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**Cyb3rZ3d** Please enter the commit message for your changes. Lines starting

1daacac · 2 minutes ago



145 lines (71 loc) · 3.96 KB

Preview

Code

Blame



Raw



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Assignment: Lab 10 - OMNet++

Lab Setup using Ubuntu 24.04

1. Update Ubuntu

```
sudo apt update && sudo apt upgrade -y
```



2. Download OMNet++

Downloaded <https://omnetpp.org/download/> , 6.1.0.

```
https://omnetpp.org/download/#omnetpp-61\_linux.aarch64
```



Create a new OMNetpp directory

```
cd ~/
mkdir OMNetpp
cd OMNetpp
```



Move download to new OMNetpp directory and unpack

```
mv /Downloads/omnetpp-6.1.0-linux-x86_64.tgz ~/OMNetpp

tar xvf omnetpp-6.1.0-linux-x86_64.tgz

cd omnetpp-6.1
```



3. Configure Environment

Run the environment setup script

```
. setenv

./configure
```



The following commands were completed after cycling through the config script, `. setenv` and `./configure`. After each cycle I would receive an error and these are the commands I implemented till I wouldn't receive an error anymore:

```
sudo apt install -y build-essential

sudo apt install -y pkg-config

sudo apt install -y bison

sudo apt install -y flex

sudo apt install python3.12-venv

python3 -m venv .venv

source .venv/bin/activate

python3 -m pip install --upgrade pip

python3 -m pip install -r python/requirements.txt
```



```
sudo apt install -y python3-dev
```

```
sudo apt install -y libdw-dev
```

```
sudo apt install -y ccache
```

```
make clean
```

```
. setenv
```

```
./configure
```

I continued to receive a number of difference errors when i would cycle through the `make -j$(nproc)` , so I used the assist of ChatGPT to help with resolving errors.

Configuration COMPLETE

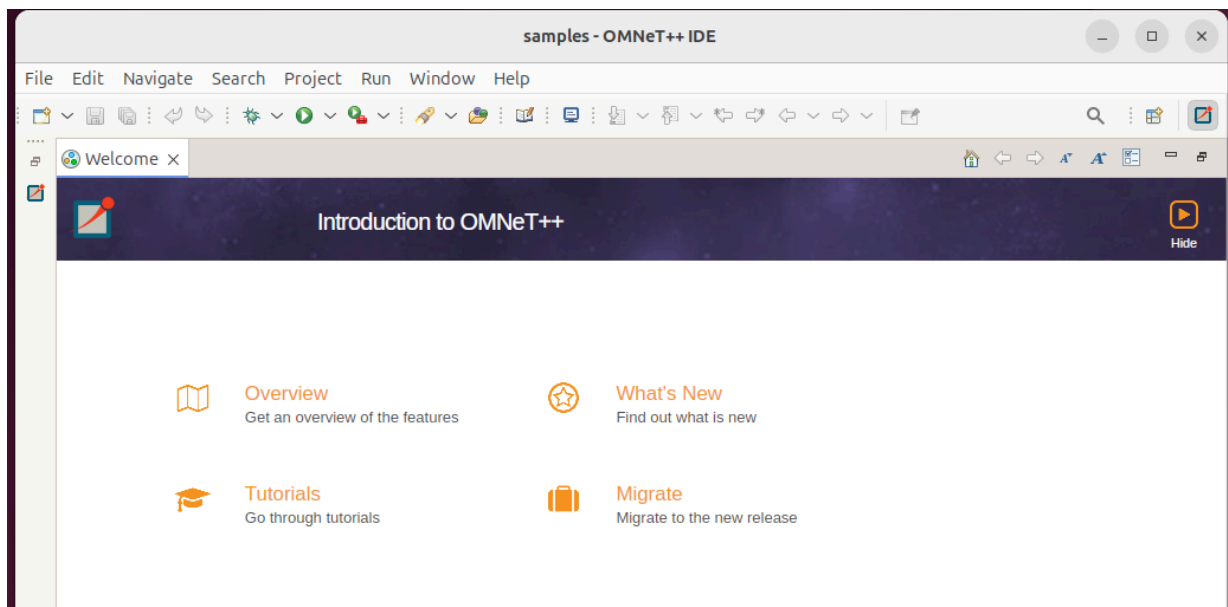
4. Time to compile

```
make -j$(nproc)
```



