

GlobalTURN Quickstart

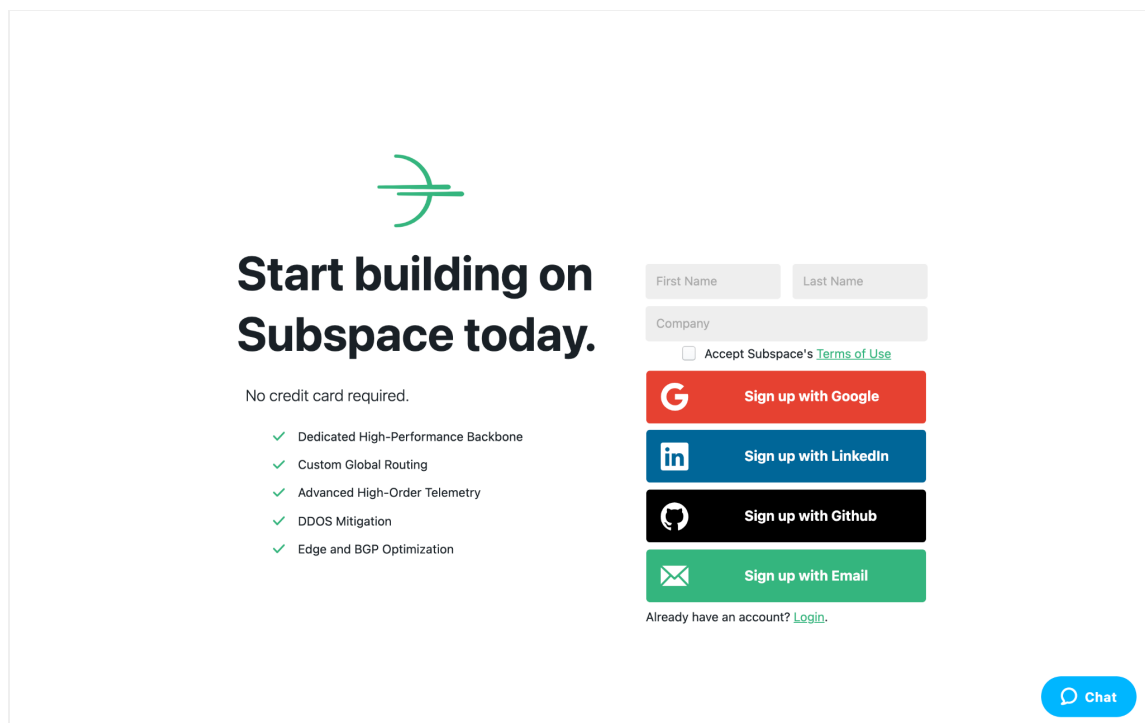
[GlobalTURN](#) is WebRTC delivery network that handles traditional TURN NAT traversal functions as well as guaranteeing network performance for all WebRTC traffic via Subspace—a dedicated, secure internet for accelerating real-time applications.

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

Quickstart

1. Create a Subspace Account

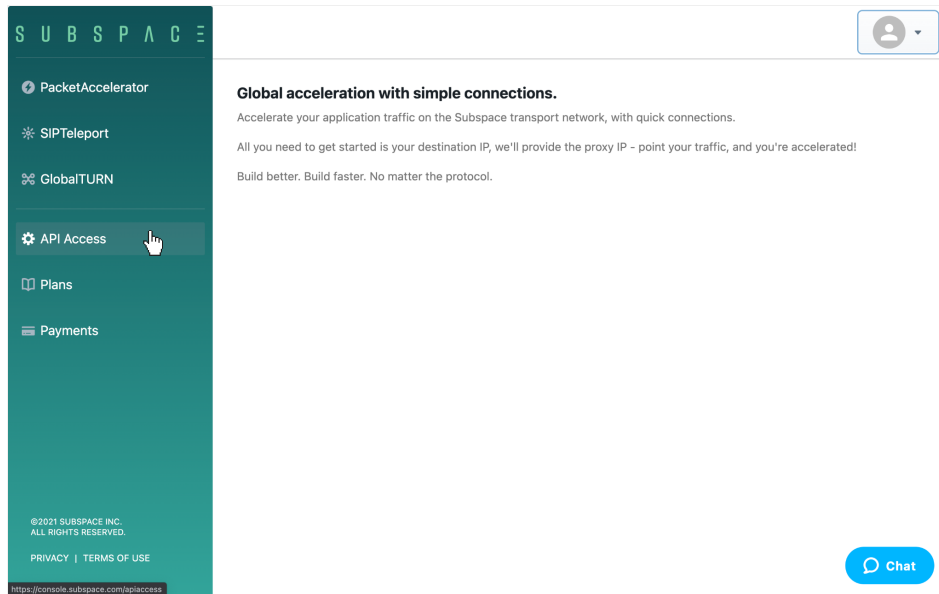
Sign up for the Subspace console at <https://console.subspace.com/try>.



