

Tugas 4c Progjar D

Nama : Rimas Muhammad Irfansyah

NRP : 05111740000185

Tugas:

Jalankan program chat tersebut di EMULATOR. lakukan menggunakan konfigurasi

- 1 mesin berfungsi sebagai chat server
- 2 mesin berfungsi sebagai chat client

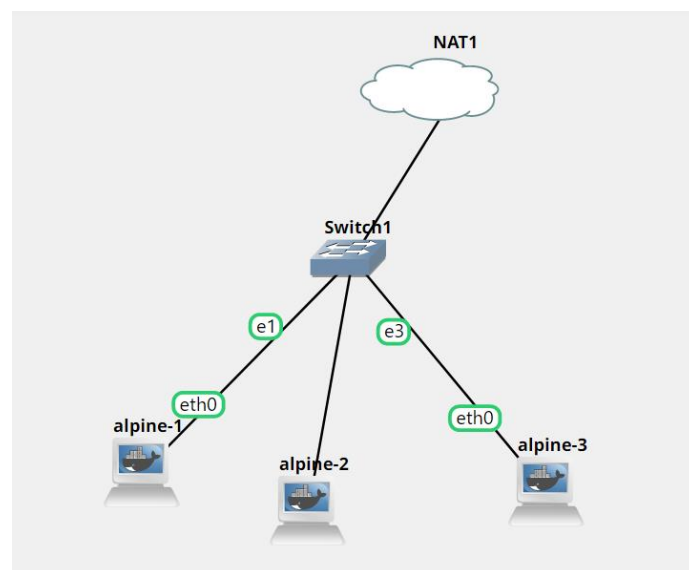
buatlah interaksi antara 2 mesin client dengan server. lakukan aktifitas-aktifitas berikut ini

- authentication
- berkirim pesan antar user

dan capturelah ke dalam gambar, dan submitlah dalam bentuk 1 dokumen PDF. berikan PENJELASAN SINGKAT dari hasil capture anda

Jawab:

