

PRACTICAL-3

AIM

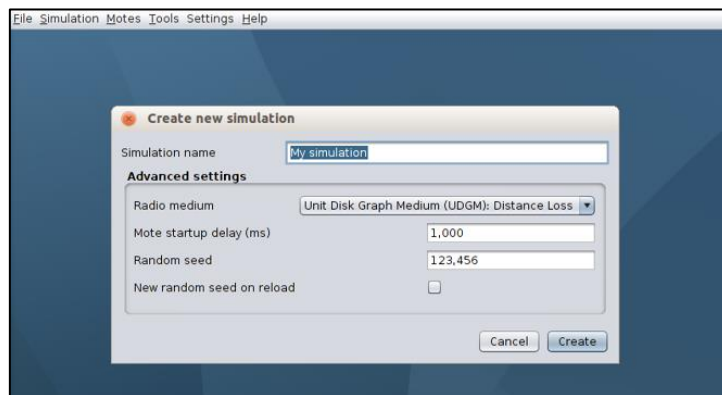
Simulate Hello World program using Cooja

THEORY

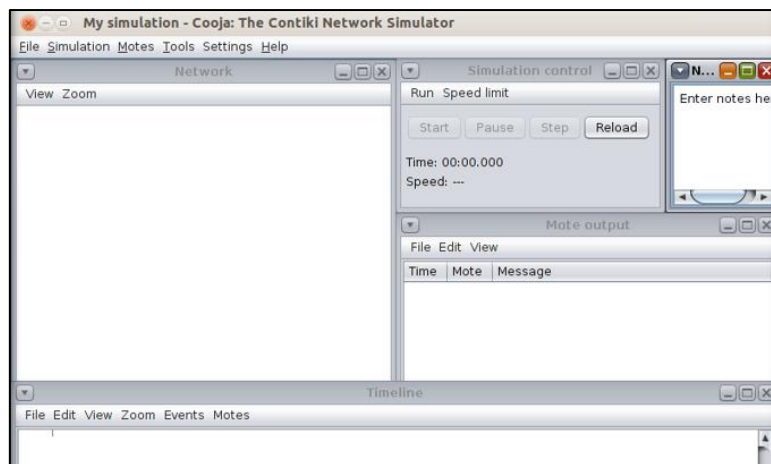
- Hello World is the most basic and introductory program which is performed as a convention by newbie whenever, we start learning any new language or software.
- We will do the same in Cooja.
- For simplicity, we will perform using the pre-built example of hello world which is already available in the examples folder.

PRACTICAL IMPLEMENTATION

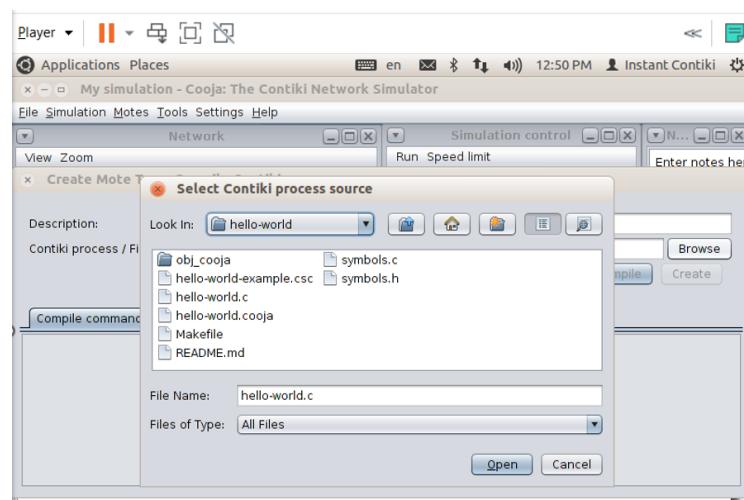
- Open Cooja simulator.
- Go to file > create new simulation



