

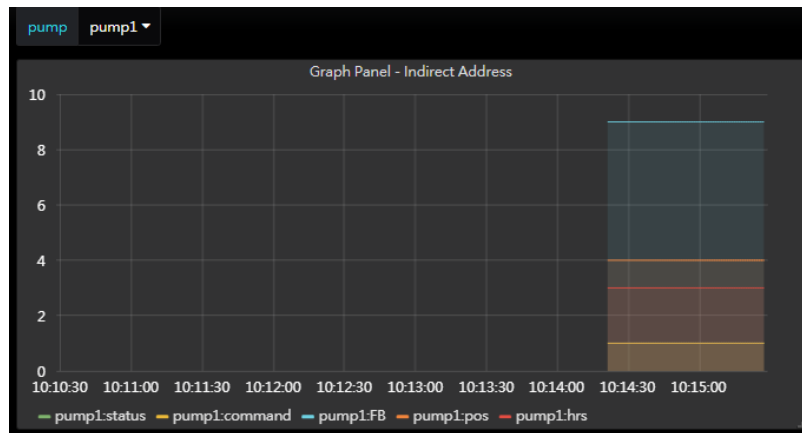
# Advantech SE Technical Share Document

Date	2019 / 01 / 09	Related Product		
Category	<input type="checkbox"/> FAQ <input checked="" type="checkbox"/> SOP <input type="checkbox"/> Driver Tech Note			
Abstract	Using Variables function to achieve Indirect Address			
Keyword	WebAccess/SCADA, Local WISE-PaaS Dashboard, Variable			
Related OS	Win7, Windows Server 2008 / 2012 / 2016, Win10			
Revision History				
Date	Version	Author	Reviewer	Description
2020/01/09	V1.0	Alger Tan		WebAccess/SCADA V8.4.3 Dashboard: V1.3.44
2020/3/13	V1.0		Nick Liu	

## ■ Problem Description & Architecture:

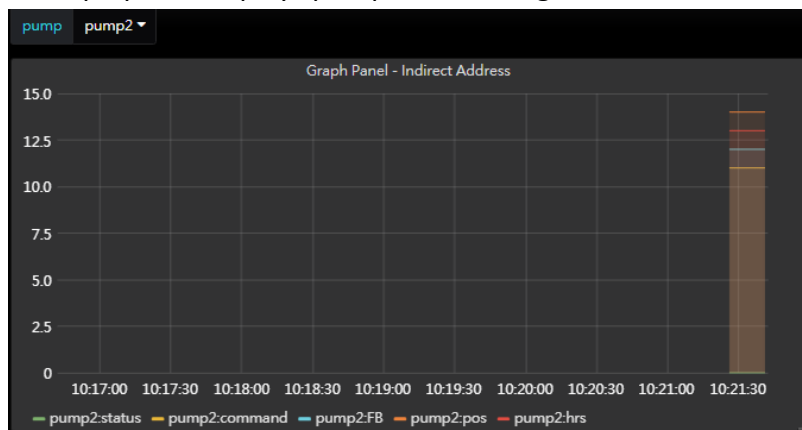
Local WISE-PaaS Dashboard “variables” function allows user to achieve SCADA “Indirect Address” function. AS you may see from following image, a drop-down pump menu allows user to change display tags in Graph panel.

When selecting pump1, Graph panel displays pump1 related tag values



**Figure 1:** select pump1 in drop-down menu

When selecting pump2, Graph panel displays pump2 related tag values.



**Figure 2:** select pump2 in drop-down menu

■ **Brief Solution - Step by Step:**

1. Scenario:

There are three pumps in WebAccess/SCADA and user prefers to display them in Graph panel by using Indirect Address function.

