulation with Cooja
- 3) Example: creating a simulation that turns on LEDs on a Sky mote
- 4) Exercises

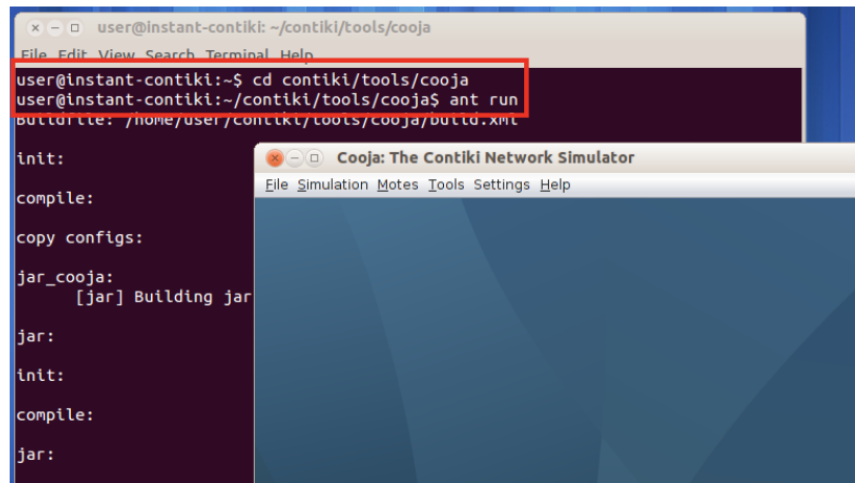
Open a cooja

Two options:

