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Serenity Services and APIs: Overview

There are many services that expose APIs across the Serenity IoT Platform. This section describes the services, APIs, and how to use them.

Platform Services

This section provides reference information for the Serenity APIs. They conform to the OpenAPI Specification. These services are exposed and can be used for system integration.

Identity Gateway	Authorization gateway service
IoTHub Manager	
Tenant Manager	
Device Telemetry	
Config	
Diagnostics	

To learn how to use the Swagger UI to interact with these services. click here. To learn how to work with these services using other techniques, click here.

Application Services

These services are are only accessible from within the platform. It's possible to contribute to directly to the platform and use these services from within. But these services are not available for external consumption and don't have swagger references.

ASA Manager	Data formatting service
Storage Adapter	Storage service

Azure Services

TODO: List relevant Azure Services APIs.

Serenity Authorization Flow

TODO:

- Describe Serenity's Authorization Model
- Describe Azure B2C and it's configuration for OpenId
    - https://docs.microsoft.com/en-us/azure/active-directory-b2c/openid-connect
- Explain how some systems have replaced this for alternative auth providers, like PSD and potentially EMD
- Describe the Authorization Flow, pulling information from and linking to: https://docs.microsoft.com/en-us/azure/active-directory/develop/msal-authentication-flows
- Incorporate details from the following into their appropriate locations:
    - https://docs.microsoft.com/en-us/azure/active-directory-b2c/tokens-overview
    -

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Serenity and Swagger UI

Each Serenity web service has a Swagger UI that allows you to visualize and interact with the Serenity APIs.

Swagger Paths

Each Serenity web service has a specific path that exposes an interactive Swagger UI to the APIs as follows:

SERVICE	PATH
Identity Gateway	/auth/index.html
Config	/config/index.html
Device Telemetry	/telemetry/index.html
Diagnostics	/diagnostics/index.html
IoTHub Manager	/iothubmanager/index.html
Tenant Manager	/tenantmanager/index.html

Using Swagger UI

To access the Swagger UI, append it to the root URL using the following syntax:

```
    {root URL}/{Swagger Path}
```

For example, the following will take you to the Identity Gateway in CRSL's Development environment:

https://crsliot-aks-dev.centralus.cloudapp.azure.com/iothubmanager/index.html

Additional Details

For additional information on Swagger UI, check out the Swagger UI Documentation

Prerequisites for working with APIs

How to call Serenity REST with Postman

Check out: https://docs.microsoft.com/en-us/rest/api/azure/#how-to-call-azure-rest-apis-with-postman

Identity Gateway Service REST API

The Identity Gateway service is used to authenticate and manage users.

Within each Serenity Instance an interactive Swagger UI is available at the following path `https://{platform-url}/auth/index.html` For more information, click here.

REST operation groups

The Identity Gateway service REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Authorize	Log in or out and context operations.
Configuration	
SystemAdmin	
UserSettings	
UserTenant	
Status	

Authorize

Service: Identity Gateway

Operations

Authorize	Authorizes user and redirects to callback
Logout	Returns to the redirect url passed on successful logout
Token	Returns JWT token matching claim
Tenant	Used to switch tenants
Callback	Called by B2C to redirect

Authorize - Authorize

Service: Identity Gateway

Authorizes user through configured Authorization Provider.

```
GET https://{platform-url}/connect/authorize
```

URI Parameters

NAME	REQUIRED	TYPE	DESCRIPTION
redirect_uri	?	string	?
state	?	string	?
client_id	?	string	?
nonce	?	string	?
tenant	?	string	?
invite	?	string	?

Responses

NAME	TYPE	DESCRIPTION
200 OK		

Authorize - Token

Service: Identity Gateway

Returns JWT token matching claim. Used by user registration to convert and invited user to a enrolled user.

```
POST https://{platform-url}/connect/token
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

In the request body, supply a JSON representation of ClientCredentialInput object:

NAME	REQUIRED	TYPE	DESCRIPTION
client_id	true	string	Name of the user
client_secret	true	string	Current status of the user: Invited or Member
scope	true	string	Role of the user i.e., admin, readonly, contributor

Responses

NAME	TYPE	DESCRIPTION
200 OK		

Examples

{Description of example}

Sample Request

```
POST https://{platform-url}/connect/token
```

Sample Body

```
{"client_id":"95d3c562-23eb-4e2d-8d3d-ea2448706934","client_secret":"SH90ZgTR-MTObGLbO/u[7qIc-MP0vtAs"}
```

Sample Response

eyJhbDciOiJSUzI1NiIsInR5cCI6IkpXVCJ9.eyJjbGllbnRdaWQiOiI5NWQzYzY2Mi0yM2VhLTRlMmQtOGQzZC1lYTI0NDg3MDY5MzQiLCJzdWIiOiI5NWQzYzY2Mi0yM2VhLTRlNmQtOGQzZC1lYTI0NDg3MDY5MzQiLCJuYW1lIjoiOTVkM2M2NjItMjNlYS00ZTJkLThkM2QtZWEyNDQ4NzA2OTM0IiwidHlwZSI6IkNsaWVudCBDcmVkZW50aWFscyIsImlhdCI6MTYwNDMwNTc0OCwidGVuYW50IjoiMjMzYTFjYTItNjg1NS00M2M1LThiOWMtYzdmODVhMWRkNTIwIiwicm9sZSI6ImFkbWluIiwiaXNfc3lzdGVtQWRtaW4iOmZhbHNlLCJhdmFpbGFibGVfdGVuYW50cyI6IjIzM2ExY2EyLTY4NTUtNDNjNS04YjljLWM3Zjg1YTFkZDUyMCIsImV4cCI6MTYwNjg5Nzc0OCwiaXNzIjoiaHR0cHM6Ly9jcnNsaW90LWFrcy1kZXYuY2VudHJhbHVzLmNsb3VkYXBwLmF6dXJlLmNvbS9hdXRoIiwiYXVkIjoiSW9UUGxhdGZvcm0ifQ.oGTvV4NH5qL4qf8xtWChzn4GCWeaBV8Z9RwXmInK6V9mE3kSk2LqPJg9x7OVPZwHOaQkUcEh2_e9IZKOtwF9JXgz9ZLeFedpBSoLQPAtshMj1YBIXw64MGnuxViB7NoETjxMYsS3cD63_xSSIq2NgjAixHXeT5yONi5SNKIlScRVv3fytLbWCZou2oWoThTIHUYb-A-plaBWjyLfzhCnSJboolFXWw5QbMZcIUNUvg8yJ1oR7M3-OWtHnKdo7vjkSnl5ASe0_dWXaX0LrYBmNUaPek9xG3xTYekhc8rNvf5hL1k7F9VwRVBysPEnaZcnbXrsOvsQ_MmAk4hcuYaDtA

Authorize - Logout

Service: Identity Gateway

Returns to the redirect url passed on successful logout.

Http Request

```
GET https://{platform-url}/connect/logout?post_logout_redirect_uri={redirectUrl}
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

In the request body, supply a JSON representation of ClientCredentialInput object:

NAME	REQUIRED	TYPE	DESCRIPTION
post_logout_redirect_uri	true	string	URI to redirect to on logout.

Responses

NAME	TYPE	DESCRIPTION
200 OK	TODO: Response Object	

Definitions

TODO: Add Response Objects from above

Examples

Log out of CRSL Dev

```
GET https://{platform-url}/connect/logout?post_logout_redirect_uri=https://crsliot-aks-
dev.centralus.cloudapp.azure.com/
```

Authorize - Tenant

Service: Identity Gateway

Used to switch tenants

```
POST https://{platform-url}/connect/switch/{tenantId}
```

Request headers

HEADER	VALUE
Content-Type	application/json

Responses

NAME	TYPE	DESCRIPTION
200 OK		

Examples

Tenant Switch Example

```
POST https://{platform-url}/connect/switch/233a1ca2-6855-43c5-8b9c-c7f85a1dd520
```

POST Connect Callback

```
This Method executes the callback method
```

Http Request

```
POST https://{platform-url}/connect/callback
```

Request headers

HEADER	VALUE
Content-Type	application/json

Responses

NAME	TYPE	DESCRIPTION
200 OK	TODO: Response Object	

Sample Request

Request Body

```
    Below are the details to be sent as part of form body.
    state
    id_token
    error
    error_description
```

Response

```
200 Response
```

Configuration

Service: Identity Gateway

Operations

openid configuration	Get Open Id Configuration
openid configuration jwks	Get JSON web keys

Configuration - OpenID Configuration

Service: Identity Gateway

This Method returns the open ID Provider Configuration.

```
GET https://{platform-url}/.well-known/openid-configuration
```

Permissions

ReadAll permission is required to call this api.

Request headers

HEADER	VALUE
Content-Type	application/json

Responses

NAME	TYPE	DESCRIPTION
200 OK	TODO: Response Object	

Definitions

Response Object 1

```
{
    "issuer": "https://{platform-url}/auth",
    "jwks_uri": "https://{platform-url}/auth/.well-known/openid-configuration/jwks",
    "authorization_endpoint": "{platform-url}/auth/connect/authorize",
    "end_session_endpoint": "https://{platform-url}/auth/connect/logout",
    "scopes_supported": [
        "openid",
        "profile"
    ],
    "claims_supported": [
        "sub",
        "name",
        "tenant",
        "role"
    ],
    "grant_types_supported": [
        "implicit"
    ],
    "response_types_supported": [
        "token",
        "id_token"
    ],
    "response_modes_supported": [
        "query"
    ]
}
```

System Admin

Service: Identity Gateway API Version: 2020-11-03

Operations

User Settings

Service: Identity Gateway API Version: 2020-11-03

Operations

User Tenant

Service: Identity Gateway API Version: 2020-11-03

Operations

Status

Service: Identity Gateway API Version: 2020-11-03

Operations

Config

Config service is used to deal with Packages, Device groups, Configuration types, Solution Settings and User Settings

Within each Serenity Instance an interactive Swagger UI is available at the following path `/auth/index.html` For more information, click here.

REST operation groups

The Config service REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Config Types	Operations to manage Config types
Devicegroup	Manage Device groups
Packages	Manage Packages
Seed	Deals with device simulation and templates
Solution Settings	Manages Solution settings like Logo, theme etc.,
Status	Health Status operations of the service
User Settings	Manage User Settings

Config Types

Service: Config

Operations

OPERATION	DESCRIPTION
Get All Config Types	Fetches all Config types

Get All Config Types

API that fetches all the config types.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/configtypes
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "configTypes": [
    "string"
  ],
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response

```
{
    "Items": [
        "Firmware",
        "Custom - 1"
    ],
    "$metadata": {
        "$type": "DevicePropertyList;1",
        "$url": "/v1/deviceproperties"
    }
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Device Group

Service: Config

Operations

OPERATION	DESCRIPTION
Get All Device Groups	Fetches all Device groups
Get Device Group	Fetches Device group by ID
Create Device Group	Creates Device group
Update Device Group	Updates Device group
Delete Device Group	Deletes Device group

Get All Device Groups

API that fetches all the Device groups.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/devicegroups
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "items": [
    {
      "id": "string",
      "displayName": "string",
      "conditions": [
        {
          "key": "string",
          "operator": 0,
          "value": {}
        }
      ],
      "supportedMethods": [
        {
          "method": "string"
        }
      ],
      "telemetryFormat": [
        {
          "key": "string",
          "displayName": {}
        }
      ],
      "isPinned": true,
      "sortOrder": 0,
      "eTag": "string",
      "metadata": {
        "additionalProp1": "string",
        "additionalProp2": "string",
        "additionalProp3": "string"
      }
    }
  ],
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response

```
{
    "items": [
        {
            "Id": "34b35ac5-837d-4fa4-9ab7-3cdf036a5145",
            "DisplayName": "Default",
            "Conditions": [],
            "SupportedMethods": [],
            "TelemetryFormat": [],
            "IsPinned": false,
            "SortOrder": 0,
            "ETag": "\"3f01ad78-0000-0300-0000-5f902b010000\"",
            "$metadata": {
                "$type": "DeviceGroup;1",
                "$url": "/v1/devicegroups/34b35ac5-837d-4fa4-9ab7-3cdf036a5145"
            }
        },
        {
            "Id": "2f411a20-7632-45f0-bf43-5ae449b8727a",
            "DisplayName": "TestDeviceGroup",
            "Conditions": [
                {
                    "Key": "Tags.TestDevice",
                    "Operator": "EQ",
```

```
                    "Value": "Yes"
                }
            ],
            "SupportedMethods": [],
            "TelemetryFormat": [],
            "IsPinned": false,
            "SortOrder": 0,
            "ETag": "\"3f01ae78-0000-0300-0000-5f902b010000\"",
            "$metadata": {
                "$type": "DeviceGroup;1",
                "$url": "/v1/devicegroups/2f411a20-7632-45f0-bf43-5ae449b8727a"
            }
        },
        {
            "Id": "2ceeeccf-f775-4ea3-b84e-5ea26b125ab6",
            "DisplayName": "EdgeDeviceGroup",
            "Conditions": [
                {
                    "Key": "Tags.EdgeDevice",
                    "Operator": "EQ",
                    "Value": "Yes"
                }
            ],
            "SupportedMethods": [],
            "TelemetryFormat": [],
            "IsPinned": false,
            "SortOrder": 0,
            "ETag": "\"3f01c078-0000-0300-0000-5f902b010000\"",
            "$metadata": {
                "$type": "DeviceGroup;1",
                "$url": "/v1/devicegroups/2ceeeccf-f775-4ea3-b84e-5ea26b125ab6"
            }
        },
        {
            "Id": "85402f9f-3de2-4b55-bfd4-f7f3ce229270",
            "DisplayName": "SimulationGroup",
            "Conditions": [
                {
                    "Key": "Tags.Org",
                    "Operator": "EQ",
                    "Value": "GGK"
                }
            ],
            "SupportedMethods": [],
            "TelemetryFormat": [],
            "IsPinned": false,
            "SortOrder": 0,
            "ETag": "\"3f01bd78-0000-0300-0000-5f902b010000\"",
            "$metadata": {
                "$type": "DeviceGroup;1",
                "$url": "/v1/devicegroups/85402f9f-3de2-4b55-bfd4-f7f3ce229270"
            }
        }
    ],
    "$metadata": {
        "$type": "DeviceGroupList;1",
        "$url": "/v1/devicegroups"
    }
}
```


Security

Type: OpenID Connect
Flow: implicit

Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Get Device Group

API that fetches a Device group by ID.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/devicegroups/{id}
```

Query Params

HEADER	VALUE
id	Device Group ID

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "id": "string",
  "displayName": "string",
  "conditions": [
    {
      "key": "string",
      "operator": 0,
      "value": {}
    }
  ],
  "supportedMethods": [
    {
      "method": "string"
    }
  ],
  "telemetryFormat": [
    {
      "key": "string",
      "displayName": {}
    }
  ],
  "isPinned": true,
  "sortOrder": 0,
  "eTag": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response

```
{
    "Id": "2f411a20-7632-45f0-bf43-5ae449b8727a",
    "DisplayName": "TestDeviceGroup",
    "Conditions": [
        {
            "Key": "Tags.TestDevice",
            "Operator": "EQ",
            "Value": "Yes"
        }
    ],
    "SupportedMethods": [],
    "TelemetryFormat": [],
    "IsPinned": false,
    "SortOrder": 0,
    "ETag": "\"3f01ae78-0000-0300-0000-5f902b010000\"",
    "$metadata": {
        "$type": "DeviceGroup;1",
        "$url": "/v1/devicegroups/2f411a20-7632-45f0-bf43-5ae449b8727a"
    }
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Create Device Group

API that creates a Device Group.

Permissions

```
- CreateDeviceGroups
```

Http Request

```
POST /config/v1/devicegroups
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Schema

```
{
  "id": "string",
  "displayName": "string",
  "conditions": [
    {
      "key": "string",
      "operator": 0,
      "value": {}
    }
  ],
  "supportedMethods": [
    {
      "method": "string"
    }
  ],
  "telemetryFormat": [
    {
      "key": "string",
      "displayName": {}
    }
  ],
  "isPinned": true,
  "sortOrder": 0,
  "eTag": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Request Body

```
{
  "DisplayName": "New Device Group",
  "Conditions": [
    {
      "key": "Tags.Org",
      "operator": "EQ",
      "value": "Test"
    }
  ],
  "TelemetryFormat": [
    {
      "key": "min-temp",
      "displayName": "Min Temperature"
    }
  ],
  "IsPinned": false,
  "SortOrder": 0,
  "SupportedMethods": [
    {
      "method": "Test Method"
    }
  ]
}
```

Response Schema

