**Code for Data\_Source:**

import java.io.\*;

import java.net.\*;

import java.util.Date;

class Data\_Source

{

public static void main(String[] args) throws Exception

{

DatagramSocket serverSocket = new DatagramSocket(5999);

byte[] receiveData = new byte[1024];

byte[] sendData = new byte[1024];

String myarray = "Nausheen Sarfaraz";

int i = 1;

sendData = myarray.getBytes();

while(true)

{

long millis = System.currentTimeMillis();

Date date = new Date();

InetAddress IPAddress = InetAddress.getByName("134.154.190.159");

DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length,IPAddress,6000);

System.out.println("Sequence number = " + i + " "+date.toString()+ " " + IPAddress+"/"+6000);

i++;

serverSocket.send(sendPacket);

Thread.sleep(1000 - millis % 1000);

}

}

}

**Output for Data\_Source:**

[ej9555@trig ~]$ javac Data\_source.java

[ej9555@trig ~]$ java Data\_Source

Sequence number = 1 Thu Jun 05 00:07:05 PDT 2014 /134.154.190.159/6000

Sequence number = 2 Thu Jun 05 00:07:06 PDT 2014 /134.154.190.159/6000

Sequence number = 3 Thu Jun 05 00:07:07 PDT 2014 /134.154.190.159/6000

Sequence number = 4 Thu Jun 05 00:07:08 PDT 2014 /134.154.190.159/6000

Sequence number = 5 Thu Jun 05 00:07:09 PDT 2014 /134.154.190.159/6000

Sequence number = 6 Thu Jun 05 00:07:10 PDT 2014 /134.154.190.159/6000

Sequence number = 7 Thu Jun 05 00:07:11 PDT 2014 /134.154.190.159/6000

Sequence number = 8 Thu Jun 05 00:07:12 PDT 2014 /134.154.190.159/6000

Sequence number = 9 Thu Jun 05 00:07:13 PDT 2014 /134.154.190.159/6000

Sequence number = 10 Thu Jun 05 00:07:14 PDT 2014 /134.154.190.159/6000

Sequence number = 11 Thu Jun 05 00:07:15 PDT 2014 /134.154.190.159/6000

Sequence number = 12 Thu Jun 05 00:07:16 PDT 2014 /134.154.190.159/6000

Sequence number = 13 Thu Jun 05 00:07:17 PDT 2014 /134.154.190.159/6000

Sequence number = 14 Thu Jun 05 00:07:18 PDT 2014 /134.154.190.159/6000

Sequence number = 15 Thu Jun 05 00:07:19 PDT 2014 /134.154.190.159/6000

Sequence number = 16 Thu Jun 05 00:07:20 PDT 2014 /134.154.190.159/6000

Sequence number = 17 Thu Jun 05 00:07:21 PDT 2014 /134.154.190.159/6000

Sequence number = 18 Thu Jun 05 00:07:22 PDT 2014 /134.154.190.159/6000

Sequence number = 19 Thu Jun 05 00:07:23 PDT 2014 /134.154.190.159/6000

Sequence number = 20 Thu Jun 05 00:07:24 PDT 2014 /134.154.190.159/6000

Sequence number = 21 Thu Jun 05 00:07:25 PDT 2014 /134.154.190.159/6000

Sequence number = 22 Thu Jun 05 00:07:26 PDT 2014 /134.154.190.159/6000

Sequence number = 23 Thu Jun 05 00:07:27 PDT 2014 /134.154.190.159/6000

Sequence number = 24 Thu Jun 05 00:07:28 PDT 2014 /134.154.190.159/6000

Sequence number = 25 Thu Jun 05 00:07:29 PDT 2014 /134.154.190.159/6000

Sequence number = 26 Thu Jun 05 00:07:30 PDT 2014 /134.154.190.159/6000

Sequence number = 27 Thu Jun 05 00:07:31 PDT 2014 /134.154.190.159/6000

Sequence number = 28 Thu Jun 05 00:07:32 PDT 2014 /134.154.190.159/6000

Sequence number = 29 Thu Jun 05 00:07:33 PDT 2014 /134.154.190.159/6000

Sequence number = 30 Thu Jun 05 00:07:34 PDT 2014 /134.154.190.159/6000

Sequence number = 31 Thu Jun 05 00:07:35 PDT 2014 /134.154.190.159/6000

Sequence number = 32 Thu Jun 05 00:07:36 PDT 2014 /134.154.190.159/6000

Sequence number = 33 Thu Jun 05 00:07:37 PDT 2014 /134.154.190.159/6000

Sequence number = 34 Thu Jun 05 00:07:38 PDT 2014 /134.154.190.159/6000

Sequence number = 35 Thu Jun 05 00:07:39 PDT 2014 /134.154.190.159/6000

Sequence number = 36 Thu Jun 05 00:07:40 PDT 2014 /134.154.190.159/6000

Sequence number = 37 Thu Jun 05 00:07:41 PDT 2014 /134.154.190.159/6000

Sequence number = 38 Thu Jun 05 00:07:42 PDT 2014 /134.154.190.159/6000

Sequence number = 39 Thu Jun 05 00:07:43 PDT 2014 /134.154.190.159/6000

Sequence number = 40 Thu Jun 05 00:07:44 PDT 2014 /134.154.190.159/6000

