# LabVIEW OPC DA

How Do we Communicate with an OPC Server using LabVIEW?

With Hands-on Examples

Hans-Petter Halvorsen, M.Sc.

# Software

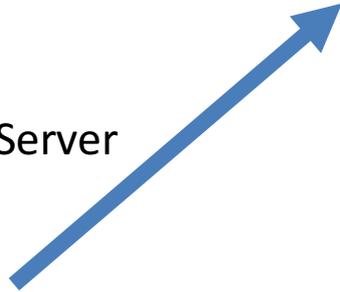You need the following Software:

- LabVIEW (LabVIEW Professional Development System 32-Bit: English)

- MatrikonOPC Simulation Server (Free Download) – or you can use another OPC DA Server

All LabVIEW Software can be downloaded from: www.ni.com/download
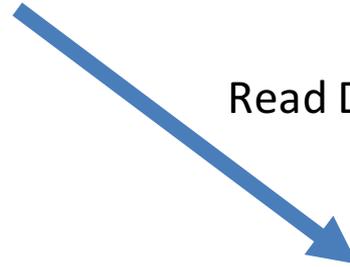
# MatrikonOPC

Write Data to OPC Server

Read Data from OPC Server

In this Example LabVIEW Application #1 and LabVIEW Application #2 are on the same computer. Normally they are located on 2 different computers in a Network.
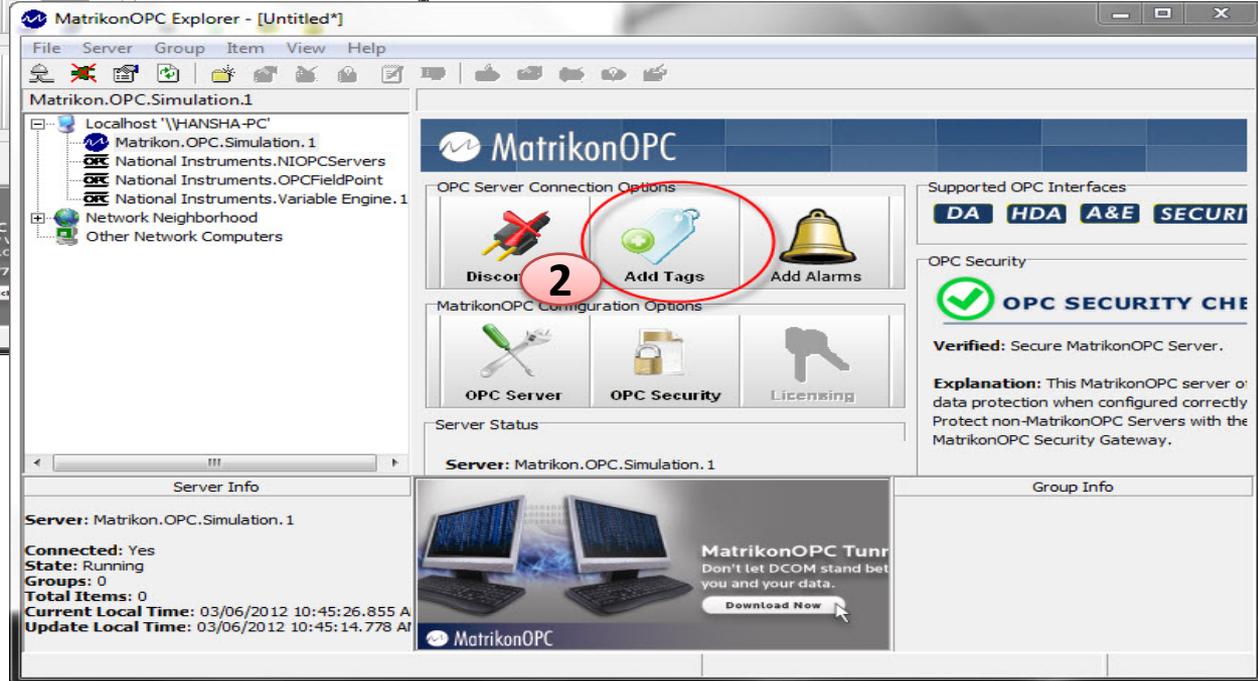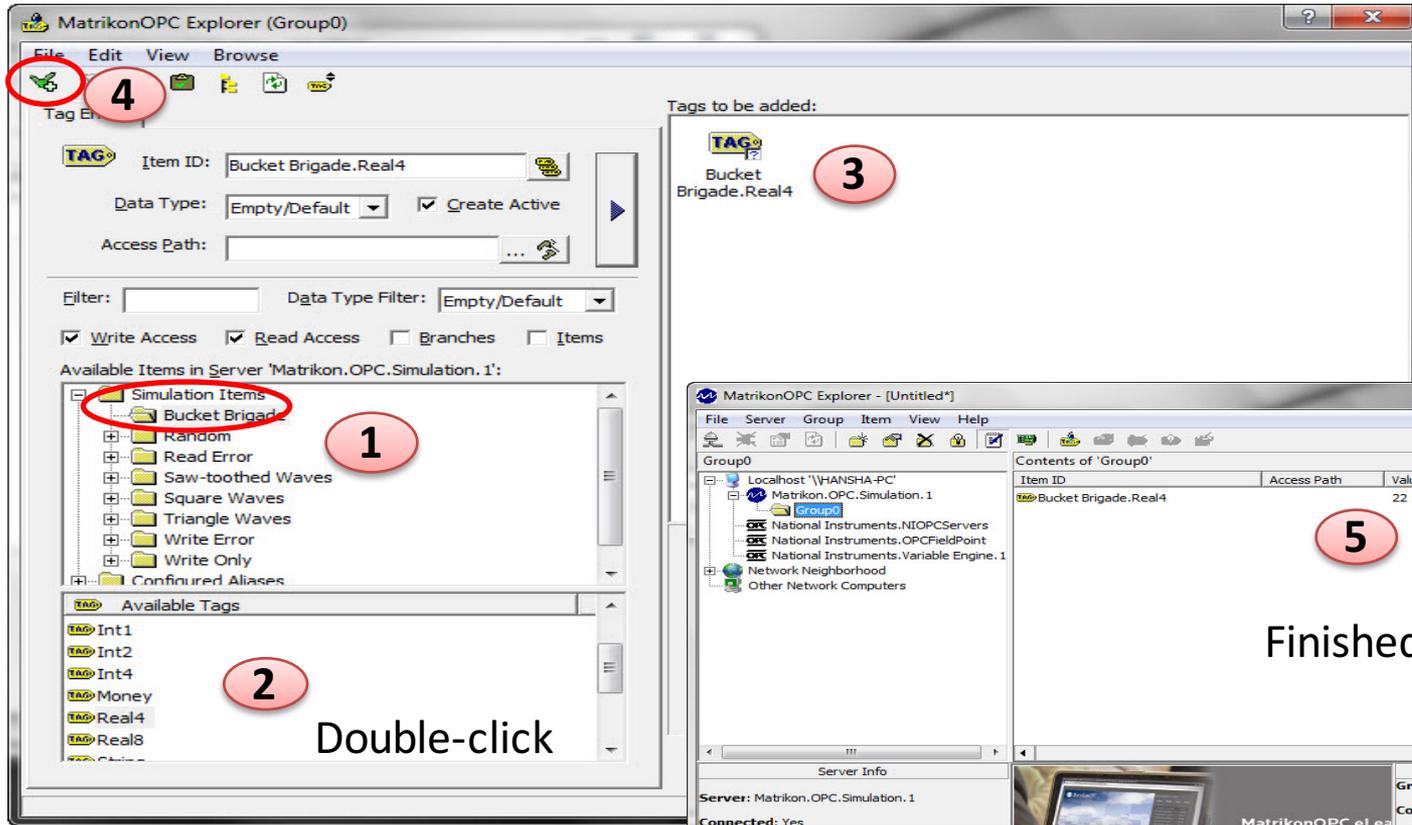
LabVIEW Application #1

LabVIEW Application #2

# Matrikon OPC Simulation server

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# Matrikon OPC Explorer – Connect to Server

# Matrikon OPC Explorer - Add Tags



Use the **BucketBrigade** Items – because they can be used for both reading and writing

