WiPORTAL Rest API

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1. Introduction

This document describes the WiPORTAL API.

This API should be used for following operations:

- Read users/accounts information which registered under account
- Read list of devices registered under account
- Read list of tags / sensors of device
- Read data records for specified tag / sensor or set of tags / sensors
- Read alarm records for specified device
- Read events records for specified device
- Read the list of data snapshots for specified device or account
- Read data snapshot data for specified data snapshot

Future versions of API could also include operations for inserting / updating and deleting system entities. But API Version 1.0 does not currently support these.

WiPORTAL API implemented as RESTful API. This means that:

- R**ead** operations will be issued with HTTP GET request.
- Parameters will be passed as JSON object in request body or on query string
- Result of read operation will be a response with data in response body in JSON format
- Authentication/authorization is implemented involving OAuth2 technology and uses security access tokens
- Every client application must use APPKEY to be able issue requests
- Only registered accounts will be able use Web API in their client applications
- Application must receive access token using login/password to issue other API requests
- Access token will be issued for 1 day. Client application must refresh access token after this time to continue to use Web API requests.

This Web API can be used to extract data from WiPORTAL to third party clients.

2. API Commands 5

Described below are all supported commands of Web API for WiPORTAL.

Every command is an exchange of HTTP request and response between a user's Client and WiPORTAL.

WiPORTAL – This is the web site www.nanowipom.com
Client – Any software which issue commands to Web portal.

All communication must be over HTTPS channel. HTTP requests will be ignored.
Base URL for every WiPORTAL API request starts with https://api.nanowipom.com/v1/

v1 – version #1 of Web API.

All read operations pass its parameters using query string.

WiPORTAL API Version 1 supports the following commands:

https://api.nanowipom.com/v1/Login

https://api.nanowipom.com/v1/AccountsList
https://api.nanowipom.com/v1/AccountInfo
https://api.nanowipom.com/v1/UsersList
https://api.nanowipom.com/v1/UserInfo
https://api.nanowipom.com/v1/DevicesList
https://api.nanowipom.com/v1/DeviceInfo
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https://api.nanowipom.com/v1/Events
https://api.nanowipom.com/v1/Alarms
https://api.nanowipom.com/v1/Data
https://api.nanowipom.com/v1/DatasnapshotsList
https://api.nanowipom.com/v1/DatasnapshotData

Every command should use bearer token in Authorization HTTP header of every request. For example:

```
GET https://api.nanowipom.com/v1/DatasnapshotsList/229 HTTP/1.1
User-Agent: Fiddler
Host: api.nanowipom.com
Authorization: Bearer 6rrSAW7t0b7-
wvKapjgGADI37tahHC0JVAxQ1_7gfn4orXmvJSNHtz53YFcBUy85CZZQTvknwV-aquuBwtLG_YVkSo9aOGt6kvVoA-
DZ2VUH5m4kC7XeGFTj29IXTPKFP_Do5RIzM6zSu22CjTotV4Beh3ZMZSAIBZfZUxKNwyshcDiGa5p5O1xCPTdRdj75WmQqG
ygcaUJ5cRteXwuLmE8OZPUXmvY1qHr8_GdJNyquKWs7KRyge44yfA5D-
OlOMQzpMXE9K61ya8CQCgJHIliXWEN3FPKE4tARKe8sbLl7_qageiQf2gVpxHNOG2wdO9JI5Wm6gXEgkZUcPqjRt6QCE8nn
YOPFMG-NlHOWCK7TgKy12WDF5TTwAFth9FDowa7I1ykwi3ddqSO_rdbcbDlylkE
Content-Length: 0
```

In this example, the red text is the bearer token returned by **Login** command. Token is valid for only 1 day. After this time, a new token should be requested.

2.1 Login and get Access Token 6

Description
This command must be issued first to login user and receive Access Token.

URI
https://api.nanowipom.com/v1/Login

HTTP Method
POST

Parameters
Nothing

Data

grant_type=password&username=[Login]&password=[Password]

Login/Password – Web Portal user login and password (to login into web portal)

This can be any user account: Integrator or Regular User. This information will restrict access to system resources. User will see only the devices/tags/sensors/users etc. which he can normally see when logged to web portal.

