1. lxc-create --name sister-local --template download -- --dist "ubuntu" --release "focal" --arch amd64

```
root@DESKTOP-3V50F26: /bin
root@DESKTOP-3V50F26:/bin# lxc-create --name microservice1 --template download -- --dist "ubuntu" --release "focal" --arch amd64
Downloading the image index
Downloading the rootfs

Downloading the metadata
The image cache is now ready
Unpacking the rootfs

---
You just created an Ubuntu focal amd64 (20240326_07:42) container.

To enable SSH, run: apt install openssh-server
No default root or user password are set by LXC.
root@DESKTOP-3V50F26:/bin#
```

2. lxc-create --name sister-local --template download -- --dist "ubuntu" --release "bionic" --arch amd64

```
root@DESKTOP-3V50F26:/bin# lxc-create --name microservice2 --template download -- --dist "ubuntu" --release "bionic" --arch amd64
Using image from local cache
Unpacking the rootfs

---
You just created an Ubuntu bionic amd64 (20240326_07:42) container.

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

3. command # ip r -> untuk mengetahui ip dan subnet server dan microservice

```
root@DESKTOP-3V50F26:/bin# ip r
default via 172.18.64.1 dev eth0 proto kernel
default via 172.18.64.1 dev eth0 proto static
10.0.3.0/24 dev lxcbr0 proto kernel scope link src 10.0.3.1
172.18.64.0/20 dev eth0 proto kernel scope link src 172.18.71.213
```

lxc-ls -f

```
root@DESKTOP-3V50F26:/bin# lxc-ls -f
NAME          STATE   AUTOSTART GROUPS IPV4       IPV6 UNPRIVILEGED
microservice1 RUNNING 0         -      10.0.3.46  -    false
microservice2 RUNNING 0         -      10.0.3.233 -    false
```

4. masuk ke microservice1 dan microservice2 lalu install nginx dan network manager

   # lxc-attach -n microservice1

   # sudo apt install nginx nginx-extras

   # sudo apt install network-manager

```
root@DESKTOP-3V50F26:~# lxc-attach -n microservice1
root@microservice1:~# sudo apt install nginx nginx-extras
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgdbm-compat4 libgdbm6 libgeoip1
  libhiredis0.14 libjbig0 libjpeg-turbo8 libjpeg8 libluajit-5.1-2 libluajit-5.1-common libmaxminddb0 libnginx-mod-http-auth-pam
  libnginx-mod-http-cache-purge libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-fancyindex libnginx-mod-http-geoip
  libnginx-mod-http-geoip2 libnginx-mod-http-headers-more-filter libnginx-mod-http-image-filter libnginx-mod-http-lua
  libnginx-mod-http-ndk libnginx-mod-http-perl libnginx-mod-http-subs-filter libnginx-mod-http-uploadprogress
  libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-nchan libnginx-mod-stream libperl5.30
  libpng16-16 libtiff5 libwebp6 libxpm4 libxslt1.1 nginx-common perl perl-modules-5.30
Suggested packages:
  libgd-tools gdbm-l10n geoip-bin mmdb-bin fcgiwrap nginx-doc ssl-cert perl-doc libterm-readline-gnu-perl | libterm-readline-perl-perl
  make libb-debug-perl liblocale-codes-perl
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgdbm-compat4 libgdbm6 libgeoip1
  libhiredis0.14 libjbig0 libjpeg-turbo8 libjpeg8 libluajit-5.1-2 libluajit-5.1-common libmaxminddb0 libnginx-mod-http-auth-pam
  libnginx-mod-http-cache-purge libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-fancyindex libnginx-mod-http-geoip
  libnginx-mod-http-geoip2 libnginx-mod-http-headers-more-filter libnginx-mod-http-image-filter libnginx-mod-http-lua
  libnginx-mod-http-ndk libnginx-mod-http-perl libnginx-mod-http-subs-filter libnginx-mod-http-uploadprogress
  libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-nchan libnginx-mod-stream libperl5.30
  libpng16-16 libtiff5 libwebp6 libxpm4 libxslt1.1 nginx nginx-common nginx-extras perl perl-modules-5.30
0 upgraded, 46 newly installed, 0 to remove and 0 not upgraded.
Need to get 14.0 MB of archives.
```

   #exit

   # lxc-attach -n microservice2

   # sudo apt install nginx nginx-extras

   # sudo apt install network-manager

