HYDRAO

HYDRAO
API DOCUMENT

TABLE OF CONTENT

Version

Version	Date	Description
1		First release
2	June 2020	Update : • User • Statistic • Parameters •
2.1	June 2020	Update Showerhead (threshold_request attribute)
3.0	June 2020	Add Meter section
4.0	July 2020	Add events section

1 INTRODUCTION

This document describes HYDRAO API for HYDRAO smart shower head.

1.1. URL

https://api.hydrao.com

1.2. REQUEST AN API KEY

Before starting, you need a personal and private API key. You can request it by sending an email to contact@hydrao.com

1.3. RATE LIMITS

Per key :
- 50 requests every 10 seconds
- 500 requests every hour

1.4. AUTHENTICATION

1.4.1 API Key

Set x-api-key header to the API key.

1.4.2 Session token

Set "Authorization" header to the session token with the following format
Bearer *access_token*

1.5. ERRORS

1.5.1. Error Format

All HTTP status have a JSON body:

Attribute	Definition	type
code	Error code	string
message	Error description	string

Example:

```
{
    "code": "WrongJSON",
    "message": "Cannot parse JSON: {\"stats_nb_showers\": 200, }"
}
```

1.5.2. HTTP status 400

A 400 error is returned if the request is incorrect (missing parameter or incorrect format)

1.5.3. HTTP status 403

Access denied can be caused by:
- x-api-key header missing
- Authentication header missing
- Unauthorized access

1.5.4. HTTP status 404

A 404 error is returned if
- The URL is incorrect
- The resource does not exist

1.5.5. HTTP status 405

A 405 error is returned if a non-supported verb is used.

1.5.6. HTTP status 500

A 500 error code is returned if the server is not able to resolve the request .

2. USERS MANAGEMENT AND AUTHENTICATION

2.1. USERS

A user account cannot be created via API. Please use the mobile application to create an account.

2.2. USER CONFIRMATION

After creating an account and before using it, the account has to be confirmed

2.2.1 URL

```
https://api.hydrao.com/users/{usermailbase64}/confirm
```

usermailbase64 corresponds to the user's email address encoded in base64url

2.2.2. POST

2.2.2.1 Request

Body : JSON object

```
{
    "code" : "my_verification_code"
}
```

The verification code is sent directly to the email used at account creation.

Headers

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json

Parameters: None

2.2.2.2 Response

200K): user confirmed

2.2.2.3 Errors

HTTP status	Error code	Error type
400	WrongJSON	Parsing error (JSON body)
400	Base64DecodeError	Unable to decode email
400	CodeMissing	Verification code missing
404	ResourceNotFound	Incorrect URL
405	VerbNotAllowed	Unauthorized HTTP verb
500	UserNotFound	User not found
500	CodeMismatch	Verification code incorrect
500	CodeExpired	Verification code expired
500	UserConfirmed	User already confirmed
500	UnexpectedError	Unexpected error

2.3. VERIFICATION CODE: REQUEST RESEND

2.3.1 URL

```
https://api.hydrao.com/users/{usermailbase64}/resend-code
```

usermailbase64 corresponds to the user's email address encoded in base64url (See https://simplycalc.com/base64url-encode.php)

2.3.2 POST

2.3.2.1 Request

Body : None

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json

Parameters : None

2.3.2.2 Response

200K): verification code resent

2.3.2.3   Errors

Code HTTP	Error code	Error type
400	Base64DecodeError	Unable to decode email
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	HTTP verb unauthorized
500	UserNotFound	User not found
500	UserConfirmed	User already confirmed
500	UnexpectedError	Unexpected error

2.4. SESSIONS

This API provides the access token and refresh token.

2.4.1   URL

https://api.hydrao.com/sessions

2.4.2   POST
2.4.2.1 Request

Body:

```
{
    "email" : "mail@xxx.com",
    "password" : "my_password"
}
```

Or :

```
{
    "refreshToken" : "eyJjdHkiOiJKV1QiLCJlbmMiOiJBMjU2R0NN..."
}
```

If a refreshToken is provided, all other data sent in the JSON (for example email or password) are ignored.

