IoT Platform - Developer's Guide

Planon Software Suite
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Planon
Building Connections

About this Document

Intended Audience

This document is intended for *Planon Software Suite* users.

Contacting us

If you have any comments or questions regarding this document, please send them to: support@planonsoftware.com.

Document Conventions

Bold
Names of menus, options, tabs, fields and buttons are displayed in bold type.

Italic text
Application names are displayed in italics.

CAPITALS
Names of keys are displayed in upper case.

Special symbols

	Text preceded by this symbol references additional information or a tip.
	Text preceded by this symbol is intended to alert users about consequences if they carry out a particular action in Planon.

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Creating an Application – Developer Workflow

The following describes the workflow for a developer of an IoT Platform Application.

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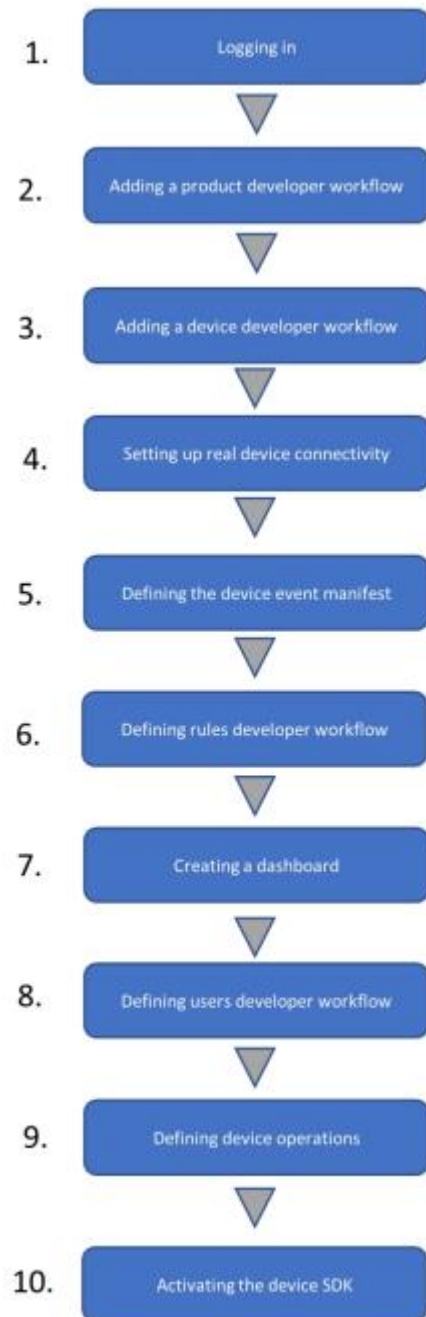
IoT Platform Prerequisites

- **Developers:** Before reading this, make sure that you are familiar with **"How Does IoT Platform Work?"**, especially, the following IoT Platform entities:
  - **IoT Platform REST API**
  - **IoT Platform Device SDK**
  - **IoT Platform Server**
  - **IoT Platform Manifests**

An IoT Platform Application developer is assumed to be familiar with IoT Platform concepts, the IoT Platform Portal and with general API usability concepts.

- **Devices:** IoT Platform can receive events from both Real and Virtual Devices
  - **Real Devices:** Must be connected to the Internet.
  - **Virtual Devices:** A Virtual Device Manifest must be defined as described in **"Defining a Virtual Device Manifest,"** and placed on the IoT Platform Server. This manifest defines the properties, operations and events of each Virtual Device.
- **IoT Platform Device SDK:** The Device must have one of the IoT Platform supported runtime environments installed on it – Node.js (Version 6 and above), C, C#, Python and Java runtime environments.

Logging In

Contact IoT Platform to set up an account for you and then we will send you the credentials you need to log in.

These credentials include the user name and password for logging into the IoT Platform Portal, the IoT Platform Portal URL and the **Client ID** and **Client Secret** properties that are required for each request to the IoT Platform REST API.

This **Client ID** and **Client Secret** enable access to the Master Application assigned to this user. The user can then create additional Applications.

See the Login API endpoint for more information.

Adding a Product – Developer Workflow

A Product is a type of Device, and serves as a way of grouping Devices. See **Products** for a description of what a Product is.

To add a Product:

1. Use the IoT Platform REST API to create a Product, as described below in Adding a Product Using the REST API.
2. Define a Product Manifest, which defines the metadata that is assigned for each Device, (both a Real and Virtual Device) that belongs to the same Product. For example, all the properties of the same type of heat sensor model. See Defining a Product Manifest for more details. The IoT Platform Portal enables you to place the Product Manifest on the IoT Platform Server.

Adding a Product Using the REST API

To add a Product using the IoT Platform REST API –

1. Use the IoT Platform REST API **Products/Post** endpoint. To see a description of the APIs, access .
2. A list of the IoT Platform entities is displayed, as shown below:
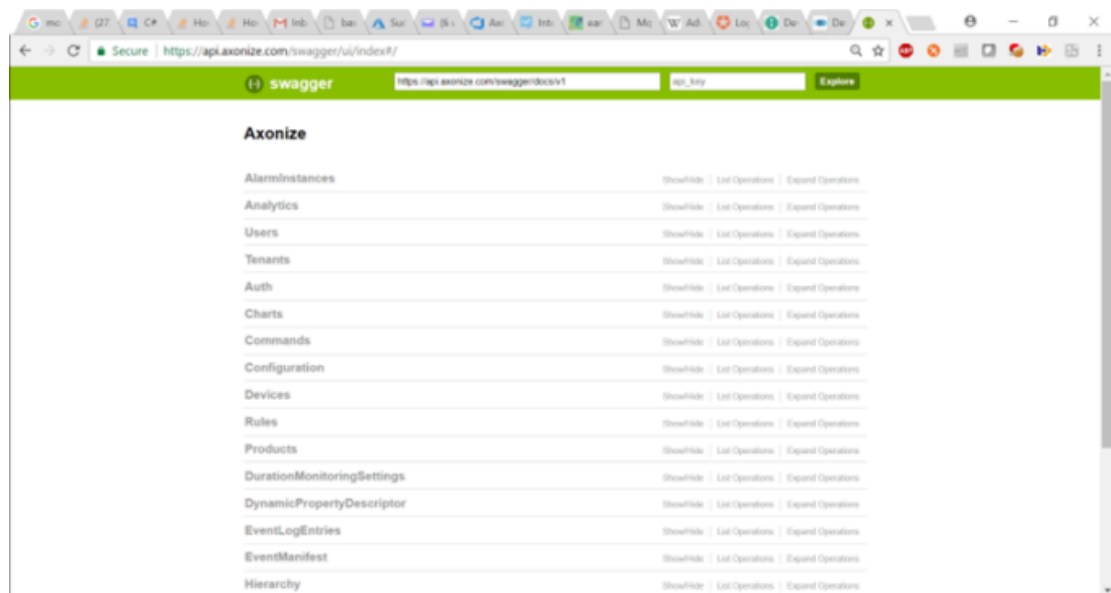
1. Expand the **Product** entity to see the actions that the API provides for Products and then expand the **Products/Post** endpoint to see its details.
2. Fill in the **Products/POST Name** is the only mandatory property. For more details about the properties of the Product, see Products/Post.

name (string): Specify any free-text name for the Product, which will be shown in the IoT Platform Portal.

> ℹ️ Each request to the IoT Platform REST API requires the **Client ID** and **Client Secret** properties that are provided by IoT Platform when you create an account, or an Authorization token created from a login request.

1. The response to the **Products/Post** provides a unique Product ID.

2. Define a Product Manifest, which defines the metadata that is assigned for each Device, (both a Real and Virtual Device,) that belongs to the same Product. For example, all the properties of the same type of heat sensor model. See **Defining a Product Manifest** for more details. The IoT Platform Portal enables you to place the Product Manifest on the IoT Platform Server.

Adding a Device – Developer Workflow

A Device can be added either in the IoT Platform Portal (as described in Adding a Device) or using the API, as described below.

To a add a Device using the IoT Platform REST API:

1. Use the IoT Platform REST API **Devices/Post** endpoint. To see a description of the APIs, access .

2. Expand the **Devices/Products/Post** endpoint to see its details.

   For example:

   HTTP

POST /odata/devices HTTP/1.1

Host:api.stg.axonize.com

Content-Type: Application/json

Cache-Control: no-cache

clientId: [enter your Client Id]

clientSecret: [enter your Client Secret]

{"name":"[the device name]","ProductId":"[enter your Product Id]"}

   Curl

curl -X POST -H "Content-Type: Application/json" -H "clientId: [enter your Client Id]" -H "clientSecret: [enter your Client Secret]" -H "Cache-Control: no-cache" -d '{"name":"[the device name]","ProductId":"[enter your Product Id]"}'

3. Fill in the **Devices/Post** properties. The following describes the mandatory properties. For more details, see **Devices/Post**.

- ◦ **name (string):** Specify any free-text name for the Device, which is shown in the IoT Platform Portal.
- ◦ **ProductId (string):** Specify the Product ID (Device type) of this Device. This string was received as a response to the **Products/Post** endpoint.

4. The response to the **Devices/Post** provides the unique access credentials that enable the Device to connect to the IoT Platform server. These access credentials must be loaded onto the Device, as described in the next steps below.

Setting Up Real Device Connectivity

The following describes how to set up the IoT Platform Device SDK on a Real Device so that it can send events to the IoT Platform Server and listen for endpoints from it.

Installing the IoT Platform Device SDK on the Device: Install the IoT Platform Device SDK on the Device by copying the provided IoT Platform Device SDK files anywhere on the Device.

IoT Platform REST API – Placing the Device's Unique Identifier on the Device

IoT Platform provides two methods for getting the unique access credentials that enable a Device to access the IoT Platform Server.

The following are the two methods:

- • Getting Device Access Credentials – API
- • Getting Device Access Credentials – API

Getting Device Access Credentials – Portal

To get access credentials

1. Click the Devices button in the left pane to display a list of Devices.
2. Click the row of one of the Devices, and then click the Properties tab.

> ℹ️ In order to access these fields, the **Enable Developer Mode** property must be **True** in the Device's Product definition.

3. To set this value, click the Products button, and in the General tab, set the Enable Developer Mode field to **On**.

4. Copy the values in the fields in the **Developer Additional Information** area of this window (as described in Device Access Credentials) in the IoT Platform SDK config file to enable the device to access the IoT Platform Server.

Getting Device Access Credentials – API

When the Device was created (using **Devices/Post**), the response provided the unique access credentials that enable the Device to access the IoT Platform Server.

The access credentials must be loaded onto the Device, as described below.

1. Open the **config** file on the Device and fill in the following properties.

> **ℹ** The **config** file was installed with the IoT Platform Device SDK.

2. **Device Access Credentials**

The following four fields are the access credentials that enable a device to access the IoT Platform Server. You can get these fields either from the IoT Platform Portal or the IoT Platform REST API, as described above

- ◦ **DeviceId**: Enter the **id** value received in the **Devices/Post** This is the unique identifier of the Device in the IoT Platform system.

- ◦ **ProductId**: Enter the **ProductId** value received in the **Devices/Post** This is the unique identifier of the Product in the IoT Platform system.

- ◦ **appId**: Enter the **appId** value received in the **Devices/Post** This is the unique identifier of the Application in IoT Platform to which this Device belongs.

- ◦ **HubKey**: Enter the **hubPrimaryKey** from the **Devices/Post** These are the unique access credentials for each Device provided by IoT Platform .

Defining the Device Event Manifest

Create a Device Event Manifest, which defines the type of events that the IoT Platform Device SDK sends from the Device to the IoT Platform Server.

See Defining a Device Event Manifest for more information.

Defining a Device Event Manifest

The Device Event Manifest defines the types of events that a Device will send to the IoT Platform Server –

- • For each Real Device, this manifest must be placed on the Device in the Device SDK.

- • For each Virtual Device, this manifest must be placed in its proper location.

IoT Platform provides a predefined syntax (described below) and a list of the types of events that can be sent to the IoT Platform Server, such as **7** for **temperature**, **8** for **humidity**, **9** for **acceleration**, **1001** for **pressure** and so on.

Instantaneous Events

Instantaneous events are those that occur instantly. They are not telemetric or state events. Pressing a button is an example of an instantaneous event. Each press of the button represents a new instantaneous event.

Rules that contain an instantaneous event are retriggered each time that the instantaneous event occurs. This same behavior does not apply for telemetric events or state events (events that have a state, such as connected/disconnected).

For example, a state event is triggered until there is a restore event. Similarly, for a telemetric event (such as for a temperature reading that exceeds a threshold), the Rule is triggered only once, when the temperature is exceeded.

Setting a condition as an instantaneous condition means that the condition is set on an instantaneous event.

For more details about Rules containing an instantaneous event, see Instantaneous Rules, Conditions and Events.

> **i** Use the event manifest code 993 to designate an instantaneous event.

Defining Rules – Developer Workflow

Rules can be defined either using the IoT Platform Portal (see **Setting Up Real Device Connectivity**) or using the IoT Platform REST API, as described below.

To define a Rule using the IoT Platform REST API:

- Use the IoT Platform REST API **Rules/Post request**.

For **Creating a Dashboard** See Defining the Device Event Manifest.

Defining Users – Developer Workflow

Users can be defined either using the IoT Platform Portal (see Defining Rules – Developer Workflow) or using the IoT Platform REST API, as described below.

To define an IoT Platform user using the IoT Platform REST API:

- Use the IoT Platform REST API **Users/Post request**.

> **i** These users are automatically activated (in contrast to users created in the IoT Platform Portal).

Defining Device Operations

The IoT Platform REST sendCommand endpoint can be used to send an endpoint to a Device that activates operations on the Device. These endpoints contain free text that represents the method to be executed on the Device.

The IoT Platform Device SDK endpoint hubClient.receive on the Device listens for the arrival of this endpoint and then executes this free text in order to activate the relevant operation on the Device.

Alternatively, IoT Platform can set up its endpoint gateway that can send endpoints to Devices that are not using the IoT Platform Device SDK.

Activating the IoT Platform Device SDK

Make sure that Node.js is installed on the Device.

On the Device, activate the IoT Platform Device SDK by running

- npm install
- node app.js

The Device starts sending events to the IoT Platform Server and listening for commands from it.

See IoT Platform Device SDK – Sending Events to IoT Platform Server and IoT Platform Device SDK – Receiving an Endpoint from the IoT Platform API.

IoT Platform Device SDK – Sending Events to IoT Platform Server

In order to send the correct event, you must update the **payload** in **app.js** in the IoT Platform Device SDK and use the **sendEventToHub** endpoint. See **sendEventToHub** for more details.

Fill in the following mandatory properties of the **payload**:

- **type**: The event type. See **Defining a Device Event Manifest**. IoT Platform provides a list of the event types for your selection, such as temperature, humidity, acceleration, pressure and so on.
- **name**: The event name to be shown in the IoT Platform Portal.
- **value**: The value of the reading on the Device to be shown in the IoT Platform Portal.

The following shows an example of how a new incoming event appears in the IoT Platform Dashboard.
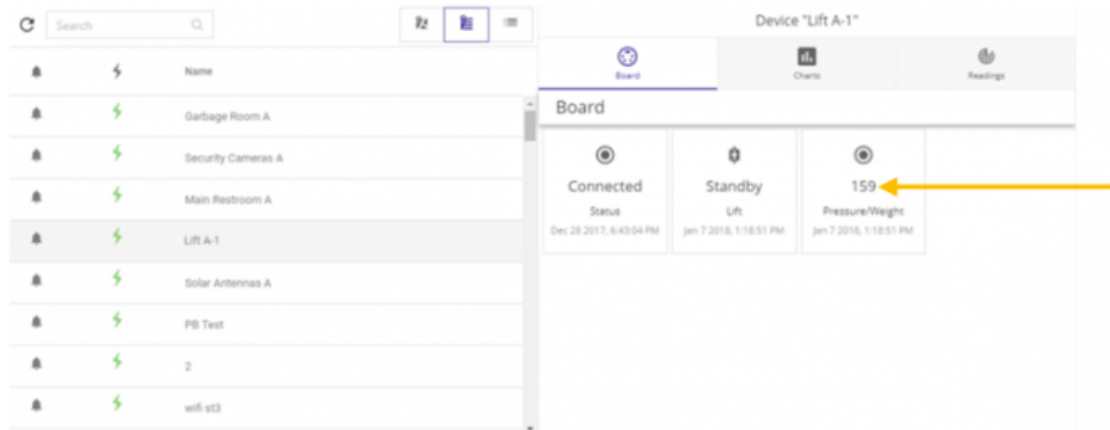
The left side of this window shows a list of Devices. When you click a Device in this list, the right side of this window shows the most recent readings received by IoT Platform from the Device. The Dashboards only show the most recent readings by overwriting previously received readings.

IoT Platform Device SDK – Receiving an Endpoint from the IoT Platform API

The IoT Platform Device SDK endpoint **hubClient.receive** listens for incoming endpoints sent by the IoT Platform API. See **hubClient.receive** for more details.

To send endpoints to the IoT Platform Device SDK from the IoT Platform REST API, use the **sendCommand** endpoint.

In the **message** value sent to the Device by this endpoint, you can enter any free text. This free text should act as a trigger to the Device, so that the Device activates an operation, such as to open a lock, turn on a light and so on.

The developer must program the Device to use this **message** value in order to activate the relevant operation when the relevant free text is received.

The following shows an example of sending the word **turn on** to the IoT Platform Device SDK.

HTTP

```
POST  odata/devices/[your device id]/SendCommand HTTP/1.1

Host: stg.api.axonize.com

Content-Type: Application/json

Cache-Control: no-cache

clientId: [enter your Client Id]

clientSecret: [enter your Client Secret]
```

```
{"Message":"turn on"}
```

Curl

```
curl -X POST -H "Content-Type: Application/json" -H "clientId: [enter your Client Id]" -H

"clientSecret: [enter your Client Secret]" -H "Cache-Control: no-cache" -d
 '{"Message":"testing"}'

https://api.stg.axonize.com/odata/devices/[your Device Id] /SendCommand
```

Getting Started – IoT Platform API

The IoT Platform REST API is a RESTful API that implements the **OData Protocol** in which all calls use HTTPS. The Open Data Protocol (OData) is an open protocol that standardizes and simplifies the creation and consumption of queryable and interoperable RESTful APIs.

The IoT Platform REST API is intended for developers who want to access IoT Platform functionality directly from their backend and/or who want to create their own frontend that provides IoT Platform functionality.

Before checking out the description of each IoT Platform REST API request, please read the following:

- **API Reference List**
- **API Environment**
- **Authentication**
- **Which Application(s) Can a User Access?**
- **Entities**
- **Accessing API Details**
- **API Response Error/Status Codes**
- **Timestamps**
- **Common Response Properties**

> The REST API is continually being enhanced and developed. Therefore, there may be new fields/data returned in JSON results. Generally, field/data structures are not changed,but rather new data is added to current results.

API Reference List

Login – Auth

Users

- Users/Post
- Users/Get (List)
- Users/Get (Specific)
- Users/Delete
- Users/Patch or Users/Put
- Users/ResetPassword
- Users/UnblockUser

- Users/ForgotPassword
- Users/UpdatePassword
- Users/ChangePassword
- Users/Invite
- Users/ValidateEmail
- Users/Me

Products

- Products/Post
- Products/Get (List)
- Products/Get (Specific)
- Products/Delete
- Products/Patch or Products/Put
- Products/UploadFirmwareFile
- Products/RemoveFirmwareFile

Devices

- Devices/Post
- Devices, Get (List)
- Devices/Get (Specific)
- Devices/Delete
- Devices/Patch or Devices/Put
- Devices/UpdateSettings
- Devices/UpdateSettings
- Devices/GetFullReading
- Devices/GetFullReadingForMultipleDevices
- Devices/GenerateSASToken
- Devices/createVirtualDevice
- Devices/stopVirtualDevice
- Devices/UpdateDeviceFirmware
- Devices/sendCommandWithMultipleArguments

Commands

- Commands/SendCommand

Applications

- Applications/Post
- Applications/Get (List)

- Applications/Get (Specific)

- Applications/Delete

- Applications/Patch or Applications/Put

- Applications/GetAppSecret

- Applications/SetDefaultPhoneCountryCode

Tenants

- Tenants/Post

- Tenants/Get (List)

- Tenants/Get (Specific)

- Tenants/Delete

- Tenants/Patch or Tenants/Put

Audits

- Audits/Post

- Audits/Get (List)

- Audits/Get (Specific)

- Audits/Delete

- Audits/Patch or Audits/Put

Groups

- Groups/Post

- Groups/Get (List)

- Groups/Get (Specific)

- Groups/Delete

- Groups/Patch or Groups/Put

Charts

- Charts/CreateChart

- Charts/EsportChartstoCSV

AlarmInstances

- AlarmInstances/Post

- AlarmInstances/Get (List)

- AlarmInstances/Get (Specific)

- AlarmInstances/Delete

- AlarmInstances/Patch or AlarmInstances/Put

- AlarmInstances/Clear

- AlarmInstances/Snooze

- AlarmInstances/Dismiss
- AlarmInstances/DeleteAll
- AlarmInstances/DismissAll

Reports

- Reports/Get (List)
- Reports/Post
- Reports/Delete
- Reports/Get (Specific)
- Reports/Patch or Reports/Put
- Reports/[id]/share
- Reports/[id]/unShare
- Reports/[id]/subscribe
- Reports/[id]/unsubscribe
- Reports/[id]/sendReportEmail
- Reports/[id]/editSubscription
- Reports/[id]/generateReportFile
- Reports/generateUnSavedReportFile

Rules

- Rules/Post
- Rules/Get (List)
- Rules/Get (Specific)
- Rules/Delete
- Rules/Patch or Rules/Put

Locales

- Locales/[locale]
- Locales/SupportedLanguages

Dashboards

- Dashboards/Post
- Dashboards/GetByAppId
- Dashboards/Get
- Dashboards/Patch or Dashboards/Put
- Dashboards/Delete

Notifications

- Notifications/Get (List)

- Notifications/updateMailTemplateForTenant

Auth

- Auth/validateToken
- Auth/verifyMulfifactorBindingCode
- Auth/resendMultifactorBindingCode

Roles

- Roles/Post
- Roles/Get (List)
- Roles/Get (Specific)
- Roles/Delete
- Roles/Patch
- Roles/Get/[roleId]/Tasks
- Roles/Get/[roleId]/Endpoints
- Roles/Post/[roleId]/addTask
- Roles/Post/[roleId]/putTask
- Roles/Post/[roleId]/removeTask

Tasks

- Tasks/Get (List)
- Tasks/Get (Specific)

applicationTemplates

- applicationTemplates/Post
- applicationTemplates/Get (List)
- applicationTemplates/Get (Specific)
- applicationTemplates/Delete
- applicationTemplates/Patch or applicationTemplates/Put

tenantTemplates

- tenantTemplates/Post
- tenantTemplates/Get (List)
- tenantTemplates/Get (Specific)
- tenantTemplates/Delete
- tenantTemplates/Patch or tenantTemplates/Put

featureSet

- featureSet/Post
- featureSet/Get (List)

- featureSet/Get (Specific)

- featureSet/[appId]/Get

- featureSet/Delete

- featureSet/Unlock

- featureSet/Lock

- featureSet/Enable

- featureSet/Disable

- featureSet/Add

- featureSet/Remove

API Environment

IoT Platform provides both a staging and production environment, each of which can be accessed by a different URL, as follows:

- **Staging Environment –** https://api.stg.axonize.com

- **Production Environment –** https://api.axonize.com

In both the staging and the production environments, IoT Platform requests can be accessed using one or both of the following paths:

- **OData URL –** https://api.stg.axonize.com/odata

- **Web API URL –** https://api.stg.axonize.com/api

An example of a complete URL request is as follows: [controller name].

Authentication/Request Headers

Two methods are provided for authenticating the requests sent using the IoT Platform REST API – Authorization token and IoT Platform client ID/client secret, as described below:

- Using an Authorization Token

- Using API Keys

Using an Authorization Token

In response to the Login request, IoT Platform sends a token. This token contains unique user identification information that can be used by a specific user. The token is valid for the next 10 hours.

The following is an example of a request containing an authentication (**Authorization**) token:

```
GET /odata/applications/ HTTP/1.1

Host: api.stg.axonize.com

Authorization: bearer
 1234GciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJzb2lvdC5hdXRooMC5jb20iLCJhdW1234

DaGxZSVJDNDltTkZOSTFteDE3Q2pCMFBFNWc0VnVrYYSIsInN1Yil6ImFub255bW91cyIsImlhdCI6MTUxNDcxOTU2O

appId: 123454D0-4484-4366-81B1-87DDA4912345

Content-Type: application/json
```

Using API Keys

In addition to the username and password for logging into the IoT Platform Portal, IoT Platform support sends you a Client ID and Client Secret that can be placed in the header of each API request.

This Client ID and Client Secret in the request header serve as authentication and specify the Application(s) to which this user is allowed access.

The following is an example of the request containing an authentication **Client ID** (appId) and **Client Secret:**

```
GET /odata/devices/ HTTP/1.1

Host: api.stg.axonize.com

Content-Type: application/json

clientId : 4A95B4D0-1234-1234-81B1-87DDA49D1234

clientSecret: C86A1234-1234-4EDA-8FD3-17FAF7451234
```

The **Content-Type** is always **application/json**.

The Client ID is the appId.

Use the GetAppSecret function to get additional **Client ID** and **Client Secret** credentials for a newly created Application.

Which Application(s) Can a User Access?

The **'Token or the Client ID/Client Secret'** provided by IoT Platform to be used for authentication in each request header specifies the Application(s) to which a user is allowed access. This User is granted full access rights to this Application.

Entities

The entities in the IoT Platform REST API are listed at https://api.axonize.com/swagger/ui/index, as shown below:
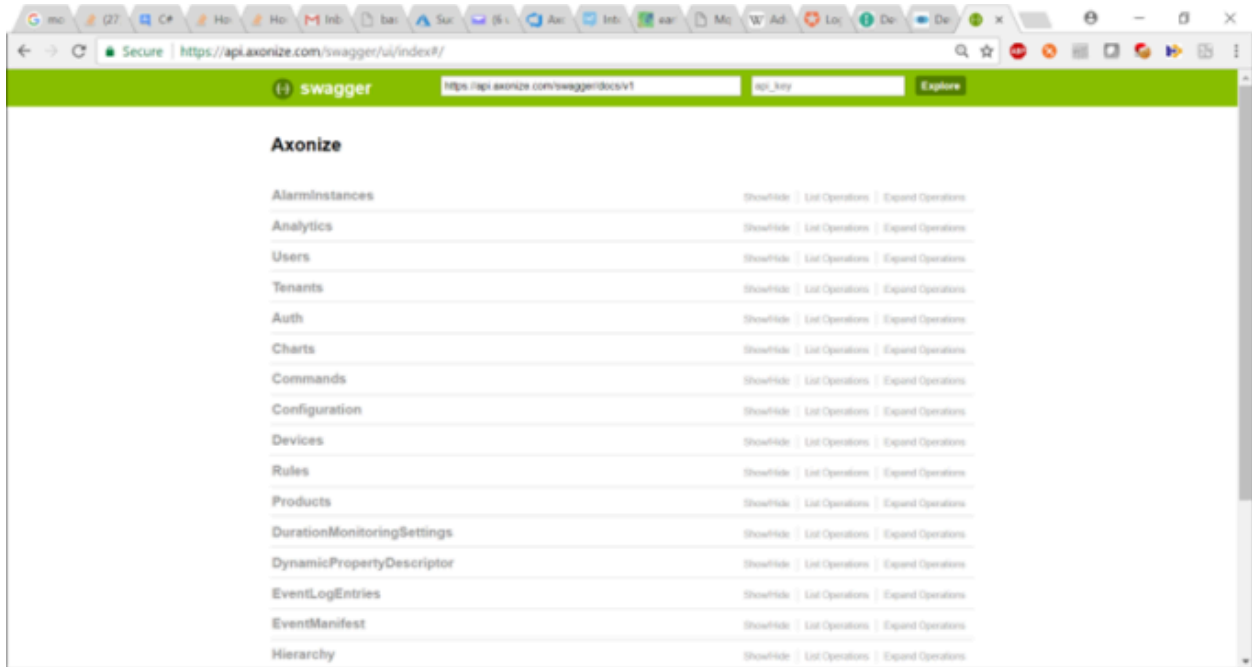
Each entity has at least the following five requests and may have many more:

Field	Description
Get	For retrieving information about the entity from IoT Platform .
Post	For adding a new entity in IoT Platform .
Put	For replacing all the fields of an existing entity.
Patch	For modifying some of the fields of an existing entity.
Delete	For deleting an entity from IoT Platform .

Accessing API Details

The actions in the IoT Platform REST API are described in , which displays a list of the IoT Platform entities, as shown below:
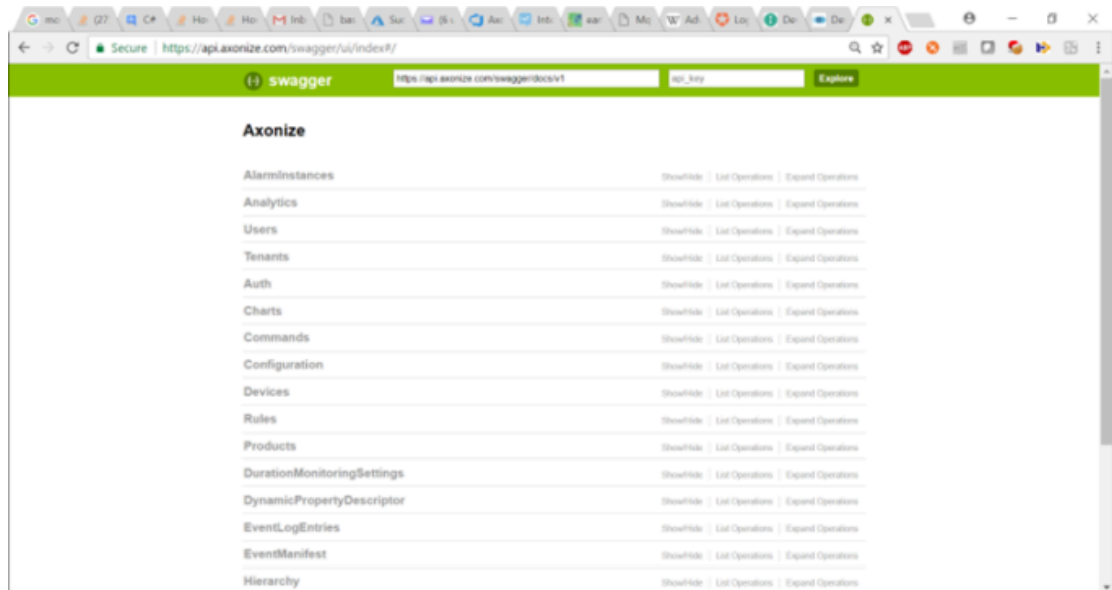
You can expand any **IoT Platform** entity, (such as a **Product**) to see the actions that the API provides for it, and then expand each action to display its details, i.e. for the **Products/Post** request.

API Response Codes

IoT Platform returns the following error/status codes in response to an IoT Platform API request:

Code	Description
200	HTTP status code OK.
201	A Post request has been successfully executed, thus creating the relevant entity on the IoT Platform server.
204	No Content. The server has successfully fulfilled the request and there is no additional content to send in the response payload body.
401	The request contains unauthorized or missing authentication properties – Client ID/Client Secret or Token.
500	A General Internal Server Error is preventing a proper response.

Timestamps

IoT Platform supports ISO8601 standard timestamps.

Common Response Properties

The following properties are provided in all IoT Platform entities, such as a Device, Product, Application and so on.

Property	Type	Description
createDate	Date	The date on which the entity was created
createUser	String	The IoT Platform user that created this entity
updateDate	Date	The date of the most recent modification made to this entity definition
updateUser	String	The user that performed the most recent modification to this entity definition

Login – Auth

POST /api/auth/login

Description

To get the authorization token for the IoT Platform REST API.

The following flow enables you to obtain the required authentication token to log in:

- This Login request is sent with the required request parameters.
- IoT Platform 's Authentication Provider validates the credentials that were supplied.

For **valid credentials**, one of the following responses is returned, depending on whether or not the MFA mechanism is enabled:

- **MFA Not Enabled** – A status code of 200 OK is returned in the response, as described below. The API client can use the authorization token to use the IoT Platform REST API endpoints. The following shows the login response when all login request parameters are satisfactory:

```
{

    [DataMember(Name = "token")]

    public string Token { get; set; }

    [DataMember(Name = "name")]

    public string UserName;

    [DataMember(Name = "redirectUrl")]

    public string RedirectUrl { get; set; }

}
```

- **MFA Enabled** – When valid login credentials are provided and MFA is enabled, this login response returns the status code Forbidden 403. In this case, the user must follow the flow described on page 194, in addition to the flow described above, to obtain the IoT Platform authentication token required for logging in.

Request Properties

There are two options for sending a Login request, as follows:

appId in the Header

In this case, the Application(s) to which the user is allowed access is specified in the appId of the Login request header. The appId is a unique Application identifier that is automatically generated by IoT Platform in response to the **Application/Post request.**

Property	Type	Description	Mandatory
Email	String	User email	Y
Password	String	User password	Y

For example –

```
https://api.stg.axonize.com/api/auth/login \

  -H 'Content-Type: application/json' \

  -H 'appId: be517433-c4b8-4788-9258-1ba220432134' \

  -d '{"email":"demousers@axonize.com","password":"somePassword!"}'
```

URL in the Body

In this case, the Application(s) to which the user is allowed access is determined by the URL property in the body of the Login request (described below). In this case, there is no appId in the Login request header.

Property	Type	Description	Mandatory
URL	String	This URL specifies the application to which the user is allowed access.For example: myapp.stg.axonize.com or myapp.stg.axonize.com/ mysubapp.The url can be added with, or without http\s prefix.	Y
Email	String	User email	Y

Property	Type	Description	Mandatory
Password	String	User password	Y

For example –

```
curl -X POST \

  https://api.stg.axonize.com/api/auth/login \

  -H 'Content-Type: application/json' \

  -d '{"email":"demo@user.com","password":"somePassword",

  "url":"demoapp.stg.axonize.com"}'
```

Response Properties

Property	Type	Description
Name	String	The user name.
Token	String	The authorization token that enables access to the IoT Platform REST API.
RedirectURL	String	For Internal use. The URL for SSO integration.

200 OK

```
{

    "name": "some user name",

    "token": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9",

    "redirectUrl": null

}
```

If the login user name (email) or password is incorrect, then the response is **401**.

See Also Authentication/Request Headers and API Response Codes.

Logging In Using Multi-factor Authentication

Multi-factor Authentication (MFA) is a method of verifying a user's identity, which requires that the user present more than one piece of identifying information. This method provides an additional layer of security, decreasing the likelihood of unauthorized access.

IoT Platform supports an optional MFA mechanism on its authentication gateway, which is currently implemented by the IoT Platform REST API. IoT Platform 's MFA mechanism is not enabled by default, and must be enabled by editing the **enableMultiFactorAuthentication** property on the relevant Application endpoint. When MFA is enabled for an Application, the IoT Platform system provides a second factor binding code using one of the supported Multifactor Authenticators (SMS or Email).

In order to log in to the IoT Platform Portal and the IoT Platform API, you should obtain the IoT Platform authentication token. If the MFA mechanism is enabled, the following flow applies. The objective of this flow is to obtain IoT Platform 's authentication –

- The IoT Platform system provides a second factor binding code using one of the supported Multifactor Authenticators (SMS or Email). If the user has a mobile number that has been saved in the IoT Platform system, the user is sent an SMS that contains the binding code. Otherwise, the user is sent an email containing the binding code in the MFA login response.

- After the user receives the binding code (either by SMS or email), the user can log in using an **Auth/verifyMultifactorBindingCode** If the parameters supplied in this request are valid, the user can use the provided authentication token to access IoT Platform REST API endpoints. In this case, a 200 OK status code is returned in the **Auth/verifyMultifactorBindingCode** response.

The following shows the login response when all login request parameters are OK and MFA is enabled –

```
[DataContract(Name = "mfaLoginResponse")]

public class MFALoginResponse

{

    [DataMember(Name = "token")]

    public string Token { get; set; }

    [DataMember(Name = "authenticatorCode")]

    public string AuthenticatorCode { get; set; }

    [DataMember(Name = "authenticator")]

    public string Authenticator { get; set; }
```

```
    }
```

Troubleshooting Login Problems

Use the following to troubleshoot login problems.

Problem	Solution
Receive a warning during the initial start password reset	If you get a warning that the password cannot be reset, you are either using a different email address than the one given for the registration or the link has already expired. In this case, reset the URL in your browser by entering the URL that was sent to you and click **Forgot password**.
Receive a *Token expired* error during the initial start password reset	If the link to the password reset already expired, you see a *Token expired* message. In this case, reset the URL in your browser by entering the URL that was sent to you and click **Forgot password**.

Gateways Endpoints

A Gateway is an endpoint service for getting outbound connections from external sources.

- Gateways/Post
- Gateways/Get(List)
- Gateways/Get (Specific)
- Gateways/Delete
- Gateways/Patch or Gateways/Put
- Gateways/Update Service
- Gateways/Install Service
- Gateways/Delete Service
- Gateways/Create and install

Gateways/Post

POST /odata/gateways

Description: Creating a new Gateway

Request – Gateways/Post

Property	Type	Description	Mandatory
name	String	The name of the gateway	
namespace	String	(Internal Use) The K8S namespace where the gateway is deployed	Internal Use
type	Enum	The type of the gateway – HttpGatewayProducer – 7 – http gateway endpoint	Yes

Property	Type	Description	Mandatory
		– IotHubGateway – 8 – iothub endpoint	
datastructureEndpoint	String	Not in use	
authKey	String	The authentication header for the HTTP gateway endpoint – created internally.	
iothubUrl	String	The IoT hub connection string for IoT Hub endpoint – created internally.	
gatewayDeviceId	String	The id of the device that acts as a virtual device gateway	
productId	String	The product of the device that acts as a virtual device gateway. In addition, it's the default product when devices are created with auto discovery.	
image	String	Not in use	
port	Integer	The port for the HTTP gateway endpoint – created internally.	

Property	Type	Description	Mandatory
ip	String	The IP for the HTTP gateway endpoint – created internally.	
url	String	The URL of the HTTP gateway endpoint – created internally.	
status	Enum	The status of the gateway – Installed – 0 – the gateway is deployed – Deleted – 1 – the gateway is deleted – NotInstalled – 2 – the gateway is not deployed	
manufacturer	String	The device manufacturer	

Example JSON Gateways/Post request

Example Response Gateways/Post

Gateways/Get(List)

Get /odata/gateways

Description: Retrieves a list of all the Gateways assigned to the specified application.