```
root@DESKTOP-3V50F26:~# lxc-attach -n microservice2
root@microservice2:~# sudo apt install nginx nginx-extras
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgdbm-compat4 libgdbm5 libgeoip1 libhiredis0.13 libjbig0
  libjpeg-turbo8 libjpeg8 libluajit-5.1-2 libluajit-5.1-common libnginx-mod-http-auth-pam libnginx-mod-http-cache-purge libnginx-mod-http-dav-ext
  libnginx-mod-http-echo libnginx-mod-http-fancyindex libnginx-mod-http-geoip libnginx-mod-http-headers-more-filter libnginx-mod-http-image-filter
  libnginx-mod-http-lua libnginx-mod-http-ndk libnginx-mod-http-perl libnginx-mod-http-subs-filter libnginx-mod-http-uploadprogress
  libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-nchan libnginx-mod-stream libperl5.26 libpng16-16 libtiff5
  libwebp6 libxpm4 libxslt1.1 nginx-common perl perl-modules-5.26
Suggested packages:
  libgd-tools gdbm-l10n geoip-bin fcgiwrap nginx-doc ssl-cert perl-doc libterm-readline-gnu-perl | libterm-readline-perl-perl make
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgdbm-compat4 libgdbm5 libgeoip1 libhiredis0.13 libjbig0
  libjpeg-turbo8 libjpeg8 libluajit-5.1-2 libluajit-5.1-common libnginx-mod-http-auth-pam libnginx-mod-http-cache-purge libnginx-mod-http-dav-ext
  libnginx-mod-http-echo libnginx-mod-http-fancyindex libnginx-mod-http-geoip libnginx-mod-http-headers-more-filter libnginx-mod-http-image-filter
  libnginx-mod-http-lua libnginx-mod-http-ndk libnginx-mod-http-perl libnginx-mod-http-subs-filter libnginx-mod-http-uploadprogress
  libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-nchan libnginx-mod-stream libperl5.26 libpng16-16 libtiff5
  libwebp6 libxpm4 libxslt1.1 nginx nginx-common nginx-extras perl perl-modules-5.26
0 upgraded, 44 newly installed, 0 to remove and 0 not upgraded.
Need to get 12.6 MB of archives.
After this operation, 61.5 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 libjpeg-turbo8 amd64 1.5.2-0ubuntu5.18.04.6 [111 kB]
Get:2 http://archive.ubuntu.com/ubuntu bionic-updates/main amd64 perl-modules-5.26 all 5.26.1-6ubuntu0.7 [2764 kB]
4% [2 perl-modules-5.26 372 kB/2764 kB 13%]
```

exit

5. setting static IP di microservice1

   # nano /etc/netplan/10-lxc.yaml

```
  GNU nano 4.8
network:
  version: 2
  ethernets:
    eth0:
      dhcp4: false
      addresses: [10.0.3.46/24]
      gateway4: 10.0.3.1
      nameservers:
          addresses: [8.8.8.8, 1.1.1.1]
```

   # sudo netplan apply

   # ifconfig

```
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.3.46  netmask 255.255.255.0  broadcast 10.0.3.255
        inet6 fe80::216:3eff:fe42:1e5c  prefixlen 64  scopeid 0x20<link>
        ether 00:16:3e:42:1e:5c  txqueuelen 1000  (Ethernet)
        RX packets 18161  bytes 27824495 (27.8 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 15349  bytes 916993 (916.9 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 34  bytes 3880 (3.8 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 34  bytes 3880 (3.8 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

6. setting network interfaces

   # nano /etc/network/interfaces

```
  GNU nano 4.8                                                    /e
# This file describes the network interfaces available on yo
# and how to activate them. For more information, see interf

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto eth0
iface eth0 inet static
    address 10.0.3.46
    netmask 255.255.255.0
    gateway 10.0.3.1
    dns-nameservers 8.8.8.8 1.1.1.1

source /etc/network/interfaces.d/*.cfg
```

