DOP: / /2023 DOS: / / 2023

Experiment No: 05

Aim: - To install Contiki OS and study cooja simulator working with hello world example.

Theory:

Contiki:

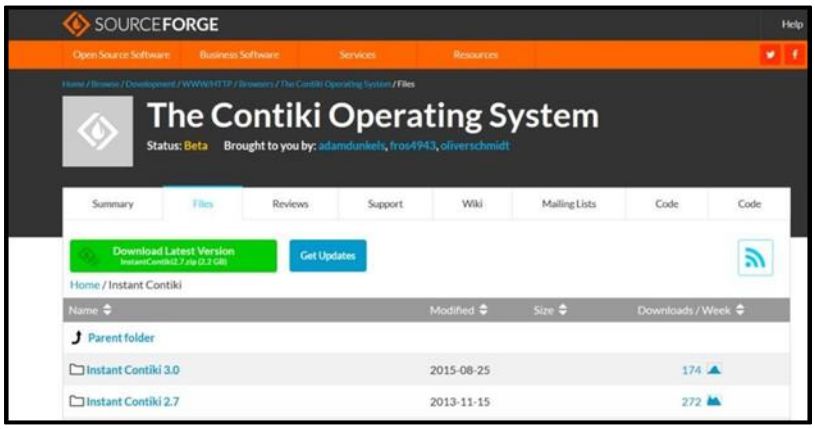
Contiki OS is an open-source operating system designed for resource- constrained embedded devices and IoT (Internet of Things) applications. It was first released in 2003 by Adam Dunkel's, and has since become a popular choice for developers looking to create applications for a wide range of low- power wireless devices. One of the key features of Contiki OS is its support for multiple network protocols, including IPv6, 6LoWPAN, RPL, CoAP, and MQTT. This makes it possible to create IoT applications that can communicate with a variety of different devices and services. Contiki OS also includes a range of built-in libraries and tools, such as a lightweight TCP/IP stack, a web server, and support for various wireless sensor networks.

Cooja simulator:

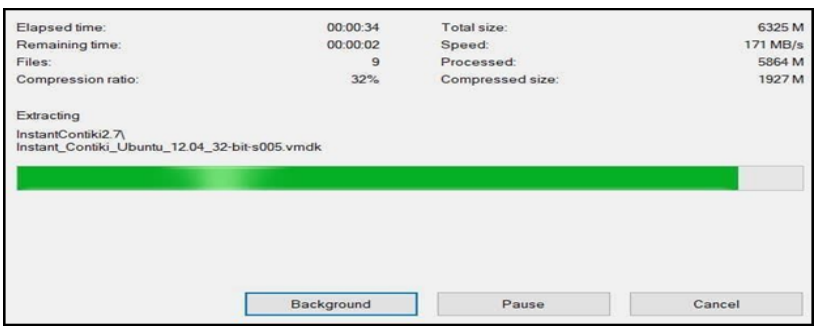
COOJA (Cooja Simulator for Wireless Sensor Networks) is a network simulator that is commonly used for developing and testing wireless sensor network (WSN) applications. It is typically used in conjunction with the Contiki OS, which is an operating system designed for low-power IoT devices.

Installation Steps:

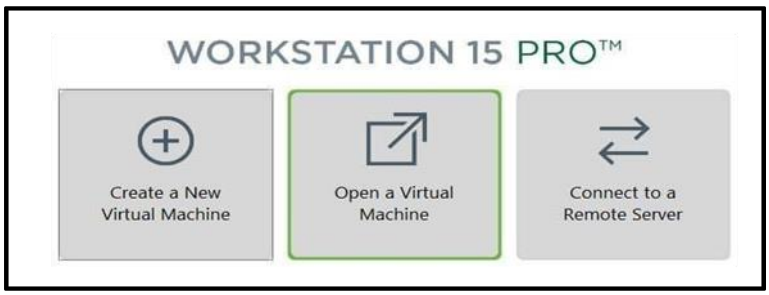
Step 1: Simply follow this link to download Instant Contiki.