Example JSON Gateways/Get (List) Request

```
curl -X GET \
```

```
https://api.axonize.com/odata/gateways \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B221234' \
```

Example JSON Gateways/Get (List) Response

Status 200 – OK

```
{

"@odata.context": "https://10.10.2.103/odata/$metadata#Gateways",

"value": [

{

"type": "HttpGatewayProducer",

"namespace": "ssg",

"name": "gw-5p6hm",

"datastructureEndpoint": null,

"authKey": "",

"iothubUrl": "",

"gatewayDeviceId": "5dee1f1ce3b0c76550c51324",

"productId": "5dd24b95e3b0cc5f50cf1234",

"port": 8020,

"ip": "51.137.115.111",

"url": "",

"status": "Installed",

"manufacturer": "Amazon",

"id": "5dee1f1de3b0c76550c51234",

"appId": "f5b62d39-d05d-4563-8442-0ebaa8f61234",

"createDate": "2019-12-09T10:17:01.172Z",

"createUser": "1234",
```

“updateDate”: “2019-12-09T10:17:08.062Z”,

“updateUser”: “1234”,

“image”: null

},

{

“type”: “HttpGatewayProducer”,

“namespace”: “ssg”,

“name”: “gw-5p123”,

“datastructureEndpoint”: null,

“authKey”: “”,

“iothubUrl”: “”,

“gatewayDeviceId”: “5dee1f1ce3b0c76550c51324”,

“productId”: “5dd24b95e3b0cc5f50cf1234”,

“port”: 8020,

“ip”: “51.137.115.111”,

“url”: “”,

“status”: “Installed”,

“manufacturer”: “Amazon”,

“id”: “5dee1f1de3b0c76550c51234”,

“appId”: “f5b62d39-d05d-4563-8442-0ebaa8f61234”,

“createDate”: “2019-12-09T10:17:01.172Z”,

“createUser”: “1234”,

“updateDate”: “2019-12-09T10:17:08.062Z”,

“updateUser”: “1234”,

“image”: null

}

]

}

Gateways/Get (Specific)

Get /odata/gateways/[gatewayId]

Description: Retrives the details of a specific gateway, as specified by the gateways ID.

Request – gateways/Get (Specific)

Property	Type	Description	Mandatory
gatewayId	String	This is the unique identifier automatically assigned by IoT Platform when a Gateway is created. This gatewayId is returned in the response of the Gateways/ Post.	Y

Request – gateways/Get (Specific)

Example JSON Gateways/Get (Specific) Request

```
curl -X GET \

https://api.axonize.com/odata/gateways/58c6898fb88c391588c91234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B221234' \
```

Example JSON Gateways/Get (Specific) Response

Status 200 – OK

{

"@odata.context": "https://10.10.2.103/odata/$metadata#Gateways/$entity",

"type": "HttpGatewayProducer",

"namespace": "ssg",

"name": "gw-5p6hm",

"datastructureEndpoint": null,

"authKey": "",

"iothubUrl": "",

"gatewayDeviceId": "5dee1f1ce3b0c76550c51234",

"productId": "5dd24b95e3b0cc5f50cf1234",

"port": 8020,

"ip": "",

"url": "",

"status": "Installed",

"manufacturer": "Amazon",

"id": "5dee1f1de3b0c76550c51234",

"appId": "f5b62d39-d05d-4563-8442-0ebaa8f61344",

"createDate": "2019-12-09T10:17:01.172Z",

"createUser": "1234",

"updateDate": "2019-12-09T10:17:08.062Z",

"updateUser": "1234",

"image": null

}

Gateways/Delete

DELETE /odata/Gateways/[gatewayId]

Request – Gateways/Delete

Property	Type	Description	Mandatory
gatewayId	String	This is the unique identifier automatically assigned by IoT Platform when a gateway is created. This gatewayId is returned in the response of the Gateway/Post.	Y

Example JSON Devices/Delete

```
curl -X DELETE \

https://api.axonize.com/odata/gateways/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B221234' \
```

Response – Devices/Delete

Status 200 – OK

Gateways/Patch or Gateways/Put

PATCH /odata/Gateways/[gatewayId]

```
curl -X PATCH \

https://api.stg.axonize.com/odata/gateways/592139084d27e710e80f1234 \
```

```
-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B221234' \

-d '{

"name":"test"

}

'
```

Response – Devices/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Devices/Patch/Put Response

Status 204 – No Content – The server has successfully fulfilled the request.

Gateways/Update Service

Missing

Gateways/Install Service

POST /odata/Gateways/[gatewayId]/installService

Description: Install the gateway

Example JSON Gateways/installService Request

```
curl -X POST \

https://api.axonize.com/odata/gateways/592139084d27e710e80f1234/installService">

https://api.axonize.com/odata/gateways/592139084d27e710e80f1234/installService
```

```
-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B221234'
```

Response – Gateways/installService

Status 200 – OK

Gateways/Delete Service

POST /odata/Gateways/[gatewayId]/deleteService

Description: Delete the gateway

Example JSON Gateways/deleteService Request

```
curl -X POST \

https://api.axonize.com/odata/gateways/592139084d27e710e80f1234/deleteService">https://
api.axonize.com/odata/gateways/592139084d27e710e80f1234/deleteService

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B221234'

'
```

Response – Gateways/deleteService

Status 200 – OK

Gateways/Create and install

POST /odata/gateways/createAndInstall

Description: Create a new gateway and install it

Example JSON Gateways/createAndInstall Request

```
curl –location –request POST 'https://api.axonize.com/odata/gateways/CreateAndInstall' \

–header 'appId: f8f00892-90b5-4287-8bc1-bd2bce2e1234' \

–header 'Authorization: Token' \

–header 'Content-Type: application/json' \

–data-raw '{

"type": "HttpGatewayProducer",

"productId": "5db57009e3b0c721d8351234",

"name": "NestGatewey",

"manufacturer": "Nest"

}'
```

Response – Gateways/createAndInstall

Status 200 – OK

See Gateways/Get (Specific).

Schema Definition Endpoints

Schema definition helps you define the schema that translates external payloads to the IoT Platform payload. By defining a schema definition we let the user decide on how IoT Platform will parse the payload.

- Schema Definitions/Post
- Schema Definitions/Get (List)
- Schema Definitions/Get (Specific)
- Schema Definitions/Delete
- SchemaDefinitions/Patch or SchemaDefinitions/put
- Schema Definitions/ Parse

Schema Definitions/Post

POST /odata/schemaDefinitions

Description: To create a new Schema Definition.

Request – Schema Definitions/Post

Property	Type	Description	Mandatory
name	String	The name of the schema	
parserType	String/Enum	Parser Type – the type of the incoming payload. • JsonParser – the payload is JSON • StringParser – the payload is String.	

Property	Type	Description	Mandatory
		• LorawanParser – the payload is Lorawan.	
schemaOptions	Object	The definition of the schema.	
schemaOptions/ bulk	Object	For use cases where the incoming payload is array.	
schemaOptions/ bulk/ porpertyName	String	The property that indicates the array in the payload.	
schemaOptions/ bulk/ isEnabled	Boolean	Default = true, should it parse the payload as array. If no property name is declared, it will consider the json as array on the root level.	
schemaOptions/ autoDiscovery	Object	Auto Discovery is the option where new devices are added automatically to IoT Platform upon their first event arrival.	

Property	Type	Description	Mandatory
schemaOptions/ autoDiscovery/ enabled	Boolean	Default = true, Is Auto Discovery enabled.	
schemaOptions/ autoDiscovery/ customIdRegexFilter	String	Regex to filter the creation of specific devices. The regex is applied on the device customId.	
schemaOptions/ autoDiscovery/ customFunction	String	Function that runs as part of the auto discovery action.	
schemaOptions/ decryptPayloadFunction	String	JavaScript function that will decode the incoming payload before it enters the schema parsing.	
schemaOptions/ constants	List of Schema Constant objects	A key value object that includes constant for the schema to use.	
schemaOptions/ constants/ key	String	The key of the constant	
schemaOptions/ constants/ value	String	The value of the constant	
jsonSample	Object	Payload sample of the schema	

Property	Type	Description	Mandatory
jsonSample/ content	String	The json content.	
jsonSample/ name	String	The name of the sample.	
jsonSample/ updateDate	String	The date where the sample was updated.	
schema	List of SchemaObject Objects		
schema/ attributePath	String	The name of the json key.	
schema/ convertInfo	Object		
schema/ convertInfo/ functionType	String/Enum	The type of functions • undefined. • customFunction – user defined function. • multiply – multiply the value by the specified parameter. • decToHex – convert the value from decimal to hex.	

Property	Type	Description	Mandatory
		• hexToDec – convert the value from hex to decimal.	
		• epochToDateTime – epoch date time to iso8601 format.	
		• substring – extract the characters of the value between the two specified parameters.	
schema/ convertInfo/ parameters	List of Strings	The parameters for the predefined function.	
schema/ covertInfo/ customFunction	String	JavaScript function.	
schema/ actionType	String/Enum	The IoT Platform type of json key	
		• Event – the json	

Property	Type	Description	Mandatory
		key is Event.	
		• Patch – the json key that should patch the device property.	
		• CustomId – The external device identifier.	
		• Datetime – the json key that indices the event time.	
schema/ event	Event Schema Object	Describes how to build the event.	
schema/ event/name	String	The event name.	
schema/ event/ typeCode	Integer	The event type code.	
schema/ event/unit	String	The event unit.	
schema/ patch	Patch Schema Object	The name of the property	

Property	Type	Description	Mandatory
		to patch in the device.	

Example JSON Devices/Post

Example JSON Devices/Post Request

curl 'https://api.axonize.com/odata/schemaDefinitions' -H 'Authorization: Your token' -H 'Content-Type: application/json;charset=UTF-8' -H

'appId: 9b96eab8-fa25-4549-925d-da8ecf9a1234' –data-binary '{"jsonSample": {"name":"payload.json","content":"{\"serial\":\"1234\",\"temp\":34}",

"updateDate":"2019-12-17T15:08:20.115Z"},"parserType":"JsonParser","schema": [{"attributePath":"serial","actionType":"CustomId",

"convertInfo":{"functionType":null,"parameters":[]}},{"actionType":"Event","event": {"name":"Temperature","typeCode":7},"attributePath":"temp"}],

"name":"usfhzq"}' –compressed

Example JSON Devices/Post Response

Status 201 – Created

{"@odata.context":"https://10.10.2.103/odata/$metadata#SchemaDefinitions/ $entity","name":"usfhzq","parserType":"JsonParser","id":"5df8ef8be3b0c7194448030d",

"appId":"9b96eab8-fa25-4549-925d-da8ecf9a9b34","createDate":"2019-12-17T15:08:59.5117694Z","createUser":"1234",

"updateDate":"2019-12-17T15:08:59.5117694Z","updateUser":"1234","schema": [{"attributePath":"serial","actionType":"CustomId",

"convertInfo":{"functionType":null,"parameters":[],"customFunction":null},"convertPipeline": [],"event":null,"patch":null},

{"attributePath":"temp","actionType":"Event","convertInfo":null,"convertPipeline":[],"event": {"name":"Temperature","typeCode":7,"unit":null},"patch":null}],

"options":null,"jsonSample":{"content":"{\"serial\":\"1234\",\"temp \":34}","name":"payload.json","updateDate":"2019-12-17T15:08:20.115Z"}}

Schema Definitions/Get (List)

Description: Get a list of all Schema Definitions assigned to the specified application.

```
curl -X GET \

https://api.axonize.com/odata/schemadefinitions/ \

-H 'appId: 9b96eab8-fa25-4549-925d-da8ecf9a1234' \

-H 'authorization: your token'
```

Response – Devices/Get (List)

Example JSON Devices/Get (List) Response

```
{

"@odata.context": "https://odata/$metadata#SchemaDefinitions",

"value": [

{

"name": "cidds9",

"parserType": "JsonParser",

"id": "5df88b80e3b0cd1a80501234",

"appId": "9b96eab8-fa25-4549-925d- da8ecf9a1234",

"createDate": "2019-12-17T08:02:08.419Z",

"createUser": "1234",

"updateDate": "2019-12-17T08:02:08.419Z",

"updateUser": "1234",

"schema": [

{

"attributePath": "sensor_serial",

"actionType": "CustomId",
```

“convertInfo”: {

“functionType”: null,

“parameters”: [],

“customFunction”: null

},

“convertPipeline”: [],

“event”: null,

“patch”: null

},

{

“attributePath”: “thetime”,

“actionType”: “Datetime”,

“convertInfo”: {

“functionType”: null,

“parameters”: [],

“customFunction”: null

},

“convertPipeline”: [],

“event”: null,

“patch”: null

},

{

“attributePath”: “temperature”,

“actionType”: “Event”,

“convertInfo”: null,

“convertPipeline”: [],

“event”: {

“name”: “Temperature”,

“typeCode”: 7,

“unit”: “C”

```json
    },
    "patch": null
  },
  {
    "attributePath": "humidity",
    "actionType": "Event",
    "convertInfo": {
      "functionType": "hexToDec",
      "parameters": [],
      "customFunction": null
    },
    "convertPipeline": [],
    "event": {
      "name": "Humidity",
      "typeCode": 8,
      "unit": "%"
    },
    "patch": null
  },
  {
    "attributePath": "co2",
    "actionType": "Event",
    "convertInfo": null,
    "convertPipeline": [],
    "event": {
      "name": "CO2",
      "typeCode": 1008,
      "unit": "ppm"
    },
    "patch": null
```

```
        }

    ],

    "options": null,

    "jsonSample": {

        "content": "{\"sensor_serial\":\"123124\",\"thetime\":\"2019-11-14T11:20:50.52Z\",\"temperature\":22,\"humidity\":45,\"co2\":1500}",

        "name": "Product temperature.json",

        "updateDate": "2019-12-17T07:56:45.983Z"

    }

},

{

    "name": "usfhzq",

    "parserType": "JsonParser",

    "id": "5df8ef8be3b0c71944481234",

    "appId": "9b96eab8-fa25-4549-925d- da8ecf9a1234",

    "createDate": "2019-12-17T15:08:59.511Z",

    "createUser": "1234",

    "updateDate": "2019-12-17T15:08:59.511Z",

    "updateUser": "1234",

    "schema": [

    {

        "attributePath": "serial",

        "actionType": "CustomId",

        "convertInfo": {

            "functionType": null,

            "parameters": [],

            "customFunction": null

        },

        "convertPipeline": [],

        "event": null,

        "patch": null
```

```
},

{

"attributePath": "temp",

"actionType": "Event",

"convertInfo": null,

"convertPipeline": [],

"event": {

"name": "Temperature",

"typeCode": 7,

"unit": null

},

"patch": null

}

],

"options": null,

"jsonSample": {

"content": "{\"serial\":\"1234\",\"temp\":34}",

"name": "payload.json",

"updateDate": "2019-12-17T15:08:20.115Z"

}

}

]

}
```

Schema Definitions/Get (Specific)

GET /odata/schemaDefinitions/[schema definition id]

Description: Retrieves the details of a specific Schema Definition.

Request – SchemaDefinitions/Get (Specific)

Property	Type	Description	Mandatory
schema definition id	String	This is the unique identifier automatically assigned by IoT Platform when a Schema Definition is created. This schema definition ID is returned in the response of the [Devices/Post]().	

Example JSON SchemaDefinitions/Get (Specific)

Example JSON SchemaDefinitions/Get (Specific) Request

```
curl -X GET \
https://api.axonize.com/odata/schemadefinitions/5df88b80e3b0cd1a80501234 \
-H 'appId: 9b96eab8-fa25-4549-925d-da8ecf9a1234' \
-H 'authorization: Token'
```

Example JSON SchemaDefinitions/Get (Specific) Response

```
{
"@odata.context": "https:// /odata/$metadata#SchemaDefinitions/$entity",
"name": "cidds9",
"parserType": "JsonParser",
```

"id": "5df88b80e3b0cd1a80501234",

"appId": "9b96eab8-fa25-4549-925d-da8ecf9a1234",

"createDate": "2019-12-17T08:02:08.419Z",

"createUser": "1234",

"updateDate": "2019-12-17T08:02:08.419Z",

"updateUser": "1234",

"schema": [

{

"attributePath": "sensor_serial",

"actionType": "CustomId",

"convertInfo": {

"functionType": null,

"parameters": [],

"customFunction": null

},

"convertPipeline": [],

"event": null,

"patch": null

},

{

"attributePath": "thetime",

"actionType": "Datetime",

"convertInfo": {

"functionType": null,

"parameters": [],

"customFunction": null

},

"convertPipeline": [],

"event": null,

"patch": null

Example JSON SchemaDefinitions/Get (Specific)   69

```json
    },
    {
    "attributePath": "temperature",
    "actionType": "Event",
    "convertInfo": null,
    "convertPipeline": [],
    "event": {
    "name": "Temperature",
    "typeCode": 7,
    "unit": "C"
    },
    "patch": null
    },
    {
    "attributePath": "humidity",
    "actionType": "Event",
    "convertInfo": {
    "functionType": "hexToDec",
    "parameters": [],
    "customFunction": null
    },
    "convertPipeline": [],
    "event": {
    "name": "Humidity",
    "typeCode": 8,
    "unit": "%"
    },
    "patch": null
    },
    {
```

Example JSON SchemaDefinitions/Get (Specific)

“attributePath”: “co2”,

“actionType”: “Event”,

“convertInfo”: null,

“convertPipeline”: [],

“event”: {

“name”: “CO2”,

“typeCode”: 1008,

“unit”: “ppm”

},

“patch”: null

}

],

“options”: null,

“jsonSample”: {

“content”: “{\"sensor_serial\":\"123124\",\"thetime\":\"2019-11-14T11:20:50.52Z\",\"temperature\":22,\"humidity\":45,\"co2\":1500}",

“name”: “Product temperature.json”,

“updateDate”: “2019-12-17T07:56:45.983Z”

}

}

Schema Definitions/Delete

DELETE /odata/schemaDefinitions/[schema definition id]

Description

Deletes the details of a specific Schema Definition, as specified by the Schema Definition ID. This Schema Definition ID is returned in the response of the SchemaDefinitions/Post.

Request – SchemaDefinitions/Delete

Request – SchemaDefinitions/Delete

Property	Type	Description	Mandatory
schema definition id	String	This is the unique identifier automatically assigned by IoT Platform when a Schema Definition is created. This schema definition ID is returned in the response of the Devices/ Post.	

Example JSON SchemaDefinitions/Delete Request

```
curl -X DELETE \

https://api.axonize.com/odata/schemaDefinitions/5df88b80e3b0cd1a80501234 \

-H 'appId: 9b96eab8-fa25-4549-925d-da8ecf9a1234' \

-H 'authorization: Token'
```

Response – SchemaDefinitions/Delete

Status 200 – OK

SchemaDefinitions/Patch or SchemaDefinitions/put

PATCH /odata/SchemaDefinitions/Patch/userId

Description

To update an existing IoT Platform Schema Definition.

Request – SchemaDefinitions/Patch or Put

Property	Type	Description	Mandatory
schema definition id	String	This is the unique identifier automatically assigned by IoT Platform when a Schema Definition is created. This schema definition ID is returned in the response of the Devices/Post.	

Example JSON SchemaDefinitions/Patch

Example JSON SchemaDefinitions/Patch Request

The following is an example of changing a SchemaDefinition's **name** to **test**.

```
curl -X PATCH \

https://api.axonize.com/odata/schemaDefinitions/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

"name":"test"

}

'
```

Example JSON Devices/Patch/Put Response

Status 204 – No Content – The server has successfully fulfilled the request.

Schema Definitions/ Parse

/odata/schemaDefinitions/Parse

Description

The parse action enables you to test your schema correctness with a specific payload. In response, you can retrieve the IoT Platform event that was created, or send the event to the actual device if it exists.

Parse

Property	Type	Description	Mandatory
schemaDefinition	Schema Definition Object	The schema definition as described above	
deviceId	String	The device ID	No
Productid	String	The device product ID	
Payload	String	The Json payload	
sendToHub	Boolean	Send the parsed event to IoT Hub – will work if there is a valid device.	

Example JSON – parse

Example JSON – parse

curl 'https://api.axonize.com/odata/schemaDefinitions/Parse' -H 'Authorization: your token' -H

'Content-Type: application/json;charset=UTF-8' -H 'appId: your app id' –data-binary

'{"schemaDefinition":
{"name":"cidds9","parserType":"JsonParser","id":"5df88b80e3b0cd1a805030d4","appId":"your
 app id",

"createDate":"2019-12-17T08:02:08.419Z","createUser":"1234","updateDate":"2019-12-17T08:02:08.419Z","updateUser

"schema":[{"attributePath":"sensor_serial","actionType":"CustomId","convertInfo":
{"functionType":null,"parameters":[],

"customFunction":null},"convertPipeline":[],"event":null,"patch":null},
{"attributePath":"thetime","actionType":"Datetime",

"convertInfo":{"functionType":null,"parameters":[],"customFunction":null},"convertPipeline":
[],"event":null,"patch":null},

{"attributePath":"temperature","actionType":"Event","convertInfo":null,"convertPipeline":
[],"event":{"name":"Temperature",

"typeCode":7,"unit":"C"},"patch":null},
{"attributePath":"humidity","actionType":"Event","convertInfo":{"functionType":"hexToDec",

"parameters":[],"customFunction":null},"convertPipeline":[],"event":
{"name":"Humidity","typeCode":8,"unit":"%"},"patch":null},

{"attributePath":"co2","actionType":"Event","convertInfo":null,"convertPipeline":[],

"event":{"name":"CO2","typeCode":1008,"unit":"ppm"},"patch":null}],"options":null,

"jsonSample":{"content":"{\"sensor_serial\":\"123124\",\"thetime\":\"2019-11-14T11:20:50.52Z\",
\"temperature\":22,\"humidity\":45,\"co2\":1500}",

"name":"Product
 temperature.json","updateDate":"2019-12-17T07:56:45.983Z"}},"productId":"5df88a02e3b0cc1864491234",

"payload":"{\"sensor_serial\":\"123124\",\"thetime\":\"2019-11-14T11:20:50.52Z\",\"temperature
\":22,\"humidity\":45,\"co2\":1500}",

"sendToHub":false}' –compressed

JSON response –

Status 200 – ok

{"@odata.context":"https://10.10.2.103/odata/$metadata#Edm.String","value":"[

{\"app_id\":\"607bebf7-84bd-4ab9-be55-51b2d5e255e4\",\"product_id\":
\"5d4be80ae3b0c719946b9275\",

\"device_id\":\"5cf7df56e3b0cd3dd06ed533\",\"dateTime\":\"2019-12-19T13:03:02.189Z\",

\"type\":7,\"name\":\"Temperature\",\"value\":34}]"}

Example JSON – parse

Tenants Endpoints

A Tenant is a representation of an organization. It is an instance of the IoT Platform services and infrastructure that an organization receives when the organization creates a relationship with IoT Platform .

You can see **Tenants** for more detailed description.

IoT Platform provides a variety of endpoints for handling Tenants, as follows –

- Tenants/Post
- Things/Get (List)
- Tenants/Get (Specific)
- Tenants/Delete
- Tenants/Patch or Tenants/Put

Tenants/Post

POST /odata/Tenants

Description

To create a new **Tenant** or **Sub-tenant**.

For request and response details, see Request – Tenants/Post and Response – Tenants/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Tenants/Post

Request – Tenants/Post

Property	Type	Description	Mandatory
active	Boolean	Specifies whether the Tenant is active, meaning that it can be used – True/False.	
appId	String	The unique identifier of this Tenant's Master Application that is generated automatically. A	Y

Property	Type	Description	Mandatory
		Master Application is the Application that enables the management of all/any of the Applications within a Tenant and all its Sub-tenants. Each Tenant has a single Master Application.	
subdomain	String	The subdomain is the unique identifier of the Tenant and is also used as the Tenant URL, [tenant subdomain].axonize.com.	Y
parentId	String	Specifies the ID of the parent Tenant of this Tenant. This property enables you to define Sub-tenants. This property is mandatory because external users are only allowed to create sub#Tenants.	Y
name	String	The Tenant's name.	Y
ancestors	Array	Lists the IDs of the ancestor Tenants (parents, parents of parents and so on) of this Tenant, in no particular order.	
parentId	String	Specifies the ID of the parent Tenant of this Tenant. This property enables you to define Sub-tenants.	
urls	Array of Strings	Enter your own URL here in order to enable this Tenant to be accessed via this URL instead of the	

Property	Type	Description	Mandatory
		default URL provided by IoT Platform , which uses tenantname.axonize.com.	
		Important Notes – These URLs must be coordinated with IoT Platform support in order to be handled properly. Make sure to contact IoT Platform support and get their authorization to use specific URLs.	
applications	Array of Applications	Not in use.	
additionalProperties	Array of serviceProperty	Not in use.	
region	String	Not in use.	
logo	String	Not in use (deprecated). A link to the logo representing the Tenant to be used in the IoT Platform Portal.	
color	String	Not in use (deprecated). Specifies the color of the light theme used when displaying the IoT Platform Portal. The color is specified in Hex Color code format. For example, white is #FFFFFF.	
colorDark	String	Not in use (deprecated). Specifies the color of the dark theme used	

Property	Type	Description	Mandatory
		when displaying the IoT Platform Portal. The color is specified in Hex Color code format.	
		For example, black is #000000.	
cultureInfo	String	Not in use (deprecated). Default localization information of the Application. These standard options include the language of the Application and are described at https://msdn.microsoft.com/en-us/library/system.globalization.cultureinfo(vs.71).aspx.	
reportPrefix	String	Not in use (deprecated). The name of the report generated for this Tenant.	
reportColor	String	Not in use (deprecated). Specifies the background color of the generated report. The color is specified in Hex Color code format. For example, white is #FFFFFF.	
timezone	String	Not in use (deprecated). The default timezone of the Tenant. https://en.wikipedia.org/wiki/List_of_tz_database_time_zones "timezone":"Asia/Jerusalem"	
passwordPolicy		Not in use (deprecated). The	

Property	Type	Description	Mandatory
		password policy for logging into this Tenant. If a Sub-tenant has a password policy, then it overrides the Tenant. If the Application of this Tenant has a password policy, then it overrides the Tenant's password Policy. See below.	
passwordPolicy/ maxPasswordLength	Integer	Not in use (deprecated). The maximum length of the password.	
passwordPolicy/ minPasswordLength	Integer	Not in use (deprecated). The minimum length of the password.	
passwordPolicy/ numberOfDifferentCharTypes	Integer	Not in use (deprecated). The minimum number of characters in the password that must be different from each other.	
passwordPolicy/ mustBeDifferentFromUserName	Boolean	Not in use (deprecated). True if the password must be different than the user name.	
security	Object	Not in use (deprecated). Currently, the only security option is **captchaSettings**, as described below.	
captchaSettings	Object	Not in use (deprecated). The captcha settings.	

Property	Type	Description	Mandatory
captchaSettings/ Enabled	Boolean	Not in use (deprecated). Indicates whether captcha is enabled or disabled.	
captchaSettings/ authenticationAttemptsAllowed	Integer	Not in use (deprecated). The number of attempts you are allowed to solve this captcha.	
templateId	String	Specifies the ID of the Tenant Manifest (template) used by the Tenant. If no value is specified, the default value is automatically used.	
settings	Object	Specifies the settings to be applied in the Tenant Manifest (template). These settings override the values in the Tenant Manifest (template) assigned to the Tenant.	
settings/logo	String	A link to the logo representing the Tenant to be used in the IoT Platform Portal.	
settings/color	String	Specifies the color of the light theme used when displaying the IoT Platform Portal. The color is specified in Hex Color code format. For example, white is #FFFFFF.	
settings/colorDark	String	Specifies the color of the dark theme used when displaying the	

Property	Type	Description	Mandatory
		IoT Platform Portal. The color is specified in Hex Color code format.	
		For example, black is #000000.	
settings/cultureInfo	String	Default localization information of the Application. These standard options include the language of the Application and are described at https://msdn.microsoft.com/en-us/library/system.globalization.cultureinfo(vs.71).aspx.	
settings/reportPrefix	String	The name of the report generated for this Tenant.	
settings/reportColor	String	Specifies the background color of the generated report. The color is specified in Hex Color code format. For example, white is #FFFFFF.	
settings/timezone	String	The default timezone of the Tenant.	
		https://en.wikipedia.org/wiki/List_of_tz_database_time_zones	
		"timezone":"Asia/Jerusalem"	
settings/passwordPolicy		The password policy for logging into this Tenant. If a Sub-tenant has a password policy, then it overrides the Tenant. If the Application of this Tenant has a password policy, then it overrides the	

Property	Type	Description	Mandatory
		Tenant's password Policy. See below.	
settings/ passwordPolicy/ maxPasswordLength	Integer	The maximum length of the password.	
settings/ passwordPolicy/ minPasswordLength	Integer	The minimum length of the password.	
settings/ passwordPolicy/ numberOfDifferentCharTypes	Integer	The minimum number of characters in the password that must be different from each other.	
settings/ passwordPolicy/ mustBeDifferentFromUserName	Boolean	True if the password must be different than the user name.	
settings/security	Object	Currently, the only security option is **captchaSettings**, as described below.	
settings/ captchaSettings	Object	The captcha settings.	
settings/ captchaSettings/ Enabled	Boolean	Indicates whether captcha is enabled or disabled.	
settings/ captchaSettings/ authenticationAttemptsAllowed	Integer	The number of attempts you are allowed to solve this captcha.	

Example JSON Tenants/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/tenants/ \

-H 'Authorization: Token' \
```

```
-H 'Content-Type: application/json' \

-H 'tenantId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

"name":"tenant name",

"subdomain":"tenantSubdomain"

}
```

Response – Tenants/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
id	String	A unique identifier for this Tenant that is automatically generated. Please note that this ID is only intended for internal use by IoT Platform .
tenantId	String	A unique identifier that is automatically generated by IoT Platform for this Tenant. This property is used to link between other entities (such as Users and Devices) and this Tenant.
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Tenants/Post Response

Status 201 – Created

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Tenants/$entity",

"active": false,

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"subdomain": "fcm2m",

"logo": null,

"cultureInfo": null,

"reportPrefix": null,

"timezone":"Asia/Jerusalem"

"parentId": null,

"name": "fcm2m",

"id": "5851631d4e41925b98f01234",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"passwordPolicy": null,

"security": null,

"ancestors": []

}
```

Tenants/Get (List)

Description

Gets a list of all the Tenants to which you have access permissions.

To get the details of a specific Tenant, refer to Tenants/Get (Specific).

For request and response details, see Request – Tenants/Get (List) and Response – Tenants/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Tenants/Get (List)

Property	Type	Description	Mandatory
appId	String	The unique identifier of this Application's Master Application. A Master Application is the Application that enables the management of all/any of the Applications within a Tenant and all its Sub-tenants. Each Tenant has a single Master Application.	Y

Example JSON Tenants/Get (List) Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/tenants \

  -H 'Authorization: Token' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E '
```

Response – Tenants/Get (List)

For each Tenant, the response provides the properties in **Tenants/Post**.

Example JSON Tenants/Get (List) Response

Status 200 – OK

```
{
    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
odata/$metadata#Tenants",

    "value": [

      {

          "region": null,

          "active": false,

          "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E ",

          "subdomain": "tenant subdomain",

          "logo": null,

          "cultureInfo": null,

          "reportPrefix": null,

          "timezone":"Asia/Jerusalem"

          "parentId": null,

          "name": "fcm2m",

          "id": "5851631d4e41925b98f01234",

          "createDate": "0001-01-01T00:00:00Z",

          "createUser": null,

          "updateDate": "0001-01-01T00:00:00Z",

          "updateUser": null,

          "passwordPolicy": null,

          "security": null,

          "additionalProperties": [],

          "ancestors": []

      }

    ]
```

```
    }
```

Tenants/Get (Specific)

GET /odata/Tenants/[tenantId]

Description

Gets the details of a specific Tenant, as specified by the Tenant's ID. This Tenant ID is returned in the response of the Tenants/Post.

To get the details of all the Tenants of the Tenants allowed to the logged#in user, see Tenants/Get (List).

For request and response details, see Request – Tenants/Get (Specific) and Response – Tenants/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Tenants/Get (Specific)

Request – Tenants/Get (Specific)

Property	Type	Description	Mandatory
tenantId	String	This is the unique identifier (tenantId) that is automatically assigned by IoT Platform when a Tenant is created. This tenantId is returned in the response of the Tenants/Post.	Y

Example JSON Tenants/Get (Specific) Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/tenants/5851631d4e41925b98f01234 \

  -H 'Authorization: Token' \
```

```
-H 'appId: be517433-c4b8-4788-9258-1ba220435d63'
```

Response – Tenants/Get (Specific)

For the requested Tenant, the response provides the properties in Tenants/Post.

Example JSON Tenants/Get (Specific) Response

Status 200 – OK

```json
{
    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
odata/$metadata#Tenants/$entity",

    "region": null,

    "active": false,

    "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

    "subdomain": "tenant subdomain",

    "logo": null,

    "color": "#000000",

    "colorDark": "#FFFFFF",

    "reportColor": "#FFFFFF",

    "cultureInfo": null,

    "reportPrefix": null,

    "timezone":"Asia/Jerusalem"

    "parentId": null,

    "name": "tenant name",

    "id": "5851631d4e41925b98f01234",

    "createDate": "0001-01-01T00:00:00Z",

    "createUser": null,

    "updateDate": "0001-01-01T00:00:00Z",

    "updateUser": null,

    "passwordPolicy": null,

    "security": null,
```

```
    "additionalProperties": [],

    "ancestors": []

    "urls": []

}
```

Tenants/Delete

DELETE /odata/Tenants/[tenantId]

Description

Deletes the details of a specific Tenant, as specified by the Tenant's ID. This Tenant ID is returned in the response of the Tenants/Post.

For request and response details, see Request – Tenants/Delete and Response – Tenants/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Tenants/Delete

Request – Tenants/Delete

Property	Type	Description	Mandatory
tenantId	String	This is the unique identifier (**tenantId**) that is automatically assigned by IoT Platform when a Tenant is created. This tenantId is returned in the response of the **Tenants/ Post**.	Y

Example JSON Tenants/Delete

```
curl -X GET \
```

```
https://api.stg.axonize.com/odata/tenants/5851631d4e41925b98f01234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Tenants/Delete

Status 200 – OK

Tenants/Patch or Tenants/Put

PATCH /odata/Tenants/Patch/[tenantId] or PUT /odata/Tenants/Put/[tenantId]

Description

To update an existing Tenant.

For request and response details, see Request – Tenants/Patch or Put and Response – Tenants/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Tenants/Patch or Put

In the request, specify the ID of the Tenant whose definition to change and the name of the property(s) to change. These properties are described in Tenants/Post.

For the **Patch** endpoint, all unspecified fields remain unchanged.

For the **Put** endpoint, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
tenantId	String	This is the unique identifier (**tenantId**) that is automatically assigned by IoT Platform when a Tenant is created. This tenantId is returned	Y

Property	Type	Description	Mandatory
		in the response of the Tenants/ Post.	

Example JSON Tenants/Patch Request

The following is an example of changing a Tenant's **name** to **new tenant name**.

