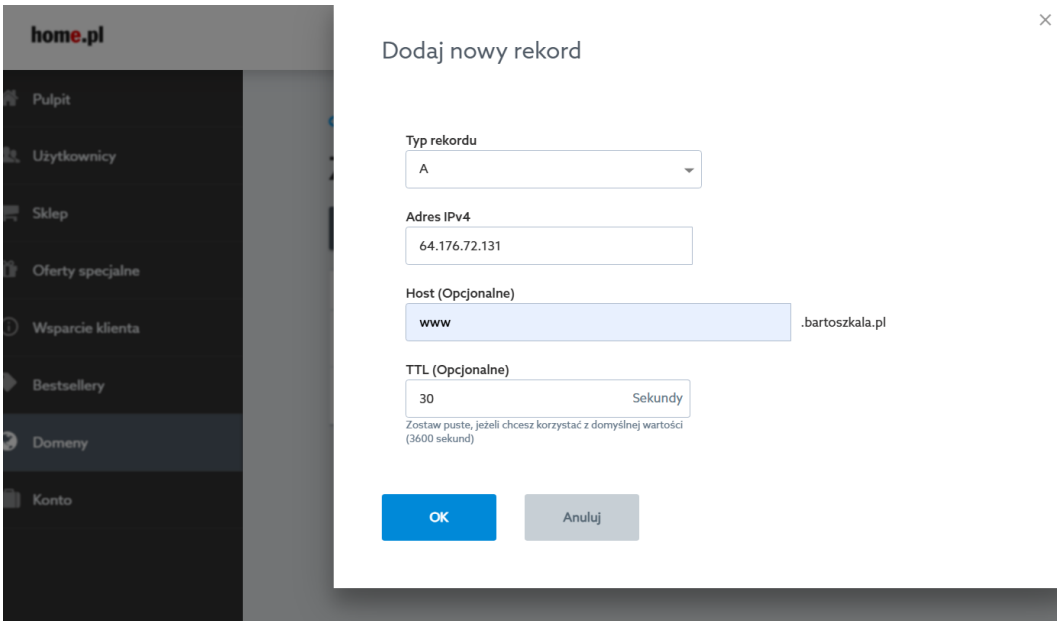
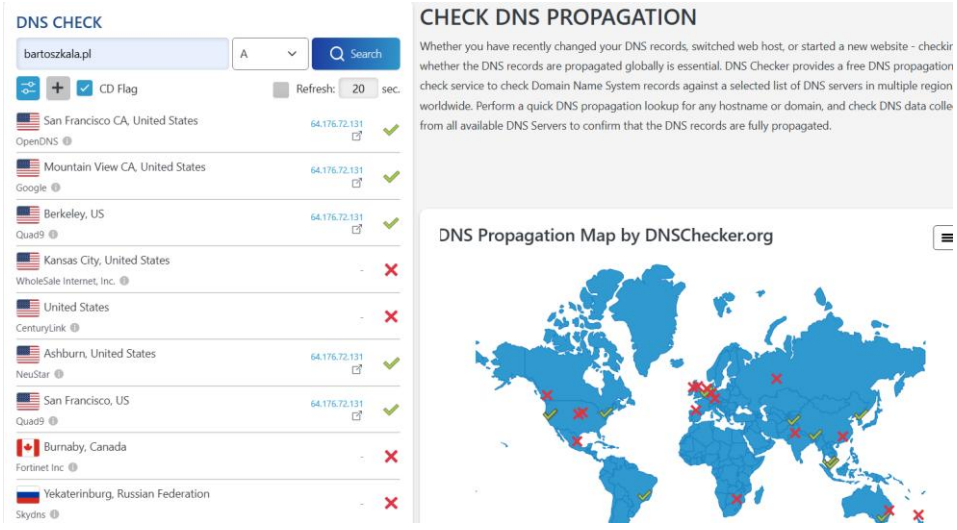
U operatora, u którego mamy domenę podmieniamy aktualny adres na ten który przekierowywuje na adres naszej maszyny:

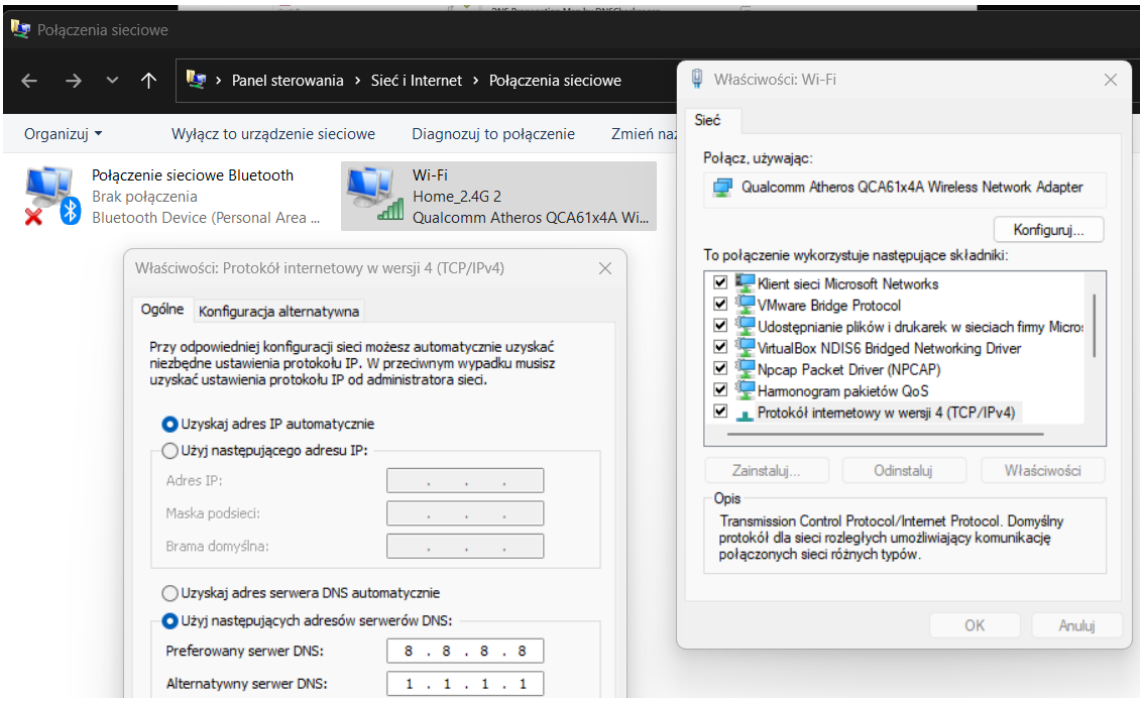



```
C:\Users\lenovo>nslookup bartoszkala.pl 8.8.8.8
Server:  dns.google
Address:  8.8.8.8

Non-authoritative answer:
Name:    bartoszkala.pl
Address:  64.176.72.131


C:\Users\lenovo>
```




```
root@vultr:~# chmod 700 skrypt
root@vultr:~# ./skrypt
Hit:1 https://apprepo.vultr.com/debian universal InRelease
Hit:2 https://deb.debian.org/debian bullseye InRelease
Hit:3 https://deb.debian.org/debian-security bullseye-security InRelease
Hit:4 https://deb.debian.org/debian bullseye-updates InRelease
Hit:5 https://debian.mirror.constant.com bullseye InRelease
Reading package lists... 99%
```

(nasz domyślny serwer DNS może nie rozwiązywać jeszcze nazwy wiec zmieniamy)



