

Tugas Multithreaded Server dan Protokol



OLEH :

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PEMROGRAMAN JARINGAN - E

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S1 TEKNIK INFORMATIKA

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2020

Soal Tugas Multithreaded Server dan Protokol:

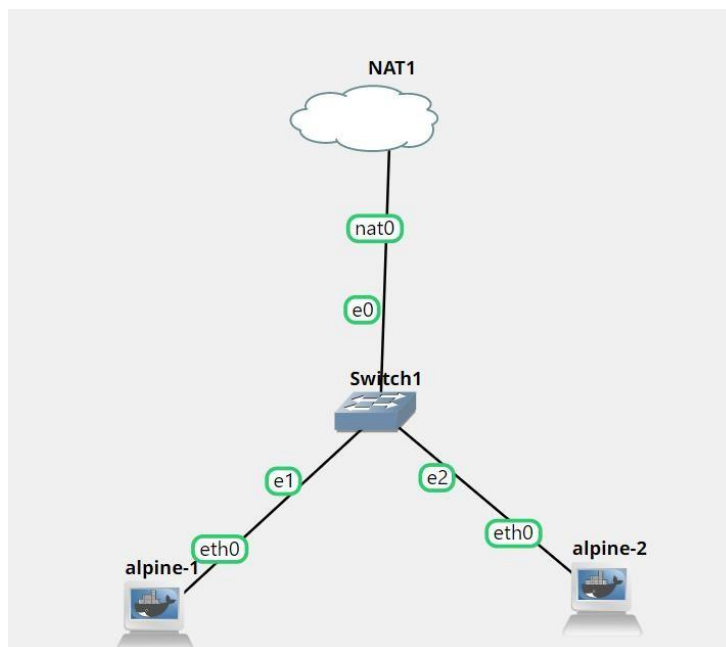
semua tugas berikut ini HARUS dijalankan di SIMULATO

1. jalankan program server seperti dalam pembahasan
2. buatlah program client yang dapat melakukan 100 request get pada dalam satu saat untuk operasi get file "pokijan.jpg"
3. capture dan submitlah poin 1 dan 2 dalam satu dokumen pdf. berikan DESKRIPSI dan PENJELASAN

Jawaban Multithreaded Server dan Protokol:

Pada pengerjaan tugas Multithreaded Server dan Protokol, Alpine 1 menjadi Server dan Alpine 2 menjadi Client

- Project GNS



1. Jalankan program server seperti dalam pembahasan

- Untuk menjalankan file_server.py dan file_client_cli.py ganti IP address 0.0.0.0 menjadi IP address Alpine 1
- Jalankan file_server.py


```
/Tugas-3-Progjar/progjar4a # ls
PROTOKOL.txt          file_client_cli.py    file_protocol.py      files
donalbebek.jpg        file_interface.py     file_server.py
/Tugas-3-Progjar/progjar4a # |
```

2. *Buatlah program client yang dapat melakukan 100 request get pada dalam satu saat untuk operasi get file "pokijan.jpg"*

- Buatlah file dengan nama multi_process.py lalu masukan source code berikut :

```
multi_process.py X file_server.py file_client_cli.py
multi_process.py > ...
1 from file_client_cli import remote_get
2 import time
3 import datetime
4 from multiprocessing import Process
5
6 def download_semua():
7     texec = dict()
8     catat_awal = datetime.datetime.now()
9     namafile = 'pokijan.jpg'
10    for k in range(100):
11        print(f"mendownload GET {[k]}")
12        waktu = time.time()
13        #bagian ini merupakan bagian yang menginstruksikan eksekusi fungsi download gambar secara multiprocess
14        texec[k] = Process(target=remote_get, args=(namafile,))
15        texec[k].start()
16        #setelah menyelesaikan tugasnya, dikembalikan ke main process dengan join
17    for k in range(100):
18        texec[k].join()
19    catat_akhir = datetime.datetime.now()
20    selesai = catat_akhir - catat_awal
21    print(f"Waktu TOTAL yang dibutuhkan {selesai} detik {catat_awal} s/d {catat_akhir}")
22
23 #fungsi download_gambar akan dijalankan secara multi process
24 if __name__ == '__main__':
25     download_semua()
```

Program akan melakukan request get sebanyak 100 kali.