Response

```
{
  "access_token"      :string,
  "token_type"        :string "
  "expires_in"        :integer "
  "userName"          :string "
  ".issued"    :Date,
  ".expires"   :Date
}
```

access_token – a string which represents the security access token. It must be included in Authorization HTTP header for every other request. It is an OAuth2 bearer token, which means that it contains sensitive information. So, all communication should be done over the protected encrypted channel (HTTPS). This token has an expiration date (1 day / 24 hours). During this time token can be used to execute requests to the server. After the expiration time, the Client will receive an error response. This means that Access Token must be re-issued every 24 hours. System can re-issue new token as often as it needs (no need wait 24 hours).

token_type – This will normally be “bearer.

expires_in – Total number of remaining seconds during which the Access Token will be valid.

userName – Web Portal login, same as username in request data

.issued – The time when Access Token was issued by Authorization server.

.expires – The time when Access Token will reach end of life and new token must be issued.

2.2 Reading Accounts List

Description
This command requests a list of all subaccounts that belong to the account of logged user, or all accounts if logged user is Super Administrator.

URI
https://api.nanowipom.com/v1/AccountsList

HTTP Method
GET

Parameters

includeSubAcc : bool

If set to TRUE (default assignment) this parameter forces server to include in the result list unlimited level of subaccounts that belong to logged user's account.

If set to FALSE, this parameter forces server to return only 1-level of subaccounts for the logged user.

activeOnly : bool

If set to TRUE (default assignment), this parameter forces server to include in the result list only the active accounts.

If set to FALSE, this parameter forces server to return all active and inactive accounts.

Data
Nothing

Response

```
[
       {
          "id":                    integer,
          "active":                bool,
          "name":                  string,
          "emails":                string,
          "supportEmail":          string,
          "address":               string,
          "phones":                string,
          "fax":                   string,
          "webSite":               string,
          "createDate":            date,
          "logoUrl":               string,
          "integrator":            bool,
          "parentIntegratorId":    integer,
          "companyName":           string,
          "country":               string,
          "state":                 string,
          "city":                  string,
          "postalCode":            string,
          "county":                string,
          "customLicenseAgreement": bool
        },
       …
]
```

The response is a list of objects that describes Account resources:

Id
Unique integer number that identifies **Account** resource in database

Active
Boolean value that indicates if the user is active or inactive.

Name
Name of the account

Emails
Email list separated by comma or semicolon for the owner of this account.

SupportEmail
Support Email

Address
Address of owner of the account

Phones
Phone list separated by comma or semicolon for the owner of this account.

Fax
Fax of the owner of the account

WebSite
WebSite of the owner of the account

CreateDate
Date and time when account was added to WiPORTAL.

LogoUrl
Web URL where to display the logo of the owner of the account.

Integrator
Boolean value that indicates if the account is an integrator account who can have subaccounts.

ParentIntegratorId
The parent account's ID if this is a subaccount, or 0 if this is not a subaccount.

CompanyName
Company name of the owner of the account

Country/ State/ City/ County
Country/ State/ City/ County location of the owner of the account

PostalCode
Postal code of the owner of the account

CustomLicenseAgreement
Boolean value that indicates if Custom License is agreed by the account.

2.3 Reading Account Info

Description
This command requests account information for a specified account or subaccount.

URI
https://api.nanowipom.com/v1/AccountInfo

HTTP Method
GET

Parameters

Id : integer
The account ID whose account information will be retrieved. If Id is not set, server will return account information for the account of logged user. If the Id is not a logged user's account or does not belong to any subaccount of logged user's account, server will return "null".

Data
Nothing

Response

```
{
    "id":                 integer,
    "active":             bool,
    "name":               string,
    "emails":             string,
    "supportEmail":       string,
    "address":            string,
    "phones":             string,
    "fax":                string,
    "webSite":            string,
    "createDate":         date,
    "logoUrl":            string,
    "integrator":         bool,
    "parentIntegratorId": integer,
    "companyName":        string,
    "country":            string,
    "state":              string,
    "city":               string,
    "postalCode":         string,
    "county":             string,
    "customLicenseAgreement": bool
}
```

(Field description is the same as Reading Accounts List response.)