7. restart network manager
8. # sudo systemctl restart NetworkManager
   # ifconfig

```
root@microservice1:~# sudo systemctl restart NetworkManager
root@microservice1:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.3.46  netmask 255.255.255.0  broadcast 10.0.3.255
        inet6 fe80::216:3eff:fe42:1e5c  prefixlen 64  scopeid 0x20<link
        ether 00:16:3e:42:1e:5c  txqueuelen 1000  (Ethernet)
        RX packets 18161  bytes 27824495 (27.8 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 15357  bytes 917593 (917.5 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 34  bytes 3880 (3.8 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 34  bytes 3880 (3.8 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

9. Setting ngix
   # cd /etc/nginx/sites-available
   # touch microservice1.dev
   # nano microservice1.dev

```
  GNU nano 4.8                                                /
server {
        listen 80;
        listen [::]:80;

        server_name microservice1.dev;

        root /var/www/html/microservice1;
        index index.html;

        location / {
                try_files $uri $uri/ =404;
        }

}
```

cd ../sites-enabled

ln -s /etc/nginx/sites-available/microservice1.dev .

nginx -t

nginx -s reload

nano /etc/hosts

```
  GNU nano 4.8
127.0.1.1       microservice1
127.0.0.1       localhost
127.0.0.1       microservice1.dev
::1             localhost ip6-localhost ip6-loopback
ff02::1         ip6-allnodes
ff02::2         ip6-allrouters
```

cd /var/www/html

mkdir microservice1

cp index.nginx-debian.html microservice1/index.html

cd microservice1

nano index.html

```
  GNU nano 4.8                                                  index.html
<!DOCTYPE html>
<html>
<head>
<title>Welcome to Blog!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to Blog with ubuntu 20!</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>
```

10. Lakukan curl ke microservice1
    # curl -i http://microservice1.dev

```
root@microservice1:/var/www/html/microservice1# curl -i http://microservice1.dev
HTTP/1.1 200 OK
Server: nginx/1.18.0 (Ubuntu)
Date: Fri, 29 Mar 2024 11:29:35 GMT
Content-Type: text/html
Content-Length: 625
Last-Modified: Fri, 29 Mar 2024 11:28:39 GMT
Connection: keep-alive
ETag: "6606a5e7-271"
Accept-Ranges: bytes

<!DOCTYPE html>
<html>
<head>
<title>Welcome to Blog!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to Blog with ubuntu 20!</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>
root@microservice1:/var/www/html/microservice1#
```

11. Setting Static IP microservice2

    # apt install nano net-tools curl

    # sudo nano /etc/netplan/10-lxc.yaml

```
  GNU nano 2.9.3

network:
  version: 2
  ethernets:
    eth0:
      dhcp4: false
      addresses: [10.0.3.233/24]
      gateway4: 10.0.3.1
      nameservers:
          addresses: [8.8.8.8, 1.1.1.1]
```

    # sudo netplan apply

    # ifconfig

```
root@microservice2:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.3.233  netmask 255.255.255.0  broadcast 10.0.3.255
        inet6 fe80::216:3eff:fef2:ed47  prefixlen 64  scopeid 0x20<link>
        ether 00:16:3e:f2:ed:47  txqueuelen 1000  (Ethernet)
        RX packets 8113  bytes 15499471 (15.4 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 6164  bytes 351157 (351.1 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 12  bytes 1384 (1.3 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 12  bytes 1384 (1.3 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Setting network interfaces

nano /etc/network/interfaces

```
  GNU nano 2.9.3                                                  /etc/net

# ifupdown has been replaced by netplan(5) on this system.  See
# /etc/netplan for current configuration.
# To re-enable ifupdown on this system, you can run:
#    sudo apt install ifupdown
# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
auto eth0
iface eth0 inet static
    address 10.0.3.233
    netmask 255.255.255.0
    gateway 10.0.3.1
source /etc/network/interfaces.d/*.cfg
```

sudo systemctl restart NetworkManager

ifconfig

```
root@microservice2:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 10.0.3.233  netmask 255.255.255.0  broadcast 10.0.3.255
        inet6 fe80::216:3eff:fef2:ed47  prefixlen 64  scopeid 0x20<link>
        ether 00:16:3e:f2:ed:47  txqueuelen 1000  (Ethernet)
        RX packets 10568  bytes 21993469 (21.9 MB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 8117  bytes 464766 (464.7 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 1000  (Local Loopback)
        RX packets 18  bytes 2076 (2.0 KB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 18  bytes 2076 (2.0 KB)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0
```

