

Na zdalnym serwerze VPS (u mnie vultr) tworzymy skrypt z odniesieniem do naszej domeny:

```
/root/skrypt [-M--] 26 L: [ 1+ 2 3/ 22] *(138 / 580b) 0034 0x022

#pod ponizsza zmienna podstaw wykorzystywana przez siebie domene DNS zarejestrowana w publicznym systemie DNS:
mojadomena="bartoszkala.pl"

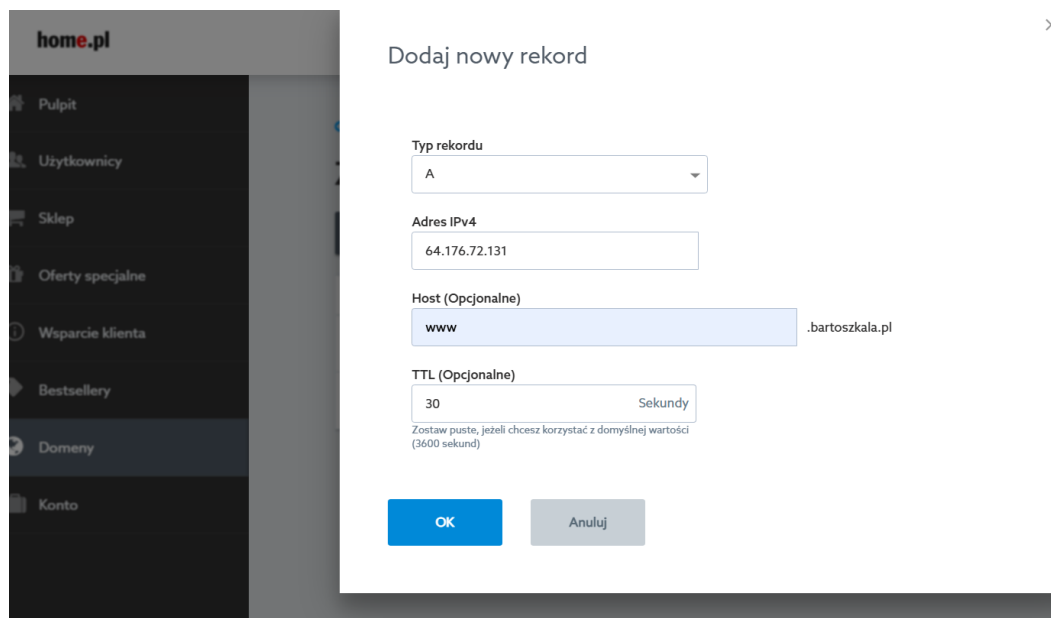
apt update && apt install -y apache2
ufw allow http
ufw allow https
mkdir /var/www/html/strona1
echo "Strona testowa $mojadomena" > /var/www/html/strona1/index.html

konf="<VirtualHost *:80>
DocumentRoot /var/www/html/strona1/
ServerName $mojadomena
ServerAlias www.$mojadomena
ServerAdmin postmaster@$mojadomena
</VirtualHost>"

echo "$konf" > /etc/apache2/sites-available/$mojadomena.conf

a2ensite $mojadomena
systemctl restart apache2
```

U operatora (u mnie home.pl), u którego mamy domenę podmieniamy aktualny adres na ten który przekierowywuje na adres naszej maszyny:



The screenshot shows the 'home.pl' control panel interface. On the left is a sidebar menu with options: Pulpit, Użytkownicy, Sklep, Oferty specjalne, Wsparcie klienta, Bestseller, Domeny, and Konto. The 'Domeny' section is active. The main area displays the 'Dodaj nowy rekord' (Add new record) form. The form includes a dropdown for 'Typ rekordu' (Record type) set to 'A', a text field for 'Adres IPv4' (IPv4 address) containing '64.176.72.131', a text field for 'Host (Opcjonalne)' (Optional host) containing 'www', and a dropdown for 'TTL (Opcjonalne)' (Optional TTL) set to '30' seconds. Below the form, there is a note: 'Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości (3600 sekund)' (Leave empty if you want to use the default value (3600 seconds)). At the bottom of the form are two buttons: 'OK' and 'Anuluj' (Cancel).

```
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>
```

DNS CHECK

bartoszka.pl

A

Search

CD Flag

Refresh: 20 sec.

San Francisco CA, United States	64.176.72.131	✓
Mountain View CA, United States	64.176.72.131	✓
Berkeley, US	64.176.72.131	✓
Kansas City, United States	-	✗
United States	-	✗
Ashburn, United States	64.176.72.131	✓
San Francisco, US	64.176.72.131	✓
Burnaby, Canada	-	✗
Yekaterinburg, Russian Federation	-	✗

CHECK DNS PROPAGATION

Whether you have recently changed your DNS records, switched web host, or started a new website - check whether the DNS records are propagated globally is essential. DNS Checker provides a free DNS propagation check service to check Domain Name System records against a selected list of DNS servers in multiple region worldwide. Perform a quick DNS propagation lookup for any hostname or domain, and check DNS data colle from all available DNS Servers to confirm that the DNS records are fully propagated.

DNS Propagation Map by DNSChecker.org

```
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)

Połączenia sieciowe

Organizuj

Wyłącz to urządzenie sieciowe

Diagnostuj to połączenie

Zmień na...

Połączenie sieciowe Bluetooth

Brak połączenia

Bluetooth Device (Personal Area ...)

Wi-Fi

Home_2.4G 2

Qualcomm Atheros QCA61x4A Wi...

Właściwości: Wi-Fi

Sieć

Połącz, używając:

Qualcomm Atheros QCA61x4A Wireless Network Adapter

Konfiguruj...

To połączenie wykorzystuje następujące składniki:

☒ Klient sieci Microsoft Networks

☒ VMware Bridge Protocol

☒ Udostępnianie plików i drukarek w sieciach firmy Micro...

☒ VirtualBox NDIS6 Bridged Networking Driver

☒ Npcap Packet Driver (NPCAP)

☒ Harmonogram pakietów QoS

☒ Protokół internetowy w wersji 4 (TCP/IPv4)

Zainstaluj... Odinstaluj Właściwości

Opis

Transmission Control Protocol/Internet Protocol. Domyślny protokół dla sieci rozległych umożliwiający komunikację połączonych sieci różnych typów.

OK Anuluj

Właściwości: Protokół internetowy w wersji 4 (TCP/IPv4)

Ogólne

Konfiguracja alternatywna

Przy odpowiedniej konfiguracji sieci możesz automatycznie uzyskać niezbędne ustawienia protokołu IP. W przeciwnym wypadku musisz uzyskać ustawienia protokołu IP od administratora sieci.

☒ Uzyskaj adres IP automatycznie

☐ Użyj następującego adresu IP:

Adres IP:

Maska podsieci:

Brama domyślna:

☐ Uzyskaj adres serwera DNS automatycznie

☒ Użyj następujących adresów serwerów DNS:

Preferowany serwer DNS:

Alternatywny serwer DNS:

< > ↺

Niezabezpieczona bartoszka.pl

Konto Interia Platforma Zdalnej E... Odebrane (1 835) -... Ogł

Strona testowa bartoszka.pl

Zad 1- Instalacja oprogramowania

```
apt update && apt install snapd -y
# snap install core
# snap refresh core
# snap install --classic certbot
# ln -s /snap/bin/certbot /usr/bin/certbot
```

```
root@vultr:~# certbot --version
certbot 4.0.0
root@vultr:~# certbot --help

-----

certbot [SUBCOMMAND] [options] [-d DOMAIN] [-d DOMAIN] ...

Certbot can obtain and install HTTPS/TLS/SSL certificates.  By default,
it will attempt to use a webserver both for obtaining and installing the
certificate.  The most common SUBCOMMANDS and flags are:

obtain, install, and renew certificates:
    (default) run          Obtain & install a certificate in your current webserver
    certonly              Obtain or renew a certificate, but do not install it
    renew                 Renew all previously obtained certificates that are near
expiry
    enhance               Add security enhancements to your existing configuration
    -d DOMAINS            Comma-separated list of domains to obtain a certificate for

    --apache              Use the Apache plugin for authentication & installation
    --standalone           Run a standalone webserver for authentication
    --nginx               Use the Nginx plugin for authentication & installation
    --webroot             Place files in a server's webroot folder for authentication
    --manual              Obtain certificates interactively, or using shell script
hooks
    -n                   Run non-interactively
    --test-cert           Obtain a test certificate from a staging server
    --dry-run            Test "renew" or "certonly" without saving any certificates
to disk

manage certificates:
    certificates          Display information about certificates you have from Certbot
    revoke                Revoke a certificate (supply --cert-name or --cert-path)
    delete               Delete a certificate (supply --cert-name)
    reconfigure           Update a certificate's configuration (supply --cert-name)

manage your account:
    register              Create an ACME account
    unregister            Deactivate an ACME account
```

Zad 2- tworzenie certyfikatu

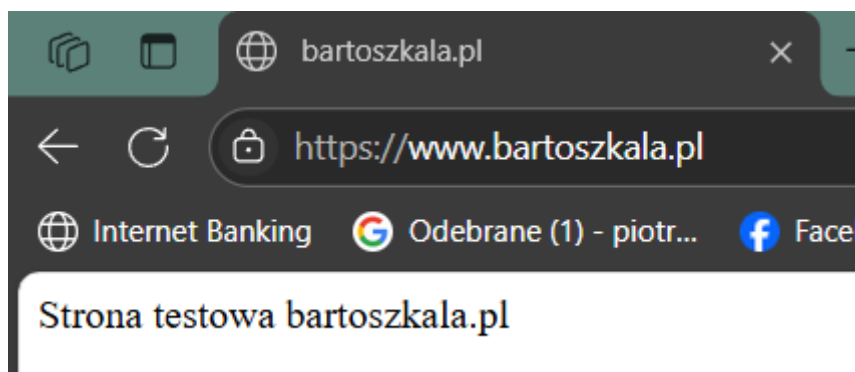
```
root@vultr:~# certbot --apache
Saving debug log to /var/log/letsencrypt/letsencrypt.log

Which names would you like to activate HTTPS for?
We recommend selecting either all domains, or all domains in a VirtualHost/s
erver block.
- - - - -
1: bartoszkala.pl
2: www.bartoszkala.pl
- - - - -
- -
Select the appropriate numbers separated by commas and/or spaces, or leave i
nput
blank to select all options shown (Enter 'c' to cancel): 1
Requesting a certificate for bartoszkala.pl

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
Key is saved at: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
This certificate expires on 2025-08-24.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate
in the background.