```
{
  "id": "string",
  "displayName": "string",
  "conditions": [
    {
      "key": "string",
      "operator": 0,
      "value": {}
    }
  ],
  "supportedMethods": [
    {
      "method": "string"
    }
  ],
  "telemetryFormat": [
    {
      "key": "string",
      "displayName": {}
    }
  ],
  "isPinned": true,
  "sortOrder": 0,
  "eTag": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response

```
{
  "Id": "b50858b6-58a9-44df-a1d1-999f02368999",
  "DisplayName": "New Device Group",
  "Conditions": [
    {
      "Key": "Tags.Org",
      "Operator": "EQ",
      "Value": "Test"
    }
  ],
  "SupportedMethods": [
    {
      "Method": "Test Method"
    }
  ],
  "TelemetryFormat": [
    {
      "Key": "min-temp",
      "DisplayName": "Min Temperature"
    }
  ],
  "IsPinned": false,
  "SortOrder": 0,
  "ETag": "\"12006005-0000-0300-0000-5f9bcc640000\"",
  "$metadata": {
    "$type": "DeviceGroup;1",
    "$url": "/v1/devicegroups/b50858b6-58a9-44df-a1d1-999f02368999"
  }
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Update Device Group

API that updates a Device Group.

Permissions

```
- UpdateDeviceGroups
```

Http Request

```
PUT /config/v1/devicegroups/{id}
```

Query Params

HEADER	VALUE
id	Device Group ID

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Schema

```
{
  "id": "string",
  "displayName": "string",
  "conditions": [
    {
      "key": "string",
      "operator": 0,
      "value": {}
    }
  ],
  "supportedMethods": [
    {
      "method": "string"
    }
  ],
  "telemetryFormat": [
    {
      "key": "string",
      "displayName": {}
    }
  ],
  "isPinned": true,
  "sortOrder": 0,
  "eTag": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```


Sample Request Body


```
{
  "Id": "b50858b6-58a9-44df-a1d1-999f02368999",
  "ETag": "\"12006005-0000-0300-0000-5f9bcc640000\"",
  "DisplayName": "New Device Group",
  "Conditions": [
    {
      "key": "Tags.Org",
      "operator": "EQ",
      "value": "Test MMM"
    }
  ],
  "TelemetryFormat": [
    {
      "key": "min-temp",
      "displayName": "Min Temperature"
    }
  ],
  "IsPinned": false,
  "SortOrder": 0,
  "SupportedMethods": [
    {
      "method": "Test Method"
    }
  ]
}
```


Response Schema

```
{
  "id": "string",
  "displayName": "string",
  "conditions": [
    {
      "key": "string",
      "operator": 0,
      "value": {}
    }
  ],
  "supportedMethods": [
    {
      "method": "string"
    }
  ],
  "telemetryFormat": [
    {
      "key": "string",
      "displayName": {}
    }
  ],
  "isPinned": true,
  "sortOrder": 0,
  "eTag": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response

```
{
  "Id": "b50858b6-58a9-44df-a1d1-999f02368999",
  "DisplayName": "New Device Group",
  "Conditions": [
    {
      "Key": "Tags.Org",
      "Operator": "EQ",
      "Value": "Test MMM"
    }
  ],
  "SupportedMethods": [
    {
      "Method": "Test Method"
    }
  ],
  "TelemetryFormat": [
    {
      "Key": "min-temp",
      "DisplayName": "Min Temperature"
    }
  ],
  "IsPinned": false,
  "SortOrder": 0,
  "ETag": "\"1200ba11-0000-0300-0000-5f9bcef80000\"",
  "$metadata": {
    "$type": "DeviceGroup;1",
    "$url": "/v1/devicegroups/b50858b6-58a9-44df-a1d1-999f02368999"
  }
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Delete Device Group

API that deletes a Device Group.

Permissions

```
- DeleteDeviceGroups
```

Http Request

```
DELETE /config/v1/devicegroups/{id}
```

Query Params

HEADER	VALUE
id	Device Group ID

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Responds 200 Status code
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Seed

Service: Config

Operations

OPERATION	DESCRIPTION
Seed	Seeds single template for Device Simulation solution or Remote Monitoring solution

Seed

API that seeds single template for Device Simulation solution or Remote Monitoring solution

Permissions

```
ReallAll
```

Http Request

```
POST /config/v1/seed
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Responds 200 Status code
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Solution Settings

Service: Config

Operations

OPERATION	DESCRIPTION
Get Theme	Fetches the theme of the solution
Set Theme	Sets the theme of the solution
Get Logo	Fetches the logo of the solution
Set Logo	Sets the logo of the solution
Get Actions Settings	Fetches the action settings
Get Default Firmware Setting	Fetches the default firmware
Set Default Firmware Setting	Updates the default firmware

Get Theme

API that fetches the theme of the solution.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/solution-settings/theme
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "name": "string",
  "description": "string",
  "azureMapsKey": "string"
}
```

Sample Response

```
{
    "name": "My Solution",
    "description": "My Solution Description",
    "azureMapsKey": "qgZ7OQi8XryD6py8L-ZId8DNuaWtCbdrQ996mY3aQl8"
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Set Theme

API that sets the theme of the solution.

Permissions

```
- ReadAll
```

Http Request

```
PUT /config/v1/solution-settings/theme
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Schema

```
{
  "name": "string",
  "description": "string",
  "azureMapsKey": "string"
}
```

Sample Request Body

```
{
    "name": "My Solution",
    "description": "My Solution Description",
    "azureMapsKey": "qgZ7OQi8XryD6py8L-ZId8DNuaWtCbdrQ996mY3aQl8"
}
```

Response Schema

```
{
  "name": "string",
  "description": "string",
  "azureMapsKey": "string"
}
```

Sample Response

```
{
    "name": "My Solution",
    "description": "My Solution Description",
    "azureMapsKey": "qgZ7OQi8XryD6py8L-ZId8DNuaWtCbdrQ996mY3aQl8"
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Get Logo

API that fetches the logo of the solution.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/solution-settings/logo
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	image/svg+xml or image/png or image/jpeg

Request Body

```
N/A
```

Response Headers

HEADER	VALUE
Content-Type	image/svg+xml or image/png or image/jpeg
Name	{Name}
IsDefault	true/false
Access-Control-Expose-Headers	Name,IsDefault

Sample Response Body

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<svg
   xmlns:dc="http://purl.org/dc/elements/1.1/"
   xmlns:cc="http://creativecommons.org/ns#"
   xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
   xmlns:svg="http://www.w3.org/2000/svg"
   xmlns="http://www.w3.org/2000/svg"
   version="1.1"
   id="svg3400"
   viewBox="0 0 300 157.69046"
   height="157.69046"
   width="300">
    <defs
       id="defs3402">
        <clipPath
           id="clipPath3350"
           clipPathUnits="userSpaceOnUse">
            <path
               id="path3352"
               d="M 0,0 603,0 603,783 0,783 0,0 Z" />
        </clipPath>
    </defs>
    <metadata
       id="metadata3405">
        <rdf:RDF>
            <cc:Work
               rdf:about="">
                <dc:format>image/svg+xml</dc:format>
                <dc:type
                   rdf:resource="http://purl.org/dc/dcmitype/StillImage" />
                <dc:title></dc:title>
            </cc:Work>
        </rdf:RDF>
    </metadata>
    <g
       transform="translate(-322.94143,-762.82546)"
       id="layer1">
        <g
           id="g3346"
           transform="matrix(7.5619164,0,0,-7.5619164,48.401073,1766.4504)">
            <g
               clip-path="url(#clipPath3350)"
               id="g3348">
                <g
                   transform="translate(67.5289,132.1326)"
                   id="g3354">
                    <path
                       id="path3356"
                       style="fill:#ee1b2d;fill-opacity:1;fill-rule:nonzero;stroke:none"
                       d="M 0,0 -2.83,-11.512 -5.668,0 l -8.197,0 0,-4.251 c -0.996,3.72 -4.65,4.653 -
7.915,4.706 -3.981,0.052 -8.392,-1.673 -8.545,-6.937 l 5.506,0 c 0,1.589 1.455,2.499 2.829,2.476 1.687,0.014
2.463,-0.706 2.502,-1.827 -0.058,-0.973 -0.632,-1.65 -2.488,-1.65 l -1.852,0 0,-3.82 1.681,0 c 0.955,0
2.284,-0.52 2.336,-1.88 0.064,-1.621 -1.063,-2.333 -2.45,-2.347 -2.476,0.092 -3.115,1.994 -3.115,3.63 l -
5.715,0 c 0.024,-1.102 -0.012,-8.285 8.945,-8.232 4.291,-0.039 7.414,1.765 8.295,4.252 l 0,-3.812 5.512,0
0,12.42 3.048,-12.42 4.925,0 3.059,12.406 0,-12.417 5.624,0 L 8.317,0 0,0 Z m -13.847,-11.485 c -0.702,1.452
-1.69,2.087 -2.246,2.288 1.167,0.519 1.778,1.223 2.246,2.626 l 0,-4.914 z" />
                </g>
            </g>
        </g>
    </g>
</svg>
```

Security

Type: OpenID Connect

Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Set Logo

API that sets the logo and name of the solution.

Permissions

```
- ReadAll
```

Http Request

```
PUT /config/v1/solution-settings/logo
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	image/svg+xml or image/png or image/jpeg
Name	{Name}

Request Body

```
Binary: SVG/PNG/JPEG/JPG
```

Response Headers

HEADER	VALUE
Content-Type	image/svg+xml or image/png or image/jpeg
Name	{Name}
IsDefault	true/false
Access-Control-Expose-Headers	Name,IsDefault

Sample Response

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<svg
   xmlns:dc="http://purl.org/dc/elements/1.1/"
   xmlns:cc="http://creativecommons.org/ns#"
   xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
   xmlns:svg="http://www.w3.org/2000/svg"
   xmlns="http://www.w3.org/2000/svg"
   version="1.1"
   id="svg3400"
   viewBox="0 0 300 157.69046"
   height="157.69046"
   width="300">
    <defs
       id="defs3402">
        <clipPath
           id="clipPath3350"
           clipPathUnits="userSpaceOnUse">
            <path
               id="path3352"
               d="M 0,0 603,0 603,783 0,783 0,0 Z" />
        </clipPath>
    </defs>
    <metadata
       id="metadata3405">
        <rdf:RDF>
            <cc:Work
               rdf:about="">
                <dc:format>image/svg+xml</dc:format>
                <dc:type
                   rdf:resource="http://purl.org/dc/dcmitype/StillImage" />
                <dc:title></dc:title>
            </cc:Work>
        </rdf:RDF>
    </metadata>
    <g
       transform="translate(-322.94143,-762.82546)"
       id="layer1">
        <g
           id="g3346"
           transform="matrix(7.5619164,0,0,-7.5619164,48.401073,1766.4504)">
            <g
               clip-path="url(#clipPath3350)"
               id="g3348">
                <g
                   transform="translate(67.5289,132.1326)"
                   id="g3354">
                    <path
                       id="path3356"
                       style="fill:#ee1b2d;fill-opacity:1;fill-rule:nonzero;stroke:none"
                       d="M 0,0 -2.83,-11.512 -5.668,0 l -8.197,0 0,-4.251 c -0.996,3.72 -4.65,4.653 -
7.915,4.706 -3.981,0.052 -8.392,-1.673 -8.545,-6.937 l 5.506,0 c 0,1.589 1.455,2.499 2.829,2.476 1.687,0.014
2.463,-0.706 2.502,-1.827 -0.058,-0.973 -0.632,-1.65 -2.488,-1.65 l -1.852,0 0,-3.82 1.681,0 c 0.955,0
2.284,-0.52 2.336,-1.88 0.064,-1.621 -1.063,-2.333 -2.45,-2.347 -2.476,0.092 -3.115,1.994 -3.115,3.63 l -
5.715,0 c 0.024,-1.102 -0.012,-8.285 8.945,-8.232 4.291,-0.039 7.414,1.765 8.295,4.252 l 0,-3.812 5.512,0
0,12.42 3.048,-12.42 4.925,0 3.059,12.406 0,-12.417 5.624,0 L 8.317,0 0,0 Z m -13.847,-11.485 c -0.702,1.452
-1.69,2.087 -2.246,2.288 1.167,0.519 1.778,1.223 2.246,2.626 l 0,-4.914 z" />
                </g>
            </g>
        </g>
    </g>
</svg>
```

Security

Type: OpenID Connect

Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

A

Get Action Settings

API that fetches the action settings.

Http Request

```
GET /config/v1/solution-settings/actions
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "items": [
    {
      "type": "string",
      "settings": {
        "additionalProp1": {},
        "additionalProp2": {},
        "additionalProp3": {}
      }
    }
  ],
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Get Default Firmware Setting

API that fetches the default firmware settings.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/solution-settings/defaultFirmware
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "jsObject": {},
  "metadata": {
    "version": "string"
  }
}
```

Sample Response

```
{
  "jsObject": {
    "content": {
      "deviceContent": {
        "properties.desired.softwareConfig": {
          "softwareName": "Firmware",
          "version": "${version}",
          "softwareURL": "${blobData.FileUri}",
          "fileName": "${packageFile.name}",
          "serialNumber": "",
          "checkSum": "${blobData.CheckSum}"
        }
      }
    },
    "metrics": {
      "queries": {
        "current": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status = 'Applied'
AND properties.reported.softwareConfig.version = properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'",
        "applying": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND ( properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')",
        "rebooting": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND properties.reported.softwareConfig.version = properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'",
        "error": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status = 'Applied'
AND properties.reported.softwareConfig.status='Error'",
        "rolledback": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND properties.reported.softwareConfig.status='RolledBack'"
      }
    },
    "targetCondition": "",
    "priority": 20
  },
  "metadata": {
    "version": "content//deviceContent//properties.desired.softwareConfig//version"
  }
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Set Default Firmware Setting

API that updates the default firmware settings.

Permissions

```
- CreatePackages
```

Http Request

```
POST /config/v1/solution-settings/defaultFirmware
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Schema

```
{
  "jsObject": {},
  "metadata": {
    "version": "string"
  }
}
```

Sample Request Body

```
{
  "jsObject": {
    "content": {
      "deviceContent": {
        "properties.desired.softwareConfig": {
          "softwareName": "Firmware",
          "version": "${version}",
          "softwareURL": "${blobData.FileUri}",
          "fileName": "${packageFile.name}",
          "serialNumber": "",
          "checkSum": "${blobData.CheckSum}"
        }
      }
    },
    "metrics": {
      "queries": {
        "current": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status = 'Applied'
AND properties.reported.softwareConfig.version = properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'",
        "applying": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND ( properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')",
        "rebooting": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND properties.reported.softwareConfig.version = properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'",
        "error": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status = 'Applied'
AND properties.reported.softwareConfig.status='Error'",
        "rolledback": "SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND properties.reported.softwareConfig.status='RolledBack'"
      }
    },
    "targetCondition": "",
    "priority": 20
  },
  "metadata": {
    "version": "content//deviceContent//properties.desired.softwareConfig//version"
  }
}
```

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "key": "string",
  "data": "string",
  "eTag": "string"
}
```

Sample Response

```
{
  "$metadata": {
    "$modified": "11/02/2020 14:07:39 +00:00",
    "$uri": "/v1/collections/solution-settings/values/defaultFirmware"
  },
  "Key": "defaultFirmware",
  "Data": "{\"JsObject\":{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"${version}\",\"softwareURL\":\"${blobData.FileUri}\",\"fileName\
":\"${packageFile.name}\",\"serialNumber\":\"\",\"checkSum\":\"${blobData.CheckSum}\"}}},\"metrics\":
{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.[[${deployment.id}]].status =
'Applied' AND properties.reported.softwareConfig.version = properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20},\"Metada
ta\":{\"Version\":\"content//deviceContent//properties.desired.softwareConfig//version\"}}",
  "ETag": "\"010050d8-0000-0300-0000-5fa012ab0000\""
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Status

Service: Config

Operations

OPERATION	DESCRIPTION
Get Status	Gets status of the Service and its dependencies
Ping Status	Provides the health status of the service.

Get Status

API that fetches the status of Config Service.

Permissions

```
N/A
```

Http Request

```
GET /config/v1/status
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "name": "string",
  "status": {
    "isHealthy": true,
    "message": "string"
  },
  "currentTime": "string",
  "startTime": "string",
  "upTime": 0,
  "uid": "string",
  "properties": {
    "authRequired": true,
    "endpoint": "string"
  },
  "dependencies": {
    "additionalProp1": {
      "isHealthy": true,
      "message": "string"
    },
    "additionalProp2": {
      "isHealthy": true,
      "message": "string"
    },
    "additionalProp3": {
      "isHealthy": true,
      "message": "string"
    }
  },
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response


```
    {
    "Name": "Config",
    "Status": {
        "IsHealthy": true,
        "Message": "Alive and well!"
    },
    "CurrentTime": "2020-10-29T10:00:57+00:00",
    "StartTime": "2020-10-27T16:19:42+00:00",
    "UpTime": 150075,
    "UID": "WebService.d1d03c23-0548-42b8-9b58-cfe2ba2843e2",
    "Properties": {
        "authRequired": true,
        "endpoint": "http://+:80"
    },
    "Dependencies": {
        "Storage Adapter": {
            "IsHealthy": true,
            "Message": "Alive and well!"
        },
        "Device Telemetry": {
            "IsHealthy": true,
            "Message": "Alive and well!"
        },
        "Asa Manager": {
            "IsHealthy": true,
            "Message": "Alive and well!"
        }
    },
    "$metadata": {
        "$type": "Status;0",
        "$uri": "/status"
    }
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Ping Status

API that pings the Config Service and responds with status code.