Setting nginx

cd /etc/nginx/sites-available

touch microservice2.dev

nano microservice2.dev

```
  GNU nano 2.9.3

server {
        listen 80;
        listen [::]:80;

        server_name microservice2.dev;

        root /var/www/html/microservice2;
        index index.html;

        location / {
                try_files $uri $uri/ =404;
        }

}
```

cd ../sites-enabled

ln -s /etc/nginx/sites-available/microservice2.dev

nginx -t

nginx -s reload

nano /etc/hosts

```
  GNU nano 2.9.3

127.0.1.1       microservice2
127.0.0.1       localhost
127.0.0.1       microservice2.dev
::1             localhost ip6-localhost ip6-loopback
ff02::1         ip6-allnodes
ff02::2         ip6-allrouters
```

cd /var/www/html

mkdir microservice2

cp index.nginx-debian.html microservice2/index.html

cd microservice2

nano index.html

```
  GNU nano 2.9.3                                                index.html

<!DOCTYPE html>
<html>
<head>
<title>Welcome to About us!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to About us ubuntu 18!</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>
```

curl -i http://microservice2.dev

```
root@microservice2:/var/www/html/microservice2# curl -i http://microservice2.dev
HTTP/1.1 200 OK
Server: nginx/1.14.0 (Ubuntu)
Date: Fri, 29 Mar 2024 12:09:38 GMT
Content-Type: text/html
Content-Length: 628
Last-Modified: Fri, 29 Mar 2024 12:06:15 GMT
Connection: keep-alive
ETag: "6606aeb7-274"
Accept-Ranges: bytes

<!DOCTYPE html>
<html>
<head>
<title>Welcome to About us!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to About us ubuntu 18!</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>
root@microservice2:/var/www/html/microservice2#
```

12. Setting hosts di WSL

    # nano /etc/hosts

```
  GNU nano 6.2
# This file was automatically generated by WSL. To stop aut
# [network]
# generateHosts = false
127.0.0.1       localhost
127.0.1.1       DESKTOP-3V50F26.        DESKTOP-3V50F26
127.0.1.1       sister.local

10.0.3.46       microservice1.dev
10.0.3.233      microservice2.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
```