5. Launch `OMNet++

```
./bin/omnetpp
```



Example - Tictoc

Started the example tictoc using

```
./tictoc -c Tictoc9
```



```
(.venv) rvaldez@rvaldez-TAMUSA:~/OMNetpp/omnetpp-6.1/samples/tictoc$ ./tictoc -c Tictoc9
OMNeT++ Discrete Event Simulation (C) 1992-2024 Andras Varga, OpenSim Ltd.
Version: 6.1, build: 241008-f7568267cd, edition: Academic Public License -- NOT FOR COMMERCIAL USE
See the license for distribution terms and warranty disclaimer

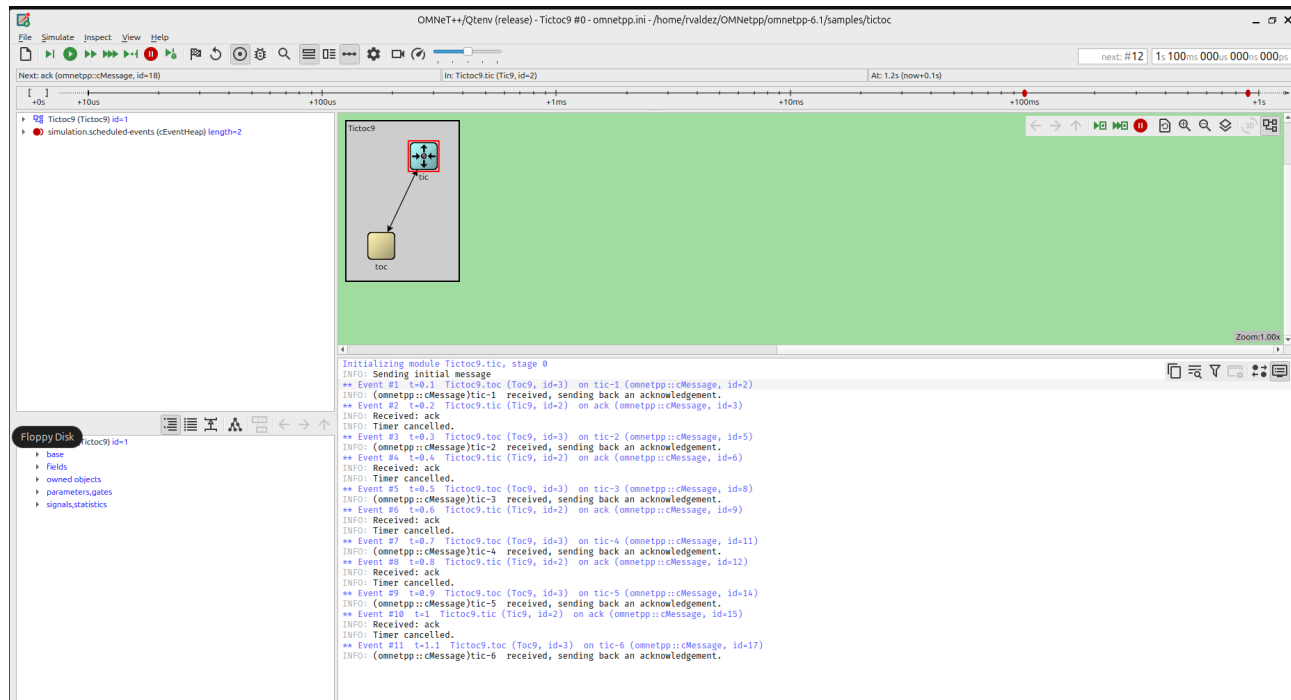
Setting up Qtenv...

Loading NED files from .: 19

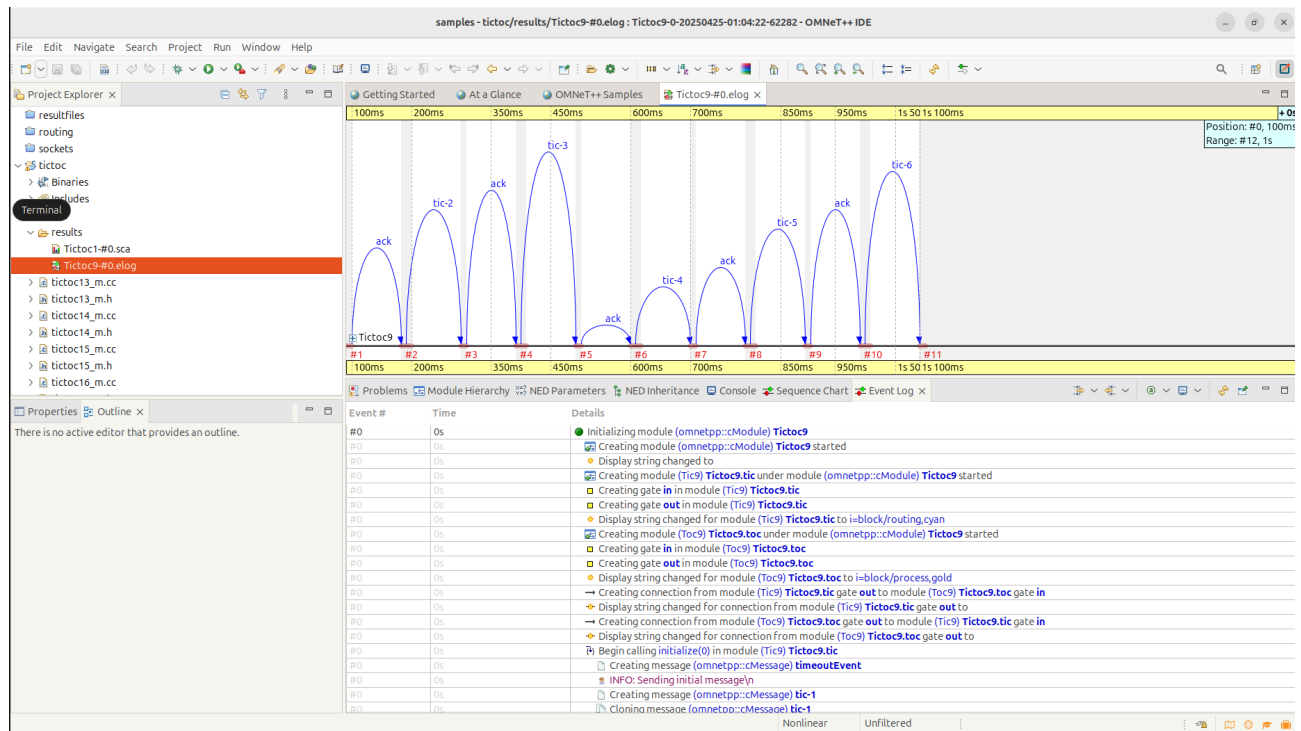
Loading images from 'images': *: 0
Loading images from '/home/rvaldez/OMNetpp/omnetpp-6.1/images': *: 0 abstract/*: 90 background/*: 4 block/*: 325 device/
*: 195 logo/*: 3 maps/*: 9 misc/*: 70 msg/*: 55 old/*: 111 status/*: 28

Recording eventlog to file 'results/Tictoc9-#0.elog'...
```

