WebAccess - IoT Software

Step by Step Training Material

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Index

Creating a Project

Steps to Create a WebAccess Project

Six Phases

- **Six Phases to Complete a WebAccess Project:**

Phase 1: Project Home (Link WebAccess to the Hardware)

- Step 1: Create a Project Node
- Step 2: Create a SCADA Node
- Step 3: Create a Communication Port
- Step 4: Determine Device Type
- Step 5: Create IO Tags

Phase 2: Download Project to SCADA Node

Phase 3: Draw / DrawDAQ (Creating Graphic User Interface (GUI))

Phase 4: Download Draw / DrawDAQ to SCADA Node

Phase 5: Start Kernel (Run at SCADA Node)

Phase 6: View / ViewDAQ (Graphic Display)

Phase 1 Detail

Step 1. Create a Project Node
- Create a Project Name
- Assign Project Node IP Address

Step 2. Create a SCADA Node
- Connecting to all kind of Automation Devices
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- Example: ADAM-4K Series (COM Port) => Serial
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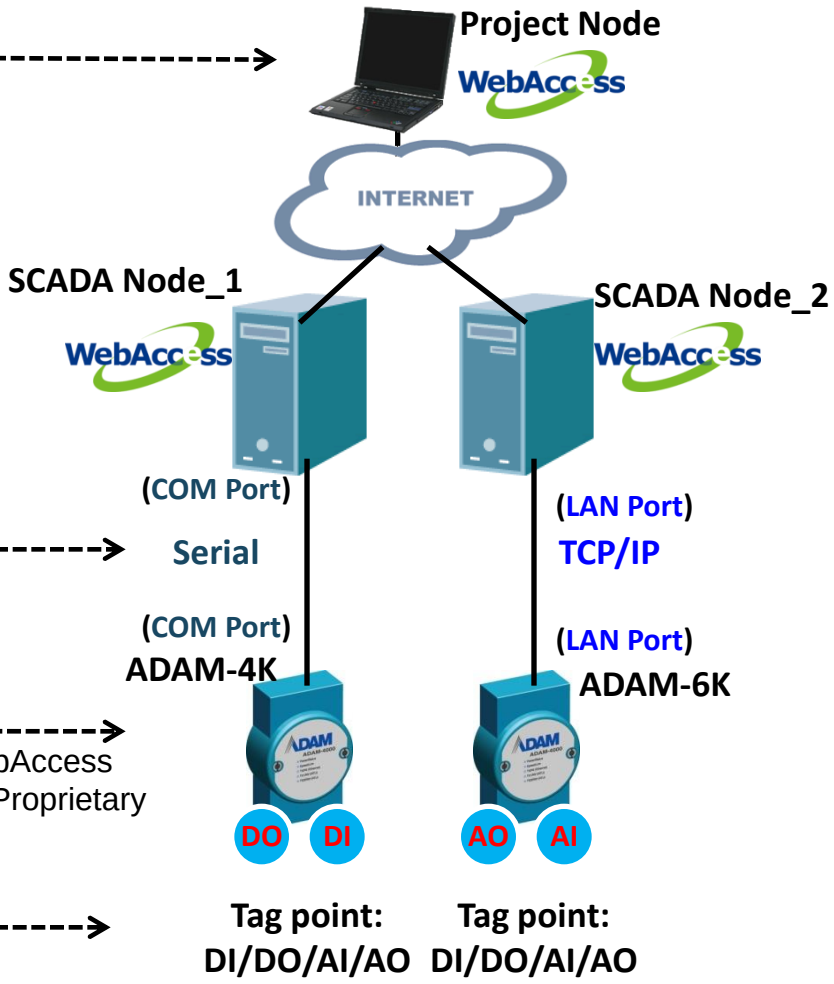
Step 4. Determine Device Type
- Determines the communication Protocol used by WebAccess
- Example, Modbus RTU, Modbus Ethernet, Or Other Proprietary Protocol etc…

Step 5. Create Tags/Assign Tag Addresses
- Create and assign tag address according to physical DI/DO/AI/AO point of Automation Device.
- Each “Tag” is an unique identifier



Tag Introduction
- Hardware Tag-

- **WebAccess has two types of Tag:**
  - **Hardware Tag (connect to hardware)**
  - **Software Tag (NOT read hardware IO directly)**
    - **Constant Tag**
    - **Accumulation Tag**
    - **Calculation Tag**
    - **System Tag**

Phase 1:

Project Home

(Link WebAccess to the Hardware)

Phase 1: Project Home

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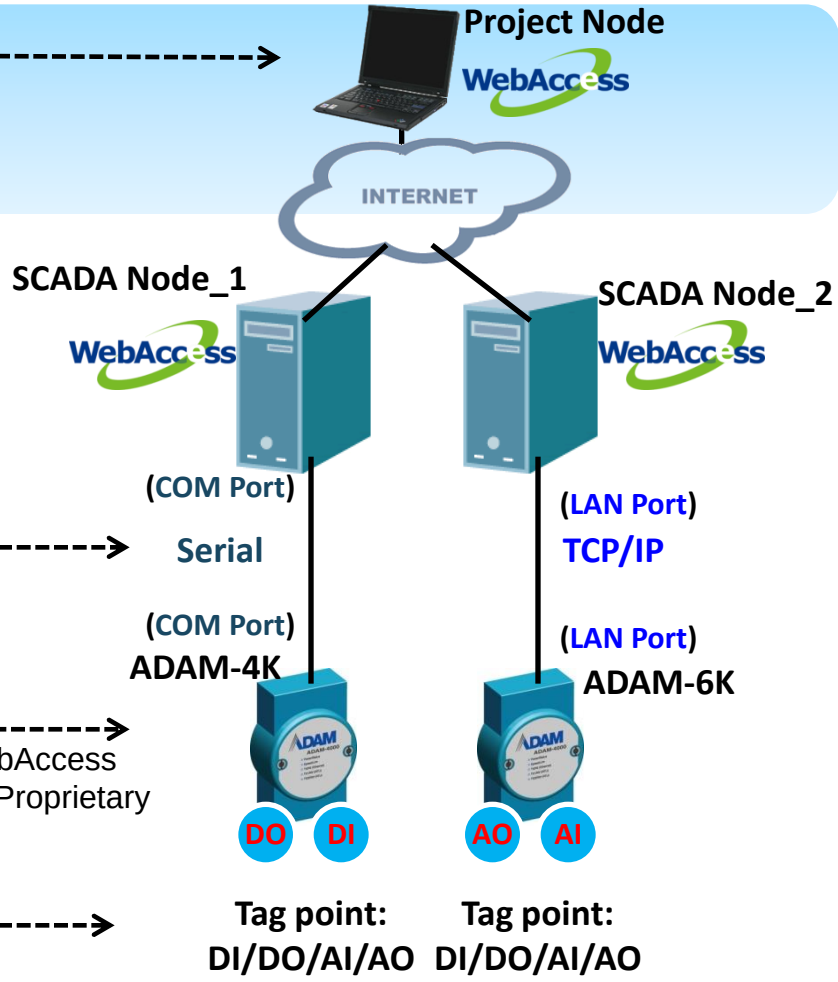
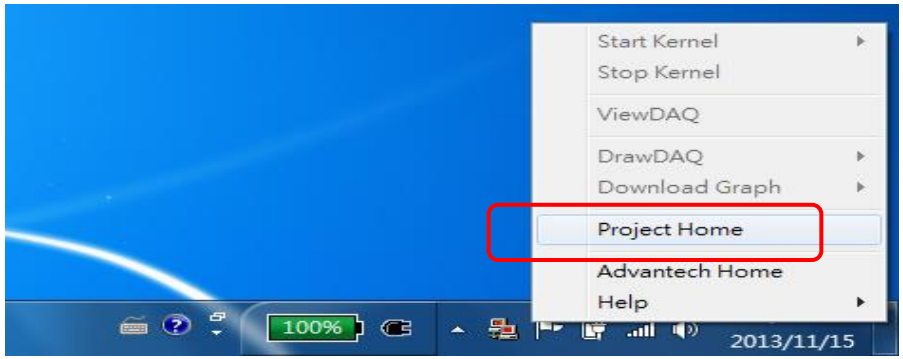


Phase 1: Project Home

- After finishing WebAccess installation and rebooting the computer, there will be a small computer icon  appears in the right bottom side of the screen.
- Move mouse cursor over the computer icon, it will show WebAccess version and released date.

Phase 1: Project Home

- **Move mouse cursor over the WebAccess icon and clicking left button of mouse. Select “Project Home”**



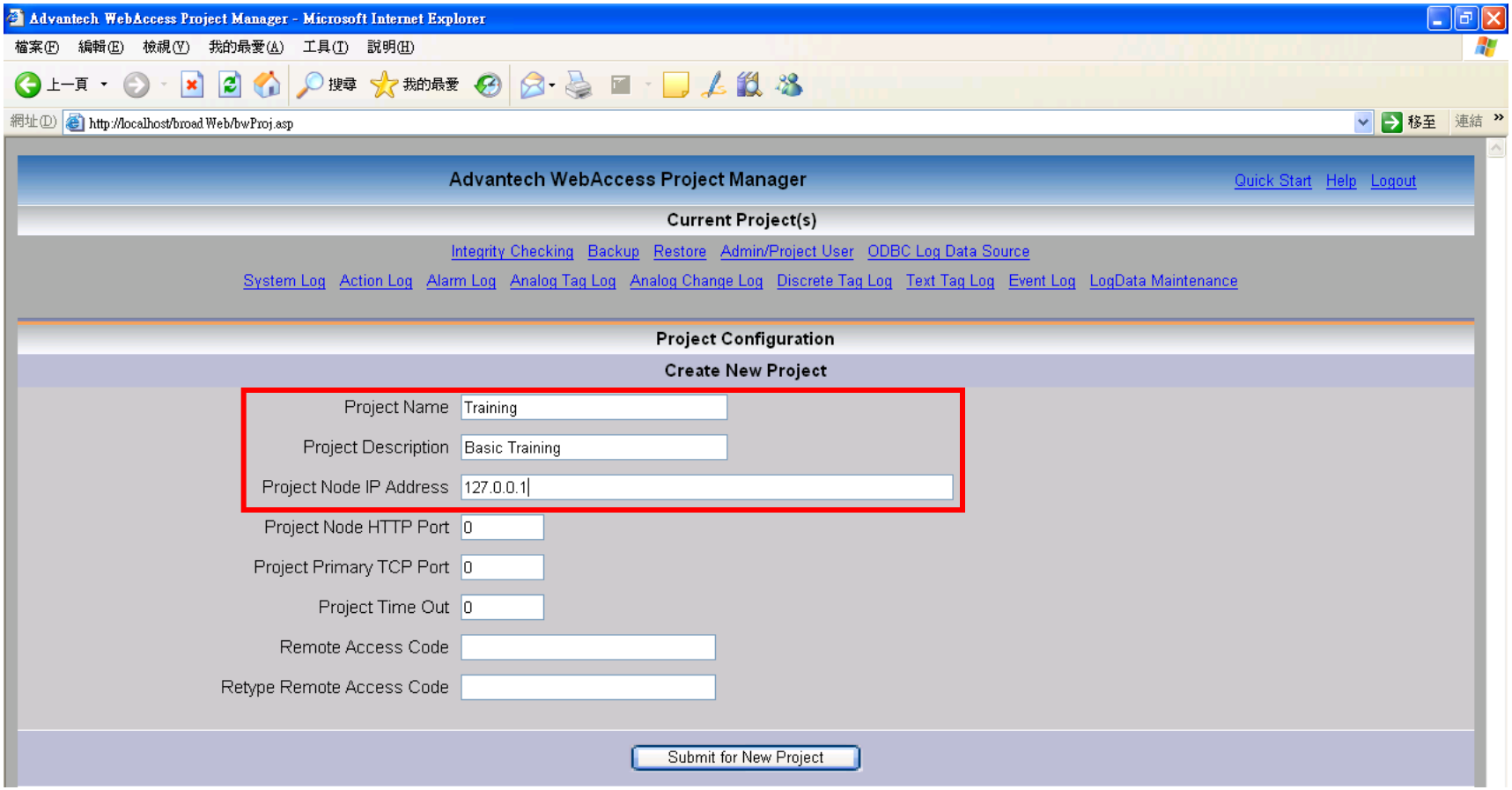
- **Clicking “Project Management”**

Phase 1: Project Home

- **User name is “Admin” and there is no password in default setup.**
- **Directly click “Login” button to log into the WebAccess**

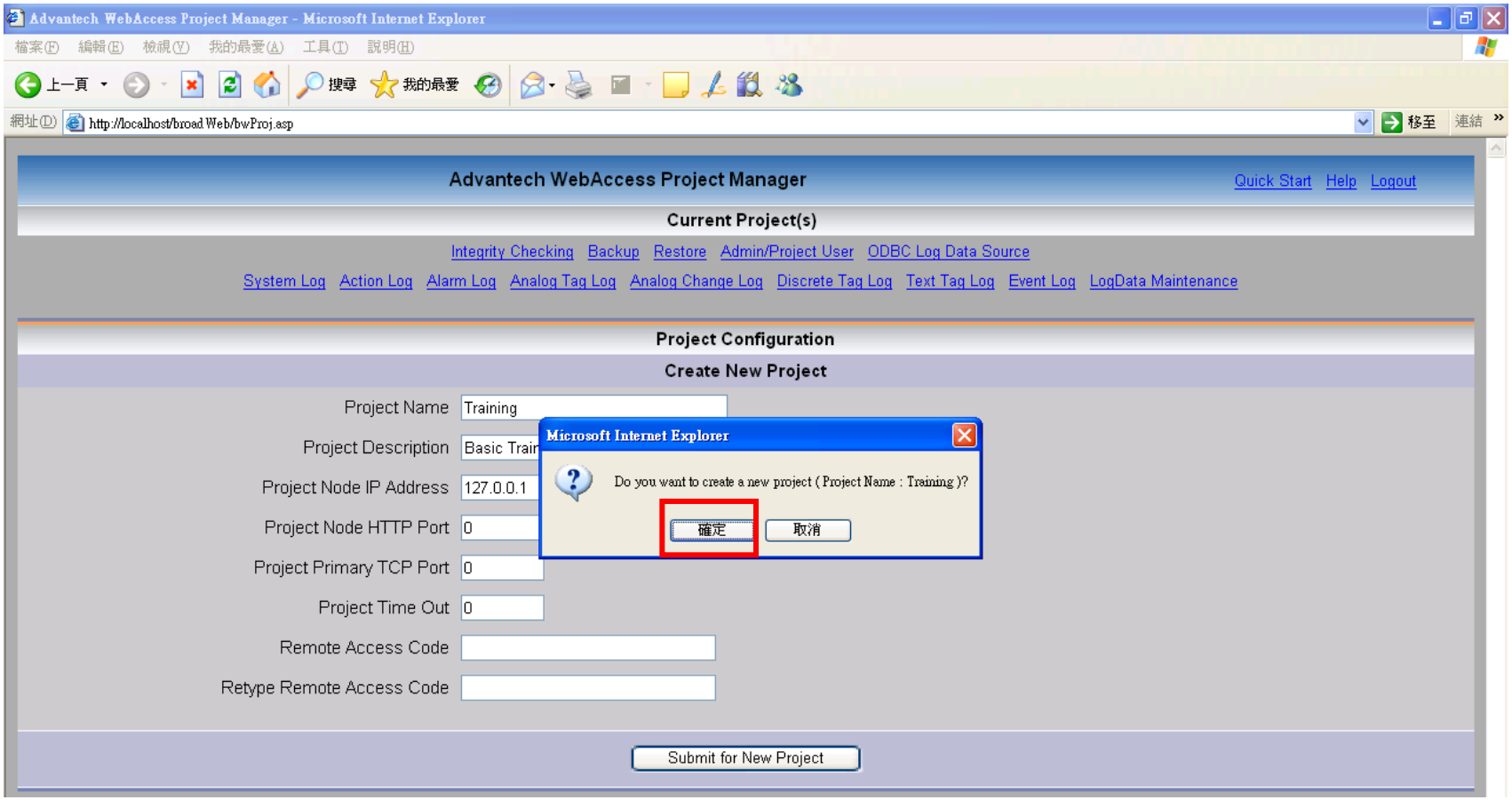
Phase 1 - Step 1: Creating a Project Node

- **Enter Project Name (ex. Training) and IP Address(127.0.0.1)**
- **Either IP Address or Computer Name is allowed in Project Name**
- **Click “Submit for New Project” after entering Project Name and IP Address**



Phase 1 - Step 1: Creating a Project Node

- **After clicking “Submit for New Project” button, a confirmation dialog box will pop out.**
- **Click “Yes” to create the project**



Phase 1: Project Home

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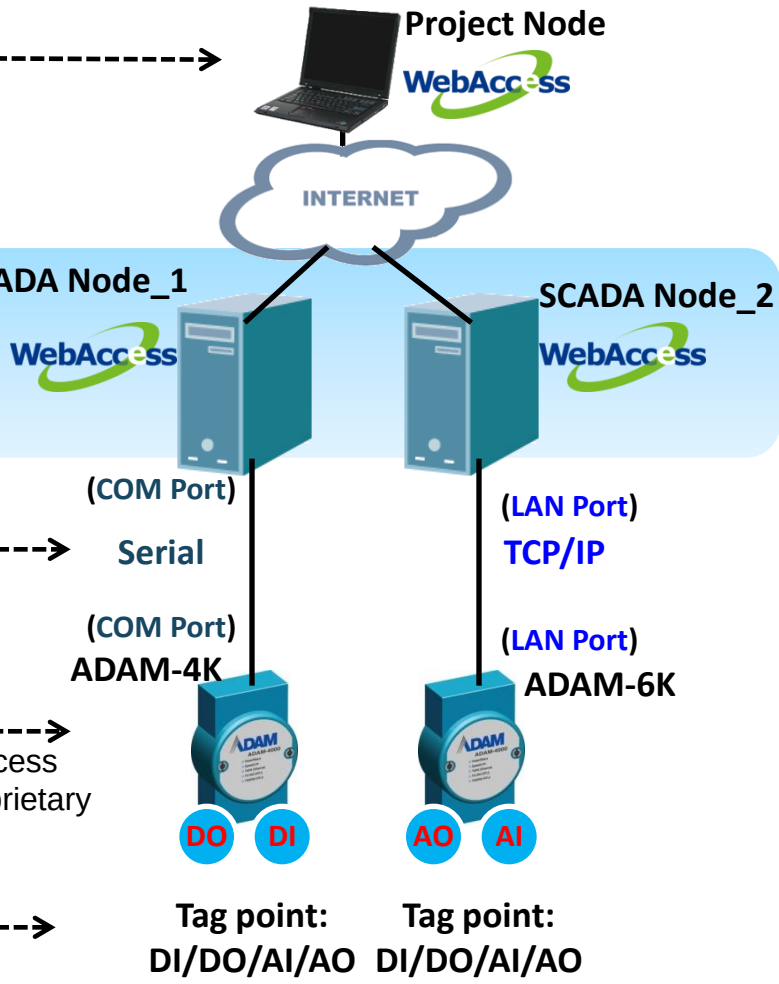
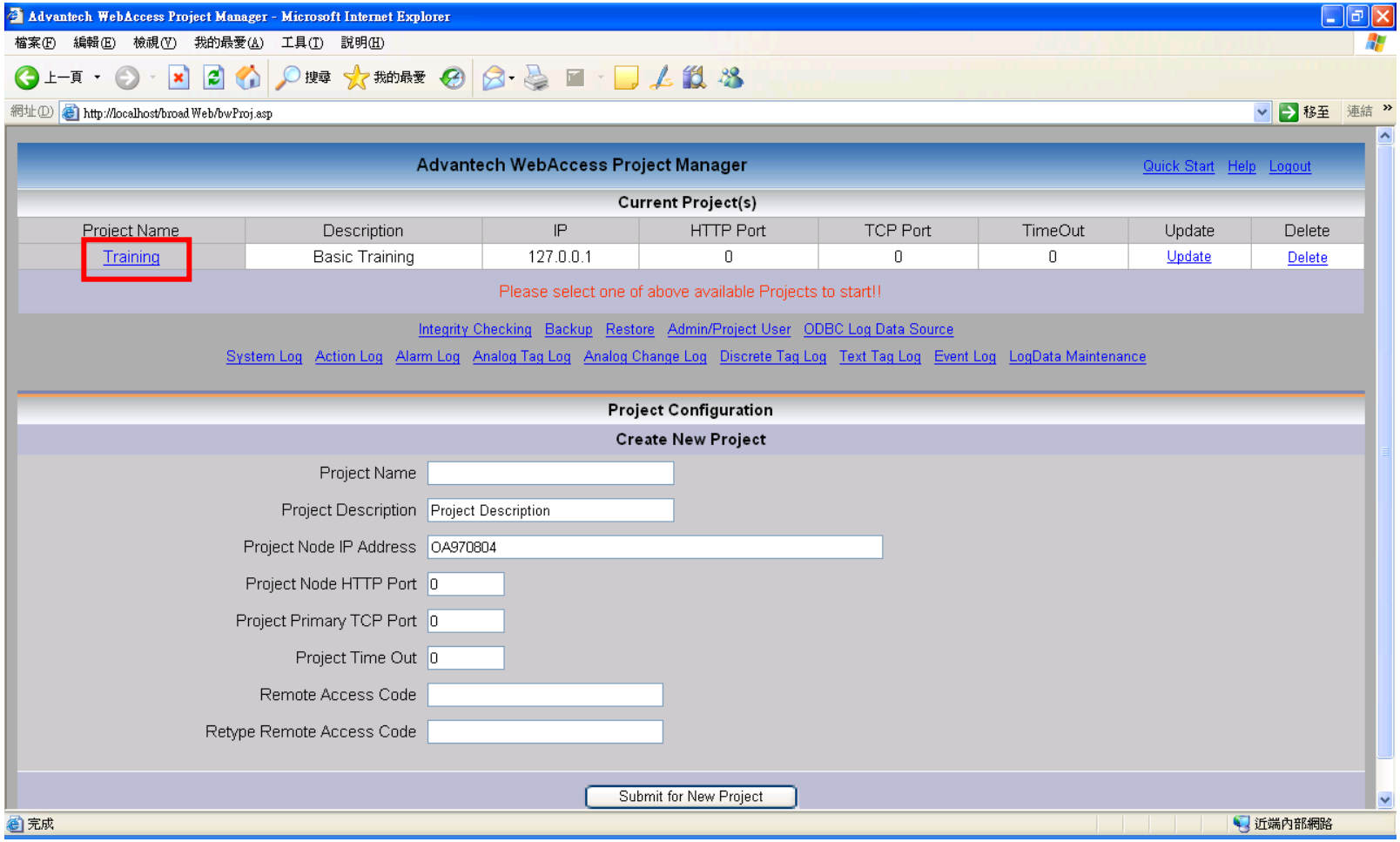


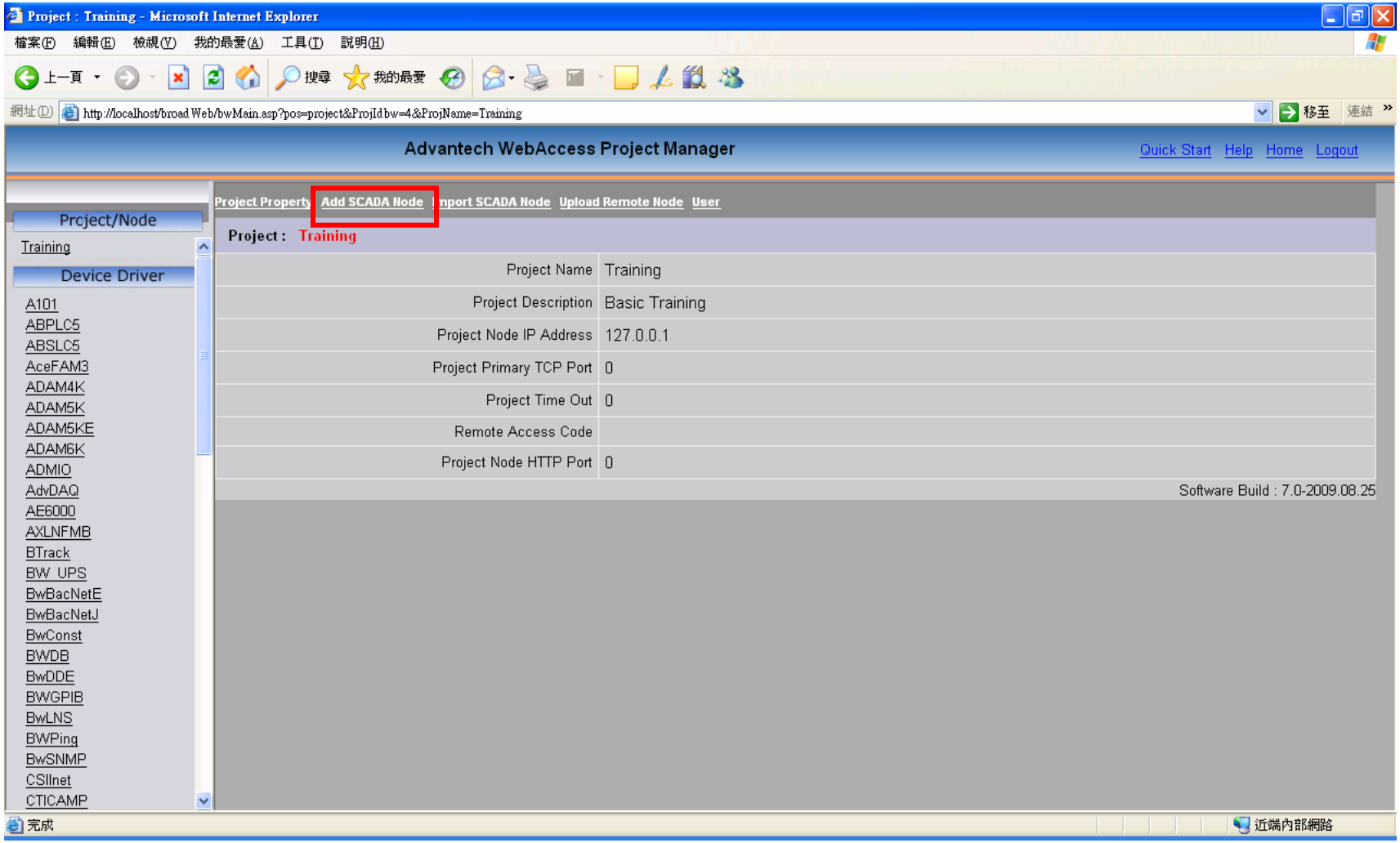
Phase 1 - Step 2: Creating a SCADA Node

- **The Project Node is created.**
- **Click “Training” to create a SCADA Node**



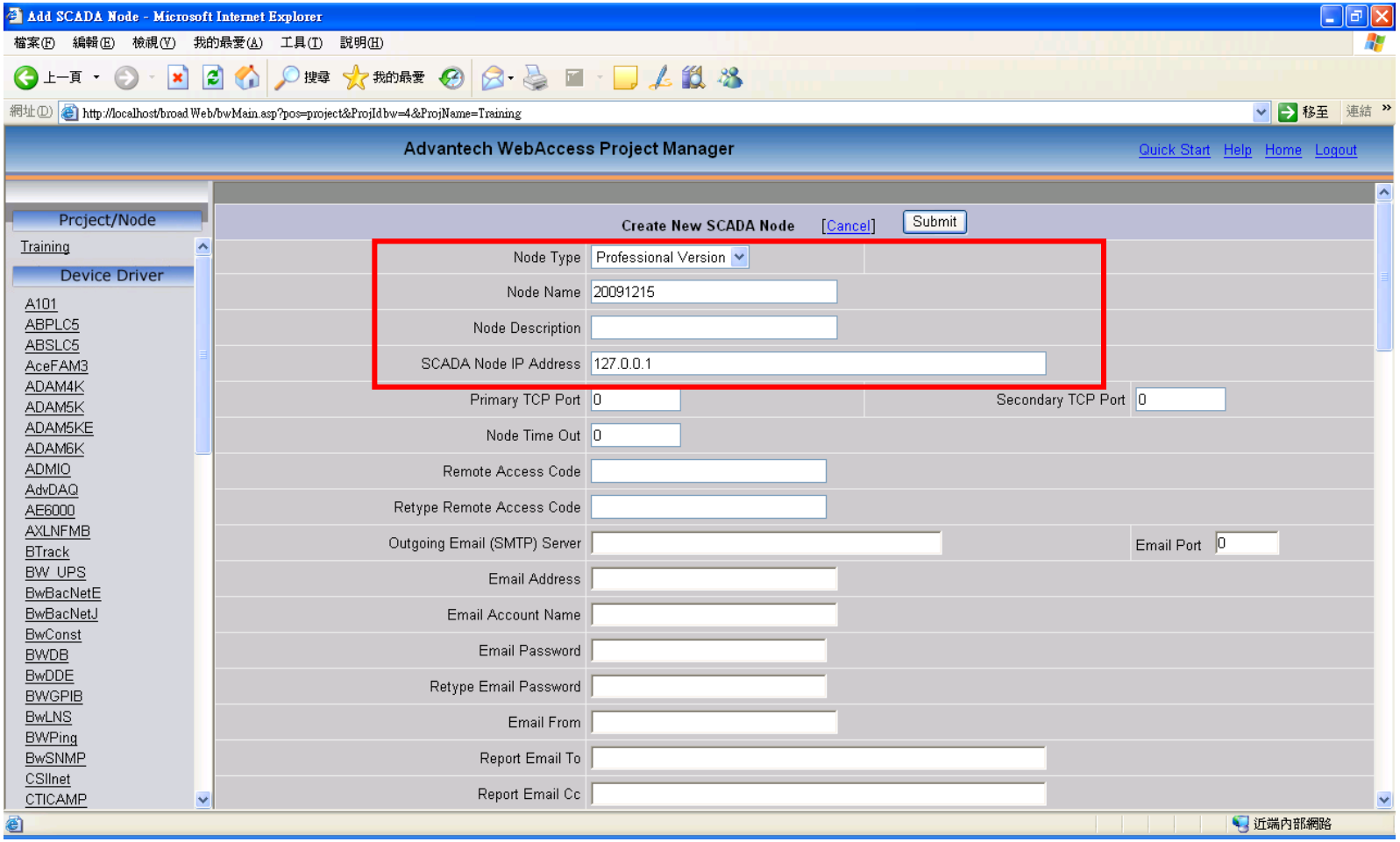
Phase 1 - Step 2: Creating a SCADA Node

- **Click “Add SCADA Node”**



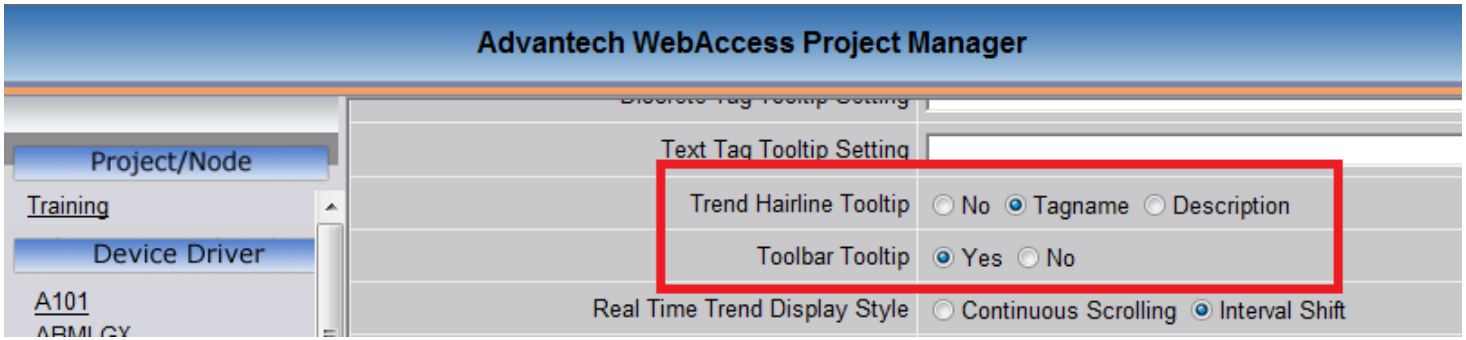
Phase 1 - Step 2: Creating a SCADA Node

- **Node Type: Professional Version (depend on your computer)**
- **Node Name (ex. 20091215) and IP Address (ex. 127.0.0.1)**

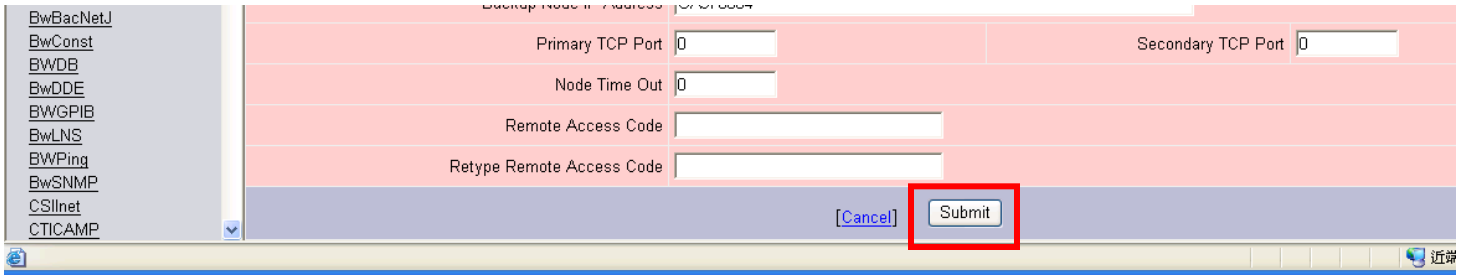


Phase 1 - Step 2: Creating a SCADA Node

- **Select “Tagname” in Trend Hairline Tooltip**
- **Click “Yes” in toolbar Tooltip**



