

Connecting Multiple Networks with Router

Spoken Tutorial Project

<https://spoken-tutorial.org>

National Mission on Education through ICT

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Learning Objectives

In this tutorial, we will learn to



System Requirements

To record this tutorial, I am using



System Requirements

To record this tutorial, I am using

▶ **Ubuntu Linux 22.04 OS**



Pre-requisites

To follow this tutorial

- ▶ You must have basic knowledge of using Linux terminal



Pre-requisites

To follow this tutorial

- ▶ You must have basic knowledge of using Linux terminal
- ▶ You must know how to create a point-to-point and a CSMA network in ns-3



Code Files

- ▶ The files used in this tutorial are provided in the Code files link



Code Files

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- ▶ Please download and extract the files

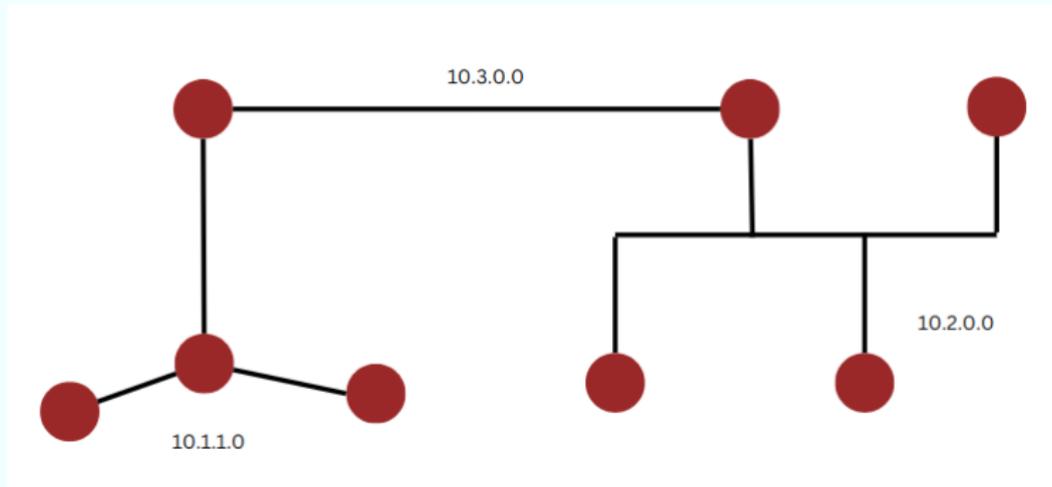


Code Files

- ▶ The files used in this tutorial are provided in the Code files link
- ▶ Please download and extract the files
- ▶ Make a copy and then use them while practicing



Topology



Assignment

As an assignment, please do the following

- ▶ **Write an ns-3 program with two CSMA networks**
- ▶ **Both networks should have 4 nodes**



Assignment

- ▶ Assign IP address 10.1.0.0 to first network
- ▶ Assign IP address 10.2.0.0 to second network

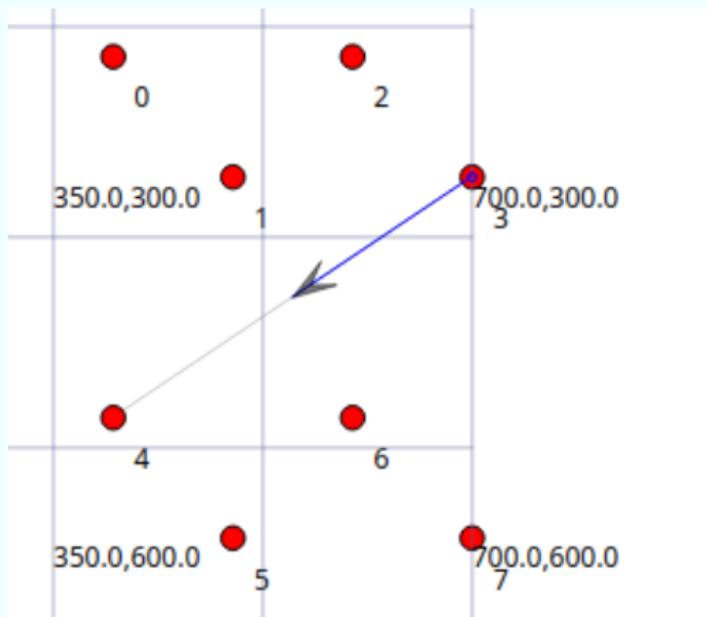


Observation: Terminal

```
karthik@karthik-ThinkPad:~/ns-allinone-3.38/ns-3.38$ ./ns3 run scratch/t
[0/2] Re-checking globbed directories...
[1/2] Building CXX object scratch/CMakeFiles/scratch_two-csma.dir/two-cs
/home/karthik/ns-allinone-3.38/ns-3.38/scratch/two-csma.cc: In function
/home/karthik/ns-allinone-3.38/ns-3.38/scratch/two-csma.cc:17:10: warnin
17 |         bool verbose = true;
    |         ^
[2/2] Linking CXX executable ../build/scratch/ns3.38-two-csma-default
At time +2s client sent 1024 bytes to 10.3.0.3 port 9
At time +2.00992s server received 1024 bytes from 10.1.0.2 port 49153
At time +2.00992s server sent 1024 bytes to 10.1.0.2 port 49153
At time +2.03184s client received 1024 bytes from 10.3.0.3 port 9
karthik@karthik-ThinkPad:~/ns-allinone-3.38/ns-3.38$ █
```



Observation: NetAnim



Answers for THIS spoken tutorial

- ▶ Questions in THIS Spoken Tutorial
- ▶ Visit <https://forums.spoken-tutorial.org>
- ▶ Choose the minute and second where you have the question
- ▶ Explain your question briefly
- ▶ The Spoken Tutorial project will ensure an answer
- ▶ You will have to register to ask questions



- ▶ For any general or technical questions on ns-3, visit the FOSSEE forum and post your question

<https://forums.fossee.in/>



Acknowledgement

- ▶ **Spoken Tutorial Project was established by the Ministry of Education, Government of India.**



Acknowledgement

- ▶ We thank Dr.Moyukh Laha from IIT Kharagpur for his domain support
- ▶ We would also like to thank Dr. R. Radha, Dr. X. Anita, and Dr. T. Subbulakshmi from VIT, Chennai for their support



Thank you

- ▶ This is Josiga, a FOSSEE Summer fellow 2023, IIT Bombay signing off

