

Toon Open API documentation

Version 1.3

1. Steps for credentials

- 1.1. Register on <http://www.toonapi.com/>. You will receive an email.
- 1.2. Verify your account by clicking the link in the received email. You will receive an email with the API Key, generated Password, Consumer-key and Consumer-secret.

2. Steps for using Node.js app

- 2.1. Go to our Github page <https://github.com/quby-energy/ToonDemoApplication> and clone the repository or download the zip file.
- 2.2. Extract the zip file.
- 2.3. Go to <https://nodejs.org/> and download and install Node.js.
- 2.4. Open a command line windows and navigate to or stay in the folder where you have your app.js file. Run the command `'npm install'`.
- 2.5. Edit line 17, 18, 19 and 20 to contain the account info you received in the e-mail.
- 2.6. Open a command line windows and navigate to or stay in the folder where you have your app.js file. Open the application in Node.js by entering the command `'node app.js'` or `'npm start'`.
The application uses port 8080 and 3001 so you need to make sure these ports are available. Also make sure your user has root/administrator rights.

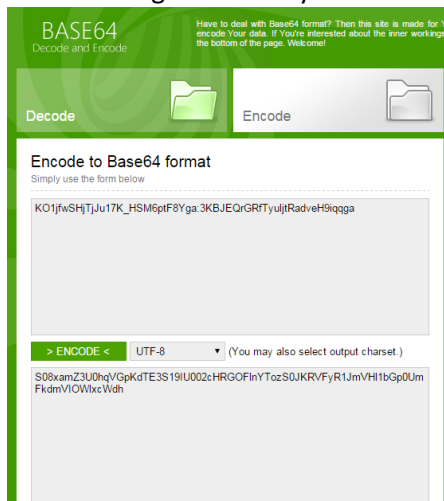
- 2.7. Now that the application is running, you can go to <http://localhost:8080> and press the Login button. You are now in the Toon API Simulator.

3. Steps for making REST calls to the API

- 3.1. Pick your weapon of choice for making REST calls. For instance cURL or Postman for Google Chrome.
- 3.2. **Before you can make any calls to the API you need to have the proper authorisation. The API uses the OAuth2 framework for authorisation. This means every call should include an authentication header.**

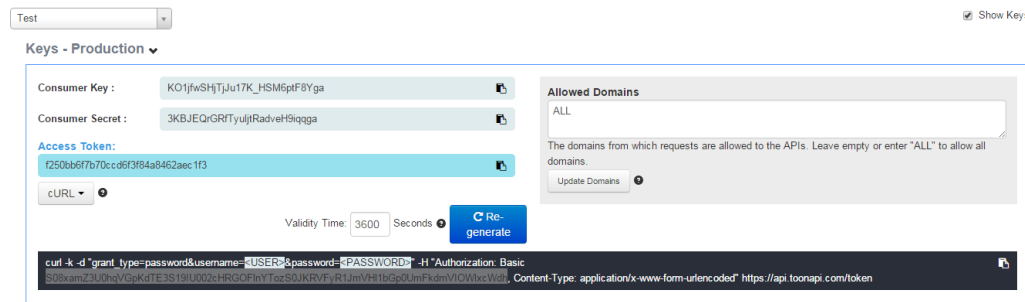
Generate your authentication header in one of the two ways described below.

- A. Go to <https://www.base64encode.org/> and input Consumer-Key and Consumer-Secret in the following format: Key:secret



The screenshot shows the 'BASE64 Decode and Encode' website. It has a green header with the site name and a small note. Below the header are two tabs: 'Decode' (active) and 'Encode'. The 'Encode' tab is selected, showing a form titled 'Encode to Base64 format'. The form has a text input field containing the text 'KO1JfwSHjTJu17K_HSM6ptF8Yga:3KBJEGrGRtYuljRadveH9qaga'. Below the input field is a button labeled '> ENCODE <' and a dropdown menu set to 'UTF-8'. Below the button, the encoded result is displayed: 'S08xamZ3U0hqVGpKdTE3S19IU002cHRGOFnYTozS0JKRVFyR1JmVH1bGp0UmFkdmlVlOWxcVdh'.

