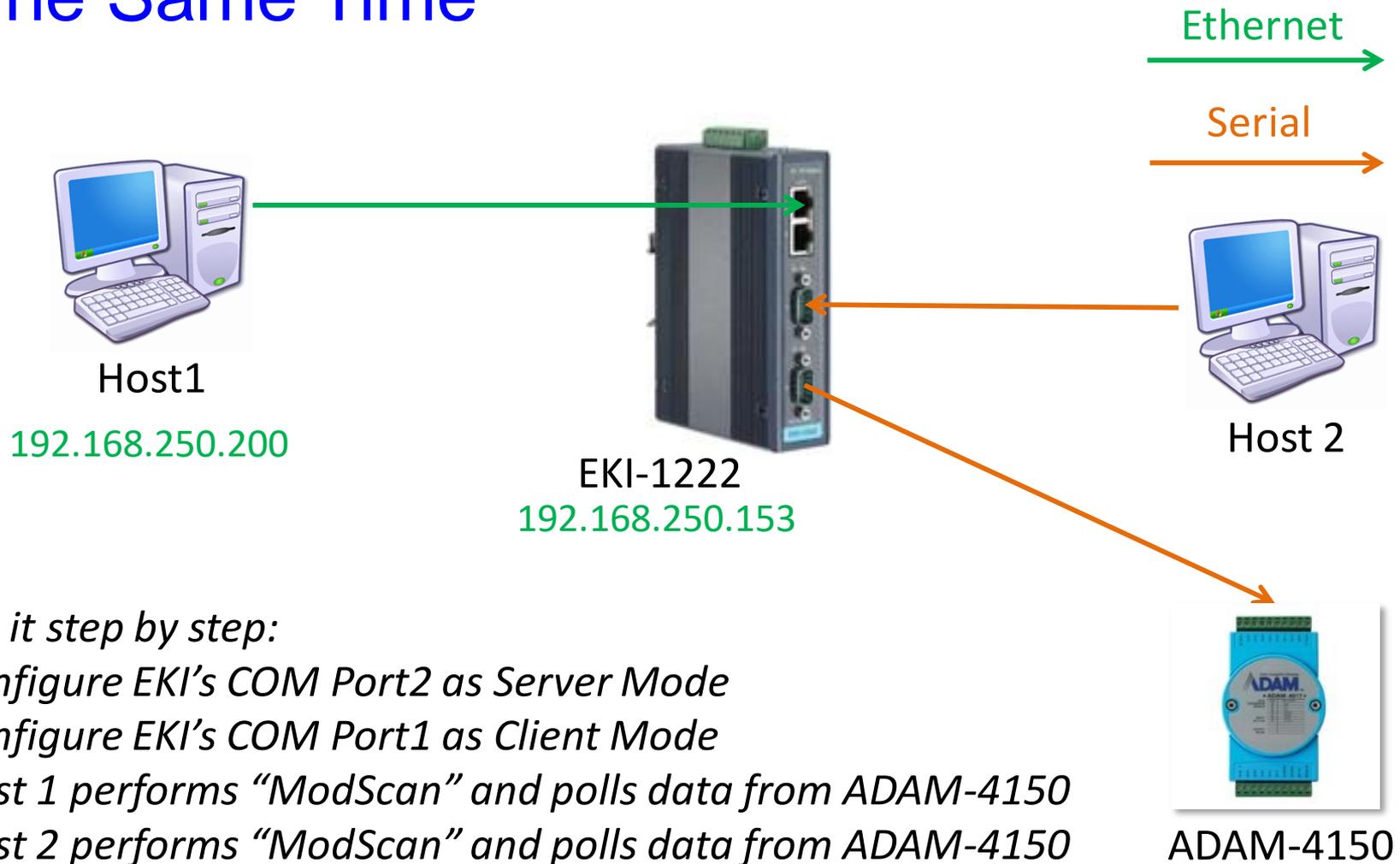


Modbus TCP/RTU Polling Server Node At The Same Time

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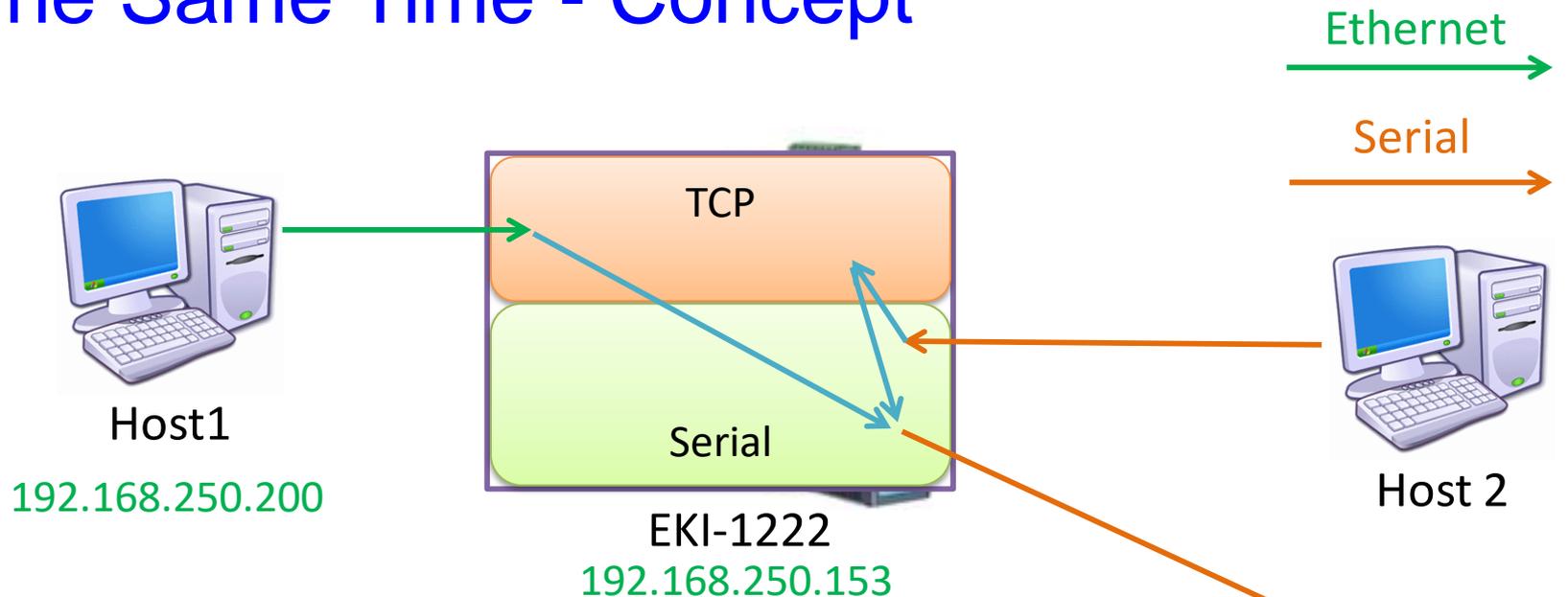
Modbus TCP/RTU Polling Server Node At The Same Time



Taking it step by step:

- 1. Configure EKI's COM Port2 as Server Mode*
