OPC Lab

Lars Rikard Rådstoga | 223786

2022-02-17

# Introduction

I’m gonna try to use the following technology stack:

NI OPC Server- It has a very similar interface to KEPServerEX which we use at work.

LabVIEW as it is required.

Python as we use it for work.

# Results

ASDF

## Read temperature data into LabVIEW

I can do this in the lab later.

## OPC DA: Send temperature data using LabVIEW to OPC server

Asdf

Graphical user interface, application

Description automatically generated

Figure 2‑1

Diagram

Description automatically generated

Figure 2‑2

Graphical user interface

Description automatically generated with medium confidence

Figure 2‑3

## OPC DA: Read temperature data from OPC Server using LabVIEW

A picture containing chart

Description automatically generated

Figure 2‑4

A picture containing chart

Description automatically generated

Figure 2‑5

Chart, waterfall chart

Description automatically generated

Table

Description automatically generated

Graphical user interface, chart

Description automatically generated

## OPC UA using LabVIEW

Server

Graphical user interface, text, application, chat or text message

Description automatically generated

**Diagram

Description automatically generated with low confidence**

**Writer**

**Diagram, schematic

Description automatically generated**

**Graphical user interface, text, application, chat or text message

Description automatically generated**

**Read**

**A picture containing graphical user interface

Description automatically generated**

## OPC with Python

Text

Description automatically generated

# Summary

Appendices

Appendix A: Testing ping to a connected node

Appendix B: testing ping to all local nodes

# Appendix A:

import asyncio

from asyncua.client import Client

import time

async def read\_file():

    """https://github.com/FreeOpcUa/opcua-asyncio/blob/master/examples/client\_to\_kepware.py"""

    url = "opc.tcp://DESKTOP-IM0LL0U:49580"

    async with Client(url=url) as client:

        while True:

*# Do something with client*

            node = client.get\_node('ns=2;s=Process Data.Temperature')

            print(f"tag1 is: {node} with value {await node.read\_value()} ")

            time.sleep(1)

if \_\_name\_\_ == "\_\_main\_\_":

    asyncio.run(read\_file())

# Appendix B: