Laporan Tugas 10



Pemrograman Jaringan B

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**Surabaya**

**2020**

1. **List Tugas 10**
   1. Pull update terbaru progjar 6
   2. Jalankan async\_server.py pada port 9002, 9003, 9004, 9005 (lihat pada BackendList)
   3. Jalankan file lb.py, jalankan di port 44444
   4. Jalankan browser, akseslah <http://localhost:44444/page.html>
   5. Lihatlah di log program, bahwa setiap request akan dilayani oleh backend yang bergantian
   6. Lakukan performance test seperti pada tugas 9, bandingkan penggunaan load balancer dengan async\_server dengan server\_thread\_http pada folder progjar5
   7. Buatlah tabel hasilnya

Tampilan pada page <http://localhost:44444/page.html>  
**A screenshot of a social media post

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Kedua foto tidak berhasil diload oleh server.

Dan di bawah ini dapat dilihat bahwa setiap request akan dilayani oleh backend yang bergantian  
  
A screen shot of a computer

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1. **Parameter Test**Jumlah Request : 1000  
   Konkurensi : 1, 5, 10, 25, 50, 75, 100
2. **Hasil Performance Test**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Concurrency Level** | **Time Taken For Rest (seconds)** | **Complete Request** | **Failed Request** | **Total Transferred** | **Request per second (#/sec)** | **Time per request (ms)** | **Transfer Rate** |
| 1 | 1 | 1.350 | 1000 | 0 | 122000 | 736.47 | 1.358 | 87.74 |
| 2 | 5 | 1.433 | 1000 | 0 | 122000 | 697.81 | 1.433 | 83.14 |
| 3 | 10 | 1.410 | 1000 | 0 | 122000 | 709.36 | 1.410 | 84.51 |
| 4 | 25 | 1.860 | 1000 | 0 | 122000 | 537.67 | 1.860 | 64.06 |
| 5 | 50 | 7.817 | 1000 | 0 | 122000 | 127.93 | 7.817 | 15.24 |
| 6 | 75 | 55.102 | 1000 | 0 | 122000 | 18.15 | 55.102 | 1.16 |

* 1. Server Async dengan Load Balancer
  2. Server Thread

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Concurrency Level** | **Time Taken For Rest (seconds)** | **Complete Request** | **Failed Request** | **Total Transferred** | **Request per second (#/sec)** | **Time per request (ms)** | **Transfer Rate** |
| 1 | 1 | 684.702 | 1000 | 0 | 122000 | 1.46 | 684.702 | 0.17 |
| 2 | 5 | 188.797 | 1000 | 0 | 122000 | 5.30 | 188.797 | 0.63 |
| 3 | 10 | 194.726 | 1000 | 0 | 122000 | 5.14 | 194.726 | 0.61 |
| 4 | 25 | 200.788 | 1000 | 0 | 122000 | 4.98 | 200.788 | 0.59 |
| 5 | 50 | 186.588 | 1000 | 0 | 122000 | 5.36 | 186.588 | 0.64 |
| 6 | 75 | 209.421 | 1000 | 0 | 122000 | 4.78 | 209.421 | 0.57 |

1. **Kesimpulan** Dari hasil performance test diatas, menunjukkan bahwa server async memiliki waktu running yg lebih cepat daripada server thread. Lalu, dengan bantuan load balancer, server async memiliki proses yg jauh lebih baik / cepat dibandingkan server thread.

1. **Dokumentasi**
   1. Async Server
      * Concurrency 1  
        **A screenshot of a computer screen

        Description automatically generated**
      * Concurrency 5  
        **A screenshot of a computer screen

        Description automatically generated**
      * Concurrency 10  
        **A screenshot of a computer screen

        Description automatically generated**
      * Concurrency 25  
        **A screenshot of a computer screen

        Description automatically generated**
      * Concurrency 50  
        **A screenshot of a computer screen

        Description automatically generated**
      * Concurrency 75  
        **A screenshot of a computer screen

        Description automatically generated**
   2. **Thread Server**
      * + Concurrency 1  
          A screenshot of a computer screen

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        + Concurrency 5  
          A screenshot of a computer screen

          Description automatically generated
        + Concurrency 10  
          A screenshot of a computer screen

          Description automatically generated
        + Concurrency 25  
          **A screenshot of a computer screen

          Description automatically generated**
        + Concurrency 50  
          **A screenshot of a computer screen

          Description automatically generated**
      * Concurrency 75  
        **A screenshot of a computer screen

        Description automatically generated**