Deploying certificate
Successfully deployed certificate for bartoszkala.pl to /etc/apache2/sites-a
vailable/bartoszkala.pl-le-ssl.conf
Congratulations! You have successfully enabled HTTPS on https://bartoszkala.
pl

- - - - -
- -
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
- - - - -
- -
root@vultr:~#
```



OgólneSzczegóły

Hierarchia certyfikatów

▼ ISRG Root X1

▼ E6

bartoszkala.pl

Pola certyfikatu

▼ bartoszkala.pl

▼ Certyfikat

Wersja

Numer seryjny

Algorytm podpisu certyfikatu

Wystawca

▼ Ważność

Nieważny przed

Wartość pola

Eksportuj...

Sprawdźmy utworzone pliki:

```
Left      File      Command  Options  Right
< /etc/apache2/sites-available .[^]>
.n                Name      Size  Modify time
/..              UP--DIR
000-default.conf      1332  Oct  4 2024
bartoszkala.pl-le-ssl.conf      390  May 26 17:37
bartoszkala.pl.conf      349  May 26 17:30
default-ssl.conf      6338  Oct  4 2024
```


Zad 3

Tworzymy skrypt:

```
/root/skrypt-forum.sh [-M--] 32 L: [ 1+ 0 1/ 17] *(32 / 366b) 0034
mojadomena="forum.bartoszkala.pl"

mkdir /var/www/html/forum
echo "Strona forum na $mojadomena" > /var/www/html/forum/index.html

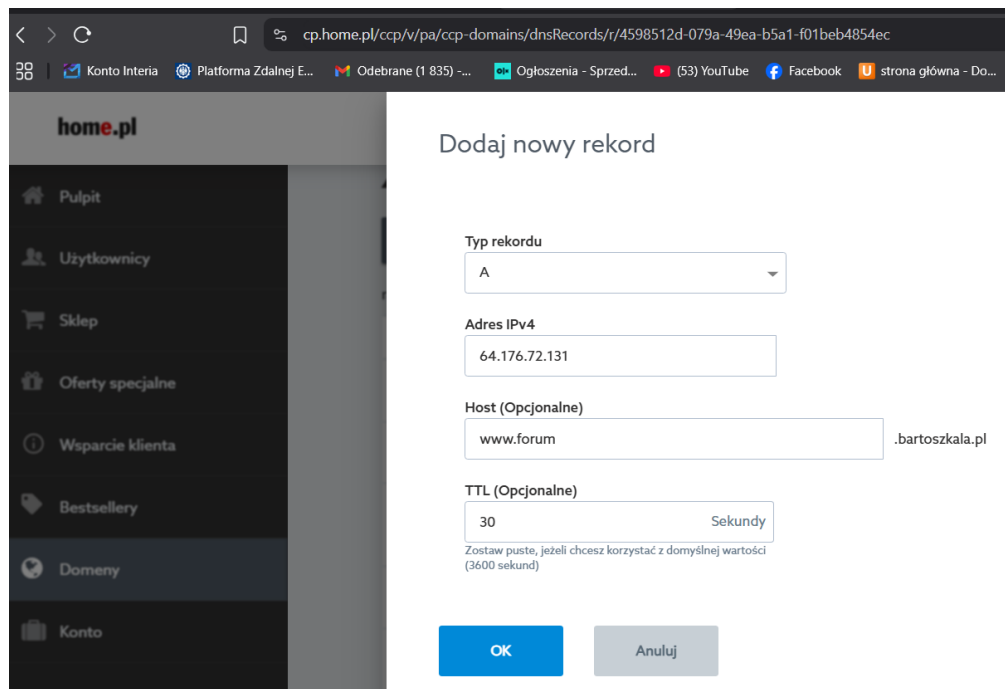
konf="<VirtualHost *:80>
DocumentRoot /var/www/html/forum/
ServerName $mojadomena
ServerAlias www.$mojadomena

</VirtualHost>"

echo "$konf" > /etc/apache2/sites-available/$mojadomena.conf

a2ensite $mojadomena
systemctl reload apache2
```

Dodajemy rekord u operatora:



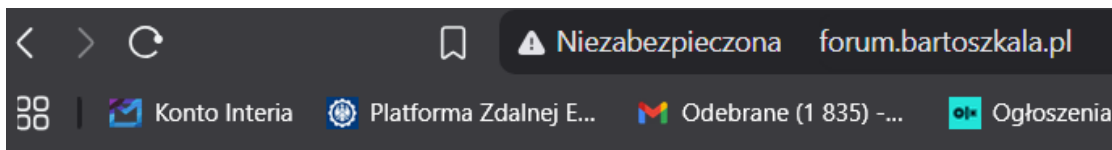
The screenshot shows the 'home.pl' website interface. On the left is a sidebar menu with options: Pulpit, Użytkownicy, Sklep, Oferty specjalne, Wsparcie klienta, Bestsellery, Domeny, and Konto. The main content area is titled 'Dodaj nowy rekord' (Add new record). It contains a form with the following fields:

- Typ rekordu** (Record type): A dropdown menu with 'A' selected.
- Adres IPv4** (IPv4 address): A text input field containing '64.176.72.131'.
- Host (Opcjonalne)** (Optional host): A text input field containing 'www.forum' followed by '.bartoszkala.pl'.
- TTL (Opcjonalne)** (Optional TTL): A text input field containing '30' followed by 'Sekundy' (Seconds).

Below the form, there is a note: 'Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości (3600 sekund)' (Leave empty if you want to use the default value (3600 seconds)). At the bottom of the form are two buttons: 'OK' (blue) and 'Anuluj' (grey).

```
root@vultr:~# chmod 700 ./skrypt-forum.sh
root@vultr:~# ./skrypt-forum.sh
Enabling site forum.bartoszkala.pl.
To activate the new configuration, you need to run:
    systemctl reload apache2
root@vultr:~#
```

Sprawdzamy działanie:



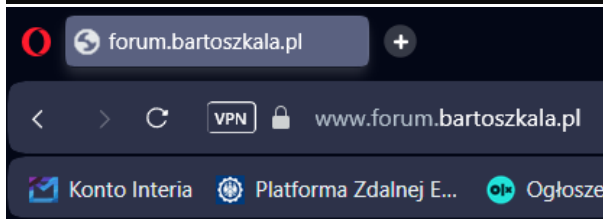
Strona forum na forum.bartoszka.pl

```
We recommend selecting either all domains, or all domains in a VirtualHost/server block.
-----
1: bartoszka.pl
2: forum.bartoszka.pl
3: www.forum.bartoszka.pl
4: www.bartoszka.pl
-----
Select the appropriate numbers separated by commas and/or spaces, or leave input
blank to select all options shown (Enter 'c' to cancel): 2 3
Requesting a certificate for forum.bartoszka.pl and www.forum.bartoszka.pl

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/forum.bartoszka.pl/fullchain.pem
Key is saved at: /etc/letsencrypt/live/forum.bartoszka.pl/privkey.pem
This certificate expires on 2025-08-24.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

Deploying certificate
Successfully deployed certificate for forum.bartoszka.pl to /etc/apache2/sites-available/forum.bartoszka.pl-le-ssl.conf
Successfully deployed certificate for www.forum.bartoszka.pl to /etc/apache2/sites-available/forum.bartoszka.pl-le-ssl.conf
Congratulations! You have successfully enabled HTTPS on https://forum.bartoszka.pl and https://www.forum.bartoszka.pl

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~#
```



Strona forum na forum.bartoszka.pl

Zad 4

Dodaj nowy rekord

Typ rekordu

A

Adres IPv4

64.176.72.131

Host (Opcjonalne)

wiki

.bartoszka.pl

TTL (Opcjonalne)

30

Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości
(3600 sekund)

OK

Anuluj

Tworzymy plik:

```
/root/skrypt-wiki.sh [-M--] 31 L:[ 1+ 0 1/ 17] *(31 / 365b) 00
mojadomena="wiki.bartoszkala.pl"

mkdir /var/www/html/forum
echo "Strona forum na $mojadomena" > /var/www/html/forum/index.html

konf="<VirtualHost *:80>
DocumentRoot /var/www/html/forum/
ServerName $mojadomena
ServerAlias www.$mojadomena

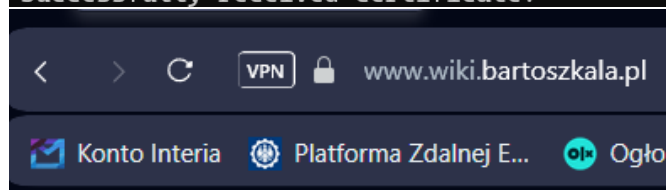
</VirtualHost>"

echo "$konf" > /etc/apache2/sites-available/$mojadomena.conf

a2ensite $mojadomena
systemctl reload apache2

root@vultr:~# chmod 700 ./skrypt-wiki.sh
root@vultr:~# ./skrypt-wiki.sh
mkdir: cannot create directory '/var/www/html/forum': File exists
Enabling site wiki.bartoszkala.pl.
To activate the new configuration, you need to run:
    systemctl reload apache2
root@vultr:~# |

root@vultr:~# certbot --apache -d wiki.bartoszkala.pl -d www.wiki.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for wiki.bartoszkala.pl and www.wiki.bartoszkala.pl
Successfully received certificate.
```



Strona forum na wiki.bartoszkala.pl

/etc/apache2/sites-available				.[^]>	
Name		Size	Modify	time	
/..		UP--DIR	May 26	18:53	
000-default.conf		1332	Oct 4	2024	
bartoszkala.pl-le-ssl.conf		390	May 26	17:37	
bartoszkala.pl.conf		349	May 26	17:30	
default-ssl.conf		6338	Oct 4	2024	
forum.bartoszkala.pl-le-ssl.conf		375	May 26	17:59	
forum.bartoszkala.pl.conf		334	May 26	17:59	
wiki.bartoszkala.pl-le-ssl.conf		371	May 26	18:53	
wiki.bartoszkala.pl.conf		330	May 26	18:53	

```

/etc/apache2/sites-available/wiki.bartoszkala.pl.conf [----] 0 L: 1
<VirtualHost *:80>
DocumentRoot /var/www/html/forum/
ServerName wiki.bartoszkala.pl
ServerAlias www.wiki.bartoszkala.pl

RewriteEngine on
RewriteCond %{SERVER_NAME} =wiki.bartoszkala.pl [OR]
RewriteCond %{SERVER_NAME} =www.wiki.bartoszkala.pl
RewriteRule ^ https://%{SERVER_NAME}%{REQUEST_URI} [END,NE,R=permanent]
</VirtualHost>

/etc/apache2/sites-available/wiki.bartoszkala.pl-le-ssl.conf [----] 0 L:
<IfModule mod_ssl.c>
<VirtualHost *:443>
DocumentRoot /var/www/html/forum/
ServerName wiki.bartoszkala.pl
ServerAlias www.wiki.bartoszkala.pl

Include /etc/letsencrypt/options-ssl-apache.conf
SSLCertificateFile /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem
SSLCertificateKeyFile /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
</VirtualHost>
</IfModule>

```

Zad 5- sprawdzenie szczegółów

```

root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
Found the following certs:
Certificate Name: bartoszkala.pl
  Serial Number: 55a39c5363d608038208641c9e72eb6dbc7
  Key Type: ECDSA
  Domains: bartoszkala.pl www.bartoszkala.pl
  Expiry Date: 2025-08-24 16:35:15+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
Certificate Name: forum.bartoszkala.pl
  Serial Number: 635a5ca5f680079c8022157c30d4cf5c789
  Key Type: ECDSA
  Domains: forum.bartoszkala.pl www.forum.bartoszkala.pl
  Expiry Date: 2025-08-24 17:01:10+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/forum.bartoszkala.pl/privkey.pem
Certificate Name: wiki.bartoszkala.pl
  Serial Number: 5065d34e0b7222664229fb9b68ae9aed25a
  Key Type: ECDSA
  Domains: wiki.bartoszkala.pl www.wiki.bartoszkala.pl
  Expiry Date: 2025-08-24 17:54:58+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
- - - - -
root@vultr:~# |

```

Zad 6