- 2. Configure EKI's COM Port1 as Client Mode*
- 3. Host 1 performs "ModScan" and polls data from ADAM-4150*
- 4. Host 2 performs "ModScan" and polls data from ADAM-4150*

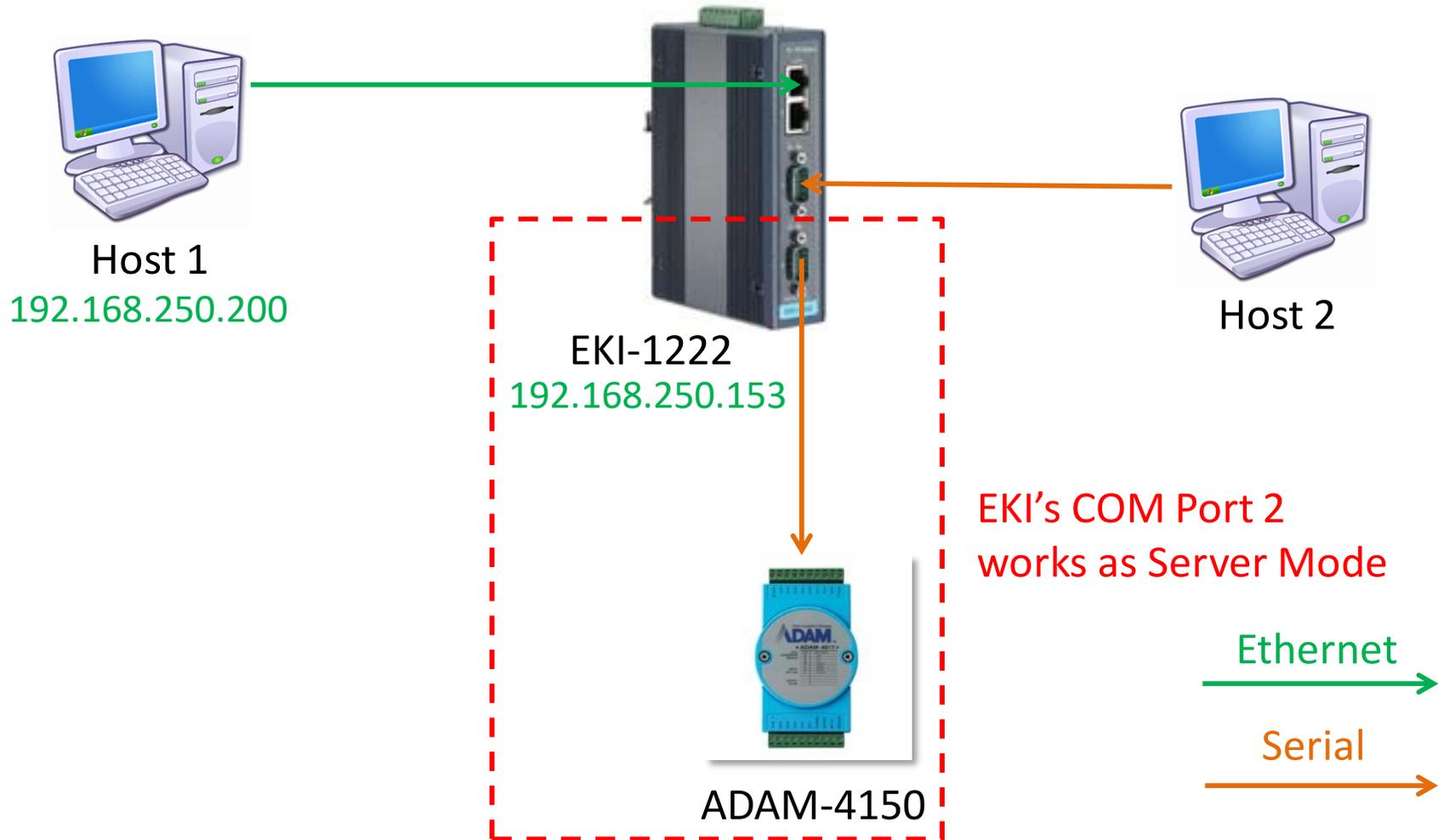
Modbus TCP/RTU Polling Server Node At The Same Time - Concept