- **Click “Submit”**



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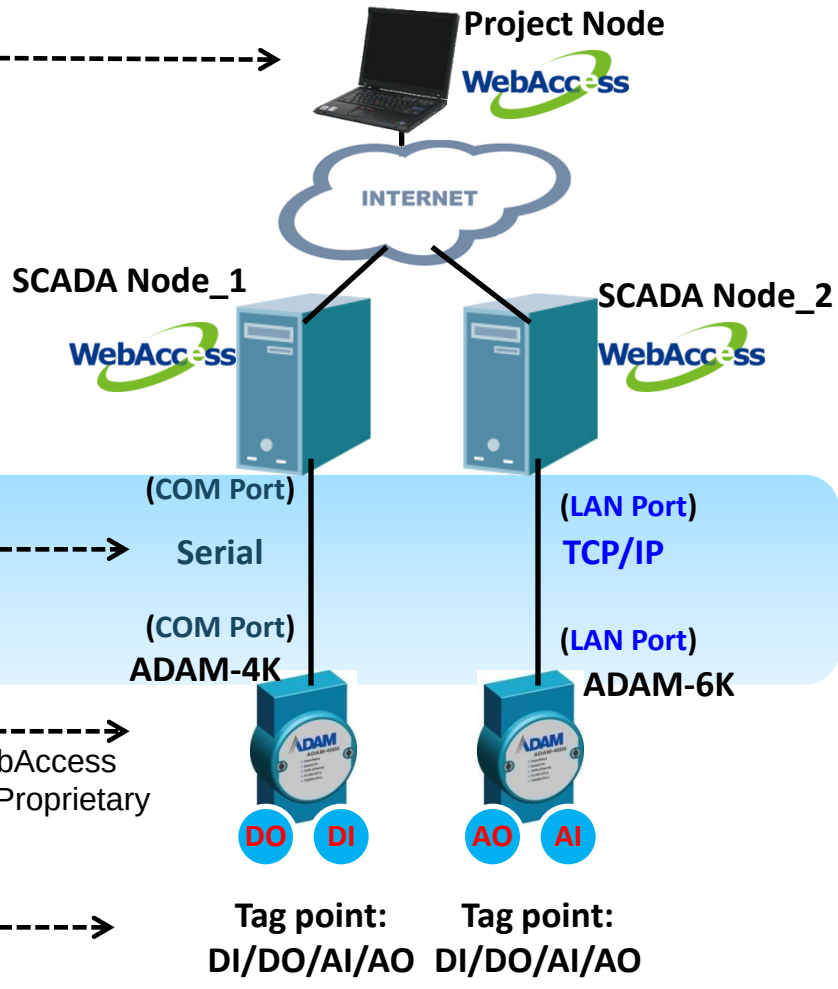
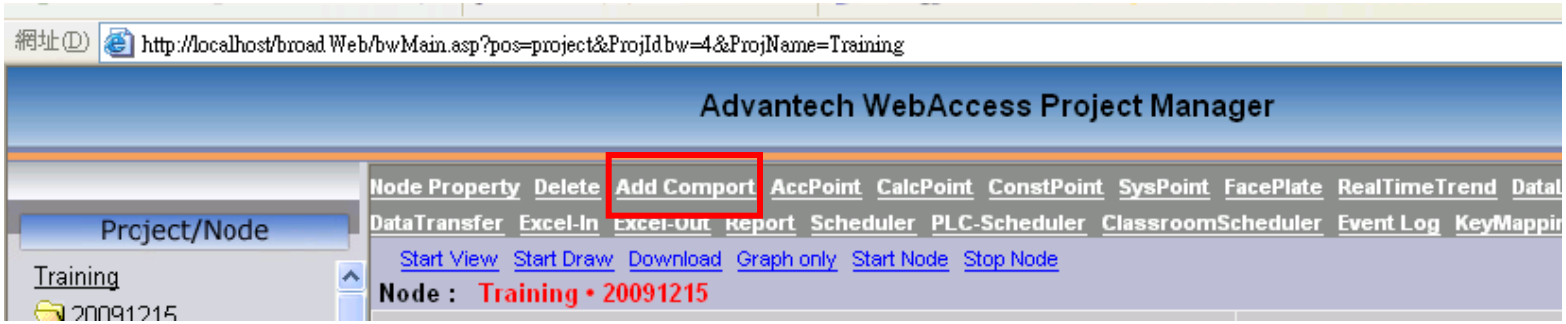
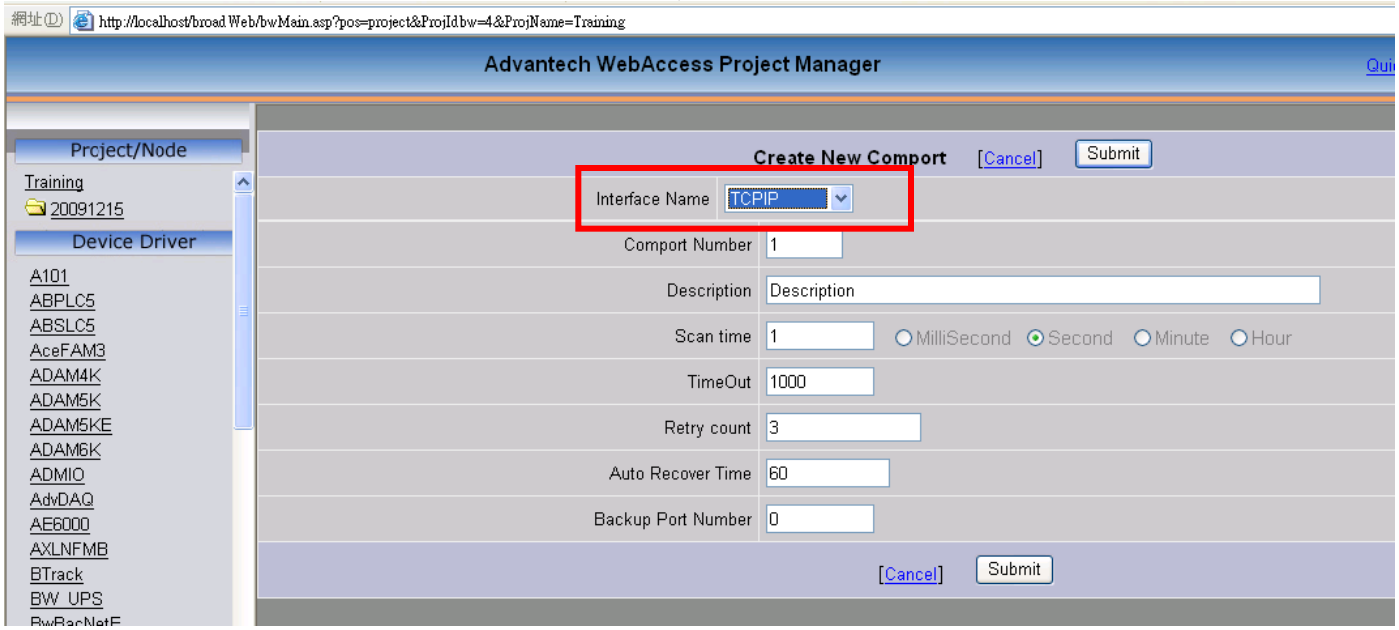


Phase 1 - Step 3: Determine a Comm Port

- **SCADA Node is created; click “Add Comport”**



- **Select “TCPIP” in Interface Name, then click “Submit”**



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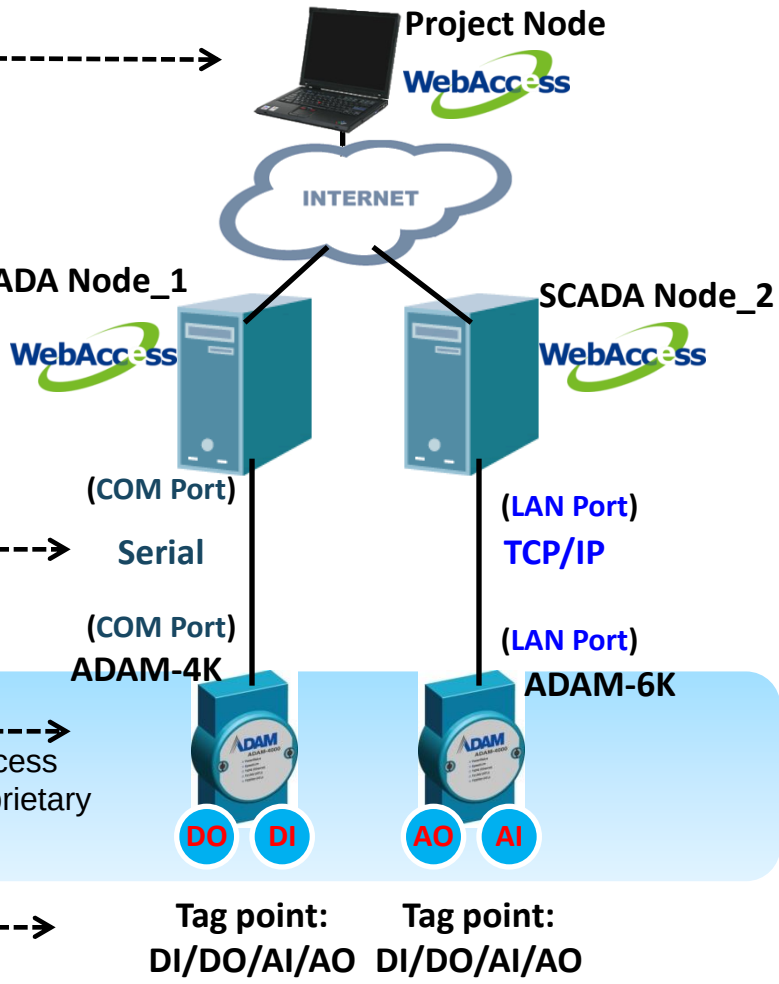
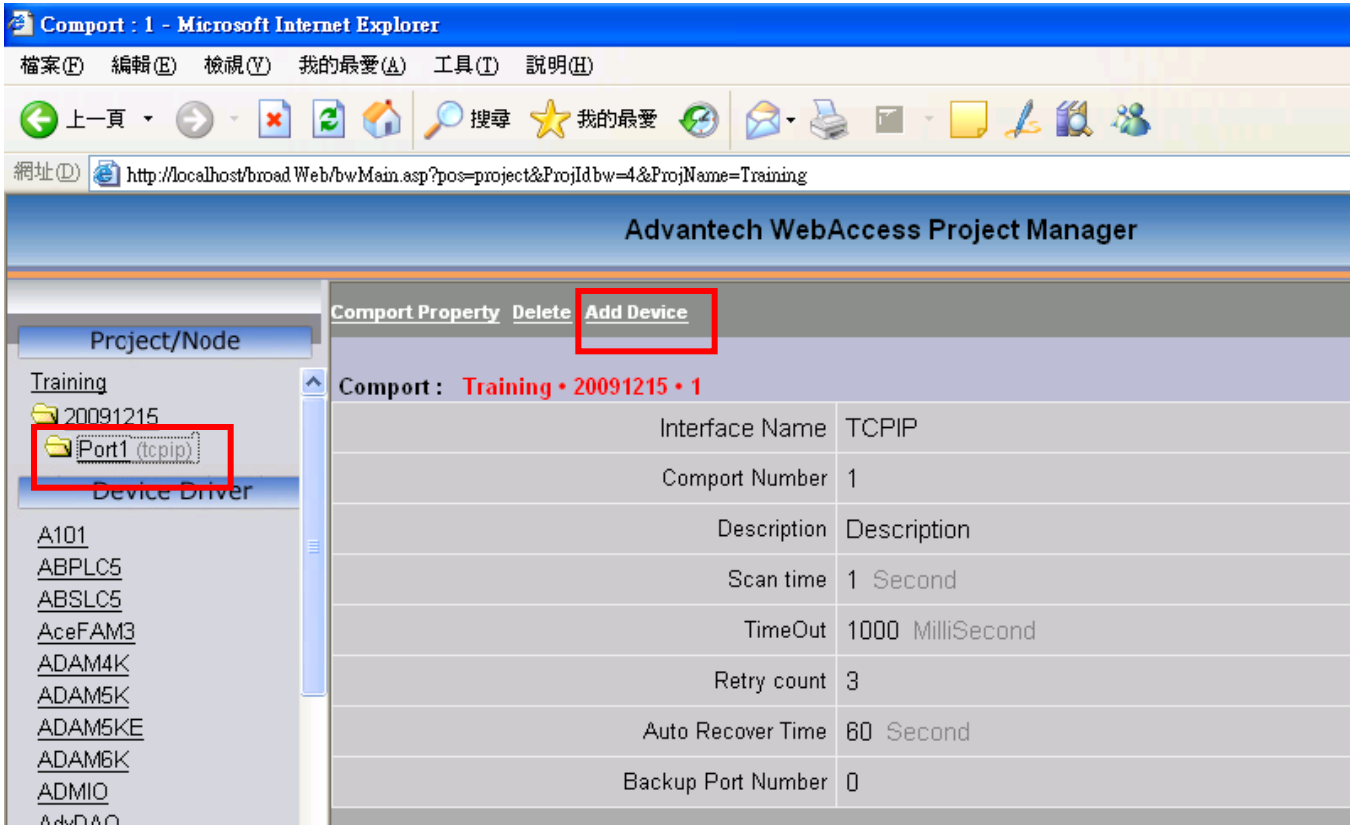


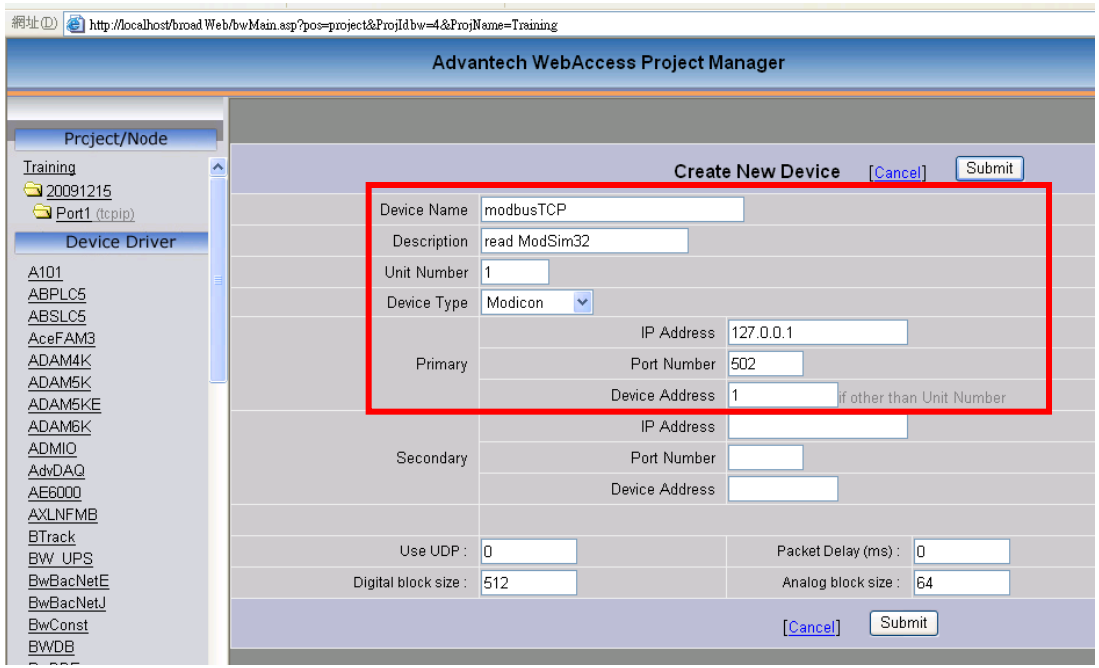
Phase 1 - Step 4: Determine a Device Type

- **Click “Port1”, then click “Add Device”**



Phase 1 - Step 4: Determine a Communication Port

- **Device Type: Modicon**
- **Device Name: modbusTCP (any name user wants to enter)**
- **Unit Number: 1**
- **IP Address: 127.0.0.1**
- **Port Number: 502 (based on ModSim32 setup)**
- **Device Address: 1**
- **After entering the above info, click “Submit” button**



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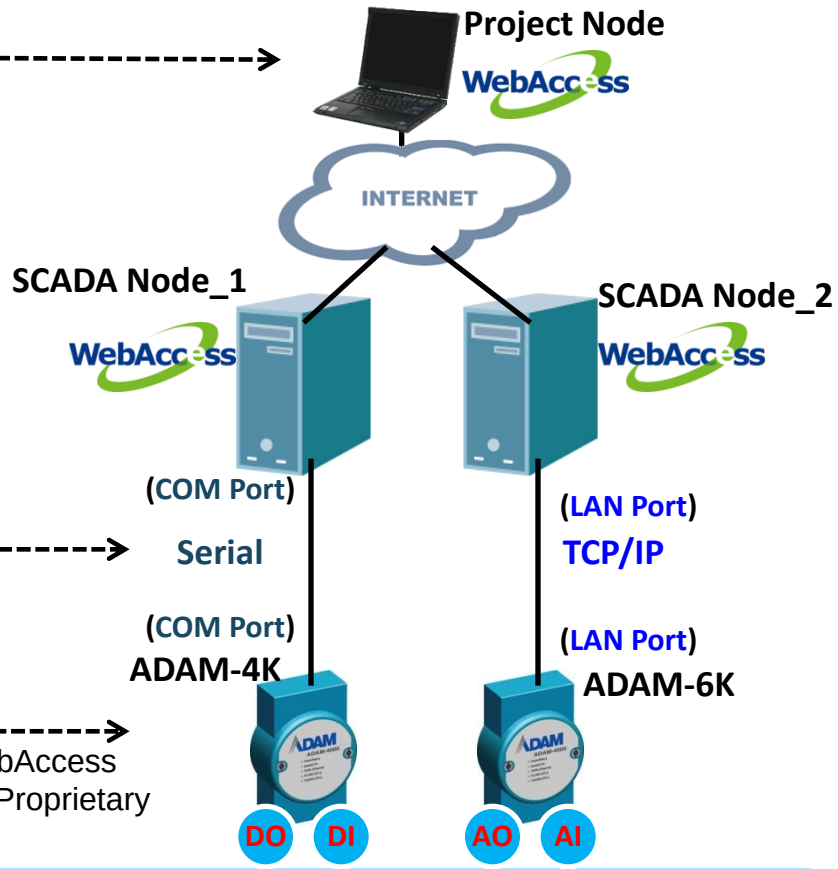
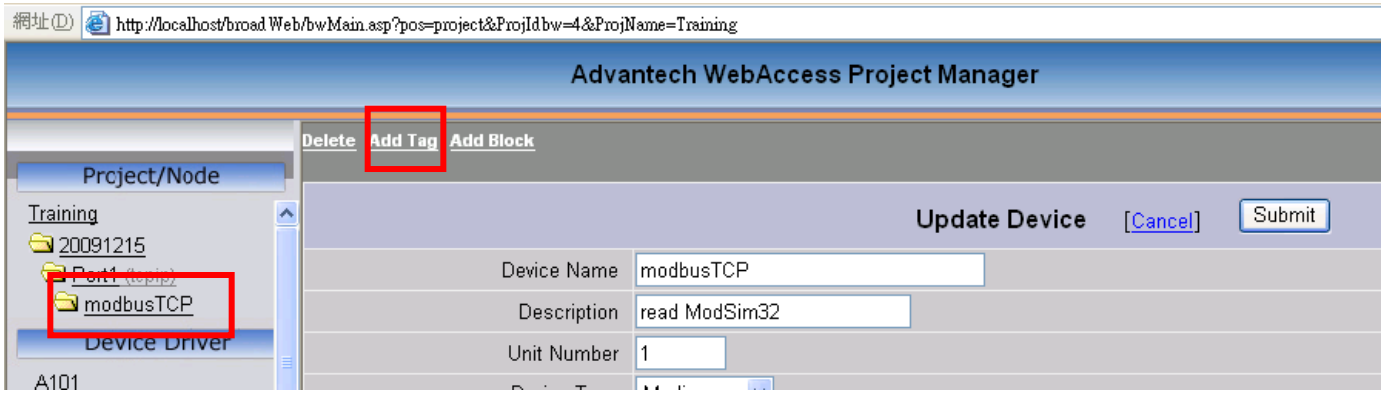


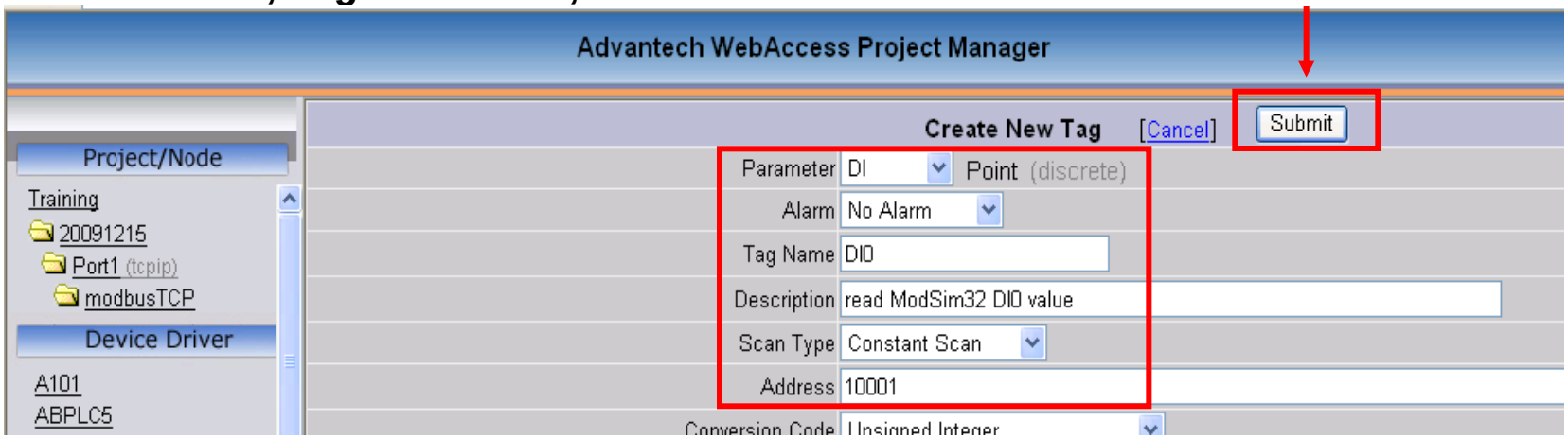
Phase 1 - Step 5: Create Tags / Assign Tag Addresses

- **modbusTCP device will be created, then click “Add Tag”**
- **We have to create one DI tag to get Modbus DI value.**



- **The following three fields must be filled.**
- **Parameter: DI; Tag Name: DI0; Address 10001**

Click “submit” after entering all necessary info



Phase 1 - Step 5: Create Tags / Assign Tag Addresses

- **The created tag will show on the right hand side.**

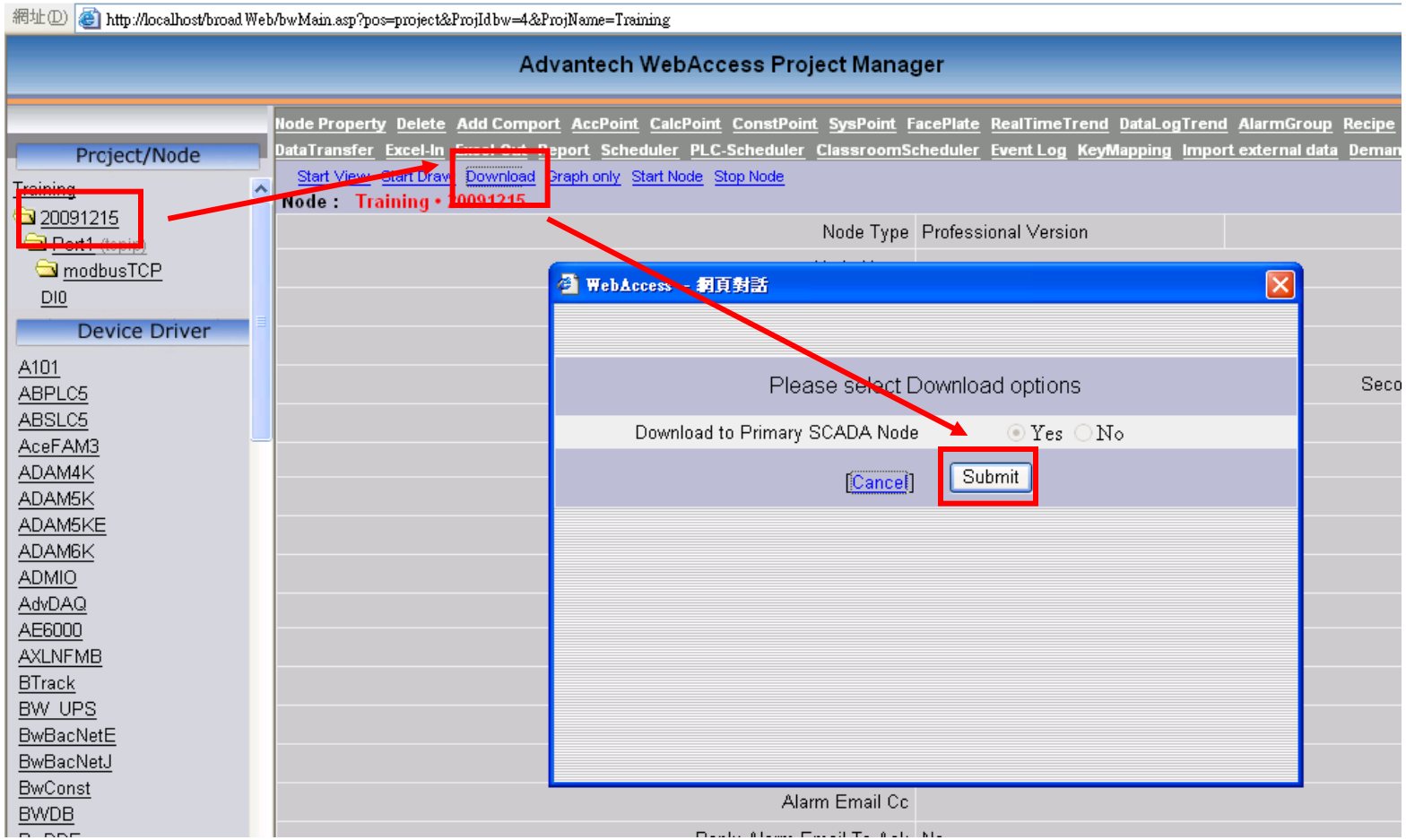
- **After SCADA Node and tag are created, we have to download them to the SCADA Node computer. In this practice, Project Node and SCADA node are in the same computer (IP Address: 127.0.0.1)**

Phase 2:

Download Project to SCADA Node

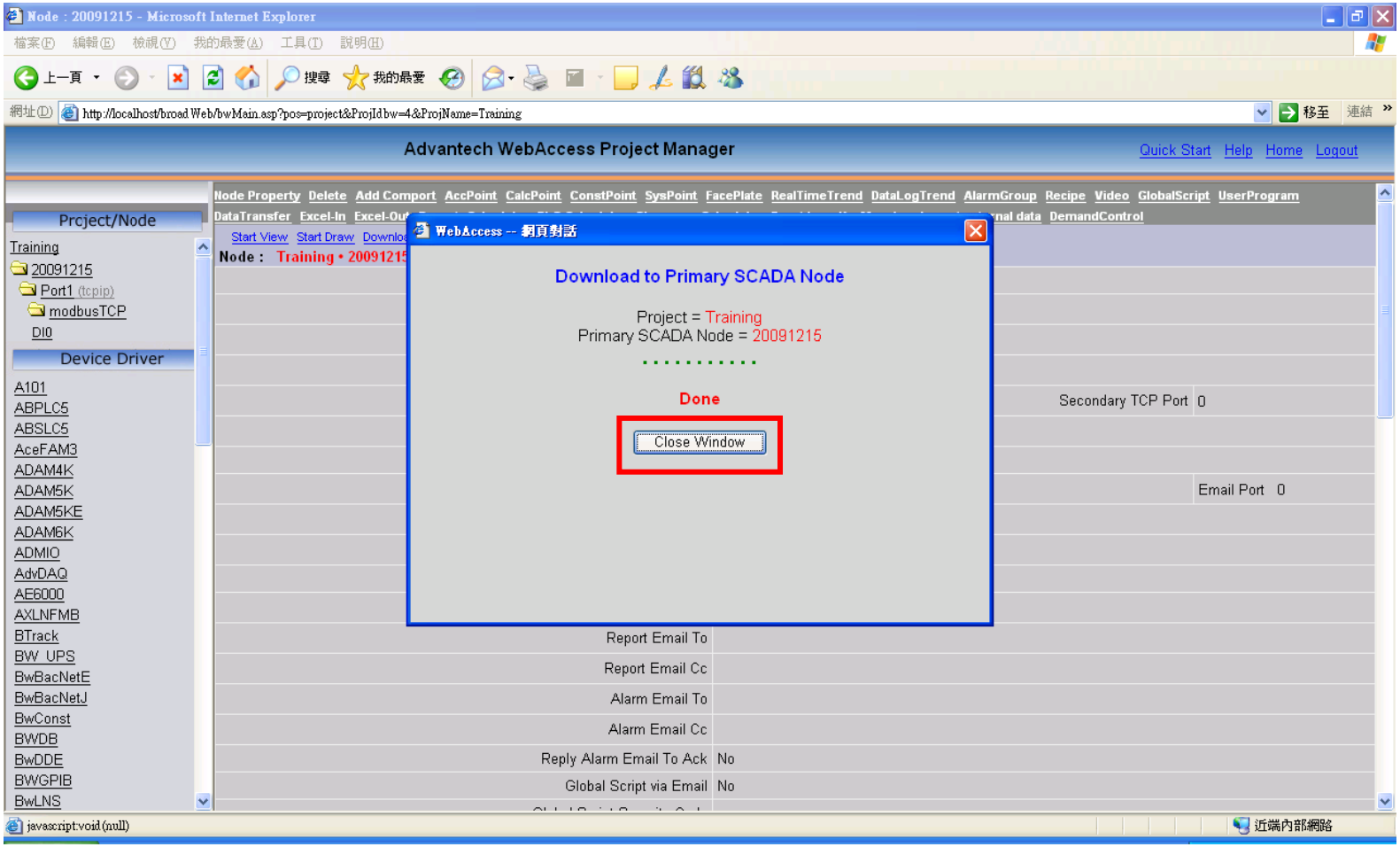
Phase 2: Download Project to SCADA Node

- **Click SCADA Node (20091215) and click “Download”**
- **In the Download dialog box, click “Submit” button**



Phase 2: Download Project to SCADA Node

- **Once the Download process is done, the Done dialog box will pop out. Simply click “Close Window” button to finish the process.**



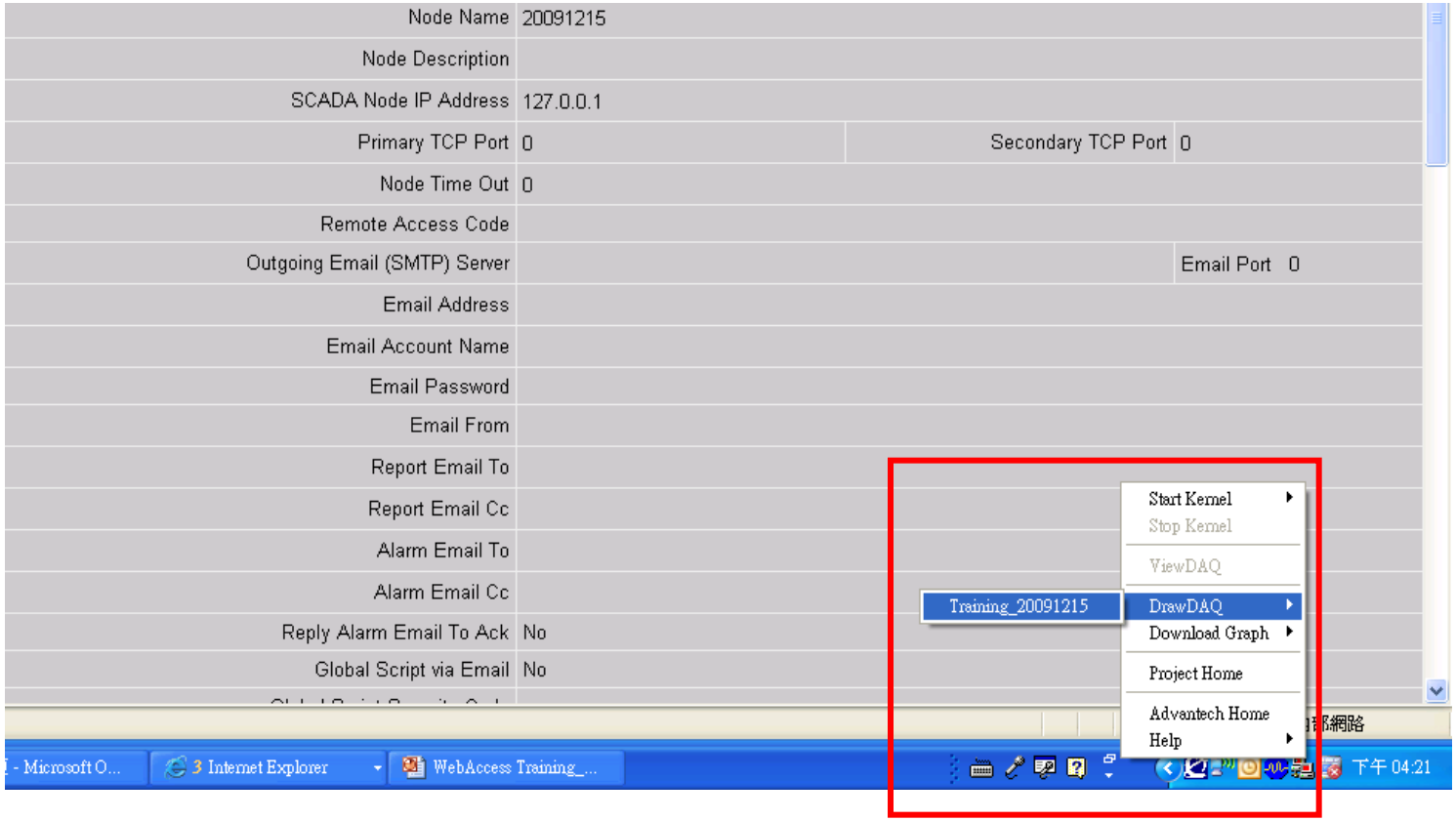
Phase 3:

Draw / DrawDAQ

(Creating GUI)

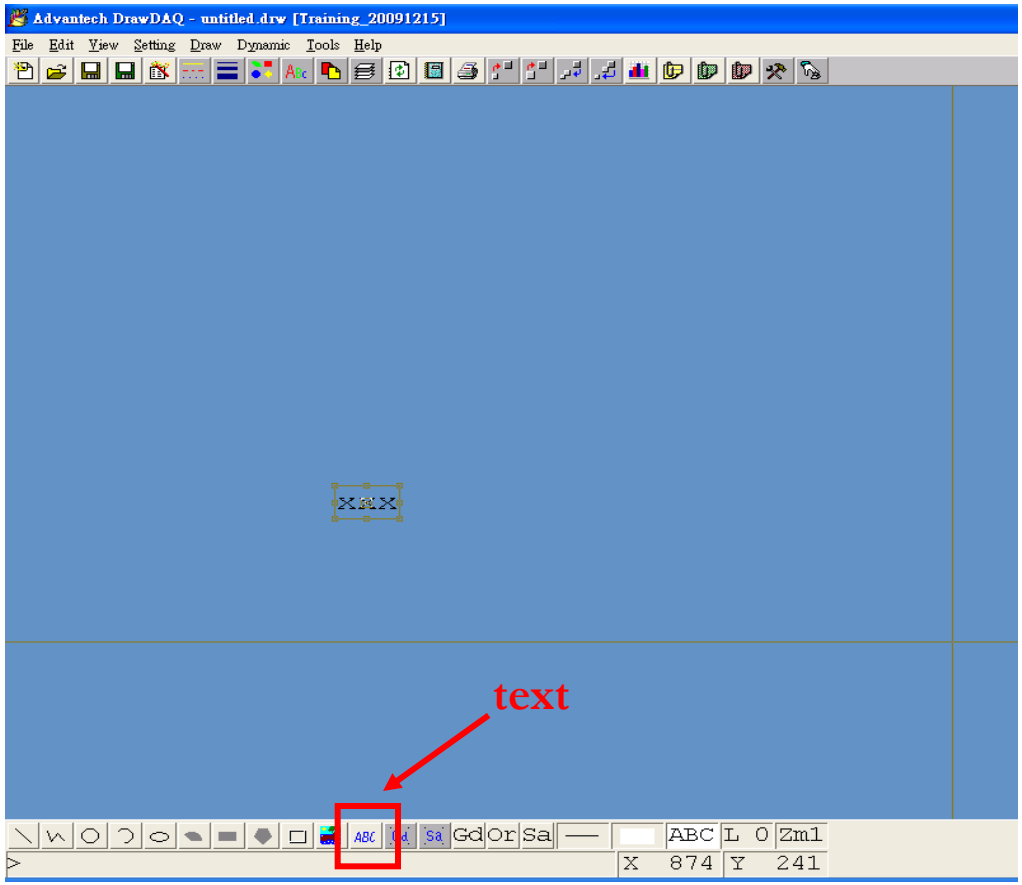
Phase 3: Draw / DrawDAQ

- **Now we start to create Graphic User Interface (GUI)**
- **Move mouse cursor to the computer icon, then click the right button of the mouse.**
- **DrawDAQ -> Training_20091215**