1. Berikut topologi yang digunakan. Alpine-1 sebagai server, alpine-2 dan alpine-3 sebagai client.



2. Cek ip alphine-1:

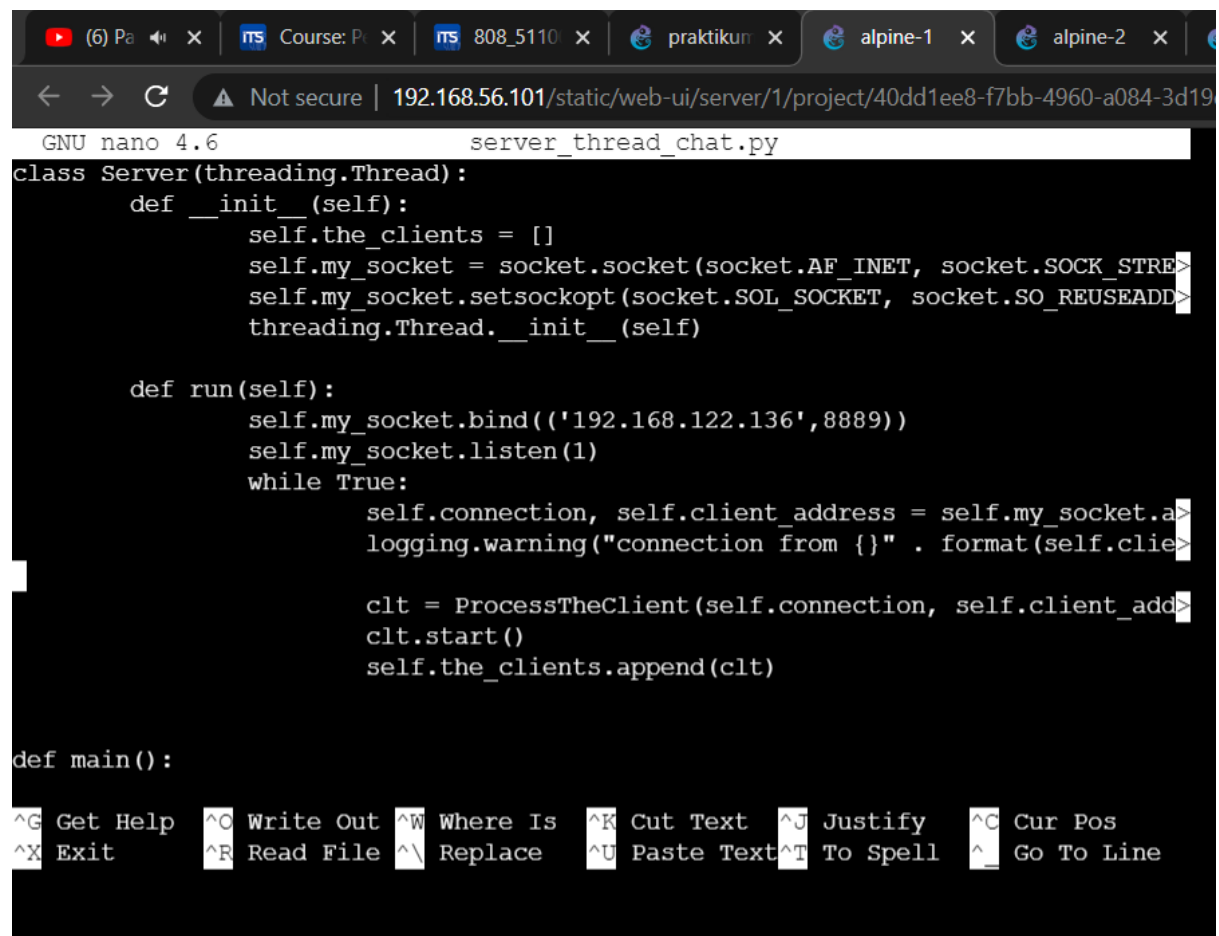
```
/work/Progjar-D/progjar4c # ifconfig
eth0      Link encap:Ethernet  HWaddr 0E:E3:32:25:83:B4
          inet addr:192.168.122.136  Bcast:192.168.122.255  Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1290 errors:0 dropped:0 overruns:0 frame:0
          TX packets:592 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:1315514 (1.2 MiB)  TX bytes:36548 (35.6 KiB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING  MTU:65536  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

/work/Progjar-D/progjar4c #
```

Ipnya adalah : 192.168.122.136

3. Ganti IP script server



GNU nano 4.6 server_thread_chat.py

```
class Server(threading.Thread):
    def __init__(self):
        self.the_clients = []
        self.my_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        self.my_socket.setsockopt(socket.SOL_SOCKET, socket.SO_REUSEADDR, 1)
        threading.Thread.__init__(self)

    def run(self):
        self.my_socket.bind(('192.168.122.136', 8889))
        self.my_socket.listen(1)
        while True:
            self.connection, self.client_address = self.my_socket.accept()
            logging.warning("connection from {}".format(self.client_address))

            clt = ProcessTheClient(self.connection, self.client_address)
            clt.start()
            self.the_clients.append(clt)

def main():
```

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line

4. Ganti ip alphine-2

(6) Pa x

Course: P x

808_5110 x

praktikum x

alpine-1 x

alpine-2 x

Not secure | 192.168.56.101/static/web-ui/server/1/project/40dd1ee8-f7bb-4960-a084-3d1

GNU nano 4.6chat-cli.pyModified

```
import socket
import os
import json

TARGET_IP = "192.168.122.136"
TARGET_PORT = 8889

class ChatClient:
    def __init__(self):
        self.sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        self.server_address = (TARGET_IP, TARGET_PORT)
        self.sock.connect(self.server_address)
        self.tokenid=""
    def proses(self, cmdline):
        j=cmdline.split(" ")
        try:
            command=j[0].strip()
            if (command=='auth'):
                username=j[1].strip()
```