- The Client Mode translate the command from Serial side to Ethernet side. Normally, the target IP addresses would be some other hosts on Ethernet network.
- By targeting the destination IP address to **the EKI itself**, it can query the Modbus Server Nodes on its Serial ports.
- Please refer to the other SOP documents for detail of Client/Server mode configuration. They will not be described in this document.



Configure COM 2 as Server Mode – 1/3



Configure COM 2 as Server Mode – 2/3

Launch Browser > Port Configuration > Basic
Configure the “Basic” part first, then “Save” it

The screenshot displays a web-based configuration interface for a device. On the left is a dark blue sidebar menu with the following items: Ethernet Configuration, Port Configuration (highlighted with a red box), Port 1, Port 2 (highlighted with a dark background), Port 3, Port 4, Monitor, Syslogd, Tools, and Management. The main content area has two tabs: 'Basic' (selected) and 'Operation'. Below the tabs is a header for 'Port 2 configuration'. A red box highlights the configuration fields: Type (RS485), Baud Rate (9600), Parity (None), Data Bits (8), Stop Bits (1), and Flow Control (None). A 'Save' button is located at the bottom right of the configuration area.

Parameter	Value
Type	RS485
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Configure COM 2 as Server Mode – 3/3

Launch Browser > Port Configuration > Operation

Set up the **COM2** to **Server** Mode for conversion data from Modbus TCP to RTU

