

How to Configure Virtual COM Port in EKI-1500 series

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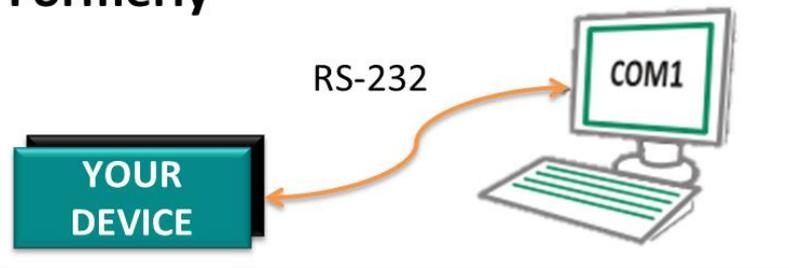
Overview

- **Check EKI-1500 serial PIN Assignment**
 - Make sure the pin assignment is correct
- **Install EKI Utility to run VCOM driver**
 - PC that need to have VCOM driver to run in VCOM mode
- **Using Utility to Map a new Virtual COM Port**
 - Using EKI Utility can map it
- **Check EKI-1500 Web Server Setting**
 - We also provide USDG Data TCP, UDP different operation mode, make sure choosing the correct one
- **Loopback Test**
 - Verified the mapped VCOM can work success!

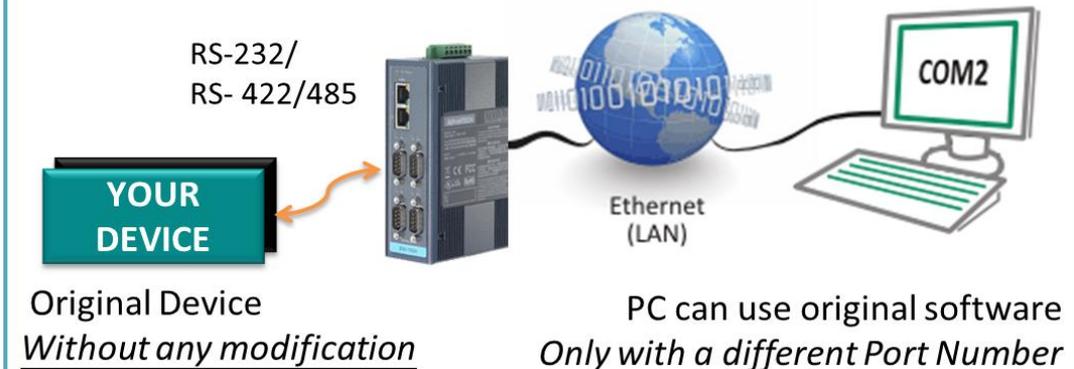
What Virtual COM Port works?

- Quickly and easily replace limited distance serial connection with an anywhere/anytime access
 - Leverage existing Ethernet and IP networking infrastructure
 - Access anywhere if there's network connection
 - No distance limitations!
 - Without changing original SCADA programming

Formerly



With Virtual COM Port

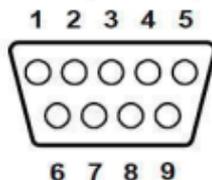


PIN Assignments of Device Server

EKI-1500 series that can software configure RS-232 / RS-422 / RS-485. Each different interface that use its own pin define



Male DB9 (DB9-M)



Pin	1	2	3	4	5	6	7	8	9
RS-232	DCD	RX	TX	DTR	GND	DSR	RTS	CTS	RI
RS-422	TX-	-	-	TX+	GND	-	RX+	-	RX-
RS-485	DATA-	-	-	DATA+	GND	-	-	-	-

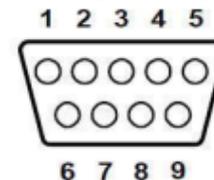
Support for
EKI-1521, 1522, 1524, 122x, 132x 135x, 136x



RJ45



Male DB9 (DB9-M)



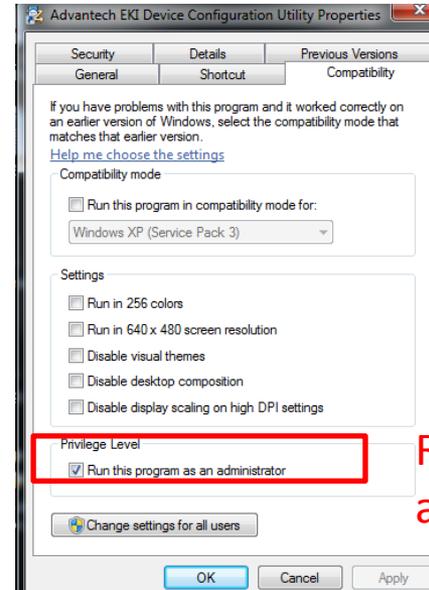
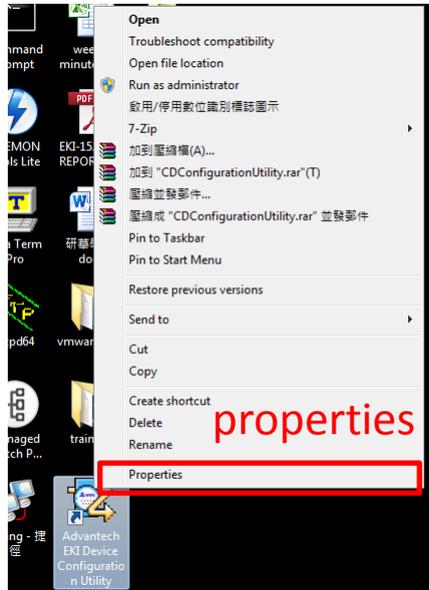
Pin	1	2	3	4	5	6	7	8
RS-232	DCD	RX	TX	DTR	GND	DSR	RTS	CTS
RS-422	TX-	TX+	RX+	RX-	GND	-	-	-
RS-485	Data-	Data+	-	-	GND	-	-	-