# MatrikonOPC Explorer (OPC Client)



The MatrikonOPC Explorer is useful for testing. You can use it for writing and reading OPC Tags
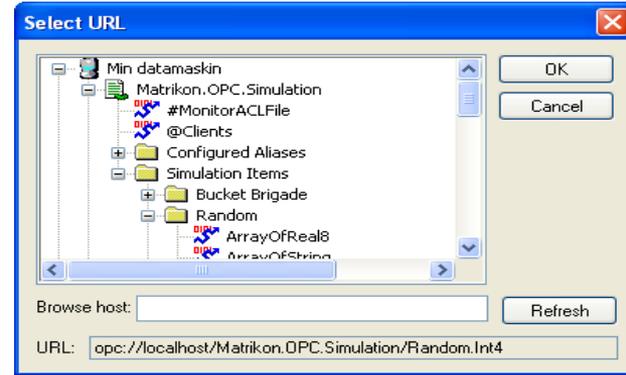
# OPC in LabVIEW

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# The OPC Functions in LabVIEW

You can use LabVIEW as an OPC client by connecting to an OPC server through a **DataSocket** connection.

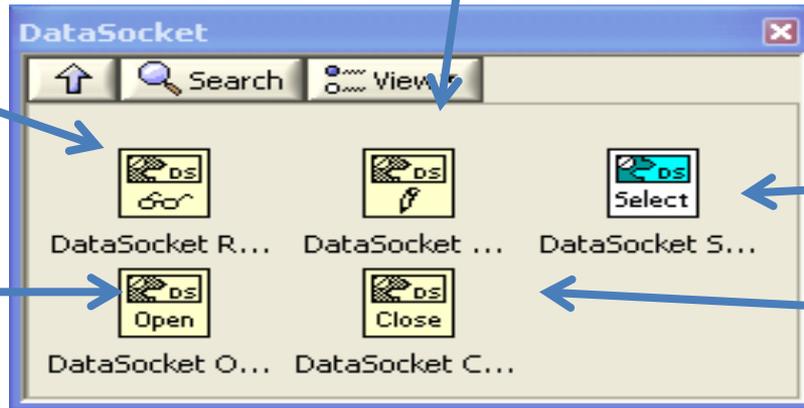The **DataSocket** palette in LabVIEW:

Write Data to OPC

Read Data from OPC

Browse OPC Servers and OPC Items

Open Connection to OPC Server
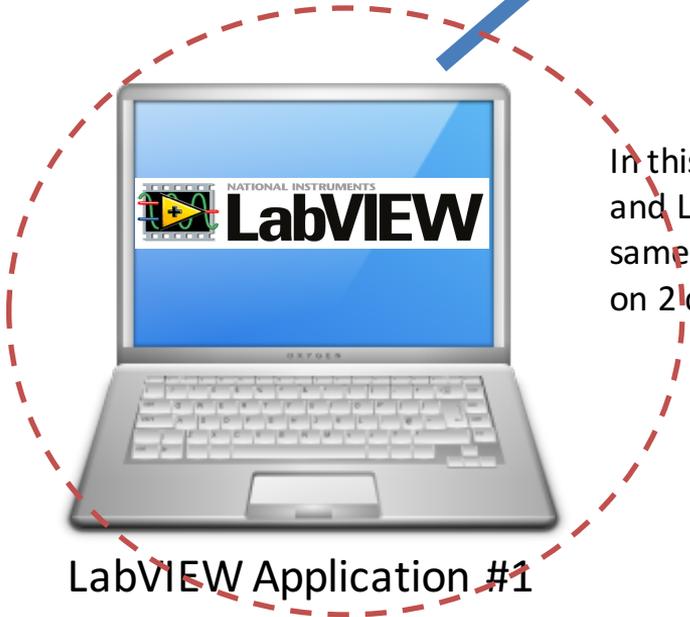
Close Connection to OPC Server

