

ONTOTO API V2 VERSION

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Get started

To get started, log in via the Ontoto web portal, and press account settings. The username found on this page can be used alongside the API key, to grant API access to your data.

The screenshot shows three sections of the account settings page:

- User info:** Displays 'User Name : demo@ontoto.com.au' and 'First Name : Demo'.
- Change password:** Contains three input fields for 'Current Password', 'New Password', and 'Confirm New Password', followed by a blue 'Change Password' button.
- API Key:** Shows an 'API Key' label above a long, light blue highlighted key string: 'sAlkiM4jFSWxWUnYKw1WUW4hcbVSJkOtnXjp52jVTNM5x6MgTTNm'. Below the key is a blue 'Repeat API Key' button.

Authorisation

All API calls must be authenticated through the HTTP Basic Authentication scheme. To do this, you create an authorisation header that you send as part of the API request. This header contains encoded versions of an Ontoto dashboard username and its associated API key.

Follow these instructions to create an authorisation header:

1. Combine the username and API key into a single string with a colon separating the values. For example, if the username is demo and the API key is sAlkiM4jFSWxWUnYKw1WUW4hcbVSJkOtnXjp52jVTNM5x6MgTTNm, the concatenated string would be demo:sAlkiM4jFSWxWUnYKw1WUW4hcbVSJkOtnXjp52jVTNM5x6MgTTNm
2. Encode the concatenated string using Base64:
ZGVtbzpzQWxraU00akZTV3hXVW5ZS3cxV1VXNGhjYlZTSmtPdHZuWGpwNTJqVIROTTV4Nk1nVFR
ObQ==
3. Set the Authorisation header value to Basic followed by the encoded string from step 2. Make sure there is a space between Basic and the encoded string: Basic
ZGVtbzpzQWxraU00akZTV3hXVW5ZS3cxV1VXNGhjYlZTSmtPdHZuWGpwNTJqVIROTTV4Nk1nVFR
ObQ==

Note: In the header: "Accept" type should be included. The accept is application/json

Get all base stations belong to a company

HTTP method: GET

URL Endpoint: <https://api.ontoto.com/v2/base-stations>

```
▼ base_stations [3]
  ▼ 0 {10}
    id : 1035
    name : VW renison AB dam
    tag : 867997031471120
    number_of_sensors_enabled : null
    sensor_reading_period_minutes : 15
    transmission_period_minutes : 1440
    sensor_reading_period_info : Sensor Reading : Every 15 minutes
    transmission_period_info : Data Transmission : Every 1 day
    ► gps {2}
    ► alarm_info {4}
  ▼ 1 {10}
    id : 1063
    name : VW2
    tag : 867997031453649
    number_of_sensors_enabled : null
    sensor_reading_period_minutes : 240
    transmission_period_minutes : 10080
    sensor_reading_period_info : Sensor Reading : Every 4 hour
    transmission_period_info : Data Transmission : Every 7 day
    gps : null
    alarm_info : null
  ► 2 {10}
```

Get all base stations belong to all sites

HTTP method: GET

URL Endpoint: <https://api.ontoto.com/v2/sites/base-stations>

```
▼ sites [1]
  ▼ 0 {4}
    id : 184
    name : Renison A/B Dam
    description : Renison A/B Dam Site.
  ▼ base_stations [1]
    ▼ 0 {10}
      id : 1035
      name : Ww renison AB dam
      tag : 867997031471120
      number_of_sensors_enabled : null
      sensor_reading_period_minutes : 15
      transmission_period_minutes : 1440
      sensor_reading_period_info : Sensor Reading : Every 15 minutes
      transmission_period_info : Data Transmission : Every 1 day
    ▼ gps {2}
      longitude : 145.455536
      latitude : -41.788273
    ▼ alarm_info {4}
      alarm_enabled : 1
      active_alarm_count : 4
    ▼ settings [4]
      ▼ 0 [1]
        ▼ 0 {7}
          sensor_id : 3431
          sensor_name : vw_sensor_1
          parameter : frequency
          low_alarm_threshold : 0
          high_alarm_threshold : 3000
          hysteresis : 10
          unit : hz
        ► 1 [1]
        ► 2 [1]
        ► 3 [1]
      received_at : 2021-10-26 07:58:15.000
```

