```
# dsdv.tcl
#Destination-Sequenced_Distance_Vector_Routing


# Define options

set chan          Channel/WirelessChannel       ;       # channel type
set prop          Propagation/TwoRayGround      ;       # radio-propagation model
set netif         Phy/WirelessPhy               ;             # network interface type
set mac           Mac/802_11                    ;             # MAC type
set ifq           Queue/DropTail/PriQueue       ;       # interface queue type
set ll            LL                            ;             # link layer type
set antenna       Antenna/OmniAntenna           ;       # antenna model
set ifqlength     50                            ;# max packet in ifq   ( use to assign
                                                #the buffering capacity of wireless  interface)
set nodes         3                             ;             # number of mobilenodes
set rprotocol     DSDV                          ;             # routing protocol
set xaxis         500                           ;       # X dimension of topography
set yaxis         400                           ;       # Y dimension of topography
set simstop       150                           ;             # time of simulation end

set ns              [new Simulator]

#newtrace (new format of trace file for wireless)
# for using this  write as below
$ns use-newtrace

set tracefd       [open simple.tr w]
set windowVsTime2 [open win.tr w]
set namtrace      [open simple.nam w]

# trace-all $filename causes  trace objects to be pushed on all links. If you only
want to trace one link, there's no need for this overhead. Saving is about 14
KB/link.
```

$ns trace-all $tracefd

$ns namtrace-all-wireless $namtrace $xaxis $yaxis

 # Topographyis the study of Earth's surface shape and features or those of planets, #moons, and asteroids
 # set up topography object
#Create and configure topography object (Used for mobile scenario)
set topo [new Topography]

#The load_flatgrid object is used to specify a 2-D terrain. Support is available for simulation of 3D terrains for more realistic depiction of scenarios.
$topo load_flatgrid $xaxis $yaxis

 # GOD or General Operations Director is a ns-2 simulator object, which is used to store global information about the state of the environment, network, or nodes that an omniscient observer would have, but that should not be made known to any participant in the simulation
create-god $nodes

 # configure the nodes

```
$ns node-config -adhocRouting $rprotocol \
                -llType $ll \
                -macType $mac \
                -ifqType $ifq \
                -ifqLen $ifqlength \
                -antType $antenna \
                -propType $prop \
                -phyType $netif \
                -channelType $chan \
                -topoInstance $topo \
```

```
                -agentTrace ON \
                -routerTrace ON \
                -macTrace ON \
                -movementTrace ON

#  Create the specified number of nodes [$nodes] and "attach" them
#  to the channel.

   for {set i 0} {$i < $nodes } { incr i } {
          set n($i) [$ns node]
   }

#By default, a node is specified as a unicast node. If a multicast protocol is desired, a #separate clause has to be specified during simulator initialization-

#  set ns [new Simulator -multicast on]

# Provide initial location of mobilenodes
$n(0) set X5.0
$n(0) set Y5.0
$n(0) set Z0.0

$n(1) set X490.0
$n(1) set Y285.0
$n(1) set Z0.0

$n(2) set X150.0
$n(2) set Y240.0
$n(2) set Z0.0

# Generation of movements
$ns at 10.0 "$n(0) setdest 250.0 250.0 3.0"
$ns at 15.0 "$n(1) setdest 45.0 285.0 5.0"
$ns at 110.0 "$n(2) setdest 480.0 300.0 5.0"
```

```
# Set a TCP connection between n(0) and n(1)
set tcp [new Agent/TCP/Newreno]
$tcp set class_ 2
set sink [new Agent/TCPSink]
$ns attach-agent $n(0) $tcp
$ns attach-agent $n(1) $sink
$ns connect $tcp $sink
set ftp [new Application/FTP]
$ftp attach-agent $tcp
$ns at 10.0 "$ftp start"

# Printing the window size
proc plotWindow {tcpSource file}
{
global ns
set time 0.01
set now [$ns now]
set cwnd [$tcpSource set cwnd_]
puts $file "$now $cwnd"
$ns at     [expr $now+$time] "plotWindow $tcpSource $file"
}
$ns at 10.1 "plotWindow $tcp $windowVsTime2"

# Define node initial position in nam
for {set i 0} {$i < $nodes} { incr i } {
# 30 defines the node size for nam
$ns initial_npos $n($i) 30
}


# Telling nodes when the simulation ends
for {set i 0} {$i < $nodes } { incr i } {
    $ns at $simstop "$n($i) reset";
```

```
}

# ending nam and the simulation
$ns at $simstop "$ns nam-end-wireless $simstop"
$ns at $simstop "stop"
$ns at 150.01 "puts \"end simulation\" ; $ns halt"
proc stop {} {
    global ns tracefd namtrace
    $ns flush-trace
    close $tracefd
    close $namtrace
}

$ns run
```