```
curl -X POST \

  https://api.stg.axonize.com/odata/tenants/ \

-H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

  -d '{

      "name":"new tenant name",

}

'
```

Response – Tenants/Patch or Put

Response – Tenants/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See **Common Response Properties.**

Example JSON Tenants/Patch/Put Response

Status 204 – No Content – The server has successfully fulfilled the request.

Applications Endpoints

An Application is a project managed on the IoT Platform platform. Each Application that you create can be used as a standalone portal for monitoring and controlling your IoT Devices. You can see **Applications** for more detailed description.

IoT Platform provides a variety of endpoints for handling Applications, as follows:

- Applications/Post
- Applications/Get (List)
- Applications/Get (Specific)
- Applications/Delete
- Applications/Patch or Applications/Put
- Applications/GetAppSecret
- Applications/SetDefaultPhoneCountryCode

Applications/Post

POST /odata/Applications/

Description

To create a new IoT Platform Application.

For request and response details, see Request – Applications/Post and Response – Applications/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/Post

Request – Applications/Post

Property	Type	Description	Mandatory
name	String	The name of this Application – free text.	Y
tenantId	String	The ID of the IoT Platform Tenant to which this Application belongs. This identifier is automatically generated by IoT Platform	Y

Property	Type	Description	Mandatory
		and is returned in response to the Tenants/Post endpoint.	
active	Boolean	Not in use. Specifies whether the Application is active, meaning that it can be used – True/False.	
uniqueIdentifier	String	The unique part of the URL of the Application. The default URL of an Application is tenantname.axonize.com. The **uniqueIdentifier** is added to the default URL at the end of the string, following a slash. For example, if the **uniqueIdentifier** is abc, then the URL is tenantname.axonize.com/abc.	
parentId	String	Specifies the parent Application of this Application. This property enables you to define Sub#applications. Leave this field empty if this Application does not have a parent.	Y if the Application has a Parent, otherwise N.
allowedApplications	List of Strings	For Internal use. Specifies a list of Application Ids on which this Application has permission to perform API actions.	
usersContainerDatabase	String	The ID of the database used to store the users of this Application.	
diagram	String	A link to a resource file that is a diagram that can be used in this Application instead of Google Maps.	
enableMultiFactorAuthentication	Boolean	Enables/disables Multi-factor Authentication for the Application.	

Property	Type	Description	Mandatory
logo	String	Not in use (deprecated). A link to the logo representing the Application to be used in the IoT Platform Portal.	
cultureInfo	String	Not in use (deprecated). Default localization information of the Application. These standard options include the language of the Application and are described at https://msdn.microsoft.com/en-us/library/system.globalization.cultureinfo(vs.71).aspx.	
phoneCountryCode	String	Not in use (deprecated). Specifies the default country code of the phone numbers of the users of this Application. "phoneCountryCode": +49″	
retention	Integer	Not in use (deprecated). The number of days to keep the audits of this Application in the IoT Platform database (cyclic buffer). The default is 15 days.	
timezone	String	Not in use (deprecated). The default timezone of the Application. https://en.wikipedia.org/wiki/List_of_tz_database_time_zones "timezone":"Asia/Jerusalem"	
passwordPolicy	Integer	Not in use (deprecated). The password policy for logging into this Application. See below. If no password policy is defined for the Application, the password policy of the Tenant or Sub#tenant to which it belongs is used.	

Property	Type	Description	Mandatory
passwordPolicy / maxPasswordLength	Integer	Not in use (deprecated). The maximum length of the password.	
passwordPolicy / minPasswordLength	Integer	Not in use (deprecated). The minimum length of the password.	
passwordPolicy / numberOfDifferentCharTypes	Integer	Not in use (deprecated). The minimum number of characters in the password that must be different from each other.	
passwordPolicy / mustBeDifferentFromUserName	Boolean	Not in use (deprecated). True if the password must be different than the user name.	
templateId	String	Specifies the ID of the Application Manifest (template) used by the Application. If no value is specified, the default value is automatically used.	
settings	Object	Specifies the settings to be applied in the Application Manifest (template). These settings override the values in the Application Manifest (template) assigned to the Application.	
settings/ appLogo	String	A link to the logo representing the Application to be used in the IoT Platform Portal.	
settings/ appDarkLogo	String	A link to the logo representing the Application to be used in the IoT Platform Portal when in Dark Theme mode.	
settings/ cultureInfo	String	Default localization information of the Application. These standard options include the language of the Application and are described at https://	

Property	Type	Description	Mandatory
		msdn.microsoft.com/ en-us/library/ system.globalization.cultureinfo(vs.71).aspx.	
settings/ timezone	String	The default timezone of the Application. https://en.wikipedia.org/wiki/ List_of_tz_database_time_zones "timezone":"Asia/Jerusalem"	
settings/ phoneCountryCode	String	Specifies the default country code of the phone numbers of the users of this Application. "phoneCountryCode": +49″	
settings/ passwordPolicy	Object	The password policy for logging into this Application. See above. If no password policy is defined for the Application, the password policy of the Tenant or Sub#tenant to which it belongs is used.	
settings/ retention	Integer	The number of days to keep the audits of this Application in the IoT Platform database (cyclic buffer). The default is 15 days.	
settings/format	String	The application date/time format.	
settings/ mapLayout	Object	Sets whether the default dashboard widget displays a map view or list view.	
settings/ mapOverlay	Map Overlay Object	Enables an image or diagram to be pinned over a map using an array of latitude and longitude coordinates.	
settings/ mapOverlay/ mapOverlay.image	String	The overlay image.	

Property	Type	Description	Mandatory
settings/ mapOverlay/ mapOverlay.positions	List of Objects	The overlay position coordinates.	
settings/ mapOverlay/ mapOverlay.positions/ lat	Double	The latitude position coordinate.	
settings/ mapOverlay/ mapOverlay.positions/ long	Double	The latitude position coordinate.	
settings/ viewMode	String	Indicates whether the application presents Devices over a map or diagram.	
settings/ defaultLocation	Object	The application's default latitude and longitude location.	
settings/ featureSetId	String	The ID of the feature set object that contains all the features permitted for a user.	

Example JSON Applications/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/application/ \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

"name":"app name",

"tenantId":"5851631d4e41925b98f01234",

}
```

Response – Applications/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
id	String	A unique identifier for this Application that is automatically generated. Please note that this ID is only intended for internal use by IoT Platform .
appId	String	A unique identifier that is automatically generated by IoT Platform for this Application. This property is used to link between other entities (such as Users and Devices) and this Application.
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Applications/Post Response

Status 201 – Created

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Applications/$entity",

"name": "app name",

"tenantId": "5851631d4e41925b98f01234",

"active": false,

"logo": null,

"cultureInfo": "en",

"uniqueIdentifier": "app-name",

"parentId": "be517433-c4b8-4788-9258-1ba220431234",
```

"allowedApplications": [ ],

"usersContainerDatabase": null,

"phoneCountryCode": +49″

"diagram": null,

"retention": 15,

"timezone":"Asia/Jerusalem"

"usersContainerDatabase": "ABCD",

"id": "585166654e41925b98f01234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"passwordPolicy": null,

}

Applications/Get (List)

GET /odata/Applications/

Description

Gets a list of all the Applications assigned to the requesting user. A Tenant user gets a list of all the Applications that belong to the Tenant and its Sub-tenants.

To get the details of a specific application, refer to Applications/Get (Specific).

For request and response details, see Request – Applications/Post and Response – Applications/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique identifier that is automatically	Y

Property	Type	Description	Mandatory
		generated by IoT Platform for this Application.	
		Specify the appId of the Master Application in order to receive a list of the Applications that belong to it.	

Example JSON Applications/Get (List) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/applications \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Applications/Get (List)

For each Application, the response provides the properties in Applications/Post.

Example JSON Applications/Get (List) Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Applications",

"value": [

{

"name": "Sanity",

"tenantId": "5851631d4e41925b98f01234",

"allowedOrigins": [],
```

"active": false,

"logo": null,

"cultureInfo": null,

"uniqueIdentifier": "sanity",

"parentId": "be517433-c4b8-4788-9258-1ba220431234",

"allowedApplications": [],

"usersContainerDatabase": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"phoneCountryCode": null,

"diagram": null,

"retention": 0,

"timezone":"Asia/Jerusalem"

"id": "5a84112171da9b142c306d7c",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "2018-02-14T10:36:17.113Z",

"createUser": "1234",

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"passwordPolicy": null,

"additionalProperties": []

},

{

"name": "Transport",

"tenantId": "5851631d4e41925b98f01234",

"allowedOrigins": [],

"active": false,

"logo": null,

"cultureInfo": "en",

"uniqueIdentifier": "transport",

"parentId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"allowedApplications": [

```
"63f96620-ad25-4e4f-911a-a851d9e31234"

],

"usersContainerDatabase": null,

"phoneCountryCode": null,

"diagram": null,

"retention": 15,

"timezone":"Asia/Jerusalem"

"usersContainerDatabase": "ABCD",

"id": "585166654e41925b98f01234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"passwordPolicy": null,

"additionalProperties": []

}

]

}
```

Applications/Get (Specific)

GET /odata/Applications/[applicationId]

Description

Gets the details of a specific Application, as specified by the Application's ID. This Application ID is returned in the response of the Applications/Post.

To get the details of all the applications of the Applications allowed to the logged#in user, see Applications/Get (List).

For request and response details, see Request – Applications/Get (Specific) and Response – Applications/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/Get (Specific)

Property	Type	Description	Mandatory
appId	String	A unique Application identifier (appId) that is automatically generated by IoT Platform when the Applications/ Post endpoint is used.	Y

Example JSON Applications/Get (Specific) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/applications/585166654e41925b98f08e2c \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4788-9258-1ba220435d63' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Applications/Get (Specific)

For the requested Application, the response provides the properties in Applications/Post.

Example JSON Applications/Get (Specific) Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Applications/$entity",

"name": "Transport",

"tenantId": "5851631d4e41925b98f01234",
```

"allowedOrigins": [],

"active": false,

"logo": null,

"cultureInfo": "en",

"uniqueIdentifier": "transport",

"parentId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"allowedApplications": [

"63f96620-ad25-4e4f-911a-a851d9e31234"

],

"usersContainerDatabase": null,

"phoneCountryCode": null,

"diagram": null,

"retention": 15,

"timezone":"Asia/Jerusalem"

"usersContainerDatabase": "ABCD",

"id": "585166654e41925b98f01234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"passwordPolicy": null,

"additionalProperties": []

}

Applications/Delete

DELETE /odata/Applications/[applicationId]

Description

Deletes the details of a specific Application, as specified by the Application's ID. This Application ID is returned in the response of the Applications/Post.

You cannot delete an Application that is specifically mentioned in Rule(s). You must first delete or amend the Rule(s) before the Application can be deleted. An error is returned if you attempt to delete an Application that is bound to a Rule(s).

For request and response details, see Request – Applications/Delete and Response – Applications/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/Delete

Request – Applications/Delete

Property	Type	Description	Mandatory
appId	String	A unique Application identifier (appId) that is automatically generated by IoT Platform when the Applications/ Post endpoint is used.	Y

Example JSON Applications/Delete

```
curl -X GET \

https://api.stg.axonize.com/odata/applications/585166654e41925b98f01234\

-H 'Authorization: Token' \holds

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Applications/Delete

Status 200 – OK

Applications/Patch or Applications/Put

PATCH /odata/Applications/Patch/[applicationId] or PUT /odata/Applications/Put/[applicationId].

Description

To update an existing IoT Platform Application.

For request and response details, see Request – Applications/Patch or Put and Response – Audits/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/Patch or Put

In the request, specify the ID of the Application whose definition to change and the name of the property(s) to change. These properties are described in Applications/Post.

For the **Patch** endpoint, all unspecified fields remain unchanged.

For the **Put** endpoint, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
appId	String	A unique Application identifier (appId) that is automatically generated by IoT Platform when the Applications/Post endpoint is used.	Y
name	String	The name of this Application – free text.	Y (Only for Put)

Example JSON Applications/Patch Request

The following is an example of changing the Application's **name** to **test**.

https://api.stg.axonize.com/odata/applications/585166654e41925b98f01234\

-H 'Authorization: Token' \

```
-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

"name":"test"

}
```

Response – Applications/Patch or Put

Response – Applications/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Applications/Patch/Put Response

Status 204 – No Content. The server has successfully fulfilled the request.

Applications/GetAppSecret

GET /odata/Applications/[applicationId]/GetAppSecret

Description

IoT Platform provides a default ready-made Application that you can use as a basis for customizing your own Applications.

After you contact IoT Platform , you will receive the **Client ID** and **Client Secret** credentials to be included in the requests sent to the IoT Platform REST API from the main Application.

After you create a new application using **Application/Post**, you can use the original **Client ID** and **Client Secret** credentials (described above) in the **Applications/GetAppSecret** endpoint to get the additional **Client ID** and **Client Secret** credentials for the newly created Application.

Note – The **Client ID** is the **appId** and the **AppSecret** is the **Client Secret**.

For request and response details, see Request – Applications/GetAppSecret and Response – Applications/GetAppSecret.

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/GetAppSecret

Request – Applications/GetAppSecret

Property	Type	Description	Mandatory
appId	String	The identifier of the new application for which you want to get new **Client ID** and **Client Secret** credentials. This **appId** was returned in the response to the Applications/ Post endpoint.	Y

Example JSON Applications/GetAppSecret Request

```
curl -X GET \

https://api.stg.axonize.com/odata/applications/5a84112171da9b142c301234/getappsecret/ \

-H 'Authorization: Token' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Applications/GetAppSecret

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties:

Property	Type	Description
value	String	The App secret.

Example JSON Applications/GetAppSecret Response

200 OK

```
{
```

“value”: “7b031234-233a-48fe-4444-8563dd9f1234”

}

Applications/SetDefaultPhoneCountryCode

GET /odata/Applications/SetDefaultPhoneCountryCode

Description

Sets the default country code that is used for sending SMS notifications or calling the user. Setting this country code for a master application also applies the default phone country code to all of the application's sub#applications.

For request and response details, see Request – Applications/ SetDefaultPhoneCountryCode and Response – Applications/ SetDefaultPhoneCountryCode.

See Also Authentication/Request Headers and API Response Codes.

Request – Applications/SetDefaultPhoneCountryCode

Property	Type	Description	Mandatory
masterAppId	String	The identifier of the application for which to set the default country code.	
phoneCountryCode	String	The phone country code.	

Example JSON Applications/SetDefaultPhoneCountryCode Request

```
curl -X POST \

https://api.stg.axonize.com /odata/applications/setDefaultPhoneCountryCode \

-H 'Cache-Control: no-cache' \

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4748-9258-1b1234567890' \
```

```
-d '{"masterAppId":"be517433-c4b8-4788-9258-1b1234567890","phoneCountryCode":"+972"}'
```

Response – Applications/SetDefaultPhoneCountryCode

Example JSON Applications/SetDefaultPhoneCountryCode Response

Status 200 – OK

Products Endpoints

The Product sets the type of Device, such as an elevator, car, lock, heat sensor and so on. In IoT Platform , a Product enables the grouping of Devices according to their type.

The Product defines the properties that are assigned to each Device that has the same Product type. For example, all Devices that are of type **Phillips** have the same Product.

Each Product belongs to a specific Tenant, Sub-tenant or Application.

IoT Platform provides a variety of API requests for handling Products, as follows:

- Products/Post
- Products/Get (List)
- Products/Get (Specific)
- Products/Delete
- Products/Patch or Products/Put
- Products/UploadFirmwareFile
- Products/RemoveFirmwareFile

Products/Post

POST /odata/Products/

Description

To create a new Product.

For request and response details, see Request – Products/Post and Response – Products/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Products/Post

Properties for Products are organized hierarchically by object. The hierarchy of objects for the Products/Post request properties is as follows –

- **products (general)**
- **serviceCommand**
- **serviceEvent**
- **serviceProperty**
- **mediaSettings**

- **tooltipElement**
- **commandArgument**
- **valueRange**
- **eventLoggingSettings**
- **aggregatedEventSettings**
- **commandServiceProperty**
- **additionalProperty**

The properties for each of the objects listed above are described in the sections that follow. Each object has its own section and table of properties.

Request – Products/Post – Products (General) Properties

Property	Type	Description	Mandatory
name	String	The free-text name of the Product.	Y
description	String	The free text description of the Product.	
icon	String	A link to the default icon to represent Devices of this Product type.	
customIdDisplay	Boolean	The **customID** of a Device is the Device's unique identifier in an external system. This enables the correlation of the IoT Platform Device ID with the external system's Device ID. The **customIdDisplay** specifies whether to	

Property	Type	Description	Mandatory
		show a field in the IoT Platform Portal that enables the entry of a customer ID when defining each Device of this Product. **Note – customID** is a property in the [Devices/ Post](#) request of the IoT Platform REST API.	
customIdRequired	Boolean	Specify **True** if it is mandatory to enter the **customIdDisplay** field when defining a Device of this Product (described above) in the IoT Platform Portal.	
serialNumberDisplay	Boolean	Specifies whether to show a field in the IoT Platform Portal that enables the entry of a serial number when defining each device of this Product. **serialNumber** is a property in the [Devices/](#)	

Property	Type	Description	Mandatory
		<u>Post request</u> of the IoT Platform REST API.	
serialNumberRequired	Boolean	Specify **True** if it is mandatory to enter the **serialNumberDisplay** field when defining a Device of this Product (described above) in the IoT Platform Portal.	
active	Boolean	Not in use.	
keepAliveThreshold	Integer	Specifies how long the system waits for a message from a Device (in minutes) of this Product before determining that the Device is disconnected. These Devices are indicated in the IoT Platform Portal as **Disconnected**. The default is 5 minutes, unless otherwise specified.	
		-1 – Specifies that the Device	

Property	Type	Description	Mandatory
		should never be indicated in the IoT Platform Portal as **Disconnected**.	
defaultVirtualDeviceEvents	String	This property specifies the virtual device manifest for devices of this Product. This property is only relevant for virtual devices. See <u>Defining a Virtual Device Manifest</u> for more information.	
disconnectChildDevicesOnDisconnect	Boolean	Specify **True** for all child Devices to be marked as **Disconnected** in IoT Platform when the parent Device is determined to be disconnected. This may be useful in a gateway scenario.	
connectChildDevicesOnConnect	Boolean	Specify **True** for all child Devices to be marked as **Connected** in IoT Platform when the parent Device is determined	

Property	Type	Description	Mandatory
		to be disconnected. This may be useful in a gateway scenario.	
disconnectGroupDeviceOnAllChildrenDisconnect	Boolean	Specifies that if all of a Group Device's children are disconnected, the Group Device is also disconnected. **Note –** This is related to the Group Device feature.	
connectGroupDeviceOnAnyChildrenConnect	Boolean	Specifies that if even one of a Group Device's children is **Connected**, the Group Device is also connected. **Note –** This is related to the Group Device feature.	
onConnectCommandIds	String	The list of command IDs to be automatically triggered when Devices of this Product connect to IoT Platform .	
manufacturer	String	The free text manufacturer	

Property	Type	Description	Mandatory
		name of this Device type.	
autoDiscoveryCommand	String	Specifies one or more command IDs to be automatically activated on the Device itself, when a Device is created.	
displayCommandsTab	Boolean	Specifies that the IoT Platform Portal shows the Commands tab for Devices of this Product. This tab enables you to automatically activate commands on Devices of this Product.	
onDeleteCommands	Array of Strings	Specifies one or more command IDs to be automatically activated on the Device itself, just before a Device of this Product is deleted from the IoT Platform system.	
onPatchCommands	Array of Strings	Specifies one or more command IDs to be automatically	

Property	Type	Description	Mandatory
		activated on the Device itself, just before the data on a Device of this Product is patched by the IoT Platform system.	
dispayDeviceSDKDetails	Boolean	This option is for IoT Platform Device SDK developers. **True –** Specifies that additional information for developers is shown in the IoT Platform Portal.	
enableSDKFeatures	Boolean	Enables you to activate the device twin features in IoT Platform . These features enable you to update a device's firmware and settings from the IoT Platform platform. Such changes will be reflected on the IoT Platform platform. By default, this property is	

Property	Type	Description	Mandatory
		disabled. It must be set it to True to enable these features.	
urn	String	Not in use.	
schemaDefinitionsId	String	The ID of the schema definition, indicates that for this specific product, there is a schema to parse the incoming payload to the IoT Platform format.	
disableInheritedConnectFromChildren	Boolean	Specify **True** to prevent parent device status connection to be affected by his child devices connection status.	

Request – Products/Post – serviceCommand Properties

Property	Type	Description	Mandatory
commands	Array	Defines an array of one or more commands that the IoT Platform REST API can use for each Device of	

Property	Type	Description	Mandatory
		this Product type. These commands enable you to trigger actions on the device using the sendCommand endpoint.	
		The IoT Platform Device SDK should be activated on the device and set up accordingly to listen to this command. Alternatively, IoT Platform can set up its command gateway that can send commands to Devices that are not using the IoT Platform Device SDK.	
		After a command is created, IoT Platform returns a unique identifier (command ID) to be used with the IoT Platform REST API Command entity in order to send commands to a device.	

Property	Type	Description	Mandatory
commands/ name	String	The free-text name of the command.	To use the command in the UI
commands/ payload	String	The name of the method that is executed on the Device. For example, sending a payload of **Reset** runs the Reset command on the Device and gracefully resets the Device.	Y
commands/ commandResponseType	String/Enum	The device structure returned by the command payload (described above). The values of this property are – • Undefined • String • Json	
commands/ commandKind	String/Enum	Enables you to define if the command is a predefined direct method, as follows – • Undefined • IoTHubMethod	

Property	Type	Description	Mandatory
commandsProtocol	String/Enum	The command protocol, as follows – • Undefined • HTTP • AMQP • Modbus • SNMP • OPCUA	
commandsUrl	String	For internal use. This is the address of the command's gateway.	
commandsAddress	String	For Internal use. The remote address to where to send commands for this device type. This address is the internal address of the command's gateway.	

Request – Products/Post – serviceEvent Properties

Property	Type	Description	Mandatory
events	Array of Event Objects	An Event/ Reading is data received by the IoT Platform Server from a Device.	

Property	Type	Description	Mandatory
		This array property enables you to define one or more events that the Device can send to the IoT Platform server.	
		Defining events here provides various customization options, even though the IoT Platform Dashboard can show events that are not defined here,	
		Defining events here enables you to configure how the values of this event are shown in the Dashboard. For example, the icon or color in which a 0 value is shown in the Dashboard.	
		The properties that appear below describe a single event.	

Property	Type	Description	Mandatory
events/ typeCode	Integer	The code of this event type as defined in the event manifest. See Defining a Device Event Manifest for more information. The combination of the **typeCode** property and the **name** property (described below) represent a unique identifier for an event type.	To use events in the UI
events/ name	String	A free-text name of this event. This **name** does not appear in the Event Manifest.	To use events in the UI
events/ description	String	A description of the event.	
events/ dataType	String	The actual format of the data for this event, which corresponds to what is specified in the event manifest for the data type.	

Property	Type	Description	Mandatory
		Use one of the values below – • MultiDimensional • Double • Integer • GPS • String	
events/ displayType	String	Specifies which user interface controller is used in the IoT Platform Portal for presenting this event. Use one of the values below – • boolean • range • allowedValues	
events/ nameResourceKey	String	This is the unique identifier of this event for translating the event **name** property (described above). For example, this unique identifier could be used by IoT Platform 's localization service to translate the **name** property **Temperature** into French **Température**.	

Property	Type	Description	Mandatory
events/unit	String	The default unit of the event's value. For example, Fahrenheit or Centigrade. This unit is used for the event when a Device does not specify the unit.	
events/ isAccumulated	Boolean	When enabled, indicates that the event contains an accumulated value. For example, an electrical meter. When this setting is enabled for an event, IoT Platform reads the value differences between each reading and calculates the delta from the previous reading.	
events/ logicalType	String	The logical type of this event. Valid values are – • Number • CountByValue (used for events that	

Property	Type	Description	Mandatory
		have a state)	
		• Instantaneous (used for events that are instantaneous, such as pressing a button)	
events/ fieldsCount	Integer	Not in use.	
events/ precision	Integer	The number of digits that show after the decimal point.	
events/ retention	Integer	Not in use.	
events/ iconName	String	The name of the default icon of the event.	
events/ iconColor	String	The color of the icon to represent this event in the IoT Platform Portal, which is represented in hex format.	
events/ subject		Not in use.	
events/ calculationId		This feature enables you	

Property	Type	Description	Mandatory
		to set which custom calculation is used. It is only applicable for Group devices and can only be enabled with IoT Platform support.	
		Contact IoT Platform support for more information if you want to use it.	
events/ defaultRollupMethod		Enables you to specify the default rollup aggregation for this event. For example, when set to AVERAGE for temperature and SUM for electricity consumption, IoT Platform will automatically select this aggregation method when aggregation is required. For example, for analytics.	
AggregatedEventSettings	ChartSeriesBase	Specify custom reading	

Request – Products/Post – serviceProperty Properties

Property	Type	Description	Mandatory
commands/ arguments/ serviceProperty	Array	Defines an array of one or more properties of this Command's argument contained within the serviceproperty property (described below).	
commands/ arguments/ serviceProperty/ displayName	String	The free-text name to be displayed for this argument in the IoT Platform Portal.	To use the command in the UI
commands/ arguments/ serviceProperty/ name	String	The name of this property of the argument.	To use the command in the UI
commands/ arguments/ serviceProperty/ dataType	String	The data type of this property of the argument. Valid values are – • Text • Integer • Decimal • Date • Boolean • Gps	To use the command in the UI

Property	Type	Description	Mandatory
commands/ arguments/ serviceProperty/ allowedValueRange	String	The values allowed to be entered for this argument. You can enter one or more sets of allowed value ranges as described below.	
		If the data type (dataType described above) of the argument property is Number, then you can enter a minimum and maximum value, as well as set a Step for this value. For example, if the Minimum is 10, the Maximum is 20 and this Step is 2, then the following values can be entered – 10, 12, 14, 16, 18, 20.	
commands/ arguments/ serviceProperty/ isUnique	Boolean	When enabled, it indicates that this property is unique for the application level. When this setting is enabled for a	

Property	Type	Description	Mandatory
		property, the IoT Platform API validats on property creation or update to ensure that they are infact unique.	
commands/ arguments/ serviceProperty/ required	String	This is the unique identifier of this event for translating the event **name** property (described above). For example, this unique identifier could be used by IoT Platform 's localization service to translate the **name** property **Temperature** into French **Température**.	

Request – Products/Post – mediaSettings Properties

<tdmediaSettings/

mediaProtocol<td">mediaSettings/

mediaType<td">The dimension ratio of the screen's size.

The format is – number, colon, number. For example, "3:4" or "6:9".

Property	Type	Description	Mandatory
mediaSettings	Object	Specifies the media settings for Devices	

Property	Type	Description	Mandatory
		that stream media. These settings describe the manner in which to show the video, such as the protocol to use, the media type to use and so on (see below). You can provide a link for a device in the streamUrl property.	
	String/Enum	The type of media streaming protocol, as follows – • None • RTMP	
	String/Enum	The media type, as follows – • Unknown • Video • Audio • Image	
mediaSettings/ aspectRatio	String		

Request – Products/Post – tooltipElement Properties

Property	Type	Description	Mandatory
tooltip	Array of Tooltip Elements	A tooltip displayed in IoT Platform maps and diagrams when you hover over a device. It shows the device status, which can be an event or property, as described below –	
tooltip/type	String	Can be an **event** or **property** – • **event – Is** a tooltip showing the device reading value. • **property – Is** a tooltip showing the device property value.	
tooltip/value	String	If the **type** (described above) is **event**, the value contains the Event typeCode-name. The **value** is connected	

Property	Type	Description	Mandatory
		to two properties of the service event – **typeCode** and **name**, and is represented in the following format: **typeCode–name**. For example, **7-temperature**.	
		If the type is **property** (described above), the value should be the property name to be displayed in the tooltip.	

Request – Products/Post – commandArgument Properties

Property	Type	Description	Mandatory
commands/ arguments	Array of Strings	Defines an array of one or more arguments of a command to be sent to the Device.	To use the command in the UI
commands/ arguments/ name	String	The free-text name of the argument.	To use the command in the UI
commands/ arguments/ value	String	The actual value of the command. This is the value that will affect the device.	

Property	Type	Description	Mandatory
commands/ arguments/ defaultValue	String	The default value displayed in the IoT Platform Portal before you select/ enter a value.	
commands/ arguments/ unit	String	The unit of the value (described above). For example, Fahrenheit or Centigrade.	
commands/ arguments/ uiType	String/Enum	The type of user interface controller for this argument, as follows – - Button - Radio Button - Slider - Select - TextOneLine - TextMultiLine - IpV4 - Number - OID - Toggle	To use the command in the UI

Request – Products/Post – valueRange Properties

The severity of the event, which can be one of the following values

- Warning
- Minor

- Major

- Critical

Property	Type	Description	Mandatory
events/ valueRange	Object	If the data type is **Number**, then you can enter a minimum and maximum value, as well as set a **Step** for this value. For example, if the **Minimum** is **10**, the **Maximum** is **20** and this **Step** is **2**, then the following values can be entered – **10**, **12**, **14**, **16**, **18**, **20**.	
events/ valueRange/ allowedValues	Array of AdditionalProperties	Describes the allowed values for incoming event data.	
events/ valueRange/ allowedValues/ iconName	String	The name of the icon to represent this event value in the IoT Platform Portal.	
events/ valueRange/ allowedValues/ iconColor	String	The color of the icon to represent this event in the IoT Platform Portal.	
events/ valueRange/	String/ Enum		

Property	Type	Description	Mandatory
allowedValues/ severity			
events/ valueRange/ allowedValues/ key	String	Specifies the key of a property.	
events/ valueRange/ allowedValues/ value	String	Specifies the value of a property.	
events/ valueRange/ minimum	String	Specifies the minimum value for the event.	
events/ valueRange/ maximum	String	Specifies the maximum value for the event.	
events/ valueRange/ precision	Integer	Specifies the number of decimal points to display.	
events/ valueRange/ numericType	String/ Enum	Specifies the numeric type of the event, which can be one of the following values – • INT • Decimal	
events/ valueRange/ step	String	A numeric value specifying the gaps between allowed values in the same event.	

Property	Type	Description	Mandatory
events/ valueRange/ ranges	Array of Range Objects	Ranges is an array of **range objects**. Each **ranges** property represents an IoT Platform Product object property to be modified in order to affect its functionality. For example, if a value is between 1–5, then it is represented by a specific **iconName**, **iconColor** and **severity**, and if it is between 6–10, it is represented by a different **ranges** object.	
events/ valueRange/ ranges/ minimum	Integer	The minimum for the range.	
events/ valueRange/ ranges/ maximum	Integer	The maximum for the range.	
events/ valueRange/ ranges/ iconName	String	The name of the icon to represent this event value in the IoT Platform Portal.	
events/ valueRange/	String	The color of the icon to represent this event	

Property	Type	Description	Mandatory
ranges/ iconColor		in the IoT Platform Portal.	
events/ valueRange/ ranges/ severity	String	The severity of the event.	

Request – Products/Post – eventLoggingSettings Properties

Property	Type	Description	Mandatory
events/ loggingSettings		Not in use.	

Request – Products/Post – aggregatedEventSettings Properties

Property	Type	Description	Mandatory
events/ aggregatedEventSettings		Not in use.	

Request – Products/Post – commandServiceProperty Properties

Property	Type	Description	Mandatory
commands/ arguments/ serviceProperty/ currentStatus		Not in use.	
commands/ arguments/ serviceProperty/ currentStatusFromReading	String	The event type in which to update the current status of the command. For example, **7 – temperature** will update the	

Property	Type	Description	Mandatory
		command status every time a new reading arrives with this type.	
		The statuses are defined in the **Product/serviceEvents**/events/typeCode property.	

Request – Products/Post – additionalProperty Properties

Property	Type	Description	Mandatory
additionalProperties	Array	The **additionalProperties** property enables you to extend the IoT Platform schema model by adding your own properties for each Device type. For example, you can add a property named **Firmware Version** that specifies the version of the Device's firmware.	
		additionalProperties are defined per Product. Once defined, they are available in the IoT Platform API and IoT Platform Portal. These	

Property	Type	Description	Mandatory
		properties can also be used as keywords, as described on page 499.	
additionalProperties/ displayName	String	The name to appear in the IoT Platform Portal for this additional property.	
additionalProperties/ name	String	The internal logical name to be used for this property. This name must match the additional property's name on the Device itself.	Y
additionalProperties/ extra	String	A free-text description of the additional property.	
additionalProperties/ dataType	String	The data type of this property. Valid values are – • Number • Text • Boolean	Y
additionalProperties/ allowedValueRange	String	If the data type (dataType described above) is **Number**, then you can enter a minimum and maximum	

Property	Type	Description	Mandatory
		value, as well as set a **Step** for this value. For example, if the **Minimum** is **10**, the **Maximum** is **20** and this **Step** is **2**, then the following values can be entered – **10**, **12**, **14**, **16**, **18**, **20**.	
additionalProperties/ allowedValueRange/ allowedValues	String	The unique identifier of this event value to be used for converting how this value appears in the IoT Platform Portal.	

If the data type is **String**, then you can specify the following –

- **Key –** A unique key is associated with each **Value**.

- **Value –** The value of a **Key**.

- **iconName –** For each value, you can

Property	Type	Description	Mandatory
		specify the name of the icon to represent this value.	
		For example, this identifier could be used to convert the value **0** so that it appears as **Closed** in the IoT Platform Portal and the value **1** as **Open**.	
additionalProperties/ defaultValue	String	The default value of the additional property.	
additionalProperties/ unit	String	The default unit of the additional property value. For example, Fahrenheit or Centigrade.	
additionalProperties/ uiType	String	See commands/ arguments/ uiType.	Y
additionalProperties/ required	Boolean	**True –** If this additional property is mandatory.	

Example JSON Products/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/products/ \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

{"name":"ExampleFridge",

"manufacturer":"TheFridgeMakingCompany",

"tooltip":[],

"customIdDisplay":false,

"serialNumberDisplay":false,

"displayDeviceSDKDetails":false,

"events":[{"nameResourceKey":"",

"name":"HowColdIsItRightNow","typeCode":7,"defaultRollupMethod":"Avg","precision":1,"displayType":null,

"valueRange":{"allowedValues":[],"ranges":[]},"aggregatedEventSettings":null}]} { }

'
```

Response – Products/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Status 201 – Created

Property	Type	Description
id	String	A unique Product identifier that is automatically generated for this user by IoT Platform .

Property	Type	Description
commands/ commandId		The unique identifier is created by IoT Platform for each command that you define in the <u>Product/ Post</u>.
createDate, createUser, updateDate, updateUser		See <u>Common Response Properties</u>.

Example JSON Products/Post Response

{"@odata.context":"https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Products/$entity",

"urn":null,"name":"ExampleFridge","description":null,"icon":null,"customIdFormat":null,"customIdDisplay":false,

"customIdRequired":true,"serialNumberFormat":null,"serialNumberDisplay":false,"serialNumberRequired":false,

"active":false,"keepAliveThreshold":0,"defaultVirtualDeviceEvents":null,"disconnectChildDevicesOnDisconnect":false,

"connectChildDevicesOnConnect":false,"disconnectGroupDeviceOnAllChildrenDisconnect":false,"connectGroupDevice

"onConnectCommandIds":
[],"manufacturer":"TheFridgeMakingCompany","commandsProtocol":"Undefined","commandsAddress":null,

"commandsUrl":null,"autoDiscoveryCommand":null,"displayCommandsTab":false,"onDeleteCommands":
[],"onPatchCommands":[],

"displayDeviceSDKDetails":false,"enableSDKFeatures":false,"id":"5bb0634719ec0c19c4596b49",

"appId":"801A048A-9F23-429F-BF0D-
B6D35B22771E","createDate":"2018-09-30T05:46:47.7900808Z","createUser":"1234",

"updateDate":"0001-01-01T00:00:00Z","updateUser":null,"commands":[],"events":
[{"typeCode":7,"description":null,

"name":"HowColdIsItRightNow","nameResourceKey":"","datatype":null,"logicalType":null,"displayType":null,"unit":null,

"retention":0,"iconName":null,"iconColor":null,"isAccumulated":false,"subject":null,"fieldsCount":null,"precision":1,

"calculationId":null,"defaultRollupMethod":"Avg","valueRange":
{"minimum":null,"maximum":null,"precision":0,"numericType":null,

"step":null,"allowedValues":[],"ranges":
[]},"loggingSettings":null,"aggregatedEventSettings":null}],"additionalProperties":[],

"mediaSettings":null,"tooltip":[]}

Products/Get (List)

GET /odata/Products/

Description

Gets a list of all the Products of the specified Application according to the permissions awarded to the credentials used in the request.

To get the details of a specific product, refer to Products/Get (Specific).

For request and response details, see Request – Products/Get (List) and Response – Products/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Products/Get (List)

Example JSON Products/Get (List) Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/products/ \

-H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Products/Get (List)

For the requested Application, the response provides the properties in Products/Post.

Example JSON Products/Get (List) Response

Status 200 – OK

```
{

   "@odata.context": " https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net /
odata/$metadata#Products",

   "value": [

{
```

"urn": null,

"name": "Temperature",

"description": null,

"icon": "icon-Temperature",

"customIdFormat": null,

"customIdDisplay": true,

"customIdRequired": true,

"serialNumberFormat": null,

"serialNumberDisplay": true,

"serialNumberRequired": false,

"active": false,

"keepAliveThreshold": 1000000,

"defaultVirtualDeviceEvents": null,

"disconnectChildDevicesOnDisconnect": false,

"connectChildDevicesOnConnect": false,

"disconnectGroupDeviceOnAllChildrenDisconnect": false,

"connectGroupDeviceOnAnyChildrenConnect": false,

"onConnectCommandIds": [],

"manufacturer": null,

"commandsProtocol": "Undefined",

"commandsAddress": null,

"autoDiscoveryCommand": null,

"displayCommandsTab": false,

"onDeleteCommands": [],

"onPatchCommands": [],

"displayDeviceSDKDetails": false,

"id": "58d0d7165a4fbc0f486fe71a",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "2017-03-21T07:32:38.032Z",

"createUser": null,

```json
          "updateDate": "0001-01-01T00:00:00Z",

      "updateUser": null,

      "commands": [],

      "events": [

        {

            "typeCode": 1088,

            "name": "Temperature",

            "nameResourceKey": "msg_temperature_hot",

            "datatype": null,

            "unit": null,

            "iconName": null,

            "isAccumulated": false,

            "logicalType": null,

            "subject": null,

            "fieldsCount": null,

            "precision": null,

            "calculationId": null,

            "valueRange": {

                "minimum": null,

                "maximum": null,

                "precision": 0,

                "numericType": null,

                "step": null,

                "allowedValues": [

                    {

                        "key": "msg_ok",

                        "value": "0",

                        "iconName": null,

                        "iconColor": null

                    },
```

```
                    {

                        "key": "msg_alarm",

                        "value": "1",

                        "iconName": null,

                        "iconColor": null

                    }

                ]

            }

        }

    ],

    "additionalProperties": [],

    "mediaSettings": null

    }

  ]

}
```

Products/Get (Specific)

GET /odata/Products/[productId]

Description

Gets the details of a specific Product, as specified by the Product's ID. This Product ID is returned in the response of Products/Post.

To get the details of all the Products of the Applications allowed to the logged-in user, see Products/Get (List).

For request and response details, see Request – Products/Get (Specific) and Response – Products/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Products/Get (Specific)

Property	Type	Description	Mandatory
productId	String	This is the unique	Y

Property	Type	Description	Mandatory
		identifier automatically assigned by IoT Platform when a Product is created. This productId is returned in the response of the **Products/ Post**.	

Example JSON Products/Get (Specific) Request

```
curl -X GET \

 https://api.stg.axonize.com/odata/products/ 58d0d7165a4fbc0f486fe71a \

 -H 'Authorization: Token' \

 -H 'Content-Type: application/json' \

 -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E ' \
```

Response – Products/Get (Specific)

For the requested Application, the response provides the properties in Products/Post.