Permissions

```
N/A
```

Http Request

```
GET /config/v1/status/ping
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Responds 200 Status code
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

User Settings

Service: Config

Operations

OPERATION	DESCRIPTION
Get User Settings	Fetches user settings
Set User Settings	Sets/Updates user settings

Get User Settings

API that fetches the settings of a user.

Permissions

```
- ReadAll
```

Http Request

```
GET /config/v1/user-settings/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Object
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Set User Settings

API that sets the settings of a user.

Permissions

```
- ReadAll
```

Http Request

```
PUT /config/v1/user-settings/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
Object
```

Response

```
Object
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Device Telemetry Service REST API

The Device Telemetry service is used to authenticate and manage users.

Within each Serenity Instance an interactive Swagger UI is available at the following path `https://{platform-url}/telemetry/index.html` For more information, click here.

REST operation groups

The Device Telemetry service REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Authorize	Log in or out and context operations.
Configuration	
SystemAdmin	
UserSettings	
UserTenant	
Status	

Operations

Alarms	
AlarmsByRule	
Messages	
Rules	
Status	

Alarms

Service: Device Telemetry

Operations

Alarms By Rule

Service: Device Telemetry

Operations

Messages

Service: Device Telemetry

Operations

Rules

Service: Device Telemetry

Operations

Status

Service: Device Telemetry

Operations

Namespace Mmm.Iot.DeviceTelemetry.WebService.Controllers

Classes

AlarmsByRuleController

AlarmsController

DeviceFilesController

MessagesController

RulesController

StatusController

Class AlarmsByRuleController

Inheritance

System.Object

AlarmsByRuleController

Namespace: Mmm.Iot.DeviceTelemetry.WebService.Controllers

Assembly: cs.temp.dll.dll

Syntax

```
public class AlarmsByRuleController : Controller
```

Constructors

AlarmsByRuleController(IAlarms, IRules, ILogger<AlarmsByRuleController>)

Declaration

```
public AlarmsByRuleController(IAlarms alarmService, IRules ruleService, ILogger<AlarmsByRuleController>
logger)
```

Parameters

TYPE	NAME	DESCRIPTION
IAlarms	alarmService	
IRules	ruleService	
ILogger<AlarmsByRuleController>	logger	

Methods

GetAsync(String, String, String, Nullable<Int32>, Nullable<Int32>, String)

Declaration

```
public Task<AlarmByRuleListApiModel> GetAsync(string from, string to, string order, int? skip, int? limit,
string devices)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	from	
System.String	to	
System.String	order	
System.Nullable<System.Int32>	skip	
System.Nullable<System.Int32>	limit	
System.String	devices	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmByRuleListApiModel>	

GetAsync(String, String, String, String, Nullable<Int32>, Nullable<Int32>, String)

Declaration

```
public Task<AlarmListByRuleApiModel> GetAsync(string id, string from, string to, string order, int? skip, int?
limit, string devices)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	
System.String	from	
System.String	to	
System.String	order	
System.Nullable<System.Int32>	skip	
System.Nullable<System.Int32>	limit	
System.String	devices	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmListByRuleApiModel>	

PostAsync(QueryApiModel)

Declaration

```
public Task<AlarmByRuleListApiModel> PostAsync(QueryApiModel body)
```

Parameters

TYPE	NAME	DESCRIPTION
QueryApiModel	body	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmByRuleListApiModel>	

PostAsync(String, QueryApiModel)

Declaration

```
public Task<AlarmListByRuleApiModel> PostAsync(string id, QueryApiModel body)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	
QueryApiModel	body	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmListByRuleApiModel>	

Class AlarmsController

Inheritance

System.Object

AlarmsController

Namespace: Mmm.Iot.DeviceTelemetry.WebService.Controllers

Assembly: cs.temp.dll.dll

Syntax

```
public class AlarmsController : Controller
```

Constructors

AlarmsController(IAlarms, ILogger<AlarmsController>)

Declaration

```
public AlarmsController(IAlarms alarmService, ILogger<AlarmsController> logger)
```

Parameters

TYPE	NAME	DESCRIPTION
IAlarms	alarmService	
ILogger<AlarmsController>	logger	

Methods

Delete(AlarmIdListApiModel)

Declaration

```
public void Delete(AlarmIdListApiModel alarmList)
```

Parameters

TYPE	NAME	DESCRIPTION
AlarmIdListApiModel	alarmList	

DeleteAsync(String)

Declaration

```
public Task DeleteAsync(string id)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task	

GetAsync(String)

Declaration

```
public Task<AlarmApiModel> GetAsync(string id)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmApiModel>	

ListAsync(String, String, String, Nullable<Int32>, Nullable<Int32>, String)

Declaration

```
public Task<AlarmListApiModel> ListAsync(string from, string to, string order, int? skip, int? limit, string
devices)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	from	
System.String	to	
System.String	order	
System.Nullable<System.Int32>	skip	
System.Nullable<System.Int32>	limit	
System.String	devices	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmListApiModel>	

PatchAsync(String, AlarmStatusApiModel)

Declaration

```
public Task<AlarmApiModel> PatchAsync(string id, AlarmStatusApiModel body)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	
AlarmStatusApiModel	body	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmApiModel>	

PostAsync(QueryApiModel)

Declaration

```
public Task<AlarmListApiModel> PostAsync(QueryApiModel body)
```

Parameters

TYPE	NAME	DESCRIPTION
QueryApiModel	body	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<AlarmListApiModel>	

Class DeviceFilesController

Inheritance

System.Object

DeviceFilesController

Namespace: Mmm.Iot.DeviceTelemetry.WebService.Controllers

Assembly: cs.temp.dll.dll

Syntax

```
public class DeviceFilesController : Controller
```

Constructors

DeviceFilesController(IDeviceFileUploads)

Declaration

```
public DeviceFilesController(IDeviceFileUploads deviceFileUploads)
```

Parameters

TYPE	NAME	DESCRIPTION
IDeviceFileUploads	deviceFileUploads	

Methods

GetDeviceUploads(String)

Declaration

```
public Task<DeviceFileListApiModel> GetDeviceUploads(string deviceId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	deviceId	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<DeviceFileListApiModel>	

GetFileContents(DownloadRequest)

Declaration

```
public Task<IActionResult> GetFileContents(DownloadRequest downloadRequest)
```

Parameters

TYPE	NAME	DESCRIPTION
DownloadRequest	downloadRequest	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<IActionResult>	

Class MessagesController

Inheritance

System.Object

MessagesController

Namespace: Mmm.Iot.DeviceTelemetry.WebService.Controllers

Assembly: cs.temp.dll.dll

Syntax

```
public sealed class MessagesController : Controller
```

Constructors

MessagesController(IMessages, ILogger<MessagesController>, AppConfig)

Declaration

```
public MessagesController(IMessages messageService, ILogger<MessagesController> logger, AppConfig config)
```

Parameters

TYPE	NAME	DESCRIPTION
IMessages	messageService	
ILogger<MessagesController>	logger	
AppConfig	config	

Methods

GetAsync(String, String, String, Nullable<Int32>, Nullable<Int32>, String)

Declaration

```
public Task<MessageListApiModel> GetAsync(string from, string to, string order, int? skip, int? limit, string
devices)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	from	
System.String	to	
System.String	order	
System.Nullable<System.Int32>	skip	
System.Nullable<System.Int32>	limit	
System.String	devices	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<MessageListApiModel>	

GetTopDeviceMessagesAsync(Nullable<Int32>, String)

Declaration

```
public Task<MessageListApiModel> GetTopDeviceMessagesAsync(int? limit, string deviceId)
```

Parameters

TYPE	NAME	DESCRIPTION
System.Nullable<System.Int32>	limit	
System.String	deviceId	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<MessageListApiModel>	

PostAsync(QueryApiModel)

Declaration

```
public Task<MessageListApiModel> PostAsync(QueryApiModel body)
```

Parameters

TYPE	NAME	DESCRIPTION
QueryApiModel	body	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<MessageListApiModel>	

Class RulesController

Inheritance

System.Object

RulesController

Namespace: Mmm.Iot.DeviceTelemetry.WebService.Controllers

Assembly: cs.temp.dll.dll

Syntax

```
public sealed class RulesController : Controller
```

Constructors

RulesController(IRules)

Declaration

```
public RulesController(IRules ruleService)
```

Parameters

TYPE	NAME	DESCRIPTION
IRules	ruleService	

Methods

DeleteAsync(String)

Declaration

```
public Task DeleteAsync(string id)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task	

GetAsync(String)

Declaration

```
public Task<RuleApiModel> GetAsync(string id)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<RuleApiModel>	

ListAsync(String, Nullable<Int32>, Nullable<Int32>, String, Nullable<Boolean>)

Declaration

```
public Task<RuleListApiModel> ListAsync(string order, int? skip, int? limit, string groupId, bool?
includeDeleted)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	order	
System.Nullable<System.Int32>	skip	
System.Nullable<System.Int32>	limit	
System.String	groupId	
System.Nullable<System.Boolean>	includeDeleted	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<RuleListApiModel>	

PostAsync(String, RuleApiModel)

Declaration

```
public Task<RuleApiModel> PostAsync(string template, RuleApiModel rule)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	template	
RuleApiModel	rule	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<RuleApiModel>	

PutAsync(String, RuleApiModel)

Declaration

```
public Task<RuleApiModel> PutAsync(string id, RuleApiModel rule)
```

Parameters

TYPE	NAME	DESCRIPTION
System.String	id	
RuleApiModel	rule	

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<RuleApiModel>	

Class StatusController

Inheritance

System.Object

StatusController

Namespace: Mmm.Iot.DeviceTelemetry.WebService.Controllers

Assembly: cs.temp.dll.dll

Syntax

```
public sealed class StatusController : ControllerBase
```

Constructors

StatusController(IStatusService)

Declaration

```
public StatusController(IStatusService statusService)
```

Parameters

TYPE	NAME	DESCRIPTION
IStatusService	statusService	

Methods

GetAsync()

Declaration

```
public Task<StatusApiModel> GetAsync()
```

Returns

TYPE	DESCRIPTION
System.Threading.Tasks.Task<StatusApiModel>	

Ping()

Declaration

```
public IActionResult Ping()
```

Returns

TYPE	DESCRIPTION
IActionResult	

Diagnostic Service

This document gives the overview of diagnostic service which will log the info.

Within each Serenity instance an interactive Swagger UI is available at following path

```
/diagnostics/index.html
```

Rest Operation Groups

The Diagnostics Service REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Diagnostics Events	Logs the events info passed.
Status	Health Status operations of the Service.

Diagnostics Events Controller

Service: Diagnostics

Operations

OPERATION	DESCRIPTION
Post Log Diagnostics	Save the logs with respective event type

Post Log Diagnostics

This Method is used to save the logs with respective event type.

Permissions

ReadAll permission is required to call this api.

Http Request

```
POST /diagnostics/v1/diagnosticsevents
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

In the request body, supply a JSON representation of DiagnosticsEventModel object.

Following are the fields which are required for the user to be created successfully.

PROPERTY	VALUE	REQUIRED
EventType	Name of the user	Required
SessionId	Current status of the user ie., Invited or Member	Not Required
EventProperties	Role of the user i.e., admin, readonly, contributor	Not Required

Sample Request

```
/diagnostics/v1/diagnosticsevents
```

Sample Request Body

```
{
    "EventType":"TestEventDiagnosticLog",
    "SessionId":"TestSession"
}
```

Response

```
201 Created
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Status

Service: Diagnostics

Status Contoller provides Health status of the Service and its dependencies.

Operations

OPERATION	DESCRIPTION
Get Status	Gets status of the Service and its dependencies
Ping Status	Provides the health status of the service.

Get Status

API that fetches the status of Diagnostic Service.

Permissions

```
N/A
```

Http Request

```
GET /diagnostics/v1/Status
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response


```
{
    "Name": "Diagnostics",
    "Status": {
        "IsHealthy": true,
        "Message": "Alive and well!"
    },
    "CurrentTime": "2020-11-02T09:35:38+00:00",
    "StartTime": "2020-10-26T22:59:44+00:00",
    "UpTime": 556554,
    "UID": "WebService.28f7b6d9-21dc-4ad0-b850-d82839f907d0",
    "Properties": {
        "authRequired": true,
        "endpoint": "http://+:80"
    },
    "Dependencies": {},
    "$metadata": {
        "$type": "Status;0",
        "$uri": "/status"
    }
}
```

Ping Status

API that pings the Diagnostic Service and responds the status code.

Permissions

```
N/A
```

Http Request

```
GET /diagnostics/v1/status/ping
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Responds 200 Status code
```

IoTHub Manager Service REST API

The IoTHub Manager service is used to work with IoTHub Management such as Device Management, Device Configurations, Jobs, Updates to Devices.

Within each Serenity Instance an interactive Swagger UI is available at the following path `/iothubmanager/index.html` For more information, click here.

REST operation groups

The IoTHub Manager service REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Deployments	Device Configuration operations to manage the Device Firmware.
DeviceProperties	Device Properties operation to get the Properties data from Devices.
Devices	CRUD operations, Invoke method operations for Devices.
Jobs	Create, Details for IoT Hub jobs to manage the tags, properties of devices.
Modules	Details operations of the Edge Modules.
Status	Health status operations for the Service.

Deployments

Service: IoTHub Manager

Deployments Controller is used to manage the Device Configuration in IoTHub.

Operations

OPERATION	DESCRIPTION
Create Deployment	Creates a Device Configuration for Firmware or custom updates.
Get Deployments	Lists the deployments from the storage.
Get Deployment	Gets the details of specifed deployment from the storage or from IoTHub based on the state.
Inactivate/Delete Deployment	Removes the Device Configuration from IoTHub and marks the deployment as either inactivated or deleted.
Reactivate Deployment	Creates a Device Configuration using the data from the Inactivated deployment targetting the same conditions.
Get Deployment Impacted Devices	Lists the devices which are affected by the Deployment.
Get Deployment Impacted Modules	Lists the modules which are affected by the Deployment.
Get Deployment Report	rovides the report of the devices which are impacted by deployment in byte format.

Create Deployment

Creates a new IoTHub Configurations for IoTDevices or Edge Devices.

Permissions

CreateDeployments permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/deployments
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

In the request body, supply a JSON representation of DeploymentApiModel object.

Following are the fields which are required for the deployment to create successfully.

PROPERTY	VALUE	REQUIRED
DeviceGroupId	Device Group Id that is being targetted by Configuration	Yes
DeviceGroupName	DeviceGroupName	Yes
DeviceGroupQuery	JSON Serialized string of Conditions of DeviceGroup	No, If DeviceGroupId is provided, DeviceGroupQuery will be populated by fetching details of DeviceGroup using DeviceGroupId
Name	Deployment Name	Yes
PackageId	PackageId that is used for content to be used for configuration	Yes, If PackageContent is not provided.
PackageName	Name of the Package with Version Number	No
PackageContent	Configuration Content	Yes. If PackageContent is not provided but PackageId is provided, package content will be filled using package details.
Priority	Priority for Configuration	Yes, Should be a postive number
PackageType	Type which specifies the type of devices targetted	Yes

PROPERTY	VALUE	REQUIRED
ConfigType	Type which specifies the type of configuration	Yes, If PackageType is DeviceConfiguration
DeviceIds	List of DeviceIds to be targetted by Configuration	No, Can be provided if configuration needs to target specific deviceids

Request Schema


```
{
  "deploymentId": "string",
  "name": "string",
  "createdDateTimeUtc": "2020-10-29T15:57:07.671Z",
  "deviceGroupId": "string",
  "deviceGroupName": "string",
  "deviceGroupQuery": "string",
  "packageContent": "string",
  "packageName": "string",
  "packageId": "string",
  "priority": 0,
  "packageType": 0,
  "configType": "string",
  "metrics": {
    "systemMetrics": {
      "additionalProp1": 0,
      "additionalProp2": 0,
      "additionalProp3": 0
    },
    "customMetrics": {
      "additionalProp1": 0,
      "additionalProp2": 0,
      "additionalProp3": 0
    },
    "deviceStatuses": {
      "additionalProp1": 0,
      "additionalProp2": 0,
      "additionalProp3": 0
    }
  },
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "deviceIds": [
    "string"
  ],
  "isActive": true,
  "isLatest": true,
  "createdDate": "string",
  "modifiedDate": "string",
  "createdBy": "string",
  "modifiedBy": "string"
}
```


Sample Request