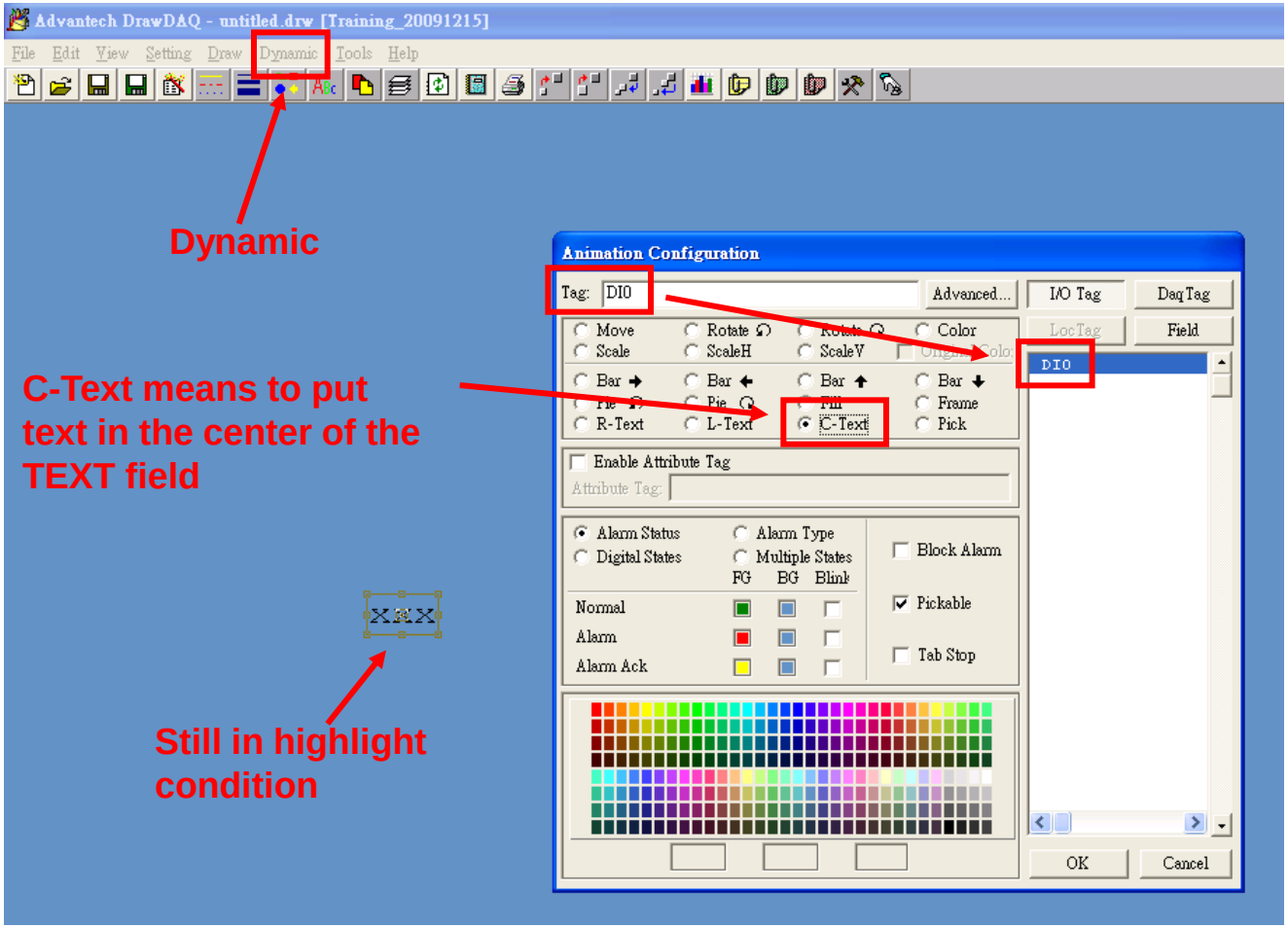
Phase 3:
Draw / DrawDAQ

- **Click “ABC” button to create a text**
- **Type any three character (ex. xxx) on the blue screen, and then click “Enter”. The characters (xxx) will be highlighted.**



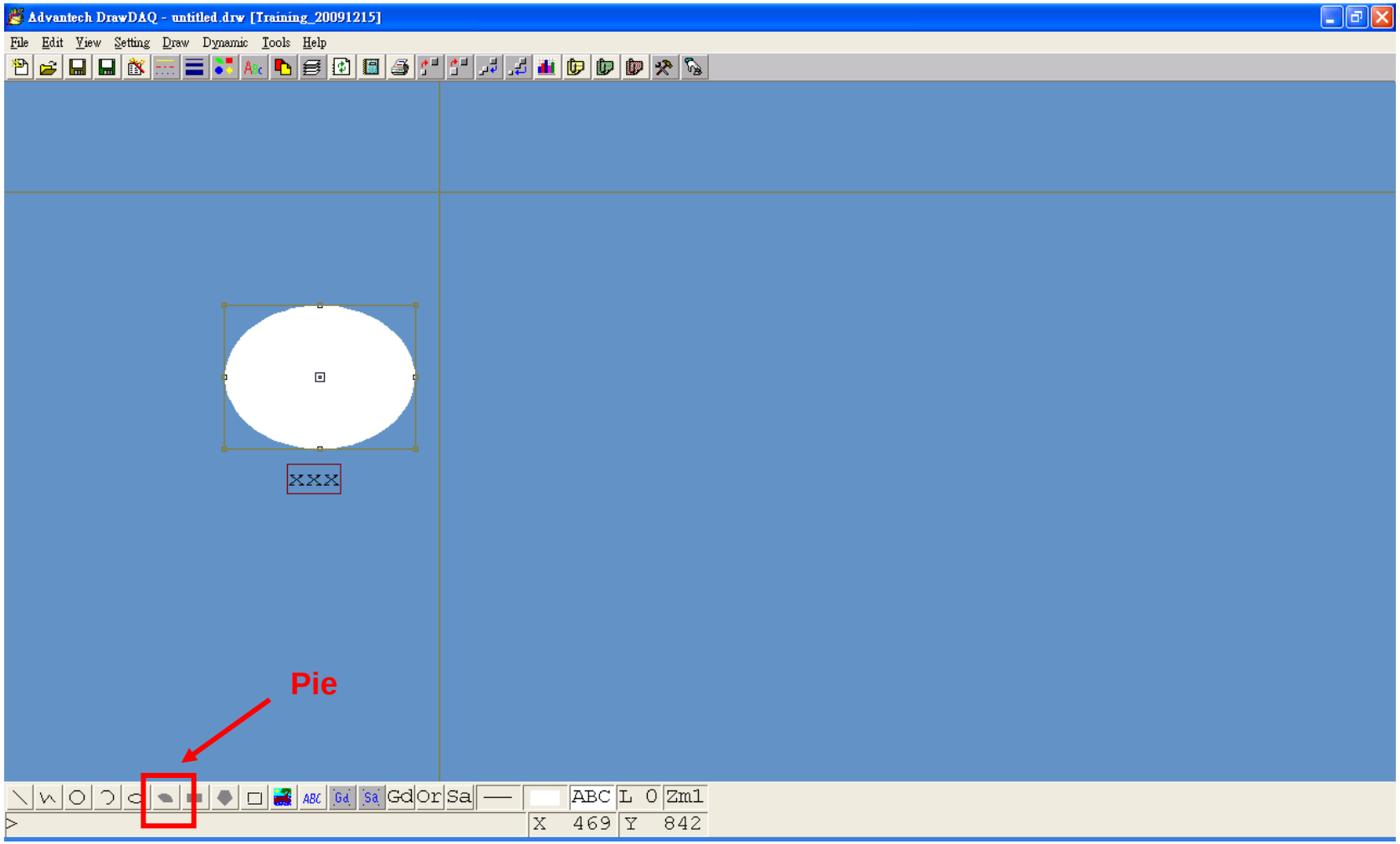
Phase 3: Draw / DrawDAQ

- **Click “Dynamic” -> “Animation” -> “Animation Configuration” dialog box will appear. In tag box, select “DI0” and select “C-text”**



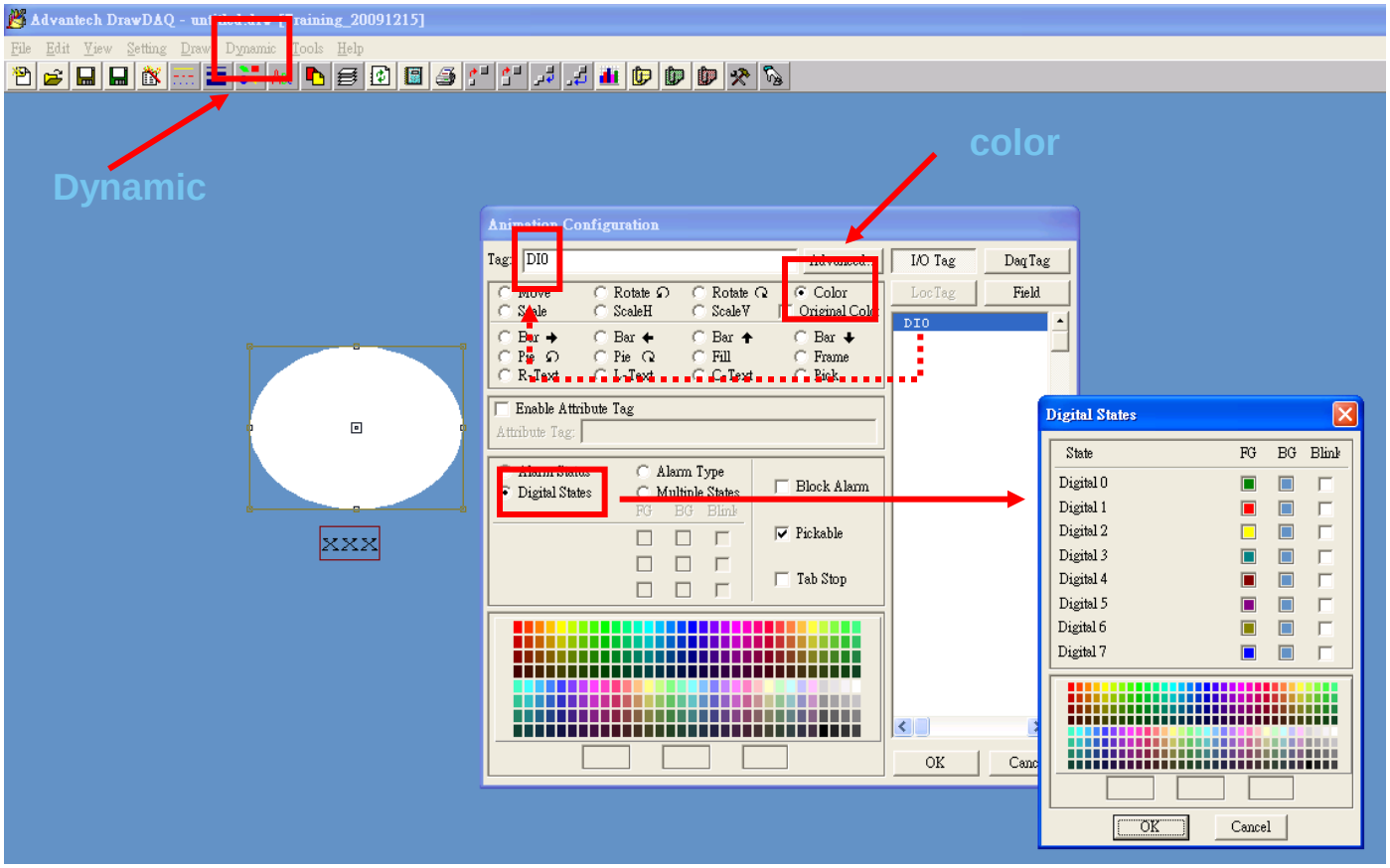
Phase 3:
Draw / DrawDAQ

- **Now, let's use "Pie" function to draw a circle.**



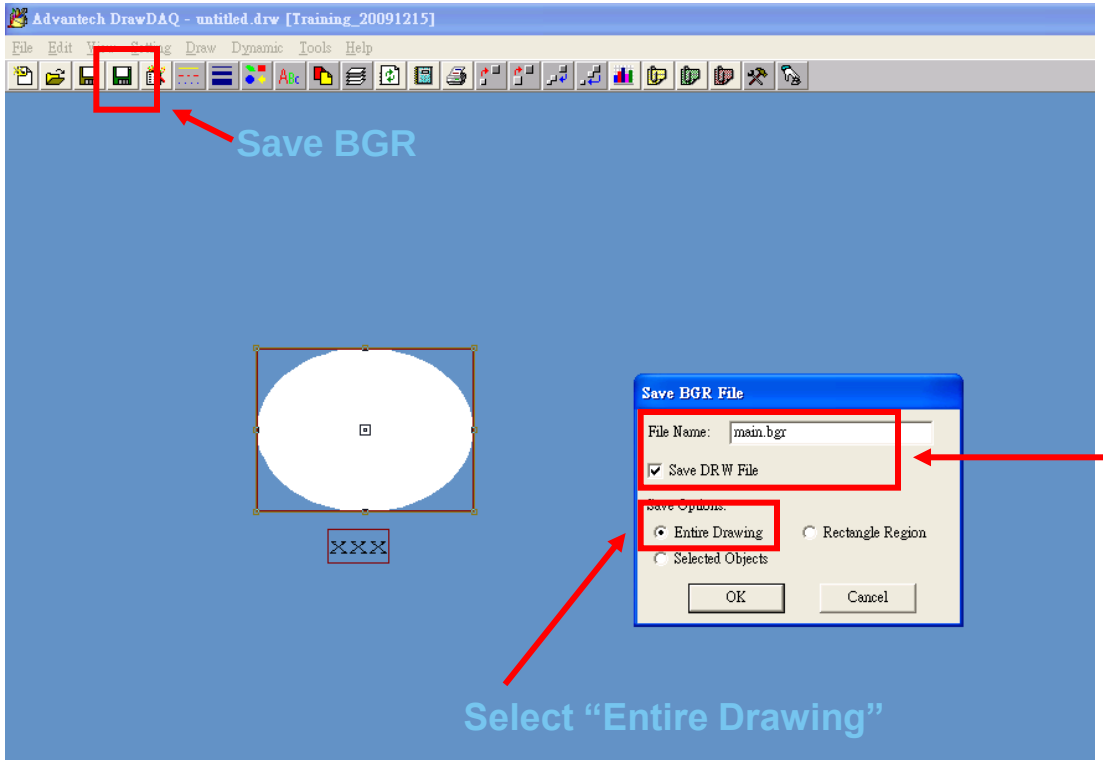
Phase 3: Draw / DrawDAQ

- **Click “Dynamic” -> “Animation” -> “Animation Configuration” dialog box will appear. In tag box, select “DI0” and select “Color”**
- **Because DI0 is DI tag, in “Digital Status”, we can modify IO ON and OFF colors. Last, click OK to save to setup.**



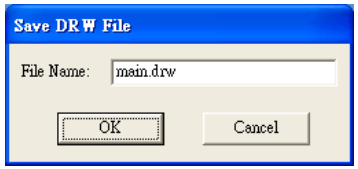
Phase 3:
Draw / DrawDAQ

- **Click “save BGR” button to save the file.**



Note:
Let’s save the file as *Main.bgr* because when run View or ViewDAQ, WebAccess will start with the main.bgr page.

Save as “main.bgr”
Put check mark on “Save DRW file”



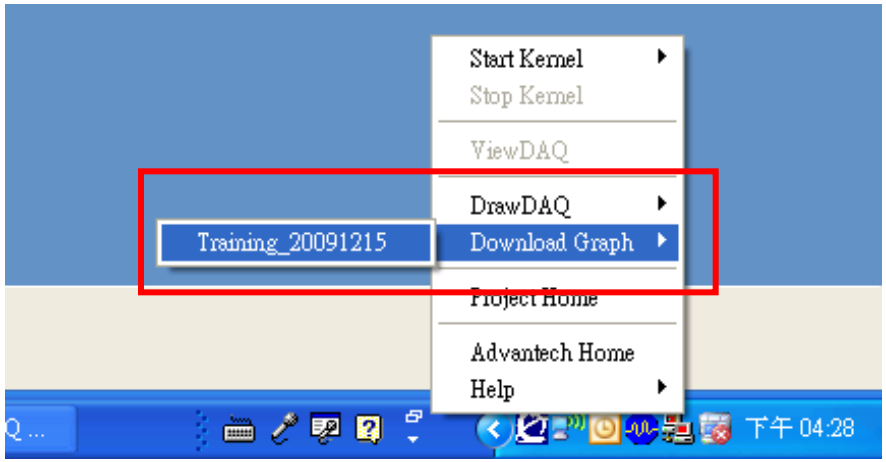
After click “OK” on “Save BGR file”, “Save DRW File” dialog box will pop out. Changing the file name to “main.drw”

Phase 4:

Download Draw / DrawDAQ to SCADA Node

Phase 4: Download Draw / DrawDAQ

- **Download the DAQ to SCADA Node**
  Download Graph -> Training_20091215



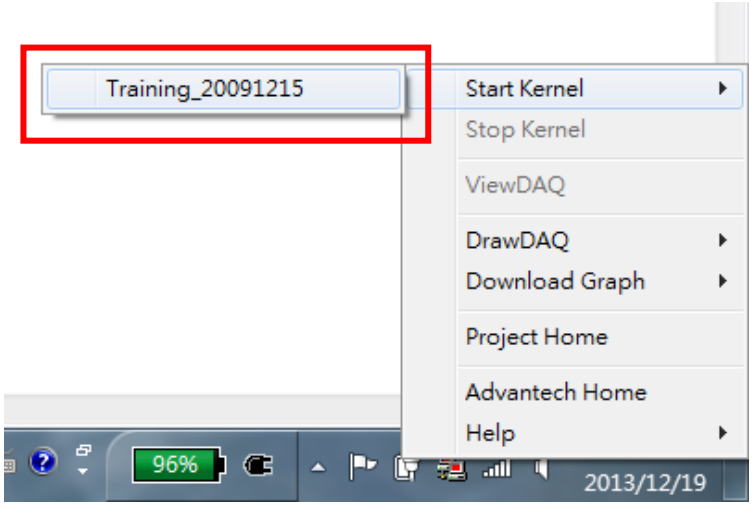
Phase 5:

Start Kernel

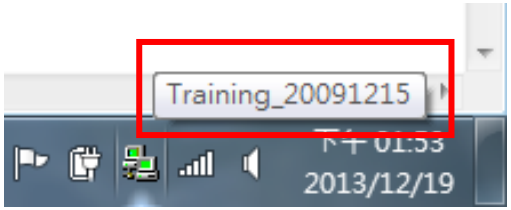
(Run at SCADA Node)

Phase 5: Start Kernel

- **After download is completed, let's start the Kernel**
  Start Kernel -> Training_20091215



- **After the Kernel starts, the computer icon color will turn to green.**
- **Move the mouse cursor over the computer icon, it will show current running Project Node and SCADA Node names.**



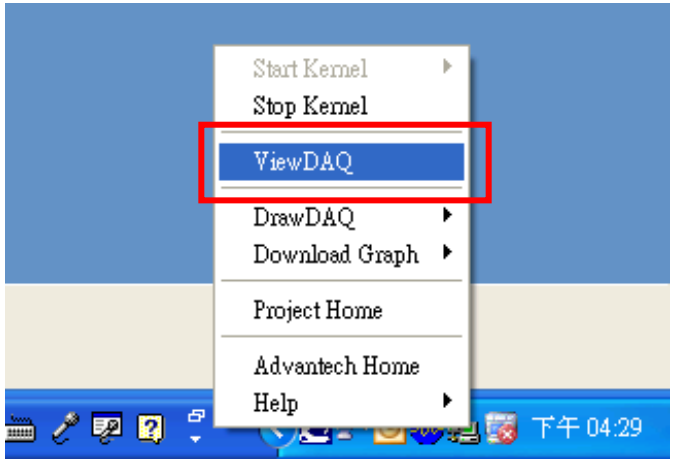
Phase 6:

View / ViewDAQ

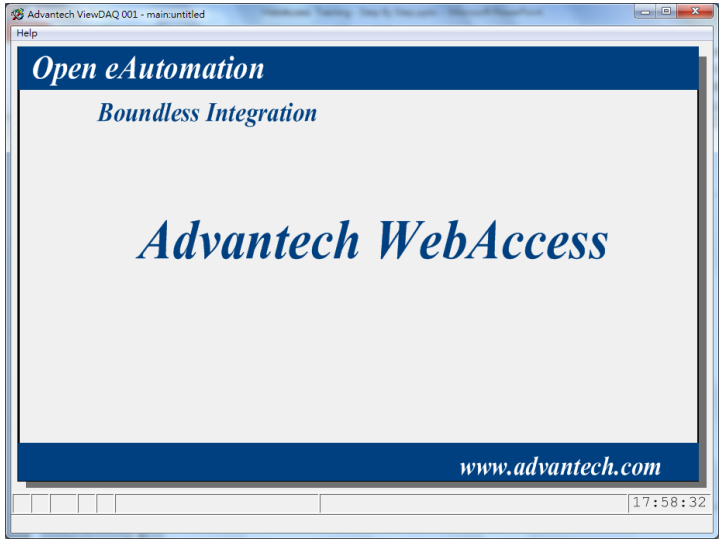
(Graph Display)

Phase 6: View / ViewDAQ

- **Select “ViewDAQ” to view the result.**



- **Default Welcome Page will pop out.**
- **Click on the screen to enter main.bgr page**

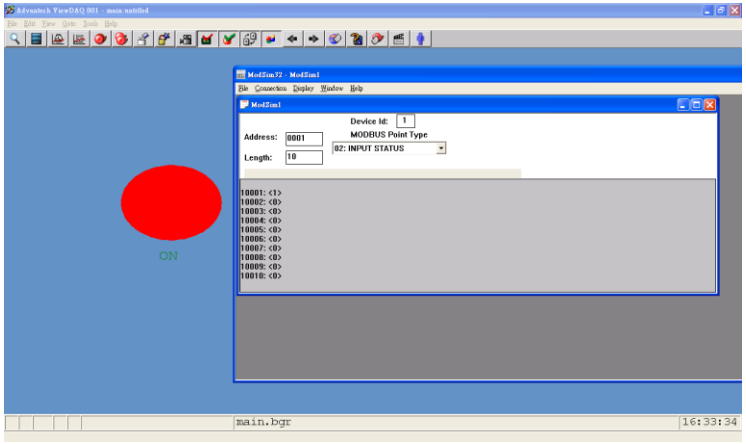


Note

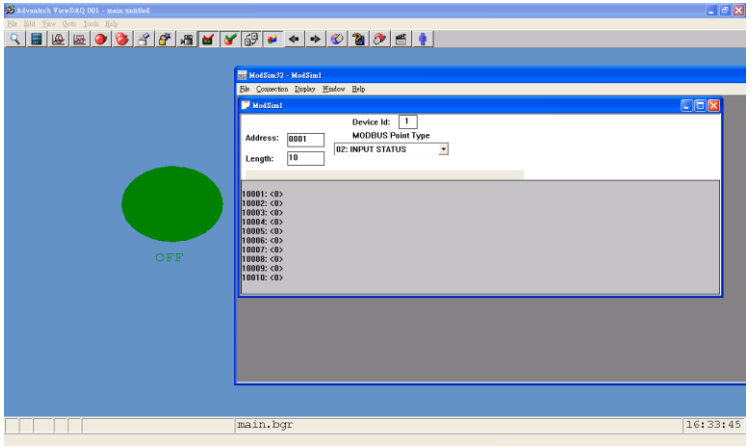
- Before clicking to enter main.bgr page, please active ModSim (modbus simulation)
- The next topic, ModSim, teaches user how to active ModSim

Phase 6:
View / ViewDAQ

- **In ModSim32, when Modbus address (10001) value is 1, WebAccess will display “ON” text with red circle.**



- **In ModSim32, when Modbus address (10001) value is 0, WebAccess will display “OFF” text with green circle.**



Phase 6: View / ViewDAQ

- **If user doesn't read other symbol displays on the screen install of tag value**
- **Three possibilities:**

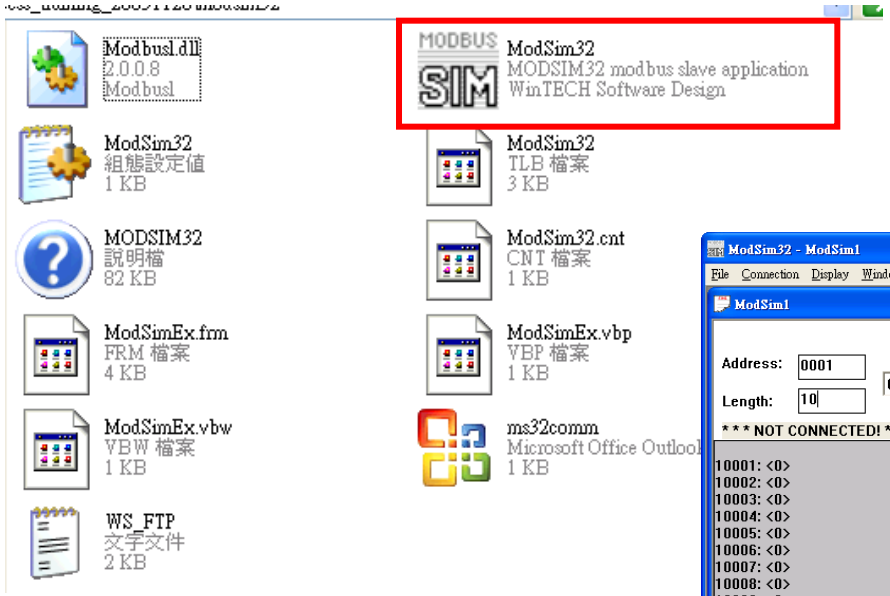
	Symbol	Meaning	Possible Solutions
1	*	The communication fails	Check comport, device and tag setup
2	#	The tag doesn't exist	- Check whether user deletes this tag - Re-download the project again
3	!	The tag value length is too large to fit in the field size for the tag	Go to tag property and modify display digits for both integer and fraction

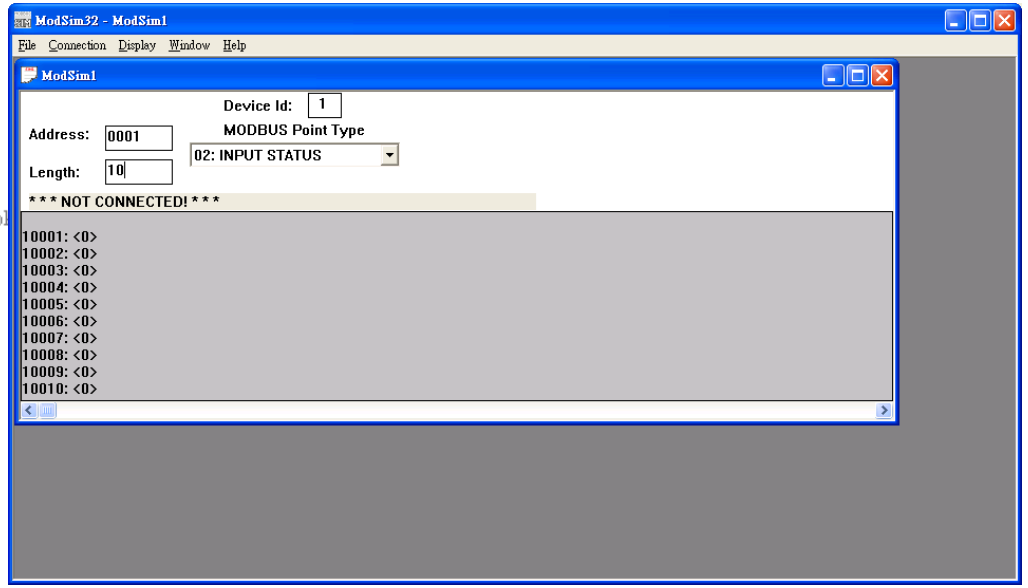
ModSim

Modbus Simulation

ModSim32
- Modbus Simulator -

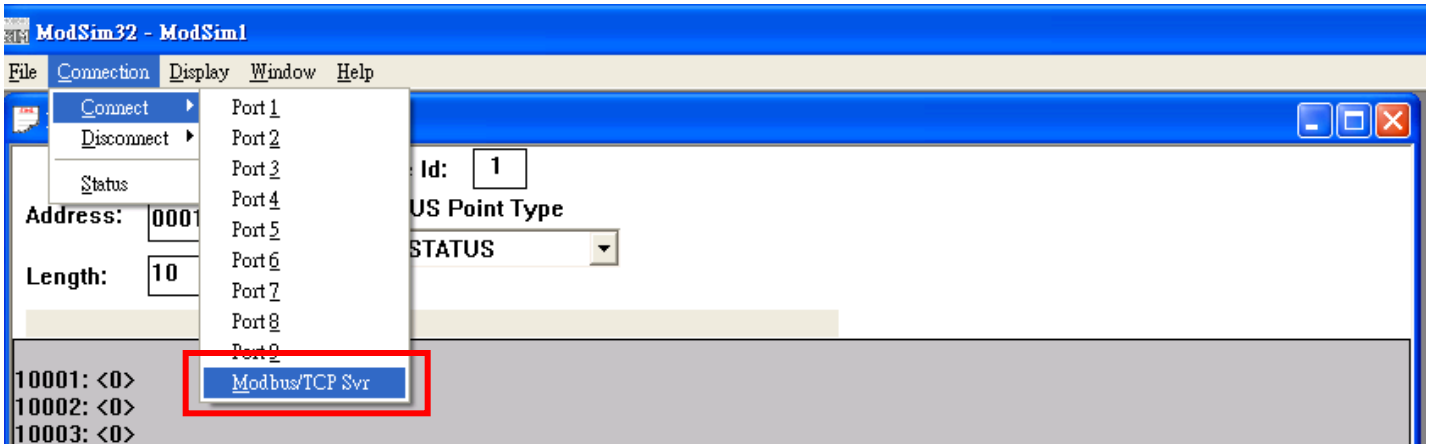
- **Because this example is using WebAccess to read Modbus DI value, user has to run ModSim32 in order to simulate Modbus DI value.**
- **ModSim32 trial version can be downloaded from the following website:**
  - **http://www.win-tech.com**





ModSim32
- Modbus Simulator -

- **File -> New**
- **Connection -> Connect -> Modbux/TCP Svr**

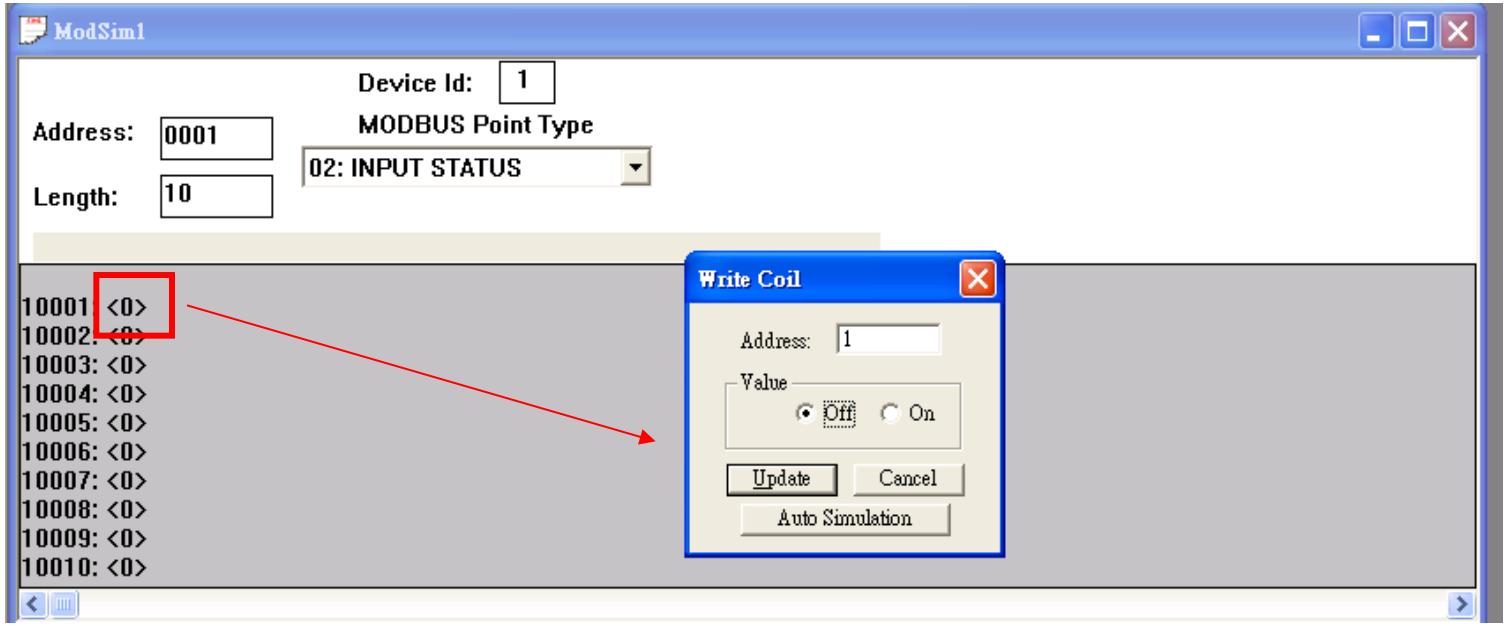


- **Then, a dialog box pop out. Set Modbus/TCP Service Port number to 502**

ModSim32
- Modbus Simulator -

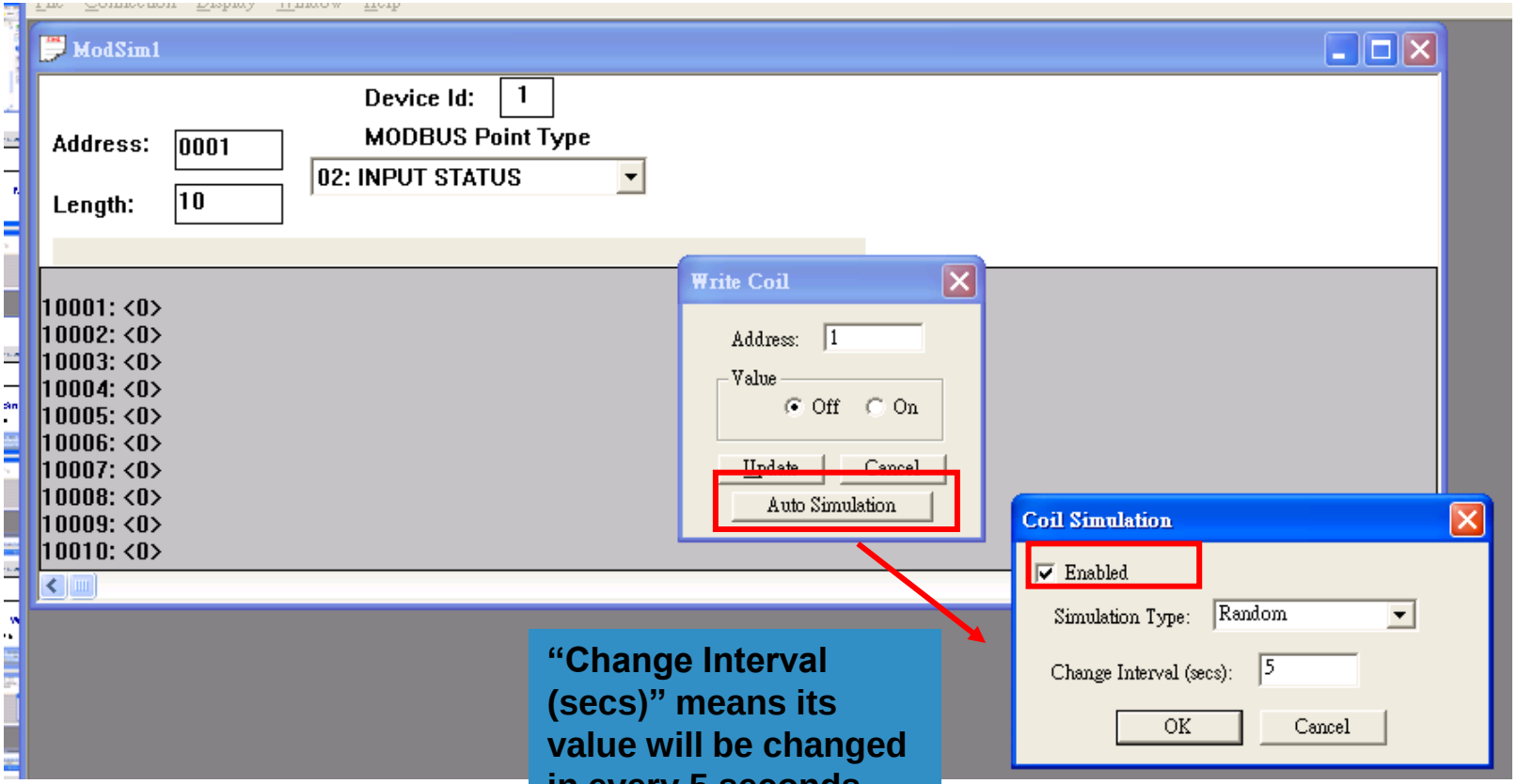
- **Because we simulate DI value, so we use do the following setup.**
  MODBUS Point Type: 02:INPUT STATUS
  Address: 0001
  Length: 10

- **Double click on and a <0> “Write Coil” dialog box will pop out.**



ModSim32
- Modbus Simulator -

- **Click “Auto Simulation” button and “Coil Simulation” dialog box will pop out.**
- **Click “Enabled” and click “OK” button.**



“Change Interval (secs)” means its value will be changed in every 5 seconds.

