Cara Menginstall dan Mengaktifkan Nginx Dalam Ubuntu Server

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- Sebelum menginstall, update sistem ubuntu server terlebih dahulu.

```
root@ubuntu:/home/ubuntu# sudo apt update
Hit:1 http://archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1,103 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [16.0 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [995 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.0 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy-security/main amd64 Packages [896 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [11.4 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [793 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
Fetched 4,191 kB in 6s (713 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
35 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ubuntu:/home/ubuntu#
```

- Pastikan telah menginstall net-tools melalui "sudo apt install net-tools"

```
root@ubuntu:/home/ubuntu# apt install net-tools
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
net-tools is already the newest version (1.60+git20181103.0eebece-1ubuntu5).
0 upgraded, 0 newly installed, 0 to remove and 35 not upgraded.
root@ubuntu:/home/ubuntu# _
```

- Setelah semuanya dilakukan, lanjutkan instalasi nginx.

```
root@ubuntu:/home/ubuntu# apt install nginx
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core libdeflate0 libfontconfig1 libgd3 libjbig0 libjpeg-turbo8
  libjpeg8 libnginx-mod-http-geoip2 libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream libnginx-mod-stream-geoip2 libtiff5 libwebp7 libxpm4
  nginx-common nginx-core
Suggested packages:
  libgd-tools fcgiwrap nginx-doc
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core libdeflate0 libfontconfig1 libgd3 libjbig0 libjpeg-turbo8
  libjpeg8 libnginx-mod-http-geoip2 libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream libnginx-mod-stream-geoip2 libtiff5 libwebp7 libxpm4 nginx
  nginx-common nginx-core
0 upgraded, 20 newly installed, 0 to remove and 35 not upgraded.
Need to get 2,691 kB of archives.
After this operation, 8,339 kB of additional disk space will be used.
Do you want to continue? [Y/n] Y
```

- Periksa apakah instalasi nginx dalam ubuntu berhasil dilakukan atau tidak.

```
root@ubuntu:/home/ubuntu# nginx -v
nginx version: nginx/1.18.0 (Ubuntu)
root@ubuntu:/home/ubuntu# _
```

- Ganti direktori ke /var/www/html. Kemudian cari "index.nginx-debian.html".

```
root@ubuntu:/home/ubuntu# nginx -v
nginx version: nginx/1.18.0 (Ubuntu)
root@ubuntu:/home/ubuntu# cd /var/www/html
root@ubuntu:/var/www/html# ls -l
total 16
-rw-r--r-- 1 root root 10671 Oct 24 05:55 index.html
-rw-r--r-- 1 root root   612 Oct 25 03:45 index.nginx-debian.html
root@ubuntu:/var/www/html#
```

- Periksa IP ubuntu server. Kemudian pergi ke halaman browser html untuk melihat pesan selamat datang pada html nginx.

```
root@ubuntu:/var/www/html# hostname -I
10.8.141.33
root@ubuntu:/var/www/html#
```

← → C   ⚠ Not secure | 10.8.141.33/index.nginx-debian.html

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

- Balik ke direktori awal. Berikan akses sistem untuk nginx.

```
root@ubuntu:/home/ubuntu# systemctl enable nginx
Synchronizing state of nginx.service with SysV service script with /lib/systemd/systemd-sysv-install
.
Executing: /lib/systemd/systemd-sysv-install enable nginx
```

- Periksa status aktif pada nginx.

```
root@ubuntu:/home/ubuntu# service nginx status
× nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
     Active: failed (Result: signal) since Wed 2023-10-25 04:00:25 UTC; 1min 46s ago
       Docs: man:nginx(8)
   Main PID: 703 (code=killed, signal=KILL)
        CPU: 60ms

Oct 25 03:46:00 ubuntu systemd[1]: Starting A high performance web server and a reverse proxy serve
Oct 25 03:46:01 ubuntu systemd[1]: Started A high performance web server and a reverse proxy server.
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Main process exited, code=killed, status=9/KILL
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Killing process 704 (nginx) with signal SIGKILL.
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Killing process 705 (nginx) with signal SIGKILL.
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Killing process 704 (nginx) with signal SIGKILL.
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Killing process 705 (nginx) with signal SIGKILL.
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Failed with result 'signal'.
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Unit process 704 (nginx) remains running after un
Oct 25 04:00:25 ubuntu systemd[1]: nginx.service: Unit process 705 (nginx) remains running after un

root@ubuntu:/home/ubuntu# _
```