```
{
   "DeviceGroupId":"2f411a20-7632-45f0-bf43-5ae449b8727a",
   "DeviceGroupName":"TestDeviceGroup",
   "DeviceGroupQuery":"[{\"key\":\"Tags.TestDevice\",\"operator\":\"EQ\",\"value\":\"Yes\"}]",
   "Name":"TestDeviceGroupDeployment",
   "PackageId":"c5e6e9ab-1567-4f99-a026-b558f473afd1",
   "PackageName":"Package1 (1.0.0)",
   "PackageContent":"{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"1.0.0\",\"softwareURL\":\"https://TestPackageUrl\",\"fileName\":
\"SW1Package.json\",\"serialNumber\":\"\",\"checkSum\":\"16b557cb7b4828cefe71b9a9fdadb534bdce6089\"}}},\"metr
ics\":{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.
[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20,\"id\":\"
sw1package_json-e406e3ff-3d21-4e37-b45c-d1d40ca5e7fa\"}",
   "Priority":"4",
   "PackageType":"DeviceConfiguration",
   "ConfigType":"Firmware"
}
```


Response

If successful, this method returns 200 Created response code and DeploymentApiModel object in the response body.

Response Schema

```
{
  "deploymentId": "string",
  "name": "string",
  "createdDateTimeUtc": "2020-10-29T15:57:07.672Z",
  "deviceGroupId": "string",
  "deviceGroupName": "string",
  "deviceGroupQuery": "string",
  "packageContent": "string",
  "packageName": "string",
  "packageId": "string",
  "priority": 0,
  "packageType": 0,
  "configType": "string",
  "metrics": {
    "systemMetrics": {
      "additionalProp1": 0,
      "additionalProp2": 0,
      "additionalProp3": 0
    },
    "customMetrics": {
      "additionalProp1": 0,
      "additionalProp2": 0,
      "additionalProp3": 0
    },
    "deviceStatuses": {
      "additionalProp1": 0,
      "additionalProp2": 0,
      "additionalProp3": 0
    }
  },
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "deviceIds": [
    "string"
  ],
  "isActive": true,
  "isLatest": true,
  "createdDate": "string",
  "modifiedDate": "string",
  "createdBy": "string",
  "modifiedBy": "string"
}
```


Sample Response

```
{
   "Id":"cb5a32d0-57dd-4ec2-ab64-1c20efbd8b02",
   "Name":"TestDeviceGroupDeployment",
   "CreatedDateTimeUtc":"2020-10-29T09:11:57.8832701Z",
   "DeviceGroupId":"2f411a20-7632-45f0-bf43-5ae449b8727a",
   "DeviceGroupName":"TestDeviceGroup",
   "DeviceGroupQuery":"[{\"key\":\"Tags.TestDevice\",\"operator\":\"EQ\",\"value\":\"Yes\"}]",
   "PackageContent":"{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"1.0.0\",\"softwareURL\":\"https://TestPackageUrl\",\"fileName\":
\"SW1Package.json\",\"serialNumber\":\"\",\"checkSum\":\"16b557cb7b4828cefe71b9a9fdadb534bdce6089\"}}},\"metr
ics\":{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.
[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20,\"id\":\"
sw1package_json-e406e3ff-3d21-4e37-b45c-d1d40ca5e7fa\"}",
   "PackageName":"Package1 (1.0.0)",
   "PackageId":"c5e6e9ab-1567-4f99-a026-b558f473afd1",
   "Priority":4,
   "PackageType":"DeviceConfiguration",
   "ConfigType":"Firmware",
   "Metrics":{
      "SystemMetrics":{
         "appliedCount":0,
         "targetedCount":0
      },
      "CustomMetrics":null,
      "DeviceStatuses":null
   },
   "$metadata":{
      "$type":"DevicePropertyList;1",
      "$url":"/v1/deviceproperties"
   },
   "DeviceIds":null,
   "IsActive":true,
   "IsLatest":true,
   "CreatedDate":"2020-10-29T09:11:57+00:00",
   "ModifiedDate":null,
   "CreatedBy":"TestUser",
   "ModifiedBy":null
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Request for Creating Deployment for Devices using DeviceGroup.

```
{
   "DeviceGroupId":"2f411a20-7632-45f0-bf43-5ae449b8727a",
   "DeviceGroupName":"TestDeviceGroup",
   "DeviceGroupQuery":"[{\"key\":\"Tags.TestDevice\",\"operator\":\"EQ\",\"value\":\"Yes\"}]",
   "Name":"TestDeviceGroupDeployment",
   "PackageId":"c5e6e9ab-1567-4f99-a026-b558f473afd1",
   "PackageName":"Package1 (1.0.0)",
   "PackageContent":"{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"1.0.0\",\"softwareURL\":\"https://TestPackageUrl\",\"fileName\":
\"SW1Package.json\",\"serialNumber\":\"\",\"checkSum\":\"16b557cb7b4828cefe71b9a9fdadb534bdce6089\"}}},\"metr
ics\":{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.
[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20,\"id\":\"
sw1package_json-e406e3ff-3d21-4e37-b45c-d1d40ca5e7fa\"}",
   "Priority":"4",
   "PackageType":"DeviceConfiguration",
   "ConfigType":"Firmware"
}
```


1. Request for Creating Deployment for Devices using DeviceIds.

```
{
    "DeviceGroupId": "34b35ac5-837d-4fa4-9ab7-3cdf036a5145",
    "DeviceGroupName": "Default",
    "DeviceGroupQuery": "[]",
    "Name": "TestDeployment",
    "PackageId": "c5e6e9ab-1567-4f99-a026-b558f473afd1",
    "PackageName": "Package1 (1.0.0)",
    "PackageContent": "{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"1.0.0\",\"softwareURL\":\"https://TestPackageUrl\",\"fileName\":
\"SW1Package.json\",\"serialNumber\":\"\",\"checkSum\":\"16b557cb7b4828cefe71b9a9fdadb534bdce6089\"}}},\"metr
ics\":{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.
[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20,\"id\":\"
sw1package_json-e406e3ff-3d21-4e37-b45c-d1d40ca5e7fa\"}",
    "Priority": "4",
    "PackageType": "DeviceConfiguration",
    "ConfigType": "Firmware",
    "DeviceIds":["TestDevice"]
}
```


1. Request for Creating Deployment for Devices using DeviceIds and no packageContent


```
{
    "DeviceGroupId": "34b35ac5-837d-4fa4-9ab7-3cdf036a5145",
    "DeviceGroupName": "Default",
    "DeviceGroupQuery": "[]",
    "Name": "TestDeployment",
    "PackageId": "c5e6e9ab-1567-4f99-a026-b558f473afd1",
    "Priority": "4",
    "PackageType": "DeviceConfiguration",
    "ConfigType": "Firmware",
    "DeviceIds":["TestDevice"]
}
```

Get Deployments

Lists the deployments from the storage.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/deployments
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

NA

Response

If successful, this method returns DeploymentListApiModel object in the response body.


```
{
  "Items": [
    {
      "Id": "cb5a32d0-57dd-4ec2-ab64-1c20efbd8b02",
      "Name": "TestDeviceGroupDeployment",
      "CreatedDateTimeUtc": "2020-10-29T09:11:57.8832701Z",
      "DeviceGroupId": "2f411a20-7632-45f0-bf43-5ae449b8727a",
      "DeviceGroupName": "TestDeviceGroup",
      "DeviceGroupQuery": "[{\"key\":\"Tags.TestDevice\",\"operator\":\"EQ\",\"value\":\"Yes\"}]",
      "PackageContent": "{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"1.0.0\",\"softwareURL\":\"https://TestPackageUrl\",\"fileName\":
\"SW1Package.json\",\"serialNumber\":\"\",\"checkSum\":\"16b557cb7b4828cefe71b9a9fdadb534bdce6089\"}}},\"metr
ics\":{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.
[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20,\"id\":\"
sw1package_json-e406e3ff-3d21-4e37-b45c-d1d40ca5e7fa\"}",
      "PackageName": "Package1 (1.0.0)",
      "PackageId": "c5e6e9ab-1567-4f99-a026-b558f473afd1",
      "Priority": 4,
      "PackageType": "DeviceConfiguration"
```

```
      "PackageType": "DeviceConfiguration",
      "ConfigType": "Firmware",
      "Metrics": {
        "SystemMetrics": {
          "targetedCount": 1,
          "appliedCount": 1
        },
        "CustomMetrics": {},
        "DeviceStatuses": null
      },
      "$metadata": {
        "$type": "DevicePropertyList;1",
        "$url": "/v1/deviceproperties"
      },
      "DeviceIds": null,
      "IsActive": true,
      "IsLatest": true,
      "CreatedDate": "2020-10-29T09:11:57+00:00",
      "ModifiedDate": null,
      "CreatedBy": "TestUser",
      "ModifiedBy": null
    },
    {
      "Id": "5819a276-372c-4b15-a9a9-2d9c8c1053c4",
      "Name": "DeploymentSimulation",
      "CreatedDateTimeUtc": "2020-10-16T09:00:26.2705406Z",
      "DeviceGroupId": "85402f9f-3de2-4b55-bfd4-f7f3ce229270",
      "DeviceGroupName": "SimulationGroup",
      "DeviceGroupQuery": "[{\"key\":\"Tags.Org\",\"operator\":\"EQ\",\"value\":\"3M\"}]",
      "PackageContent": "{\"content\":{\"deviceContent\":{\"properties.desired.softwareConfig\":
{\"softwareName\":\"Firmware\",\"version\":\"1.0.0\",\"softwareURL\":\"https://TestPackageUrl\",\"fileName\":
\"SW1Package.json\",\"serialNumber\":\"\",\"checkSum\":\"16b557cb7b4828cefe71b9a9fdadb534bdce6089\"}}},\"metr
ics\":{\"queries\":{\"current\":\"SELECT deviceId FROM devices WHERE configurations.
[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Success'\",\"applying\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND (
properties.reported.softwareConfig.status='Downloading' OR
properties.reported.softwareConfig.status='Verifying' OR
properties.reported.softwareConfig.status='Applying')\",\"rebooting\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND properties.reported.softwareConfig.version =
properties.desired.softwareConfig.version AND
properties.reported.softwareConfig.status='Rebooting'\",\"error\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='Error'\",\"rolledback\":\"SELECT deviceId FROM devices WHERE
configurations.[[${deployment.id}]].status = 'Applied' AND
properties.reported.softwareConfig.status='RolledBack'\"}},\"targetCondition\":\"\",\"priority\":20,\"id\":\"
sw1package_json-e406e3ff-3d21-4e37-b45c-d1d40ca5e7fa\"}",
      "PackageName": "Package1 (1.0.0)",
      "PackageId": "c5e6e9ab-1567-4f99-a026-b558f473afd1",
      "Priority": 4,
      "PackageType": "DeviceConfiguration",
      "ConfigType": "Firmware",
      "Metrics": {
        "SystemMetrics": {
          "targetedCount": 1,
          "appliedCount": 1,
          "reportedSuccessfulCount": 1,
          "reportedFailedCount": 0,
          "pendingCount": 0
        },
        "CustomMetrics": {
          "current": 1
        },
        "DeviceStatuses": {
          "SimulatedDevice": "Succeeded"
```

```
        }
      },
      "$metadata": {
        "$type": "DevicePropertyList;1",
        "$url": "/v1/deviceproperties"
      },
      "DeviceIds": null,
      "IsActive": false,
      "IsLatest": false,
      "CreatedDate": "2020-10-16T08:49:03+00:00",
      "ModifiedDate": "2020-10-16T11:14:03+00:00",
      "CreatedBy": "TestUser",
      "ModifiedBy": "TestUser"
    }
  ],
  "$metadata": {
    "$type": "DevicePropertyList;1",
    "$url": "/v1/deviceproperties"
  }
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Inactivate Deployment

Removes the Device Configuration from IoTHub and marks the deployment as either inactivated or deleted.

> Note:
>
> Inactivated Deployments are available for **Reactivating** Deleted Deployments are stored for audit.

Permissions

DeleteDeployments permission is required to call this api.

Http Request

```
DELETE /iothub-manager/v1/deployments/{id}?isDelete={isDelete}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Deployment Id
isDelete	Default value is **true**, which will delete the deployment. If value id **false**, which will result in Inactivating a deployment.

Request Body

NA

Response

If successful, this method returns HTTP response code 200.

Examples

1. Inactivating a Deployment.

```
DELETE /iothub-manager/v1/deployments/a603893d-3ffd-46c4-ab8c-5d8147d1cfa4?isDelete=false
```

1. Deleting a Deployment. `HTTP DELETE /iothub-manager/v1/deployments/a603893d-3ffd-46c4-ab8c-5d8147d1cfa4` ### Security Type: OpenID Connect
   Flow: implicit
   Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Reactivate Deployment

Creates a Device Configuration using the data from the Inactivated deployment targetting the same device group.

> Note:
>
> Inactivated Deployments are available for **Reactivating**

Permissions

CreateDeployments permission is required to call this api.

Http Request

```
PUT /iothub-manager/v1/deployments/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Inactivated Deployment Id

Request Body

NA

Response

If successful, this method returns HTTP response code 200.

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Reactivating a Deployment.

```
PUT /iothub-manager/v1/deployments/a603893d-3ffd-46c4-ab8c-5d8147d1cfa4
```

Get Deployment Impacted Devices

Lists the devices which are affected by the Deployment.

Permissions

ReadAll permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/deployments/{id}?isLatest={isLatest}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Deployment Id
isLatest	**true** will retrieve the data of Devices using the query from request body **false** will retrieve the data from devices from storage, since the deployment is not currently impacting the device group.

Request Body

string representing the query to fetch the devices.

Response

If successful, this method returns DeviceListApiModel in response body

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "eTag": "string",
      "id": "string",
      "c2DMessageCount": 0,
      "lastActivity": "2020-10-30T02:56:45.592Z",
      "connected": true,
      "enabled": true,
      "lastStatusUpdated": "2020-10-30T02:56:45.592Z",
      "ioTHubHostName": "string",
      "metadata": {
        "additionalProp1": "string",
```

```
        "additionalProp2": "string",
        "additionalProp3": "string"
      },
      "properties": {
        "reported": {
          "additionalProp1": [
            null
          ],
          "additionalProp2": [
            null
          ],
          "additionalProp3": [
            null
          ]
        },
        "desired": {
          "additionalProp1": [
            null
          ],
          "additionalProp2": [
            null
          ],
          "additionalProp3": [
            null
          ]
        },
        "deviceId": "string",
        "moduleId": "string"
      },
      "tags": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "isEdgeDevice": true,
      "isSimulated": true,
      "authentication": {
        "primaryKey": "string",
        "secondaryKey": "string",
        "primaryThumbprint": "string",
        "secondaryThumbprint": "string",
        "authenticationType": 0
      }
    }
  ]
}
```


Sample Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "ETag": "AAAAAAAAAAc=|AAAAAAAAAAc=",
      "Id": "TestDevice",
      "C2DMessageCount": 0,
      "LastActivity": "0001-01-01T00:00:00Z",
      "Connected": false,
      "Enabled": true,
      "LastStatusUpdated": "0001-01-01T00:00:00Z",
      "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
      "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
      },
      "Properties": {
        "Reported": {},
        "Desired": {
          "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://TestPackageUrl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
          }
        },
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsEdgeDevice": true,
      "IsSimulated": false,
      "Authentication": {
        "AuthenticationType": 0
      }
    }
  ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Impacted devices for the current active deployment.

```
POST iothubmanager/v1/deployments/devices/cb5a32d0-57dd-4ec2-ab64-1c20efbd8b02?isLatest=true
```

Request Body

```
"deviceId IN ['TestDevice']"
```

Response


```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "ETag": "AAAAAAAAAAc=|\"0000b5a5-0000-0300-0000-5f9a875d0000\"",
      "Id": "TestDevice",
      "C2DMessageCount": 0,
      "LastActivity": "0001-01-01T00:00:00Z",
      "Connected": false,
      "Enabled": true,
      "LastStatusUpdated": "0001-01-01T00:00:00Z",
      "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
      "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
      },
      "Properties": {
        "Reported": {},
        "Desired": {
          "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://TestPackageUrl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
          }
        },
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsEdgeDevice": true,
      "IsSimulated": false,
      "Authentication": {
        "AuthenticationType": 0
      }
    }
  ]
}
```


1. Get Impacted devices for the previously active deployment.

```
iothubmanager/v1/deployments/devices/a603893d-3ffd-46c4-ab8c-5d8147d1cfa4?isLatest=false
```

Request Body

```
"deviceId IN ['TestDevice']"
```

Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "ETag": "AAAAAAAAAAc=|\"0000b5a5-0000-0300-0000-5f9a875d0000\"",
      "Id": "TestDevice",
      "C2DMessageCount": 0,
      "LastActivity": "0001-01-01T00:00:00Z",
      "Connected": false,
      "Enabled": true,
      "LastStatusUpdated": "0001-01-01T00:00:00Z",
      "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
      "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
      },
      "Properties": {
        "Reported": {},
        "Desired": {
          "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://TestPackageUrl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
          }
        },
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsEdgeDevice": true,
      "IsSimulated": false,
      "Authentication": {
        "AuthenticationType": 0
      }
    }
  ]
}
```

Get Deployment Impacted Modules

Lists the Modules which are affected by the Deployment.

Permissions

ReadAll permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/deployments/Modules/{id}?isLatest={isLatest}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Deployment Id
isLatest	**true** will retrieve the data of Modules using the query from request body **false** will retrieve the data from Modules from storage, since the deployment is not currently impacting the device group.

Request Body

string representing the query to fetch the devices.

Response

If successful, this method returns TwinPropertiesListApiModel in response body

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    }
  ]
}
```


Sample Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "Reported": {},
      "Desired": {
        "schemaVersion": "2.0",
        "runtime": {
          "type": "docker",
          "settings": {
            "loggingOptions": "",
            "minDockerVersion": "v1.25"
          }
        },
        "systemModules": {
          "edgeAgent": {
            "type": "docker",
            "settings": {
              "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
              "createOptions": "{}"
            }
          },
          "edgeHub": {
            "type": "docker",
            "settings": {
              "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
              "createOptions": "{}"
            },
            "status": "running",
            "restartPolicy": "always"
          }
        },
        "modules": {}
      },
      "DeviceId": "Test0903",
      "ModuleId": "$edgeAgent"
    }
  ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Impacted Modules for the current active deployment.

```
POST iothubmanager/v1/deployments/modules/5253c096-b56b-49d2-b230-61b7fcd0f0aa?isLatest=true
```

Request Body

```
"deviceId IN ['TestDevice'] AND moduleId = '$edgeAgent'"
```

Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "Reported": {},
      "Desired": {
        "schemaVersion": "2.0",
        "runtime": {
          "type": "docker",
          "settings": {
            "loggingOptions": "",
            "minDockerVersion": "v1.25"
          }
        },
        "systemModules": {
          "edgeAgent": {
            "type": "docker",
            "settings": {
              "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
              "createOptions": "{}"
            }
          },
          "edgeHub": {
            "type": "docker",
            "settings": {
              "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
              "createOptions": "{}"
            },
            "status": "running",
            "restartPolicy": "always"
          }
        },
        "modules": {}
      },
      "DeviceId": "TestDevice",
      "ModuleId": "$edgeAgent"
    }
  ]
}
```


1. Get Impacted devices for the previously active deployment.