Zad 1

apt update

apt install docker.io -y

apt install docker-compose

mkdir -p ~/vaultwarden

mkdir -p ~/nginx-proxy-manager

Tworzymy pliki:

```
/root/nginx-proxy-manager/docker-compose.yml    [----]
version: "3"
services:
  app:
    image: jc21/nginx-proxy-manager:latest
    restart: always
    ports:
      - "80:80"      # HTTP
      - "81:81"      # Panel admina NPM
      - "443:443"    # HTTPS
    volumes:
      - './config.json:/app/config/production.json'
      - './data:/data'
      - './letsencrypt:/etc/letsencrypt'
    depends_on:
      - db

  db:
    image: jc21/mariadb-aria:latest
    restart: always
    environment:
      MYSQL_ROOT_PASSWORD: "Zaq12wsx"
      MYSQL_DATABASE: "npm"
      MYSQL_USER: "npm"
      MYSQL_PASSWORD: "Zaq12wsx"
    volumes:
      - './data/mysql:/var/lib/mysql'
```

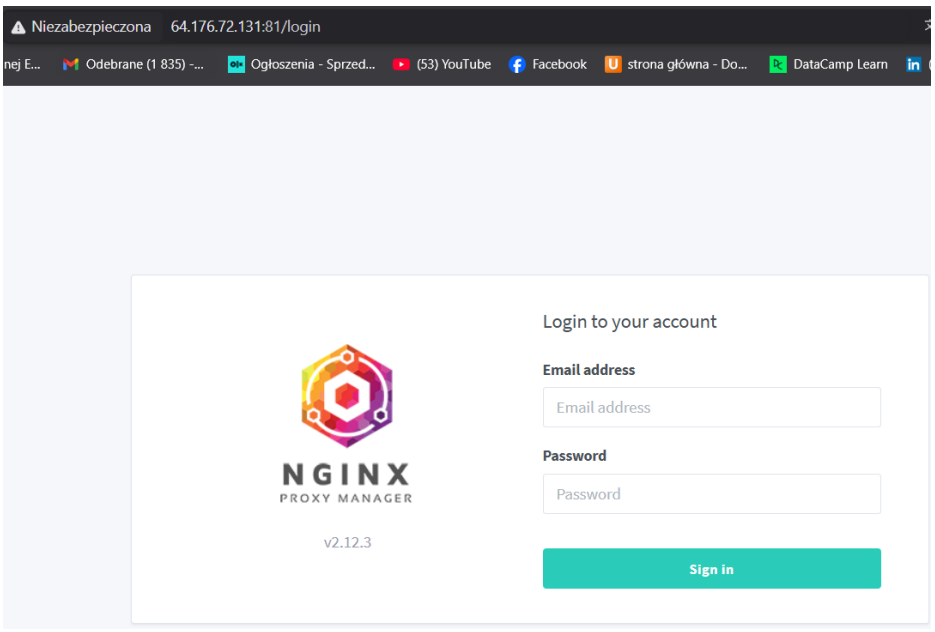
```
/root/vaultwarden/docker-compose.yml   [----] 18 L:[  1+16  17/ 18] *(393 / 394b) 00

version: "3"
services:
  vaultwarden:
    image: vaultwarden/server:latest
    environment:
      WEBSOCKET_ENABLED: "true"  # opcjonalnie, do powiadomień w czasie rzeczywistym
    volumes:
      - ./vw-data:/data
    ports:
      - "8080:80"  # lokalny port na VPS, będzie proxy
    networks:
      - nginx-proxy-manager_default

networks:
  nginx-proxy-manager_default:
    external: true
```

← Sieć, w której jest już nginx

Wydajemy polecenia:

```
root@vultr:~# cd ~/vaultwarden
root@vultr:~/vaultwarden# docker-compose up -d
Creating network "vaultwarden_default" with the default driver
Pulling vaultwarden (vaultwarden/server:latest)...
latest: Pulling from vaultwarden/server
c29f5b76f736: Pulling fs layer
00b74c3a8e0f: Pulling fs layer
root@vultr:~/vaultwarden# cd ~/nginx-proxy-manager
root@vultr:~/nginx-proxy-manager# docker-compose up -d
Creating network "nginx-proxy-manager_default" with the default driver
Pulling app (jc21/nginx-proxy-manager:latest)...
latest: Pulling from jc21/nginx-proxy-manager
7cf63256a31a: Download complete
  ]  17.76MB/28.22MBad complete
```

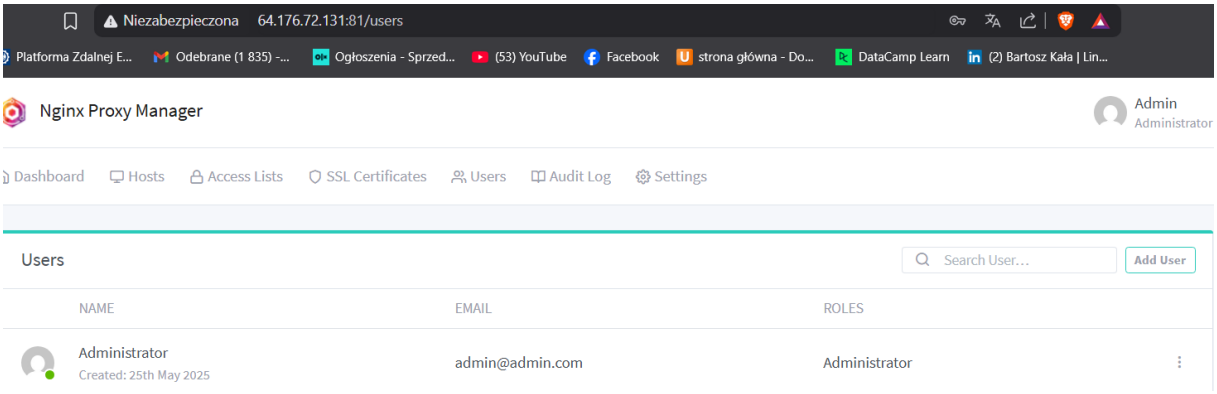
```
root@vultr:~/nginx-proxy-manager# docker ps
CONTAINER ID   IMAGE                          COMMAND                  CREATED         STATUS                   PORTS
      NAMES
8a3166acee49   jc21/nginx-proxy-manager:latest   "/init"                  3 minutes ago   Up 9 seconds             0.0.0.0:80-81->80-81/tcp, 0.0.0.0:443->44
3/tcp   nginx-proxy-manager_app_1
0deee7cda1a5   mysql:5.7                      "docker-entrypoint.s…"   3 minutes ago   Up 3 minutes             3306/tcp, 33060/tcp
      nginx-proxy-manager_db_1
06aa7a6026a2   vaultwarden/server:latest      "/start.sh"              5 minutes ago   Up 5 minutes (healthy)   0.0.0.0:8080->80/tcp
      vaultwarden_vaultwarden_1
root@vultr:~/nginx-proxy-manager#
```



