

LAPORAN PRAKTIKUM

2021 CLOUD COMPUTING

Install dan Konfigurasi Web
dengan Nginx

D3 Teknik Informatika

Disusun Oleh :

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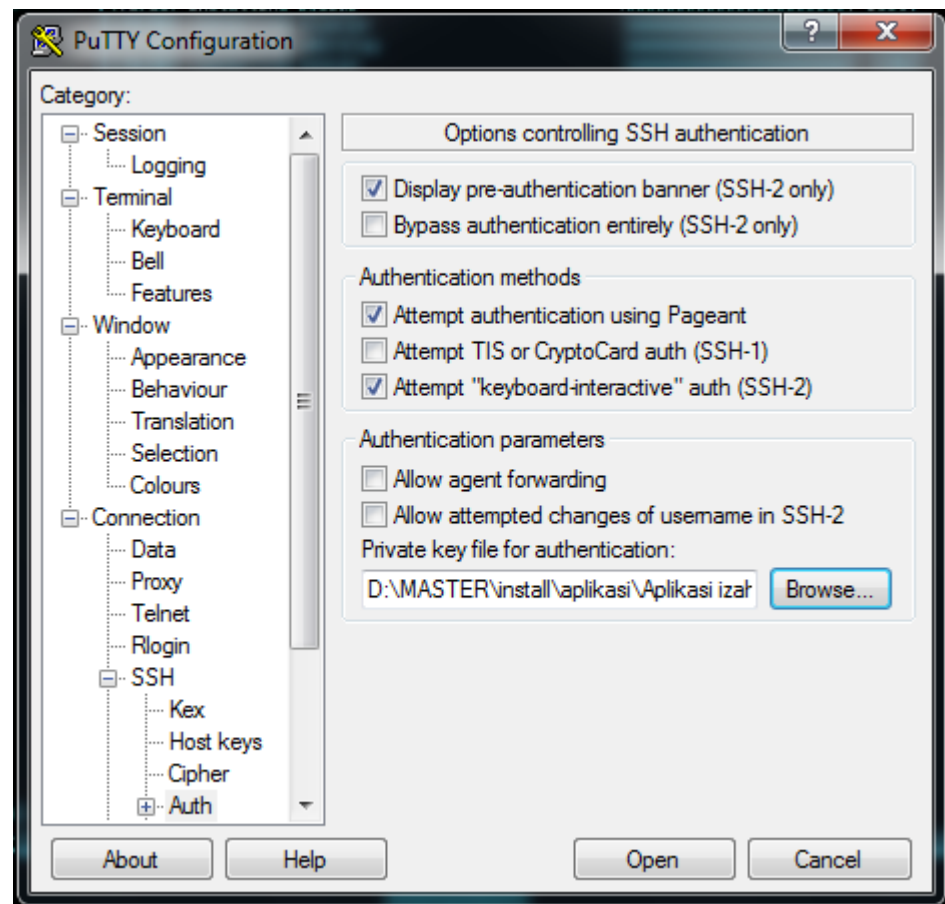
TI-B

Universitas Sebelas Maret

Surakarta

A. LANGKAH – LANGKAH

1. Login dengan menggunakan PuTTY
 - Isikan dengan IP Public Balancer
 - Pergi ke SSH – Auth
 - Browse private key dari elastic tersebut
 - Klik open



2. Install Nginx pada Balancer
 - Ketik sudo apt-get update

```

Get:30 http://security.ubuntu.com/ubuntu focal-security/main Translation-
kB]
Get:31 http://security.ubuntu.com/ubuntu focal-security/main amd64 c-n-f
a [7464 B]
Get:32 http://security.ubuntu.com/ubuntu focal-security/restricted amd64
s [183 kB]
Get:33 http://security.ubuntu.com/ubuntu focal-security/restricted Transl
n [27.0 kB]
Get:34 http://security.ubuntu.com/ubuntu focal-security/restricted amd64
etadata [396 B]
Get:35 http://security.ubuntu.com/ubuntu focal-security/universe amd64 Pa
[552 kB]
Get:36 http://security.ubuntu.com/ubuntu focal-security/universe Translat
[82.8 kB]
Get:37 http://security.ubuntu.com/ubuntu focal-security/universe amd64 c-
adata [10.8 kB]
Get:38 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64
s [14.8 kB]
Get:39 http://security.ubuntu.com/ubuntu focal-security/multiverse Transl
n [3160 B]
Get:40 http://security.ubuntu.com/ubuntu focal-security/multiverse amd64
etadata [340 B]
Fetched 18.6 MB in 3s (5809 kB/s)

