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## Introduction

The NIBE Uplink API is a RESTful ([http://en.wikipedia.org/wiki/Representational\\_state\\_transfer](http://en.wikipedia.org/wiki/Representational_state_transfer)) api, relying on established conventions from the HTTP specification (<http://tools.ietf.org/html/rfc2616>). As an example, the API relies on the client to use HTTP methods such as GET, POST, PUT, DELETE to describe the action to perform on a resource and it indicates the success or failure of that action by returning a HTTP status code.

All access is over HTTPS, and is provided over the `api.nibeuplink.com` domain.

## Data Format

All data is sent and received as JSON (<http://en.wikipedia.org/wiki/JSON>). The client needs to specify the Content-Type and Accept headers as either `application/json` or `text/json`.

Blank fields are included as `null` instead of being omitted. All timestamps are returned with the ISO-8601 format (YYYY-MM-DDTHH:MM:SSZ) in UTC.

## Parameters

API functions have both required and optional parameters. For GET requests, parameters not specified in the request URL, no matter if they are required or optional, should be provided as query parameters. For POST, PUT and DELETE requests, the same parameters should be provided as JSON in the request body.

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### Parameter example

The following API functions has one parameter specified in the request URL (systemId and type), and a couple of required and optional parameters which are not (type, active, page and itemsPerPage)

```
GET api/v1/systems/{systemId}/notifications/
```

And can therefore be called either with only the mandatory parameters or with any of the optional parameters

```
GET api/v1/systems/435/notifications/?type=INFO_MESSAGE
```

```
GET api/v1/systems/435/notifications/?type=INFO_MESSAGE&active=false&itemsPerPage=5
```

## Error Messages

The NIBE Uplink API uses HTTP response codes, as defined in the HTTP specification, to indicate the success or failure of a request. In general, response codes in the 2xx range indicate success, 4xx range indicate an error that resulted from the provided information (e.g. lack of access to resource, missing required parameter) and response codes in the 5xx range indicate an error with the NIBE Uplink servers.

All non-successful response messages contains an error message object to help troubleshoot the issue on the client side. For OAuth authorization and token requests this response message follows the convention specified in the [OAuth 2 specification \(http://tools.ietf.org/html/rfc6749\)](http://tools.ietf.org/html/rfc6749). Other requests responds with a JSON object with the following parameters.

Name	Description	Type
statusCode	The HTTP status code returned	integer
errorCode	An error status code	<a href="#">ErrorCodes (/docs/v1/ResourceModel?modelName=ErrorCodes)</a>
timestamp	A timestamp indicating when the error occurred	string
details	List of descriptive text messages in English detailing the error	list of strings
data	Additional data to help with handling of the error	dictionary of string [key] and string [value]

## HTTP Redirects

Where appropriate, the API may use HTTP redirects. Clients should assume that any request may result in a redirection within the `api.nibeuplink.com` domain. Receiving a redirection does not imply that an error has occurred.

Status code	Description
301	A permanent redirection, signaling that the resource / function has been renamed.
302, 307	A temporary redirection, signaling that for the current request the client better call another function instead.

## Pagination

Functions that return multiple items are paginated. In the case of pagination the function reference documentation specifies which default values are used and how to access further pages.

## Rate Limiting and Client Abuse

The NIBE Uplink API is rate limited. All requests reaching the NIBE Uplink API is counted and when the limit has been reached the following requests will get an error message with the HTTP status code 429 in return. The current limit for public API clients is one request every 4th second with occasional bursts allowed. These limits can be be adjusted at any time without notice if deemed necessary.

If an application or client is found abusing the API in any way, NIBE Energy Systems has the right to block it until the client owner has solved the issues highlighted by NIBE.

## Language

User facing strings provided by the API can be automatically translated to any of the languages supported by NIBE Uplink. This is achieved by specifying the Accept-Language HTTP header as specified in the [RFC 2616](http://tools.ietf.org/html/rfc2616#page-104) (<http://tools.ietf.org/html/rfc2616#page-104>) specification. The following languages are supported by the API:

Language	Language code (ISO-639)
Czech	cs
Danish	da
Dutch	nl
German	de
English	en
Finnish	fi
French	fr
Norwegian	no
Polish	pl
Swedish	sv

## Versioning

The current version of the API is v1.0 (beta). All functionality within this version of the API are accessed with the URI prefix *api/v1/\**.

Revisions to this API can be divided into major and minor revisions. The major revision is increased when there are breaking changes which makes the API not backwards-compatible, these changes are published with a different URI prefix than the current version. Minor revisions are smaller changes that do not interfere with the current version.

These minor revisions are published with the same URI prefix as the current version and thereby replacing the current version.

The following changes are considered backwards-compatible

- Adding additional API resources / functions
- Adding new optional request parameters to API functions
- Adding new properties to existing API responses
- Adding new values to existing enumerations
- Adding or changing rate limitations of existing API functions
- Adding additional supported languages
- Changing the default value of optional parameters that do not change the overall behaviour of the function, e.g. the `itemsPerPage` parameter on paged function calls.
- Changing the order of properties of existing API responses
- Changes to the terms of use
- Changes that are related to securing the API and the NIBE Uplink service
- Modifications to the API that solves issues where the documentation and the implementation of the API differs (i.e. "bug fixes")
- Renaming of functions with the use of HTTP 301 redirects to notify about the new name

Please see the [changelog \(/docs/v1/Changelog\)](/docs/v1/Changelog) for a complete list of updates made to the NIBE Uplink API.

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