ibsysZevvy

Manual to the zevvy driver for Niagara

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General

The ibsysZevvy module contains a driver for integrating the zevvy AG API. This allows measured values and meter readings from Niagara to be transmitted directly to the zevvy platform.

Compatibility

The ibsysZevvy module can be used from Niagara version N4.10.

Version

This documentation applies from module version 4.1.2.4.

Contact

If you have any questions, comments, suggestions or error messages, please contact our technical support:

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Version	Date	Remark	Author
V1.0	18.10.2024	Creation	Levi Jetzer

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1. Introduction

The driver for the zevvy platform offers the option of sending measured values directly from Niagara to the zevvy platform for long-term data storage.

2. Range of functions

The zevvy driver contains components to support the zevvy API. The driver components and their functions are also described in more detail.

2.1. Zevvy Network

Container for zevvy platforms. A component of the type Zevvy Platform can only be inserted under this container.

2.2. Zevvy Platform

Component for connecting to the zevvy platform. If values need to be sent to multiple accounts, a The Zevvy Network uses the monitor to ping the platforms in the set intervals.

Zevvy Platform must be added for each account.

2.3. Zevvy Device Extension

Component for registering a device; a device typically represents a counter. The task of the Zevvy Device Extension is to register and represent a device or counter.

2.4. Zevvy Interval Extension

The Zevvy Interval Extension can send data to the zevvy platform at intervals. Its task is also to register a measured value and represent it.

3. Driver parts

3.1. Zevvy Network

The Zevvy Network is the container under which instances of the Zevvy Platform can be inserted.

The Zevvy Network uses the monitor to ping the platforms in the set intervals.

3.2. Zevvy Platform

The Zevvy Platform represents a connection with a pair of client credentials to the zevvy platform. If several client credentials are to be used, more than one Zevvy Platform can be inserted.

3.2.1. Slots

Name	Description	Format
Client Id	API client Id of the Zevvy platform	String
Client Secret	API client secret of the Zevvy platform	Password
Access Token	Access Token of the API	Token
Refresh Token	Refresh Token of the API	Token
Device Code	Device code for the authentication	String
Verification Uri	Verification URL	Ord
Authenticate	Trigger authentication	Action

3.2.2. Authentication

Note: Client Id and Client Secret can be obtained directly from zevvy on request.

To start the login to the zevvy platform, Client Id and Client Secret must be entered. There must also be an Internet connection from the Niagara Station. Then the authentication process can be started by triggering the Authenticate Action.

Once the login has been started, a link is displayed in the Verification Uri. This can be followed by clicking on the arrow. A page opens showing that the link is not in the whitelist. To open the link anyway, you can click on the HTML5 preview. Redirection to a browser should take place automatically.

In the browser, you will be asked to log in to the zevvy platform. Once this has been successfully completed, you can confirm that this “device” is allowed to connect to the zevvy platform.

From this moment on, an access token should be available on the zevvy platform within 5 seconds. This can be seen from the fact that the Verification Uri is emptied and hidden.

The authentication process is now complete**.**

3.3. Zevvy Device Extension

The Zevvy Device Extension is used to declare a component in Niagara as a “counter”. A Zevvy Device Extension can be added to any Niagara component that is based on the Device, DeviceFolder or PointFolder type.

This means that the Zevvy Device Extension can be added directly under devices such as an MBusDevice or ModBus Device.

3.3.1. Slots

Name	Description	Format
Device Name	Name of the device	String
Device Reference	Reference of the device	String
Device Id	Device Id of zevvy	String
Zevvy Platform	Associated The Zevvy Network uses the monitor to ping the platforms in the set intervals. Zevvy Platform	Zevvy Platform

3.3.2. Configuration

When inserting a Zevvy Device Extension, the “Device Name” and “Device Reference” slots are automatically filled with a proposal. However, the proposal can be overwritten by the user.

In the Zevvy Platform slot, the associated Zevvy Platform under which the device is to be registered must be selected. It must be ensured that the Zevvy Platform is selected before registration.

To register the device on the zevvy platform, the Enable slot must be set to true. After registration, the “Device Name” and the “Device Reference” can no longer be changed.

3.3.2.1. Device Name

The device name is automatically taken from the DisplayName of the device under which the Zevvy device extension was inserted. The device name is adopted when registering on the zevvy platform and cannot be changed later.