Example JSON Products/Get (Specific) Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Products/$entity",

        "urn": null,

        "name": "Temperature",

        "description": null,

        "icon": "icon-Temperature",

        "customIdFormat": null,

        "customIdDisplay": true,
```

"customIdRequired": true,

"serialNumberFormat": null,

"serialNumberDisplay": true,

"serialNumberRequired": false,

"active": false,

"keepAliveThreshold": 1000000,

"defaultVirtualDeviceEvents": null,

"disconnectChildDevicesOnDisconnect": false,

"connectChildDevicesOnConnect": false,

"disconnectGroupDeviceOnAllChildrenDisconnect": false,

"connectGroupDeviceOnAnyChildrenConnect": false,

"onConnectCommandIds": [],

"manufacturer": null,

"commandsProtocol": "Undefined",

"commandsAddress": null,

"autoDiscoveryCommand": null,

"displayCommandsTab": false,

"onDeleteCommands": [],

"onPatchCommands": [],

"displayDeviceSDKDetails": false,

"id": "58d0d7165a4fbc0f486fe71a",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "2017-03-21T07:32:38.032Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"commands": [],

"events": [

    {

        "typeCode": 1088,

"name": "Temperature",

"nameResourceKey": "msg_temperature_hot",

"datatype": null,

"unit": null,

"iconName": null,

"isAccumulated": false,

"logicalType": null,

"subject": null,

"fieldsCount": null,

"precision": null,

"calculationId": null,

"valueRange": {

  "minimum": null,

  "maximum": null,

  "precision": 0,

  "numericType": null,

  "step": null,

  "allowedValues": [

    {

      "key": "msg_ok",

 "value": "0",

      "iconName": null,

      "iconColor": null

    },

    {

      "key": "msg_alarm",

      "value": "1",

      "iconName": null,

      "iconColor": null

    }

```
            ]

          }

        }

      ],

      "additionalProperties": [],

      "mediaSettings": null

    }
```

Products/Delete

DELETE /odata/Products/[productId]

Description

Deletes the details of a specific Product, as specified by the Product's ID. This Product ID is returned in the response of the Products/Post. Product cannot be deleted if it has devices related to itself.

For request and response details, see Request – Products/Delete and Response – Products/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Products/Delete

Property	Type	Description	Mandatory
productId	String	This is the unique identifier automatically assigned by IoT Platform when a Product is created. This productId is returned in the response of the Products/Post.	Y

Example JSON Products/Delete Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/products/592139084d27e710e80f1234 \

  -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Products/Delete

Status 200 – OK

Products/Patch or Products/Put

PATCH /odata/Products/productId or PUT /odata/Products/productId

Description

To update an existing IoT Platform Product.

For request and response details, see Request – Products/Patch or Put and Response – Products/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Products/Patch or Put

In the request, specify the ID of the Product whose definition to change and the name of the property(s) to change. These properties are described in Products/Post.

For the **Patch** request, all unspecified fields remain unchanged.

For the **Put** request, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
productId	String	This is the unique identifier automatically assigned by IoT Platform when a Product is created. This productId is returned	Y

Property	Type	Description	Mandatory
		in the response of the Products/ Post.	

Example JSON Products/Patch Request

```
curl -X PATCH \

  https://api.stg.axonize.com/odata/products/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

  -d '{

      "name":"test"

  }

  '
```

Response – Products/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Status 204 – No Content – The server has successfully fulfilled the request.

Products/UploadFirmwareFile

GET /odata/Products/[productId]/UploadFirmwareFile

Description

Uploads a firmware file for a specific Product. A device belonging to the specified Product can retrieve the firmware file and update its firmware using **UpdateDeviceFirmware**.

For request and response details, see Request – Products/UploadFirmwareFile and Response – Products/UploadFirmwareFile.

See Also Authentication/Request Headers and API Response Codes.

Request – Products/UploadFirmwareFile

The parameters in the request are specified as part of the HTTP Header.

Parameter	Type	Description	Mandatory
productId	String	This is the unique identifier automatically assigned by IoT Platform when a Product is created. This productId is returned in the response of the Products/Post.	Y
The file itself *This parameter does not have a name.*	MIME Multipart Content Format	The firmware file itself, provided in MIME multipart content format.	Y
FirmwareVersion	String	The name/ number of the firmware file version.	Y
x-filename	String	The name of the firmware file.	Y

Example Products/UploadFirmwareFile Request

```
curl -X POST \

  https:// api.axonize.com /odata/products/{ProductId}/UploadFirmwareFile \
```

```
-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Encoding: gzip, deflate' \

-H 'Content-Type: application/x-www-form-urlencoded' \

-H 'FirmwareVersion: {FirmwareVersion} \

-H 'x-filename: {FileName}'
```

Response – Products/UploadFirmwareFile

Parameter	Type	Description
id	String	IoT Platform generates a unique identifier for every file uploaded using this command. This is the ID of the firmware file.
version	String	The version of the firmware file.
URL	String	The location of the firmware file on the IoT Platform repository.
hash	String	The MD5 hash of the firmware file.
name	String	The name of the file.
createDate	String	See Common Response Properties.

Example Products/UploadFirmwareFile Response

Status 200 – OK

```
{

    "id": "ID",

    "version": "VERSION",

    "url": "URL",

    "hash": "HASH",
```

```
    "name": "NAME",

    "creationDate": "DATE"

}
```

Products/RemoveFirmwareFile

GET /odata/Products/[productId]/RemoveFirmwareFile

Description

Removes a firmware file from the IoT Platform repository.

For request and response details, see Request – Products/RemoveFirmwareFile and Response – Products/RemoveFirmwareFile.

See Also Authentication/Request Headers and API Response Codes.

Request – Products/RemoveFirmwareFile

Parameter	Type	Description	Mandatory
productId	String	This is the unique identifier automatically assigned by IoT Platform when a Product is created. This product ID is returned in the response of the Products/Post.	Y
FileId	String	This is the unique identifier of the firmware file to be deleted. A file ID is automatically assigned by IoT Platform when a	Y

Parameter	Type	Description	Mandatory
		firmware file is created. This FileId is returned in the response of UploadFirmwareFile.	

Example Products/RemoveFirmwareFile Request

```
curl -X POST \

 https://api.axonize.com/odata/products/{ProductId}/RemoveFirmwareFile \

 -H 'Accept: application/json, text/plain, */*' \

 -H 'Content-Type: application/json' \

 -H 'FirmwareVersion: 1.0.2.5' \

 -H 'x-filename: firmwareversion1234.exe' \

 -d '{"fileId": "{FileID}"}'
```

Response – Products/RemoveFirmwareFile

Status 200 – OK

Groups Endpoints

An IoT Platform group is a logical placeholder that contains entities (categories) in order to group them together. For example, a group may contain various Devices located in the same room.

IoT Platform provides a variety of endpoints for handling Groups, as follows

- Groups/Post
- Groups/Get (List)
- Groups/Get (Specific)
- Groups/Delete
- Groups/Patch or Groups/Put

Groups/Post

POST /odata/Groups/

Description

To create a new Group in IoT Platform .

For request and response details, see Request – Groups/Post and Response – Groups/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Groups/Post

Property	Type	Description	Mandatory
info	String	Free text describing this group.	
active	Boolean	Specifies whether the Group is active, meaning that it can be used – True/False.	
diagram	String	An internal link to a map	

Property	Type	Description	Mandatory
		resource file that can be used in the IoT Platform Portal instead of Google Maps.	
parentId	String	Specifies the parent Group of this Group. This property enables you to define sub-Groups.	
name	String	The Group's name.	Y
users or devices	Array of Objects (User Node or Device Nodes)	A list of the unique identifiers of the entities in the Group. For example, the identifiers of Users or Devices. "userNode": [{ "id": "string", "name": "string" } "deviceNode": [{ "id": "string", "name": "string" }	
defaultLocation	Object	The GPS coordinates that were defined	

Property	Type	Description	Mandatory
		when the entity was created or its definition was modified. This enables the entity to be represented on a map.	
		This location is automatically assigned to all entities in the group to which no specific location was defined.	
		By default, Devices are each assigned this default location, meaning the location of the Group to which they belong. However, if the GPS userDefinedLocation property is defined for a specific Device, then that location overrides this one.	
defaultLocation/ address	String	The address of the location. For example – "address": "string",	

Property	Type	Description	Mandatory
defaultLocation/ lat	Double	The latitude coordinate. For example – "lat": 0,	
defaultLocation/ lng	Double	The longitude coordinate. For example – "lng": 0,	
defaultLocation/ updateDate	DateTimeOffset	The timestamp when the location was last updated. For example – "updateDate": "2018-02-21T16:06:34.725Z"	
ancestors	Array	Lists the IDs of the ancestor Groups (parents, parents of parents and so on) of this Group, in no particular order.	

Example JSON Groups/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/groups/ \

-H 'Authorization: [YourToken]' \

-H 'Content-Type: application/json' \

-H 'appId: [YourAppID]' \

-d '{

"name":"admin"
```

```
      }

      '
```

Response – Groups/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties:

Property	Type	Description
id	String	A unique identifier automatically generated for this Group entry by IoT Platform .
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Group is assigned.
		This identifier is automatically generated by IoT Platform when the Applications/ Post endpoint is used.
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Groups/Post Response

Status 201 – Created

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Groups/$entity",

"info": "south-west-depot",
```

```
"active": true,

"diagram": null,

"parentId": null,

"name": "south-west-depot",

"id": "585b9db666701d07a8381234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"users": [],

"devices": [],

"defaultLocation": null,

"ancestors": []

}
```

Groups/Get (List)

GET /odata/Groups/

Description

Gets a list of all the Groups of the Applications assigned to the requesting user. A Tenant user gets a list of all the Groups of all the Applications that belong to the Tenant and its Sub-tenants.

To get the details of a specific Group, refer to Groups/Get (Specific).

For request and response details, see Request – Groups/Get (List) and Response – Groups/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Groups/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique Application	Y

Property	Type	Description	Mandatory
		identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Group is assigned.	
		This identifier is automatically generated by IoT Platform when the Applications/ Post endpoint is used.	

Example JSON Groups/Get (List) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/groups \

-H 'Authorization: Token' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Groups/Get (List)

For each user, the response provides the properties in Request – Groups/Post and Response – Groups/Post.

Example JSON Groups/Get (List) Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Groups",

"value": [
```

{

"info": "south-west-depot",

"active": true,

"diagram": null,

"parentId": null,

"name": "south-west-depot",

"id": "585b9db666701d07a8381234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"deleted": false,

"users": [],

"devices": [

{

"id": "5859af31983df8100836ab8e",

"name": "truck 205471501"

},

{

"id": "5859b13a983df8100836aba8",

"name": "truck 205952793"

}

],

"defaultLocation": null,

"ancestors": []

},

{

"info": "Chichester",

"active": true,

"diagram": null,

"parentId": null,

"name": "Chichester",

"id": "585bbbff66701d07a8381234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"deleted": false,

"users": [],

"devices": [

{

"id": "585a4898983df8100836ac65",

"name": "truck V24TJT"

},

{

"id": "5859af02983df8100836ab86",

"name": "truck V14TJT"

}

],

"defaultLocation": {

"address": null,

"lat": 38.081068106724146,

"lng": -122.4041748046875,

"updateDate": "0001-01-01T00:00:00Z"

},

"ancestors": []

}

]

```
    }
```

Groups/Get (Specific)

GET /odata/Groups/[groupId]

Description

Gets the details of a specific Group, as specified by the Group's ID. This **ID is returned in the response of the Groups/Post**.

To get the details of all the Groups of the applications allowed to the logged#in user, see Groups/Get (List).

For request and response details, see Request – Groups/Get (Specific) and Response – Groups/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Groups/Get (Specific)

Property	Type	Description	Mandatory
Id	String	This is the unique identifier automatically assigned by IoT Platform when a Group is created. This ID is returned in the response of the Groups/Post.	Y

Example JSON Groups/Get (Specific) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/groups/585b9db666701d07a8381234 \

-H 'Authorization: Token' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E '
```

Response – Groups/Get (Specific)

For the requested Group, the response provides the properties in Groups/Post.

Example JSON Groups/Get (Specific) Response

Status 200 – OK

{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/$metadata#Groups/$entity",

"info": "south-west-depot",

"active": true,

"diagram": null,

"parentId": null,

"name": "south-west-depot",

"id": "585b9db666701d07a8381234",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"deleted": false,

"users": [],

"devices": [

{

"id": "5859af31983df8100836ab8e",

"name": "truck 205471501"

},

{

"id": "5859b13a983df8100836aba8",

"name": "truck 205952793"

}

```
],

"defaultLocation": null,

"ancestors": []}
```

Groups/Delete

Description

Deletes the details of a specific Group, as specified by the Group's ID. This **ID is returned in the response of the Groups/Post**.

For request and response details, see Request – Groups/Delete and Response – Groups/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Groups/Delete

Property	Type	Description	Mandatory
Id	String	This is the unique identifier automatically assigned by IoT Platform when a group is created. This ID is returned in the response of the Groups/Post.	Y

Example JSON Groups/Delete Request

```
curl -X GET \

https://api.stg.axonize.com/odata/groups/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \
```

```
-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Groups/Delete

Status 200 – OK

Groups/Patch or Groups/Put

PUT /odata/Groups/[groupId] or PATCH /odata/Groups/[groupId]

Description

To update an existing IoT Platform Group.

For request and response details, see Request – Groups/Patch or Put and Response – Groups/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Groups/Patch or Put

In the request, specify the **ID of the group** whose definition to change and the name of the property(s) to change. These properties are described in Groups/Post.

For the **Patch** endpoint, all unspecified fields remain unchanged.

For the **Put** endpoint, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when a Group is created. This ID is returned in the response of the Groups/Post.	Y
name	String	The Group's name.	Y

Example JSON Groups/Patch Request

The following is an example of changing a Group's **name** to **test**.

```
Status 200 – OK

curl -X PATCH \

https://api.stg.axonize.com/odata/groups/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

"name":"test"

}

'
```

Response – Groups/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Groups/Patch/Put Response

Status 204 – No Content - The server has successfully fulfilled the request.

Devices Endpoints

A Device is a connected external entity from which events are received. You can see **Devices** for more detailed description.

IoT Platform provides a variety of API requests for handling Devices, as follows:

- **Devices/Post**
- **Devices/Get (List)**
- **Devices/Get (Specific)**
- **Devices/Delete**
- **Devices/Patch or Devices/Put**
- **Devices/UpdateSetting**
- **Devices/RemoveSetting**
- **Devices/GetFullReading**
- **Devices/GetFullReadingForMultipleDevices**
- **Devices/GenerateSASToken**
- **Devices/createVirtualDevice**
- **Devices/stopVirtualDevice**
- **Devices/UpdateDeviceFirmware**

Devices/Post

POST /odata/Devices

Description

To create a new Device.

For request and response details, see Request – Devices/Post and Response – Devices/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/Post

Property	Type	Description	Mandatory
productId	String	The unique identifier of the Product	Y

Property	Type	Description	Mandatory
		to which this Device belongs. This ID is returned in response to the Products/Post request.	
productName	String	The name of the Product to which this Device belongs. This name was set using the Products/Post request.	
serialNumber	String	The serial number of this Device.	
groupId	String	Specifying this property defines this Device to be a Group Device.	Not in use.
active	Boolean	Specifies whether the Device is active, meaning that it can be used – True/False.	Not in use.
firstTimeRegistrationDate	Date Time Offset	Specifies the date when this Device was first registered.	Not in use.
activationDate	Date Time Offset	Specifies the date when this Device first became active.	Not in use.

Property	Type	Description	Mandatory
commandsProtocol	String/Enum	The protocol used by the IoT Platform Device SDK to connect to the cloud. The default is AMQP. The options are as follows – Undefined • HTTP • AMQP • Modbus • SNMP • Test	
isConnected	Boolean	Indicates the Device's connectivity status to the IoT Platform Server. **True** indicates that the Device responded to the most recent keepAlive ping by the IoT Platform Server. Each Device's Product has a keepAlive field that indicates the frequency at which the Devices of this Product are checked for connectivity. In addition, each Device can also	

Property	Type	Description	Mandatory
		have an optional keepAliveThreshold, which specifies the frequency at which this specific Device is checked for connectivity. A value in this field overrides the keepAlive field of the Device's Product.	
hubId	String	Specifies the ID of the hub if there are sensors connected to the hub. This hub ID belongs to the field gateway. Null indicates that it is the hub itself.	
hubPrimaryKey and **hubSecondaryKey**	String	The Device's primary and secondary keys in the Azure Microsoft Cloud IoT hub.	
customId	String	The Device's unique identifier in an external system. This enables the correlation of the IoT Platform Device ID with the	

Property	Type	Description	Mandatory
		external system's Device ID.	
keepAliveThreshold	Integer	The frequency at which this specific Device is checked for connectivity (in minutes). A value in this field overrides the <u>keepAlive field of the Device's Product</u>. The <u>isConnected</u> property of this Device indicates the connectivity status of the Device. The default is 5 minutes, unless otherwise specified.	
virtualDeviceStatus	String/Enum	If this is a Virtual Device, then this property specifies the status of this Device. The options are as follows – • **Not Available** • **Started** • **Stopped**	
virtualDeviceEvents	String	If this is a Virtual Device, then this property is the actual	

Property	Type	Description	Mandatory
		string of its Event Manifest.	
redisKey	String	For Internal use. The key of the Device in the Redis cache.	
streamUrl	String	The video stream URL. The **streamUrl** has the actual video in it. The video is displayed in the IoT Platform Portal according to the settings in the Product mediaSettings property.	
parentId	String	The logical parent of this device as opposed to **hubId** (described above) which is the physical parent.	
name	String	The name of this Device.	Y
appId	String	The Application to which this Device belongs. This is generated by IoT Platform and sent in the response to Applications/Post.	

Property	Type	Description	Mandatory
userDefinedLocation	Object	The Device's GPS coordinates as defined when the Device was created or its definition was modified. This enables the Device/ event to be represented on a map.	
userDefinedLocation/ address	String	The address of the location. For example – "address": "string",	
userDefinedLocation/ lat	Double	The latitude coordinate. For example – "lat": 0,	
userDefinedLocation/ lng	Double	The longitude coordinate. For example – "lng": 0,	
userDefinedLocation/ updateDate	DateTimeOffset	The timestamp when the location was	

Property	Type	Description	Mandatory
		last updated. For example –	
		"updateDate": "2018-02-21T16:06:34.725Z"	
currentLocation	Object	The Device's GPS coordinates at the time of the event, which enable the Device/ event to be represented on a map. If the Device sent a GPS location reading after a User defined location was set, then the current location is the GPS data from the Device. This property has the same sub-properties as **userDefinedLocation** (see above).	
coords	Object	The coordinates specifying the location of this Device in the diagram provided by the customer.	
coords/x	Integer	The x coordinate	

Property	Type	Description	Mandatory
		on the diagram.	
coords/y	Integer	The y coordinate on the diagram.	
settings	Array of Setting Objects	**Settings** is an array of **setting** properties. Each **setting** property represents an IoT Platform Device object property to be modified on a physical Device in order to affect its functionality.	

The IoT Platform Device SDK must be set up to monitor this IoT Platform Device object property in order to trigger the proper functionality on the Device.

```
“settings”:
 [

 {

 “name”:
 “string”,

 “desiredValue”:
 “string”,
```

Property	Type	Description	Mandatory
		"reportedValue": "string", "lastSync": "2018-08-24T11:14:32.000Z", "version": 0 }	
settings/ name	String	A free-text name for the property. This name must be recognized on the physical Device.	
settings/ desiredValue	String	The value to be assigned to this property on the physical device.	
settings/ reportedValue	String	The value received from the updated physical Device by the IoT Platform Device SDK as the **updatedValue**, after it has been updated. This value should be the same as the **desiredValue** (described above).	
settings/ version	Integer	Not in use.	

Property	Type	Description	Mandatory
ancestors	Array	Lists the IDs of the ancestor Devices (parents, parents of parents and so on) of this Device, in no particular order.	

```
"ancestors":
[

{

"id":
"564117c213826b303c123456",

"name":
"Gateway
5"

},

{

"id":
"564201c084a83518b8123456",

"name":
"Fridge
23"

}

]
```

Property	Type	Description	Mandatory
commandsProtocol	String/Enum	The protocol used by the IoT Platform Device SDK to connect to the cloud. The default is AMQP. The options are as follows – Undefined	

Property	Type	Description	Mandatory
		• HTTP	
		• AMQP	
		• Modbus	
		• SNMP	
		• Test	
topic	–	Obsolete	

Example JSON Devices/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/devices/ \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{

{

"name": "new device",

"productId": "5abb8cde21b5bb26b0a31463"

}

'
```

Response – Devices/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
deviceId	String	A unique identifier that is automatically generated for this Device by IoT Platform .

Property	Type	Description
appId	String	The Application to which this Device belongs.
		This generated by IoT Platform and sent in the response to **Applications/ Post**.
createDate, createUser, updateDate,updateUser		See Common Response Properties.

Example JSON Devices/Post Response

Status 201 – Created

{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/$metadata#Devices/$entity",

"productId": "5abb8cde21b5bb26b0a31463",

"productName": null,

"serialNumber": null,

"groupId": null,

"active": false,

"firstTimeRegistrationDate": "0001-01-01T00:00:00Z",

"activationDate": "0001-01-01T00:00:00Z",

"commandsProtocol": "Undefined",

"isConnected": false,

"hubId": null,

"hubPrimaryKey": "asdsda",

"hubSecondaryKey": "asdfasdf",

"customId": null,

"keepAliveThreshold": 0,

"virtualDeviceStatus": "NotAvailable",

"virtualDeviceEvents": null

"redisKey": null,

"streamUrl": null,

"parentId": null,

"name": "new device",

"id": "5abb916721b5bb26b0a314bd",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

"createDate": "2018-03-28T12:58:15.6976815Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"userDefinedLocation": null,

"currentLocation": null,

"coords": null,

"ancestors": [

{

"id": "564117c213826b303c123456",

"name": "Gateway 5"

},

{

"id": "564201c084a83518b8123456",

"name": "Fridge 23"

}

]

}

Devices/Get (List)

GET /odata/Devices

Description

Gets a list of all the Devices assigned to the specified application.

To get the details of a specific Device, refer to **Devices/Get (Specific)**.

For request and response details, see Request – Devices/Get (List) and Response – Devices/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique Application identifier that is automatically generated by IoT Platform when the **Applications/ Post** request is used.	Y

Example JSON Devices/Get (List) Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/devices \

    -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Devices/Get (List)

For each Device, the response provides the properties in **Devices/Post**. In addition, the response that is returned also contains the following properties.

Property	Type	Description	Mandatory
alarmInstances	Array of Objects	The list of AlarmInstance IDs active on the device.	

Property	Type	Description	Mandatory
alarmInstance/ _id	String	The AlarmInstance ID.	
alarmInstance/ name	String	Not in use.	
isHub	Boolean	Specifies whether the device is a gateway (True) or not.	
settings/ lastSync	DateTime	The last timestamp when a reading was received from the Device.	
settings/ reportedValue	String	The value received from the updated physical Device by the IoT Platform Device SDK as the **updatedValue**, after it has been updated. This value should be the same as the **desiredValue** (described above).	
isAlarmed	Boolean	**True** if an alarm is currently active in the IoT Platform System for this Device. AlarmInstances can be dismissed	

Property	Type	Description	Mandatory
		in the IoT Platform Portal or using the IoT Platform Device API.	
lastReadingTime	Date	The time that the last reading was received by the IoT Platform Server from the Device.	
lastReadings	An Array of Readings	This is the event sent by the Device. This property comprises the following properties.	
lastReadings/ type	Integer	The type of this event is defined in the Event Manifest. For example, an event whose **type** equals 7 represents a temperature event.	
lastReadings/ datetime	Date	The timestamp of the event as inserted in the event by the Device. This date includes the time zone of the Device. Note – The Device can enter any date/	

Property	Type	Description	Mandatory
		time, not necessarily the exact time that the event occurred.	
lastReadings/ name	String	The name of the event.	
lastReadings/ value	String	The value of the reading. For example, the temperature.	
lastReadings/ unit	String	The unit of the reading. For example, whether the temperature is Celsius or Fahrenheit.	
lastReadings/ deviceId	String	The unique identifier of the specific Device.	
isConnected	Boolean	Indicates the Device's connectivity status to the IoT Platform Server. **True** indicates that the Device responded to the most recent keepAlive ping by the IoT Platform Server. Each Device's Product has a keepAlive field that indicates the frequency at which	

Property	Type	Description	Mandatory
		the Devices of this Product are checked for connectivity.	
		In addition, each Device can also have an optional keepAliveThreshold, which specifies the frequency at which this specific Device is checked for connectivity. A value in this field overrides the **keepAlive** field of the Device's Product.	
additionalProperties		Not in use.	
token		Not in use.	
parseReading		Not in use.	
diagram		Not in use.	
enableDirectMethod		Not in use.	
alarmInstancesCount	Int	Specify the number of active alarm instances on the device	

Example JSON Devices/Get (List) Response

Status 200 – OK

```
{
    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
    odata/$metadata#Devices",
```

 "value": [

    {

 "productId": "58564ddd66701d07a838fc48",

        "productName": null,

        "serialNumber": "123456",

        "topic": null,

        "groupId": null,

        "active": false,

        "firstTimeRegistrationDate": "0001-01-01T00:00:00Z",

        "activationDate": "0001-01-01T00:00:00Z",

        "token": null,

        "commandsProtocol": "Undefined",

        "lastReadingTime": "0001-01-01T00:00:00Z",

        "isConnected": false,

        "hubId": null,

        "hubPrimaryKey": "9hH+rsEQTHw64jS3sum5ZfMeN4F3DNcg7uA4YUULfzA=",

        "hubSecondaryKey": "NVKWYAIbcpoJ0vJ+TfyBU8CY8fN5R+mfjkPCIVyODLA=",

        "customId": "FMS6320-1",

        "keepAliveThreshold": 0,

        "isAlarmed": false,

        "virtualDeviceStatus": "NotAvailable",

        "virtualDeviceEvents": null,

        "redisKey": null,

        "diagram": null,

        "streamUrl": null,

        "parentId": null,

        "name": "new name1",

        "id": "58c6898fb88c391588c91b2d",

        "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E'",

        "createDate": "2017-03-13T11:59:11.61Z",

```
        "createUser": "5851631e4e41925b98f08e15",

        "updateDate": "0001-01-01T00:00:00Z",

        "updateUser": null,

        "lastReadings": [],

        "additionalProperties": [],

        "userDefinedLocation": null,

        "currentLocation": null,

        "coords": null,

        "ancestors": []

    }

    ]

    }
```

Devices/Get (Specific)

GET /odata/Devices/[deviceId]

Description

Gets the details of a specific Device, as specified by the Device's ID. This Device ID is returned in the response of **Devices/Post**.

To get the details of all the Devices of the applications allowed to the logged#in user, see **Devices/Get (List)**.

For request and response details, see Request – Devices/Get (Specific) and Response – Devices/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/Get (Specific)

Property	Type	Description	Mandatory
deviceId	String	This is the unique identifier automatically assigned by IoT Platform when a Device is	Y

Property	Type	Description	Mandatory
		created. This deviceId is returned in the response of the **Devices/ Post**.	

Example JSON Devices/Get (Specific) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/devices/58c6898fb88c391588c91b2d \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Devices/Get (Specific)

For the requested Device, the response provides the properties in **Devices/Post**. In addition, the response that is returned also contains the following properties.

Property	Type	Description	Mandatory
strong>alarmInstances	Array of Objects	The list of AlarmInstance IDs active on the device.	
alarmInstance/ _id	String	The AlarmInstance ID.	
alarmInstance/ name	String	Not in use.	
isHub	Boolean	Specifies whether the device is a gateway (True) or not.	
settings/ lastSync	DateTime	The last timestamp when a	

Property	Type	Description	Mandatory
		reading was received from the Device.	
settings/ reportedValue	String	The value received from the updated physical Device by the IoT Platform Device SDK as the **updatedValue**, after it has been updated. This value should be the same as the **desiredValue** (described above).	
isAlarmed	Boolean	**True** if an alarm is currently active in the IoT Platform System for this Device. AlarmInstances can be dismissed in the IoT Platform Portal or using the Axonize Device API.	
lastReadingTime	Date	The time that the last reading was received by the IoT Platform Server from the Device.	

Property	Type	Description	Mandatory
lastReadings	An Array of Readings	This is the event sent by the Device. This property comprises the following properties.	
lastReadings/ type	Integer	The type of this event is defined in the Event Manifest. For example, an event whose **type** equals 7 represents a temperature event.	
lastReadings/ datetime	Date	The timestamp of the event as inserted in the event by the Device. This date includes the time zone of the Device. Note – The Device can enter any date/ time, not necessarily the exact time that the event occurred.	
lastReadings/ name	String	The name of the event.	
lastReadings/ value	String	The value of the reading. For example, the temperature.	

Property	Type	Description	Mandatory
lastReadings/ unit	String	The unit of the reading. For example, whether the temperature is Celsius or Fahrenheit.	
lastReadings/ deviceId	String	The unique identifier of the specific Device.	
isConnected	Boolean	Indicates the Device's connectivity status to the IoT Platform Server. **True** indicates that the Device responded to the most recent keepAlive ping by the IoT Platform Server. Each Device's Product has a keepAlive field that indicates the frequency at which the Devices of this Product are checked for connectivity. In addition, each Device can also have an optional keepAliveThreshold, which specifies the frequency at which this specific	

Property	Type	Description	Mandatory
		Device is checked for connectivity. A value in this field overrides the **keepAlive** field of the Device's Product.	
additionalProperties		Not in use.	
token		Not in use.	
parseReading		Not in use.	
diagram		Not in use.	
enableDirectMethod		Not in use.	
alarmInstancesCount	Int	Specify the number of active alarm instances on the device	

Example JSON Devices/Get (Specific) Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Devices/$entity",

"productId": "58564ddd66701d07a838fc48",

"productName": null,

"serialNumber": "123456",

"topic": null,

"groupId": null,

"active": false,

"firstTimeRegistrationDate": "0001-01-01T00:00:00Z",

"activationDate": "0001-01-01T00:00:00Z",

"token": null,
```

"commandsProtocol": "Undefined",

"lastReadingTime": "0001-01-01T00:00:00Z",

"isConnected": false,

"hubId": null,

"hubPrimaryKey": "9hH+rsEQTHw64jS3sum5ZfMeN4F3DNcg7uA4YUULfzA=",

"hubSecondaryKey": "NVKWYAIbcpoJ0vJ+TfyBU8CY8fN5R+mfjkPCIVyODLA=",

"customId": "FMS6320-1",

"keepAliveThreshold": 0,

"isAlarmed": false,

"virtualDeviceStatus": "NotAvailable",

"virtualDeviceEvents": null,

"redisKey": null,

"diagram": null,

"streamUrl": null,

"parentId": null,

"name": "new name1",

"id": "58c6898fb88c391588c91b2d",

"appId": "801A048A-9F23-429F-BF0D-B6D35B22771E'",

"createDate": "2017-03-13T11:59:11.61Z",

"createUser": "5851631e4e41925b98f08e15",

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"lastReadings": [],

"additionalProperties": [],

"userDefinedLocation": null,

"currentLocation": null,

"coords": null,

"ancestors": []

}

Devices/Delete

DELETE /odata/Devices/[deviceId]

Description

Deletes the details of a specific Device, as specified by the Device's ID. This Device ID is returned in the response of the **Devices/Post**.

You cannot delete a Device that is a parent Device (see parentId) of other Devices or when that Device is specifically mentioned in a Rule(s). In the latter case, you must first delete or amend the Rule(s) before the Device can be deleted. An error is returned if you attempt to delete a parent Device or a Device that is bound to a Rule(s).

For request and response details, see Request – Devices/Delete and Response – Devices/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/Delete

Property	Type	Description	Mandatory
deviceId	String	This is the unique identifier automatically assigned by IoT Platform when a Device is created. This deviceId is returned in the response of the Devices/Post.	Y

Example JSON Devices/Delete

```
curl -X DELETE \

https://api.stg.axonize.com/odata/devices/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \
```

```
-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Devices/Delete

Status 200 – OK

Devices/Patch or Devices/Put

PATCH /odata/Devices/[deviceId] or PUT /odata/Devices/[deviceId]

Description

To update an existing IoT Platform Device.

For request and response details, see Request – Devices/Patch or Put and Response – Devices/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/Patch or Put

In the request, specify the ID of the Device whose definition to change and the name of the property(s) to change. These properties are described in Devices/Post.

For the **Patch** request, all unspecified fields remain unchanged.

For the **Put** request, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
deviceId	String	This is the unique identifier automatically assigned by IoT Platform when a Device is created. This deviceId is returned in the response of the **Devices/Post**.	Y

Example JSON Devices/Patch Request

The following is an example of changing a Device's **name** to **test**.

```
curl -X PATCH \

  https://api.stg.axonize.com/odata/devices/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

  -d '{

      "name":"test"

}

'
```

Response – Devices/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Example JSON Devices/Patch/Put Response

Status 204 – No Content - The server has successfully fulfilled the request.

Devices/UpdateSettings

POST /odata/Devices/deviceId/updateSettings

Description

IoT Platform Device objects have a property named **settings**. Each **setting** property in **settings** correlates with a specific setting on the actual Device, which is managed by the IoT Platform Device SDK.

This endpoint enables the updating of a **setting** value of an IoT Platform Device object property so that this same value is modified on a physical Device in order to affect its functionality.

The IoT Platform Device SDK on the Device must be set up to monitor this property in order to trigger the proper functionality on the Device.

For request and response details, see Request – Devices/UpdateSettings and Response – Devices/UpdateSettings.

Request – Devices/UpdateSettings

Property	Type	Description	Mandatory
settings	Array of Objects	**Settings** is an array of **setting** properties. Each **setting** property represents an IoT Platform Device object property to be modified on a physical Device in order to affect its functionality. "settings": [{ "name": "string", "desiredValue": "string" "reportedValue": "string", "lastSync": "2018-08-24T11:14:32.000Z", "version": 0 }	
settings/ name	String	A free-text name for the property. This name must be recognized	

Property	Type	Description	Mandatory
		and handled on the physical Device.	
settings/ desiredValue	String	The value to be assigned to this property on the physical Device.	
settings/ reportedValue	String	The value received from the updated physical Device by the IoT Platform Device SDK as the **updatedValue**, after it has been updated. This value should be the same as the **desiredValue** (described above).	
settings/ lastSync	DateTime	The last timestamp when a reading was received from the Device.	
settings/ version	Integer	Not in use.	

Example JSON Devices/UpdateSettings Request

```
curl -X POST \

  https://api.dev.axonize.com/odata/devices/5953a14cb637f914dcbf75fd/updatesettings \

  -H 'Content-Type: application/json' \
```

```
   -H 'appId: 2925e8b9-259c-1234-afed-80a20d123456' \

   -H 'Authorization: Token' \

  -d '{

  "settings": [

   {

     "name": "temperature",

     "reportedValue": "40",

     "lastSync": "2018-08-19T12:50:03.363Z",

     "version": 0

   }

  ]

  }'
```

Response – Devices/UpdateSettings

Property	Type	Description
value	Boolean	The result of the update settings.

Example JSON Devices/UpdateSettings Response

Status 200 – OK

```
{

   "@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/
odata/$metadata#Edm.Boolean",

   "value": true

}

{

  "setting": {

   "name": "string",

   "desiredValue": "string",

   "reportedValue": "string",
```

```
        "lastSync": "2018-08-24T11:14:32.081Z",

        "version": 0

    }
```

Devices/RemoveSetting

POST /odata/Devices/deviceId/removeSetting

Description

IoT Platform Device objects have a property named **settings**. Each **setting** property in
 settings correlates with a specific setting on the actual Device, which is managed by the
IoT Platform Device SDK.

This endpoint removes a specific setting from the IoT Platform Device object properties
so that it is no longer managed by IoT Platform .

For request and response details, see Request – Devices/RemoveSetting and Response
– Devices/RemoveSetting.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/RemoveSetting

Property	Type	Description	Mandatory
settings	Array of Objects	**Settings** is an array of **setting** properties. Each **setting** property represents an IoT Platform Device object property to be modified on a physical Device in order to affect its functionality. "settings": [{ "name": "string",	

Property	Type	Description	Mandatory
		"desiredValue": "string",	
		"reportedValue": "string",	
		"lastSync": "2018-08-24T11:14:32.000Z",	
		"version": 0	
		}	
settings/ name	String	A free-text name for the property. This name must be recognized on the physical Device.	
settings/ desiredValue	String	The value to be assigned to this property on the physical device.	
settings/ reportedValue	String	The value received from the updated physical Device by the IoT Platform Device SDK as the **updatedValue**, after it has been updated. This value should be the same as the **desiredValue** (described above).	
settings/ lastSync	DateTime	The last timestamp when a	

Property	Type	Description	Mandatory
		reading was received from the Device.	
settings/ version	Integer	Not in use.	

Example JSON Devices/RemoveSetting Request

```
https://api.stg.axonize.com/odata/devices/5953a14cb637f914dc123456/removesetting \

-H 'Content-Type: application/json' \

-H 'appId: 2925e8b9-259c-1234-afed-80a20d123456' \

-H 'Authorization: Token' \

-d '{"settingName": "humidity"}'
```

Response – Devices/RemoveSetting

Property	Type	Description
value	Boolean	Set to True if the removal of the setting was successful.

Example JSON Devices/RemoveSetting Response

Status 200 – OK

```
curl -X POST \

{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/$metadata#Edm.Boolean",

"value": true

}
```

Devices/GetFullReading

POST /odata/Devices/deviceId/GetFullReading

Description

Gets the last readings from a specific device.

For request and response details, see Request – Devices/GetFullReading and Response – Devices/GetFullReading.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/GetFullReading

Property	Type	Description	Mandatory
startDate	Date	The start date of the period for which to obtain data.	Y
endDate	Date	The end date of the period for which to obtain data.	Y
keys	Strings	Device IDs.	Y
events	List of Events	A list of specific events that have been defined in the manifest, in order to retrieve all of them.	Y
events / eventType	String	The event type. See Defining a Device Event Manifest. IoT Platform provides a list of the event types for your selection, such	

Property	Type	Description	Mandatory
		as **7** for **temperature**, **8** for **humidity**, **9** for **acceleration**, **100** so on.	
events / eventName	String	This property is optional, because the eventType (described above) may be sufficient to retrieve the required information. Because there may be more than one series of each **eventType** (described above), the **eventName** property helps uniquely identify each series calculation of a specific **eventType** that is returned in the response. For example, when a Chart contains multiple Temperature (Event Type 7) calculations.	

Example JSON Devices/GetFullReading Request

```
curl -X POST \

https://api.stg.axonize.com/odata/Devices/5b069de1dc7cde23b0123456/GetFullReading \

-H 'Content-Type: application/json' \

-H 'appId: 2925e8b9-259c-1234-afed-80a20d123456' \

-H 'Authorization: Token' \
```

-d '{"startDate":"2017-11-18T11:05:37.777Z","endDate":"2018-06-06T11:05:37.777Z","events":
[{"name":"Temperature","type":7}]}'

Response – Devices/GetFullReading

Property	Type	Description
value	Array of Readings	Lists the device readings.

Example JSON Devices/GetFullReading Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net

/odata/$metadata#Collection(Axonize.Common.Models.NonSql.lastReading)",

"value": [

{

"type": 7,

"datetime": "2018-02-13T13:28:59Z",

"name": "Temperature",

"value": "3790",

"cultureInvariantValue": "3790",

"unit": "mV",

"deviceId": "5b069de1dc7cde23b0123456"

},

{

"type": 7,

"datetime": "2018-02-13T13:28:59Z",

"name": "Temperature",

"value": "3786",

"cultureInvariantValue": "3786",

"unit": "mV",
```

```
    "deviceId": "5b069de1dc7cde23b0123456"

  }

  ]

}
```

Devices/Get FullReadingForMultipleDevices

POST /odata/Devices/GetFullReadingForMultipleDevices

Description

Gets the last readings from multiple devices.

For request and response details, see Request – Devices/
GetFullReadingForMultipleDevices and Response – Devices/
GetFullReadingForMultipleDevices.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/GetFullReadingForMultipleDevices

Property	Type	Description	Mandatory
startDate	Date	The start date of the period for which to obtain data.	Y
endDate	Date	The end date of the period for which to obtain data.	Y
keys	Array of Strings	Lists the device IDs.	Y

Example JSON Devices/GetFullReadingForMultipleDevices Request

```
curl -X POST \

https://api.stg.axonize.com/odata/devices/GetFullReadingForMultipleDevices \

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \
```

-H 'appId: a6bc787b-bccc-1234-a35b-5f587026d2ab' \

-d '{"startDate":"2018-02-03T05:43:00.135Z","endDate":"2018-04-04T05:43:00.135Z","keys": ["5aba6aa3dc7cde240cc21234"]}'

Response – Devices/GetFullReadingForMultipleDevices

Property	Type	Description
value	Array of Readings	Lists the device readings.

