

## Installing NS2

```
sudo apt-get install ns2  
sudo apt-get install nam  
sudo apt-get install tcl
```

## Running this file -

Save this file as filename.tcl

On terminal,

ns filename.tcl

(or use sudo ns filename.tcl)

```
#Create a simulator object  
set ns [new Simulator]  
#Open trace files  
set f [open out.tr w]  
$ns trace-all $f
```

```
set nf [open test2.nam w]  
$ns namtrace-all $nf
```

#Define a 'finish' procedure

```
proc finish {} {  
    global ns  
    $ns flush-trace  
    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
```

#Create a UDP agent and attach it to node n0

```
set udp0 [new Agent/UDP]  
$udp0 set class_ 1 # fid in trace file  
$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
```

```
#Create a UDP agent and attach it to node n1
```

```
set udp1 [new Agent/UDP]
```

```
$udp1 set class_ 2
```

```
$ns attach-agent $n1 $udp1
```

```
$cbr0 attach-agent $udp0
```

```
# 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"
```

```
proc finish {} {
```

```
global ns nf nt
```

```
$ns flush-trace
```

```
close $nf
```

```
#close $nt
```

```
puts "running nam..."
```

```
exec nam test2.nam &
```

```
exit 0
```

```
}
```

```
#Call the finish procedure after 5 seconds of simulation time
```

```
$ns at 5.0 "finish"
```

```
#Run the simulation
```

```
$ns run
```