Allen Bradley ControlLogix Ethernet Driver for KEPServerEX®

Allen-Bradley ControlLogix is a popular Programmable Logic Controller (PLC) model that offers a flexible address space and plenty of processing power.

Configurable Address Space

Modbus – fixed address space		AB ControlLogix – user-defined address space	
Address Range	Data Type	Address Range	Data Type
00001 – 09999	BOOL	MyFunOutput	FLOAT
10000 – 19999	BOOL	BoolArray1[0..100]	BOOL
30000 – 39999	WORD	Boiler1Status	STRING

Compare and contrast a fixed device with a fixed address space and those with a configurable address space. Users have the freedom to refer to an I/O point with any intelligent name desired (such as "Temperature" or "MyFunOutput") instead of with its raw register address (like "40001").

The Allen-Bradley ControlLogix Ethernet Driver for KEPServerEX has many options for communicating with these PLCs. These options may seem overwhelming, but unless you are a "power user" that needs to read thousands of tags from hundreds of devices, don't worry about them!

If you are just beginning, try the simple configuration for this driver as outlined below.

Follow the Steps

Step 1:

Create an Allen-Bradley ControlLogix Ethernet Channel and Device.

In the server Configuration, create a new channel and select the Allen-Bradley ControlLogix Ethernet Driver. Then click **Next**, and use the default settings for all other properties in the Channel Wizard.

Now, create a new device under that channel. In the Device Wizard's **Model** dialog, select the family of device model needed (for example, ControlLogix 5500) and then click **Next**. In **ID**, enter the device's IP address followed by ",1,0".

Note: Allen-Bradley ControlLogix controllers can be used as routers or gateways to other controllers connected via EthernetIP (EIP) or other communication lines like DH+ or ENI. That is why the Device Model list includes options like "EIP Gateway: PLC-5". These devices can be reached by selecting the appropriate model and then entering a connection string in Device ID.
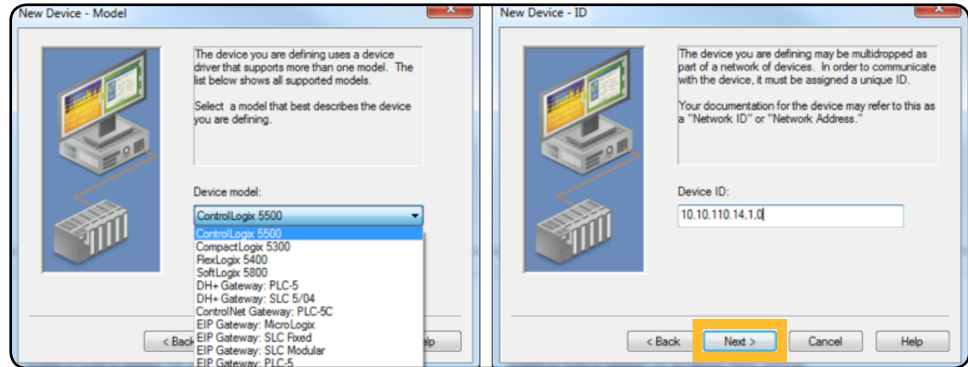
In this example, we will use a Logix 5563 (L63) controller. We select the **ControlLogix 5500** model and then enter "[DeviceIPAddress],1,0" for the Device ID.

Once you have selected Device Model and entered the Device ID, use the default settings for everything else. Our default settings are there to simplify configuration and make the device work the first time.

If you ever want to come back to these settings after you have finished the wizard, right-click on the channel or device and select **Properties**.
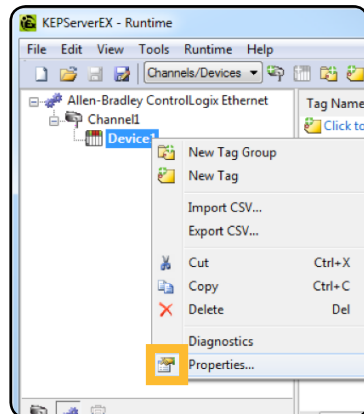

Step 2:

Perform Automatic Tag Generation (ATG) from the device.

