

Class ServerThread

- [java.lang.Object](#)
 - - [java.lang.Thread](#)
 - - ServerThread
 - All Implemented Interfaces:
[Runnable](#)
-

```
public class ServerThread
extends Thread
```

The UDPThread class should extend the Thread class, because a UDPThread will be created by MyWebServer every time a client connects to MyWebServer.

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Nested Class Summary

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Nested classes/interfaces inherited from class java.lang.[Thread](#)

[Thread.State](#), [Thread.UncaughtExceptionHandler](#)

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Field Summary

Modifier and Type	Fields	Field and Description
private int	bufSize	the size of the buf for datagram packets
private int	clientID	the unique identifier for the client
private boolean	isUDP	the protocol type
private MainServer	mainServer	object to access the main server class
private DatagramPacket	packet	the packet received from the client
	serverGUI	

(package private) ServerGUI	the object to access the GUI for the server to update the client list
private Socket	socketTCP the socket this thread is using to communicate through TCP
private DatagramSocket	socketUDP the socket this thread was forwarded to to use to communicate through UDP

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Fields inherited from class java.lang.[Thread](#)

[MAX_PRIORITY](#), [MIN_PRIORITY](#), [NORM_PRIORITY](#)

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Constructor Summary

Constructors

Constructor and Description

[ServerThread](#)(MainServer mainServer, [DatagramPacket](#) packet, ServerGUI serverGUI)

the constructor for a UDP thread

[ServerThread](#)([Socket](#) socketTCP, MainServer mainServer, ServerGUI serverGUI)

the constructor for a TCP thread

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Method Summary

All Methods [Instance Methods](#) [Concrete Methods](#)

Modifier and Type	Method and Description
private String	formatMessage (String message) A helper method for run to format the message
DatagramPacket	getPacket () Returns the datagram packet that the client sent
Socket	getTCPsocket () Returns the socket for TCP/IP clients
DatagramSocket	getUDPSocket () Returns the socket for UDP clients
boolean	isProtocolUDP () Returns true if the client protocol us UDP and false if it is TCP/IP
void	run () Waits for the client to send a message and then forwards it to all of the clients.
private void	runTCP ()

This method is called to communicate with a TCP/IP client It receives the initial message from the client establish communication.

[runUDP\(\)](#)

private void This method is called to communicate with a UDP client It receives the initial message from the client establish communication.

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Methods inherited from class java.lang.[Thread](#)

[activeCount](#), [checkAccess](#), [clone](#), [countStackFrames](#), [currentThread](#), [destroy](#), [dumpStack](#), [enumerate](#), [getAllStackTraces](#), [getContextClassLoader](#), [getDefaultUncaughtExceptionHandler](#), [getId](#), [getName](#), [getPriority](#), [getStackTrace](#), [getState](#), [getThreadGroup](#), [getUncaughtExceptionHandler](#), [holdsLock](#), [interrupt](#), [interrupted](#), [isAlive](#), [isDaemon](#), [isInterrupted](#), [join](#), [join](#), [join](#), [resume](#), [setContextClassLoader](#), [setDaemon](#), [setDefaultUncaughtExceptionHandler](#), [setName](#), [setPriority](#), [setUncaughtExceptionHandler](#), [sleep](#), [sleep](#), [start](#), [stop](#), [stop](#), [suspend](#), [toString](#), [yield](#)

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Methods inherited from class java.lang.[Object](#)

[equals](#), [finalize](#), [getClass](#), [hashCode](#), [notify](#), [notifyAll](#), [wait](#), [wait](#), [wait](#)

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Field Detail

■ socketUDP

private [DatagramSocket](#) socketUDP

the socket this thread was forwarded to to use to communicate through UDP

■ socketTCP

private [Socket](#) socketTCP

the socket this thread is using to communicate through TCP

■ mainServer

private MainServer mainServer

object to access the main server class

- **packet**

```
private DatagramPacket packet
```

the packet received from the client

- **isUDP**

```
private boolean isUDP
```

the protocol type

- **clientID**

```
private int clientID
```

the unique identifier for the client

- **serverGUI**

```
ServerGUI serverGUI
```

the object to access the GUI for the server to update the client list

- **bufSize**

```
private final int bufSize
```

the size of the buf for datagram packets

See Also:

[Constant Field Values](#)

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Constructor Detail

- **ServerThread**

```
public ServerThread(MainServer mainServer,  
                    DatagramPacket packet,  
                    ServerGUI serverGUI)
```

the constructor for a UDP thread

Parameters:

mainServer - the object to access the server

- **ServerThread**

```
public ServerThread(Socket socketTCP,  
                   MainServer mainServer,  
                   ServerGUI serverGUI)
```

the constructor for a TCP thread

Parameters:

`socketTCP` - the socket to connect by TCP/IP

`mainServer` - the object to access the server

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Method Detail

- **run**

```
public void run()
```

Waits for the client to send a message and then forwards it to all of the clients.

Specified by:

[run](#) in interface [Runnable](#)

Overrides:

[run](#) in class [Thread](#)

- **runUDP**

```
private void runUDP()
```

This method is called to communicate with a UDP client It receives the initial message from the client establish communication. It then send the client a new port to communicate on. It then infinitely waits to receive messages from the client.

- **runTCP**

```
private void runTCP()
```

This method is called to communicate with a TCP/IP client It receives the initial message from the client establish communication. It then infinitely waits to receive messages from the client.

- **formatMessage**

```
private String formatMessage(String message)
```

A helper method for run to format the message

Parameters:

message - the message being formatted

Returns:

the formatted message

- **isProtocolUDP**

```
public boolean isProtocolUDP()
```

Returns true if the client protocol us UDP and false if it is TCP/IP

Returns:

Returns true if the client protocol us UDP and false if it is TCP/IP

- **getUDPSocket**

```
public DatagramSocket getUDPSocket()
```

Returns the socket for UDP clients

Returns:

the socket

- **getTCPSocket**

```
public Socket getTCPSocket()
```

Returns the socket for TCP/IP clients

Returns:

the socket

- **getPacket**

```
public DatagramPacket getPacket()
```

Returns the datagram packet that the client sent

Returns:

the datagram packet the client sent