Headers

Attribute	Value

x-api-key	*your_key*
Content-Type	application/json

2.4.2.2 Response

200 (OK) : session opened

Body: JSON object

```json
{
    "AccessToken": "eyJraWQiOiJTSDVaaW...",
    "RefreshToken": "eyJjdHkiOiJKV1QiL...",
    "ExpiresIn": 3600
}
```

Or if a refresh token was provided:

```json
{
    "AccessToken": "eyJraWQiOiJTSDVaaW...",
    "ExpiresIn": 3600
}
```

2.4.2.3 Errors

Code HTTP	Error code	Error type
400	WrongJSON	Parsing error (JSON body)
400	EmailMissing	Email missing (and refreshToken not provided)
400	PasswordMissing	Password missing (and refreshToken not provided)
401	AccountDisabled	Desactivated or unconfirmed account
401	AuthFailed	Authentification failed
401	UnexpectedError	Unexpected error during authentification
405	VerbNotAllowed	Unauthorized HTTP verb
404	ResourceNotFound	Incorrect url
500	UnexpectedError	Unexpected error

2.5. USER DATA

2.5.1 URL

https://api.hydrao.com/users/me

2.5.2 GET

2.5.2.1 Request

Body : none

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

Parameters: None

2.5.2.2 Response

200 (OK)

Body: JSON user data

```
{
    "id": 3908,
    "email": "demo@hydrao.com",
    "registration_date": "2020-02-04T09:47:16.000Z",
    "is_superadmin": false,
    "main_group": 3908,
    "nb_people": 2,
    "country_code": "FR",
    "currency_code": "EUR",
    "water_unit": "L",
    "water_price": 3.5,
    "energy_price": 0.15,
    "heating_energy": 0.0326,
    "min_shower_liter":3,
```

```
    "stats_nb_showers": 100
}
```

Attribute	Definition	type
id	Account id	int
email	Email	string
registration_date	Registration date	date
is_superadmin	Is super admin : false	boolean
main_group	Each user has a group to which his shower heads are attached	int
nb_people	Number of people in the household	int
country_code	Country code according to ISO 3166-1 alpha-2	string
currency_code	Currency code Supported values : ● EUR for € ● USD For $ ● SGD Fo SGP $ ● GBP For £	string
water_unit	Water volume unit Supported values: ● L for Liter ● Gal for Galon	string
water_price	Water price in currency/m3 (even if the volume is in Galon)	float
energy_price	Energy price in kWh/currency	float
heating_energy	Number of kWh to heat 1L at 38°C (default value = 0,00325)	float
min_shower_liter	Only shower with the volume greater than min_shower_liter are used for statistics (in liters)	int
stats_nb_showers	Number of showers used for calculating statistics	int

2.5.2.3 Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
404	ResourceNotFound	Resource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

2.5.3 PUT

2.5.3.1 Request

Body : JSON object with data user :

```json
{
    "nb_people": 2,
    "country_code": "FR",
    "currency_code": "EUR",
    "water_unit": "L",
    "water_price": "3.92",
    "energy_price": "2.35",
    "heating_energy": "0.15",
    "min_shower_liter":3,
    "stats_nb_showers": 100
}
```

Not all attributes are required. The structure should contain only the attributes to be updated

Attribute	Definition	type
nb_people	Number of people in the household	int
country_code	Country code according to ISO 3166-1 alpha-2	string
currency_code	Currency code Supported values : • EUR for € • USD For $ • SGD Fo SGP $ • GBP For £	string
water_unit	Water volume unit Supported values: • L for Liter • Gal for Galon	string
water_price	Water price in currency/m3 (even if the volume is in Galon)	float
energy_price	Energy price in kWh/currency	float
heating_energy	Number of kWh to heat 1L at 38°C (default value = 0,00325)	float
min_shower_liter	Only shower with the volume greater than min_shower_liter are used for statistics (in liters)	int
stats_nb_showers	Number of showers used for calculating statistics	int

