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CPSC 441

Assignment 3 User Manuel

The included File PingClient.java is a program that helps you measure the packet round trip time between you and a given server. To be able to use the PingClient program the server being tested must be running the Pingserver program and listening on the same port being passed to PingClient.

Before you can use PingClient to measure your ping you must first compile the attached source code. Follow the following steps in order to compile the code:

1- Open cmd(windows)/shell(linux)
2- Change your working directory to point to where you have PingClient.java stored by using the “cd directory_name” command where directory name is where you have the code is stored
3- Compile the code using the command “javac *.java” note: you must have the java development kit installed on your machine

After you have compiled the code you can now use PingClient to measure your ping and packet loss rate. To use the program simply insert the command “java PingClient hostname/ip portnumber” into cmd/shell. You need to replace hostname/ip with the name or ip of the website you are testing and replace portnumber with the port that the PingServer program is listening on the target machine.

PingClient well send 10 packets to PingServer and will wait up to 1sec to receive a response. After all packets are sent, PingClient will display the average, max, and minimum ping and the number of packets dropped. If all packets have been dropped PingClient will display that 10 packets have been dropped, will not display the average and will return the max and minimum ping as the minimum and maximum values of a long integer on that machine.

PingClient has been tested successfully on localhost, linux.cpsc.ucalgary.ca and google cloud linux virtual machine

Test 1 on cpsc machine

```
C:\Users\karim\OneDrive\Desktop\2021\441\A3>java PingClient 136.159.5.25 6666
sent: PING 0 1605850014336

packet 0 ping = 427 ms

sent: PING 1 1605850014765

packet 1 ping = 397 ms

sent: PING 2 1605850015162

packet 2 ping = 271 ms

sent: PING 3 1605850015433

packet 3 ping = 409 ms

sent: PING 4 1605850015843

packet 4 ping = 420 ms

sent: PING 5 1605850016264

packet dropped

sent: PING 6 1605850017278

packet 6 ping = 294 ms

sent: PING 7 1605850017573

packet 7 ping = 350 ms

sent: PING 8 1605850017925

packet dropped

sent: PING 9 1605850018934

packet 9 ping = 389 ms

average ping 369.0 ms
2 packets were dropped
max ping 427 ms
min ping 271 ms
```

test 2 on cpsc machine

```
C:\Users\karim\OneDrive\Desktop\2021\441\A3>java PingClient 136.159.5.25 6666
sent: PING 0 1605850158342

packet 0 ping = 291 ms

sent: PING 1 1605850158633

packet 1 ping = 379 ms

sent: PING 2 1605850159013

packet 2 ping = 415 ms

sent: PING 3 1605850159428

packet dropped

sent: PING 4 1605850160441

packet 4 ping = 352 ms

sent: PING 5 1605850160797

packet 5 ping = 375 ms

sent: PING 6 1605850161173

packet 6 ping = 420 ms

sent: PING 7 1605850161594

packet 7 ping = 429 ms

sent: PING 8 1605850162024

packet 8 ping = 359 ms

sent: PING 9 1605850162384

packet 9 ping = 359 ms

average ping 375.0 ms
1 packets were dropped
max ping 429 ms
min ping 291 ms
```

test 3 on Gcloud VM

```
C:\Users\karim\OneDrive\Desktop\2021\441\A3>java PingClient 35.238.211.218  6666
sent: PING 0 1605850378707

packet 0 ping = 197 ms

sent: PING 1 1605850378905

packet 1 ping = 199 ms

sent: PING 2 1605850379105

packet 2 ping = 199 ms

sent: PING 3 1605850379305

packet 3 ping = 199 ms

sent: PING 4 1605850379506

packet 4 ping = 198 ms

sent: PING 5 1605850379705

packet 5 ping = 200 ms

sent: PING 6 1605850379907

packet 6 ping = 198 ms

sent: PING 7 1605850380106

packet 7 ping = 198 ms

sent: PING 8 1605850380306

packet 8 ping = 199 ms

sent: PING 9 1605850380506

packet 9 ping = 198 ms

average ping 198.0 ms
0 packets were dropped
max ping 200 ms
min ping 197 ms
```