南开大学

JAVA 语言与应用

客户端/服务器通信程序

实验报告

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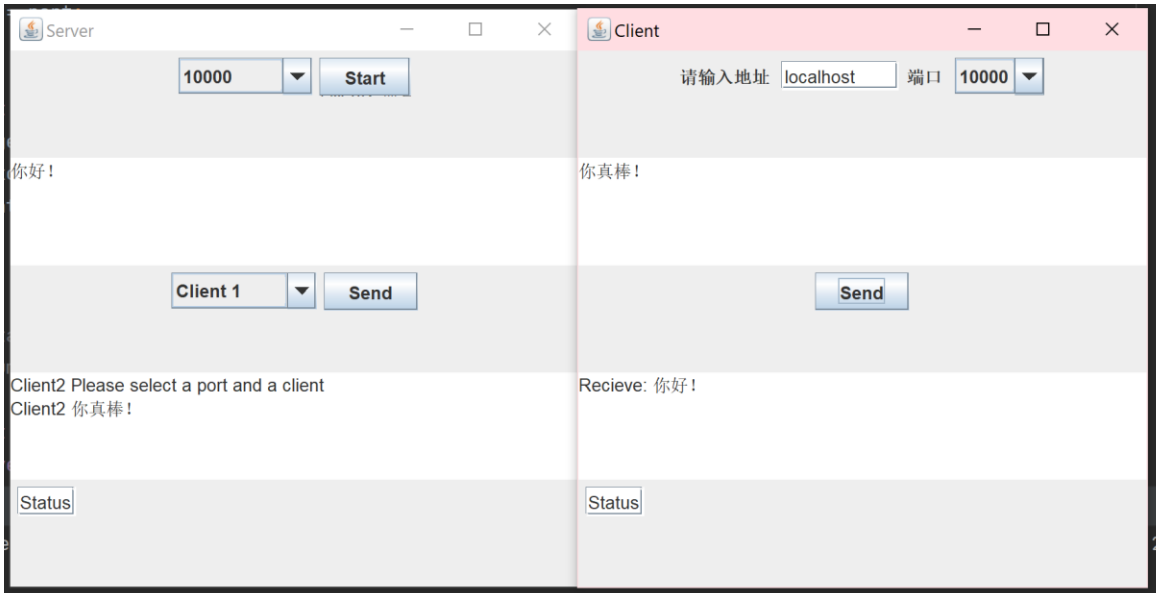
一、概述：

本作业为客户端/服务器通信程序，本作业实现的功能有：服务端与客户端建立连接，服务端、客户端选择通信端口，服务端、客户端相互发送消息等。

二、运行展示：

运行效果截图：



你好！

Client2 Please select a port and a client
Client2 你真棒！

你真棒！

Recieve: 你好！

附录：完整代码（服务端）

```
====================
====================
===
『Manage.java』
====================
====================
===
package manager;

import viewer.Viewer;

import javax.swing.*;

public class Manage {

    private JFrame mainWindow;
    private Viewer viewer;

    void init(){
        mainWindow = new JFrame();
        viewer = new
Viewer(mainWindow);
        viewer.init();
        viewer.show();


        while(true){
            //viewer.drawPanel.dra
wLine(200,200,100,100);
            viewer.update();
        }
    }

    public static void
main(String[] args){
        Manage manage = new
Manage();
        manage.init();

    }

}
```

```
====================
====================
===
『store.java』
====================
====================
===
package storer;

import java.util.Queue;

public class store {
    public Queue<String> queue;
}

====================
====================
===
『background.java』
====================
====================
===
package viewer;

import javax.swing.*;
import java.awt.*;

public class background extends
JPanel {
    background(){
        setLayout(new
GridLayout(1,2));
        setBackground(new
java.awt.Color(255, 255, 255));
        setPreferredSize(new
java.awt.Dimension(50, 50));

        JLabel label = new
JLabel("Background");
        label.setHorizontalAlignme
nt(JLabel.CENTER);
        add(label);

        JComboBox comboBox = new
JComboBox();
```

```
        comboBox.addItem("Red");
        comboBox.addItem("Green");
        comboBox.addItem("Blue");
        add(comboBox);
    }
}
```