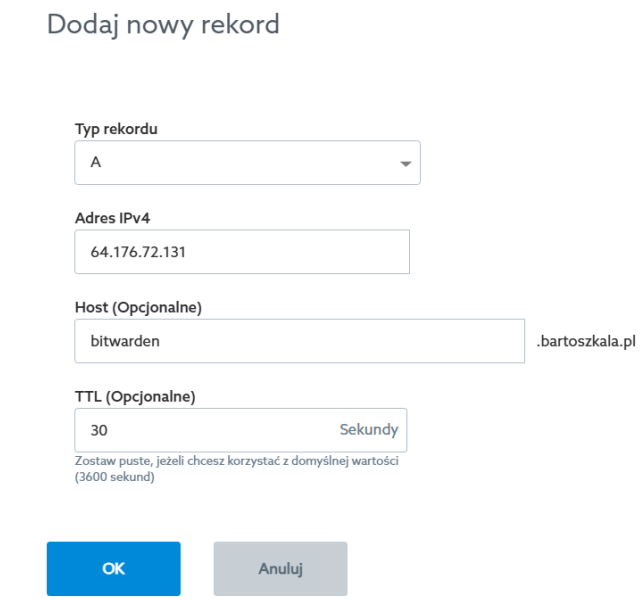
L: admin@example.com

H: changeme

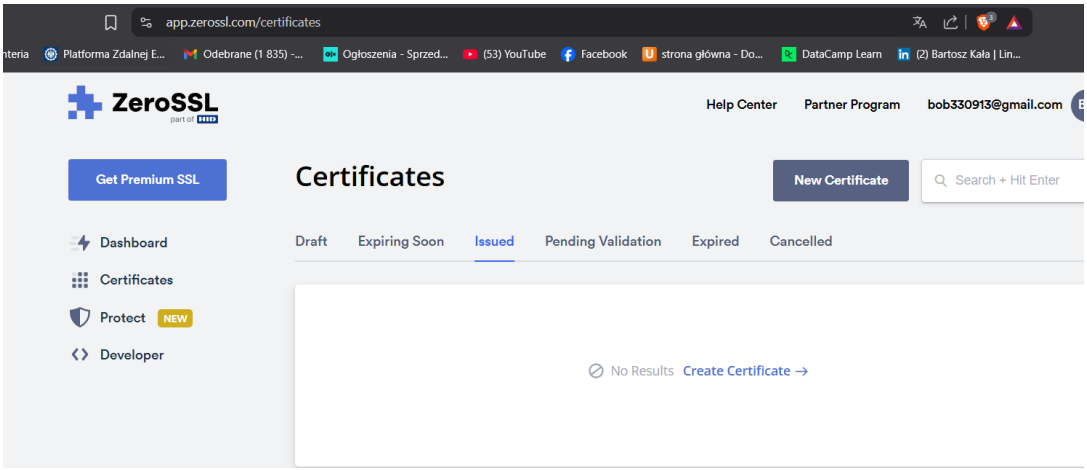
(zmieniamy dane logowania)

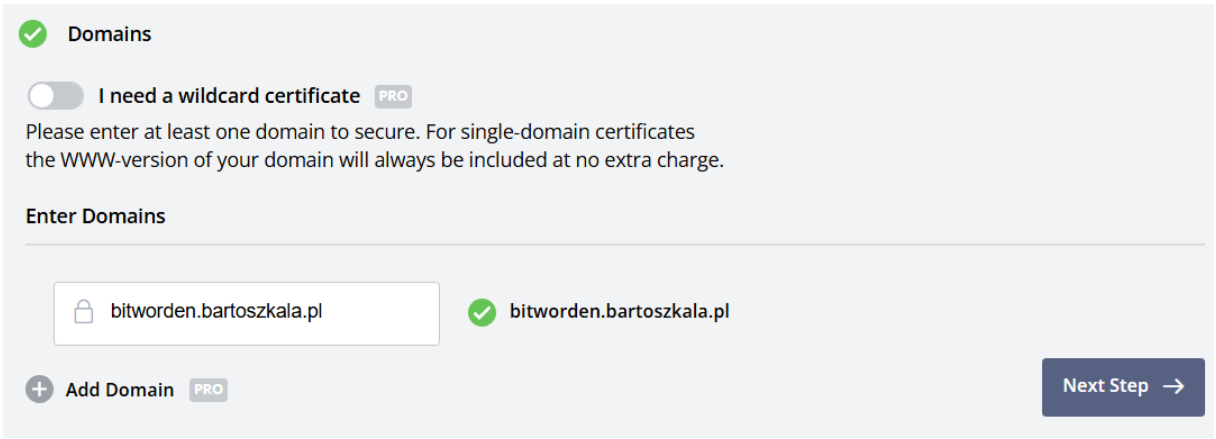


Dodajemy nowy rekord (u rejestratora):



Tworzymy konto na ZeroSSL i przechodzimy do zakładki:





Validity

You can now choose between generating 90-day or one-year certificate validity.
To keep manual work at a minimum, we recommend 1-year certificates.

- (•) 90-Day Certificate
- ( ) 1-Year Certificate PRO

Next Step →

CSR & Contact

Finalize Your Order

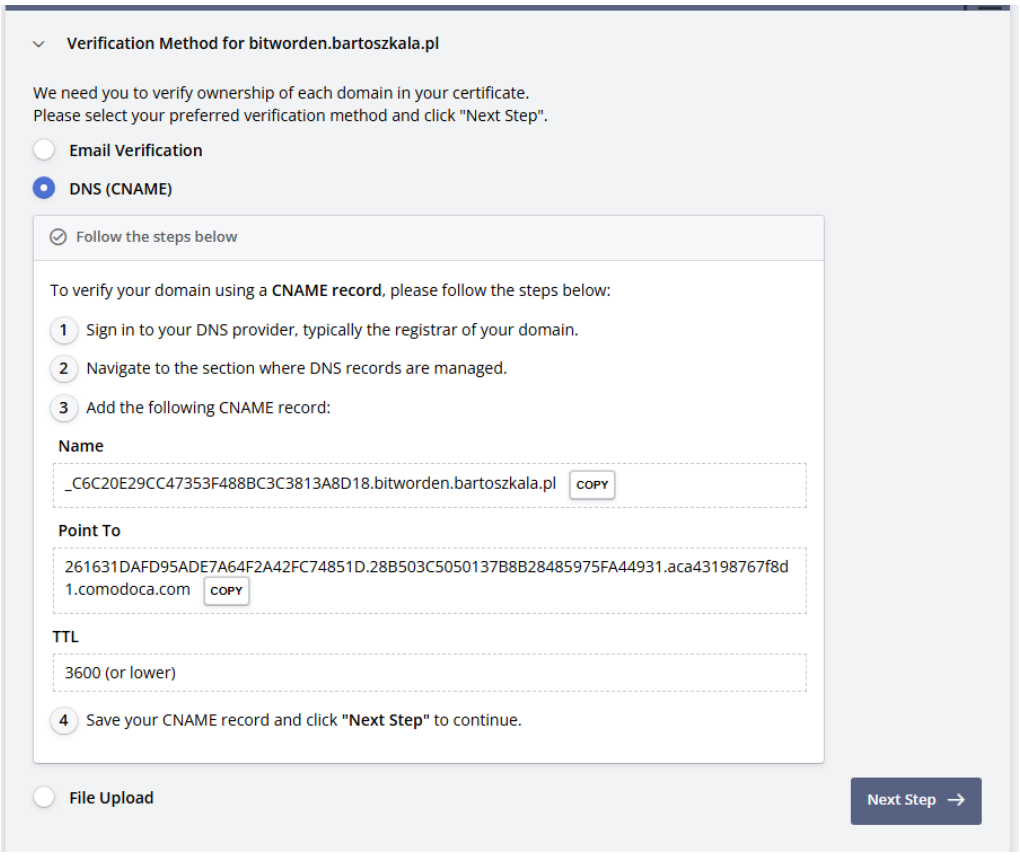
Based on your selection of a **90-Day SSL Certificate** you are fine staying on the **Free Plan**.
To create and validate your SSL Certificate, please click "Next Step" below.