Example JSON Devices/GetFullReadingForMultipleDevices Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Collection(Axonize.Common.Models.NonSql.lastReading)",

"value": [

{

"type": 7,

"datetime": "2018-04-04T05:42:14Z",

"name": "Temperature",

"value": "34",

"unit": "C",

"deviceId": "5aba6aa3dc7cde240cc21234"

},

{

"type": 7,

"datetime": "2018-04-04T05:32:14Z",

"name": "Temperature",

"value": "22",

"unit": "C",

"deviceId": "5aba6aa3dc7cde240cc21234"
```

```
    }

  ]

}
```

Devices/GenerateSASToken

POST /odata/Devices/deviceId/GenerateSASToken

Description

This request returns a Shared Access Signature (SAS) token that can be used by a Device to send events to the IoT Platform IoT hub.

A Device can use HTTPS to send an event to IoT Platform using a Shared Access Signature (SAS) token placed in the request header sent to the IoT Platform IoT hub.

The number of validity days (daysTTL) for the SAS token can be defined (the default is 45 days).

For request and response details, see Request – Devices/GenerateSASToken and Response – Devices/GenerateSASToken.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/GenerateSASToken

Property	Type	Description	Mandatory
key	String	The device ID.	
parameters	JSON	**daysTTL –** The number days that the token is valid – maximum 365 days. The default is 45 days.	

Example JSON Devices/GenerateSASToken

```
curl -X POST \

https://api.stg.axonize.com/odata/devices/58564b324e41995b98212345/GenerateSASToken \

 -H 'Cache-Control: no-cache' \
```

```
-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4788-9258-1ba220123456' \

-d '{

 "daysTTL": 45

}'
```

Response – Devices/GenerateSASToken

Property	Type	Description
value	String	The token to be used by a Device in order to communicate with the IoT Platform IoT hub.

Example JSON Devices/GenerateSASToken

{"@odata.context":"https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net

/odata/$metadata#Edm.String","value":"SharedAccessSignature

sr=dev-iot-axonize.azure-devices.net%2Fdevices%2F59b8d332ce

800fc240a54e2d&sig=aMOiZm7P2JABteKGXc9DV5I4yufdd5rvj%2BgGsUgHFRU
%3D&se=1537691429"}

Devices/createVirtualDevice

POST /odata/Devices/createVirtualDevice

Description

Creates a new virtual device.

For request and response details, see Request – Devices/createVirtualDevice and Response – Devices/createVirtualDevice.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/createVirtualDevice

Property	Type	Description	Mandatory
productId	String	The unique identifier of the Product to which this Device belongs. This ID is returned in response to the Products/Post request.	Y
name	String	The name of this Device.	Y
serialNumber	String	The serial number of this Device.	
events	String	Copy in here the actual XML text. See Defining a Virtual Device Manifest for more details.	

Example JSON Devices/createVirtualDevice

```
curl -X POST \

https://api.stg.axonize.com/odata/devices/createVirtualDevice \

-H 'Cache-Control: no-cache' \

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4748-9258-1b1234567890' \

-d '{"virtualDevice":{"productId":"58766044391802681471830f",

"name":"shachartest","serialNumber":"123231″,"events":"<Events>\n\t<Event>\n\t\t<Id>7</Id>\n\t\t

<Name>Temperature</Name>\n\t\t<MinValue>10</MinValue>\n\t\t<MaxValue>30</MaxValue>\n\t\t

<SecondsInterval>300</SecondsInterval>\n\t\t<ValueType>Decimal</ValueType>\n\t\t
```

    <DecimalPoints>2</DecimalPoints>\n\t</Event>\n</Events>"}}'

Response – Devices/createVirtualDevice

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
deviceId	String	A unique identifier that is automatically generated for this Device by IoT Platform .
appId	String	The Application to which this Device belongs. This generated by IoT Platform and sent in the response to **Applications/ Post**.
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Example JSON Devices/createVirtualDevice

```
{

  "@odata.context" : "https://stg-axonizeapi-axonize.stgse-axonize.p.azurewebsites.net/odata/
$metadata#Device/$entity",

  "productId" : "587660443918026814711234",

  "productName" : null,

  "serialNumber" : "123231",

  "topic" : null,

  "groupId" : null,

  "active" : false,

  "firstTimeRegistrationDate" : "0001-01-01T00:00:00Z",
```

"activationDate" : "0001-01-01T00:00:00Z",

"token" : null,

"commandsProtocol" : "Undefined",

"lastReadingTime" : "0001-01-01T00:00:00Z",

"isConnected" : false,

"hubId" : null,

"hubPrimaryKey" : "cH1pQfeZeM",

"hubSecondaryKey" : "aIE/hXY",

"customId" : null,

"keepAliveThreshold" : 0,

"isAlarmed" : false,

"virtualDeviceStatus" : "Started",

"virtualDeviceEvents" : "<Events>\n\t<Event>\n\t\t<Id>7</Id>\n\t\t

<Name>Temperature</Name>\n\t\t<MinValue>10</MinValue>\n\t\t<MaxValue>30</
MaxValue>

\n\t\t<SecondsInterval>300</SecondsInterval>\n\t\t<ValueType>Decimal</ValueType>\n\t\t

<DecimalPoints>2</DecimalPoints>\n\t</Event>\n</Events>",

"redisKey" : null,

"diagram" : null,

"streamUrl" : null,

"parentId" : null,

"name" : "shachartest",

"id" : "5bc5d1bb19ec0c40b07f1234",

"appId" : "f51df5bf-8d3c-4ba5-9574-3f3b8d6a26bd",

"createDate" : "2018-10-16T11:55:39.1418009Z",

"createUser" : "58845d47922dcf2b0cc41234",

"updateDate" : "0001-01-01T00:00:00Z",

"updateUser" : null,

"lastReadings" : [],

"additionalProperties" : [],

```
    "userDefinedLocation" : null,

    "currentLocation" : null,

    "coords" : null,

    "settings" : [],

    "ancestors" : []

}
```

Devices/stopVirtualDevice

POST /odata/Devices/[id]/stopVirtualDevice

Description

Stops a virtual device.

For request and response details, see Request – Devices/stopVirtualDevice and Response – Devices/stopVirtualDevice.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/stopVirtualDevice

Example JSON Devices/stopVirtualDevice

```
curl -X POST \

https://api.stg.axonize.com/odata/devices/5bc5d1bb19ec0c40b07f1234/stopVirtualDevice \

-H 'Cache-Control: no-cache' \

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4748-9258-1b1234567890' \
```

Response – Devices/stopVirtualDevice

Example JSON Devices/stopVirtualDevice

Status 204 – No Content

Devices/UpdateDeviceFirmware

GET /odata/Devices/[deviceId]/UpdateDeviceFirmware

Description

Updates a device's firmware.

Before this endpoint can be used, the **UploadFirmwareFile** endpoint must have been used to upload the firmware to the IoT Platform cloud repository for the product to which this Device belongs.

UploadFirmwareFile requires the deviceId to which to load the firmware and the firmware file ID as input.

For request and response details, see Request – Devices/UpdateDeviceFirmware and Response – Devices/UpdateDeviceFirmware.

See Also Authentication/Request Headers and API Response Codes.

Request – Devices/UpdateDeviceFirmware

The parameters in the request are specified as part of the HTTP Header.

Property	Type	Description	Mandatory
deviceId	String	A unique identifier that is automatically generated for this Device by IoT Platform . This is the Device to which the firmware will be loaded.	Y
FirmwareFileId	String	This is the unique identifier of the firmware file. A file id is automatically assigned by IoT Platform when a firmware file	Y

Property	Type	Description	Mandatory
		is created using the UploadFirmwareFile endpoint.	

Example Devices/UpdateDeviceFirmware Request

```
curl -X POST \

 https://api.axonize.com/odata/devices/{DeviceId}/UpdateDeviceFirmware \

 -H 'Accept: application/json, text/plain, */*' \

 -H 'Content-Type: application/json' \

 -d '{

          "firmwareFileId": "{FileId}"

 }'
```

Response – Devices/UpdateDeviceFirmware

Status 200 – OK

Things Endpoints

Things are instances of devices or groups.

- Things/Get (List)
- Things/Get (Specific)

Things/Get (List)

GET /odata/Things

Description

Gets a list of Things.

For request and response details, see Response – Things/Get (List).

Response – Things/Get (List)

Property	Type	Description	Mandatory	Instance Type
productId	String	The unique identifier of the Template to which this Thing belongs. This ID is returned in response to the **ThingsTemplates/ Post** request.	Y	Device Group
productName	String	The name of the Product to which this Thing belongs. This name was set using the **Products/ Post** request.		Device
serialNumber	String	The serial number of this Thing.		Device
groupId	String	The ID of the Group to which the Thing belongs.	Not in use	Device
active	Boolean	Specifies whether the Thing is active, meaning that it can be used – True/False.	Not in use	Device Group

Property	Type	Description	Mandatory	Instance Type
firstTimeRegistrationDate	Date Time Offset	Specifies the date when this Thing was first registered.	Not in use	Device
activationDate	Date Time Offset	Specifies the date when this Thing first became active.	Not in use	Device
commandsProtocol	String/ Enum	The protocol used by the IoT Platform Device SDK to connect to the cloud. The default is AMQP. The options are as follows – • Undefined • HTTP • AMQP • Modbus • SNMP • Test		Device
lastReadingTime	Date	The time that the last reading was received by the IoT Platform Server from the Thing.		Device Group
isConnected	Boolean	Indicates the Device's connectivity status to the IoT Platform Server. **True** indicates that the Device responded to the most recent keepAlive ping by the IoT Platform Server. Each Device's Product has a keepAlive field that indicates the frequency at which the Devices of this Product are checked for connectivity. In addition, each Device can also have an optional keepAliveThreshold, which specifies the frequency at which this specific Device is checked for connectivity. A value in this field overrides the **keepAlive** field of the Device's Product.		Device
hubId	String	Specifies the ID of the hub if there are sensors connected to the hub. This hub ID belongs to the field		Device Group

Property	Type	Description	Mandatory	Instance Type
		gateway. Null indicates that it is the hub itself.		
hubPrimaryKey and hubSecondaryKey	String	The Thing's primary and secondary keys in the Azure Microsoft Cloud IoT hub.		Device Group
strong>customId	String	The Device's unique identifier in an external system. This enables the correlation of the IoT Platform Device ID with the external system's Device ID.		Device
keepAliveThreshold	Integer	The frequency at which this specific Device is checked for connectivity (in minutes). A value in this field overrides the **keepAlive** field of the Device's Product. The **isConnected** property of this Device indicates the connectivity status of the Device.		Device
isAlarmed	Boolean	**True** if an alarm is currently active in the IoT Platform System for this Device. Alarms can be dismissed in the IoT Platform Portal or using the IoT Platform Device API.		Device
virtualDeviceStatus	String/ Enum	If this is a Virtual Device, then this property specifies the status of this Device. The options are as follows – • **Not Available** • **Started** • **Stopped**		Device
virtualDeviceEvents	String	If this is a Virtual Device, then this property is the actual string of its Event Manifest.		Device
redisKey	String	For Internal use. The key of the Device in the Redis cache.		Device
streamUrl	String	The URL of the stream sent by this Device.		Device

Property	Type	Description	Mandatory	Instance Type
parentId	String	The logical parent of this thing as opposed to hub ID (described above) which is the physical parent.		Device Group
name	String	The name of this Thing.	Y	Device Group
appId	String	The Application to which this Thing belongs. This is generated by IoT Platform and sent in the response to Applications/Post.		Device Group
userDefinedLocation	Object	The Device's GPS coordinates as defined when the Device was created, or its definition was modified. This enables the Device/event to be represented on a map. "address": "string", "lat": 0, "lng": 0, "updateDate": "2018-02-21T16:06:34.725Z"		Device
currentLocation	Object	The Device's GPS coordinates at the time of the event, which enable the Device/event to be represented on a map. "address": "string", "lat": 0, "lng": 0, "updateDate": "2018-02-21T16:06:34.725Z" If the Device sent a GPS location reading after a User defined location was set, then the current location is the GPS data from the Device.		Device
coords	Object	The coordinates specifying the location of this Device in the diagram provided by the customer. "x": 0,		Device

Property	Type	Description	Mandatory	Instance Type
		"y": 0		

Settings	Array of Objects	**Settings** is an array of **setting** properties. Each **setting** property represents an IoT Platform Thing object property to be modified on a physical Device in order to affect its functionality.
		
		The IoT Platform Device SDK must be set up to monitor this IoT Platform Thing object property in order to trigger the proper functionality on the Device.
		
		"settings": [
		{
		"name": "string",
		"desiredValue": "string",
		"reportedValue": "string",
		"lastSync": "2018-08-24T11:14:32.000Z",
		"version": 0
		}
				Device
				
				Group

settings/ name	String	A free-text name for the property. This name must be recognized on the physical Device.		Device Group
settings/ desiredValue	String	The value to be assigned to this property on the physical device.		Device Group
settings/ reportedValue	String	The value received from the updated physical Device by the IoT Platform Device SDK as the **updatedValue**, after it has been updated. This value should be the same as the **desiredValue** (described above).		Device Group
settings/ lastSync	DateTime	The last timestamp when a reading was received from the Device.		Device Group

Property	Type	Description	Mandatory	Instance Type
settings/ version	Integer	Not in use		Device Group

ancestors	Array	Lists the IDs of the ancestor Devices (parents, parents of parents and so on) of this Device, in no particular order.
		
		"ancestors": [
		
		{
		
		"id": "564117c213826b303c123456",
		
		"name": "Gateway 5"
		
		},
		
		{
		
		"id": "564201c084a83518b8123456",
		
		"name": "Fridge 23"
		
		}
		
		]
				Device
				Group

lastReadings	An Array of Readings	This is the event sent by the Thing. This property comprises the following properties.		Device Group
lastReadings/ type	Integer	The type of this event is defined in the Event Manifest. For example, an event whose **type** equals 7 represents a temperature event.		Device Group
lastReadings/ datetime	Date	The timestamp of the event as inserted in the event by the Thing. This date includes the time zone of the Thing. **Note –** The Thing can enter any date/time, not necessarily the exact time that the event occurred.		Device Group
lastReadings/ name	String	The name of the event.		Device Group
lastReadings/ value	String	The value of the reading. For example, the temperature.		Device Group

Property	Type	Description	Mandatory	Instance Type
lastReadings/ unit	String	The unit of the reading. For example, whether the temperature is Celsius or Fahrenheit.		Device Group
lastReadings/ deviceId	String	The unique identifier of the specific Thing.		Device Group
commandsProtocol	String/ Enum	The protocol used by the IoT Platform Device SDK to connect to the cloud. The default is AMQP. The options are as follows – • Undefined • HTTP • AMQP • Modbus • SNMP • Test		Device
lastReadingTime		The time that the last reading was received by the IoT Platform Server from the Thing.		Device Group
topic	–	Obsolete		Device
defaultLocation	JSON	The GPS coordinates that were defined when the entity was created or its definition was modified. This enables the entity to be represented on a map. This location is automatically assigned to all entities in the group to which no specific location was defined. By default, Devices are each assigned this default location, meaning the location of the Group to which they belong. However, if the GPS **userDefinedLocation** property is defined for a specific Device, then that location overrides this one. "address": "string", "lat": 0,		Group

Property	Type	Description	Mandatory	Instance Type
		"lng": 0, "updateDate": "2018-02-21T16:06:34.725Z"		
info	String	Free text describing this group.		Group
diagram	tring	An internal link to a map resource file that can be used in this Application instead of Google Maps.		Group

users or devices	String	A list of the unique identifiers of the entities in the Group. For example, the identifiers of Devices or Users.
		
		"users": [
		
		{
		
		"id": "string",
		
		"name": "string"
		
		}
				Group

thingType	Enum	0 For device 1 for Group		Device Group
TemplateId	String	The group instance template Id	Obsolete (Use ProductId Field)	Group
CalendarSettings	CalendarSettings	The device calendar settings		Device
IsScrubbed	Bool	Internal use		Device
ProfileIds	List<string>	Internal use		Device Group
alarmInstancesCount	Count	The number of alarms on the device		Device

Example JSON Things/Get Request

```
curl –location –request GET 'https://api.dev.axonize.com/odata/things' \

–header 'Accept: application/json, text/plain, */*' \

–header 'appId: 4eec315a-58b1-4c53-98c9-aff93bec60cd' \
```

Things/Get (Specific)

GET /odata/Things/Id

Description

Gets a list of Things.

For request and response details, see Response – Things/Get (Id).

Response – Things/Get (Id)

Property	Type	Description	Mandatory
Id	String	This is the unique identifier automatically assigned by IoT Platform when a Thing is created.	Y
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Notification is assigned.	

Example JSON Things/Get Request

```
curl –location –request GET 'https://api.dev.axonize.com/odata/
things/5ce24909e3b0c618c0b6f1b4' \

–header 'Accept: application/json, text/plain, */*' \

–header 'appId: 4eec315a-58b1-4c53-98c9-aff93bec60cd' \
```

```
–header ‘Accept-Encoding: gzip, deflate’
```

Things Templates Endpoints

Thing template defines the properties for the related templates – Product (Device template) or Group template.

- ThingsTemplates/Get (List)
- ThingsTemplates/Get (Id)

ThingsTemplates/Get (List)

GET /odata/ThingsTemplates

Description

Gets a list of Things templates.

For request and response details, see Request – ThingsTemplates/Get.

Request – ThingsTemplates/Get

Property	Type	Description	Mandatory	Template Type
name	String	The free-text name of the template.	Y	Product
				Group Template
description	String	The free text description of the Product.		Product
icon	String	A link to the default icon to represent Devices of this Product type.		Product
customIdDisplay	Boolean	The **customID** of a Device is the Device's unique identifier in an external system. This enables the correlation of the IoT Platform Device ID with the external system's Device ID. The **customIdDisplay** specifies whether to show a field in the IoT Platform Portal that enables the entry of a customer ID when		Product

Property	Type	Description	Mandatory	Template Type
		defining each Device of this Product. **Note** – **customID** is a property in the Devices/Post request of the IoT Platform REST API.		
customIdRequired	Boolean	**True** – If it is mandatory to enter the **customIdDisplay** field when defining a Device of this Product (described above) in the IoT Platform Portal.		Product
serialNumberDisplay	Boolean	Specifies whether to show a field in the IoT Platform Portal that enables the entry of a serial number when defining each device of this Product. **serialNumber** is a property in the Devices/Post request of the IoT Platform REST API.		Product
serialNumberRequired	Boolean	**True** – If it is mandatory to enter the **serialNumberDisplay** field when defining a Device of this Product (described above) in the IoT Platform Portal.		Product
active	Boolean	Specifies whether the Product is active, meaning that it can be used – True/False.		Product
keepAliveThreshold	Integer	Specifies how long the system waits for a message from a Device (in minutes) of this Product before determining that the Device is disconnected. These Devices are indicated in the IoT Platform Portal as **Disconnected**. **-1** – Specifies that the Device should never be indicated in the IoT Platform Portal as **Disconnected**.		Product
defaultVirtualDeviceEvents	String	This property specifies the virtual device manifest for devices of this Product. This property is only relevant for virtual devices. See Defining a Virtual Device Manifest for more information.		Product

Property	Type	Description	Mandatory	Template Type
disconnectChildDevices	Boolean	**True –** If all child Devices are marked as **Disconnected** in IoT Platform when the parent Device is determined to be disconnected. For example, for a parent Device, such as a device gateway or panel.		Product
connectChildDevices	Boolean	**True –** If all child Devices are marked as **Connected** in IoT Platform when the parent Device is determined to be disconnected. For example, for a parent Device, such as a device gateway or panel.		Product
disconnectGroupDeviceOnAllChildrenDisconnect	Boolean	When all of a Device's children are disconnected, the Device's parent is also disconnected.		Product
connectGroupDeviceOnAnyChildrenConnect	Boolean	When one of a Device's children is disconnected, the Device's parent is also disconnected.		Product
onConnectCommandIds	Strings	The list of command IDs to be automatically triggered when Devices of this Product connect to IoT Platform .		Product
manufacturer	String	The free text manufacturer name of this Device type.		Product
commandsProtocol	String/ Enum	The command protocol, as follows – • Unidentified • HTTP • AMQP • Modbus • SNMP		Product
commandsAddress	String	For Internal use. The remote address to where to send commands for this device type. This address acts as a device gateway.		Product
autoDiscoveryCommand	String	Specifies one or more command IDs to be automatically activated on		Product

Property	Type	Description	Mandatory	Template Type
		the Device itself, when a Device is created.		
displayCommandsTab	Boolean	Specifies that the IoT Platform Portal shows the **Commands** tab for Devices of this Product. This tab enables you to automatically activate commands on Devices of this Product.		Product
onDeleteCommands	Array of Strings	Specifies one or more command IDs to be automatically activated on the Device itself, just before a Device of this Product is deleted from the IoT Platform system.		Product
onPatchCommands	Array of Strings	Specifies one or more command IDs to be automatically activated on the Device itself, just before the data on a Device of this Product is patched by the IoT Platform system.		Product
dispayDeviceSDKDetails	Boolean	This option is for IoT Platform Device SDK developers. **True –** Specifies that additional information for developers is shown in the IoT Platform Portal.		Product
commands	Array	Defines an array of one or more commands that the IoT Platform REST API can use for each Device of this Product type. These commands enable you to trigger actions on the device using the **sendCommand** endpoint. The IoT Platform Device SDK should be activated on the device and set up accordingly to listen to this command. Alternatively, IoT Platform can set up its command gateway that can send commands to devices that are not using the IoT Platform Device SDK. After a command is created, IoT Platform returns a unique identifier (command ID) to be used with the IoT Platform REST		Product

Property	Type	Description	Mandatory	Template Type
		API Command entity in order to send commands to a device.		
commands/ name	String	The free-text name of the command.		Product
commands/ arguments	Array of Strings	Defines an array of one or more arguments of a command to be sent to the Device.		Product
commands/ arguments/ name	tring	The free-text name of the argument.		Product
commands/ arguments/ value	String	The actual value of the command. This is the value that will affect the device.		Product
commands/ arguments/ serviceProperty	Array	Defines an array of one or more properties of this Command's argument.The **serviceproperty** helps you define the Command's properties.		Product
commands/ arguments/ serviceProperty/ displayName	String	The free-text name to be displayed for this argument in the IoT Platform Portal.		Product
commands/ arguments/ serviceProperty/ Name	String	The name of this property of the argument.		Product
commands/ arguments/ serviceProperty/ dataType	String	The data type of this property of the argument. Valid values are – • Text • Integer • Decimal • Date • Boolean • Gps		Product
commands/ arguments/ serviceProperty/ allowedValueRange	String	The values allowed to be entered for this argument. You can enter one or more sets of allowed value ranges as described below.		Product

Property	Type	Description	Mandatory	Template Type
		If the data type (dataType described above) of the argument property is **Number**, then you can enter a minimum and maximum value, as well as set a **Step** for this value. For example, if the **Minimum** is **10**, the **Maximum** is **20** and this **Step** is **2**, then the following values can be entered – **10**, **12**, **14**, **16**, **18**, **20**.		
commands/ arguments/ defaultValue	String	The default value displayed in the IoT Platform Portal before you select/enter a value.		Product
commands/ arguments/ unit	String	The unit of the value (described above). For example, Fahrenheit or Centigrade.		Product
commands/ arguments/ uiType	String/ Enum	The type of user interface controller for this argument, as follows – • Button • Radio Button • TextOneLine • TextMultiLine • IpV4 • Number • OID • Toggl		Product
commands/ payload	String	The method that is sent to the Device. This is the command that the Device actually gets and executes. For example, to turn on a light or close a lock and so on.		Product
commands/ commandResponseType	String/ Enum	The device structure returned by the command payload (described above). The values of this property are – • Open text string • JSON		Product

Property	Type	Description	Mandatory	Template Type
events	Array	An Event/Reading is data received by the IoT Platform Server from a Device. This array property enables you to define one or more events that the Device can send to the IoT Platform server. Even though the IoT Platform Dashboard can show events that are not defined here, defining events here provides various customization options. Defining events here enables you to configure how the values of this event are shown in the Dashboard. For example, the icon or color in which a 0 value is shown in the Dashboard. The properties that appear below describe a single event.		Product Group Template
events/ typeCode	Integer	The code of this event type as defined in the event manifest. See Defining a Device Event Manifest for more information. The combination of the **typeCode** property and the **name** property (described below) represent a unique identifier for an event type.		Product Group Template
events/ name	String	A free-text name of this event. This **name** does not appear in the Event Manifest.		Product Group Template
events/ nameResourceKey	String	This is the unique identifier of this event for translating the event **name** property (described above). For example, this unique identifier could be used by IoT Platform 's localization service to translate the **name** property **Temperature** into French **Température**.		Product Group Template
events/ valueRange	String	If the data type is **Number**, then you can enter a minimum		Product

Property	Type	Description	Mandatory	Template Type
		and maximum value, as well as set a **Step** for this value. For example, if the **Minimum** is **10**, the **Maximum** is **20** and this **Step** is **2**, then the following values can be entered – **10**, **12**, **14**, **16**, **18**, **20**.		Group Template
events/ valueRange/ allowedValues	String/ Enum	The unique identifier of this event value to be used for converting how this value appears in the IoT Platform Portal. If the data type is **String**, then you can specify the following – • **Key –** A unique key is associated with each **Value**. • **Value –** The value of a **Key**. • **iconName –** For each value, you can specify the name of the icon to represent this value. For example, this identifier could be used to convert the value **0** so that it appears as **Closed** in the IoT Platform Portal and the value **1** as **Open**.		Product Group Template
events/ valueRange/ allowedValues/ iconName	String	The name of the icon to represent this event value in the IoT Platform Portal.		Product Group Template
events/ valueRange/ allowedValues/ iconColor	String	The color of the icon to represent this event in the IoT Platform Portal.		Product Group Template

Property	Type	Description	Mandatory	Template Type
events/ unit	String	The default unit of the event's value. For example, Fahrenheit or Centigrade. This unit is used for the event when a Device does not specify the unit.		Product Group Template
events/ isAccumulated	Boolean	Specifies whether the value of this event can be accumulated/counted. For example, money. You may refer to the accumulated property for more information.		Product Group Template
events/ logicalType	String	The logical type of this event. Valid values are – • Number • Text • Bool		Product Group Template
events/ fieldsCount	Number	Not in use.		Product Group Template
events/ precision	Number	The number of digits that show after the decimal point.		Product Group Template
additionalProperties	Array	The additionalProperties property enables you to extend the IoT Platform schema model by adding your own properties for each Device type. For example, you can add a property named **Firmware Version** that specifies the version of the Device's firmware.		Product Group Template
additionalProperties/ displayName	String	The name to appear in the IoT Platform Portal for this additional property.		Product Group Template
additionalProperties/ name	String	The internal logical name to be used for this property. This name must match the additional property's name on the Device itself.		Product Group Template

Property	Type	Description	Mandatory	Template Type
additionalProperties/ extra	String	A free-text description of the additional property.		Product Group Template
additionalProperties/ dataType	String	The data type of this property. Valid values are – • Number • Text • Bool		Product Group Template
additionalProperties/ allowedValueRange	String	If the data type (dataType described above) is **Number**, then you can enter a minimum and maximum value, as well as set a **Step** for this value. For example, if the **Minimum** is **10**, the **Maximum** is **20** and this **Step** is **2**, then the following values can be entered – **10**, **12**, **14**, **16**, **18**, **20**.		Product Group Template
additionalProperties/ allowedValueRange/ allowedValues	String	The unique identifier of this event value to be used for converting how this value appears in the IoT Platform Portal. If the data type is **String**, then you can specify the following – • **Key –** A unique key is associated with each **Value**. • **Value –** The value of a **Key**. • **iconName –** For each value, you can specify the name of the icon to represent this value. For example, this identifier could be used to convert the value **0** so		Product Group Template

Property	Type	Description	Mandatory	Template Type
		that it appears as **Closed** in the IoT Platform Portal and the value **1** as **Open**.		
additionalProperties/ defaultValue	String	The default value of the additional property.		Product Group Template
additionalProperties/ unit	String	The default unit of the additional property value. For example, Fahrenheit or Centigrade.		Product Group Template
additionalProperties/ uiType	String	See commands/arguments/uiType.		Product Group Template
additionalProperties/ required	Boolean	**True –** If this additional property is mandatory.		Product Group Template
mediaSettings	Object	Specifies the media settings for Devices that stream media.		Product
mediaSettings/ mediaProtocol	String/ Enum	The type of media streaming protocol, as follows – • None • RTMP		Product
mediaSettings/ mediaType	String/ Enum	The media type, as follows – • Unknown • Video • Audio • Image		Product
tooltip	Array of Tooltip Elements	A tooltip displayed in IoT Platform maps and diagrams when you hover over a device. It shows the device status, which can be an event or property, as described below –		Product
tooltip/ type	String	Can be an **event** or **property** – • **event –** Is a tooltip showing		Product

Property	Type	Description	Mandatory	Template Type
		the device reading value.		
		• **property** – Is a tooltip showing the device property value.		
tooltip/ value	String	If the **type** (described above) is **event**, the value contains the Event **typeCode**–**name**. The **value** is connected to two properties of the service event – **typeCode** and **name**, and is represented in the following format: **typeCode**–**name**. For example, **7-temperature**. If the type is **property** (described above), the value should be the property name to be displayed in the tooltip.		Product
commands/ arguments	Array of Strings	Defines an array of one or more arguments of a command to be sent to the Device.	To use the command in the UI	Product
commands/ arguments/ name	String	The free-text name of the argument.	To use the command in the UI	Product
commands/ arguments/ value	String	The actual value of the command. This is the value that will affect the device.		Product
commands/ arguments/ defaultValue	String	The default value displayed in the IoT Platform Portal before you select/enter a value.		Product

Property	Type	Description	Mandatory	Template Type
commands/ arguments/ unit	String	The unit of the value (described above). For example, Fahrenheit or Centigrade.		Product
commands/ arguments/ uiType	String/ Enum	The type of user interface controller for this argument, as follows – • Button • Radio Button • Slider • Select • TextOneLine • TextMultiLine • IpV4 • Number • OID • Toggle	To use the com- mand in the UI	Product
thingType	Enum	0 For device 1 for Group		Product Group Template

Example JSON ThingsTemplates/Get Request

```
curl –location –request GET 'https://api.dev.axonize.com/odata/thingsTemplates/' \

–header 'Accept: application/json, text/plain, */*' \

–header 'appId: 4eec315a-58b1-4c53-98c9-aff93bec60cd' \

–header 'Accept-Encoding: gzip, deflate'
```

ThingsTemplates/Get (Id)

GET /odata/ThingsTemplates

Description

Gets a list of Things templates.

For request and response details, see Response – ThingsTemplates/Get (Id).

Response – ThingsTemplates/Get (Id)

Property	Type	Description	Mandatory
Id	String	This is the unique identifier automatically assigned by IoT Platform when a Thing is created.	Y
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Notification is assigned.	

Example JSON ThingsTemplates/Get Request

```
curl –location –request GET 'https://api.dev.axonize.com/odata/
thingsTemplates/5ce24909e3b0c618c0b6f1b4' \

–header 'Accept: application/json, text/plain, */*' \

–header 'appId: 4eec315a-58b1-4c53-98c9-aff93bec60cd' \

–header 'Accept-Encoding: gzip, deflate'
```

Users Endpoints

A user is an entity that can log into the IoT Platform REST API and/or the IoT Platform Cloud Portal.

When a User is created (Post), he/she is assigned access to a specific Application. A Tenant User belongs to the Tenant Master Application and can also access all the Applications belonging to the Tenant.

Users are awarded permission to access specific actions according to the **role** assigned to them.

The unique identifier of each IoT Platform user is the assigned email.

IoT Platform provides a variety of API requests for handling users, as follows:

- **Users/Post**
- **Users/Get (List)**
- **Users/Get (Specific)**
- **Users/Delete**
- **Users/Patch or Users/Put**
- **Users/ResetPassword**
- **Users/UnblockUser**
- **Users/ForgotPassword**
- **Users/UpdatePassword**
- **Users/ChangePassword**
- **Users/Invite**
- **Users/ValidateEmail**
- **Users/Me**

Users/Post

POST /odata/Users/

To create a new IoT Platform user.

For request and response details, see Request – Users/Post and Response – Users/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Post

Property	Type	Description	Mandatory
email	String	The email assigned to this user to be entered during login. The email is unique per Application.	Y
username	String	Enter any user name to be used by IoT Platform . This property is used for display, not for logging in.	Y
tenantId	String	The ID of the IoT Platform Tenant to which this user belongs. This identifier is automatically generated by IoT Platform and is returned in response to the Tenants/Post request.	
password	String	The password provided by IoT Platform is mandatory for creating new users.	Y
		For security reasons, IoT Platform does not store the password on its servers. Instead, the password is stored in an external secure password system. This password is not returned in any GET requests.	
role	String	Specifies the type of user as well as their associated permissions –	Y
		• **Admin –** Has full access to all IoT Platform functionality for all the Applications of all the Tenants to which this user is assigned.	
		• **Readonly –** Can only view IoT Platform data.	
		• **AppAdmin –** Can access almost all functionality for the Application to which he/she is assigned. For example, cannot create new devices.	
		• **TenantTechSupport –** Can access almost all functionality for the Tenant assigned to him/her, including creating new Devices and new	

Property	Type	Description	Mandatory
		Rules. This role is typically assigned to technical support at the customer.	
mobilePhone	String	Alerts can trigger a phone call or can send an SMS. This is the cell phone number to contact when an alert is triggered.	
cultureInfo	String	The language in which the IoT Platform portal is presented. These standard options include the language of the Application and are described at https://msdn.microsoft.com/en-us/library/system.globalization.cultureinfo(vs.71).aspx.	
status	String/Enum	User status – • **Pending** – User that has a pending invitation to IoT Platform . See the Users/Invite request. Only invited users can be pending. • **Activated** – User that is authorized by IoT Platform . • **Blocked** – User with repeated unsuccessful login attempts. The default number of attempts is 3.	
isScrubbed	Boolean	An internal property used by IoT Platform for GDPR purposes.	
failedLogins	Integer	Specifies the number of failed logins since the user last logged in successfully.	
favouriteReports	String Array	Lists the report IDs that were defined as favorites of this user in the IoT Platform Portal, as described in xxx.	

Example JSON Users/Post Request

```
curl -X POST \

  https://api.stg.axonize.com/odata/users/ \
```

```
 -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

  -d '{

      "role":"admin",

      "email":"axonize@axonize.com",

      "username":"axonize user",

      "password":"s0meP@ssw0rd"
```

Response – Users/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
userId	String	A unique User identifier (userId) that is automatically generated for this user by IoT Platform .
tokenId	String	The token ID of this user. For internal use by IoT Platform .
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this user is assigned.
		This identifier is automatically generated by IoT Platform when the Application/Post request is used.
		The Token or the Client ID/Client Secret used as the authentication

Property	Type	Description
		in the request header specifies the application(s) to which this user is allowed access.
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Users/Post Response

Status 201 – Created

```json
{

    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
odata/$metadata#Users/$entity",

    "email": " axonize@axonize.com",

    "username": "axonize user",

    "tenantId": "5851631d4e41925b98f01234",

    "role": "admin",

    "mobilePhone": "+",

    "cultureInfo": null,

    "status": "Activated",

    "id": "592139084d27e710e80f35cb",

    "userId": "ABCD",

        "tokenId": "ABD123",

        "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

    "createDate": "2017-05-21T06:51:52.771Z",

    "createUser": "5851631e4e41925b98f01234",

    "updateDate": "0001-01-01T00:00:00Z",

    "updateUser": null

}
```

Users/Get (List)

Description

Gets a list of all the users of the application specified in this request, in
the **appId** property, as described below. If the **appId** specifies a Master Application,
then the users of that Master Application and the users of all the sub-Applications of that
Application are returned.

To get the details of a specific user, refer to **Users/Get (Specific)**.

For request and response details, see Request – Users/Get (List) and Response –
Users/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this user is assigned. This identifier is automatically generated by IoT Platform when the Application/ Post request is used. The Token or the Client ID/ Client Secret used as the	Y

Property	Type	Description	Mandatory
		authentication in the request header specifies the application(s) to which this user is allowed access.	

Example JSON Users/Get (List) Request

```
curl -X GET \

 https://api.stg.axonize.com/odata/users/ \

 -H 'Authorization: Token' \

 -H 'Content-Type: application/json' \

 -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Users/Get (List)

For each user, the response provides the properties in **Users/Post**.

Example JSON Users/Get (List) Response

Status 200 – OK

```
{

    "@odata.context": "https://stg-axonizeapi-axonize.stg.ase-axonize.p.azurewebsites.net/
odata/$metadata#Users",

    "value": [

      {

        "email": "axonize@axonize.com",

        "username": "testuser",

        "tenantId": "5851631d4e41925b98f01234",

        "role": "admin",

        "mobilePhone": null,
```

```
        "cultureInfo": null,

        "status": "Activated",

        "id": "5851631f4e41925b98f01234",

        "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

        "createDate": "0001-01-01T00:00:00Z",

        "createUser": null,

        "updateDate": "0001-01-01T00:00:00Z",

        "updateUser": null

      },

      {

        "email": "axonize1@axonize.com",

        "username": "testuser1",

        "tenantId": "5851631d4e41925b98f01234",

        "role": "admin",

        "mobilePhone": "+",

        "cultureInfo": null,

        "status": "Activated",

        "id": "592139084d27e710e80f1234",

        "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

     "tokenId": "ABD123",

        "createDate": "2017-05-21T06:51:52.771Z",

        "createUser": "5851631e4e41925b98f01234",

        "updateDate": "0001-01-01T00:00:00Z",

        "updateUser": null

      }

    ]

  }
```

Users/Get (Specific)

Description

Gets the details of a specific user, as specified by the user's ID. This **user ID is returned in the response of the Users/Post**.

To get the details of all the Users of the Applications allowed to the logged#in user, see **Users/Get (List)**.

For request and response details, see Request – Users/Get (Specific) and Response – Users/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Get (Specific)

Property	Type	Description	Mandatory
userId	String	This is the unique identifier automatically assigned by IoT Platform when a user is created. This userId is returned in the response of the Users/ Post.	Y

Example JSON Users/Get (Specific) Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/users/592139084d27e710e80f1234 \

  -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Users/Get (Specific)

For the requested user, the response provides the properties in **Users/Post**.

Example JSON Users/Get (Specific) Response

Status 200 – OK

```
{

    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
odata/$metadata#Users/$entity",

    "email": "axonize1@axonize.com",

    "username": " testuser1",

    "tenantId": "5851631d4e41925b98f01234",

    "role": "admin",

    "mobilePhone": "+",

    "cultureInfo": null,

    "status": "Activated",

    "id": "592139084d27e710e80f35cb",

    "tokenId": "ABD123",

   "appId": "801A048A-9F23-429F-BF0D-B6D35B22771E",

    "createDate": "2017-05-21T06:51:52.771Z",

    "createUser": "5851631e4e41925b98f01234",

    "updateDate": "0001-01-01T00:00:00Z",

    "updateUser": null

}
```

Users/Delete

DELETE /odata/Users/[userId]

Description

Deletes the details of a specific user, as specified by the user's ID. This **user ID is returned in the response of Users/Post**.