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＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝
＝＝＝
『buttonSet.java』
＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝
＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝
＝＝＝

```
package viewer;

import javax.swing.*;
import java.awt.event.ActionEvent;
import
java.awt.event.ActionListener;
import java.util.Vector;


class triangularButton extends
JButton {
    triangularButton() {
        super("Triangle");
        setPreferredSize(new
java.awt.Dimension(100, 80));
        setContentAreaFilled(true)
;
        setVisible(true);
        //addActionListener(new
Actiona);
    }
}

class rectangularButton extends
JButton {
    rectangularButton(){
        super("Rectangle");
        setPreferredSize(new
java.awt.Dimension(100, 80));
        setContentAreaFilled(true)
;
        setVisible(true);
    }
}

class ovalButton extends JButton {
    ovalButton(){
        super("Oval");
        setPreferredSize(new
java.awt.Dimension(100, 80));
        setContentAreaFilled(true)
;
        setVisible(true);
    }
}

class roundButton extends JButton
{
    roundButton(){
        super("Round");
        setPreferredSize(new
java.awt.Dimension(100, 80));
        setContentAreaFilled(true)
;
        setVisible(true);
    }
}

class lineButton extends JButton {
    lineButton(){
        super("Line");
        setPreferredSize(new
java.awt.Dimension(100, 80));
        setContentAreaFilled(true)
;
        setVisible(true);
    }
}



public class buttonSet extends
JButton {
    public static Vector<JButton>
buttons;
```

```
    public static JButton
selected=new lineButton();

    class buttonListener
implements ActionListener {
        @Override
        public void
actionPerformed(ActionEvent e) {
            selected = (JButton)
e.getSource();
            //System.out.println("
Selected: " + selected.getText());
        }
    }

    public buttonSet() {
        buttons = new
Vector<JButton>();
        buttons.add(new
triangularButton());
        buttons.add(new
rectangularButton());
        buttons.add(new
ovalButton());
        buttons.add(new
roundButton());
        buttons.add(new
lineButton());

        for (JButton b : buttons)
{
            b.addActionListener(ne
w buttonListener());
        }
    }
}
```

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『drawPanel.java』

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```
package viewer;

import javax.swing.*;
import java.awt.*;
import
java.awt.event.MouseListener;
import java.awt.geom.*;

import static java.lang.Math.abs;


public class drawPanel extends
JPanel {
    public int x,x1,x2;
    public int y,y1,y2;
    private int width = 0;
    private int height = 0;
    private Graphics g;

    // Constructor
    public drawPanel() {
        super();
        setPreferredSize(new
java.awt.Dimension(500, 500));
        setBackground(java.awt.Col
or.white);
        //setVisible(true);

        addMouseListener(new
MouseListener() {
            @Override
            public void
mouseClicked(java.awt.event.MouseE
vent e) {
                x = e.getX();
                y = e.getY();
                //repaint();
            }

            @Override
            public void
mousePressed(java.awt.event.MouseE
vent e) {
                x1 = e.getX();
                y1 = e.getY();
                repaint();
            }

            @Override
            public void
mouseReleased(java.awt.event.Mouse
Event e) {
                x2 = e.getX();
                y2 = e.getY();
                repaint();
                //x1 = 0;
                //x2 = 0;
                //y1 = 0;
                //y2 = 0;
            }

            @Override
            public void
mouseEntered(java.awt.event.MouseE
vent e) {
//                x1 = e.getX();
//                y1 = e.getY();
//                x2 = e.getX();
//                y2 = e.getY();
                repaint();
            }

            @Override
            public void
mouseExited(java.awt.event.MouseEv
ent e) {
                x = e.getX();
                y = e.getY();
                //repaint();
            }
        }
        );
    }

    @Override
```

```
    public void paint(Graphics g)
{
        super.paint(g);
        //g.drawLine(200, 200,
400, 400);
    }

    @Override
    public void repaint() {
        super.repaint();
        //drawLine(x1, y1, x2,
y2);
    }