^G Get Help

^X Exit

^O Write Out

^R Read File

^W Where Is

^_ Replace

^K Cut Text

^U Paste Text

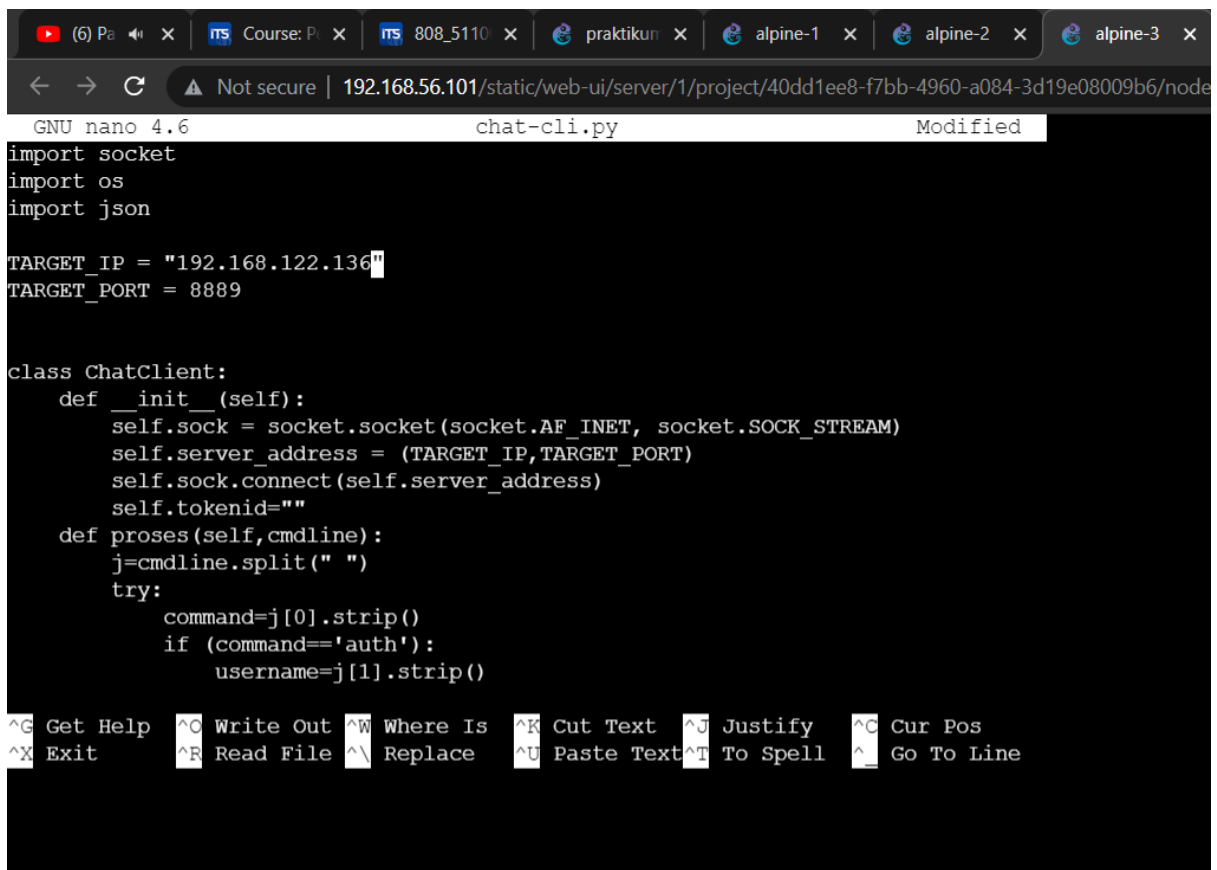
^J Justify

^T To Spell

^C Cur Pos

^_ Go To Line

5. Ganti ip alpine 3



```
GNU nano 4.6 chat-cli.py Modified
import socket
import os
import json

TARGET_IP = "192.168.122.136"
TARGET_PORT = 8889

class ChatClient:
    def __init__(self):
        self.sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
        self.server_address = (TARGET_IP, TARGET_PORT)
        self.sock.connect(self.server_address)
        self.tokenid=""
    def proses(self,cmdline):
        j=cmdline.split(" ")
        try:
            command=j[0].strip()
            if (command=='auth'):
                username=j[1].strip()
```