After executing the command example, I ran the the simulation and was provided the result



My first attempt, the result output file was a .sca and not a .elog. After taking the steps below, I was finally able to access a .elog result file. Steps taken to access the chart: right click the .elog > Open With > OMNeT++ Sequence Chart. Another option to view a different chart, OMNeT++ Event Log Table.



Because of my first attempt running this example didn't populate a .elog result record, I used ChatGPT to assist in troubleshooting this matter. The result was that I needed to update the `omnetpp.ini` file by entering `record-eventlog = true` for each Tictoc I intended to run, so in this case, I entered `record-eventlog = true` up till Tictoc9

```
GNU nano 7.2 omnetpp.ini
# This file is shared by all tictoc simulations.
# Lines beginning with '#' are comments

[General]
# nothing here

[Tictoc1]
network = Tictoc1
record-eventlog = true
tictoc

[Tictoc2]
network = Tictoc2
record-eventlog = true

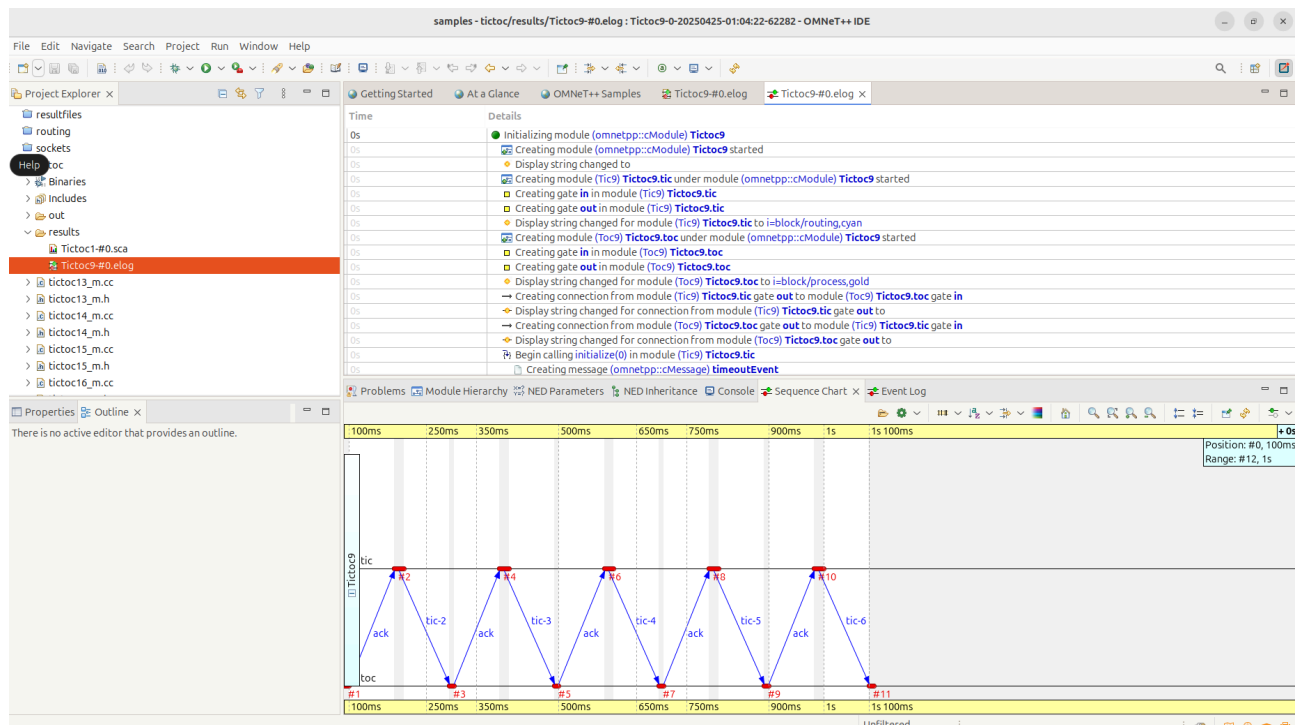
[Tictoc3]
network = Tictoc3
record-eventlog = true

[Tictoc4]
network = Tictoc4
Tictoc4.toc.limit = 5
record-eventlog = true

[Tictoc5]
network = Tictoc5
**.limit = 5
record-eventlog = true

[Tictoc6]
network = Tictoc6
record-eventlog = true

[Tictoc7]
network = Tictoc7
```



