

# Assignment 2 User Manual

## Background

1. The server application was compiled on Linux Fedora 32 running on an Oracle VM VirtualBox with 6 CPU cores/4 Gi Memory
2. The client application was compiled on Linux Manjaro running on XPS 15 9650 with 4 CPU cores and 16 Gi Memory

## Program Usage

### Name:

client

### Option:

-h (--host)	hostname
-p (--port)	server listening port
-m (--message)	echo message
-c (--count)	number of echo requests to send
-d (--delay)	delay between requests (msec)

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### Name:

server

### Option:

-p (--port)	listening port
-m (--max_core)	number of threads to parallelize listening, IO, and data processing

## How to run

### Client:

1. On client machine, navigate to “client” directory.
2. Configure server info in Makefile.

```
# Output Name
OUTPUT          = client# executable
ERROR_FILE      = error.txt# error output file

# Configuration parameters
HOST            = 192.168.0.106# host address
PORT            = 7000# server port
SEND_COUNT      = 60# number of send per client
MSG             = "Hello, World!"# sending message
DELAY_MS        = 1000# in milliseconds max 999999999

# Testing parameters
N_CLIENT_TICK   = 10
N_TICK_FIXED    = 10 #test-a loop count
```

3. Make targets:
  - a. \$ make all
    - Cleans previously compiled client and recompiles.
  - b. \$ make test
    - Kill all zombie clients (if present) and will create as many processes as specified by N\_CLIENT\_TICK and N\_TICK\_FIXED with configuration parameters to spawn clients that sends string data to server periodically.
  - c. \$ make watch
    - Will continuously monitor network statistics, providing connection information between for IP/Ports.

### Server

1. On server machine, navigate to “epoll” directory.
2. Configure server info in Makefile.
3. Make targets:

- a. \$ make all
  - Cleans previously compiled server, recompiles, and runs with configuration parameters.
- b. \$ make watch
  - Will continuously monitor network statistics, providing connection information between for IP/Ports.

```
# Configuration parameters
OUTPUT=server# Output Name
PORT=7000# Server listening port
MAX_CORES=6# Number of threads to parallelize listening, IO, and data processing
```