

Netbird-Server Unraid

Here is a guide to setting up and self hosting your own NetBird server.

Assumptions:

A Keycloak container installed and running. [EXAMPLE SWAG CONF](#). (Any OpenID provider will do such as [Auth0](#) or Authentik)

A Coturn container installed and running. [EXAMPLE TURNSEVER CONF CONFIGURATION GUIDE](#)

You are using SWAG as your reverse proxy and have a domain or subdomain available to use. e.g. **netbird.mydomain.net**

NETBIRD_DOMAIN = netbird.mydomain.net

Step 1: Configure Coturn

There are two ways to configure your Coturn server for configuring our NetBird-Management container's `management.json`.

Option 1 `use-auth-secret`:

If you followed the configuration guide above you'll have a `static-auth-secret` value in your Coturn `turnserver.conf`. In which case no further Coturn configuration is required.

COTURN_SECRET: `turnserver.conf` > `static-auth-secret`

Option 2 `lt-cred-mech`:

The second way is by configuring a static user in our Coturn `turnserver.conf`.

If you are using the second option and need to declare a user here is how you do it:

NETBIRD_COTURN_USER: netbird_user

NETBIRD_COTURN_PASS: Generate with `openssl rand -base64 32`

In your Coturn `turnserver.conf` (line 252 if using my example `turnserver.conf`) add:

```
user=NETBIRD_COTURN_USER:NETBIRD_COTURN_PASS
```

Give that a save and restart your Coturn docker.

Note: If you already had Coturn set up and are not sure which option applies to you then if `use-auth-secret` is declared in your `turnserver.conf` then it's the first option. Otherwise you should have `lt-cred-mech` declared and are using the second option. If both are declared then Coturn defaults to using `use-auth-secret`.

Step 2: Configure Keycloak

The first thing to do is to set up Keycloak. You can follow the [NetBird Keycloak guide](#) for this.

Make a note of these variables at the bottom of the guide page:

NETBIRD_AUTH_CLIENT_ID

NETBIRD_AUTH_AUDIENCE

NETBIRD_AUTH_OIDC_CONFIGURATION_ENDPOINT: Excluding ".well-known/openid-configuration" so it looks like <https://keycloak.mydomain.net/realms/netbird/>.

Step 3: Install NetBird-Dashboard

When installing NetBird-Dashboard you will need to set some variables. Set relevant container keys to the values below:

AUTH_CLIENT_ID = NETBIRD_AUTH_CLIENT_ID

AUTH_AUDIENCE = NETBIRD_AUTH_AUDIENCE

AUTH_AUTHORITY = Your modified NETBIRD_AUTH_OIDC_CONFIGURATION_ENDPOINT

NETBIRD_MGMT_API_ENDPOINT = NETBIRD_DOMAIN

NETBIRD_MGMT_GRPC_API_ENDPOINT = NETBIRD_DOMAIN

Once the variables are filled in as above press apply and you'll have the first part of NetBird installed.

Step 4: Install NetBird-Signal

With the Dashboard installed we'll now install NetBird-Signal. It should just be a straight install.

Step 5: Install NetBird-Management

Finally, we need NetBird-Management. The container install should be straight forward, however there is one thing you'll have to change. Look in 'Post Arguments' (Make sure you're in advanced view in the top right) for `--single-account-mode-domain=netbird.mydomain.net` and change the value to your NETBIRD_DOMAIN.

Once this container's installed we'll need to create a `mangement.json` file.

I have an example [here](#).

I'm going to go through which lines need to be modified and with what. *Remember if you've changed any of the ports for the containers then you'll need to reflect that in this JSON file.*

Lines 5, 14, 25 need your NETBIRD_DOMAIN.

Lines 32, 34, 35, 46, 47 will need your Keycloak domain.

Lines 33, 43 need your AUTH_AUDIENCE

Line 45 is AUTH_CLIENT_ID

Coturn Option 1:

Line 20 secret value should be COTURN_SECRET

Line 21 set to true

Coturn Option 2:

Lines 15 & 16 need your NETBIRD_COTURN_USER & NETBIRD_COTURN_PASS respectively.

Line 21 value should be false.

Once you've changed all the variables place the JSON to the location of the container's config variable, which by default is `/mnt/user/appdata/netbird-server/management/management.json`. (If there's a folder there called `management.json` delete that).

Note: You can change the dns domain within this container. To do so, look in "Post Arguments" for "-dns-domain=netbird.selfhosted". Replace "netbird.selfhosted" with whatever you wish, i.e. littlebirdy.my, but be wary of conflicting with domains already in use.

Step 6: Configure SWAG

Finally we'll need to add a config to SWAG for NetBird. You can see my sample config [here](#). Feel free to change what you need (if anything) and place it in proxy-conf.

Make sure to restart your SWAG container.

Step 7: Using NetBird

Now we have everything installed and configured we're ready to actually use NetBird. Make sure the containers are all started and ready to go.

Navigate to your NetBird instance (i.e. <https://netbird.mydomain.net>) and you should be redirected to your Keycloak instance for a login. The login is asking for the user you made for the NetBird realm. Once logged in you should see your dashboard.

To add a client you need to make sure to set the right `management_url` setting in the command or GUI. This should be "<https://netbird.mydomain.net:443>". The 443 is necessary. If you want to log in instead of using a key then you also need to set the `admin_url` (<https://netbird.mydomain.net>).

```
netbird up --management-url https://netbird.mydomain.net:443 --admin-url  
"https://netbird.mydomain.net"
```

or

```
netbird up --management-url https://netbird.mydomain.net:443 --setup-key  
wbef9823f2039f
```