Sequence number = 41 Thu Jun 05 00:07:45 PDT 2014 /134.154.190.159/6000

Sequence number = 42 Thu Jun 05 00:07:46 PDT 2014 /134.154.190.159/6000

Sequence number = 43 Thu Jun 05 00:07:47 PDT 2014 /134.154.190.159/6000

Sequence number = 44 Thu Jun 05 00:07:48 PDT 2014 /134.154.190.159/6000

Sequence number = 45 Thu Jun 05 00:07:49 PDT 2014 /134.154.190.159/6000

Sequence number = 46 Thu Jun 05 00:07:50 PDT 2014 /134.154.190.159/6000

Sequence number = 47 Thu Jun 05 00:07:51 PDT 2014 /134.154.190.159/6000

Sequence number = 48 Thu Jun 05 00:07:52 PDT 2014 /134.154.190.159/6000

Sequence number = 49 Thu Jun 05 00:07:53 PDT 2014 /134.154.190.159/6000

Sequence number = 50 Thu Jun 05 00:07:54 PDT 2014 /134.154.190.159/6000

Sequence number = 51 Thu Jun 05 00:07:55 PDT 2014 /134.154.190.159/6000

Sequence number = 52 Thu Jun 05 00:07:56 PDT 2014 /134.154.190.159/6000

Sequence number = 53 Thu Jun 05 00:07:57 PDT 2014 /134.154.190.159/6000

Sequence number = 54 Thu Jun 05 00:07:58 PDT 2014 /134.154.190.159/6000

Sequence number = 55 Thu Jun 05 00:07:59 PDT 2014 /134.154.190.159/6000

Sequence number = 56 Thu Jun 05 00:08:00 PDT 2014 /134.154.190.159/6000

Sequence number = 57 Thu Jun 05 00:08:01 PDT 2014 /134.154.190.159/6000

Sequence number = 58 Thu Jun 05 00:08:02 PDT 2014 /134.154.190.159/6000

Sequence number = 59 Thu Jun 05 00:08:03 PDT 2014 /134.154.190.159/6000

Sequence number = 60 Thu Jun 05 00:08:04 PDT 2014 /134.154.190.159/6000

Sequence number = 61 Thu Jun 05 00:08:05 PDT 2014 /134.154.190.159/6000

Sequence number = 62 Thu Jun 05 00:08:06 PDT 2014 /134.154.190.159/6000

Sequence number = 63 Thu Jun 05 00:08:07 PDT 2014 /134.154.190.159/6000

Sequence number = 64 Thu Jun 05 00:08:08 PDT 2014 /134.154.190.159/6000

Sequence number = 65 Thu Jun 05 00:08:09 PDT 2014 /134.154.190.159/6000

Sequence number = 66 Thu Jun 05 00:08:10 PDT 2014 /134.154.190.159/6000

Sequence number = 67 Thu Jun 05 00:08:11 PDT 2014 /134.154.190.159/6000

Sequence number = 68 Thu Jun 05 00:08:12 PDT 2014 /134.154.190.159/6000

Sequence number = 69 Thu Jun 05 00:08:13 PDT 2014 /134.154.190.159/6000

Sequence number = 70 Thu Jun 05 00:08:14 PDT 2014 /134.154.190.159/6000

Sequence number = 71 Thu Jun 05 00:08:15 PDT 2014 /134.154.190.159/6000

Sequence number = 72 Thu Jun 05 00:08:16 PDT 2014 /134.154.190.159/6000

Sequence number = 73 Thu Jun 05 00:08:17 PDT 2014 /134.154.190.159/6000

Sequence number = 74 Thu Jun 05 00:08:18 PDT 2014 /134.154.190.159/6000

Sequence number = 75 Thu Jun 05 00:08:19 PDT 2014 /134.154.190.159/6000

Sequence number = 76 Thu Jun 05 00:08:20 PDT 2014 /134.154.190.159/6000

Sequence number = 77 Thu Jun 05 00:08:21 PDT 2014 /134.154.190.159/6000

Sequence number = 78 Thu Jun 05 00:08:22 PDT 2014 /134.154.190.159/6000

Sequence number = 79 Thu Jun 05 00:08:23 PDT 2014 /134.154.190.159/6000

Sequence number = 80 Thu Jun 05 00:08:24 PDT 2014 /134.154.190.159/6000

Sequence number = 81 Thu Jun 05 00:08:25 PDT 2014 /134.154.190.159/6000

Sequence number = 82 Thu Jun 05 00:08:26 PDT 2014 /134.154.190.159/6000

Sequence number = 83 Thu Jun 05 00:08:27 PDT 2014 /134.154.190.159/6000

Sequence number = 84 Thu Jun 05 00:08:28 PDT 2014 /134.154.190.159/6000

Sequence number = 85 Thu Jun 05 00:08:29 PDT 2014 /134.154.190.159/6000

Sequence number = 86 Thu Jun 05 00:08:30 PDT 2014 /134.154.190.159/6000

Sequence number = 87 Thu Jun 05 00:08:31 PDT 2014 /134.154.190.159/6000

Sequence number = 88 Thu Jun 05 00:08:32 PDT 2014 /134.154.190.159/6000

Sequence number = 89 Thu Jun 05 00:08:33 PDT 2014 /134.154.190.159/6000

Sequence number = 90 Thu Jun 05 00:08:34 PDT 2014 /134.154.190.159/6000

Sequence number = 91 Thu Jun 05 00:08:35 PDT 2014 /134.154.190.159/6000

Sequence number = 92 Thu Jun 05 00:08:36 PDT 2014 /134.154.190.159/6000