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json

Authorization	Bearer *your_token*

Parameters: None

2.5.3.2 Response

200 (OK) : user settings updated

Body: JSON user data as described in section 2.1.8.2

```json
{
    "id": 3908,
    "email": "demo@hydrao.com",
    "registration_date": "2020-02-04T09:47:16.000Z",
    "is_superadmin": false,
    "main_group": 3908,
    "nb_people": 2,
    "country_code": "FR",
    "currency_code": "EUR",
    "water_unit": "L",
    "water_price": 3.5,
    "energy_price": 0.15,
    "heating_energy": 0.0326,
    "min_shower_liter":3,
    "stats_nb_showers": 100
}
```

2.5.3.3 Errors

Code HTTP	Error code	Error type
400	WrongJSON	Incorrect JSON (malformed json)
401		Unauthorized access (missing, incorrect or expired token)
404	ResourceNotFound	Resource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

3 SHOWER HEAD MANAGEMENT

3.1 REGISTER

3.1.1 URL

https://api.hydrao.com/shower-heads/{device_uuid}/register

3.1.2 POST

3.1.2.1 Request

Body : JSON object

```
{
  "mac_address" : "b7:d4:7b:19:49:c8"
}
```

mac_address correspond to the BLE mac address of the shower head. It will be used by the application to connect to the shower head.

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.1.2.2 Response

200 (OK) : shower head registred

Body : JSON object

```
{
    "message": "device registered successfully"
}
```

Attribute	Value
message	description

3.1.2.3   Errors

Code HTTP	Error code	Error type
400	WrongJSON	Parsing error (JSON body)
400	WrongParameters	Incorrect device uuid
401		Unauthorized access (missing, incorrect or expired token)
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	AlreadyRegistered	Shower head already registered for this user
500	RegisterUnauthorized	Shower head already registered to another user
500	UnexpectedError	Unexpected error

3.2   UNREGISTER

3.2.1   URL

https://api.hydrao.com/shower-heads/{device_uuid}/unregister

3.2.2   POST

3.2.2.1   Request

Body : None

Parameter : None

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.2.2.2   Response

200 (OK) : shower head unregistered

Body: JSON object

```
{
    "message": "device unregistered successfully"
}
```

Attribute	Value
message	description

3.2.2.3   Errors

Code HTTP	Error code	Error type
400	WrongParameters	Incorrect device uuid
401		Unauthorized access (missing, incorrect or expired token)
404	ResourceNotFound	Resource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	NotRegistered	Shower head not registered to this user
500	UnexpectedError	Unexpected error

3.3   SHOWER HEAD INFO

3.3.1   URL

https://api.hydrao.com/shower-heads/{deviceUUID}

where *device_uuid* is the unique identifier of the shower head.

3.3.2   GET
3.3.2.1   Request

Body : None

Parameters:

Attribute	Value
Upgrade (optinal)	If set to true or 1, infos are updated (with the latest data) before sending the response

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.3.2.2   Response

200 (OK) with a json structure

Body : JSON structure

```json
{
    "device_uuid": "00000000-37353936-11111111",
    "first_seen": "2019-07-04T07:46:08.000Z",
    "last_seen": "2019-09-30T15:46:51.000Z",
    "hw_version": "8",
    "fw_version": "20180413",
    "threshold": "[{\"color\":\"FF00FF00\",\"liter\":2},{\"color\":\"FF0000FF\",\"liter\":4},{\"color\":\"FFFF00FF\",\"liter\":6},{\"color\":\"FFFF0000\",\"liter\":8}]",
    "upgrade_date": null,
    "baseline_start": null,
    "baseline_stop": null,
    "upgrade_failed": null,
    "upgrade_from_version": null,
    "label": "Pommeau 39",
    "mac_address": "9752D846-41F2-352E-C96C-C8EE18EF4FAB",
    "previous_flow": 12,
    "last_sync_min_index": 0,
    "last_sync_max_index": 22,
    "last_sync_date": "2019-09-30T15:44:37.000Z",
    "calibration": 545,
    "ref_shower_duration": 69,
    "is_last_sync_complete": 1,
    "is_threshold_change_pending": 0,
    "serial": null,
    "type": "aloe",

    "connectivity": "BLE",
```

```
    "gateway_uuid": "60fbd06a33c7e4251e8ae9237501e51c",
    "place_id": null,
    "baselineStart": null,
    "baselineStop": null,
"threshold_request":   "[{\"color\":\"FF00FF00\",\"liter\":2},{\"color\":\"FF00
00FF\",\"liter\":4},{\"color\":\"FFFF00FF\",\"liter\":6},{\"color\":\"FFFF0000
\",\"liter\":8}]"
}
```

Attribute	Definition	type
device_uuid	Unique device identifier	string
first_seen	First connection date	date
last_seen	Last connection date	date
hw_version	Hardware version	string
fw_version	Firmware version	
threshold	Threshold configuration List of object: - Color: RGB code - Liter volume up to which the color is displayed	String
upgrade_date	Last upgrade date	date
baseline_start	Reserved for future use	
baseline_stop	Reserved for future use	
upgrade_failed	True if an upgrade failed. Set to false after a successful upgrade	boolean
upgrade_from_version	Previous version	string
label	Shower head label	string
mac_address	MAC address of the shower head	string
previous_flow	Flow rate of the previous shower head	float
last_sync_min_index	Min shower index	integer
last_sync_max_index	Max shower index	
calibration	Shower head calibration	integer
ref_shower_duration	Duration of the baseline shower (in secondes)	integer
is_last_sync_complete	True: all showers are synchronised with the server False: some showers are missing	boolean
is_threshold_change_pending	True: threshold change request is pending Flase: no pending request	boolean
serial	Serial number (only for LoRa shower head)	
type	Supported values: - aloe - cereus - first	

	- origin - yucca - unknown	
connectivity	Supported values : BLE for Bluetooth Low Energy LoRa	
gateway_uuid	Id of the gateway	string
place_id	Reserved for future use	
threshold_request	Threshold that should be set on shower head. If different from threshold attributes, it means that this thresholds needs to be set on shower head.	Json string
baselineStart	Deprecated do not used	
baselineStop	Deprecated do not used	

3.3.2.3   Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	User cannot access this device.
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

3.3.3   PUT
3.3.3.1   Request

Body : JSON object

```
{
    "label" : "label",
    "previous_flow" : 12,
    "type": "aloe"
}
```

Only the attributes *label*, *previous_flow* and *type* can be updated with this API.

Parameter: None

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.3.3.2   Response

200 (OK)

Body : JSON shower head object as defined in previous section

3.3.3.3   Errors

Code HTTP	Error code	Error type
400	WrongJSON	Parsing error
400	WrongType	Unauthorized value
400	FlowNaN	The attribute flow has to be an integer
400	WrongParameters	Body vide, ou problème dans la récupération du device UUDI
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	User cannot access this device.
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

3.4   SHOWER HEAD LIST

3.4.1   URL

```
https://api.hydrao.com/shower-heads
```

3.4.2   GET

3.4.2.1   Request

Body : None

Parameters:

Attribute	Value
Limit (optional)	the number of objects returned in the response. Default value: 100
lastkey (optional)	Index of the last shower head sent in the previous response (header *lastUUID*)

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.4.2.2   Response

200 (OK) : list of shower head
Body : list of json object as defined in section 3.1

206: Partiel content
Body : list of json object as defined in section 3.1

Headers:

Attribute	Value
LastUUID	Index of the last shower head
Content-range	https://tools.ietf.org/html/rfc7233#section-4.2

3.4.2.3   Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

3.5 LAST SHOWER Id

3.5.1 URL

```
https://api.hydrao.com/shower-heads/{deviceUUID}/last-shower-id
```

3.5.2 GET

3.5.2.1 Request

Body : None

Parameters:

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.5.2.2 Response

200 (OK)

Body : json object
Shower are ordered in descending order

```
{
    "last_shower_id": 22
}
```