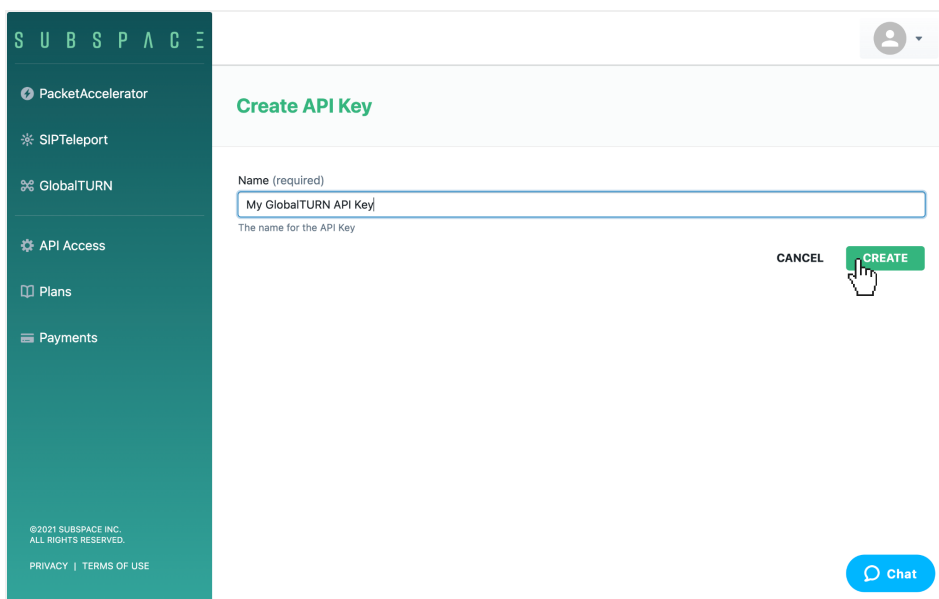
The screenshot shows the Subspace sign-up page. At the top center is the Subspace logo, a green stylized 'S' with a horizontal line. Below the logo is the heading "Start building on Subspace today." To the left of the sign-up buttons is a list of features: "No credit card required.", "Dedicated High-Performance Backbone", "Custom Global Routing", "Advanced High-Order Telemetry", "DDOS Mitigation", and "Edge and BGP Optimization". To the right are input fields for "First Name", "Last Name", and "Company", followed by a checkbox for "Accept Subspace's Terms of Use". Below these are four sign-up buttons: "Sign up with Google" (red), "Sign up with LinkedIn" (blue), "Sign up with Github" (black), and "Sign up with Email" (green). At the bottom of the sign-up area is the text "Already have an account? [Login](#)." In the bottom right corner of the page is a blue "Chat" button.

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>.



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 keep the Client Secret - it will not be shown again. Obtain a token:

```
curl -X POST \  
-H 'content-type: application/json' \  
-d '{"client_id": "rSeLodffw[REDACTED]", "client_secret": "CNtTlDpQEursYfd-[REDACTED]"}' \  
https://subspace.auth0.com/oauth/token
```

 COPY

Client Id
rSeLodffw[REDACTED]

Client Secret
CNtTlDpQEursYfd-[REDACTED]

Name
My GlobalTURN API Key

Project Id
prj-[REDACTED]

