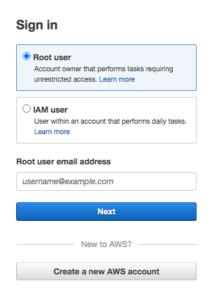
AWS CREATE & SETUP SERVER FOR APPLICATION, REVERSE PROXY DOMAIN COSTUM & SSL CONFIGURATION

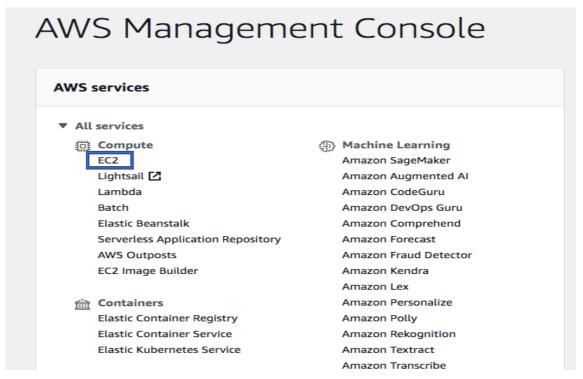
1. Login dengan akun yang sudah disiapkan



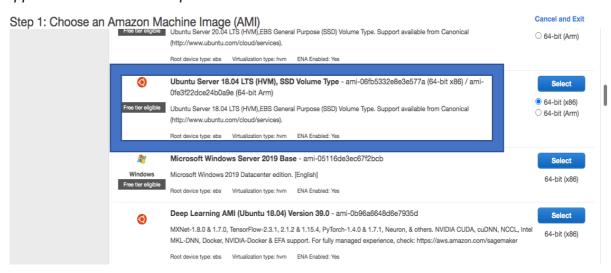




2. Setelah Login pada dashboard management console pilih layanan compute → EC2



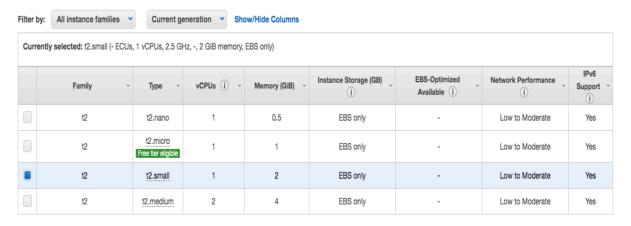
3. Pilih OS yang akan di gunakan untuk server , pilih ubuntu 18.04. Pada kondisi ini akan buat 2 server yaitu untuk reverse proxy satu memiliki akses ke public 1 server application memiliki akses private.



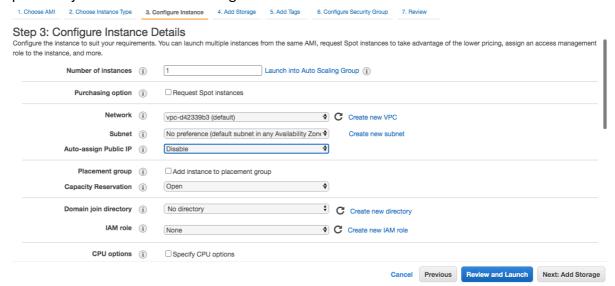
4. Pilih type spesifikasi hardware yang di gunakan untuk computer virtual.

Step 2: Choose an Instance Type

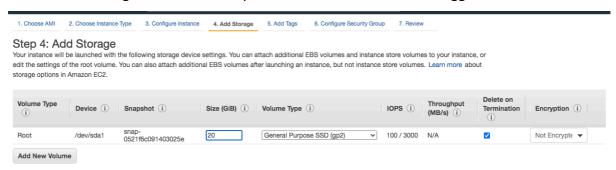
Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. Learn more about instance types and how they can meet your computing needs.



5. Konfigurasi Virtual Komputer dan pilih opsi untuk menonaktifkan auto assign public ip karena jika VM reboot akan berganti IP.



6. Tambahkan Storage untuk ukuran-nya sesuai kebutuhan. Disini menggunakan 20 GB.



- 7. Konfigurasi Security Group yang di butuhkan dalam , seperti port 80 , 443 , 21 dan berikan keterangan SG-Name serta aturan IP-nya .
 - SSH (21): bisa di akses dari mana saja
 - HTTP (80): bisa di akses dari mana saja
 - HTTPS (443): bisa di akses dari mana saja