    //draw a line on the panel
with the given coordinates
    public void drawLine(int x1,
int y1, int x2, int y2) {
        Graphics g =
getGraphics();
        g.drawLine(x1, y1, x2,
y2);
    }


    public void drawRectangle(int
x1, int y1, int x2, int y2,boolean
fill, Color color) {
        Graphics g =
getGraphics();
        if(fill) {
            g.setColor(color);
            g.fillRect(x1, y1,
abs(x1-x2), abs(y1-y2));
        }else {
            g.drawRect(x1, y1,
abs(x1 - x2), abs(y1 - y2));
        }

    }

    public void drawCircle(int x1,
int y1, int x2, int y2,boolean
fill, Color color) {
        Graphics g =
getGraphics();
        if(fill){
            g.setColor(color);
            g.fillOval(x1, y1,
abs(x1-x2), abs(y1-y2));
        }else {
            g.drawOval(x1, y1,
abs(x1-x2), abs(y1-y2));
        }
    }

    public void drawTriangle(int
x1, int y1, int x2, int y2,boolean
fill, Color color) {
        Graphics g =
getGraphics();
        int[] xPoints = {x1, x2,
(x1+x2)/2};
        int[] yPoints = {y1, y2,
(y1+y2)/2};
        if(fill){
            g.setColor(color);
            g.fillPolygon(xPoints,
yPoints, 3);
        }else
        g.drawPolygon(xPoints,
yPoints, 3);
    }

    public void drawRound(int x1,
int y1, int x2, int y2,boolean
fill, Color color) {
        Graphics g =
getGraphics();
        if(fill) {
            g.setColor(color);
            g.fillRoundRect(x1,
y1, abs(x1-x2), abs(y1-y2),
abs(x1-x2), abs(y1-y2));
        }else
        g.drawRoundRect(x1, y1,
abs(x1-x2), abs(y1-y2), 10, 10);
    }

    public void drawText(int x,
int y,String text, Color color) {
        Graphics g =
getGraphics();
        g.setColor(color);
        g.drawString(text, x, y);
    }
}

====================
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===
『fillRegion.java』
====================
====================
===
package viewer;

import javax.swing.*;
import
javax.swing.event.ChangeListener;
import java.awt.*;

public class fillRegion extends
JPanel {
    public JCheckBox checkBox;
    public boolean isChecked;

    class fillRegionListener
implements ChangeListener {
        public void
stateChanged(javax.swing.event.Cha
ngeEvent e) {
            isChecked =
checkBox.isSelected();
        }
    }

    fillRegion(){
        setLayout(new
GridLayout(1,1));
        setVisible(true);

        checkBox = new
JCheckBox("Fill Region");
```

```
        checkBox.addChangeListener
(new fillRegionListener());
        add(checkBox);
    }


}

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『leftControlBar.java』
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＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝
＝＝＝
package viewer;

import javax.swing.*;
import java.util.Vector;

public class leftControlBar
extends JPanel {
    public static buttonSet
buttonSet;

    public void addAll(Vector
buttons){
        for(Object button :
buttons){
            this.add((JComponent)b
utton);
        }
    }

    leftControlBar(){
        this.setPreferredSize(new
java.awt.Dimension(100, 550));
        this.setBackground(new
java.awt.Color(108, 108, 108));

        //this.setVerticalScrollBa
rPolicy(JScrollPane.VERTICAL_SCROL
LBAR_NEVER);
        //this.setHorizontalScroll
BarPolicy(JScrollPane.HORIZONTAL_S
CROLLBAR_AS_NEEDED);

        buttonSet = new
buttonSet();
        this.addAll(viewer.buttonS
et.buttons);

    }
}

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『shapeColor.java』
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＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝＝
＝＝＝
package viewer;

import javax.swing.*;
import
javax.swing.event.ChangeListener;
import java.awt.*;
import
java.awt.event.ActionListener;

public class shapeColor extends
JPanel {
    public Color color=Color.RED;
    public JComboBox comboBox;

    class ComboBoxListener
implements ActionListener {
        public void
actionPerformed(java.awt.event.Act
ionEvent e) {
            //convert to Color
            String colorName =
(String)
comboBox.getSelectedItem();
            color =
Color.decode(colorName);
```