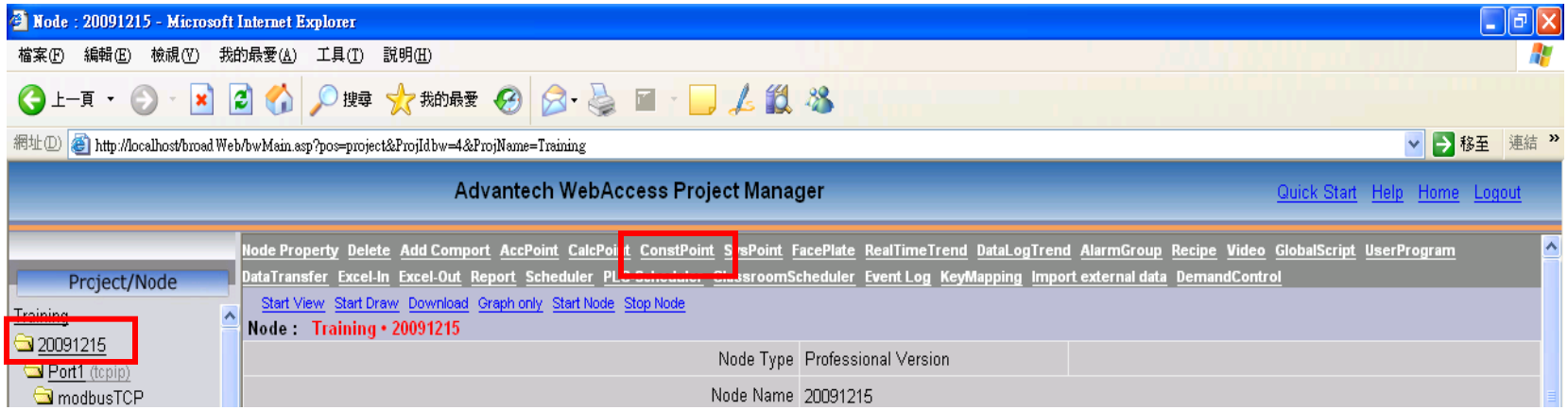
Software Tag

Tag Introduction
- Software Tag -

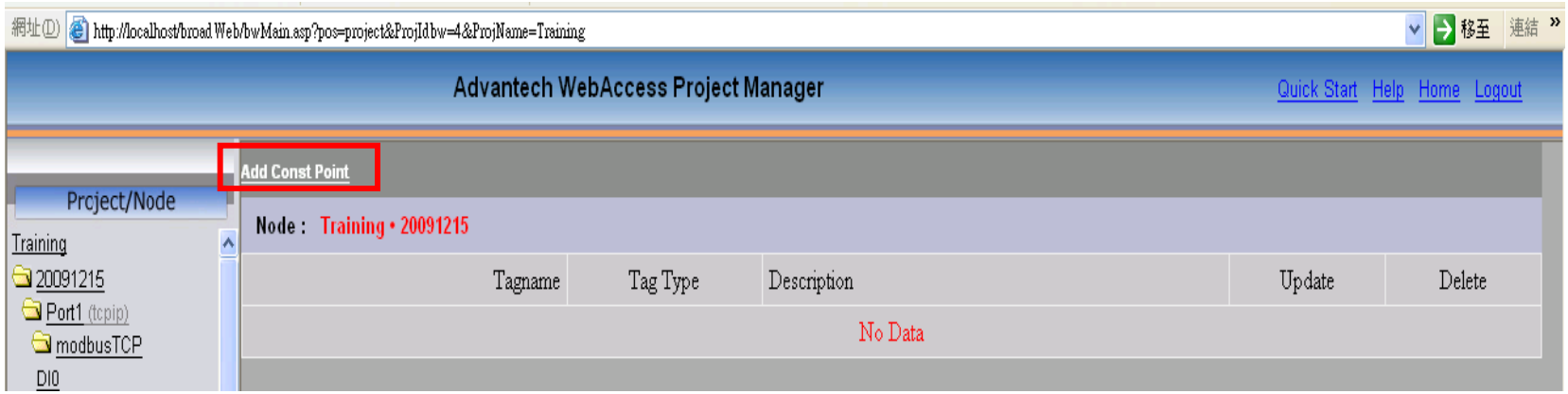
- **WebAccess has two types of Tag:**
  - **Physical Tag (connect to hardware)**
  - **Software Tag (NOT read hardware IO directly)**
    - **Constant Tag**
    - **Accumulation Tag**
    - **Calculation Tag**
    - **System Tag**
- **Quantity of software tag: Number of software tag is equal to number of physical tag. Eg. When user purchase 75 physical tag license, he will also have 75 software tags.**

Software Tag

- **Back to the SCADA Node, and click “ConstPoint”**

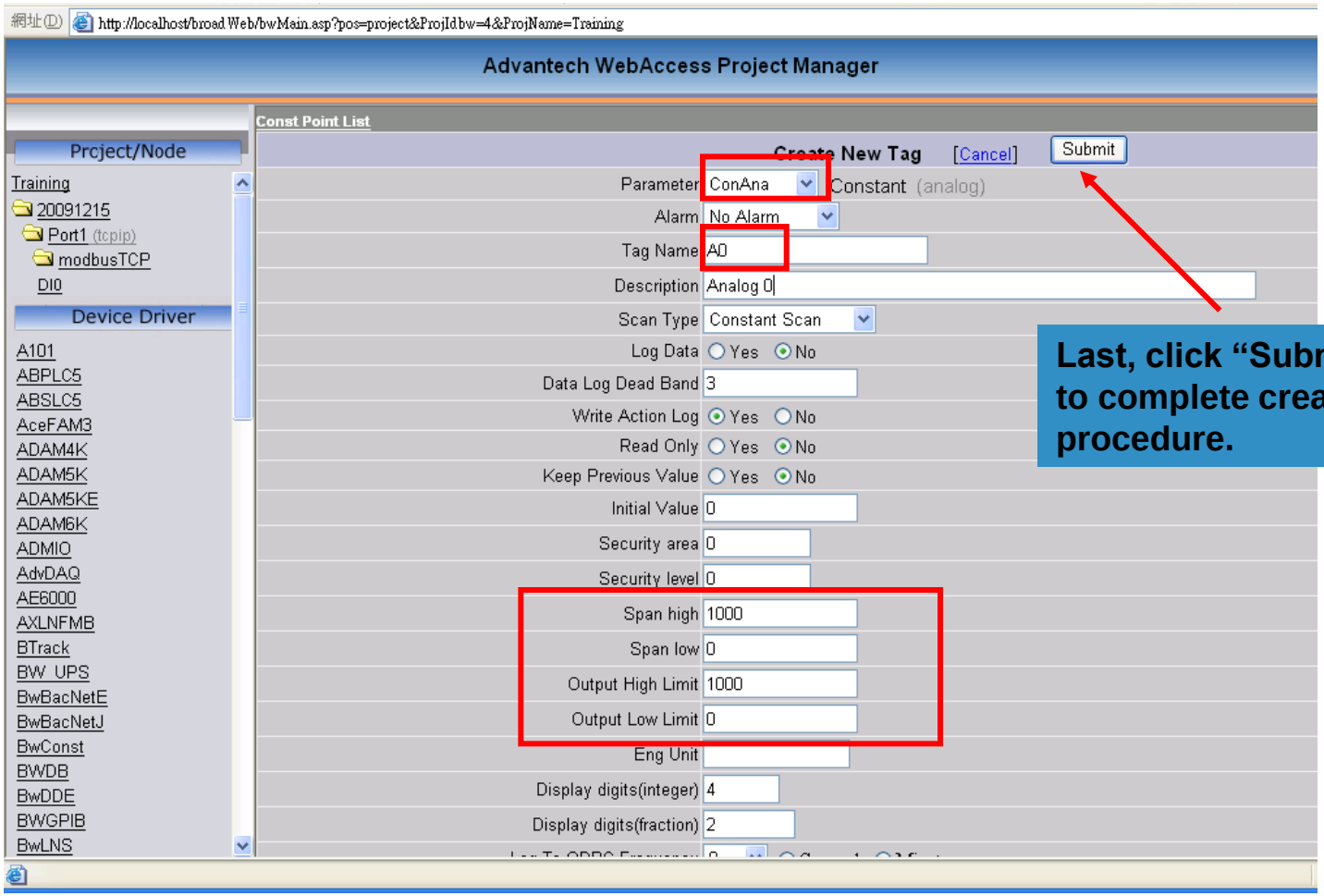


- **Click “Add Const Point”**



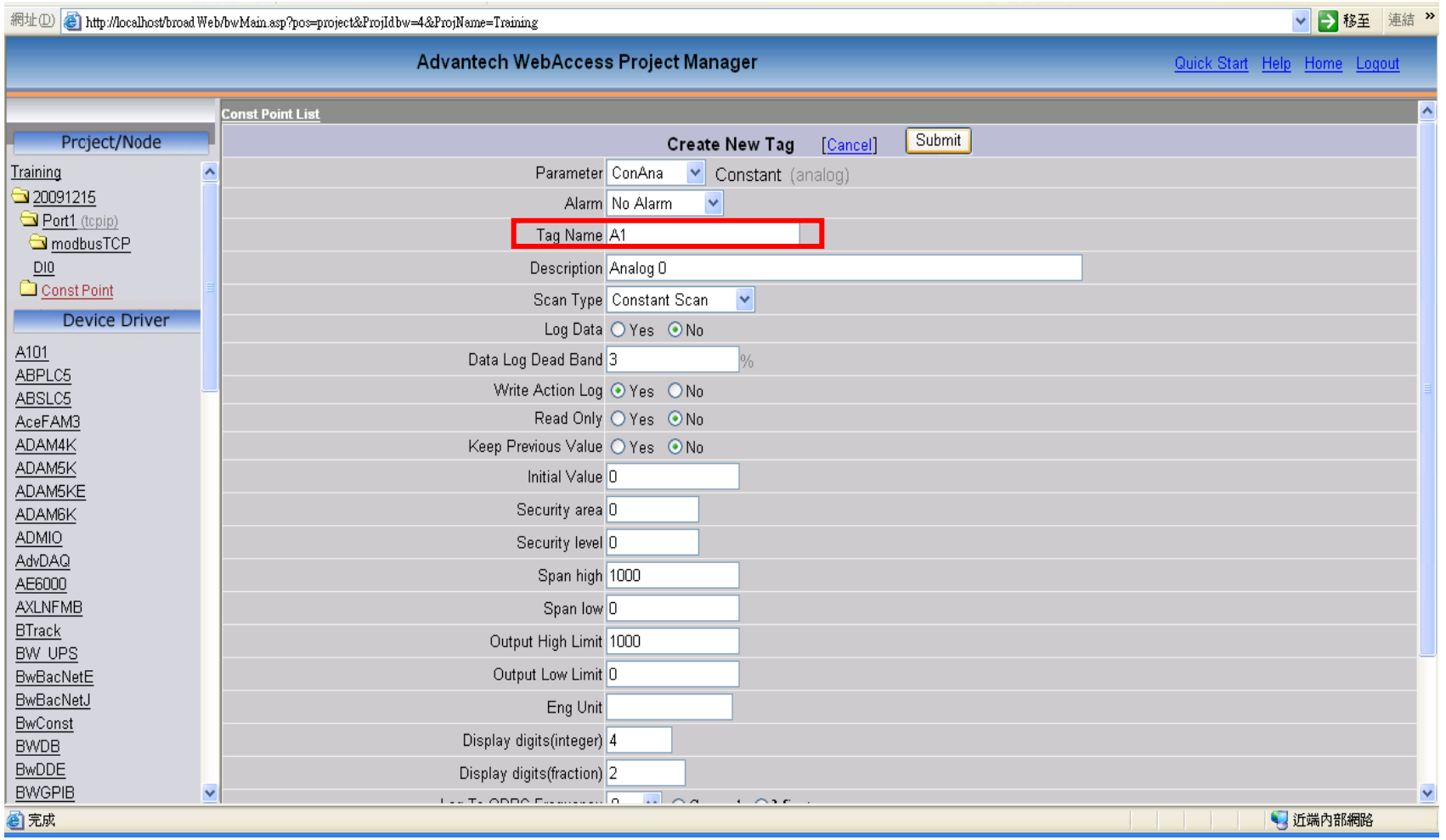
Software Tag

- **Selece “ConAna” in Parameter. Setup Tag name as “A0”**
- **Setup Span High and Output High Limit values to 1000**



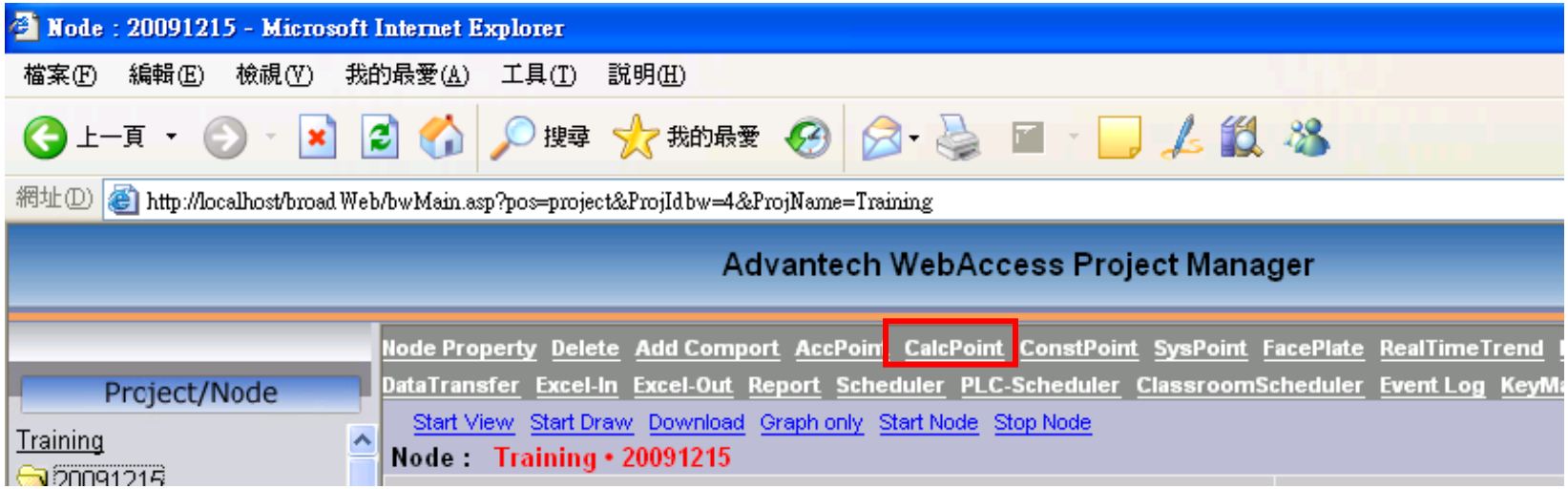
Software Tag

- **Follow the last slider to create another constant tag which named it as A1**



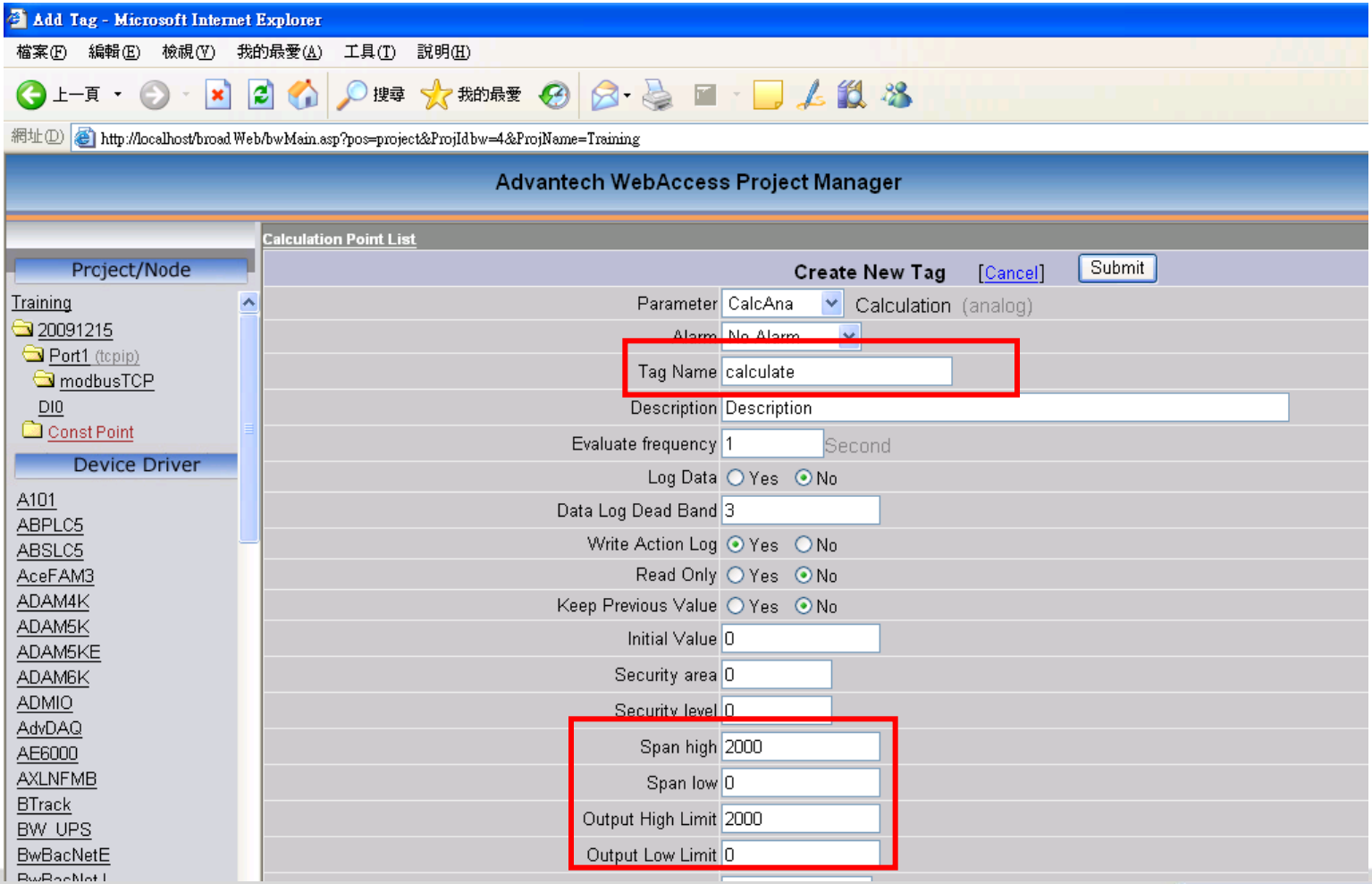
Software Tag

- **After create two constant tags, let's create a calculate tag (CalcPoint)**



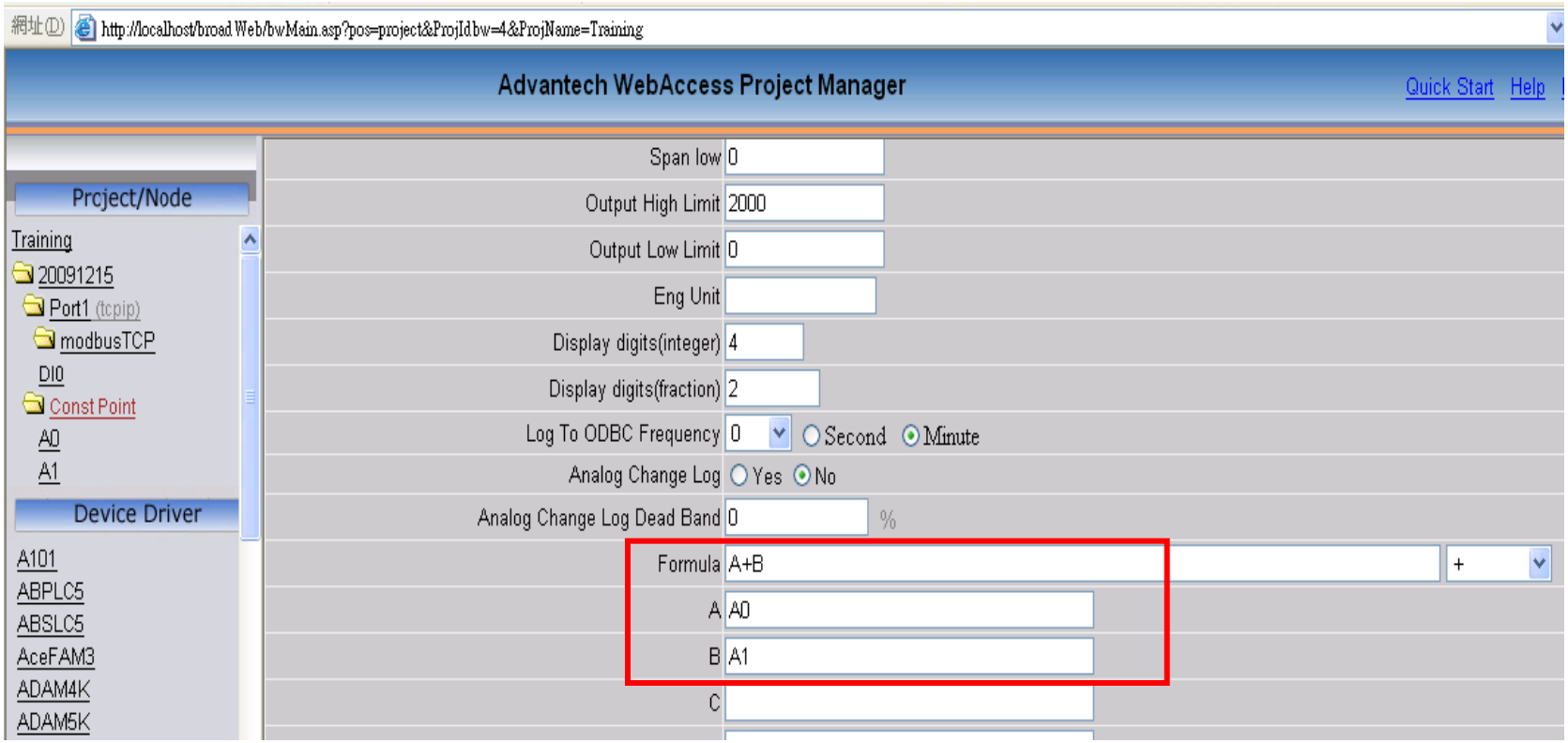
Software Tag

- **Tag Name: calculate**
- **Span High: 2000; Output High Limit: 2000**



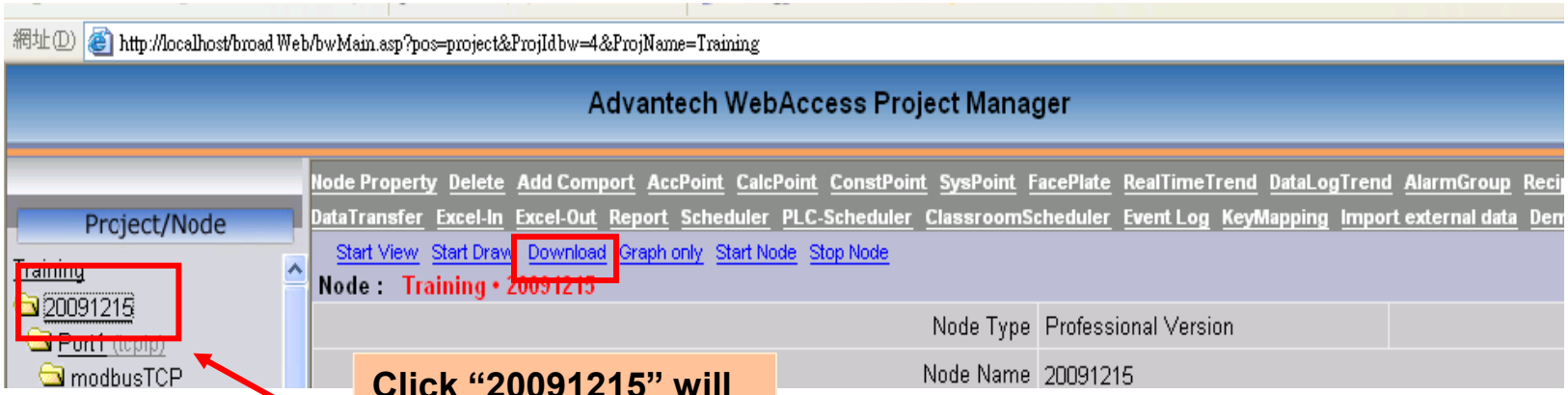
Software Tag

- **Move to Formula**
- **In Formula box, fill in “A+B”**
- **In A field, enter “A0” constant tag name**
- **In B field, enter “A1” constant tag name**



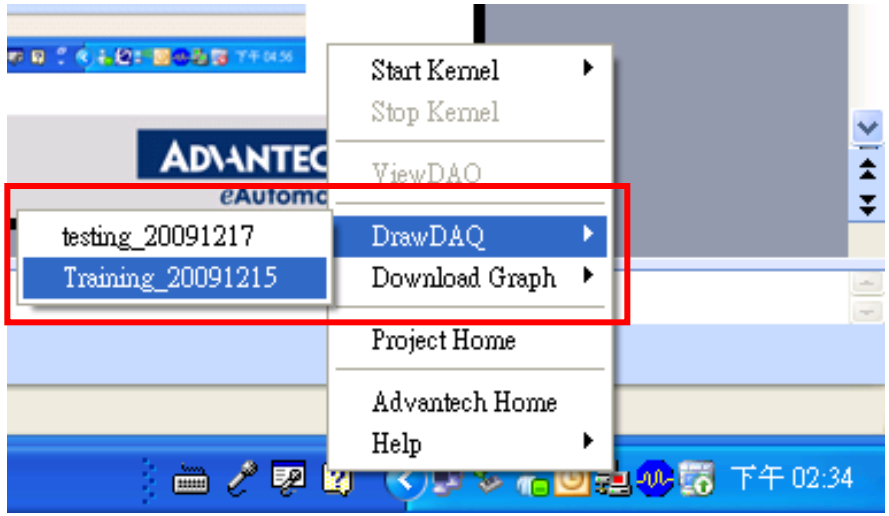
Software Tag

- **Back to the SCADA Node and click “Download”**



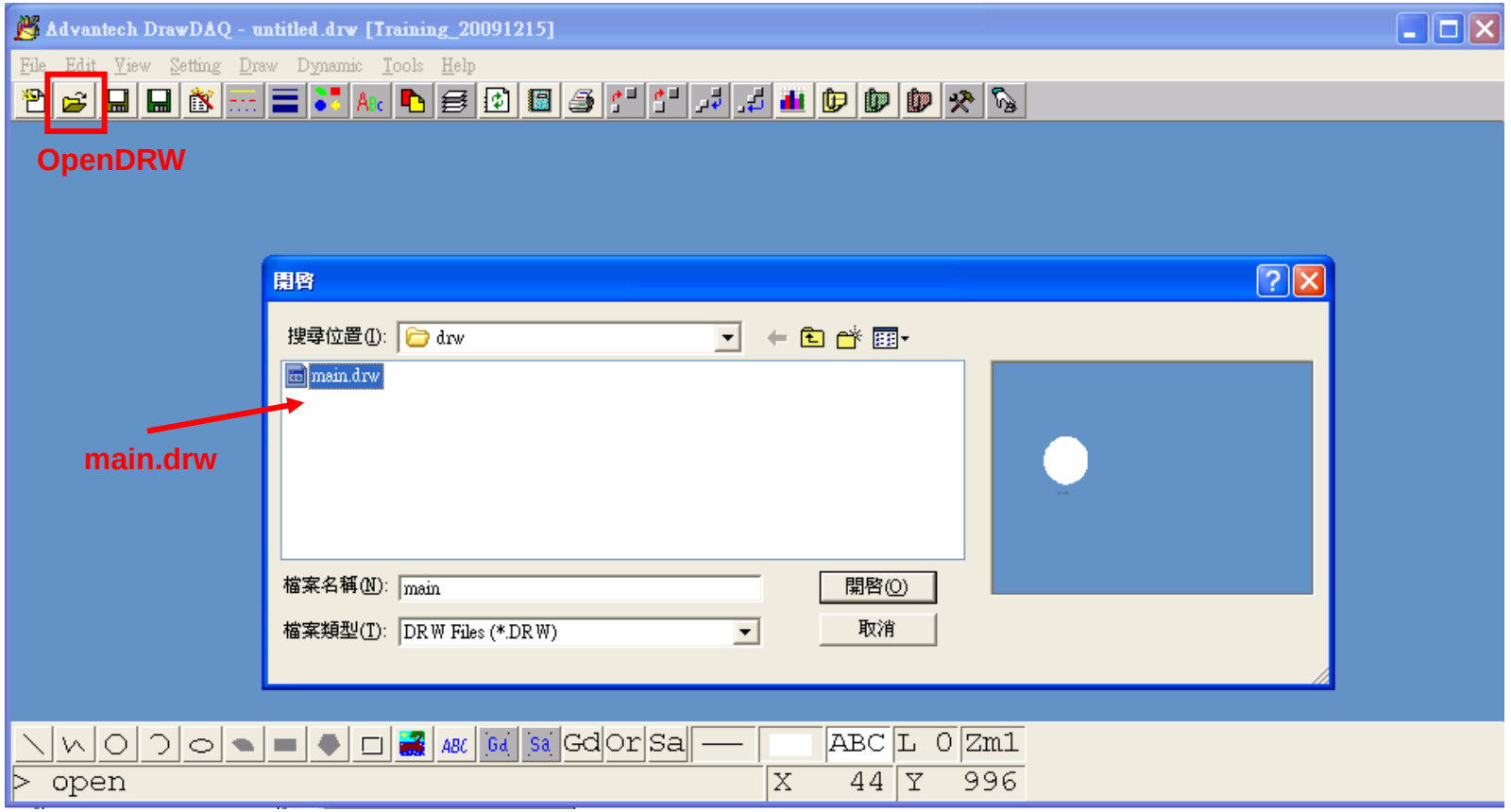
Click “20091215” will back to SCADA Node Setup page

After download process completes, select DrawDAQ -> Training_20091215



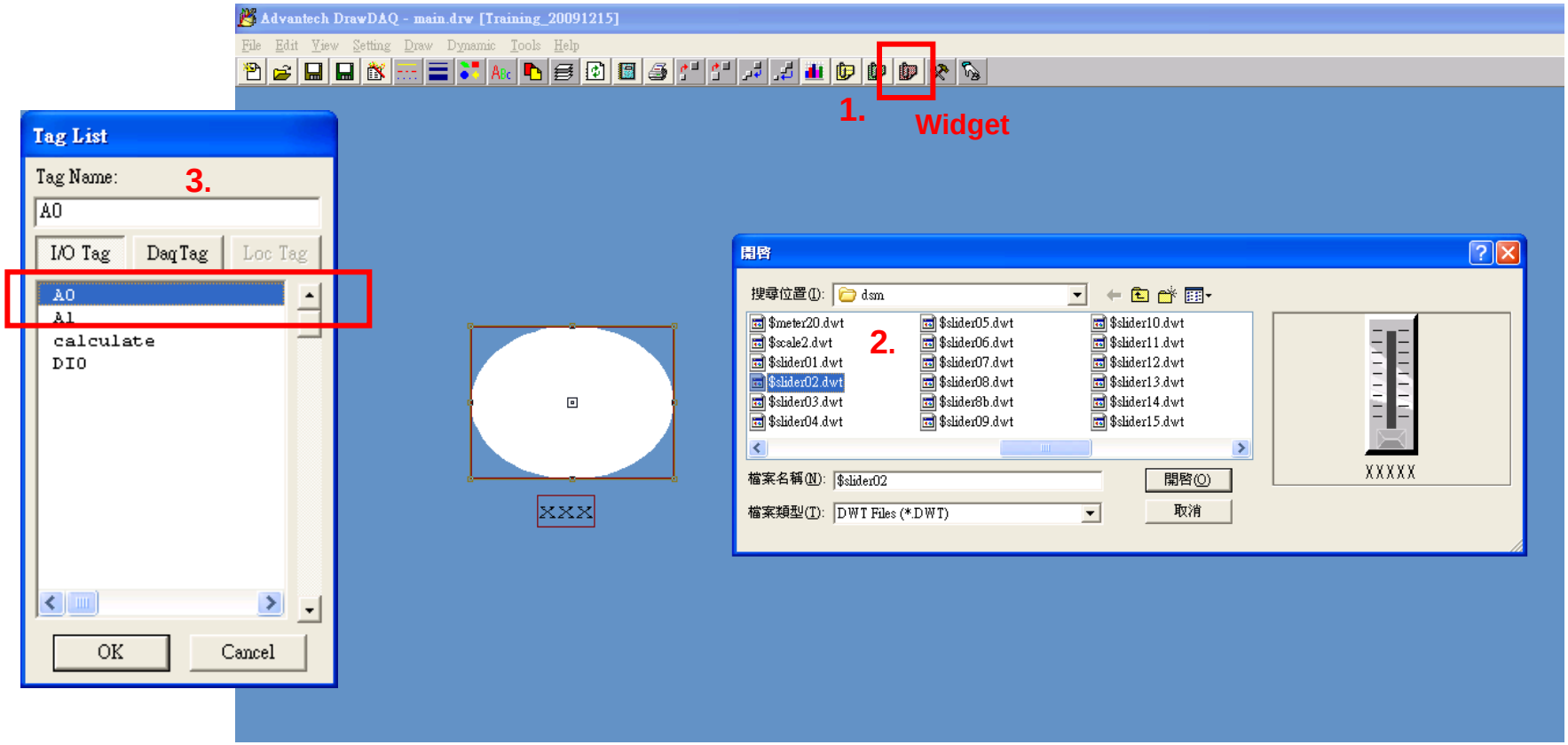
Software Tag

- **Click “OpenDrw” and select “main.drw”**



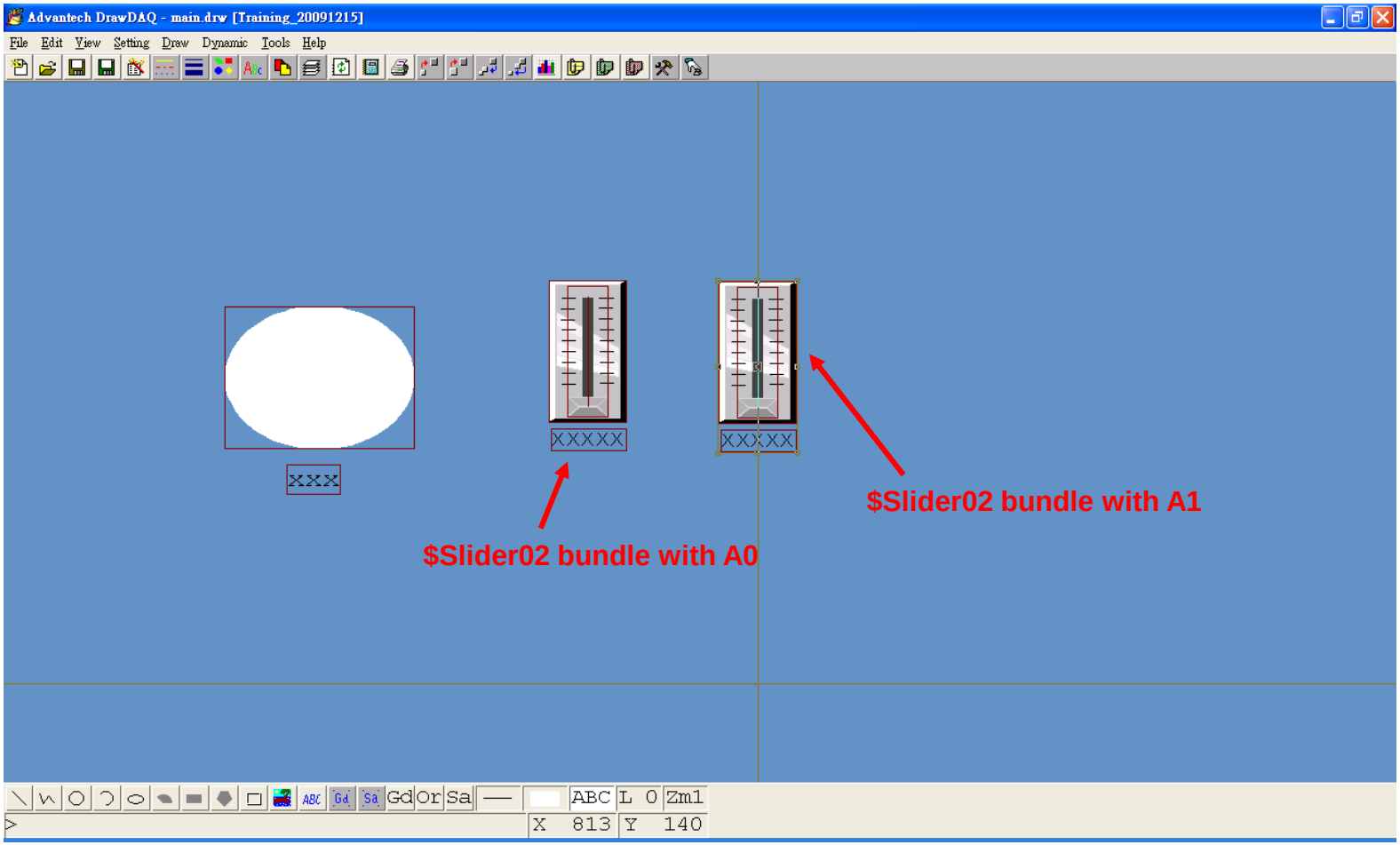
Software Tag

- **Click on “Widget” button and select $Slider02.dwt**
- **Then “Tag List” dialog box will pop out, select A0**