Attribute	Definition	type
last_shower_id	The shower id of the last retrieved shower	integer

3.5.2.3 Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	The user is not allowed to acces this device

404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

3.6 SHOWER

3.6.1 URL

https://api.hydrao.com/shower-heads/{deviceUUID}/showers

3.6.2 GET

3.6.2.1 Request

Body : None

Parameters:

Attribute	Value
Limit (optional)	the number of objects returned in the response. Default value: 100
fromid (optional)	returns only showers whose id is greater than or equal to *fromid*

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

3.6.2.2 Response

200 (OK)

206: Partiel content

Body : list of json object
Shower are ordered in descending order

```
{
```

```
        "shower_id": 2,
        "device_uuid": "03473831-39363138-003c0050",
        "volume": 8,
        "temperature": 8,
        "flow": 5.6,
        "soaping_time": 2,
        "duration": 2176,
        "date": "2020-02-04T12:56:26.000Z",
        "is_real_date": false,
        "number_of_soapings": null
}
```

Attribute	Definition	type
Shower_id	Shower index	integer
device_uuid	Unique device identifier	string
volume	Shower volume in liters	integer
temperature	No set, reserved for future use	integer
flow	Average flow rate	float
soaping_time	Duration of the last break (for soaping) in seconds	integer
duration	Duration of the shower in seconds	integer
date	date	date
is_real_date	If true: the attribute *date* is the real shower date. If false: the attribute *date* is the date when the shower was synchronized	bolean
number_of_soapings	Number of break	integer

The attribut *temperature, flow, soaping_time* and *number_of_soapins* are set only for shower head of type yucca, aloe and cereus.

Header (for 206 only):

Attribute	Value
LastUUID	Index of the last shower
Content-range	https://tools.ietf.org/html/rfc7233#section-4.2

3.6.2.3   Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	The user is not allowed to acces this device
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

4 EVENTS

This section is only for showerhead devices.
With this microservice, events sent by the gateway or the phone can be viewed, especially live data (volume, flow and temperature during the shower)

4.1 EVENTS GET

4.1.1 URL

https://api.hydrao.com/private-devices/{device_uuid}/events/?type={eventType}

4.1.2 GET

4.1.2.1 Request

Body : None

Parameters: eventType

type	localId	data
liveShower	id unique	volume in litre during the shower (read every minute if connected with a gateway)
liveFlow	id unique	Flow in L/min shower (read every minute if connected with a gateway)

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

4.1.2.2 Response

200 (OK) with a json structure

Body : JSON structure

```
[
{
```

```
    {
        "value": "0",
        "eventId": "01473831-39363138-00260049:liveShower:1593160964035",
        "date": "2020-06-26T08:42:44.035Z",
        "serverDate": "2020-06-26T08:42:49.226Z",
        "deviceUUID": "01473831-39363138-00260049",
        "userId": "9",
        "localId": "1593160964035",
        "type": "liveShower"
    },
    {
        "value": "0",
        "eventId": "01473831-39363138-00260049:liveShower:1593160963035",
        "date": "2020-06-26T08:42:43.035Z",
        "serverDate": "2020-06-26T08:42:45.731Z",
        "deviceUUID": "01473831-39363138-00260049",
        "userId": "9",
        "localId": "1593160963035",
        "type": "liveShower"
    }

]
```

Attribute	Definition	type
value	Event value (in liter for liveShower for example)	
event_id	Uniq identifier	string
date	Date when the event is read	date
serverDate	Date when the event arrived on the server	date
userId	User id	int
localId		string
type	Event type	string

4.1.2.3   Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	User cannot access this device.
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

5 METER MANAGEMENT

5.1 METER INFO

5.1.1 URL

https://api.hydrao.com/meters

5.1.2 GET

5.1.2.1 Request

Body : None

Parameters: None

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

5.1.2.2 Response

200 (OK) with a json structure

Body : JSON structure

```
[
    {
        "device_uuid": "33323235004A0028",
        "first_seen": "2020-03-06T16:48:25.000Z",
        "last_seen": "2020-03-06T16:49:12.000Z",
        "label": "Meter Denis",
        "serial": "20_04_0015"
    }
]
```

