

# GlobalTURN Quickstart

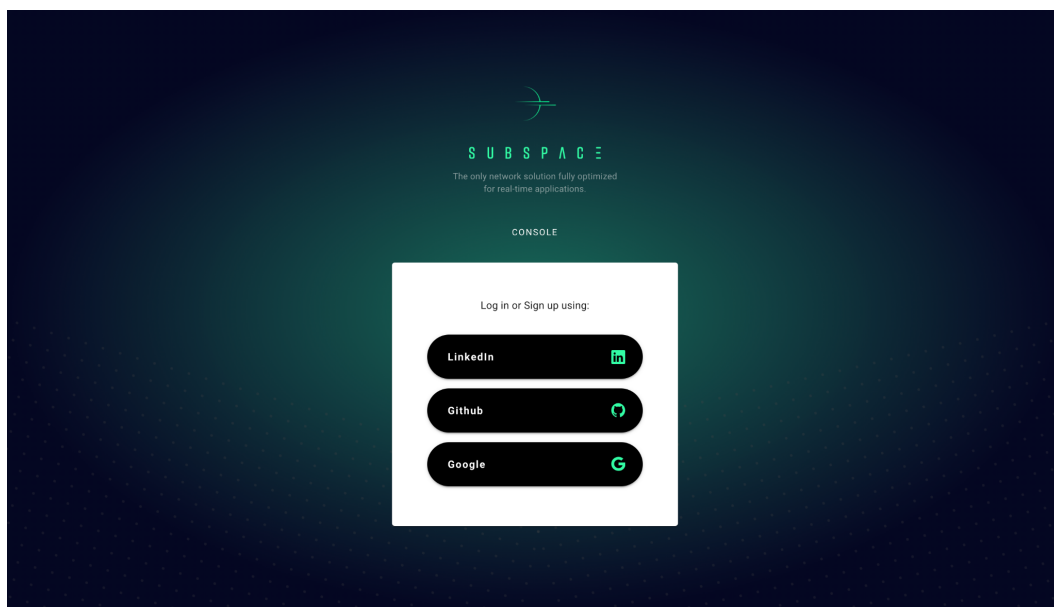
[GlobalTURN](#) is a globally deployed TURN service and onramp to Subspace—a dedicated, secure internet for accelerating real-time applications.

Learn more about GlobalTURN and Subspace by visiting: <https://www.subspace.com>.

## Quickstart

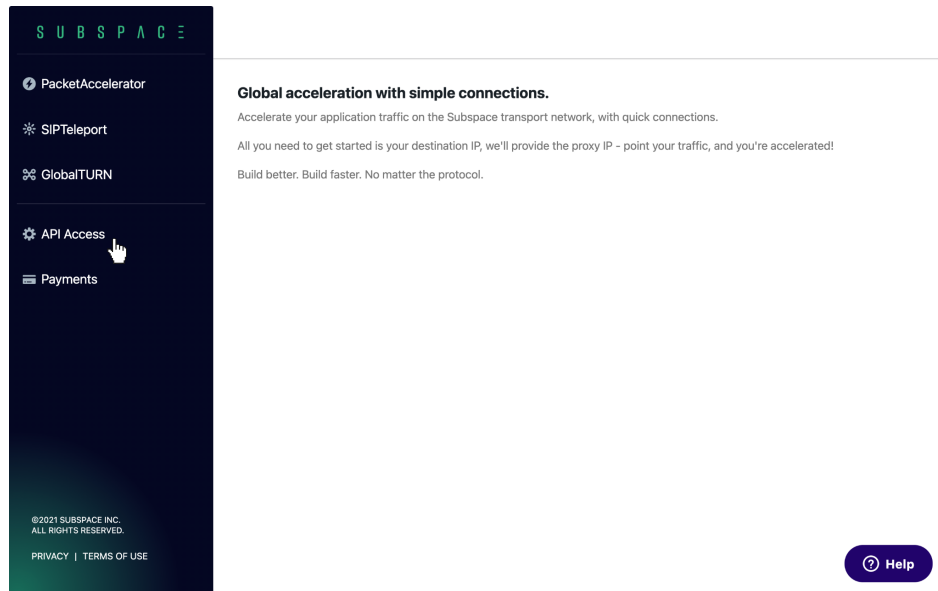
### 1. Sign up for a Subspace Account

Log in or Sign up using *LinkedIn*, *Github*, or *Google* credentials on the Subspace console at: <https://console.subspace.com>.

