Roll. No.: A016	Name: Varun Khadayate
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Grade --	

Create wireless network in ns2

Theory

Simple Wireless Program in NS2 is the best way to learn about how to code in NS2. NS-2 is one of the best simulation tools. It is used by majority of scholars today due to its highlighted features like support for OOPs concept, C++ programming fundamentals, real time emulation support etc. NS2 is used to simulate both wired and wireless networks; here we have focused on wireless network simulation in NS-2 due to its wide applicability. Regarding wired simulation in NS-2, refer our other articles available in this site.

Here, we have taken a simple wireless program in NS-2 to explain the students about how to work with wireless networks in NS-2. For further guidance and tutoring service on NS-2, approach us anytime, we are there for you at 24/7.

Code

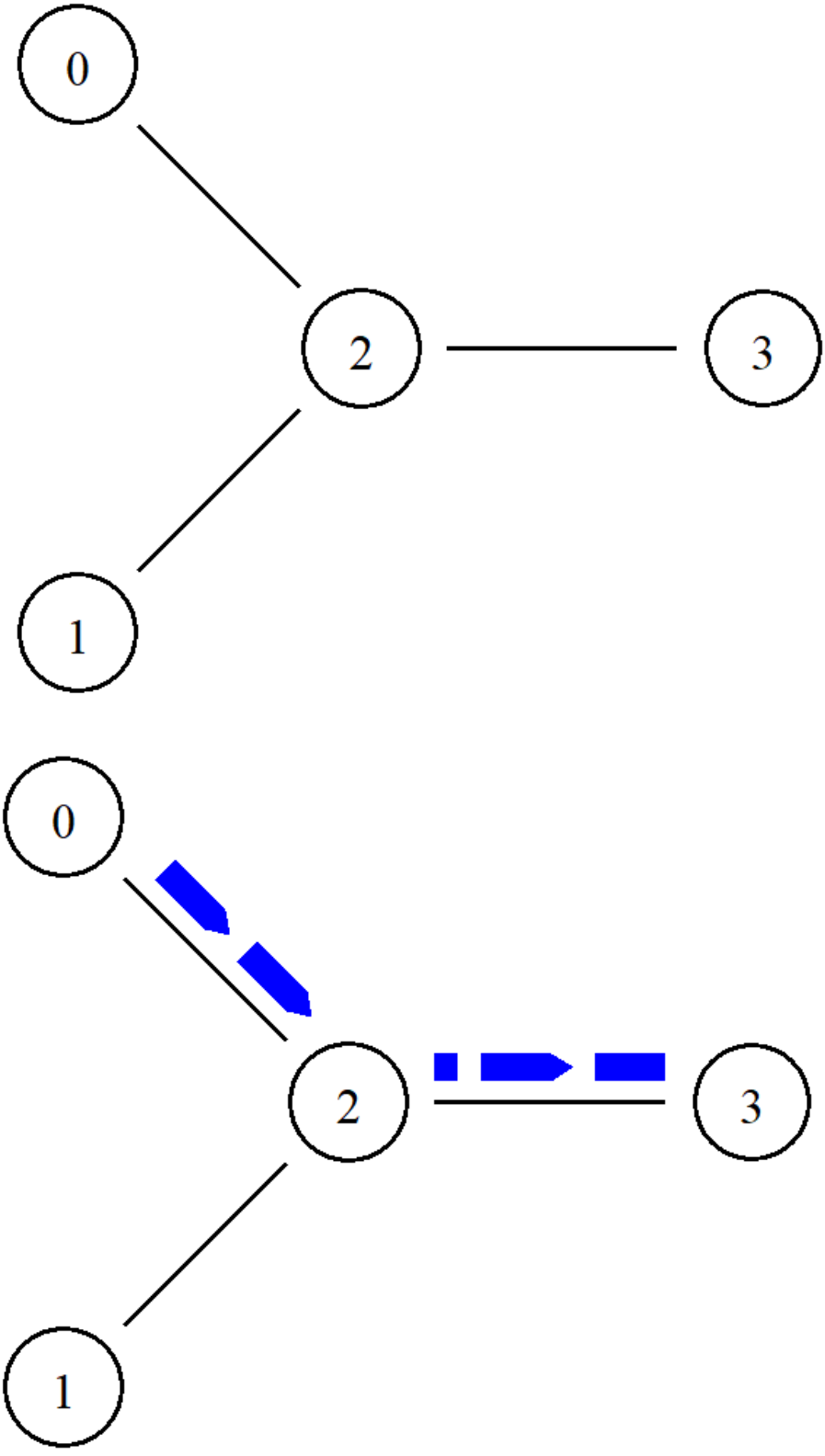
```
#Create a simulator object

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
```