```
        }
    }

    shapeColor(){
        setLayout(new
GridLayout(1,2));
        setBackground(new
java.awt.Color(255, 255, 255));
        setPreferredSize(new
java.awt.Dimension(50, 50));

        JLabel label = new
JLabel("Set Color");
        label.setHorizontalAlignme
nt(JLabel.CENTER);
        add(label);

        comboBox = new
JComboBox();

        comboBox.addItem("Red");
        comboBox.addItem("Green");
        comboBox.addItem("Blue");
        comboBox.addActionListener
(new ComboBoxListener());
        add(comboBox);
    }

    public Color getColor() {
        return color;
    }


}
```

================================
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===
『textSetter.java』
================================
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===

```
package viewer;

import javax.swing.*;
import java.awt.*;

public class textSetter extends
JPanel {


    textSetter(){
        setLayout(new
GridLayout(1,3));

        JTextField textField = new
JTextField();
        textField.setText("Enter
text here");
        add(textField);

        JLabel label = new
JLabel("size:");
        add(label);

        JTextField fontSize = new
JTextField("14");
        fontSize.add(new
JScrollBar(JScrollBar.HORIZONTAL))
;

        add(fontSize);
    }
}
```

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===
『TopPanel.java』
================================
================================
===

```
package viewer;

import javax.swing.*;
import java.awt.*;

public class TopPanel extends
JPanel {
    public static shapeColor
color;
    public static background
background;
    public static textSetter
textSetter;
    public static fillRegion
fillRegion;

    TopPanel() {
        setLayout(new
GridLayout(1,2));
        setPreferredSize(new
Dimension(800, 50));
        setBackground(Color.WHITE)
;
        setBorder(BorderFactory.cr
eateMatteBorder(0, 0, 1, 0,
Color.BLACK));

        JPanel leftPanel = new
JPanel();
        leftPanel.setLayout(new
GridLayout(2,1));
        leftPanel.setPreferredSize
(new Dimension(400, 23));
        leftPanel.setBackground(Co
lor.WHITE);
        color = new shapeColor();
        leftPanel.add(color);
        background = new
background();
        leftPanel.add(background);

        JPanel rightPanel = new
JPanel();
        rightPanel.setLayout(new
GridLayout(2,1));
        rightPanel.setPreferredSiz
e(new Dimension(400, 23));
        rightPanel.setBackground(C
olor.PINK);
        textSetter = new
textSetter();
        rightPanel.add(textSetter)
;
        fillRegion = new
fillRegion();
        rightPanel.add(fillRegion)
;

        this.add(leftPanel);
        this.add(rightPanel);
    }
}

====================
====================
===
『Viewer.java』
====================
====================
===
package viewer;

import javax.swing.*;
import java.awt.*;

public class Viewer {
    private JFrame mainFrame;
    private TopPanel topPanel;
    private leftControlBar
leftControlBar;
    //private buttonSet buttonSet;
    private drawPanel drawPanel;

    public Viewer(JFrame main) {
        mainFrame = main;
    }

    public void update() {

        switch(buttonSet.selected.
getText()){
            case "Line":
                System.out.println
("draw Line");
```

```
                drawPanel.drawLine
(drawPanel.x1,drawPanel.y1,
drawPanel.x2,drawPanel.y2);
                break;
                case "Rectangle":
                    System.out.pri
ntln("draw Rectangle");
                drawPanel.drawRect
angle(drawPanel.x1,drawPanel.y1,
drawPanel.x2,drawPanel.y2,topPanel
.fillRegion.isChecked,topPanel.col
or.getColor());
                break;
                case "Oval":
                drawPanel.drawCirc
le(drawPanel.x1,drawPanel.y1,
drawPanel.x2,drawPanel.y2,topPanel
.fillRegion.isChecked,topPanel.col
or.getColor());
                break;
                case "Triangle":
                drawPanel.drawTria
ngle(drawPanel.x1,drawPanel.y1,
drawPanel.x2,drawPanel.y2,topPanel
.fillRegion.isChecked,topPanel.col
or.getColor());
                break;
            case"Round":
                drawPanel.drawRoun
d(drawPanel.x1,drawPanel.y1,
drawPanel.x2,drawPanel.y2,topPanel
.fillRegion.isChecked,topPanel.col
or.getColor());
                break;
            default:
        }