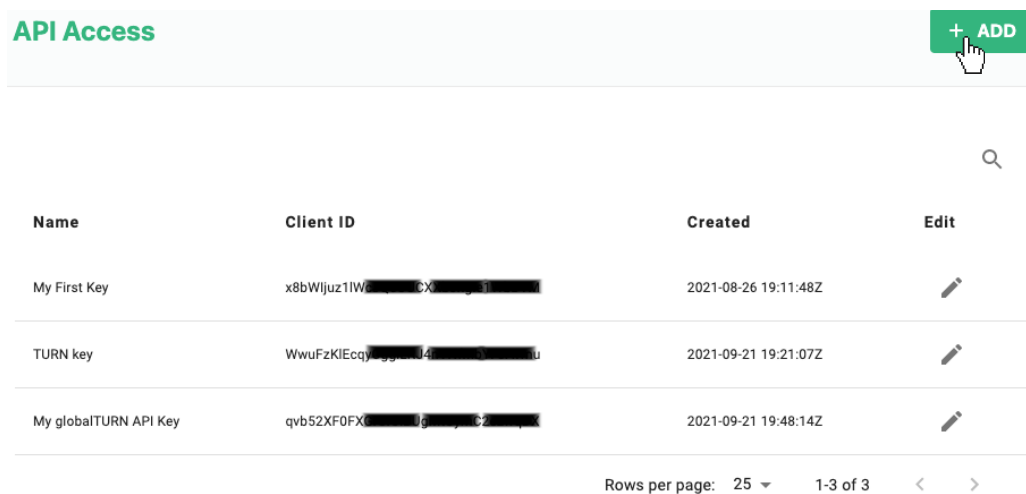


## 2. Acquire an API Key

Once you have created an account and signed in to the Subspace console, you will land on the following home screen.



Select **API Access** or click directly through to: <https://console.subspace.com/apiaccess>.



Next, click the **+ ADD** button to create a new API key.

## Create API Key

Name (required)

My globalTURN API Key

The name for the API Key.

CANCEL

CREATE

Provide a name for your API key before proceeding.

Be sure to locally copy your Client Secret in addition to your Client ID for the new key, the Client Secret is only shown once and then never again.

Keep it secret, keep it safe.

### API Key Details

#### Warning

Please copy the Client Secret - it will not be shown again.

tJ-\_A-jLaIL3foqWV28[REDACTED]79[REDACTED]

 COPY

Client Id  
qvb52XF0FXGrUr[REDACTED]X

Client Secret  
tJ-\_A-jLaIL3foqWV2[REDACTED]  
[REDACTED]

Name  
My globalTURN API Key

Project Id  
prj\_5fPh[REDACTED]

Inserted At  
2021-09-21 19:48:14Z

Updated At  
2021-09-21 19:48:14Z

FINISH

### 3. Acquire a JWT for use with the API

The latest formal API documentation is available here: <https://subspace.com/api>.

The Subspace API authenticates via a JWT. To acquire one directly from the API itself, simply use your newly created Client ID and Client Secret.

#### Example Request (invalid credentials used for demo purposes):

```
curl --request POST \
  --url "https://id.subspace.com/oauth/token" \
  --header "content-type: application/json" \
  --data '{ "client_id": "6UUCzXXb3ngie1WbDYMx8bWlJu1IWcjQ", "client_secret":
"x8bWlJuz1IWcjQ2WrVcFityoKLjBXXb3ngie1WbDYMx8bWlJuSqMDiZbAOwiygN9", "audience":
"https://api.subspace.com/", "grant_type": "client_credentials" }'
```