PUMP 1 BLOCK		PUMP 2 BLOCK		PUMP 3 BLOCK	
STATUS	STOP	STATUS	STOP	STATUS	STOP
FREQ. FB	2.00	FREQ. FB	12.00	FREQ. FB	22.00
FREQ. CMD	1.00	FREQ. CMD	11.00	FREQ. CMD	21.00
HOA POS	4.00	HOA POS	14.00	HOA POS	24.00
ETM HRS	3.00	ETM HRS	13.00	ETM HRS	23.00

**Figure 3: three pumps**

### Tag information

Project/Node

WADEMO

Node (Running)

Port1 (api)

BwConst

tag00001

tag00002

tag00003

tag00004

tag00005

tag40001

tag40002

tag40003

tag40004

tag40005

Port2 (api)

pump

pump1

pump2

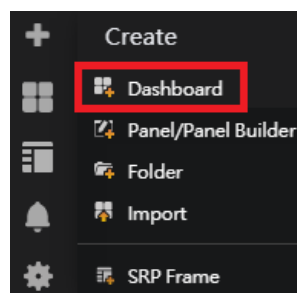
pump3

Device: WADEMO • Node • pump

	Tagname		Description
<input type="checkbox"/>	pump1:command	A	PUMP 1:FREQ Command
<input type="checkbox"/>	pump1:FB	A	PUMP 1:FREQ FB
<input type="checkbox"/>	pump1:hrs	A	PUMP 1:ETM HRS
<input type="checkbox"/>	pump1:pos	A	PUMP 1:HOA POS
<input type="checkbox"/>	pump2:command	A	PUMP 2:FREQ Command
<input type="checkbox"/>	pump2:FB	A	PUMP 2:FREQ FB
<input type="checkbox"/>	pump2:hrs	A	PUMP 2:ETM HRS
<input type="checkbox"/>	pump2:pos	A	PUMP 2:HOA POS
<input type="checkbox"/>	pump3:command	A	PUMP 3:FREQ Command
<input type="checkbox"/>	pump3:FB	A	PUMP 3:FREQ FB
<input type="checkbox"/>	pump3:hrs	A	PUMP 3:ETM HRS
<input type="checkbox"/>	pump3:pos	A	PUMP 3:HOA POS
<input type="checkbox"/>	pump1:status	D	PUMP 1:STATUS
<input type="checkbox"/>	pump2:status	D	PUMP 2:STATUS
<input type="checkbox"/>	pump3:status	D	PUMP 3:STATUS

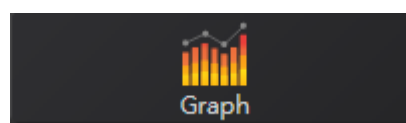
### Figure 4: Tags

2. Create a new Dashboard page  
" +" -> Dashboard



**Figure 5: add a new Dashboard page**

3. Add a “Graph” panel



**Figure 6: add a Graph panel**

4. Click "Save Dashboard" and name it "variables\_pump"

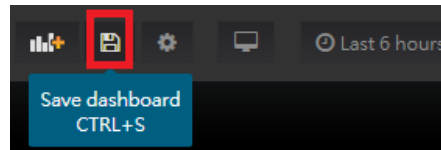


Figure 7: Save Dashboard

5. Click "Settings" to create a variable in Variables function

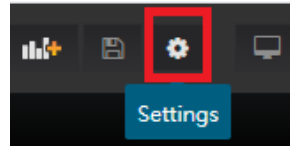


Figure 8: Settings for adding variables

Settings -> Variables -> Add variable



Figure 9: add a variable

6. Add a new variable
  - Step 1: change Type to "Custom"
  - Step 2: enter "pump1,pump2,pump3" in Custom Options  
Note: **we use variable to replace Block name**
  - Step 3: enter a Name, e.g. "pump" in this FAQ
  - Step 4: click "Add"

### Variables > New

General

step 3

Name

pump

step 1

Type

Custom

Label

optional display name

Hide

Custom Options

Values separated by comma

step 2

pump1,pump2,pump3

Selection Options

Multi-value

☐

Include All option

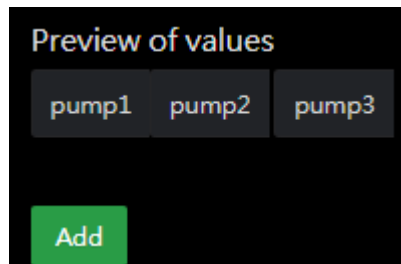
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step 4

