CN DEMO LAB 4

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Step1:-make access java -jarNSG2.1.jar

```
keerthan@keerthan-VMware-Virtual-Platform:~$ cd Downloads
keerthan@keerthan-VMware-Virtual-Platform:~/Downloads$ java -jar NSG2.1.jar java.awt.Color[r=238,g=238,b=238]
```

Step 2:- It will navaigate to jar file > scenario > new wired scenario

Components in the Diagram:

1. **Insert Nodes**

    • **Click on Edit Mode (the pencil icon).**

    • **Select Add Node and click on the board to place nodes.**

    • **Place three nodes n0, n1, and n2 like in the image.**
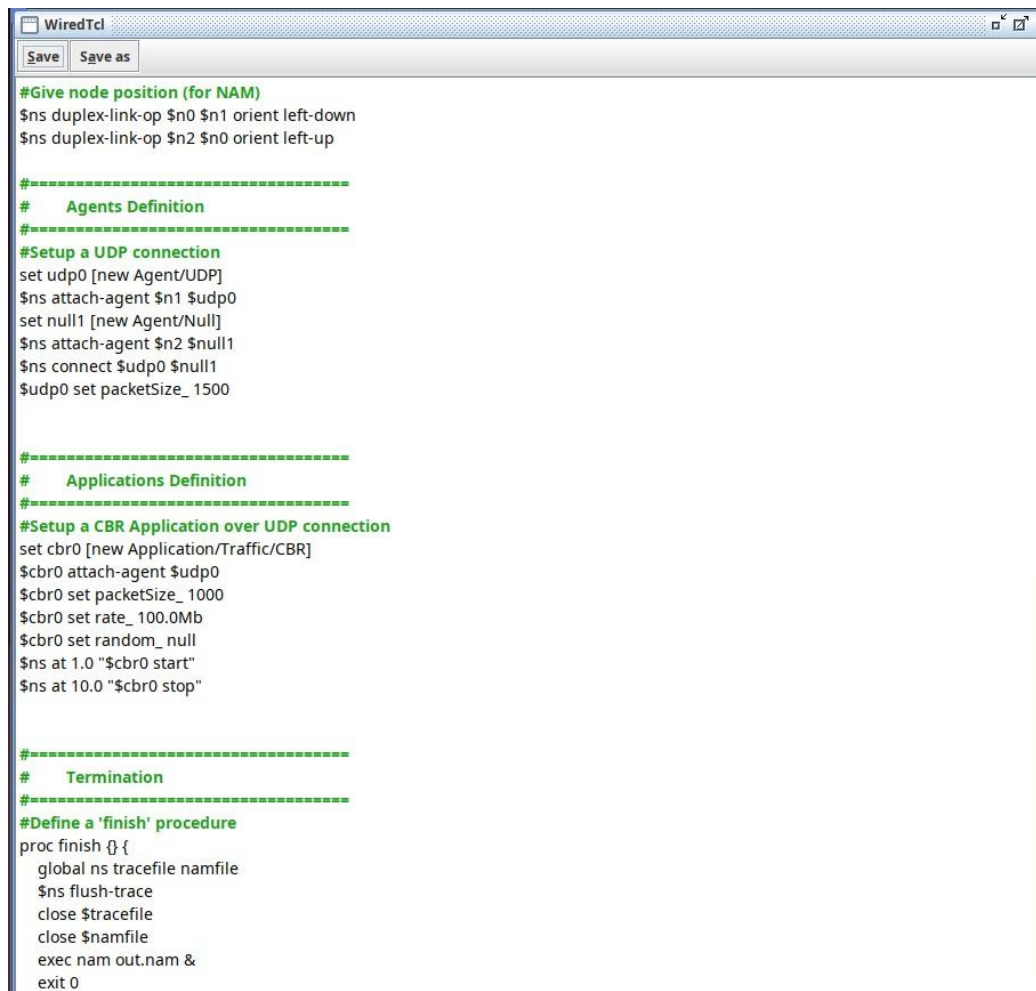
2. **Create Links (Connections)**

