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Grade --	

Aim

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

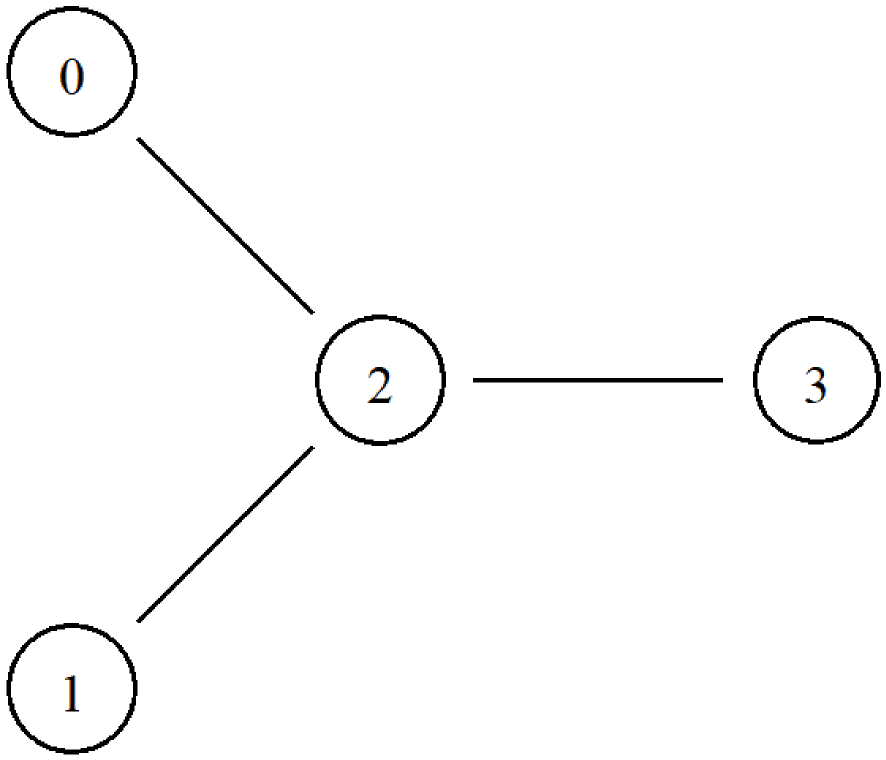
```
#Create a simulator object

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
```

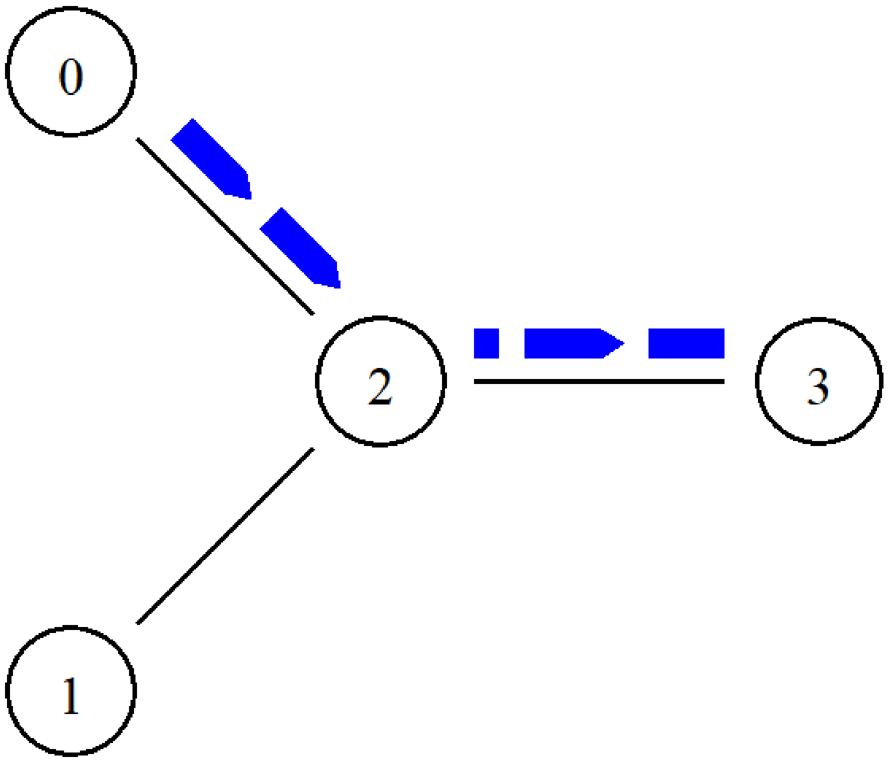
```
        $ns flush-trace
            #Close the trace file
        close $nf
            #Execute nam on the trace file
        exec nam out.nam &
        exit 0
}

#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
```