^G Get Help ^C Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Paste Text ^T To Spell ^_ Go To Line

6. Jalankan server dan client

```
(6) Pa x | Course: P x | 808_5110 x | praktikum x | alpine-1 x
Not secure | 192.168.56.101/static/web-ui/server/1/project/40dd1ee8-f
RX bytes:1304750 (1.2 MiB) TX bytes:36548 (35.6 KiB)

lo    Link encap:Local Loopback
      inet addr:127.0.0.1  Mask:255.0.0.0
      inet6 addr: ::1/128 Scope:Host
      UP LOOPBACK RUNNING  MTU:65536  Metric:1
      RX packets:0 errors:0 dropped:0 overruns:0 frame:0
      TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

/work/Progjar-D/progjar4a # cd ..
/work/Progjar-D # cd progjar4c
/work/Progjar-D/progjar4c # ls
chat-cli.py          chat.py              server_thread_chat.py
/work/Progjar-D/progjar4c # ifconfig
eth0    Link encap:Ethernet  HWaddr 0E:E3:32:25:83:B4
      inet addr:192.168.122.136  Bcast:192.168.122.255  Mask:255.255.255.0
      UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
      RX packets:1290 errors:0 dropped:0 overruns:0 frame:0
      TX packets:592 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:1315514 (1.2 MiB)  TX bytes:36548 (35.6 KiB)

lo    Link encap:Local Loopback
      inet addr:127.0.0.1  Mask:255.0.0.0
      inet6 addr: ::1/128 Scope:Host
      UP LOOPBACK RUNNING  MTU:65536  Metric:1
      RX packets:0 errors:0 dropped:0 overruns:0 frame:0
      TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
      collisions:0 txqueuelen:1000
      RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

/work/Progjar-D/progjar4c # ls
chat-cli.py          chat.py              server_thread_chat.py
/work/Progjar-D/progjar4c # nano server_thread_chat.py
/work/Progjar-D/progjar4c # nano server_thread_chat.py
/work/Progjar-D/progjar4c # python3 server_thread_chat.py
WARNING:root:connection from ('192.168.122.67', 46604)
WARNING:root:connection from ('192.168.122.162', 55388)
```

7. Untuk melakukan auth dapat dilakukan dengan memasukan command :
- auth (username) (password)**

Username dan password dapat dilihat pada script chat.py

```
1 import sys
2 import os
3 import json
4 import uuid
5 import logging
6 from queue import Queue
7
8 class Chat:
9     def __init__(self):
10         self.sessions={}
11         self.users = {}
12         self.users['messi']={ 'nama': 'Lionel Messi', 'negara': 'Argentina', 'password': 'surabaya', 'incoming' : {}, 'outgoing': {}}
13         self.users['henderson']={ 'nama': 'Jordan Henderson', 'negara': 'Inggris', 'password': 'surabaya', 'incoming': {}, 'outgoing': {}}
14         self.users['lineker']={ 'nama': 'Gary Lineker', 'negara': 'Inggris', 'password': 'surabaya','incoming': {}, 'outgoing':{}}
15     def proses(self,data):
16         j=data.split(" ")
17         try:
18             command=j[0].strip()
19             if command == 'login':
```