Attribute	Definition	type
device_uuid	Unique device identifier	string
first_seen	First connection date	date
last_seen	Last connection date	date
label	Shower head label	string
serial	Serial number (only for LoRa shower head)	

5.1.2.3 Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	User cannot access this device.
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

5.2 METER HISTORY

5.2.1 URL

https://api.hydrao.com/meters/{deviceUUID}/history

where *device_uuid* is the unique identifier of the shower head.

5.2.2 GET
5.2.2.1 Request

Body : None

Parameters:None

Headers :

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json

Authorization	Bearer *your_token*

5.2.2.2 Response

200 (OK) with a json structure

Body : JSON structure

```
[
    {
        "histo_id": 735,
        "date": "2020-06-09T15:21:39.000Z",
        "duration": 154,
        "volume": 0.4,
        "temperature": 12.5
    },
    {
        "histo_id": 734,
        "date": "2020-06-09T15:19:39.000Z",
        "duration": 176,
        "volume": 7.9,
        "temperature": 20.5
    }
]
```

Attribute	Definition	type
Histo_id	**Unique event identifier**	**string**
date	Date	int
duration	Event duration (sec)	
volume	Event volume (Liter)	float
temperature	Event température (Celsius degrees)	float

5.2.2.3 Errors

Code HTTP	Error code	Error type
401		Unauthorized access (missing, incorrect or expired token)
403	Forbidden	User cannot access this device.
404	ResourceNotFound	Ressource not found
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

6 ADVICE

6.1 ADVICE

6.1.1 URL

https://api.hydrao.com/advice

6.1.2 GET

6.1.2.1 Request

Body : None

Parameters:

Attribute	Value

Locale (optional)	Language used for the advice
	Supported value:
	    - en for english
	    - fr for french
	If not set, account language will be used.

Headers

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

6.1.2.2 Response

200 :OK

Body : json object

```
{
  "advice_id": "ref_shower",
```

```
  "title": "Douche de référence",
  "description": "Vous pouvez prendre une douche de référence pour réduire
votre consommation."
}
```

Attribute	Definition	type
advice_id	Advice id	string
title	Advice title	string
description	Advice description	string

6.1.2.3   Errors

Code HTTP	Error code	Error type
400	WrongParameters	Invalid local parameter
401		Unauthorized access (missing, incorrect or expired token)
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

7 STATISTICS

7.1 USER STATISTICS

7.1.1 URL

https://api.hydrao.com/user-stats

7.1.2 GET

7.1.2.1 Request

Body : None

Parameters:

Attribute	Value
nbshowers (optional)	Number of shower on which the statistics are calculated If not set, the value of stats_nb_showers from user setting is used

Headers

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

7.1.2.2 Response

200: OK

Body : json object

```
{
  "average_volume": {
      "value": 47.11,
      "trend": 0.026
  },
  "average_duration": {
```

```json
        " value": 6533,
        "trend": 4.163
    },
    "total_energy_saved": {
        "value": 82.57,
        "trend": 0.051
    },
    "total_volume_saved": {
        "value": 2540.76,
        "trend": 0.051
    },
    "total_money_saved": {
        "value": 22.35,
        "trend": 0.051
    },
    "challenge": {
        "level": "bronze",
        "score": 3
    },
    "nb_showers_stats": 200,
    "nb_showers_challenge": 50,
    "savings": [
        {
            "nb_showers": 10,
            "saved_volume": 649.6,
            "saved_energy": 21.18,
            "saved_money": 5.45,
            "consumed_volume": 899,
            "consumed_energy": 29.31,
            "consumed_money": 7.54
        },
        {
            "nb_showers": 100,
            "saved_volume": 0,
            "saved_energy": 0,
            "saved_money": 0,
            "consumed_volume": 56051,
            "consumed_energy": 1827.26,
            "consumed_money": 470.27
        },
        {
            "nb_showers": 500,
            "saved_volume": 0,
            "saved_energy": 0,
            "saved_money": 0,
            "consumed_volume": 56051,
            "consumed_energy": 1827.26,
            "consumed_money": 470.27
        }
```

```
}
```

