

Setting Up Node-RED to Transmit Wzzard Data to the OSIsoft PI System using the OSI Message Format (OMF)

How to publish data from Wzzard into OSIsoft PI System using OSI Message Format (OMF)

NOTE: This assumes your Gateway is set up and claimed on WebAccess/DMP (formerly SmartWorx Hub).

OSI Message Format (OMF) Nodes

- Locate the nodes on the GitHub webpage; read the documentation and sample flows.

<https://github.com/osisoft/OMF-Node-RED>

Nodes to use in Node-RED to help generate an OSIsoft Message Format (OMF) message

Commit	Files Changed	Time Ago
derekendres adding walkthru	Flows	6 months ago
adding walkthru	OMF-Container-Bridge	a year ago
updating version numbers	OMF-Container	10 months ago
Fixing order of entries	OMF-Data	10 months ago
Fixing order of entries	OMF-Headers-Bridge	a year ago
updating version numbers	OMF-Type-Bridge	a year ago
updating version numbers	OMF-Type	a year ago

SmartWorx Hub – Manage Device

- Log into SmartWorx Hub and open the management page for your device.

WebAccess/DMP Manage Device

Dashboard > Devices > Manage Device

Device ID: 203-01-ACZ110000026665

Name: Ted Vibration Demo

Status: Operational

Firmware: 2.2.3 [Push]

DeviceType: SmartSwarm342

MAC Address: 00:0A:14:87:A3:87

Custom 1:

Custom 2:

Online:

Settings: Select...

[Save] [Cancel] [History] [Device Status] [Add/Upgrade Apps] [Geo Location] [Wzzard Mesh]

Manage Apps

Remove Selected

Name	Tag	Type	Version	Help	Added
RSMesageBroker	RSMesageBroker	Application	1.0.5		13/12/2018 20:54:54
Wzzard Mesh	Wzzard Mesh	Application	1.1.0		13/12/2018 20:54:33
NodeRED	NodeRED	Application	1.0.12		13/12/2018 20:56:00
REF	REF	Package	1.0.0		30/08/2018 18:14:53
Components-342	Components-342	Component	1.4.3		13/12/2018 20:55:36

- Ensure **RSMesageBroker**, **Node-RED** and **Wzzard Mesh** are installed.
- Select **Add/Upgrade Apps** (and add any that are missing).
- Double-click on the **Node-RED App**, and select **Nodes**. Add the **Node(s)**.

WebAccess/DMP Settings

Dashboard > Devices > Manage Device > Settings

Nodes

Firewall

Application Settings

Device ID: 203-01-ACZ110000026665

Application Name: NodeRED

Version: 1.0.12

Tag: NodeRED

[Back] [Apply Changes]