8. Jalankan auth pada client

```
(6) Pa x | ITS Course: P x | ITS 808_5110 x | praktikun x | alpine-1 x | alpine-2 x
← → ↻ ⚠ Not secure | 192.168.56.101/static/web-ui/server/1/project/40dd1ee8-f7bb-4960-a084-3d1
alpine-2 console is now available... Press RETURN to get started.
udhcpd (v1.24.2) started
Sending discover...
Sending discover...
Sending discover...
Sending discover...
Sending discover...
udhcpd failed to get a DHCP lease
No lease, forking to background
ok
/ # mkdir work
/ # cd work
/work # git clone https://github.com/rimasirfansyah11/Progjar-D.git
Cloning into 'Progjar-D'...
remote: Enumerating objects: 350, done.
remote: Total 350 (delta 0), reused 0 (delta 0), pack-reused 350
Receiving objects: 100% (350/350), 1.15 MiB | 1.31 MiB/s, done.
Resolving deltas: 100% (174/174), done.
/work # cd Progjar-D/
/work/Progjar-D # cd progjar4a
/work/Progjar-D/progjar4a # ls
PROTOKOL.txt      file_protocol.py  tugas4
file_client_cli.py file_server.py
file_interface.py files
/work/Progjar-D/progjar4a # cd ..
/work/Progjar-D # cd progjar4c
/work/Progjar-D/progjar4c # ls
chat-cli.py      chat.py          server_thread_chat.py
/work/Progjar-D/progjar4c # nano chat-cli.py
/work/Progjar-D/progjar4c # python3 chat-cli.py
Command :auth messi surabaya
diterima dari server b'{"status": "OK", "tokenid": "557cab30-2151-4801-a0b9-0638a72a8b8d"}\n\r\n\r\n'
diterima dari server b'd")\n\r\n\r\n'
end of string
username messi logged in, token 557cab30-2151-4801-a0b9-0638a72a8b8d
Command 557cab30-2151-4801-a0b9-0638a72a8b8d:
```

```
(6) Pa x ms Course: P x ms 808_5110 x praktikun x alpine-1 x alpine-2 x alpine-3 x
192.168.56.101/static/web-ui/server/1/project/40dd1ee8-f7bb-4960-a084-3d19e08009b6/nodes
Sending discover...
Sending discover...
Sending discover...
Sending select for 192.168.122.162...
Sending select for 192.168.122.162...
Sending select for 192.168.122.162...
Sending select for 192.168.122.162...
Sending select for 192.168.122.162...
udhcpd failed to get a DHCP lease
No lease, forking to background
ok
/ # mkdir work
/ # ls work
/ # cd work
/work # git clone https://github.com/rimasirfansyah11/Progjar-D.git
Cloning into 'Progjar-D'...
remote: Enumerating objects: 350, done.
remote: Total 350 (delta 0), reused 0 (delta 0), pack-reused 350
Receiving objects: 100% (350/350), 1.15 MiB | 4.54 MiB/s, done.
Resolving deltas: 100% (179/179), done.
/work # cd Progjar-D/
/work/Progjar-D # cd progjar4a
/work/Progjar-D/progjar4a # ls
PROTOKOL.txt      file_protocol.py  tugas4
file_client_cli.py file_server.py
file_interface.py files
/work/Progjar-D/progjar4a # cd ..
/work/Progjar-D # progjar4c
/bin/sh: progjar4c: not found
/work/Progjar-D # cd progjar4c
/work/Progjar-D/progjar4c # nano chat-cli.py
/work/Progjar-D/progjar4c # python3 chat-cli.py
Command :auth henderson surabaya
diterima dari server b'{"status": "OK", "tokenid": "4bdb17e5-e8cf-4e20-a681-f5628fe8364"}'
diterima dari server b'b"}\r\n\r\n'
end of string
username henderson logged in, token 4bdb17e5-e8cf-4e20-a681-f5628fe8364b
Command 4bdb17e5-e8cf-4e20-a681-f5628fe8364b:
```

9. Untuk mengirim pesan dapat menggunakan command:

Send (username tujuan) (pesan)