Step 6: Configure Security Group A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a weble server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below Learn more about Amazon EC2 security groups. Assign a security group: Oregate a new security group O Select an existing security group Security group name: aulia-dumbways aulia-dumbways Description: Type (i) Protocol (i) Port Range (i) Source (i) Description (i) Custom v 0.0.0.0/0 SSH TCP 22 e.g. SSH for Admin Desktop Custom • 0.0.0.0/0, ::/0 TCP 443 8 e.g. SSH for Admin Desktop HTTP TCP 80 Custom v 0.0.0.0/0, ::/0 e.g. SSH for Admin Desktop 8 Add Rule

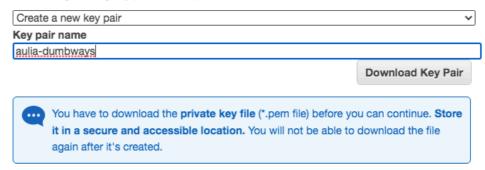
8. Pembuatan Kunci server untuk masuk ke server.

Select an existing key pair or create a new key pair

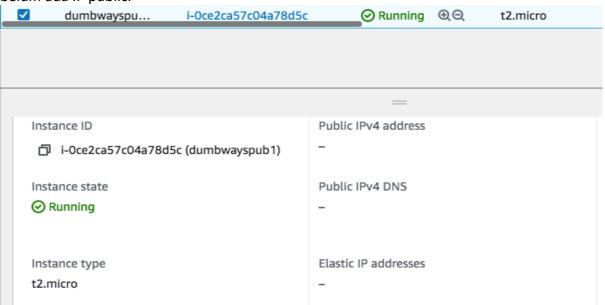
×

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about removing existing key pairs from a public AMI.



9. Untuk Menambahkan IP Public , Network & Security → Elastic IP , pada instance ini belum ada IP public.

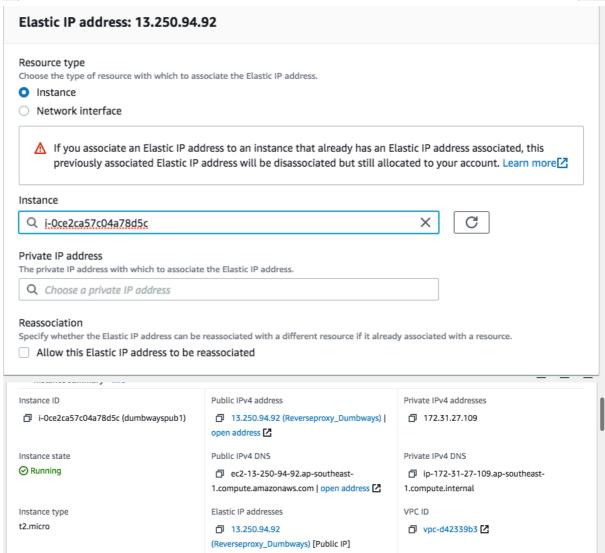


10. Alokasi kan IP public ke server reverse proxy.

Allocate Elastic IP address

Allocate an Elastic IP address from a public IPv4 address pool, or use global IP addresses from AWS Global Accelerator. You can have one Elastic IP associated with a running instance at no charge. You're charged for additional Elastic IPs that are associated with the instance, Elastic IPs that are associated with stopped instances or unattached network interfaces, and unassociated Elastic IPs. Learn more

Elastic IP address settings Public IPv4 address pool Public IP addresses are allocated from Amazon's pool of public IP addresses, from a pool that you own and bring to your account, or from a pool that you own and continue to advertise.. Amazon's pool of IPv4 addresses Public IPv4 address that you bring to your AWS account (option disabled because no pools found) Learn more Customer owned pool of IPv4 addresses (option disabled because no customer owned pools found) Learn more Global static IP addresses AWS Global Accelerator can provide global static IP addresses that are announced worldwide using anycast from AWS edge locations. This can help improve the availability and latency for your user traffic by using the Amazon global network. Learn more Create accelerator



11. Untuk server application Pembuatannya sama seperti server Reverse proxy hanya saja tidak memiliki akses public , jadi akses yang di bolehkan hanya dari ip private Reverse Proxy. Tambahkan di Security group ip private server reverse proxy.