Pay Yearly Save with yearly | Enable Protection Disabled

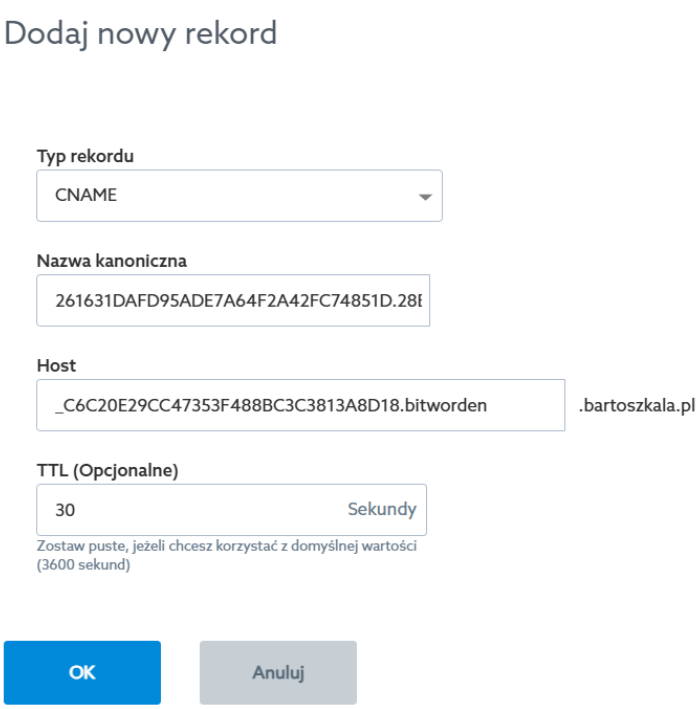
Free	Basic	Premium	Business
$0 per month	$12.50 per month or $10 if billed yearly	$62.50 per month or $50 if billed yearly	$125 per month or $100 if billed yearly
Selected	Select	Select	Select
ZeroSSL Certificates			
3 90-Day Certificates	∞ 90-Day Certificates	∞ 90-Day Certificates	∞ 90-Day Certificates
✗ 1-Year Certificates	3 1-Year Certificates	10 1-Year Certificates	25 1-Year Certificates
✗ 1-Year Wildcards	✗ 1-Year Wildcards	1 1-Year Wildcards	3 1-Year Wildcards
Features			
✗ Multi-Domain Certs	✓ Multi-Domain Certs	✓ Multi-Domain Certs	✓ Multi-Domain Certs
✗ Wildcard Certs	✗ Wildcard Certs	✓ Wildcard Certs	✓ Wildcard Certs
✓ ACME Certificates	✓ ACME Certificates	✓ ACME Certificates	✓ ACME Certificates
✗ REST API Access	✓ REST API Access	✓ REST API Access	✓ REST API Access
✗ Technical Support	✓ Technical Support	✓ Technical Support	✓ Technical Support

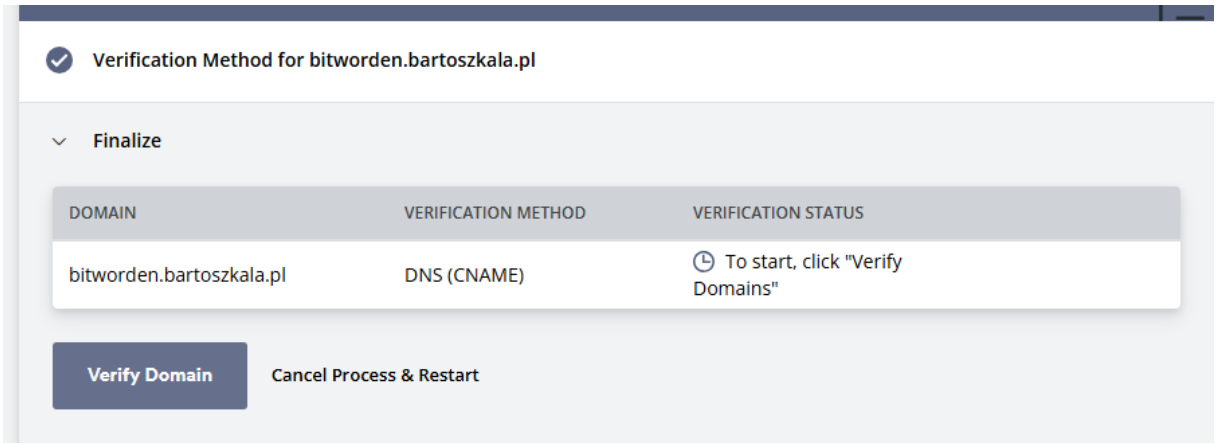
Need more? Click here to request a custom offer.