Nodes

* Required Field

Add or Remove Nodes

Node: node-red-contrib-osisoft-omf

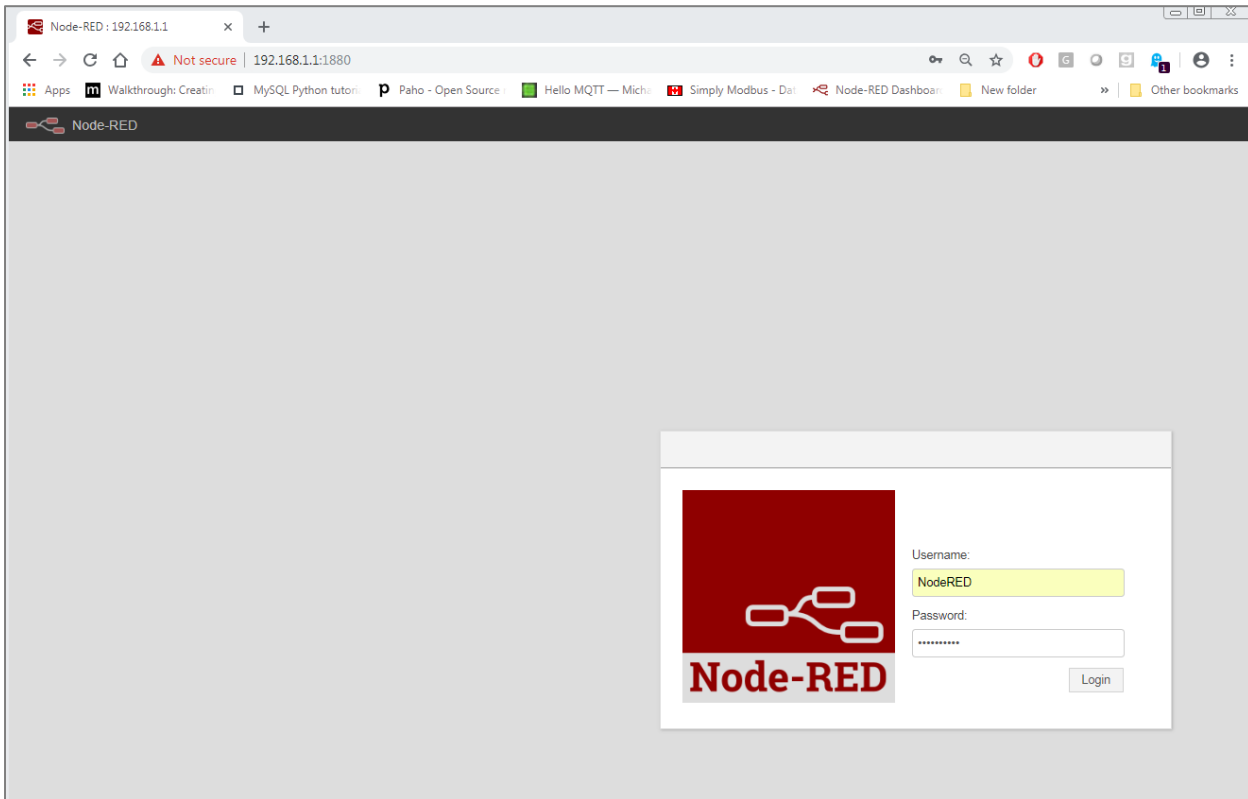
Uninstall:

[List Nodes]