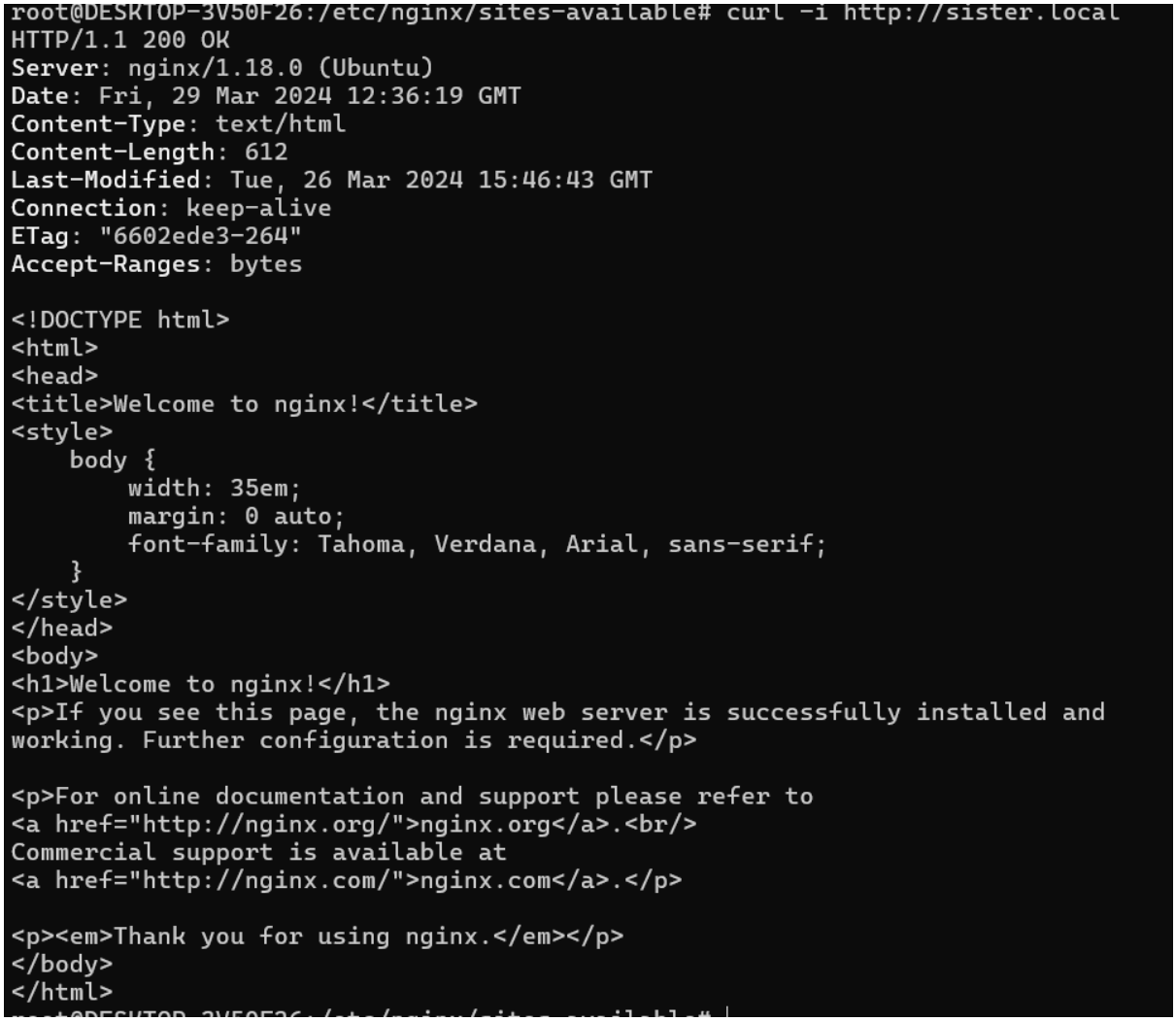
cd /etc/nginx/sites-available
touch sister.local
nano sister.local

```
  GNU nano 6.2
server {
        listen 80;
        listen [::]:80;

        server_name sister.local;

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

        location /blog {
                rewrite /blog/?(.*)$ /$1 break;
                proxy_pass http://microservice1.dev;
        }

        location /aboutus {
                rewrite /aboutus/?(.*)$ /$1 break;
                proxy_pass http://microservice2.dev;
        }

        location / {
        try_files $uri $uri/ =404;

}
```

cd ../sites-enabled
sudo ln -s /etc/nginx/sites-available/sister.local .
sudo nginx -t
sudo nginx -s reload

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# sudo ln -s /etc/nginx/sites-available/sister.local .
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# nginx -s reload
```

Check apakah sudah ter-route dengan benar
curl -i http://sister.local



curl -i http://sister.local/blog

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# curl -i http://sister.local/blog
HTTP/1.1 200 OK
Server: nginx/1.18.0 (Ubuntu)
Date: Fri, 29 Mar 2024 12:52:50 GMT
Content-Type: text/html
Content-Length: 625
Connection: keep-alive
Last-Modified: Fri, 29 Mar 2024 11:28:39 GMT
ETag: "6606a5e7-271"
Accept-Ranges: bytes

<!DOCTYPE html>
<html>
<head>
<title>Welcome to Blog!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to Blog with ubuntu 20!</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>
```

curl -i http://sister.local/aboutus

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# curl -i http://sister.local/aboutus
HTTP/1.1 200 OK
Server: nginx/1.18.0 (Ubuntu)
Date: Fri, 29 Mar 2024 12:53:17 GMT
Content-Type: text/html
Content-Length: 628
Connection: keep-alive
Last-Modified: Fri, 29 Mar 2024 12:06:15 GMT
ETag: "6606aeb7-274"
Accept-Ranges: bytes