For request and response details, see Request – Users/Delete and Response – Users/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Delete

Property	Type	Description	Mandatory
userId	String	This is the unique identifier automatically assigned by IoT Platform when a user is created. This <u>userId is returned in the response of the Users/Post</u>.	Y

Example JSON Users/Delete

```
curl -X DELETE  \

  https://api.stg.axonize.com/odata/users/592139084d27e710e80f1234 \

  -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Users/Delete

Status 200 – OK

Users/Patch or Users/Put

PUT /odata/Users/Put/[userId] or PATCH /odata/Users/Patch/userId

Description

To update an existing IoT Platform user.

For request and response details, see Request – Users/Patch or Put and Response – Users/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Patch or Put

In the request, specify the **ID of the user** whose definition to change and the name of the property(s) to change. These properties are described in **Users/Post**.

For the **Patch** request, all unspecified fields remain unchanged.

For the **Put** request, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
userId	String	This is the unique identifier automatically assigned by IoT Platform when a user is created. This userId is returned in the response of the Users/Post.	Y

Example JSON Users/Patch Request

The following is an example of changing a user's **username** to **test**.

```
curl -X PATCH \

  https://api.stg.axonize.com/odata/users/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

  -d '{

      "username":"test"

  }
```

Response – Users/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Example JSON Users/Patch/Put Response

Status 204 – No Content. The server has successfully fulfilled the request.

Users/ResetPassword

POST /odata/users/resetPassword

Description

This option is only enabled for administrators. An administrator's Token must be included in the request header.

This option forces a User to change their password. It sends an email to a User containing a link that enables that User to reset his or her password.

For request and response details, see Request – Users/resetPassword and Response – Users/resetPassword.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/resetPassword

Property	Type	Description	Mandatory
userId	String	The IoT Platform User's ID.	Y
url	String	The URL of the Application to which to allow the User to reset their password.	Y

Example JSON Users/ResetPassword Request

```
curl -X POST \

https://api.stg.axonize.com/odata/users/resetPassword\
```

```
-H 'Content-Type: application/json' \

-H 'appId: be517433-c4b8-4748-9258-1b1234567890' \

-H 'Authorization: Token' \

-d '{

"userId":"5a8416a371da9b123456789","url":"demo.stg.axonize.com/demoapp"

}'
```

Response – Users/resetPassword

All the same properties in the request are returned in the response.

Example JSON Users/ResetPassword Response

Status 200 – OK

Users/UnblockUser

POST /odata/users/unblockUser

Description

IoT Platform Users may be blocked from logging in after repeated unsuccessful login attempts. In this case, the **Status** property of the User is assigned the value **Blocked**.

This option is only enabled for administrators. An administrator's Token must be included in the request header.

This endpoint unblocks the User so that the User's Status property is changed to **Activated**, and the User can try to log in again.

For request and response details, see Request – Users/UnblockUser and Response – Users/UnblockUser.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/UnblockUser

Property	Type	Description	Mandatory
userId	String	The identifier of the User to be unblocked.	Y
		This is the unique	

Property	Type	Description	Mandatory
		identifier automatically assigned by IoT Platform when a User is created. This <u>userId is returned in the response of the Users/ Post</u>.	

Example JSON Users/UnblockUser Request

```
curl -X POST \

 https://api.stg.axonize.com/odata/users/unblockuser \

 -H 'Cache-Control: no-cache' \

 -H 'Content-Type: application/json' \

 -H 'appId: be517433-c4b8-4748-9258-1b1234567890' \

 -H 'Authorization: Token' \

 -d '{

 "userId": "auth0|585163207ba1a03b373fd628"

 }
```

Response – Users/UnblockUser

All the same properties in the request are returned in the response.

Example JSON Users/UnblockUser Response

Status 200 – OK

Users/ForgotPassword

POST /odata/users/forgotPassword

Description

Sends an email to a User containing a link that enables that User to renew his or her password.

For request and response details, see Request – Users/ForgotPassword and Response – Users/ForgotPassword.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/ForgotPassword

Property	Type	Description	Mandatory
email	String	The IoT Platform User's email to which to send the email.	Y
url	String	The URL of the Application to which to allow the User to renew their password.	Y

Example JSON Users/ForgotPassword Request

```
curl -X POST \

  https://api.stg.axonize.com/odata/users/forgotPassword \

  -H 'Content-Type: application/json' \

  -H 'Authorization: Token' \

  -d '{

  "email":"demouser@axonize.com","url":"demo.stg.axonize.com/demoapp

  }"
```

Response – Users/ForgotPassword

All the same properties in the request are returned in the response.

Response – Users/ForgotPassword

Status 200 – OK

Users/UpdatePassword

POST /odata/users/updatePassword

Description

Enables a User to update his/her own password.

For request and response details, see Request – Users/UpdatePassword and Response – Users/UpdatePassword.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/UpdatePassword

Property	Type	Description	Mandatory
oldPassword	String	The current password of the logged#in User.	Y
newPassword	String	The new password of the logged#in User. This new password must be according to the syntax defined in the passwordPolicy property of the Application to which this User belongs.	Y

Example JSON Users/UpdatePassword Request

```
curl -X POST \

  https://api.stg.axonize.com/odata/users/updatePassword \

  -H 'Content-Type: application/json' \

  -H 'Authorization: Token' \

  -d '{
```

```
    "oldPassword":"someoldPassword!!","newPassword":"somenewPassword!!"

  }'
```

Response – Users/UpdatePassword

All the same properties in the request are returned in the response.

Example JSON Users/UpdatePassword Response

Status 200 – OK

Users/ChangePassword

POST /odata/users/changePassword

Description

This option enables you to change your own password after you are already logged in.

For request and response details, see Request – Users/ChangePassword and Response – Users/ChangePassword.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/ChangePassword

Property	Type	Description	Mandatory
password	String	This new password must be according to the syntax defined in the passwordPolicy property of the Application to which this User belongs.	Y
invite	Boolean	Indicates whether the change password is from an	Y

Property	Type	Description	Mandatory
		invite user operation.	

Example JSON Users/ChangePassword Request

```
curl -X POST \

https://api.stg.axonize.com/odata/users/changePassword \

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-d '{

"password":"somePassword!!","invite":true

}'
```

Response – Users/ChangePassword

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
token	String	The authorization Token that enables access to the IoT Platform REST API for the next 10 hours. The Token (or the Client ID/Client Secret) must be used as authentication in each request header and specifies the Application(s) to which this User is allowed access.
uniqueIdentifier	String	A unique Application identifier (**appId**) that is automatically generated by IoT Platform . This is the identifier of the

Property	Type	Description
		Application to which this User is assigned.
		This identifier is also automatically generated by IoT Platform when the Application/Post request is used.

Example JSON Users/ChangePassword Response

Status 200 – OK

```
{

"token": "afsdfasdfasdf",

"uniqueIdentifier": "someapplication"

}
```

Users/Invite

POST /odata/users/invite

Description

Invites a new User to the IoT Platform system. The following occurs:

- The potential User receives an email containing a link. The User's **Status** property is changed to

- Clicking that link redirects the potential User to the IoT Platform system and enables him/her to create any password. The username is that User's email address. The User's **Status** property is changed to

For request and response details, see Request – Users/Invite and Response – Users/Invite.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Invite

The request contains the same properties as the **Users/Post request**, except that they are wrapped in a user tag. For example, as shown below –

{"user":{"username":"demo","email":"demoUser@axonize.com","role":"admin"}}

Only the **username**, **email** and **role** properties are mandatory.

Example JSON Users/Invite Request

```
curl -X POST \

  https://api.stg.axonize.com /odata/users/invite \

  -H 'Cache-Control: no-cache' \

  -H 'Content-Type: application/json' \

  -H 'Authorization: Token' \

  -H 'appId: be517433-c4b8-4748-9258-1b1234567890' \

  -d '{"user":{"username":"demo","email":"demoUser@axonize.com","role":"admin"}}'
```

Response – Users/Invite

The response contains the same properties as the **Users/Post response**, including the userId that is automatically generated by IoT Platform .

Example JSON Users/Invite Response

Status 200 – OK

```
{

    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
odata/$metadata#UserEntity/$entity",

    "email": " demoUser@axonize.com",

    "username": " demo",

    "tenantId": "5851631d4e41921234567890",

    "role": "admin",

    "mobilePhone": null,

    "cultureInfo": null,

    "favouriteReports": [],

    "status": "Pending",

    "failedLogins": 0,
```

```
        "isScrubbed": false,

        "tokenId": null,

        "id": "5b680a1fe5cdcf1234567890",

        "appId": "be517433-c4b8-4748-9258-1b1234567890",

        "createDate": "2018-08-06T08:43:11.5837318Z",

        "createUser": null,

        "updateDate": "0001-01-01T00:00:00Z",

        "updateUser": null

    }
```

Users/ValidateEmail

POST /odata/users/validateEmail

Description

This option should be used before creating a new User using the **Users/Post** endpoint. This endpoint checks whether a User already exists in this specific application with this email address. If yes, then an additional User cannot be created. This endpoint also verifies whether the specified email address has valid email syntax.

For request and response details, see Request – Users/ValidateEmail and Response – Users/ValidateEmail.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/ValidateEmail

Property	Type	Description	Mandatory
email	String	The IoT Platform User's email address to be validated.	Y

Example JSON Users/ValidateEmail Request

```
curl -X POST \

  https://api.stg.axonize.com/odata/users/validateEmail \
```

```
-H 'Cache-Control: no-cache' \

-H 'Content-Type: application/json' \

-H 'appId: be517433-c4b8-4748-9258-1b1234567890' \

-H 'Authorization: Token' \

-d '{

"email": "demouser@axonize.com"

}'
```

Response – Users/ValidateEmail

All the same properties in the request are returned in the response.

Example JSON Users/ValidateEmail Request

Status 200 – OK

If the email does not exist and has valid email syntax, then the response is empty.

If the email exists, then the following error message is returned – Email already exists.

If the email does not have valid email syntax, then the following error message is returned – Email is not valid.

Users/Me

GET /odata/users/me

Description

This option returns information about the currently logged-in User, according to the Application specified by the appId in the request.

For request and response details, see Response – Users/Me and Response – Users/Me.

See Also Authentication/Request Headers and API Response Codes.

Request – Users/Me

The request contains the same properties as the **Users/Post request**. Only the **username**, **email** and **role** properties are mandatory.

Example JSON Users/Me Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/users/me \
```

```
    -H 'Authorization: Token' \

    -H 'Content-Type: application/json'
```

Response – Users/Me

The response contains the same properties as the **Users/Post response**, including the userId that is automatically generated by IoT Platform .

Example JSON Users/Me Response

Status 200 – OK

```
{

    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
odata/$metadata#Users/$entity",

    "email": "demo@user.com",

    "username": "demouser",

    "tenantId": "5851631d4e41921234567890",

    "role": "admin",

    "mobilePhone": "+",

    "cultureInfo": null,

    "favouriteReports": [],

    "status": "Activated",

    "failedLogins": 0,

    "isScrubbed": false,

    "tokenId": null,

    "id": "592139084d27e71234567890",

    "appId": "be517433-c4b8-4748-9258-1b1234567890",

    "createDate": "2017-05-21T06:51:52.771Z",

    "createUser": "5851631e4e41921234567890",

    "updateDate": "0001-01-01T00:00:00Z",

    "updateUser": null
```

```
    }
```

Roles Endpoints

Roles endpoints define which components/modules from the user interface or API a user can access. Roles are organized hierarchically, and contain the following entity levels:

- **Role –** A container holding one or more Tasks (described below) that can be assigned to a User in order to allow that user to use them.

- **Task –** A group/package of Endpoints in the user interface or API that a user can access. Tasks are organized hierarchically. For example, the Device/Read task refers to all Endpoints for device read Endpoints (commands). Tasks are automatically defined by IoT Platform , and cannot be added by the user.

- **Endpoint –** The names of the authorizations that are available in the system.

IoT Platform provides a variety of endpoints for handling Roles, as follows:

- **Roles/Post**
- **Roles/Get (List)**
- **Roles/Get (Specific)**
- **Roles/Delete**
- **Roles/Patch**
- **Roles/Get/[roleId]/Tasks**
- **Roles/Get/[roleId]/Endpoints**
- **Roles/Post/[roleId]/addTask**
- **Roles/Post/[roleId]/putTask**
- **Roles/Post/[roleId]/removeTask**

Roles/Post

POST odata/roles

Description

Creates a new Role.

For request and response details, see Request – Roles/Post and Response – Roles/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Post

Property	Type	Description
name	String	The name of the Role.
taskIds	String	The list of task IDs associated with the Role.
displayName	String	The name of the Role to be displayed in the IoT Platform Portal.
isShared	Boolean	Indicates whether or not the Role is shared with all the Applications that relate to the role application. Values are 0/1 (True/False).
description	String	A description of the Role.

Example JSON Roles/Post Request

```
curl -X POST \

  https://api.dev.axonize.com/odata/Roles \

  -H 'Accept: application/json, text/plain, */*' \

  -H 'Accept-Language: en-US,en;q=0.9' \

  -H 'AppId: 289a76sd-c550-324c-b15a-7801d8902ce9' \

  -H 'Content-Type: application/json' \

  -H 'cache-control: no-cache' \

  -d '{

   "name":"NewRole",

   "taskIds": ["06ecc4ec-115d-4e28-ba87-40b6bcb2bfbb"],

   "displayName": "Role",

   "isShared": 1
```

```
}'
```

Response – Roles/Post

All the same properties in the request are returned in the response. The response that is returned also contains the following properties –

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.
appId	String	The appId of the Master Application that created the Role.
createDate		See Common Response Properties.

Example JSON Dashboards/Post Response

Status 201 – Created

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Roles/$entity",

"name": "NewRole",

"displayName": "Role",

"isShared": 1,

"taskIds": [

"06ecc4ec-115d-4e28-ba87-40b6bcb2bfbb",

"15b8bc56-81ed-402e-95ca-3842bba386bd"

],

"id": "9939D515-852A-4CAB-A676-6C214CB09A47",
```

```
“appId”: “289a7624-c590-4b4c-b15a-7801d8902ce9”,

“creationDate”: “2018-10-25T12:48:03.5673557Z”

}
```

Roles/Get(List)

GET odata/roles

Description

Gets the list of Roles. This endpoint does not return the Tasks or Endpoints associated with a Role. To get the Tasks associated with a specific Role, see **Roles/Get/[roleId]/ Tasks**. To get the Endpoints associated with a specific Role, see **Roles/Get/[roleId]/ Endpoints**.

For request and response details, see Request – Roles/Get (List) and Response – Roles/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Get (List)

Example JSON Roles/Get (List) Request

```
curl -X GET \

https://api.dev.axonize.com/odata/Roles/ \

-H ‘Accept: application/json, text/plain, */*’ \

-H ‘Accept-Language: en-US,en;q=0.9’ \

-H ‘AppId: 289a7624-c590-4b4c-b15a-7801d8902ce9’ \

-H ‘Content-Type: application/json’ \

-H ‘cache-control: no-cache’ \
```

Response – Roles/Get (List)

For the requested Role, the response provides the properties in **Request – Roles/Post** and **Response – Roles/Post**. The response that is returned also contains the following properties –

Property	Type	Description
modifiedDate	Date	The time when the Role was updated.
modifiedBy	String	The user id that last updated the Role.
createdBy	String	The user id that created the Role.

Example JSON Roles/Get (List) Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Roles",

"value": [

{

"name": "projectmanager",

"displayName": "msg_role_project_manager",

"isShared": null,

"taskIds": [],

"id": "1E17A975-3C39-46BB-B982-98818EF7C37A",

"appId": null,

"creationDate": null

},

{

"name": "tenanttechsupport",

"displayName": "msg_role_tenant_tech_support",

"isShared": null,

"taskIds": [],

"id": "8DFBDE35-22F4-4FEF-A136-557575D576D5",

"appId": null,

"creationDate": null
```

```
    }]

    }
```

Roles/Get(Specific)

GET odata/roles/[id]

Description

Gets the details of a specific Role. This endpoint does not return the Tasks associated with a specific Role.

For request and response details, see Request – Roles/Get (Specific) and Response – Roles/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Get (Specific)

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.

Example JSON Roles/Get (Specific) Request

```
curl -X GET \

  https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47 \

  -H 'Accept: application/json, text/plain, */*' \

  -H 'Accept-Language: en-US,en;q=0.9' \

  -H 'AppId: 289a7624-c590-4b4c-b15a-7801d8902ce9' \

  -H 'Content-Type: application/json' \

  -H 'cache-control: no-cache' \
```

Response – Roles/Get (Specific)

For the requested Role, the response provides the properties in **Request – Roles/Post** and **Response – Roles/Post**. The response that is returned also contains the following properties –

Property	Type	Description
modifiedDate	Date	The time when the Role was updated.
modifiedBy	String	The user id that last updated the Role.
createdBy	String	The user id that created the Role.

Example JSON Roles/Get (Specific) Response

Status 200 – OK

```
{

    "@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/$metadata#Roles/$entity",

    "name": "NewRole",

    "displayName": "Role",

    "isShared": 1,

    "taskIds": [],

    "id": "9939D515-852A-4CAB-A676-6C214CB09A47",

    "appId": "289a7624-c590-4b4c-b15a-7801d8902ce9",

    "creationDate": "2018-10-25T12:48:03.567Z"

}
```

Roles/Delete

DELETE odata/roles/[id]

Description

Deletes a specific Role based on its roleId.

For request and response details, see Request – Roles/Delete and Response – Roles/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Delete

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the **Roles/Post**.

Example JSON Roles/Delete Request

```
curl -X DELETE \

  https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47 \

  -H 'Accept: application/json, text/plain, */*' \

  -H 'Accept-Language: en-US,en;q=0.9' \

  -H 'Content-Type: application/json' \

  -H 'appId: 289a7624-c590-4b4c-b15a-7801d8902ce9' \

  -H 'cache-control: no-cache' \
```

Response – Roles/Delete

Example JSON Roles/Delete Response

Status 200 – OK

Roles/Patch

PATCH odata/roles/[id]

Description

Updates an existing Role based on the roleId.

For request and response details, see Request – Roles/Patch and Response – Roles/Patch.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Patch

In the request, specify the ID of the Role whose definition to change and the name of the property(s) to change. These properties are described in Roles/Post.

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.

Example JSON Roles/Patch Request

```
curl -X PATCH \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47 \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \

-H 'Content-Type: application/json' \

-H 'appId: 1aaf017c-b987-4f53-94d6-ad9afb8e4767' \

-H 'cache-control: no-cache' \

-d '{

"displayName" : "New Display"

}'
```

Response – Roles/Patch

For the requested role, the response provides the properties in **Request – Roles/Post** and **Response – Roles/Post**. The response that is returned also contains the following properties –

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.
appId	String	The appId of the Master Application that created the Role.
createDate		See Common Response Properties.

Example JSON Roles/Patch Response

Status 204 – No Content

Roles/ Get/[roleId]/Tasks

GET odata/roles/[id]/Tasks

Description

Returns the list of Tasks associated with a specific Role and the Tasks' properties.

For request and response details, see Request – Roles/Get/[roleId]/Tasks and Roles/ Get/[roleId]/Tasks.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Get/[roleId]/Tasks

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned

Property	Type	Description
		in the response of the Roles/Post.

Example JSON Roles/Get /[roleId]/Tasks Request

```
curl -X GET \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47/Tasks \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \

-H 'AppId: 289a7624-c590-4b4c-b15a-7801d8902ce9' \

-H 'Content-Type: application/json' \

-H 'cache-control: no-cache' \
```

Response – Roles/Get/[roleId]/Tasks

The response that is returned also contains the following properties –

Property	Type	Description
name	String	The name of the Task.
displayName	String	The name of the Task to be displayed in the IoT Platform Portal.
entity	String	Specifies the entity for which this Task is defined, such as a Device, Product, Group, Rule, alarmInstance and so on. Only one entity can be specified.
id	String	The unique identifier automatically assigned by IoT Platform when a Task is created.
appId	String	Not in use.

Property	Type	Description
createDate		See Common Response Properties.

Example JSON Roles/Get/[roleId]/Tasks Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Collection(Axonize.Data.Repository.Sql.Task)",

"value": [

{

"@odata.type": "#Axonize.Data.Repository.Sql.Task",

"name": "groups-fullcontrol",

"displayName": "msg_authtask_groups_fullcontrol",

"entity": "Groups",

"id": "15B8BC56-81ED-402E-95CA-3842BBA386BD",

"appId": null,

"creationDate": "2018-08-19T07:37:55.11Z",

},

{

"@odata.type": "#Axonize.Data.Repository.Sql.Task",

"name": "groups-delete",

"displayName": "msg_authtask_groups_delete",

"entity": "Groups",

"id": "3C45155E-21E8-4B25-96FA-7F064605F8AD",

"appId": null,

"creationDate": "2018-08-19T07:37:52.613Z",

} ]

}
```

Roles/ Get/[roleId]/Endpoints

GET odata/roles/[id]/Endpoints

Description

Returns the list of Endpoints associated with a specific Role and the Endpoints' properties.

For request and response details, see Request – Roles/Get/[roleId]/Endpoints and Response – Roles/Get/[roleId]/Endpoints.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Get/[roleId]/Endpoints

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.

Example JSON Roles/Get /[roleId]/Endpoints Request

```
curl -X GET \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47/
Endpoints \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \

-H 'AppId: 289a7624-c590-4b4c-b15a-7801d8902ce9' \

-H 'Content-Type: application/json' \

-H 'cache-control: no-cache' \
```

Response – Roles/Get/[roleId]/Endpoints

The response that is returned contains the following properties –

Property	Type	Description
id	String	The ID of the Endpoint.
name	String	The name of the Endpoint.
type	Boolean	**0** for an API-related Endpoint.
		1 for a UI-related Endpoint.
uiPermissiontype	String	The user interface permission type. Values are –
		• **Enabled –** The Endpoint is enabled in the user interface.
		• **Disabled –** The Endpoint is disabled in the user interface.
		• **Hidden –** The Endpoint is hidden in the user interface.

Example JSON Roles/Get/[roleId]/Endpoints Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Collection(Axonize.Data.Repository.Sql.Endpoint)",

"value": [

{

"@odata.type": "#Axonize.Data.Repository.Sql.Endpoint",

"id": "01DB80FE-00D5-4C90-A9E1-FB66EF0B3FA7",

"name": "odata/groups/removeDeviceFromGroup",

"type": 0,

"uiPermissionType": "Enabled",

"taskToEndpoints": []

},

{

"@odata.type": "#Axonize.Data.Repository.Sql.Endpoint",

"id": "09CBE3CF-75A7-42CB-A2D2-D6A2ABA17C4C",

"name": "odata/groups/put",

"type": 0,

"uiPermissionType": "Enabled",

} ]

}
```

Roles/ Get/[roleId]/addTask

POST odata/roles/[id]/addTask

Description

Adds a Task to a specific Role. Tasks are automatically predefined by IoT Platform and cannot be added by the user.

For request and response details, see Request – Roles/Post/[roleId]/addTask and Response – Roles/Post/[roleId]/addTask.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Post/[roleId]/addTask

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.
tasks	String	Specifies the tasks IDs to add to the Role.

Example JSON Roles/Post/[roleId]/addTask Request

```
curl -X POST \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47/
AddTask \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \

-H 'Content-Type: application/json' \

-H 'appId: 1aaf017c-b987-4f53-94d6-ad9afb8e4767' \

-H 'cache-control: no-cache' \

-d '{"tasks":["15B8BC56-81ED-402E-95CA-3842BBA386BD"]}'
```

Response – Roles/Post/[roleId]/addTask

The response that is returned contains the following property –

Property	Type	Description
value	Boolean	Indicates whether or not the operation succeeded.

Example JSON Roles/Post/[roleId]/addTask Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Edm.Boolean",

"value": true

}
```

Roles/ Get/[roleId]/putTask

POST odata/roles/[id]/putTask

Description

Updates a Task for a specific Role.

For request and response details, see Request – Roles/Post/[roleId]/putTask and Response – Roles/Post/[roleId]/putTask.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Post/[roleId]/putTask

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.
tasks	String	Specifies the task ids to update for the Role.

Example JSON Roles/Post/[roleId]/putTask Request

```
curl -X POST \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47/
PutTask \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \
```

```
-H 'Content-Type: application/json' \

-H 'appId: 1aaf017c-b987-4f53-94d6-ad9afb8e4767' \

-H 'cache-control: no-cache' \

-d '{"tasks":["15B8BC56-81ED-402E-95CA-3842BBA386BD"]}'
```

Response – Roles/Post/[roleId]/putTask

The response that is returned contains the following property –

Property	Type	Description
value	Boolean	Indicates whether or not the operation succeeded.

Example JSON Roles/Post/[roleId]/putTask Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/$metadata#Edm.Boolean",

"value": true

}
```

Roles/ Get/[roleId]/removeTask

POST odata/roles/[id]/removeTask

Description

Removes a Task from a specific Role.

For request and response details, see Request – Roles/Post/[roleId]/removeTask and Roles/ Get/[roleId]/removeTask.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Post/[roleId]/removeTask

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.
tasks	String	Specifies the task ids to remove from the Role.

Example JSON Roles/Post/[roleId]/removeTask Request

```
curl -X POST \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47/
removeTask \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \

-H 'Content-Type: application/json' \

-H 'appId: 1aaf017c-b987-4f53-94d6-ad9afb8e4767' \

-H 'cache-control: no-cache' \

-d '{"tasks":["15B8BC56-81ED-402E-95CA-3842BBA386BD"]}'
```

Response – Roles/Post/[roleId]/removeTask

The response that is returned contains the following property –

Property	Type	Description
value	Boolean	Indicates whether or not the operation succeeded.

Example JSON Roles/Post/[roleId]/removeTask Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Edm.Boolean",

"value": true

}
```

Roles/ Get/[roleId]/Tasks

GET odata/roles/[id]/Tasks

Description

Returns the list of Tasks associated with a specific Role and the Tasks' properties.

For request and response details, see Request – Roles/Get/[roleId]/Tasks and Roles/
Get/[roleId]/Tasks.

See Also Authentication/Request Headers and API Response Codes.

Request – Roles/Get/[roleId]/Tasks

Property	Type	Description
id	String	This is the unique identifier automatically assigned by IoT Platform when a Role is created. This id is returned in the response of the Roles/Post.

Example JSON Roles/Get /[roleId]/Tasks Request

```
curl -X GET \

https://api.dev.axonize.com/odata/Roles/9939D515-852A-4CAB-A676-6C214CB09A47/Tasks \

-H 'Accept: application/json, text/plain, */*' \

-H 'Accept-Language: en-US,en;q=0.9' \

-H 'AppId: 289a7624-c590-4b4c-b15a-7801d8902ce9' \

-H 'Content-Type: application/json' \
```

```
-H 'cache-control: no-cache' \
```

Response – Roles/Get/[roleId]/Tasks

The response that is returned also contains the following properties –

Property	Type	Description
name	String	The name of the Task.
displayName	String	The name of the Task to be displayed in the IoT Platform Portal.
entity	String	Specifies the entity for which this Task is defined, such as a Device, Product, Group, Rule, alarmInstance and so on. Only one entity can be specified.
id	String	The unique identifier automatically assigned by IoT Platform when a Task is created.
appId	String	Not in use.
createDate		See Common Response Properties.

Example JSON Roles/Get/[roleId]/Tasks Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Collection(Axonize.Data.Repository.Sql.Task)",

"value": [

{

"@odata.type": "#Axonize.Data.Repository.Sql.Task",
```

"name": "groups-fullcontrol",

"displayName": "msg_authtask_groups_fullcontrol",

"entity": "Groups",

"id": "15B8BC56-81ED-402E-95CA-3842BBA386BD",

"appId": null,

"creationDate": "2018-08-19T07:37:55.11Z",

},

{

"@odata.type": "#Axonize.Data.Repository.Sql.Task",

"name": "groups-delete",

"displayName": "msg_authtask_groups_delete",

"entity": "Groups",

"id": "3C45155E-21E8-4B25-96FA-7F064605F8AD",

"appId": null,

"creationDate": "2018-08-19T07:37:52.613Z",

}]

}

Profiles

Profiles specify which devices and groups a user can access.

- **Profiles/Post**
- **Profiles/Get (List)**
- **Profiles/Get (Specific)**
- **Profiles/Patch**
- **Profiles/Delete**

Profiles/Post

POST /odata/Profiles

Description

Creates a profile.

For request and response details, see Request – Profiles/Post and Response -Profiles/Post.

Request – Profiles/Post

Property	Type	Description	Mandatory
name	String	Name of the profile	
allowedGroups	List String	List of the allowed groups IDs	
notAllowedGroups	List String	List of the unallowed groups IDs	
devicesBlackList	List String	List of devices that are unallowed	

Example JSON Profiles/Post Request

```
curl –location –request POST 'https://api.dev.axonize.com/odata/profiles' \
```

–header 'Accept: application/json, text/plain, */*' \

–header 'Content-Type: application/json' \

–data-raw '{"name":"TestProfile","deviceBlackList":[],"allowedGroups":
["5ceb89b1e3b0ca2ee412f236″],"notAllowedGroups":[]}'

Response -Profiles/Post

Property	Type	Description	Mandatory
Id	String	The profile unique ID	

Example JSON Profiles/Post Response

```
{

"@odata.context": "https://10.9.0.104/odata/$metadata#Profiles/$entity",

"name": "Only Asia",

"allowedGroups": [],

"notAllowedGroups": [],

"deviceBlackList": [],

"id": "5e00c3ade3b0ca3154631dd0",

"appId": "289a7624-c590-4b4c-b15a-7801d8902ce9",

"createDate": "2019-12-23T13:39:57.7843062Z",

"createUser": null,

"updateDate": "2019-12-23T13:39:57.7843062Z",

"updateUser": null

}
```

Profiles/Get (List)

GET /odata/Profiles

Description

Retrieves a list of Profiles.

For request and response details, see Request – Profiles/Get (List) and Response – Profiles/Get (List).

Request – Profiles/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Notification is assigned.	

Example JSON Profiles/Get (List) Request

```
curl –location –request GET 'https://api.dev.axonize.com/odata/Profiles' \

–header 'Content-Type: application/json' \

–header 'Accept: application/json, text/plain, */*' \

–data-raw "
```

Response – Profiles/Get (List)

Property	Type	Description	Mandatory
name	String	Profile Name	
allowedGroups	List String	List of allowed groups IDs	
notAllowedGroups	List String	List of unallowed groups IDs	

Property	Type	Description	Mandatory
devicesBlackList	List String	List of devices that are unallowed	
deleteDate	Date	The date of the profile deletion time	
createUser	String	The internal IoT Platform identifier for the profile.	
updateDate	Date	The date of last time the profile was modified	
updateUser	String	The last user who updated the profile	
appId	String	The ID of the application to which this profile belongs.	
creationDate	Date	The date and time that the profile was created in the database.	

Example JSON Profiles/Get (List) Response

```
{
"@odata.context": "https://10.9.0.104/odata/$metadata#Profiles",
"value": [
{
"name": "testProfile",
"allowedGroups": [
"5d136face3b0ca17f80b6c7f"
```

```
],

"notAllowedGroups": [],

"deviceBlackList": [

"5d136faae3b0cb0558594eb8"

],

"id": "5d136fade3b0cc2c3c96b0cc",

"appId": "3802759a-2ad0-4300-9770-55fdabff2d18",

"createDate": "2019-06-26T13:14:21.535Z",

"createUser": null,

"updateDate": "2019-06-26T13:14:21.535Z",

"updateUser": null,

"deleted": false,

"deleteDate": "0001-01-01T00:00:00Z"

}

]}
```

Profiles/Get (Specific)

GET /odata/Profiles/id

Description

Retrieves a specific profile.

For request and response details, see Request – Profiles/Get (List) and Response – Profiles/Get (specific).

Request – Profiles/Get (List)

Property	Type	Description	Mandatory
Id	String	This is the unique identifier automatically assigned by IoT Platform when a	Y

Property	Type	Description	Mandatory
		Profile is created. This Profile ID is returned in the response of the Profiles/Post.	
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Notification is assigned.	

Example JSON Profiles/Get Request

```
curl –location –request GET 'https://api.dev.axonize.com/odata/
Profiles/5d136fade3b0cc2c3c96b0cc' \

–header 'Content-Type: application/json' \

–header 'Accept: application/json, text/plain, */*' \

–data-raw ''

Response – Profiles/Get
```

Response – Profiles/Get (specific)

Example JSON Profiles/Get Response

```
{

"@odata.context": "https://10.9.0.104/odata/$metadata#Profiles",

"name": "testProfile",

"allowedGroups": [
```

“5d136face3b0ca17f80b6c7f”

],

“notAllowedGroups”: [],

“deviceBlackList”: [

“5d136faae3b0cb0558594eb8”

],

“id”: “5d136fade3b0cc2c3c96b0cc”,

“appId”: “3802759a-2ad0-4300-9770-55fdabff2d18”,

“createDate”: “2019-06-26T13:14:21.535Z”,

“createUser”: null,

“updateDate”: “2019-06-26T13:14:21.535Z”,

“updateUser”: null,

“deleted”: false,

“deleteDate”: “0001-01-01T00:00:00Z”

}

Profiles/Patch

PATCH /odata/Profiles/Id

Description

Updates a profile.

For request and response details, see Request – Profiles/Patch and Response -Profiles/ Patch.

Request – Profiles/Patch

Property	Type	Description	Mandatory
name	String	Profile Name	
allowedGroups	List String	List of the allowed groups IDs	

Property	Type	Description	Mandatory
notAllowedGroups	List String	List of the unallowed groups IDs	
devicesBlackList	List String	List of devices that are unallowed	

Example JSON Profiles/Patch Request

```
curl –location –request PATCH 'https://api.dev.axonize.com/odata/
profiles/5bfd6d2d18b1d856b49665f7' \

–header 'Accept-Encoding: gzip, deflate' \

–header 'Accept-Language: en-US,en;q=0.9' \

–header 'Content-Type: application/json' \

–header 'Accept: application/json, text/plain, */*' \

–data-raw '{

"name": "Updated"

}'
```

Response -Profiles/Patch

Example JSON Profiles/Post Response
Status 204 – No Content

Profiles/Delete

DELETE /odata/Profiles/Id

Description

Deletes a profile.

For request and response details, see Request – Profiles/Delete and Response -Profiles/ Delete.

Request – Profiles/Delete

Property	Type	Description	Mandatory
Id	String	The profile ID	Y

Example JSON Profiles/Delete Request

```
curl –location –request DELETE 'https://api.dev.axonize.com/odata/
Profiles/5d149c32e3b0c714281b10cc' \

–header 'Content-Type: application/json' \

–header 'Accept: application/json, text/plain, */*' \

–data-raw "
```

Response -Profiles/Delete

Example JSON Profiles/Post Response

Status 200 – OK

Audits Endpoints

The IoT Platform auditing feature enables administrators and users to track IoT Platform activity, (both in the IoT Platform Portal and using the IoT Platform REST API), including changes in Devices, Rules, Applications and Users.

In addition to the automatic auditing performed by IoT Platform , you can Post, Put, Patch, Get and Delete auditing entries.

A retention period can be configured in the Applications entity, which specifies the number of days to keep the audit data of this Application in the IoT Platform database (cyclic buffer). The default retention period is 15 days. However, each Application has a Retention property that determines the retention period of the activities of that Application.

IoT Platform provides a variety of endpoints for handling Audits, as follows:

- **Audits/Post**
- **Audits/Get (List)**
- **Audits/Get (Specific)**
- **Audits/Delete**
- **Audits/Patch or Audits/Put**

Audits/Post

POST /odata/Audits/

Description

To enable the creation of a new audit entry in the IoT Platform database.

For request and response details, see Request – Audits/Post and Response – Audits/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Audits/Post

Property	Type	Description	Mandatory
entityName	String	The name of the entity (such as the name of the Device or the name of	

Property	Type	Description	Mandatory
		the User) on which the action (such as create or delete) was performed.	
entityId	String	The unique identifier (such as tenantId or appId) on which the action was performed.	
action	String	The action performed on the entity, such as Post, Put, Patch, Get or Delete. For example, to add a Device or Application.	
category	String	The type of entity on which the action (described above) was performed, such as – • Devices • Products • Rules • Users • Applications • Events • Auth	
userEmail	String	The email of the IoT Platform user that	

Property	Type	Description	Mandatory
		performed the action.	
userId	String	The unique identifier (ID) of the IoT Platform user that performed the action.	
requestDateTime	DateTime	The timestamp of the request for this action to be performed.	
responseDateTime	String	The timestamp when the response was sent, which indicates when the event took place.	
application	String	The name of the Application on which the action was performed.	
tenant	String	The name of the Tenant of the Application on which the action was performed.	
correlationId		For internal IoT Platform use.	
ip	String	The IP of the request sender.	
result	String	The response	

Property	Type	Description	Mandatory
		code received as the result to the request.	
request DurationMs	String	The number of milliseconds it took to fulfil the request.	
requestURL	String	Shows the entire URL string used to execute the request, which is comprised of the domain, the Tenant and the action itself.	
actionDisplay	String	Free text that describes the action.	
categoryDisplay	String	Free text to describe the entity on which the action was performed (meaning the Device, Application or Product).	
userName	String	Name of the user that performed the request, whether it is in the IoT Platform Portal or using the IoT Platform REST API.	
roles	Array String	The roles of the user at	

Property	Type	Description	Mandatory
		the time the request was performed.	
sourceName	String	The name of the service requester.	
sourceType	String/Enum	The type of the requester – • Unknown • Portal • Rules Engine • XStream • Gateways	
appId	String	The identifier of the Application of the Audit. This **appId** was returned in the response to the [Applications/Post] endpoint.	
additionalInfo	Strings	This property consists of various **keys** and **values** that contain the properties used in the request body, such as a serial number.	

```
{

  "Key":
  "serialNumber",


  "Value":
  "NewSerialNumber"
```

Property	Type	Description	Mandatory
		}	
		Both mandatory and optional keys and values are provided.	

Example JSON Audits/Post Request

```
curl -X POST \

  https://api.stg.axonize.com/odata/audits/ \

-H 'Authorization: Token' \

 -H 'Content-Type: application/json' \

 -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

 -d '{

"entityName": "device123",

    "entityId": "1321233231123",

    "action": "CreateDevice",

    "category": "Devices"

}

'
```

Response – Audits/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties:

Property	Type	Description
id	String	A unique identifier automatically generated for this audit entry by IoT Platform .