Get all base stations belong to a site

HTTP method: GET

URL Endpoint: <https://api.ontoto.com/v2/sites/{siteId}/base-stations>

```
▼ base_stations [1]
  ▼ 0 {10}
    id : 1035
    name : VW renison AB dam
    tag : 867997031471120
    number_of_sensors_enabled : null
    sensor_reading_period_minutes : 15
    transmission_period_minutes : 1440
    sensor_reading_period_info : Sensor Reading : Every 15 minutes
    transmission_period_info : Data Transmission : Every 1 day
  ► gps {2}
  ▼ alarm_info {4}
    alarm_enabled : 1
    active_alarm_count : 4
  ▼ settings [4]
    ▼ 0 [1]
      ▼ 0 {7}
        sensor_id : 3431
        sensor_name : vw_sensor_1
        parameter : frequency
        low_alarm_threshold : 0
        high_alarm_threshold : 3000
        hysteresis : 10
        unit : hz
      ► 1 [1]
      ► 2 [1]
      ► 3 [1]
    received_at : 2021-10-26 07:58:15.000
```

Get all sensors and parameters for a base station at a site

HTTP method: GET

URL Endpoint: <https://api.ontoto.com/v2/sites/{siteId}/base-stations/{baseStationId}/sensors/parameters>

```
▼ sensors [4]
  ▼ 0 {3}
    id : 3431
    name : vw-sensor:1
    ▼ parameters [3]
      ▼ 0 {4}
        id : 1089
        name : pressure_vw_calculated
        alias : Renison_AB_Dam__Pressure_Channel_1
        type : derived
      ▼ 1 {4}
        id : 3267
        name : frequency_(Hz)
        alias : Frequency
        type : normal
      ▼ 2 {4}
        id : 3268
        name : temperature_(°C)
        alias : Temperature
        type : normal
    ▼ 1 {3}
      id : 3432
      name : vw-sensor:2
      ► parameters [3]
      ► 2 {3}
      ► 3 {3}
```

Get all parameters data for a base station

HTTP method: GET

URL Endpoint:

<https://api.ontoto.com/v2/sites/{siteId}/base-stations/{baseStationId}/sensors/parameters/data>

Note: This request will respond with one week of data from the requested time.

URL Endpoint with date range:

<https://api.ontoto.com/v2/sites/{siteId}/base-stations/{baseStationId}/sensors/parameters/data/start-date/{Y-m-d H:i:s}/end-date/{Y-m-d H:i:s}>

```
▼ sensors [8]
  ▼ 0 {4}
    id : 3431
    name : vw-sensor:1
    ▶ metadata {2}
    ▶ data [50]
  ▼ 1 {4}
    id : 3432
    name : vw-sensor:2
    ▶ metadata {2}
    ▶ data [50]
  ▼ 2 {4}
    id : 3433
    name : vw-sensor:3
    ▶ metadata {2}
    ▶ data [50]
  ▼ 3 {4}
    id : 3434
    name : vw-sensor:4
    ▶ metadata {2}
    ▶ data [50]
  ▶ 4 {4}
  ▶ 5 {4}
  ▶ 6 {4}
  ▶ 7 {4}
```


Get all parameters data for a sensor

HTTP method: GET

URL Endpoint:

<https://api.ontoto.com/v2/sites/{siteId}/base-stations/{baseStationId}/sensors/{sensorId}/parameters/data>

Note: This request will respond with one week of data from the requested time.

