PEMROGRAMAN JARINGAN

Tugas 13

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JURUSAN TEKNOLOGI INFORMASI

PROGRAM STUDI D-III MANAJEMEN INFORMATIKA

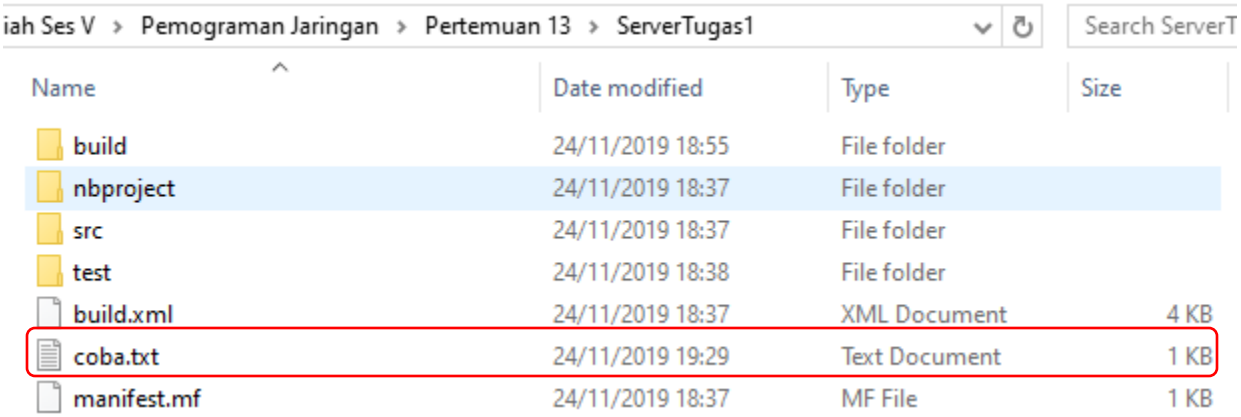
2019

TUGAS

1. Modifikasi program di atas sehingga tidak hanya mengirimkan data text, tetapi juga bisa mengirimkan sebuah file.

   Jawaban

   Pada Praktikum ini mengirim file txt(coba.txt)



   Berikut adalah code dari tugas 1

   Project ServerTugas1

```
package servertugas1;

import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import java.io.InputStreamReader;
import java.net.DatagramPacket;
import java.net.DatagramSocket;
import java.net.InetAddress;
import java.util.Scanner;

/**
 *
 * @author Nurma Silviyanti
 */
public class ServerTugas1 {

    public static DatagramSocket ds;
    public static int clientport = 800, serverport = 900;

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


        byte buffer[] = new byte[1024];
```

```
        ds = new DatagramSocket(serverport);

        File f = new File("coba.txt");
        BufferedReader dis = new BufferedReader(new FileReader(f));
        System.out.println("Server menunggu input");
        InetAddress i = InetAddress.getByName("Localhost");
        while (true) {
            System.out.print(" Server Mengirim file "+f);
            String str = dis.readLine();
            if ((str == null || str.equals("end"))) {
                break;
            }
            buffer = str.getBytes();
            ds.send(new DatagramPacket(buffer, str.length(), i, clientport));
        }
    }
    }
```

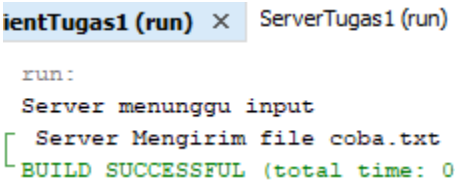
Project ClientTugas1

```
package clienttugas1;

import java.net.DatagramPacket;
import java.net.DatagramSocket;

/**
 *
 * @author Nurma Silviyanti
 */
public class ClientTugas1 {

    public static DatagramSocket d;
    public static byte buffer[] = new byte[1024];
    public static int clientport = 800, serverport = 900;

    public static void main(String args[]) throws Exception {
        d = new DatagramSocket(clientport);
        System.out.println("Client sedang menunggu server mengirimkan data ");
        System.out.println("tekan Ctrl + C untuk mengakhiri ");
        while (true) {
            DatagramPacket p = new DatagramPacket(buffer, buffer.length);
```

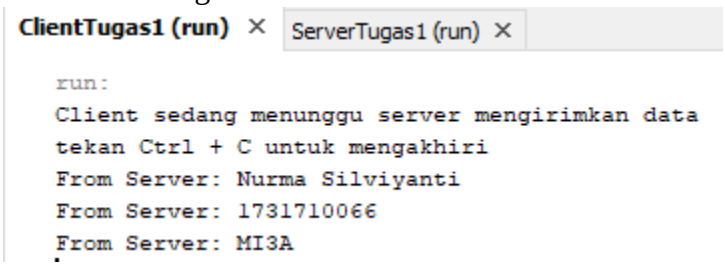
```
            d.receive(p);
            String ps = new String(p.getData(), 0, p.getLength());
            System.out.println("From Server: " + ps);
        }
    }

}
```