2.4 Reading Users List

Description
This command requests a list of all users that belong to logged user's account or specified subaccount.

URI
https://api.nanowipom.com/v1/UsersList

HTTP Method
GET

Parameters

accountId: integer

The account ID whose users will be listed. If omitted, all users which belong to logged user's account will be listed. If the accountId is not the logged user's account or does not belong to any subaccount of logged user's account, server will return empty list.

includeSubAcc : bool

If set to TRUE (default assignment) this parameter forces server to include in the result list unlimited level of subaccounts that belong to logged user's account.

If set to FALSE, this parameter forces server to return only 1-level of subaccounts for the logged user.

activeOnly : bool

If set to TRUE (default assignment), this parameter forces server to include in the result list only the active accounts.

If set to FALSE, this parameter forces server to return all active and inactive accounts.

Data
Nothing

Response

```
 [
       {
           "Id":              integer,
           "Active":          bool,
           "Type":            integer,
           "Login":           string,
           "Name":            string,
           "SurName":         string,
           "Email":           string,
           "Phone":           string,
           "SkypeId":         string,
           "AccountId":       integer,
           "CreateDate":      date,
           "IsLuaAccepted":   bool,
           "LastLoggedAt":    date,
           "TimeZone":        string,
           "DeviceCreater":   bool,
           "DisableLogin":    bool,
           "Email2":          string,
           "Phone2":          string,
           "DefaultDataRange": string,
           "AccountReady":    bool

       },
        …
]
```

Response is a list of objects which describes the User resource:

Id
Unique integer number that identifies **Account** resource in database

Active
Boolean value that indicates if the user is active or inactive.

Type
Enum value, Super Administrator = 0, Administrator = 1, User = 2

Login
User's login name

Name
User's first name

surname
User's last name

Email/Email2
User's Email

Phone/Phone
User's Phone

skypeId
User's Skype ID

AccountId
Unique integer number which identifies **Account** resource in database. This is user's account.

CreateDate
Date and time when user was added to WiPORTAL.

IsLuaAccepted
Boolean value that indicates if user has accepted the License Agreement.

LastLoggedAt
Date and time when user logged in the last time.

TimeZone
Time zone ID of user location

DeviceCreater
Boolean value that indicates if the user has authority to create device.

DisableLogin
Boolean value that indicates if the user is only a contact in system and has no authority to login.

DefaultDataRange
A string that indicates default time range when user retrieve data during a period. It starts with a number and ends with "d","w" or "m" which means day, week, month, so "1d" means default time range is 1 day and "2m" means user's default time range is 2 months.

AccountReady
Boolean value that indicates if user's account is ready to use. (for online-pay user, if payment not finished or expired, AccountReady will be set false)

2.5 Reading User Info

Description
This command requests user information for the specified user.

URI
https://api.nanowipom.com/v1/UserInfo

HTTP Method
GET

Parameters

Id : integer
The user ID whose user information will be retrieved. If Id is not set, server will return user information for the logged user. If the Id is not logged user's ID or does not belong to any subaccount of logged user's account, server will return "null".

Data
Nothing

Response

```
    {
        "Id":          integer,
        "Active":              bool,
        "Type":                integer,
        "Login":               string,
        "Name":                string,
        "SurName":     string,
        "Email":               string,
        "Phone":               string,
        "SkypeId":     string,
        "AccountId":   integer,
        "CreateDate":          date,
        "IsLuaAccepted":       bool,
        "LastLoggedAt":        date,
        "TimeZone":    string,
        "DeviceCreater":       bool,
        "DisableLogin":        bool,
        "Email2":              string,
        "Phone2":              string,
        "DefaultDataRange":    string,
        "AccountReady":        bool

    }
```

(Fields description is same as Reading Users List.)

2.6 Reading Devices List

Description
This command requests a list of all devices that belong to the account of logged user.

URI
https://api.nanowipom.com/v1/DevicesList

HTTP Method
GET

Parameters

accounts : number array

Request only the devices that belong to provided accounts. This parameter accepts a comma delimited list of **Account Id** values. **Account Id** could be read with command **AccountsList**.

includeSubAcc : bool

If set to TRUE, this parameter forces the server to return a list also devices which belong to all subaccounts. This will include subaccounts of the logged user account.