# OPC Write in LabVIEW
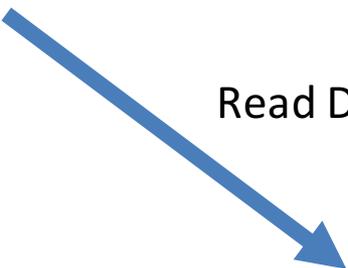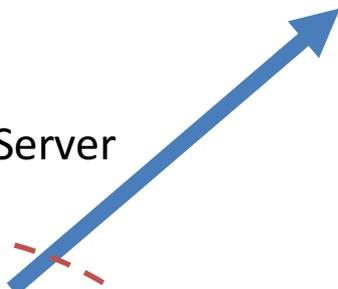
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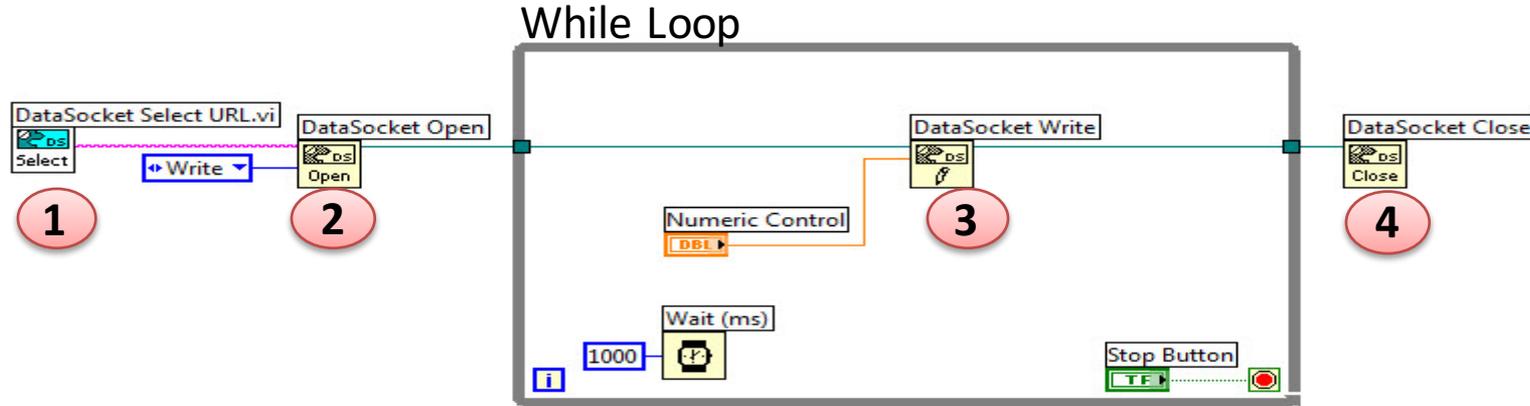MatrikonOPC