```
POST iothubmanager/v1/deployments/modules/5253c096-b56b-49d2-b230-61b7fcd0f0aa?isLatest=false
```

Request Body

```
"deviceId IN ['TestDevice'] AND moduleId = '$edgeAgent'"
```

Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "Reported": {},
      "Desired": {
        "schemaVersion": "2.0",
        "runtime": {
          "type": "docker",
          "settings": {
            "loggingOptions": "",
            "minDockerVersion": "v1.25"
          }
        },
        "systemModules": {
          "edgeAgent": {
            "type": "docker",
            "settings": {
              "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
              "createOptions": "{}"
            }
          },
          "edgeHub": {
            "type": "docker",
            "settings": {
              "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
              "createOptions": "{}"
            },
            "status": "running",
            "restartPolicy": "always"
          }
        },
        "modules": {}
      },
      "DeviceId": "TestDevice",
      "ModuleId": "$edgeAgent"
    }
  ]
}
```

Get Deployment Report

Provides the report of the devices which are impacted by deployment in byte array.

Permissions

ReadAll permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/deployments/Report/{id}?isLatest={isLatest}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Deployment Id
isLatest	**true** will retrieve the deployment data from IoTHub **false** will retrieve the data from storage, since the deployment is not currently impacting the device group.

Request Body

NA

Response

If successful, this method returns byte array data.

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Device Properties

Service: IoTHub Manager

Device Properties controller is used to deal with Device properties.

Operations

OPERATION	DESCRIPTION
Get Device Properties	lists the device properties from DeviceProperties Cache which contains the data from Tags and Reported Properties of the Devices.

Get Device Properties

API Method that lists the device properties from DeviceProperties Cache which contains the data from Tags and Reported Properties of the Devices.

Permissions

```
ReadAll
```

Http Request

```
GET /iothubmanager/v1/status
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response

If successful, this method returns **DevicePropertiesApiModel** object in the response body.

Response Schema

```
{
  "items": [
    "string"
  ],
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Sample Response

```
{
    "Items": [
        "Tags.TestDevice",
        "Tags.Org",
        "Properties.Reported.Protocol",
        "Properties.Reported.SupportedMethods",
        "Properties.Reported.DeviceMethodStatus",
        "Properties.Reported.FirmwareUpdateStatus",
        "Properties.Reported.firmware.currentFwVersion",
        "Properties.Reported.firmware.status",
        "Properties.Reported.firmware.lastFwUpdateStartTime",
        "Properties.Reported.firmware.lastFwUpdateEndTime",
        "Properties.Reported.softwareConfig.version",
        "Properties.Reported.softwareConfig.status"
    ],
    "$metadata": {
        "$type": "DevicePropertyList;1",
        "$url": "/v1/deviceproperties"
    }
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Devices

Service: IoTHub Manager

Devices Controller is used to manage the Devices in IoTHub.

Operations

OPERATION	DESCRIPTION
Get Devices.	Lists the Devices based on the query conditions.
Query Devices.	Lists the Devices based on the query conditions from request body.
Get Device.	Retrives the Device data based on the DeviceId.
Get Device Deployment History.	Retrieves the DeviceTwins properties from the Deployment Impacted Devices collection for the device.
Create Device.	Creates an IoT or Edge Device in IoTHub.
Update Device.	Updates the device data.
Delete Device	Deletes the device.
Invoke Device Method.	Invokes a direct method on Device using a payload
Send CloudToDevice Message.	Sends messages to Device from IoTHub to trigger actions.
Get Device Files.	Lists the file urls uploaded by the Device.

Get Devices

Lists the Devices based on the query conditions.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/devices?query={query}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json
x-ms-continuation	Continuation Token from response of previous request,if request is called to get next dataset.

Query Params

NAME	VALUE
query	URL encoded string from Conditions to query devices.

Request Body

NA

Response

If successful, this method returns DeviceListApiModel object in the response body.

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "eTag": "string",
      "id": "string",
      "c2DMessageCount": 0,
      "lastActivity": "2020-10-30T04:20:41.681Z",
      "connected": true,
      "enabled": true,
      "lastStatusUpdated": "2020-10-30T04:20:41.681Z",
      "ioTHubHostName": "string",
      "metadata": {
        "additionalProp1": "string",
        "additionalProp2": "string",
        "additionalProp3": "string"
      },
      "properties": {
        "reported": {
          "additionalProp1": [
            null
          ],
          "additionalProp2": [
            null
          ],
          "additionalProp3": [
            null
          ]
        },
        "desired": {
          "additionalProp1": [
            null
          ],
          "additionalProp2": [
            null
          ],
          "additionalProp3": [
            null
          ]
        },
        "deviceId": "string",
        "moduleId": "string"
      },
      "tags": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "isEdgeDevice": true,
      "isSimulated": true,
      "authentication": {
        "primaryKey": "string",
        "secondaryKey": "string",
        "primaryThumbprint": "string",
        "secondaryThumbprint": "string",
        "authenticationType": 0
      }
    }
  ]
}
```


Sample Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "ETag": "AAAAAAAAAAc=|AAAAAAAAAAc=",
      "Id": "TestDevice",
      "C2DMessageCount": 1,
      "LastActivity": "0001-01-01T00:00:00Z",
      "Connected": false,
      "Enabled": true,
      "LastStatusUpdated": "0001-01-01T00:00:00Z",
      "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
      "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
      },
      "Properties": {
        "Reported": {},
        "Desired": {
          "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://TestPackageUrl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
          }
        },
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsEdgeDevice": true,
      "IsSimulated": false,
      "Authentication": {
        "AuthenticationType": 0
      }
    }
  ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Devices for a Device Group

```
GET /iothubmanager/v1/devices?query=%5B%7B%22key%22%3A%22Tags.TestDevice%22%2C%22operator%22%3A%22EQ%22%2C%22value%22%3A%22Yes%22%7D%5D
```

Query String Data

CONDITIONS	ENCODED STRING
[{"key":"Tags.TestDevice","operator":"EQ","value":"Yes"}]	%5B%7B%22key%22%3A%22Tags.TestDevice%22%2C%22operator%22%3A%22EQ%22%2C%22value%22%3A%22Yes%22%7D%5D

Response

```
{
"$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
},
"ContinuationToken": null,
"Items": [
    {
    "ETag": "AAAAAAAAAc=|AAAAAAAAAc=",
    "Id": "TestDevice",
    "C2DMessageCount": 1,
    "LastActivity": "0001-01-01T00:00:00Z",
    "Connected": false,
    "Enabled": true,
    "LastStatusUpdated": "0001-01-01T00:00:00Z",
    "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
    "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
    },
    "Properties": {
        "Reported": {},
        "Desired": {
        "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://TestPackageUrl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
        }
        },
        "DeviceId": "",
        "ModuleId": ""
    },
    "Tags": {
        "TestDevice": "Yes"
    },
    "IsEdgeDevice": true,
    "IsSimulated": false,
    "Authentication": {
        "AuthenticationType": 0
    }
    }
]
}
```

Query Devices

Lists the Devices based on the query conditions from request body.

Permissions

ReadAll permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/devices/query
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json
x-ms-continuation	Continuation Token from response of previous request,if request is called to get next dataset.

Request Body

JSON serialized string representing the conditions to fetch the devices.

Response

If successful, this method returns DeviceListApiModel object in the response body.

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "eTag": "string",
      "id": "string",
      "c2DMessageCount": 0,
      "lastActivity": "2020-10-30T04:20:41.681Z",
      "connected": true,
      "enabled": true,
      "lastStatusUpdated": "2020-10-30T04:20:41.681Z",
      "ioTHubHostName": "string",
      "metadata": {
        "additionalProp1": "string",
        "additionalProp2": "string",
        "additionalProp3": "string"
      },
      "properties": {
        "reported": {
          "additionalProp1": [
            null
          ],
          "additionalProp2": [
            null
          ],
          "additionalProp3": [
            null
          ]
        },
        "desired": {
          "additionalProp1": [
            null
          ],
          "additionalProp2": [
            null
          ],
          "additionalProp3": [
            null
          ]
        },
        "deviceId": "string",
        "moduleId": "string"
      },
      "tags": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "isEdgeDevice": true,
      "isSimulated": true,
      "authentication": {
        "primaryKey": "string",
        "secondaryKey": "string",
        "primaryThumbprint": "string",
        "secondaryThumbprint": "string",
        "authenticationType": 0
      }
    }
  ]
}
```


Sample Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "ETag": "AAAAAAAAAAc=|AAAAAAAAAAc=",
      "Id": "TestDevice",
      "C2DMessageCount": 1,
      "LastActivity": "0001-01-01T00:00:00Z",
      "Connected": false,
      "Enabled": true,
      "LastStatusUpdated": "0001-01-01T00:00:00Z",
      "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
      "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
      },
      "Properties": {
        "Reported": {},
        "Desired": {
          "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://TestPackageUrl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
          }
        },
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsEdgeDevice": true,
      "IsSimulated": false,
      "Authentication": {
        "AuthenticationType": 0
      }
    }
  ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Devices based on Device Group Conditions

   ```
   POST /iothub-manager/v1/devices/query
   ```

   #### Request Body

   ```
   "[{\"key\":\"Tags.TestDevice\",\"operator\":\"EQ\",\"value\":\"Yes\"}]"
   ```

   > Reference: Device Group Conditions as Request body.

CONDITIONS	JSON SERIALIZED DATA
`[{"key":"Tags.TestDevice","operator":"EQ","value":"Yes"}]`	`[{\"key\":\"Tags.TestDevice\",\"operator\":\"EQ\",\"value\":\"Yes\"}]`

Response


```json
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "ETag": "AAAAAAAAAAc=|AAAAAAAAAAc=",
            "Id": "TestDevice",
            "C2DMessageCount": 0,
            "LastActivity": "0001-01-01T00:00:00Z",
            "Connected": false,
            "Enabled": true,
            "LastStatusUpdated": "0001-01-01T00:00:00Z",
            "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
            "$metadata": {
                "$type": "Device;1",
                "$uri": "/v1/devices/TestDevice",
                "$twin_uri": "/v1/devices/TestDevice/twin"
            },
            "Properties": {
                "Reported": {},
                "Desired": {
                    "softwareConfig": {
                        "softwareName": "Firmware",
                        "version": "1.0.0",
                        "softwareURL": "https://testpackageurl",
                        "fileName": "SW1Package.json",
                        "serialNumber": "",
                        "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
                    }
                },
                "DeviceId": "",
                "ModuleId": ""
            },
            "Tags": {
                "TestDevice": "Yes"
            },
            "IsEdgeDevice": true,
            "IsSimulated": false,
            "Authentication": {
                "AuthenticationType": 0
            }
        }
    ]
}
```


1. Get Devices based on DeviceIds

    ```
    POST /iothub-manager/v1/devices/query
    ```

    Request Body

    ```
    "deviceId IN ['TestDevice']"
    ```

    Response

```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "ETag": "AAAAAAAAAAI=|AAAAAAAAAAI=",
            "Id": "TestDevice",
            "C2DMessageCount": 0,
            "LastActivity": "0001-01-01T00:00:00Z",
            "Connected": false,
            "Enabled": true,
            "LastStatusUpdated": "0001-01-01T00:00:00Z",
            "IoTHubHostName": "iothub-233a1ca2.azure-devices.net",
            "$metadata": {
                "$type": "Device;1",
                "$uri": "/v1/devices/TestDevice",
                "$twin_uri": "/v1/devices/TestDevice/twin"
            },
            "Properties": {
                "Reported": {},
                "Desired": {
                    "softwareConfig": {
                        "softwareName": "Firmware",
                        "version": "1.0.0",
                        "softwareURL":  "https://testpackageurl",
                        "fileName": "SW1Package.json",
                        "serialNumber": "",
                        "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
                    }
                },
                "DeviceId": "",
                "ModuleId": ""
            },
            "Tags": {},
            "IsEdgeDevice": false,
            "IsSimulated": false,
            "Authentication": {
                "AuthenticationType": 0
            }
        }
    ]
}
```

Get Device

Retrives the Device data based on the DeviceId.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/devices/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Body

NA

Response

If successful, this method returns **DeviceRegistryApiModel** object in the response body.

Response Schema

```
{
  "eTag": "string",
  "id": "string",
  "c2DMessageCount": 0,
  "lastActivity": "2020-10-30T05:16:15.047Z",
  "connected": true,
  "enabled": true,
  "lastStatusUpdated": "2020-10-30T05:16:15.047Z",
  "ioTHubHostName": "string",
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "properties": {
    "reported": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "desired": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "deviceId": "string",
    "moduleId": "string"
  },
  "tags": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "isEdgeDevice": true,
  "isSimulated": true,
  "authentication": {
    "primaryKey": "string",
    "secondaryKey": "string",
    "primaryThumbprint": "string",
    "secondaryThumbprint": "string",
    "authenticationType": 0
  }
}
```


Sample Response

```
{
    "ETag": "\"NTU4MTc1Mjcw\"|AAAAAAAAAAc=",
    "Id": "TestDevice",
    "C2DMessageCount": 0,
    "LastActivity": "0001-01-01T00:00:00Z",
    "Connected": false,
    "Enabled": true,
    "LastStatusUpdated": "0001-01-01T00:00:00Z",
    "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
    "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
    },
    "Properties": {
        "Reported": {},
        "Desired": {
            "softwareConfig": {
                "softwareName": "Firmware",
                "version": "1.0.0",
                "softwareURL": "https://testpackageurl",
                "fileName": "SW1Package.json",
                "serialNumber": "",
                "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
            }
        },
        "DeviceId": "",
        "ModuleId": ""
    },
    "Tags": {
        "TestDevice": "Yes"
    },
    "IsEdgeDevice": true,
    "IsSimulated": false,
    "Authentication": {
        "PrimaryKey": "raNhoHDRAWE9w7VwiSEitlc2CBNJUwhN/d/96AIJB84=",
        "SecondaryKey": "5OWFNATIvex9vTIbBuSQm99QNZ+jWwkIGEjQrajFIK0=",
        "AuthenticationType": 0
    }
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Example

1. Get Device Details using DeviceId

   ```
   GET iothubmanager/v1/Devices/TestDevice
   ```

   Response

```
{
    "ETag": "\"NTU4MTc1Mjcw\"|AAAAAAAAAAc=",
    "Id": "TestDevice",
    "C2DMessageCount": 0,
    "LastActivity": "0001-01-01T00:00:00Z",
    "Connected": false,
    "Enabled": true,
    "LastStatusUpdated": "0001-01-01T00:00:00Z",
    "IoTHubHostName": "iothub-209d7f79.azure-devices.net",
    "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
    },
    "Properties": {
        "Reported": {},
        "Desired": {
            "softwareConfig": {
                "softwareName": "Firmware",
                "version": "1.0.0",
                "softwareURL": "https://testpackageurl",
                "fileName": "SW1Package.json",
                "serialNumber": "",
                "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
            }
        },
        "DeviceId": "",
        "ModuleId": ""
    },
    "Tags": {
        "TestDevice": "Yes"
    },
    "IsEdgeDevice": true,
    "IsSimulated": false,
    "Authentication": {
        "PrimaryKey": "raNhoHDRAWE9w7VwiSEitlc2CBNJUwhN/d/96AIJB84=",
        "SecondaryKey": "5OWFNATIvex9vTIbBuSQm99QNZ+jWwkIGEjQrajFIK0=",
        "AuthenticationType": 0
    }
}
```

Get Device Deployment History

Retrieves the DeviceTwins properties from the Deployment Impacted Devices collection for the device.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/devices/deploymentHistory/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Body

NA

Response

If successful, this method returns **TwinPropertiesListApiModel** object in the response body.