```
root@vultr:~# certbot certonly --dry-run --standalone --preferred-challenges http -d test.bartoszkala.pl -d ftp.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Account registered.
Simulating a certificate request for test.bartoszkala.pl and ftp.bartoszkala.pl

-----
Could not bind TCP port 80 because it is already in use by another process on
this system (such as a web server). Please stop the program in question and then
try again.
-----
(R)etry/(C)ancel: c
Could not bind TCP port 80 because it is already in use by another process on this system (such as a web server). Please stop the program in question and then
try again.
Ask for help or search for solutions at https://community.letsencrypt.org. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v for
more details.
root@vultr:~# systemctl stop apache2
root@vultr:~# certbot certonly --dry-run --standalone --preferred-challenges http -d test.bartoszkala.pl -d ftp.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Simulating a certificate request for test.bartoszkala.pl and ftp.bartoszkala.pl

Certbot failed to authenticate some domains (authenticator: standalone). The Certificate Authority reported these problems:
  Domain: ftp.bartoszkala.pl
  Type:   dns
  Detail: DNS problem: NXDOMAIN looking up A for ftp.bartoszkala.pl - check that a DNS record exists for this domain; DNS problem: NXDOMAIN looking up AAAA
for ftp.bartoszkala.pl - check that a DNS record exists for this domain
  Domain: test.bartoszkala.pl
  Type:   dns
  Detail: DNS problem: NXDOMAIN looking up A for test.bartoszkala.pl - check that a DNS record exists for this domain; DNS problem: NXDOMAIN looking up AAAA
for test.bartoszkala.pl - check that a DNS record exists for this domain

Hint: The Certificate Authority failed to download the challenge files from the temporary standalone webserver started by Certbot on port 80. Ensure that th
e listed domains point to this machine and that it can accept inbound connections from the internet.

Some challenges have failed.
Ask for help or search for solutions at https://community.letsencrypt.org. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v fo
r more details.
root@vultr:~#
```

Dodajemy rekordy u operatora:

Dodaj nowy rekord

Typ rekordu

A

Adres IPv4

64.176.72.131

Host (Opcjonalne)

test

.bartoszkala.pl

TTL (Opcjonalne)

30

Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości
(3600 sekund)

OK

Anuluj

```
root@vultr:~# certbot certonly --dry-run --standalone --preferred-challenges http -d test.bartoszkala.pl -d ftp.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Simulating a certificate request for test.bartoszkala.pl and ftp.bartoszkala.pl
The dry run was successful.
root@vultr:~#
```

```

root@vultr:~# certbot certonly --standalone --preferred-challenges http -d test.bartoszkala.pl -d ftp.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for test.bartoszkala.pl and ftp.bartoszkala.pl

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/test.bartoszkala.pl/fullchain.pem
Key is saved at: /etc/letsencrypt/live/test.bartoszkala.pl/privkey.pem
This certificate expires on 2025-08-24.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~#

```

```

<- /etc/letsencrypt/archive
.n                                     Name
/..
/bartoszkala.pl
/forum.bartoszkala.pl
/test.bartoszkala.pl
/wiki.bartoszkala.pl

```

```

root@vultr:~# openssl x509 -in /etc/letsencrypt/live/test.bartoszkala.pl/cert.pem -noout -text
Certificate:
    Data:
        Version: 3 (0x2)
        Serial Number:
            06:c1:b4:d7:8b:a6:a7:92:b6:7f:ca:fe:3d:ee:b8:4a:8d:64
        Signature Algorithm: ecdsa-with-SHA384
        Issuer: C = US, O = Let's Encrypt, CN = E6
        Validity
            Not Before: May 26 18:13:41 2025 GMT
            Not After : Aug 24 18:13:40 2025 GMT
        Subject: CN = test.bartoszkala.pl
        Subject Public Key Info:
            Public Key Algorithm: id-ecPublicKey
            Public-Key: (256 bit)
            pub:
                04:1e:bb:69:ea:17:eb:d6:d5:fb:e8:ea:e5:31:30:
                05:69:eb:7e:79:e0:16:db:79:ca:8c:68:6b:43:e6:
                87:c4:c4:79:e1:ae:c4:d1:b2:65:8d:ae:38:9a:d3:
                67:a6:a7:88:f5:35:e3:c3:07:01:d0:3b:8d:bf:11:
                5d:b4:d3:11:1c
            ASN1 OID: prime256v1
            NIST CURVE: P-256
        X509v3 extensions:
            X509v3 Key Usage: critical
                Digital Signature
            X509v3 Extended Key Usage:
                TLS Web Server Authentication, TLS Web Client Authentication
            X509v3 Basic Constraints: critical
                CA:FALSE
            X509v3 Subject Key Identifier:
                58:F6:37:83:2F:96:8B:A6:80:FC:78:B4:08:81:BD:66:9E:70:EC:06
            X509v3 Authority Key Identifier:
                keyid:93:27:46:98:03:A9:51:68:8E:98:D6:C4:42:48:DB:23:BF:58:94:D2

            Authority Information Access:
                CA Issuers - URI:http://e6.i.lencr.org/

            X509v3 Subject Alternative Name:
                DNS:ftp.bartoszkala.pl, DNS:test.bartoszkala.pl
            X509v3 Certificate Policies:

```

`systemctl start apache2`

Zad 7- automatyczne odnawianie

```
root@vultr:~# certbot renew --dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Processing /etc/letsencrypt/renewal/bartoszka.pl.conf
-----
Simulating renewal of an existing certificate for bartoszka.pl and www.bartoszka.pl

-----
Processing /etc/letsencrypt/renewal/forum.bartoszka.pl.conf
-----
Simulating renewal of an existing certificate for forum.bartoszka.pl and www.forum.bartoszka.pl

-----
Processing /etc/letsencrypt/renewal/test.bartoszka.pl.conf
-----
Simulating renewal of an existing certificate for test.bartoszka.pl and ftp.bartoszka.pl
Failed to renew certificate test.bartoszka.pl with error: Could not bind TCP port 80 because it is already in use by another process on this system (such as a web server). Please stop the program in question and then try again.

-----
Processing /etc/letsencrypt/renewal/wiki.bartoszka.pl.conf
-----
Simulating renewal of an existing certificate for wiki.bartoszka.pl and www.wiki.bartoszka.pl

-----
The following simulated renewals succeeded:
  /etc/letsencrypt/live/bartoszka.pl/fullchain.pem (success)
  /etc/letsencrypt/live/forum.bartoszka.pl/fullchain.pem (success)
  /etc/letsencrypt/live/wiki.bartoszka.pl/fullchain.pem (success)
The following simulated renewals failed:
  /etc/letsencrypt/live/test.bartoszka.pl/fullchain.pem (failure)
1 renew failure(s), 0 parse failure(s)
Ask for help or search for solutions at https://community.letsencrypt.org. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v for more details.
root@vultr:~#
```

```
root@vultr:~# certbot renew
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Processing /etc/letsencrypt/renewal/bartoszka.pl.conf
-----
Certificate not yet due for renewal

-----
Processing /etc/letsencrypt/renewal/forum.bartoszka.pl.conf
-----
Certificate not yet due for renewal

-----
Processing /etc/letsencrypt/renewal/test.bartoszka.pl.conf
-----
Certificate not yet due for renewal

-----
Processing /etc/letsencrypt/renewal/wiki.bartoszka.pl.conf
-----
Certificate not yet due for renewal

-----
The following certificates are not due for renewal yet:
  /etc/letsencrypt/live/bartoszka.pl/fullchain.pem expires on 2025-08-24 (skipped)
  /etc/letsencrypt/live/forum.bartoszka.pl/fullchain.pem expires on 2025-08-24 (skipped)
  /etc/letsencrypt/live/test.bartoszka.pl/fullchain.pem expires on 2025-08-24 (skipped)
  /etc/letsencrypt/live/wiki.bartoszka.pl/fullchain.pem expires on 2025-08-24 (skipped)
No renewals were attempted.
-----
root@vultr:~#
```

Tworzymy plik:

```
/etc/cron.d/certbot  [-M--] 71 L:[ 1+ 3 4/ 4] *(152 / 152b) <EOF>
SHELL=/bin/sh
PATH=/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/usr/bin

0 0,12 * * * root certbot renew --post-hook "systemctl restart apache2"
```

Ciekawostka

--pre-hook - polecenie podane w ramach tego przetącznika zadziała zanim certbot rozpocznie proces odnawiania certyfikatu
--post-hook - polecenie podane w ramach tego przetącznika zadziała po zakończeniu przez certbot'a procesu odnowienia certyfikatu
--deploy-hook - polecenie podane w ramach tego przetącznika zadziała tylko wtedy, gdy proces odnowienia certyfikatów przez certbot, zakończy się pomyślnie dla każdego certyfikatu

```
root@vultr:~# systemctl restart cron
root@vultr:~# systemctl status cron
● cron.service - Regular background program processing daemon
   Loaded: loaded (/lib/systemd/system/cron.service; enabled; vendor preset: enabled)
   Active: active (running) since Mon 2025-05-26 19:30:57 UTC; 2s ago
     Docs: man:cron(8)
    Main PID: 8867 (cron)
       Tasks: 1 (limit: 1108)
      Memory: 356.0K
         CPU: 2ms
    CGroup: /system.slice/cron.service
            └─8867 /usr/sbin/cron -f

May 26 19:30:57 vultr systemd[1]: Started Regular background program processing daemon.
May 26 19:30:57 vultr cron[8867]: (CRON) INFO (pidfile fd = 3)
May 26 19:30:57 vultr cron[8867]: (CRON) INFO (Skipping @reboot jobs -- not system startup)
root@vultr:~#
```

Zad 8- odnowienie

```
root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following certs:
Certificate Name: bartoszkala.pl
  Serial Number: 55a39c5363d608038208641c9e72eb6dbc7
  Key Type: ECDSA
  Domains: bartoszkala.pl www.bartoszkala.pl
  Expiry Date: 2025-08-24 16:35:15+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
Certificate Name: forum.bartoszkala.pl
  Serial Number: 635a5ca5f680079c8022157c30d4cf5c789
  Key Type: ECDSA
  Domains: forum.bartoszkala.pl www.forum.bartoszkala.pl
  Expiry Date: 2025-08-24 17:01:10+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/forum.bartoszkala.pl/privkey.pem
Certificate Name: test.bartoszkala.pl
  Serial Number: 6c1b4d78ba6a792b67fcafe3deeb84a8d64
  Key Type: ECDSA
  Domains: test.bartoszkala.pl ftp.bartoszkala.pl
  Expiry Date: 2025-08-24 18:13:40+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/test.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/test.bartoszkala.pl/privkey.pem
Certificate Name: wiki.bartoszkala.pl
  Serial Number: 5065d34e0b7222664229fb9b68ae9aed25a
  Key Type: ECDSA
  Domains: wiki.bartoszkala.pl www.wiki.bartoszkala.pl
  Expiry Date: 2025-08-24 17:54:58+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
-----
root@vultr:~#
```

Ciekawostka

`--allow-subset-of-names` mówi Certbot'owi, aby kontynuował generowanie certyfikatu jeśli można uzyskać pozytywną weryfikację tylko niektórych z określonych domen (może to być przydatne, jeśli niektóre domeny określone w certyfikacie nie wskazują już na ten system)

