Opracowanie: W. Kubicki

Exercise 9-1

Server

*Open **Server** project and then open **Server_exercise.vi**. The application runs in a server mode utilizing TCP/IP. Briefly, the server awaits for connection from the client, then reads messages and presents them in the Status display, and finally disconnects and quits when the client closes the connection.*

***IP** indicator provides current machine IP address and **Port** control sets port for the transmission (Figure 1). **Connection** LED informs about connection status. Application start and the data received by the server (**4 bytes**) are displayed in **Status display** indicator. **Stop** button stops the application (after connection only).*

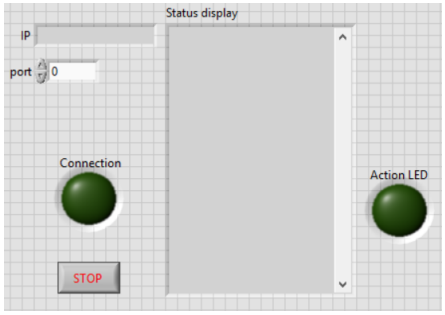

Fig. 1. UI of the Server_exercise.vi

Open block diagram of the application, and analyse the code and the algorithm.

9-1.1 Connecting with the Server using telnet client

Task: Test the server application. Use freeware telnet client e.g. **Putty** to configure the client which sends messages to the server (Fig. 2).

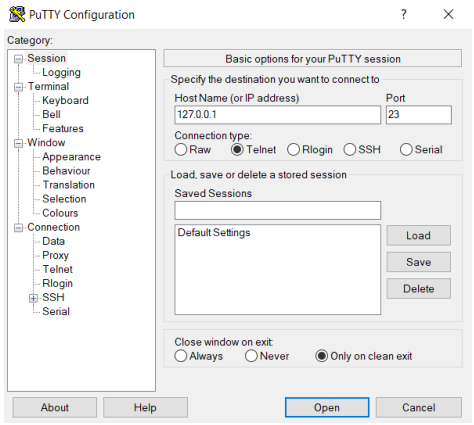

Fig. 2. Putty user interface

a) Open **Putty** (install it if not available on the computer)
b) Set Connection type to **Telnet** and Host Name to localhost (**127.0.0.1**)
c) Set the same port value (**23**) in both **Server_exercise_vi** and Putty.
d) Run the server. The server confirms listening every 5000 ms.
e) **Open** the connection in Putty. The **terminal window** will open. The server shall confirm connection.
f) Write various short messages in the terminal and check if they are read properly by the server. Observe how the message is read if it is shorter or longer than 4 characters (bytes).
g) Close the terminal window. Server should quit automatically.

9-1.2 Remote control of the Server

Action LED *is intended to be remotely operated by text messages received from the client (Tab. 1).*

Table 1. Actions performed by server according to received messages

Message	Action
L_on	turns the Action LED on
Loff	turns the Action LED off
Blin	sets the Action LED in blinking mode
Exit	closes the connection and quits

Task: Update Error case of read state to perform remote control of the server according to Table 1 (Fig. 3). Test the application afterwards using telnet client.

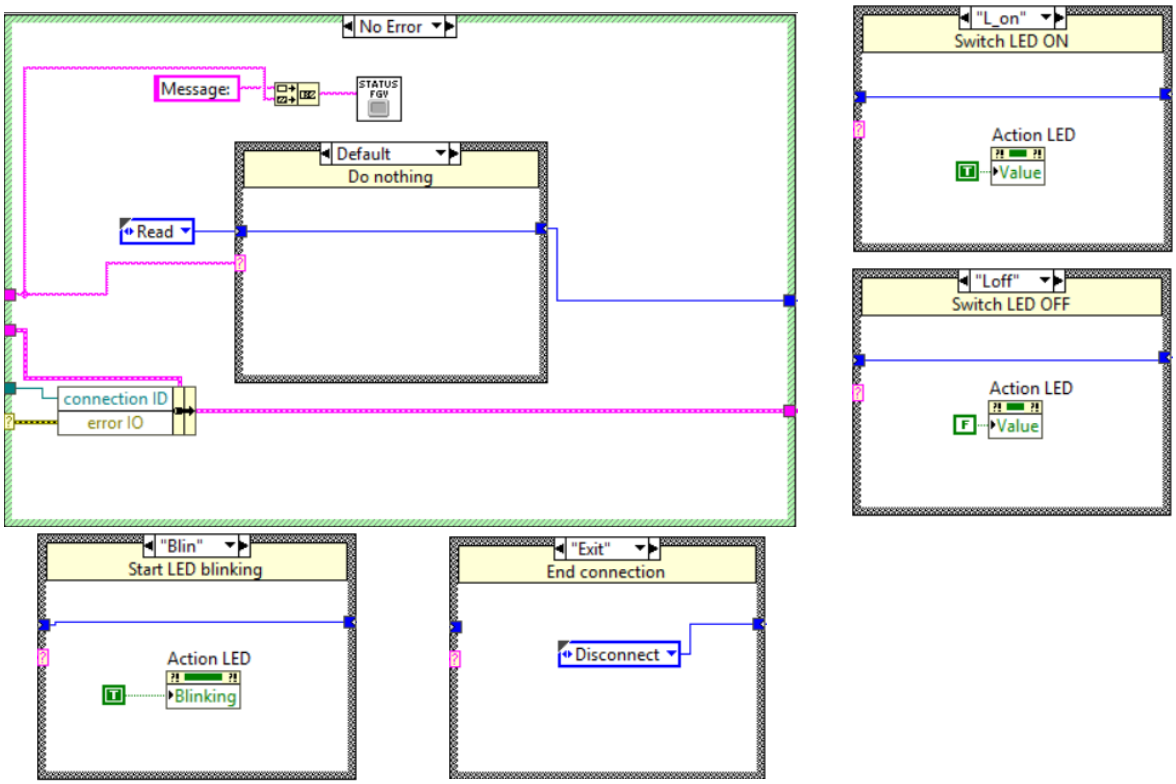

Fig. 3. "No Error" case in Read state of Server code