If set to FALSE, this parameter forces the server to return only devices which belong to the account of logged user.

includeSharedDev : bool

If set to TRUE, this parameter forces the server to also return the devices which are shared with the account of logged user.

If set to FALSE, this parameter forces server to return only the devices which belong to account of logged user.

activeOnly : bool

If set to TRUE, this parameter forces server to return only active devices.
If set to FALSE, this parameter forces server to return active and inactive devices.

Data
Nothing

Response

```
[
        {
           "Id"                 :integer,
           "IsActive"           :bool,
           "Serial"             :string,
           "IPAddress"          :string,
           "AccountId"          :integer,
           "CreateAt"           :date,
           "CreatedbyUser"      :integer,
           "deviceName"         :string
        },
        …
]
```

Response is a list of objects that describes the Device resource.

Id
Unique integer number that identifies the **Device** resource in database

IsActive
Boolean value that indicates if the device is active or inactive

Serial
Unique string identifier of the device. It is normally the serial number of device hardware.

IPAddress
IPv4 address of device. Can be NULL.

AccountId
Unique integer number that identifies the **Account** resource in database. This is device's owner account.

CreatedAt
Date and time when device was added to WiPORTAL.

CreatedbyUser
Unique integer number which identifies the **User** resource in database. This is the user who created the device on WiPORTAL.

DeviceName
Name of device

2.7 Reading Device Info

Description
This command requests device information for a specified device.

URI
https://api.nanowipom.com/v1/DeviceInfo

HTTP Method
GET

Parameters

Id : integer

The device ID whose device information will be retrieved. If the device is not under logged user's account or any subaccount of logged user's account, server will return "null".

Data
Nothing

Response

```
{
  "Id"                    :integer,
  "AccountId"             :integer,
  "Serial"                :string,
  "IsActive"              :bool,
  "IPAddress"             :string,
  "ConfigData"            :string,
  "CreateAt"              :date,
  "CreatedbyUser"         :integer,
  "GpsColor"              :string,
  "Location"              :string,
  "IsSimplexDevice"       :bool
  "DeviceExtraInfo"       :object*,
  "VtbDeviceExtraInfo"    :object**,
  "DeviceName"            :string
}
```

Id
Unique integer number that identifies **Device** resource in database

AccountId
Unique integer number that identifies **Account** resource in database. This is the device's owner account.

Serial
Unique string identifier of the device. It is normally the serial number of device hardware

IsActive
Boolean value that indicates if the device is active or inactive

IPAddress
IPv4 address of device. Can be NULL.

ConfigData
Configuration data of the device, (blank for now) .

CreatedAt
Date and time when device was added to WiPORTAL.

CreatedbyUser
This is the user Id who created the device on WiPORTAL.

Location
Description of where the device is located.

IsSimplexDevice
Boolean value that indicates if this is a One-directional device (not be reachable from web portal side).

DeviceExtraInfo
This will be null for VTB device, otherwise it will be an object with the following information:

```
{
        "Name"                  : string,
        "LastSessionTime"       : DateTime,
        "HardwareModel"         : string,
        "RtuNumber"             : int,
        "LoggerState"           : bool,
        "ModemModel"            : string,
        "FirmwareVersion"       : string,
        "Latitude"              : double,
        "Longitude"             : double,
        "GpsSpeed"              : float,
        "GpsHeading"            : string,
        "Satellite"             : int,
        "ValidGpsRecordsCount"  : int,
        "InvalidGpsRecordsCount" : int,
        "HasNewAlarms"          : bool,
        "Time"                  : DateTime,
        "CGTime"                : DateTime,
        "TagCount"              : int,
        "TagValuesCount"        : int,
        "AlarmsCount"           : int,
        "EventsCount"           : int,
        "isMetrologicDevice"    : bool,
        "ModelName"             : string,
        "GPSTime"               : DateTime,
        "GPSColor"              : string,
        "PushFrequency"         : int,
        "LastTimeDataPushed"    : DateTime,
        "isBadRTCTime"          : bool
}
```

