Setup SSL Enabled Website

`Docker Steps`

Dockerfile

```
FROM ubuntu:latest
RUN apt-get update
RUN apt-get upgrade -y
RUN apt-get install apache2 apache2-utils -y
RUN apt clean
EXPOSE 80
EXPOSE 443
CMD ["apache2ctl", "-D", "FOREGROUND"]
```

```
docker build -t ubuntu-apache-80-443 .
docker run -itd –name c1 -p 80:80 -p 443:443 ubuntu-apache-80-443:latest
docker exec -it c1 bash
```

Update Ubuntu

```
Unset
sudo apt update
```

Install Apache2

```
Unset
sudo apt install apache2
```

In your practice you need to change the domain name you purchased.

In my case I am using www.cloudheads.tech. I want my website to be accessible by these 2 URLs:

https://www.cloudheads.tech or https://cloudheads.tech

```
Unset
mkdir /var/www/www.cloudheads.tech

#Download the website you want to host and unzip it
```

```
#Install wget
apt install wget

wget
https://www.free-css.com/assets/files/free-css-templates/downl
oad/page291/drool.zip

apt-get install unzip
unzip drool.zip

#Copy the Unzipped folder contents to the base folder
cp -R drool-html/. /var/www/www.cloudheads.tech

#Setting a few permissions to the Website base folder
chown -R $USER:$USER /var/www/www.cloudheads.tech
chmod -R 755 /var/www/www.cloudheads.tech
```

Create the Website configuration file and save it

```
Unset
#Install nano
apt install -y nano

nano /etc/apache2/sites-available/www.cloudheads.tech.conf

<VirtualHost *:80>
    ServerAdmin webmaster@cloudheads.tech
    ServerName cloudheads.tech
    ServerAlias www.cloudheads.tech
    DocumentRoot /var/www/www.cloudheads.tech
    ErrorLog ${APACHE_LOG_DIR}/error.log
    CustomLog ${APACHE_LOG_DIR}/access.log combined
</VirtualHost>
```

Enable the website and disable the default website which we don't need

```
Unset
a2ensite www.cloudheads.tech.conf
service apache2 reload
a2dissite 000-default.conf
service apache2 reload

#verify accessing the non-SSL website
http://www.cloudheads.tech
```

Enable the SSL by installing a tool called certbot

```
Unset
apt install -y certbot python3-certbot-apache

#Install the SSL to our website
certbot --apache
```

Do the following selections as the above command gives interactive output

```
Unset
#Output

Saving debug log to /var/log/letsencrypt/letsencrypt.log
Enter email address (used for urgent renewal and security
notices)
 (Enter 'c' to cancel): webmaster@cloudheads.tech
```

After providing a valid email address, press ENTER to proceed to the next step. You will then be prompted to confirm if you agree to Let's Encrypt terms of service. You can confirm by pressing Y and then ENTER:

```
Unset
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - -
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
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
(Y)es/(N)o: Y
```

Next, you'll be asked if you would like to share your email with the Electronic Frontier Foundation to receive news and other information. If you do not want to subscribe to their content, write N. Otherwise, write Y then press ENTER to proceed to the next step:

```
Unset
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
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.
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
(Y)es/(N)o: N
```

The next step will prompt you to inform Certbot of which domains you'd like to activate HTTPS for.