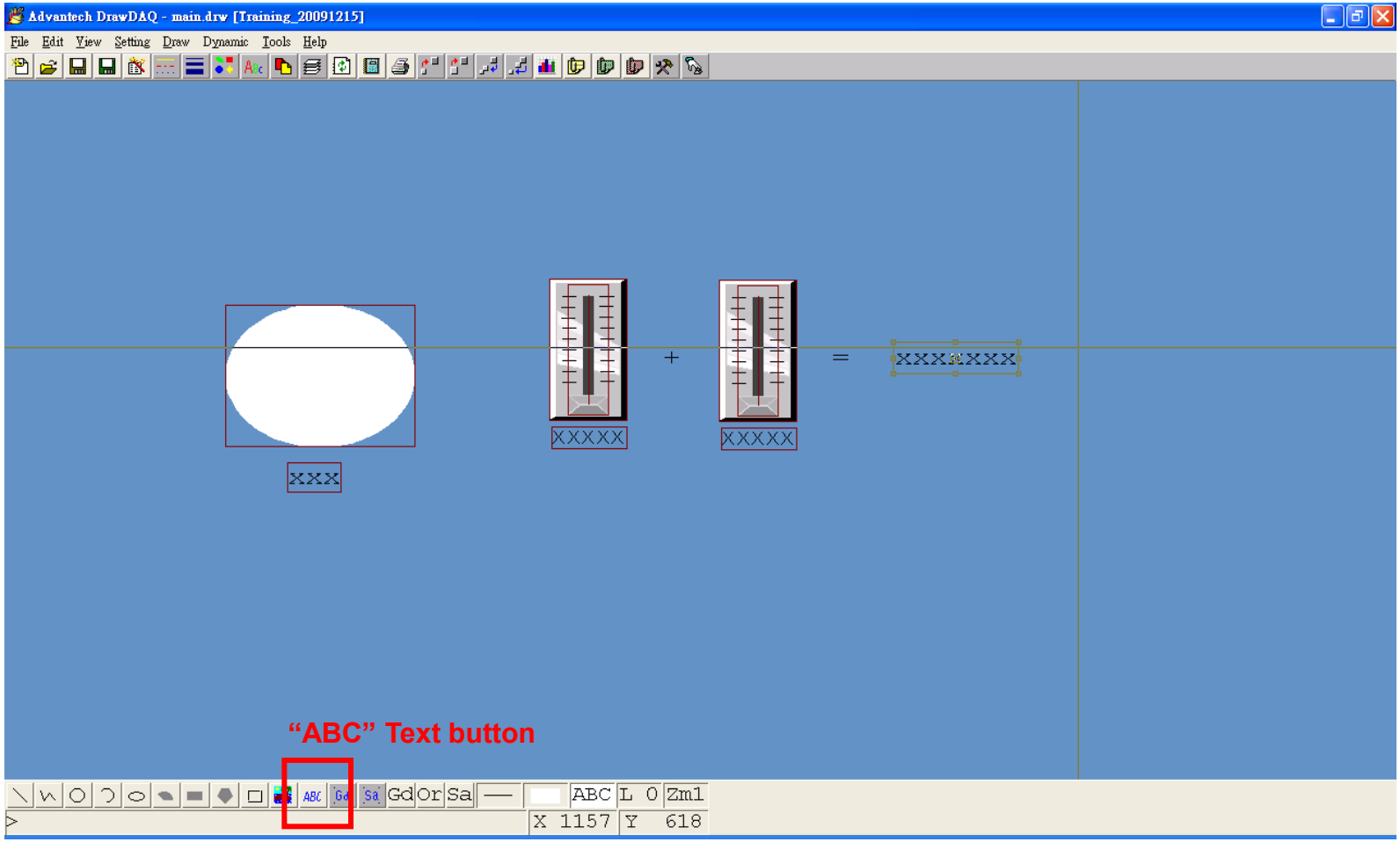
Software Tag

- **Repeat last slider about Widget steps, this time, user has to select A1 in "Tag List"**



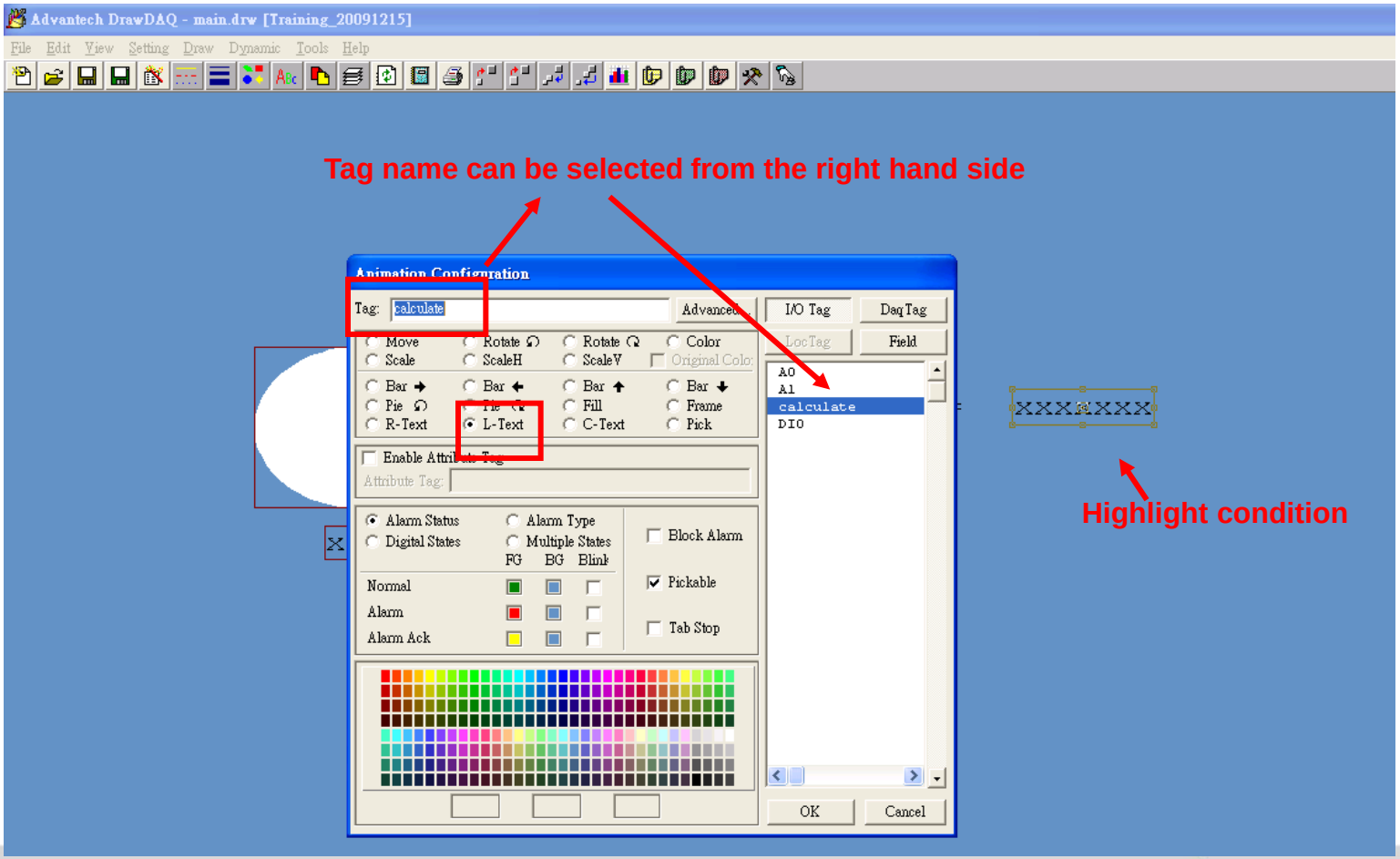
Software Tag

- Use “ABC” text box to put “+” and “=“ symbols on the screen.
- Use “ABC” text box again to write 7 “x” and highlight it.



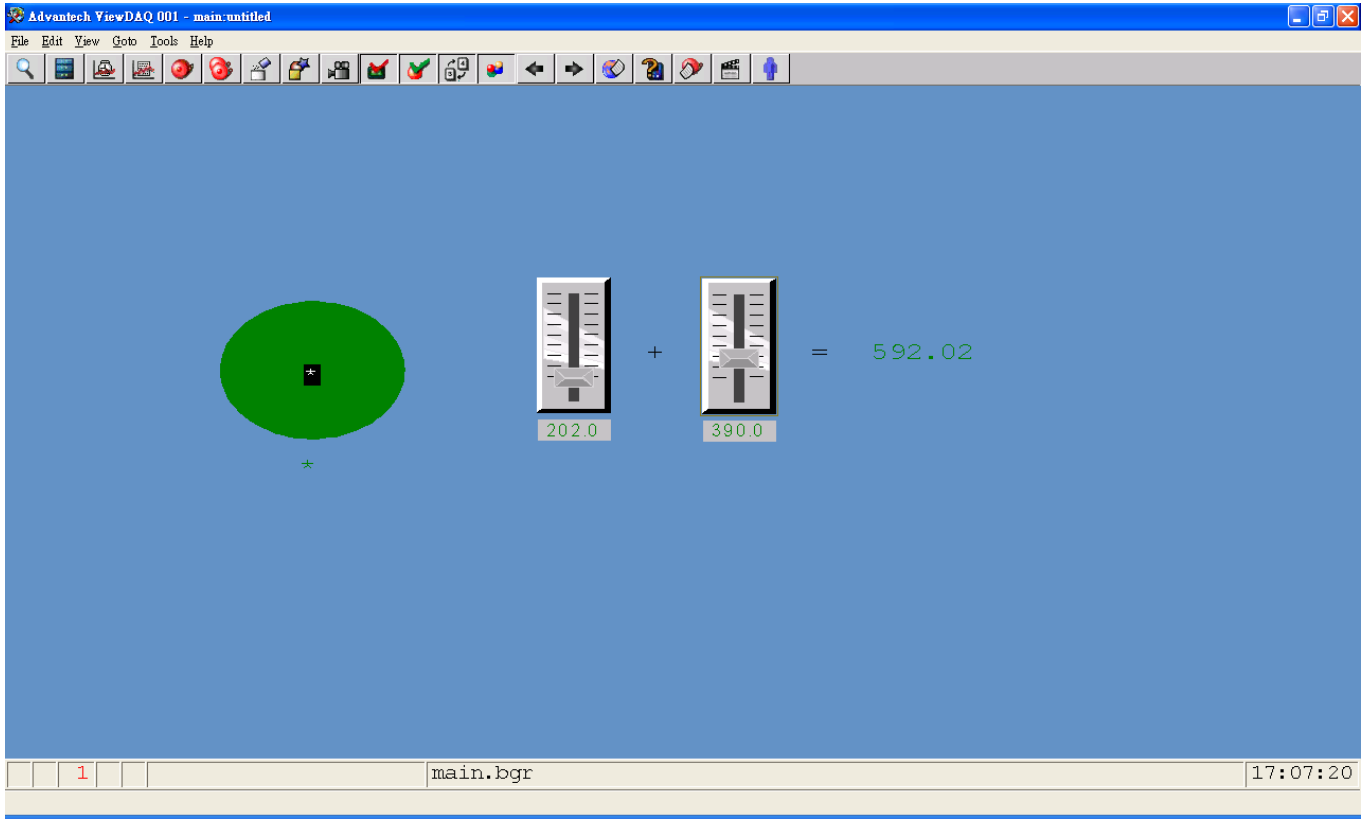
Software Tag

- After 7 “x” types on the screen, click “Enter” button and xxxxxxx will be highlighted.
- Dynamic -> Animation; Select “calculate” in Tag field and select “L-Text”



Software Tag

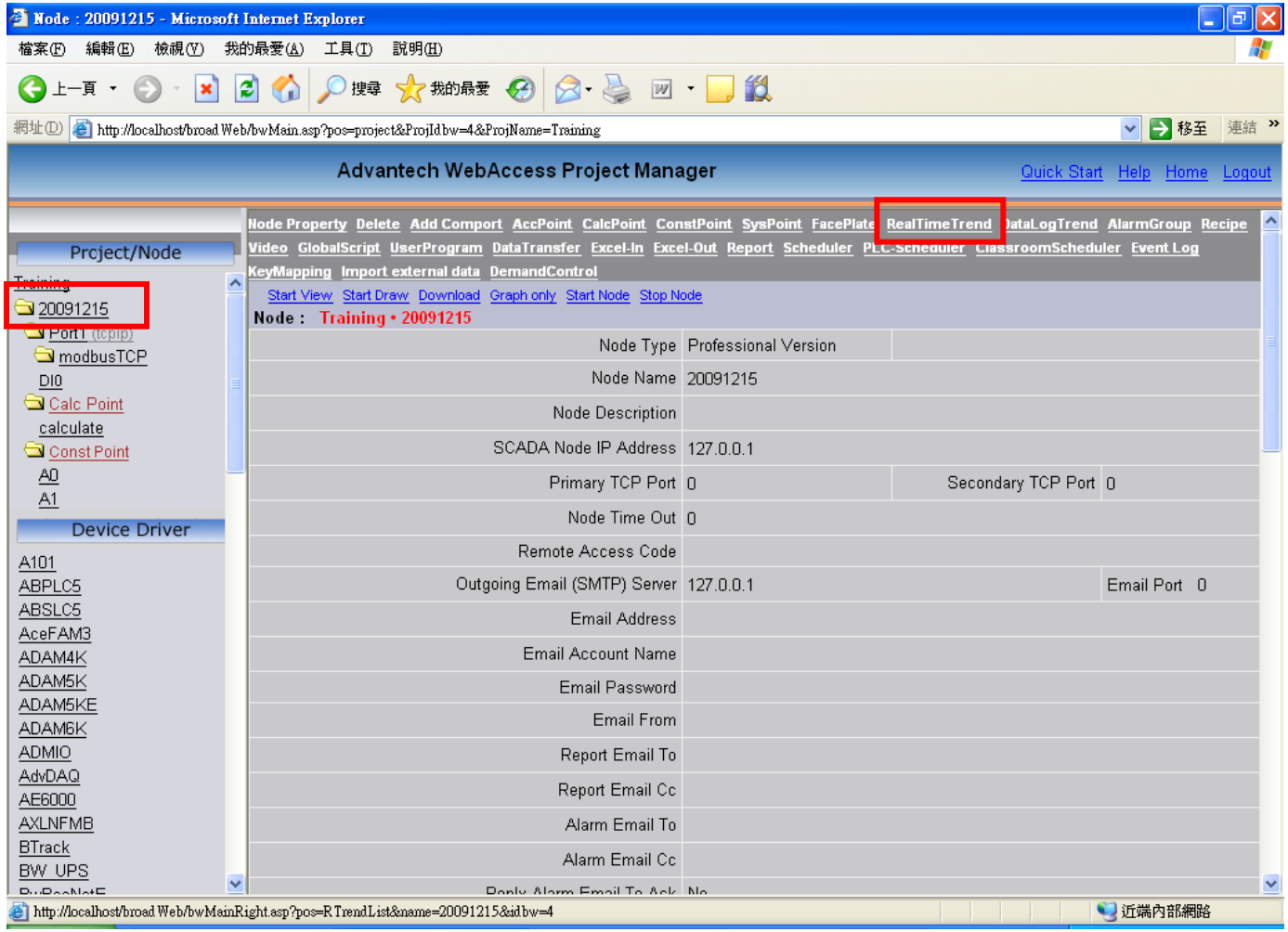
- **Save BGR**
- **Download Graph -> Training_20091215**
- **If Kernel doesn't start, then start the Kernel**
- **Run ViewDAQ and user will be able to see the slider bars with values.**



Realtime Trend

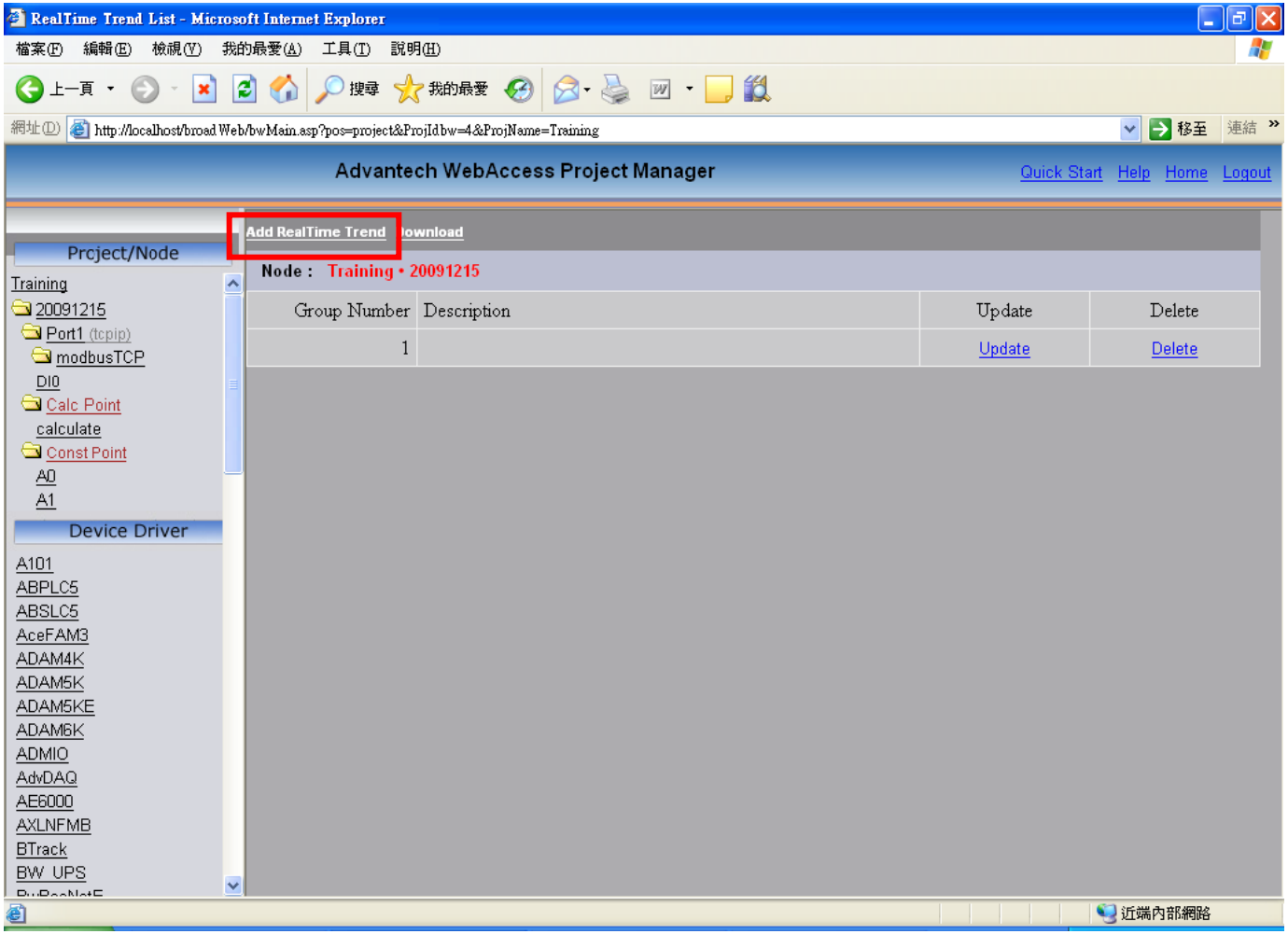
Realtime Trend

- **Click “SCADA Node” and then click “RealTimeTrend”**



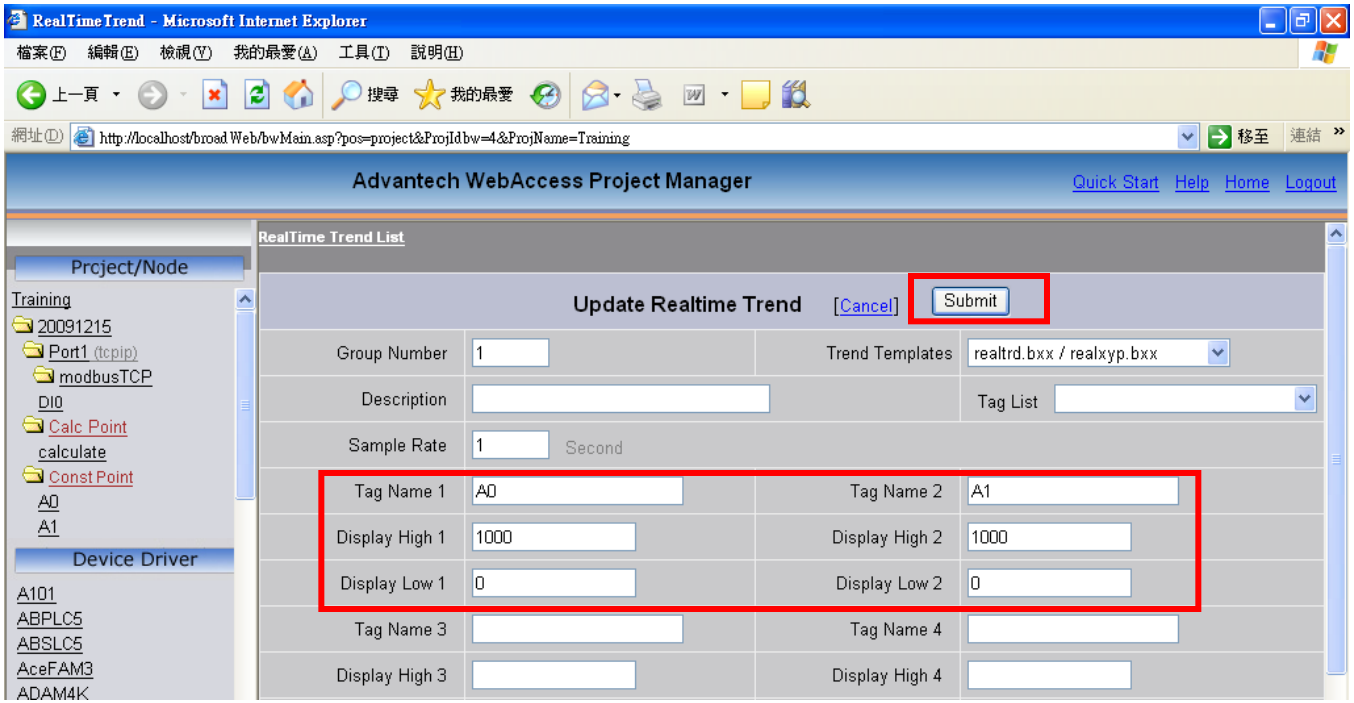
Realtime Trend

- **Click “Add RealTime Trend”**



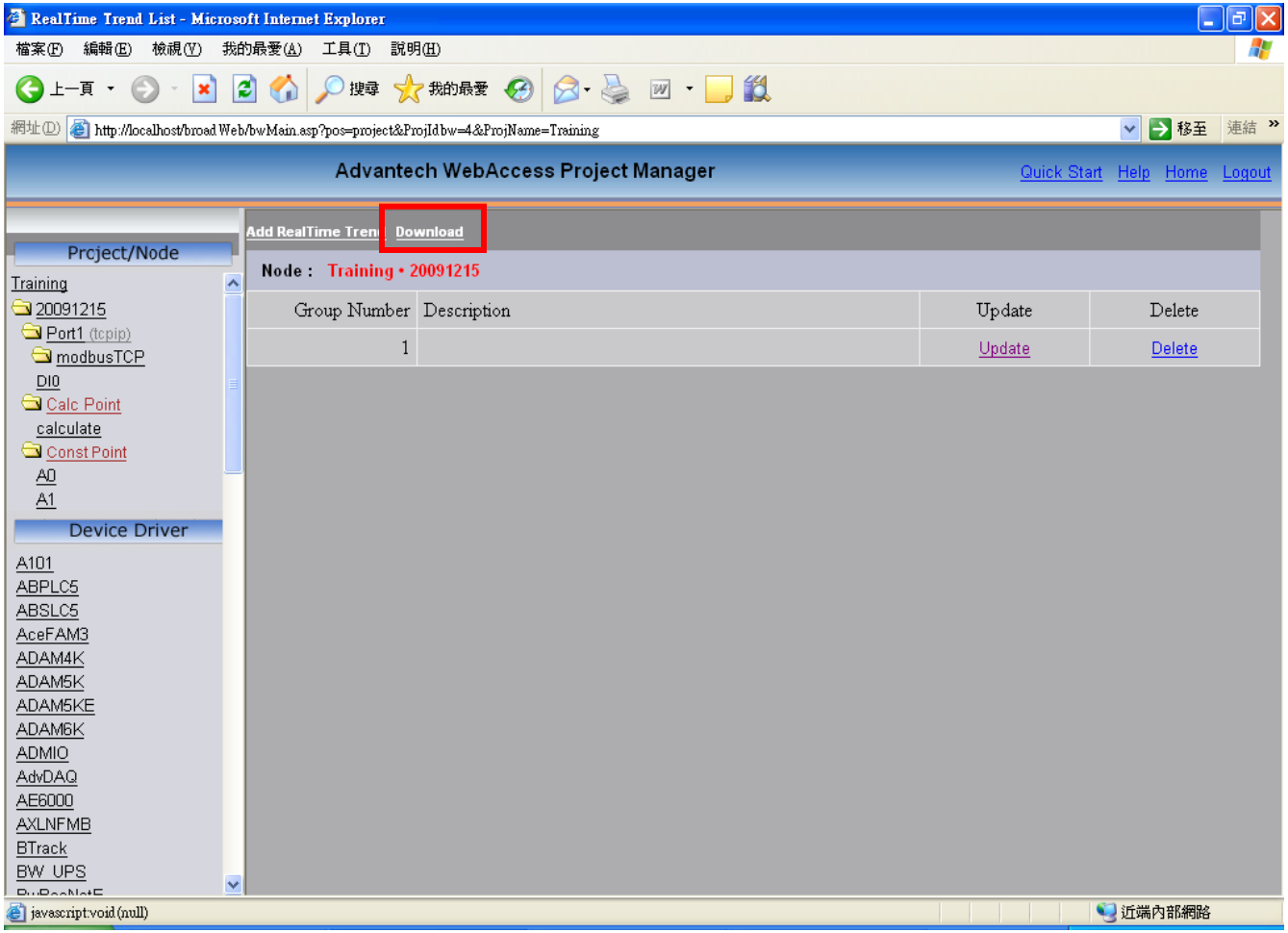
Realtime Trend

- **Add “A0” and “A1” to Tag Name**
- **Remember to setup both “Display High #” and “Display Low 3”**
- **Last, click “Submit” button**



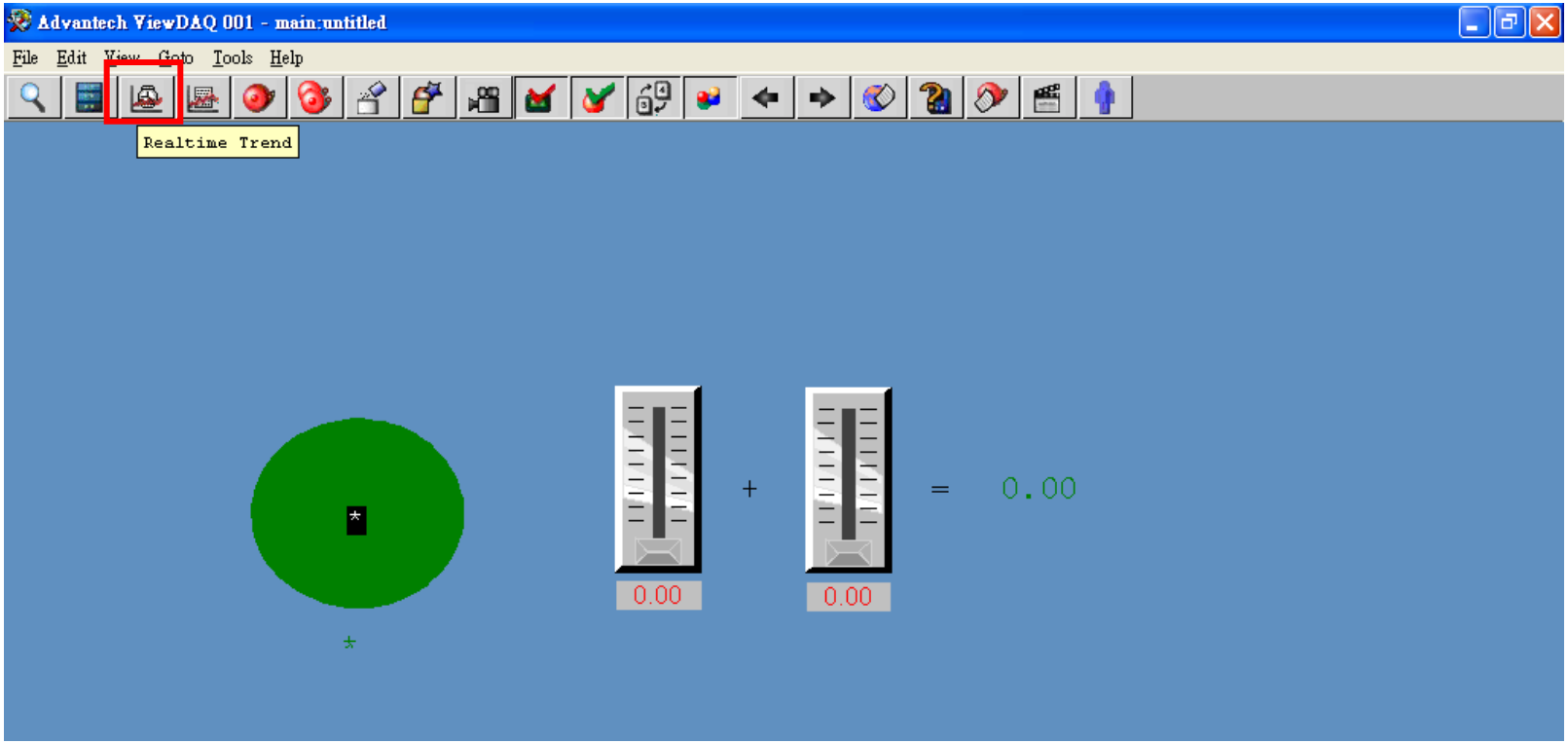
Realtime Trend

- **Click “Download”**



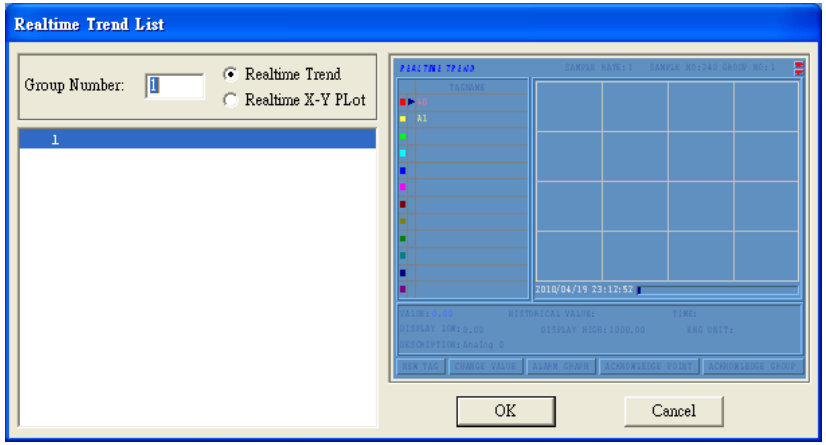
Realtime Trend

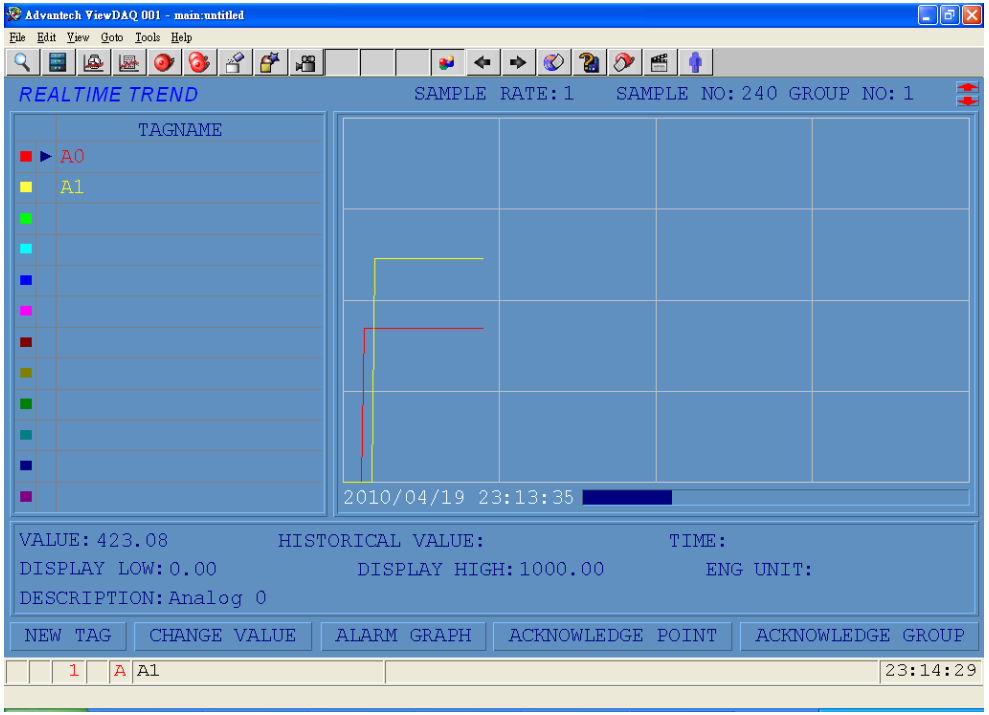
- **Click “Readtime Trend” button**



Realtime Trend

- **Select “Group Number” and user will able to see the RealTime Trend.**



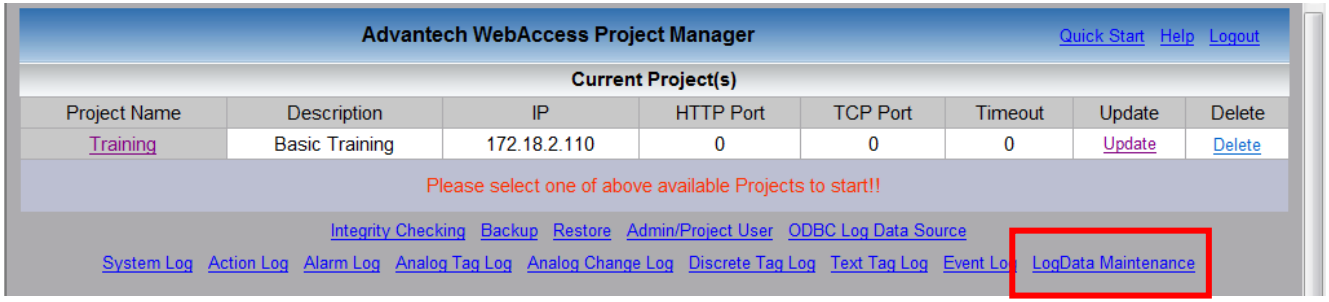


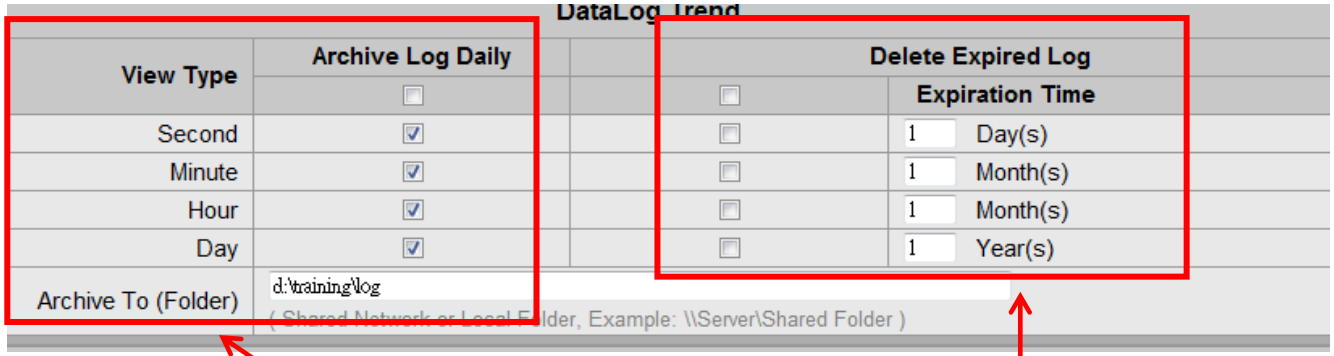
DataLog Trend

(Historical Trend)