1. Select to Modbus Server Mode

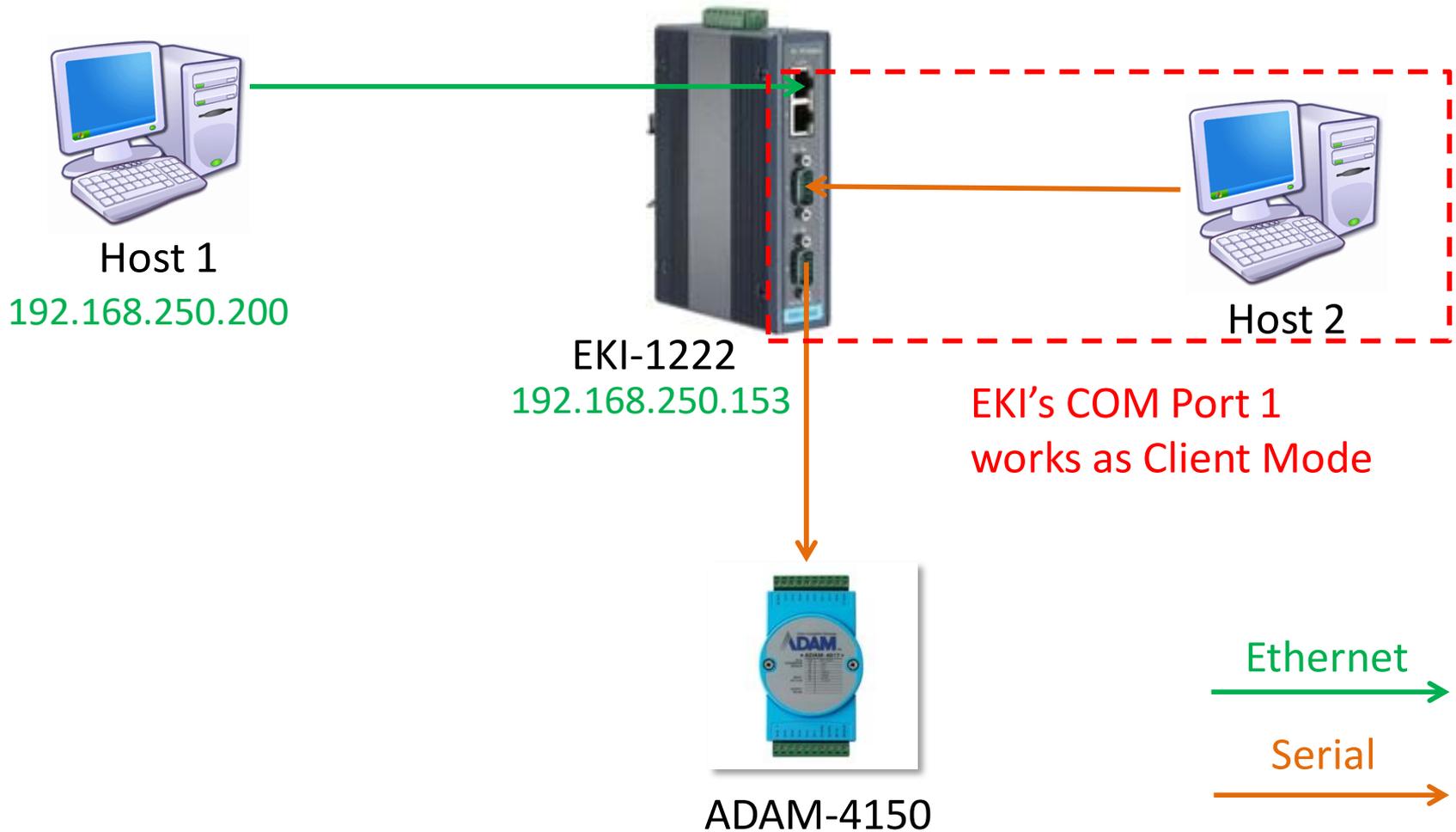
2. Add 1 Peer

3. Fill in the Server ID
**Server ID is depending on end device*

4. Save it

#	Server ID	Description	Mapping ID AS
1	2		2

Configure COM 1 as Client Mode – 1/4



Configure COM 1 as Client Mode – 2/4

Launch Browser > Port Configuration > Basic
Configure the “Basic” part first, then “Save” it

The screenshot displays the 'Port Configuration' interface. On the left, a sidebar menu is visible with 'Port Configuration' selected and highlighted in red. Below it are options for Port 1, Port 2, Port 3, and Port 4. The main area shows the 'Basic' tab for 'Port 1 configuration'. A red box highlights the configuration fields: Type (RS485), Baud Rate (9600), Parity (None), Data Bits (8), Stop Bits (1), and Flow Control (None). A 'Save' button is located at the bottom right of the configuration area.

Parameter	Value
Type	RS485
Baud Rate	9600
Parity	None
Data Bits	8
Stop Bits	1
Flow Control	None

Configure COM 1 as Client Mode – 3/4

Launch Browser > Port Configuration > Operation

Set up the **COM1** to **Client** Mode for sending query from Modbus RTU to TCP

The screenshot shows the 'Operation' tab of the 'Port 1 configuration' interface. The 'Mode' dropdown is set to 'Modbus Client Mode'. The 'Protocol' is 'RTU', 'Client Timeout(ms)' is '1500', and 'Frame Break(ms)' is '10'. Under 'Peer for Receiving Data', the 'Peer Number' is '1'. A table below lists peer configurations with one entry: IP 127.0.0.1, Port 502, Mapped ID From 2, To 2, Offset 0. A 'Save' button is at the bottom.

