Lab Report

Course Title: Computer Networks Laboratory
Course Code: CSE-3634

Spring-2023

Lab No: 0

Name of Labwork: Installing OMNeT++ and running a sample project on my own machine.

Student's ID : C201249
Date of Performance : 10/07/2023
Date of Submission : 14/07/2023

Marks :

1. Introduction:

OMNeT++ is an extensible, modular, component-based C++ simulation library and framework, primarily for building network simulators. “Network” is meant in a broader sense that includes wired and wireless communication networks, on-chip networks, queueing networks, and so on. Domain-specific functionality such as support for sensor networks, wireless ad-hoc networks, Internet protocols, performance modeling, photonic networks, etc., is provided by model frameworks, developed as independent projects. OMNeT++ offers an Eclipse-based IDE, a graphical runtime environment, and a host of other tools. There are extensions for real-time simulation, network emulation, database integration, SystemC integration, and several other functions. OMNeT++ provides a component architecture for models. Components (modules) are programmed in C++, then assembled into larger components and models using a high-level language (NED). Reusability of models comes for free. OMNeT++ has extensive GUI support, and due to its modular architecture, the simulation kernel (and models) can be embedded easily into your applications. The OMNeT++ simulation kernel is standard C++, and runs basically on all platforms where a modern C++ compiler is available. The Simulation IDE requires Windows, Linux, or macOS.

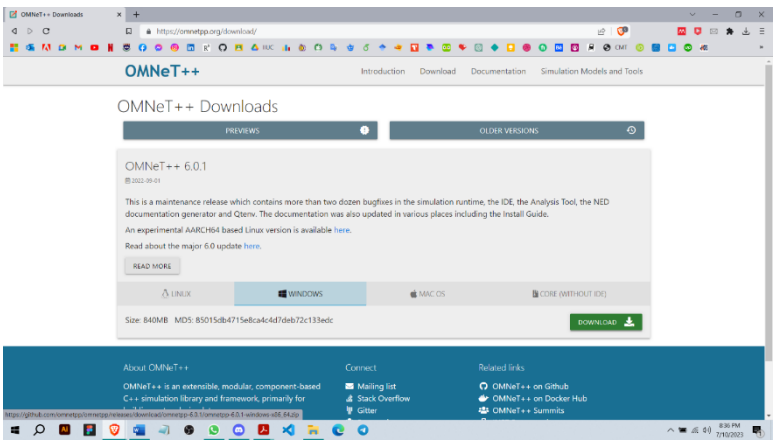
2. Installation process:

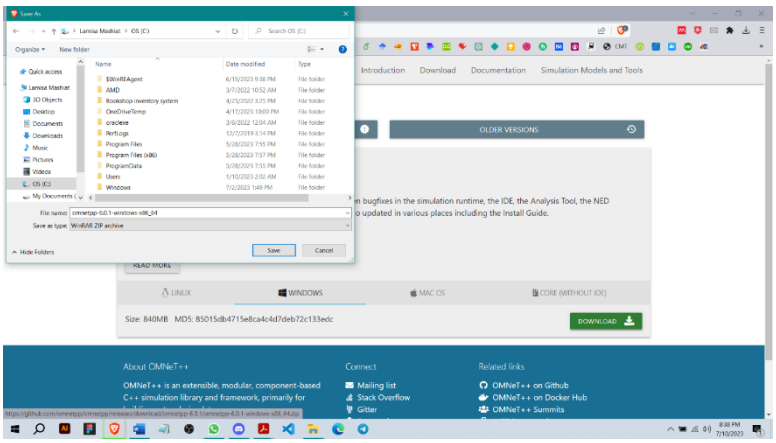
a) Download:

To download OMNeT++ IDE ,

- ⇨ First visit https://omnetpp.org/
- ⇨ In the upper right corner, there will be a button titled **DOWNLOAD**. Click on that.
- ⇨ After Clicking on Download there will be given options for four types of OS. Select **WINDOWS.** Begin your download and select the destination folder from the PC.