Example - FIFO

To ensure I don't run in the issues as I did above, i'll be updating the `omnetpp.ini` file to ensure I have enabled Event Logging

```

GNU nano 7.2                                omnetpp.ini *
[General]
sim-time-limit = 100h
cpu-time-limit = 300s
record-eventlog = true

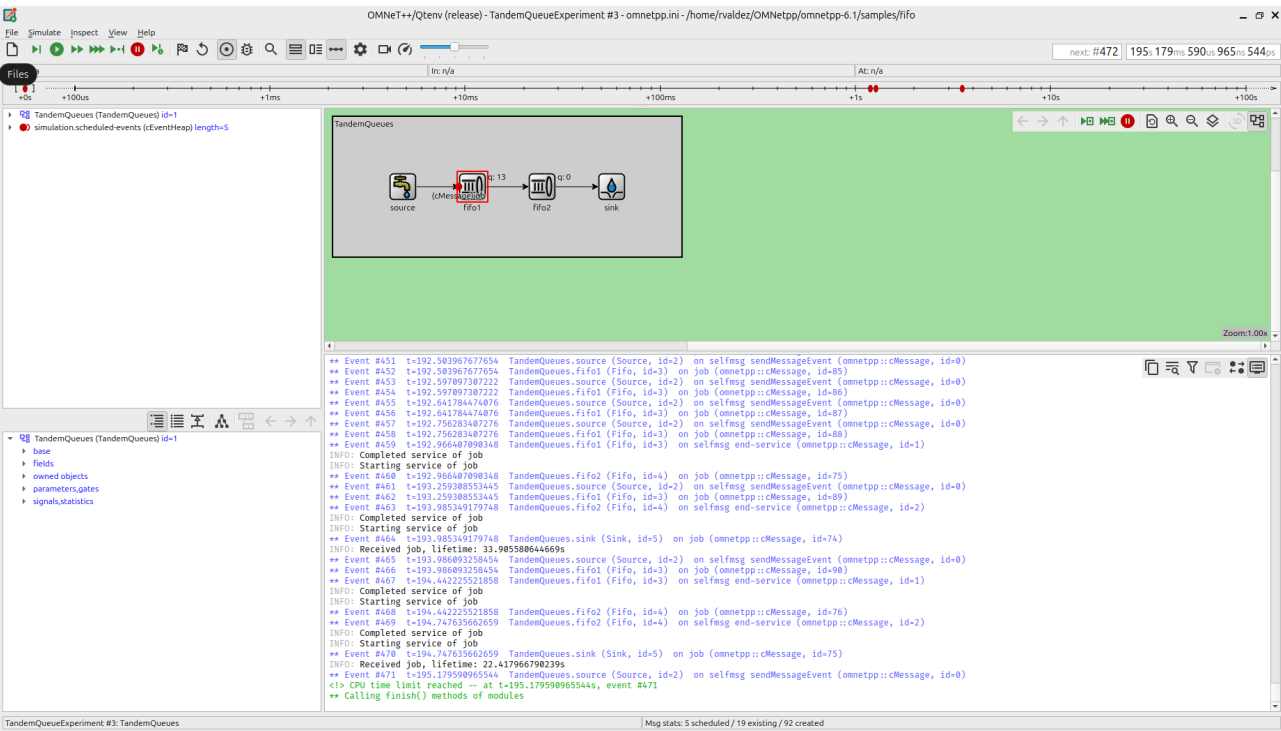
[Fifo1]
description = "low job arrival rate"
network = SingleQueue
*.interarrivalTime = exponential(0.2s)
**.fifo.serviceTime = 0.1s
record-eventlog = true

[Fifo2]
description = "high job arrival rate"
network = SingleQueue
**.source.interarrivalTime = exponential(0.1s)
**.fifo.serviceTime = 0.1s
record-eventlog = true

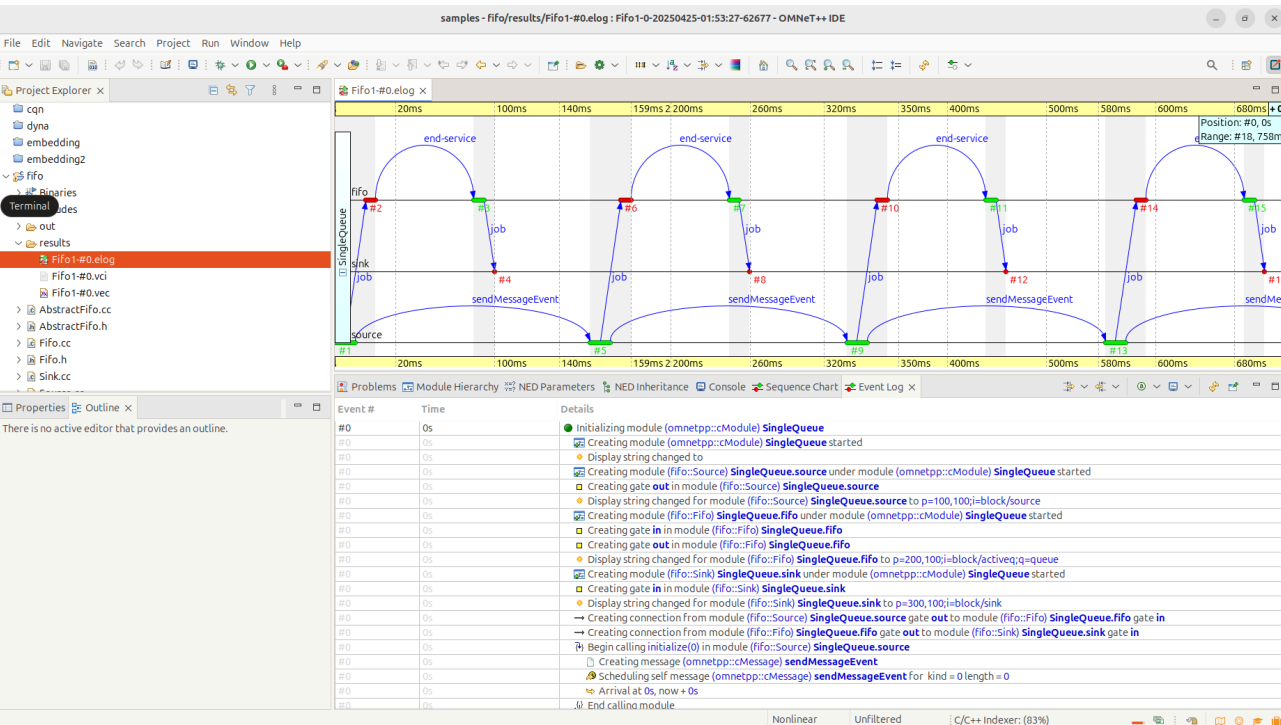
[TandemQueues]
network = TandemQueues
**.interarrivalTime = exponential(2s)