DataLog Trend

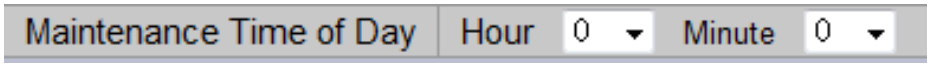
- **By setting Log Data for DataLog Trend, LogData Maintenance must also setup**
  - Data Maintenance supports data relocation save and deletion
  - These actions will make sure the database won't explore





Save data to other location

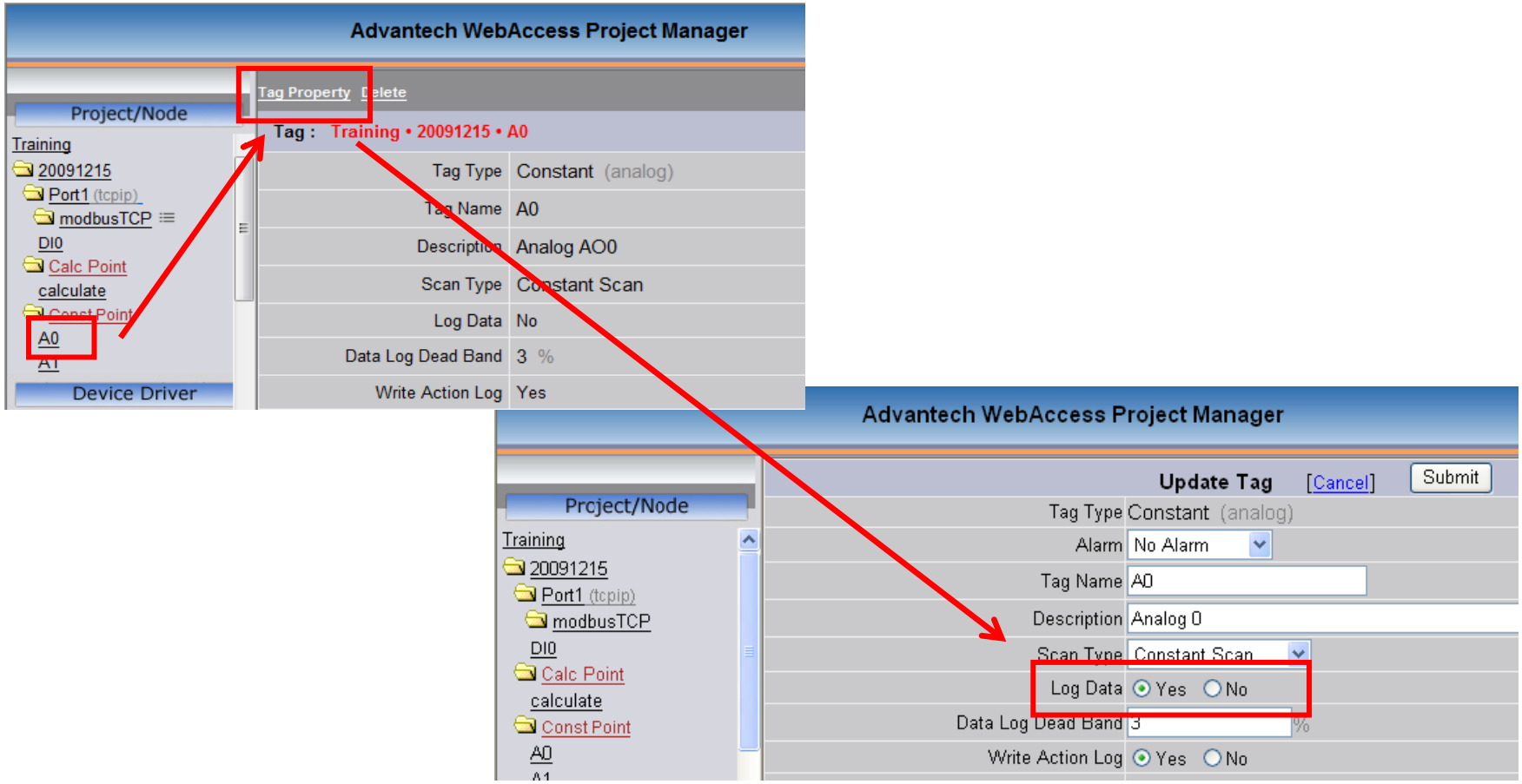
Delete expired data



data maintenance starts time

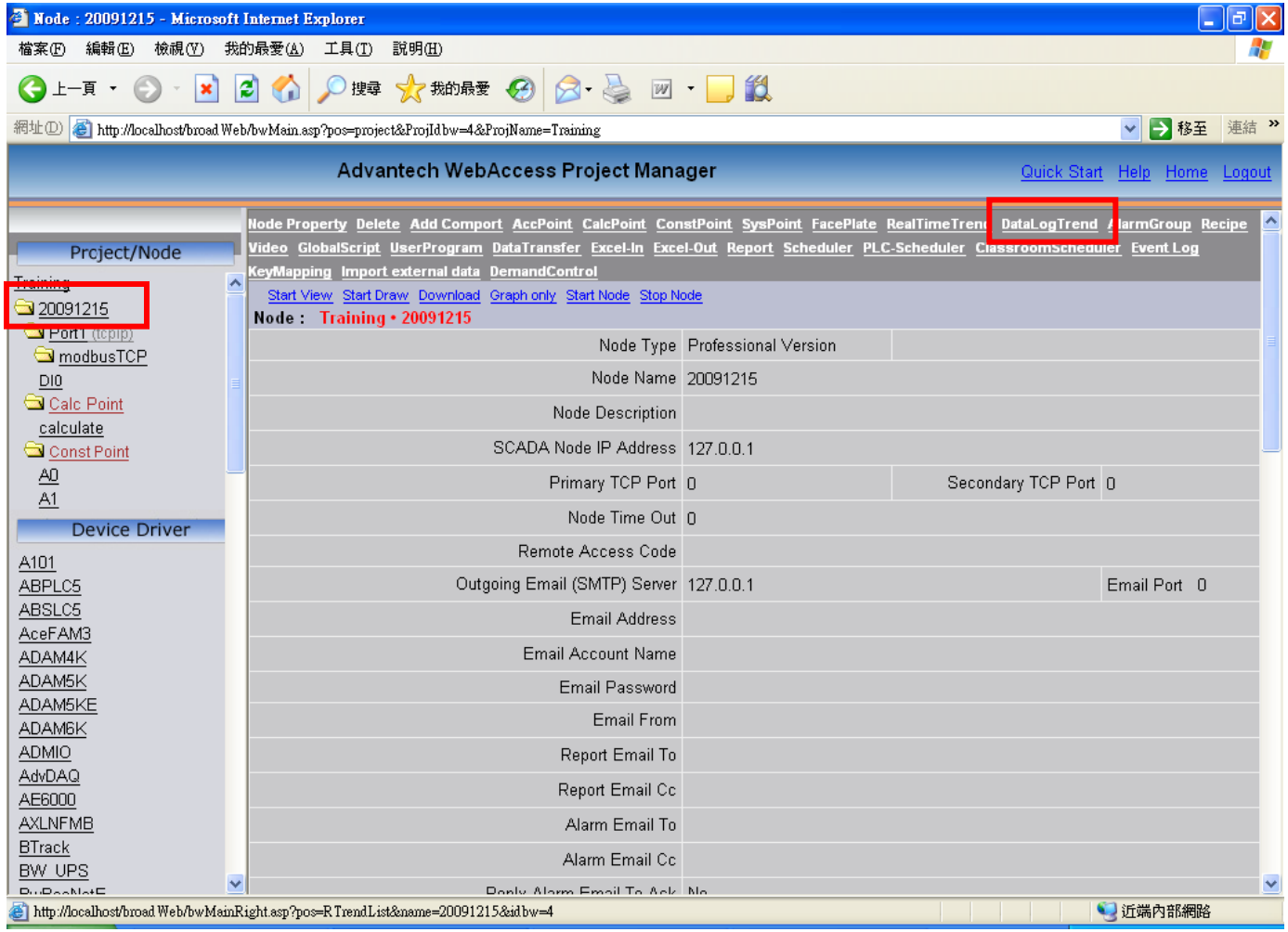
DataLog Trend

- In Tag property, “Log Data” must set as “Yes” in all tag.
- Let’s select “AO” tag



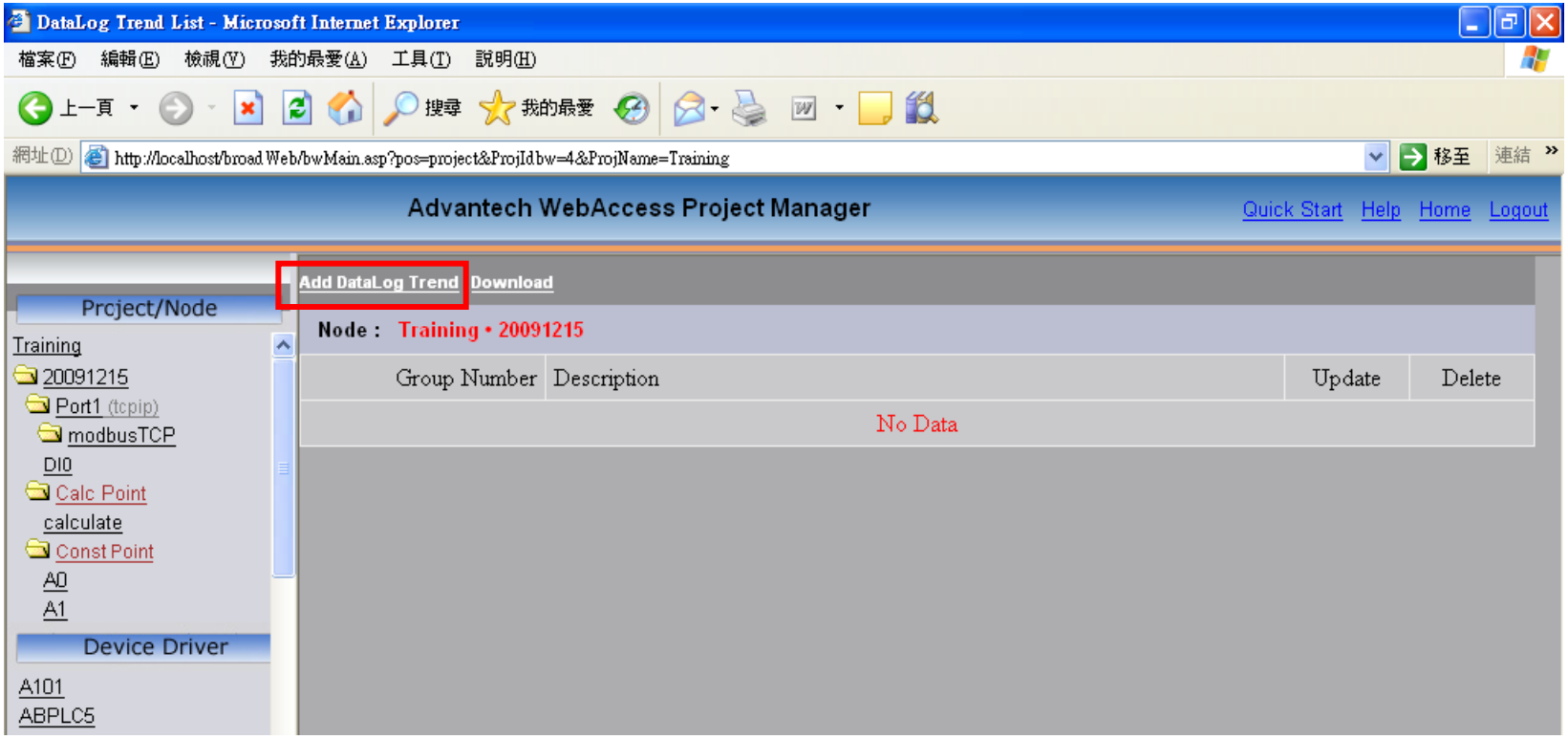
DataLog Trend

- **Click “SCADA Node” and then click “DataLogTrend”**



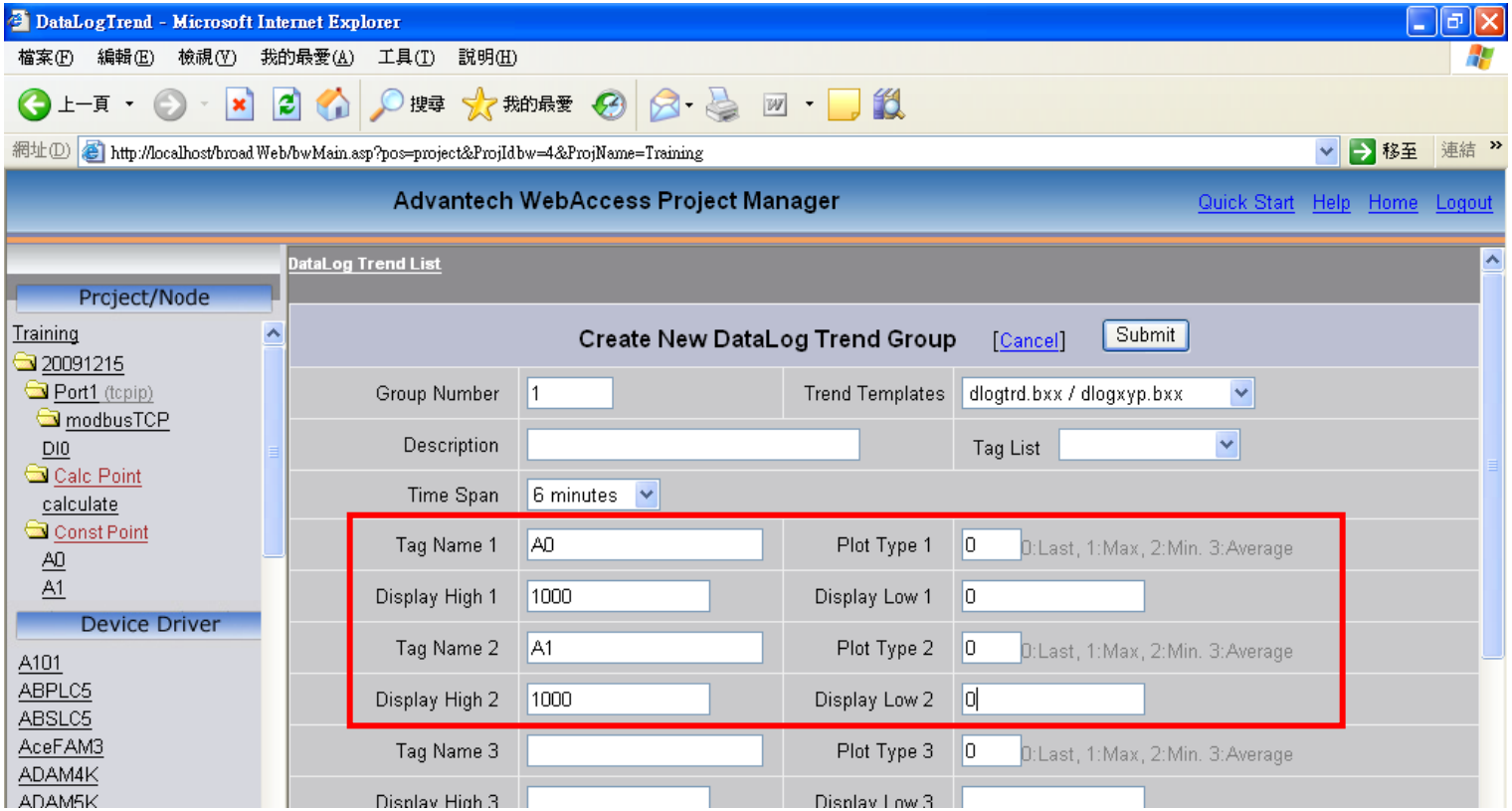
DataLog Trend

- **Click “Add Datalog Trend”**



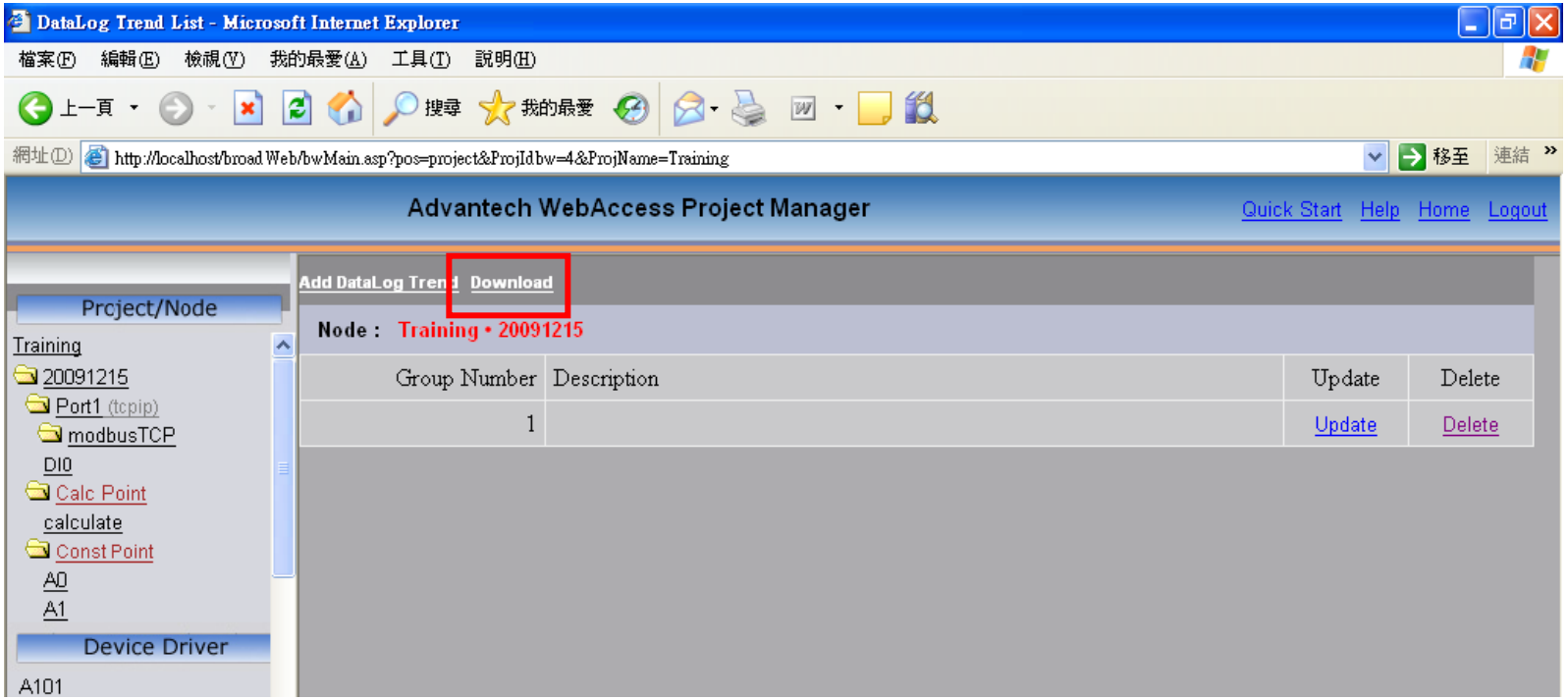
DataLog Trend

- **Add “A0” and “A1” to Tag Name**
- **Remember to setup both “Display High #” and “Display Low 3”**
- **Last, click “Submit” button**



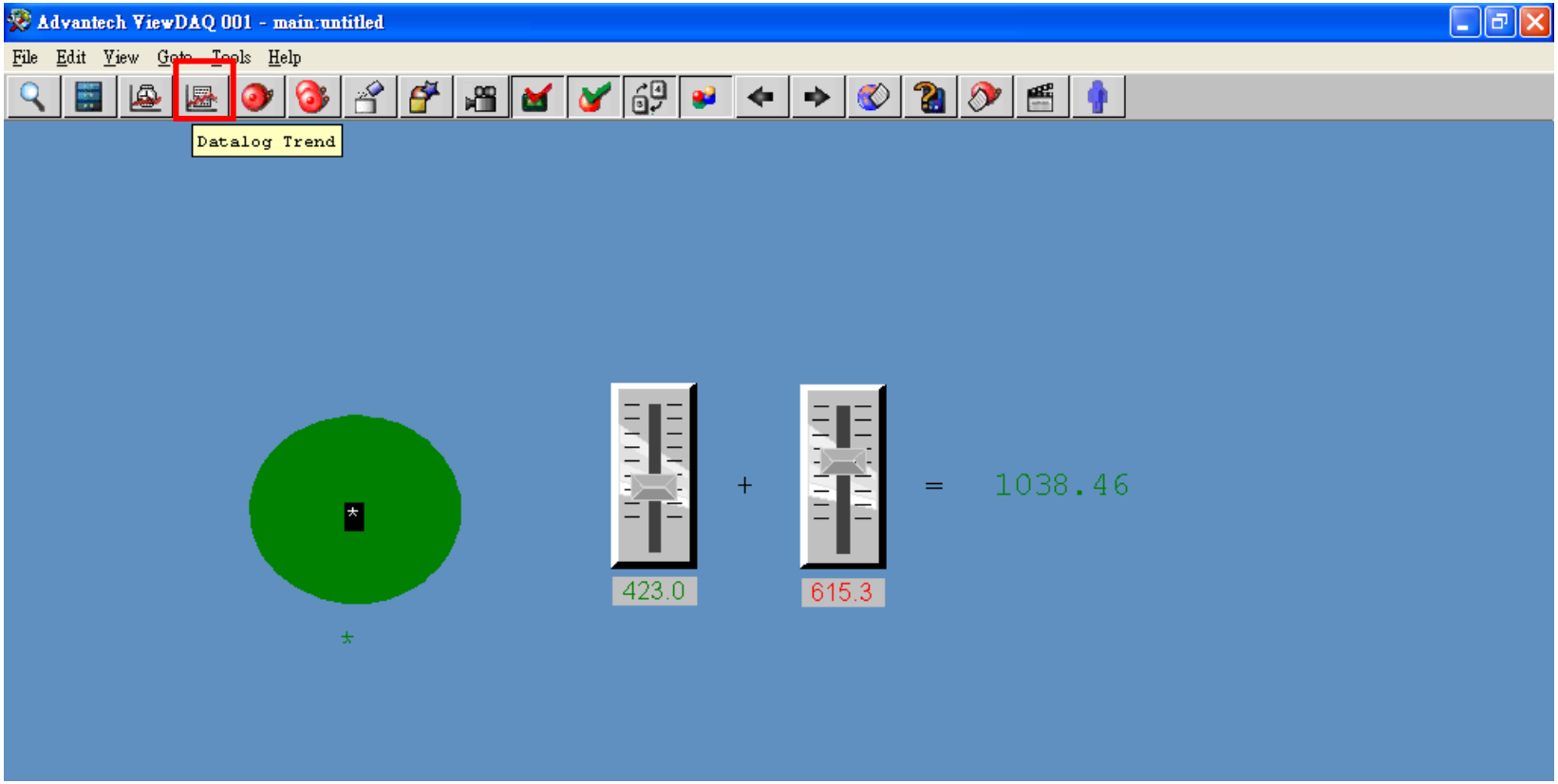
DataLog Trend

- **Click “Download”**



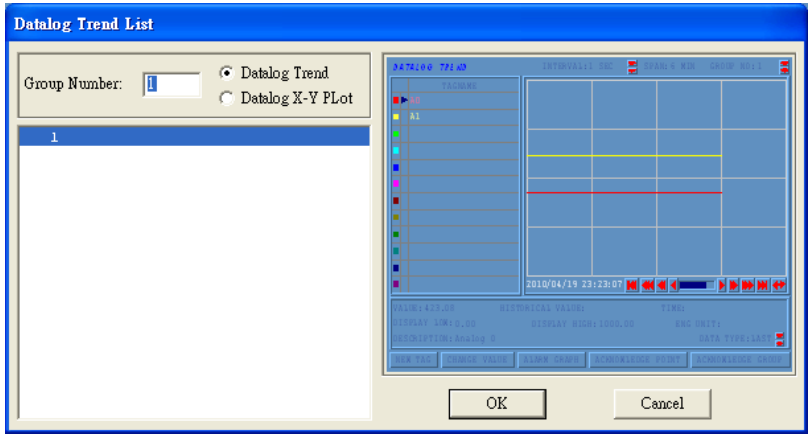
DataLog Trend

- **Click “Datalog Trend” button in ViewDAQ**



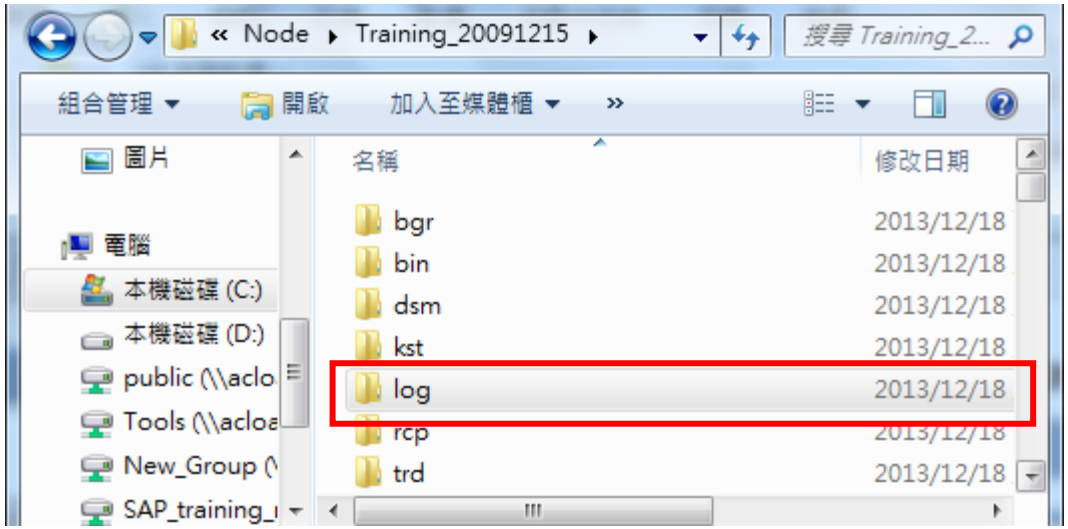
DataLog Trend

- **Select “Group Number” and user will able to see the Datalog Trend.**

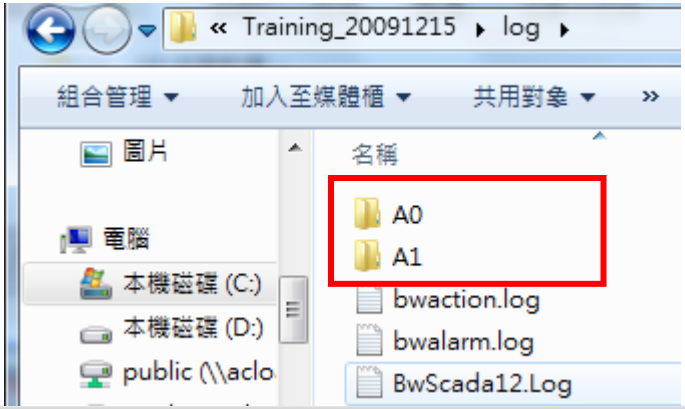


DataLog Trend

- **Trend data will be stored at**
  - **drive:\webaccess\node\Training_20091215\log**