```
root@vultr:~# certbot renew --cert-name bartoszkala.pl --dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
Processing /etc/letsencrypt/renewal/bartoszkala.pl.conf
- - - - -
Simulating renewal of an existing certificate for bartoszkala.pl and www.bartoszkala.pl

- - - - -
Congratulations, all simulated renewals succeeded:
  /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem (success)
- - - - -
root@vultr:~#
```

```
root@vultr:~# certbot renew --cert-name bartoszkala.pl --dry-run --allow-subset-of-names
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
Processing /etc/letsencrypt/renewal/bartoszkala.pl.conf
- - - - -
Simulating renewal of an existing certificate for bartoszkala.pl and www.bartoszkala.pl

- - - - -
Congratulations, all simulated renewals succeeded:
  /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem (success)
- - - - -
root@vultr:~# |
```

Zad 9

```
root@vultr:~# certbot renew --force-renewal
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
Processing /etc/letsencrypt/renewal/bartoszkala.pl.conf
- - - - -
Renewing an existing certificate for bartoszkala.pl and www.bartoszkala.pl
Reloading apache server after certificate renewal

- - - - -
Processing /etc/letsencrypt/renewal/forum.bartoszkala.pl.conf
- - - - -
Renewing an existing certificate for forum.bartoszkala.pl and www.forum.bartoszkala.pl
Reloading apache server after certificate renewal

- - - - -
Processing /etc/letsencrypt/renewal/test.bartoszkala.pl.conf
- - - - -
Renewing an existing certificate for test.bartoszkala.pl and ftp.bartoszkala.pl

- - - - -
Processing /etc/letsencrypt/renewal/wiki.bartoszkala.pl.conf
- - - - -
Renewing an existing certificate for wiki.bartoszkala.pl and www.wiki.bartoszkala.pl
Reloading apache server after certificate renewal

- - - - -
Congratulations, all renewals succeeded:
  /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem (success)
  /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.pem (success)
  /etc/letsencrypt/live/test.bartoszkala.pl/fullchain.pem (success)
  /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem (success)
- - - - -
root@vultr:~#
```

```

root@vultr:~# certbot renew --cert-name bartoszkala.pl --allow-subset-of-names --force-renewal
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
Processing /etc/letsencrypt/renewal/bartoszkala.pl.conf
- - - - -

Renewing an existing certificate for bartoszkala.pl and www.bartoszkala.pl
Reloading apache server after certificate renewal

- - - - -

Congratulations, all renewals succeeded:
  /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem (success)
- - - - -
root@vultr:~#

```

Zad 10 – usunięcie i dodanie domeny

```

root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
Found the following certs:
Certificate Name: bartoszkala.pl
  Serial Number: 65b04a39a7da54d9e180e47b583a30cc23d
  Key Type: ECDSA
  Domains: bartoszkala.pl www.bartoszkala.pl
  Expiry Date: 2025-08-24 18:39:35+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
Certificate Name: forum.bartoszkala.pl
  Serial Number: 609177701caa07c816c195a0a158b4581c1
  Key Type: ECDSA
  Domains: forum.bartoszkala.pl www.forum.bartoszkala.pl
  Expiry Date: 2025-08-24 18:37:47+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/forum.bartoszkala.pl/privkey.pem
Certificate Name: test.bartoszkala.pl
  Serial Number: 5905c47374b7db43e9e19337096c579c786
  Key Type: ECDSA
  Domains: test.bartoszkala.pl ftp.bartoszkala.pl
  Expiry Date: 2025-08-24 18:37:56+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/test.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/test.bartoszkala.pl/privkey.pem
Certificate Name: wiki.bartoszkala.pl
  Serial Number: 6b7cdd22552a2ef5d55e4b8312624cc1e6f
  Key Type: ECDSA
  Domains: wiki.bartoszkala.pl www.wiki.bartoszkala.pl
  Expiry Date: 2025-08-24 18:38:01+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
- - - - -

```



```
root@vultr:~# certbot certonly --cert-name test.bartoszkala.pl -d test.bart
oszkala.pl -d ftp.bartoszkala.pl -d vpn.bartoszkala.pl --dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log

How would you like to authenticate with the ACME CA?
- - - - -
1: Apache Web Server plugin (apache)
2: Runs an HTTP server locally which serves the necessary validation files u
nder
the /.well-known/acme-challenge/ request path. Suitable if there is no HTTP
server already running. HTTP challenge only (wildcards not supported).
(standalone)
3: Saves the necessary validation files to a .well-known/acme-challenge/
directory within the nominated webroot path. A separate HTTP server must be
running and serving files from the webroot path. HTTP challenge only (wildca
rds
not supported). (webroot)
- - - - -
Select the appropriate number [1-3] then [enter] (press 'c' to cancel):
```

Dodaj nowy rekord

Typ rekordu

A ▼

Adres IPv4

64.176.72.131

Host (Opcjonalne)

vpn .bartoszkala.pl

TTL (Opcjonalne)

30 Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości
(3600 sekund)

OK Anuluj

Systemctl stop apache2

```

root@vultr:~# certbot certonly --cert-name test.bartoszkala.pl -d test.bart
oszkala.pl -d vpn.bartoszkala.pl --dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log

How would you like to authenticate with the ACME CA?
- - - - -
- -
1: Apache Web Server plugin (apache)
2: Runs an HTTP server locally which serves the necessary validation files u
nder
the /.well-known/acme-challenge/ request path. Suitable if there is no HTTP
server already running. HTTP challenge only (wildcards not supported).
(standalone)
3: Saves the necessary validation files to a .well-known/acme-challenge/
directory within the nominated webroot path. A separate HTTP server must be
running and serving files from the webroot path. HTTP challenge only (wildca
rds
not supported). (webroot)
- - - - -
- -
Select the appropriate number [1-3] then [enter] (press 'c' to cancel): 2
- - - - -
- -
You are updating certificate test.bartoszkala.pl to include new domain(s):
+ vpn.bartoszkala.pl

You are also removing previously included domain(s):
- ftp.bartoszkala.pl

Did you intend to make this change?
- - - - -
- -
(U)pdate certificate/(C)ancel:

```

```

root@vultr:~# certbot certonly --cert-name test.bartoszkala.pl -d test.bart
oszkala.pl -d vpn.bartoszkala.pl

```

systemctl start apache2

Zad 11- certyfikat bez rekonfiguracji (web-root)

```

root@vultr:~# systemctl start apache2
root@vultr:~# certbot certonly --webroot --agree-tos --email kontakt@bartosz
kala.pl -d vpn.bartoszkala.pl -w /var/www/html/strona1/ --dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Simulating a certificate request for vpn.bartoszkala.pl

Certbot failed to authenticate some domains (authenticator: webroot). The Ce
rtificate Authority reported these problems:
  Domain: vpn.bartoszkala.pl
  Type: unauthorized
  Detail: 64.176.72.131: Invalid response from http://vpn.bartoszkala.pl/.we
ll-known/acme-challenge/jrP0SVhXDmFNv2S0cSQLrdPf152aA4B5B25SsdfbJ_Y: 404

Hint: The Certificate Authority failed to download the temporary challenge f
iles created by Certbot. Ensure that the listed domains serve their content
from the provided --webroot-path/-w and that files created there can be down
loaded from the internet.

Some challenges have failed.
Ask for help or search for solutions at https://community.letsencrypt.org. S
ee the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -
v for more details.
root@vultr:~#

```

```

root@vultr:~# certbot certonly --webroot --agree-tos --email kontakt@bartosz
kala.pl -d bartoszkala.pl -d www.bartoszkala.pl -w /var/www/html/strona1/ --
dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Simulating renewal of an existing certificate for bartoszkala.pl and www.bar
toszkala.pl
The dry run was successful.
root@vultr:~#
root@vultr:~# certbot certonly --webroot --agree-tos --email kontakt@bartosz
kala.pl -w /var/www/html/strona1/ -d bartoszkala.pl -w /var/www/html/forum/
-d forum.bartoszkala.pl --dry-run
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Simulating a certificate request for bartoszkala.pl and forum.bartoszkala.pl
The dry run was successful.
root@vultr:~# |

```

Zad 12 (dns-challenge)

Dodaj nowy rekord

Typ rekordu

A

Adres IPv4

64.176.72.131

Host (Opcjonalne)

dns .bartoszkala.pl

TTL (Opcjonalne)

30 Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości (3600 sekund)

OK Anuluj

```

root@vultr:~# certbot certonly --manual --preferred-challenges dns -d dns.ba
rtoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for dns.bartoszkala.pl

-----
Please deploy a DNS TXT record under the name:
_acme-challenge.dns.bartoszkala.pl.

with the following value:

JpuJD0KHsfwRozvYtgrBs_nVNVFXv1dc7xPdinoPQ5I

Before continuing, verify the TXT record has been deployed. Depending on the
DNS
provider, this may take some time, from a few seconds to multiple minutes. Y
ou can
check if it has finished deploying with aid of online tools, such as the Goo
gle
Admin Toolbox: https://toolbox.googleapps.com/apps/dig/#TXT/_acme-challenge.
dns.bartoszkala.pl.
Look for one or more bolded line(s) below the line ';ANSWER'. It should show
the
value(s) you've just added.