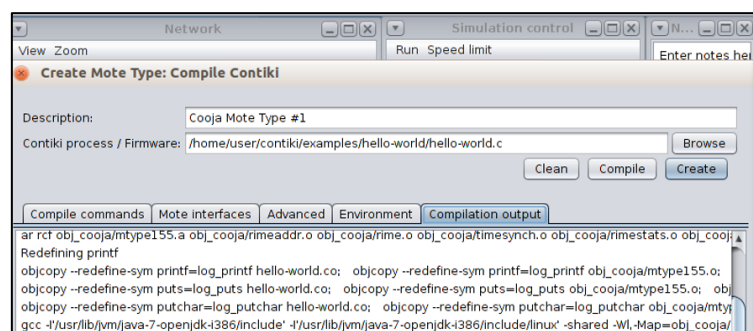
- Give it any name you like and keep the rest of settings as default.



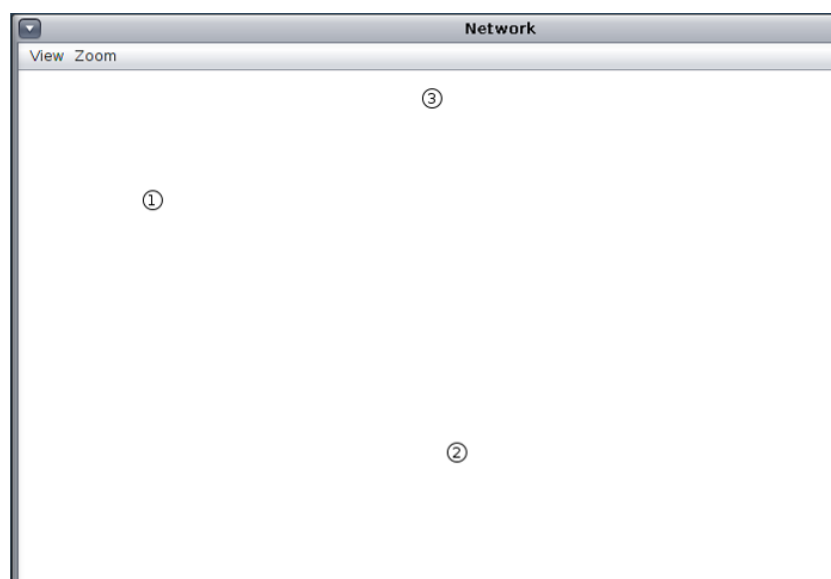
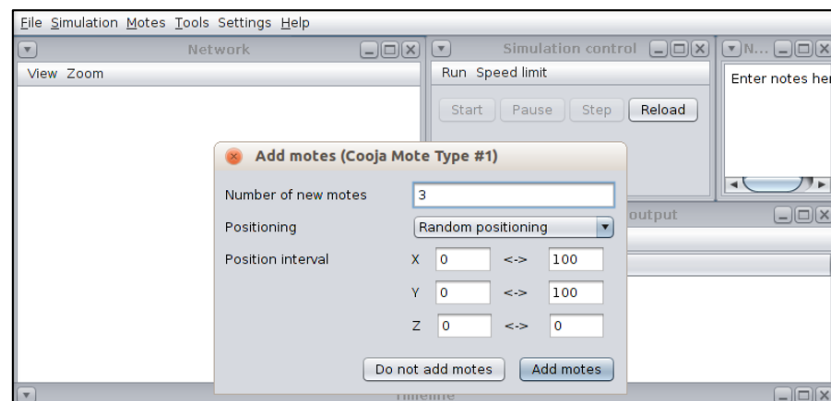
- We will add 3 cooja motes.
- In Contiki process/firmware, browse to hello-world folder in examples.



