

# Tutorial 11 – Network Programming

In this tutorial, you will write a simple messenger application which allows a client to connect to a server and they can chat with each other. You should create a package named `tutes.nio` for the tasks below.

1. Create the Server program which does the following things:
  - a. Listens to port `3333` and waits for a client to connect.
  - b. When client connected, do these tasks in parallel (create a `Thread` for each task):
    - i. Receive and display all messages from client.
    - ii. Get messages typed by user and send them to client.
  - c. When client sends the message “bye”, stop receiving messages from client.
  - d. When user types the message “bye”, stop sending messages to client.
  - e. When the sending and receiving tasks all stop running, end the program.
2. Create the `Client` class which does the following things:
  - a. Connects to the above server.
  - b. Then connected, start these tasks in parallel:
    - i. Receive and display all messages from server.
    - ii. Get messages typed by user and send them to server.
  - c. When server sends the message “bye”, stop receiving messages from server.
  - d. When user types the message “bye”, stop sending messages to server.
  - e. When the sending and receiving tasks all stop running, end the program.

Start the `Server` program first, then start `Client` in another console. Test the functionality of this messenger application.