Support for
EKI-1526, EKI-1528

EKI Utility Installation & Ethernet Connection Setting

Utility Installation

- Download “Utility” from **Advantech website**
- Make sure you use administrator to access **Utility**



6

Attention: Change privilege as Administrator after installation.

Ethernet Setting (1/2)

- Check your PC network IP address.
Start → Control Panel → Network and Internet

The screenshot illustrates the steps to find the IP address in Windows. It shows the Control Panel window with 'Network and Sharing Center' highlighted. A red arrow points to the 'Change adapter settings' link. Another red arrow points to the 'Network Connections' window, where '區域連線 6' is selected. A third red arrow points to the 'Details...' button. A final red arrow points to the 'IPv4 Address' field in the 'Network Connection Details' window, which displays '192.168.1.23'.

Network and Sharing Center

Network Connections

Network Connection Details

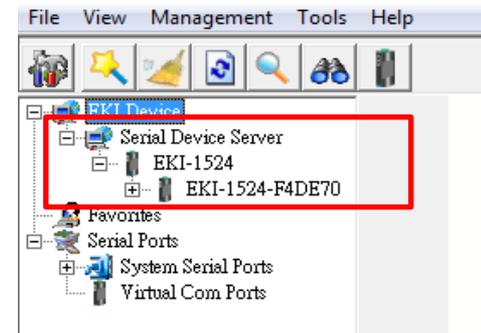
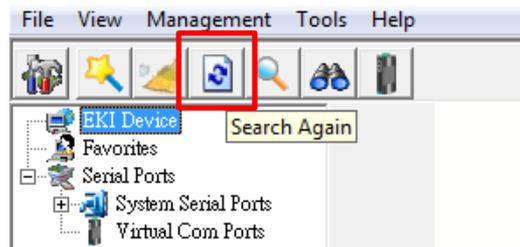
Property	Value
Connection-specific DN...	
Description	Intel(R) Ethernet Server Adapter I350-T4
Physical Address	A0-36-9F-46-5F-53
DHCP Enabled	No
IPv4 Address	192.168.1.23
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	
IPv4 DNS Server	
IPv4 WINS Server	
NetBIOS over Tcpip En...	Yes
Link-local IPv6 Address	fe80::e0-6-6815-3571-6a0b%20
IPv6 Default Gateway	
IPv6 DNS Servers	fec0:0:0::1%1 fec0:0:0::2%1 fec0:0:0::3%1

Your computer IP address

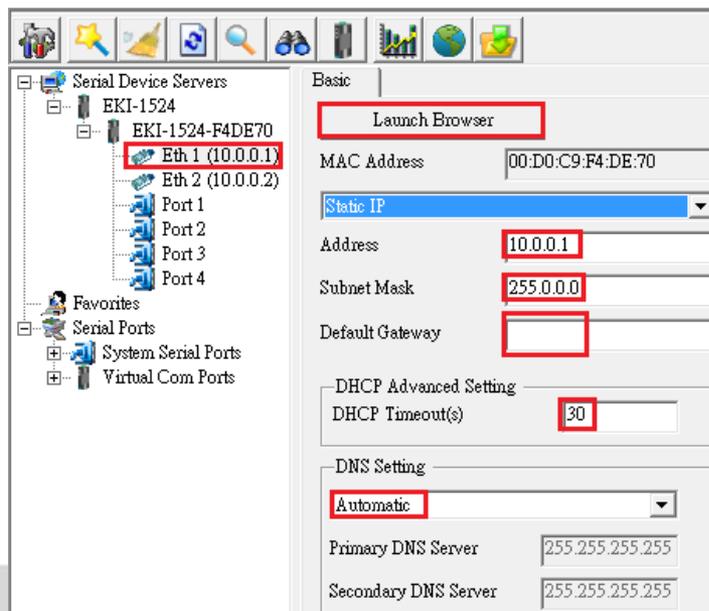
Ethernet Setting (2/2)

- Turn on Utility and change EKI Device Server to work in the same subnet network

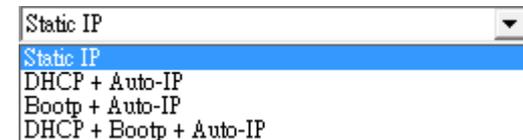
- Find your device



- Make sure the network connection is working



Which way to obtain the IP address



Address may in the same subnet with your computer !!

