

LAB EXERCISE REPORT FOR WEEK 4

BITP 3123 Sem 2 2020/2021

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Table of Contents

<i>Document Information</i>	1
<i>Solution for Exercise 3</i>	1
<i>Solution for Exercise 5</i>	4

Document Information

This document described the solutions and outcomes for Lab 4.

Solution for Exercise 3

Client.java

```
package Exe3Method1;

import java.io.IOException;
import java.io.InputStream;
import java.io.OutputStream;
import java.io.PrintWriter;
import java.net.Socket;
import java.net.UnknownHostException;
import java.util.Scanner;
import java.util.Scanner;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.net.InetAddress;

public class Client
{
    public static void main(String args[])throws UnknownHostException, IOException
    {
        //define variable
        String text;

        //create object, syntax for input
        Scanner sc= new Scanner(System.in);

        Socket s = new Socket("127.0.0.1",4646);

        //create output stream, utk send ke server
        DataOutputStream outputStream = new DataOutputStream(s.getOutputStream());

        //output
        System.out.println("Enter Any Words: ");

        //input syntax
        text=sc.nextLine();

        //send data to server, send text yg client tulis
        outputStream.writeUTF(text);
        outputStream.flush();

        //create input stream, utk baca dari server
        DataInputStream dataIn = new DataInputStream(s.getInputStream());

        //read from server
        int textword = dataIn.readInt();

        //kt sini print number of word sent dri server
        System.out.print("Number of Words: ");
        System.out.println(textword);
    }
}
```

Server.java

```
package Exe3Method1;

import java.io.IOException;
import java.io.PrintStream;
import java.net.ServerSocket;
import java.net.Socket;
import java.util.Scanner;
import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.InputStreamReader;

public class Server
{
    private static final String String = null;

    public static void main(String args[]) throws IOException
    {
        String words;
        int count=0;
        ServerSocket s1=new ServerSocket(4646);

        //accept client request
        Socket exe3=s1.accept();

        //create input stream, utk baca dari client
        DataInputStream dataIn = new DataInputStream(exe3.getInputStream());

        //read data from client, pakai readUTF sebab String
        words=dataIn.readUTF();

        //call method
        count=countWord(words);

        //Create output stream to send back to client
        DataOutputStream dataOut = new
DataOutputStream(exe3.getOutputStream());

        //send data kt client, pakai writeInt sebab integer
        dataOut.writeInt(count);
        dataOut.flush();

        //Close everything
        s1.close();
        exe3.close();
        dataIn.close();
        dataOut.close();
    }

    public static int countWord(String words)
    {
        if(words.isBlank())
        {
            return 0;
        }

        int count = 0;

        for(int index = 0;index<words.length() -1 ;index++)
        {
            if(words.charAt(index) == ' ' && words.charAt(index +1) != ' ')
            {
                count += 1;
            }
        }
        return count + 1;
    }
}
```

Output

```
Enter Any Words:  
Selamat Berpuasa  
Number of Words: 2
```

ClientSide.java

}

ServerSide.java

```
package Exe5;

import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;
import java.net.ServerSocket;
import java.net.Socket;

    public class ServerSide {

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

            ServerSocket serverSocket = null;

            try {

                //Bind Serversocket to a port
                int portNo = 4646;
                serverSocket = new ServerSocket(portNo);

                System.out.println("-----");
                System.out.println("\t\t\t\t\t Server Side");
                System.out.println("\t\t\t\t\t ...Waiting for request...");
                System.out.println("\t\t\t\t\t ...Running...");
                System.out.println("-----");
                System.out.println(" ");

                while(true) {

                    //Accept client request for connection
                    Socket clientSocket = serverSocket.accept();

                    //Create stream to read data from client
                    DataInputStream dataIn = new
DataInputStream(clientSocket.getInputStream());

                    //create new object for translator
                    Translator message = new Translator();

                    //assign text read from client
                    message.setText(dataIn.readUTF());

                    //Object to store text
                    String text = message.getText();

                    //Translate the text
                    Translator textToTranslate = new Translator(text);

                    //Create stream to write data to the network
                    DataOutputStream dataOut = new
DataOutputStream(clientSocket.getOutputStream());

                    //Send data to the client
                    dataOut.writeUTF(textToTranslate.getTranslatedText());
                    dataOut.flush();

                    //close the socket
                    clientSocket.close();
                    dataIn.close();
                    dataOut.close();

                }

            }

        }
    }
```

```

        }catch(IOException ioe) {
            if(serverSocket != null)
                serverSocket.close();

            ioe.printStackTrace();
        }
    }
}

```

Translator.java

```

package Exe5;

public class Translator {
    private String text;

    public Translator(String text) {
        this.text=text;
        //this.language=language;
    }

    public Translator() {

    }

    public void setText(String text) {
        this.text=text;
    }

    public String getText() {
        return text;
    }

    public String getTranslatedText() {
        String translatedText = "";

        if(text.contentEquals("Good Morning")||text.contentEquals("Good
morning")||text.contentEquals("good morning")) {

            translatedText="Selamat Pagi          الخير          좋은 아침";

        }

        else if (text.contentEquals("Good Night")||text.contentEquals("Good
night")||text.contentEquals("good night")) {

            translatedText="Selamat malam          مساء الخير          안녕히 주무세요";

```



```

    }

    else if (text.contentEquals("How are you?")||text.contentEquals("how are you?")) {

        translatedText="Apa khabar?      كيف حالكم؟      어떻게
지내세요?";

    }

    else if (text.contentEquals("Thank you")||text.contentEquals("thank you")) {

        translatedText="Terima kasih      شكرا جزيلًا      감사합니다";

    }

    else if (text.contentEquals("Goodbye")||text.contentEquals("goodbye")) {

        translatedText="Selamat Tinggal      مع السلامة      안녕";

    }

    else if (text.contentEquals("What's up?")||text.contentEquals("what's up?")) {

        translatedText="Ada apa?      ما أخبارك؟      뭐야?";

    }

    return translatedText;

}
}

```

Output

```

-----
Server Side
...Waiting for request...
...Running...
-----

```

```

-----
Client Side
-----

Enter Words In English: good morning

Translated text:

Malay      Arabic      Korean
Selamat Pagi      الخير      좋은 아침

```

Github: <https://github.com/azriawi/Lab-4-Exercise>