-----
Press Enter to Continue

```

Dodaj nowy rekord

Typ rekordu

TXT

Wartość tekstowa

JpuJDOKHSfwRozvYtgrBs_nVNVFXv1dc7xPdinoPQ5I

Host (Opcjonalne)

_acme-challenge.dns

.bartoszkala.pl

TTL (Opcjonalne)

30

Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości
(3600 sekund)

OK

Anuluj

Press Enter to Continue

Successfully received certificate.

Certificate is saved at: /etc/letsencrypt/live/dns.bartoszkala.pl/fullchain

Key is saved at: /etc/letsencrypt/live/dns.bartoszkala.pl/privkey.p

This certificate expires on 2025-08-26.

These files will be updated when the certificate renews.

NEXT STEPS:

- This certificate will not be renewed automatically. Autorenewal of --manu
hook) but one was not provided. To renew this certificate, repeat this same

If you like Certbot, please consider supporting our work by:

* Donating to ISRG / Let's Encrypt: <https://letsencrypt.org/donate>

* Donating to EFF: <https://eff.org/donate-le>

root@vultr:~#

```

root@vultr:~# openssl x509 -in /etc/letsencrypt/live/dns.bartoszkala.pl/cert
.pem -noout -text
Certificate:
    Data:
        Version: 3 (0x2)
        Serial Number:
            05:e7:c0:11:6a:a9:50:47:41:5a:51:23:fa:de:4d:6c:2e:d1
        Signature Algorithm: ecdsa-with-SHA384
        Issuer: C = US, O = Let's Encrypt, CN = E6
        Validity
            Not Before: May 28 06:34:24 2025 GMT
            Not After : Aug 26 06:34:23 2025 GMT
        Subject: CN = dns.bartoszkala.pl
        Subject Public Key Info:
            Public Key Algorithm: id-ecPublicKey
            Public-Key: (256 bit)
            pub:
                04:f3:0c:39:be:85:ee:34:e7:ef:ba:89:25:0b:fb:
                5f:c8:ed:c7:97:20:2a:91:e0:ca:c8:a7:c3:6f:89:
                2e:a8:50:86:c7:0f:9a:be:3f:98:e8:b6:85:91:12:
                49:4e:71:ee:53:2f:db:30:ba:90:b3:07:a1:59:d3:
                58:da:d9:7c:70
            ASN1 OID: prime256v1
            NIST CURVE: P-256
        X509v3 extensions:
            X509v3 Key Usage: critical
                Digital Signature
            X509v3 Extended Key Usage:
                TLS Web Server Authentication, TLS Web Client Authentication
            X509v3 Basic Constraints: critical
                CA:FALSE
            X509v3 Subject Key Identifier:
                36:BE:40:72:A2:48:C3:71:4E:A0:99:FA:11:23:AE:0C:0E:87:C9:8F
            X509v3 Authority Key Identifier:
                keyid:93:27:46:98:03:A9:51:68:8E:98:D6:C4:42:48:DB:23:BF:58:94:D2

            Authority Information Access:
                CA Issuers - URI:http://e6.i.lencr.org/

            X509v3 Subject Alternative Name:
                DNS:dns.bartoszkala.pl

```

Zad 13 – klucz ECDSA

```

root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following certs:
Certificate Name: bartoszkala.pl
    Serial Number: 65b04a39a7da54d9e180e47b583a30cc23d
    Key Type: ECDSA
    Domains: bartoszkala.pl www.bartoszkala.pl
    Expiry Date: 2025-08-24 18:39:35+00:00 (VALID: 88 days)
    Certificate Path: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
    Private Key Path: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
Certificate Name: dns.bartoszkala.pl
    Serial Number: 5e7c0116aa95047415a5123fade4d6c2ed1
    Key Type: ECDSA
    Domains: dns.bartoszkala.pl
    Expiry Date: 2025-08-26 06:34:23+00:00 (VALID: 89 days)
    Certificate Path: /etc/letsencrypt/live/dns.bartoszkala.pl/fullchain.pem
    Private Key Path: /etc/letsencrypt/live/dns.bartoszkala.pl/privkey.pem
Certificate Name: forum.bartoszkala.pl
    Serial Number: 609177701caa07c816c195a0a158b4581c1
    Key Type: ECDSA
    Domains: forum.bartoszkala.pl www.forum.bartoszkala.pl
    Expiry Date: 2025-08-24 18:37:47+00:00 (VALID: 88 days)
    Certificate Path: /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.pem
    Private Key Path: /etc/letsencrypt/live/forum.bartoszkala.pl/privkey.pem
Certificate Name: test.bartoszkala.pl
    Serial Number: 60b9df15fae0de1a7a1457c9299f998d8fe
    Key Type: ECDSA
    Domains: test.bartoszkala.pl vpn.bartoszkala.pl
    Expiry Date: 2025-08-26 06:08:57+00:00 (VALID: 89 days)
    Certificate Path: /etc/letsencrypt/live/test.bartoszkala.pl/fullchain.pem
    Private Key Path: /etc/letsencrypt/live/test.bartoszkala.pl/privkey.pem
Certificate Name: wiki.bartoszkala.pl
    Serial Number: 6b7cdd22552a2ef5d55e4b8312624cc1e6f
    Key Type: ECDSA
    Domains: wiki.bartoszkala.pl www.wiki.bartoszkala.pl
    Expiry Date: 2025-08-24 18:38:01+00:00 (VALID: 88 days)
    Certificate Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem
    Private Key Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
-----

```

```
root@vultr:~# certbot renew --cert-name bartoszkala.pl --allow-subset-of-names --force-renewal --key-type=ecdsa --elliptic-curve=secp256r1
Saving debug log to /var/log/letsencrypt/letsencrypt.log
```

```
-----
Processing /etc/letsencrypt/renewal/bartoszkala.pl.conf
-----
```

```
Renewing an existing certificate for bartoszkala.pl and www.bartoszkala.pl
Reloading apache server after certificate renewal
```

```
-----
Congratulations, all renewals succeeded:
  /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem (success)
-----
```

```
root@vultr:~# |
```

```
root@vultr:~# openssl x509 -in /etc/letsencrypt/live/bartoszkala.pl/cert.pem
-noout -text
```

```
Certificate:
```

```
Data:
```

```
Version: 3 (0x2)
```

```
Serial Number:
```

```
05:61:51:88:6a:95:c9:27:a8:98:26:ab:41:9d:49:b9:9c:78
```

```
Signature Algorithm: ecdsa-with-SHA384
```

```
Issuer: C = US, O = Let's Encrypt, CN = E5
```

```
Validity
```

```
Not Before: May 28 06:37:24 2025 GMT
```

```
Not After : Aug 26 06:37:23 2025 GMT
```

```
Subject: CN = bartoszkala.pl
```

```
Subject Public Key Info:
```

```
Public Key Algorithm: id-ecPublicKey
```

```
Public-Key: (256 bit)
```

```
pub:
```

```
04:65:e0:a9:89:bb:69:93:db:32:b5:d2:d4:7d:da:
```

```
dc:ba:39:16:a5:28:fc:bc:3a:38:01:7d:c7:1e:3a:
```

```
f7:ff:55:74:94:af:80:29:ce:32:1b:e5:db:65:78:
```

```
b2:85:3e:15:7f:64:af:eb:2a:04:14:52:e6:45:3a:
```

```
4b:9f:46:a6:24
```

```
ASN1 OID: prime256v1
```

```
NIST CURVE: P-256
```

```
X509v3 extensions:
```

```
X509v3 Key Usage: critical
```

```
Digital Signature
```

```
X509v3 Extended Key Usage:
```

```
TLS Web Server Authentication, TLS Web Client Authentication
```

```
X509v3 Basic Constraints: critical
```

```
CA:FALSE
```

```
X509v3 Subject Key Identifier:
```

```
AF:18:10:4A:CA:91:65:59:82:18:B7:E1:9C:55:E6:9D:70:5D:1D:B7
```

```
X509v3 Authority Key Identifier:
```

```
keyid:9F:2B:5F:CF:3C:21:4F:9D:04:B7:ED:2B:2C:C4:C6:70:8B:D2:D7:0D
```

```
Authority Information Access:
```

```
CA Issuers - URI:http://e5.i.lencr.org/
```

```
X509v3 Subject Alternative Name:
```

```
DNS:bartoszkala.pl, DNS:www.bartoszkala.pl
```

Left	File	Command	Op
<	/etc/letsencrypt/renewal		
.	.n	Name	
/	..		
	bartoszkala.pl.conf		
	dns.bartoszkala.pl.conf		
	forum.bartoszkala.pl.conf		
	test.bartoszkala.pl.conf		
	wiki.bartoszkala.pl.conf		

```

/etc/letsencrypt/renewal/bartoszkala.pl.conf [-----] 0 L:[
# renew_before_expiry = 30 days
version = 4.0.0
archive_dir = /etc/letsencrypt/archive/bartoszkala.pl
cert = /etc/letsencrypt/live/bartoszkala.pl/cert.pem
privkey = /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
chain = /etc/letsencrypt/live/bartoszkala.pl/chain.pem
fullchain = /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem

# Options used in the renewal process
[renewalparams]
account = d285af21f68f6dcd93ed1998b60edcb
authenticator = apache
installer = apache
server = https://acme-v02.api.letsencrypt.org/directory
key_type = ecdsa
allow_subset_of_names = True
elliptic_curve = secp256r1

```

Zad 14 – odwołanie certyfikatu

```

root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following certs:
Certificate Name: bartoszkala.pl
  Serial Number: 56151886a95c927a89826ab419d49b99c78
  Key Type: ECDSA
  Domains: bartoszkala.pl www.bartoszkala.pl
  Expiry Date: 2025-08-26 06:37:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
Certificate Name: dns.bartoszkala.pl
  Serial Number: 5e7c0116aa95047415a5123fade4d6c2ed1
  Key Type: ECDSA
  Domains: dns.bartoszkala.pl
  Expiry Date: 2025-08-26 06:34:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/dns.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/dns.bartoszkala.pl/privkey.pem
Certificate Name: forum.bartoszkala.pl
  Serial Number: 609177701caa07c816c195a0a158b4581c1
  Key Type: ECDSA
  Domains: forum.bartoszkala.pl www.forum.bartoszkala.pl
  Expiry Date: 2025-08-24 18:37:47+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/forum.bartoszkala.pl/privkey.pem
Certificate Name: test.bartoszkala.pl
  Serial Number: 60b9df15fae0de1a7a1457c9299f998d8fe
  Key Type: ECDSA
  Domains: test.bartoszkala.pl vpn.bartoszkala.pl
  Expiry Date: 2025-08-26 06:08:57+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/test.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/test.bartoszkala.pl/privkey.pem
Certificate Name: wiki.bartoszkala.pl
  Serial Number: 6b7cdd22552a2ef5d55e4b8312624cc1e6f
  Key Type: ECDSA
  Domains: wiki.bartoszkala.pl www.wiki.bartoszkala.pl
  Expiry Date: 2025-08-24 18:38:01+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
-----

```

```

root@vultr:~# certbot revoke --cert-name test.bartoszka.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Would you like to delete the certificate(s) you just revoked, along with all
earlier and later versions of the certificate?
-----
(Y)es (recommended)/(N)o: Y

-----
The following certificate(s) are selected for deletion:

    * test.bartoszka.pl

WARNING: Before continuing, ensure that the listed certificates are not being
used by any installed server software (e.g. Apache, nginx, mail servers).
Deleting a certificate that is still being used will cause the server software
to stop working. See https://certbot.org/deleting-certs for information on
deleting certificates safely.

Are you sure you want to delete the above certificate(s)?
-----
(Y)es/(N)o: Y
Deleted all files relating to certificate test.bartoszka.pl.
Congratulations! You have successfully revoked the certificate that was located at
root@vultr:~#

```

```

root@vultr:~# certbot certificates --cert-name test.bartoszka.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following matching certs:
-----
root@vultr:~#

```

Zad 15 – usuwanie certyfikatu

```

root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following certs:
Certificate Name: bartoszka.pl
  Serial Number: 56151886a95c927a89826ab419d49b99c78
  Key Type: ECDSA
  Domains: bartoszka.pl www.bartoszka.pl
  Expiry Date: 2025-08-26 06:37:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/bartoszka.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszka.pl/privkey.pem
Certificate Name: dns.bartoszka.pl
  Serial Number: 5e7c0116aa95047415a5123fade4d6c2ed1
  Key Type: ECDSA
  Domains: dns.bartoszka.pl
  Expiry Date: 2025-08-26 06:34:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/dns.bartoszka.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/dns.bartoszka.pl/privkey.pem
Certificate Name: forum.bartoszka.pl
  Serial Number: 609177701caa07c816c195a0a158b4581c1
  Key Type: ECDSA
  Domains: forum.bartoszka.pl www.forum.bartoszka.pl
  Expiry Date: 2025-08-24 18:37:47+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszka.pl/fullchain.p
em
  Private Key Path: /etc/letsencrypt/live/forum.bartoszka.pl/privkey.pem
Certificate Name: wiki.bartoszka.pl
  Serial Number: 6b7cdd22552a2ef5d55e4b8312624cc1e6f
  Key Type: ECDSA
  Domains: wiki.bartoszka.pl www.wiki.bartoszka.pl
  Expiry Date: 2025-08-24 18:38:01+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszka.pl/fullchain.p
em
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszka.pl/privkey.pem
-----

```



```

root@vultr:~# certbot delete --cert-name www.wiki.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
- -
The following certificate(s) are selected for deletion:

* www.wiki.bartoszkala.pl

WARNING: Before continuing, ensure that the listed certificates are not being
used by any installed server software (e.g. Apache, nginx, mail servers).
Deleting a certificate that is still being used will cause the server software
to stop working. See https://certbot.org/deleting-certs for information on
deleting certificates safely.

Are you sure you want to delete the above certificate(s)?
- - - - -
- -
(Y)es/(N)o: Y
Deleted all files relating to certificate www.wiki.bartoszkala.pl.
root@vultr:~#

```

```

root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
- -
Found the following certs:
Certificate Name: bartoszkala.pl
  Serial Number: 56151886a95c927a89826ab419d49b99c78
  Key Type: ECDSA
  Domains: bartoszkala.pl www.bartoszkala.pl
  Expiry Date: 2025-08-26 06:37:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszkala.pl/privkey.pem
Certificate Name: dns.bartoszkala.pl
  Serial Number: 5e7c0116aa95047415a5123fade4d6c2ed1
  Key Type: ECDSA
  Domains: dns.bartoszkala.pl
  Expiry Date: 2025-08-26 06:34:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/dns.bartoszkala.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/dns.bartoszkala.pl/privkey.pem
Certificate Name: forum.bartoszkala.pl
  Serial Number: 609177701caa07c816c195a0a158b4581c1
  Key Type: ECDSA
  Domains: forum.bartoszkala.pl www.forum.bartoszkala.pl
  Expiry Date: 2025-08-24 18:37:47+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszkala.pl/fullchain.p
em
  Private Key Path: /etc/letsencrypt/live/forum.bartoszkala.pl/privkey.pem
Certificate Name: wiki.bartoszkala.pl
  Serial Number: 6b7cdd22552a2ef5d55e4b8312624cc1e6f
  Key Type: ECDSA
  Domains: wiki.bartoszkala.pl www.wiki.bartoszkala.pl
  Expiry Date: 2025-08-24 18:38:01+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/fullchain.pe
m
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszkala.pl/privkey.pem
- - - - -
- -

```

Zad 16 – odwołanie certyfikatu, dodanie za pomocą konkretnego urzędu

Dodaj nowy rekord

Typ rekordu

CAA

Flaga

0

Tag

issue

Wartość

certum.pl

Wpisz wartość bez cudzysłowów. Zostaną dodane automatycznie.

Host (Opcjonalne)

.bartoszkala.pl

TTL (Opcjonalne)

30

Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości (3600 sekund)

OK

Anuluj

<input type="checkbox"/>	A	news.bartoszkala.pl.	64.176.72.131	30	Działania ▼
<input type="checkbox"/>	CAA	bartoszkala.pl.	0 iodef "mailto:kontakt@bartoszkala.pl"	3600	Działania ▼
<input type="checkbox"/>	CAA	bartoszkala.pl.	0 issue "certum.pl"	30	Działania ▼

systemctl stop apache2

```
root@vultr:~# certbot certonly --standalone --preferred-challenges http -d news.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for news.bartoszkala.pl
```

```
Certbot failed to authenticate some domains (authenticator: standalone). The Certificate Authority reported these problems:
```

```
Domain: news.bartoszkala.pl
```

```
Type: caa
```

```
Detail: During secondary validation: While processing CAA for news.bartoszkala.pl: CAA record for bartoszkala.pl prevents issuance
```

```
Hint: The Certificate Authority failed to download the challenge files from the temporary standalone webserver started by Certbot on port 80. Ensure that the listed domains point to this machine and that it can accept inbound connections from the internet.
```

```
Some challenges have failed.
```

```
Ask for help or search for solutions at https://community.letsencrypt.org. See the logfile /var/log/letsencrypt/letsencrypt.log or re-run Certbot with -v for more details.
```

```
root@vultr:~#
```

Dodajemy rekordy u operatora:

<input type="checkbox"/> CAA	bartoszkala.pl.	0 issue wild "letsencrypt.org"	3600	Działania ▼
<input type="checkbox"/> CAA	bartoszkala.pl.	0 issue "letsencrypt.org"	3600	Działania ▼

```
root@vultr:~# certbot certonly --standalone --preferred-challenges http -d news.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for news.bartoszkala.pl

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/news.bartoszkala.pl/fullchain.pem
Key is saved at: /etc/letsencrypt/live/news.bartoszkala.pl/privkey.pem
This certificate expires on 2025-08-26.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

-----
If you like Certbot, please consider supporting our work by:
 * Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
 * Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~#
```

```
root@vultr:~# openssl x509 -in /etc/letsencrypt/live/news.bartoszkala.pl/cert.pem -noout -text
Certificate:
    Data:
        Version: 3 (0x2)
        Serial Number:
            05:6d:cc:a7:e5:28:50:85:76:45:06:1a:25:21:6c:9c:46:6c
        Signature Algorithm: ecdsa-with-SHA384
        Issuer: C = US, O = Let's Encrypt, CN = E6
        Validity
            Not Before: May 28 08:28:15 2025 GMT
            Not After : Aug 26 08:28:14 2025 GMT
        Subject: CN = news.bartoszkala.pl
        Subject Public Key Info:
            Public Key Algorithm: id-ecPublicKey
            Public-Key: (256 bit)
            pub:
                04:ec:3d:e0:a4:ce:9e:57:e4:83:8c:64:99:75:fd:
                ed:5b:1a:48:70:fa:19:5b:18:cd:14:63:09:1c:d2:
                d1:bd:62:df:48:0e:4a:88:7d:8d:c1:a1:75:33:e8:
                73:4b:d8:71:c1:a3:90:33:25:7f:8e:bc:df:64:3e:
                6d:7a:22:63:ee
            ASN1 OID: prime256v1
            NIST CURVE: P-256
        X509v3 extensions:
            X509v3 Key Usage: critical
                Digital Signature
            X509v3 Extended Key Usage:
                TLS Web Server Authentication, TLS Web Client Authentication
            X509v3 Basic Constraints: critical
                CA:FALSE
            X509v3 Subject Key Identifier:
                75:B0:53:CC:28:0B:99:BD:FF:A0:3B:92:EB:44:C4:57:64:9B:06:5C
            X509v3 Authority Key Identifier:
                keyid:93:27:46:98:03:A9:51:68:8E:98:D6:C4:42:48:DB:23:BF:58:94:D2

            Authority Information Access:
                CA Issuers - URI:http://e6.i.lencr.org/

            X509v3 Subject Alternative Name:
                DNS:news.bartoszkala.pl
            X509v3 Certificate Policies:
```

`systemctl start apache2`

```
root@vultr:~# certbot revoke --cert-name news.bartoszka.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Would you like to delete the certificate(s) you just revoked, along with all
earlier and later versions of the certificate?
-----
(Y)es (recommended)/(N)o: Y

-----
The following certificate(s) are selected for deletion:

    * news.bartoszka.pl

WARNING: Before continuing, ensure that the listed certificates are not being
used by any installed server software (e.g. Apache, nginx, mail servers).
Deleting a certificate that is still being used will cause the server software
to stop working. See https://certbot.org/deleting-certs for information on
deleting certificates safely.

Are you sure you want to delete the above certificate(s)?
-----
(Y)es/(N)o: Y
Deleted all files relating to certificate news.bartoszka.pl.
Congratulations! You have successfully revoked the certificate that was located
root@vultr:~#
```

```
root@vultr:~# certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following certs:
Certificate Name: bartoszka.pl
  Serial Number: 56151886a95c927a89826ab419d49b99c78
  Key Type: ECDSA
  Domains: bartoszka.pl www.bartoszka.pl
  Expiry Date: 2025-08-26 06:37:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/bartoszka.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/bartoszka.pl/privkey.pem
Certificate Name: dns.bartoszka.pl
  Serial Number: 5e7c0116aa95047415a5123fade4d6c2ed1
  Key Type: ECDSA
  Domains: dns.bartoszka.pl
  Expiry Date: 2025-08-26 06:34:23+00:00 (VALID: 89 days)
  Certificate Path: /etc/letsencrypt/live/dns.bartoszka.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/dns.bartoszka.pl/privkey.pem
Certificate Name: forum.bartoszka.pl
  Serial Number: 609177701caa07c816c195a0a158b4581c1
  Key Type: ECDSA
  Domains: forum.bartoszka.pl www.forum.bartoszka.pl
  Expiry Date: 2025-08-24 18:37:47+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/forum.bartoszka.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/forum.bartoszka.pl/privkey.pem
Certificate Name: wiki.bartoszka.pl
  Serial Number: 6b7cdd22552a2ef5d55e4b8312624cc1e6f
  Key Type: ECDSA
  Domains: wiki.bartoszka.pl www.wiki.bartoszka.pl
  Expiry Date: 2025-08-24 18:38:01+00:00 (VALID: 88 days)
  Certificate Path: /etc/letsencrypt/live/wiki.bartoszka.pl/fullchain.pem
  Private Key Path: /etc/letsencrypt/live/wiki.bartoszka.pl/privkey.pem
-----
root@vultr:~#
```

Zad 17 – wildcard (dns-challenge)

```
root@vultr:~# certbot certonly --manual --preferred-challenges dns -d *.bartoszkala.pl --key-type=ecdsa --elliptic-curve=secp256r1
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for *.bartoszkala.pl

-----
Please deploy a DNS TXT record under the name:

_acme-challenge.bartoszkala.pl.

with the following value:

6L-u7jyv0VFj26PPhwDZyip26sAqnDGhTe2AS-4rIyw

Before continuing, verify the TXT record has been deployed. Depending on the DNS
provider, this may take some time, from a few seconds to multiple minutes. You can
check if it has finished deploying with aid of online tools, such as the Google
Admin Toolbox: https://toolbox.googleapps.com/apps/dig/#TXT/_acme-challenge.bartoszkala.pl.
Look for one or more bolded line(s) below the line ';ANSWER'. It should show the
value(s) you've just added.

-----
Press Enter to Continue
```

Typ rekordu

TXT

Wartość tekstowa

6L-u7jyv0VFj26PPhwDZyip26sAqnDGhTe2AS-4rIyw

Host (Opcjonalne)

_acme-challenge

.bartoszkala.pl

TTL (Opcjonalne)

30

Sekundy

Zostaw puste, jeżeli chcesz korzystać z domyślnej wartości
(3600 sekund)

OK

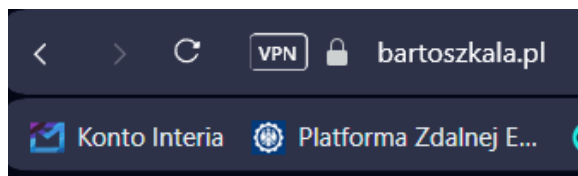
Anuluj

```
Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/bartoszkala.pl-0001/fullchain.pem
Key is saved at: /etc/letsencrypt/live/bartoszkala.pl-0001/privkey.pem
This certificate expires on 2025-08-26.
These files will be updated when the certificate renews.

NEXT STEPS:
- This certificate will not be renewed automatically. Autorenewal of --manual certifi
hook) but one was not provided. To renew this certificate, repeat this same certbot

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~#
```

```
root@vultr:~# openssl x509 -in /etc/letsencrypt/live/bartoszkala.pl/cert.pem
-noout -text
Certificate:
  Data:
    Version: 3 (0x2)
    Serial Number:
      05:61:51:88:6a:95:c9:27:a8:98:26:ab:41:9d:49:b9:9c:78
    Signature Algorithm: ecdsa-with-SHA384
    Issuer: C = US, O = Let's Encrypt, CN = E5
    Validity
      Not Before: May 28 06:37:24 2025 GMT
      Not After : Aug 26 06:37:23 2025 GMT
    Subject: CN = bartoszkala.pl
    Subject Public Key Info:
      Public Key Algorithm: id-ecPublicKey
      Public-Key: (256 bit)
      pub:
        04:65:e0:a9:89:bb:69:93:db:32:b5:d2:d4:7d:da:
        dc:ba:39:16:a5:28:fc:bc:3a:38:01:7d:c7:1e:3a:
        f7:ff:55:74:94:af:80:29:ce:32:1b:e5:db:65:78:
        b2:85:3e:15:7f:64:af:eb:2a:04:14:52:e6:45:3a:
        4b:9f:46:a6:24
      ASN1 OID: prime256v1
      NIST CURVE: P-256
    X509v3 extensions:
      X509v3 Key Usage: critical
        Digital Signature
      X509v3 Extended Key Usage:
        TLS Web Server Authentication, TLS Web Client Authentication
      X509v3 Basic Constraints: critical
        CA:FALSE
      X509v3 Subject Key Identifier:
        AF:18:10:4A:CA:91:65:59:82:18:B7:E1:9C:55:E6:9D:70:5D:1D:B7
      X509v3 Authority Key Identifier:
        keyid:9F:2B:5F:CF:3C:21:4F:9D:04:B7:ED:2B:2C:C4:C6:70:8B:D2:D7:0D
      Authority Information Access:
        CA Issuers - URI:http://e5.i.lencr.org/
      X509v3 Subject Alternative Name:
        DNS:bartoszkala.pl, DNS:www.bartoszkala.pl
```



Strona testowa bartoszkala.pl

Zad 18 – wtyczka CloudFlare

```
root@vultr:~# certbot plugins
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
* apache
Description: Apache Web Server plugin
Interfaces: Authenticator, Installer, Plugin
Entry point: EntryPoint(name='apache',
value='certbot_apache._internal.entrypoint:ENTRYPOINT', group='certbot.plugins')

* nginx
Description: Nginx Web Server plugin
Interfaces: Authenticator, Installer, Plugin
Entry point: EntryPoint(name='nginx',
value='certbot_nginx._internal.configurator:NginxConfigurator',
group='certbot.plugins')

* standalone
Description: Runs an HTTP server locally which serves the necessary validation
files under the /.well-known/acme-challenge/ request path. Suitable if there is
no HTTP server already running. HTTP challenge only (wildcards not supported).
Interfaces: Authenticator, Plugin
Entry point: EntryPoint(name='standalone',
value='certbot._internal.plugins.standalone:Authenticator',
group='certbot.plugins')

* webroot
Description: Saves the necessary validation files to a
.well-known/acme-challenge/ directory within the nominated webroot path. A
separate HTTP server must be running and serving files from the webroot path.
HTTP challenge only (wildcards not supported).
Interfaces: Authenticator, Plugin
Entry point: EntryPoint(name='webroot',
value='certbot._internal.plugins.webroot:Authenticator',
group='certbot.plugins')
-----
root@vultr:~#
```

snap install certbot-dns-cloudflare

snap set certbot trust-plugin-with-root=ok

snap install certbot-dns-cloudflare

```

root@vultr:~# certbot plugins
Saving debug log to /var/log/letsencrypt/letsencrypt.log

- - - - -
* apache
Description: Apache Web Server plugin
Interfaces: Authenticator, Installer, Plugin
Entry point: EntryPoint(name='apache',
value='certbot_apache._internal.entrypoint:ENTRYPOINT', group='certbot.plugins')

* dns-cloudflare
Description: Obtain certificates using a DNS TXT record (if you are using
Cloudflare for DNS).
Interfaces: Authenticator, Plugin
Entry point: EntryPoint(name='dns-cloudflare',
value='certbot_dns_cloudflare._internal.dns_cloudflare:Authenticator',
group='certbot.plugins')

* nginx
Description: Nginx Web Server plugin
Interfaces: Authenticator, Installer, Plugin
Entry point: EntryPoint(name='nginx',
value='certbot_nginx._internal.configurator:NginxConfigurator',
group='certbot.plugins')

* standalone
Description: Runs an HTTP server locally which serves the necessary validation
files under the /.well-known/acme-challenge/ request path. Suitable if there is
no HTTP server already running. HTTP challenge only (wildcards not supported).
Interfaces: Authenticator, Plugin
Entry point: EntryPoint(name='standalone',
value='certbot._internal.plugins.standalone:Authenticator',
group='certbot.plugins')

* webroot
Description: Saves the necessary validation files to a
.well-known/acme-challenge/ directory within the nominated webroot path. A
separate HTTP server must be running and serving files from the webroot path.
HTTP challenge only (wildcards not supported).
Interfaces: Authenticator, Plugin
Entry point: EntryPoint(name='webroot',

```

```

root@vultr:~# mkdir /root/.secrets/
root@vultr:~# touch /root/.secrets/cloudflare.cfg
root@vultr:~# chmod 0700 /root/.secrets/
root@vultr:~# chmod 0400 /root/.secrets/cloudflare.cfg
root@vultr:~#

```

English

My Profile

Settings

Authentication

API Tokens

Active sessions

Cloudflare recommends using [account-owned tokens](#) if you prefer credentials that are not associated with users.

Token name	Permissions	Resources	Status
No API tokens			

API Keys

Keys used to access Cloudflare APIs.

Global API Key	Change	View
Origin CA Key	Change	View

Profile

Billing

Dark mode

Log out

Modyfikujemy plik:

```
Command Prompt - ssh root@vultr [ -M-- ] 62 L:[ 1+ 1 2/ 2] *(105 / 105b) <
/root/.secrets.cloudflare [-M--] 62 L:[ 1+ 1 2/ 2] *(105 / 105b) <
dns_cloudflare_email = bob330913@gmail.com
dns_cloudflare_api_key = f62eb0f1c9ba633614570c7d52737df385447

root@vultr:~# certbot certonly --dns-cloudflare --dns-cloudflare-credentials /root/.secrets/cloudflare.cfg -d bartoszkala.pl,*bartoszkala.pl --key-type
=ecdsa --elliptic-curve=secp256r1
Saving debug log to /var/log/letsencrypt/letsencrypt.log

You have an existing certificate that contains a portion of the domains you
requested (ref: /etc/letsencrypt/renewal/bartoszkala.pl-0001.conf)

It contains these names: *.bartoszkala.pl

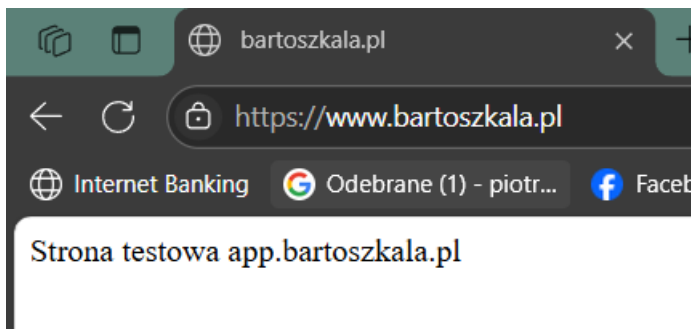
You requested these names for the new certificate: bartoszkala.pl,
*.bartoszkala.pl.

Do you want to expand and replace this existing certificate with the new
certificate?
-----
(E)xpand/(C)ancel: e
Renewing an existing certificate for bartoszkala.pl and *.bartoszkala.pl
Waiting 10 seconds for DNS changes to propagate

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/bartoszkala.pl-0001/fullchain.pem
Key is saved at: /etc/letsencrypt/live/bartoszkala.pl-0001/privkey.pem
This certificate expires on 2025-08-31.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~# client_loop: send disconnect: Connection reset

C:\Users\lenovo>
```



znajduje się tu konfiguracja strony z nginx)

(zadanie robiłem jako ostatnie, więc

Ogólne

Szczegóły

Hierarchia certyfikatów

▼ GTS Root R4

▼ WE1

bartoszkala.pl

Pola certyfikatu

Użycie klucza certyfikatu

Rozszerzone użycie klucza

Podstawowe ograniczenia certyfikatów

Identyfikator klucza podmiotu certyfikatu

Identyfikator klucza urzędu certyfikacji

Dostęp do informacji o urzędach certyfikacji

Alternatywna nazwa podmiotu certyfikatu

Zasady certyfikatów

Punkty dystrybucji listy CRL

Wartość pola

Niekrytyczne

Nazwa DNS: bartoszkala.pl

Nazwa DNS: *.bartoszkala.pl

Zad 19 - NGINX

`apt purge apache2 -y`

Tworzymy i uruchamiamy skrypt:

```
/root/skryp-nginx.sh [-M--] 32 L:[ 1+ 0 1/ 29] *(32 / 695b) 0034 0x022
mojadomena="nginx.bartoszka.pl"

apt update && apt install -y nginx
ufw allow http
ufw allow https
mkdir /var/www/stronanginx
echo "Strona testowa $mojadomena" > /var/www/stronanginx/index.html
chown -R www-data: /var/www/stronanginx/

konf="server {
    listen 80;
    listen [::]:80;

    server_name $mojadomena www.$mojadomena;

    location / {
        root /var/www/stronanginx;
        index index.html;
    }

    access_log /var/log/nginx/$mojadomena.access.log;
    error_log /var/log/nginx/$mojadomena.error.log;
}"

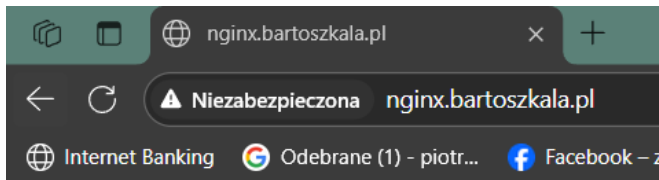
echo "$konf" > /etc/nginx/sites-available/$mojadomena.conf

ln -s /etc/nginx/sites-available/$mojadomena.conf /etc/nginx/sites-enabled/
systemctl restart nginx
```