        //mainFrame.repaint();
    }

    public void init() {
        mainFrame.setTitle("Painte
r");
        mainFrame.setDefaultCloseO
peration(JFrame.EXIT_ON_CLOSE);
        mainFrame.setSize(800,
600);
        mainFrame.setLocationRelat
iveTo(null);

        mainFrame.setBackground(ne
w java.awt.Color(255, 255, 255));
        mainFrame.setLayout(new
BorderLayout());

        topPanel = new TopPanel();
        mainFrame.add(topPanel,
BorderLayout.NORTH);

        leftControlBar = new
viewer.leftControlBar();
        mainFrame.add(leftControlB
ar, BorderLayout.WEST);

        drawPanel = new
drawPanel();
        mainFrame.add(drawPanel,
BorderLayout.CENTER);


    }

    public void show() {
        mainFrame.setVisible(true)
;
    }
}
```

====================
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===

『Beans.java』

====================
====================
===

```
package event;

import java.net.ServerSocket;

public class Beans {
    public Event event;
}
```

===================
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===
『Event.java』
===================
===================
===

```
package event;

public enum Event {
    START_SERVER,SET_CLIENT,SEND_M
ESSAGE,GET_MESSAGE,NO_MESSAGE;
    //public Event event;


    public static Event
getEvent(String str){
        if(str.equals("START_SERVE
R")){
            return START_SERVER;
        }else
if(str.equals("SET_CLIENT")){
            return SET_CLIENT;
        }else
if(str.equals("SEND_MESSAGE")){
            return SEND_MESSAGE;
        }else
if(str.equals("GET_MESSAGE")){
            return GET_MESSAGE;
        }
        return null;
    }
}
```

===================
===================
===
『noResponse.java』
===================
===================
===

```
package event;

public class noResponse extends
Beans{

    private int who;

    public noResponse(Event
event,int n){
        this.event = event;
        this.who = n;
    }

    public int getWho() {
        return who;
    }
}
```

===================
===================
===
『sendMessage.java』
===================
===================
===

```
package event;

public class sendMessage extends
Beans{
    //private int port;
    private String message;

    public sendMessage(String
message) {

        this.message = message;
        this.event =
Event.SEND_MESSAGE;

    }

    public String getMessage() {
        return message;
    }
}
```

```
====================
====================
===
『startService.java』
====================
====================
===
package event;

public class startService extends
Beans {
    private int port;
    private int who;

    public startService(int
port,int w) {

        this.port=port;
        this.event =
Event.START_SERVER;
        this.who=w;
    }

    public int getPort() {
        return port;
    }

    public int getWho() {
        return who;
    }
}

====================
====================
===
『TextResponse.java』
====================
====================
===
package event;

public class TextResponse extends
Beans{
    private int who;
    private String res;

    public TextResponse(Event
event,int n,String s){
        this.event = event;
        this.who = n;
        this.res = s;
    }

    public int getWho() {
        return who;
    }

    public String getRes() {
        return res;
    }
}

====================
====================
===
『Manager.java』
====================
====================
===
package mainWindow;

import event.Beans;
import event.sendMessage;
import event.startService;
import netUtil.net;
import viewer.Viewer;
import event.Beans.*;
import java.util.*;
import java.util.concurrent.*;

public class Manager {
    private static Manager m;
    private static Viewer viewer;
    private Map<String,Integer>
clientThreads;
    private static ExecutorService
exe;
    private int port;
    private static net n;
    private void init() {
        viewer= new Viewer();
        viewer.start(this);
        //n=new net(this);
    }

    public static void
main(String[] args) {
        m=new Manager();
        m.init();
        exe =
Executors.newCachedThreadPool();