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    }
  ]
}
```


Sample Response

```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "Reported": {
                "firmware": {
                    "currentFwVersion": "3.0.2",
                    "status": "Current",
                    "lastFwUpdateStartTime": "2020-09-16T16:30:21.5586691Z",
                    "lastFwUpdateEndTime": "2020-09-16T16:30:22.5586691Z"
                }
            },
            "Desired": {
                "softwareConfig": {
                    "softwareName": "Firmware",
                    "version": "3.0.0",
                    "softwareURL": "https://testpackageurl",
                    "fileName": "SW2Package.json",
                    "serialNumber": "",
                    "checkSum": "b01e454d79de5b07a3fe41ae30f77193f02e0e47"
                }
            },
            "DeviceId": "TestDevice"
        },
        {
            "Reported": {
                "firmware": {
                    "currentFwVersion": "3.0.0",
                    "status": "Current",
                    "lastFwUpdateStartTime": "2020-09-16T15:20:21.5586691Z",
                    "lastFwUpdateEndTime": "2020-09-16T15:20:22.5586691Z"
                }
            },
            "Desired": {
                "softwareConfig": {
                    "softwareName": "Firmware",
                    "version": "3.0.0",
                    "softwareURL": "https://testpackageurl",
                    "fileName": "SW2Package.json",
                    "serialNumber": "",
                    "checkSum": "b01e454d79de5b07a3fe41ae30f77193f02e0e47"
                }
            },
            "DeviceId": "TestDevice"
        }
    ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Example

1. Get Deployment History for a DeviceId

```
GET iothubmanager/v1/Devices/deploymenthistory/TestDevice
```

Response


```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "Reported": {
                "firmware": {
                    "currentFwVersion": "3.0.2",
                    "status": "Current",
                    "lastFwUpdateStartTime": "2020-09-16T16:30:21.5586691Z",
                    "lastFwUpdateEndTime": "2020-09-16T16:30:22.5586691Z"
                }
            },
            "Desired": {
                "softwareConfig": {
                    "softwareName": "Firmware",
                    "version": "3.0.0",
                    "softwareURL": "https://testpackageurl",
                    "fileName": "SW2Package.json",
                    "serialNumber": "",
                    "checkSum": "b01e454d79de5b07a3fe41ae30f77193f02e0e47"
                }
            },
            "DeviceId": "TestDevice"
        },
        {
            "Reported": {
                "firmware": {
                    "currentFwVersion": "3.0.0",
                    "status": "Current",
                    "lastFwUpdateStartTime": "2020-09-16T15:20:21.5586691Z",
                    "lastFwUpdateEndTime": "2020-09-16T15:20:22.5586691Z"
                }
            },
            "Desired": {
                "softwareConfig": {
                    "softwareName": "Firmware",
                    "version": "3.0.0",
                    "softwareURL": "https://testpackageurl",
                    "fileName": "SW2Package.json",
                    "serialNumber": "",
                    "checkSum": "b01e454d79de5b07a3fe41ae30f77193f02e0e47"
                }
            },
            "DeviceId": "TestDevice"
        }
    ]
}
```

Create Device

Creates an IoT or Edge Device in IoTHub.

Permissions

CreateDevices permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/devices
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Schema

```
{
  "eTag": "string",
  "id": "string",
  "c2DMessageCount": 0,
  "lastActivity": "2020-10-30T05:41:54.391Z",
  "connected": true,
  "enabled": true,
  "lastStatusUpdated": "2020-10-30T05:41:54.391Z",
  "ioTHubHostName": "string",
  "properties": {
    "reported": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "desired": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "deviceId": "string",
    "moduleId": "string"
  },
  "tags": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "isEdgeDevice": true,
  "isSimulated": true,
  "authentication": {
    "primaryKey": "string",
    "secondaryKey": "string",
    "primaryThumbprint": "string",
    "secondaryThumbprint": "string",
    "authenticationType": 0
  }
}
```


Request Body

In the request body, supply a JSON representation of DeviceRegistryApiModel object.

Response

If successful, this method returns **DeviceRegistryApiModel** object in the response body.

Response Schema


```
{
  "eTag": "string",
  "id": "string",
  "c2DMessageCount": 0,
  "lastActivity": "2020-10-30T05:41:54.391Z",
  "connected": true,
  "enabled": true,
  "lastStatusUpdated": "2020-10-30T05:41:54.391Z",
  "ioTHubHostName": "string",
  "properties": {
    "reported": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "desired": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "deviceId": "string",
    "moduleId": "string"
  },
  "tags": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "isEdgeDevice": true,
  "isSimulated": true,
  "authentication": {
    "primaryKey": "string",
    "secondaryKey": "string",
    "primaryThumbprint": "string",
    "secondaryThumbprint": "string",
    "authenticationType": 0
  }
}
```


Sample Response

```
{
  "$metadata": {
    "$type": "DeviceList;1",
    "$uri": "/v1/devices"
  },
  "ContinuationToken": null,
  "Items": [
    {
      "ETag": "AAAAAAAAAYc=|AAAAAAAAAYc=",
      "Id": "TestDevice",
      "C2DMessageCount": 0,
      "LastActivity": "0001-01-01T00:00:00Z",
      "Connected": false,
      "Enabled": true,
      "LastStatusUpdated": "0001-01-01T00:00:00Z",
      "IoTHubHostName": "iothub-233a1ca2.azure-devices.net",
      "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
      },
      "Properties": {
        "Reported": {},
        "Desired": {
          "softwareConfig": {
            "softwareName": "Firmware",
            "version": "1.0.0",
            "softwareURL": "https://testpackageurl",
            "fileName": "SW1Package.json",
            "serialNumber": "",
            "checkSum": "16b557cb7b4828cefe71b9a9fdadb534bdce6089"
          }
        },
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsEdgeDevice": true,
      "IsSimulated": false,
      "Authentication": {
        "AuthenticationType": 0
      }
    }
  ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Example

1. Create Device with auto generated authentication keys.

   ```
   POST /iothubmanager/v1/devices
   ```

   #### Request

```
{
    "Id": "TestDevice",
    "IsEdgeDevice": false,
    "IsSimulated": false,
    "Enabled": true,
    "Authentication": {}
}
```

Response

```
{
    "ETag": "\"Mjk1MTYxMjc5\"|AAAAAAAAAAE=",
    "Id": "TestDevice",
    "C2DMessageCount": 0,
    "LastActivity": "0001-01-01T00:00:00",
    "Connected": false,
    "Enabled": true,
    "LastStatusUpdated": "0001-01-01T00:00:00",
    "IoTHubHostName": "iothub-233a1ca2.azure-devices.net",
    "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
    },
    "Properties": {
        "Reported": {},
        "Desired": {},
        "DeviceId": "",
        "ModuleId": ""
    },
    "Tags": {},
    "IsEdgeDevice": false,
    "IsSimulated": false,
    "Authentication": {
        "PrimaryKey": "hTN/qqE3aTCOCy8yTV4GroI9gjTwXMM05vpAtPA/D7Y=",
        "SecondaryKey": "nUe22sk90wW+IDgkrIewLU4iEmWnOwJhNxxlYx+W06U=",
        "AuthenticationType": 0
    }
}
```

2. Create Device with authentication keys.

```
POST /iothubmanager/v1/devices
```

Request

```
{
    "Id": "TestDevice",
    "IsEdgeDevice": false,
    "IsSimulated": false,
    "Enabled": true,
    "Authentication": {
        "AuthenticationType": 0,
        "PrimaryKey": "wpVpDAwhmLmL27+MbO9T3AVTmFv69D28LEP+xN7vTKA=",
        "SecondaryKey": "xzCw4ZfP6dig/NDUzeNxeHvpmYU4ydpkqyDnFeG2SEI=",
        "PrimaryThumbprint": null,
        "SecondaryThumbprint": null
    }
}
```

Response

```
{
    "ETag": "\"NDE1MjQ3OTMx\"|AAAAAAAAAAE=",
    "Id": "TestDevice",
    "C2DMessageCount": 0,
    "LastActivity": "0001-01-01T00:00:00",
    "Connected": false,
    "Enabled": true,
    "LastStatusUpdated": "0001-01-01T00:00:00",
    "IoTHubHostName": "iothub-233a1ca2.azure-devices.net",
    "$metadata": {
        "$type": "Device;1",
        "$uri": "/v1/devices/TestDevice",
        "$twin_uri": "/v1/devices/TestDevice/twin"
    },
    "Properties": {
        "Reported": {},
        "Desired": {},
        "DeviceId": "",
        "ModuleId": ""
    },
    "Tags": {},
    "IsEdgeDevice": false,
    "IsSimulated": false,
    "Authentication": {
        "PrimaryKey": "wpVpDAwhmLmL27+MbO9T3AVTmFv69D28LEP+xN7vTKA=",
        "SecondaryKey": "xzCw4ZfP6dig/NDUzeNxeHvpmYU4ydpkqyDnFeG2SEI=",
        "AuthenticationType": 0
    }
}
```

Update Device

Updates the device data.

Permissions

UpdateDevices permission is required to call this api.

Http Request

```
PUT /iothub-manager/v1/devices/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Schema

```
{
  "eTag": "string",
  "id": "string",
  "c2DMessageCount": 0,
  "lastActivity": "2020-10-30T05:41:54.391Z",
  "connected": true,
  "enabled": true,
  "lastStatusUpdated": "2020-10-30T05:41:54.391Z",
  "ioTHubHostName": "string",
  "properties": {
    "reported": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "desired": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "deviceId": "string",
    "moduleId": "string"
  },
  "tags": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "isEdgeDevice": true,
  "isSimulated": true,
  "authentication": {
    "primaryKey": "string",
    "secondaryKey": "string",
    "primaryThumbprint": "string",
    "secondaryThumbprint": "string",
    "authenticationType": 0
  }
}
```


Request Body

In the request body, supply a JSON representation of **DeviceRegistryApiModel** object.

Response

If successful, this method returns **DeviceRegistryApiModel** object in the response body.

Response Schema


```
{
  "eTag": "string",
  "id": "string",
  "c2DMessageCount": 0,
  "lastActivity": "2020-10-30T05:41:54.391Z",
  "connected": true,
  "enabled": true,
  "lastStatusUpdated": "2020-10-30T05:41:54.391Z",
  "ioTHubHostName": "string",
  "properties": {
    "reported": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "desired": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "deviceId": "string",
    "moduleId": "string"
  },
  "tags": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "isEdgeDevice": true,
  "isSimulated": true,
  "authentication": {
    "primaryKey": "string",
    "secondaryKey": "string",
    "primaryThumbprint": "string",
    "secondaryThumbprint": "string",
    "authenticationType": 0
  }
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Delete Device

Used to delete device.

Permissions

DeleteDevices permission is required to call this api.

Http Request

```
DELETE /iothub-manager/v1/devices/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Body

NA

Response

If successful, this method returns 200 success reponse.

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Delete a device using deviceid

   ```
   DELETE /iothub-manager/v1/devices/TestDevice
   ```

   #### Response

   ```
   200
   ```

Invoke Device Method

Used to invoke a direct method on Device using a payload.

Permissions

CreateJobs permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/devices/{id}/methods
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Schema

```
{
  "name": "string",
  "responseTimeout": {},
  "connectionTimeout": {},
  "jsonPayload": "string"
}
```

Request Body

In the request body, supply a JSON representation of **MethodParameterApiModel** object.

Sample Request

```
{
    "Name":"methodName1",
    "JsonPayload":"{TestPayLoad}"
}
```

Response

If successful, this method returns **MethodResultApiModel** object in the response body.

Response Schema

```
{
  "status": "int",
  "jsonPayload": "string"
}
```

Sample Response

```
{
    "status":"200",
    "JsonPayload":"{TestAcknowledgement}"
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Send CloudToDevice Message

Used to send messages to Device from IoTHub.

Permissions

SendC2DMessages permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/devices/{id}/c2dmessage
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Body

Any message as string.

Response

If successful, this method returns 200 response code.

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Send message to device.

   ```
   POST iothubmanager/v1/devices/SimulatedDevice/c2dmessage
   ```

   #### Request Body

   ```
   {"message":"Message to send to device"}
   ```

   #### Response

   ```
   200
   ```

Get Device Files

Lists the files uploaded by the Device.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/devices/files/{id}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
id	Device Id

Request Body

NA

Response

If successful, this method returns List of URLs of files in the response body.

Response Schema

```
[
  "string"
]
```

Sample Response

```
[
    "https://testacct.blob.core.windows.net/209d7f79-39aa-4e2a-8e9c-56f04f7633f9-iot-file-upload/TestDevice/myimage1.png?sv=2018-03-28&sr=b&sig=wrCCy%2B22yNf9xeP5hnIgCi2LB3L5tdrx4HbrPhP5L6Q%3D&st=2020-10-30T07%3A05%3A10Z&se=2020-10-31T07%3A10%3A10Z&sp=rw",
    "https://testacct.blob.core.windows.net/209d7f79-39aa-4e2a-8e9c-56f04f7633f9-iot-file-upload/TestDevice/myimage2.png?sv=2018-03-28&sr=b&sig=OHzEu5EUmCUTjbygcVH0W6yASOPTpGgBMVcZIUkSMfE%3D&st=2020-10-30T07%3A05%3A10Z&se=2020-10-31T07%3A10%3A10Z&sp=rw"
]
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Jobs

Service: IoTHub Manager

Jobs Controller is used to manage the Jobs in IoTHub, which are used to manage tags, propeties of devices.

Operations

OPERATION	DESCRIPTION
Get Jobs.	Lists the jobs from IoTHub based on timeframe, job type and job status.
Get Job.	Gets the details of an jon from IoTHub based on jobid, job status.
Create Job.	Creates a Job to add tags, modify properties or invoke methods on selected devices.

Get Jobs

Lists the jobs from IoTHub based on timeframe, job type and job status.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothubmanager/v1/jobs?from={from}&to={to}&jobType={jobType}&jobStatus={jobStatus}&pageSize={pageSize}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
from	Start Timeframe to consider
to	End Timeframe to consider
jobType	Unknown = 0 ScheduleDeviceMethod = 3 ScheduleUpdateTwin = 4,
jobStatus	Unknown = 0 Enqueued = 1 Running = 2 Completed = 3 Failed = 4 Cancelled = 5 Scheduled = 6 Queued = 7
pageSize	Indicates the no of jobs that page should contains when queried from IoTHub. Will not impact the end result.

Request Body

NA

Response

If successful, this method returns **List of JobApiModel** object in the response body.