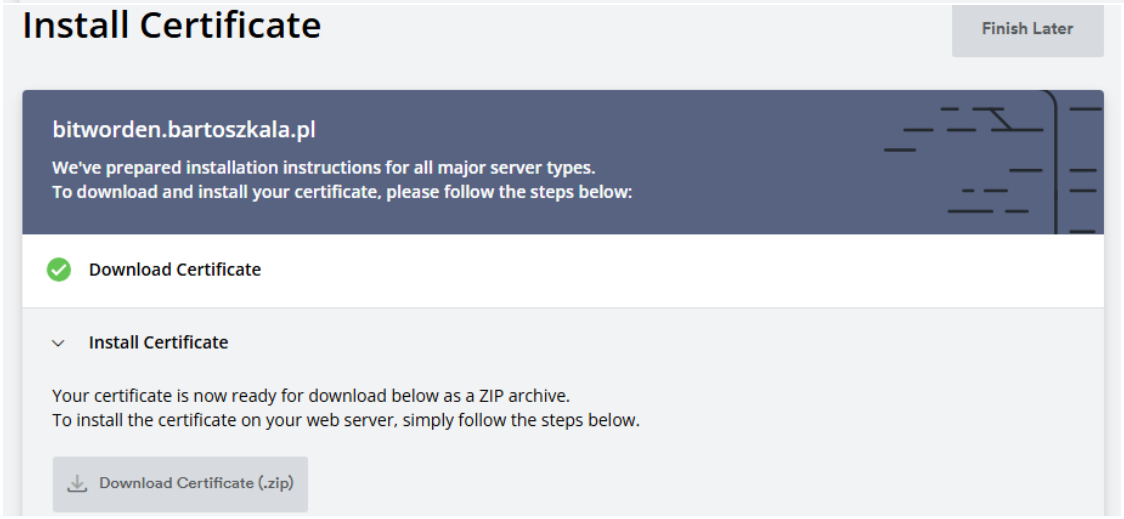
Next Step →

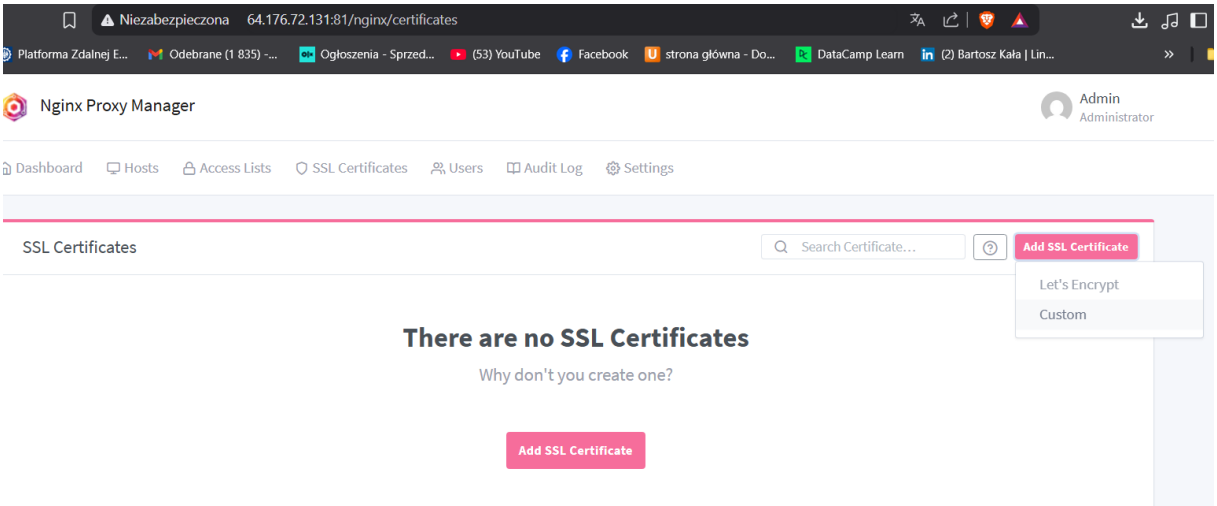


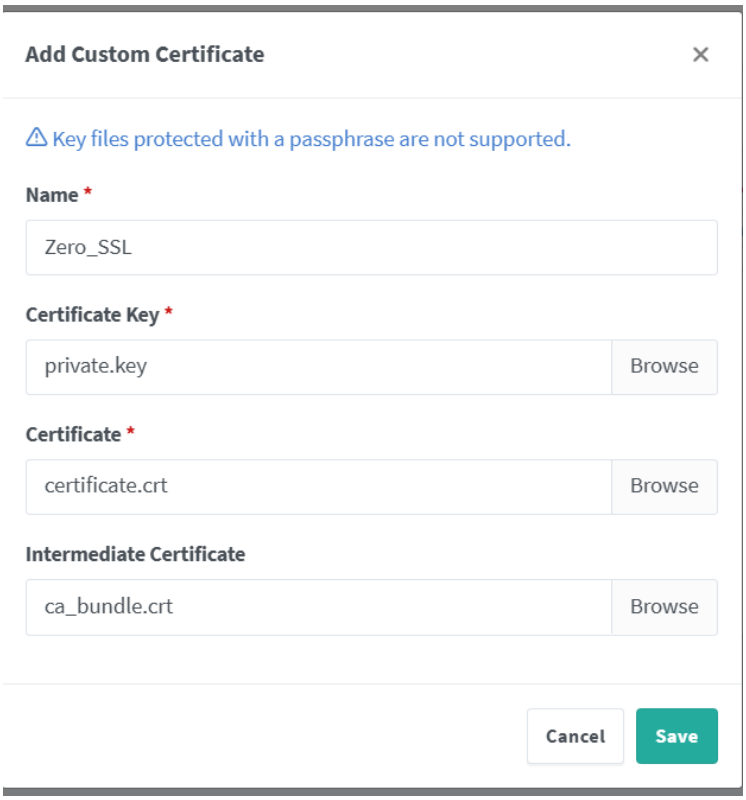
Tworzymy rekord zgodny z instrukcją:




Verification Method for bitworden.bartoszkala.pl
Finalize
DOMAIN
VERIFICATION METHOD
VERIFICATION STATUS
bitworden.bartoszkala.pl
DNS (CNAME)
To start, click "Verify Domains"
Verify Domain
Cancel Process & Restart

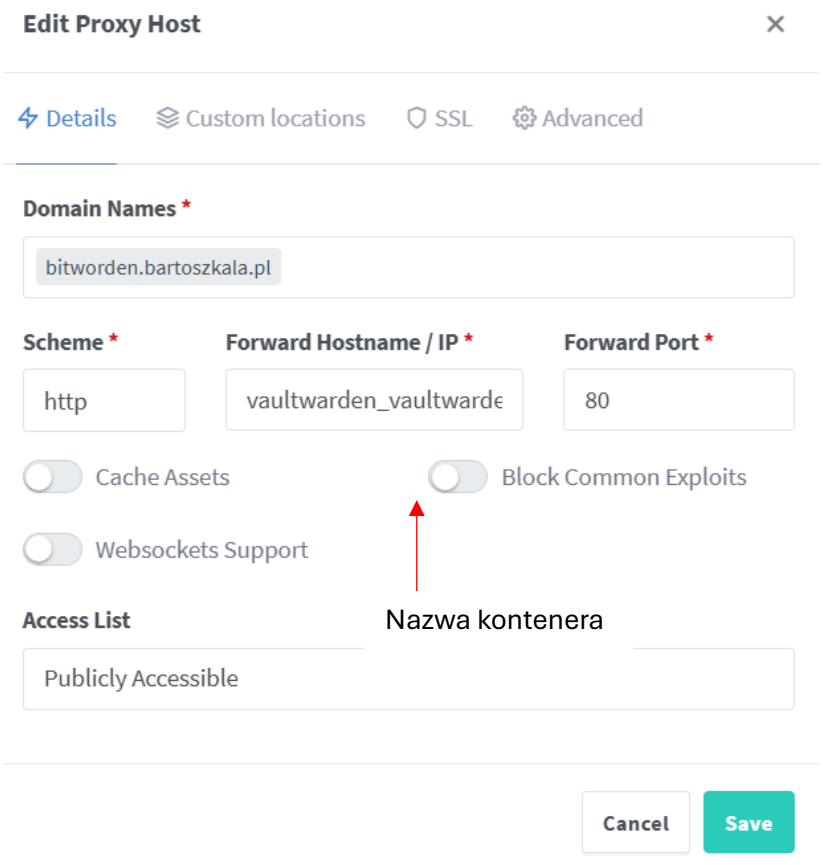

Install Certificate
Finish Later
bitworden.bartoszkala.pl
We've prepared installation instructions for all major server types.
To download and install your certificate, please follow the steps below:
Download Certificate
Install Certificate
Your certificate is now ready for download below as a ZIP archive.
To install the certificate on your web server, simply follow the steps below.
Download Certificate (.zip)

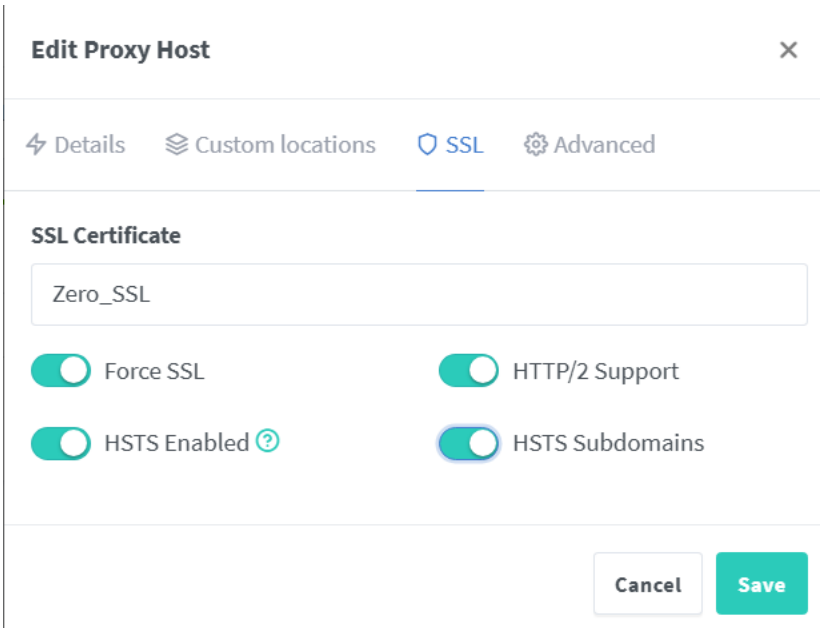

Niezabezpieczona
64.176.72.131:81/nginx/certificates
Nginx Proxy Manager
Admin
Administrator
Dashboard
Hosts
Access Lists
SSL Certificates
Users
Audit Log
Settings
SSL Certificates
Search Certificate...
Add SSL Certificate
Let's Encrypt
Custom
There are no SSL Certificates
Why don't you create one?
Add SSL Certificate