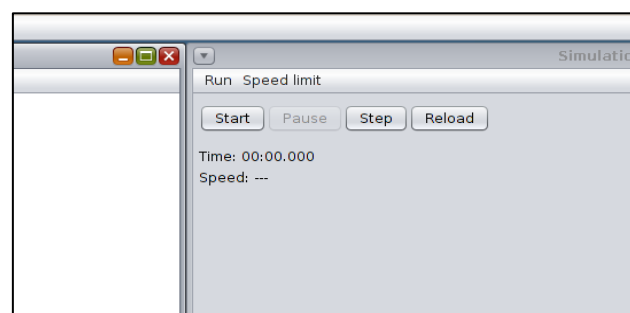
- For that, go to Motes > Add motes > Create new mote type > Cooja mote.



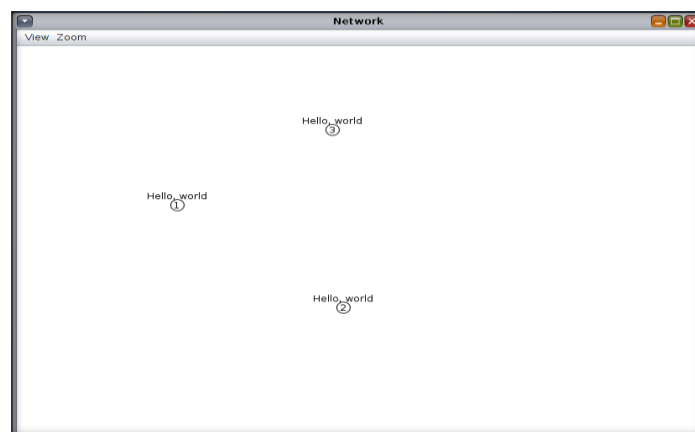
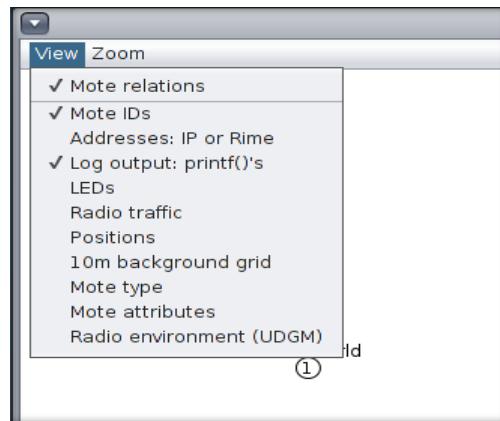
- It will compile the program and show compilation output.
- Click on “create”



- 3 motes will be added at random positions now.
- To run the simulation, click on start.



- Go to view > Log output: printf()'s



The screenshot shows the 'Mote output' window in the Cooja simulation environment. It displays a log of messages from three nodes, each with a unique ID (1, 2, and 3). The messages include MAC addresses, Rime/CSMA/NULLRDC channel check results, and 'Hello world' messages.

Time	Mote	Message
00:00.236	ID:2	MAC 02:00:00:00:00:00 Rime/CSMA/NULLRDC, channel check ra...
00:00.236	ID:2	Starting 'Hello world process'
00:00.236	ID:2	Hello, world
00:00.382	ID:1	Contiki-2.6.900-ga6227e1 started. Node id is set to 1.
00:00.382	ID:1	Rime started with address 1.0
00:00.382	ID:1	MAC 01:00:00:00:00:00 Rime/CSMA/NULLRDC, channel check ra...
00:00.382	ID:1	Starting 'Hello world process'
00:00.382	ID:1	Hello, world
00:00.899	ID:3	Contiki-2.6.900-ga6227e1 started. Node id is set to 3.
00:00.899	ID:3	Rime started with address 3.0
00:00.899	ID:3	MAC 03:00:00:00:00:00 Rime/CSMA/NULLRDC, channel check ra...
00:00.899	ID:3	Starting 'Hello world process'
00:00.899	ID:3	Hello, world

CONCLUSION

In this practical, I learnt regarding how to simulate hello world program in Cooja.