3.3.2.2. Device Reference

The Device Reference is generated in such a way that a certain uniqueness is given. The Device Reference consists of the name of the station and the handle of the device under which the Zevvy Device Extension was inserted. This makes it possible to distinguish the device from one another even in projects with several stations. The device reference is adopted when registering on the zevvy platform and cannot be changed later.

3.3.3. Changes

Changes to the “Device Name” or the “Device Reference” can only be made by first deleting the corresponding device on the zevvy platform. The zevvy device extension can then be deleted in Niagara and re-inserted and registered again.

3.4. Value Extensions

Further extensions are available to send values to the zevvy platform. These extensions can be added to any Niagara component that is based on the NumericPoint or NumericWritable type.

3.4.1. Zevvy Interval Extension

The Zevvy Interval Extension records values at an adjustable interval and sends them to the zevvy platform at another adjustable interval.

3.4.1.1. Slots

Name	Description	Format
Device Ord	Path of the associated Zevvy Device (Device with Zevvy Device Extension)	Ord
Register Name	Name of the measured value	String
Register Reference	Reference of the measured value	String
Last Sent	Time of the last successful transmission of the values	AbsTime
Send Interval	Interval at which the values are sent to the zevvy platform	RelTime
Last Stored	Time of the last successful saving of a value	AbsTime
Storage Interval	Interval at which the values are saved	RelTime
Next Storage	Next time a value is saved	AbsTime

3.4.1.2. Configuration

When inserting a Zevvy Interval Extension, the “Register Name” and “Register Reference” slots are automatically filled with a proposal. However, the proposal can be overwritten by the user.

In the Device Ord slot, the associated device (device with Zevvy Device Extension) under which the value is to be registered must be selected. It must be ensured that the device ord is selected correctly before registration. If the Zevvy Interval Extension is inserted under a data point of a device, a proposal is already inserted which correctly maps the reference.

To register the value on the zevvy platform, the Enable Slot must be set to true. After registration, the “Register Name” and the “Register Reference” can no longer be changed.

3.4.1.2.1. Register Name

The register name is automatically taken from the DisplayName of the data point under which the Zevvy Interval Extension was inserted. The register name is adopted when registering on the zevvy platform and cannot be changed later.

3.4.1.2.2. Register Reference

The Register Reference is generated in such a way that a certain uniqueness is given. The register reference consists of the name of the station, the Register Name and the handle of the data point under which the Zevvy Interval Extension was inserted. This makes it possible to distinguish the value in projects with several stations and several devices. The register reference is adopted when registering on the zevvy platform and cannot be changed later on.

3.4.1.2.3. Send Interval

The send interval is set to 24 hours by default. The send interval determines the interval at which the recorded values are sent to the zevvy platform. Typically, the values are recorded every 15 minutes and transmitted every 24 hours. This corresponds to a value recording of 96 values.

The zevvy platform accepts a maximum of 100 values per transmission. If the storage interval is reduced, the send interval is automatically reduced so that these 100 values are not exceeded.

The send interval can be reduced in order to receive the values on the zevvy platform more quickly. However, care should be taken not to set the send interval to less than one minute, as zevvy's API is called each time the data is sent. If this is called at an interval that is too fast, this can lead to an overload of the station!

3.4.1.2.4. Storage Interval

The storage interval is set to 15 minutes by default. This represents the most frequently used recording interval. The storage interval can be changed by the user. However, it is important to ensure that it is not set to an unnecessarily short time.

The values are stored in an internal buffer during recording. This buffer is located in the heap of the station until it is sent. The buffer has a limit of 100 values per value, after which the values are transmitted to zevvy at the latest. If the storage interval is reduced, the send interval automatically adjusts so that these 100 values are not exceeded.

If too many values are not sent for too long, i.e. if they remain in the heap, this can lead to a memory overflow and thus to an overload of the station!

If the Send Interval and Storage Interval are set so that the 100 memory locations are not fully required, the buffer is used to continue storing the values on the station if the connection to zevvy is interrupted. The buffer is only deleted once it has been transferred to the zevvy platform.

3.4.2. Changes

Changes to the Register Name or the Register Reference can only be made by first deleting the corresponding value (register) on the zevvy platform. The Zevvy Interval Extension can then be deleted in Niagara and re-inserted and registered.

If the Device Ord is changed, the value is registered under the new device.

Changes to the Send Interval or Storage Interval are applied directly. The corresponding timers are restarted for this purpose.