```

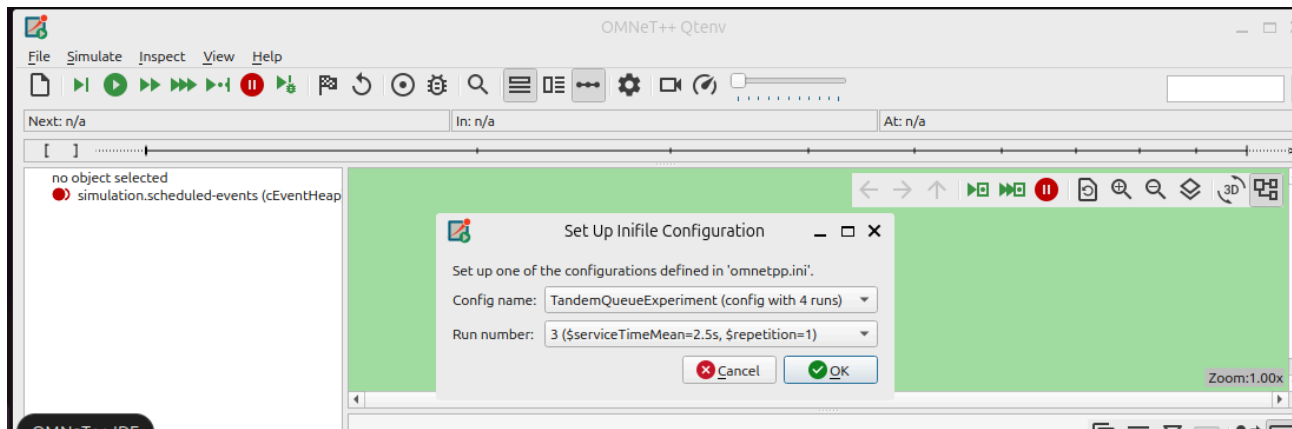
Running the commange `./fifo` opens the simulator