Property	Type	Description
isSuccessful	Boolean	Specifies whether the request was successful or not based on the status code in the response.
result	String	Specifies a string representing the status code of the response. For example, OK or BadRequest.
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Example JSON Audits/Post Response

Status 201 – Created

```
{

    "@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/
    odata/$metadata#Audits/$entity",

    "entityName": "device123",

    "entityId": "1321233231123",

    "action": " CreateDevice ",

    "category": "Devices",

    "userEmail": "System",

    "userId": null,

    "requestDateTime": "2018-06-17T11:55:01.8164737Z",

    "responseDateTime": "2018-06-17T11:55:02.0196423Z",

    "application": "fcm2m",

    "tenant": "5851631d4e41925b98f08e13",

    "correlationId": "a4d94269-9847-4842-91de-663735e3ded5",

    "ip": "52.233.142.182",

    "isSuccessful": false,
```

　　"result": "BadRequest",

　　"requestDurationMs": 203.1686,

　　"requestUrl": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/Devices/SendCommandToMultipleDevices",

　　"actionDisplay": "msg_audit_sendcommandtomultipledevices",

　　"categoryDisplay": "msg_audit_devices",

　　"userName": null,

　　"roles": [

　　　　"systemadmin"

　　],

　　"sourceName": null,

　　"sourceType": "Unknown",

　　"id": "5b264c16e5cdcf55dc9805b8",

　　"appId": "be517433-c4b8-4788-9258-1ba220435d63",

　　"createDate": "2018-06-17T11:55:02.035Z",

　　"createUser": null,

　　"updateDate": "0001-01-01T00:00:00Z",

　　"updateUser": null,

　　"additionalInfo": [

　　　　{

　　　　　　"key": "commandId",

　　　　　　"value": "5a966c3e71da9b06b0f932e4"

　　　　},

　　　　{

　　　　　　"key": "deviceIds",

　　　　　　"value": "[\r\n \"5859b09b983df8100836aba1\"\r\n]"

　　　　}

　　]

}

Audits/Get (List)

GET /odata/Audits/

Description

Gets a list of all the Audits of the applications assigned to the requesting user. A Tenant user gets a list of all the Audits of all the Applications that belong to the Tenant and its Sub-tenants.

To get the details of a specific Audit, refer to **Audits/Get (Specific)**.

For request and response details, see Request – Audits/Get (List) and Response – Audits/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Audits/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this user is assigned. This identifier is automatically generated by IoT Platform when the Applications/ Post endpoint is used. The Token or the Client ID/ Client Secret used for authentication in the	Y

Property	Type	Description	Mandatory
		request header specifies the application(s) to which this user is allowed access.	

Example JSON Audits/Get (List) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/audits \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4788-9258-1ba220435d63'
```

Response – Audits/Get (List)

For each Audit, the response provides the properties in Audits/Post.

Example JSON Audits/Get (List) Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
$metadata#Audits",

"value": [

{

"entityName": null,

"entityId": null,

"action": "SendCommandToMultipleDevices",

"category": "Devices",

"userEmail": "System",

"userId": null,

"requestDateTime": "2018-06-17T11:55:01.8164737Z",
```

"responseDateTime": "2018-06-17T11:55:02.0196423Z",

"application": "test application",

"tenant": "5851631d4e41925b98f01234",

"correlationId": "a4d94269-9847-4842-91de-663735e3ded5",

"ip": "52.323.323.123",

"isSuccessful": false,

"result": "BadRequest",

"requestDurationMs": 203.1686,

"requestUrl": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/
Devices/SendCommandToMultipleDevices",

"actionDisplay": "msg_audit_sendcommandtomultipledevices",

"categoryDisplay": "msg_audit_devices",

"userName": null,

"roles": [

"systemadmin"

],

"sourceName": null,

"sourceType": "Unknown",

"id": "5b264c16e5cdcf55dc981234",

"appId": "be517433-c4b8-4788-9258-1ba220431234",

"createDate": "2018-06-17T11:55:02.035Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"additionalInfo": [

{

"key": "commandId",

"value": "5a966c3e71da9b06b0f932e4"

},

{

"key": "deviceIds",

"value": "[\r\n \"5859b09b983df81008361234\"\r\n]"

}

]

},

{

"entityName": null,

"entityId": null,

"action": "SendCommandToMultipleDevices",

"category": "Devices",

"userEmail": "System",

"userId": null,

"requestDateTime": "2018-06-21T11:55:06.3539129Z",

"responseDateTime": "2018-06-21T11:55:06.7601702Z",

"application": "test application",

"tenant": "5851631d4e41925b98f01234",

"correlationId": "57d3baee-f362-4f07-a22d-474692263aa3",

"ip": "52.123.115.233",

"isSuccessful": false,

"result": "OK",

"requestDurationMs": 406.25730000000004,

"requestUrl": "https://stg-axonizeapi-axonize.stg-ase-axonize.p.azurewebsites.net/odata/Devices/SendCommandToMultipleDevices",

"actionDisplay": "msg_audit_sendcommandtomultipledevices",

"categoryDisplay": "msg_audit_devices",

"userName": null,

"roles": [

"systemadmin"

],

"sourceName": null,

"sourceType": "Unknown",

"id": "5b2b921ae5cdcf3224ab1234",

"appId": "be517433-c4b8-4788-9258-1ba220431234",

"createDate": "2018-06-21T11:55:06.76Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"additionalInfo": [

{

"key": "commandId",

"value": "5a966c3e71da9b06b0f932e4"

},

{

"key": "deviceIds",

"value": "[\r\n \"5859b123983df81008361234\"\r\n]"

}

]

}

]

}

Audits/Delete

DELETE /odata/Audits/[id]

Description

Deletes the details of a specific Audit, as specified by the Audit's ID. This ID is returned in the response of the Audits/Post.

For request and response details, see Request – Audits/Delete and Response – Audits/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Audits/Delete

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when an Audit is created. This ID is returned in the response of the Audits/ Post.	Y

Example JSON Audits/Delete

```
curl -X GET \

https://api.stg.axonize.com/odata/audits/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Audits/Delete

Status 200 – OK

Audits/Patch or Audits/Put

PUT /odata/Audits/[id] or PATCH /odata/Audits/[id]

Description

To allow you to update an existing IoT Platform Audit.

For request and response details, see Request – Audits/Patch or Put and Response – Audits/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Audits/Patch or Put

In the request, specify the ID of the Audit whose definition to change and the name of the property(s) to change. These properties are described in **Audits/Post**.

For the **Patch** endpoint, all unspecified fields remain unchanged.

For the **Put** endpoint, all unspecified fields are assigned default values.

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when an Audit is created. This ID is returned in the response of the Audits/Post.	Y
entityName	String	The name of the entity (such as the Device or User) on which the action (such as create or delete) was performed.	Y (Only for Put)

Example JSON Audits/Patch Request

The following is an example of changing an entity's **entityName** to **test**.

```
curl -X PATCH \

https://api.stg.axonize.com/odata/audits/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{
```

"entityName":"test"

}

'

Response – Audits/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Example JSON Audits/Patch/Put Response

Status 204 – No Content – The server has successfully fulfilled the request.

Rules Endpoints

Rules define the conditions that trigger actions in IoT Platform . For example, a Rule can define that an email is sent to a specific person with a specific message when the temperature of a specific refrigerator goes over 20° and the water sprinkling system can be automatically turned on.

The definition of a rule comprises the following –

Name	Description
Entities	Specify the Application(s), Product(s) or Device(s) to which the Rule applies.
Schedule	Specify the schedule during which the Rule conditions are active.
Conditions	Specify the conditions that trigger the Rule, such as when a Device reading is within a specific value range, over a specific threshold, entering/exiting a geo-fence and so on.
Scheduled (CRON) Rules	Rules can also be triggered according to a CRON-defined schedule. For example, to report the status of a Device every half-hour. When a CRON schedule is defined for a Rule, then no other conditions in this Rule are relevant, including the **schedule**
AND Logic	**Inside a Rule –** To define that multiple **Conditions** must be met at the same time in order to trigger the Rule (AND), define multiple **Conditions** *inside* the same Rule.
OR Logic	**Between Rules –** Rules run at the same time. Therefore, you can define multiple Rules, each with their own **Condition**. If the **Condition** of two Rules exists for a specific Device, then both Rules are triggered when their conditions are matched.
Actions	Specify the operations that are activated when the conditions of the

Name	Description
	Rule are matched, such as sending an SMS/email, making a call, sending information to an ERP/CRM or activating a command on the Device (such as opening a light or closing a lock). You can also specify that an AlarmInstance is created when the Rule is triggered. Various fields of information from the Rule itself and/or from the Event that triggered the Rule and/or from the related Application can be used by the Action that is triggered by this Rule.

IoT Platform provides a variety of endpoints for handling Rules, as follows –

- **Rules/Post**
- **Rules/Get (List)**
- **Rule/Get (Specific)**
- **Rules/Delete**
- **Rules/Patch or Rules/Put**

Instantaneous Rules, Conditions and Events

An instantaneous rule is a rule in which, one of the rule's conditions is defined as an instantaneous condition (set in the **condtitions/type**) on an event with an instantaneous **eventType** code. Pressing a button is an example of an instantaneous event.

Instantaneous Rules differ from other Rules in the following ways –

- An instantaneous Rule triggers every time that the instantaneous event occurs, and does not wait for a restore to be triggered another time.

- A Rule that contains an instantaneous condition and an AND relationship within that Rule employs the following logic –

When the instantaneous event occurs, the Rule then checks the other conditions in that Rule to see whether they are true. If all the Rule's other conditions are true, then the Rule is triggered. This means that the Rule is **only** triggered when the instantaneous event occurs AND all other conditions of the Rule are true. Note that the converse of this does not trigger the Rule.

For example, let's say that you have a button-press event, which is an instantaneous event, and a door-open event, which is not an instantaneous event. If the button is pressed, then the Rule checks whether the door is open and if it is, triggers the Rule. However, the opposite does not trigger the rule. If the door is open, the Rule is not triggered, regardless of when the instantaneous event (button press) last occurred.

Limitations

Multiple Conditions

Multiple conditions can be defined for a Rule and an **AND** relationship exists between them. However, when multiple conditions are defined, they must apply to a specific (single) Device. This means that a single Device ID must be specified, and the Rule cannot apply to a Product ID, App ID or multiple Device IDs.

Multiple instantaneous conditions cannot be defined for a Rule with an **AND** relationship between conditions.

Duration Conditions

A Duration condition (conditions/durationInMinutes) can only be used on a specific Device. When a duration condition is used, it must be the only condition, meaning that no additional conditions can be defined on that Rule.

An instantaneous event cannot have a duration condition.

Rules/Post

POST /odata/Rules

Description

To create a new Rule.

For request and response details, see Request – Rules/Post and Response – Rules/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Rules/Post

Properties for Rules are organized hierarchically by object. The hierarchy of objects for the Rules/Post request properties is as follows –

- **rules (general)**
- **actions (general)**
- **emailProperties**
- **smsProperties**
- **phoneCallProperties**
- **alarmInstanceProperties**
- **eventLogEntryProperties**
- **commandProperties**
- **webServiceProperties**

- **additionalPropertyProperties**
- **ruleRecurrenceSettings**
- **conditions**
- **locationConditionSettings**

Request – Rules/Post – Rules (General) Properties

Property	Type	Description	Mandatory
name	String	A free-text name for the Rule. This name can be included in the message that is sent.	Y
description	String	A free-text description of the Rule.	
active	Boolean	Specifies whether the Rule is active, meaning that it can be used – True/ False.	Y
severity	String	Specifies the severity of the event that triggered this Rule. Typically, this is used when the Rule triggers an AlarmInstance and may have one of the following values – • Critical • Warning • Major • Minor	Y
cronSchedule	String	Specifies the CRON schedule when this Rule is triggered. If this field contains a CRON schedule, then no other conditions in this Rule are relevant, including the **schedule** property. "cronSchedule" : "00 12 * * *", This property is typically used to report periodic information from a Device, such as its status (ON/OFF). This option is only relevant if the **TimeBased** option is specified in the **type** property (described below).	
type	String/ Enum	Two kinds of Rules are provided as specified by the value in this property –	

Property	Type	Description	Mandatory
		• **TimeBased** – This Rule is automatically triggered according to the schedule defined in the **cronSchedule** property (described above).	
		• **Conditional** – Specifies that this Rule is triggered when the readings of a Device match the conditions defined in the [conditions] property of this Rule.	
timezone	String	The default timezone of the Rule. https://en.wikipedia.org/wiki/ List_of_tz_database_time_zones "timezone":"Asia/Jerusalem"	
category	String	The type of entity on which the action (described above) is performed, such as a Device, Application or Product.	
level		For internal use.	
automaticallyDismiss Boolean		If **true,** when the Rule [restores], then all the [AlarmInstances] that were created by this Rule and are still open are all automatically closed.	
relativeMeetingSchedule RelativeMeetingSchedule		Specify to trigger by meeting.	
notifyOnRestore Boolean		If **True**, then when the Rule [restores], a notification is automatically sent, according to the SMS (**smsProperties**), email (**emailProperties**) or phone call (**phoneCallProperties**) properties defined for this Rule, as described below.	

Property	Type	Description	Mandatory
tenantId		This field is automatically filled by the IoT Platform Server, and there is no need to fill it in.	
appId		A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Rule is assigned. This identifier is automatically added by IoT Platform when the Applications/Post request is used.	

restoreActions	Array	These are the actions that are executed after a Restore event occurs.
		
		A restore event occurs and the rule is triggered when both of the following happen –
		
		   • After the conditions of a Rule have been met.
		
		– And –
		
		   • After the Rule's conditions cease to be met, meaning that the previous conditions have been restored.
		
		For example, if the condition of the Rule is that the temperature is over 20°, then the Restore actions are triggered after the temperature has gone over 20° (which triggers the Rule) and then goes below 20° (which triggers the Restore event).	

schedule *(Deprecated)* *See* weeklySchedule	Object	***Deprecated*** Specifies the day and time of day when the Rule is active (meaning that the Rule can be triggered if the other conditions are met). **True** indicates that the Rule is active for the specified day during the time range (times) specified by **startTime** and **endTime**.	

Property	Type	Description	Mandatory
		"schedule" : {	
		"sun" : true,	
		"mon" : false,	
		"tue" : false,	
		"wed" : false,	
		"thu" : false,	
		"fri" : false,	
		"sat" : false,	
		"times" : {	
		}	
		Note – If the **startTime** is later than the **endTime**, the clock schedules from the end time to the start time. For example, a **startTime** of 19:00 and an **endTime** of 23:00 represents the period from 7:00–11:00 pm. A **startTime** of 23:00 and an **endTime** of 7:00 represents the period from 11:00 pm of one day until 07:00AM the following day.	
weeklySchedule	Object	Defines the time range in which the Rule is active for each day of the week.	
		The **timeRange** property defines when the Rule is active on a specific day. Each **timeRange** has the following format –	
		Null or	
		["startTime" : "19:17",	
		"endTime" : "23:17"]	
		"weeklySchedule": {	
		"sun": {	
		"active": true,	
		"timeRange":["startTime" : "19:17",	
		"endTime" : "23:17"]	
		},	
		"mon": {	
		"active": true,	

Property	Type	Description	Mandatory
		"timeRange": null	
		},	
		"tue": {	
		"active": true,	
		"timeRange": null	
		},	
		"wed": {	
		"active": true,	
		"timeRange": null	
		},	
		"thu": {	
		"active": true,	
		"timeRange": null	
		},	
		"fri": {	
		"active": true,	
		"timeRange": null	
		},	
		"sat": {	
		"active": true,	
		"timeRange": null	
		}	
		Note – If the **startTime** is later than the **endTime**, the clock schedules from the end time to the start time. For example, a **startTime** of 19:00 and an **endTime** of 23:00 represents the period from 7:00–11:00 pm. A **startTime** of 23:00 and an **endTime** of 7:00 represents the period from 11:00 pm of one day until 07:00AM the following day.	

Request – Rules/Post – Actions (General) Properties

Property	Type	Description	Mandatory
actions	Array	Specifies the operations that are activated when the conditions of the Rule are met. Multiple actions can be triggered by each Rule. This array comprises a variety of objects, as described below.	Y
actions/ type	String	Various types of actions are supported by IoT Platform , as follows – • SMS • Email • AlarmInstance • EventLogEntry • Commands • WebService • PhoneCall • AdditionalProperty Various properties are provided for each action type, as described below. Only the properties of the action(s) to be triggered must be filled out.	Y

Request – Rules/Post – emailProperties

Property	Type	Description	Mandatory
actions/ emailProperties	Array	These are the **actions** properties to be filled out in order to trigger the sending of an email – "emailProperties": { "message": "{severity} alarm from {deviceName} – {triggeringEvent} {operator}	

Property	Type	Description	Mandatory
		{threshold} on value {value}", "subject": "{name} triggered", "userIds": [], "userDetails": [{ "name": "-", "phoneNumber": null, "email": "user@axonize.com" }] }, "smsProperties": null, "phoneCallProperties": null, "alarmInstanceProperties": null, "eventLogEntryProperties": null, "commandProperties": null, "webServiceProperties": null, "ruleRecurrenceSettings": null	
actions/ emailProperties/ message	Object	The message of the email to be sent. Various IoT Platform keywords can be included in the message inside brackets {}. For example –	

Property	Type	Description	Mandatory
		"message": "{severity} alarm from {deviceName} – {triggeringEvent} {operator} {threshold} on value {value}",	
		These keywords enable you to include information retrieved by IoT Platform in the message. For more details about keywords, see IoT Platform Message Keywords.	
		Default messages and keywords are provided for each country and they can be localized (translated).	
actions/ emailProperties/ subject	String	The subject of the email to be sent. IoT Platform keywords can also be included in the subject, as described above.	
actions/ emailProperties/ userIds	String	One or both these fields can be used to define the users to whom to send the email –	
actions/ emailProperties/ userDetails	String		

Property	Type	Description	Mandatory
		• **userIds** is a list of the IoT Platform User IDs. The email of each user is defined in <u>Users</u>.	
		"userIds" : [	
		"58346e394e123c088069d384",	
		"583589234e123c088069d48e",	
		"59cb7d26e5742d1711231cd1",	
		"51234e240922dcf172c467778"	
		]	
		• **userDetails** enables you to define the recipients to whom to send email in the structure below –	
		"userDetails": [	
		{"name": "-",	
		"phoneNumber": null,	

Property	Type	Description	Mandatory
		"email": "user@axonize.com" }	

Request – Rules/Post – smsProperties

Property	Type	Description	Mandatory
actions/ smsProperties	Object	These are the **actions** properties to be filled out in order to trigger the sending of an SMS. Some of the properties for defining an SMS action are the same as described above for actions/ emailProperties. Refer there for a description of – • Message • UserIds • UserDetails In order to send an SMS, it is mandatory that the User's **phoneNumber** be defined. The country code must be used at the beginning of the number. For example, **+44** for Germany. "SmsProperties" : { "userDetails" : [{	

Property	Type	Description	Mandatory
		"name" : "",	
		"phoneNumber" : "+95465464",	
		"email" : null	
		}	
		],	
		"message" : "{severity} alarm from {deviceName} – {triggeringEvent} {operator} {threshold} on value {value}",	
		"userIds" : [	
		"580c7cfdcb517ad4e824e1ff",	
		"587df1b3132dce1a5cec3c0d"	
		]	
		}	

Request – Rules/Post – phoneCallProperties

Property Type Description Mandatory actions/phoneCallProperties Object These are the **actions** properties to be filled out in order to trigger an automated voice phone call that reads out the message.

The properties for defining a phone call action are the same as described above for **actions/smsProperties**.

Request – Rules/Post – alarmInstanceProperties

Property	Type	Description	Mandatory
actions/ alarmInstanceProperties	Object	These are the **actions** properties to be filled out in order to trigger an IoT Platform AlarmInstance.	
		The AlarmInstance	

Property	Type	Description	Mandatory
		that is triggered may use fields from the Rule that triggered it and/or from the Device itself.	
		If the **message** field is filled out, then this message is used in the Alarm. If not, then the default AlarmInstance message is used.	

Request – Rules/Post – eventLogEntryProperties

Property	Type	Description	Mandatory
actions/ eventLogEntryProperties	Object	These are the **actions** properties to be filled out in order to trigger the recording of an event in the IoT Platform log.	
		For example, to record in a log that an email was sent, an air conditioner was turned off and so on.	

Property	Type	Description	Mandatory
		The contents of the **message** field are recorded in the log.	
		The [EventLogEntries](#)/ Get endpoint can be used to retrieve the contents of the log.	

Request – Rules/Post – commandProperties

Property	Type	Description	Mandatory
actions/ commandProperties	Object	These are the **actions** properties to be filled out in order to send a command to a Device that activates operations on the Device.	
		"CommandProperties" : {	
		"commandId" : "54456c3e711206b0f932e4",	
		"message" : null,	
		"commandArgument" : "{"name":"Off"}",	
		"deviceIds" : [	
		"5859b04442231f0111366a6a1"	
		]	
		}	

Property	Type	Description	Mandatory
actions/ commandProperties/ commandId	String	The identifier of the command to be sent to the device. Commands are defined in the Products/ Post response.	
actions/ commandProperties/ message	String	Free text that represents the method to be executed on the Device. The Device software or the IoT Platform SDK on the Device must be listening for this command in order to execute it when it is received.	
actions/ commandProperties/ commandArgument	String	The argument to be used in the command.	
actions/ commandProperties/ deviceIds	Array of Strings	A list of the Devices on which to activate the command. **deviceId** is returned by the Devices/ Post or Devices/ Get endpoint.	

Property	Type	Description	Mandatory
actions/ commandProperties/ shouldExecuteOnTriggeringDevice	Boolean	When set to True, executes the command on all explicitly specified Device(s), as well as on the actual Device that triggered the Rule. The actually triggering Device does not need to be one of the Devices that you explicitly specify.	
		For example, let's say that you have a Rule that applies to all refrigerators, which is to be triggered whenever the temperature of one of the refrigerators in the group exceeds 20°. This means that you do not need to create a comparable rule for each refrigerator individually. In this case, whenever the temperature of one of the refrigerators in the group exceeds 20°	

Property	Type	Description	Mandatory
		degrees, the command is executed on that device.	
actions/ commandProperties/ value	String	The value to be used in the command.	

Request – Rules/Post – webServiceProperties

Property	Type	Description	Mandatory
actions/webServiceProperties	Object	These are the **actions** properties to be filled out in order to trigger a web service. This feature enables you to link up to any system that has an HTTP endpoint. This feature can be used to integrate with your	

Property	Type	Description	Mandatory
		existing servers. This means that any internal process that you have in your organization can be looped in through a web service action. This action sends an HTTP call when a Rule is triggered, and then you can use your own logic in your own system to trigger any desired action.	

Property	Type	Description	Mandatory
		"WebServiceProperties": { "url" : "https://sprinkles.com/api/commands/sendCommand", "method" : "POST", "headers" : [{ "key" : "customerId", "value" : "3423423db20422f29" }], "body" : "{\"commandId\": \"4\"}", "contentType" : "application/json" }	
actions/webServiceProperties/url	String	The URL to which to send the call.	
actions/webServiceProperties/method	String	The method of the web service – POST, GET, DELETE, PUT or PATCH.	

Property	Type	Description	Mandatory
actions/webServiceProperties/ headers	Array	An array of key/ values that are sent as HTTP headers. The key becomes the header key and the value becomes the header value.	
actions/webServiceProperties/ body	String	The body of the HTTP call.	
actions/webServiceProperties/ contentType	String	The content type of the body of the HTTP call. For example, "application/ json".	

Request – Rules/Post – additionalPropertyProperties

Property	Type	Description	Mandatory
actions/ additionalPropertyProperties	Object	Specifies that the value of an additionalProperty of a specific Device is updated to the value specified below. These additional properties are assigned by the Product to which the Device belongs.	
		For example, if the Product defines a property called **Color**, then all Devices of that Product have that property. A Rule can specify that if the temperature of a specific Device	

Property	Type	Description	Mandatory
		goes over 80 degrees, then the value of the **additionalProperty** named **Color** is changed to **Red**.	
actions/ additionalPropertyProperties/ name	String	Specifies the name of a property to be updated. This must be the **name** of one of the **additionalProperties** defined for the Product of the Device to which this Rule applies belongs.	
actions/ additionalPropertyProperties/ value	String	Specifies the value to which to update the property with the **name** described above.	
actions/ additionalPropertyProperties/ deviceId	String	Specifies that the unique identifier of the Device whose	

Property	Type	Description	Mandatory
		property (of the Product) is to be updated, as described above.	
actions/ additionalPropertyProperties/ propertyOperation	Object	Specifies the action that will be used on the additional property's value. This action's value ia relative to the previous value of the additional property. For example, if the rule triggered it will increase the property by two.	

Request – Rules/Post –propertyOperationProperties

Property	Type	Description	Mandatory
actions/additionalPropertyProperties/ propertyOperation/relativeOperator	Enum	The type of opartion that this	

Property	Type	Description	Mandatory
		action will perform. The operator values are :	

- Plus
- Minus
- Multiple
- Division
- Percent

Property	Type	Description	Mandatory
actions/additionalPropertyProperties/ propertyOperation/relativeModifier	Double	The value that will be modified.	

Request – Rules/Post – ruleRecurrenceSettings Properties

Property	Type	Description	Mandatory
actions/ ruleRecurrenceSettings	Array	Defines how an action is repeated when this rule is triggered. For example, that an SMS is sent repeatedly every few minutes.	

```
"ruleRecurrenceSettings" :
{

"repeatFrequency" :
NumberInt(5),
```

Property	Type	Description	Mandatory
		"maxNumberOfOccurrences" : NumberInt(5) }	
ruleRecurrenceSettings/ repeatFrequency	Integer	The interval, in minutes, after which to repeat the action.	
ruleRecurrenceSettings/ maxNumberOfOccurrences	Integer	The maximum number of times to repeat the action.	

Request – Rules/Post – conditions Properties

Property	Type	Description	Mandatory
conditions	Array	Specifies the condition(s) that triggers the Rule. Conditions can be defined at three levels, as follows – • Device level (for one or more Devices). • Product level applies to all the Devices of this Product.	Y

Property	Type	Description	Mandatory
		• Application ID level. This level applies for all Devices for a given customer.	

For example, a condition could be defined at the Product level for refrigerators and there are 50 refrigerators of this Product. The Rule triggers the sending of a text message if the refrigerator temperature exceeds 15 degrees. This means that **every** refrigerator (meaning each of the 50 refrigerators) belonging to this Product whose temperature exceeds 15 degrees will send a text message.

To define that multiple **conditions** must exist in a Device at the same time (AND) in order to trigger the Rule, then define multiple **conditions** in the same Rule. This only works at the Device level.

```
"conditions": [

{
```

Property	Type	Description	Mandatory
		"id": null,	
		"appIdForRule": null,	
		"productId": null,	
		"eventName": "Temperature",	
		"typeCode": 7,	
		"threshold": "19",	
		"operator": ">",	
		"durationInMinutes": 3,	
		"conditionCount": 0,	
		"isRelative": false,	
		"type": "Threshold",	
		"name": "Temp > 19 for 3 minutes",	
		"ruleTarget": "Device Level Rule",	
		"targetId": "Axonize.Common.Models.NonSql.DeviceNode",	
		"eventProductId": null,	
		"devices": [	
		{	
		"id": "583ee9fa4e41868148e409bd",	
		"name":	
		"BT Temp 3"	
		}],"locationConditionSettings": null	

Property	Type	Description	Mandatory
| | | ```
}

],

"ruleRecurrenceSettings":
 null

}
``` | |
conditions/id	String	A unique identifier of this condition generated by IoT Platform and returned in the Rules/Post response.	N
conditions/ appIdForRule	String	Specifies the Application ID(s) to which the condition applies. You must have permissions to access this Application. Specifying a value here means that the Rule applies to the Application ID level.	N
conditions/productId	String	Specifies the Product ID(s) to which the condition applies. You must have permission to access this Product. Specifying a value here means that the Rule applies to the Product level.	N
conditions/ eventName	String	The name of the Event of the Application ID/ Product/Device on which to apply the condition. IoT Platform works on a combination of **eventName** and **typeCode** (described below).	N

Property	Type	Description	Mandatory
conditions/typeCode	Integer	The type code to which the condition applies.	Y
		IoT Platform works on a combination of **eventName** and **typeCode** (described above).	
		If **eventName** is not specified, then the condition applies to all events with the **typeCode** specified here, regardless of their **eventName**.	
conditions/threshold	String	The value to which to compare the reading value.	
conditions/operator	String	The operator for the condition, which must be appropriate for the data type.	N
		Numeric operators are shown below –	
		">":	
		"<":	
		"=":	
		"!=":	
		">=":	
		"<=":	
		String operators are shown below –	
		"="	
		"!="	
conditions/ durationInMinutes	Integer	Specifies how long a condition must continuously exist on a Device before the Rule is triggered.	N
		For example, a Rule can specify that an SMS is sent after 5 minutes (duration) if	

Property	Type	Description	Mandatory
		the temperature of a refrigerator is over 20°. In this case, the temperature must be over 20° for the entire 5 minutes in order for the SMS to be sent.	
		Duration conditions can only be used at the Device level.	
conditions/ conditionCount	Integer	Specifies the number of times that the condition must occur consecutively in order to trigger the Rule.	N
		Consecutively means that each consecutive reading received by IoT Platform meets the condition.	
		For example, a Rule can specify that a temperature must be over 20 degrees in four consecutive readings.	
conditions/isRelative	Boolean	Set this value to **True** to indicate that the condition is met if the latest reading differs (based on operator described above) from the first reading by more than the value in the threshold property (described above).	N
		Before this Rule has ever been triggered for a specific Device, the first reading is the *anchor*. This means that the first reading is the value compared to which all the latest readings are compared.	

Property	Type	Description	Mandatory
		After the Rule is triggered for a specific Device, the reading that triggered the Rule becomes the new *anchor* against which all future readings are compared.	
conditions/type	String	This property can have one of the following values –	N

- **Threshold** – Indicates that the condition is triggered based on Threshold (this is the default).

- **Location** – Indicates that the condition is triggered based on **Location** (as described in locationConditionSettings below).

- **Instantaneous** – Indicates that the condition is an instantaneous one.

- **Property** – Indicates

Property	Type	Description	Mandatory
		that the condition is triggered when comparing a reading value to a property or setting value. When using this value, the name of the property to which you want to compare should be placed in the conditions/threshold property. The condition and the condition name should reference the reading to which	

Property	Type	Description	Mandatory
		you want to compare.	
		• **PropertyAndStatic** – Indicates that the condition is triggered when comparing between a property/ setting and a static value that you provide in the conditions/ threshold described above. This condition is evaluated every time the property or setting is changed. For example, if **fan speed is set to High**. When	

Property	Type	Description	Mandatory
		using this condition type, the conditions/typecode should be set to 70000.	
		• **Reading** – Compare between the input reading to other reading (Need to define field readingCondition if you choose this type)	
conditions/name	String	Specifies the name of the condition.	Y
conditions/ ruleTarget	String	A calculated value that indicates the level to which the condition applies. This property can have one of the following values – • **Device Level Rule** • **App Level Rule**	N

Property	Type	Description	Mandatory
		• **Product Level Rule**	
conditions/targetId	tring	A read-only value that specifies the IDs (Application ID, Product ID, Device ID[s]) to which the condition applies.	N
conditions/ eventProductId		For internal use only.	N
conditions/devices	Array	Specifies the Device(s) to which the condition applies, including its ID and name (name is optional).	N

```
{

"id" : "
 599463f13f8c96478014f1c0
 ",

"name" :
 "Fridge20"

}
```

Specifying a value here means that the Rule applies to the Device level.

Property	Type	Description	Mandatory
conditions/ locationConditionSettings	Object	Specifies the geo-fence location for which the condition applies. For example, the location of the Device must be within the circle created by a geo#fence around a particular point.	N

When specifying a value here, you

Property	Type	Description	Mandatory
		cannot also specify an operator or threshold.	
		locationConditionSettings: {shouldBeInside: true, latitude: "32.0910665", longitude: "34.78774490000001", radius: 0.5}	
conditions/ locationConditionSettings/ shouldBeInside	Boolean	When **shouldbeinside** is **True**, the Rule is triggered when the Device is located inside the circle created by the geo-fence circle (described below). When **shouldbeinside** is **False**, the Rule is triggered when a Device is outside the geo-fence circle.	
conditions/ locationConditionSettings/ latitude		The latitude of the center of the geo-fence.	
conditions/ locationConditionSettings/ longitude		The longitude of the center of the geo-fence.	
conditions/ locationConditionSettings/ radius	Double	The radius of the geo-fence around the latitude/longitude center of the circle described above.	
condition/ readingCondition	RuleReadingCondition	Specify reading condition	Y
condition/ relativeOperation	RelativeOperation	Specify constant operation for the condition	
Condition/ relativeOperation/ relativeOperator	Enum	Specify the operator: • Plus • Minus • Multiple • Division	

Property	Type	Description	Mandatory
		• Percent	
Condition/ relativeOperation/ relativeModifier	Double	Specify the modifier	

Request – Rules/Post – ConditionSettings Properties

Property	Type	Description	Mandatory
conditions/ locationConditionSettings	Object	Specifies the geo-fence location for which the condition applies. For example, the location of the Device must be within the circle created by a geo#fence around a particular point. When specifying a value here, you cannot also specify an operator or threshold. locationConditionSettings: {shouldBeInside: true, latitude: "32.0910665", longitude: "34.78774490000001", radius: 0.5}	N
conditions/ locationConditionSettings/ shouldBeInside	Boolean	When shouldbeinside is True, the Rule is triggered when the Device is located inside the circle created by the geo-fence circle	

Property	Type	Description	Mandatory
		(described below).	
		When shouldbeinside is False, the Rule is triggered when a Device is outside the geo-fence circle.	
conditions/ locationConditionSettings/ latitude		The latitude of the center of the geo-fence.	
conditions/ locationConditionSettings/ longitude		The longitude of the center of the geo-fence.	
conditions/ locationConditionSettings/ radius	Double	The radius of the geo-fence around the latitude/ longitude center of the circle described above.	

Request – Rules/Post – readingCondition Properties

Property	Type	Description	Mandatory
Condition/ readingCondition/ deviceId	String	Specify the device id for the reading condition	
Condition/ readingCondition/ eventName	String	Specify the event name for the reading condition	
Condition/ readingCondition/ eventType	Int	Specify the event type for the	

Property	Type	Description	Mandatory
		reading condition	

Request – Rules/Post – relativeMeetingSchedule Properties

Property	Type	Description Mandatory
Rule/relativeMeetingSchedule/deviceIds	Array of Strings	Specify the device ids for the calendars
Rule/relativeMeetingSchedule/appId	String	Specify the app id for the calendars
Rule/relativeMeetingSchedule/productId	String	Specify the product id for the calendars
Rule/relativeMeetingSchedule/ relativeMeetingTimes/minutes	Int	Specify the minutes to trigger before or after the meeting
Rule/relativeMeetingSchedule/ relativeMeetingTimes/ meetingRelativePosition	Enum	Specify if the rule trigger time will

Property	Type	Description	Mandatory
		apply to the start or end time of the meeting. 0 for start, 1 for end	
Rule/relativeMeetingSchedule/ relativeMeetingTimes/ timeRelativePosition	Enum	Specify if the rule trigger time will apply to before or after the start or end time of the meeting. 0 for before, 1 for after	

Example JSON Rules/Post Request

```
curl -X POST \

https://api.dev.axonize.com/odata/rules\

-H 'Authorization: Token' \
```

```
-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d '{"active":true,"name":"BasicRule","description":"","severity":"Warning",

"notifyOnRestore":false,"weeklySchedule":{"sun":{"active":true,"timeRange":null},

"mon":{"active":true,"timeRange":null},"tue":{"active":true,"timeRange":null},

"wed":{"active":true,"timeRange":null},"thu":{"active":true,"timeRange":null},

"fri":{"active":true,"timeRange":null},"sat":{"active":true,"timeRange":null}},

"timezone":"Asia/Jerusalem","actions":[{"type":"AlarmInstance"},
{"type":"EventLogEntry","eventLogEntryProperties":

{"message":"{severity} alarm from {deviceName} – {triggeringEvent} {operator} {threshold} on
 value {value}"}}],

"conditions":[{"name":"ConditionName","type":"Threshold","devices":
[{"id":"5ab1200721b5bb23b84fa126","name":"qsdas1j"}],

"typeCode":1039,"operator":"<","threshold":"10","eventName":"Soil
 Humidity","eventProductId":"58845d33922dcf2b0cc4632a"}]}'
```

Response – Rules/Post

All the same properties in the request are returned in the response. The response that is returned also contains the following properties –

Property	Type	Description
id	String	A unique identifier that is automatically generated for this Rule by IoT Platform .
conditions/id	String	A unique identifier of each **Condition** defined in the **Rules/ Post Request** is generated by IoT Platform .
actions/id	String	A unique identifier of each **Action** defined in the **Rules/ Post Request** is generated by IoT Platform .

Property	Type	Description
createDate, **createUser,** **updateDate,** **updateUser**		See **Common** **Response** **Properties**.

Example JSON Rules/Post Response

Status 201 – Created

{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/$metadata#Rules/$entity",

"name": "BasicRule",

"description": "",

"active": true,

"severity": "Warning",

"cronSchedule": null,

"type": "Conditional",

"timezone": "Asia/Jerusalem",

"category": null,

"level": "ByApp",

"automaticallyDismiss": false,

"notifyOnRestore": false,

"tenantId": "5883b7cb922dd1139c1d15ce",

"id": "5b547a4e19ec0c05707d1220",

"appId": "1aaf017c-b987-4f53-94d6-ad9afb8e4767",

"createDate": "2018-07-22T12:36:30.8357086Z",

"createUser": "5b0d033821b5bc289491564d",

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"actions": [

{

"id": "5b547a4e19ec0c05707d121d",

“type”: “AlarmInstance”,

“emailProperties”: null,

“smsProperties”: null,

“phoneCallProperties”: null,

“alarmInstanceProperties”: null,

“eventLogEntryProperties”: null,

“commandProperties”: null,

“webServiceProperties”: null,

“ruleRecurrenceSettings”: null,

“additionalPropertyProperties”: null

},

{

“id”: “5b547a4e19ec0c05707d121e”,

“type”: “EventLogEntry”,

“emailProperties”: null,

“smsProperties”: null,

“phoneCallProperties”: null,

“alarmInstanceProperties”: null,

“eventLogEntryProperties”: {

“message”: “{severity} alarm from {deviceName} – {triggeringEvent} {operator} {threshold} on value {value}”

},

“commandProperties”: null,

“webServiceProperties”: null,

“ruleRecurrenceSettings”: null,

“additionalPropertyProperties”: null

}

],

“restoreActions”: [],

“schedule”: null,

"weeklySchedule": {

"sun": {

"active": true,

"timeRange": null

},

"mon": {

"active": true,

"timeRange": null

},

"tue": {

"active": true,

"timeRange": null

},

"wed": {

"active": true,

"timeRange": null

},

"thu": {

"active": true,

"timeRange": null

},

"fri": {

"active": true,

"timeRange": null

},

"sat": {

"active": true,

"timeRange": null

}

},

"conditions": [

{

"id": "5b547a4e19ec0c05707d121f",

"appIdForRule": null,

"productId": null,

"eventName": "Soil Humidity",

"typeCode": 1039,

"threshold": "10",

"operator": "<",

"durationInMinutes": 0,

"conditionCount": 0,

"isRelative": false,

"type": "Threshold",

"name": "ConditionName",

"ruleTarget": "Device Level Rule",

"targetId": "Axonize.Common.Models.NonSql.DeviceNode",

"eventProductId": "58845d33922dcf2b0cc4632a",

"devices": [

{

"id": "5ab1200721b5bb23b84fa126",

"name": "qsdas1j"

}

],

"locationConditionSettings": null

}

],

"ruleRecurrenceSettings": null

}

},

Rules/Get (List)

GET /odata/Rules/

Description

Gets a list of all the Rules of the Application, as specified in the **appId** property, as described below.