How to use Virtual COM Port

- VCOM Port Mapping
 - Auto Mapping
 - Manual Mapping
 - Configuration Wizard
- Remove VCOM
- Loopback test

Tip for VCOM mode

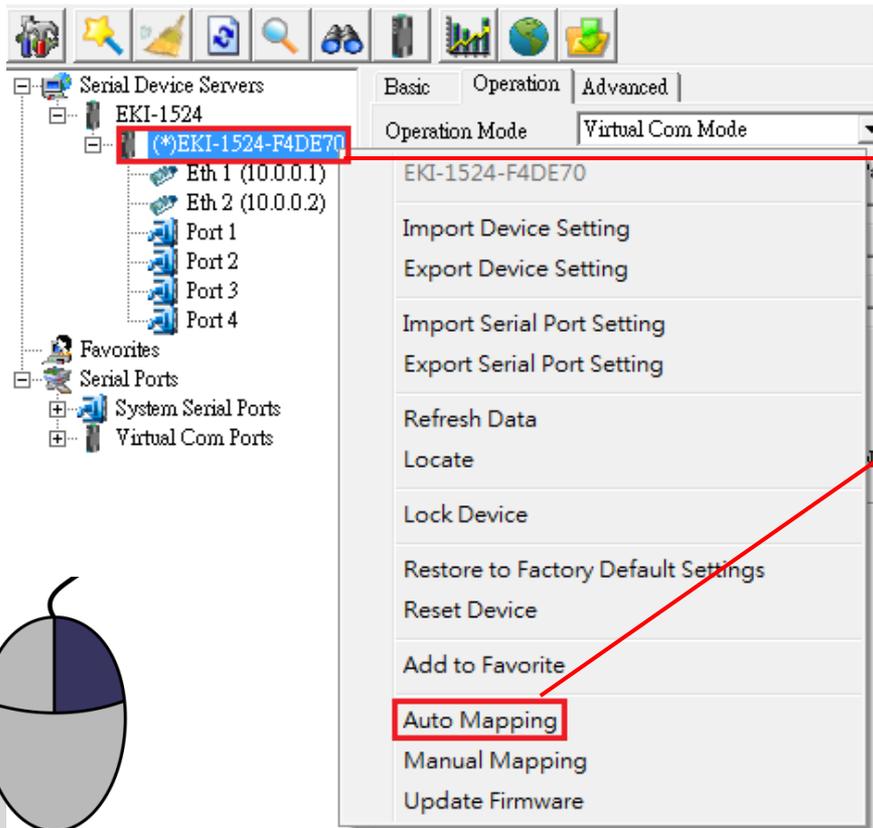
- ◆ In Utility (choose one of three way to map VCOM)
 - Auto Virtual COM Port Mapping
 - Manual Virtual COM Port Mapping
 - Configuration Wizard Mapping
- ◆ On WebGUI (firmware setting)
 - Port configuration
 - Basic (serial setting... e.g. RS-232/422/485)
 - Operation (e.g. [VCOM](#)/USDG data mode)



Auto Mapping - Step 1

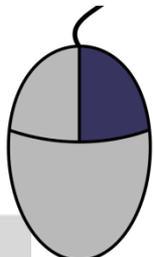


1. Double Click the Installed “Advantech EKI Device Configuration Utility”



2. Right Click on the Device Model Name

3. Select the Auto Mapping and pop up the next step



Auto Mapping - Step 2

4. From System Port **COM 9**

Device Type **EKI-1524**

5. **Physical Port** of DS

Select	Address 1	Address 2	Device Port	System Port
<input checked="" type="checkbox"/>	10.0.0.1	10.0.0.2	Port 1	COM 9
<input checked="" type="checkbox"/>	10.0.0.1	10.0.0.2	Port 2	COM 10
<input type="checkbox"/>	10.0.0.1	10.0.0.2	Port 3	
<input type="checkbox"/>	10.0.0.1	10.0.0.2	Port 4	

6. **Map Selected Ports**

IP address of DS

Mapping success

Mapping COM 10 to Address 10.0.0.1 and Address 10.0.0.2 Port 2 success

4. Drag down to select port number can be mapped on your host

5. Choose the physical port which you want to map

6. Mapping selected Ports

7. you can see the message mapping success

TIP !! – Modified Device Server IP first to make sure in the same domain as your PC