Sequence number = 93 Thu Jun 05 00:08:37 PDT 2014 /134.154.190.159/6000

Sequence number = 94 Thu Jun 05 00:08:38 PDT 2014 /134.154.190.159/6000

Sequence number = 95 Thu Jun 05 00:08:39 PDT 2014 /134.154.190.159/6000

Sequence number = 96 Thu Jun 05 00:08:40 PDT 2014 /134.154.190.159/6000

Sequence number = 97 Thu Jun 05 00:08:41 PDT 2014 /134.154.190.159/6000

Sequence number = 98 Thu Jun 05 00:08:42 PDT 2014 /134.154.190.159/6000

Sequence number = 99 Thu Jun 05 00:08:43 PDT 2014 /134.154.190.159/6000

Sequence number = 100 Thu Jun 05 00:08:44 PDT 2014 /134.154.190.159/6000

[ej9555@trig ~]$

**Code for Home\_agent:**

import java.io.\*;

import java.net.\*;

import java.util.Date;

class Home\_Agent

{

public static void main(String[] args) throws Exception

{

DatagramSocket serverSocket = new DatagramSocket(6000);

byte[] receiveData = new byte[1024];

byte[] sendData = new byte[1024];

int Fport = 6001 ;

String portnumber = "";

int i=1;

while(true)

{

long millis = System.currentTimeMillis();

Date date = new Date();

byte [] data = new byte[1024];

DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);

serverSocket.receive(receivePacket);

InetAddress IPAdd = InetAddress.getByName("134.154.190.160");

if(receivePacket.getPort() == 6003)

{

if(Fport==6001){

IPAdd = receivePacket.getAddress();

Fport = 6002;

}

else{

IPAdd = receivePacket.getAddress();

Fport=6001;

}

System.out.println("Registration Packet Received"+ date.toString()+"Changing Care of Adddress to" +IPAdd+"/"+Fport);

}

if(receivePacket.getPort() == 5999)

{

sendData = receivePacket.getData();

DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length,IPAdd, Fport);

System.out.println("Sequence number = " + i + " "+date.toString()+ " " + IPAdd+"/"+Fport);

i++;

serverSocket.send(sendPacket);

Thread.sleep(1000 - millis % 1000);

}

}

}

}

**Output:**

[ej9555@trig ~]$ javac Home\_agent.java

[ej9555@trig ~]$ java Home\_agent

Sequence number = 1 Thu Jun 05 00:07:08 PDT 2014 /134.154.190.160/6001

Sequence number = 2 Thu Jun 05 00:07:09 PDT 2014 /134.154.190.160/6001

Sequence number = 3 Thu Jun 05 00:07:10 PDT 2014 /134.154.190.160/6001

Sequence number = 4 Thu Jun 05 00:07:11 PDT 2014 /134.154.190.160/6001

Sequence number = 5 Thu Jun 05 00:07:12 PDT 2014 /134.154.190.160/6001

Sequence number = 6 Thu Jun 05 00:07:13 PDT 2014 /134.154.190.160/6001

Sequence number = 7 Thu Jun 05 00:07:14 PDT 2014 /134.154.190.160/6001

Sequence number = 8 Thu Jun 05 00:07:15 PDT 2014 /134.154.190.160/6001

Sequence number = 9 Thu Jun 05 00:07:16 PDT 2014 /134.154.190.160/6001

Sequence number = 10 Thu Jun 05 00:07:17 PDT 2014 /134.154.190.160/6001

Sequence number = 11 Thu Jun 05 00:07:18 PDT 2014 /134.154.190.160/6001

Sequence number = 12 Thu Jun 05 00:07:19 PDT 2014 /134.154.190.160/6001

Registration Packet ReceivedThu Jun 05 00:07:20 PDT 2014Changing Care of Adddress to/134.154.190.160/6002

Sequence number = 13 Thu Jun 05 00:07:20 PDT 2014 /134.154.190.160/6002

Sequence number = 14 Thu Jun 05 00:07:21 PDT 2014 /134.154.190.160/6002

Sequence number = 15 Thu Jun 05 00:07:22 PDT 2014 /134.154.190.160/6002

Sequence number = 16 Thu Jun 05 00:07:23 PDT 2014 /134.154.190.160/6002

Sequence number = 17 Thu Jun 05 00:07:24 PDT 2014 /134.154.190.160/6002

Sequence number = 18 Thu Jun 05 00:07:25 PDT 2014 /134.154.190.160/6002

Sequence number = 19 Thu Jun 05 00:07:26 PDT 2014 /134.154.190.160/6002

Sequence number = 20 Thu Jun 05 00:07:27 PDT 2014 /134.154.190.160/6002

Sequence number = 21 Thu Jun 05 00:07:28 PDT 2014 /134.154.190.160/6002

Sequence number = 22 Thu Jun 05 00:07:29 PDT 2014 /134.154.190.160/6002

Registration Packet ReceivedThu Jun 05 00:07:30 PDT 2014Changing Care of Adddress to/134.154.190.160/6001

