

PO2021 与 BACnet IP 系统集成

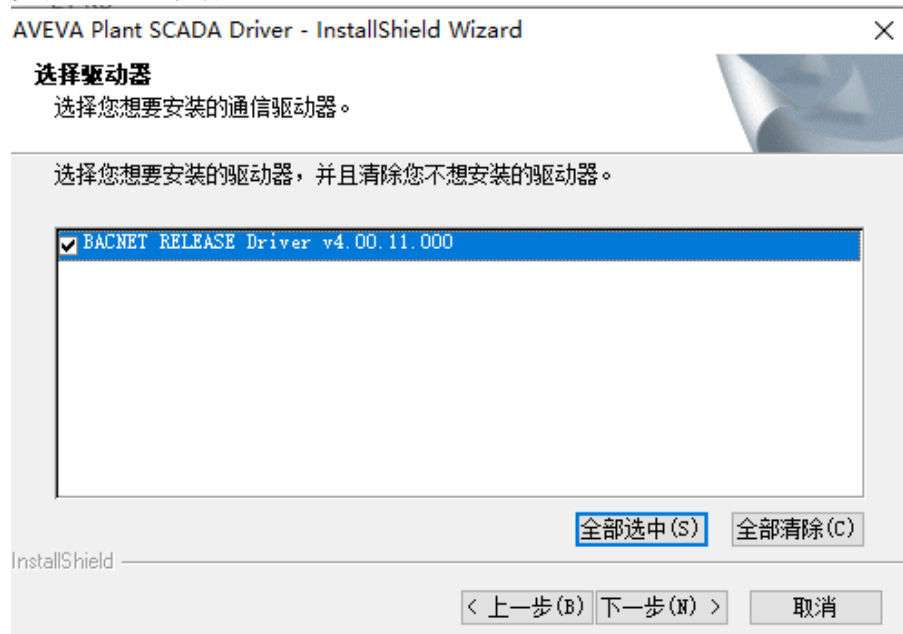
问题描述:

PO2021 如何与 BACnet IP 系统集成

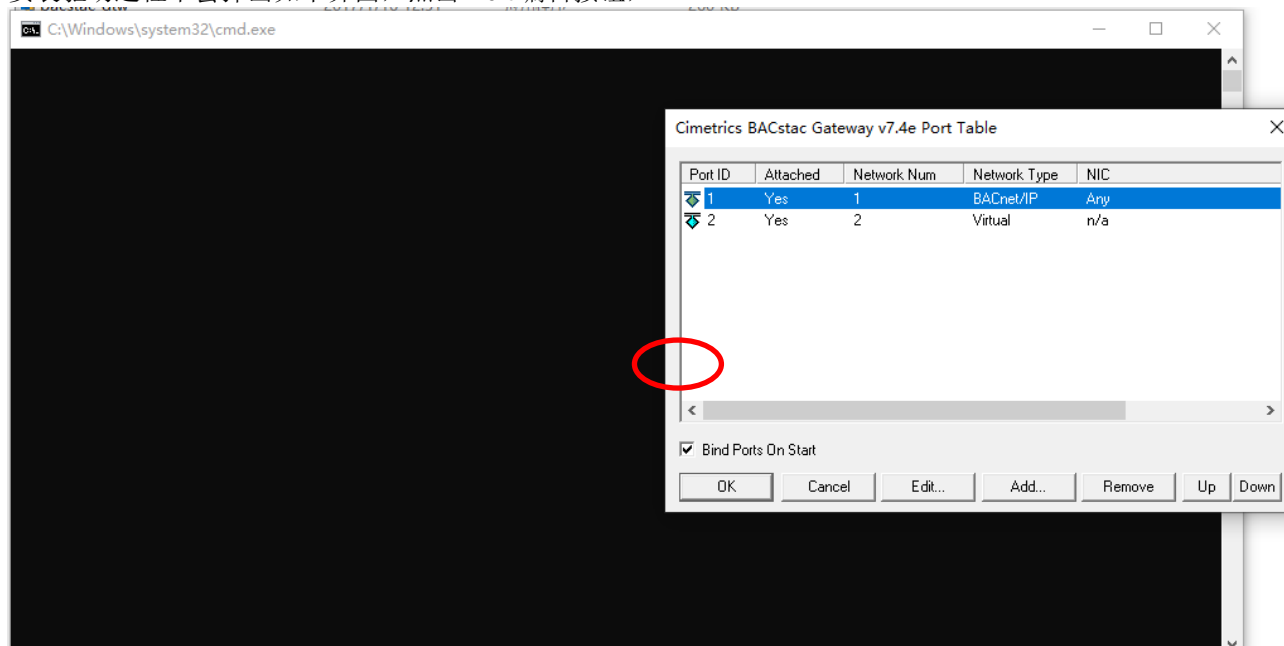
解决方案:

步骤如下:

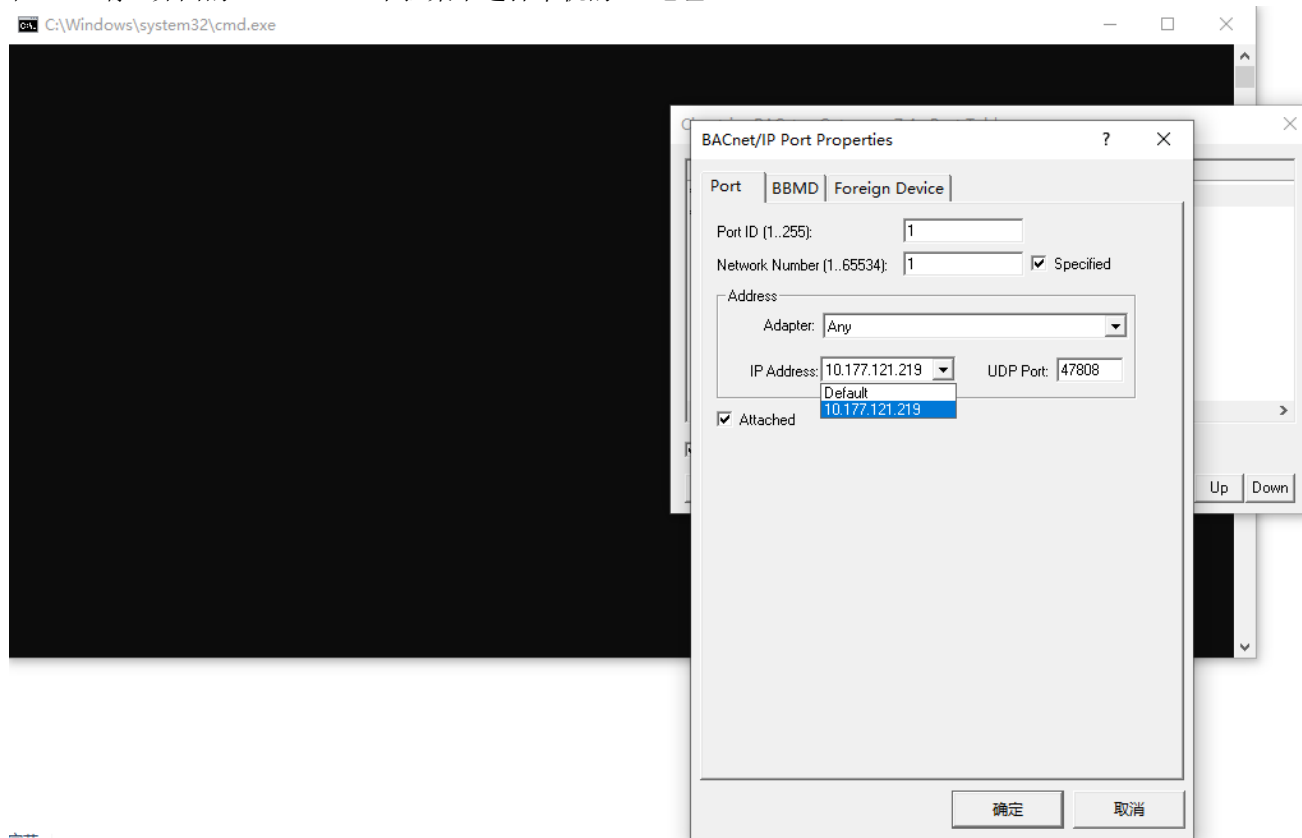
1. 安装 BACnet 驱动



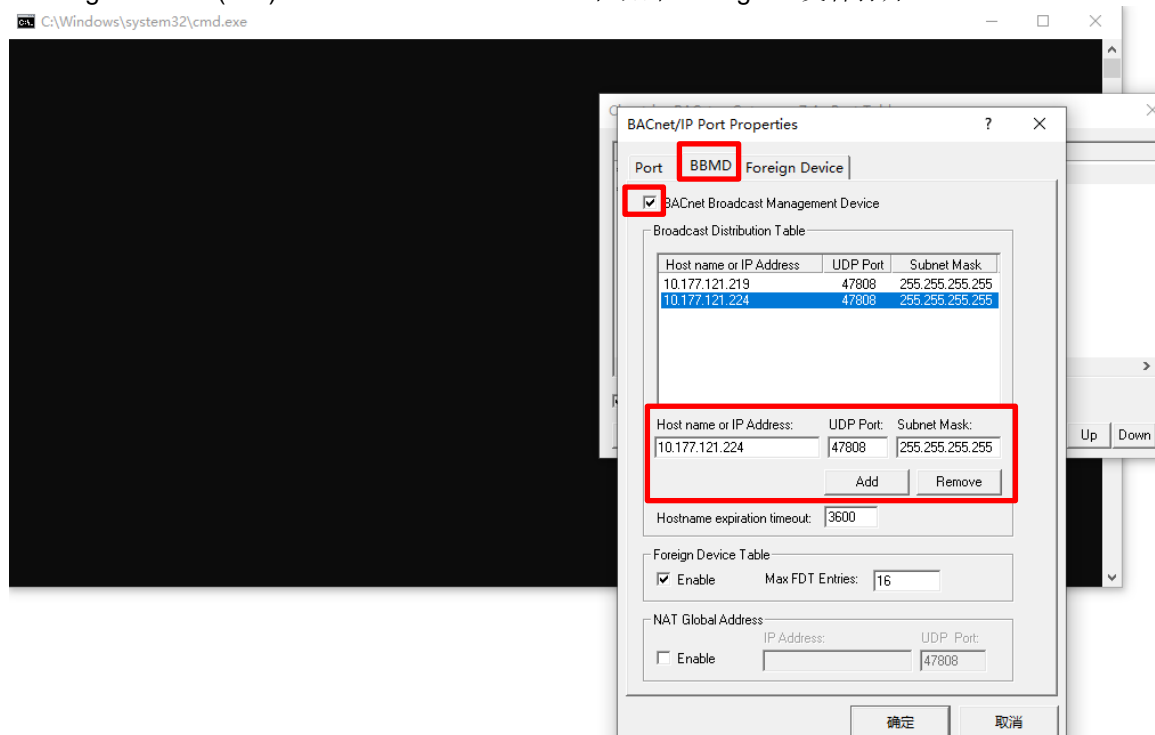
2. 安装驱动过程中会弹出如下界面，点击 Edit 编辑按钮，



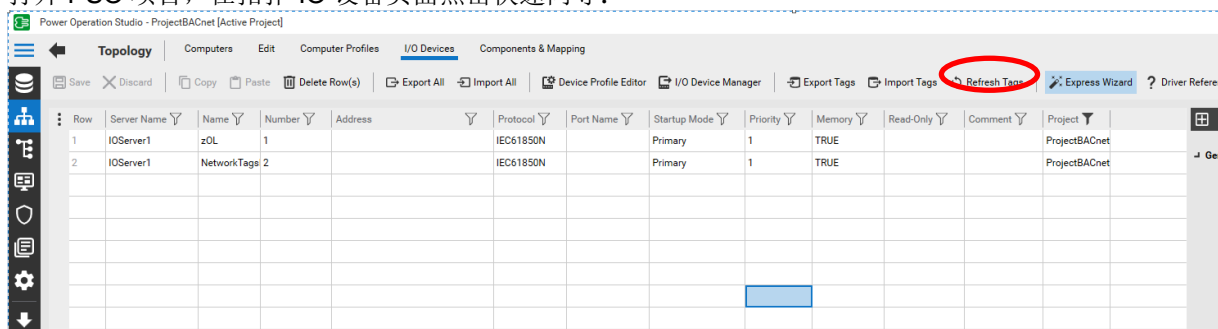
- 在 Port 端口界面的 IP Address 下拉菜单选择本机的 IP 地址



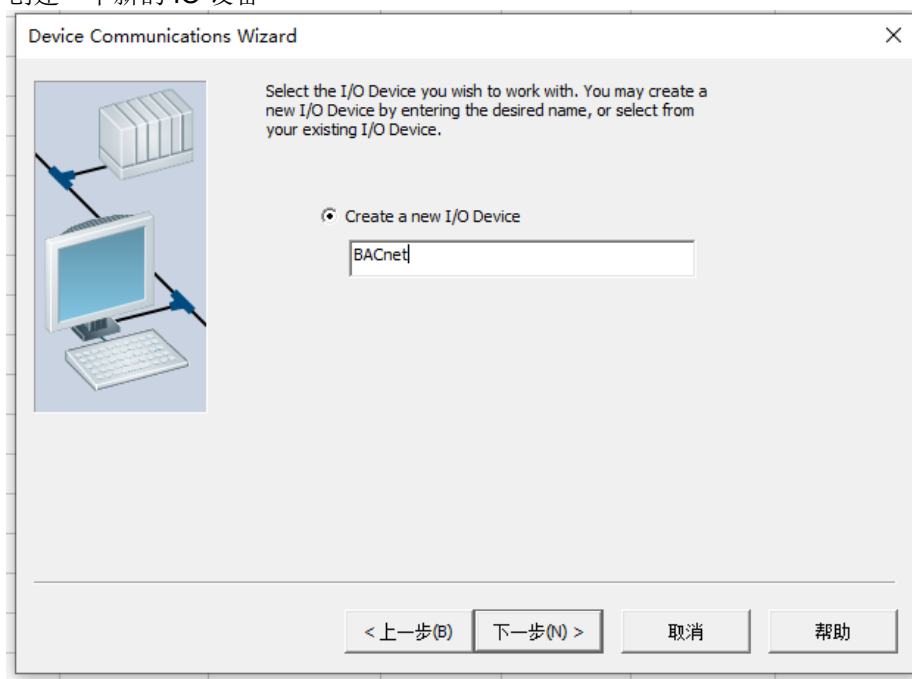
- 继续点击 BBMD 页面，勾选 BACnet Broadcast Management Device 前面的方框，然后在 Host Name or IP Address 栏填写 BACnet 设备的 IP 地址，填写默认端口号 47808，子网掩码 255.255.255.255，然后点击添加。勾选 Foreign Device Table 的 Enable 框，点击确定。出来后点击 OK，配置完成。如需更改此配置，也可以通过在如下路径 C:\Program Files (x86)\Cimetrics\BACstac v7.4e 下双击 baccfg.bat 文件打开。