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Read Data from OPC Server

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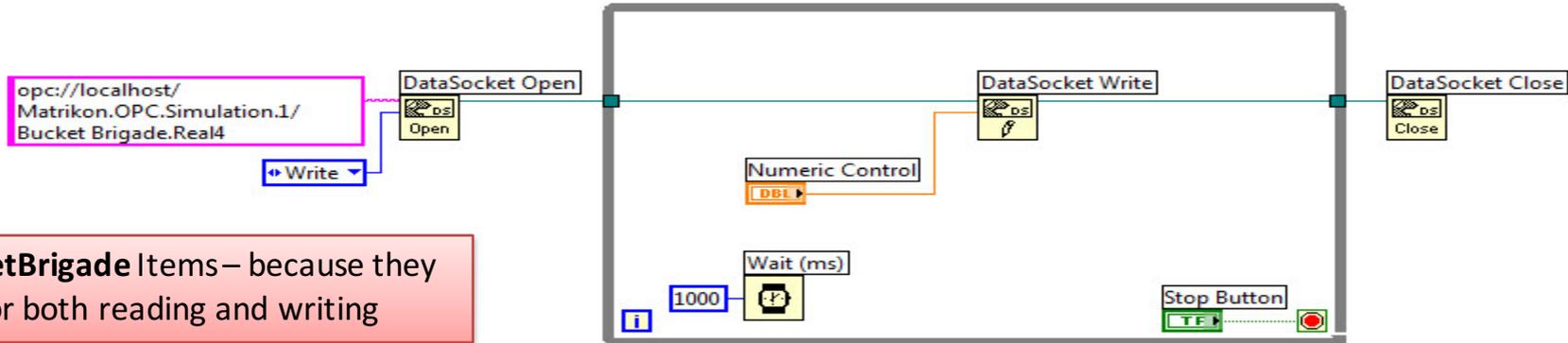
LabVIEW Application #1
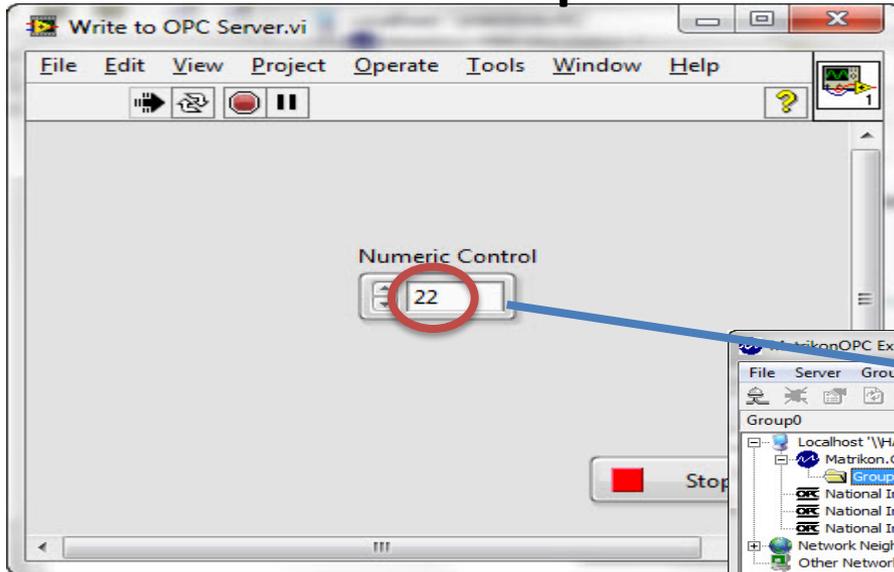
LabVIEW Application #2

# Write to OPC Server using LabVIEW



Or specify URL directly:

Use the **BucketBrigade** Items – because they can be used for both reading and writing

# Use OPC Explorer to Check Communication



Run the LabVIEW program and use the Matrikon OPC Explorer to check if the data is correctly written to the OPC server from LabVIEW
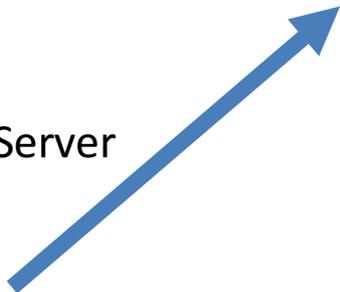
Lets Create the Example from Scratch

# OPC Read in LabVIEW

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MatrikonOPC

Write Data to OPC Server

Read Data from OPC Server

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LabVIEW Application #1

LabVIEW Application #2

# Read from OPC Server using LabVIEW

Lets Create the Example from Scratch
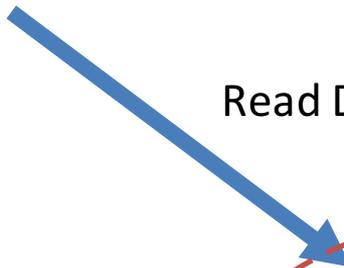
MatrikonOPC

Write Data to OPC Server
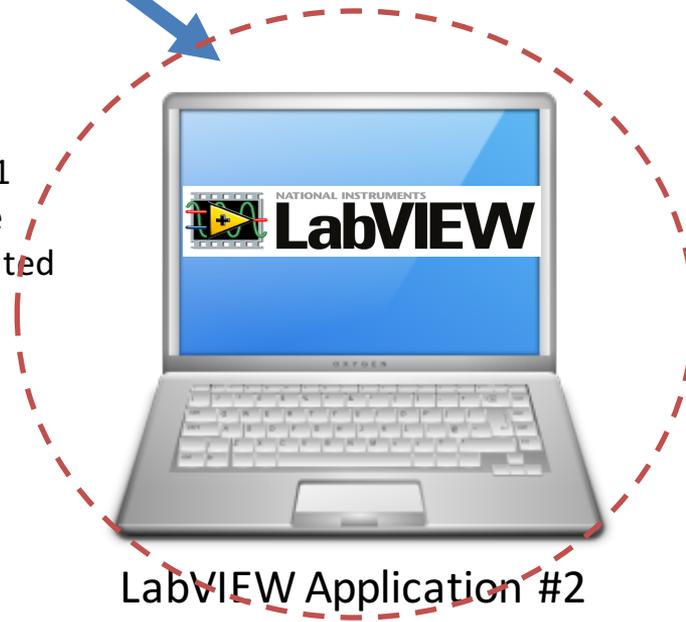
Read Data from OPC Server