Sequence number = 23 Thu Jun 05 00:07:30 PDT 2014 /134.154.190.160/6001

Sequence number = 24 Thu Jun 05 00:07:31 PDT 2014 /134.154.190.160/6001

Sequence number = 25 Thu Jun 05 00:07:32 PDT 2014 /134.154.190.160/6001

Sequence number = 26 Thu Jun 05 00:07:33 PDT 2014 /134.154.190.160/6001

Sequence number = 27 Thu Jun 05 00:07:34 PDT 2014 /134.154.190.160/6001

Sequence number = 28 Thu Jun 05 00:07:35 PDT 2014 /134.154.190.160/6001

Sequence number = 29 Thu Jun 05 00:07:36 PDT 2014 /134.154.190.160/6001

Sequence number = 30 Thu Jun 05 00:07:37 PDT 2014 /134.154.190.160/6001

Sequence number = 31 Thu Jun 05 00:07:38 PDT 2014 /134.154.190.160/6001

Sequence number = 32 Thu Jun 05 00:07:39 PDT 2014 /134.154.190.160/6001

Registration Packet ReceivedThu Jun 05 00:07:40 PDT 2014Changing Care of Adddress to/134.154.190.160/6002

Sequence number = 33 Thu Jun 05 00:07:40 PDT 2014 /134.154.190.160/6002

Sequence number = 34 Thu Jun 05 00:07:41 PDT 2014 /134.154.190.160/6002

Sequence number = 35 Thu Jun 05 00:07:42 PDT 2014 /134.154.190.160/6002

Sequence number = 36 Thu Jun 05 00:07:43 PDT 2014 /134.154.190.160/6002

Sequence number = 37 Thu Jun 05 00:07:44 PDT 2014 /134.154.190.160/6002

Sequence number = 38 Thu Jun 05 00:07:45 PDT 2014 /134.154.190.160/6002

Sequence number = 39 Thu Jun 05 00:07:46 PDT 2014 /134.154.190.160/6002

Sequence number = 40 Thu Jun 05 00:07:47 PDT 2014 /134.154.190.160/6002

Sequence number = 41 Thu Jun 05 00:07:48 PDT 2014 /134.154.190.160/6002

Sequence number = 42 Thu Jun 05 00:07:49 PDT 2014 /134.154.190.160/6002

Registration Packet ReceivedThu Jun 05 00:07:50 PDT 2014Changing Care of Adddress to/134.154.190.160/6001

Sequence number = 43 Thu Jun 05 00:07:50 PDT 2014 /134.154.190.160/6001

Sequence number = 44 Thu Jun 05 00:07:51 PDT 2014 /134.154.190.160/6001

Sequence number = 45 Thu Jun 05 00:07:52 PDT 2014 /134.154.190.160/6001

Sequence number = 46 Thu Jun 05 00:07:53 PDT 2014 /134.154.190.160/6001

Sequence number = 47 Thu Jun 05 00:07:54 PDT 2014 /134.154.190.160/6001

Sequence number = 48 Thu Jun 05 00:07:55 PDT 2014 /134.154.190.160/6001

Sequence number = 49 Thu Jun 05 00:07:56 PDT 2014 /134.154.190.160/6001

Sequence number = 50 Thu Jun 05 00:07:57 PDT 2014 /134.154.190.160/6001

Sequence number = 51 Thu Jun 05 00:07:58 PDT 2014 /134.154.190.160/6001

Registration Packet ReceivedThu Jun 05 00:07:59 PDT 2014Changing Care of Adddress to/134.154.190.160/6002

Sequence number = 52 Thu Jun 05 00:08:00 PDT 2014 /134.154.190.160/6002

Sequence number = 53 Thu Jun 05 00:08:01 PDT 2014 /134.154.190.160/6002

Sequence number = 54 Thu Jun 05 00:08:02 PDT 2014 /134.154.190.160/6002

Sequence number = 55 Thu Jun 05 00:08:03 PDT 2014 /134.154.190.160/6002

Sequence number = 56 Thu Jun 05 00:08:04 PDT 2014 /134.154.190.160/6002

Sequence number = 57 Thu Jun 05 00:08:05 PDT 2014 /134.154.190.160/6002

Sequence number = 58 Thu Jun 05 00:08:06 PDT 2014 /134.154.190.160/6002

Sequence number = 59 Thu Jun 05 00:08:07 PDT 2014 /134.154.190.160/6002

Sequence number = 60 Thu Jun 05 00:08:08 PDT 2014 /134.154.190.160/6002

Sequence number = 61 Thu Jun 05 00:08:09 PDT 2014 /134.154.190.160/6002

Registration Packet ReceivedThu Jun 05 00:08:10 PDT 2014Changing Care of Adddress to/134.154.190.160/6001

Sequence number = 62 Thu Jun 05 00:08:10 PDT 2014 /134.154.190.160/6001

Sequence number = 63 Thu Jun 05 00:08:11 PDT 2014 /134.154.190.160/6001

Sequence number = 64 Thu Jun 05 00:08:12 PDT 2014 /134.154.190.160/6001

Sequence number = 65 Thu Jun 05 00:08:13 PDT 2014 /134.154.190.160/6001

Sequence number = 66 Thu Jun 05 00:08:14 PDT 2014 /134.154.190.160/6001

Sequence number = 67 Thu Jun 05 00:08:15 PDT 2014 /134.154.190.160/6001

Sequence number = 68 Thu Jun 05 00:08:16 PDT 2014 /134.154.190.160/6001

Sequence number = 69 Thu Jun 05 00:08:17 PDT 2014 /134.154.190.160/6001

Sequence number = 70 Thu Jun 05 00:08:18 PDT 2014 /134.154.190.160/6001

Sequence number = 71 Thu Jun 05 00:08:19 PDT 2014 /134.154.190.160/6001

Registration Packet ReceivedThu Jun 05 00:08:20 PDT 2014Changing Care of Adddress to/134.154.190.160/6002