#### Example Response:

```
{ "access_token": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6IlFVRXdRaE0TUUVNd01UUTV
NMFV4UWtZNE0wTTJSRUl5UWtOR1JqZENORE14TVRJeFJEaEVPQsJ9.eyJodHRwczovL2FwaS5zd
WJzcGFjZS5jb20vbWV0YWRhdGEiOncicHJvamVjdF9pZCI6InByaW81ZlBoTmFhQmRRLT2Nka2xyM
nZGTnVTIn0slmIzcyI6Imh0dHBzOi8vaWUuc3Vic3BhY2UuY29tLyIsInN1Yil6Ing4YldJanV6MWxX
Y0pRNlVQ1hYYjNuZ2lIMVdiRFINQGNSaWVudHMiLCJhdWQiOiJodHRwczovL2FwaS5zdWJzcGFj
ZS5jb20vliwiaWF0IjoxNjMyMjQ5NDcwLCJleHAiOiJlY2MzZmZU4NzAsImF6cCI6Ing4YldJanV6MWx
XY0pRNlVQ1hYYjNuZ2lIMVdiRFINliwic2NvcGUuIjB25zb2xlOmFjY2VzcyBhY2NlOGVvYXRvcnM
6cmVhZCBhY2NlOGVvYXRvcnM6d3JpdGUgc2lwdGVsZXBvcnQ6cmVhZCBzaXB0ZWxlcG9ydDp3
cmI0ZSBwcm9qZWNOczpyZWFKliwiZ3R5IjoIY2xpZW50LWNyZWRIbnRpYWxzliwicGVybWlzc2lvb
nMiOiSiY29uc29sZTphY2Nlc3MiLCJhY2NlOGVvYXRvcnM6cmVhZCI6ImFjY2VsZXJhdG9yc3p3cmI
0ZSI6InNpcHRlOGVwb3J0OnJlYWQiLCJzaXB0ZWxlcG9ydDp3cmI0ZSI6InByb2pY3RzOnJlYWQiXX
0.GSTY9XqN4ljrdximiE9YU0ROPYiyhFziYQyHF5mPfYL1h693_BkhWaR94ecKs4e_q9Sh6tWT5-T5
txuFtUsVY1dFq2FljHbSy4NycYGx2h2iY_p00rN-YO_k2PqzV2xKnFoUUXChHk6GXvKfG0bcTIUcKh
So7vIJIUQXA3VQeotjANwbf2VcMAL-2AARi1M6VPyf3fMgQgNI45dzKIWB6t0b8J-Gva6g0rEOuMB
0pli2JaKRylCn0AlI7cyw_flnQQueUaYrdWUsRw0-Jh9BXV5MdQwF3IGOHFM73N-eySLJDgXS6YRj
8hW4HAYlkGUVrS_laqOw9LYOTBPxPut7Q", "scope": "console:access accelerators:read
accelerators:write globalturn:access sipteleport:read sipteleport:write projects:read
rtpspeed:read rtpspeak:write", "expires_in": 86400, "token_type": "Bearer" }
```

Once you have your access\_token, the entire API is available to you.

#### 4. Fetch TURN Credentials

Subspace GlobalTURN is globally deployed after being enabled by the appropriate API call.

Use the JWT Bearer token you obtained in the previous step. Each request to the TURN API will fetch a set of unique credentials for GlobalTURN, meant to be used by a single WebRTC client. Credentials obtained from this API will be valid for 24 hours.

API documentation can be found [here](#).