#	IP	Port	Mapped ID		
			From	To	Offset
1	127.0.0.1	502	2	2	0

1. Select to Modbus Client Mode

2. Add 1 Peer (target device)
3. Fill in the IP 127.0.0.1, TCP Port 502 and Server ID.

**This IP represents the EKI itself.*

4. Save it

Configure COM 1 as Client Mode – 4/4

- **Reboot to initialize this function**

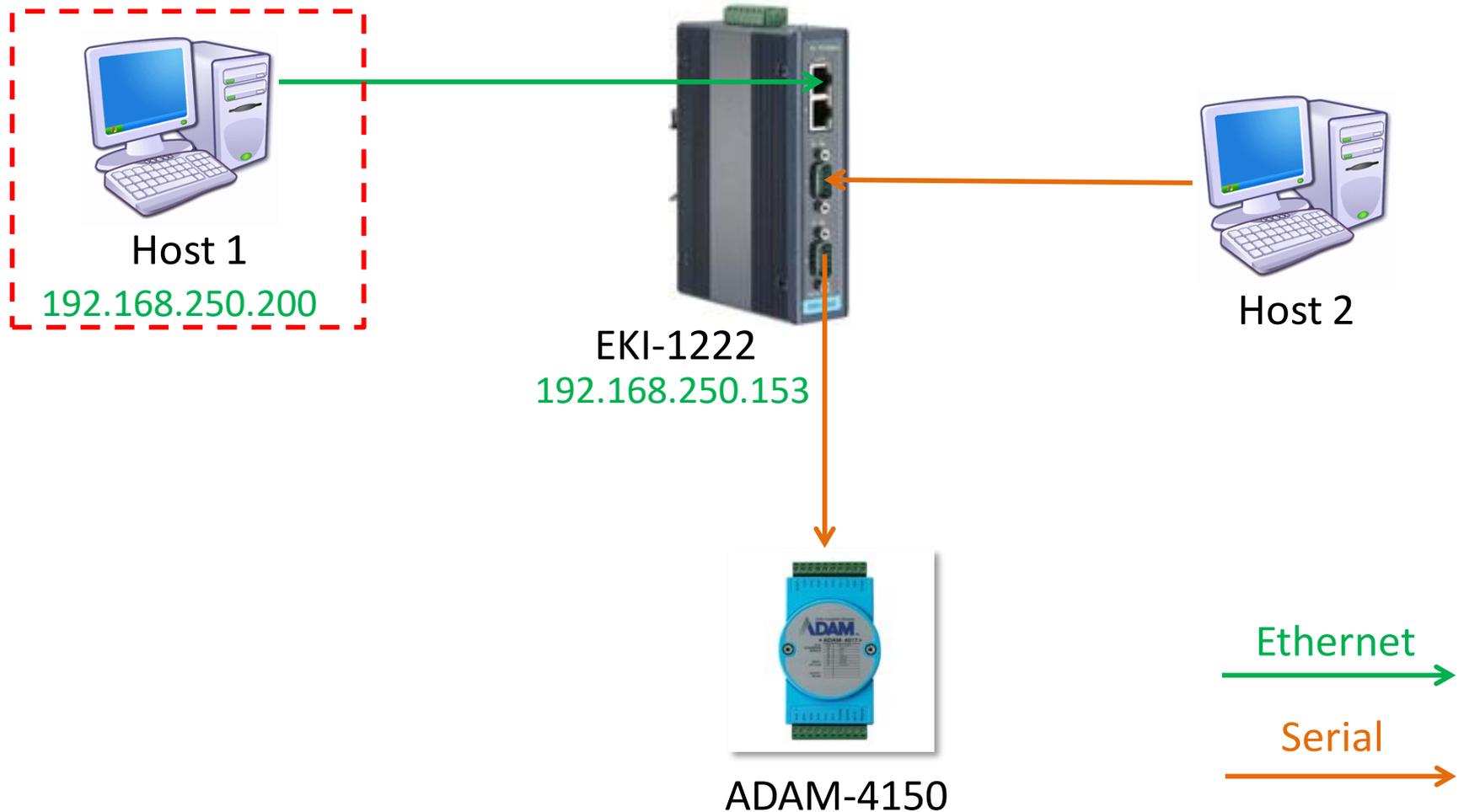
The screenshot shows a web interface with a dark blue sidebar on the left and a light yellow main content area on the right. The sidebar contains a menu with the following items: System, Service, Ethernet Configuration, Port Configuration, Monitor, Syslogd, Tools, Ping, Modbus Scan, Modbus Polling, and Reboot. The 'Tools' and 'Reboot' items are highlighted with red boxes, and red arrows point from text labels to them. The main content area has a breadcrumb trail 'Home / Tools / Reboot' and a warning message: 'Warning!! Reboot will disconnect both ethernet and serial connection. Do you want to Reboot now?'. A blue 'Yes' button is highlighted with a red box, and a red arrow points from the text '7. Click "Yes" to reboot the DS' to it.

5. Click "Tools"

6. Click "Reboot"

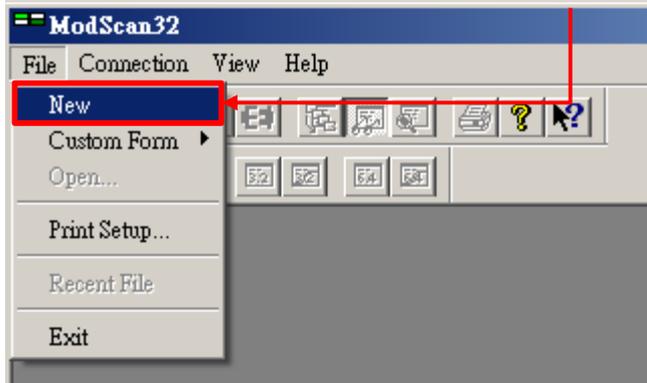
7. Click "Yes" to reboot the DS

Host 1 Polls Data from ADAM by ModScan – 1/3

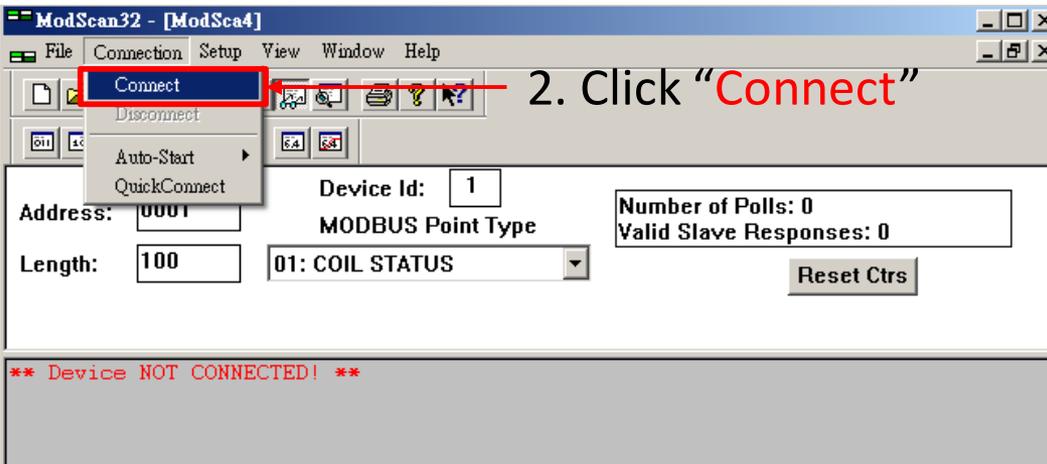
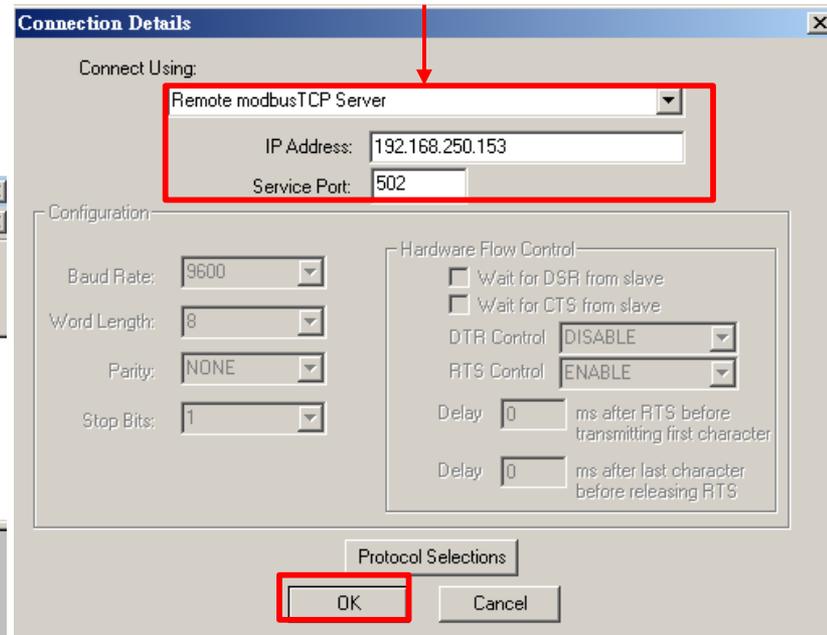