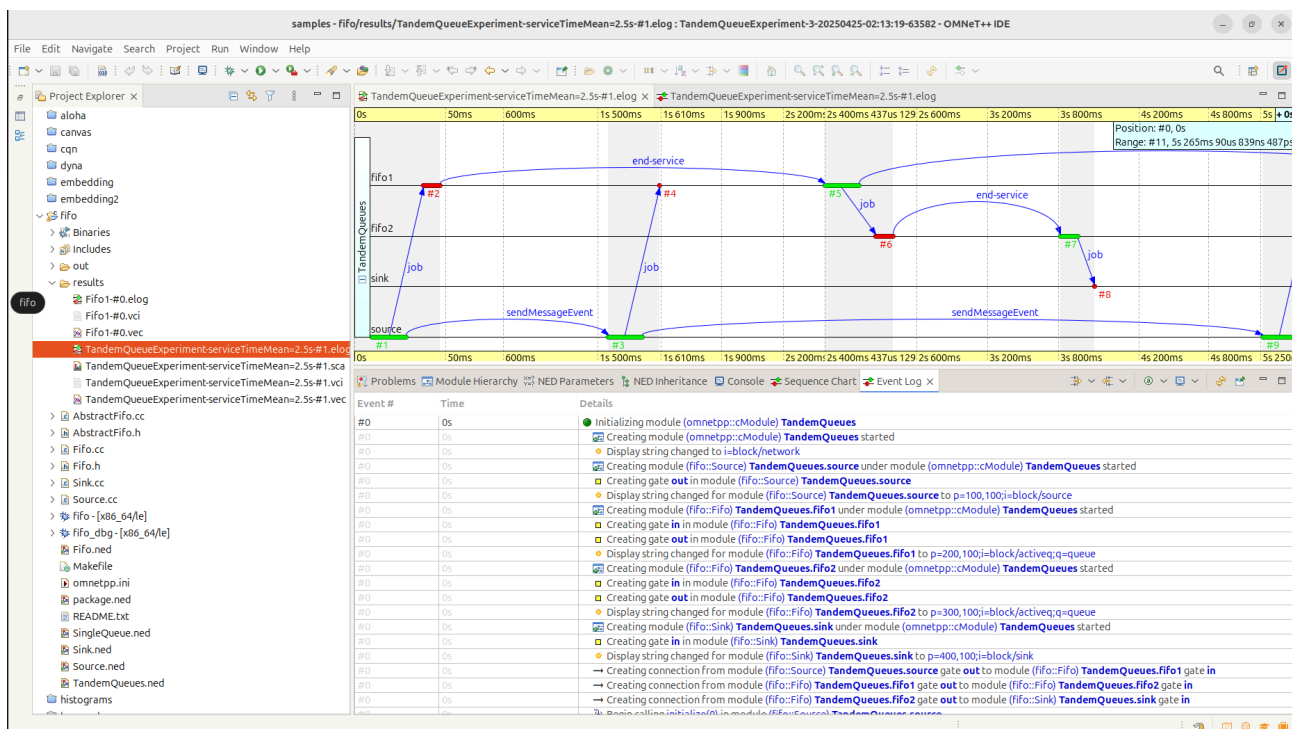
In this example we can view the Event Log at the bottom of the image documents all events and the upper image documents the network traffic using a Sequence Chart .



2nd Attempt using a different configuration



Here we can see the Sequence Chart at the top of the image and the Event Log at the bottom of the image.



Overall this lab for sure gave me issues. And after not being able to resolve the problem myself, I had to resort to ChatGPT to troubleshoot OMNeT++ install and configuration. That Step was the complete time suck. But in the end I was finally able to figure it out and complete the two examples using the published guide. Also, using ChatGPT to realize I needed to update and configure the ini files for each example. It was definitely a humbling experience.