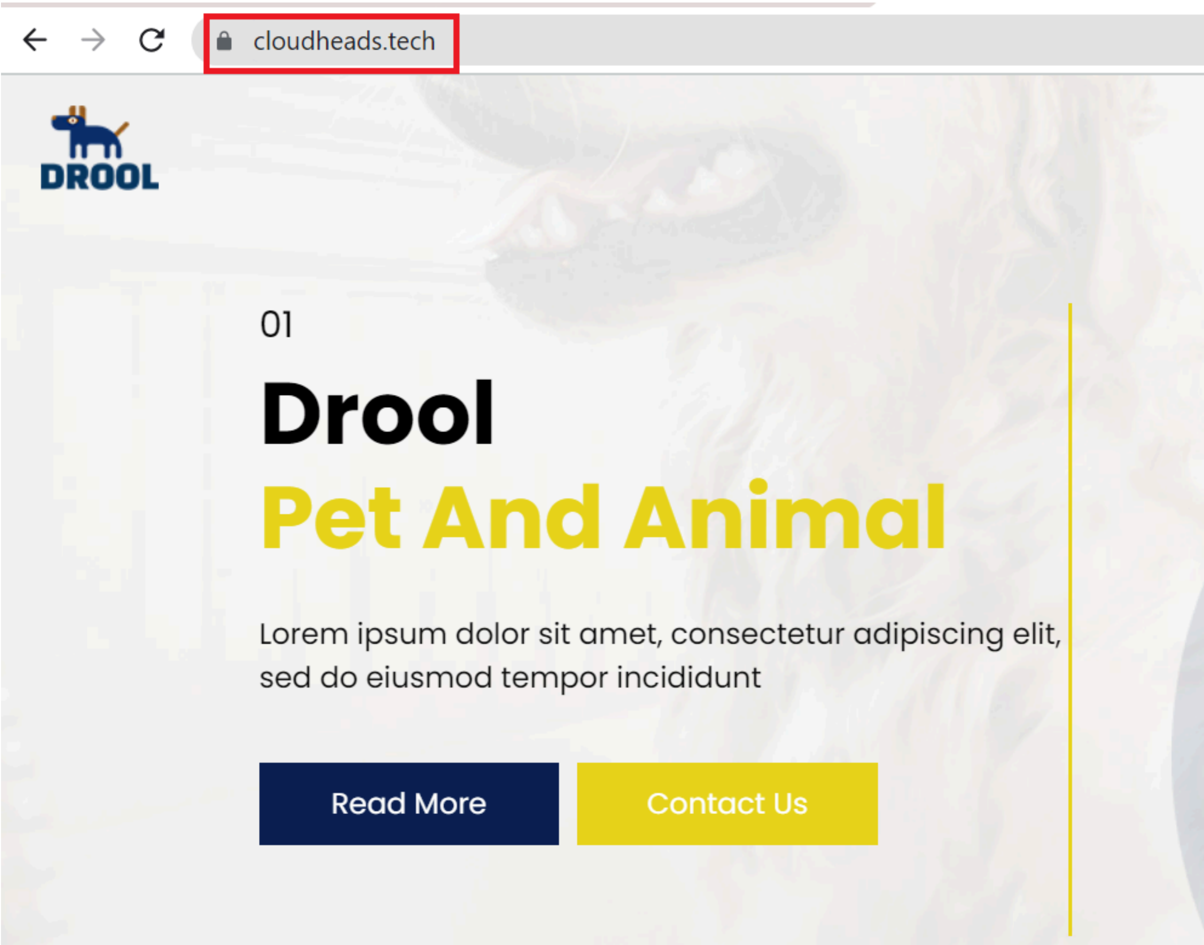
```
Unset
Which names would you like to activate HTTPS for?
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
1: cloudheads.tech
```

```
2: www.cloudheads.tech
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - -
Select the appropriate numbers separated by commas and/or
spaces, or leave input
blank to select all options shown (Enter 'c' to cancel):

1
```

SSL certificate is now installed and loaded into Apache's configuration.

Try reloading your website using: https://cloudheads.tech



Back to Docker again

Convert the running container into a nameless docker image

```
docker commit c1
```

Give a name/tag to the nameless image

```
docker tag <paste the imageID> cloudatwork/corpwebsite
```

Login to docker hub

```
docker login
```

Push image to Docker Hub

```
docker push cloudatwork/corpwebsite
```

—

Verify if the container is successful

```
docker rm -f $(docker ps -aq)
docker rmi -f $(docker images)

docker run itd -p 80:80 -p 443:443 cloudatwork/corpwebsite
```

Access from a browser:
https://www.domain.com