VtbDeviceExtraInfo
This will be null for WRTU device, otherwise it will be object include following information:

```
{
        "Name"                  : string,
        "DeviceModel"           : string,
        "LastSessionTime"       : DateTime,
        "Location"              : string,
        "Country"               : string,
        "Employee"              : string,
        "Customer"              : string,
        "OSInformation"         : string,
        "ServerVersion"         : string,
        "UpTime"                : long,
        "CanErrors"             : long,
        "EthErrors"             : long,
        "IOErrors"              : long,
        "CAN1Enabled"           : bool,
        "CAN2Enabled"           : bool,
        "CAN3Enabled"           : bool,
        "CAN4Enabled"           : bool,
        "CAN1Sensors"           : long,
        "CAN2Sensors"           : long,
        "CAN3Sensors"           : long,
        "CAN4Sensors"           : long,
        "PushFrequency"         : int,
        "LastTimeDataPushed"    : DateTime
}
```

DeviceName
Name of the device

2.8 Reading Tags List

Description
This command requests a list of all Tags under the specified device.

URI
https://api.nanowipom.com/v1/TagsList

HTTP Method
GET

Parameters

deviceId : integer

The device ID under which the tags will be listed.

activeOnly : bool

If set to TRUE, this parameter forces server to return only active tags.
If set to FALSE, this parameter forces server to return as active so and inactive tags.

Data
Nothing

Response

```
[
     {
        "Id":                integer,
        "IsActive":           bool,
        "DeviceId":           integer,
        "Name":               string,
        "Type":               string,
        "Address":            integer,
        "VirtualAddress":     integer,
        "Units1":             string,
        "Units2":             string,
        "LogPeriod":          integer,
        "MBRtu":              integer,
        "MBType":             string,
        "MBAddress":          integer,
        "MBValueType":        integer,
        "MBValueByteOrder":   integer,
        "IsVMapEnabled":      bool,
        "IsBMapEnabled":      bool,
        "MaxLoggedAt":        date,
        "RecordsNumber":      integer,
        "VMapPresent":        bool,
        "BMapPresent":        bool
     },
     …
]
```

Response is a list of objects which describes **PushDataTag** resource.

Id
Unique integer number which identifies **PushDataTag** resource in database

IsActive
Boolean value that indicates if the tag is active or inactive

DeviceId
Device ID of the tag

Name
Name of the tag

Type
Type of the tag

Address
Address of the tag

DeviceId
Device ID of the tag

Units1
Units1 of the tag

Units2
Units2 of the tag

LogPeriod
Log period of the tag

MBRtu
MBRtu of the tag

MBType
MBType of the tag

MBAddress
MBAddress of the tag

MBValueType
MBValueType of the tag

MBValueByteOrder
MBValueByteOrder of the tag

IsVMapEnabled/ IsBMapEnabled
Boolean value that indicates if the tag can have ValueMap/ BitMap

VMapPresent/BMapPresent
Boolean value that indicates if the tag has ValueMap/ BitMap

MaxLoggedAt

MaxLoggedAt of the tag

RecordsNumber
Records number of the tag

2.9 Reading Tag Info

Description
This command requests tag information for the specified tag.

URI
https://api.nanowipom.com/v1/TagInfo

HTTP Method
GET

Parameters

Id : integer

The Tag ID whose information will be retrieved. If the tag does not belong to any device under logged user's account or belongs to any subaccount of logged user's account, server will return "null".

Data
Nothing

Response

```
{
  "Id":                integer,
  "IsActive":           bool,
  "DeviceId":           integer,
  "Name":               string,
  "Type":               string,
  "Address":            integer,
  "VirtualAddress":     integer,
  "Units1":             string,
  "Units2":             string,
  "LogPeriod":          integer,
  "MBRtu":              integer,
  "MBType":             string,
  "MBAddress":          integer,
  "MBValueType":        integer,
  "MBValueByteOrder":   integer,
  "IsVMapEnabled":      bool,
  "IsBMapEnabled":      bool,
  "MaxLoggedAt":        date,
  "RecordsNumber":      integer,
  "VMapPresent":        bool,
  "BMapPresent":        bool
  }
(Fields description is same as above.)
```

2.10 Reading Sensors List

Description
This command requests a list of all VTB Sensors under specified device

URI
https://api.nanowipom.com/v1/SensorsList

HTTP Method
GET

Parameters

deviceId : integer

The device ID under which the sensors will be listed.

activeOnly : bool

If set to TRUE, this parameter forces server to return only the active sensors.
If set to FALSE, this parameter forces server to return active and inactive sensors.

