

/create a file named prac1.tcl

```
set ns [new Simulator]
```

```
$ns color 1 Cyan
```

```
set nf [open prac1.nam w]
```

```
$ns namtrace-all $nf
```

```
set np [open prac1.tr w]
```

```
$ns trace-all $np
```

```
#Define a 'finish' procedure
```

```
proc finish {} {
```

```
    global ns nf np
```

```
    $ns flush-trace
```

```
    #Close the NAM trace file
```

```
    close $nf
```

```
    #Execute NAM on the trace file
```

```
exec nam prac1.nam &
```

```
    exit 0
```

```
}
```

set n0 [\$ns node]

set n1 [\$ns node]

set n2 [\$ns node]

set n3 [\$ns node]

\$ns duplex-link \$n0 \$n2 2Mb 10ms RED

\$ns duplex-link \$n1 \$n2 2Mb 10ms RED

\$ns duplex-link \$n2 \$n3 1.7Mb 20ms RED

\$ns queue-limit \$n2 \$n3 8

\$ns duplex-link-op \$n0 \$n2 orient left-up

\$ns duplex-link-op \$n1 \$n2 orient left-down

\$ns duplex-link-op \$n2 \$n3 orient left

\$ns duplex-link-op \$n2 \$n3 queuePos 1.5

set tcp [new Agent/TCP]

\$tcp set class_ 2

\$ns attach-agent \$n0 \$tcp

set sink [new Agent/TCPSink]

\$ns attach-agent \$n3 \$sink

```
$ns connect $tcp $sink
```

```
$tcp set fid_ 1
```

```
set ftp [new Application/FTP]
```

```
$ftp attach-agent $tcp
```

```
$ns at 1.0 "$ftp start"
```

```
$ns at 4.0 "$ftp stop"
```

```
$ns at 4.5 "$ns detach-agent $n0 $tcp ; $ns detach-agent $n3 $sink"
```

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

```
$ns run
```

```
//open terminal
```

```
/type
```

```
// ns prac1.tcl
```

Output:

