

## 1-Crear subdominio en DuckDNS

Entra en <https://www.duckdns.org>

Inicia sesión

En el campo *add domain* , pon tu nombre :

The screenshot shows the Duck DNS homepage. At the top, there's a large yellow rubber duck icon. To its right, the text "Duck DNS" is displayed. Below this, account information is shown: account (Andpir10@github), type (free), token (4486f753-5645-431d-91fc-c6c6899240e8), token (2 minutes ago), generated (13 Nov 2025, 17:12:49), and created date. Below this section, there's a "domains" heading with a count of 1/5. A search bar contains "http:// sub domain .duckdns.org". A green "add domain" button is visible. Below the search bar, a table lists a single domain entry:

domain	current ip	ipv6	changed
andpir10	31.222.121.95	ipv6 address	34 minutes ago

For the domain "andpir10", there are two orange buttons: "update ip" and "update ipv6". To the right of the table is a red "delete domain" button.

Copia el token que te da DuckDNS

Haz un ping a tu DNS → `ping -c 1 andpir10.duckdns.org`

```
pirvu@pirvuserver:~$ ping -c 1 andpir10.duckdns.org
PING andpir10.duckdns.org (31.222.121.95) 56(84) bytes of data.
64 bytes from 31.222.121.95: icmp_seq=1 ttl=58 time=31.9 ms

--- andpir10.duckdns.org ping statistics ---
1 packets transmitted, 1 received, 0% packet loss, time 0ms
rtt min/avg/max/mdev = 31.939/31.939/31.939/0.000 ms
pirvu@pirvuserver:~$
```

## 2-Instalar Apache2 y crear web

```
sudo apt-get install -y apache2
```

Creamos el directorio de nuestra web :

```
export DOMAIN="andpir10.duckdns.org"
```

```
export WEBROOT="/var/www/miweb"
```

```
sudo mkdir -p $WEBROOT
```

```
pirvu@pirvuserver:~$ export DOMAIN="andpir10.duckdns.org"
pirvu@pirvuserver:~$ export WEBROOT="/var/www/miweb"
pirvu@pirvuserver:~$ sudo mkdir -p $WEBROOT
[sudo] password for pirvu:
pirvu@pirvuserver:~$
```

Creamos un archivo de prueba :

```
echo "<h1>HTTPS con Let's Encrypt (DNS-01)</h1>" | sudo tee $WEBROOT/index.html
```

Creamos el VirtualHost básico HTTP

```
sudo tee /etc/apache2/sites-available/miweb.conf > /dev/null <<'EOF'
```

```
<VirtualHost *:80>
```

```
    ServerName andpir10.duckdns.org
```

```
    DocumentRoot /var/www/miweb
```

```
<Directory /var/www/miweb>
```

```
    Options -Indexes +FollowSymLinks
```

```
    AllowOverride All
```

```
    Require all granted
```

```
</Directory>
```

```
ErrorLog ${APACHE_LOG_DIR}/miweb_error.log
```

```
CustomLog ${APACHE_LOG_DIR}/miweb_access.log combined
```

```
</VirtualHost>
```

```
EOF
```

```
pirvu@pirvuserver:~$ echo "<h1>HTTPS con Let's Encrypt (DNS-01)</h1>" | sudo tee $WEBROOT/index.html
<h1>HTTPS con Let's Encrypt (DNS-01)</h1>
pirvu@pirvuserver:~$ sudo tee /etc/apache2/sites-available/miweb.conf > /dev/null <<'EOF'
> <VirtualHost *:80>
    ServerName andpir10.duckdns.org
    DocumentRoot /var/www/miweb

    <Directory /var/www/miweb>
        Options -Indexes +FollowSymLinks
        AllowOverride All
        Require all granted
    </Directory>

    ErrorLog ${APACHE_LOG_DIR}/miweb_error.log
    CustomLog ${APACHE_LOG_DIR}/miweb_access.log combined
</VirtualHost>
> EOF
pirvu@pirvuserver:~$
```

```
sudo sed -i "s/andpir10.duckdns.org/$DOMAIN/" /etc/apache2/sites-available/miweb.conf
```

Activamos el sitio y recargamos el servidor Apache2

```
sudo a2ensite miweb.conf
```

```
sudo systemctl reload apache2
```

Comprobamos que funciona con → curl -I http://127.0.0.1

\*debe volver HTTP/1.1 200 OK\*

### **3-Instalar Certbot y emitir el certificado Let's Encrypt con DNS-01**

**Primero instalamos el python3-pip**

```
sudo apt-get install -y python3-pip
```

**Ahora instalamos el Certbot**

```
sudo pip3 install certbot-dns-duckdns --break-system-packages
```

**Creamos la carpeta donde se guardará la información del DuckDNS y todo lo necesario para su funcionamiento**

```
sudo mkdir -p /etc/letsencrypt
```

```
echo "dns_duckdns_token=4486f753-5645-431d-91fc-c6c6899240e8" | sudo tee /etc/letsencrypt/duckdns.ini
```

```
sudo chmod 600 /etc/letsencrypt/duckdns.ini
```

```
sudo certbot certonly --authenticator dns-duckdns --dns-duckdns-credentials /etc/letsencrypt/duckdns.ini -d andpir10.duckdns.org
```

### **4-Activar HTTPS en Apache**

**Activamos el módulo SSL de Apache**

```
sudo a2enmod ssl
```

**Creamos el VirtualHost HTTPS**

```
sudo tee /etc/apache2/sites-available/miweb-ssl.conf > /dev/null <<'EOF'
```

```
<VirtualHost *:443>
```

```
    ServerName andpir10.duckdns.org
```

```
    DocumentRoot /var/www/miweb
```

```
    SSLEngine on
```

```
    SSLCertificateFile /etc/letsencrypt/live/andpir10.duckdns.org/fullchain.pem
```

```
    SSLCertificateKeyFile /etc/letsencrypt/live/andpir10.duckdns.org/privkey.pem
```

```
<Directory /var/www/miweb>
```

```
    Options -Indexes +FollowSymLinks
```

```
    AllowOverride All
```

```
    Require all granted
```

```
</Directory>
```

```
ErrorLog ${APACHE_LOG_DIR}/miweb_ssl_error.log
```

```
CustomLog ${APACHE_LOG_DIR}/miweb_ssl_access.log combined
```

```
</VirtualHost>
```

```
EOF
```

**Activamos el sitio y recargamos Apache**

```
sudo a2ensite miweb-ssl.conf
```

```
sudo systemctl reload apache2
```

## Verificamos el certificado

`sudo certbot certificates`

\*debería salir algo así\*

```
pirvu@pirvuserver:~$ sudo certbot certificates
Saving debug log to /var/log/letsencrypt/letsencrypt.log

-----
Found the following certs:
  Certificate Name: andpir10.duckdns.org
    Serial Number: 5cb9ca8f0e85dac57bf85b9b4a85803e106
    Key Type: ECDSA
    Domains: andpir10.duckdns.org
    Expiry Date: 2026-02-11 16:56:37+00:00 (VALID: 89 days)
    Certificate Path: /etc/letsencrypt/live/andpir10.duckdns.org/fullchain.pem
    Private Key Path: /etc/letsencrypt/live/andpir10.duckdns.org/privkey.pem
-----
pirvu@pirvuserver:~$
```

## Comprobamos que funciona el certificado Let's Encrypt con nuestro DNS personalizado