Manual Mapping

1. Right Click to select the Manual Mapping

2. Choose the physical serial Port that you want to access

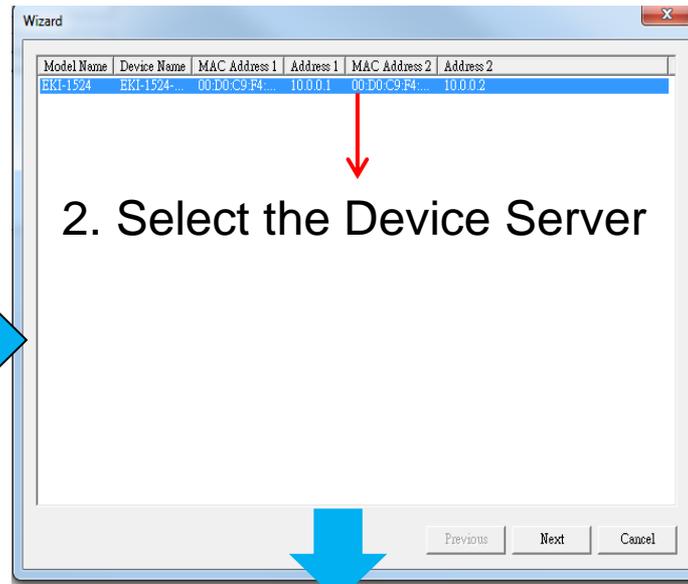
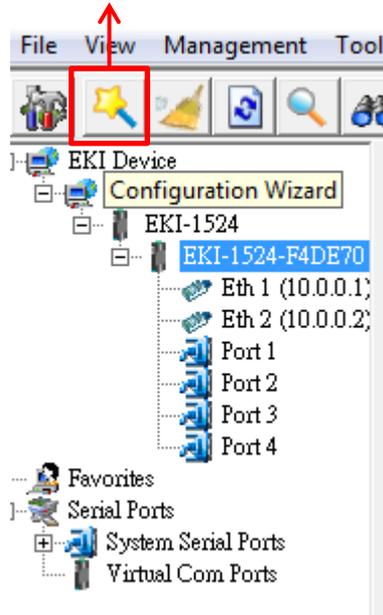
3. Choose the mapping COM port of your host