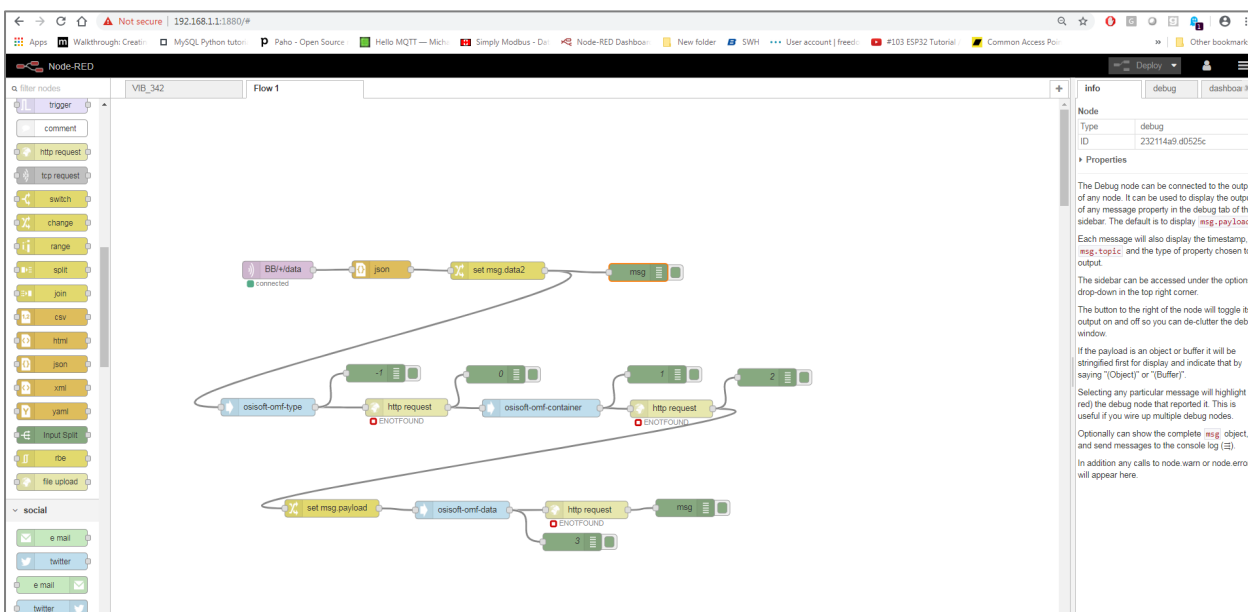
node-red-contrib-osisoft-omf

Node-RED Set Up

- Log into the Gateway Node-RED flow editor in your browser by going to: [HTTP://192.168.1.1:1880](http://192.168.1.1:1880).
- Username is **NodeRED**. Password is the same as Gateway password (**5mart5warm** default).



- Set up your Node-RED flow per the example on the GitHub site.



Properties

- Set up the **Properties** that you want to send to the OSIsoft PI System in the **Type ID** node.

osisoft-omf-type > Edit osisoft-omf-type-bridge node

info debug

Delete Cancel Update

Name vibrationdemo

Type ID vibrationdemoRed

Classification dynamic

Version 1.0.0.0

Friendly Name localhost