```

- Ketik `sudo apt-get install nginx`. Kemudian “y”

```

Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg0
  libjpeg-turbo8 libjpeg8 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream lib
  libwebp6 libxpm4 nginx-common nginx-core
Suggested packages:
  libgd-tools fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core libfontconfig1 libgd3 libjpeg0
  libjpeg-turbo8 libjpeg8 libnginx-mod-http-image-filter
  libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream lib
  libwebp6 libxpm4 nginx nginx-common nginx-core
0 upgraded, 17 newly installed, 0 to remove and 62 not upgraded.
Need to get 2431 kB of archives.
After this operation, 7891 kB of additional disk space will be used.
Do you want to continue? [Y/n] y

```

3. Membuat File Pada `/etc/nginx/conf.d/loadbalancer.conf`

- Tulis vi `/etc/nginx/conf.d/loadbalancer.conf`

Konfigurasinya :

```

upstream backend {
    server 10.30.0.96;
    server 10.30.0.194;
}

server {
    listen 80 default_server;
    listen [::]:80 default_server;
    server_name ditya.lan;

    location / {
        proxy_redirect off;
        proxy_set_header X-Real-IP $remote_addr;
        proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
        proxy_set_header Host $http_host;
        proxy_pass http://backend;
    }
}

```

4. Edit konfigurasi /etc/nginx/sites-enabled/default

- Ketik vi /etc/nginx/sites-enabled/default

```

##
# You should look at the following URL's in order to grasp a solid understanding
# of Nginx configuration files in order to fully unleash the power of Nginx.
# https://www.nginx.com/resources/wiki/start/
# https://www.nginx.com/resources/wiki/start/topics/tutorials/config_pitfalls/
# https://wiki.debian.org/Nginx/DirectoryStructure
#
# In most cases, administrators will remove this file from sites-enabled/ and
# leave it as reference inside of sites-available where it will continue to be
# updated by the nginx packaging team.
#
# This file will automatically load configuration files provided by other
# applications, such as Drupal or Wordpress. These applications will be made
# available underneath a path with that package name, such as /drupal8.
#
# Please see /usr/share/doc/nginx-doc/examples/ for more detailed examples.
##

# Default server configuration
#
server {
    listen 80 default_server;
    listen [::]:80 default_server;

    # SSL configuration

```

[Read 91 lines]

^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

5. Start, restart dan lihat status dari Nginx

- systemctl restart nginx
- systemctl status nginx

Hasil :

```

● nginx.service - A high performance web server and a reverse proxy serv
   Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor
   Active: active (running) since Thu 2021-04-22 02:42:00 UTC; 6min ag
     Docs: man:nginx(8)
    Main PID: 2184 (nginx)
      Tasks: 2 (limit: 1160)
     Memory: 5.3M
    CGroup: /system.slice/nginx.service
            └─2184 nginx: master process /usr/sbin/nginx -g daemon on;
              └─2185 nginx: worker process

Apr 22 02:42:00 ip-10-195-0-96 systemd[1]: Starting A high performance w
Apr 22 02:42:00 ip-10-195-0-96 systemd[1]: Started A high performance we
Hint: Some lines were ellipsized, use -l to show in full.

```

B. KESIMPULAN

Dalam melakukan balancer hal yang diperhatikan adalah menyamakan server yang akan dibalancerkan agar tercipta sinkronasi. Selain itu dengan fungsi load balance beban traffic dari semua client dapat didistribusikan secara seimbang ke dua jalur koneksi yang berbeda.

Dengan mengelompokkan alamat-alamat ip yang akan menggunakan jalur koneksi pertama dan yang akan menggunakan jalur koneksi kedua maka dengan demikian beban traffic dapat didistribusikan ke dua jalur koneksi secara seimbang agar traffic dapat berjalan optimal dan overload pada salah satu jalur koneksi dapat dihindari.

Penggunaan teknik load balance ini akan lebih terlihat jika memiliki dua jalur koneksi dengan kapasitas bandwidth yang berbeda. Jalur koneksi yang memiliki kapasitas bandwidth yang lebih besar dapat diatur untuk menangani grup client yang lebih banyak dan jalur yang memiliki kapasitas bandwidth lebih kecil dapat digunakan untuk menangani grup client yang lebih sedikit.