   - **Select Add Link from the menu.**

   - **Click n1 → n0 to create a link.**

   - **Click n0 → n2 to create another link.**

3. **Add Traffic Sources**

   - **Right-click on n1, select Attach Agent → Choose UDP.**

   - **Right-click on n2, select Attach Agent → Choose Null (sink).**

   - **Attach a CBR (Constant Bit Rate) application to the UDP agent.**

4. **Save and Export**

   - **Click File → Save As and save it as pro21.tcl**

```
WiredTcl

Save   Save as

#Give node position (for NAM)
$ns duplex-link-op $n0 $n1 orient left-down
$ns duplex-link-op $n2 $n0 orient left-up

#====================================
#       Agents Definition
#====================================
#Setup a UDP connection
set udp0 [new Agent/UDP]
$ns attach-agent $n1 $udp0
set null1 [new Agent/Null]
$ns attach-agent $n2 $null1
$ns connect $udp0 $null1
$udp0 set packetSize_ 1500


#====================================
#       Applications Definition
#====================================
#Setup a CBR Application over UDP connection
set cbr0 [new Application/Traffic/CBR]
$cbr0 attach-agent $udp0
$cbr0 set packetSize_ 1000
$cbr0 set rate_ 100.0Mb
$cbr0 set random_ null
$ns at 1.0 "$cbr0 start"
$ns at 10.0 "$cbr0 stop"



#====================================
#       Termination
#====================================
#Define a 'finish' procedure
proc finish {} {
    global ns tracefile namfile
    $ns flush-trace
    close $tracefile
    close $namfile
    exec nam out.nam &
    exit 0
```
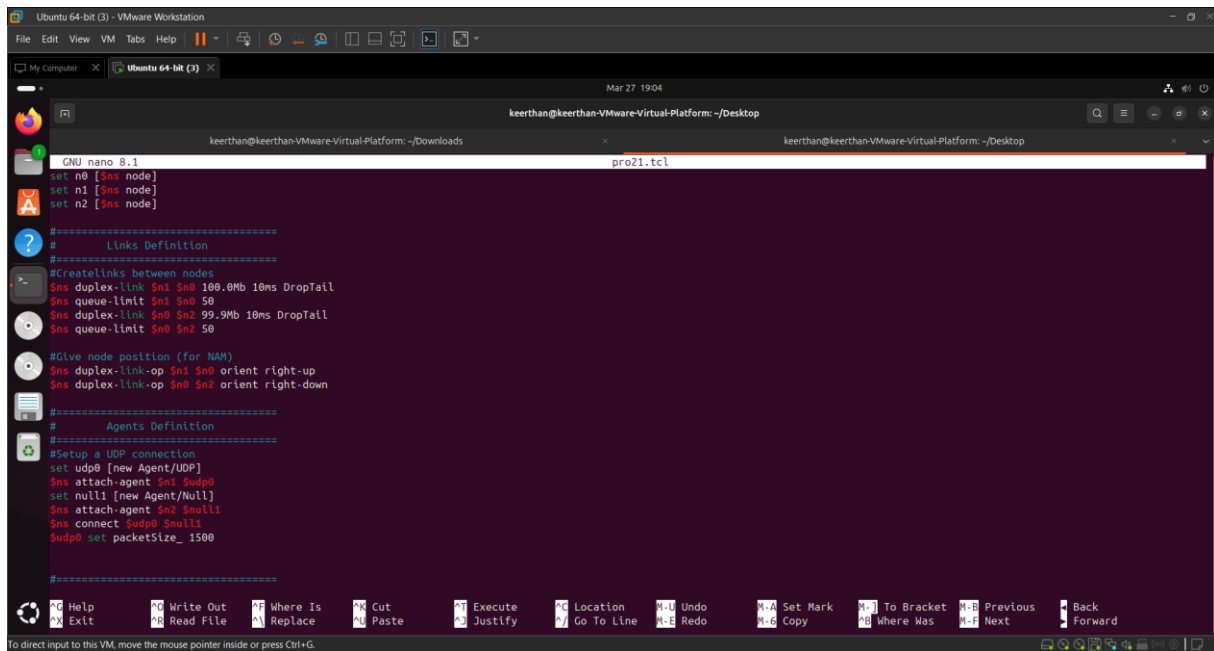
Step 3 nano pro21.tcl


```
keerthan@keerthan-VMware-Virtual-Platform:~/Downloads$ cd ..
keerthan@keerthan-VMware-Virtual-Platform:~$ cd Desktop
keerthan@keerthan-VMware-Virtual-Platform:~/Desktop$ nano pro21.tcl
keerthan@keerthan-VMware-Virtual-Platform:~/Desktop$ S
```
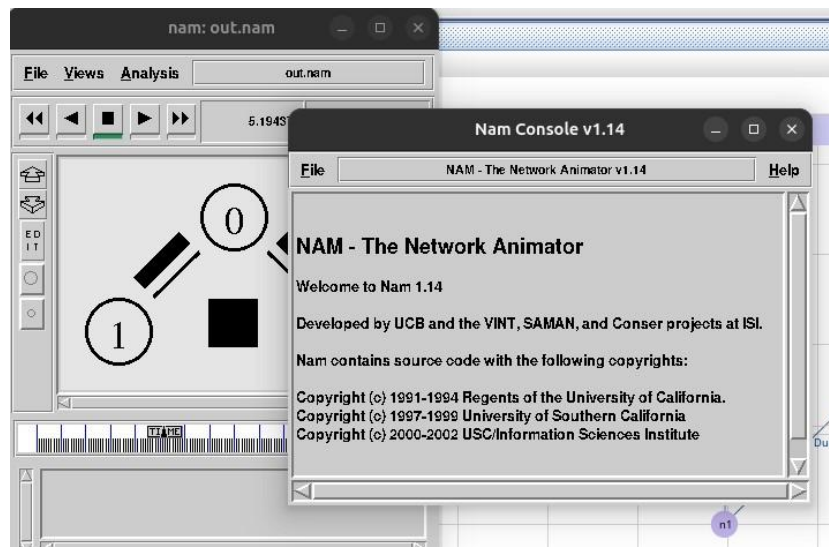
Step4:- change 100.0 to 99.9