Description vibrationdemo

Tags localhost

Metadata localhost

☒ Add_time

Properties 5 Set Number of Properties

☒ Property 1 vibration Number

☒ Property 2 temperature Number

☒ Property 3 tempint Number

☒ Property 4 vbatt Number

☒ Property 5 time Number

3 nodes use this config On all flows

Producer Tokens

- Configure your **Producer Token** in each node.

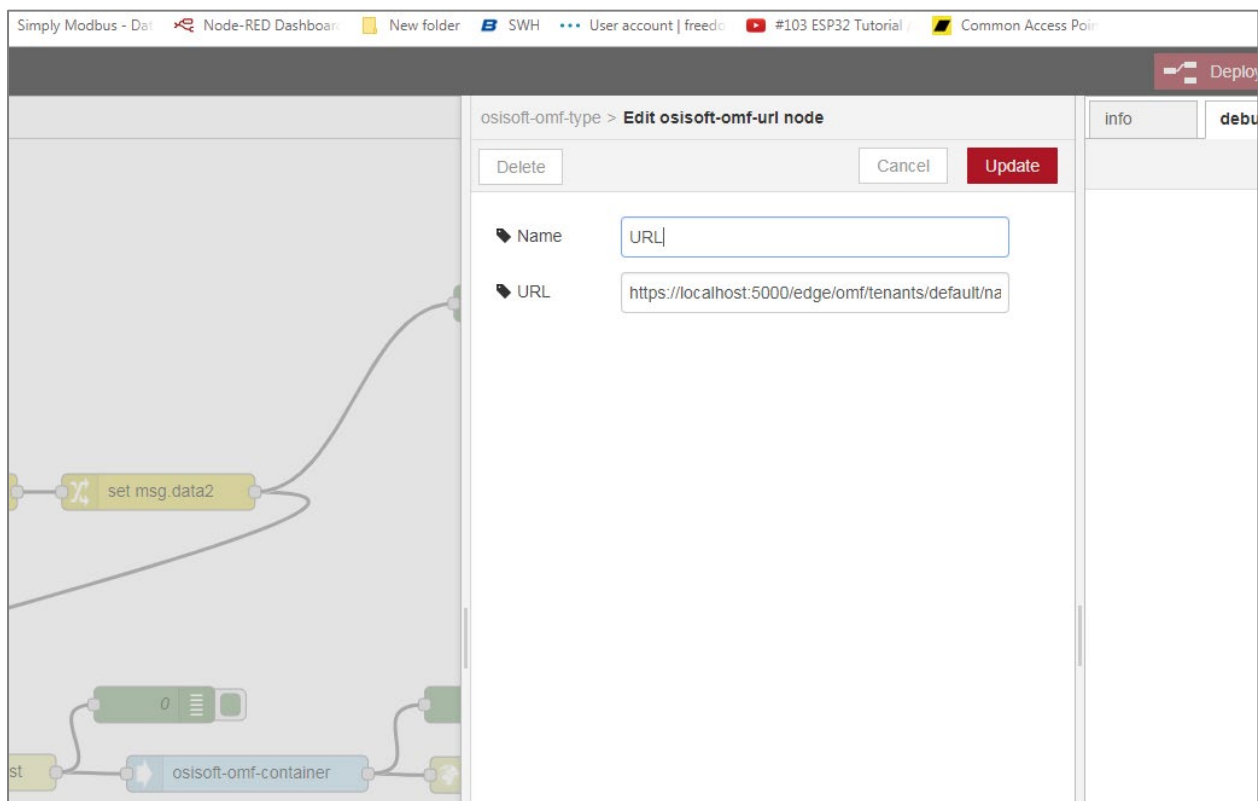
The screenshot shows the 'Edit osisoft-omf-headers-bridge node' configuration window. The window has a title bar with 'osisoft-omf-type > Edit osisoft-omf-headers-bridge node' and a 'Deploy' button. Below the title bar are 'Delete', 'Cancel', and 'Update' buttons. The configuration fields are as follows:

Field	Value
Name	prod
Producer Token	1/a867d2adc554432ea3ceec965489f54b/ea5aebf
Message Format	json
OMF Version	1.0
Action	create
Compression	gzip

The background shows a flowchart with nodes like 'ata2', 'osisoft-omf-container', 'http request', and a green box with the number '3'.

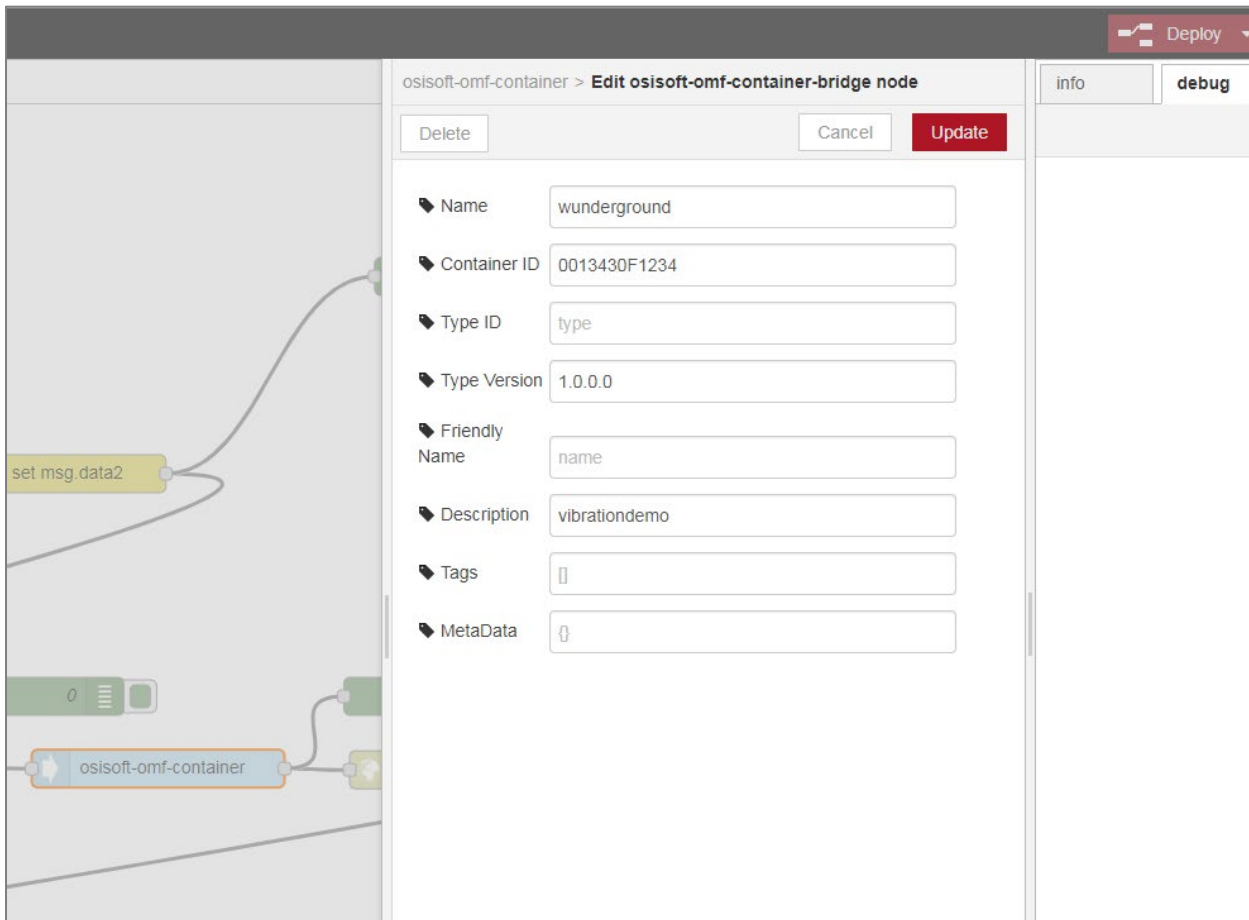
OSIsoft PI System Server URL

- Insert the **URL** to your OSIsoft PI System server.

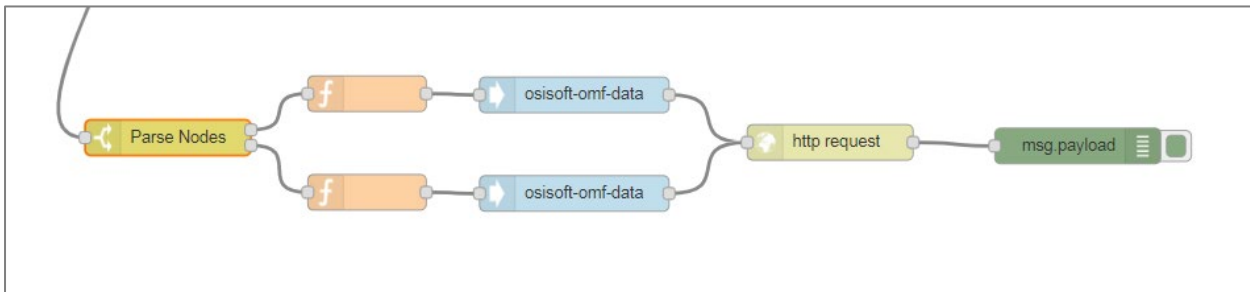


Container IDs

- Set the **Container ID** for each node.



- If you are using multiple Wzzard nodes, create a **container** for each one. Split the streams from each node with a **switch node**.



Mapping

- In your data nodes, add data for mapping to the Wzzard.