Automatic Tag Generation uses the server to ping the physical PLC and request all the items configured in that device. An item is any data point or I/O that you have programmed in the device with RSLogix. After ATG, these items will appear with the same symbolic name in KEPServerEX. We call these data points "tags" in the server.

Automatic Tag Generation (ATG)

**Pull item information such as I/O points into server from the device**
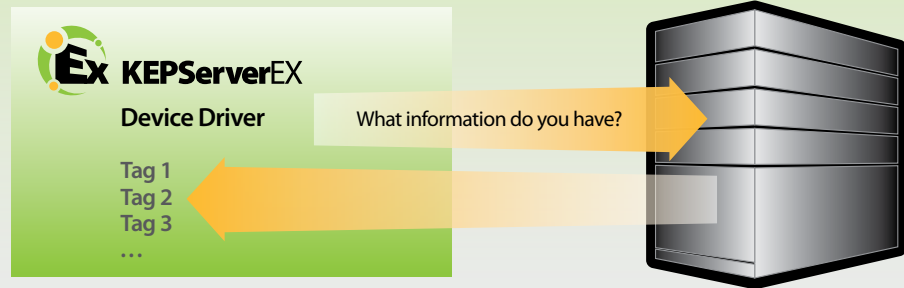
Once your device is physically connected to the PC via an Ethernet connection, you can perform ATG. To do so, simply right-click on the device in the server and select **Properties**. In the **Logix Database Settings** tab, you will see that the driver is set by default to create the tags from the PLC.
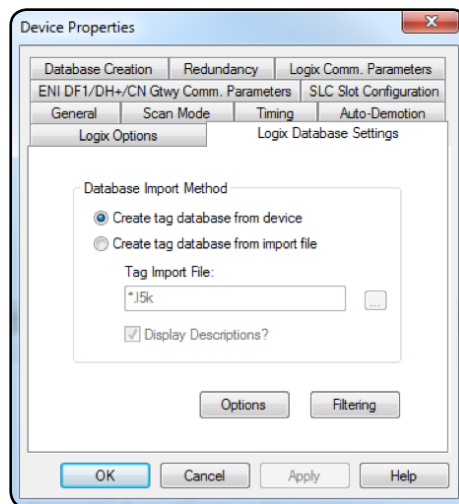
Note: Tags can also be generated from a file that users can export from RSLogix. This file typically has an ".l5k" extension. If you do not have a device physically connected to the server PC, you can use the .l5k file as an alternate method for performing ATG.

Next, open the **Database Creation** tab and click **Auto Create** to begin the process of generating tag items from the PLC. The events listed in your Event Log will reflect what the server is doing with the PLC and will show whether Automatic Tag Generation was successful.
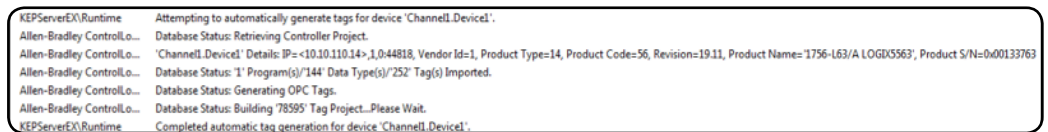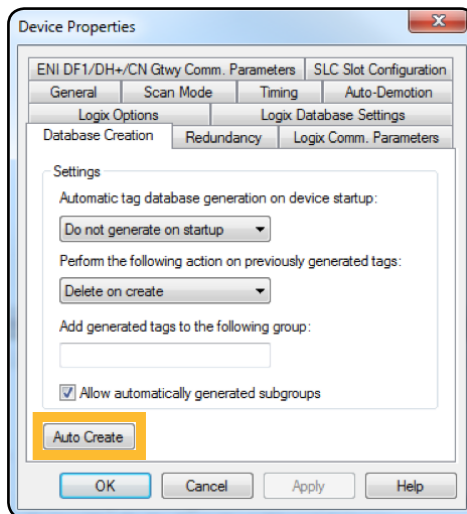
If the database creation fails, first check the IP Address specified in Device Properties. Then, make sure that you can ping the device's IP from your Windows command prompt. For additional assistance, contact Kepware's Technical Support at (207) 775-1660 x 211.