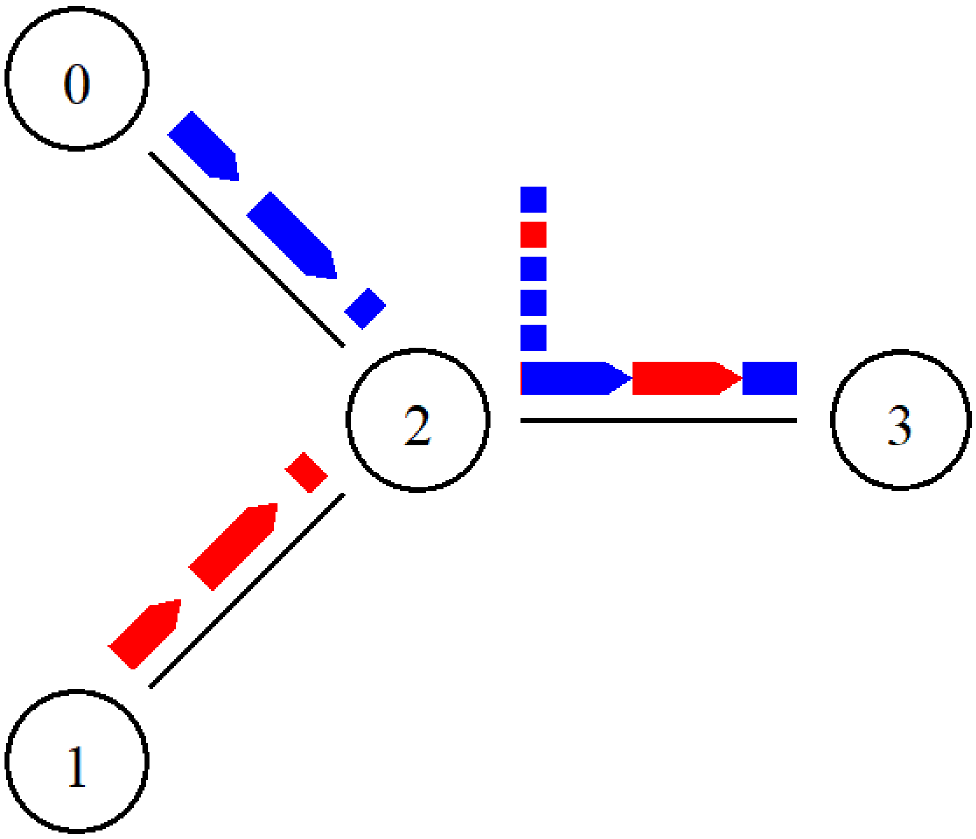
```
$ns duplex-link-op $n2 $n3 queuePos 0.5

$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
```

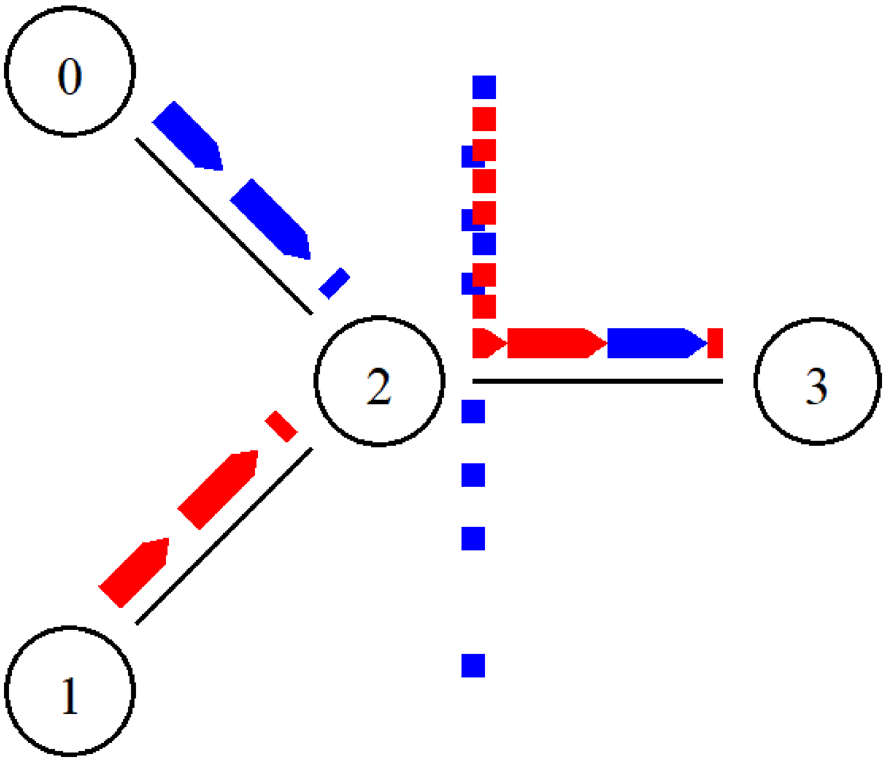
```
#Create a Null agent (a traffic sink) and attach it to node n3
set null0 [new Agent/Null]
$ns attach-agent $n3 $null0

#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
1
2
3


0
1
2
3

Conclusion

Hence, we were able to perform the experiment.