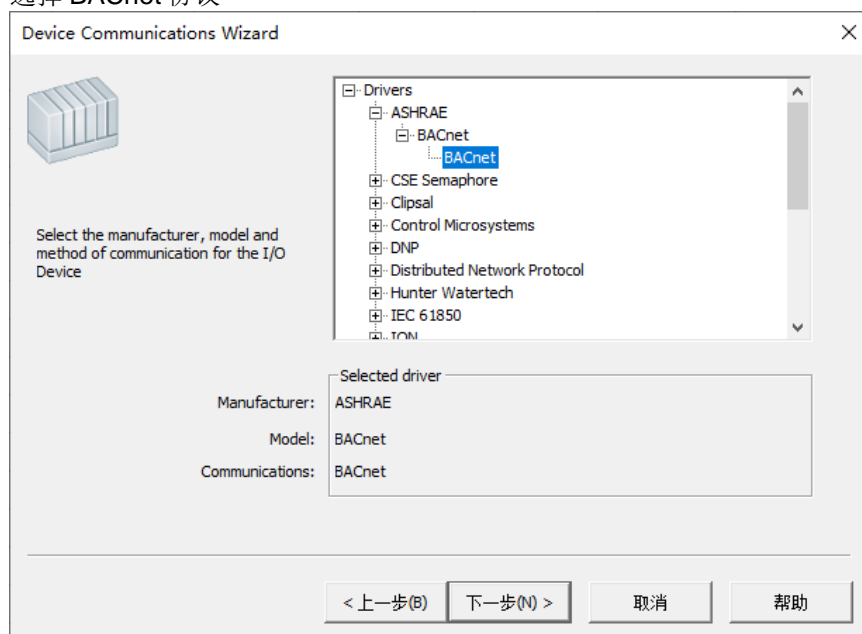
5. 打开 PSO 项目，在拓扑-IO 设备页面点击快速向导：



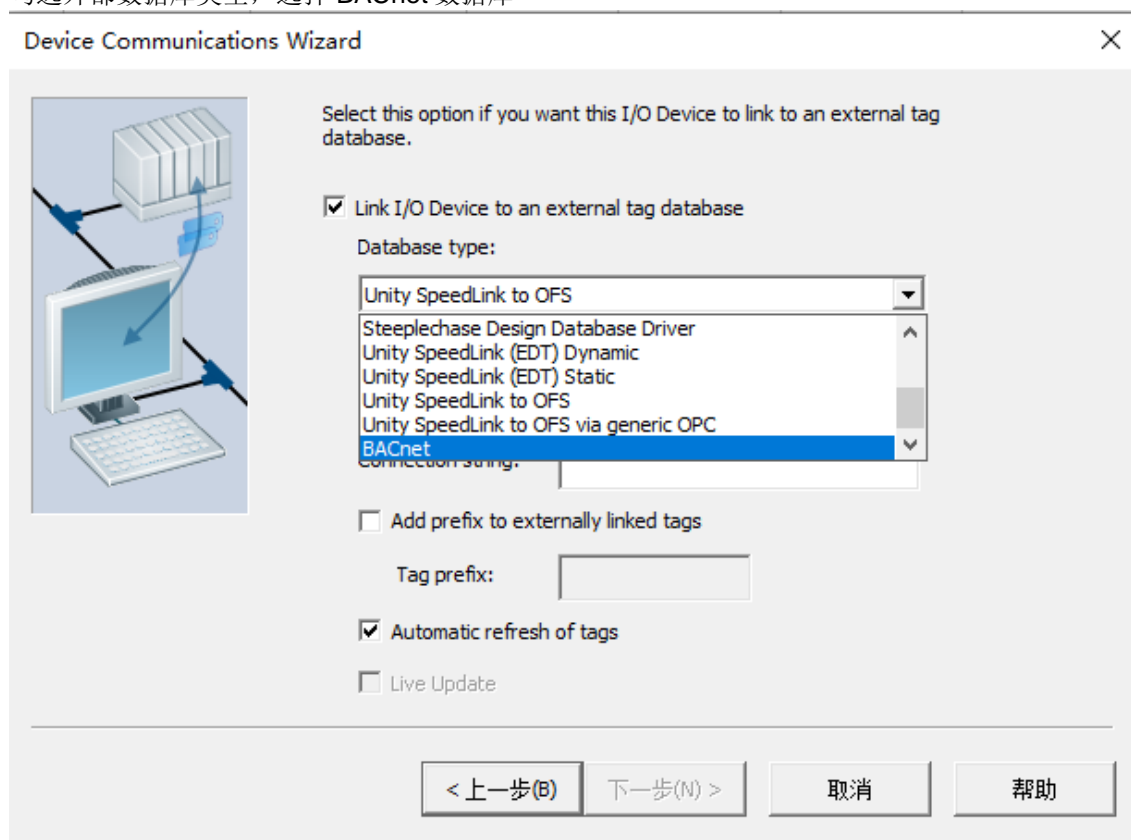
6. 创建一个新的 IO 设备



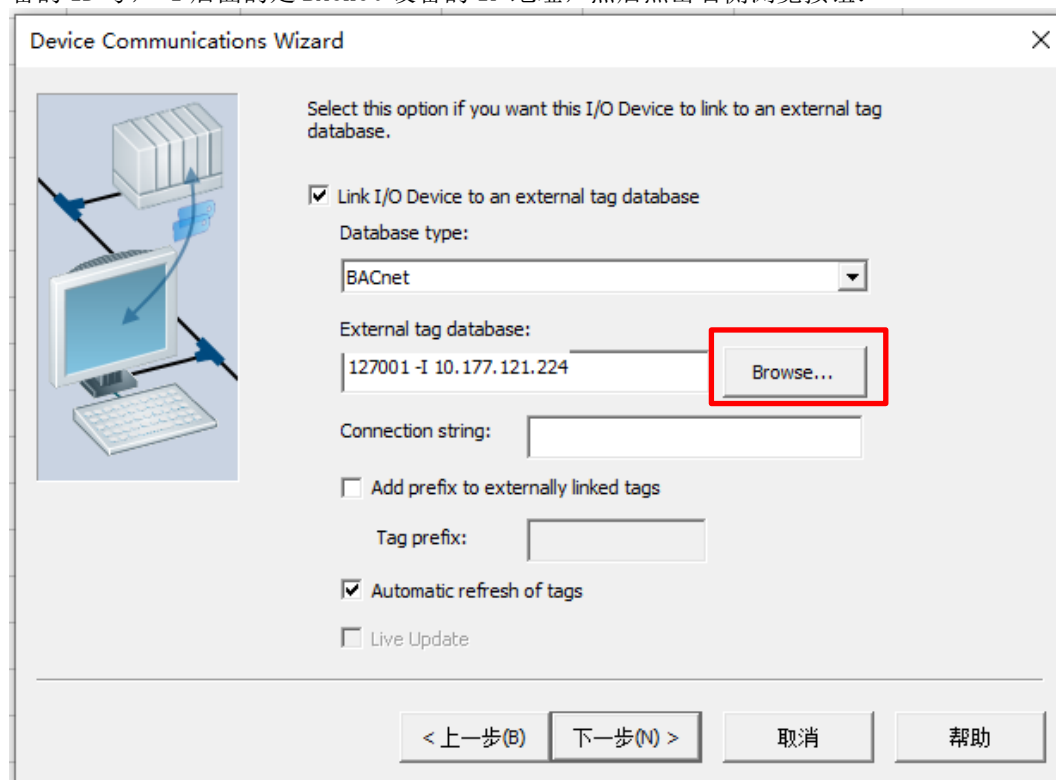
7. 选择 BACnet 协议