Host 1 Polls Data from ADAM by ModScan – 2/3

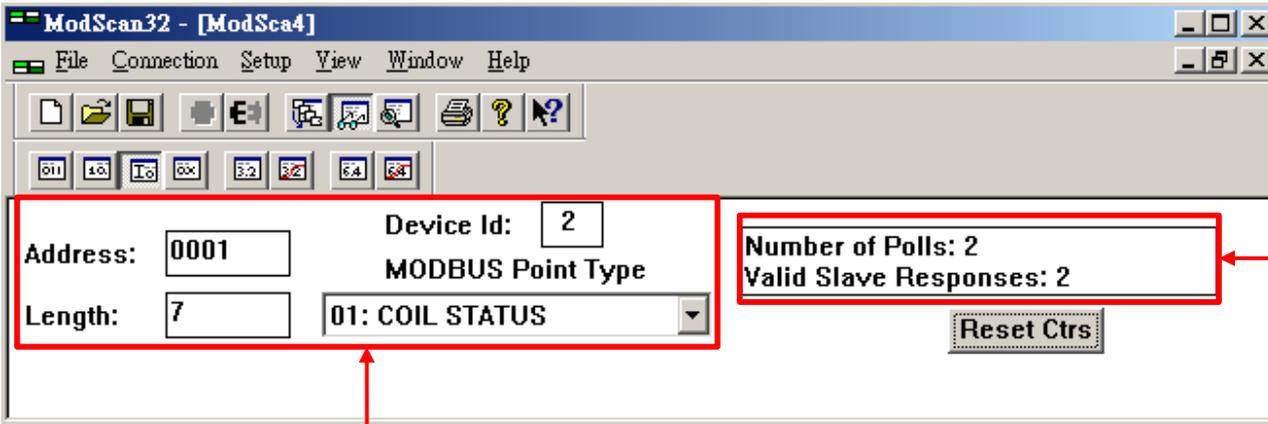
1. Click “New” to open a new Modbus TCP session



