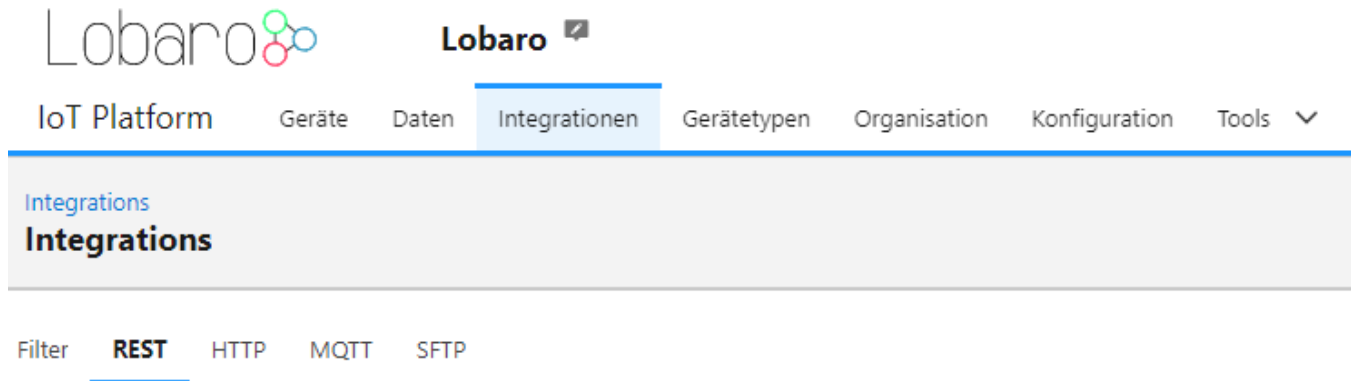


# REST Api



Navigate to: [Integrations](#) -> [REST](#)

Swagger API documentation: <https://platform.lobaro.com/api>

## Access Tokens

All API calls must be authenticated with an access token. Access tokens can be managed on the REST Integration page.

Each token has a list of roles assigned to it.

### Token roles:

- **network-server:** Allows to write device data. Required for LoRaWAN Network Server Integrations.

Add the Token into the HTTP request Header:

- Field: Authorization
- Value: Bearer eyJhbGciOiJIU...

## Pagination

Pagination is required to query big amounts of data.

Query Parameter	Default	Maximum value	Description
limit	100	10.000	Maximum number of records to receive
offset	0		Offset for the first record to receive

To fetch all data from an endpoint:

- ?limit=100&offset=0
- ?limit=100&offset=100
- ...
- Increase offset by limit until number of returned rows is lower than limit

## Filter query parameters

Filters parameters can be appended to some requests in the form of `<type>:<field>=<op>:<value>` e.g. `f:createdAt=gt:<timestamp>` to filter by createdAt date.

- `<type>` is either "f" for fields, or "fa" for arrays (e.g. to search in tags)
- `<field>` is the field to be queried and specified for each endpoint separately. Common fields are e.g. "id", "createdAt", "updatedAt"
- `<value>` is the value to be queried. The Value must be URL encoded e.g. a timestamp might look like `gt:2000-01-01T02:37:00%2B01:00`
- `<op>` is the operator between the field and the value, see list of allowed operators below.

`<op>` must be one of the following operators:

In Query	Meaning	Valid for <type>
eq	=	f
lte	<=	f
lt	<	f
gte	>=	f
gt	>	f
like	SQL LIKE operator	f
ilike	SQL ILIKE operator	f
isnull	SQL is (not) null operator value: "true", "t", "1" (= is Null) or "false", "f", "0" (= is not Null)	f / fa
contains	array field contains all of the values	fa
containedby	array field is contained by the list of values	fa
overlap	array field and list of values overlap	fa

If no operator is given the default `eq` operator will be used for fields and `contains` for arrays.

## Examples

"data" is a database field of type JSON, you can even query into the JSON structure.