4. Click “Map it” to mapping process

5. You can see mapping success message

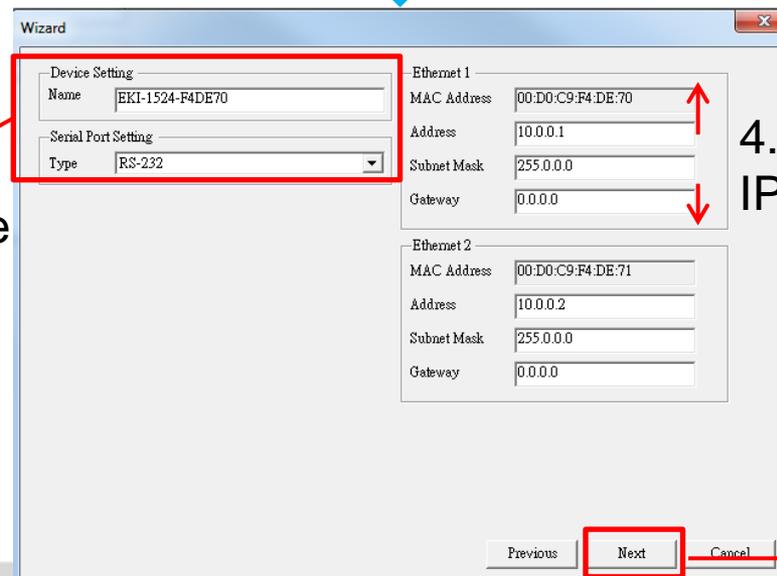
Configuration Wizard - Step 1

1. Configuration Wizard



2. Select the Device Server

3. Confirm the Device Setting and RS-Type

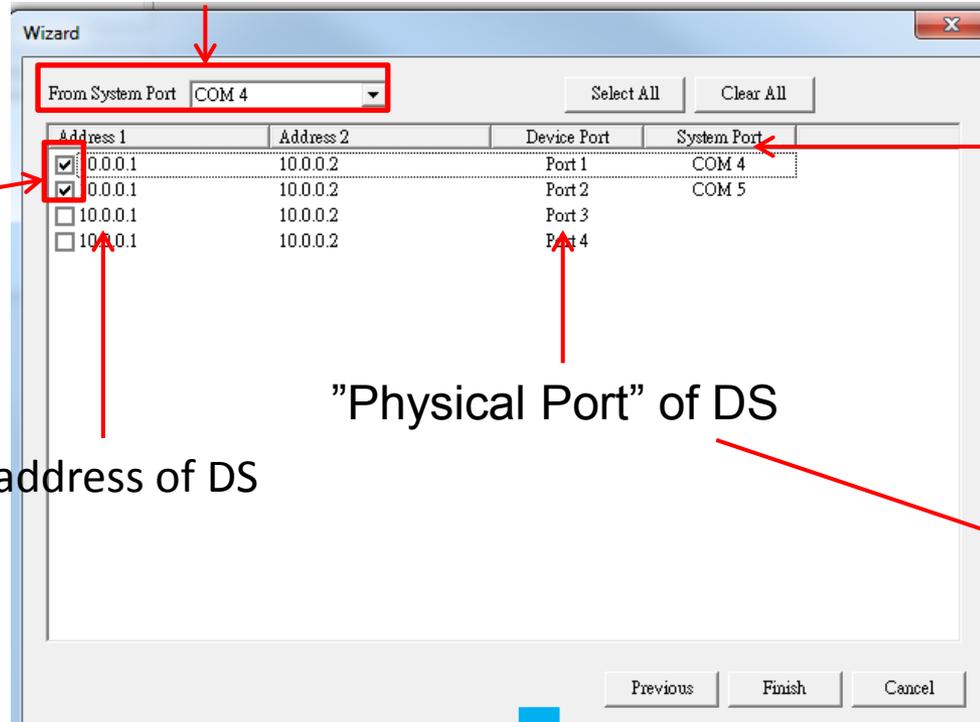


4. Confirm the IP address setting

5. Next

Configuration Wizard - Step 2

6. Which port you want to mapping on your Host



VCOM of the Host after mapping

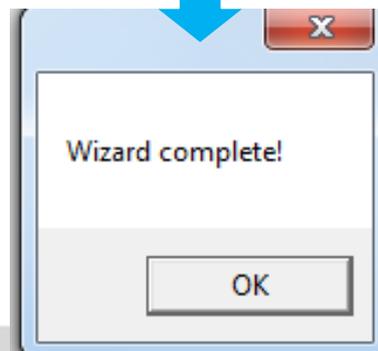
7. Select the port you want to map

IP address of DS

"Physical Port" of DS



8. Mapping success



Confirm VCOM Setting

1. Confirm the VCOM Setting “Physical Port” of DS

The screenshot displays the Advantech software interface for configuring VCOM settings. The interface is divided into several panes:

- Left Pane (Serial Device Servers):** Shows a tree view of devices. Under 'Virtual Com Ports', 'COM9' and 'COM10' are listed. A red box highlights this section.
- Basic Com Port Information:** A central pane showing details for the selected device. Fields include:
 - Name: COM9
 - Friendly Name: EDG VCOM Port 9 (COM9)
 - Manufacture: Advantech Co., Ltd
 - Hardware ID: AESPV2XP009
 - Service: AESPV2X
- Virtual Com Port Information:** A right-side pane showing configuration for the virtual port. Fields include:
 - Model Name: EKI-1524
 - Address 1: 10.0.0.1
 - Address 2: 10.0.0.2
 - Remote COM Port: Port1 (dropdown menu)
 - Auto Reconnect: Enable (dropdown menu)
 - TCP Timeout: 3000
 - Baud Rate: 9600 (dropdown menu)
 - Parity: None (dropdown menu)
 - Data Bits: 8 (dropdown menu)
 - Stop Bits: 1 (dropdown menu)
 - Flow Control: None (dropdown menu)
 - Ignore Purge: Disable (dropdown menu)
- Bottom Pane (Device Management):** Shows a list of devices on the host. 'EDG VCOM Port 9 (COM9)' is highlighted with a red box. Other devices include 'EDG VCOM Port 10 (COM10)', 'Int(R) Active Management Technology - SOL (COM3)', 'Serial On USB Port (COM4)', '印表機連接埠 (LPT1)', and '通訊連接埠 (COM1)'.

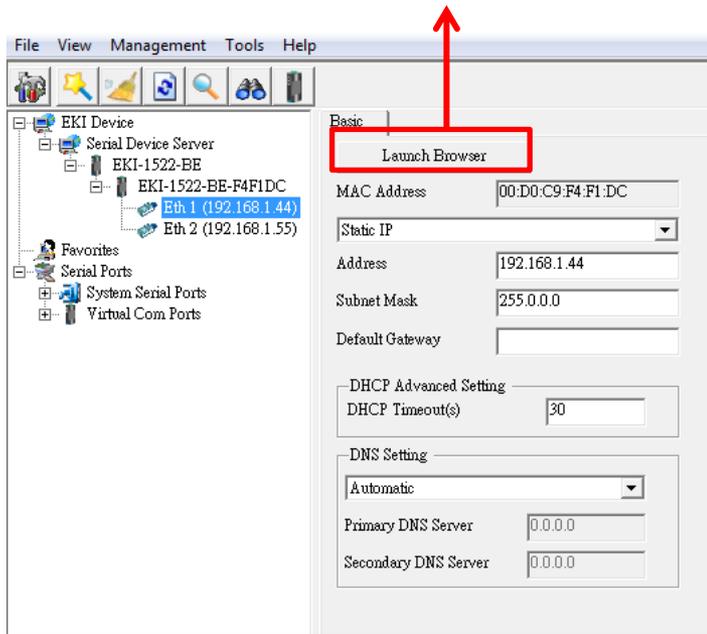
Red arrows point from the text '1. Confirm the VCOM Setting “Physical Port” of DS' to the 'Remote COM Port' dropdown and the 'EDG VCOM Port 9 (COM9)' device. Another red arrow points from the 'Virtual Com Ports' section in the left pane to the 'Basic Com Port Information' pane.