    }

    public void sendMessage(Beans
bean) {
//          exe.execute(new
Thread(){
//              public void run() {
                    //net n=new
net("localhost",port);
                    n.sendData(((sendMe
ssage)bean).getMessage());
//                  }
//          });
    }

    public void startService(Beans
bean) {
        port=((startService)bean).
getPort();
        exe.execute(new Thread(){
            public void run() {
                n=new
net("localhost",port,m);
                n.startServe(((sta
rtService)bean).getWho());
            }
        });
    }

    public void noResponse(Beans
b){
        viewer.noResponse(b);
    }

    public void getMessage(Beans
b){
        viewer.getMessage(b);
    }

    public void closing() {
        n.closeServer();
    }
}
```

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『net.java』

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```
package netUtil;

import event.Event;
import event.TextResponse;
import event.noResponse;
import mainWindow.Manager;

import java.io.BufferedReader;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.net.InetAddress;
import java.net.ServerSocket;
import java.net.Socket;

public class net {
    public static final int
SMALL_BUF_SIZE = 144;

    private Manager m;

    private InetAddress ip;
    private volatile Socket
socket;
    private int port;
    private String host;
    private volatile ServerSocket
ss;
    private boolean isServer;
    private String gotData;
    private String sentData;
    private int clientNumber=1;


//    public net(Manager m){
//        this.m = m;
//    }

    public net(String host, int
port,Manager m) {
        this.m = m;
        this.host = host;
        this.port = port;
        //socket = new
Socket(host, port);
        try{
            ss=new
ServerSocket(port);//,0,InetAddres
s.getByName(host));
        }catch (Exception e){
            e.printStackTrace();
        }
    }

    public void startServe(int c)
{
        clientNumber=c;
        try{
            socket = ss.accept();
            isServer=true;
            this.getMessage();
            //this.wait();
        }catch(Exception e){
            e.printStackTrace();
        }
//        finally{
//            this.closeServer();
//        }

    }
```

```
    public void closeServer(){
        try {
            socket.close();
            ss.close();
        }catch(Exception e){
            e.printStackTrace();
        }
        isServer=false;
    }

    public void getData(){
        try{
            gotData=socket.getInpu
tStream().toString();
        }catch(Exception e){
            e.printStackTrace();
        }

    }

    public void sendData(String
str){

        sentData=str;
        try{
            socket.getOutputStream
().write(sentData.getBytes());
            socket.getOutputStream
().flush();
        }catch(Exception e){
            e.printStackTrace();
            m.noResponse(new
noResponse(Event.NO_MESSAGE,client
Number));
        }
    }

    public void getMessage(){
        Thread t= new Thread(()->{

            while(true) {
                try {
                    BufferedReader
br= null;
```

```
                    InputStream
in=socket.getInputStream();
                    br = new
BufferedReader(new
InputStreamReader(in,"utf8"));
                    StringBuilder
reqStr = new StringBuilder();
                    char[] buf =
new char[SMALL_BUF_SIZE];
                    do {
//                        String
str = br.readLine();//自循环 流没有
结束符 不知道哪里是一行 阻塞
//                        m.getMes
sage(new
TextResponse(Event.GET_MESSAGE,
str));
                        if
(br.read(buf) != -1) {
                            reqStr
.append(buf);
                        }
                    }while(br.read
y());

                    String
str=reqStr.toString();
                    //socket.shutd
ownInput();
                    //System.out.p
rintln("got: "+in);
                    //System.out.p
rintln(socket.isClosed());
                    if(str!=null)
{
                        m.getMessa
ge(new
TextResponse(Event.GET_MESSAGE,cli
entNumber, str));
                    }
                } catch (Exception
e) {
                    e.printStackTr
ace();
                    break;
```

```
                }
            }
        });
        //t.setDaemon(true);
        t.start();

    }
}
```