URL Endpoint with date range:

<https://api.ontoto.com/v2/sites/{siteId}/base-stations/{baseStationId}/sensors/{sensorId}/parameters/data/start-date/{Y-m-d H:i:s}/end-date/{Y-m-d H:i:s}>

```
▼ sensor {4}
  id : 3431
  name : vw-sensor:1
  ▼ metadata {2}
    time_zone : UTC
    ► parameters [4]
  ▼ data [50]
    ▼ 0 {5}
      recorded_at : 2021-11-07 19:30:14
      frequency : 2993.1
      temperature : 13.6
      pressure : 8.6
      thermistor_resistance : 5080
    ► 1 {5}
    ► 2 {5}
    ► 3 {5}
    ► 4 {5}
    ► 5 {5}
    ► 6 {5}
    ► 7 {5}
    ► 8 {5}
    ► 9 {5}
    ► 10 {5}
    ► 11 {5}
    ► 12 {5}
    ► 13 {5}
    ► 14 {5}
    ► 15 {5}
```

Get a parameter data

HTTP method: GET

URL Endpoint: <https://api.ontoto.com/v2/parameters/{parameterId}/types/{typeName}/data>

URL Endpoint with date range

<https://api.ontoto.com/v2/parameters/{parameterId}/types/{typeName}/data/start-date/{Y-m-d H:i:s}/end-date/{Y-m-d H:i:s}>

Note: This request will respond with one week of data from the requested time and types are derived or normal

```
▼ metadata {6}
  id      : 1089
  parameter_type : derived
  parameter_unit : Kilopascal
  parameter_name : pressure
  parameter_alias : Renison_AB_Dam__Pressure_Channel_1
  timezone : UTC

▼ data [50]
  ▼ 0 {2}
    recorded_at : 2021-11-07 19:30:14
    value : 8.6
  ▶ 1 {2}
  ▶ 2 {2}
  ▶ 3 {2}
  ▶ 4 {2}
  ▶ 5 {2}
  ▶ 6 {2}
  ▶ 7 {2}
  ▶ 8 {2}
  ▶ 9 {2}
  ▶ 10 {2}
  ▶ 11 {2}
  ▶ 12 {2}
  ▶ 13 {2}
```

Get device configuration

Http method: GET

Resource endpoint: <https://api.ontoto.com/v2/base-stations/{baseStationId}/configuration>

```
▼ base_station {10}
  id : 1035
  name : VW renison AB dam
  tag : 867997031471120
  number_of_sensors_enabled : null
  sensor_reading_period_minutes : 15
  transmission_period_minutes : 1440
  sensor_reading_period_info : Sensor Reading : Every 15 minutes
  transmission_period_info : Data Transmission : Every 1 day
▼ gps {2}
  longitude : 145.455536
  latitude : -41.788273
▼ alarm_info {4}
  alarm_enabled : 1
  active_alarm_count : 4
▼ settings [4]
  ▼ 0 [1]
    ▼ 0 {7}
      sensor_id : 3431
      sensor_name : vw_sensor_1
      parameter : frequency
      low_alarm_threshold : 0
      high_alarm_threshold : 3000
      hysteresis : 10
      unit : hz
    ► 1 [1]
    ► 2 [1]
    ► 3 [1]
  received_at : 2021-10-26 07:58:15.000
```

Update device config

Http method: POST

Resource endpoint: <https://api.ontoto.com/v2/base-stations/{baseStationId}/configuration>

Request body

```
{
  "base_station_name": "Data Logger 1",
  "sampling_period_minutes": 2,
  "transmission_period_minutes": 15,
  "number_of_sensors_enabled": 4,
  "enable_alarm": 1,
  "alarm_settings": {
    "{sensorId_1}": {
      "high_alarm_threshold": 110,
      "low_alarm_threshold": 25,
      "hysteresis": 3,
      "parameter": "frequency"
    },
    "{sensorId}": {
      "high_alarm_threshold": 120,
      "low_alarm_threshold": 26,
      "hysteresis": 3,
      "parameter": "frequency"
    },
    "{sensorId}": {
      "high_alarm_threshold": 100,
      "low_alarm_threshold": 20,
      "hysteresis": 3,
      "parameter": "frequency"
    },
    "{sensorId}": {
      "high_alarm_threshold": 100,
      "low_alarm_threshold": 20,
      "hysteresis": 3,
      "parameter": "frequency"
    }
  }
}
```