3. Select to “Remote Modbus TCP Server”
4. Fill in the “IP Address” and “TCP Port” of EKI
5. Click “Ok”



Host 1 Polls Data from ADAM by ModScan – 3/3



2. Result

```
00001: <0>
00002: <0>
00003: <0>
00004: <0>
00005: <0>
00006: <0>
00007: <0>
```

ADAM-4100 I/O Modbus Mapping Table

B.3 ADAM-4150 Digital Input/Output Module

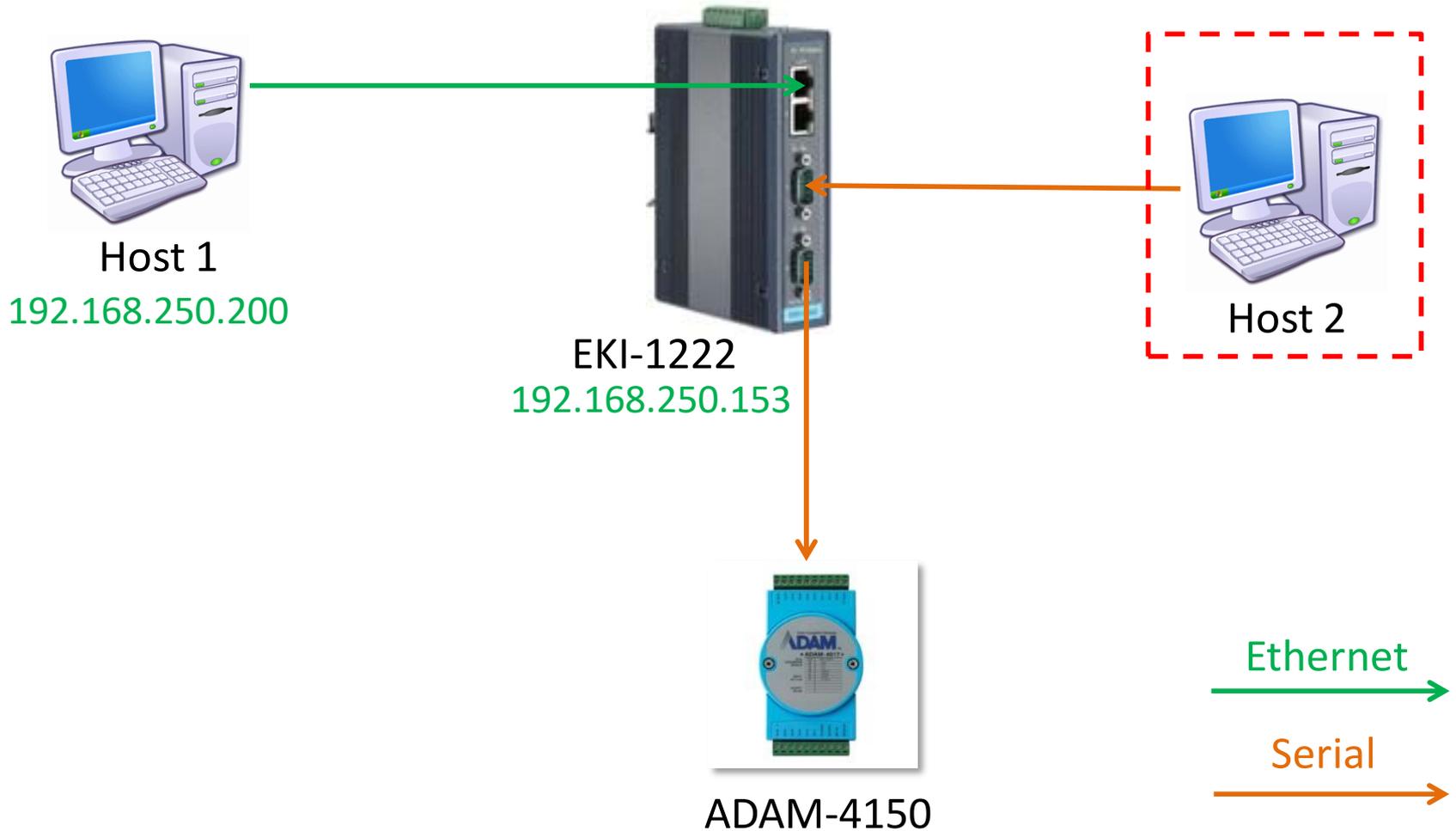
ADDR 0X	Channel	Item	Attribute	Memo
00001	0	DI Signal	R	
00002	1	DI Signal	R	
00003	2	DI Signal	R	
00004	3	DI Signal	R	
00005	4	DI Signal	R	
00006	5	DI Signal	R	
00007	6	DI Signal	R	
00017	0	DO Signal	W	
00018	1	DO Signal	W	
00019	2	DO Signal	W	
00020	3	DO Signal	W	
00021	4	DO Signal	W	
00022	5	DO Signal	W	
00023	6	DO Signal	W	
00024	7	DO Signal	W	