<!DOCTYPE html>
<html>
<head>
<title>Welcome to About us!</title>
<style>
    body {
        width: 35em;
        margin: 0 auto;
        font-family: Tahoma, Verdana, Arial, sans-serif;
    }
</style>
</head>
<body>
<h1>Welcome to About us ubuntu 18!</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>
```

Load balancing

1. Create microservice3

   # sudo lxc-create -n microservice3 -t download -- --dist "debian" --release "buster" –arch amd64

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# sudo lxc-create -n microservice3 -t download -- --dist "debian" --release "buster" --arc
h amd64
Downloading the image index
Downloading the rootfs
Downloading the metadata
The image cache is now ready
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" –arch amd64

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# sudo lxc-create -n microservice4 -t download -- --dist "debian" --release "buster" --arc
h 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" –arch amd64

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# sudo lxc-create -n microservice5 -t download -- --dist "debian" --release "buster" --arc
h 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

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# lxc-start -n microservice3
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# lxc-start -n microservice4
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# lxc-start -n microservice5
```

Konfigurasi microservice3

1. Update dan Install nginx

   # lxc-attach microservice3

   # apt update

   # apt install nginx nano

```
root@DESKTOP-3V50F26:/bin# lxc-attach microservice4
root@microservice4:/bin# 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]
Fetched 34.8 k
Reading packag
Building dependency tree
Reading state information... Done
All packages are up to date.
root@microservice4:/bin# apt install nginx nano
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgeoip1 libicu63 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-geoip libnginx-mod-http-image-filter
  libnginx-mod-http-subs-filter libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libpng16-16 libtiff5 libwebp6 libxml2 libxpm4 libxslt1.1 nginx-common nginx-full sensible-utils ucf
Suggested packages:
  libgd-tools geoip-bin spell fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgeoip1 libicu63 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-geoip libnginx-mod-http-image-filter
  libnginx-mod-http-subs-filter libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libpng16-16 libtiff5 libwebp6 libxml2 libxpm4 libxslt1.1 nano nginx nginx-common nginx-full sensible-utils ucf
0 upgraded, 32 newly installed, 0 to remove and 0 not upgraded.
Need to get 17.4 MB of archives.
After this operation, 56.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

   # nano /etc/hosts

```
  GNU nano 3.2                                                  /etc/hosts

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

   #exitKonfigurasi microservice4

1. Update dan Install nginx

   # apt update

   # apt install nginx nano

```
root@DESKTOP-3V50F26:/bin# lxc-attach microservice3
root@microservice3:/bin# 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]
Fetched 34.8 kB in 1s (39.6 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
root@microservice3:/bin# apt install nginx
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgeoip1 libicu63 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-geoip libnginx-mod-http-image-filter
  libnginx-mod-http-subs-filter libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libpng16-16 libtiff5 libwebp6 libxml2 libxpm4 libxslt1.1 nginx-common nginx-full sensible-utils ucf
Suggested packages:
  libgd-tools geoip-bin fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgeoip1 libicu63 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-geoip libnginx-mod-http-image-filter
  libnginx-mod-http-subs-filter libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libpng16-16 libtiff5 libwebp6 libxml2 libxpm4 libxslt1.1 nginx nginx-common nginx-full sensible-utils ucf
0 upgraded, 31 newly installed, 0 to remove and 0 not upgraded.
Need to get 16.9 MB of archives.
After this operation, 54.4 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://deb.debian.org/debian buster/main amd64 sensible-utils all 0.0.12 [15.8 kB]
Get:2 http://deb.debian.org/debian buster/main amd64 libicu63 amd64 63.1-6+deb10u3 [8293 kB]
```

nano /etc/hosts

```
  GNU nano 3.2                                                  /etc/hosts

127.0.1.1       microservice4
127.0.0.1       localhost
127.0.0.1       microservice4.dev
::1             localhost ip6-localhost ip6-loopback
ff02::1         ip6-allnodes
ff02::2         ip6-allrouters
```