Snapshots of the mentioned processes are given below—



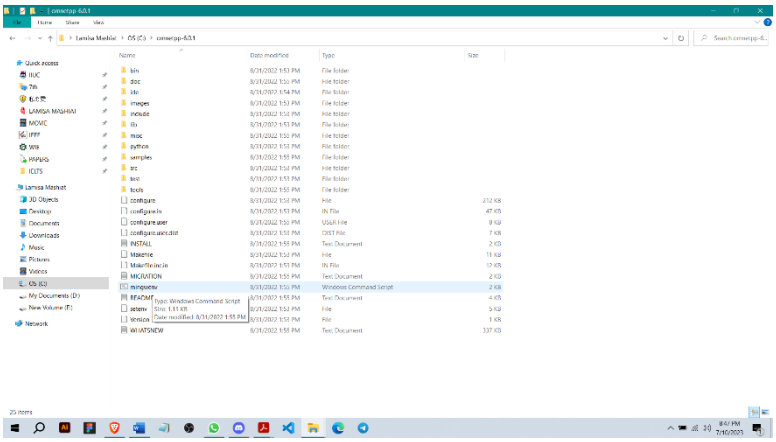


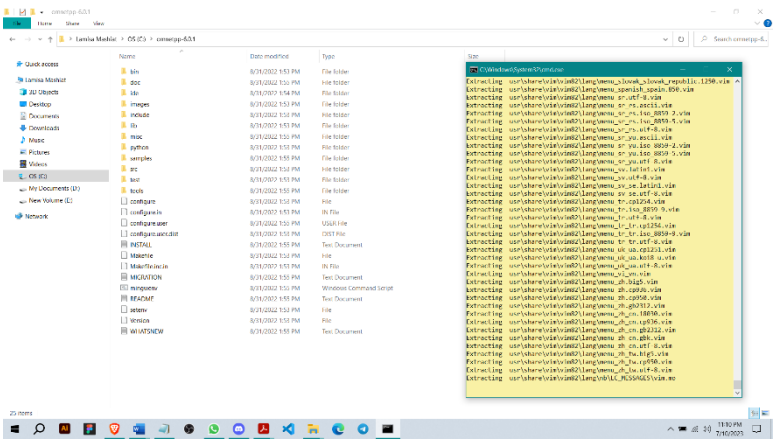
b) Unzip

After completing download proccess.

- ⇨ Go to the folder where the file is downloaded and then unzip it. Double click the mingwenv.cmd file to open the windows command shell. Then it will start extracting all the necessary tools and files.
- ⇨ After extracting write **./configure** in the command prompt then write **make .** It will create the desired environment to run the IDE.

The installation process is done here. Given Snapshots demonstrate the mentioned steps.





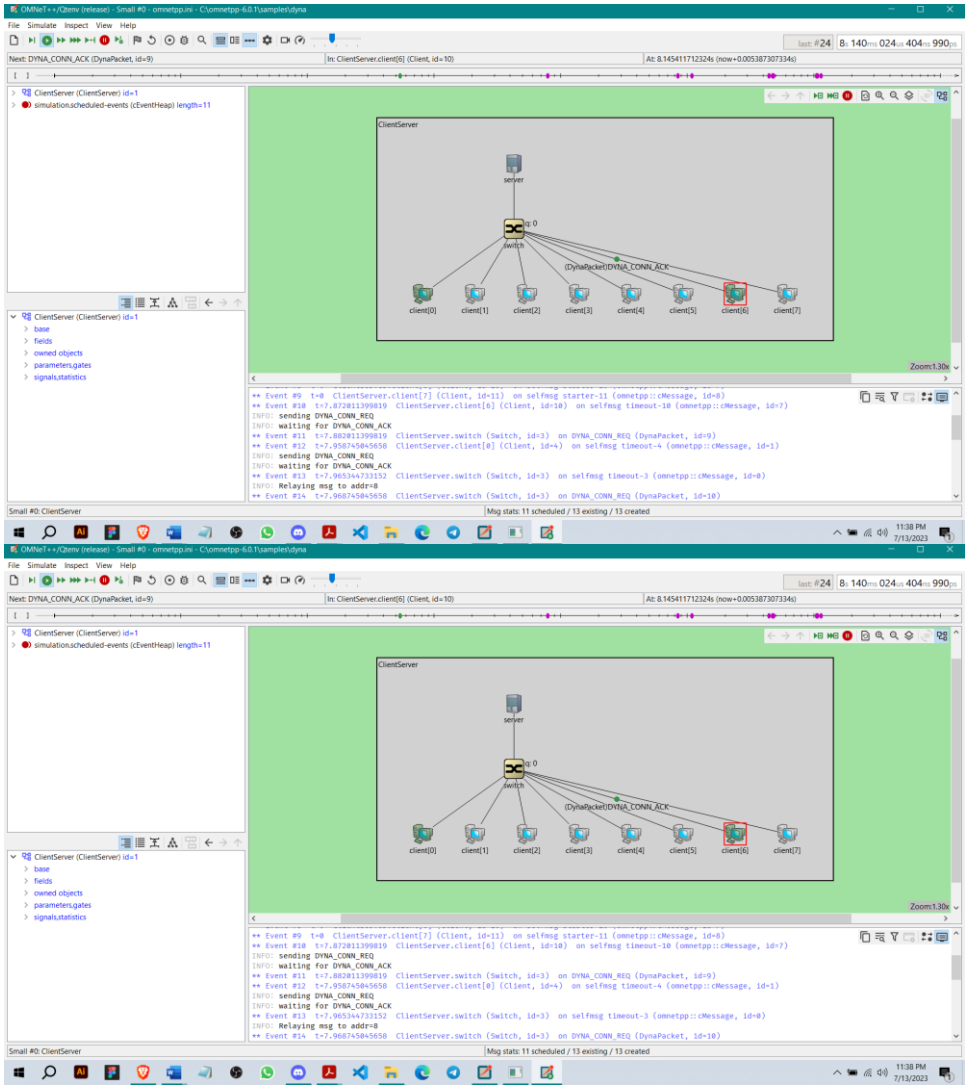
c) As the installation is complete , to run the IDE write **omnetpp** in the command shell.

```
/c/omnetpp-6.0.1
Environment for 'omnetpp-6.0.1' in directory '/c/omnetpp-6.0.1' is ready.

/c/omnetpp-6.0.1$ omnetpp
Starting the OMNeT++ IDE...

/c/omnetpp-6.0.1$
```

3. Testing: Simulation of the sample project **Dyna**



4. Conclusion:

I faced no issues during the download procedure. I have successfully installed and tested OMNet++ in my system Windows-10.