ENPHASE.

## Tech Brief on IQ Gateway Access using Token

Table of Contents

1. IQ Gateway Access using Token

At Enphase, we create products and services centered around positive customer experience and high-quality solutions to meet the highest security standards. Keeping that in mind, we have enhanced the security of local connection to IQ Gateway API by moving away from conventional password authentication to cryptographic token-based authentication. The primary purpose of this change is to enhance the security so that the homeowners continue to access all the local IQ Gateways APIs in a secured manner.
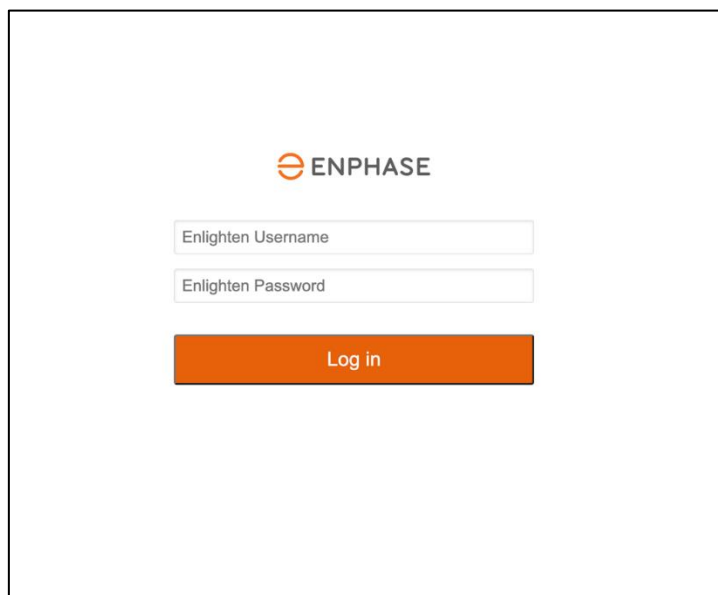
a) Steps to acquire a token:

Homeowners who connect to an IQ Gateway using local API connectivity for home automation setup are now required to acquire a token to establish the IQ Gateway connection. The steps are mentioned below:
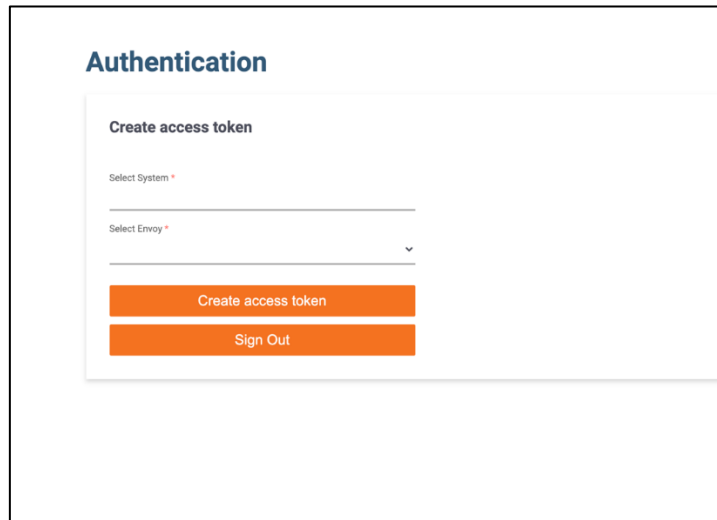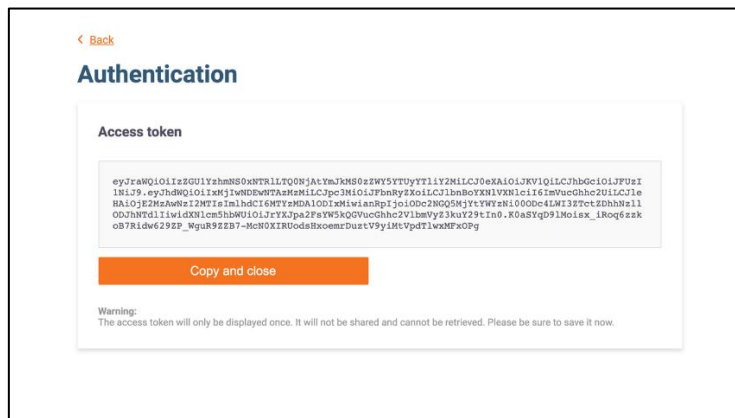
1. In the browser address window, enter https://entrez.enphaseenergy.com/
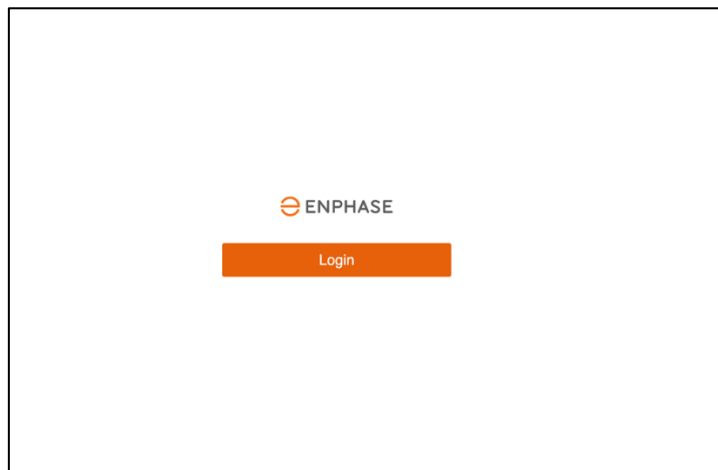
2. Click on 'Login', and enter your Enlighten credentials