- Setelah membuat program multi_process.py, jalankan file_server.py terlebih dahulu
- Lalu jalankan file multi_process.py, dan hasilnya

```
nodz@LAPTOP-CQ3F1G35:/mr X nodz@LAPTOP-CQ3F1G35:/mr X + v
/Tugas-3-Progjar/progjar4a # nano file_client_cli.py
/Tugas-3-Progjar/progjar4a # nano file_client_cli.py
/Tugas-3-Progjar/progjar4a # python3 multi_process.py
mendownload GET [0]
mendownload GET [1]
mendownload GET [2]
mendownload GET [3]
mendownload GET [4]
mendownload GET [5]
mendownload GET [6]
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
mendownload GET [7]
mendownload GET [8]
mendownload GET [9]
mendownload GET [10]
mendownload GET [11]
mendownload GET [12]
WARNING:root:data received from server:
mendownload GET [13]
WARNING:root:data received from server:
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:data received from server:
```

```
nodz@LAPTOP-CQ3F1G35: /mr x nodz@LAPTOP-CQ3F1G35: /mr x + v
WARNING:root:data received from server:
mendownload GET [96]
WARNING:root:data received from server:
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:data received from server:
WARNING:root:data received from server:
mendownload GET [97]
mendownload GET [98]
mendownload GET [99]
WARNING:root:data received from server:
WARNING:root:data received from server:
WARNING:root:data received from server:
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:data received from server:
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:connecting to ('192.168.122.200', 6666)
WARNING:root:sending message
WARNING:root:data received from server:
WARNING:root:data received from server:
WARNING:root:data received from server:
WARNING:root:data received from server:
Waktu TOTAL yang dibutuhkan 0:00:02.676949 detik 2021-06-06 11:52:30.535265 s/d 2021-06-06 11:52:33.212214
/Tugas-3-Progjar/progjar4a # |
```

Program akan melakukan get mulai dari 1- 100 kali

- Dan server akan mendapatkan

```
nodz@LAPTOP-CQ3F1G35: /mr x nodz@LAPTOP-CQ3F1G35: /mr x + v
/Tugas-3-Progjar/progjar4a # python3 file_server.py
WARNING:root:server berjalan di ip address ('192.168.122.200', 6666)
WARNING:root:connection from ('192.168.122.144', 55520)
WARNING:root:connection from ('192.168.122.144', 55522)
WARNING:root:connection from ('192.168.122.144', 55524)
WARNING:root:connection from ('192.168.122.144', 55526)
WARNING:root:connection from ('192.168.122.144', 55528)
WARNING:root:connection from ('192.168.122.144', 55530)
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:connection from ('192.168.122.144', 55532)
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:connection from ('192.168.122.144', 55534)
WARNING:root:connection from ('192.168.122.144', 55536)
WARNING:root:connection from ('192.168.122.144', 55538)
WARNING:root:connection from ('192.168.122.144', 55540)
WARNING:root:connection from ('192.168.122.144', 55542)
WARNING:root:connection from ('192.168.122.144', 55544)
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
```

```
nodz@LAPTOP-CQ3F1G35: /mr x nodz@LAPTOP-CQ3F1G35: /mr x + v
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:connection from ('192.168.122.144', 55708)
WARNING:root:connection from ('192.168.122.144', 55710)
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:connection from ('192.168.122.144', 55712)
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:connection from ('192.168.122.144', 55714)
WARNING:root:connection from ('192.168.122.144', 55716)
WARNING:root:connection from ('192.168.122.144', 55718)
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
WARNING:root:string diproses: GET pokijan.jpg
WARNING:root:memproses request: GET
```