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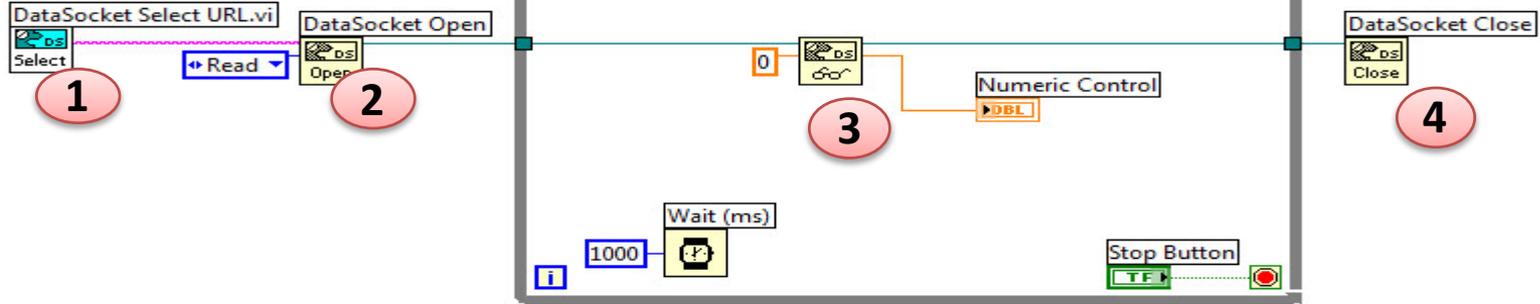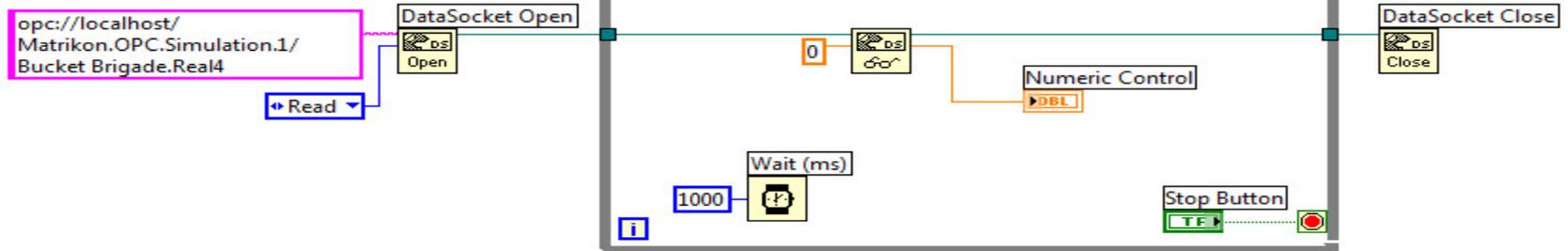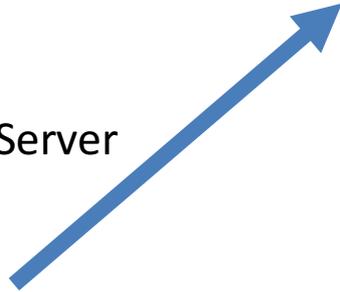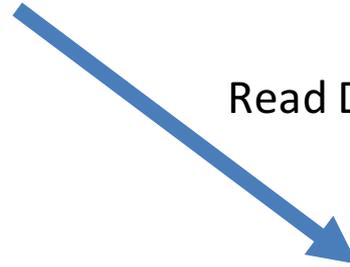
LabVIEW Application #1

LabVIEW Application #2

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