UDP CHAT

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1 Introduction

UDP-Chat is a chat application based on User Datagram Protocol "**UDP**". **UDP-Chat** is available for **Java Runtime Environment** JRE-1.6, 1.7, 1.8, 9, 10. Figure **1** shows a partial image of the chat window.

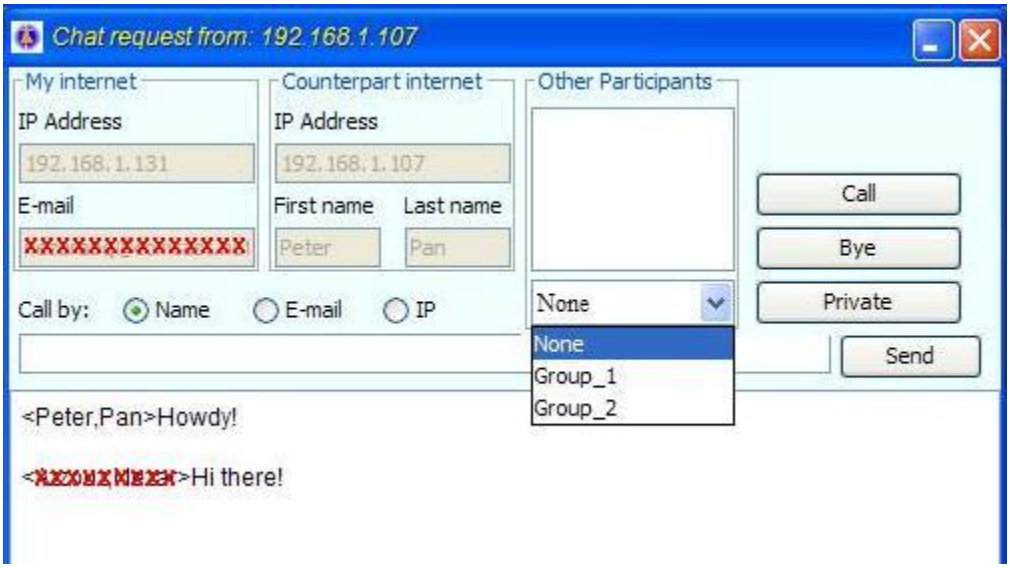


Figure 1: Chat window. Chat initiator can call by "Name", "E-mail" or "IP" address. For group chat the party that was called selects the group in "Other participants" panel. Participants call like the initiator. Names in the groups must match participants name as in entered in Figure 2b.

a)

b)

Figure 2: Setting chat credentials: invoking the dialog (a), actual dialog (b). When a user calls for a chat session his or her first and last names are communicated to the person he or she is trying to reach.

2 Secure Chat

Users can chat securely with other UDP-Chat users over the internet. To call a counterpart for a chat, users have three options to initiate the call:

- Call by "**Name**" (first and last name): UDP-Chat tracks and records users IP in a database. Users must set the name by opening the dialogs shown in **Figure 2**.
- Call by "**E-mail**" address: The e-mail address is stored when entering user e-mail credential.

- Call by "**IP address**": if the "IP" is known by the caller.

2.1 Chat receiver

Chat receiver server listens to **port#38530**. **UDP-Chat** users can elect to turn-on or off the receiver. Once turned-on, the receiver is also turned on every time application desktop is launched. If a user's email is stored, **UDP-Chat** updates a database with e-mail address and current user IP so other users can get in touch. The e-mail address eases **UDP-Chat** users' contact, especially when the IP address is not static.

2.2 Group chat

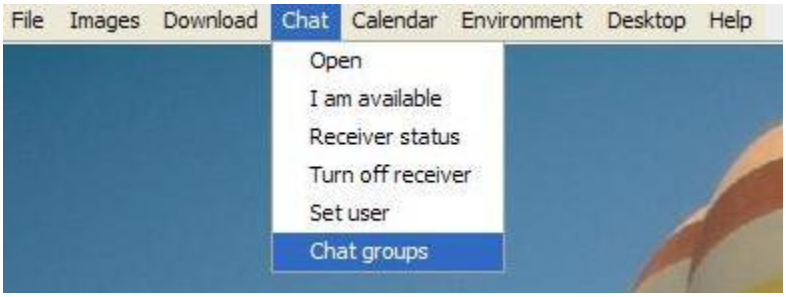
The chat utility is designed to accommodate multiple chat participants. Participant' names are stored into groups as shown in Figure 3. When the chat utility is opened, it looks for these group files and makes participants available as shown in Figure 1. Once a "**Chat session**" is established, between two users, other participants can join the session. Once joined, the new participant receives all participants' connection credentials (IP and name), so his or her messages reach all participants in the session. The chat session can made private at any time, excluding new comers.

2.3 Private session

To limit the session to current participants only, early users who established the session have the privilege to limit the session by clicking on the "**Private**" button.

2.4 IP Address

Users who are on different networks must set port forwarding in their "**Internet Router**" in order to be able to use the chat utility. To set the port forwarding, login to the router, then find "**Applications/Games**". **Figure 4** shows a typical port forwarding procedure in routers in the "**Application/Games**" page.



a)

b)

Figure 3: Chat group builder: Invoking the dialog (a), actual dialog (b).