Terlihat bahwa nginx gagal aktif karena kendala sinyal jaringan. Hal itu wajar karena disaat bersamaan, saya juga mengaktifkan apache2.

```
root@ubuntu:/home/ubuntu# service apache2 status
● apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: active (running) since Wed 2023-10-25 04:00:37 UTC; 3min 35s ago
       Docs: https://httpd.apache.org/docs/2.4/
   Main PID: 1263 (apache2)
      Tasks: 55 (limit: 1013)
     Memory: 4.9M
        CPU: 84ms
     CGroup: /system.slice/apache2.service
             ├─1263 /usr/sbin/apache2 -k start
             ├─1264 /usr/sbin/apache2 -k start
             └─1265 /usr/sbin/apache2 -k start

Oct 25 04:00:37 ubuntu systemd[1]: Starting The Apache HTTP Server...
Oct 25 04:00:37 ubuntu apachectl[1262]: AH00558: apache2: Could not reliably determine the server's
Oct 25 04:00:37 ubuntu systemd[1]: Started The Apache HTTP Server.
```

Restart service juga tidak membantu untuk dapat mengaktifkan service nginx.

```
root@ubuntu:/home/ubuntu# service nginx restart
Job for nginx.service failed because the control process exited with error code.
See "systemctl status nginx.service" and "journalctl -xeu nginx.service" for details.
```

- Install dan aktifkan ufw.

```
root@ubuntu:/home/ubuntu# ufw enable
Firewall is active and enabled on system startup
```

- Buka port 80 agar nginx dapat berjalan.

```
root@ubuntu:/home/ubuntu# ufw allow 'Nginx HTTP'
Rule added
Rule added (v6)
```

- Periksa status ufw

```
root@ubuntu:/home/ubuntu# ufw status
Status: active

To                         Action      From
--                         ------      ----
Nginx HTTP                 ALLOW       Anywhere
Nginx HTTP (v6)            ALLOW       Anywhere (v6)
```

- Periksa jaringan yang bekerja pada port 80.

```
root@ubuntu:/home/ubuntu# netstat -tulpn
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      689/sshd: /usr/sbin
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN      624/systemd-resolve
tcp6       0      0 :::22                   :::*                    LISTEN      689/sshd: /usr/sbin
tcp6       0      0 :::80                   :::*                    LISTEN      1926/apache2
udp        0      0 127.0.0.53:53           0.0.0.0:*                           624/systemd-resolve
udp        0      0 10.8.141.33:68          0.0.0.0:*                           622/systemd-network
root@ubuntu:/home/ubuntu# _
```

- Hentikan program "apache2" dengan mengetik perintah "Kill -2 <nomor PID>"

```
root@ubuntu:/home/ubuntu# kill -2 1926
root@ubuntu:/home/ubuntu# netstat -tulpn
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign Address         State       PID/Program name
tcp        0      0 0.0.0.0:22              0.0.0.0:*               LISTEN      689/sshd: /usr/sbin
tcp        0      0 127.0.0.53:53           0.0.0.0:*               LISTEN      624/systemd-resolve
tcp6       0      0 :::22                   :::*                    LISTEN      689/sshd: /usr/sbin
udp        0      0 127.0.0.53:53           0.0.0.0:*                           624/systemd-resolve
udp        0      0 10.8.141.33:68          0.0.0.0:*                           622/systemd-network
```