Data
Nothing

Response

```
[
     {
        "Id":                integer,
        "IsActive":           bool,
        "IsDetected":         bool,
        "Serial":             integer,
        "DeviceId":           integer,
        "Name":               string,
        "Type":               string,
        "CAN":                integer,
        "RTU":                integer,
        "Rev":                integer,
        "Mode":               integer,
        "Description":        string,
        "Component":          string,
        "Position":           string,
        "MaxLoggedAt":        date,
        "RecordsNumber":      integer
     },
     …
]
```

Response is a list of objects which describes **VtbSensor** resource.

Id
Unique integer number which identifies **VtbSensor** resource in database

IsActive
Boolean value that indicates if the sensor is active or inactive.

IsDetected
Boolean value that indicates if the sensor can be detected.

Serial
Serial of the sensor

DeviceId
Device ID of the sensor

Name
Name of the sensor

Type
Type of the sensor

CAN
CAN of the sensor

RTU
RTU of the sensor

Rev
Revision of the sensor

Mode
Mode of the sensor

Description
Description of the sensor

Component
Component of the sensor

Position
Position of the sensor

MaxLoggedAt
MaxLoggedAt of the sensor

RecordsNumber
RecordsNumber of the sensor

2.11 Reading Sensor Info

Description
This command request VTB Sensor information for the specified sensor.

URI
https://api.nanowipom.com/v1/SensorInfo

HTTP Method
GET

Parameters

Id : integer

The VTB Sensor ID whose information will be retrieved. If the sensor does not belong to any device under logged user's account or belongs to any subaccount of logged user's account, server will return "null".

Data
Nothing

Response

```
{
        "Id":                  integer,
        "IsActive":            bool,
        "IsDetected":          bool,
        "Serial":              integer,
        "DeviceId":            integer,
        "Name":                string,
        "Type":                string,
        "CAN":                 integer,
        "RTU":                 integer,
        "Rev":                 integer,
        "Mode":                integer,
        "Description":         string,
        "Component":           string,
        "Position":            string,
        "MaxLoggedAt":         date,
        "RecordsNumber":       integer
}
```

(Fields description is same as Reading Sensors List.)

2.12 Reading Events

Description
This command request list of Events for the specified device for the specified period.

URI
https://api.nanowipom.com/v1/Events

HTTP Method
GET

Parameters

deviceId : integer

The device ID for which Events will be listed.

startTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the start time from when to list the events. If not set, the list will begin with the earliest event record.

endTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the end time until when to list events. If not set, the list will end with the latest event record.

Data
Nothing

Response

```
[
    {
      "Id":          integer,
      "DeviceId":    integer,
      "LogId":       integer,
      "LoggedAt":    date,
      "EventType":   integer,
      "EventId":     integer,
      "ErrorCode":   integer
    },
    …
]
```

Response is a list of objects which describes **Event** resource.

Id
Unique integer number which identifies the **Event** resource in database

DeviceId
Device ID of the event

LogId
Log Id of the event

LoggedAt
Date and time when event was logged to the system

EventType
Event type code

EventId
Event Id of the event

ErrorCode
Error Code of the event

2.13 Reading Alarms

Description
This command requests a list of Alarms for the specified device for the specified period.

URI
https://api.nanowipom.com/v1/Alarms

HTTP Method
GET

Parameters

deviceId : integer

The device ID for which Alarms will be listed.

startTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the start time from when to list the alarms. If not set, the list will begin with the earliest alarm record.

endTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the end time until when to list the alarms. If not set, the list will end with the latest alarm record.

activeOnly : bool

If set to TRUE, this parameter forces server to return only the alarms for active tags.
If set to FALSE, this parameter forces server to return alarms for active and inactive tags.