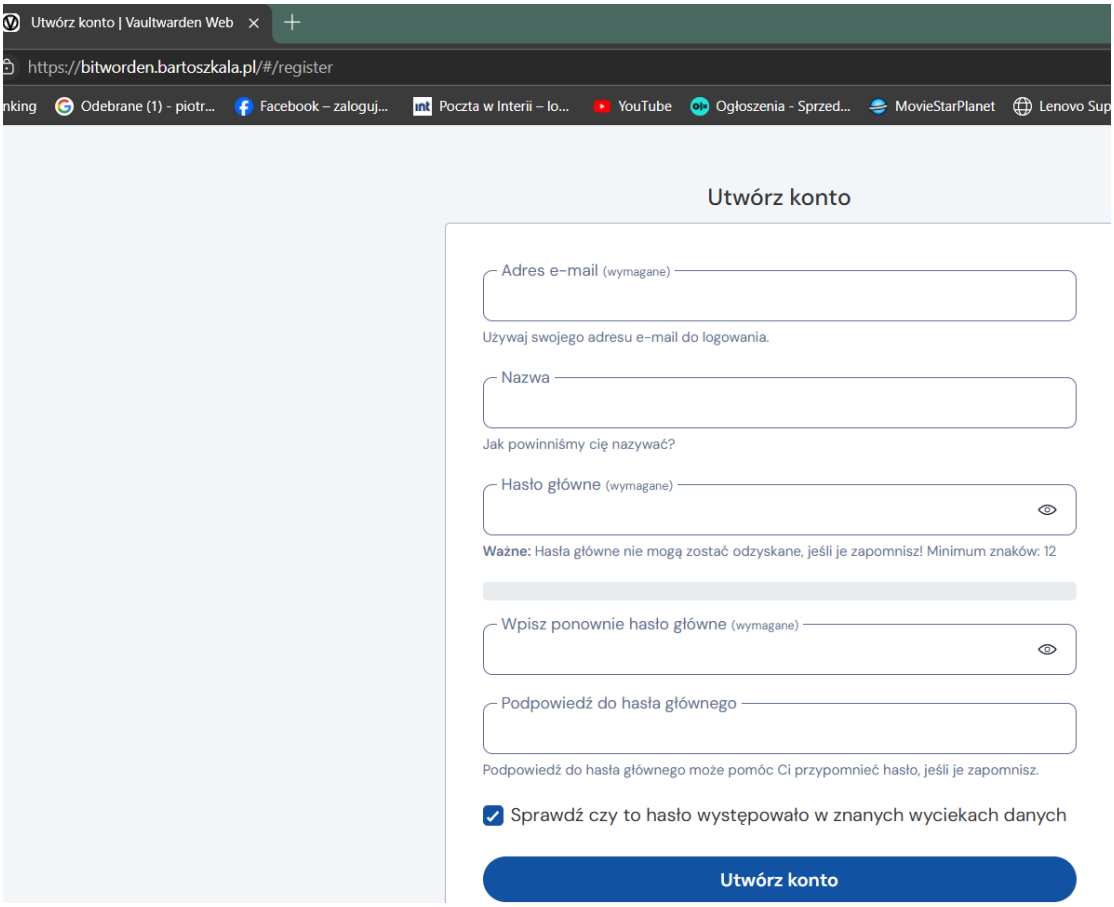
Dodajmy pliki pobrane z ZeroSSL

Dodajemy Host na NGINX:





Sprawdzamy działanie:



Zad 2

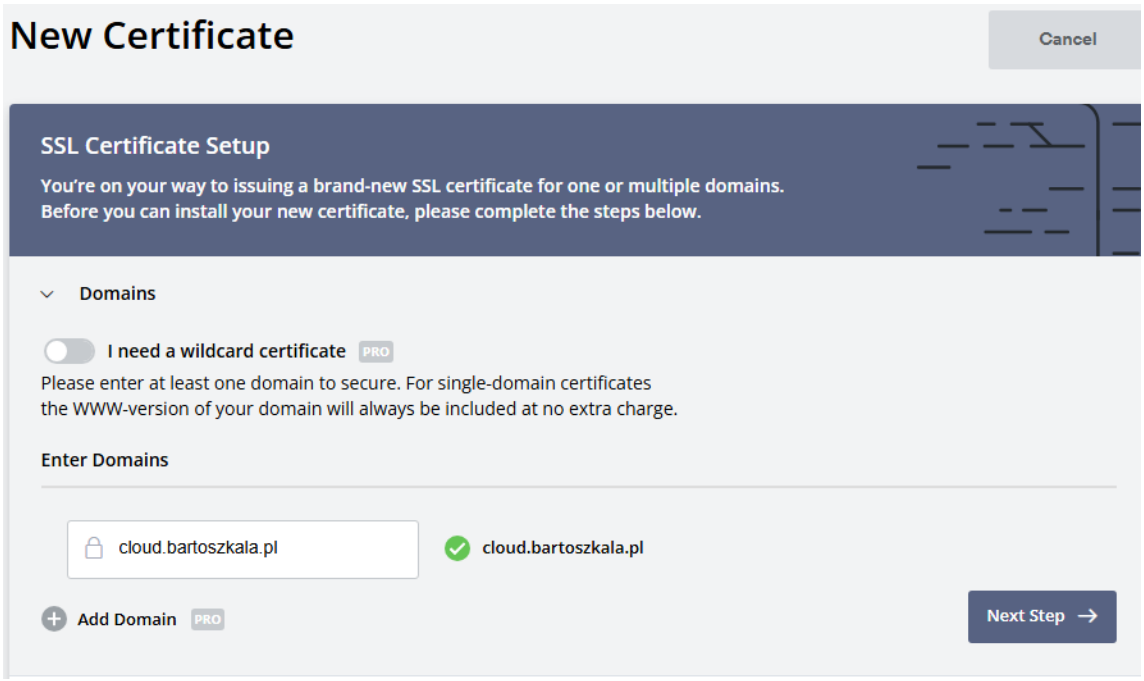
mkdir certy

cd certy

openssl req -newkey ec -pkeyopt ec_paramgen_curve:prime256v1 -nodes -keyout EPRIVATEKEY.key -out EMYCSR.csr -addext "subjectAltName=DNS:cloud.bartoszkala.pl" -subj "/C=PL/ST=SLASK/L=Gliwice/O=BartoszKala/OU=IT/CN=cloud.bartoszkala.pl/emailAddress=admin@bartoszkala.pl" -sha256

```
root@vultr:~/certy# ls
EMYCSR.csr  EPRIVATEKEY.key
root@vultr:~/certy# cat EPRIVATEKEY.key
-----BEGIN PRIVATE KEY-----
MIGHAgEAMBMGByqGSM49AgEGCCqGSM49AwEHBG0wawIBAQQg0AMC+5ems/Mugvrr
OY/sNinhTshd5rWlMFopLqWrOGqhRANCAATZGm3bDLApc2EHTKNOLkDaEWA59UB1
pCzavEHVzsd7wPKboDxj80ZsIZq9+nHnEAOSsc0NXvTuFAfgu6V88FfE
-----END PRIVATE KEY-----
root@vultr:~/certy# cat EMYCSR.csr
-----BEGIN CERTIFICATE REQUEST-----
MIIBhTCCASsCAQAwgZYxCzAJBgNVBAYTAlBMMQ4wDAYDVQQIDAVTTEFTSzEQMA4G
A1UEBwwHR2xpd2ljZTEUMBIGA1UECgwLQmFydG9zekthbGExCzAJBgNVBAsMAklU
MR0wGwYDVQQDDBRjbG91ZC5iYXJ0b3N6a2FsYS5wbDEjMCEGCSqGSIb3DQEJARYU
YWRtaW5AYmFydG9zemthbGEucGwwWTATBgcqhkjOPQIBBggqhkjOPQMBBwNCAATZ
Gm3bDLApc2EHTKNOLkDaEWA59UB1pCzavEHVzsd7wPKboDxj80ZsIZq9+nHnEAOS
sc0NXvTuFAfgu6V88FfEoDIwMAYJKoZIhvcNAQkOMSMwITAfBgNVHREEGDAWghRj
bG91ZC5iYXJ0b3N6a2FsYS5wbDAKBggqhkjOPQQDAgNIADBFAiEAn9SxlpIOkUTs
SEYHSDzTut+1Wns+nno+Dr/tgnTSYyoCICiwy8XPtd06SXPmp/A9s7KlaM7L9xCA
QUBHqa7qWwM+
-----END CERTIFICATE REQUEST-----
root@vultr:~/certy#
```

Tworzymy certyfikat na ZeroSSL:



Validity

You can now choose between generating 90-day or one-year certificate validity.
To keep manual work at a minimum, we recommend 1-year certificates.

- (•) 90-Day Certificate
- ( ) 1-Year Certificate PRO

Next Step →

CSR & Contact

Before validation, we will auto-generate contact information and a CSR for your certificate.
To enter your information manually or paste an existing CSR, please uncheck the box below.