Attribute	Definition	type
average_volume	Average volume in liters	
average_duration	Average duration in second	
total_energy_saved	Total energy saved in kWh	
total_volume_saved	Total water volume saved in liters	
total_money_saved	Total money saved Currency selected at account creation	
challenge/level	Challenge level Supported values: ● gold if your highest threshold is below 20 liters ● silver if your highest threshold is between 20 and 35 liters ● bronze if your highest threshold is above 35 liters	
challenge/score	Integer value between 1 and 5. 5 is the highest value	integer
nb_showers_stats	Number of showers used for statistics	integer
nb_showers_challenge	Number of showers used for challenge	
Savings	Savings statistics for different number of showers	
Savings/ nb_showers	Number of shower used for this statistics	integer
Savings/ saved_volume	Water volume saved according to the reference shower in liters	float
Savings / saved_energy	Energy saved according to the reference shower in kWh	float
Savings/ consumed_volume	Water volume used in liters	float
Savings / consumed_energy	Energy used in kWh	float
Savings / consumed_money	Cost of water and energy in currency selected by the user.	float

Attributes average_volume, total_energy_saved, total_volume_saved, total_money_saved have two values :
- an average over the *nbshowers* values
- a trend: camparison between the *nbshowers/2* first and the *nbshowers/2* last value

7.1.2.3   Errors

Code HTTP	Error code	Error type
400	WrongParameters	Nbshower should be an integer
401		Unauthorized access (missing, incorrect or expired token)
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

7.2 SHOWER HEAD STATISTICS

7.2.1 URL

```
https://api.hydrao.com/shower-heads/{deviceUUID}/stats
```

7.2.2 GET

7.2.2.1 Request

Body : None

Parameters:

Attribute	Value
nbshowers (optional)	Number of shower on which the statistics are calculated Default value: 200

Headers

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	Bearer *your_token*

7.2.2.2 Response

200: ok

Body : json object

```json
{
  "volume_average": 53.6,
  "trend": -0.573,
  "nb_items": 100
}
```

Attribute	Definition	type
volume_average	Average volume in liters	float
trend	Average duration in second	float
nb_items	Number of showers on which the calculations were actually performed	integer

7.2.2.3   Errors

Code HTTP	Error code	Error type
400	WrongParameters	Nbshower should be an integer
401		Unauthorized access (missing, incorrect or expired token)
405	VerbNotAllowed	Unauthorized HTTP verb
500	UnexpectedError	Unexpected error

8 PARAMETERS

8.1 PARAMETERS

Default value used for savings calculation.

8.1.1 URL

https://api.hydrao.com/parameters/{parameter_id}

8.1.2 GET

8.1.2.1 Request

Body : None

Parameters: None

Headers

Attribute	Value
x-api-key	*your_key*
Content-Type	application/json
Authorization	**Not mandatory**

List of defined parameters

Parameter	Description
default_heating_energy	Default *n*umber of kWh to heat 1L at 38°C
default_water_price	Default water price in €/m3
default_energy_price	Default energy price in €
default_nb_showers_stats	Default number of showers used for calculating the statistics
default_ref_shower_time	Default reference shower/baseline time in seconds
default_previous_flow_shower_head	Default flow rate for hand shower
default_previous_flow_rain_shower	Default flow rate for rain shower
max_nb_showers_stats	Maximum number of showers used for calculating the statistics

8.1.2.2   Response

200: OK

Body : json object

```json
{
  "key": "default_ref_shower_time",
  "type": "int",
  "public": true,
  "value": "360"
}
```

Attribute	Definition	type
key	Parameter	string
type	Parameter type	string
public		Boolean
value	Default value	

8.1.2.3   Errors

Code HTTP	Error code	Error type
404	NotFound	Incorrect or private parameter