2. Double check VCOM in device management of host

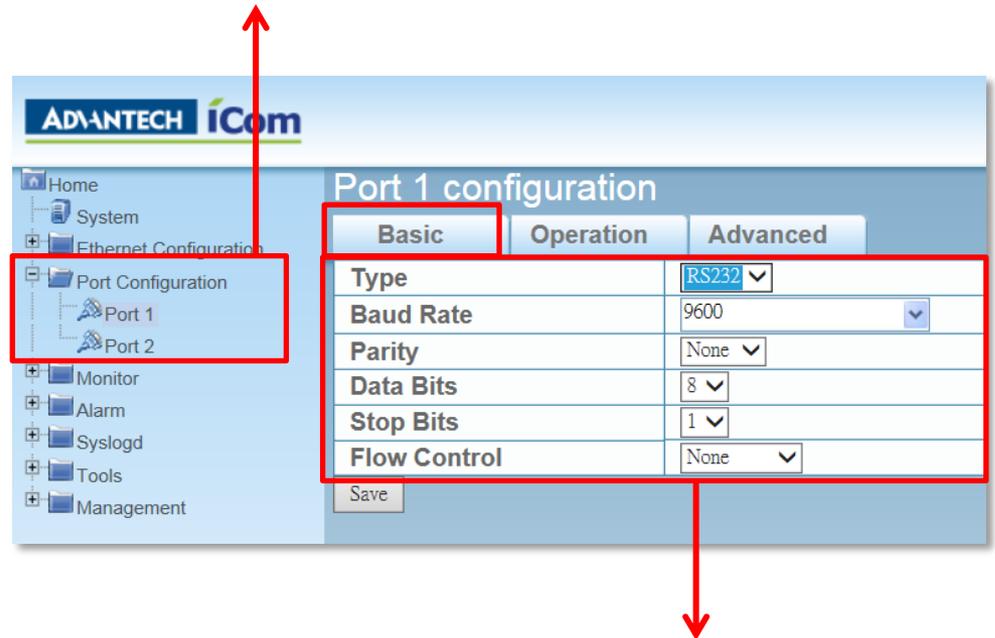
On WEBGUI – Port Configuration (1/3)

- After set up VCOM driver, check the port setting in EKI

1. Launch Browser



2. Choose “Physical Port” of Device Server



3. To configure your serial protocol

On WEBGUI –Port Configuration(2/3)

4. Click "Operation"

5. Select to "VCOM" mode

6. Save it

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Home
System
Ethernet Configuration
Port Configuration
 Port 1
 Port 2
Monitor
Alarm
Syslogd
Tools
Management

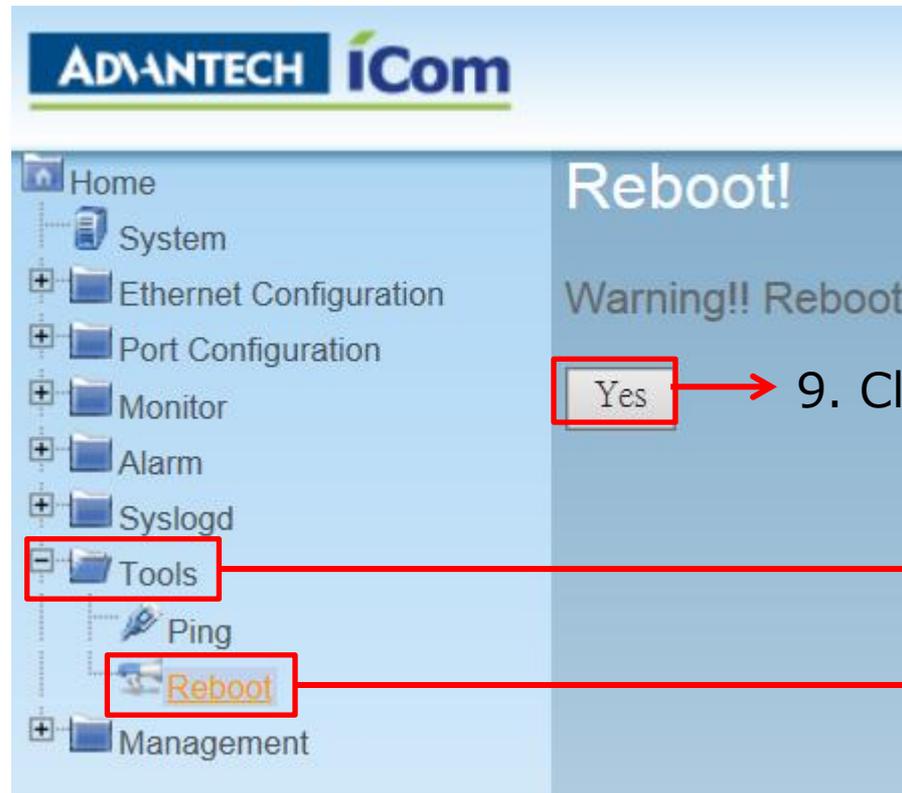
Port 1 configuration

Basic **Operation** Advanced

Mode	Virtual COM Mode ▾
Host Idle Timeout(s)	60
Response Timeout(ms)	0
Frame Break(ms)	0
Pack conditions (Pack sent immediately when reach 1024 Bytes)	
<input type="checkbox"/> By size	Bytes(1 ~ 1024 Bytes)
<input type="checkbox"/> By interval	ms(1 ~ 60000 ms)
<input type="checkbox"/> By end-character	Char Format HEX ▾ Char Value
RVCOM Extra Options	
RVcom Number	0 ▾
Port Data Buffering	
Media	NONE ▾
When Data Full	Stop ▾

Save

On WEBGUI – Make configuration works (3/3)