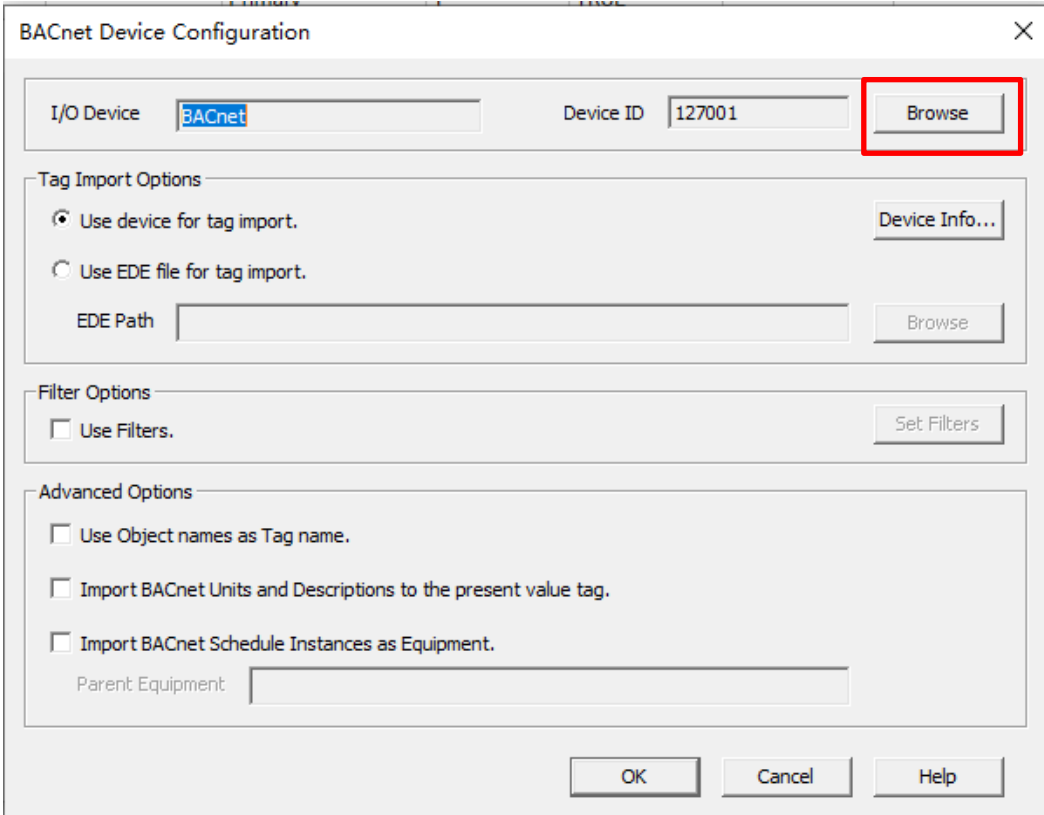
8. 勾选外部数据库类型，选择 BACnet 数据库



9. 在外部标签数据库处按照 id -I IP 格式填写 BACnet 设备的 ID 号和 IP 地址，格式如下图，其中 127001 是 BACnet 设备的 ID 号，-I 后面的是 BACnet 设备的 IP 地址，然后点击右侧浏览按钮：