- [ ] Auto-Generate CSR
- [x] Paste Existing CSR

Paste CSR here (common name shall match the first certificate domain - learn more):

```
-----BEGIN CERTIFICATE REQUEST-----
MIIBhTCCASsCAQAwgZYxCzAJBgNVBAYTAlBMMQ4wDAYDVQQIDAVTTEFTSzEQMA4G
A1UEBwwHR2xpd2ljZTEUMBIGA1UECgwLQmFydG9zekthbGExCzAJBgNVBAsMAklU
MR0wGwYDVQQDDBRjbG91ZC5iYXJ0b3N6a2FsYS5wbDEjMCEGCSqGSIb3DQEJARYU
YWRtaW5AYmFydG9zemthbGEucGwwWTATBgcqhkjOPQIBBggqhkjOPQMBBwNCAATZ
Gm3bDLApc2EHTKNOLkDaEWA59UB1pCzavEHVzsd7wPKboDxj80ZsIZq9+nHnEAOS
sc0NXvTuFAfgu6V88FfEoDIwMAYJKoZIhvcNAQkOMSMwITAfBgNVHREEGDAWghRj
bG91ZC5iYXJ0b3N6a2FsYS5wbDAKBggqhkjOPQQDAgNIADBFAiEAn9SxlpIOkUTs
SEYHSDzTut+1Wns+nno+Dr/tgnTSYyoCICiwy8XPtd06SXPmp/A9s7KlaM7L9xCA
QUBHqa7qWwM+
-----END CERTIFICATE REQUEST-----
```

Next Step →

(•) DNS (CNAME)

Follow the steps below

To verify your domain using a **CNAME record**, please follow the steps below:

1. Sign in to your DNS provider, typically the registrar of your domain.
2. Navigate to the section where DNS records are managed.
3. Add the following CNAME record:

Name

_44519BD4ECF05E416E8A9E2BABA9F783.cloud.bartoszkala.pl COPY

Point To

BF878F15DE9DC88E9D27D5A2EABB60D1.933E1036C196A900859084CB9EC5E4D5.355e07c92728cb2.comodoca.com COPY

TTL

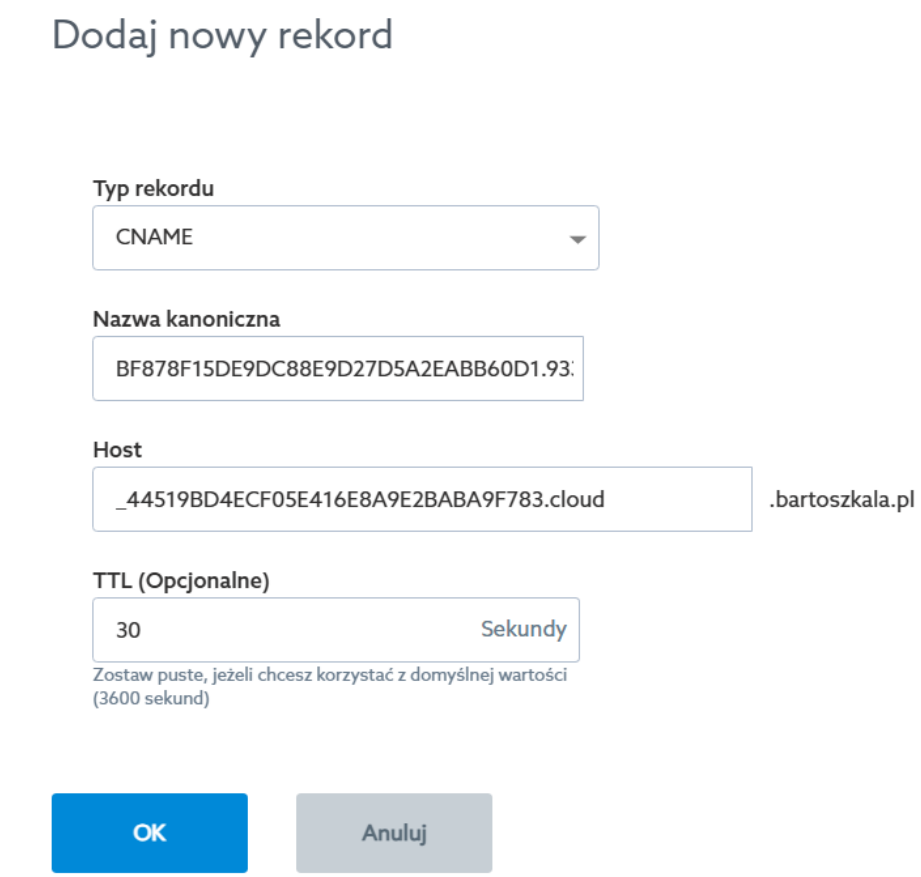
3600 (or lower)

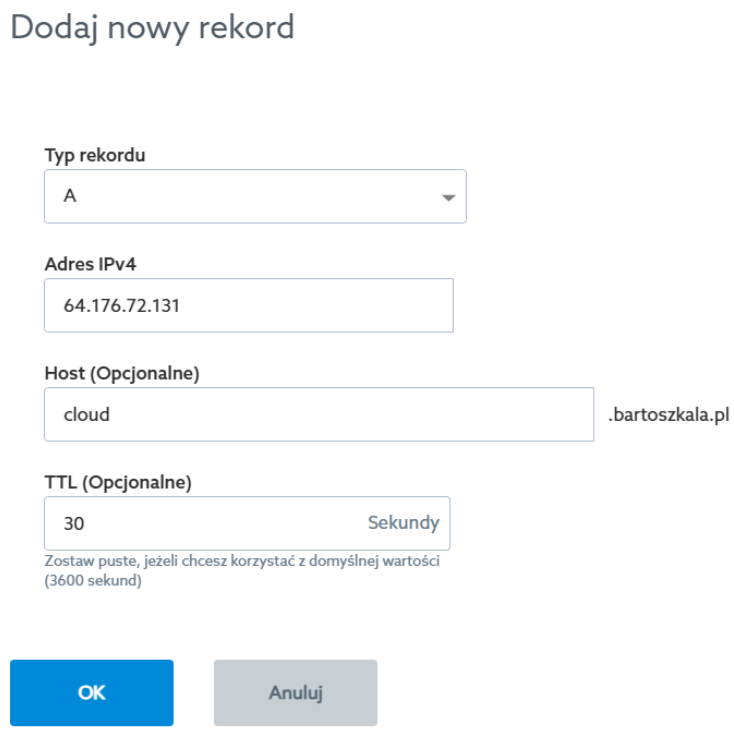
4. Save your CNAME record and click **"Next Step"** to continue.

( ) File Upload

Next Step →

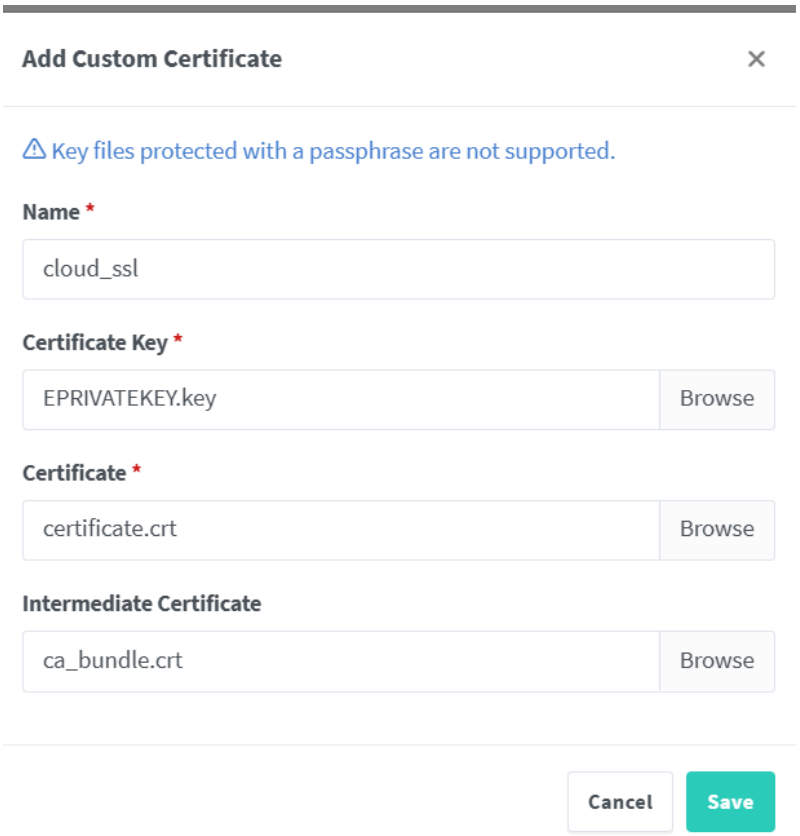
Tworzymy rekordy u operatora:





Kopiujemy wygenerowany klucz:

```
C:\Users\lenovo>scp -r root@64.176.72.131:/root/certy/EPRIVATEKEY.key C:\Users\lenovo\Desktop\cloud.bartoszkala.pl
root@64.176.72.131's password:
EPRIVATEKEY.key                                                                   100%  241     8.4KB/s   00:00

C:\Users\lenovo>
```



← dodajemy odpowiednie pliki

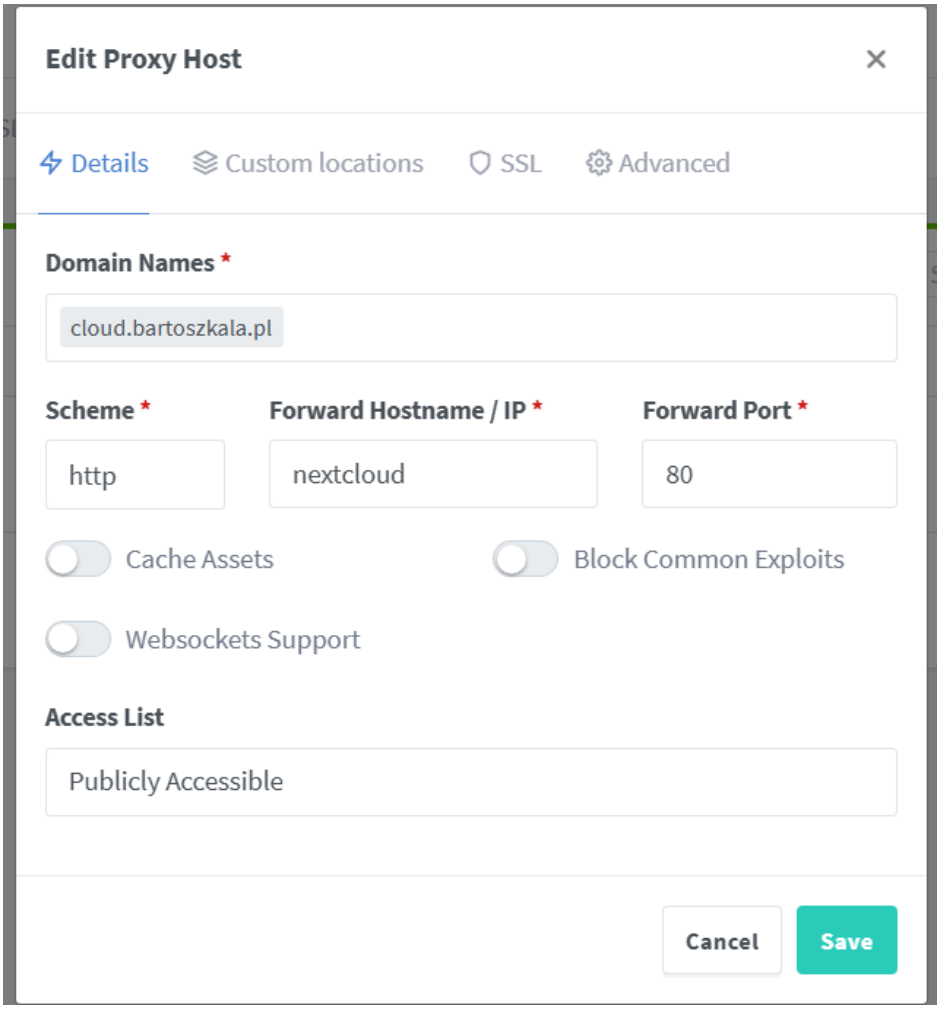
mkdir -p ~/nextcloud

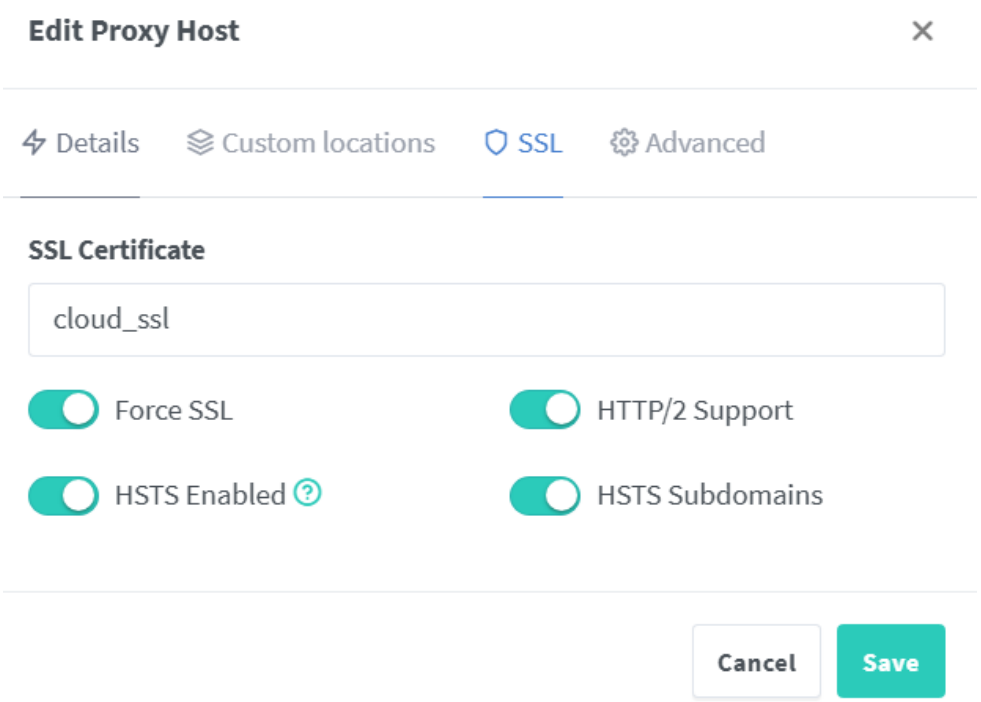
cd ~/nextcloud

Tworzymy plik:

```
/root/nextcloud/docker-compose.yaml   [-M--]  0
version: "3.8"

services:
  nextcloud:
    image: nextcloud:latest
    container_name: nextcloud
    environment:
      - MYSQL_PASSWORD=example
      - MYSQL_DATABASE=nextcloud
      - MYSQL_USER=nextcloud
      - MYSQL_HOST=db
    volumes:
      - nextcloud_data:/var/www/html
    networks:
      - nginx-proxy-manager_default
    depends_on:
      - db

  db:
    image: mariadb:latest
    container_name: nextcloud-db
    restart: always
    environment:
      - MYSQL_ROOT_PASSWORD=example
      - MYSQL_PASSWORD=example
      - MYSQL_DATABASE=nextcloud
      - MYSQL_USER=nextcloud
    volumes:
      - db_data:/var/lib/mysql
    networks:
      - nginx-proxy-manager_default

volumes:
  nextcloud_data:
  db_data:

networks:
  nginx-proxy-manager_default:
    external: true
```

```
root@vultr:~/nextcloud# docker-compose up -d
Creating volume "nextcloud_nextcloud_data" with default driver
Creating volume "nextcloud_db_data" with default driver
Pulling db (mariadb:latest)...
latest: Pulling from library/mariadb
0622fac788ed: Extracting [==================================================>]  29.72MB/29.72MB
90dbf4535882: Download complete
95ed3e3fde04: Download complete
0b381eed6c88: Download complete
d7547f36e497: Download complete
a5e33262a388: Downloading [=========>                                         ]  12.84MB/69.85MB
3984aae8ebb4: Download complete
```





Sprawdzamy działanie: