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A Chat Client/Server Program for C#

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Here's some code for a chat server, and an accompanying client program.

The client:

```
using System.IO;
using System.Net;
using System;
using System.Threading;
using N = System.Net;
using System.Collections;
using System.Windows.Forms;
using System.ComponentModel;
using System.Runtime.InteropServices;

class TalkUser {

    static Form talk;
    static N.Sockets.TcpClient TC;

    [DllImport("kernel32.dll")]
    private static extern void ExitProcess(int a);

    public static void Main() {
        talk = new Form();
        talk.Text = "TalkUser - The OFFICIAL TalkServ Client";
        talk.Closing += new CancelEventHandler(talk_Closing);
        talk.Controls.Add(new TextBox());
        talk.Controls[0].Dock = DockStyle.Fill;
        talk.Controls.Add(new TextBox());
        talk.Controls[1].Dock = DockStyle.Bottom;
        ((TextBox)talk.Controls[0]).Multiline = true;
        ((TextBox)talk.Controls[1]).Multiline = true;
        talk.WindowState = FormWindowState.Maximized;
        talk.Show();
        ((TextBox)talk.Controls[1]).KeyUp += new KeyEventHandler(key_up);
        TC = new N.Sockets.TcpClient();
        TC.Connect("IP OF A SERVER HERE",4296);
        Thread t = new Thread(new ThreadStart(run));
        t.Start();
        while(true) {
            Application.DoEvents();
        }
    }

    private static void talk_Closing(object s, CancelEventArgs e) {
        e.Cancel = false;
        Application.Exit();
        ExitProcess(0);
    }

    private static void key_up(object s, KeyEventArgs e) {
        TextBox TB = (TextBox)s;
        if(TB.Lines.Length>1) {
            StreamWriter SW = new StreamWriter(TC.GetStream());
            SW.WriteLine(TB.Text);
            SW.Flush();
            TB.Text = "";
            TB.Lines = null;
        }
    }

    private static void run() {
        StreamReader SR = new StreamReader(TC.GetStream());
        while(true) {
            Application.DoEvents();
            TextBox TB = (TextBox)talk.Controls[0];
            TB.AppendText(SR.ReadLine()+"\r\n");
            TB.SelectionStart = TB.Text.Length;
        }
    }
}
```

And the server:

```
using System.IO;
using System.Net;
using System;
using System.Threading;
using N = System.Net;
using System.Collections;

class TalkServ {

    System.Net.Sockets.TcpListener server;
    public static Hashtable handles;
    public static Hashtable handleByConnect;

    public static void Main() {
        TalkServ TS = new TalkServ();
    }

    public TalkServ() {
        handles = new Hashtable(100);
    }
}
```

```

        handleByConnect = new Hashtable(100);
        server = new System.Net.Sockets.TcpListener(4296);
        while(true) {
            server.Start();
            if(server.Pending()) {
                N.Sockets.TcpClient connection = server.AcceptTcpClient();
                Console.WriteLine("Connection made");
                BackForth BF = new BackForth(connection);
            }
        }
    }

    public static void SendToAll(string name,string msg) {
        StreamWriter SW;
        ArrayList ToRemove = new ArrayList(0);
        N.Sockets.TcpClient[] tc = new N.Sockets.TcpClient[TalkServ.handles.Count];
        TalkServ.handles.Values.CopyTo(tc,0);
        for(int i=0;i<tc.Length;i++) {
            try {
                if(msg.Trim()=="|||tc[i]==null)
                    continue;
                SW = new StreamWriter(tc[i].GetStream());
                SW.WriteLine(name + ": " + msg);
                SW.Flush();
                SW = null;
            } catch(Exception e44) { e44 = e44;
                string g = (string) TalkServ.handleByConnect[tc[i]];
                TalkServ.SendSysMsg("*** " + g + " ** HAS LEFT US.");
                TalkServ.handles.Remove(g);
                TalkServ.handleByConnect.Remove(tc[i]);
            }
        }
    }

    public static void SendSysMsg(string msg) {
        StreamWriter SW;
        ArrayList ToRemove = new ArrayList(0);
        N.Sockets.TcpClient[] tc = new N.Sockets.TcpClient[TalkServ.handles.Count];
        TalkServ.handles.Values.CopyTo(tc,0);
        for(int i=0;i<tc.Length;i++) {
            try {
                if(msg.Trim()=="|||tc[i]==null)
                    continue;
                SW = new StreamWriter(tc[i].GetStream());
                SW.WriteLine(msg);
                SW.Flush();
                SW = null;
            } catch(Exception e44) { e44 = e44;
                TalkServ.handles.Remove(TalkServ.handleByConnect[tc[i]]);
                TalkServ.handleByConnect.Remove(tc[i]);
            }
        }
    }
} //end of class TalkServ

class BackForth {
    N.Sockets.TcpClient client;
    System.IO.StreamReader SR;
    System.IO.StreamWriter SW;
    string handle;

    public BackForth(System.Net.Sockets.TcpClient c) {
        client = c;
        Thread t = new Thread(new ThreadStart(init));
        t.Start();
    }

    private string GetHandle() {
        SW.WriteLine("What is your handle? ");
        SW.Flush();
        return SR.ReadLine();
    }

    private void run() {
        try {
            string l = "";
            while(true) {
                l = SR.ReadLine();
                TalkServ.SendToAll(handle,l);
            }
        } catch(Exception e44) { Console.WriteLine(e44); }
    }

    private void init() {
        SR = new System.IO.StreamReader(client.GetStream());
        SW = new System.IO.StreamWriter(client.GetStream());
        SW.WriteLine("WELCOME TO TalkServ! Be Nice!");
        //SW.WriteLine("What is your handle? ");
        //SW.Flush();
        handle = GetHandle();
        while(TalkServ.handles.Contains(handle)) {
            SW.WriteLine("ERR - Handle already exists!");
            handle = GetHandle();
        }
        TalkServ.handles.Add(handle,client);
        TalkServ.handleByConnect.Add(client,handle);
        TalkServ.SendSysMsg("*** " + handle + " ** HAS JOINED US.");
        SW.WriteLine("Now Talking....\r\n-----");
        SW.Flush();
        Thread t = new Thread(new ThreadStart(run));
        t.Start();
    }
}

```

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