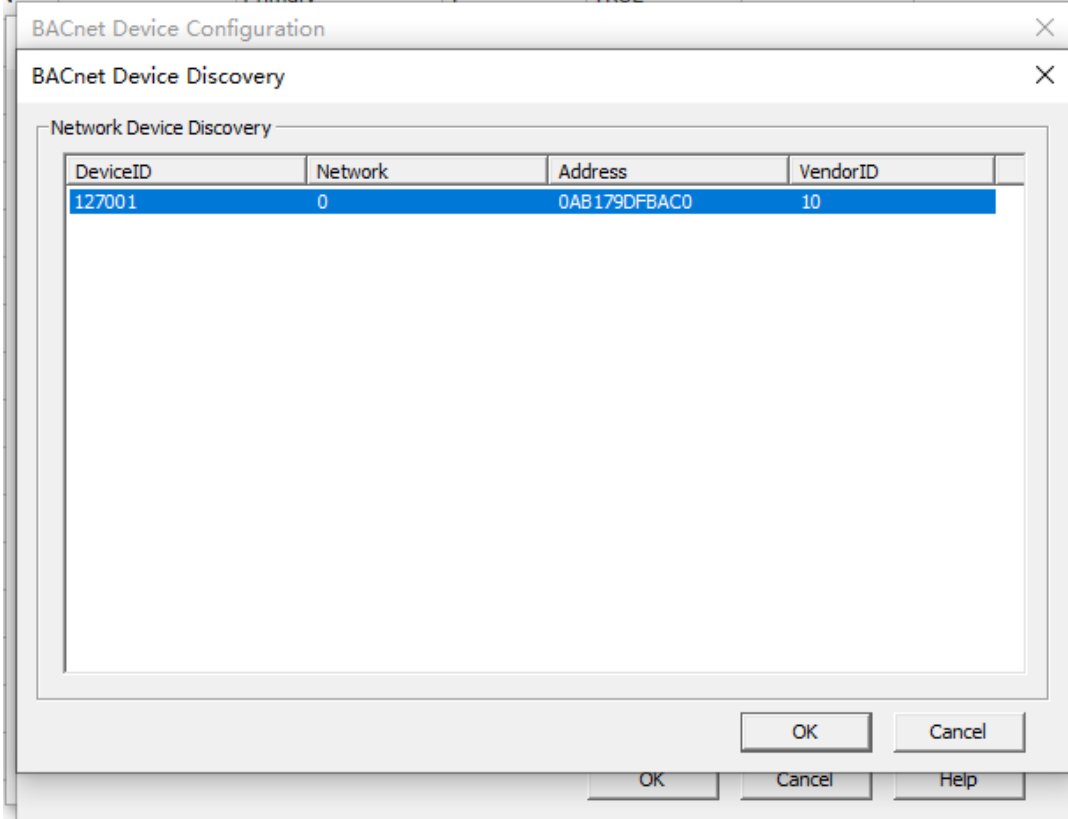
10. 进入 BACnet 设备配置界面，点击右侧浏览按钮：



The dialog box is titled "BACnet Device Configuration". It contains several sections:

- I/O Device:** A text field containing "BACnet".
- Device ID:** A text field containing "127001".
- Browse:** A button highlighted with a red rectangle.
- Tag Import Options:**
 - ☒ Use device for tag import.
 - ☐ Use EDE file for tag import.
 - EDE Path:** A text field.
 - Browse:** A button.
 - Device Info...** A button.
- Filter Options:**
 - ☐ Use Filters.
 - Set Filters** A button.
- Advanced Options:**
 - ☐ Use Object names as Tag name.
 - ☐ Import BACnet Units and Descriptions to the present value tag.
 - ☐ Import BACnet Schedule Instances as Equipment.
 - Parent Equipment:** A text field.
- Buttons:** OK, Cancel, Help.

11. 点击浏览按钮后会自动扫描到连接的 BACnet 设备，选中后点击 OK



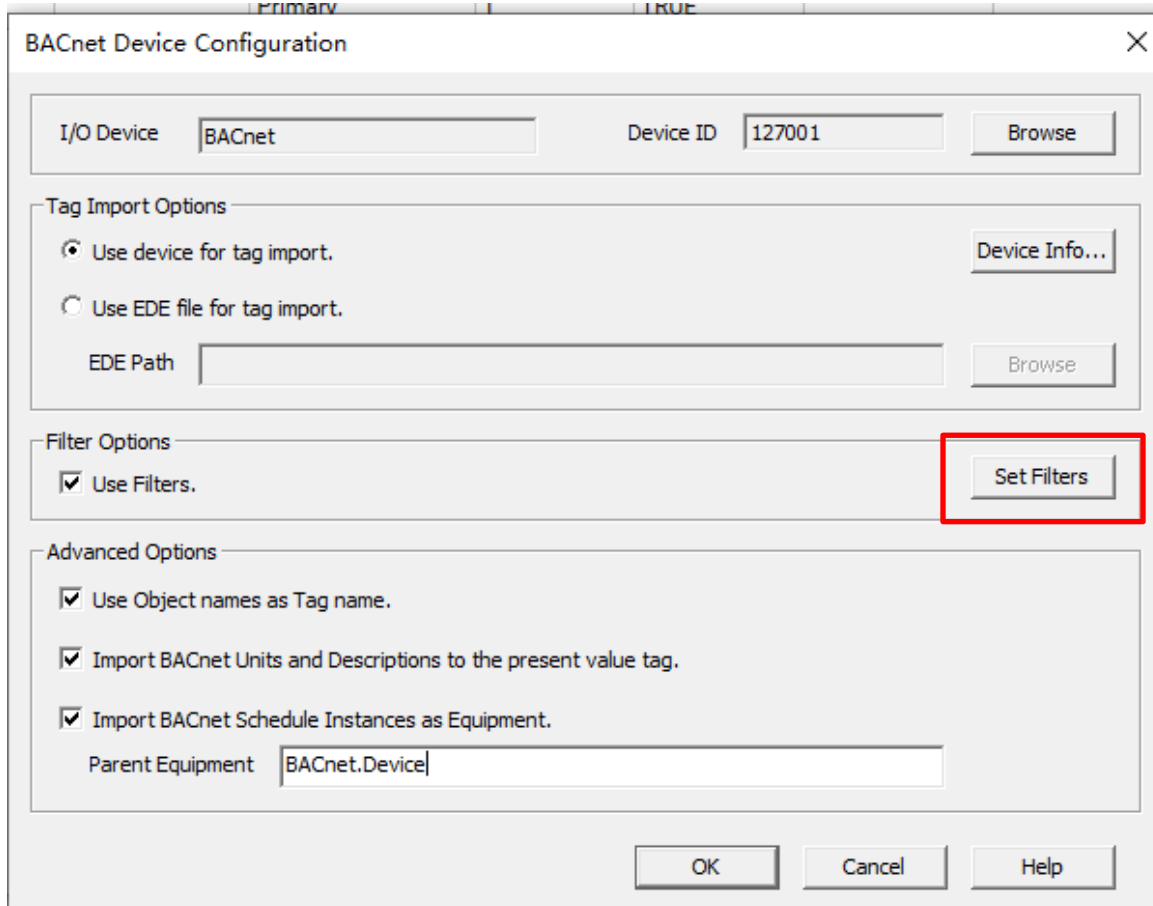
The dialog box is titled "BACnet Device Configuration". It contains a sub-dialog titled "BACnet Device Discovery".

