Load Balancing dengan Round Robin

1. Create microservice3

sudo lxc-create -n microservice3 -t download -- --dist "debian" --release "buster"

```
farel@DESKTOP-3V50F26:~$ sudo lxc-create -n microservice3 -t download -- --dist "debian" --release "buster"
Downloading the image index

---
DIST    RELEASE ARCH    VARIANT BUILD
---
debian  buster  amd64   default 20240406_05:24
debian  buster  arm64   default 20240406_05:24
---

Architecture:
amd64

Using image from local cache
Unpacking the rootfs

---
You just created a Debian buster amd64 (20240329_05:24) container.

To enable SSH, run: apt install openssh-server
No default root or user password are set by LXC.
```

2. Create microservice4

sudo lxc-create -n microservice4 -t download -- --dist "debian" --release "buster"

```
farel@DESKTOP-3V50F26:~$ sudo lxc-create -n microservice4 -t download -- --dist "debian" --release "buster"
Downloading the image index

---
DIST    RELEASE ARCH    VARIANT BUILD
---
debian  buster  amd64   default 20240406_05:24
debian  buster  arm64   default 20240406_05:24
---

Architecture:
amd64

Using image from local cache
Unpacking the rootfs

---
You just created a Debian buster amd64 (20240329_05:24) container.

To enable SSH, run: apt install openssh-server
No default root or user password are set by LXC.
```

3. Create microservice5

sudo lxc-create -n microservice5 -t download -- --dist "debian" --release "buster"

```
farel@DESKTOP-3V50F26:~$ sudo lxc-create -n microservice5 -t download -- --dist "debian" --release "buster"
Downloading the image index

---
DIST     RELEASE ARCH     VARIANT BUILD
---
debian   buster  amd64    default 20240406_05:24
debian   buster  arm64    default 20240406_05:24
---

Architecture:
amd64

Using image from local cache
Unpacking the rootfs

---
You just created a Debian buster amd64 (20240329_05:24) container.

To enable SSH, run: apt install openssh-server
No default root or user password are set by LXC.
```

4. Jalankan semua microservice yang telah di buat.

```
lxc-start -n microservice3

lxc-start -n microservice4

lxc-start -n microservice5
```

```
farel@DESKTOP-3V50F26:~$ sudo lxc-start -n microservice3
farel@DESKTOP-3V50F26:~$ sudo lxc-start -n microservice4
farel@DESKTOP-3V50F26:~$ sudo lxc-start -n microservice5
```

sudo lxc-ls -f

```
farel@DESKTOP-3V50F26:~$ sudo lxc-ls -f
NAME          STATE    AUTOSTART GROUPS IPV4         IPV6 UNPRIVILEGED
microservice1 RUNNING  0         -      10.0.3.152   -    false
microservice2 RUNNING  0         -      10.0.3.74    -    false
microservice3 RUNNING  0         -      10.0.3.233   -    false
microservice4 RUNNING  0         -      10.0.3.154   -    false
microservice5 RUNNING  0         -      10.0.3.121   -    false
```

Konfigurasi microservice3

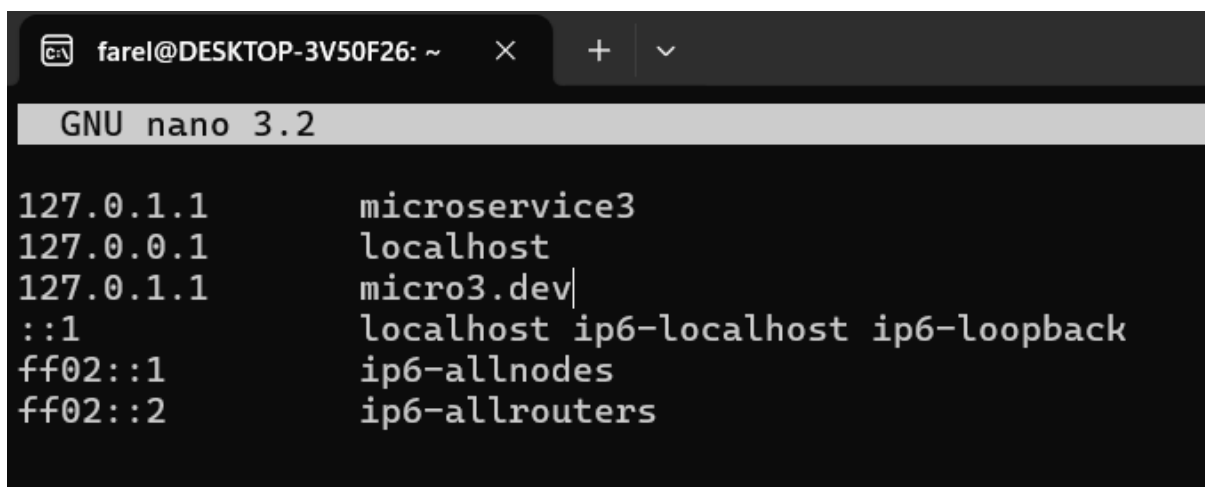1. Update dan Install nginx

```
lxc-attach microservice3

apt update

apt install nginx nginx-extras nano net-tools curl
```

```
farel@DESKTOP-3V50F26:~$ sudo lxc-attach microservice3
root@microservice3:/# apt update
Hit:1 http://deb.debian.org/debian buster InRelease
Hit:2 http://deb.debian.org/debian buster-updates InRelease
Get:3 http://deb.debian.org/debian-security buster/updates InRelease [34.8 kB]
Get:4 http://deb.debian.org/debian-security buster/updates/main amd64 Packages [592 kB]
Get:5 http://deb.debian.org/debian-security buster/updates/main Translation-en [321 kB]
Fetched 948 kB in 1s (895 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
root@microservice3:/# sudo apt install nginx nginx-extras nano net-tools curl
Reading package lists... Done
Building dependency tree
Reading state information... Done
net-tools is already the newest version (1.60+git20180626.aebd88e-1).
The following additional packages will be installed:
```