Sequence number = 72 Thu Jun 05 00:08:20 PDT 2014 /134.154.190.160/6002

Sequence number = 73 Thu Jun 05 00:08:21 PDT 2014 /134.154.190.160/6002

Sequence number = 74 Thu Jun 05 00:08:22 PDT 2014 /134.154.190.160/6002

Sequence number = 75 Thu Jun 05 00:08:23 PDT 2014 /134.154.190.160/6002

Sequence number = 76 Thu Jun 05 00:08:24 PDT 2014 /134.154.190.160/6002

Sequence number = 77 Thu Jun 05 00:08:25 PDT 2014 /134.154.190.160/6002

Sequence number = 78 Thu Jun 05 00:08:26 PDT 2014 /134.154.190.160/6002

Sequence number = 79 Thu Jun 05 00:08:27 PDT 2014 /134.154.190.160/6002

Sequence number = 80 Thu Jun 05 00:08:28 PDT 2014 /134.154.190.160/6002

Sequence number = 81 Thu Jun 05 00:08:29 PDT 2014 /134.154.190.160/6002

Sequence number = 82 Thu Jun 05 00:08:30 PDT 2014 /134.154.190.160/6002

Sequence number = 83 Thu Jun 05 00:08:31 PDT 2014 /134.154.190.160/6002

Sequence number = 84 Thu Jun 05 00:08:32 PDT 2014 /134.154.190.160/6002

Sequence number = 85 Thu Jun 05 00:08:33 PDT 2014 /134.154.190.160/6002

Sequence number = 86 Thu Jun 05 00:08:34 PDT 2014 /134.154.190.160/6002

Sequence number = 87 Thu Jun 05 00:08:35 PDT 2014 /134.154.190.160/6002

Sequence number = 88 Thu Jun 05 00:08:36 PDT 2014 /134.154.190.160/6002

Sequence number = 89 Thu Jun 05 00:08:37 PDT 2014 /134.154.190.160/6002

Sequence number = 90 Thu Jun 05 00:08:38 PDT 2014 /134.154.190.160/6002

Sequence number = 91 Thu Jun 05 00:08:39 PDT 2014 /134.154.190.160/6002

Sequence number = 92 Thu Jun 05 00:08:40 PDT 2014 /134.154.190.160/6002

Sequence number = 93 Thu Jun 05 00:08:41 PDT 2014 /134.154.190.160/6002

[ej9555@trig ~]$

------------------------------------------------------------------------------------------------------------------------------------------

**Code for Foreign\_agent1:**

import java.io.\*;

import java.net.\*;

import java.util.Date;

class Foreign\_agent1

{

public static void main(String[] args) throws Exception

{

DatagramSocket serverSocket = new DatagramSocket(6001);

byte[] receiveData = new byte[1024];

byte[] sendData = new byte[1024];

int i=1;

while(true)

{

long millis = System.currentTimeMillis();

Date date = new Date();

DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);

serverSocket.receive(receivePacket);

InetAddress addr = InetAddress.getByName("134.154.190.160");

sendData = receivePacket.getData();

DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, addr,6003);

System.out.println("Sequence number = " + i + " "+date.toString()+ " " + addr+"/"+6003);

serverSocket.send(sendPacket);

i++;

Thread.sleep(1000 - millis % 1000);