Output

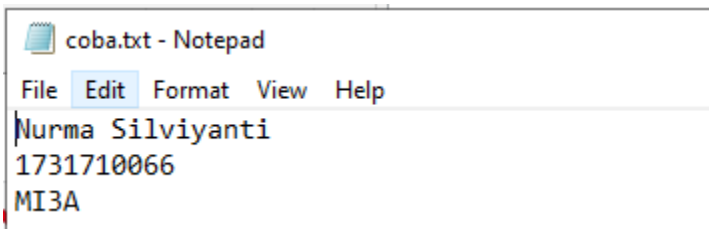
Class ServerTugas1 Run



Class ClientTugas1 Run



File coba.txt



2. Modifikasilah program diatas agar menjadi program yang dapat digunakan untuk saling mengirim pesan menggunakan 2 komputer.

Jawaban

Berikut adalah code dari tugas 2

Project ServerTugas2

```
package servertugas2;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import java.io.PrintStream;
import java.net.ServerSocket;
import java.net.Socket;

/**
 *
 * @author Nurma Silviyanti
 */


public class ServerTugas1 {

    public static void main(String [] args) throws IOException{
        ServerSocket sk = new ServerSocket(8888);
        Socket ss = sk.accept();
        BufferedReader in = new BufferedReader(new
InputStreamReader(ss.getInputStream()));
        PrintStream out = new PrintStream(ss.getOutputStream());
        BufferedReader cin = new BufferedReader(new InputStreamReader(System.in));
        String inputan;
        while (true) {
            inputan = in.readLine();
            if (inputan.equalsIgnoreCase("END")){
                out.println("BYE");
                break;
            }
            System.out.print("Client : " +inputan+"\n");
            System.out.print("Server : ");
            inputan = cin.readLine();
            out.println(inputan);
```

```
        }
        sk.close();
        ss.close();
        in.close();
        out.close();
        cin.close();
    }
}
```

Project ClientTugas2

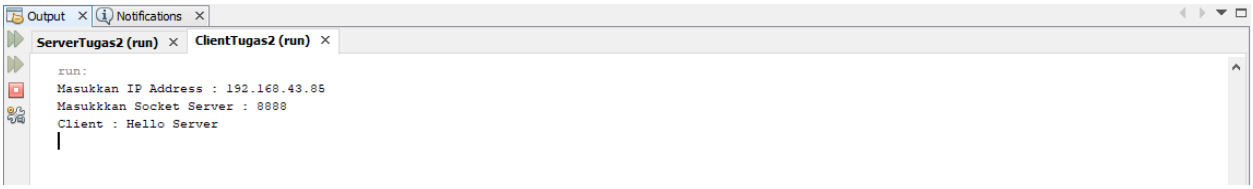
```
package clienttugas2;

import java.io.BufferedReader;
import java.io.InputStreamReader;
import java.io.PrintStream;
import java.net.Socket;
import java.util.Scanner;

/**
 *
 * @author Nurma Silviyanti
 */


public class ClientTugas2 {

    public static void main(String args[]) throws Exception {
        try {
            Scanner sc = new Scanner(System.in);
            System.out.print("Masukkan IP Address : ");
            String ip = sc.nextLine();
            System.out.print("Masukkkan Socket Server : ");
            int socket = sc.nextInt();
            Socket sk = new Socket(ip, socket);
            BufferedReader sin = new BufferedReader(new
InputStreamReader(sk.getInputStream()));
            PrintStream sout = new PrintStream(sk.getOutputStream());
            BufferedReader stdin = new BufferedReader(new
InputStreamReader(System.in));
            String s;
            while (true) {
```

```
            System.out.print("Client : ");
            s = stdin.readLine();
            sout.println(s);
            s = sin.readLine();
            System.out.print("Server : " + s + "\n");
            if (s.equalsIgnoreCase("BYE")) {
               break;
            }
         }
         sk.close();
         sin.close();
         sout.close();
         stdin.close();
      } catch (Exception e) {
         System.out.println("Unable to connect to server \nMay be your ip or socket is
not correct");
      }

   }
}
```

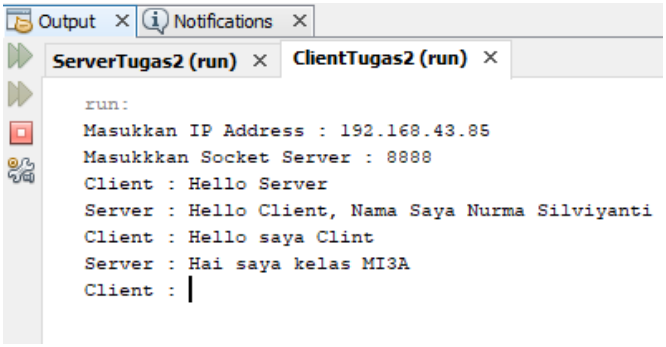
Output

Kemudian jalankan kedua class masing - masing di laptop yang berbeda. Misal laptop A menjalankan class ServerClient2.java

