Pemrograman Jaringan A

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https://github.com/napurnama/Progjar-23

Tugas 2

1. Buatlah sebuah program time server dengan ketentuan sebagai berikut
   a) Membuka port di port 45000 dengan transport TCP **(server.py)**

```
def main():
        svr = Server('localhost', 45000)
        svr.start()

class Server():
        def __init__(self, ip, port):
                self.ip = ip
                self.port = port

        def run(self):
                self.my_socket.bind((self.ip, self.port))
```

   b) Server harus dapat melayani request yang concurrent, gunakan contoh multithreading **(server.py)**

```
class ProcessTheClient(threading.Thread):
  def __init__(self, connection, address):
    self.connection = connection
    self.address = address
    threading.Thread.__init__(self)

  def run(self):
    res=""
    logging.warning("THIS IS THE RUN!")
    while True:
      try:
        data = self.connection.recv(32)
        if data:
          data = data.decode()
          if data[-2:] == '\r\n':
          now = datetime.datetime.now()
          now = now.time().strftime('%H:%M:%S\r\n')
          res = "JAM " + now
          self.connection.sendall(res.encode())
          res = ""
        else:
```

```
            res = "ERR 404: {}".format(data)
            self.connection.sendall(res.encode())
            break
        self.connection.close()

    except OSError as e:
        pass
self.connection.close()
```

c) Request hanya dilayani dengan ketentuan

i. Diawali dengan string “TIME dan diakhiri dengan karakter 13 dan karakter 10” **(client.py)**

```
# Create a TCP/IP socket
    addr_fam = socket.AF_INET
    stream = socket.SOCK_STREAM
    sock = socket.socket(addr_fam, stream)

    server_address = ('localhost', 45000)
    logging.info(f"connecting to {server_address}")
    sock.connect(server_address)

    message = 'TIME\r\n'
    logging.info(f"sending {message}")
    sock.sendall(message.encode())
```

d) Server akan merespon dengan jam dengan ketentuan

i. Dalam bentuk string (UTF-8)

```
    self.connection.sendall(res.encode())
```

ii. Diawali dengan “JAM<spasi><jam>”

```
    res = "JAM " + now + '\r\n'
```

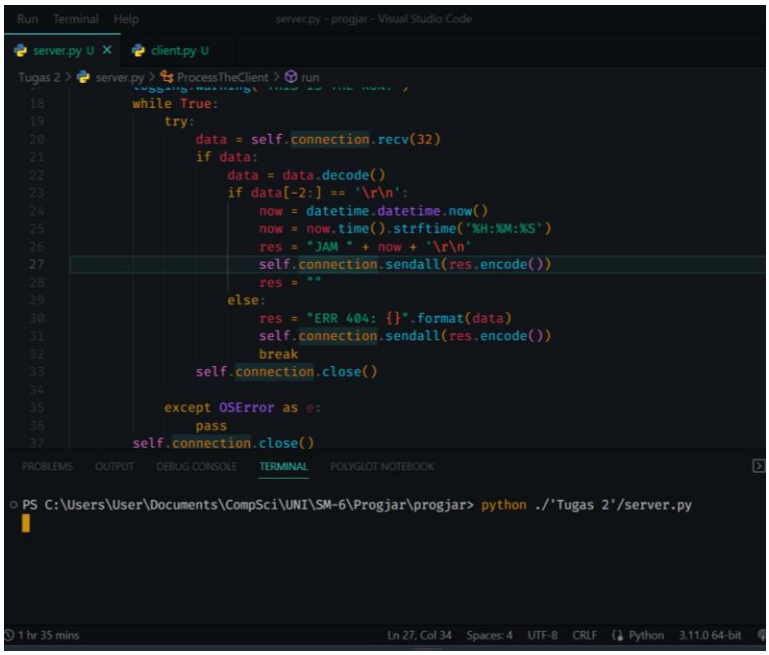
iii. <jam> berisikan info jam dalam format “hh:mm:ss” dan diakhiri dengan karakter 13 dan karakter 10

```
    now = datetime.datetime.now()
    now = time().strftime('%H:%M:%S')
```

2. Jalankan di lab environment

a) Capturelah hasil eksekusi program server anda

1. Jalankan Server



2. Request Valid

```
# Send data
message = 'TIME\r\n'
logging.info(f"sending {message}")
sock.sendall(message.encode())
```

3. Jalankan Client

```
C:\Users\User\Documents\CompSci\UNI\SM-6\Progjar
\progjar\Tugas 2>python client.py
INFO:root:connecting to ('localhost', 45000)
INFO:root:sending TIME

INFO:root:JAM 07:49:21

INFO:root:closing
```

4. Request Invalid

```
message = "AKSDMAIWJKENDALKJWN"
logging.info(f"sending {message}")
sock.sendall(message.encode())
```

5. Jalankan Client

```
C:\Users\User\Documents\CompSci\UNI\SM-6\Progjar
\progjar\Tugas 2>python client.py
INFO:root:connecting to ('localhost', 45000)
INFO:root:sending AKSDMAIWJKENDALKJWN
INFO:root:closing
```