To get the details of a specific Rule, refer to **Rules/Get (Specific)**.

For request and response details, see Request – Rules/Get (List) and Response – Rules/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – Rules/Get (List)

Property	Type	Description	Mandatory
appId	string	A unique Application identifier that is automatically generated by IoT Platform identifier of the Application to which this Rule is assigned.	Y

Example JSON Rules/Get (List) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/rules/ \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E'
```

Response – Rules/Get (List)

For each Rule, the response provides the properties in **Rules/Post**.

Example JSON Rules/Get (List) Response

Status 200 – OK

```
{
"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Rules",

"value": [

{

"name": "New Rule",

"description": "New Rule Description",

"active": true,

"severity": "Warning",

"cronSchedule": null,

"type": "Conditional",

"timezone":"Asia/Jerusalem"

"category": null,

"level": "ByApp",

"automaticallyDismiss": false,

"notifyOnRestore": false,

"tenantId": "580c7cfbcb597ad4e824e1fd",

"id": "5873c267fce97a28389d3aa1",

"appId": "fe8c3dfa-74a3-4a89-ad01-0b1dc5abbca2s",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"actions": [

{

"id": "5873c267fce97a28389d3a9f",

"type": "EventLogEntry",
```

“emailProperties”: null,

“smsProperties”: null,

“phoneCallProperties”: null,

“alarmInstanceProperties”: null,

“eventLogEntryProperties”: null,

“commandProperties”: null,

“webServiceProperties”: null,

“ruleRecurrenceSettings”: null,

“additionalPropertyProperties”: null

},

{

“id”: “5873c267fce97a28389d3aa0”,

“type”: “AlarmInstance”,

“emailProperties”: null,

“smsProperties”: null,

“phoneCallProperties”: null,

“alarmInstanceProperties”: null,

“eventLogEntryProperties”: null,

“commandProperties”: null,

“webServiceProperties”: null,

“ruleRecurrenceSettings”: null,

“additionalPropertyProperties”: null

},

{

“id”: “5a73085321b5bc23f44878c1”,

“type”: “SMS”,

“emailProperties”: null,

“smsProperties”: {

“message”: “{severity} alarm from {deviceName} – {triggeringEvent} {operator} {threshold} on value {value}”,

"userIds": [

"58346e394e418c088069d384",

"583589234e418c088069d48e"

],

"userDetails": []

},

"phoneCallProperties": null,

"alarmInstanceProperties": null,

"eventLogEntryProperties": null,

"commandProperties": null,

"webServiceProperties": null,

"ruleRecurrenceSettings": null,

"additionalPropertyProperties": null

}

],

"restoreActions": [],

"schedule": null,

"weeklySchedule": null,

"conditions": [

{

"id": "5a73084621b5bc23f44878bf",

"appIdForRule": "f51df5bf-8d3c-4ba5-9574-3f3b8d6a26be",

"productId": null,

"eventName": "Temperature",

"typeCode": 7,

"threshold": "12",

"operator": ">",

"durationInMinutes": 0,

"conditionCount": 0,

"isRelative": false,

```
    "type": "Threshold",

    "name": "asfsaf",

    "ruleTarget": "App Level Rule",

    "targetId": "f51df5bf-8d3c-4ba5-9574-3f3b8d6a26be",

    "eventProductId": null,

    "devices": [],

    "locationConditionSettings": null

    }

    ],

    "ruleRecurrenceSettings": null

    }.

    .

    .

    .

    .

    ]

    }
```

Rules/Get (Specific)

GET /odata/Rules/[id]

Description

Gets the details of a specific Rule, as specified by the Rule's ID. This Rule ID is returned in the response of **Rules/Post**.

To get the details of all the Rules of an Application, see **Rules/Get (List)**.

For request and response details, see Request – Rules/Get (Specific) and Response – Rules/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Rules/Get (Specific)

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when a Rule is created. This id is returned in the response of the Rules/ Post.	Y

Example JSON Rules/Get (Specific) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/rules/5873c267fce97a28389d3aa1\

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E ' \
```

Response – Rules/Get (Specific)

For the requested Rule, the response provides the properties in **Rules/Post**.

Example JSON Rules/Get (Specific) Response

Status 200 – OK

```
{

"@odata.context": "https://dev-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Rules/$entity",

"name": "New Rule",

"description": "New Rule Description",

"active": true,

"severity": "Warning",

"cronSchedule": null,
```

"type": "Conditional",

"timezone":"Asia/Jerusalem"

"category": null,

"level": "ByApp",

"automaticallyDismiss": false,

"notifyOnRestore": false,

"tenantId": "580c7cfbcb597ad4e824e1fd",

"id": "5873c267fce97a28389d3aa1",

"appId": "fe8c3dfa-74a3-4a89-ad01-0b1dc5abbca2",

"createDate": "0001-01-01T00:00:00Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"actions": [

{

"id": "5873c267fce97a28389d3a9f",

"type": "EventLogEntry",

"emailProperties": null,

"smsProperties": null,

"phoneCallProperties": null,

"alarmInstanceProperties": null,

"eventLogEntryProperties": null,

"commandProperties": null,

"webServiceProperties": null,

"ruleRecurrenceSettings": null,

"additionalPropertyProperties": null

},

{

"id": "5873c267fce97a28389d3aa0",

"type": "AlarmInstance",

"emailProperties": null,

"smsProperties": null,

"phoneCallProperties": null,

"alarmInstanceProperties": null,

"eventLogEntryProperties": null,

"commandProperties": null,

"webServiceProperties": null,

"ruleRecurrenceSettings": null,

"additionalPropertyProperties": null

},

{

"id": "5a73085321b5bc23f44878c1",

"type": "SMS",

"emailProperties": null,

"smsProperties": {

"message": "{severity} alarm from {deviceName} – {triggeringEvent} {operator} {threshold} on value {value}",

"userIds": [

"58346e394e418c088069d384",

"583589234e418c088069d48e"

],

"userDetails": []

},

"phoneCallProperties": null,

"alarmInstanceProperties": null,

"eventLogEntryProperties": null,

"commandProperties": null,

"webServiceProperties": null,

"ruleRecurrenceSettings": null,

"additionalPropertyProperties": null

```
        }
    ],
    "restoreActions": [],
    "schedule": null,
    "weeklySchedule": null,
    "conditions": [
        {
            "id": "5a73084621b5bc23f44878bf",
            "appIdForRule": "f51df5bf-8d3c-4ba5-9574-3f3b8d6a26be",
            "productId": null,
            "eventName": "Temperature",
            "typeCode": 7,
            "threshold": "12",
            "operator": ">",
            "durationInMinutes": 0,
            "conditionCount": 0,
            "isRelative": false,
            "type": "Threshold",
            "name": "asfsaf",
            "ruleTarget": "App Level Rule",
            "targetId": "f51df5bf-8d3c-4ba5-9574-3f3b8d6a26be",
            "eventProductId": null,
            "devices": [],
            "locationConditionSettings": null
        }
    ],
    "ruleRecurrenceSettings": null
}
```

Rules/Delete

Description

Deletes the details of a specific Rule, as specified by the Rule's ID. This Rule ID is returned in the response of the Rules/Post When deleting a rule the alarm instances and rule state of the specified rule will also get deleted.

For request and response details, see Request – Rules/Delete and Response – Rules/ Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Rules/Delete

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when a Rule is created. This id is returned in the response of the Rules/ Post.	Y

Example JSON Rules/Delete Request

```
curl -X DELETE \

https://api.stg.axonize.com/odata/rules/592139084d27e710e80f1234 \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Rules/Delete

Example JSON Rules/Delete Response

Status 200 – OK

Rules/Patch or Rules/Put

PATCH /odata/Rules/[ruleId] or PUT /odata/Rules/[ruleId]

Description

To update an existing IoT Platform Rule.

For request and response details, see Request – Rules/Patch or Put and Response – Rules/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Rules/Patch or Put

In the request, specify the ID of the Rule whose definition to change and the name of the property(s) to change. These properties are described in Rules/Post.

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when a Rule is created. This id is returned in the response of the Rules/Post.	Y

Example JSON Rules/Patch Request

The following is an example of changing a Rule's **name** to **test**.

```
curl -X PATCH \

https://api.stg.axonize.com/odata/rules/5b547a4e19ec0c05707d1220\

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

```
-d '{

"name":"test"

}

'
```

Response – Rules/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON Rules/Patch/Put Response

Status 204 – No Content

Alarm Instances Endpoints

An Alarm Instance is usually created by a Rule. Rules are defined using the Rules/Post endpoint.

When the conditions of a Rule are met, an Alarm Instance is created. A list of Alarm Instances can be retrieved using the **Alarm Instances/Get** endpoint or viewed in the IoT Platform Portal.

An example of a Rule that creates an Alarm Instance is when the **Temperature** of a Device named **Refrigerator #7** goes over **40°**, then an Alarm Instance is created by the IoT Platform Rule Engine indicating the name of the Device, details about the event and the Alarm Instance's severity among other types of information about the event.

> **i** The conditions in which an Alarm Instance is created are defined in a Rule, not in the Alarm Instance itself. The Alarm Instance typically reports on the conditions of a Device at the time in which the Alarm Instance was triggered.

> **i** The creation of an Alarm Instance is only one of the types of actions that can be triggered by a Rule when it's conditions are matched.

IoT Platform provides a variety of endpoints for handling Alarm Instances, as follows:

- **AlarmInstances/Post**
- **AlarmInstances/Delete**
- **AlarmInstances/Get (Specific)**
- **AlarmInstances/Put or Patch**
- **AlarmInstances/Clear**
- **AlarmInstances/Snooze**
- **AlarmInstances/Dismiss**
- **AlarmInstances/DeleteAll**
- **AlarmInstances/DismissAll**

AlarmInstances/Get (List)

GET /odata/AlarmInstances

Description

Retrieves a list of all the AlarmInstances.

To get the details of a specific AlarmInstance, refer to AlarmInstances/Get (Specific).

For request and response details, see Request – AlarmInstances/Get (List) and Response – AlarmInstances/Get (List).

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Get (List)

Property	Type	Description	Mandatory
Id	String	A unique identifier for this AlarmInstance that is automatically generated by IoT Platform . This AlarmInstance ID is returned in the response of the AlarmInstances/Post.	Y

Example JSON AlarmInstances/Get (List) Request

```
curl -X GET \

  https://api.stg.axonize.com/odata/alarminstances/

-H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22723E'
```

Response – AlarmInstances/Get (List)

For each AlarmInstance, the response provides the properties in **AlarmInstances/Post**.

Example JSON AlarmInstances/Get (List) Response

Status 200 – OK

```
{

   "@odata.context": "https://stg-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/
odata/$metadata#AlarmInstances",

   "value": [

     {

        "deviceId": "5a8c35d119ec0c14b8512345",

        "typeCode": 1039,

        "value": "50",

        "readingDateTime": "2018-07-02T07:57:29Z",
```

```
        "readingDateTimeOffset": "2018-07-02T07:57:29Z",

        "ruleId": "5b28a5a421b5bb1dc8a21c9b",

        "eventName": "Soil Humidity",

        "severity": "Warning",

        "status": "Open",

        "snoozeExpirationDate": null,

        "message": "Warning alarm from Doneness – Soil Humidity = 50 on value 50",

        "id": "5b39daed19ec0c12ac212345",

        "appId": "801A048A-9F23-429F-BF0D-B6D35B212345",

        "createDate": "2018-07-02T07:57:33.692Z",

        "createUser": null,

        "updateDate": "0001-01-01T00:00:00Z",

        "updateUser": null
    },
    .

    .

    .

    .

    ]
}
```

AlarmInstances/Post

POST /odata/AlarmInstances

Description

In order to create a new AlarmInstance, see the following for request and response details:

- Request – AlarmInstances/Post
- Response – AlarmInstances/Post

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Post

Property	Type	Description	Mandatory
deviceId	String	The unique identifier of the Device on which the AlarmInstance occurred.	Y
typeCode	Integer	The typeCode of the event that triggered the AlarmInstance. See Defining a Device Event Manifest for more information.	Y
value	String	The value of the Event that triggered the AlarmInstance.	Y
readingDateTime	DateTime	The timestamp of the Event (reading) that triggered the Alarm.	
readingDateTimeOffset	DateTimeOffset	Same as **readingDateTime** with a different date structure.	Y
ruleId	String	The unique identifier of the Rule that created this AlarmInstance when its conditions were met.	Y
eventName	String	The name of the Event that triggered the Alarm.	
severity	String/ Enum	The severity defined by the Rule: • Warning • Minor • Major • Critical	Y
status	String/ Enum	The status of the AlarmInstance: • Open • Closed	Y

Property	Type	Description	Mandatory
		After an AlarmInstance is triggered by a Rule, its status is **Open** (0). An AlarmInstance can then be **Closed** (1) in the IoT Platform Portal or through the API.	
snoozeExpirationDate	DateTime	Until this date has passed, the Rule does not send repeat notifications. This initial recurrence is described in the Rule in the **actions/ ruleRecurrenceSettings/ repeatFrequency** property.	
message	String	A free-text message describing what occurred. For example, Temperature Is Too High.	
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this AlarmInstance is assigned. This identifier is automatically generated by IoT Platform when the Applications/ Post request is used.	Y

Example JSON AlarmInstances/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/alarminstances \

-H 'Cache-Control: no-cache' \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345' \

-d '{
```

"deviceId": "5b06684c21b5bc27d4412345",

"typeCode": 7,

"value": "10",

"readingDateTime": "2018-06-21T15:04:36.70395Z",

"readingDateTimeOffset": "2018-06-21T15:04:36.70395+00:00",

"ruleId": "5b2bb87e21b5c318fc743fd0",

"eventName": "Temperature",

"severity": "Warning",

"status": "Open",

"message": "msg_default_alarmInstance_message",

"appId": "1aaf017c-b987-4f53-94d6-ad9af4fd2767"

}'

Response – AlarmInstances/Post

All the same properties in the request are returned in the response. In addition, the response that is returned also contains the following properties –

Property	Type	Description
id	String	A unique identifier for this AlarmInstance that is automatically generated by IoT Platform .
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this AlarmInstance is assigned.
		This identifier is automatically generated by IoT Platform when

Property	Type	Description
		the Applications/ Post request is used.
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Example JSON AlarmInstances/Post Response

Status 201 – Created

```
{

"@odata.context": "https://stg-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#AlarmInstances/$entity",

"deviceId": "5b06684c21b5bc27d4439f53",

"typeCode": 7,

"value": "10",

"readingDateTime": "2018-06-21T15:04:36.70395Z",

"readingDateTimeOffset": "2018-06-21T15:04:36.70395Z",

"ruleId": "5b2bb87e21b5c318fc743fd0",

"eventName": "Temperature",

"severity": "Warning",

"status": "Open",

"snoozeExpirationDate": null,

"message": "Warning alarm from Doneness – Soil Humidity = 50 on value 50",

"id": "5b58681619ec0c1a684b96a0",

"appId": "801A048A-9F23-429F-BF0D-B6D35B212345",

"createDate": "2018-07-25T12:07:50.909888Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null

}
```

AlarmInstances/Delete

DELETE /odata/AlarmInstances/[id]

Description

Deletes the details of a specific Alarm Instance, as specified by the AlarmInstance's ID. This AlarmInstance ID is returned in the response of the **AlarmInstances/Post**.

For request and response details, see Request – AlarmInstances/Delete and Response – AlarmInstances/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Delete

Property	Type	Description	Mandatory
id	String	A unique identifier for this AlarmInstance that is automatically generated by IoT Platform . This AlarmInstance ID is returned in the response of the AlarmInstances/Post.	Y

Example JSON AlarmInstances/Delete Request

```
curl -X DELETE \

https://api.dev.axonize.com/odata/alarminstances/5b58681619ec0c1a684b96a0 \

-H 'Cache-Control: no-cache' \

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345'
```

Response – AlarmInstances/Delete

Example JSON AlarmInstances/Delete Response

Status 200 – OK

AlarmInstances/Get (Specific)

GET /odata/AlarmInstances/Get/[id]

Description

Retrieves the details of a specific AlarmInstance, as specified by the AlarmInstance ID.

For request and response details, see Request – AlarmInstances/Get (Specific) and Response – AlarmInstances/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Get (Specific)

Property	Type	Description	Mandatory
id	String	A unique identifier for this AlarmInstance that is automatically generated by IoT Platform . This AlarmInstance ID is returned in the response of the AlarmInstances/ Post.	Y

Example JSON AlarmInstances/Get (Specific) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/alarminstances/f5a8c35d119ec0c14b851234

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \
```

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22231E ' \

Response – AlarmInstances/Get (Specific)

For each AlarmInstance, the response provides the properties in **AlarmInstances/Post**.

Example JSON AlarmInstances/Get (Specific) Response

Status 200 – OK

{

"@odata.context": "https://stg-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/$metadata#AlarmInstances/$entity",

"deviceId": "5a8c35d119ec0c14b8512345",

"typeCode": 1039,

"value": "50",

"readingDateTime": "2018-07-02T07:57:29Z",

"readingDateTimeOffset": "2018-07-02T07:57:29Z",

"ruleId": "5b28a5a421b5bb1dc8a12345",

"eventName": "Soil Humidity",

"severity": "Warning",

"status": "Open",

"snoozeExpirationDate": null,

"message": "Warning alarm from Doneness – Soil Humidity = 50 on value 50",

"id": "5a8c35d119ec0c14b8512345",

"appId": "801A048A-9F23-429F-BF0D-B6D35B212345",

"createDate": "2018-07-02T07:57:33.692Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null

}

AlarmInstances/Patch or AlarmInstances/Put

PATCH /odata/AlarmInstances/[id] or PUT /odata/AlarmInstances/[id]

Description

In order to update an existing AlarmInstance definition, see the following for request and response details:

- Request – AlarmInstances/Patch or Put

- Response – AlarmInstances/Patch or Put

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Patch or Put

In the request, specify the ID of the AlarmInstance whose definition to change and the name of the property(s) to change. These properties are described in AlarmInstances/ Post.

Property	Type	Description	Mandatory
id	String	A unique identifier for this AlarmInstance that is automatically generated by IoT Platform . This AlarmInstance ID is returned in the response of the **AlarmInstances/ Post**.	Y

Example JSON AlarmInstances/Patch Request

```
curl -X PATCH \

  https://api.stg.axonize.com/odata/alarminstances/5b586a4819ec0c1a684b96d0 \

  -H 'Cache-Control: no-cache' \

  -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \
```

```
    -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345' \

  -d '{

  "message": "message_patch"

  }'
```

Response – AlarmInstances/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Status 204 – No Content. The server has successfully fulfilled the request.

AlarmInstances/Clear

POST /odata/AlarmInstances/Clear

Description

Deletes all the Alarm Instances as indicated by the Alarm Instance IDs supplied in the request.

For request and response details, see Request – AlarmInstances/Clear and Response – AlarmInstances/Clear.

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Clear

Property	Type	Description	Mandatory
ids	Array	**ids** is an array of AlarmInstance IDs. An **id** is a unique identifier for this AlarmInstance that is automatically generated by IoT Platform .	Y

Property	Type	Description	Mandatory
		This AlarmInstance ID is returned in the response of the [AlarmInstances/Post](#).	

Example JSON AlarmInstances/Clear Request

```
curl -X POST \

https://api.dev.axonize.com/odata/alarmInstances/clear

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \

-d ' {"ids":["5b684b0e21b5bb1ce4f8b102","5b7446bf21b5bb2acc7e0709"]}'
```

Response – AlarmInstances/Clear

Example JSON AlarmInstances/Clear Response

Status 204 – No Content

AlarmInstances/Snooze

POST /odata/AlarmInstances/Snooze

Description

Snoozes a reoccurring AlarmInstance for a specified number of minutes for specified id(s).

A recurring AlarmInstance is triggered by the **actions/ruleRecurrenceSettings** property of a Rule.

For request and response details, see Request – AlarmInstances/Snooze and Response – AlarmInstances/Snooze.

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Snooze

Property	Type	Description	Mandatory
snoozeTimeInMinutes	Integer		Y
ids	Array of Strings	An array of AlarmInstance IDs. An ID is a unique identifier for this AlarmInstance that is automatically generated by IoT Platform . This AlarmInstance ID is returned in the response of [AlarmInstances/ Post]().	Y

Example JSON AlarmInstances/Snooze Request

```
curl -X POST \

https://api.dev.axonize.com/odata/alarmInstances/snooze

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-d ' {

"snoozeTimeInMinutes" : 5,

"ids":["5b684b0e21b5bb1ce4f8b102","5b7446bf21b5bb2acc7e0709"]}'
```

Response – AlarmInstances/Snooze

Example JSON AlarmInstances/Snooze Response

Status 204 – No Content

Alarm Instances/Dismiss

POST /odata/AlarmInstances/Dismiss

Description

Dismisses (closes) all the AlarmInstances as indicated by the AlarmInstance IDs supplied in the request. The **status** property of the instances of this AlarmInstance is changed to **closed**.

An AlarmInstance ID is returned in the response of the **AlarmInstances/Post**.

For request and response details, see Request – AlarmInstances/Dismiss and Response – AlarmInstances/Dismiss.

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/Dismiss

Property	Type	Description	Mandatory
ids	Array	**ids** is an array of AlarmInstance IDs.	Y
		An **id** is a unique identifier for this AlarmInstance that is automatically generated by IoT Platform . This AlarmInstance ID is returned in the response of the AlarmInstances/ Post.	

Example JSON AlarmInstances/Dismiss Request

```
curl -X POST \

https://api.dev.axonize.com/odata/alarmInstances/dismiss

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

-d ' {"ids":["5b684b0e21b5bb1ce4f8b102","5b7446bf21b5bb2acc7e0709"]}'

Response – AlarmInstances/Dismiss

Response – AlarmInstances/Dismiss

Example JSON AlarmInstances/Dismiss Response

Status 204 – No Content

Alarm Instances/DeleteAll

POST /odata/AlarmInstances/DeleteAll

Description

Deletes all the instances of AlarmInstances that were triggered by all the Rules of a specific Application, as specified by the appId in the request header.

For request and response details, see Request – AlarmInstances/DeleteAll and Response – AlarmInstances/DeleteAll.

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/DeleteAll

No request properties.

Example JSON AlarmInstances/DeleteAll Request

```
Status 204 – No Content

curl -X POST \

  https://api.dev.axonize.com/odata/alarmInstances/deleteall

  -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – AlarmInstances/DeleteAll

Example JSON AlarmInstances/DeleteAll Response

Status 204 – No Content

Alarm Instances/Dismiss All

POST /odata/AlarmInstances/DismissAll

Description

Dismisses (closes) all the instances of Alarm Instances that were triggered by all the Rules of a specific Application, as specified by the appId in the request header. The property **status** of the instances of this Alarm Instance is changed to **closed**.

For request and response details, see Request – AlarmInstances/DismissAll and Response – AlarmInstances/DismissAll.

See Also Authentication/Request Headers and API Response Codes.

Request – AlarmInstances/DismissAll

No request properties.

Example JSON AlarmInstances/DismissAll Request

```
curl -X POST \

  https://api.dev.axonize.com/odata/alarmInstances/dismissall

  -H 'Authorization: Token' \

  -H 'Content-Type: application/json' \

  -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – AlarmInstances/DismissAll

Example JSON AlarmInstances/DismissAll Response

Status 204 – No Content

Reports Endpoints

A Report enables you to define and retrieve a collection of various kinds of data collected by IoT Platform , such as Events, Devices, Products, Rules, Users and Applications. A Report is sent according to the schedule that you define.

IoT Platform provides a variety of endpoints for handling Reports, as follows –

- **Reports/Get (List)**
- **Reports/Post**
- **Reports/Delete**
- **Reports/Get (Specific)**
- **Reports/Patch or Reports/Put**
- **Reports/[id]/share**
- **Reports/[id]/unShare**
- **Reports/[id]/subscribe**
- **Reports/[id]/unsubscribe**
- **Reports/[id]/sendReportEmail**
- **Reports/[id]/editSubscription**
- **Reports/[id]/generateReportFile**
- **Reports/generateUnSavedReportFile**

Reports/Post

POST /odata/Reports

Description

To create a new IoT Platform report.

For request and response details, see Request – Reports/Post and Response – Reports/Post.

See Also Authentication/Request Headers and API Response Codes.

Request – Reports/Post

Property	Type	Description	Mandatory
name	String	Free-text name of the Report. This will be used as the title of the report and can be used to get the report.	
Type	String/ Enum	May have the following value – • **odata –** OData query language is used to generate the report. • **custom –** Predefined reports provided by the custom report service. Contact IoT Platform customer support for a list of the available reports.	
entity	String	The entity on which the action was performed (such as Device, Application or Product) – • Device • Product • Rules • Audit • Applications • AlarmInstances • Users	
query	String	An expression in OData syntax that defines the data to be extracted from IoT Platform . Example: ? $filter=contains(tolower(name),'gateway').	
columns	Array	Specifies a list of columns to be included in the Report. Each column specified in this list must be the exact name of property of that entity. For example, **serialNumber** of a Device or the **name** of a Product. The name of this property is used as the title of the column.	
subscribers	Array	**subscribers** contains an array of subscribers. Each subscriber contains the following –	

Property	Type	Description	Mandatory
		• **userId (String) –** An array of user IDs.	
		• **cron –** Specifies the schedule for sending this Report to the subscribed Users. This schedule is defined in Cron format, which is a standard for defining the timing and frequency of actions.	
		• **appId (String) –** Application ID of the subscriber.	
		• **timezone –** Timezone of the subscriber.	
		• **lastrundate (DateTime) –** Last time the report was generated and sent.	
		• **filetype (String) –** The current default is PDF. CSV and XLSX (Excel) are also supported.	
		• **lastresultcount (Integer) –** The number of entities generated during the last run of the Report, such as Devices.	
		• **nextRunDate (DateTime) –** The next time that the Report is scheduled to be generated and sent.	

Note – Users can also be scheduled to Reports in the IoT Platform Portal.

```
[
    (
        "userId" : "12349d109c44440d50d11234",
        "cron" : "32 10 * * *",
        "appId" : "123880d7-4212-4567-1234-7fca59123456",
        "timezone" : null,
        "lastRunDate" : ISODate("2018-07-05T07:32:03.990+0000"),
        "fileType" : "pdf",
        "lastResultCount" : NumberInt(83),
        "nextRunDate" : ISODate("2018-07-06T07:32:00.000+0000")
    }
]
```

Property	Type	Description	Mandatory
Filters	String	This is an optional field in which you can specify the filter to be applied to this report, which is used by the IoT Platform Portal when displaying	

Property	Type	Description	Mandatory
		the report. It is a JSON representation of the OData query string.	
		The OData query string will appear in the **Filters** tab of the report, as described on page 153. Specifying the string in this property enables you to edit this filter in the user interface and to immediately affect the report that is displayed.	
		For example: "filters":"[{\"filter\":\"createDate \",\"msgKeyLabel\":\"msg_create_date\", \"msgKeyDisplayName\":\"msg_by_create_date \",\"type\":\"Date\",\"propName\":\"createDate \",\"operator\":\"lessThan\",\"filterValue\": \"2018-02-12T12:20:42+02:00\"}]"	
customProperties String		Specifies the endpoint that is called in the custom report service. The custom report service consists of predefined SQL and API queries that are used to generate a custom report. Use this property when creating a custom report instead of **filters**.	
		The following properties are not relevant when using the **customProperties** property –	
		• Entity	
		• Query	
		• Filters	
		• Columns	
customProperties String **endpoint**		The name of the endpoint that is contacted in the custom report service to generate a custom report.	
createdByDisplayName String		The name of the User who created the Report.	
isDefault	Boolean	Specifies whether this report is included in the list of default reports provided by IoT Platform .	
shared	Array of Objects	This object has two properties – "shared": { "applications": [], "tenants": ["580c7cfbcb597ad4e123456"] • **applicationIds** **–** Specifies the list of appIds to get access to this report. The Users of all these Applications	

Property	Type	Description	Mandatory
		are subscribed to this Report. appIds are returned in the response of Applications/Post.	
		• **tenantIds –** Specifies the list of Tenant IDs to get access to this report. Users that have access to an Application that belongs to this Tenant are subscribed to this Report. Tenant IDs are returned in the response of the Tenant/Post.	

Example JSON RepExample JSON Reports/Post Request

```
curl -X POST \

https://api.stg.axonize.com/odata/reports \

-H 'Cache-Control: no-cache' \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345' \

-d '       {

"columns":["name"],

"entity":"devices",

"query":"",

"name":"devices – report"

}'
```

Response – Reports/Post

All the same properties in the request are returned in the response. The response that is returned also contains the following properties –

Property	Type	Description
id	String	A unique Report identifier that is automatically generated for this Report by IoT Platform .
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application to which this Report is assigned.
createDate, createUser, updateDate, updateUser		See **Common Response Properties**.

Example JSON Reports/Post Response

Status 201 – Created

```
{

“@odata.context”: “https://stg-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Reports/$entity”,

“name”: “devices – report”,

“type”: “odata”,

“entity”: “devices”,

“query”: “”,

“columns”: [

“name”

],

“filters”: null,

“createdByDisplayName”: null,

“isDefault”: false,

“id”: “5b58670919ec0c1a68412345”,
```

"appId": "801A048A-9F23-429F-BF0D-B6D35B212345",

"createDate": "2018-07-25T12:03:21.2135012Z",

"createUser": null,

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"reportInstances": [],

"subscribers": [],

"shared": {

"applications": [],

"tenants": []

}

}

Reports/Get (List)

[GET /odata/Reports](#)

Reports/Get (List)

Gets a list of all the Reports of the Application specified in the request.

For request and response details, see [Request – Reports/Get (List)](#) and [Response – Reports/Get (List)](#).

See Also [Authentication/Request Headers](#) and [API Response Codes](#).

Request – Reports/Get (List)

Property	Type	Description	Mandatory
appId	String	A unique Application identifier that is automatically generated by IoT Platform . This is the identifier of the Application	Y

Property	Type	Description	Mandatory
		to which this Group is assigned.	
		This identifier is automatically generated by IoT Platform when the Applications/ Post command is used.	

Example JSON Reports/Get (List) Request

```
curl -X GET \

 https://api.stg.axonize.com/odata/reports \

 -H 'Cache-Control: no-cache' \

 -H 'Content-Type: application/json' \

 -H 'Authorization: Token' \

 -H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345' \
```

Response – Reports/Get (List)

For each report, the response provides the properties in Reports/Post.

Example JSON Reports/Get (List) Response

Status 200 – OK

```
{

  "@odata.context": "https://stg-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/
odata/$metadata#Reports",

 "value": [

   {

     "name": "Adi test generate report",

     "entity": "users",

     "query": "?$filter=createDate lt 2018-02-12T23:59:59+02:00",
```

```
        "columns": [],

        "filters": "[{\"filter\":\"createDate\",\"msgKeyLabel\":\"msg_create_date\",
\"msgKeyDisplayName\":

  \"msg_by_create_date\",\"type\":\"Date\",\"propName\":\"createDate\",\"operator\":\"lessThan\",

  \"filterValue\":\"2018-02-12T12:20:42+02:00\"}]",

        "createdByDisplayName": null,

        "isDefault": false,

        "id": "5a840d8619ec0c1550a12345",

        "appId": "801A048A-9F23-429F-BF0D-B6D35B212345",

        "createDate": "2018-02-14T10:20:54.183Z",

        "createUser": "1234",

        "updateDate": "0001-01-01T00:00:00Z",

        "updateUser": null,

        "reportInstances": [],

        "subscribers": [],

        "shared": {

            "applications": [],

            "tenants": [

                "580c7cfbcb597ad4e123456"

            ]

        }

    }]}
```

Reports/Get (Specific)

GET /odata/Reports/[reportId]

Description

Gets the details of a specific Report, as specified by the ID.

For request and response details, see Request – Reports/Get (Specific) and Response – Reports/Get (Specific).

See Also Authentication/Request Headers and API Response Codes.

Request – Reports/Get (Specific)

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when a Report is created. This ID is returned in the response of the Reports/Post.	Y

Example JSON Reports/Get (Specific) Request

```
curl -X GET \

https://api.stg.axonize.com/odata/reports/5a840d8619ec0c1550a12345\

-H 'Cache-Control: no-cache' \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345' \
```

Response – Reports/Get (Specific)

For each Report, the response provides the properties in Reports/Post.

Example JSON Reports/Get (Specific) Response

Status 200 – OK

```
{

"@odata.context": "https://stg-axonizeapi-axonize.dev-ase-axonize.p.azurewebsites.net/odata/
$metadata#Reports/$entity",

"name": "Adi test generate report",
```

"type": "odata",

"entity": "users",

"query": "?$filter=createDate lt 2018-02-12T23:59:59+02:00",

"columns": [],

"filters": "[{\"filter\":\"createDate\",\"msgKeyLabel\":\"msg_create_date\",\"msgKeyDisplayName\":

\":

\"msg_by_create_date\",\"type\":\"Date\",\"propName\":\"createDate\",\"operator\":\"lessThan\",

\"filterValue\":\"2018-02-12T12:20:42+02:00\"}]",

"createdByDisplayName": null,

"isDefault": false,

"id": "5a840d8619ec0c1550aaea7e",

"appId": "1aaf017c-b987-4f53-94d6-ad9afb8e4767",

"createDate": "2018-02-14T10:20:54.183Z",

"createUser": "1234",

"updateDate": "0001-01-01T00:00:00Z",

"updateUser": null,

"reportInstances": [],

"subscribers": [],

"shared": {

"applications": [],

"tenants": [

"580c7cfbcb597ad4e123456"

]

}

}

Reports/Delete

DELETE /odata/Reports/[reportId]

Description

Deletes the details of a specific Report, as specified by the ID.

For request and response details, see Request – Reports/Delete and Response – Reports/Delete.

See Also Authentication/Request Headers and API Response Codes.

Request – Reports/Delete

Example JSON Reports/Delete Request

```
curl -X DELETE \

https://api.stg.axonize.com/odata/reports/5b58670919ec0c1a68412345\

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B22771E' \
```

Response – Reports/Delete

Example JSON Reports/Delete Response

Status 200 – OK

Reports/Patch or Reports/Put

PATCH /odata/Reports/[reportId] or PUT /odata/Reports/[reportId]

Description

To update an existing Report.

For request and response details, see Request – Reports/Patch or Put and Response – Reports/Patch or Put.

See Also Authentication/Request Headers and API Response Codes.

Request – Reports/Patch or Put

In the request, specify the ID whose definition to change and the name of the property(s) to change. These properties are described in Reports/Post.

For the **Patch** request, all unspecified fields remain unchanged.

For the **Put** request, all unspecified fields are assigned default values.

Example JSON Reports/Patch Request

```
curl -X PATCH \

https://api.stg.axonize.com/odata/reports/5b58670919ec0c1a68412345\

-H 'Cache-Control: no-cache' \

-H 'Authorization: Token' \

-H 'Content-Type: application/json' \

-H 'appId: 801A048A-9F23-429F-BF0D-B6D35B212345' \

-d '        {

"name":"patched – devices – report"

}'
```

Response – Reports/Patch or Put

Property	Type	Description
createDate, createUser, updateDate, updateUser		See Common Response Properties.

Status 204 – No Content

Reports/[id]/share

POST /odata/Reports/[id]/share

Description

Shares one or more specific reports (as specified by the report id(s) in the request) with the Users of specific Applications, Tenants or Sub#tenants so that those Users can subscribe to this report in the IoT Platform Portal, as described below. The id of a report is returned in the response to the Reports/Post and Reports/Get (List) endpoints. The following provides more details.

IoT Platform Users can subscribe to automatically receive periodic IoT Platform reports by email.

To do so, either –

- Use the **Reports/[id]/subscribe**

– OR –

- In the IoT Platform Portal – A User can click the **Reports** option in the left pane and then select the Subscription tab. A list of reports to which they can subscribe is displayed. That User can then mark the **Subscribed** checkbox in order to start automatically receiving periodic reports by email.

The list of reports that appear for selection is determined by those that are shared by the report creator, Application User or Tenant User, as follows –

- Application Users can share with Users of the same Application.
- Tenant Users can share with all the Users of all the Applications of that Tenant or with specific Users of that Tenant.
- Sub-tenants can share with Users of all the Applications of the same Sub-tenant.

> ℹ️ Tenant Users who want to share this report with all the Users of a Tenant's Applications should select to share with the Tenant itself (and not by selecting each of the Applications of the Tenant). By selecting to share with the Tenant itself, this report will also be shared with all the new Applications added to this Tenant or to its Sub-tenants.

For request and response details, see Request – Reports/{id}/share and Response – Reports/[id]/share.

See Also Authentication/Request Headers and API Response Codes.

Request – Reports/{id}/share

Property	Type	Description	Mandatory
id	String	This is the unique identifier automatically assigned by IoT Platform when a Report is created. This ID is returned in the response of the Reports/Post.	Y
tenants	Array of Strings	The unique identifier of one or more IoT Platform Tenants with whom to	

Property	Type	Description	Mandatory
		share this report with its Users. This identifier is automatically generated by IoT Platform and is returned in response to the Tenants/ Post request.	
applicationId	Array of Strings	The unique identifier of one or more IoT Platform Applications with whom to share this report with its Users. This identifier is automatically added by IoT Platform when the Applications/ Post request is used.	

Example JSON Reports/[id]/share Request

```
curl -X POST \

https://api.stg.axonize.com/odata/reports/5b682f64e5cdcf20a87788d8/share/\

-H 'Content-Type: application/json' \

-H 'Authorization: Token' \

-H 'appId: be517433-c4b8-4748-9258-1b1234567890' \

-d ' {"applicationsIds":
["8f71b610-34ab-1234-5674-7228d5f68a08","e8f2873f-1234-5674-8a08-02f884853960"],"tenants":
["e8f2873f-0cab-4fa2-8a08-8a0884858a08"]}'
```

Response – Reports/[id]/share

All the same properties in the request are returned in the response.

Example JSON Reports/[id]/share Response

Status 200 – OK

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