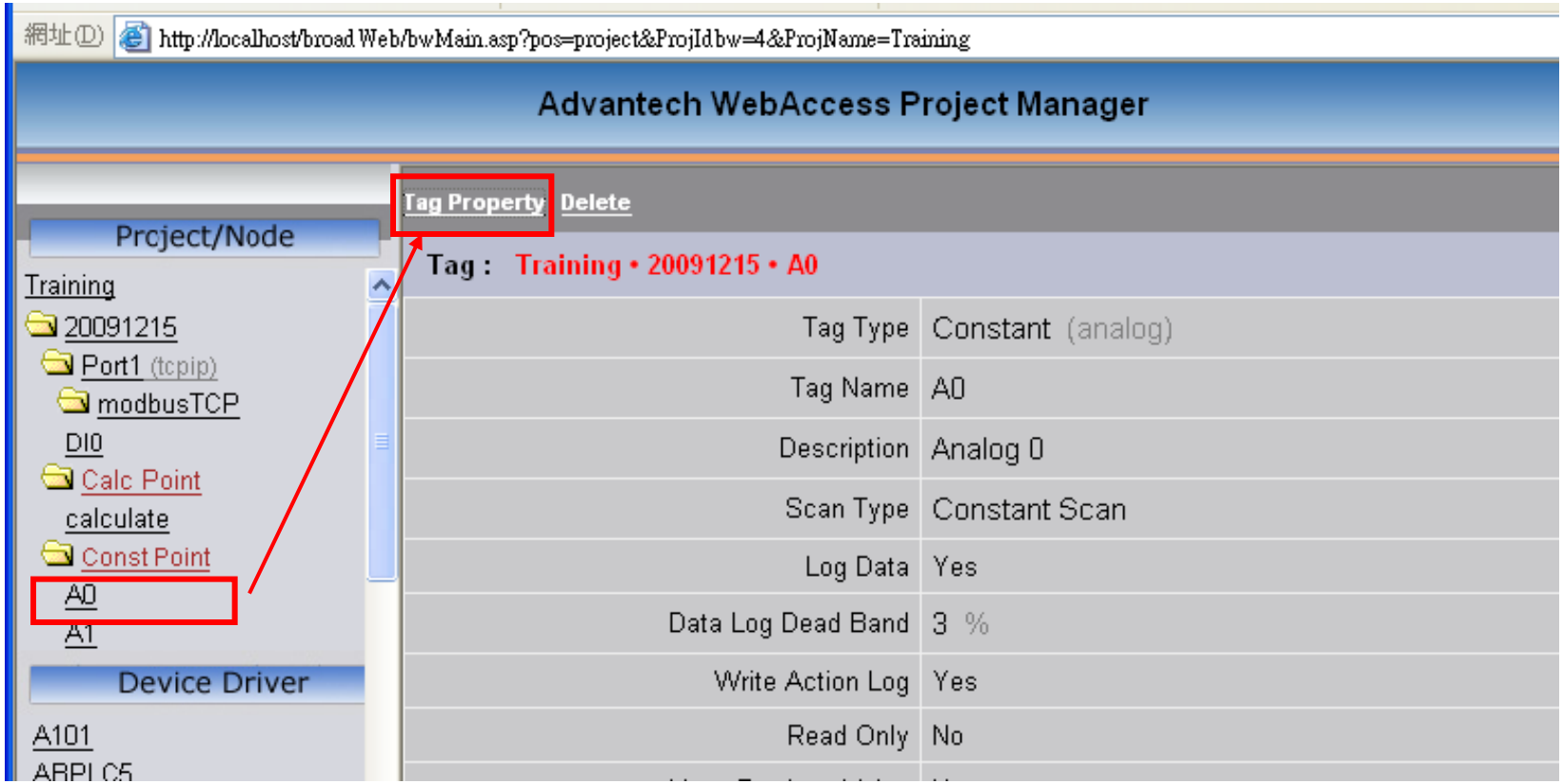
- **Data is stored based on tag name**



Alarm

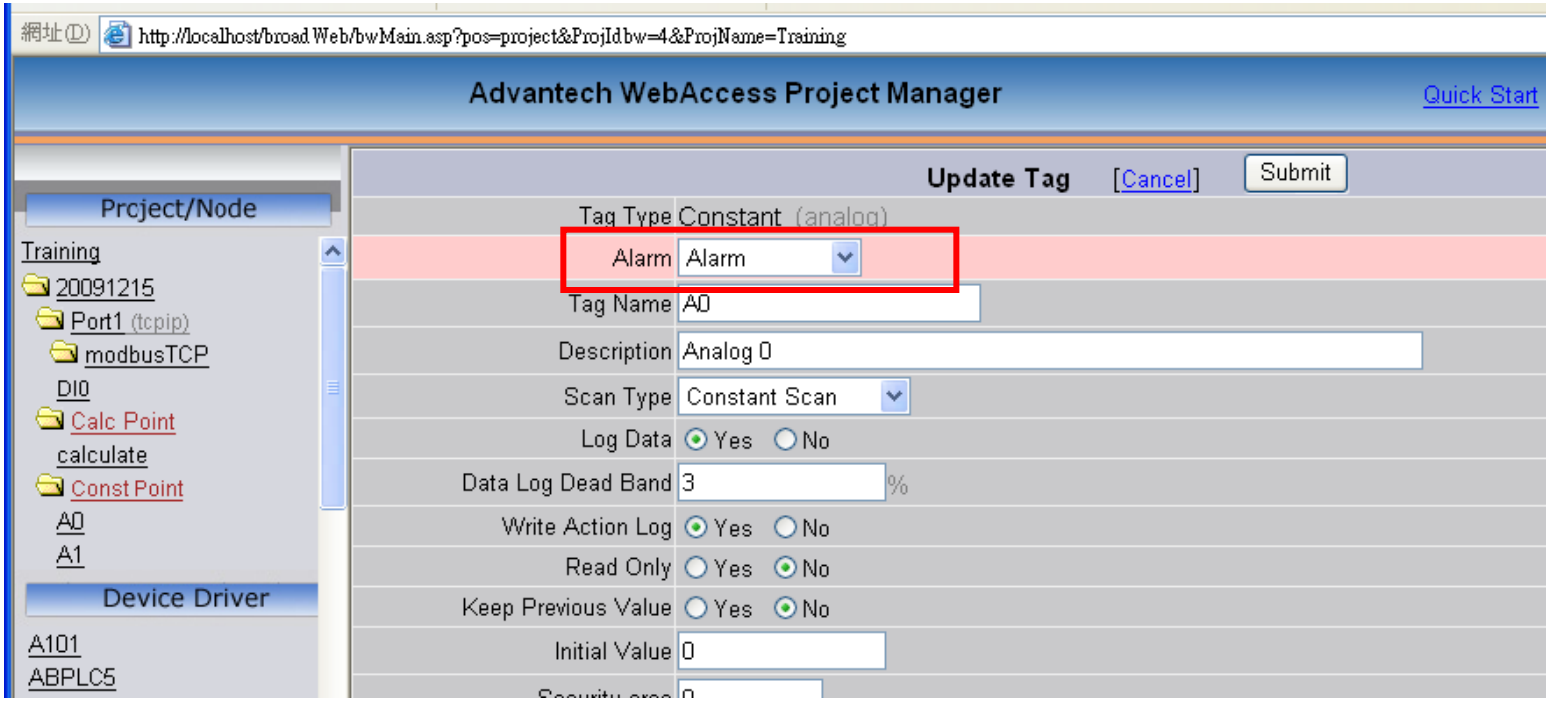
Alarm

- **Click “A0” in ConstPoint, then click “Tag Property”**



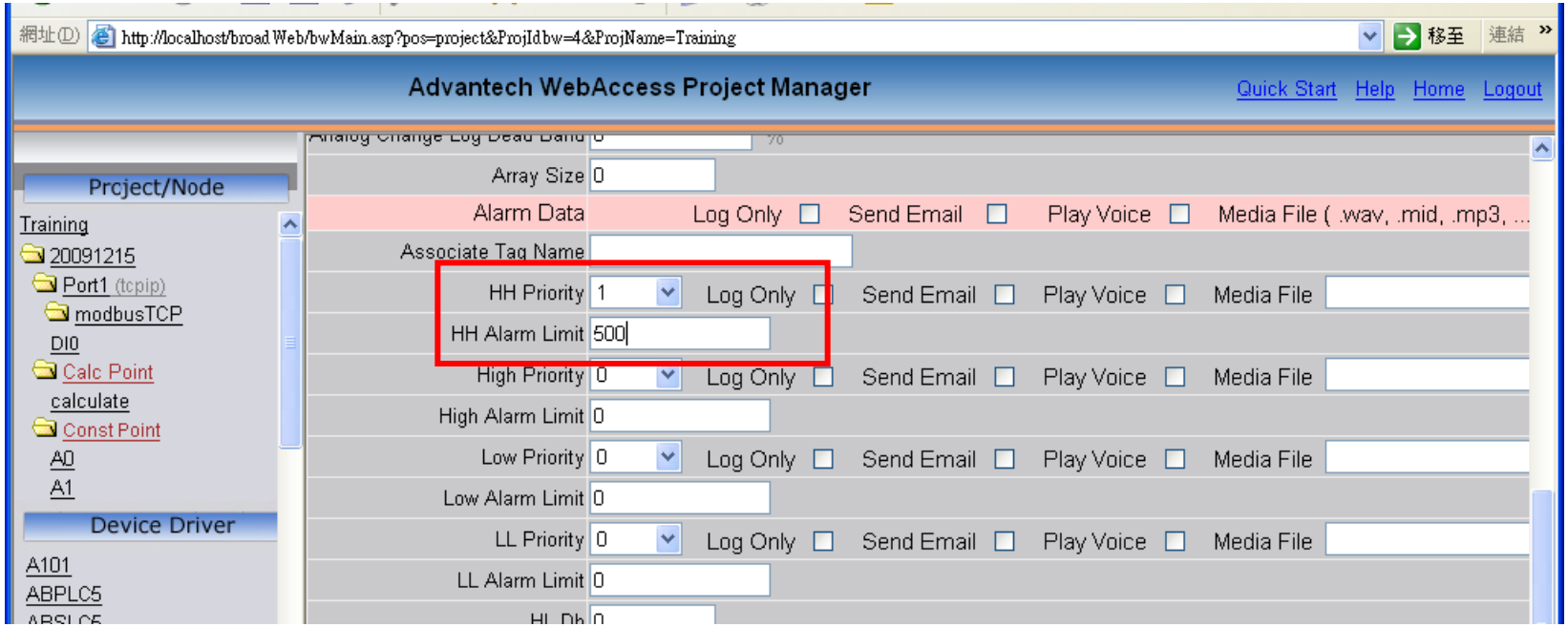
Alarm

- **Click on “Alarm” and change its setting from “No Alarm” to “Alarm”**



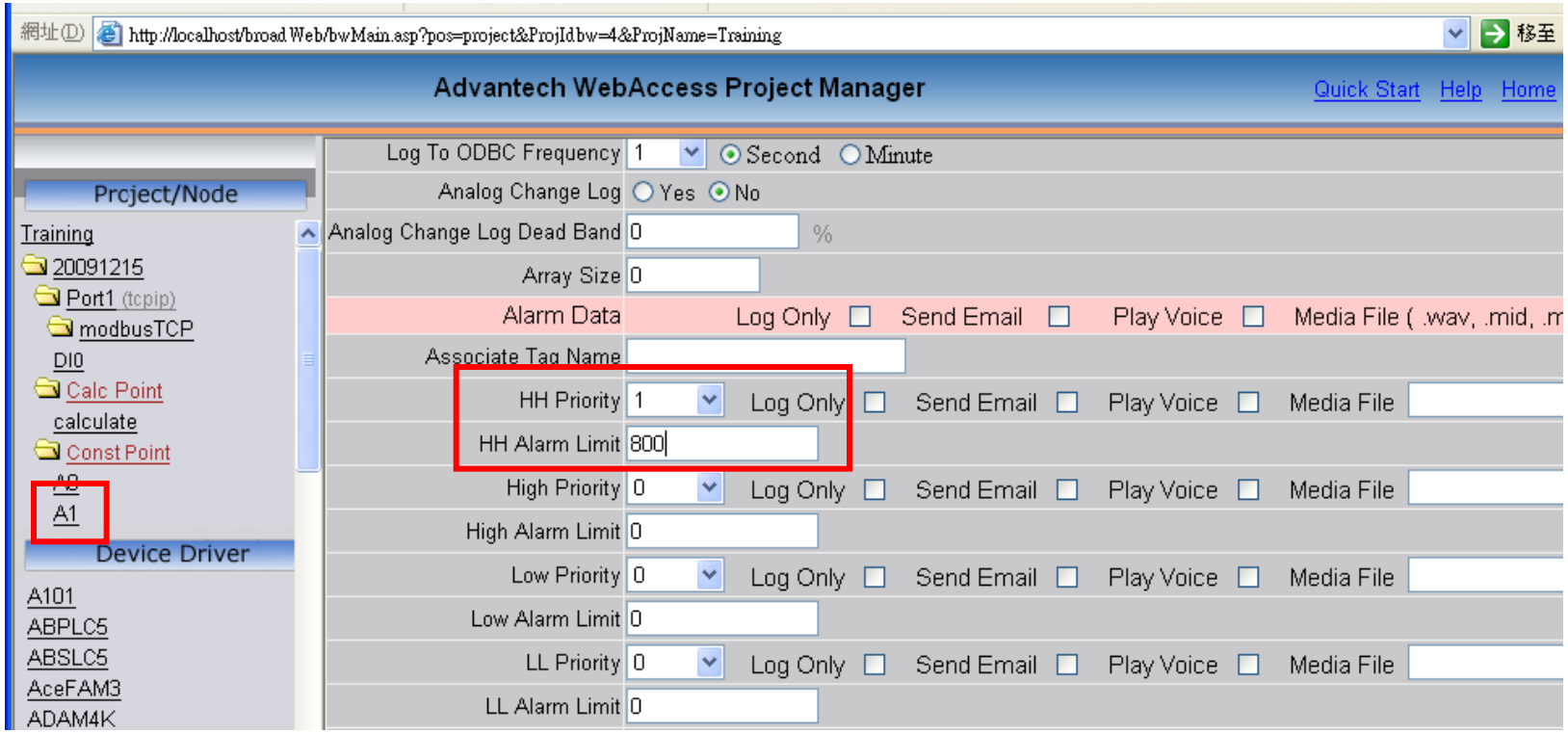
Alarm

- An alarm setup will appear in the bottom of the page
- There are four type of alarm: High High (HH), High, Low, and Low Low (LL)
- In HH/High/Low/LL priorities, the default setup “0” means “NOT ACTIVE”
- Setup “HH Priority” to “1” and setup “HH Alarm Limit” to “500”
- It means if A0 value equals or higher than 500, the alarm will be triggered.
- Last, click “submit” in the end of page to complete the process



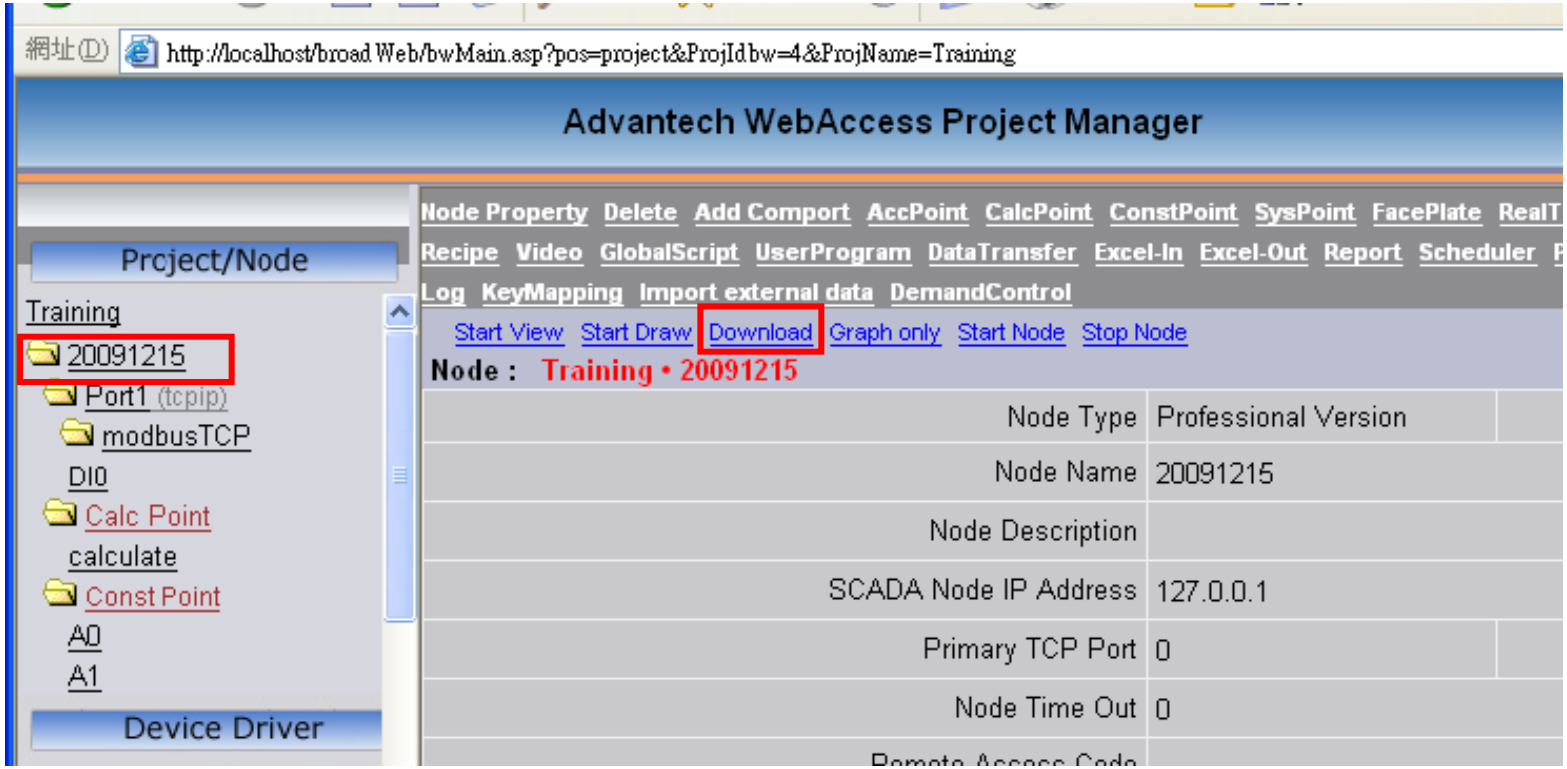
Alarm

- **Also active the constant point A1 alarm.**
- **This time, setup “HH Alarm Limit” value to 800**
- **Click “submit” to complete the setup**



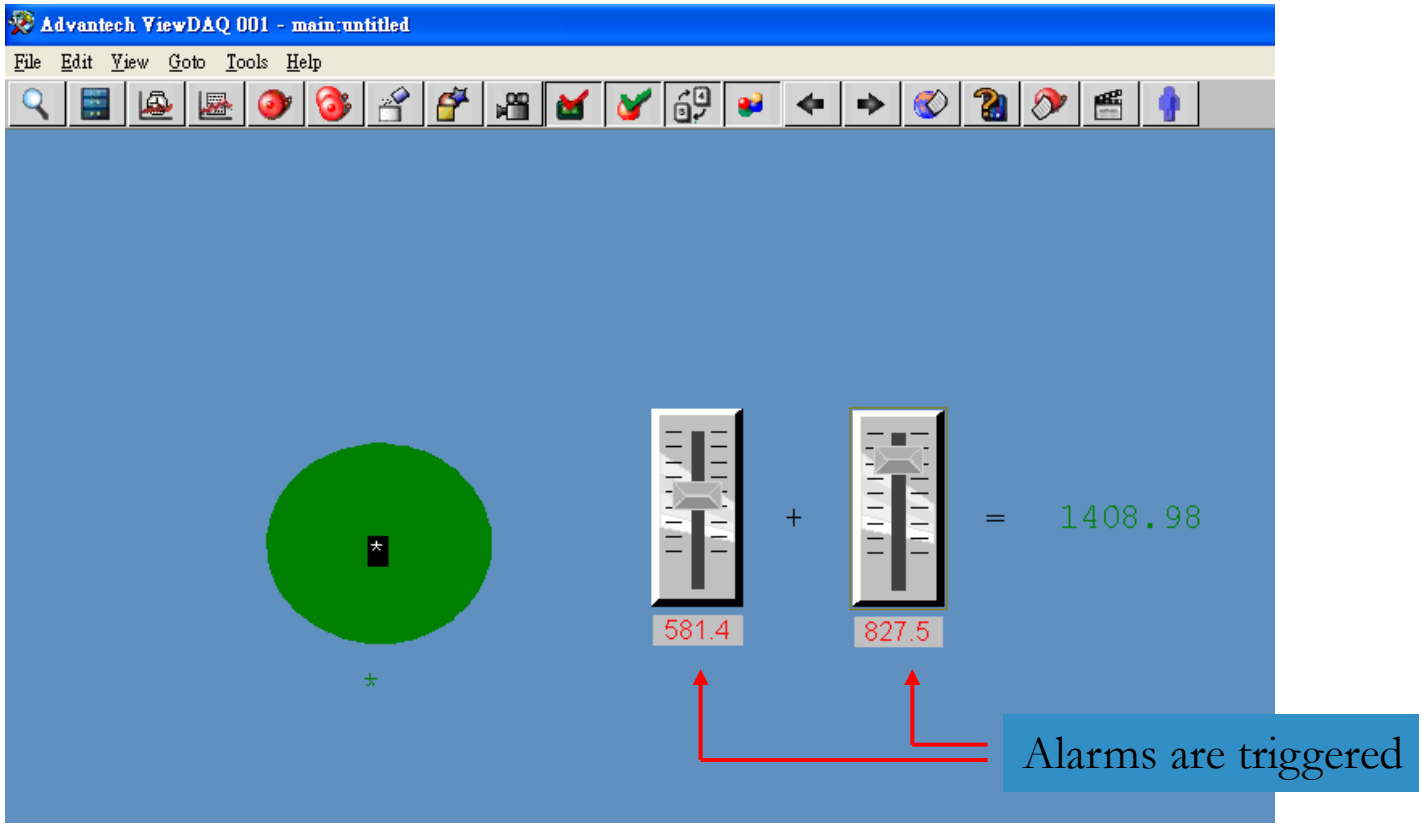
Alarm

- **Click SCADA Node and click “Download”**



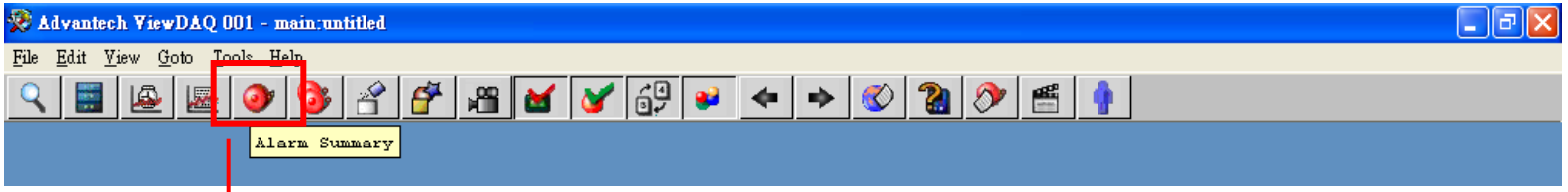
Alarm

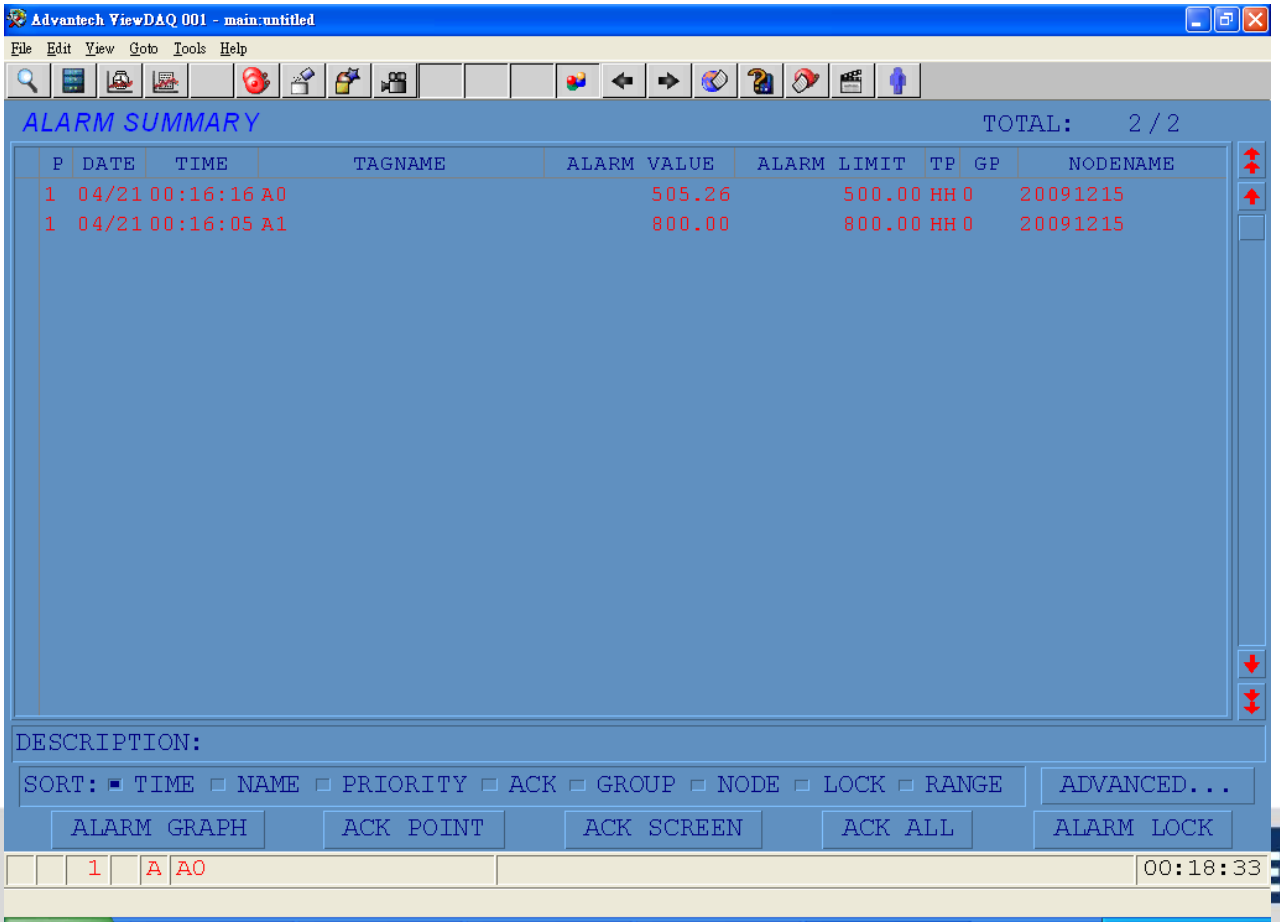
- Turn on ViewDAQ
- If A0 value equals or over 500, the alarm will be triggered.
- If A1 value equals or over 800, the alarm will be triggered.



Alarm

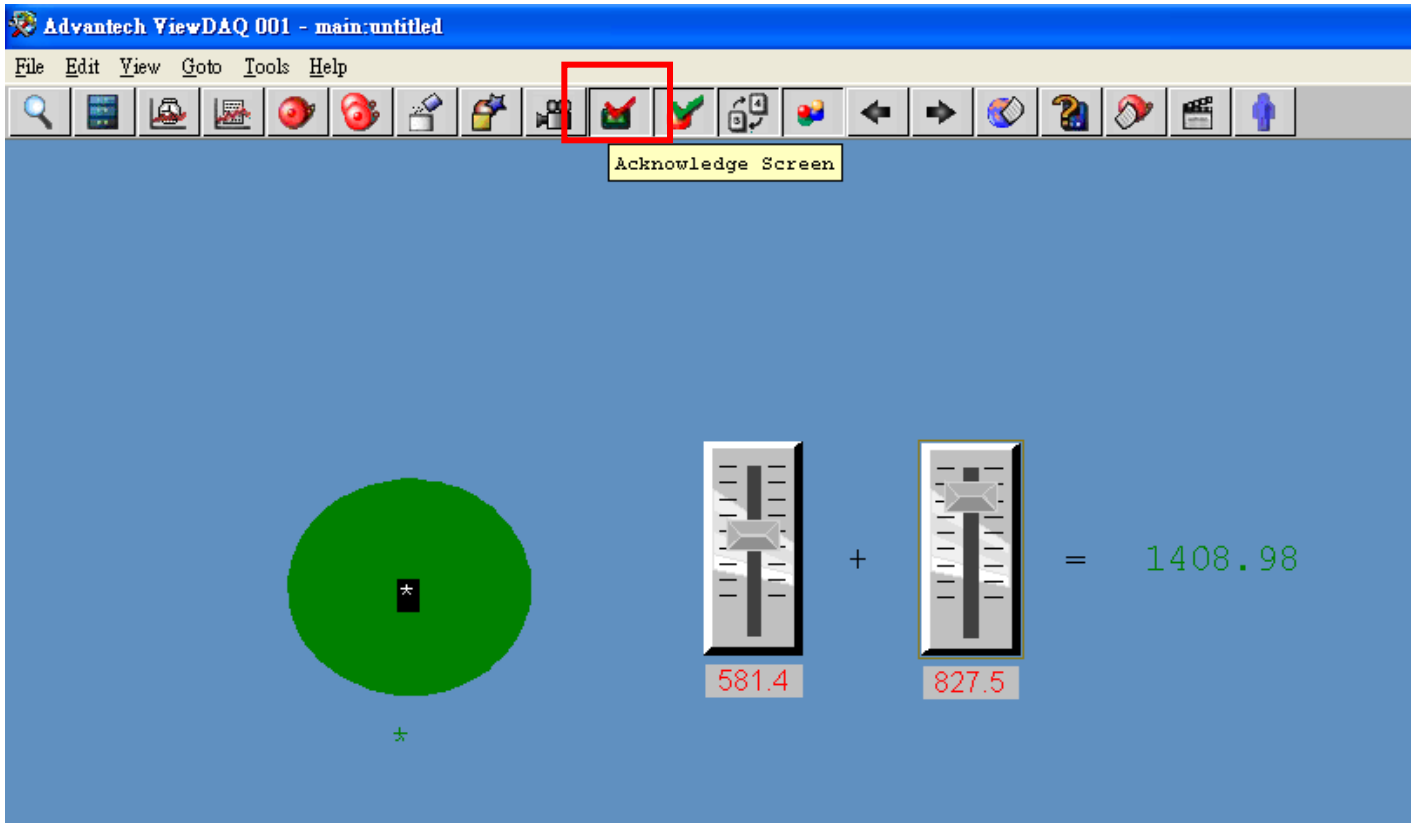
- **Click “Alarm summary” will be able to view all alarm details**





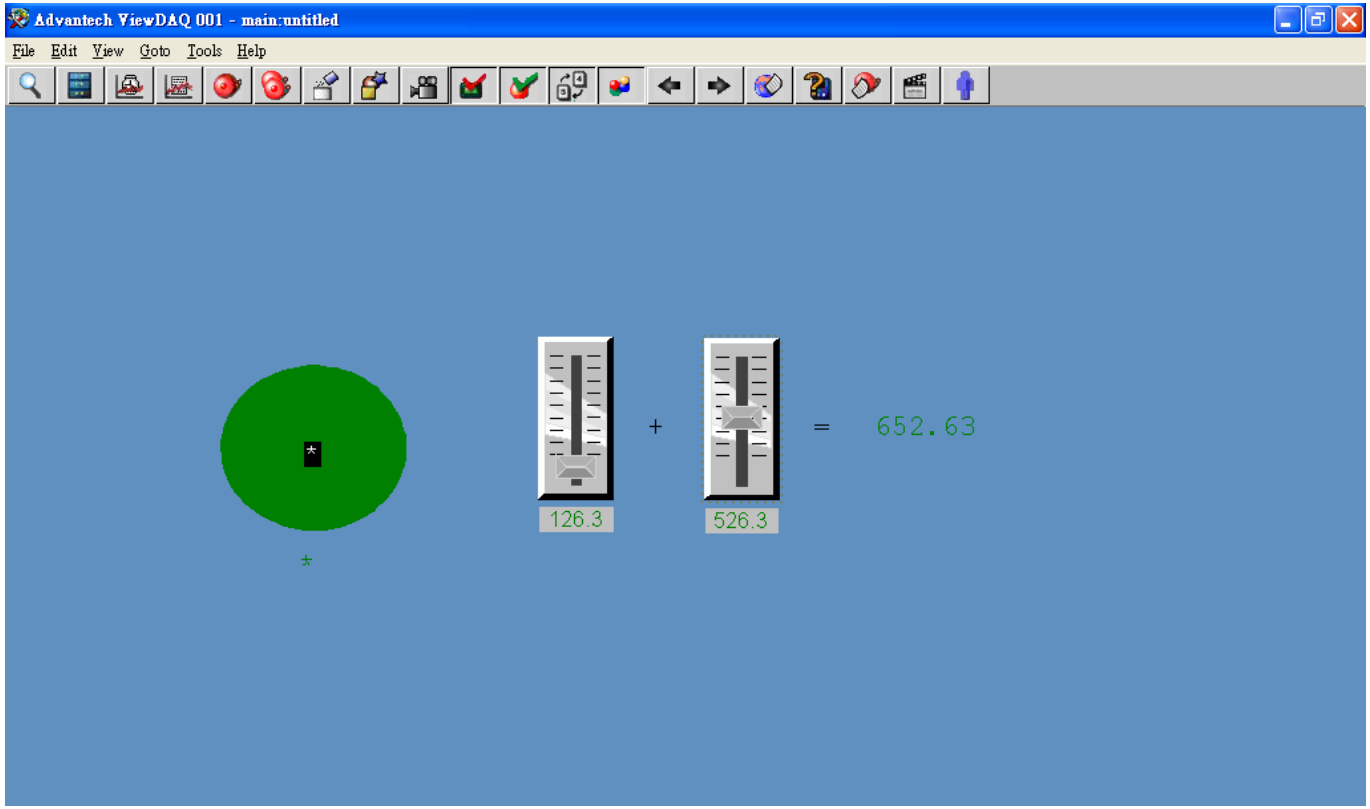
Alarm

- **Click “Acknowledge Screen” can acknowledge the alarm, but the A0 and A1 values are still marked in red.**



Alarm

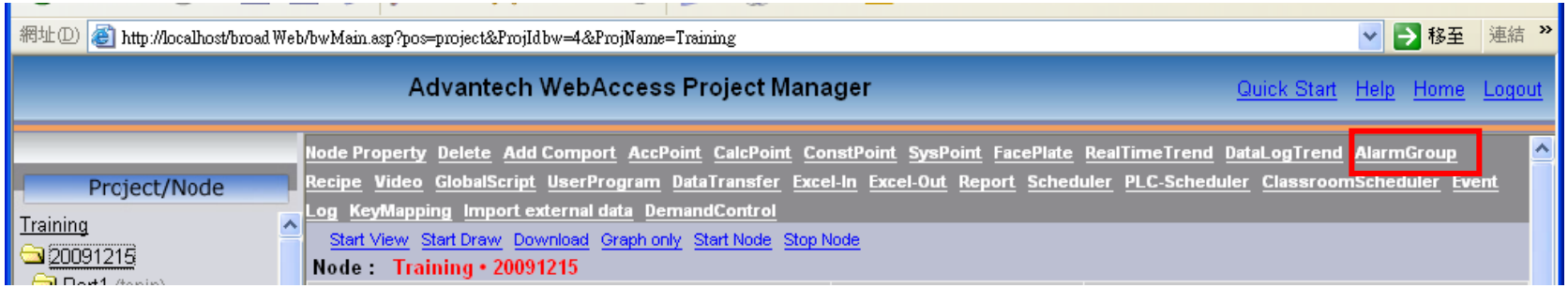
- If A0 and A1 values are lower than alarm triggered value, the value will color will be back to green.
- Note. Red and green colour are default color, user is freely to change all these colors in DrawDAQ.



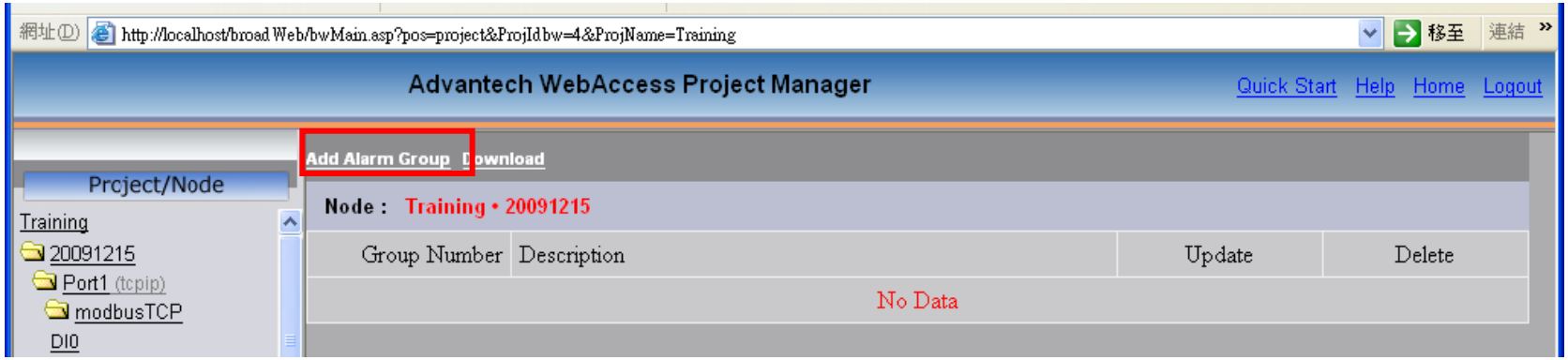
Alarm Group

Alarm Group

- **Click on SCADA Node (20091215) -> AlarmGroup**

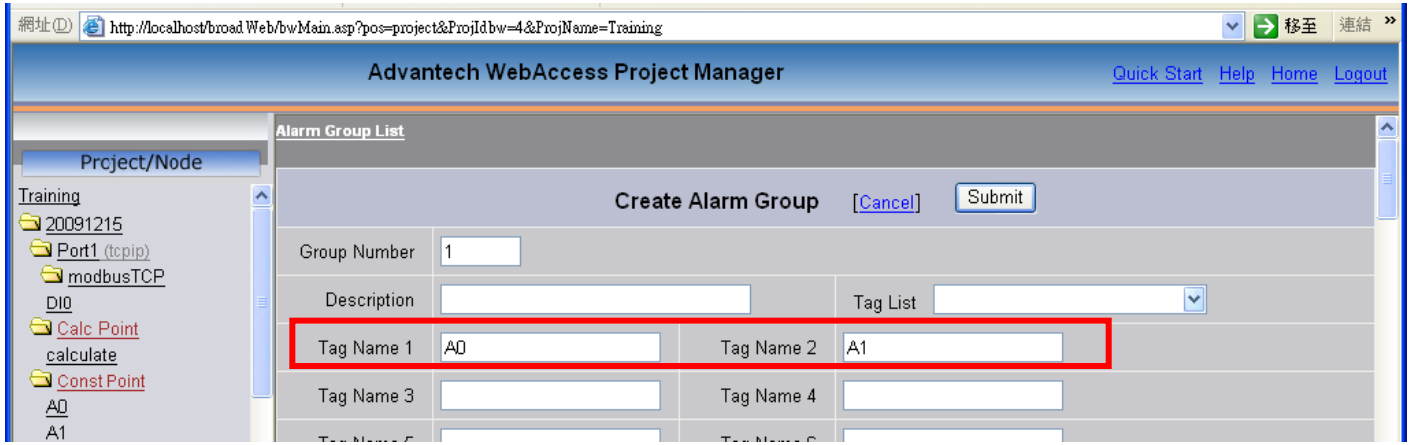


- **Click on "Add Alarm Group"**

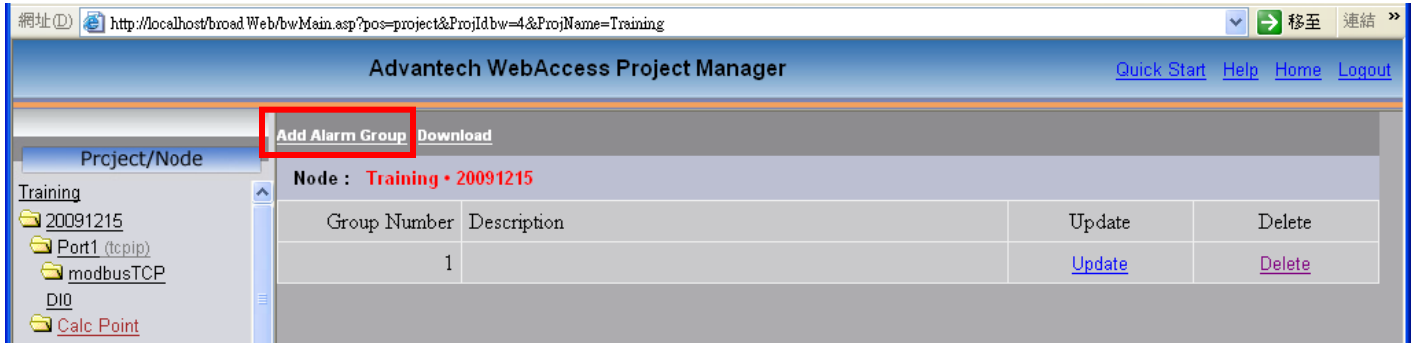


Alarm Group

- **In Group Number 1, enter A0 in Tag Name 1, and A1 in Tag Name 2.**
- **Click “Submit” button**