Add

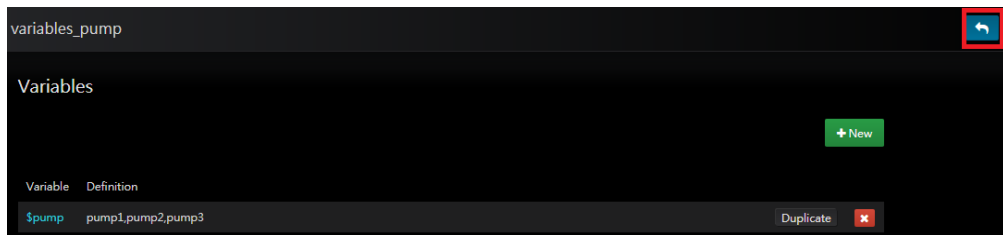
**Figure 10:** add a variable with Custom type

7. Preview of Values appears for user to confirm his configuration, click “Add” button to continue.



**Figure 11:** Preview

8. A new variable “\$pump” is add and then click “Back to Dashboard” button



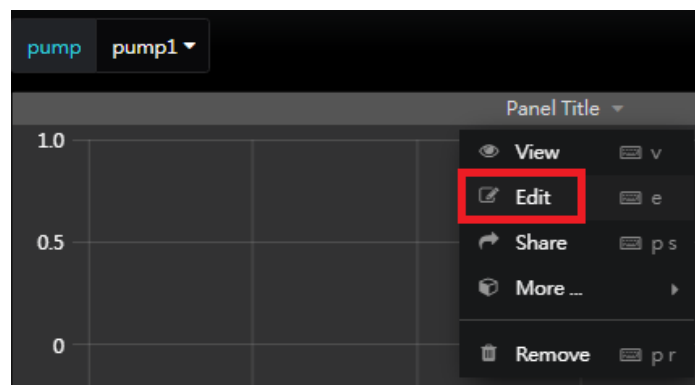
**Figure 12:** back to Dashboard

9. Drop-down menu will appears in the top of the page



**Figure 13:** pump drop-down menu

10. Now user has to bundle pump variable with Graph panel  
Click “Edit” in Graph Panel



**Figure 14:** Edit Graph Panel

11. Click “Metrics” tab and add five queries (use \$variable to replace Block name)
  - Timeserie; realtime trend; \$pump:status
  - Timeserie; realtime trend; \$pump:command
  - Timeserie; realtime trend; \$pump:FB
  - Timeserie; realtime trend; \$pump:pos
  - Timeserie; realtime trend; \$pump:hrs

