

# CN-Simulation

SACHIN DSILVA

4NM20IS120

**Code:fourth.cc**

```
#include "ns3/core-module.h"
#include "ns3/network-module.h"
#include "ns3/netanim-module.h"
#include "ns3/internet-module.h"
#include "ns3/point-to-point-module.h"
#include "ns3/applications-module.h"
#include "ns3/point-to-point-layout-module.h"
#include "ns3/netanim-module.h"
using namespace ns3;
int main ()
{
    std::string animFile="fourth.xml";

    PointToPointHelper pointToPoint;
    pointToPoint.SetDeviceAttribute ("DataRate", StringValue
("5Mbps"));
    pointToPoint.SetChannelAttribute ("Delay", StringValue
("2ms"));
    PointToPointStarHelper star (8, pointToPoint); //8 nodes
    InternetStackHelper internet;
    star.InstallStack (internet);
    star.AssignIpv4Addresses (Ipv4AddressHelper ("10.1.1.0",
"255.255.255.0"));
```

```

    Address hubLocalAddress (InetSocketAddress (Ipv4Address::GetAny
(), 5000));
    PacketSinkHelper packetSinkHelper ("ns3::TcpSocketFactory",
hubLocalAddress);
    ApplicationContainer hubApp = packetSinkHelper.Install
(star.GetHub ());
    hubApp.Start (Seconds (1.0));
    hubApp.Stop (Seconds (10.0));

    OnOffHelper onOffHelper ("ns3::TcpSocketFactory", Address ());
    onOffHelper.SetAttribute ("OnTime", StringValue
("ns3::ConstantRandomVariable[Constant=1]"));
    onOffHelper.SetAttribute ("OffTime", StringValue
("ns3::ConstantRandomVariable[Constant=0]"));
    ApplicationContainer spokeApps;
    for (uint32_t i = 0; i < star.SpokeCount (); ++i)
    {
        AddressValue remoteAddress (InetSocketAddress
(star.GetHubIpv4Address (i),
50000)); // 50000 is the port number
        onOffHelper.SetAttribute ("Remote", remoteAddress);
        spokeApps.Add (onOffHelper.Install (star.GetSpokeNode (i)));
    }
    spokeApps.Start (Seconds (1.0));
    spokeApps.Stop (Seconds (10.0));
    Ipv4GlobalRoutingHelper::PopulateRoutingTables ();
    pointToPoint.EnablePcapAll ("star");
    AnimationInterface anim(animFile);
    anim.SetConstantPosition(star.GetHub(),10.0,60.0);

    Simulator::Run ();
    Simulator::Destroy ();
    return 0;
}

```

Output:

```
student@isl08-27:~/ns-allinone-3.33/ns-3.33/scratch$ cd ..
student@isl08-27:~/ns-allinone-3.33/ns-3.33$ ls
AUTHORS      CONTRIBUTING.md  __pycache__    test.py        waf
bindings     doc              README.md      testpy.supply  waf.bat
build        examples        RELEASE_NOTES  utils          waf-tools
CHANGES.html LICENSE          scratch        utils.py       wscript
contrib      Makefile        src            VERSION        wutils.py
student@isl08-27:~/ns-allinone-3.33/ns-3.33$ ./waf --run scratch/fourth.cc
waf: Entering directory '/home/student/ns-allinone-3.33/ns-3.33/build'
[2844/2895] Linking build/scratch/second
[2846/2895] Compiling scratch/fourth.cc
[2856/2895] Linking build/scratch/fourth
waf: Leaving directory '/home/student/ns-allinone-3.33/ns-3.33/build'
Build commands will be stored in build/compile_commands.json
'build' finished successfully (3.081s)
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:1 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:2 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:3 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:4 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:5 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:6 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:7 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:8 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:0 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:2 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:3 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:4 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:5 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:6 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:7 Does not have a mobility model. Use SetConstantPosition if it is stationary
AnimationInterface WARNING:Node:8 Does not have a mobility model. Use SetConstantPosition if it is stationary
msg="Can't connect", +190.000000000s 1 file=../src/applications/model/onoff-application.cc, line=396
terminate called without an active exception
```

# SIMULATION

## P.T.0

