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4C7

Aim

Write a program in NS3 to connect 3 nodes.

Experiment - 5

Computer Networks Lab

# **EXPERIMENT – 5**

## **Aim:**

Write a program in NS3 to connect 3 nodes.

## **Source Code:**

#include "ns3/core-module.h"

#include "ns3/network-module.h"

#include "ns3/internet-module.h"

#include "ns3/point-to-point-module.h"

#include "ns3/applications-module.h"

// Network Topology

//

// n0(client) -------------- n1(server) -------------- n2(client)

using namespace ns3;

NS\_LOG\_COMPONENT\_DEFINE ("FirstScriptExample");

int

main (int argc, char \*argv[])

{

CommandLine cmd (\_\_FILE\_\_);

cmd.Parse (argc, argv);

Time::SetResolution (Time::NS);

LogComponentEnable ("UdpEchoClientApplication", LOG\_LEVEL\_INFO);

LogComponentEnable ("UdpEchoServerApplication", LOG\_LEVEL\_INFO);

NodeContainer nodes;

nodes.Create (3);

PointToPointHelper pointToPoint;

pointToPoint.SetDeviceAttribute ("DataRate", StringValue ("10Mbps"));

pointToPoint.SetChannelAttribute ("Delay", StringValue ("5ms"));

NetDeviceContainer devices;

devices = pointToPoint.Install (nodes.Get (0), nodes.Get(1));

devices.Add(pointToPoint.Install (nodes.Get (1), nodes.Get(2)));

InternetStackHelper stack;

stack.Install (nodes);

Ipv4AddressHelper address;

address.SetBase ("10.1.1.0", "255.255.255.0");

Ipv4InterfaceContainer interfaces = address.Assign (devices);

UdpEchoServerHelper echoServer (5);

ApplicationContainer serverApps = echoServer.Install (nodes.Get (1));

serverApps.Start (Seconds (1.0));

serverApps.Stop (Seconds (10.0));

UdpEchoClientHelper echoClient1 (interfaces.GetAddress (1), 5);

echoClient1.SetAttribute ("MaxPackets", UintegerValue (1));

echoClient1.SetAttribute ("Interval", TimeValue (Seconds (1.0)));

echoClient1.SetAttribute ("PacketSize", UintegerValue (1024));

UdpEchoClientHelper echoClient2 (interfaces.GetAddress (1), 5);

echoClient2.SetAttribute ("MaxPackets", UintegerValue (1));

echoClient2.SetAttribute ("Interval", TimeValue (Seconds (1.0)));

echoClient2.SetAttribute ("PacketSize", UintegerValue (5026));

ApplicationContainer clientApps = echoClient1.Install (nodes.Get (0));

ApplicationContainer clientApps1 = echoClient2.Install (nodes.Get (2));

clientApps.Start (Seconds (2.0));

clientApps.Stop (Seconds (10.0));

clientApps1.Start (Seconds (2.0));

clientApps1.Stop (Seconds (10.0));

Simulator::Run ();

Simulator::Destroy ();

return 0;

}

## **Output:**