Data
Nothing

Response

```
[
     {
        "Id":                integer,
        "DeviceId":          integer,
        "TagId":             integer,
        "LogId":             integer,
        "LoggedAt":          date,
        "RawValue":          float,
        "CalcValue":         float,
        "AlarmCondition":    integer
     },
     …
]
```

Response is a list of objects which describes **Alarm** resource.

Id
Unique integer number which identifies the **Alarm** resource in database

DeviceId
Device ID that triggered the alarm

TagId
DbTagId that triggered the alarm

LogId
Log Id of the alarm

LoggedAt
Date and time when alarm was logged to the system

RawValue
Raw Value of the alarm

CalcValue
Calculated Value of the alarm

AlarmCondition
Alarm Condition of the alarm

2.14 Reading Data snapshot List

Description
This command requests a list of VTB Data snapshots for the specified device.

URI
https://api.nanowipom.com/v1/DatasnapshotsList

HTTP Method
GET

Parameters

deviceId : integer
The device ID for which VTB Data snapshots will be listed.

Data
Nothing

Response

```
[
    {
      "Id":                integer,
      "DeviceId":           integer,
      "SensorId":           integer,
      "TagId":              integer,
      "UserId":             integer,
      "Samples":            integer,
      "TimePeriod":         integer,
      "SensorPosition":     integer,
      "Axis":               integer,
      "SensorType":         integer,
      "SensorSerial":       integer,
      "Name":               string,
      "RecTime":            date
    },
    …
]
```

Response is a list of objects which describes **VtbDatasnapshot** resource.

Id
Unique integer number that identifies **VtbDatasnapshot** resource in database

DeviceId
Device ID that the snapshot belongs.

TagId
DbTagId that the snapshot belongs.

SensorId
VTB Sensor Id that the snapshot belongs.

UserId
User who recorded the snapshot.

Samples
Samples count of the snapshot.

TimePeriod
Time period of the snapshot.

SensorPosition
Sensor position of the snapshot.

Axis
Axis of the snapshot.

SensorType
Sensor type of the snapshot.

SensorSerial
Sensor serial number of the snapshot.

Name
Name of the snapshot.

RecTime
Date and time when the snapshot was recorded.

2.15 Reading Data snapshot Data

Description
This command requests data for the specified VTB Data snapshot.

URI
https://api.nanowipom.com/v1/DatasnapshotData

HTTP Method
GET

Parameters

Id : integer

The VTB Data snapshot ID whose data will be retrieved.

window : string

Windowing function which is used to convert raw data of the snapshot to Acceleration and Velocity.
This should be one of following windowing function names:

"HanningWindow"
"InverseHanningWindow"
"HammingWindow"
"InverseHammingWindow"

If not set, WiPORTAL will not use any windowing function when converting raw data.

highPass : double

High Pass Frequency Filter used for converting raw data of the snapshot to Acceleration and Velocity. It will be 1.5 by default if not set.

lowPass : double

Low Pass Frequency Filter used for converting raw data of the snapshot to Acceleration and Velocity. It will be 2000 by default if not set.

Data
Nothing

Response

```
{
   "Id":                    integer,
   "DeviceId":          integer,
   "SensorId":          integer,
   "TagId":             integer,
   "UserId":            integer,
   "Samples":           integer,
   "TimePeriod":        integer,
   "SensorPosition":    integer,
   "Axis":              integer,
   "SensorType":        integer,
   "SensorSerial":      integer,
   "Name":              string,
   "RecTime":           date,
   "TimewaveData":      array of (array of double),
   "FftAccData":        array of (array of double),
   "FftVelData":        array of (array of double),
   "RawData":           array of (array of double)
}
```

Fields description is the same as Reading Data snapshot List except following:

TimewaveData
If Axis is 9 (which means ALL_AXIS), this field will contain 3 double arrays of Time Wave Data for each axis. Otherwise, one double array for the specified axis.

FftAccData
If Axis is 9 (which means ALL_AXIS), this field will contain 3 double arrays for FFT Acceleration Data for each axis. Otherwise, one double array for the specified axis.