9. Click **"Yes"** to reboot the DS

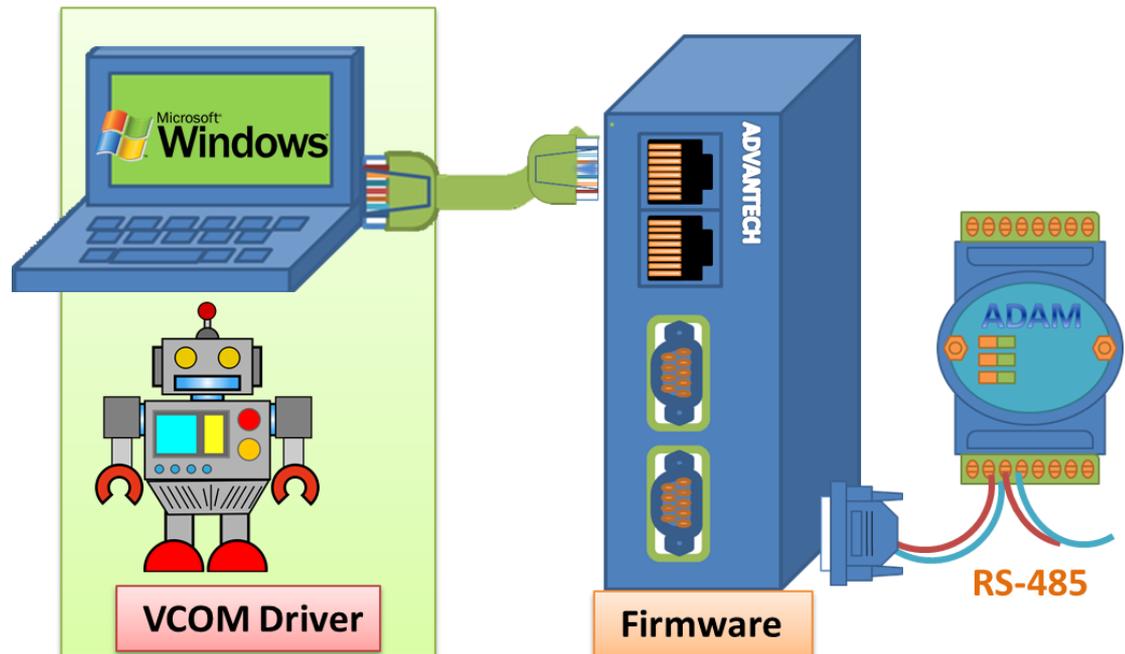
7. Click **"Tools"**

8. Click **"Reboot"**

VCOM Port Mapping Successful

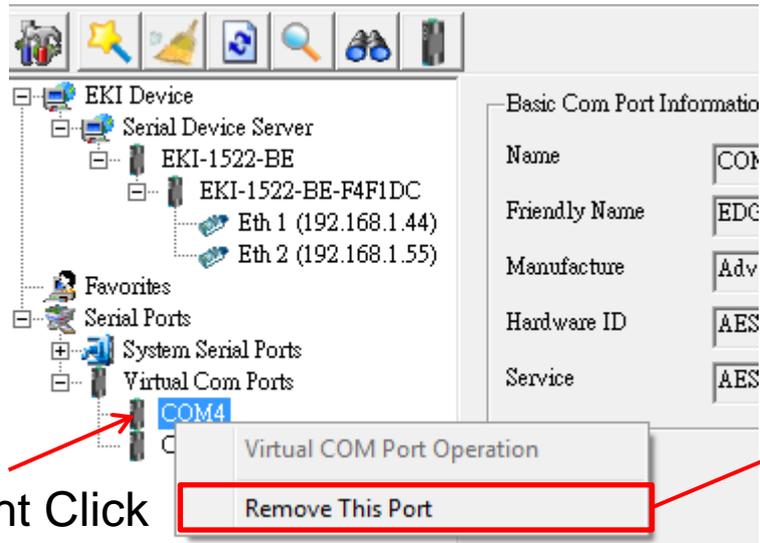
- VCOM Port Mapping is a way to define a physical interface in the device server by creating a virtual interface in the computer