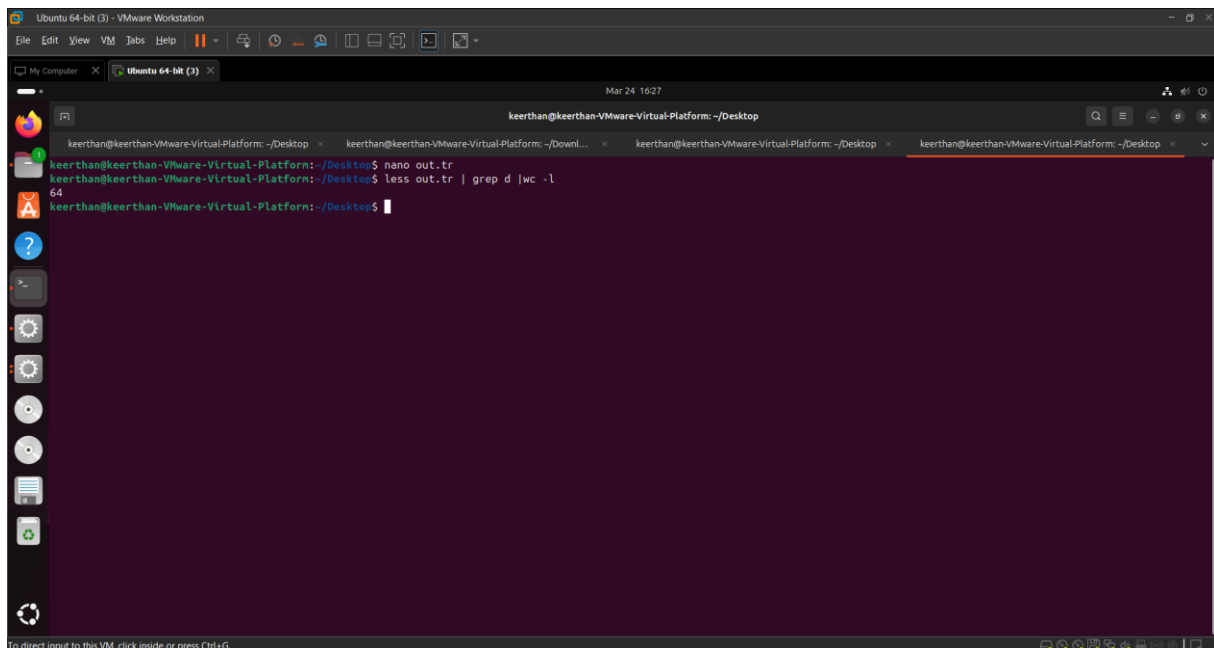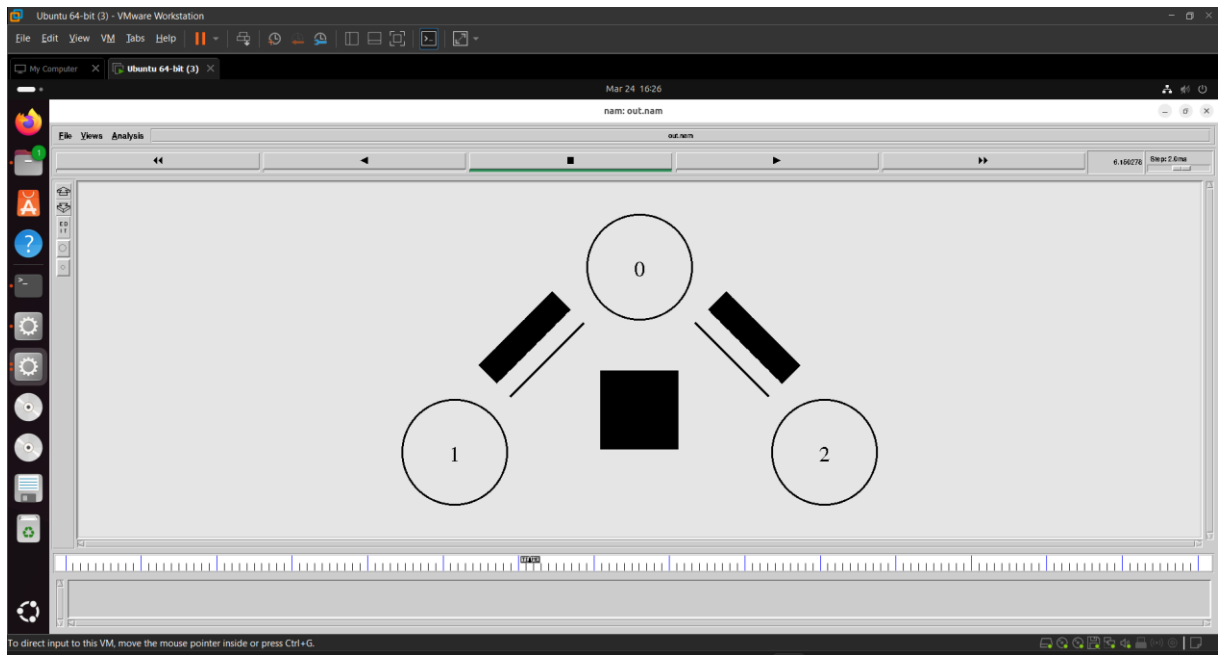Step 5 ns pro21.tcl