Response Schema

```
[
  {
    "jobId": "string",
    "queryCondition": "string",
```

```
  "createdTimeUtc": "2020-10-30T09:24:26.223Z",
  "startTimeUtc": "2020-10-30T09:24:26.223Z",
  "endTimeUtc": "2020-10-30T09:24:26.223Z",
  "maxExecutionTimeInSeconds": 0,
  "type": 0,
  "status": 0,
  "methodParameter": {
    "name": "string",
    "responseTimeout": {
      "ticks": 0,
      "days": 0,
      "hours": 0,
      "milliseconds": 0,
      "minutes": 0,
      "seconds": 0,
      "totalDays": 0,
      "totalHours": 0,
      "totalMilliseconds": 0,
      "totalMinutes": 0,
      "totalSeconds": 0
    },
    "connectionTimeout": {
      "ticks": 0,
      "days": 0,
      "hours": 0,
      "milliseconds": 0,
      "minutes": 0,
      "seconds": 0,
      "totalDays": 0,
      "totalHours": 0,
      "totalMilliseconds": 0,
      "totalMinutes": 0,
      "totalSeconds": 0
    },
    "jsonPayload": "string"
  },
  "updateTwin": {
    "eTag": "string",
    "deviceId": "string",
    "properties": {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    },
```

```
      "tags": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "isSimulated": true
    },
    "failureReason": "string",
    "statusMessage": "string",
    "resultStatistics": {
      "deviceCount": 0,
      "failedCount": 0,
      "succeededCount": 0,
      "runningCount": 0,
      "pendingCount": 0
    },
    "devices": [
      {
        "deviceId": "string",
        "status": 0,
        "startTimeUtc": "2020-10-30T09:24:26.223Z",
        "endTimeUtc": "2020-10-30T09:24:26.223Z",
        "createdDateTimeUtc": "2020-10-30T09:24:26.223Z",
        "lastUpdatedDateTimeUtc": "2020-10-30T09:24:26.223Z",
        "outcome": {
          "status": 0,
          "jsonPayload": "string"
        },
        "error": {
          "code": "string",
          "description": "string"
        }
      }
    ]
  }
]
```


Sample Response

```
[
  {
    "JobId": "TestDeviceTag-093931a9-3dd0-477f-bce8-e7ebbefde73d",
    "QueryCondition": "deviceId in ['TestDevice']",
    "CreatedTimeUtc": "2020-10-16T08:22:16.2455974Z",
    "StartTimeUtc": "2020-10-16T08:22:16.1110507Z",
    "EndTimeUtc": "2020-10-16T08:22:21.0180671Z",
    "MaxExecutionTimeInSeconds": 3600,
    "Type": 4,
    "Status": 3,
    "UpdateTwin": {
      "ETag": "*",
      "DeviceId": null,
      "Properties": {
        "Reported": {},
        "Desired": {},
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "TestDevice": "Yes"
      },
      "IsSimulated": false
    },
    "ResultStatistics": {
      "DeviceCount": 1,
      "FailedCount": 0,
      "SucceededCount": 1,
      "RunningCount": 0,
      "PendingCount": 0
    }
  },
  {
    "JobId": "SimulatedDeviceTag-627073e2-5c71-4907-8b51-294439e11e0a",
    "QueryCondition": "deviceId in ['SimulatedDevice']",
    "CreatedTimeUtc": "2020-10-16T08:45:59.7788363Z",
    "StartTimeUtc": "2020-10-16T08:45:59.630406Z",
    "EndTimeUtc": "2020-10-16T08:46:05.3843691Z",
    "MaxExecutionTimeInSeconds": 3600,
    "Type": 4,
    "Status": 3,
    "UpdateTwin": {
      "ETag": "*",
      "DeviceId": null,
      "Properties": {
        "Reported": {},
        "Desired": {},
        "DeviceId": "",
        "ModuleId": ""
      },
      "Tags": {
        "Org": "Test"
      },
      "IsSimulated": false
    },
    "ResultStatistics": {
      "DeviceCount": 1,
      "FailedCount": 0,
      "SucceededCount": 1,
      "RunningCount": 0,
      "PendingCount": 0
    }
  }
]
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Jobs based on TimeFrame

```
GET iothubmanager/v1/jobs?from=NOW-P1M&to=NOW
```

2. Get Jobs based on TimeFrame and Job Status

```
GET iothubmanager/v1/jobs?from=NOW-P1M&to=NOW&jobStatus=2
```

3. Get Jobs based on TimeFrame and Job Type

```
GET iothubmanager/v1/jobs?from=NOW-P1M&to=NOW&jobType=4
```

4. Get Jobs based on TimeFrame and Job Status and JobType

```
GET iothubmanager/v1/jobs?from=NOW-P1M&to=NOW&jobStatus=2&jobType=4
```

Create Job

Create a Job to add tags, modify properties or invoke methods on selected devices.

Permissions

CreateJobs permission is required to call this api.

Http Request

```
POST /iothubmanager/v1/jobs
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Schema


```
{
  "jobId": "string",
  "queryCondition": "string",
  "createdTimeUtc": "2020-10-30T10:21:05.675Z",
  "startTimeUtc": "2020-10-30T10:21:05.675Z",
  "endTimeUtc": "2020-10-30T10:21:05.676Z",
  "maxExecutionTimeInSeconds": 0,
  "type": 0,
  "status": 0,
  "methodParameter": {
    "name": "string",
    "responseTimeout": {},
    "connectionTimeout": {},
    "jsonPayload": "string"
  },
  "updateTwin": {
    "eTag": "string",
    "deviceId": "string",
    "properties": {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
```

```
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    },
    "tags": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "isSimulated": true
  },
  "failureReason": "string",
  "statusMessage": "string",
  "resultStatistics": {
    "deviceCount": 0,
    "failedCount": 0,
    "succeededCount": 0,
    "runningCount": 0,
    "pendingCount": 0
  },
  "devices": [
    {
      "deviceId": "string",
      "status": 0,
      "startTimeUtc": "2020-10-30T10:21:05.676Z",
      "endTimeUtc": "2020-10-30T10:21:05.676Z",
      "createdDateTimeUtc": "2020-10-30T10:21:05.676Z",
      "lastUpdatedDateTimeUtc": "2020-10-30T10:21:05.676Z",
      "outcome": {
        "status": 0,
        "jsonPayload": "string"
      },
      "error": {
        "code": "string",
        "description": "string"
      }
    }
  ]
}
```


Request Body

In the request body, supply a JSON representation of **JobApiModel** object.

Response

If successful, this method returns **JobApiModel** object in the response body.

Response Schema


```
{
  "jobId": "string",
  "queryCondition": "string",
  "createdTimeUtc": "2020-10-30T10:21:05.675Z",
  "startTimeUtc": "2020-10-30T10:21:05.675Z",
  "endTimeUtc": "2020-10-30T10:21:05.676Z",
  "maxExecutionTimeInSeconds": 0,
```

```
  "type": 0,
  "status": 0,
  "methodParameter": {
    "name": "string",
    "responseTimeout": {},
    "connectionTimeout": {},
    "jsonPayload": "string"
  },
  "updateTwin": {
    "eTag": "string",
    "deviceId": "string",
    "properties": {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    },
    "tags": {
      "additionalProp1": [
        null
      ],
      "additionalProp2": [
        null
      ],
      "additionalProp3": [
        null
      ]
    },
    "isSimulated": true
  },
  "failureReason": "string",
  "statusMessage": "string",
  "resultStatistics": {
    "deviceCount": 0,
    "failedCount": 0,
    "succeededCount": 0,
    "runningCount": 0,
    "pendingCount": 0
  },
  "devices": [
    {
      "deviceId": "string",
      "status": 0,
      "startTimeUtc": "2020-10-30T10:21:05.676Z",
      "endTimeUtc": "2020-10-30T10:21:05.676Z",
```

```
      "createdDateTimeUtc": "2020-10-30T10:21:05.676Z",
      "lastUpdatedDateTimeUtc": "2020-10-30T10:21:05.676Z",
      "outcome": {
        "status": 0,
        "jsonPayload": "string"
      },
      "error": {
        "code": "string",
        "description": "string"
      }
    }
  ]
}
```

Sample Response

```
    {
    "JobId": "Test-c372b74f-0d92-4b5c-9148-524fbaaf4e58",
    "MaxExecutionTimeInSeconds": 0,
    "Type": 4,
    "Status": 7
    }
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Job to update tags of a Device.

   #### Http Request

   ```
   POST /iothubmanager/v1/jobs
   ```

   #### RequestBody

   ```
   {
   "JobId": "Test-c372b74f-0d92-4b5c-9148-524fbaaf4e58",
   "QueryCondition": "deviceId in ['DemoDevice']",
   "MaxExecutionTimeInSeconds": 0,
   "UpdateTwin": {
       "Tags": {
       "TestTag": "Test"
       }
   }
   }
   ```

   #### Response

   ```
   {
   "JobId": "Test-c372b74f-0d92-4b5c-9148-524fbaaf4e58",
   "MaxExecutionTimeInSeconds": 0,
   "Type": 4,
   "Status": 7
   }
   ```

2. Job to execute direct on devices.

   #### Request

```
{
"JobId": "Test-c372b74f-0d92-4b5c-9148-524fbaaf4e58",
"QueryCondition": "deviceId in ['DemoDevice']",
"MaxExecutionTimeInSeconds": 0,
"MethodParameter": {
    "Name":"methodName1",
    "JsonPayload":"{TestPayLoad}"
}
}
```

Response

```
{
"JobId": "Test-c372b74f-0d92-4b5c-9148-524fbaaf4e58",
"MaxExecutionTimeInSeconds": 0,
"Type": 3,
"Status": 7
}
```

Modules

Service: IoTHub Manager

Modules Controller is used to manage the Modules in IoTHub.

Operations

OPERATION	DESCRIPTION
Get Modules.	Lists the Modules based on the query conditions.
Query Modules.	Lists the Modules based on the query conditions from request body.
Get Module.	Gets the Module data based on the DeviceId and ModuleId.

Get Modules

Lists the Modules based on the query conditions.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/modules?query={query}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json
x-ms-continuation	Continuation Token from response of previous request,if request is called to get next dataset.

Query Params

NAME	VALUE
query	URL encoded string from Conditions to query devices.

Request Body

NA

Response

If successful, this method returns **TwinPropertiesListApiModel** object in the response body.

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    }
  ]
}
```


Sample Response

```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "Reported": {},
            "Desired": {
                "schemaVersion": "1.0",
                "runtime": {
                    "type": "docker",
                    "settings": {
                        "loggingOptions": "",
                        "minDockerVersion": "v1.25"
                    }
                },
                "systemModules": {
                    "edgeAgent": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
                            "createOptions": "{}"
                        }
                    },
                    "edgeHub": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
                            "createOptions": "{}"
                        },
                        "status": "running",
                        "restartPolicy": "always"
                    }
                },
                "modules": {}
            },
            "DeviceId": "TestDevice",
            "ModuleId": "$edgeAgent"
        }
    ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Modules based on query

   #### Http Request

   ```
   GET /iothub-manager/v1/modules?
   query=deviceId+IN+%5B%27Test0903%27%5D+AND+moduleId+%3D+%27%24edgeAgent%27
   ```

   > Reference: Conditions in Encoded format

CONDITIONS	URL ENCODED DATA
`deviceId IN ['TestDevice'] AND moduleId = '$edgeAgent'`	`deviceId+IN+%5B%27TestDevice%27%5D+AND+moduleId+%3D+%27%24edgeAgent%27`

Response


```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "Reported": {},
            "Desired": {
                "schemaVersion": "1.0",
                "runtime": {
                    "type": "docker",
                    "settings": {
                        "loggingOptions": "",
                        "minDockerVersion": "v1.25"
                    }
                },
                "systemModules": {
                    "edgeAgent": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
                            "createOptions": "{}"
                        }
                    },
                    "edgeHub": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
                            "createOptions": "{}"
                        },
                        "status": "running",
                        "restartPolicy": "always"
                    }
                },
                "modules": {}
            },
            "DeviceId": "TestDevice",
            "ModuleId": "$edgeAgent"
        }
    ]
}
```

Query Modules

Lists the Modules based on the query conditions from request body.

Permissions

ReadAll permission is required to call this api.

Http Request

```
POST /iothub-manager/v1/modules/query
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json
x-ms-continuation	Continuation Token from response of previous request,if request is called to get next dataset.

Request Body

String representing conditions to get the modules.

Response

If successful, this method returns **TwinPropertiesListApiModel** object in the response body.

Response Schema

```
{
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  },
  "continuationToken": "string",
  "items": [
    {
      "reported": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "desired": {
        "additionalProp1": [
          null
        ],
        "additionalProp2": [
          null
        ],
        "additionalProp3": [
          null
        ]
      },
      "deviceId": "string",
      "moduleId": "string"
    }
  ]
}
```


Sample Response

```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "Reported": {},
            "Desired": {
                "schemaVersion": "1.0",
                "runtime": {
                    "type": "docker",
                    "settings": {
                        "loggingOptions": "",
                        "minDockerVersion": "v1.25"
                    }
                },
                "systemModules": {
                    "edgeAgent": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
                            "createOptions": "{}"
                        }
                    },
                    "edgeHub": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
                            "createOptions": "{}"
                        },
                        "status": "running",
                        "restartPolicy": "always"
                    }
                },
                "modules": {}
            },
            "DeviceId": "TestDevice",
            "ModuleId": "$edgeAgent"
        }
    ]
}
```


Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Modules based on query from Request body.

   #### Http Request

   ```
   POST /iothub-manager/v1/modules/query
   ```

   #### Request Body

   ```
   "deviceId IN ['Test0903'] AND moduleId = '$edgeAgent'"
   ```

   #### Response

```
{
    "$metadata": {
        "$type": "DeviceList;1",
        "$uri": "/v1/devices"
    },
    "ContinuationToken": null,
    "Items": [
        {
            "Reported": {},
            "Desired": {
                "schemaVersion": "1.0",
                "runtime": {
                    "type": "docker",
                    "settings": {
                        "loggingOptions": "",
                        "minDockerVersion": "v1.25"
                    }
                },
                "systemModules": {
                    "edgeAgent": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
                            "createOptions": "{}"
                        }
                    },
                    "edgeHub": {
                        "type": "docker",
                        "settings": {
                            "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
                            "createOptions": "{}"
                        },
                        "status": "running",
                        "restartPolicy": "always"
                    }
                },
                "modules": {}
            },
            "DeviceId": "TestDevice",
            "ModuleId": "$edgeAgent"
        }
    ]
}
```

Get Module

Gets the Module data based on the DeviceId and ModuleId.

Permissions

ReadAll permission is required to call this api.

Http Request

```
GET /iothub-manager/v1/modules/{deviceId}/{moduleId}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	VALUE
deviceId	DeviceId of Edge Device
moduleId	ModuleId

Request Body

NA

Response

If successful, this method returns **TwinPropertiesApiModel** object in the response body.

Response Schema

```
{
  "reported": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "desired": {
    "additionalProp1": [
      null
    ],
    "additionalProp2": [
      null
    ],
    "additionalProp3": [
      null
    ]
  },
  "deviceId": "string",
  "moduleId": "string"
}
```

Sample Response

```
{
    "Reported": {},
    "Desired": {
        "schemaVersion": "1.0",
        "runtime": {
            "type": "docker",
            "settings": {
                "loggingOptions": "",
                "minDockerVersion": "v1.25"
            }
        },
        "systemModules": {
            "edgeAgent": {
                "type": "docker",
                "settings": {
                    "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
                    "createOptions": "{}"
                }
            },
            "edgeHub": {
                "type": "docker",
                "settings": {
                    "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
                    "createOptions": "{}"
                },
                "status": "running",
                "restartPolicy": "always"
            }
        },
        "modules": {}
    },
    "DeviceId": "TestDevice",
    "ModuleId": "$edgeAgent"
}
```

Security

Type: OpenID Connect
Flow: implicit
Authorization URL: https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com

Examples

1. Get Module Data based on DeviceId and ModuleId

```
GET /iothub-manager/v1/modules/TestDevice/$edgeAgent
```

Response


```
{
    "Reported": {},
    "Desired": {
        "schemaVersion": "1.0",
        "runtime": {
            "type": "docker",
            "settings": {
                "loggingOptions": "",
                "minDockerVersion": "v1.25"
            }
        },
        "systemModules": {
            "edgeAgent": {
                "type": "docker",
                "settings": {
                    "image": "mcr.microsoft.com/azureiotedge-agent:1.0",
                    "createOptions": "{}"
                }
            },
            "edgeHub": {
                "type": "docker",
                "settings": {
                    "image": "mcr.microsoft.com/azureiotedge-hub:1.0",
                    "createOptions": "{}"
                },
                "status": "running",
                "restartPolicy": "always"
            }
        },
        "modules": {}
    },
    "DeviceId": "TestDevice",
    "ModuleId": "$edgeAgent"
}
```

Status

Service: IoTHub Manager

Status Contoller provides Health status of the Service and its dependencies.

Operations

OPERATION	DESCRIPTION
Get Status	Gets status of the Service and its dependencies
Ping Status	Provides the health status of the service.

Get Status

Provides the status of the IoTHub Manager Service and its dependencies

Permissions

```
N/A
```

Http Request

```
GET /iothubmanager/v1/status
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response Schema

```
{
  "name": "string",
  "status": {
    "isHealthy": true,
    "message": "string"
  },
  "currentTime": "string",
  "startTime": "string",
  "upTime": 0,
  "uid": "string",
  "properties": {
    "authRequired": true,
    "endpoint": "string"
  },
  "dependencies": {
    "additionalProp1": {
      "isHealthy": true,
      "message": "string"
    },
    "additionalProp2": {
      "isHealthy": true,
      "message": "string"
    },
    "additionalProp3": {
      "isHealthy": true,
      "message": "string"
    }
  },
  "metadata": {
    "additionalProp1": "string",
    "additionalProp2": "string",
    "additionalProp3": "string"
  }
}
```

Response


```
    {
    "Name": "IoTHub Manager",
    "Status": {
        "IsHealthy": true,
        "Message": "Alive and well!"
    },
    "CurrentTime": "2020-10-29T15:48:25+00:00",
    "StartTime": "2020-10-26T23:00:48+00:00",
    "UpTime": 233256,
    "UID": "WebService.c477e657-a941-4a01-82fd-ecc2d6cfaba4",
    "Properties": {
        "authRequired": true,
        "endpoint": "http://+:80"
    },
    "Dependencies": {
        "Storage Adapter": {
            "IsHealthy": true,
            "Message": "Alive and well!"
        },
        "User Management": {
            "IsHealthy": true,
            "Message": "Alive and well!"
        },
        "App Config": {
            "IsHealthy": true,
            "Message": "Alive and well!"
        }
    },
    "$metadata": {
        "$type": "Status;0",
        "$uri": "/status"
    }
}
```

Ping Status

Provides the health status of the service.