Device Manager on PC



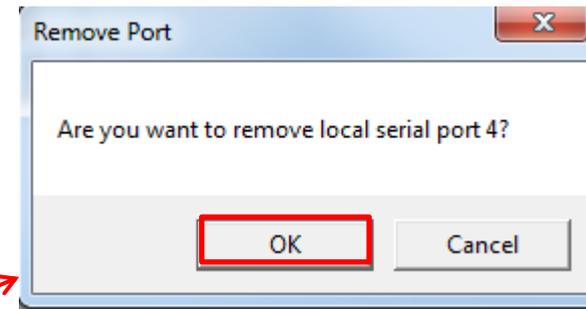
Remove Virtual COM Port

You can simply remove the virtual com port that not needed

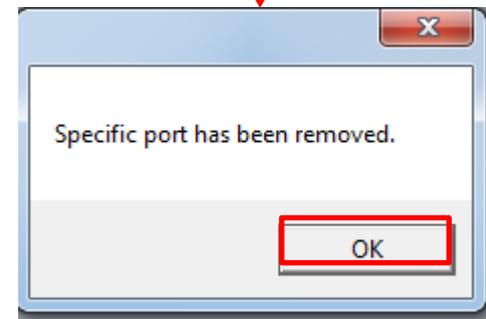


1. Right Click

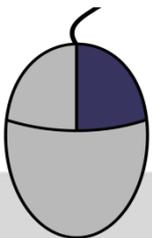
2. Remove This COM Port



3. Click "Ok"



4. Remove Complete

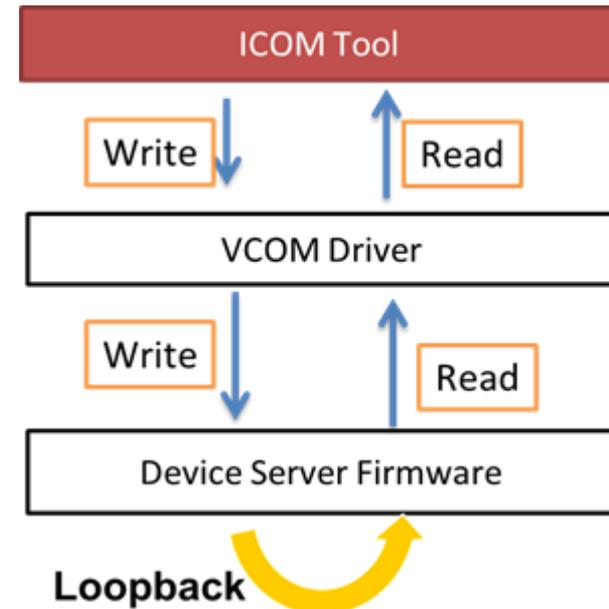
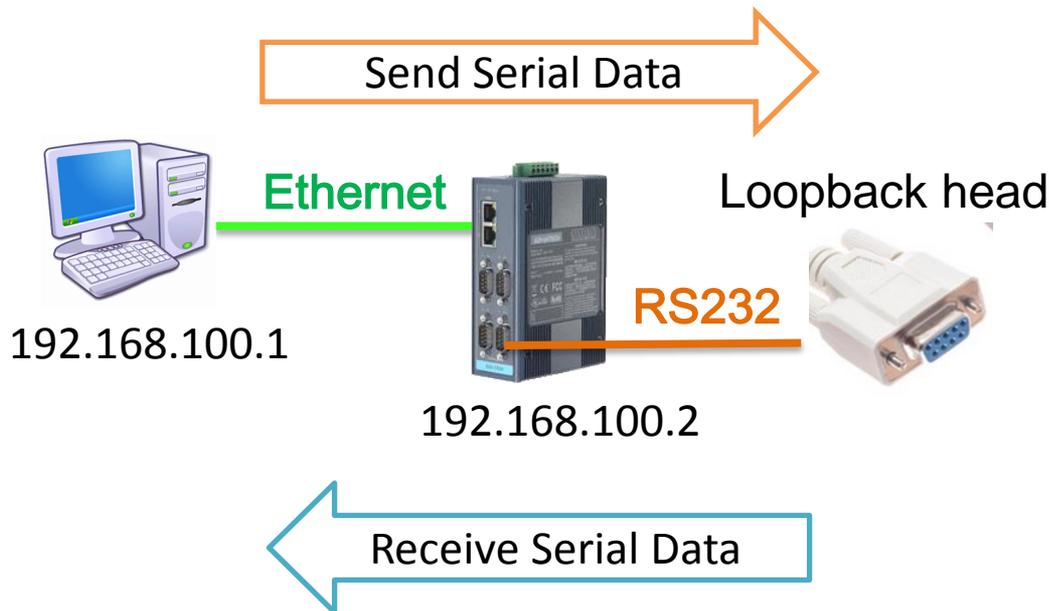


Virtual COM Port Verification - Loopback test

Loopback Test (RS-232 only)

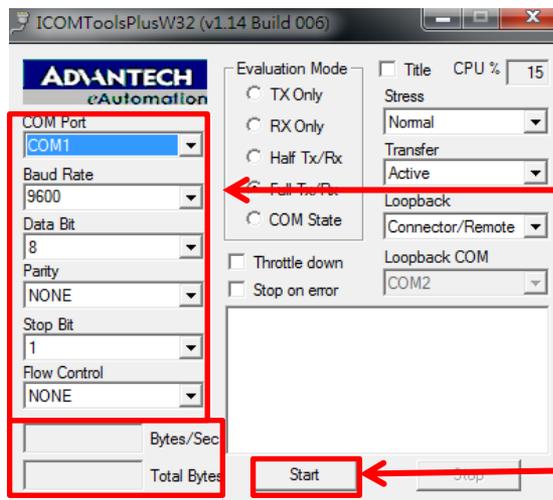
- In Device Server Package that has one loopback head that can do simply trouble shooting.

Topology

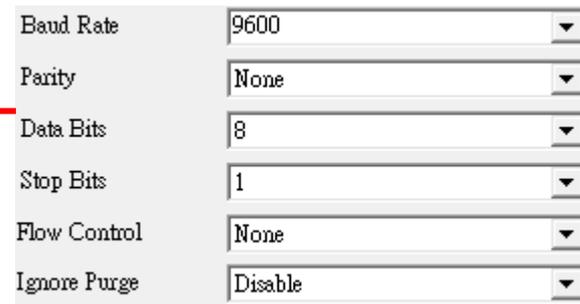


Loopback Test (RS-232 only)

- Performing the ICOMToolsPlus.exe and choose the com port for verified then click “Start”



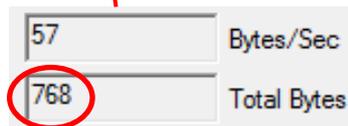
VCOM Configuration



COM Port setting must the same

2. After setting, click “Start”

- If the counter is still increment, the VCOM port has been created successfully





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