nano /etc/hosts

```
farel@DESKTOP-3V50F26: ~        ×        +    ∨

  GNU nano 3.2

127.0.1.1          microservice3
127.0.0.1          localhost
127.0.1.1          micro3.dev
::1                localhost ip6-localhost ip6-loopback
ff02::1            ip6-allnodes
ff02::2            ip6-allrouters
```

exit

Konfigurasi microservice4

      1. Update dan Install nginx

apt update

apt install nginx nginx-extras nano net-tools curl

```
farel@DESKTOP-3V50F26:~$ sudo lxc-attach microservice4
root@microservice4:/# apt update
Hit:1 http://deb.debian.org/debian buster InRelease
Hit:2 http://deb.debian.org/debian buster-updates InRelease
Get:3 http://deb.debian.org/debian-security buster/updates InRelease [34.8 kB]
Get:4 http://deb.debian.org/debian-security buster/updates/main amd64 Packages [592 kB]
Get:5 http://deb.debian.org/debian-security buster/updates/main Translation-en [321 kB]
Fetched 948 kB in 1s (927 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
root@microservice4:/# apt install nginx nginx-extras nano net-tools curl
Reading package lists... Done
Building dependency tree
Reading state information... Done
net-tools is already the newest version (1.60+git20180626.aebd88e-1).
The following additional packages will be installed:
```

nano /etc/hosts

exit

Konfigurasi microservice5

2. Update dan Install nginx

```
apt update && apt install nginx nginx-extras nano net-tools curl -y
```



```
nano /etc/hosts
```


exit

Konfigurasi Hosts ubuntu 22.04 wsl

```
Sudo nano /etc/hosts
```

```
# This file was automatically generated by WSL. To stop automatic
# [network]
# generateHosts = false
127.0.0.1       localhost
127.0.1.1       DESKTOP-3V50F26.          DESKTOP-3V50F26
127.0.0.1       sister.local
127.0.0.1       app.sister.local

10.0.3.152      microservice1.dev
10.0.3.74       microservice2.dev
10.0.3.233      micro3.dev
10.0.3.154      micro4.dev
10.0.3.121      micro5.dev

# The following lines are desirable for IPv6 capable hosts
::1     ip6-localhost ip6-loopback
fe00::0 ip6-localnet
ff00::0 ip6-mcastprefix
ff02::1 ip6-allnodes
ff02::2 ip6-allrouters
```

sudo nano /etc/nginx/sites-available/sister.local

```
GNU nano 6.2                                          /etc/nginx/sites-available/sister.local *
log_format upstreamlog '$remote_addr - $remote_user [$time_local] "$request" '
                        'upstream: $upstream_addr '
                        'status: $status '
                        'bytes_sent: $body_bytes_sent '
                        'referer: "$http_referer" '
                        'user_agent: "$http_user_agent" '
                        'upstream_response_time: $upstream_response_time '
                        'request_time: $request_time';

upstream micro {
        server micro3.dev;
        server micro4.dev;
        server micro5.dev;
}|
server {
        listen 80;
        listen [::]:80;

        server_name sister.local;
        server_name app.sister.local;

        root /var/www/html/sister;
        index index.html;

        access_log /var/log/nginx/app.sister.local-access.log;
        location /blog {
                rewrite /blog/?(.*)$ /$1 break;
                proxy_pass http://microservice1.dev;
        }
        location /aboutus {
                rewrite /aboutus/?(.*)$ /$1 break;
                proxy_pass http://microservice2.dev;
        }
        location / {
                proxy_pass http://micro;
                proxy_set_header Host $host;
                proxy_set_header X-Real-IP $remote_addr;
                proxy_set_header X-Forwarded-For $proxy_add_x_forwarded_for;
                proxy_set_header X-Forwarded-Proto $scheme;

        }

}
```

Sudo nginx -t

Sudo nginx -s reload

```
farel@DESKTOP-3V50F26:~$ sudo nginx -s reload
farel@DESKTOP-3V50F26:~$ sudo nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
farel@DESKTOP-3V50F26:~$ sudo nginx -s reload
farel@DESKTOP-3V50F26:~$
```

curl -i app.sister.local

```
farel@DESKTOP-3V50F26:~$ curl -i app.sister.local
HTTP/1.1 200 OK
Server: nginx/1.18.0 (Ubuntu)
Date: Sat, 06 Apr 2024 11:02:24 GMT
Content-Type: text/html
Content-Length: 612
Connection: keep-alive
Last-Modified: Sat, 06 Apr 2024 10:50:09 GMT
ETag: "661128e1-264"
Accept-Ranges: bytes

<!DOCTYPE html>
<html>
<head>
<title>Welcome to nginx!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to nginx!</h1>
<p>If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.</p>

<p>For online documentation and support please refer to
<a href="http://nginx.org/">nginx.org</a>.<br/>
Commercial support is available at
<a href="http://nginx.com/">nginx.com</a>.</p>

<p><em>Thank you for using nginx.</em></p>
</body>
</html>
```

Sudo tail -f /var/log/nginx/app.sister.local-access.log

```
farel@DESKTOP-3V50F26:~$ sudo tail -f /var/log/nginx/app.sister.local-access.log
127.0.0.1 - - [06/Apr/2024:18:02:20 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [06/Apr/2024:18:02:23 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [06/Apr/2024:18:02:24 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
```