1. Choose AMI	,				
	2. Choose Instance Type 3	Configure Instance	4. Add Storage 5. Add	Tags 6. Configure Security Group 7. Rev	riew
A security group is server and allow in		ontrol the traffic fonts			o reach your instance. For example, if you want to set up a eate a new security group or select from an existing one b
Lean more about	Assign a security group		v security group		
			isting security group		
Security group name:		dumbways-application			
	Description:	dumbways-	application		
Type (i)	Protocol (i		Port Range (i)	Source (i)	Description (i)
All traffic ~	All		0 - 65535	Custom • 172.31.27.109/32	ip_private_reverse_proxy
Add Rule					
menggun no → yes	akan passwo	ord. Edit	file yang ada aip-172-31-27-	ggunakan key-pair te n pada <i>sshd_config po</i> -109: ~ — ssh -i aulia-du n/sshd_config	asswordautenfication
	zedPrincipal	sFile no		,7	HOULTIES
	zedKeysComman zedKeysComman		obody		
#Hostbase	edAuthentica	tion no		st keys in /etc/ssh/s	ssh_known_hosts
# Hostbas #IgnoreUs	sedAuthentica serKnownHost	ation s no		n/known_hosts for	
	read the use hosts yes	r's ~/.r	hosts and ~/.	shosts files	
Password/	able tunnele Authentication mptyPassword	on yes	text password	ds, change to no here	e!
	to yes to e	nable ch	allenge-respo	onse passwords (bewa	re issues with
# Change					
	elp <mark>^0</mark> Write ^R Read	e Out ^W File ^\	Where Is A Replace A	Cut Text ^J Justin Uncut Text^T To Spe	fy Cur Pos ell C Go To Line
^G Get He ^X Exit				Cut Text Justin Uncut Text To Specification ifikasi sudah dapat n	
^G Get Ho ^X Exit Test ssh k	ke user yang	telah di	bikin. Autent	ifikasi sudah dapat n	nenggunakan
AG Get Ho AX Exit Test ssh k password	ke user yang I.	telah di	bikin. Autent	ifikasi sudah dapat n	nenggunakan
G Get He X Exit Test ssh k password IyY /Us	ke user yang I. sers/heypa	telah di	bikin. Autent	ifikasi sudah dapat n	nenggunakan
Get Ho X Exit Test ssh k password IyY /Us debug1	ke user yang d. sers/heypa : Authenti	telah di , , , am68/.s icatior	bikin. Autent , ssh/id_rsa ns that ca	ifikasi sudah dapat n	nenggunakan
Test ssh k password IyY /Us debug1:	ke user yang d. sers/heypa : Authenti : Trying p	telah di , , am68/.s ication orivate	bikin. Autent , ssh/id_rsa ns that ca e key: /Us	ifikasi sudah dapat n n continue: pub ers/heypam68/.s	nenggunakan lickey,password sh/id_dsa
Test ssh k password IyY /Us debug1s debug1s	ke user yang d. sers/heypa : Authenti : Trying p : Trying p	telah di , , , am68/.s ication private private	bikin. Autent ssh/id_rsa ns that ca e key: /Us e key: /Us	ifikasi sudah dapat n n continue: pub ers/heypam68/.s ers/heypam68/.s	nenggunakan
Test ssh k password IyY /Us debug1s debug1s	ke user yang d. sers/heypa : Authenti : Trying p : Trying p	telah di , , , am68/.s ication private private	bikin. Autent ssh/id_rsa ns that ca e key: /Us e key: /Us	ifikasi sudah dapat n n continue: pub ers/heypam68/.s	nenggunakan
Test ssh k password lyY /Us debug1: debug1: debug1:	ke user yang . sers/heypa : Authenti : Trying p : Trying p : Trying p	telah di m68/.s ication private private	bikin. Autent ssh/id_rsans that ca key: /Us key: /Us key: /Us	ifikasi sudah dapat n n continue: pub ers/heypam68/.s ers/heypam68/.s	nenggunakan lickey,password sh/id_dsa sh/id_ecdsa sh/id_ed25519
Test ssh k password debug1: debug1: debug1: debug1: debug1:	<pre>se user yang d. sers/heypa : Authenti : Trying p : Trying p : Trying p</pre>	telah di am68/.s ication orivate orivate orivate	bikin. Autent ssh/id_rsa ns that ca e key: /Us e key: /Us e key: /Us e key: /Us	ifikasi sudah dapat n n continue: pub ers/heypam68/.s ers/heypam68/.s ers/heypam68/.s	nenggunakan lickey,password sh/id_dsa sh/id_ecdsa sh/id_ed25519

14. Coba ssh ke private server application

[ubuntu@ip-172-31-27-109:~\$ ssh -i aulia-dumbways.pem ubuntu@172.31.31.245 Welcome to Ubuntu 20.04.1 LTS (GNU/Linux 5.4.0-1029-aws x86_64)

* Documentation: https://help.ubuntu.com

* Management: https://landscape.canonical.com * Support: https://ubuntu.com/advantage

System information as of Wed Jan 27 08:44:45 UTC 2021

System load: 0.0 Processes: 99 Usage of /: 6.8% of 19.32GB Users logged in: 0

Memory usage: 20% IPv4 address for eth0: 172.31.31.245

Swap usage: 0%

1 update can be installed immediately.