- Restart layanan service nginx dan periksa kembali status aktfinya nginx.

```
root@ubuntu:/home/ubuntu# service nginx restart
root@ubuntu:/home/ubuntu# service nginx status
● nginx.service - A high performance web server and a reverse proxy server
     Loaded: loaded (/lib/systemd/system/nginx.service; enabled; vendor preset: enabled)
     Active: active (running) since Wed 2023-10-25 04:23:16 UTC; 18s ago
       Docs: man:nginx(8)
    Process: 2575 ExecStartPre=/usr/sbin/nginx -t -q -g daemon on; master_process on; (code=exited,
    Process: 2576 ExecStart=/usr/sbin/nginx -g daemon on; master_process on; (code=exited, status=0
   Main PID: 2577 (nginx)
      Tasks: 3 (limit: 1013)
     Memory: 3.3M
        CPU: 35ms
     CGroup: /system.slice/nginx.service
             ├─2577 "nginx: master process /usr/sbin/nginx -g daemon on; master_process on;"
             ├─2578 "nginx: worker process" "" "" "" "" "" "" "" "" "" "" "" "" "" "" "" "" "
             └─2579 "nginx: worker process" "" "" "" "" "" "" "" "" "" "" "" "" "" "" "" "" "

Oct 25 04:23:15 ubuntu systemd[1]: Starting A high performance web server and a reverse proxy serve
Oct 25 04:23:16 ubuntu systemd[1]: Started A high performance web server and a reverse proxy server.

root@ubuntu:/home/ubuntu#
```

Sementara apache2 telah di kill sistemnya agar service yang diperlukan nginx dapat bekerja dengan normal.

```
root@ubuntu:/home/ubuntu# service apache2 restart
Job for apache2.service failed because the control process exited with error code.
See "systemctl status apache2.service" and "journalctl -xeu apache2.service" for details.
root@ubuntu:/home/ubuntu# service apache2 status
× apache2.service - The Apache HTTP Server
     Loaded: loaded (/lib/systemd/system/apache2.service; enabled; vendor preset: enabled)
     Active: failed (Result: exit-code) since Wed 2023-10-25 04:24:38 UTC; 6s ago
       Docs: https://httpd.apache.org/docs/2.4/
    Process: 2588 ExecStart=/usr/sbin/apachectl start (code=exited, status=1/FAILURE)
        CPU: 26ms

Oct 25 04:24:37 ubuntu apachectl[2591]: AH00558: apache2: Could not reliably determine the server's
Oct 25 04:24:37 ubuntu apachectl[2591]: (98)Address already in use: AH00072: make_sock: could not b
Oct 25 04:24:37 ubuntu apachectl[2591]: (98)Address already in use: AH00072: make_sock: could not b
Oct 25 04:24:37 ubuntu apachectl[2591]: no listening sockets available, shutting down
Oct 25 04:24:37 ubuntu apachectl[2591]: AH00015: Unable to open logs
Oct 25 04:24:38 ubuntu apachectl[2588]: Action 'start' failed.
Oct 25 04:24:38 ubuntu apachectl[2588]: The Apache error log may have more information.
Oct 25 04:24:38 ubuntu systemd[1]: apache2.service: Control process exited, code=exited, status=1/F
Oct 25 04:24:38 ubuntu systemd[1]: apache2.service: Failed with result 'exit-code'.
Oct 25 04:24:38 ubuntu systemd[1]: Failed to start The Apache HTTP Server.
lines 1-17/17 (END)
```
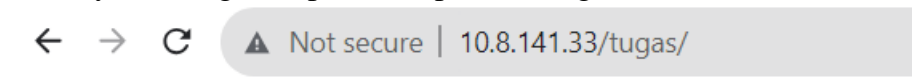
- Untuk membuktikan apakah nginx bekerja dengan normal. Kembali ke direktori /var/www/html. Buat direktori yang akan memasukkan codingan sederhana dari nginx-debian.html.

```
  GNU nano 6.2              /var/www/html/tugas/index.nginx-debian.html *
<h1> SK3C 2023 </h1>
```

- Hasilnya, codingan dapat ditampilkan dengan normal.

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