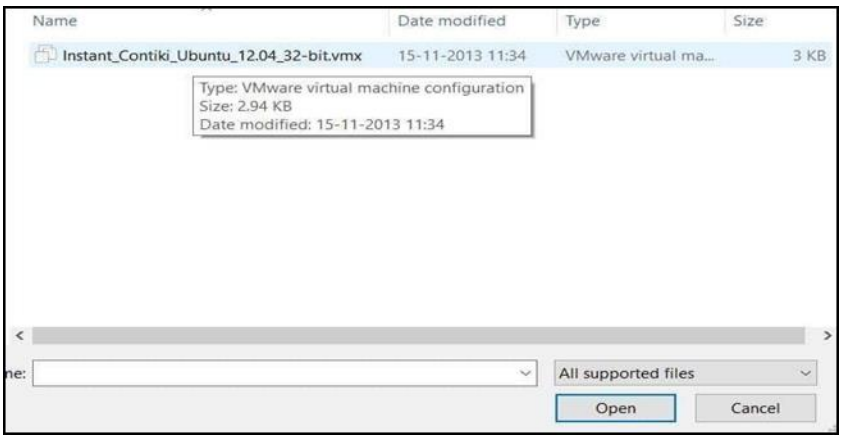
Step 2: unzip the download file.



Step 3: Start your virtualization software like Vmware or Virtualbox and load your Instant Contiki File. In Vmware click Open a Virtual Machine as shown below.

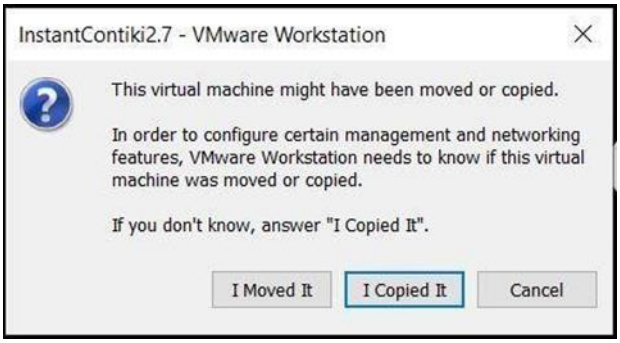


Step 4: Navigate to the extracted folder .vmx file.