15. Lakukan Updgrade dan Update

[root@ip-172-31-27-109:~# apt-get update && apt-get upgrade Hit:1 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic InRelease Hit:2 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic-updates InRelea Hit:3 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic-backports InRel Hit:4 http://security.ubuntu.com/ubuntu bionic-security InRelease Reading package lists... Done Reading package lists... Done Building dependency tree Reading state information... Done Calculating upgrade... Done The following packages have been kept back: linux-aws linux-headers-aws linux-image-aws The following packages will be upgraded: accountsservice apport apt apt-utils ca-certificates cloud-init curl distro-info-data dnsmasq-base ec2-hibinit-agent grub-common grub-pc grub-pc-bin grub2-common krb5-locales libaccountsservice0 libapt-inst2.0 libapt-pkg5.0 libaudit-common libaudit1 libc-bin libc6 libcurl3-gnutls libcurl4 libgssapi-krb5-2 libk5crypto3 libkrb5-3 libkrb5support0 libldap-2.4-2 libldap-common libnetplan0 libnss-systemd libp11-kit0 libpam-systemd libsasl2-2 libsasl2-modules libsasl2-modules-db libssl1.0.0 libssl1.1 libsystemd0 libudev1 locales lshw multiarch-support netplan.io

16. Install Nginx di server reverseproxy dan Node dan Npm server application.

```
root@ip-172-31-27-109:~# apt-get 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 libfontconfig1 libgd3 libjbig0
   libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
   libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream libtiff5 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 libjbig0
  libjpeg-turbo8 libjpeg8 libnginx-mod-http-geoip
  libnginx-mod-http-image-filter libnginx-mod-http-xslt-filter
  libnginx-mod-mail libnginx-mod-stream libtiff5 libwebp6 libxpm4 nginx
  nginx-common nginx-core
 0 upgraded, 18 newly installed, 0 to remove and 3 not upgraded.
Need to get 2462 kB of archives.
```

17. Clone repositori dan install node & npm di server application server.

```
[ubuntu@ip-172-31-31-245:~$ git clone https://github.com/sgnd/library-frontend.gi]
t
Cloning into 'library-frontend'...
remote: Enumerating objects: 306, done.
remote: Counting objects: 100% (306/306), done.
remote: Compressing objects: 100% (197/197), done.
remote: Total 306 (delta 162), reused 238 (delta 100), pack-reused 0
Receiving objects: 100% (306/306), 5.03 MiB | 2.95 MiB/s, done.
Resolving deltas: 100% (162/162), done.
[ubuntu@ip-172-31-31-245:~$ node -v
v10.23.2
[ubuntu@ip-172-31-31-245:~$ npm -v
6.14.10
ubuntu@ip-172-31-31-245:~$
```

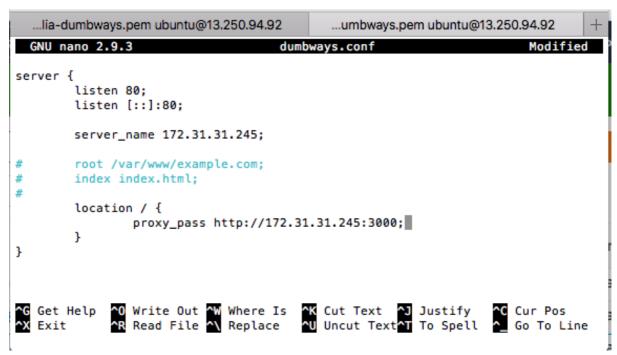
18. Running aplikasi di server application server.

```
...lia-dumbways.pem ubuntu@13.250.94.92 ...umbways.pem ubuntu@13.250

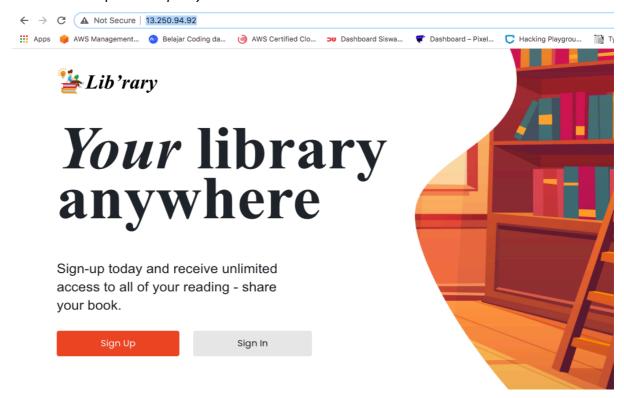
Line 16:7: img elements must have an alt prop, either with meanin r an empty string for decorative images jsx-a11y/alt-text

Search for the keywords to learn more about each warning.
To ignore, add // eslint-disable-next-line to the line before.
```