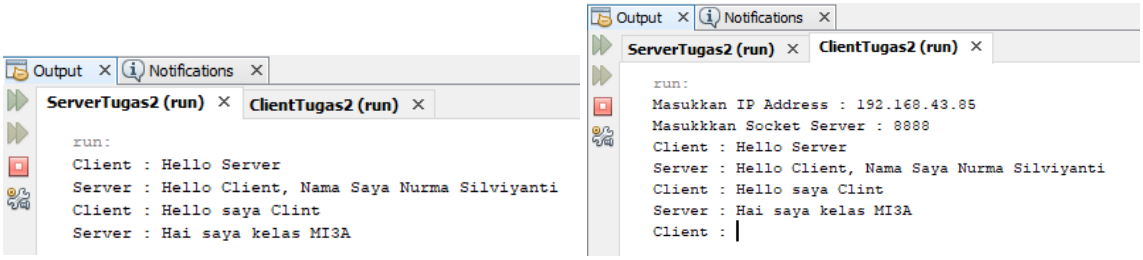
Jalankan class ClientTugas2 di laptop B, masukkan ip address pada laptop A (karena laptop A menjadi server). Kemudian masukkan socket server yang sudah saya masukkan di list program yaitu 8888. Terakhir coba chat denggan laptop A



Tampilan pada laptop B



Hasil Akhir



3. Buatlah Program untuk meremote Cursor Mouse komputer lain menggunakan UDP!
Jawaban

Dibawah ini adalah code tugas 3

Membuat class robot

```
import java.awt.AWTException;
import java.awt.Robot;

/**
 *
 * @author Nurma Silviyanti
 */
public class MyRobot {

   public static void main(String[] args) {
   try {
     Robot robo = new Robot();
   } catch (AWTException ex) {}
  }

}
```

Membuat class Canvas

Untuk melihat hasil dari screen capture, Anda bisa menggambarnya pada sebuah canvas atau JPanel menggunakan class Graphics.

```
package pemrograman.jaringan.tugas13;

import java.awt.Dimension;
import java.awt.Graphics;
import java.awt.image.BufferedImage;
import javax.swing.JPanel;

/**
 *
 * @author Nurma Silviyanti
 */
public class Canvas extends JPanel {

  BufferedImage capture;

  public Canvas(BufferedImage capture) {
    this.capture = capture;
    this.setPreferredSize(new Dimension(capture.getWidth(), capture.getHeight()));
  }

  @Override
  protected void paintComponent(Graphics g) {
    super.paintComponent(g);
    g.drawImage(capture, 0, 0, null);
    g.dispose();
  }
}
```

Membuat Class Main

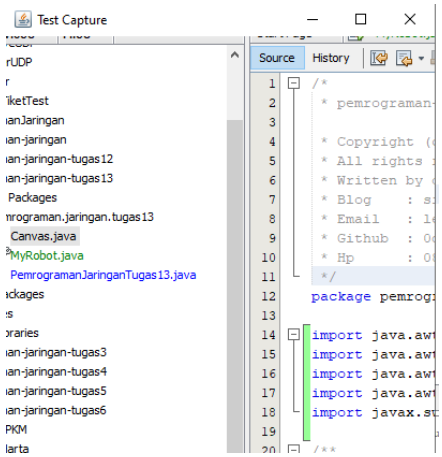
Di bawah baris inisiasi object robot, Anda tinggal memanggil perintah screen capture dan memasukkannya ke canvas yang telah dibuat.

```
package pemrograman.jaringan.tugas13;

import java.awt.AWTException;
import java.awt.Rectangle;
import java.awt.Robot;
import java.awt.image.BufferedImage;
import javax.swing.JFrame;

/**
```

```
 *
 * @author od3ng
 */
public class PemrogramanJaringanTugas13 {

    /**
     * @param args the command line arguments
     */
    public static void main(String[] args) {
        BufferedImage capture = null;
        int width = 400;
        int height = 400;
        try {
            Robot robo = new Robot();
            // delay untuk mengatur layar
            robo.delay(1000);
            // mulai capture
            capture = robo.createScreenCapture(new Rectangle(100, 100, width, height));
            if (capture != null) {
                Canvas panel = new Canvas(capture);
                JFrame frame = new JFrame("Test Capture");
                frame.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
                frame.add(panel);
                frame.pack();
                frame.setLocationRelativeTo(null);
                frame.setVisible(true);
            }
        } catch (AWTException ex) {
        }
    }
}
```

Outputnya

Program diatas adalah memanfaatkan java.awt.Robot yang digunakan untuk capture atau screenshoot, berikut adalah outputnya saat class main dijalankan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1 /*
2 * pemrograman-
3
4 * Copyright (
5 * All rights
6 * Written by
7 * Blog : si
8 * Email : le
9 * Github : 0
10 * Hp : 0
11 */
12 package pemrogi
13
14 import java.awt
15 import java.awt
16 import java.awt
17 import java.awt
18 import javax.su
19
20 /**