- 1) Double click on the Cooja icon on the desktop



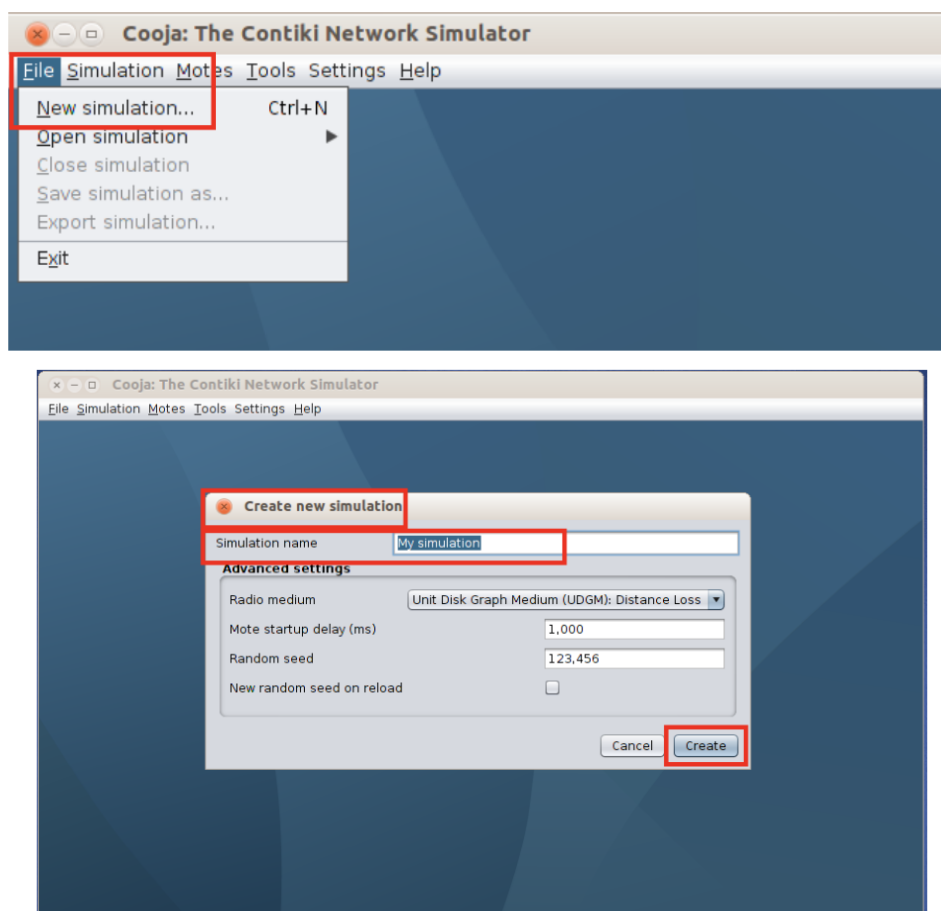
- 2) Or using the terminal



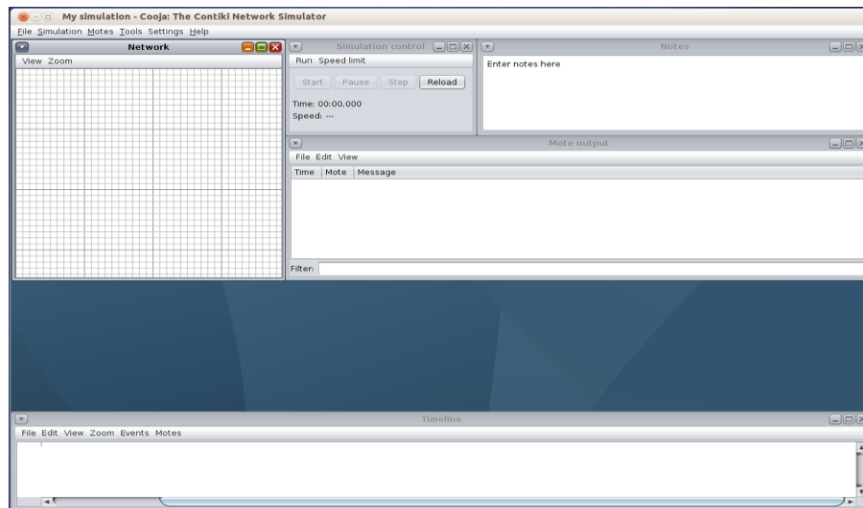
Create a simulation with Cooja

Step 1: create a new simulation

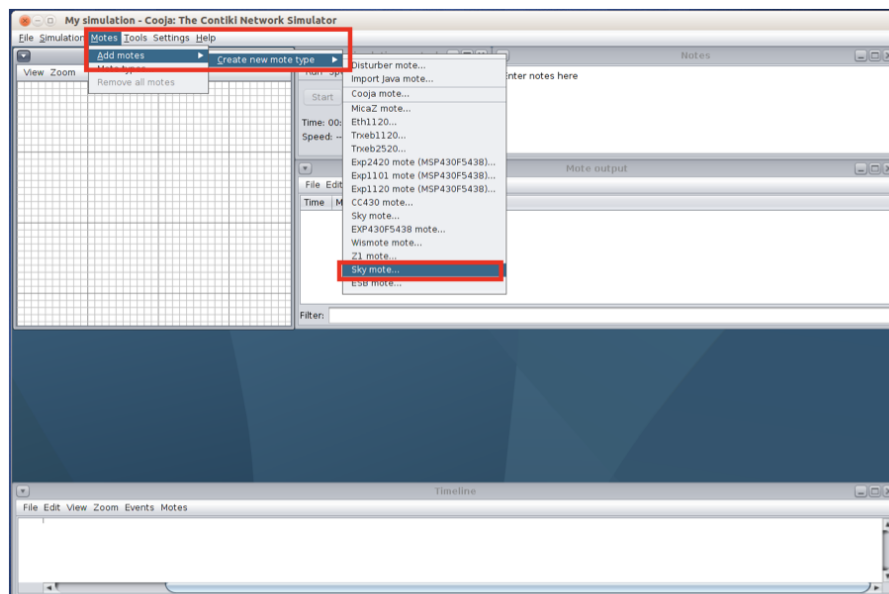
Navigate to **File -> New Simulation**



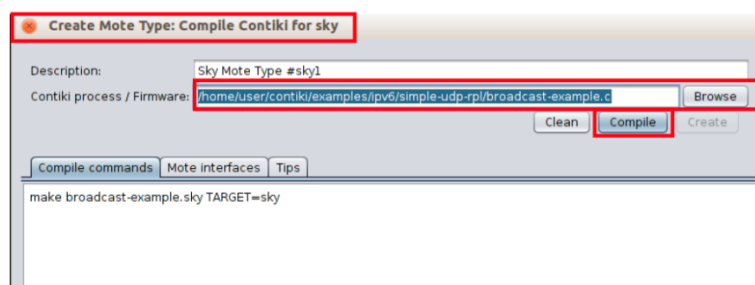
A new simulation window pops up



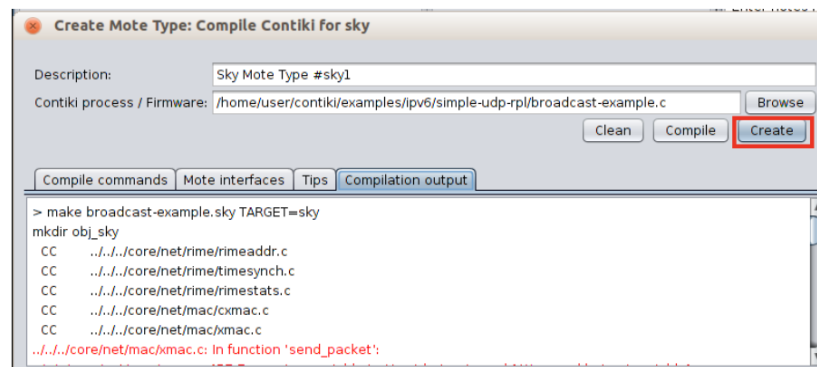
Step 2: add motes to your network, e.g. we choose the **Sky mote**.