19. Buat Konfigurasi nginx ke server application. Buat pada server reverse proxy.



20. Coba akses ip reverse proxy.



21. Untuk membuat ssl configurasi install package package yang di butuhkan disini

```
INCINGSUNIAKAN IET ENCYPPT.

(ubuntugip-172-31-27-109:/etc/nginx/sites-available$ sudo apt install certbot
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
python-pytic upthon3-acme python3-certbot python3-configargparse python3-future python3-josepy python3-lib2to3 python3-mock python3-parsedatetime python3-pr
python3-requests-toolbelt python3-ref3339 python3-tz python3-zope.component python3-zope.event python3-zope.hookable
Suggested packages:

python3-certbot-apache python3-certbot-nginx python-certbot-doc nython3-certod nython3-zope.hookable
Python3-requests-toolbelt python3-ertost python3-tz python3-tz python3-tz python3-zope.component python3-zope.component python3-zope.bookable
Suggested packages:

python3-certbot-apache python3-certbot-nginx python-certbot-doc python-acme-doc python-future-doc python-mock-doc
The following NEW packages will be installed:

certbot python4-requests-toolbelt python3-red2339 python3-tz python3-configargarse python3-future python3-josepy python3-inibzto3 python3-mock python3-parsedatetime python3-pbr python3-requests-toolbelt python3-red2339 python3-red2339 python3-pbr python3-requests-toolbelt python3-red2339 python3-tz python3-zope.component python3-zope.event python3-zope.hookable

8 upgraded, 17 newly installed, 8 to remove and 3 not upgraded.

Need to get 1159 kB of archives.

After this operation, 6824 kB of additional disk space will be used.

[Do you want to continue? [Y/n] y
Get:1 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 python3-josepy all 1.1.8-1 [27.6 kB]
Get:2 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/main amd64 python3-mock all 2.8.8-3 [47.5 kB]
Get:3 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-mock all 2.8.8-3 [47.5 kB]
Get:6 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-mock all 2.8.8-3 [47.5 kB]
Get:6 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-red233 all 1.8-1 [27.4 kB]
Get:8 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-red233 all 1.8-2 [25.1 kB]
Get:8 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-red233 all 1.8-4 [6356 B]
Get:8 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-red233 all 1.8-4 [6356 B]
Get:8 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-red233 all 1.8-4 [6356 B]
Get:8 http://ap-southeast-1.ec2.archive.ubuntu.com/ubuntu bionic/universe amd64 python3-red233 all 1.8-4 [6356 B]
Get:8 http://a
```

22. Generate sertifikat untuk domain disini contohnya menggunakan name.instructype.com di asumsikan menggunakan sudah di pointing di domainnya. untuk asumsi domainnya https://aulia.chique.store/.

```
Simple
aulia.chique.store
                                                                               13.250.94.92
```

23. Generate ssl dengan certbot.

server {

```
[ubuntu@ip-172-31-27-109:~$ sudo certbot --nginx -d aulia.chique.store
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Plugins selected: Authenticator nginx, Installer nginx
Enter email address (used for urgent renewal and security notices) (Enter 'c' to
[cancel): heypam68@gmail.com
_____
Please read the Terms of Service at
https://letsencrypt.org/documents/LE-SA-v1.2-November-15-2017.pdf. You must
agree in order to register with the ACME server at
https://acme-v02.api.letsencrypt.org/directory
[(A)gree/(C)ancel: A
Would you be willing to share your email address with the Electronic Frontier
Foundation, a founding partner of the Let's Encrypt project and the non-profit
organization that develops Certbot? We'd like to send you email about our work
encrypting the web, EFF news, campaigns, and ways to support digital freedom.
```

24. Konfigurasi domain nginx akan di tambahkan secara default oleh ssl.

```
server name aulia.chique.store:
    location / {
           proxy_pass http://172.31.31.245:3000;
listen [::]:443 ssl ipv6only=on; # managed by Certbot
listen 443 ssl; # managed by Certbot
ssl_certificate /etc/letsencrypt/live/aulia.chique.store/fullchain.pem; # managed by Certbot
ssl_certificate_key /etc/letsencrypt/live/aulia.chique.store/privkey.pem; # managed by Certbot
include /etc/letsencrypt/options-ssl-nginx.conf; # managed by Certbot
ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem; # managed by Certbot
```

25. Cek domain dan akses, di asumsikan disini memakai domain yang berbeda.