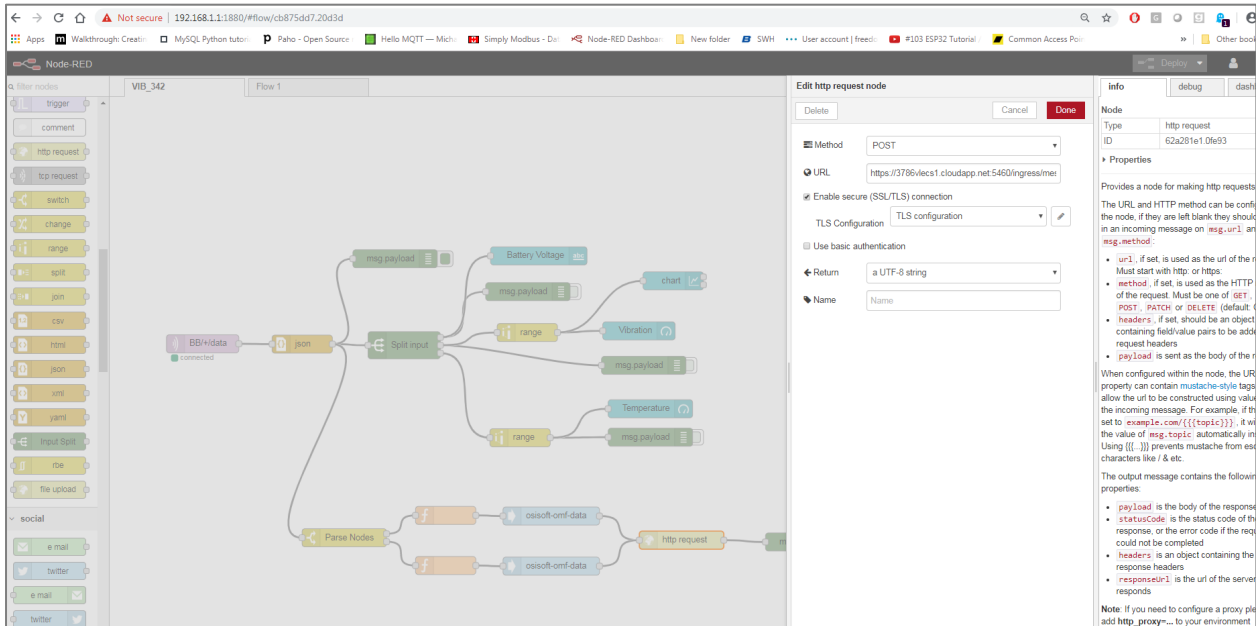
The screenshot displays the Wzzard Data to OSIsoft PI System mapping interface. The main configuration area includes the following fields and controls:

- Type ID:** A text field containing the value "Type".
- Container ID:** A text field containing the value "Container".
- Version:** A text field containing the value "1.0.0".
- Value Array:** A text field containing an empty array "[]".
- Properties:** A dropdown menu set to "5", accompanied by a "Set Number of Properties" button.
- Load properties from Type:** A button to load properties from the selected type.
- Property List:** A list of five properties, each with a checkbox, a name field, and a value field:
 - Property 1: vibration, {{payload.ai3}}
 - Property 2: temperature, {{payload.ai2}}
 - Property 3: tempint, {{payload.tempint}}
 - Property 4: vbatt, {{payload.vbatt}}
 - Property 5: time, {{payload.t}}

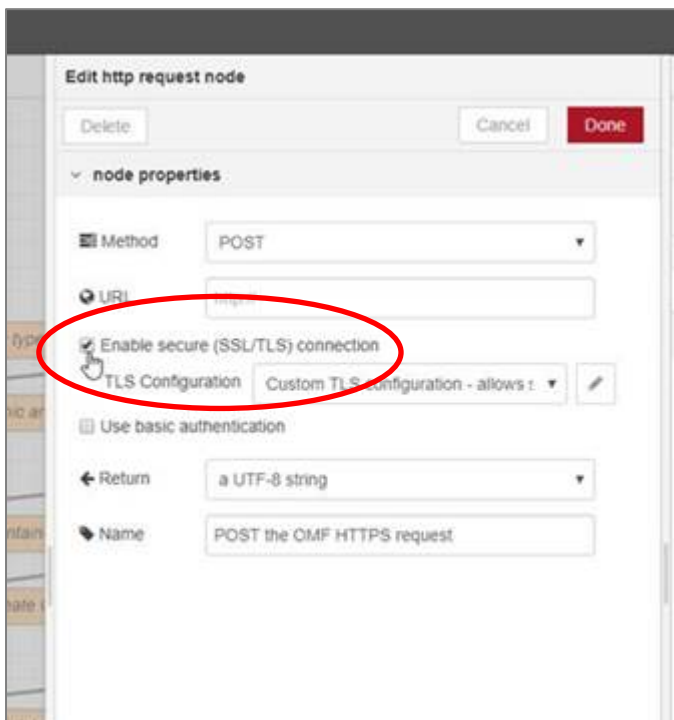
On the left side, a flow diagram shows an "http request" node connected to a "mapping" node. On the right side, a sidebar contains a "Details" section with a "Type ID" dropdown and a "Value Array" field.