Output 1:-

Step 6 nano out.tr


```
GNU nano 8.1                              out.tr
+ 1 1 0 cbr 1000 ------- 0 1.0 2.0 0 0
- 1 1 0 cbr 1000 ------ 0 1.0 2.0 0 0
+ 1.00008 1 0 cbr 1000 ------- 0 1.0 2.0 1 1
- 1.00008 1 0 cbr 1000 ------- 0 1.0 2.0 1 1
+ 1.00016 1 0 cbr 1000 ------- 0 1.0 2.0 2 2
- 1.00016 1 0 cbr 1000 ------- 0 1.0 2.0 2 2
+ 1.00024 1 0 cbr 1000 ------- 0 1.0 2.0 3 3
- 1.00024 1 0 cbr 1000 ------- 0 1.0 2.0 3 3
+ 1.00032 1 0 cbr 1000 ------- 0 1.0 2.0 4 4
- 1.00032 1 0 cbr 1000 ------- 0 1.0 2.0 4 4
+ 1.0004 1 0 cbr 1000 ------- 0 1.0 2.0 5 5
- 1.0004 1 0 cbr 1000 ------- 0 1.0 2.0 5 5
+ 1.00048 1 0 cbr 1000 ------- 0 1.0 2.0 6 6
- 1.00048 1 0 cbr 1000 ------- 0 1.0 2.0 6 6
+ 1.00056 1 0 cbr 1000 ------- 0 1.0 2.0 7 7
- 1.00056 1 0 cbr 1000 ------- 0 1.0 2.0 7 7
+ 1.00064 1 0 cbr 1000 ------- 0 1.0 2.0 8 8
- 1.00064 1 0 cbr 1000 ------- 0 1.0 2.0 8 8
+ 1.00072 1 0 cbr 1000 ------- 0 1.0 2.0 9 9
- 1.00072 1 0 cbr 1000 ------- 0 1.0 2.0 9 9
                        [ Read 674942 lines ]
^G Help      ^O Write Out  ^F Where Is   ^K Cut       ^T Execute   ^C Location
```