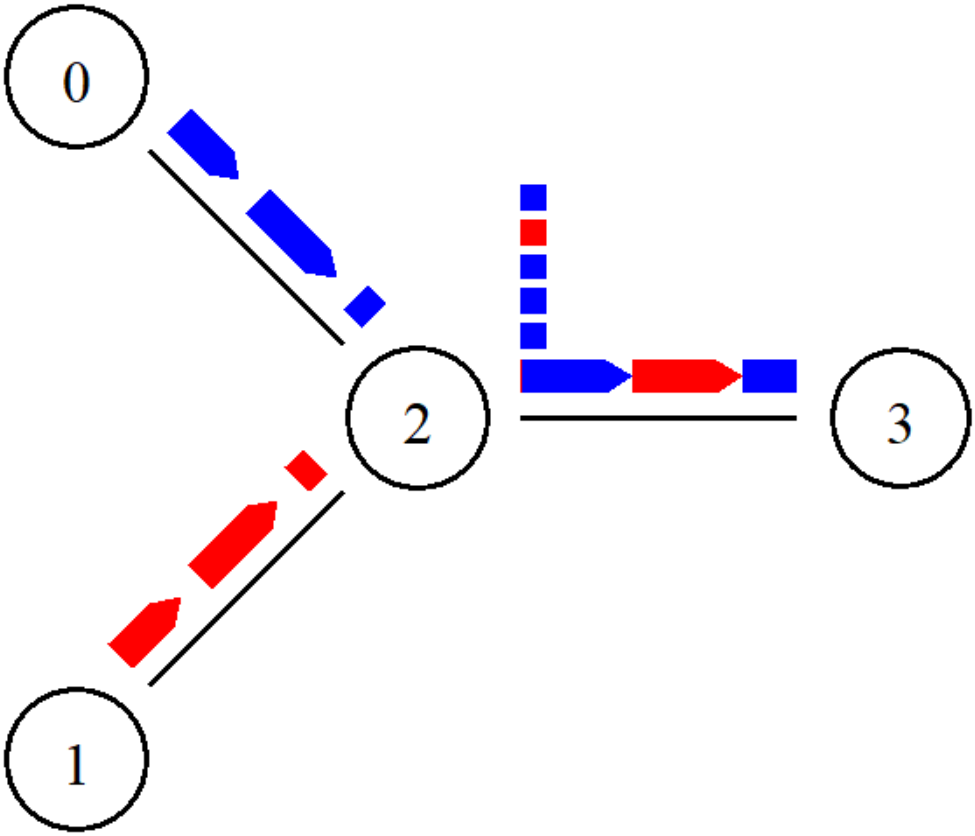
```
    $ns flush-trace
        #Close the trace file
    close $nf
        #Execute nam on the trace file
    exec nam out.nam &
    exit 0
}

#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 DropTail


$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
#set aa [$ns duplex-link-op $n2 $n3 queuePos 0.5]
#puts $aa
```

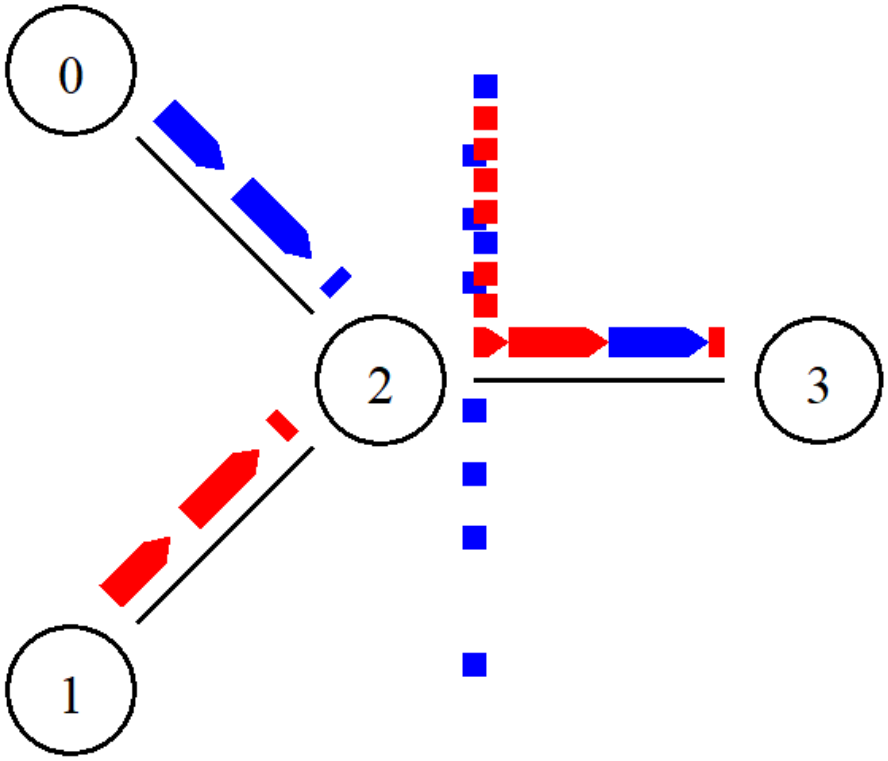
```
$ns duplex-link-op $n2 $n3 queuePos 0.5


$ns queue-limit $n2 $n3 10



#Create a UDP agent and attach it to node n0

set udp0 [new Agent/UDP]

$udp0 set class_ 1

$ns attach-agent $n0 $udp0


# Create a CBR traffic source and attach it to udp0

set cbr0 [new Application/Traffic/CBR]

$cbr0 set packetSize_ 500

$cbr0 set interval_ 0.005

$cbr0 attach-agent $udp0


#Create a UDP agent and attach it to node n1

set udp1 [new Agent/UDP]

$udp1 set class_ 2

$ns attach-agent $n1 $udp1


# Create a CBR traffic source and attach it to udp1

set cbr1 [new Application/Traffic/CBR]

$cbr1 set packetSize_ 500

$cbr1 set interval_ 0.005

$cbr1 attach-agent $udp1
```

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

set null0 [new Agent/Null]

$ns attach-agent $n3 $null0


#Connect the traffic sources with the traffic sink

$ns connect $udp0 $null0

$ns connect $udp1 $null0


#Schedule events for the CBR agents

$ns at 0.5 "$cbr0 start"

$ns at 1.0 "$cbr1 start"

$ns at 4.0 "$cbr1 stop"

$ns at 4.5 "$cbr0 stop"



#Call the finish procedure after 5 seconds of simulation time

$ns at 5.0 "finish"


#Run the simulation

$ns run
```

Output




0
2
3
1


0
2
3
1

Conclusion

Hence we were able to perform the experiment.