Step 5: Power on your machine

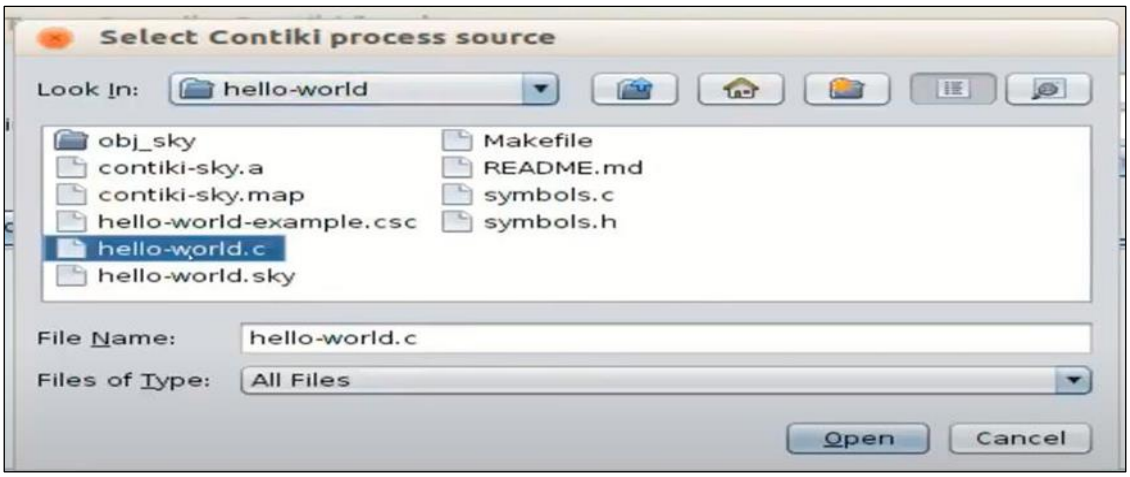
Step 6: Select “I copied it” option



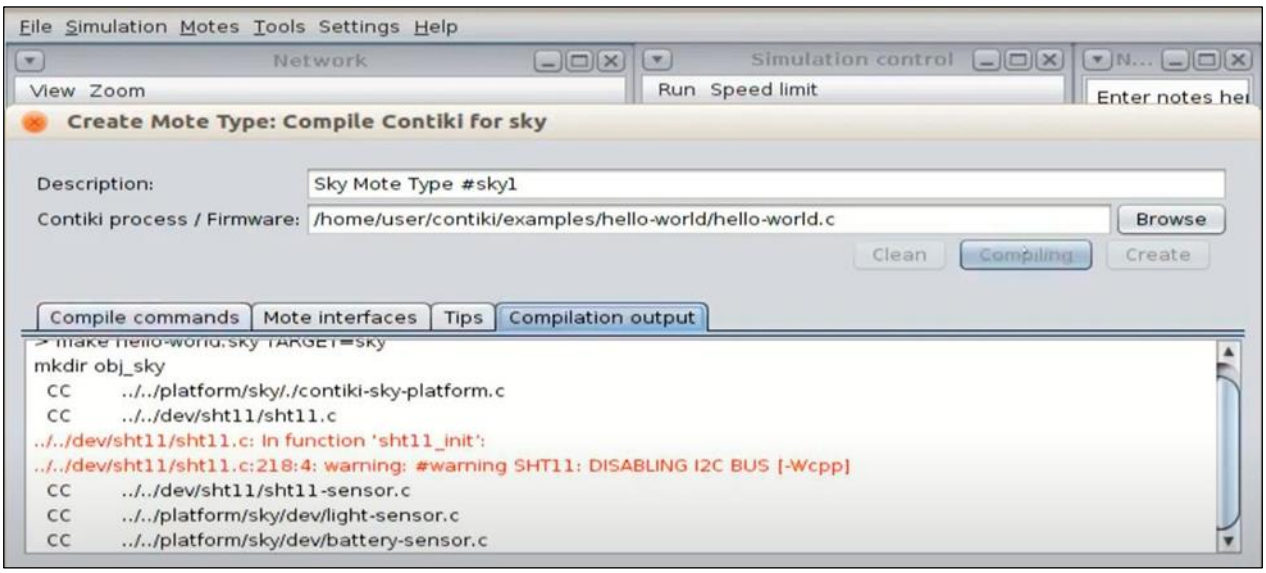
Step 7: Enter your credentials and start using Instant Contiki (Username and Password is user).

Input:

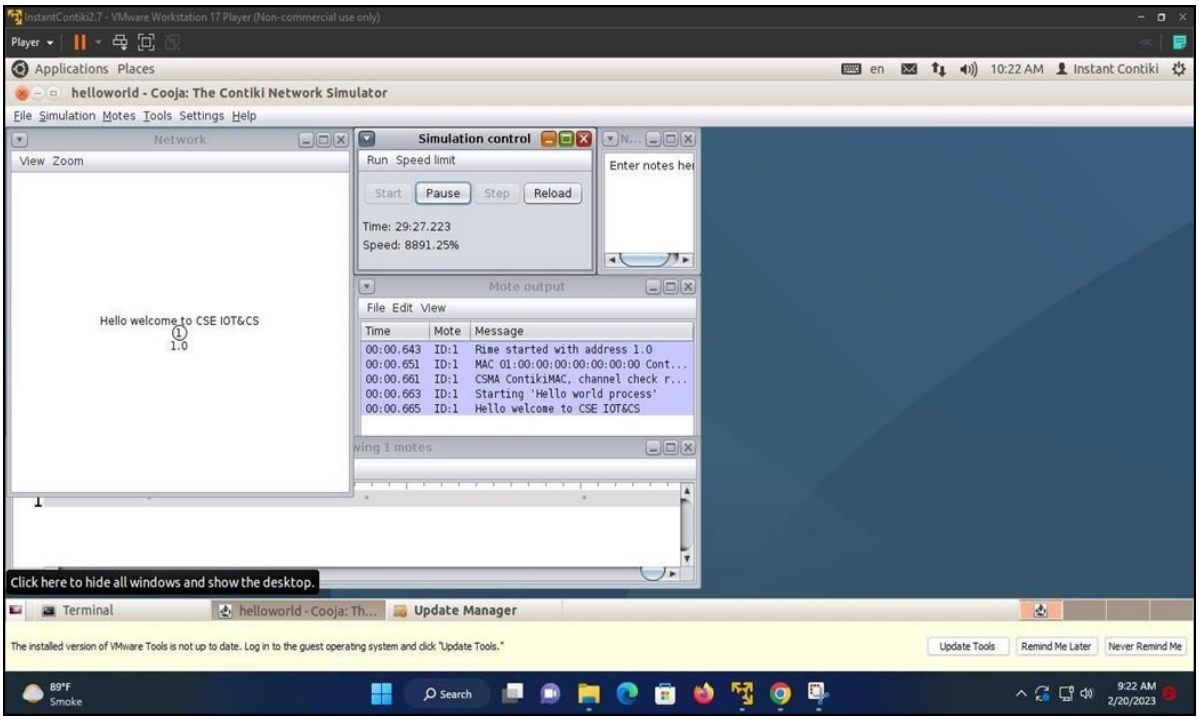
Opening up Contiki by entering the password