Step 3:

Connect with the Quick Client (QC) to see incoming data.

Once ATG has completed successfully, tags and tag group folders will be visible in KEPServerEX.
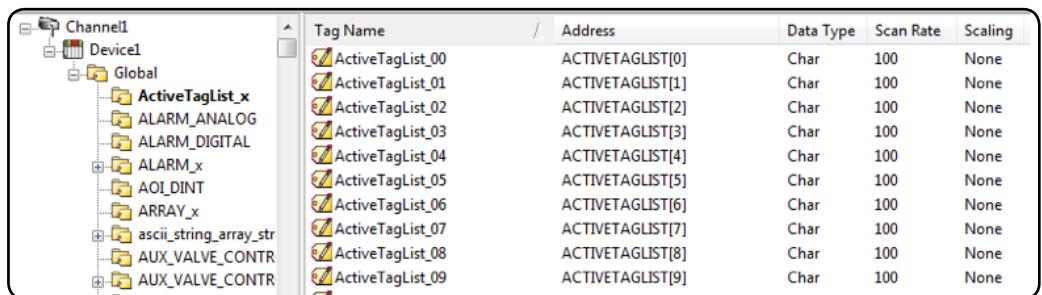
Click the Quick Client icon (located in the server toolbar) to launch a lite polling client that allows you to connect to the server and read/write all the server items. If there is a large amount of tags, the QC may take a few seconds to connect to the server and perform an initial update.

Select the folder labeled with the Allen-Bradley ControlLogix <ChannelName.DeviceName> created earlier. If the data Quality is "Good," then the device is successfully connected.
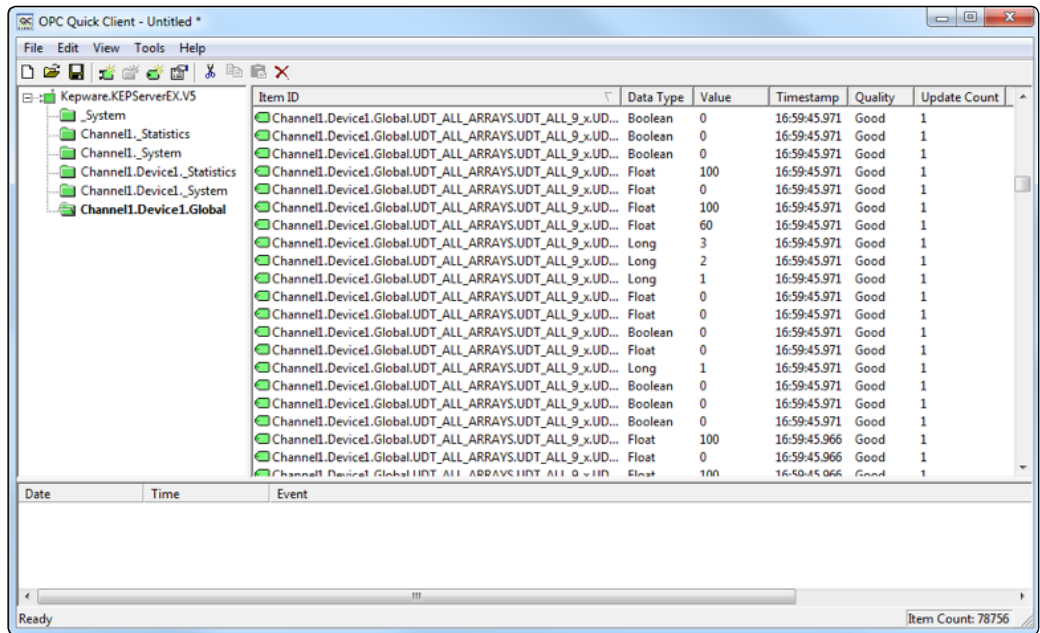
For optimization strategies and additional tips, refer to our **Allen-Bradley ControlLogix Ethernet Driver help file**.