Security

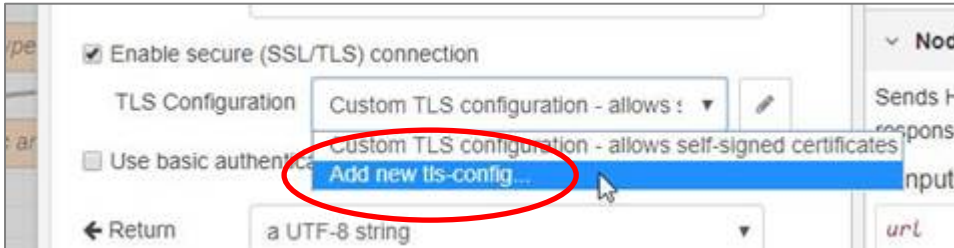
- Configure URL and security to your OSIsoft PI System server in the HTTP Request.



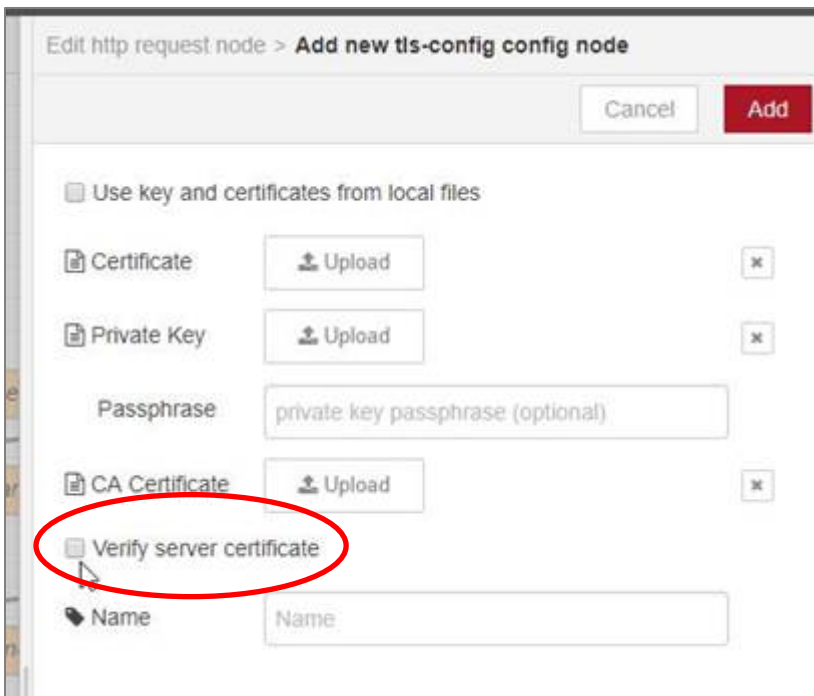
- Deploy your flow. Data should now publish to your OSIsoft PI System server.
- In your Node-RED flow, look for the **Edit http request node(s)** and, for each of them, double-click to see where you can select “**Enable secure (SSL/TLS) connection**”.



- In the drop-down for **TLS Configuration**, make sure that you have selected **Add new tls-config**.
TIP: you need only do this once, then re-use that config for each request node.



- In your new **tls-config**, make sure that the “**Verify server certificate**” checkbox is un-checked.



- Your data should now flow be flowing into the OSIsoft PI System.

ADVANTECH TECHNICAL SUPPORT

USA/Canada: 1 (800) 346-3119 (Ottawa IL USA location)
Europe: +353 91 792444 (Ireland location)
Email: support@advantech-bb.com
Web: www.advantech.com

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