Permissions

```
N/A
```

Http Request

```
GET /iothubmanager/v1/status/ping
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Respond with 200 Status code if service is up.
```

Tenant Manager

Tenant Manager offers APIs to maintains tenants, Alerting, tenants' readiness status, and health status of service.

Within each Serenity instance an interactive Swagger UI is available at the following path `/auth/index.html` for more information, click here

Rest Operation Groups

The Device Telemetry REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Tenant	Manage Tenant
Tenant Ready	Tenant readiness status
Alerting	Manage stream analytics job
Status	Health status operations for the Service

Tenant

This document contains the details of the Tenant Controller in Tenant Manager service. Below are the API methods.

Operations

OPERATION	DESCRIPTION
Get Tenant details	Fetches tenant details
Get All Tenants details registred to a user	Fetches all tenant details regisitred to a user
Create Tenant	Create a tenant
Rename the Tenant	Rename a tenant
Delete Tenant	Delete tenant

Get Tenant details

API that Gets information about a tenant that is stored in table storage

Permissions

```
ReadAll
```

Http Request

```
GET /tenantmanager/api/Tenant
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Returns 200 OK and Tenant info:

```
json { "tenantId": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "iotHubName": "xxxxxxxx", "dpsName":
"xxxxxxxxxx", "saJobName": "xxxxxxxx", "isIotHubDeployed": true, "markedForDeletion": true, "tenantName":
"Tenant Name", "partitionKey": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "rowKey": "xxxxxxxx-xxxx-xxxx-xxxx-
xxxxxxxxxxxx", "timestamp": "2020-10-29T11:36:34.702Z", "eTag": "string" }
```

Get All Tenants details registred to a user

API that fetches the All Tenant details which are registered to the user.

Permissions

```
ReadAll
```

Http Request

```
GET /tenantmanager/api/Tenant/All
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Returns 200 OK:

```
json { "Method": "GetTenants", "Models": [ { "roles": "[\"xxxxx\"]", "userId": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "tenantId": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "roleList": [ "xxxxx" ], "tenantName": "xxxxxx", "partitionKey": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "rowKey": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "timestamp": "0001-01-01T00:00:00+00:00", "eTag": null } ] }
```

Create Tenant

API that creates a new tenant to the user.

Other Attributes

```
SystemAdminAuthorize
```

Http Request

```
POST /tenantmanager/api/Tenant
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Returns 200 OK and the new tenant info:
  `json { "message": "Your tenant is being created.", "tenantId": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx" }`
- Status Code 401 - Invalid auth token

Rename the Tenant

API that renames the tenant name.

Other Attributes

```
SystemAdminAuthorize
```

Http Request

```
PUT /tenantmanager/api/Tenant/{tenantId}
```

Parameters

PARAMETER	TYPE	DESCRIPTION
tenantId	guid	Tenant Id

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
"New Tenant Name"
```

Response

- Returns 200 OK and Tenant info:

```
json { "tenantId": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "iotHubName": "xxxxxxxx", "dpsName":
"xxxxxxxxxx", "saJobName": "xxxxxxxx", "isIotHubDeployed": true, "markedForDeletion": true, "tenantName":
"Tenant Name", "partitionKey": "0", "rowKey": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "timestamp": "2020-
10-29T11:36:34.702Z", "eTag": "string" }
```

Delete Tenant

API that deletes the specified tenant.

Other Attributes

```
SystemAdminAuthorize
```

Http Request

```
DELETE /tenantmanager/api/Tenant
```

Query parameters

QUERY PARAMETER	TYPE	DESCRIPTION
ensureFullyDeployed	boolean	Default value is **true**

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Returns 200 OK

```
json { "tenantId": "xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx", "ensuredDeployment": true, "deletionRecord": {
"tenantTableStorage": true, "userTableStorage": true, "iotHub": true, "dps": true, "alerting": true, },
"fullyDeleted": true }
```

Tenant Ready

This document contains the details of the Tenant Ready Controller in Tenant Manager service. Below is the following API method.

Operations

OPERATION	DESCRIPTION
Check specified tenant is ready or not	Fetches tenant readiness status

Check specified tenant is ready or not

API that returns true or false depending on if the tenant is ready or not.

Permissions

```
N/A
```

Http Request

```
GET /tenantmanager/api/TenantReady/{tenantId}
```

Parameters

PARAMETER	TYPE	DESCRIPTION
tenantId	guid	Tenant Id

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200:

  ```
  true
  ```

  OR

  ```
  false
  ```

- Status Code 404 - Invalid tenant id

Alerting

This document contains the details of Alerting Controller in the Tenant Manager service. Below are the API methods.

Operations

OPERATION	DESCRIPTION
Get stream analytics job details	Fetches stream analytics job details
Create stream analytics job	Create stream analytics job
Remove stream analytics job	Remove stream analytics job
Start stream analytics job	Start stream analytics job
Stop stream analytics job	Stop stream analytics job

Get stream analytics job details

API that fetches the details of stream analytics job assigned to tenant.

Permissions

```
ReadAll
```

Http Request

```
GET /tenantmanager /api /Alerting
```

Query parameters

QUERY PARAMETER	TYPE	DESCRIPTION
createIfNotExists	boolean	If **true** it creates a stream analytics job to a tenant. Default value is **false**

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200:
  `json { "tenantId": "string", "streamAnalyticsJobName": "string", "jobState": "string", "isActive": true }`

Create stream analytics job

API that creates a stream analytics job to tenant.

Permissions

```
EnableAlerting
```

Http Request

```
POST /tenantmanager /api /Alerting
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200:
  `json { "tenantId": "string", "streamAnalyticsJobName": "string", "jobState": "string", "isActive": true }`

Remove stream analytics job

API that removes a stream analytics job to the tenant.

Permissions

```
DisableAlerting
```

Http Request

```
DELETE /tenantmanager /api /Alerting
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200:
  `json { "tenantId": "string", "streamAnalyticsJobName": "string", "jobState": "string", "isActive": true }`

Start stream analytics job

API that starts the stream analytics job assigned to the tenant.

Permissions

```
EnableAlerting
```

Http Request

```
POST /tenantmanager /api /Alerting
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200:
  `json { "tenantId": "string", "streamAnalyticsJobName": "string", "jobState": "string", "isActive": true }`

Stop stream analytics job

API that stops the stream analytics job assigned to the tenant.

Permissions

```
DisableAlerting
```

Http Request

```
POST /tenantmanager /api /Alerting/stop
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200.

Status

Status Contoller provides Health status of the Service and its dependencies.

Operations

OPERATION	DESCRIPTION
Get Status	Gets status of the Service and its dependencies
Ping Status	Provides the health status of the service.

Get Status

API that fetches the status of the Tenant Manager Service.

Permissions

```
N/A
```

Http Request

```
GET /tenantmanager/v1/status
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response

```
{
  "Name": "Tenant Manager",
  "Status": {
    "IsHealthy": true,
    "Message": "Alive and well!"
  },
  "CurrentTime": "2020-10-29T08:39:47+00:00",
  "StartTime": "2020-10-26T23:01:14+00:00",
  "UpTime": 207513,
  "UID": "WebService.a43f99da-a107-446a-a1cb-c2cbad7eaea9",
  "Properties": {
    "authRequired": true,
    "endpoint": "http://+:80"
  },
  "Dependencies": {
    "CosmosDb": {
      "IsHealthy": true,
      "Message": "Alive and Well!"
    },
    "Tenant Runbooks": {
      "IsHealthy": true,
      "Message": "Alive and well!"
    },
    "Table Storage": {
      "IsHealthy": true,
      "Message": "Alive and well!"
    },
    "Identity Gateway": {
      "IsHealthy": true,
      "Message": "Alive and well!"
    },
    "Config": {
      "IsHealthy": true,
      "Message": "Alive and well!"
    },
    "App Config": {
      "IsHealthy": true,
      "Message": "Alive and well!"
    }
  },
  "$metadata": {
    "$type": "Status;0",
    "$uri": "/status"
  }
}
```

Ping Status

API that pings the Tenant Manager Service and responds to the status code.

Permissions

```
N/A
```

Http Request

```
GET /tenantmanager/v1/status/ping
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Responds 200 Status code
```

ASA Manager

The ASA Manager service offers APIs to asynchronously convert tenant data into formats suitable for Azure Stream Analytics Job inputs.

REST operation groups

The ASA Manager API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
DeviceGroups	
Rules	
Status	

Device Groups

Service: Asa Manager API Version: 2020-11-03

Operations

DeviceGroups

DeviceGroups Controller contains methods to convert the DeviceGroups in the Cosmos DB Collection and converts into file format suitable for Azure Stream Analytics job.

This document provides overview of following methods of DeviceGroup Controller.

1. Begin Device Group Conversion
2. Begin IotHub Job Delay Device Group Conversion

Begin Device Group Conversion

API that begins the conversion of devicegroups data from cosmos collection into csv format for Azure Stream Analytics job.

Permissions

```
NA
```

Http Request

```
GET /v1/devicegroups
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

If successful, this method returns **BeginConversionApiModel** object in the response body.

Respone Schema

```
{
  "tenantId": "string",
  "operationId": "string"
}
```

Sample Response

```
{
  "tenantId": "ac1037c4-386e-4402-9209-f9602ce90afe",
  "operationId": "c2412f4c-a397-4b7a-81a1-0d175a9b69c6"
}
```

Begin IotHub Job Delay Device Group Conversion

API that begins the conversion of devicegroups data from cosmos collection into csv format for Azure Stream Analytics job based on completion status of an IoT Hub Job.

Permissions

```
NA
```

Http Request

```
GET /v1/devicegroups/iothubjobdelay/{jobId}
```

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Query Params

NAME	DESCRIPTION
jobId	JobId from IoT Hub

Request Body

```
N/A
```

Response

If successful, this method returns **BeginConversionApiModel** object in the response body.

Respone Schema

```
{
  "tenantId": "string",
  "operationId": "string"
}
```

Sample Response

```
{
  "tenantId": "ac1037c4-386e-4402-9209-f9602ce90afe",
  "operationId": "c2412f4c-a397-4b7a-81a1-0d175a9b69c6"
}
```

Storage Adapter Manager

Storage Adapter Manager offers APIs to maintains data in DB storage and health status of service.

Within each Serenity instance an interactive Swagger UI is available at the following path `/auth/index.html` for more information, click here

Rest Operation Groups

The Device Telemetry REST API provides operations for working with the following:

OPERATION GROUP	DESCRIPTION
Values	Manage data in storage
Status	Health status operations for the Service

Values

Values Controller provides services to manage the data in storage like CosmosDb.

Operations

OPERATION	DESCRIPTION
Get value for given collectionId and key	Fetches the stored data
Get all values in collectionId	Fetaches list of stored data related to collectionId
Save value by collectionId and randomly generated key	Save data in storage
Update value by collectionId and key	Update data in storage
Delete value from storage	Delete data from storage

Get value for given collectionId and key

API that fetches the data for a given collection and key.

Permissions

```
N/A
```

Http Request

```
GET /v1/collections/{collectionId}/values/{key}
```

Parameters

PARAMETER	TYPE	DESCRIPTION
collectionId	string	Represents the collection of data or file stored in storage
key	string	It is a unique ID that represents a data or file, it also known as fileName

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200:

```
{
    "$metadata": {
        "$type": "Value;1",
        "$modified": "...",
        "$uri": "/v1/collections/test/values/filename"
    },
    "Key": "filename",
    "Data": "data to store",
    "ETag": "\"...\""
}
```

- Status Code 400 - Empty or invalid collection id or key. Valid characters are a-Z,A-Z,0-9,_ and -.

Security

Type: OpenID Connect

Flow: implicit

Authorization URL: `https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com`

Get all values in collectionId

API that fetches all of the values under a given collection.

Permissions

```
N/A
```

Http Request

```
GET /v1/collections/{collectionId}/values
```

Parameters

PARAMETER	TYPE	DESCRIPTION
collectionId	string	Represents the collection of data or file stored in storage

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200 - Returns list of values :

```
{
    "Items": [
        {
            "$metadata": {
                "$type": "Value;1",
                "$modified": "...",
                "$uri": "/v1/collections/test/values/key1"
            },
            "Key": "key1",
            "Data": "data to store",
            "ETag": "\"...\""
        }
    ],
    "$metadata": {
        "$type": "ValueList;1",
        "$uri": "/v1/collections/test/values"
    }
}
```

- Status Code 400 - Empty or invalid collection id or key. Valid characters are a-Z,A-Z,0-9,_ and -.

Security

Type: OpenID Connect

Flow: implicit

Authorization URL: `https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com`

Save value by collectionId and randomly generated key

API that saves a value by collectionId and assigned a randomly generated key.

Permissions

```
N/A
```

Http Request

```
POST /v1/collections/{collectionId}/values
```

Parameters

PARAMETER	TYPE	DESCRIPTION
collectionId	string	Represents the collection of data or file stored in storage

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
{
  "data": "data to store"
}
```

Response

- Status Code 200:
  `json { "$metadata": { "$type": "Value;1", "$modified": "...", "$uri": "/v1/collections/test/values/filename" }, "Key": "filename", "Data": "data to store", "ETag": "\"...\"" }`
- Status Code 400 - Empty or invalid collection id or key. Valid characters are a-Z,A-Z,0-9,_ and -.

Security

Type: OpenID Connect

Flow: implicit

Authorization URL: `https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com`

Update value by collectionId and key

API that saves a value by collectionId and Key.

Permissions

```
N/A
```

Http Request

```
PUT /v1/collections/{collectionId}/values/{key}
```

Parameters

PARAMETER	TYPE	DESCRIPTION
collectionId	string	Represents the collection of data or file stored in storage
key	string	It is a unique ID that represents a data or file, it also known as fileName

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
{
    "data":"data to store"
}
```

Response

- Status Code 200:

```
{
    "$metadata": {
        "$type": "Value;1",
        "$modified": "...",
        "$uri": "/v1/collections/test/values/filename"
    },
    "Key": "filename",
    "Data": "data to store",
    "ETag": "\"...\""
}
```

- Status Code 400 - Empty or invalid collection id or key. Valid characters are a-Z,A-Z,0-9,_ and -.

Security

Type: OpenID Connect

Flow: implicit

Authorization URL: `https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com`

Delete value from storage

API that deletes value by collectionId and values.

Permissions

```
N/A
```

Http Request

```
DELETE /v1/collections/{collectionId}/values/{key}
```

Parameters

PARAMETER	TYPE	DESCRIPTION
collectionId	string	Represents the collection of data or file stored in storage
key	string	It is a unique ID that represents a data or file, it also known as fileName

Request headers

HEADER	VALUE
Authorization	Bearer {token}. Required.
Content-Type	application/json

Request Body

```
N/A
```

Response

- Status Code 200 - Value has been deleted or didn't exist
- Status Code 400 - Empty or invalid collection id or key. Valid characters are a-Z,A-Z,0-9,_ and -.

Security

Type: OpenID Connect

Flow: implicit

Authorization URL: `https://login.microsoftonline.com/crsltestab2c.onmicrosoft.com`

Status

Status Contoller provides Health status of the Service and its dependencies.

Operations

OPERATION	DESCRIPTION
Get Status	Gets status of the Service and its dependencies
Ping Status	Provides the health status of the service.

Get Status

API that fetches the status of the Storage Adapter Service.

Permissions

```
N/A
```

Http Request

```
GET /v1/status
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response


```
{
  "Name": "Storage Adapter",
  "Status": {
    "IsHealthy": true,
    "Message": "Alive and well!"
  },
  "CurrentTime": "2020-10-30T10:22:44+00:00",
  "StartTime": "2020-10-30T10:22:44+00:00",
  "UpTime": 0,
  "UID": "WebService.fb371dfd-bf89-4ca4-bd05-d44b6d6a712a",
  "Properties": {
    "authRequired": true,
    "endpoint": "https://localhost:5001;http://localhost:5000"
  },
  "Dependencies": {
    "CosmosDb": {
      "IsHealthy": true,
      "Message": "Alive and Well!"
    },
    "App Config": {
      "IsHealthy": true,
      "Message": "Alive and well!"
    }
  },
  "$metadata": {
    "$type": "Status;0",
    "$uri": "/status"
  }
}
```

Ping Status

API that pings the Storage Adapter Service and responds to the status code.

Permissions

```
N/A
```

Http Request

```
GET /v1/status/ping
```

Request headers

HEADER	VALUE
Content-Type	application/json

Request Body

```
N/A
```

Response

```
Responds 200 Status code
```