#Create a simulator object

set ns [new Simulator]

#Define different colors for data flows

$ns color 1 Blue

$ns color 2 Red

#Open the nam trace file

set nf [open out.nam w]

$ns namtrace-all $nf

#Define a 'finish' procedure

proc finish {} {

global ns nf

$ns flush-trace

#Close the trace file

close $nf

#Execute nam on the trace file

exec namout.nam&

exit 0

}

#Create four nodes

set n0 [$ns node]

set n1 [$ns node]

set n2 [$ns node]

set n3 [$ns node]

#Create links between the nodes

$ns duplex-link $n0 $n2 1Mb 10ms DropTail

$ns duplex-link $n1 $n2 1Mb 10ms DropTail

$ns duplex-link $n3 $n2 1Mb 10ms SFQ

$ns duplex-link-op $n0 $n2 orient right-down

$ns duplex-link-op $n1 $n2 orient right-up

$ns duplex-link-op $n2 $n3 orient right

#Monitor the queue for the link between node 2 and node 3

$ns duplex-link-op $n2 $n3 queuePos 0.5

#Create a UDP agent and attach it to node n0

set udp [new Agent/UDP]

$udp set class\_ 1

$ns attach-agent $n0 $udp

# Create a CBR traffic source and attach it to udp0

set cbr [new Application/Traffic/CBR]

$cbr set packetSize\_ 500

$cbr set interval\_ 0.005

$cbr attach-agent $udp

#Create a Null agent (a traffic sink) and attach it to node n3

set null [new Agent/Null]

$ns attach-agent $n3 $null

#Setting TCP Agent

set tcp [new Agent/TCP]

$tcp set class\_ 2

$ns attach-agent $n1 $tcp

#Setting FTP Application

set ftp [new Application/FTP]

$ftp attach-agent $tcp

#setting SINK Agent

set sink [new Agent/TCPSink]

$ns attach-agent $n3 $sink

#Connect the traffic sources with the traffic sink

$ns connect $udp $null

$ns connect $tcp $sink

#Schedule events for the CBR agents

$ns at 0.5 "$cbr start"

$ns at 1.0 "$ftp start"

$ns at 4.0 "$cbr stop"

$ns at 4.5 "$ftp stop"

#Call the finish procedure after 5 seconds of simulation time

$ns at 5.0 "finish"

#Run the simulation

$ns run

OUTPUT:

Graphical user interface, text, application

Description automatically generated