2.5 Entering messages to send

Chat messages to send are entered in the text field next to "**Send**" button. When several un-interrupted messages are received from the same participant, these messages are appended to the same paragraph created for this participant. **Completed phrase** must include ".", "**!**" or "**?**" to instruct the application that any incoming messages after this completed phrase is a "**new phrase**" so the next message will be appended adequately. When a new message arrives from another participant, a new paragraph is created for this participant.

2.6 Undelivered messages

Undelivered message will not show on the chat window of the sender nor receiver. A mechanism that saves failed messages is used. Use numeric keypad "**Up/Down**" arrows or other "**Up/Down**" arrows implemented in the keyboard to view and resend undelivered messages.

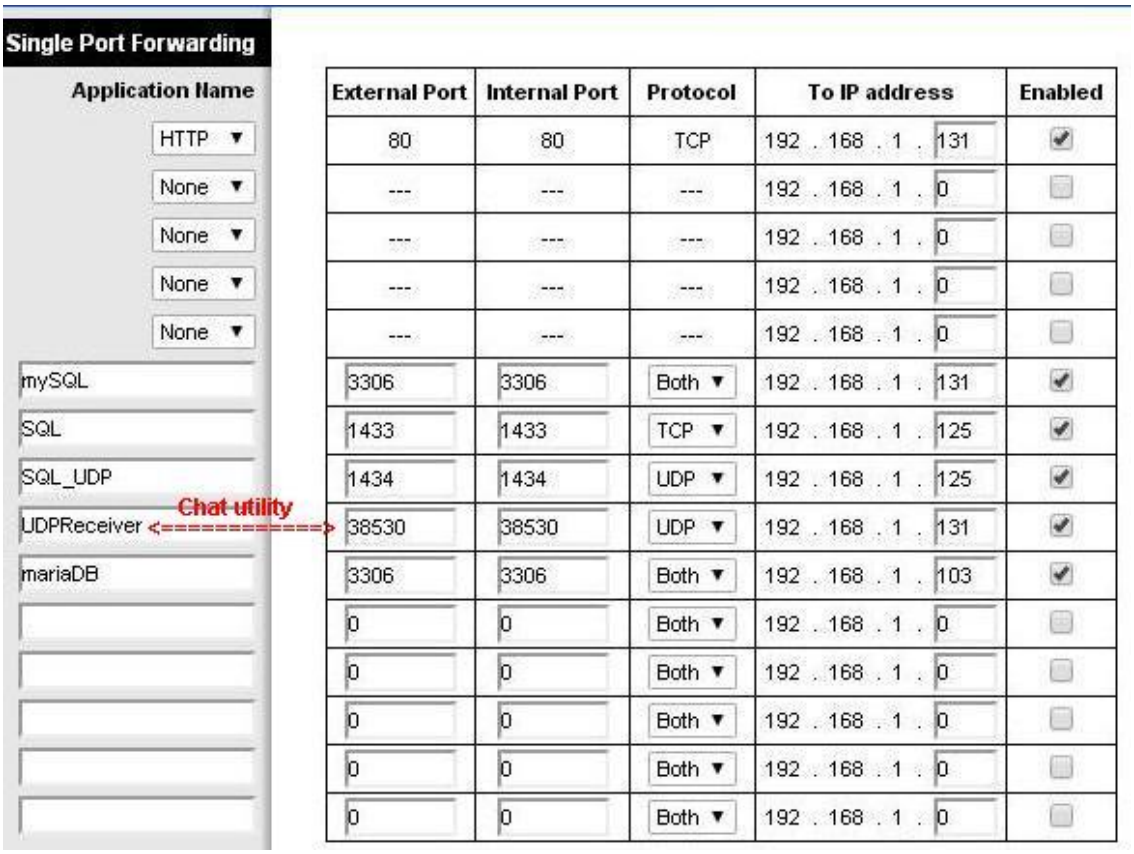


Figure 4: A typical port forwarding setup in user's router. For example in this router the chat utility is given the name "UDP Receiver" bound to port#38530. Traffic is directed to IP address "192.168.1.131".

2.7 Exiting a chat session

A user exits a session by clicking on "**Bye**" button. Using "**Bye"** button requires a feedback from the remote chat server to actually terminate the "**chat session**". User can choose to terminate the session by closing the chat window without waiting from remote servers. In either case the user is prompted to save the "**chat transcript**" before terminating the application.

3 Screen capture and frame images

UDP-Chat utility includes features for screen capture and internal frames (windows). Screenshots of the computer desktop or individual frames displayed in UDP-Chat desktop can be made. To make a screenshot of the computer desktop, click on key "**F11**". Once "**F11**" is clicked UDP-Chat desktop is minimized so an image

of the computer desktop is created. To create an image of a frame in **UDP-Chat**, **or UDP-Chat** desktop select the frame and press on "**F12**".

To create an image:

- Use keyboard function key F1 to create and image of **UDP-Chat**
- Use F2 to create an image of user's computer desktop. User desktop capture includes all open-applications windows except UDP-Chat.
- Use F12 to create an image of **UDP-Chat** internal-frames

4 Disclaimer

- Some support can be provided. Use inquiry form at http://www.tekinsil.com/mailDir/php_mail_form.html
- **UDP-Chat** uses port # 38530 (UDP) for chatting. If this port is used by another program, the application will not proceed.
- Only one **UDP-Chat** application is allowed to run in a computer