The "BACnet Device Discovery" sub-dialog has a section titled "Network Device Discovery" which contains a table with the following data:

DeviceID	Network	Address	VendorID
127001	0	0AB179DFBAC0	10

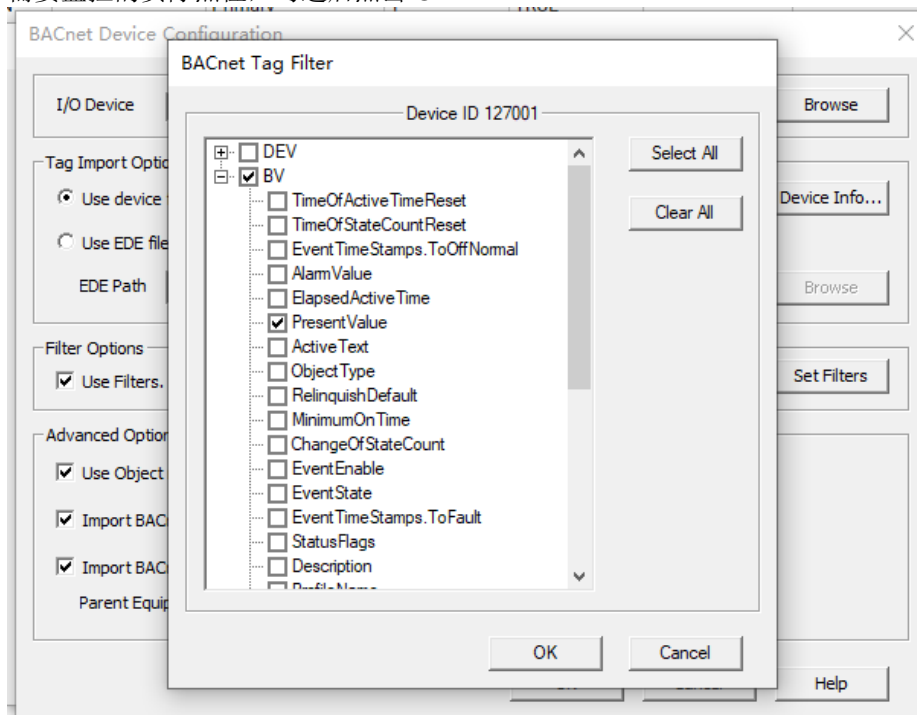
The first row of the table is highlighted in blue. The sub-dialog has OK and Cancel buttons. The main dialog also has OK, Cancel, and Help buttons.

12. 勾选下方的所有选项，并点击图中 Set Filters 按钮



The image shows the 'BACnet Device Configuration' dialog box. The 'I/O Device' is set to 'BACnet' and the 'Device ID' is '127001'. Under 'Tag Import Options', 'Use device for tag import.' is selected. Under 'Filter Options', 'Use Filters.' is checked. Under 'Advanced Options', 'Use Object names as Tag name.', 'Import BACnet Units and Descriptions to the present value tag.', and 'Import BACnet Schedule Instances as Equipment.' are all checked. The 'Parent Equipment' is set to 'BACnet.Device'. The 'Set Filters' button is highlighted with a red rectangle.

13. 打开变量选择对话框，打开后会自动扫描到 BACnet 设备的所有变量，BV 下面的 Present Value 是 BACnet 设备上需要监控的实际点位，勾选后点击 OK



The image shows the 'BACnet Tag Filter' dialog box, which is a sub-dialog of the 'BACnet Device Configuration' dialog. It displays a list of variables for Device ID 127001. The 'DEV' checkbox is unchecked, and the 'BV' checkbox is checked. Under the 'BV' section, 'Present Value' is checked, while other variables like 'TimeOfActiveTimeReset', 'TimeOfStateCountReset', 'EventTimeStamps.ToOffNormal', 'AlarmValue', 'ElapsedActiveTime', 'ActiveText', 'ObjectType', 'RelinquishDefault', 'MinimumOnTime', 'ChangeOfStateCount', 'EventEnable', 'EventState', 'EventTimeStamps.ToFault', 'StatusFlags', and 'Description' are unchecked. The 'Select All' and 'Clear All' buttons are visible on the right.