```
root@vultr:~# chmod 700 skryp-nginx.sh
root@vultr:~# ./skryp-nginx.sh
Hit:1 https://apprepo.vultr.com/debian universal InRelease
Hit:2 https://deb.debian.org/debian bullseye InRelease
Get:3 https://deb.debian.org/debian-security bullseye-security InRelease [27.2 kB]
Get:4 https://deb.debian.org/debian bullseye-updates InRelease [44.1 kB]
Get:5 https://deb.debian.org/debian-security bullseye-security/main Sources [239 kB]
Get:6 https://deb.debian.org/debian-security bullseye-security/main amd64 Packages [370 kB]
Get:7 https://deb.debian.org/debian-security bullseye-security/main Translation-en [245 kB]
Hit:8 https://debian.mirror.constant.com bullseye InRelease
Fetched 926 kB in 1s (1528 kB/s)
```

Dodajemy rekordy u operatora:

<input type="checkbox"/> A	www.nginx.bartoszka.pl.	64.176.72.131	30	Działania ▼
<input type="checkbox"/> A	nginx.bartoszka.pl.	64.176.72.131	30	Działania ▼



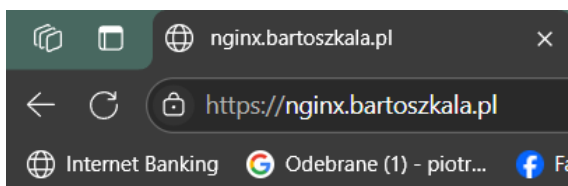
Strona testowa nginx.bartoszkala.pl

```
root@vultr:~# certbot --nginx -d nginx.bartoszkala.pl -d www.nginx.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for nginx.bartoszkala.pl and www.nginx.bartoszkala.pl

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/nginx.bartoszkala.pl/fullchain.pem
Key is saved at: /etc/letsencrypt/live/nginx.bartoszkala.pl/privkey.pem
This certificate expires on 2025-08-27.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

Deploying certificate
Successfully deployed certificate for nginx.bartoszkala.pl to /etc/nginx/sites-enabled/nginx.ba
Successfully deployed certificate for www.nginx.bartoszkala.pl to /etc/nginx/sites-enabled/nginx
Congratulations! You have successfully enabled HTTPS on https://nginx.bartoszkala.pl and https://
l

-----
If you like Certbot, please consider supporting our work by:
* Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
* Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~#
```



Strona testowa nginx.bartoszkala.pl

OgólneSzczegóły

Hierarchia certyfikatów

▼ ISRG Root X1

▼ E5

nginx.bartoszkala.pl

Pola certyfikatu

Uzycie klucza certyfikatu

Rozszerzone uzycie klucza

Podstawowe ograniczenia certyfikatów

Identyfikator klucza podmiotu certyfikatu

Identyfikator klucza urzędu certyfikacji

Dostęp do informacji o urządzeniach certyfikacji

Alternatywna nazwa podmiotu certyfikatu

Zasady certyfikatów

Punkty dystrybucji listy CRL

Wartość pola

Niekrytyczne

Nazwa DNS: nginx.bartoszkala.pl

Nazwa DNS: www.nginx.bartoszkala.pl

Eksportuj...

Left	File	Command	Option
<-	/etc/nginx/sites-available	-.[^]>	
.n	Name	Size	Modify time
/..		UP--DIR	May 29 09:07
default		2412	Feb 17 09:08
nginx.b~l.conf		1123	May 29 09:07

```
/etc/nginx/sites-available/nginx.bartoszka.pl.conf [----] 0 L:[ 1+ 0 1/
server {

    server_name nginx.bartoszka.pl www.nginx.bartoszka.pl;

    location / {
        root    /var/www/stronanginx;
        index   index.html;
    }

    access_log /var/log/nginx/nginx.bartoszka.pl.access.log;
    error_log  /var/log/nginx/nginx.bartoszka.pl.error.log;

    listen [::]:443 ssl ipv6only=on; # managed by Certbot
    listen 443 ssl; # managed by Certbot
    ssl_certificate /etc/letsencrypt/live/nginx.bartoszka.pl/fullchain.pem; #
    ssl_certificate_key /etc/letsencrypt/live/nginx.bartoszka.pl/privkey.pem;
    include /etc/letsencrypt/options-ssl-nginx.conf; # managed by Certbot
    ssl_dhparam /etc/letsencrypt/ssl-dhparams.pem; # managed by Certbot
}
server {
    if ($host = www.nginx.bartoszka.pl) {
        return 301 https://$host$request_uri;
    } # managed by Certbot

    if ($host = nginx.bartoszka.pl) {
        return 301 https://$host$request_uri;
    } # managed by Certbot

    listen 80;
    listen [::]:80;

    server_name nginx.bartoszka.pl www.nginx.bartoszka.pl;
    return 404; # managed by Certbot
```

SSL Report: **nginx.bartoszka.pl** (64.176.72.131)

Assessed on: Thu, 29 May 2025 09:14:45 UTC | [Hide](#) | [Clear cache](#)

[Scan Ano](#)

Summary

Overall Rating

A

Certificate

Protocol Support

Key Exchange

Cipher Strength

0

20

40

60

80

100

Visit our [documentation page](#) for more information, configuration guides, and books. Known issues are documented [here](#).

This server supports TLS 1.3. [MORE INFO »](#)

DNS Certification Authority Authorization (CAA) Policy found for this domain. [MORE INFO »](#)

Zad 20 wskazanie ACME

Dodajemy rekordy:

<input type="checkbox"/> A	www.app.bartoszkala.pl.	64.176.72.131	30	Działania ▼
<input type="checkbox"/> A	app.bartoszkala.pl.	64.176.72.131	30	Działania ▼

Tworzymy i uruchamiamy skrypt:

```
/root/skrypt-app.sh [----] 52 L: [ 1+18 19/ 27] *(462 / 628b) 0010 0x00A
mojadomena="app.bartoszkala.pl"

mkdir /var/www/$mojadomena
echo "Strona testowa $mojadomena" > /var/www/$mojadomena/index.html
chown -R www-data: /var/www/$mojadomena/

konf="server {
    listen 80;
    listen [::]:80;

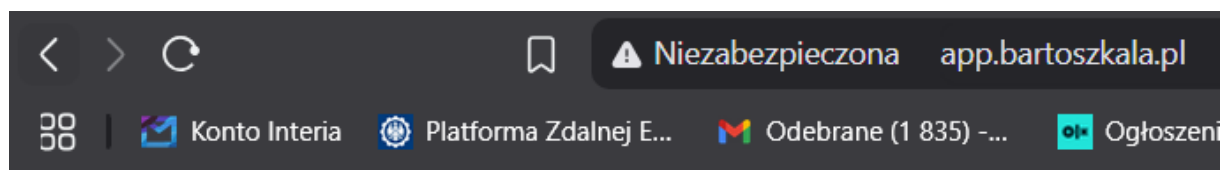
    server_name $mojadomena www.$mojadomena;

    location / {
        root    /var/www/$mojadomena;
        index   index.html;
    }

    access_log /var/log/nginx/$mojadomena.access.log;
    error_log  /var/log/nginx/$mojadomena.error.log;
}"

echo "$konf" > /etc/nginx/sites-available/$mojadomena.conf

ln -s /etc/nginx/sites-available/$mojadomena.conf /etc/nginx/sites-enabled/
systemctl restart nginx
```



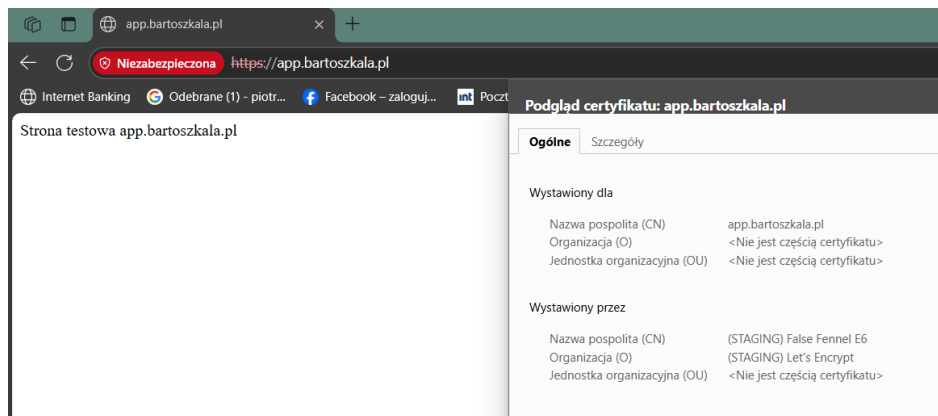
Strona testowa app.bartoszkala.pl

```
root@vultr:~# certbot --nginx --server https://acme-staging-v02.api.letsencrypt.org/directory -d app.bartoszkala.pl -d www.app.bartoszkala.pl
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Requesting a certificate for app.bartoszkala.pl and www.app.bartoszkala.pl

Successfully received certificate.
Certificate is saved at: /etc/letsencrypt/live/app.bartoszkala.pl/fullchain.pem
Key is saved at: /etc/letsencrypt/live/app.bartoszkala.pl/privkey.pem
This certificate expires on 2025-08-27.
These files will be updated when the certificate renews.
Certbot has set up a scheduled task to automatically renew this certificate in the background.

Deploying certificate
Successfully deployed certificate for app.bartoszkala.pl to /etc/nginx/sites-enabled/app.bartoszkala.pl.conf
Successfully deployed certificate for www.app.bartoszkala.pl to /etc/nginx/sites-enabled/app.bartoszkala.pl.conf
Congratulations! You have successfully enabled HTTPS on https://app.bartoszkala.pl and https://www.app.bartoszkala.pl

-----
If you like Certbot, please consider supporting our work by:
 * Donating to ISRG / Let's Encrypt: https://letsencrypt.org/donate
 * Donating to EFF: https://eff.org/donate-le
-----
root@vultr:~#
```



Zad 21 – zmiana danych konta

```
root@vultr:~# certbot show_account
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Account details for server https://acme-v02.api.letsencrypt.org/directory:
  Account URL: https://acme-v02.api.letsencrypt.org/acct/2423339127
  Account Thumbprint: OXMzI3_sTKzWZyGp_VTv3Wu4CMprJ7S8NrKgSKg0Rus
  Email contact: bob330913@gmail.com
root@vultr:~# certbot update_account
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Enter email address or hit Enter to skip.
(Enter 'c' to cancel): bob330913@gmail.com

-----
--
Would you be willing, once your first certificate is successfully issued, 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
Your e-mail address was updated to bob330913@gmail.com.
root@vultr:~#
```

```
root@vultr:~# certbot unregister
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Are you sure you would like to irrevocably deactivate your account?
-----
(D)eactivate/(A)bort: D
Account deactivated.
root@vultr:~#
```

```
root@vultr:~# certbot register
Saving debug log to /var/log/letsencrypt/letsencrypt.log
Enter email address or hit Enter to skip.
(Enter 'c' to cancel): bob330913@gmail.com

-----
--
Please read the Terms of Service at:
https://letsencrypt.org/documents/LE-SA-v1.5-February-24-2025.pdf
You must agree in order to register with the ACME server. Do you agree?
-----
--
(Y)es/(N)o: Y

-----
--
Would you be willing, once your first certificate is successfully issued, 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
Account registered.
root@vultr:~#
```