exit

Konfigurasi microservice5

2. Update dan Install nginx

apt update

apt install nginx nano

```
root@DESKTOP-3V50F26:/bin# lxc-attach microservice5
root@microservice5:/bin# 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]
Fetched 34.8 kB in 1s (38.6 kB/s)
Reading package lists... Done
Building dependency tree
Reading state information... Done
All packages are up to date.
root@microservice5:/bin# apt install nginx nano
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgeoip1 libicu63 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-geoip libnginx-mod-http-image-filter
  libnginx-mod-http-subs-filter libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libpng16-16 libtiff5 libwebp6 libxml2 libxpm4 libxslt1.1 nginx-common nginx-full sensible-utils ucf
Suggested packages:
  libgd-tools geoip-bin spell fcgiwrap nginx-doc ssl-cert
The following NEW packages will be installed:
  fontconfig-config fonts-dejavu-core geoip-database libfontconfig1 libfreetype6 libgd3 libgeoip1 libicu63 libjbig0 libjpeg62-turbo
  libnginx-mod-http-auth-pam libnginx-mod-http-dav-ext libnginx-mod-http-echo libnginx-mod-http-geoip libnginx-mod-http-image-filter
  libnginx-mod-http-subs-filter libnginx-mod-http-upstream-fair libnginx-mod-http-xslt-filter libnginx-mod-mail libnginx-mod-stream
  libpng16-16 libtiff5 libwebp6 libxml2 libxpm4 libxslt1.1 nano nginx nginx-common nginx-full sensible-utils ucf
0 upgraded, 32 newly installed, 0 to remove and 0 not upgraded.
Need to get 17.4 MB of archives.
After this operation, 56.7 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

nano /etc/hosts

```
  GNU nano 3.2                                                  /etc/hosts

127.0.1.1       microservice5
127.0.0.1       localhost
127.0.0.1       microservice5.dev
::1             localhost ip6-localhost ip6-loopback
ff02::1         ip6-allnodes
ff02::2         ip6-allrouters
```

exit

Konfigurasi Hosts wsl

nano /etc/hosts

```
  GNU nano 6.2                                                    /etc/hosts *
# This file was automatically generated by WSL. To stop automatic generation of this file,
# [network]
# generateHosts = false
127.0.0.1       localhost
127.0.1.1       DESKTOP-3V50F26.        DESKTOP-3V50F26
127.0.1.1       sister.local
127.0.1.1       app.sister.local

10.0.3.46       microservice1.dev
10.0.3.233      microservice2.dev
10.0.3.227      microservice3.dev
10.0.3.141      microservice4.dev
10.0.3.199      microservice5.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

```
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 microservices {
        server microservice3.dev;
        server microservice4.dev;
        server microservice5.dev;
}
server {
        listen 80;
        listen [::]:80;

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

        root /var/www/html;
        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://microservices;
                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;
        }

}
```

nginx -t

nginx -s reload

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# nginx -t
nginx: the configuration file /etc/nginx/nginx.conf syntax is ok
nginx: configuration file /etc/nginx/nginx.conf test is successful
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# nginx -s reload
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled#
```

curl -i app.sister.local

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# curl -i app.sister.local
HTTP/1.1 200 OK
Server: nginx/1.18.0 (Ubuntu)
Date: Sat, 30 Mar 2024 20:03:44 GMT
Content-Type: text/html
Content-Length: 612
Connection: keep-alive
Last-Modified: Sat, 30 Mar 2024 16:48:49 GMT
ETag: "66084271-264"
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>
```

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

```
root@DESKTOP-3V50F26:/etc/nginx/sites-enabled# tail -f /var/log/nginx/app.sister.local-access.log
127.0.0.1 - - [31/Mar/2024:03:03:21 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [31/Mar/2024:03:03:28 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [31/Mar/2024:03:03:30 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [31/Mar/2024:03:03:33 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [31/Mar/2024:03:03:38 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [31/Mar/2024:03:03:43 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
127.0.0.1 - - [31/Mar/2024:03:03:44 +0700] "GET / HTTP/1.1" 200 612 "-" "curl/7.81.0"
```