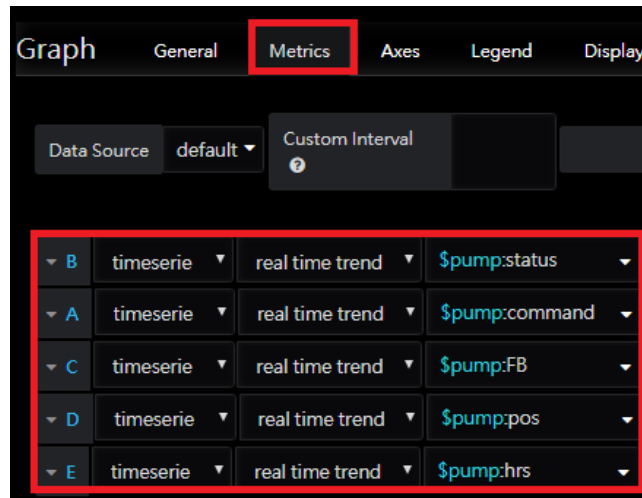


Figure 15: Metrics property

12. Click "General" tab and change Title to "Graph Panel – Indirect Address"

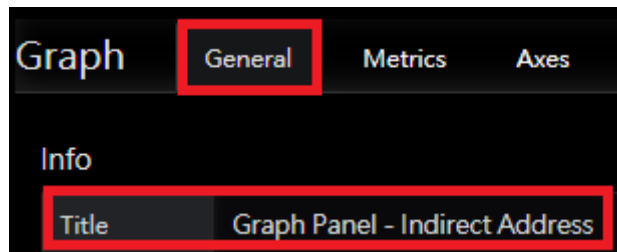


Figure 16: General property

13. Modify time range and save Dashboard

- Step 1: click to modify monitor time range
- Step 2: change range based on need, e.g. "Last 5 minutes"
- Step 3: change Refreshing Every based on need, e.g. 5s (5 seconds)
- Step 4: click "Apply" button
- Step 5: save Dashboard page

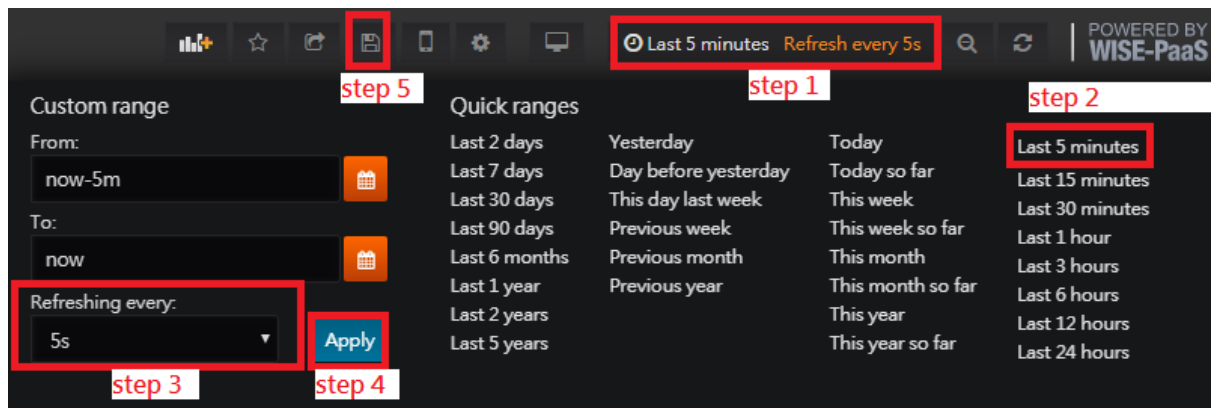
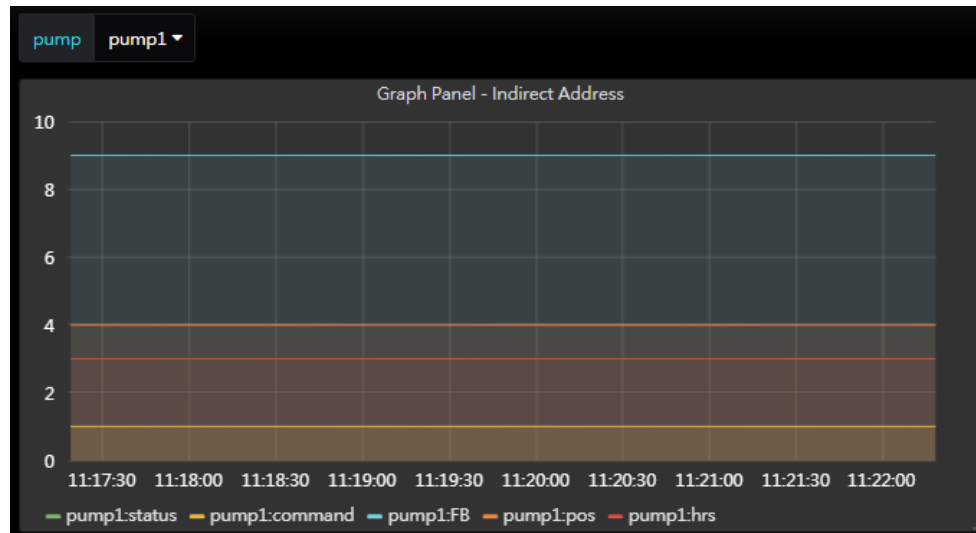