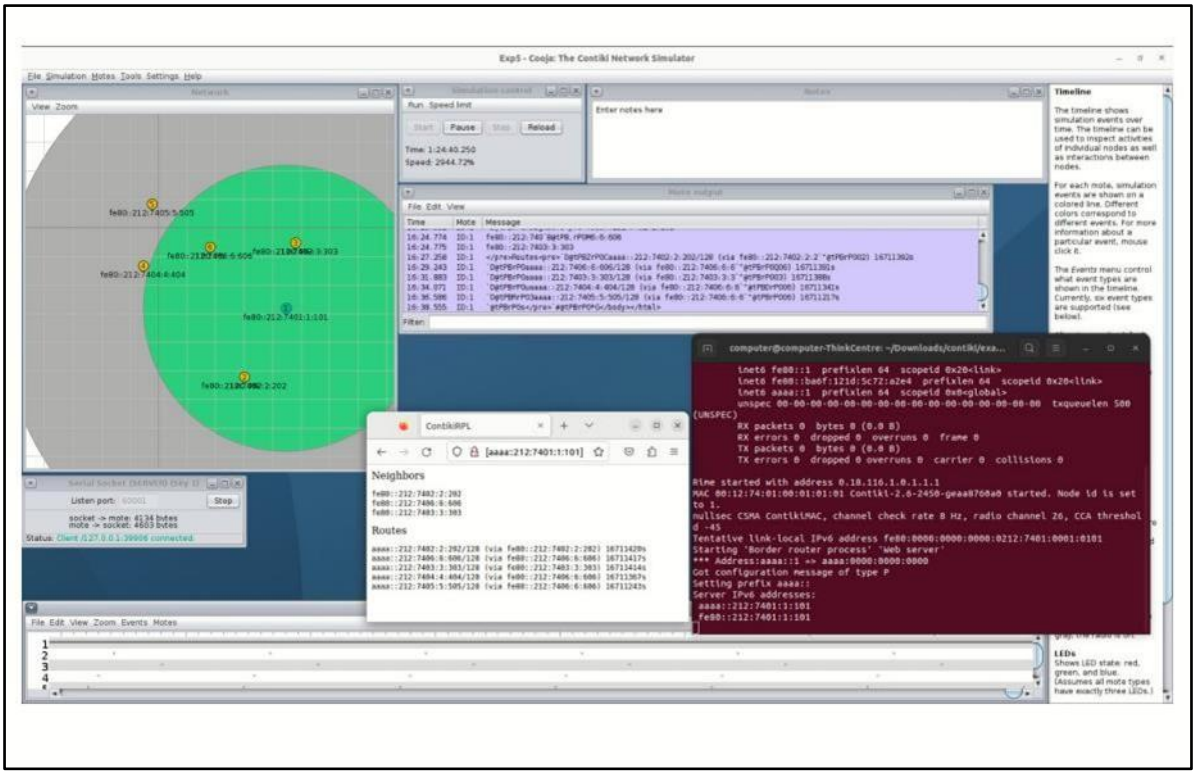
Choosing the helloworld.C file to execute our program in Contiki.



Output:



Output showcased in the network with Simulation control started.



Conclusion:

Thus, we have studied how to download Contiki OS and study cooja simulator and printed hello world example.