}

}

}

**Output:**

[ej9555@geometry ~]$ javac Foreign\_agent1.java

[ej9555@geometry ~]$ java Foreign\_agent1

Sequence number = 1 Thu Jun 05 00:07:11 PDT 2014 /134.154.190.160/6003

Sequence number = 2 Thu Jun 05 00:07:12 PDT 2014 /134.154.190.160/6003

Sequence number = 3 Thu Jun 05 00:07:13 PDT 2014 /134.154.190.160/6003

Sequence number = 4 Thu Jun 05 00:07:14 PDT 2014 /134.154.190.160/6003

Sequence number = 5 Thu Jun 05 00:07:15 PDT 2014 /134.154.190.160/6003

Sequence number = 6 Thu Jun 05 00:07:16 PDT 2014 /134.154.190.160/6003

Sequence number = 7 Thu Jun 05 00:07:17 PDT 2014 /134.154.190.160/6003

Sequence number = 8 Thu Jun 05 00:07:18 PDT 2014 /134.154.190.160/6003

Sequence number = 9 Thu Jun 05 00:07:19 PDT 2014 /134.154.190.160/6003

Sequence number = 10 Thu Jun 05 00:07:20 PDT 2014 /134.154.190.160/6003

Sequence number = 11 Thu Jun 05 00:07:31 PDT 2014 /134.154.190.160/6003

Sequence number = 12 Thu Jun 05 00:07:32 PDT 2014 /134.154.190.160/6003

Sequence number = 13 Thu Jun 05 00:07:33 PDT 2014 /134.154.190.160/6003

Sequence number = 14 Thu Jun 05 00:07:34 PDT 2014 /134.154.190.160/6003

Sequence number = 15 Thu Jun 05 00:07:35 PDT 2014 /134.154.190.160/6003

Sequence number = 16 Thu Jun 05 00:07:36 PDT 2014 /134.154.190.160/6003

Sequence number = 17 Thu Jun 05 00:07:37 PDT 2014 /134.154.190.160/6003

Sequence number = 18 Thu Jun 05 00:07:38 PDT 2014 /134.154.190.160/6003

Sequence number = 19 Thu Jun 05 00:07:39 PDT 2014 /134.154.190.160/6003

Sequence number = 20 Thu Jun 05 00:07:40 PDT 2014 /134.154.190.160/6003

Sequence number = 21 Thu Jun 05 00:07:51 PDT 2014 /134.154.190.160/6003

Sequence number = 22 Thu Jun 05 00:07:52 PDT 2014 /134.154.190.160/6003

Sequence number = 23 Thu Jun 05 00:07:53 PDT 2014 /134.154.190.160/6003

Sequence number = 24 Thu Jun 05 00:07:54 PDT 2014 /134.154.190.160/6003

Sequence number = 25 Thu Jun 05 00:07:55 PDT 2014 /134.154.190.160/6003

Sequence number = 26 Thu Jun 05 00:07:56 PDT 2014 /134.154.190.160/6003

Sequence number = 27 Thu Jun 05 00:07:57 PDT 2014 /134.154.190.160/6003

Sequence number = 28 Thu Jun 05 00:07:58 PDT 2014 /134.154.190.160/6003

Sequence number = 29 Thu Jun 05 00:07:59 PDT 2014 /134.154.190.160/6003

Sequence number = 30 Thu Jun 05 00:08:10 PDT 2014 /134.154.190.160/6003

Sequence number = 31 Thu Jun 05 00:08:11 PDT 2014 /134.154.190.160/6003

Sequence number = 32 Thu Jun 05 00:08:12 PDT 2014 /134.154.190.160/6003

Sequence number = 33 Thu Jun 05 00:08:13 PDT 2014 /134.154.190.160/6003

Sequence number = 34 Thu Jun 05 00:08:14 PDT 2014 /134.154.190.160/6003

Sequence number = 35 Thu Jun 05 00:08:15 PDT 2014 /134.154.190.160/6003

Sequence number = 36 Thu Jun 05 00:08:16 PDT 2014 /134.154.190.160/6003

Sequence number = 37 Thu Jun 05 00:08:17 PDT 2014 /134.154.190.160/6003

Sequence number = 38 Thu Jun 05 00:08:18 PDT 2014 /134.154.190.160/6003

[ej9555@geometry ~]$

------------------------------------------------------------------------------------------------------------------------------------------

**Code for Foreign\_agent2:**

import java.io.\*;

import java.net.\*;

import java.util.Date;

class Foreign\_agent2

{

public static void main(String[] args) throws Exception

{

DatagramSocket serverSocket = new DatagramSocket(6002);

byte[] receiveData = new byte[1024];

byte[] sendData = new byte[1024];

int i=1;

while(true)

{

long millis = System.currentTimeMillis();

Date date = new Date();

DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);

serverSocket.receive(receivePacket);

InetAddress addr = InetAddress.getByName("134.154.190.160");

sendData = receivePacket.getData();

DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length, addr,6003);

serverSocket.send(sendPacket);

System.out.println("Sequence number = " + i + " "+date.toString()+ " " + addr+"/"+6003);

i++;

Thread.sleep(1000 - millis % 1000);