Notes:

- In alarm setting, the setting will be identified by sensor Id and parameter Name.
- Sampling and transmission period will be in minutes.
- The new configuration will be processed during next transmission cycle. If wrong configuration is queued, to cancel the configuration below request *(cancel configuration only available for NBIOT/4G device). if it is satellite, queued config cannot be cancelled.)

Upon success

```
{"status": "success", "message": "New configuration queued"}
```

Upon error

```
{"error_code": 13, "message": "sensor: 1 low threshold must be less than high threshold"}
```

```
{"error_code": 403, "message": "configuration update is not allowed"}
```

Cancel queued configuration

Http method: **DELETE**

Resource endpoint: <https://api.ontoto.com/v2/base-stations/{baseStationId}/configuration>

Upon success

```
{"status": "success", "message": "configuration canceled"}
```

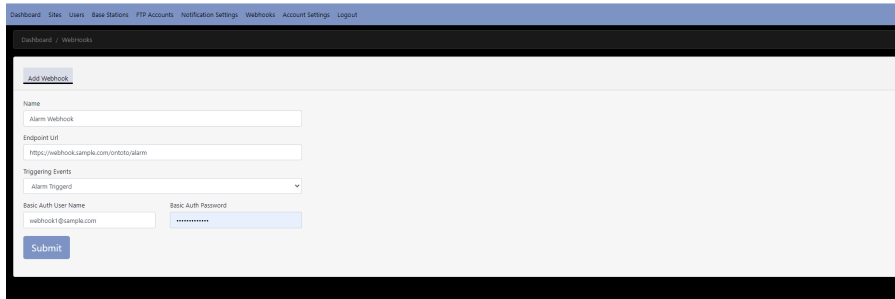
Upon error

```
{"error_code": 500, "message": "server error"}
```

```
{"error_code": 403, "message": "configuration update is not allowed"}
```

Webhook For Alarm triggered Event

Create a webhook on the Ontoto web portal. The webhook sends the data in json format, request method is POST, authentication method is basic.



The screenshot shows the 'Add Webhook' form in the Ontoto web portal. The form has the following fields:

- Name: Alarm Webhook
- Endpoint URL: https://webhook.sample.com/ontoto/alarms
- Triggering Events: Alarm Triggered
- Basic Auth User Name: webhook1@sample.com
- Basic Auth Password: [masked]

A 'Submit' button is located at the bottom of the form.

Webhook request body for alarm triggered event

```
▼ object {5}
  event_type_id : 1
  time_zone : UTC
  ▼ datalogger {3}
    id : 1089
    tag : 861518040592916
    name : alarmTest8
    alarm_triggered_time : 2022-01-27 23:04:00
  ▼ sensor_alarm_states [8]
    ▼ 0 {5}
      sensor_id : 3699
      reading : 2994.5
      recorded_at : 2022-01-27 23:00:01
      parameter : frequency
      alarm_state : high
    ▼ 1 {5}
      sensor_id : 3700
      reading : 2994.1
      recorded_at : 2022-01-27 23:00:01
      parameter : frequency
      alarm_state : low
    ▼ 2 {5}
      sensor_id : 3760
      reading : 2994.2
      recorded_at : 2022-01-27 23:00:01
      parameter : frequency
      alarm_state : high
    ▼ 3 {5}
      sensor_id : 3761
      reading : 2994.1
      recorded_at : 2022-01-27 23:00:01
      parameter : frequency
      alarm_state : normal
    ► 4 {5}
```