14. 然后点击 OK 进入下一步，直到完成。
15. 在 IO 设备界面为 BACnet 设备填写地址

Power Operation Studio - ProjectBACnet [Active Project]

Topology Computers Edit Computer Profiles I/O Devices Components & Mapping

Save Discard Copy Paste Delete Row(s) Export All Import All Device Profile Editor I/O Device Manager Export Tags Import Tags Refresh Tags Express Wizard ? Driver

Row	Server Name	Name	Number	Address	Protocol	Port Name	Startup Mode	Priority	Memory	Read-Only	Comment	Project
1	IOServer1	zOL	1		IEC61850N		Primary	1	TRUE			ProjectBACnet
2	IOServer1	NetworkTags	2		IEC61850N		Primary	1	TRUE			ProjectBACnet
3	IOServer1	BACnet	3	127.0.0.1 10.177.121.224	BACnet	PORT1_BOARD1						ProjectBACnet

16. 在设备页面手动创建一个设备，如图：

System Model Equipment Variables Alarms Trends Accumulators SPC

Save Discard Copy Paste Delete Row(s) Export All Import All Equipment Editor Update Equipment

Model

Row	Name	Cluster Name	Display Name	Type	Page	Content	Help	Comment	Tag Prefix	I/O Device	Hidden	Scheduled	Default State	Schedule
1	Virtual.OneLineDevice	c1		System Devi						zOL				
2	Virtual.NetworkTagsDev	c1		System Devi						NetworkTagsDev				
3	Virtual.System	c1		System										
4	BACnet.Device	c1								BACnet				

17. 在变量页面为 BACnet 变量选择对应的设备和集群

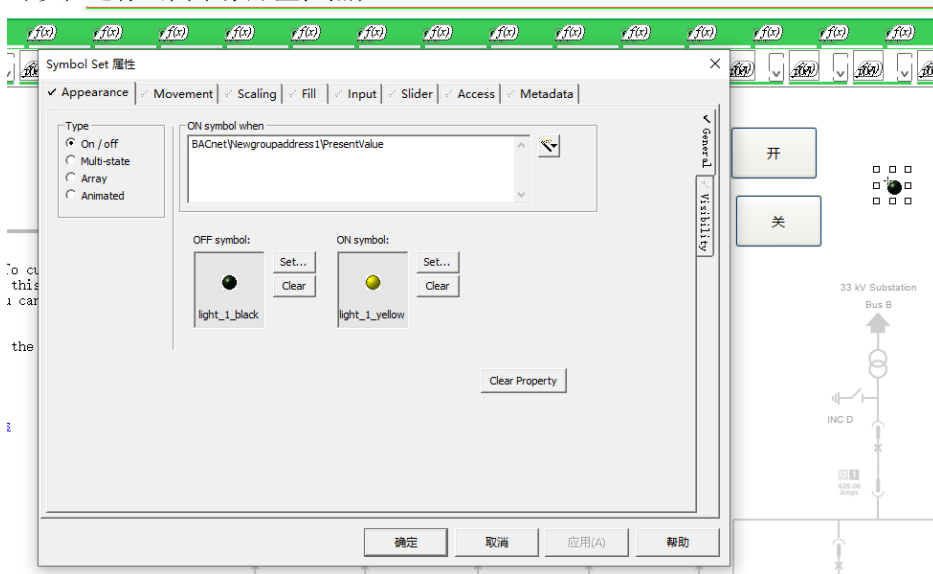
System Model Equipment Variables Alarms Trends Accumulators SPC

Save Discard Copy Paste Delete Row(s) Export All Import All Refresh All Tags

Variables

Row	Equipment	Item Name	Tag Name	Cluster Name	I/O Device	Data Type	Address	Comment	Eng Zero Scale
1	BACnet.Device	BACnet\Newgroupaddress1\Present	c1	BACnet	DIGITAL	BV.1.PresentValue	New group address #1 (0/0/1)		
2	BACnet.Device	BACnet\Newgroupaddress1\Present	c1	BACnet	DIGITAL	BV.2.PresentValue	New group address #1 (0/0/2)		
3	BACnet.Device	BACnet\Newgroupaddress2\Present	c1	BACnet	DIGITAL	BV.3.PresentValue	New group address #2 (0/0/3)		
4	BACnet.Device	BACnet\Newgroupaddress3\Present	c1	BACnet	DIGITAL	BV.4.PresentValue	New group address #3 (0/0/4)		
5	Virtual.NetworkTagsDev	PLSALM_SOUND_LEVEL	c1	NetworkTagsDev	INT	PLSALM_SOUND_LEVEL	@(Helper Tag for Audible Alarms)		
6	Virtual.NetworkTagsDev	PLSALM_SOUND_RESET	c1	NetworkTagsDev	INT	PLSALM_SOUND_RESET	@(Helper Tag for Audible Alarms)		
7	Virtual.OneLineDevice	zOL\Bkr1	c1	zOL	UINT	zOL\Bkr1			
8	Virtual.OneLineDevice	zOL\Bkr10	c1	zOL	UINT	zOL\Bkr10			
9	Virtual.OneLineDevice	zOL\Bkr100	c1	zOL	UINT	zOL\Bkr100			

18. 可以在运行画面中添加监控点位



19. 运行工程后，可以在画面中看到 BACnet 设备通讯正常