- B. Go to <https://api.toonapi.com/store> and go to My Subscriptions. Select the pre-created ToonAPIApplication. Select the Curl command for GrantType: Password. Copy the Authentication Header in the curl command.



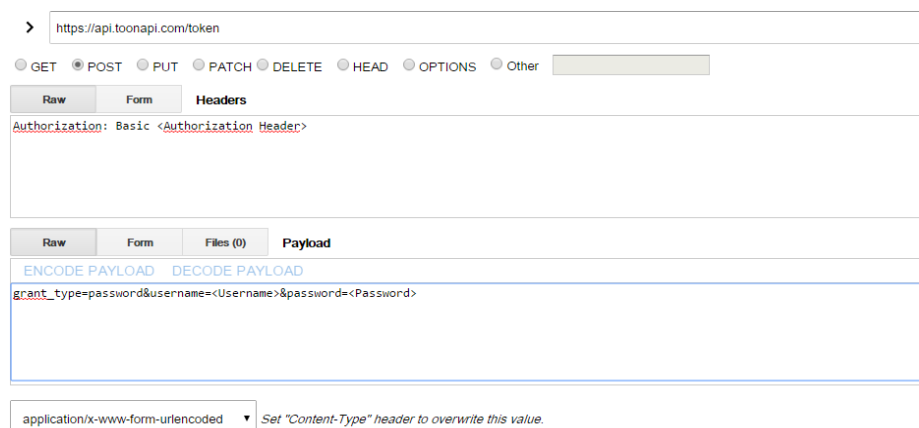
- 3.3. Make the call to the token endpoint to receive an access token. You can either import the whole cURL command from step 2b into a command line and replace the username and password field or create the call yourself.

- 3.4. The call comprises of a few elements. The url is <https://api.toonapi.com/token> and the method is POST.

Add two headers: Authorization: Basic **YOUR_AUTHENTICATION_HEADER**, Content-Type: application/x-www-form-urlencoded.

Add three elements to the body: grant_type=password, username=**USERNAME**, password=**PASSWORD**.

You will receive a JSON object containing the access token.



Example of the call in the Advaned Rest Client (Google Chrome Extension)

- 3.5. All other calls to the API will have url <https://api.toonapi.com/toon/api/v1/OPERATION> and a header with the Access token. The next call you should execute is a GET call on /agreements. Add a header for Authorization: Bearer **ACCESS_TOKEN**. You will receive an array of JSON objects with agreementIds. These agreements indicate to which Toon devices you have access.

- 3.6. You then need to set the Toon device to which you want to make API calls. For example, if you want to change or retrieve the temperature for a certain Toon device, you need to set its agreementId as the current.

To set the agreementId of a certain Toon device make a POST call on /agreements. Add two headers: the standard authentication Bearer header as described in step 3.5. and Content-Type: application/json. Then add a body with the agreement you want to use. The JSON object can be copied from the previous call or created manually. An example can be seen below.

```
{
  "agreementId": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx",
  "street": "xxxxxxxxxxxxxxxxxxxxxxxx",
  "houseNumber": "xxx",
  "postalCode": "xxxxxx",
  "city": "xxxxxxxx",
  "displayName": "xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx",
  "displaySoftwareVersion": "xxxxxxx"
}
```

Only the agreementId is required, the other fields are optional. If the agreement is accepted it returns a 200 OK Http status code.

- 3.7. You can now check the status of that Toon device with a GET call on /status. Add the default authorization header. This returns a JSON object with information on the Toon device like current temperature and program. You can continue making calls to the API. Check the online console at <http://www.toonapi.com/documentation> to see the other possible calls.