}

}

}

**Output:**

[ej9555@geometry ~]$ javac Foreign\_agent2.java

[ej9555@geometry ~]$ java Foreign\_agent2

Sequence number = 1 Thu Jun 05 00:07:14 PDT 2014 /134.154.190.160/6003

Sequence number = 2 Thu Jun 05 00:07:21 PDT 2014 /134.154.190.160/6003

Sequence number = 3 Thu Jun 05 00:07:22 PDT 2014 /134.154.190.160/6003

Sequence number = 4 Thu Jun 05 00:07:23 PDT 2014 /134.154.190.160/6003

Sequence number = 5 Thu Jun 05 00:07:24 PDT 2014 /134.154.190.160/6003

Sequence number = 6 Thu Jun 05 00:07:25 PDT 2014 /134.154.190.160/6003

Sequence number = 7 Thu Jun 05 00:07:26 PDT 2014 /134.154.190.160/6003

Sequence number = 8 Thu Jun 05 00:07:27 PDT 2014 /134.154.190.160/6003

Sequence number = 9 Thu Jun 05 00:07:28 PDT 2014 /134.154.190.160/6003

Sequence number = 10 Thu Jun 05 00:07:29 PDT 2014 /134.154.190.160/6003

Sequence number = 11 Thu Jun 05 00:07:30 PDT 2014 /134.154.190.160/6003

Sequence number = 12 Thu Jun 05 00:07:41 PDT 2014 /134.154.190.160/6003

Sequence number = 13 Thu Jun 05 00:07:42 PDT 2014 /134.154.190.160/6003

Sequence number = 14 Thu Jun 05 00:07:43 PDT 2014 /134.154.190.160/6003

Sequence number = 15 Thu Jun 05 00:07:44 PDT 2014 /134.154.190.160/6003

Sequence number = 16 Thu Jun 05 00:07:45 PDT 2014 /134.154.190.160/6003

Sequence number = 17 Thu Jun 05 00:07:46 PDT 2014 /134.154.190.160/6003

Sequence number = 18 Thu Jun 05 00:07:47 PDT 2014 /134.154.190.160/6003

Sequence number = 19 Thu Jun 05 00:07:48 PDT 2014 /134.154.190.160/6003

Sequence number = 20 Thu Jun 05 00:07:49 PDT 2014 /134.154.190.160/6003

Sequence number = 21 Thu Jun 05 00:07:50 PDT 2014 /134.154.190.160/6003

Sequence number = 22 Thu Jun 05 00:08:00 PDT 2014 /134.154.190.160/6003

Sequence number = 23 Thu Jun 05 00:08:01 PDT 2014 /134.154.190.160/6003

Sequence number = 24 Thu Jun 05 00:08:02 PDT 2014 /134.154.190.160/6003

Sequence number = 25 Thu Jun 05 00:08:03 PDT 2014 /134.154.190.160/6003

Sequence number = 26 Thu Jun 05 00:08:04 PDT 2014 /134.154.190.160/6003

Sequence number = 27 Thu Jun 05 00:08:05 PDT 2014 /134.154.190.160/6003

Sequence number = 28 Thu Jun 05 00:08:06 PDT 2014 /134.154.190.160/6003

Sequence number = 29 Thu Jun 05 00:08:07 PDT 2014 /134.154.190.160/6003

Sequence number = 30 Thu Jun 05 00:08:08 PDT 2014 /134.154.190.160/6003

Sequence number = 31 Thu Jun 05 00:08:09 PDT 2014 /134.154.190.160/6003

Sequence number = 32 Thu Jun 05 00:08:20 PDT 2014 /134.154.190.160/6003

Sequence number = 33 Thu Jun 05 00:08:21 PDT 2014 /134.154.190.160/6003

Sequence number = 34 Thu Jun 05 00:08:22 PDT 2014 /134.154.190.160/6003

Sequence number = 35 Thu Jun 05 00:08:23 PDT 2014 /134.154.190.160/6003

Sequence number = 36 Thu Jun 05 00:08:24 PDT 2014 /134.154.190.160/6003

Sequence number = 37 Thu Jun 05 00:08:25 PDT 2014 /134.154.190.160/6003

Sequence number = 38 Thu Jun 05 00:08:26 PDT 2014 /134.154.190.160/6003

Sequence number = 39 Thu Jun 05 00:08:27 PDT 2014 /134.154.190.160/6003

Sequence number = 40 Thu Jun 05 00:08:28 PDT 2014 /134.154.190.160/6003

Sequence number = 41 Thu Jun 05 00:08:29 PDT 2014 /134.154.190.160/6003

Sequence number = 42 Thu Jun 05 00:08:30 PDT 2014 /134.154.190.160/6003

Sequence number = 43 Thu Jun 05 00:08:31 PDT 2014 /134.154.190.160/6003

Sequence number = 44 Thu Jun 05 00:08:32 PDT 2014 /134.154.190.160/6003

Sequence number = 45 Thu Jun 05 00:08:33 PDT 2014 /134.154.190.160/6003

[ej9555@geometry ~]$

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**Mobile\_Node:**

import java.io.\*;

import java.net.\*;

import java.util.Date;

class Mobile\_node

{

public static void main(String[] args) throws Exception

{

DatagramSocket serverSocket = new DatagramSocket(6003);

int Fport = 6001;

InetAddress Add = InetAddress.getByName("localhost");

byte[] receiveData = new byte[1024];

byte[] sendData = new byte[1024];

long lastSec = 0;

long lastSec1 = 0;

int i=1;

while(true)

{

Date date = new Date();

long millis = System.currentTimeMillis();

if((millis%5000) ==0||(millis%5000)<=1000 )

{

if(Fport == 6001)

{

Fport = 6002;

Add = InetAddress.getByName("134.154.190.159");

String s = Integer.toString(Fport);

sendData = s.getBytes();

System.out.println("Registration Sent "+ date.toString()+" New Care of Adddress " +Add+"/"+Fport);

DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length,Add, 6000);

serverSocket.send(sendPacket);

}

else

{

Fport = 6001;

Add = InetAddress.getByName("134.154.190.159");

String s1 = Integer.toString(Fport);

sendData = s1.getBytes();

System.out.println("Registration Sent "+ date.toString()+" New Care of Adddress " +Add+"/"+Fport);

DatagramPacket sendPacket = new DatagramPacket(sendData, sendData.length,Add,6000);

serverSocket.send(sendPacket);

}

}

DatagramPacket receivePacket = new DatagramPacket(receiveData, receiveData.length);

serverSocket.receive(receivePacket);

if(receivePacket.getPort()==Fport)

{

System.out.println("Sequence number = " + i + " "+date.toString()+ " " + Add +"/"+receivePacket.getPort()+ " Accepted");

i++;

}

else

{

System.out.println("Sequence number = " + i + " "+date.toString()+ " " + Add +"/"+receivePacket.getPort()+ "Rejected");

i++;

}

Thread.sleep(1000 - millis % 1000);

}

}

}

**Output:**

[ej9555@geometry ~]$ javac Mobile\_node.java

[ej9555@geometry ~]$ java Mobile\_node

Sequence number = 1 Thu Jun 05 00:07:18 PDT 2014 /134.154.190.159/6001 Accepted

Registration Sent Thu Jun 05 00:07:20 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 2 Thu Jun 05 00:07:20 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 3 Thu Jun 05 00:07:21 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 4 Thu Jun 05 00:07:22 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 5 Thu Jun 05 00:07:23 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 6 Thu Jun 05 00:07:24 PDT 2014 /134.154.190.159/6002 Accepted