FftVelData
If Axis is 9 (which means ALL_AXIS), this field will contain 3 double arrays for FFT Velocity_Data for each axis. Otherwise, one double array for the specified axis.

RawData
If Axis is 9 (which means ALL_AXIS), this field will contain 3 double arrays for Raw Data for each axis. Otherwise, one double array for specified axis.

2.16 Reading Tag Data

Description
This command requests a list of Values for the specified Tag for the specified period.

URI
https://api.nanowipom.com/v1/TagData

HTTP Method
GET

Parameters

tagId : integer

The tag ID for whose tag values will be listed.

startTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the start time from when to list the tag values. If not set, the list will begin with the earliest value record.

endTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the end time until when to list tag values. If not set, the list will end with the latest value record.

Data
Nothing

Response

```
[
    {
      "Id":                integer,
      "LoggedAt":           date,
      "RawValue":           float,
      "CalcValue":          float
    },
    …
]
```

Response is a list of objects which describes **TagValue** resource.

Id
Unique integer number which identifies the **TagValue** resource in database

LoggedAt
Date and time when the value was logged

RawValue
Raw Value

CalcValue
Calculated Value

2.17 Reading Sensor Data

Description
This command requests a list of Values for the specified Sensor for the specified period.

URI
https://api.nanowipom.com/v1/SensorData

HTTP Method
GET

Parameters

sensorId : integer

The sensor ID for whose values will be listed.

startTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the start time from when to list the sensor values. If not set, the list will begin with the earliest value record.

endTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the end time until when to list sensor values. If not set, the list will end with the latest value record.

Data
Nothing

Response

```
[
    {
      "Id"          : integer,
      "RecTime"     : date,
       "A1A"      : float,
       "A2A"      : float,
       "A3A"      : float,
       "A1V"      : float,
       "A2V"      : float,
       "A3V"      : float,
       "T"       : float,
       "AC"       : integer,
       "DC"       : integer,
       "AA"       : float,
       "AD"       : float,
       "IW"       : float,
       "ErrCode"  : integer
    }
    …
]
```

Response is a list of objects which describes the **TagValue** resource.

Id
Unique integer number which identifies the **Sensor Data** resource in the database

RecTime
Date and time when the value was logged

A1A
Value of Axis 1 Acceleration

A2A
Value of Axis 2 Acceleration

A3A
Value of Axis 3 Acceleration

A1V
Value of Axis 1 Velocity

A2V
Value of Axis 2 Velocity

A3V
Value of Axis 3 Velocity

T
Value of Temperature

AC
Value of Impact Counts

DC
Value of Higher Amplitude Impact Count

AA
Value of Average Alert

AD
Value of Higher Amplitude Impact Level

IW
Value of Impact Window

ErrCode
Value of Error Code

2.18 Reading GPS Data

Description
This command requests a list of associated GPS trace data for the specified device for the specified period.

URI
https://api.nanowipom.com/v1/GPSData

HTTP Method
GET

Parameters

deviceId : integer

The device ID for whose GPS trace data will be listed.

startTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the start time from when to list GPS trace data. If not set, the list will begin with the earliest value record.

endTime : datetime (in MM-dd-yyyy hh:mm:ss format)

Specify the end time until when to list GPS trace data. If not set, the list will end with the latest value record.

Data
Nothing

Response

```
[
    {
                "Id"              : integer,
                "SessionTime"     : date,
                "Latitude"        : double,
                "Longitude"       : double,
                "GpsSpeed"        : float,
                "GpsHeading"      : string,
                "Satellite"       : integer,
                "LatitudeDegree"  : string,
                "LongitudeDegree": string
    }
    …
]
```

Response is a list of objects which describes **TagValue** resource.

Id
Unique integer number which identifies the **GPS Data** resource in the database

SessionTime
Date and time when the GPS data was logged.

Latitude
Raw Latitude value at the GPS date

Longitude
Raw Longitude value at the GPS date

GpsSpeed
GPS speed value at the GPS date

GpsHeading
GPS heading at the GPS date

Satellite
Satellite count at the GPS date

LatitudeDegree
Degree format Latitude value at the GPS date

LongitudeDegree
Degree format Longitude value at the GPS date