### Example Request:

```
curl --request POST \
--url "https://api.subspace.com/v1/globalturn" \
--header "Authorization: Bearer
eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6IlFVRXdRaE0TUUVNd01UUTVNMFV4UWtZNE0wTTJSRUl5UWtOR1JqZENORE14TVRJeFJEaEVPQSj9.eYJodHRwcovL2FwaS5zdWJzcGFjZS5jb20vbWV0YWRhdGEiOncicHJvamVjdF9pZC16InByal81ZIBoTmFhQmRLT2Nka2xyMnZGTnVTIn0slmlzcy6lmlh0dHBzOi8vaWQuc3Vic3BhY2UuY29tLyIsInN1Yil6Ing4YldJanV6MWxXY0pRNIVVQ1hYYjNuZ2llMVdiRFINQGNSaWVudHMlLCJhdWQiOiJodHRwcovL2FwaS5zdWJzcGFjZS5jb20vliwiaWF0IjoxnNjMyMjQ5NDcwLCLjleHAiOiJlE2MzlzMzU4NzAsImF6cCI6Ing4YldJanV6MWxXY0pRNIVVQ1hYYjNuZ2llMVdiRFINIiwic2NvcGUiOiJjb25zb2xlOmFjY2VzcyBhY2NlbGVyYXRvcnM6cmVhZCBhY2NlbGVyYXRvcnM6d3JpdGUgc2lwdGVsZXBvcnQ6cmVhZCBzaXB0ZWxlG9ydDp3cmI0ZSBwcm9qZWN0czpyZWFKliwiZ3R5Ijoiy2xpZW50LWNyZWRIbnRpYWxzliwicGVybWlzc2lvbnMiOlisiY29uc29sZTphY2Nlc3MiLCJhY2NlbGVyYXRvcnM6cmVhZCIsImFjY2VsZXJhdG9yczp3cmI0ZSIsInNpcHRlbGVwb3J0OnJlYWQilCJzaXB0ZWxlG9ydDp3cmI0ZSIsInByb2plY3RzOnJlYWQixX0.GSTY9XqN4ljrdximiE9YU0ROPYiyhfziYqyHF5mPfYL1h693_BkhWaR94ecKs4e_q9Sh6tWT5-T5txuFtUsVY1dFq2FljHbSy4NycYGx2h2iY_p00rN-YO_k2PqzV2xKnFoUUXChHK6GXvKFg0bcTIUCkHso7vjIUQXA3VQeotjANwbf2VcMAL-2AARi1M6VPyf3fMgQgNI45dzKIWB6t0b8J-Gva6g0rEOuMB0pli2JaKRylCn0All7cyw_flnQQeuUaYrdWUsRw0-Jh9XBXV5MdQwF3IGOHFM73N-eySLJDgXS6YRj8hW4HAyIkGUVrS_laqOw9LYOTBPxPut7Q"
```

**Example Response:**

```
{
  "ice_servers": [
    {
      "username": "9992338615:prj_5fPhNaaBdKOcJklr2vFNuS",
      "credential": "+C40xeilrM8d+dQyEgQmyatNnLM=",
      "url": "turn:globalturn.subspace.com:3478?transport=udp",
      "urls": "turn:globalturn.subspace.com:3478?transport=udp"
    },
    {
      "username": "9992338615:prj_5fPhNaaBdKOcJklr2vFNuS",
      "credential": "+C40xeilrM8d+dQyEgQmyatNnLM=",
      "url": "turn:globalturn.subspace.com:3478?transport=tcp",
      "urls": "turn:globalturn.subspace.com:3478?transport=tcp"
    }
  ]
}
```



## 5. RTCPeerConnection Setup

Send the response from the GlobalTURN API to your WebRTC clients using your signaling mechanism.

The response format can be easily consumed by the WebRTC RTCPeerConnection object.

```
const configuration = {
  "ice_servers": [
    {
      "username": "9992338615:prj_5fPhNaaBdKOcJklr2vFNuS",
      "credential": "+C40xeilrM8d+dQyEgQmyatNnLM=",
      "url": "turn:globalturn.subspace.com:3478?transport=udp",
      "urls": "turn:globalturn.subspace.com:3478?transport=udp" },
    {
      "username": "9992338615:prj_5fPhNaaBdKOcJklr2vFNuS",
      "credential": "+C40xeilrM8d+dQyEgQmyatNnLM=",
      "url": "turn:globalturn.subspace.com:3478?transport=tcp",
      "urls": "turn:globalturn.subspace.com:3478?transport=tcp"
    }
  ],
  iceTransportPolicy: "relay"
};

const peerConnection = new RTCPeerConnection(configuration);
```

We recommend setting “iceTransportPolicy” to “relay.” This will force the WebRTC client to use GlobalTURN over other ICE candidates.

Relay ICE candidates are usually weighted lower than other ICE candidates that are assumed to be more direct from a network perspective, with GlobalTURN this assumption is no longer safe, since GlobalTURN will be more performant than other ICE candidates.

If you have additional questions, feel free to reach out directly via [support@subspace.com](mailto:support@subspace.com).