Registration Sent Thu Jun 05 00:07:25 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 7 Thu Jun 05 00:07:25 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 8 Thu Jun 05 00:07:26 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 9 Thu Jun 05 00:07:27 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 10 Thu Jun 05 00:07:28 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 11 Thu Jun 05 00:07:29 PDT 2014 localhost/127.0.0.1/6002Rejected

Registration Sent Thu Jun 05 00:07:30 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 12 Thu Jun 05 00:07:30 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 13 Thu Jun 05 00:07:31 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 14 Thu Jun 05 00:07:32 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 15 Thu Jun 05 00:07:33 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 16 Thu Jun 05 00:07:34 PDT 2014 /134.154.190.159/6001Rejected

Registration Sent Thu Jun 05 00:07:35 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 17 Thu Jun 05 00:07:35 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 18 Thu Jun 05 00:07:36 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 19 Thu Jun 05 00:07:37 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 20 Thu Jun 05 00:07:38 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 21 Thu Jun 05 00:07:39 PDT 2014 localhost/127.0.0.1/6001 Accepted

Registration Sent Thu Jun 05 00:07:40 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 22 Thu Jun 05 00:07:40 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 23 Thu Jun 05 00:07:41 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 24 Thu Jun 05 00:07:42 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 25 Thu Jun 05 00:07:43 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 26 Thu Jun 05 00:07:44 PDT 2014 /134.154.190.159/6002 Accepted

Registration Sent Thu Jun 05 00:07:45 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 27 Thu Jun 05 00:07:45 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 28 Thu Jun 05 00:07:46 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 29 Thu Jun 05 00:07:47 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 30 Thu Jun 05 00:07:48 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 31 Thu Jun 05 00:07:49 PDT 2014 localhost/127.0.0.1/6002Rejected

Registration Sent Thu Jun 05 00:07:50 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 32 Thu Jun 05 00:07:50 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 33 Thu Jun 05 00:07:51 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 34 Thu Jun 05 00:07:52 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 35 Thu Jun 05 00:07:53 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 36 Thu Jun 05 00:07:54 PDT 2014 /134.154.190.159/6001Rejected

Registration Sent Thu Jun 05 00:07:55 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 37 Thu Jun 05 00:07:55 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 38 Thu Jun 05 00:07:56 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 39 Thu Jun 05 00:07:57 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 40 Thu Jun 05 00:07:58 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 41 Thu Jun 05 00:07:59 PDT 2014 localhost/127.0.0.1/6001 Accepted

Registration Sent Thu Jun 05 00:08:00 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 42 Thu Jun 05 00:08:00 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 43 Thu Jun 05 00:08:01 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 44 Thu Jun 05 00:08:02 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 45 Thu Jun 05 00:08:03 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 46 Thu Jun 05 00:08:04 PDT 2014 /134.154.190.159/6002 Accepted

Registration Sent Thu Jun 05 00:08:05 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 47 Thu Jun 05 00:08:05 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 48 Thu Jun 05 00:08:06 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 49 Thu Jun 05 00:08:07 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 50 Thu Jun 05 00:08:08 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 51 Thu Jun 05 00:08:09 PDT 2014 localhost/127.0.0.1/6002Rejected

Registration Sent Thu Jun 05 00:08:10 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 52 Thu Jun 05 00:08:10 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 53 Thu Jun 05 00:08:11 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 54 Thu Jun 05 00:08:12 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 55 Thu Jun 05 00:08:13 PDT 2014 /134.154.190.159/6001Rejected

Sequence number = 56 Thu Jun 05 00:08:14 PDT 2014 /134.154.190.159/6001Rejected

Registration Sent Thu Jun 05 00:08:15 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 57 Thu Jun 05 00:08:15 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 58 Thu Jun 05 00:08:16 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 59 Thu Jun 05 00:08:17 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 60 Thu Jun 05 00:08:18 PDT 2014 localhost/127.0.0.1/6001 Accepted

Sequence number = 61 Thu Jun 05 00:08:19 PDT 2014 localhost/127.0.0.1/6001 Accepted

Registration Sent Thu Jun 05 00:08:20 PDT 2014 New Care of Adddress /134.154.190.159/6002

Sequence number = 62 Thu Jun 05 00:08:20 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 63 Thu Jun 05 00:08:21 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 64 Thu Jun 05 00:08:22 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 65 Thu Jun 05 00:08:23 PDT 2014 /134.154.190.159/6002 Accepted

Sequence number = 66 Thu Jun 05 00:08:24 PDT 2014 /134.154.190.159/6002 Accepted

Registration Sent Thu Jun 05 00:08:25 PDT 2014 New Care of Adddress localhost/127.0.0.1/6001

Sequence number = 67 Thu Jun 05 00:08:25 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 68 Thu Jun 05 00:08:26 PDT 2014 localhost/127.0.0.1/6002Rejected

^XSequence number = 69 Thu Jun 05 00:08:27 PDT 2014 localhost/127.0.0.1/6002Rejected

Sequence number = 70 Thu Jun 05 00:08:28 PDT 2014 localhost/127.0.0.1/6002Rejected

[ej9555@geometry ~]$

* I have used two machines in my program. One has IP address 134.154.190.160(geometry) and the other has IP 134.154.190.159(trign). Data source and Home\_agent are on the first machine while Foreign\_agent1, Foreign\_agent2 and Mobile Node are on the second machine. Data Source and home agent runs on 5999 and 6000 port numbers respectively, and Foregn\_agent1, Foreign\_agent2, Moblie\_node runs on port numbers 6001,6002,6003 respectively.