**COMPUTING SUBJECT: UDP-Socket programming**

**TYPE:** Assignment

**IDENTIFICATION:** UDPEchoServer

**COPYRIGHT:** *Michael Claudius*

**LEVEL:** Easy

**TIME CONSUMPTION:** 30-50 minutes

**EXTENT:** 50 lines

**OBJECTIVE: UDP-sockets**

**PRECONDITIONS:** Computer Networks Ch. 2.7

**COMMANDS:**

**IDENTIFICATION:** UDPEchoServer

The Mission

We are first going to explore the UDP socket programming by investigating an UDPEchoServer program, which returns the client-sentence capitalized, and an UDPEchoClient program sending a sentence.

Precondition

You have done the tutorial TCPSocketEcho in the class room.

Useful C# links

* [https://msdn.microsoft.com/en-us/library/system.net.sockets.udpclient(v=vs.110).aspx](https://msdn.microsoft.com/en-us/library/system.net.sockets.udpclient%28v%3Dvs.110%29.aspx)
* [https://msdn.microsoft.com/en-us/library/08h8s12k(v=vs.110).aspx](https://msdn.microsoft.com/en-us/library/08h8s12k%28v%3Dvs.110%29.aspx)
* [https://msdn.microsoft.com/en-us/library/cdas754k(v=vs.110).aspx](https://msdn.microsoft.com/en-us/library/cdas754k%28v%3Dvs.110%29.aspx)

*Assignment 1 Same computer*

From your teacher’s home page you can download the UDPEchoServerClient.zip-file with the projects: UDPEchoServer and UDPEchoClient. Alternatively maybe your teacher asks you to type them yourself.

Compile.

Run the client and then run the server on the same computer.

What happened and why.

Run the client again.

What happened and why.

**In teams discuss each program sentence , so you are sure you comprehend the program.**

**Remember** [IPEndPoint](https://msdn.microsoft.com/en-us/library/system.net.ipendpoint%28v%3Dvs.110%29.aspx) represents the remote host from which the data are sent. It contains information about local and remote host ports and is used to connect to a service……

*Assignment 2 Two different computers*

Let one computer run the server and the other one run the client.

Now the client project class must to use the correct IP-address of the computer running the server project.

*Tip:* Remember you can find the IP-address of your computer by the command IPCONFIG in a command prompt.

Click Start -> Programs -> Accessories -> Command prompt

Or just choose: Search -> cmd

Compile and run the programs on two different computers.

What happened and why.

*IF you are on a wireless laptop there might be problem with this assignment*

Use the local LAN on Maglegårdsvej, if there are problems try to open port 7000 to accept inbound and outbound UDP-requests.

Choose ControlPanel -> System Security -> Windows Firewall -> Advanced setteing
Then select -> Inbound rules -> Create New Rule
And configure UDP to allow to use port 7000.
Finally do the same for Outbound rules.

***IF this does not work then turn off your Windows firewall.***
Furthermore you might also have to turn off your ant-virus program, e.g. McAffe overrules and controls the firewall.

*Assignment 3: Several clients*

Now try to run 3 or more clients using the same server at the same time.

What happened and why.

### ***Critical remarks***

*The present server program does not guarantee deliver.*

*That’s just how it is.*