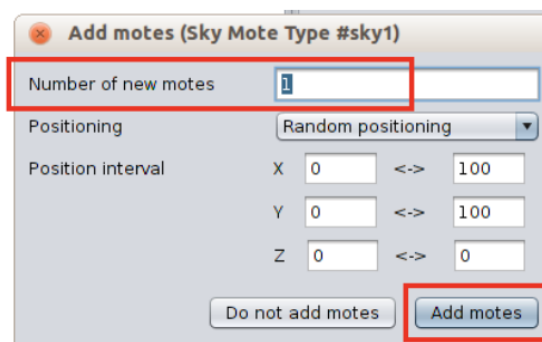
Step 3: select a firmware for the sky mote, e.g., broadcast-example.c



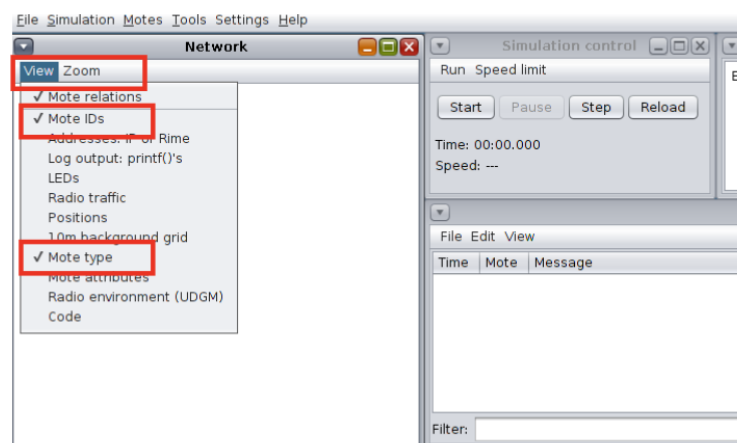
When the compilation is done, click **“create”**



Step 4: Indicate the number of motes for you network, then build the simulation



To show mote type and ID: View -> tick on “Mote Type” and “Mote IDs”



Example: creating a simulation turning on LEDs on the Sky mote

- Step 1: create a new simulation
- Step 2: add motes to the simulation -> choose sky mote

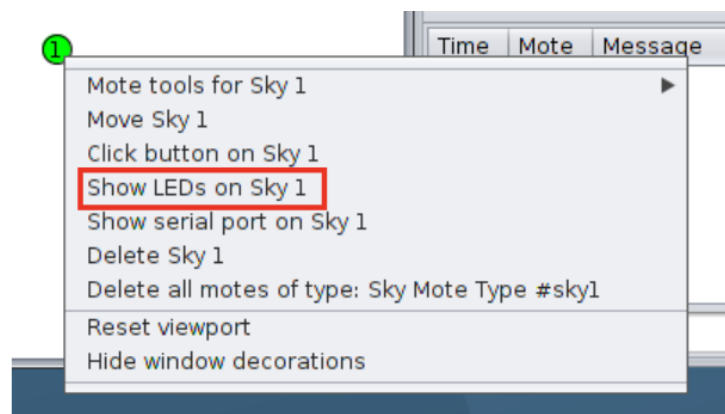
- Step 3: choose a firmware for the selected motes -> test_led.c

Browse to: /home/user/Contiki/examples/sky/test_led.c

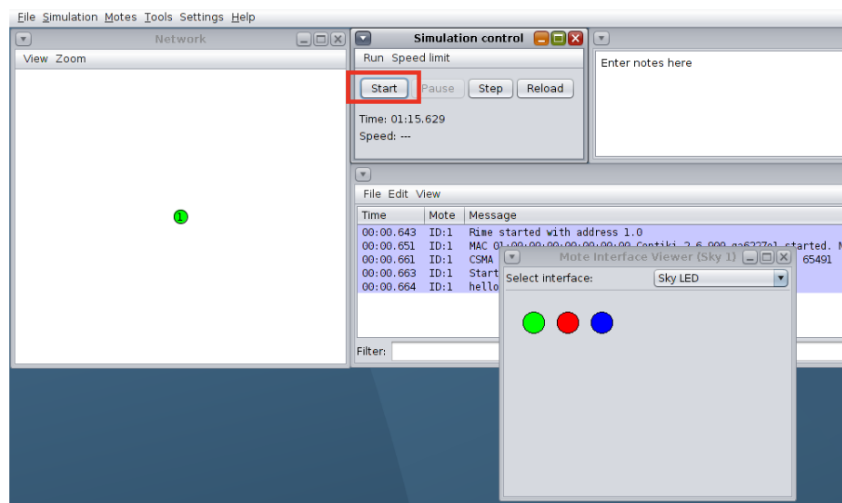
Then compile and create the mote

- Step 4: indicate the number of motes: 1

To show led: right click on the sky mote -> choose "Show LEDs on Sky 1"



- Step 5: run the simulation -> click on "start"



Exercises:

- 1) Switch on the LED when the button is pressed. Switch off the LED when the button is pressed again.
- 2) Blink the LED for a certain number of seconds.

3) A new application that starts only when the button is pressed and when the button is pressed again, it stops.