Step 7 less out.tr | grep d | wc -l


```
keerthan@keerthan-VMware-Virtual-Platform:~/Desktop$ nano out.tr
keerthan@keerthan-VMware-Virtual-Platform:~/Desktop$ less out.tr | grep d |wc -l
64
keerthan@keerthan-VMware-Virtual-Platform:~/Desktop$
```

Output 2 :-

Change 99.9 to 99.2 in nano pro21.tcl

Output:

My Computer | Ubuntu 64-bit (3)

Mar 24 16:30

keerthan@keerthan-VMware-Virtual-Platform: ~/Desktop

keerthan@keerthan-VMware-Virtual-Platform: ~/Desktop | keerthan@keerthan-VMware-Virtual-Platform: ~/Downl... | keerthan@keerthan-VMware-Virtual-Platform: ~/Desktop | keerthan@keerthan-VMware-Virtual-Platform: ~/Desktop

```
GNU nano 8.1                                    out.tr
+ 1 1 0 cbr 1000 ------- 0 1.0 2.0 0 0
- 1 1 0 cbr 1000 ------- 0 1.0 2.0 0 0
+ 1.00008 1 0 cbr 1000 ------- 0 1.0 2.0 1 1
- 1.00008 1 0 cbr 1000 ------- 0 1.0 2.0 1 1
+ 1.00016 1 0 cbr 1000 ------- 0 1.0 2.0 2 2
- 1.00016 1 0 cbr 1000 ------- 0 1.0 2.0 2 2
+ 1.00024 1 0 cbr 1000 ------- 0 1.0 2.0 3 3
- 1.00024 1 0 cbr 1000 ------- 0 1.0 2.0 3 3
+ 1.00032 1 0 cbr 1000 ------- 0 1.0 2.0 4 4
- 1.00032 1 0 cbr 1000 ------- 0 1.0 2.0 4 4
+ 1.0004 1 0 cbr 1000 ------- 0 1.0 2.0 5 5
- 1.0004 1 0 cbr 1000 ------- 0 1.0 2.0 5 5
+ 1.00048 1 0 cbr 1000 ------- 0 1.0 2.0 6 6
- 1.00048 1 0 cbr 1000 ------- 0 1.0 2.0 6 6
+ 1.00056 1 0 cbr 1000 ------- 0 1.0 2.0 7 7
- 1.00056 1 0 cbr 1000 ------- 0 1.0 2.0 7 7
+ 1.00064 1 0 cbr 1000 ------- 0 1.0 2.0 8 8
- 1.00064 1 0 cbr 1000 ------- 0 1.0 2.0 8 8
+ 1.00072 1 0 cbr 1000 ------- 0 1.0 2.0 9 9
- 1.00072 1 0 cbr 1000 ------- 0 1.0 2.0 9 9
+ 1.0008 1 0 cbr 1000 ------- 0 1.0 2.0 10 10
- 1.0008 1 0 cbr 1000 ------- 0 1.0 2.0 10 10
+ 1.00088 1 0 cbr 1000 ------- 0 1.0 2.0 11 11
- 1.00088 1 0 cbr 1000 ------- 0 1.0 2.0 11 11
+ 1.00096 1 0 cbr 1000 ------- 0 1.0 2.0 12 12
- 1.00096 1 0 cbr 1000 ------- 0 1.0 2.0 12 12
+ 1.00104 1 0 cbr 1000 ------- 0 1.0 2.0 13 13
- 1.00104 1 0 cbr 1000 ------- 0 1.0 2.0 13 13
+ 1.00112 1 0 cbr 1000 ------- 0 1.0 2.0 14 14
- 1.00112 1 0 cbr 1000 ------- 0 1.0 2.0 14 14

                              [ Read 674155 lines ]
^G Help        ^O Write Out    ^F Where Is    ^K Cut      ^T Execute    ^C Location    M-U Undo    M-A Set Mark    M-] To Bracket    M-B Previous    Back
^X Exit        ^R Read File    ^\ Replace     ^U Paste    ^J Justify    ^/ Go To Line  M-E Redo    M-6 Copy       ^B Where Was      M-F Next        Forward
```

To direct input to this VM, move the mouse pointer inside or press Ctrl+G.

My Computer | Ubuntu 64-bit (3)

Mar 24 16:30

nam: /home/keerthan/Desktop/out.nam

File Views Analysis

/home/keerthan/Desktop/out.nam

1.758600   Step: 2.6ms