====================
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===
『Viewer.java』
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===

```
package viewer;

import event.*;
import mainWindow.Manager;

import javax.swing.*;
import java.awt.*;
import
java.awt.event.ActionListener;
import java.awt.event.WindowEvent;
import java.io.IOException;
import java.net.ServerSocket;
import java.net.Socket;

import static
java.lang.Integer.parseInt;

public class Viewer extends JFrame
{
    private Manager m;

    private JPanel panel;
    private JComboBox
portSelectorBox;
    private JComboBox
clientSelectorBox;
    private JTextArea textArea;
    private JTextArea logArea;
    private JTextField
statusField;
    private JButton sendButton;
    private JButton startButton;
    private StringBuilder
lowTextBuffer=new StringBuilder();


    @Override
    protected void
processWindowEvent(WindowEvent e)
{
        if(e.getID()==WindowEvent.
WINDOW_CLOSING) {
            m.closing();
        }
        super.processWindowEvent(e
);
    }

    public void start(Manager
manager) {
        m=manager;
        init();
        setVisible(true);

    }

    public void noResponse(Beans
b) {
        lowTextBuffer.append("Clie
nt"+(((noResponse)b).getWho()+1)+"
Sending No Message\n");
        logArea.setText(String.val
ueOf(lowTextBuffer));
    }

    public void getMessage(Beans
b) {
        lowTextBuffer.append("Clie
nt"+(((TextResponse)b).getWho()+1)
+"
"+((TextResponse)b).getRes()+"\n")
;
        logArea.setText(String.val
ueOf(lowTextBuffer));
    }

    private void init() {
        setDefaultCloseOperation(J
Frame.EXIT_ON_CLOSE);
        setSize(400, 400);
        setLocationRelativeTo(null
);
        setTitle("Server");
        panel = new JPanel();
        panel.setLayout(new
GridLayout(5,1));
        add(panel);

        panel.add(new JPanel());
        ((JPanel)panel.getComponen
t(0)).setLayout(new
FlowLayout());;
        portSelectorBox = new
JComboBox();
        portSelectorBox.addItem("S
elect port");
        portSelectorBox.addItem("8
080");
        portSelectorBox.addItem("1
0000");
        ((JPanel)panel.getComponen
t(0)).add(portSelectorBox);

        textArea = new
JTextArea("Please select a port
and a client");
        //textArea.setEditable(tru
e);
//        JScrollPane scrollPane =
new JScrollPane(textArea);
//        scrollPane.setPreferredS
ize(new Dimension(400, 200));
        //scrollPane.add(textArea)
;
        //scrollPane.setVisible(tr
ue);
        panel.add(textArea);
        //((JPanel)panel.getCompon
ent(1)).add(scrollPane);

        panel.add(new JPanel());
        ((JPanel)panel.getComponen
t(2)).setLayout(new
FlowLayout());;
        clientSelectorBox = new
JComboBox();
        clientSelectorBox.addItem(
"Select client");
        clientSelectorBox.addItem(
"Client 1");
        clientSelectorBox.addItem(
"Client 2");
        ((JPanel)panel.getComponen
t(2)).add(clientSelectorBox);

        logArea = new
JTextArea("Log");
//          JScrollPane scrollPane =
new JScrollPane(logArea);
//          scrollPane.setPreferredS
ize(new Dimension(400, 200));
//          scrollPane.add(logArea);
//          scrollPane.setVisible(tr
ue);
        panel.add(logArea);

        panel.add(new JPanel());
        ((JPanel)panel.getComponen
t(4)).setLayout(new
FlowLayout(FlowLayout.LEFT));
        statusField = new
JTextField("Status");
        ((JPanel)panel.getComponen
t(4)).add(statusField);

        sendButton = new
JButton("Send");
        sendButton.setEnabled(true
);
        sendButton.addActionListen
er(new ActionListener() {
            @Override
            public void
actionPerformed(java.awt.event.Act
ionEvent e) {
                m.sendMessage(new
sendMessage(textArea.getText()));

            }

        });
        ((JPanel)panel.getComponen
t(2)).add(sendButton);

        startButton = new
JButton("Start");
        startButton.setEnabled(tru
e);
        startButton.addActionListe
ner(new ActionListener() {
            @Override
            public void
actionPerformed(java.awt.event.Act
ionEvent e) {
               m.startService(new
startService((parseInt(portSelecto
rBox.getSelectedItem().toString())
),clientSelectorBox.getSelectedInd
ex()));
               //sendButton.setEna
bled(true);
//                try {
//                    ServerSocket
ss=new
ServerSocket(parseInt(portSelector
Box.getSelectedItem().toString()))
;
//                    Socket
s=ss.accept();
//
//                } catch
(IOException ex) {
//                    ex.printStac
kTrace();
//                }

            }
        });
        ((JPanel)panel.getComponen
t(0)).add(startButton);

    }


}
```