 Aug 16, 2022

3. Select your system and IQ Gateway.

4. Click on 'Create access token' and you see a token is generated.


5. Copy and paste the token in your home automation setup for authentication. Save the token securely on your local hardware for future use. In case your system has multiple IQ Gateways, then you must first select the one which you wish to perform API interactions upon from a 'Select IQ Gateway' dropdown.

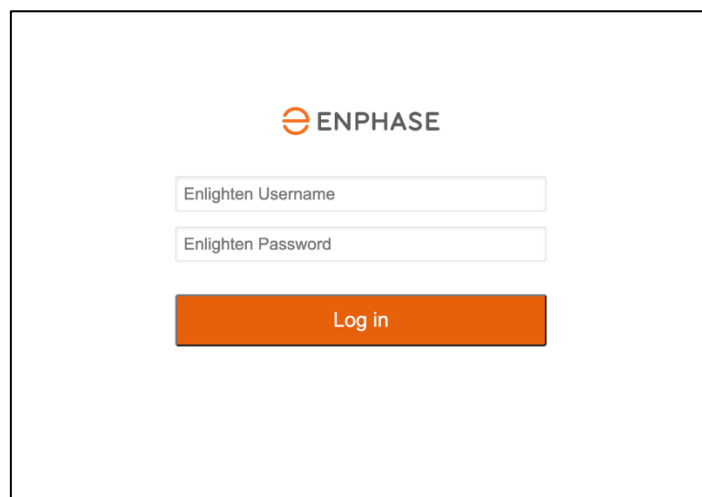## b) Accessing IQ Gateway Web UI

1. In the web browser window, enter https://<IQ Gateway-ip>/home

- IQ Gateway uses self-signed certificate, so you must click "Advanced" → "Proceed to website (unsafe)".
- For macOS Chrome users, you must type **this is unsafe** into your browser window allowing it to accept the IQ Gateway's self-signed certificate.