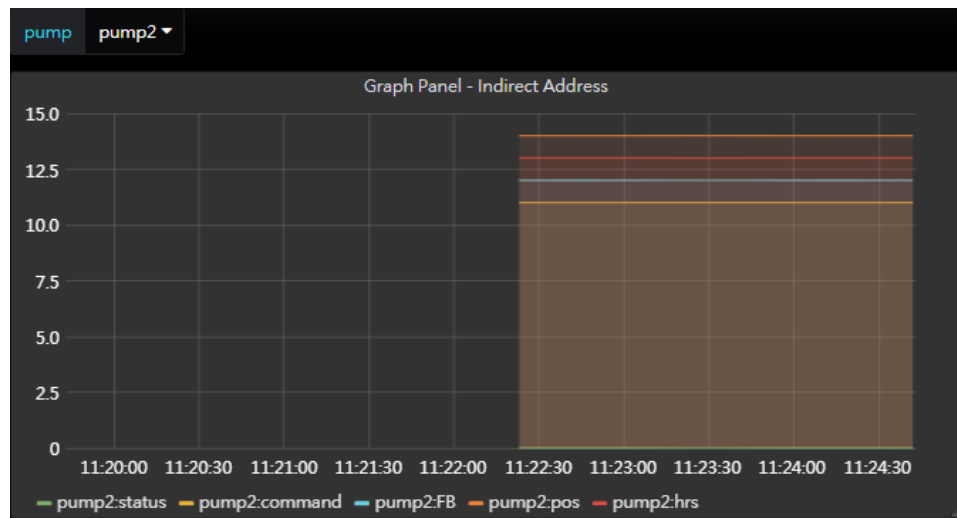
Figure 17: Time Range

## 14. Result of clicking pump1 in drop-down menu



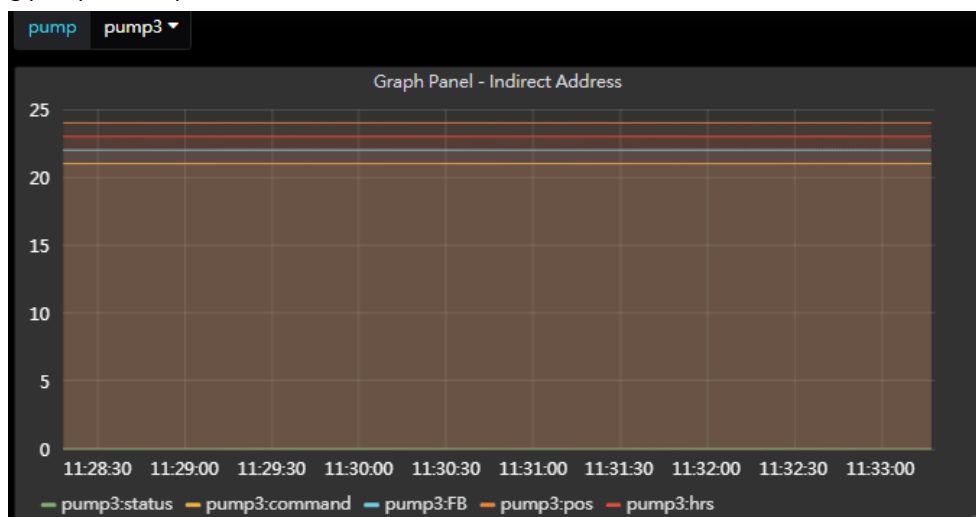
**Figure 18:** result of showing pump1

## Result of clicking pump2 in drop-down menu



**Figure 19:** result of showing pump2

## Result of clicking pump3 in drop-down menu



**Figure 20:** result of showing pump3

- **Pin Definition (in case of serial connection):**
  
- **Reference:**