Messi kirim pesan


```
(6) Pa x | ms Course: P x | ms 808_5110 x | praktikum x | alpine-1 x | alpine-2 x | alpine-3 x
192.168.56.101/static/web-ui/server/1/project/40dd1ee8-f7bb-4960-a084-3d19e08009b6/
Sending discover...
Sending discover...
Sending discover...
Sending discover...
udhcpd failed to get a DHCP lease
No lease, forking to background
ok
/ # mkdir work
/ # cd work
/work # git clone https://github.com/rimasirfansyah11/Progjar-D.git
Cloning into 'Progjar-D'...
remote: Enumerating objects: 350, done.
remote: Total 350 (delta 0), reused 0 (delta 0), pack-reused 350
Receiving objects: 100% (350/350), 1.15 MiB | 1.31 MiB/s, done.
Resolving deltas: 100% (174/174), done.
/work # cd Progjar-D/
/work/Progjar-D # cd progjar4a
/work/Progjar-D/progjar4a # ls
PROTOKOL.txt      file_protocol.py  tugas4
file_client_cli.py file_server.py
file_interface.py files
/work/Progjar-D/progjar4a # cd ..
/work/Progjar-D # cd progjar4c
/work/Progjar-D/progjar4c # ls
chat-cli.py      chat.py          server_thread_chat.py
/work/Progjar-D/progjar4c # nano chat-cli.py
/work/Progjar-D/progjar4c # python3 chat-cli.py
Command :auth messi surabaya
diterima dari server b'{"status": "OK", "tokenid": "557cab30-2151-4801-a0b9-0638a72a8b8d"}\r\n\r\n'
diterima dari server b'd"}\r\n\r\n'
end of string
username messi logged in, token 557cab30-2151-4801-a0b9-0638a72a8b8d
Command 557cab30-2151-4801-a0b9-0638a72a8b8d:send henderson halo ini dari messi
send 557cab30-2151-4801-a0b9-0638a72a8b8d henderson halo ini dari messi
diterima dari server b'{"status": "OK", "message": "Message Sent"}\r\n\r\n'
end of string
message sent to henderson
Command 557cab30-2151-4801-a0b9-0638a72a8b8d:
```

10. Untuk menerima pesan dapat menggunakan command:

inbox

Henderson menerima

```
(6) Pa x ns Course: P x ns 808_5110 x praktikum x alpine-1 x alpine-2 x alpine-3 x New Tab x
Not secure | 192.168.56.101/static/web-ui/server/1/project/40dd1ee8-f7bb-4960-a084-3d19e08009b6/nodes/61add0a1-49a6-4b13-b
No lease, forking to background
ok
/ # mkdir work
/ # ls work
/ # cd work
/work # git clone https://github.com/rimasirfansyah11/Progjar-D.git
Cloning into 'Progjar-D'...
remote: Enumerating objects: 350, done.
remote: Total 350 (delta 0), reused 0 (delta 0), pack-reused 350
Receiving objects: 100% (350/350), 1.15 MiB | 4.54 MiB/s, done.
Resolving deltas: 100% (179/179), done.
/work # cd Progjar-D/
/work/Progjar-D # cd progjar4a
/work/Progjar-D/progjar4a # ls
PROTOKOL.txt      file_protocol.py    tugas4
file_client_cli.py file_server.py
file_interface.py  files
/work/Progjar-D/progjar4a # cd ..
/work/Progjar-D # progjar4c
/bin/sh: progjar4c: not found
/work/Progjar-D # cd progjar4c
/work/Progjar-D/progjar4c # nano chat-cli.py
/work/Progjar-D/progjar4c # python3 chat-cli.py
Command :auth henderson surabaya
diterima dari server b'{"status": "OK", "tokenid": "4bdb17e5-e8cf-4e20-a681-f5628fe8364"'
diterima dari server b'b"}\r\n\r\n'
end of string
username henderson logged in, token 4bdb17e5-e8cf-4e20-a681-f5628fe8364b
Command 4bdb17e5-e8cf-4e20-a681-f5628fe8364b:send messi hallo
send 4bdb17e5-e8cf-4e20-a681-f5628fe8364b messi hallo
diterima dari server b'{"status": "OK", "message": "Message Sent"}\r\n\r\n'
end of string
message sent to messi
Command 4bdb17e5-e8cf-4e20-a681-f5628fe8364b:inbox
diterima dari server b'{"status": "OK", "messages": {"messi": [{"msg_from": "Lionel Mes'
diterima dari server b'si", "msg_to": "Jordan Henderson", "msg": " halo ini dari messi'
diterima dari server b' \\r\\n"}]]}\r\n\r\n'
end of string
{"messi": [{"msg_from": "Lionel Messi", "msg_to": "Jordan Henderson", "msg": " halo ini dari messi \r\n"}]}
Command 4bdb17e5-e8cf-4e20-a681-f5628fe8364b:
```