Please note that these fields are not indexed. For performance reasons always limit the result set e.g. by setting a date range.

### Query JSON fields

```
# Query JSON field "data.mbus.Id" for a number
&f:data.mbus.Id=eq:130567728

# Query JSON field "data.mbus.IdString" for a string
&f:data.mbus.IdString=eq:"10130567728"
```

To filter a date range, the same filter can be applied multiple times with different operators

### Filter for date range

```
&f:createdAt=gt:2000-01-01T02:37:00%2B01:00?f:createdAt=lt:2000-01-02T02:37:00%2B01:00
```

## Usage recommendations

- Set the gzip encoding header to reduce network traffic:
  - Accept-Encoding: gzip
- Use pagination with page sizes smaller than 10.000 entries

## Example requests

### Get data from a single devices by address or tag

Find relevant device(s):

- By Address (printed on the device and QR Code):
  - <https://platform.lobaro.com/api/devices?limit=100&offset=0&f:addr=eq:352656100677000>
- By Tag:
  - <https://platform.lobaro.com/api/devices?limit=100&offset=0&fa:tags=contains:my-tag,another-tag>

The result contains an "data.id" field that is used to query the data, just replace {deviceId} with the ID from the first query and adjust the date and limit parameters as needed:

◦ <https://platform.lobaro.com/api/devices/{deviceId}/parsed-data?limit=100&offset=0&f:createdAt=gt:2000-01-01T02:37:00%2B01:00>

Additional Endpoints:

Description	Method	Header	URL	URL Path Params	URL Query Params	Request Payload	Return
Downlink creation	POST	<ul style="list-style-type: none"><li>Authorization with org-admin or device-admin token (see Access Tokens)</li></ul>	/api/devices/{deviceId}/downlink	<ul style="list-style-type: none"><li>deviceId: Data base ID of the device</li></ul>	<ul style="list-style-type: none"><li>type<ul style="list-style-type: none"><li>fw</li><li>cc</li><li>onfig</li><li>lorawan</li><li>rsaw</li><li>see also: Downlinks</li></ul></li></ul>	The Body contains the downlink content.  See also: <a href="#">Downlinks</a>	<ul style="list-style-type: none"><li>200 ok<ul style="list-style-type: none"><li>Body: Empty</li></ul></li><li>error status code<ul style="list-style-type: none"><li>Body: information about the error</li></ul></li></ul>
Device creation	POST	<ul style="list-style-type: none"><li>Authorization with org-admin or device-admin token (see Access Tokens)</li></ul>	/api/devices	-	-	deviceInput as JSON  {  "name": "Gateway_1",  "addr": "FFFFFFFFFFFFFFFF",  "description": "3.OG Wohnung Müller",  "deviceType": 2,  "initialConfig": null,  "location": null,  "serial": "1337",  "tags": ["Müller", "MbusGw", "3.OG"],  "certEnforce": false  }	<ul style="list-style-type: none"><li>200 ok<ul style="list-style-type: none"><li>Body: Device as JSON</li></ul></li><li>error status code<ul style="list-style-type: none"><li>Body: information about the error</li></ul></li></ul>

User creation	POST	<ul style="list-style-type: none"><li>• Authorization with org-admin token (see Access Tokens)</li></ul>	/api/organisation/user	-	-	userInput as JSON : { "name": "Example Test", "email": "e. test@test. com", "password": "s0meSecur 3Pw", "roles": ["org- admin", device- admin"] }	<ul style="list-style-type: none"><li>• 200 ok<ul style="list-style-type: none"><li>◦ Body: User Json</li><li>◦ {"data":{"id":17,"createdAt":"2022-07-04T10:59:41.975812+02:00","updatedAt":"2022-07-04T10:59:41.975812+02:00","login":"e.test@test.com","name":"Example Test","email":"e.test@test.com","organisationId":1,"roles":["device-admin"]}}</li></ul></li><li>• error status code<ul style="list-style-type: none"><li>◦ Body: information about the error</li></ul></li></ul>
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