Fill in the right Modbus address, data length and Server ID of ADAM-4150



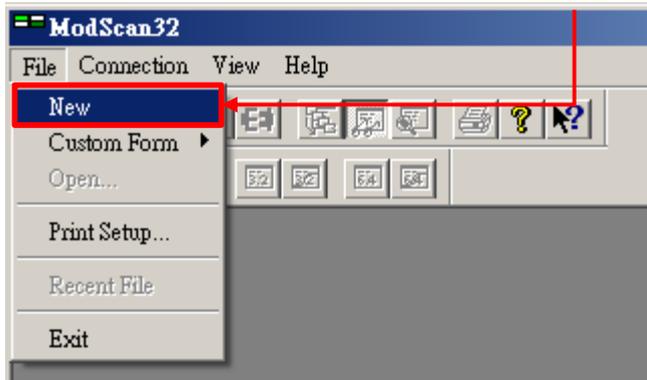
ADAM-4150

Host 2 Polls Data from ADAM by ModScan – 1/3



Host 2 Polls Data from ADAM by ModScan – 2/3

1. Click “New” to open a new Modbus/RTU session

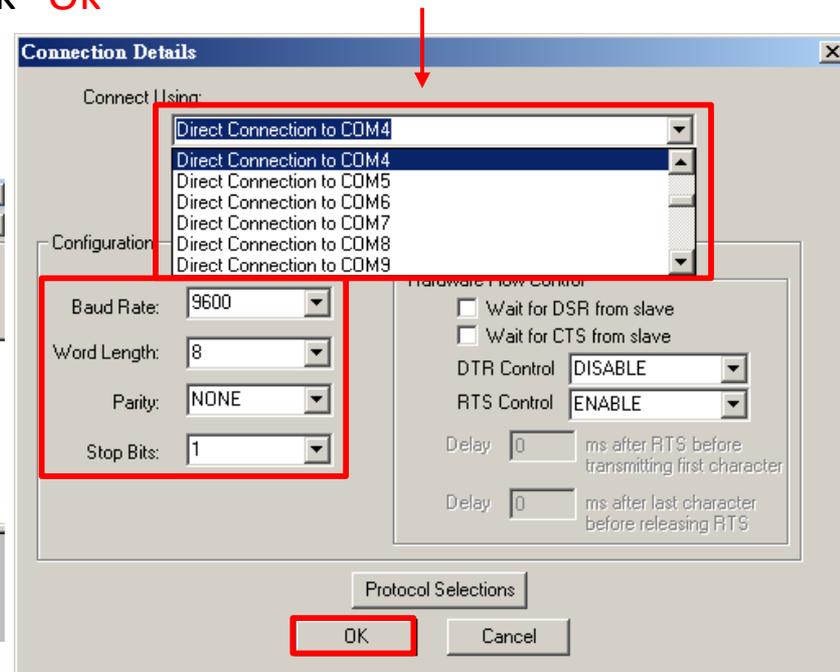
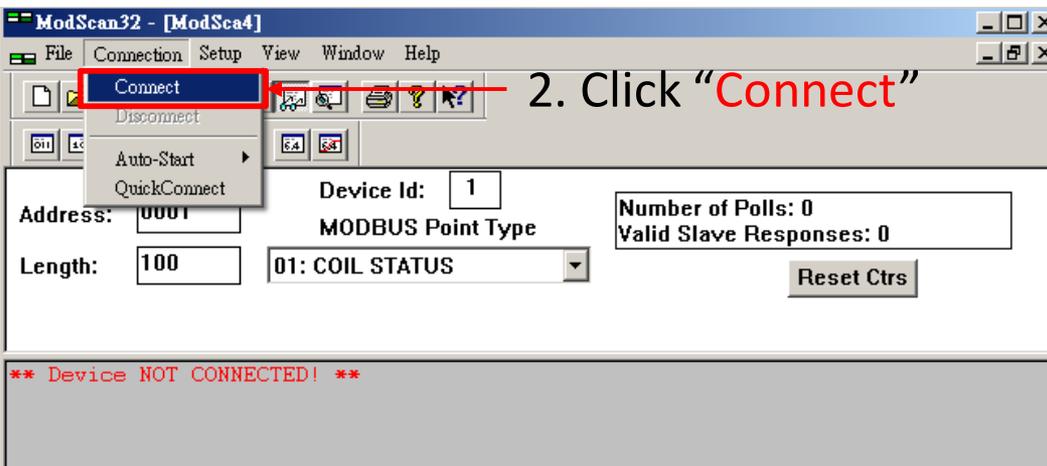


3. Select to “Direct Connection to COM Port”

**Port number is depend on customer*

4. Set up the “COM Port Configuration”

5. Click “Ok”



Host 2 Polls Data from ADAM by ModScan – 3/3

The screenshot shows the ModScan32 software interface. The configuration fields are as follows:

- Address: 0017
- Length: 7
- Device Id: 2
- MODBUS Point Type: 01: COIL STATUS

The results section shows:

- Number of Polls: 4
- Valid Slave Responses: 4

A red box highlights the configuration fields, and another red box highlights the results. A red arrow points from the results box to the text '2. Result'. A blue box at the bottom left contains the text: 'Fill in the right Modbus address, data length and Server ID of ADAM-4150'. An image of the ADAM-4150 module is shown at the bottom center.

2. Result

ADAM-4100 I/O Modbus Mapping Table

B.3 ADAM-4150 Digital Input/Output Module

ADDR 0X	Channel	Item	Attribute	Memo
00001	0	DI Signal	R	
00002	1	DI Signal	R	
00003	2	DI Signal	R	
00004	3	DI Signal	R	
00005	4	DI Signal	R	
00006	5	DI Signal	R	
00007	6	DI Signal	R	
00017	0	DO Signal	W	
00018	1	DO Signal	W	
00019	2	DO Signal	W	
00020	3	DO Signal	W	
00021	4	DO Signal	W	
00022	5	DO Signal	W	
00023	6	DO Signal	W	
00024	7	DO Signal	W	

Test Result

The image displays two screenshots of the ModScan32 software interface, showing the results of a test performed on a device with ID 2.

Top Screenshot (ModScan32 - [ModSca4]):

- Address: 0001
- Length: 7
- Device Id: 2
- MODBUS Point Type: 01: COIL STATUS
- Number of Polls: 697
- Valid Slave Responses: 697
- A red box highlights the "Reset Ctrs" button.

Bottom Screenshot (ModScan32 - [ModSca1]):

- Address: 0017
- Length: 7
- Device Id: 2
- MODBUS Point Type: 01: COIL STATUS
- Number of Polls: 696
- Valid Slave Responses: 696
- A red box highlights the "Reset Ctrs" button.

Both screenshots show a list of addresses and their corresponding values in the background window. The top screenshot shows addresses 00001 through 00007, all with values <0>. The bottom screenshot shows addresses 00017 through 00023, all with values <0>. The status bar at the bottom of the bottom screenshot indicates "Polls: 696" and "Resps: 696".



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