# Advanced Tags Plug-in for KEPServerEX®

KEPServerEX plug-ins provide functionality that goes beyond data communications between client, server, and device. With the Advanced Tags Plug-in, data processing can be centralized on the communication server rather than dispersed across many client applications. The Advanced Tags Plug-in includes functionality to link two data tags, set a trigger based on logical states, and calculate new values from raw measures.

Getting Started

Step 1:
In the KEPServerEX Configuration's View Selector, choose Advanced Tags.

Step 2:
Next, create tags using the quick-add icons located in the toolbar.

Step 3:
Finally, define groups to help organize Advanced Tags.
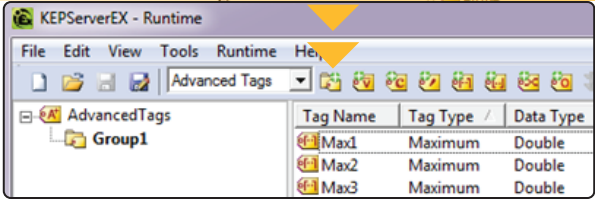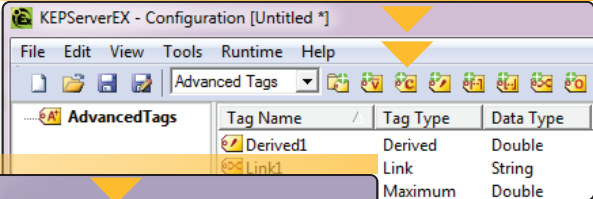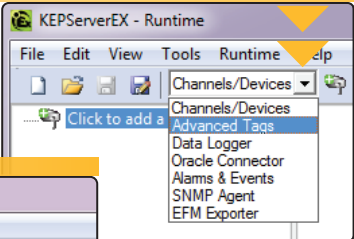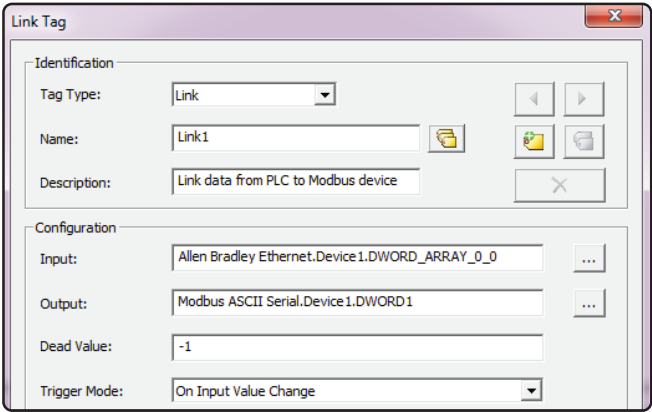
Types of Tags

Link Tag

Link Tags allow users to transfer data between two existing tags in the server. For example, the user can take an output from an Allen-Bradley Programmable Logic Controller (PLC) and use it as an input for a Modbus register.

Data link trigger options:

- Data value change
- Time based
- Value comparison

The Link Tag can be used in many different applications. The user can trigger cooling if a device temperature goes too high, or force a dead or default output value to stabilize the production process if the control input is of bad quality.

Types of Tags (continued)

Derived Tag

Derived Tags execute a math or logic operation using existing tags in the server. Expressions can be created using device tags and supporting operators. For example, in order to calculate power, the user may subtract a DC offset from the voltage data, and then take the square of a voltage and divide by measured resistance.

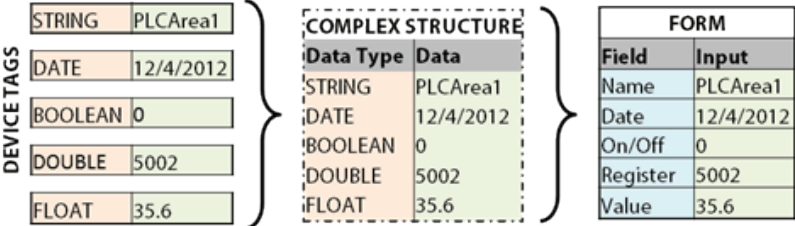**Configuration**

Data type: Double

Expression:

POW(TAG (Channel1.SolarDevice1.Voltage1), 2) / TAG (Channel1.SolarDevice1.Resistance1)

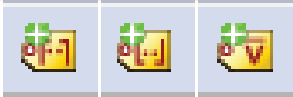| Logical Operators		Mathematical Operators	
Equal To	And	Add and Subtract	Absolute
Greater Than	Not	Multiply and Divide	Cosine, Sine, and Tangent
Less Than	Or	Modulo	Arc Cosine, Arc Sine, and
		Power	Arc Tangent
		Square Root	

Complex Tag

Complex Tags allow users to unify several tags into one complex XML structure. This is helpful if the client only accepts sets of data in a specific format. Each separate tag in the server can be designated as an Element in the Complex Tag. Users can trigger updates based on a zero to non-zero transition or at a set rate.

DEVICE TAGS

STRING	PLCArea1
DATE	12/4/2012
BOOLEAN	0
DOUBLE	5002
FLOAT	35.6

COMPLEX STRUCTURE

Data Type	Data
STRING	PLCArea1
DATE	12/4/2012
BOOLEAN	0
DOUBLE	5002
FLOAT	35.6

FORM

Field	Input
Name	PLCArea1
Date	12/4/2012
On/Off	0
Register	5002
Value	35.6

Maximum, Minimum, and Average Tags

Maximum, Minimum, and Average Tags allow the user to perform simple yet useful analysis on data, and trigger the computation on a zero to non-zero transition or at a set rate.

For example, users can do the following:

- Find the minimum or maximum of part sizes in a production line to ensure the products are within acceptable tolerances.
- Average processing times over a day or several days to create a benchmark.

Oracle Cumulative Tag

Oracle Cumulative Tags allows users to determine the difference between a tag's current and previous values. This tag is defined by Oracle and is available to all OPC Client applications. For example, the cumulative value for a counter that ranges from 0 to 100 would be calculated as displayed in the table below.

Samples	Server Reports
5 @ 10:00	5 @ 10:00 (raw value)
45 @ 10:01	40 @ 10:01 (45-5)
95@ 10:02	50 @ 10:02 (95-45)
4 @ 10:03	9 @ 10:03 ((4-95)+100)

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