Inserted At
2022-01-11 17:18:37Z

Updated At
2022-01-11 17:18:37Z

FINISH 



3. Acquire a JWT for use with the API

The latest formal API documentation is available at <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": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6IiJFVRXhdRalfE0TUUVNd01UUTV  
NMFV4UWtZNE0wTTJSRUI5UWtOR1JqZENORE14TVRJeFJlEaEVPQsJ9.eyJodHRwczovL2FwaS5zd  
WJzcGFjZS5jb20vbWV0YWRhdGEiOncicHJvamVjdF9pZCI6InByal81ZlBoTmFhQmRLT2Nka2xyM  
nZGTnVTIn0sImZlcyI6Imh0dHBzOi8vaWQuc3Vic3BhY2UuY29tLyIsInN1Yil6Ing4YldJanV6MwX  
Y0pRNiVQ1hYYjNuZ2lIMVdiRFINQGNsaWVudHMiLCJhdWQiOiJodHRwczovL2FwaS5zdWJzcGFj  
ZS5jb20vliwiaWF0IjoxNjMyMjQ5NDcwLjE0eHAiOiJlE2MzZmZU4NzAsImF6cCI6Ing4YldJanV6MwX  
XY0pRNiVQ1hYYjNuZ2lIMVdiRFINIiwic2NvcGUiOiJjb25zb2xlOmFjY2VzcyBhY2NlbgVvYXRvcnM  
6cmVhZCBhY2NlbgVvYXRvcnM6d3JpdGUgc2lwdGVsZXBvcnQ6cmVhZCBzaXB0ZWxlG9ydDp3  
cmI0ZSBwcm9qZWNOczpyZWFKliwiZ3R5IjoIY2xpZW50LWNyZWRIbnRyYWxzliwicGVybnVlc2l2b  
nMiOlsiY29uc29sZTphY2Nlc3MiLCJhY2NlbgVvYXRvcnM6cmVhZCIsImFjY2VsZXJhdG9yczp3cmI  
0ZSIsInNpcHRlbgVwb3J0OnJlYWQiLCJzaXB0ZWxlG9ydDp3cmI0ZSIsInByb2pY3RzOnJlYWQiX  
0.GSTY9XqN4lJrdximiE9YU0ROPYiyhFziYQyHF5mPfyL1h693_BkhWaR94ecKs4e_q9Sh6tWT5-T5  
txuFtUsVY1dFq2FljHbSy4NycYGx2h2iY_p00rN-YO_k2PqzV2xKnFoUUXChHk6GXvKfG0bcTIUcKh  
So7vlJIUQXA3VQeotjANwbf2VcMAL-2AARi1M6VPyf3fMgQgNI45dzKIWB6t0b8J-Gva6g0rEOuMB  
0pli2JaKRylCn0All7cyw_flnQQuUaYrdWUsRw0-Jh9XBxV5MdQwF3IGOHFM73N-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 GlobalTURN 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  
eyJhbGciOiJSUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6IiFVRXdRaleE0TUUVNd01UUTVNMFV4UWtZNE0w  
TTJSRUl5UWtOR1JqZENORE14TVRJeFJEaEVPQsJ9.eyJodHRwczovL2FwaS55zdWJzcGFjZS5jb20vb  
WV0YWRhdGEiOiN0sichHvamVjdF9pZCI6InByal81ZiBoTmFhQmRLT2Nka2xyMnZGTnVTIn0sImlzc  
yl6Imh0dHBzOi8vaWQuc3Vic3BhY2UuY29tLyIsInN1YiI6Ing4YldJanV6MwXy0pRNiVVQ1hYYjN  
uZ2IIMVdiRFINQGNsaWVudHMiLCJhdWQiOiJodHRwczovL2FwaS55zdWJzcGFjZS5jb20vliwiaWF0I  
joxNjMyMjQ5NDcwLCJleHAiOiJlE2MzIzZmU4NzAsImF6cCI6Ing4YldJanV6MwXy0pRNiVVQ1hYYj  
NuZ2IIMVdiRFINiwiw2NvcGUiOiJjb25zb2xlOmFjY2VzcyBhY2NlbgVvYXRvcnM6cmVhZCBhY2Nlb  
GVyYXRvcnM6d3JpdGUgc2lwdGVsZXBvcnQ6cmVhZCBzaXB0ZWxlG9ydDp3cmI0ZSBwcm9qZ  
WN0czpyZWFlkiwiZ3R5IjojY2xpZW50LWNyZWRIbnRpYWxzliwicGVybWlzc2lvbnMiOlsiY29uc29s  
ZTphY2Nlc3MiLCJhY2NlbgVvYXRvcnM6cmVhZCIsImFjY2VsZXJhdG9yczp3cmI0ZSIsInNpcHRlbG  
Vwb3J0OnJlYWQiLCJzaXB0ZWxlG9ydDp3cmI0ZSIsInByb2p1Y3RzOnJlYWQiXX0.GSTY9XqN4lJrdx  
imiE9YU0ROPYiyhFziYQyHF5mPFYL1h693_BkhWaR94ecKs4e_q9Sh6tWT5-T5txuFtUsVY1dFq2FI  
jHbSy4NycYGx2h2iY_p00rN-YO_k2PqzV2xKnFoUUXChHk6GXvKfG0bcTIUcKhSo7vIJIUQXA3VQe  
otjANwbf2VcMAL-2AARi1M6VPyf3fMgQgNI45dzKIWB6t0b8J-Gva6g0rEOuMB0pli2JaKRylCn0All  
7cyw_flnQQeuUaYrdWUsRw0-Jh9XBxV5MdQwF3IGOHFM73N-eySLJDgXS6YRj8hW4HAYlkGUvR  
S_laqOw9LYOTBPxPut7Q"
```

Example Response:

```
{"ice_servers":[{"username":"9992338615:prj_5fPhNaaBdKOcJklr2vFNuS","credential":"+C40xe  
ilrM8d+dQyEgQmyatNnLM=","url":"turn:globalturn.subspace.com:3478?transport=udp","urls"  
:"turn:globalturn.subspace.com:3478?transport=udp"},{"username":"9992338615:prj_5fPhNa  
aBdKOcJklr2vFNuS","credential":"+C40xeilrM8d+dQyEgQmyatNnLM=","url":"turn:globalturn.s  
ubspace.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.