 Aug 16, 2022
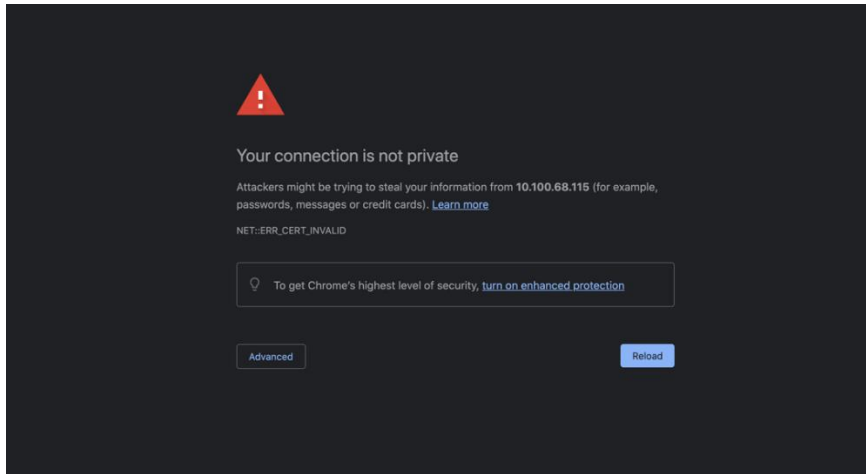
- Now you will be redirected to the IQ Gateway authentication page.
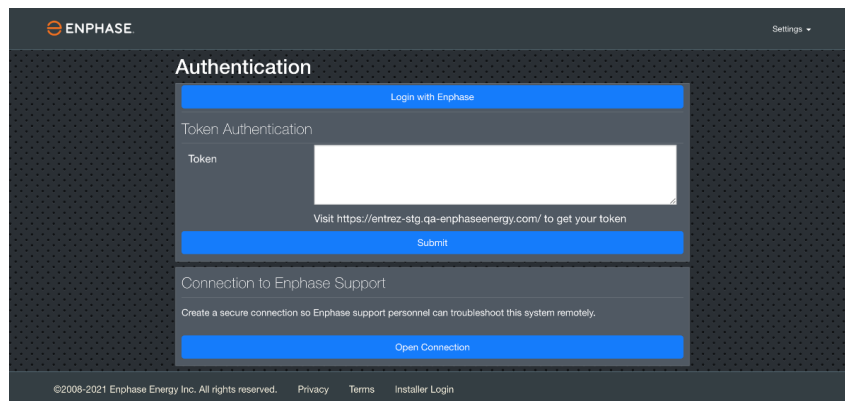
2. If you are online, click "Login with Enphase" in the Authentication screen, enter your Enlighten credentials, then you will be authenticated and redirected to the IQ Gateway page. The token is not required in this case.

3. If you are offline, paste the generated token and click 'Submit' to get into the IQ Gateway page.
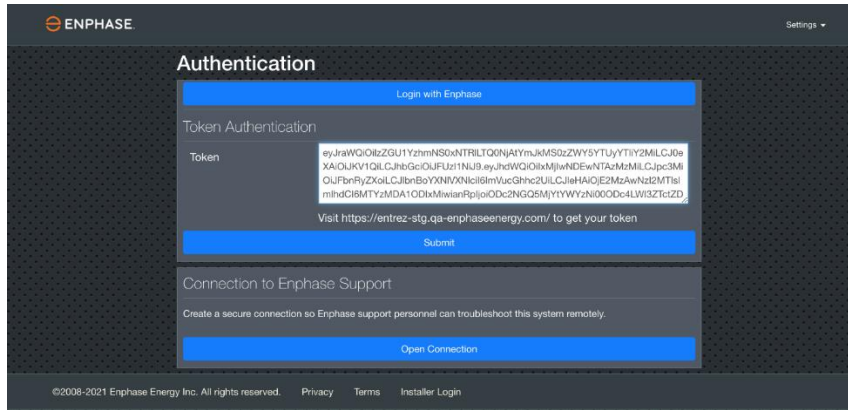
4. If you are inactive for 10 minutes, you will have to authenticate again.

c) Access using CURL commands

When accessing IQ Gateway API, the web request must include the Authorization Bearer in your CURL command and the URL must include HTTPS.

The format looks like below:

Authorization: Bearer <Token Code>

*   - **k** allow self-signed certificate
*   - **H** add http header with token

Additionally, these may be helpful:

*   - **f** fail on error (gives better output in case of unauthenticated redirection)
*   - **L** follow redirects (can use http and allow https redirection)

E.g.: **curl -f -k -H 'Accept: application/json' -H 'Authorization: Bearer eyJraWQiOi…' -X GET https://<IQ Gateway-ip>/api/v1/production/inverters**

The token is valid only for one year to ensure safety and you must generate a new token upon expiry. The table below shows few local REST APIs of IQ Gateway.

API Call	Command	Description
Meter Details	GET https://{IQ Gateway_ip}/ivp/meters	Returns meter status, type of meter and number of phase measurements.
Meter Readings	GET https://{IQ Gateway_ip}/ivp/meters/readings	Returns measurements from production CT, storage CT and consumption CT and all are subjected to the availability of CT's.
Inverter Production Data	GET https://{IQ Gateway_ip}/api/v1/production/inverters	Return maximum and last reported active power production information of the available microinverters.
Meter's Live Data	GET https://{IQ Gateway_ip}/ivp/livedata/status	Returns meter's live data with tasks and counters
Load Consumption Data	GET https://{IQ Gateway_ip}/ivp/meters/reports/consumption	Return power consumption information of the loads.

 Aug 16, 2022