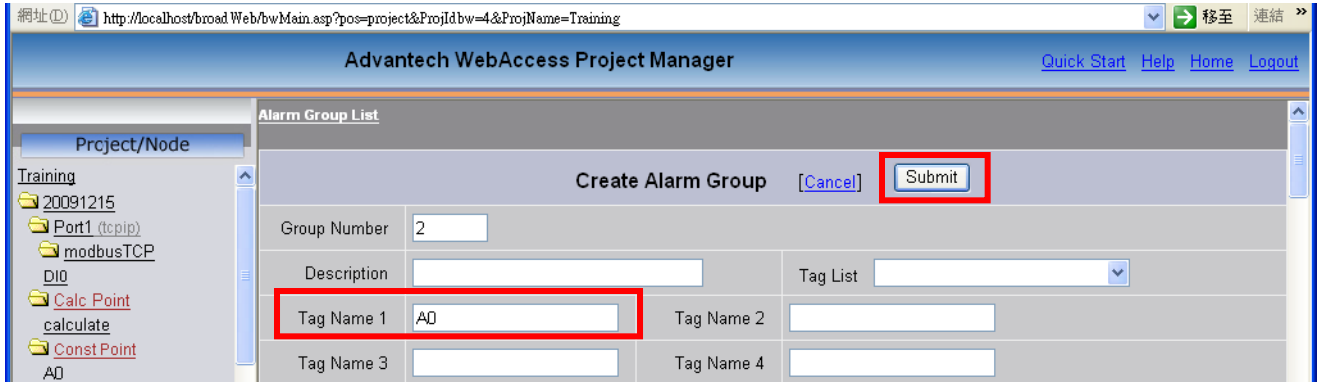


- **Click “Add Alarm Group” to add another alarm group**

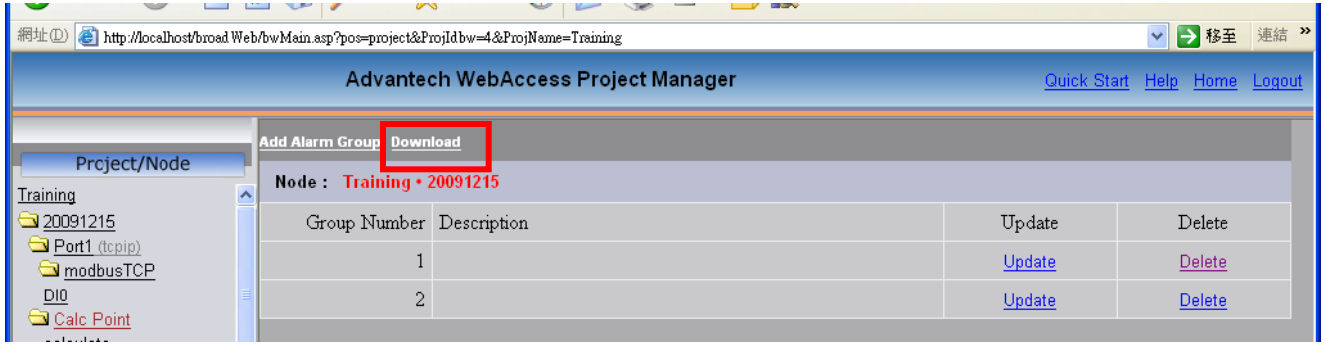


Alarm Group

- **In Group Number 2, only enter A0 to Tag Name 1, then click “Submit” button**

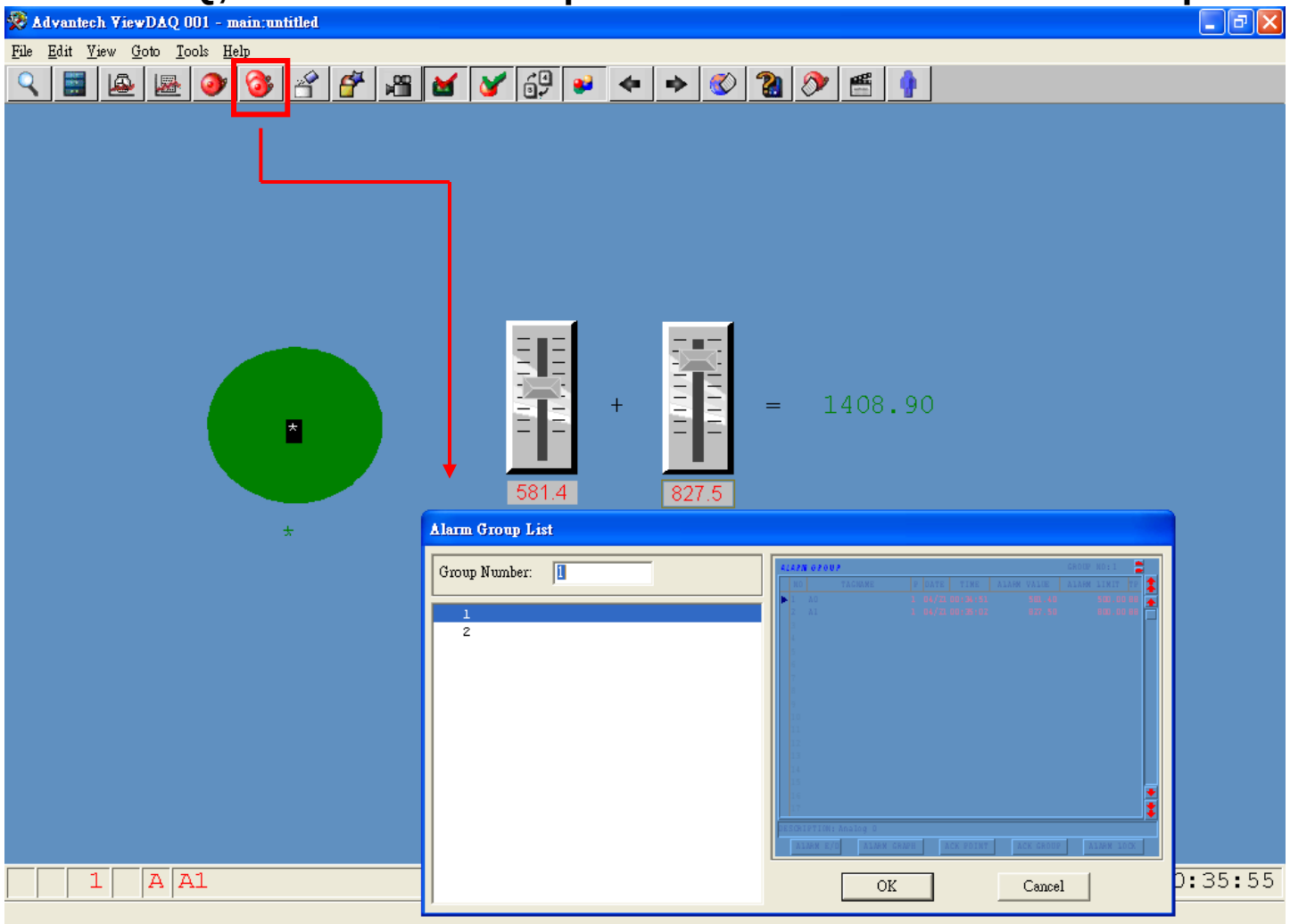


- **Click “Download”**



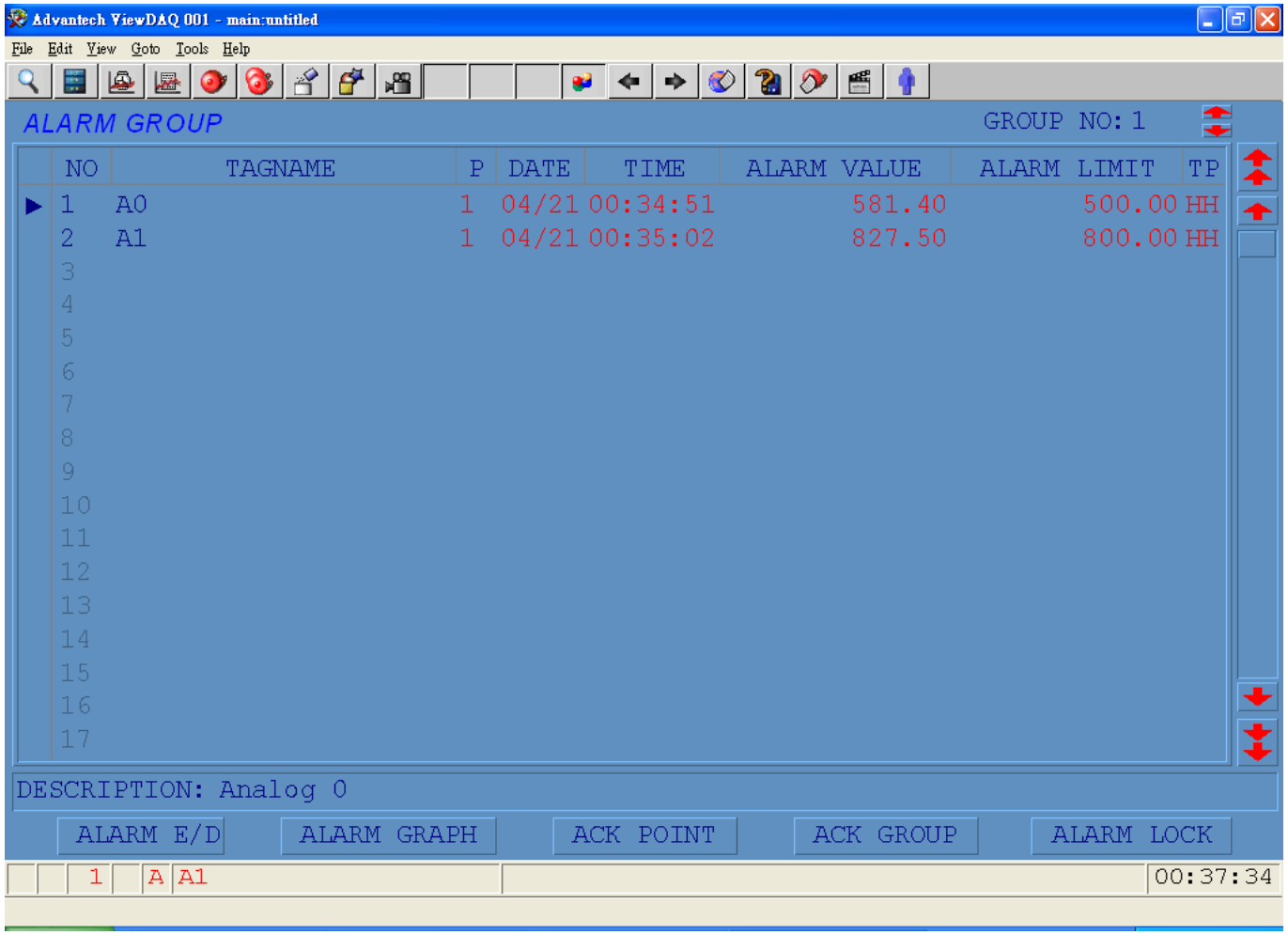
Alarm Group

- **In ViewDAQ, click “Alarm Group” button and select a Alarm Group to monitor**



Alarm Group

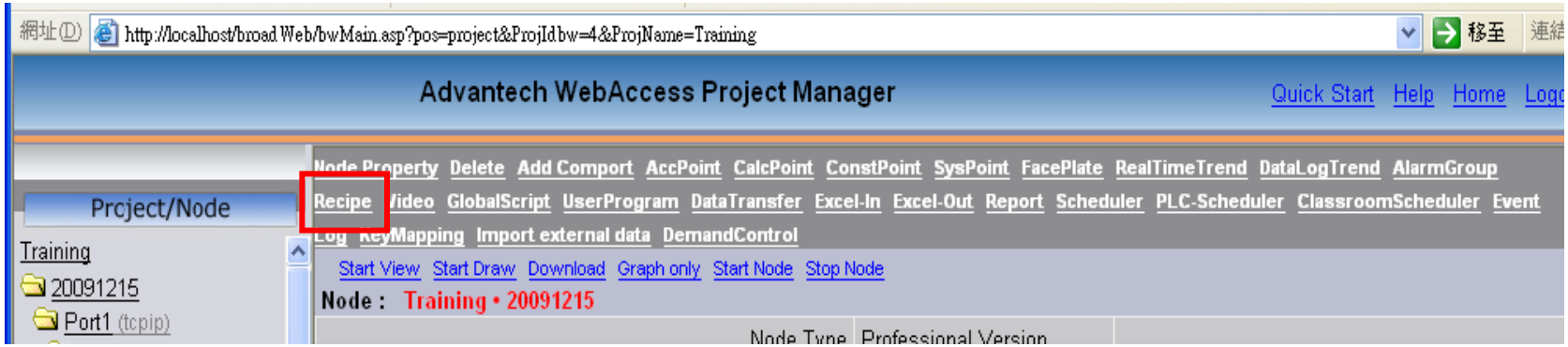
- **If user selects Alarm Group 1, then this is how it looks like.**



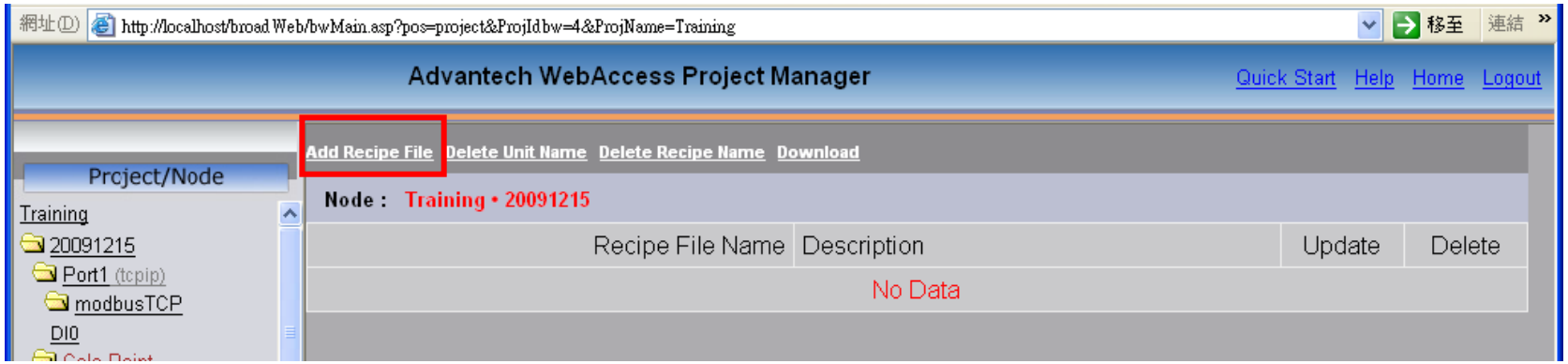
Recipe

Recipe

- **Click “Recipe” in SCADA Node**

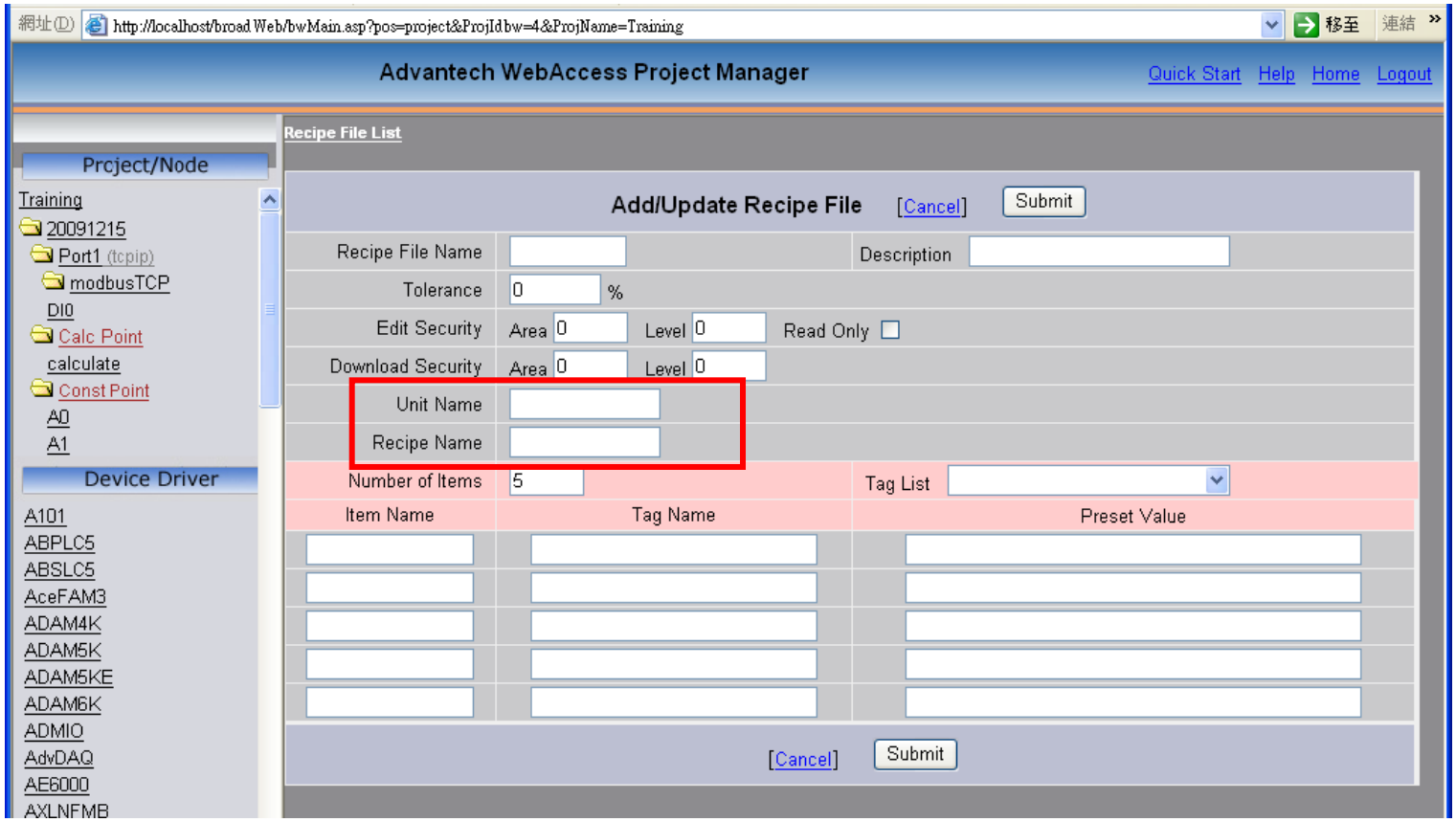


- **Click “Add Recipe File”**



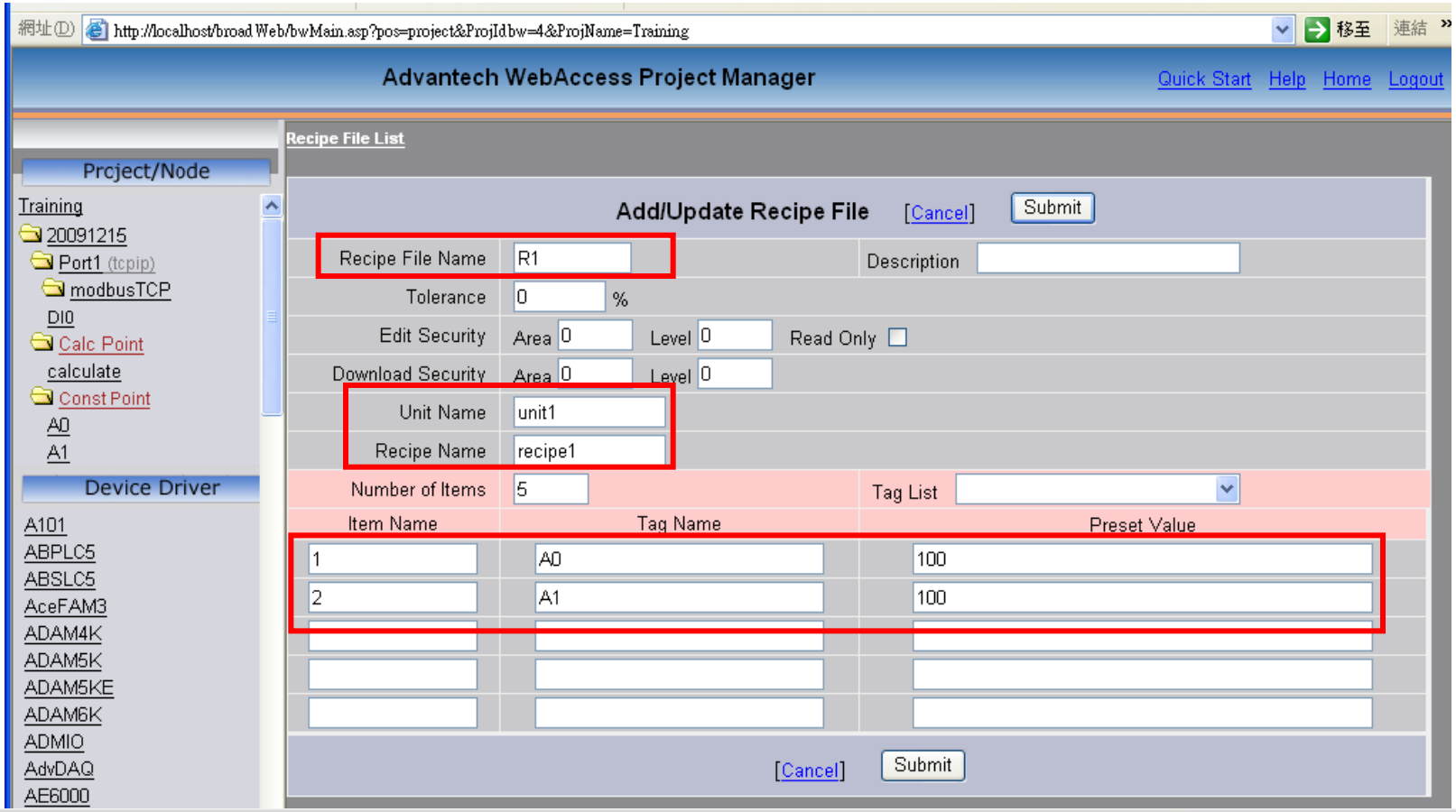
Recipe

- **Unit Number: a group of tags**
- **Recipe: a group of preset values**



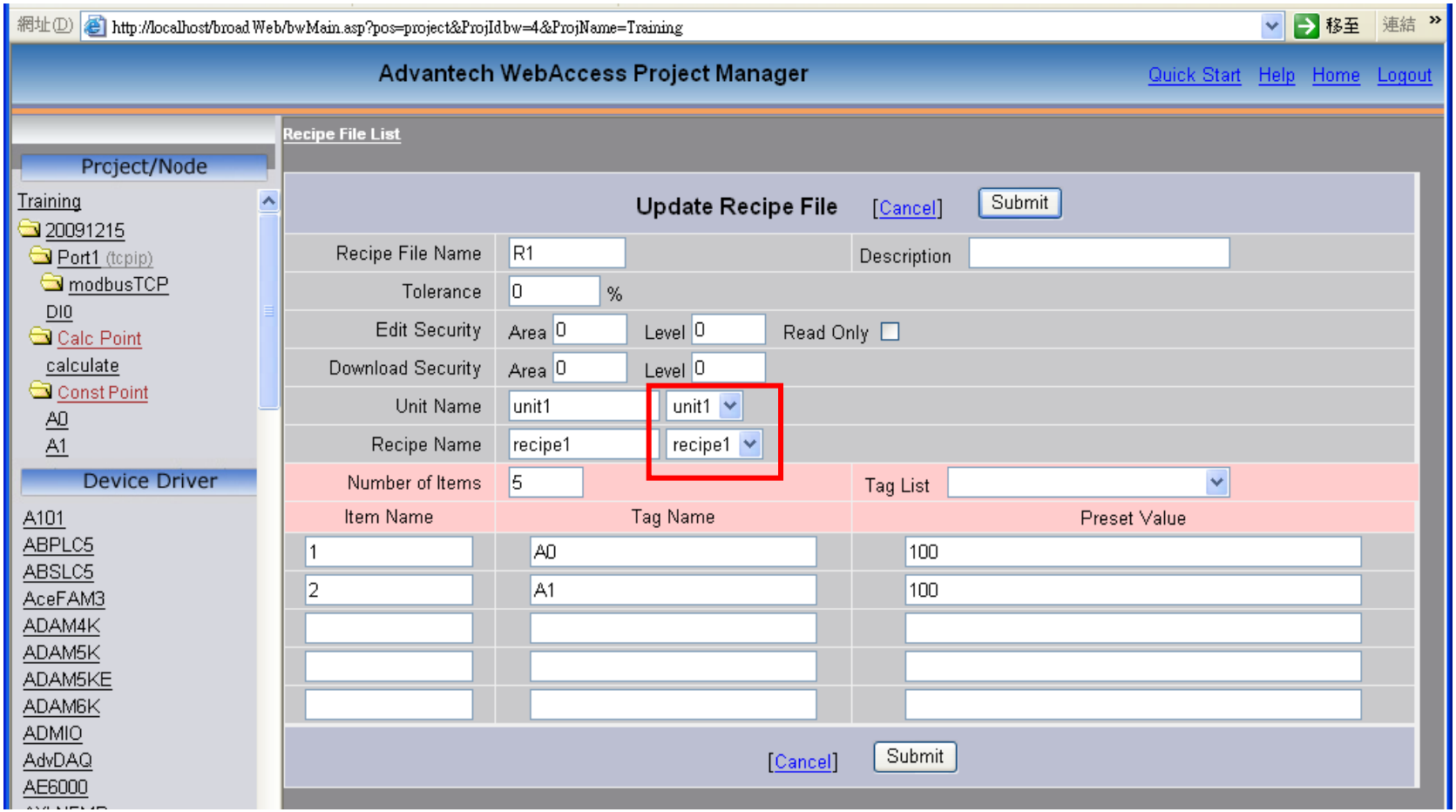
Recipe

- **Enter “Recipe File Name” as “R1”**
- **Enter “Unit Name” as “unit1” and enter “Recipe Name” as “recipe1”**
- **Enter the “Item Name”, “Tag Name” and “Preset Value”**



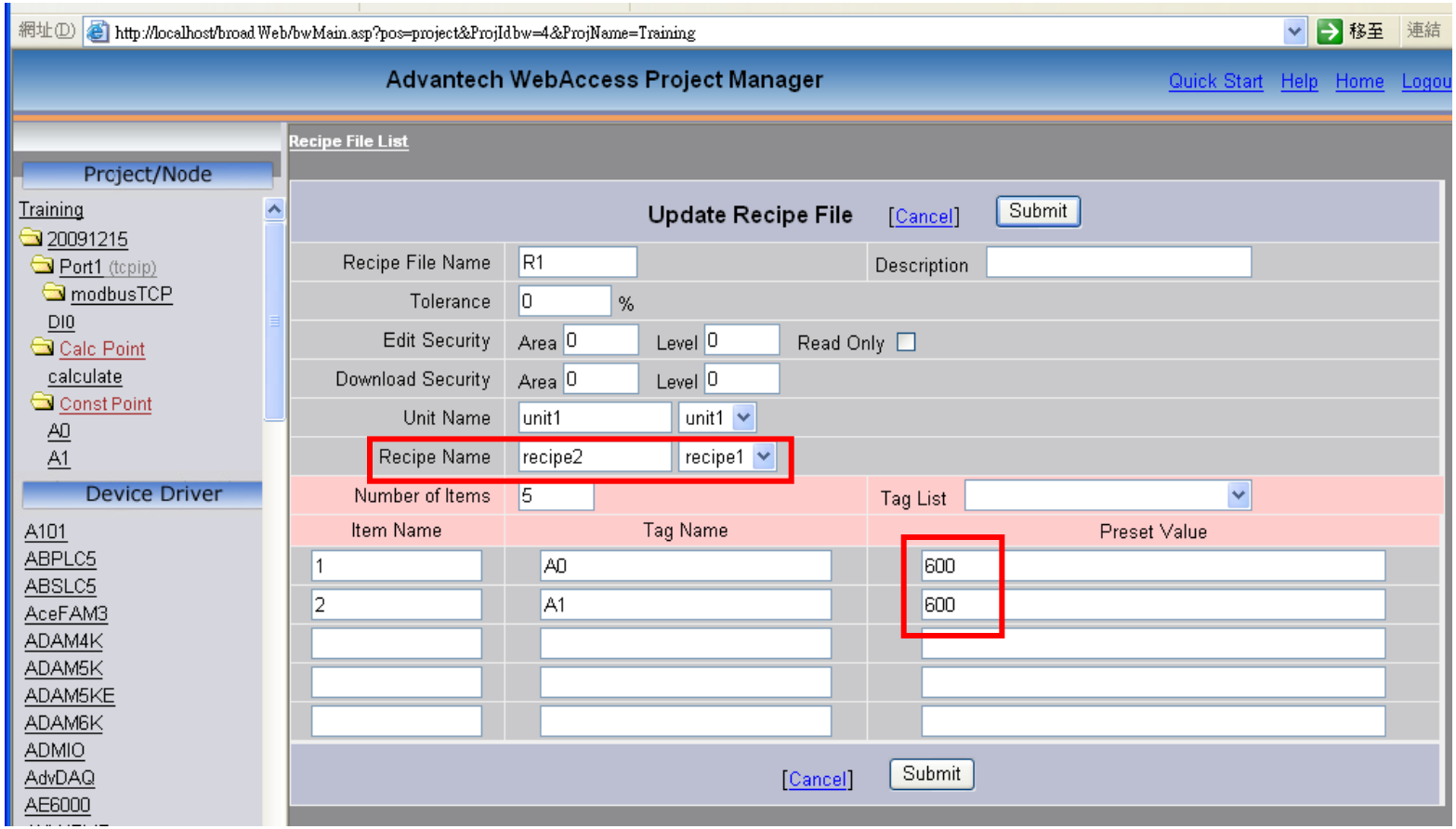
Recipe

- **Click “Submit” button**
- **The list boxes will appear beside the Unit Name and Recipe Name.**



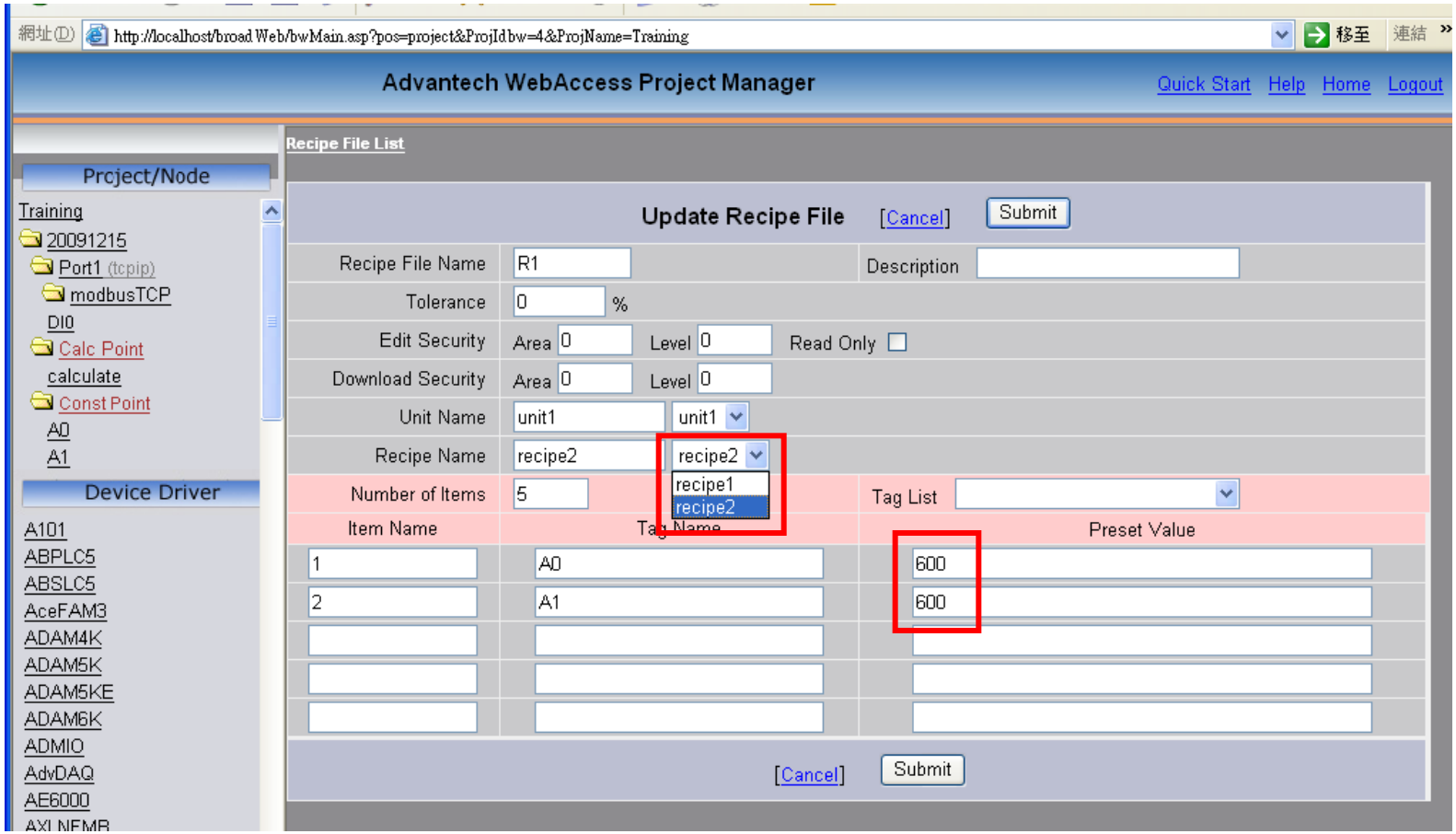
Recipe

- Enter “recipe2” in Recipe Name
- Enter the new value in Preset Value
- Click “Submit” button



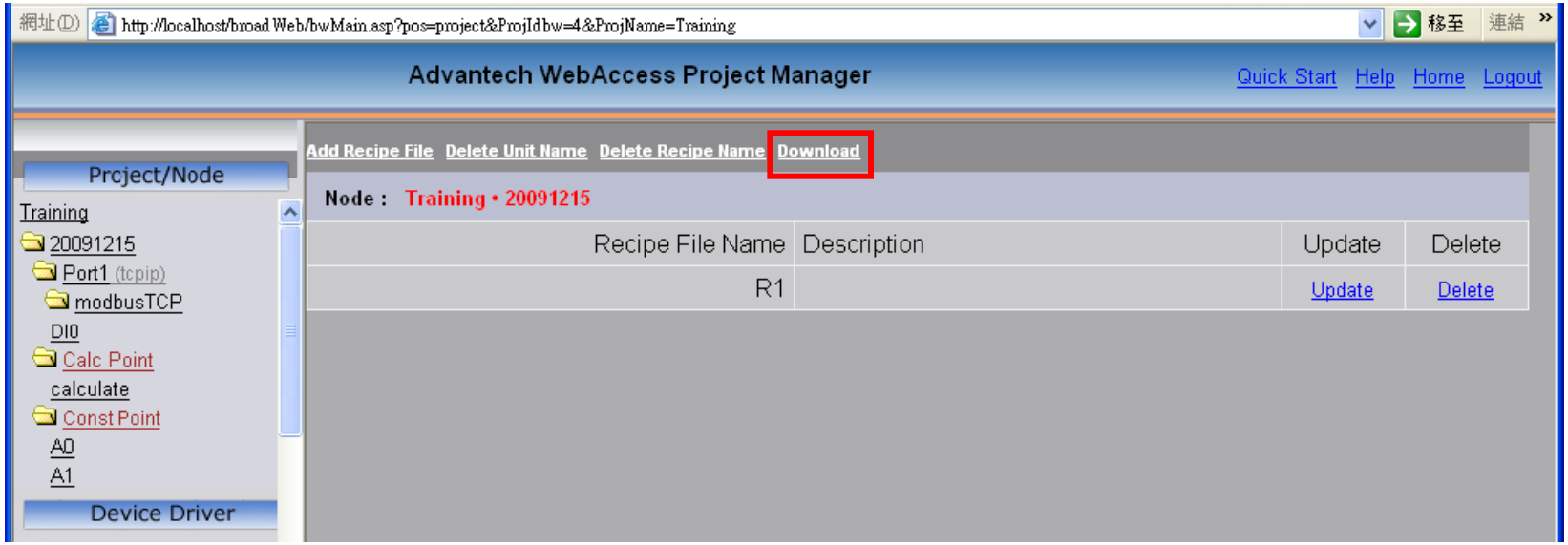
Recipe

- As the below image, there will be “recipe1” and “recipe2” selections.
- Once user selects different recipe#, the preset value will be changed automatically.



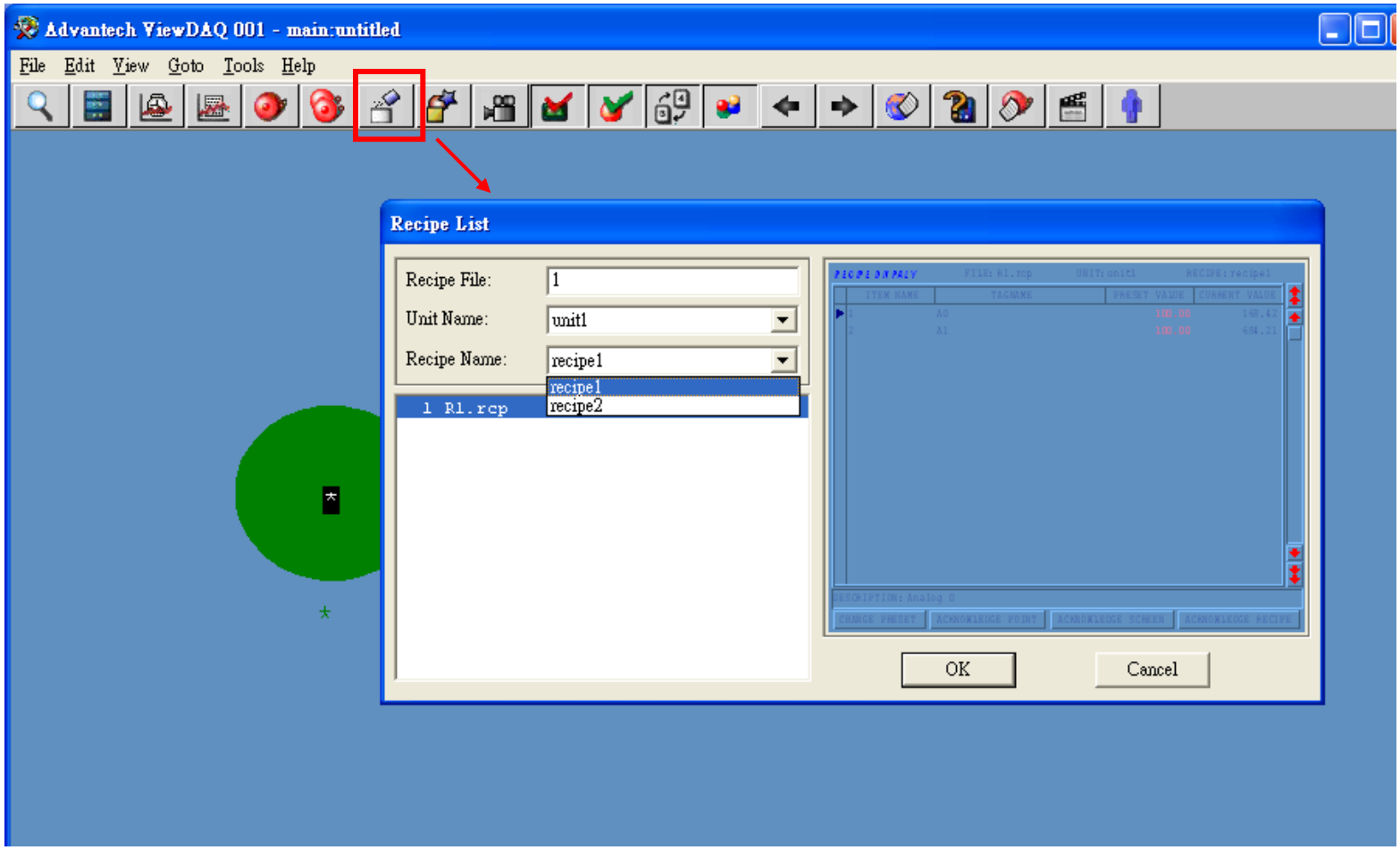
Recipe

- **Back to SCADA Node (20091215) -> Recipe**
- **Click “download”**



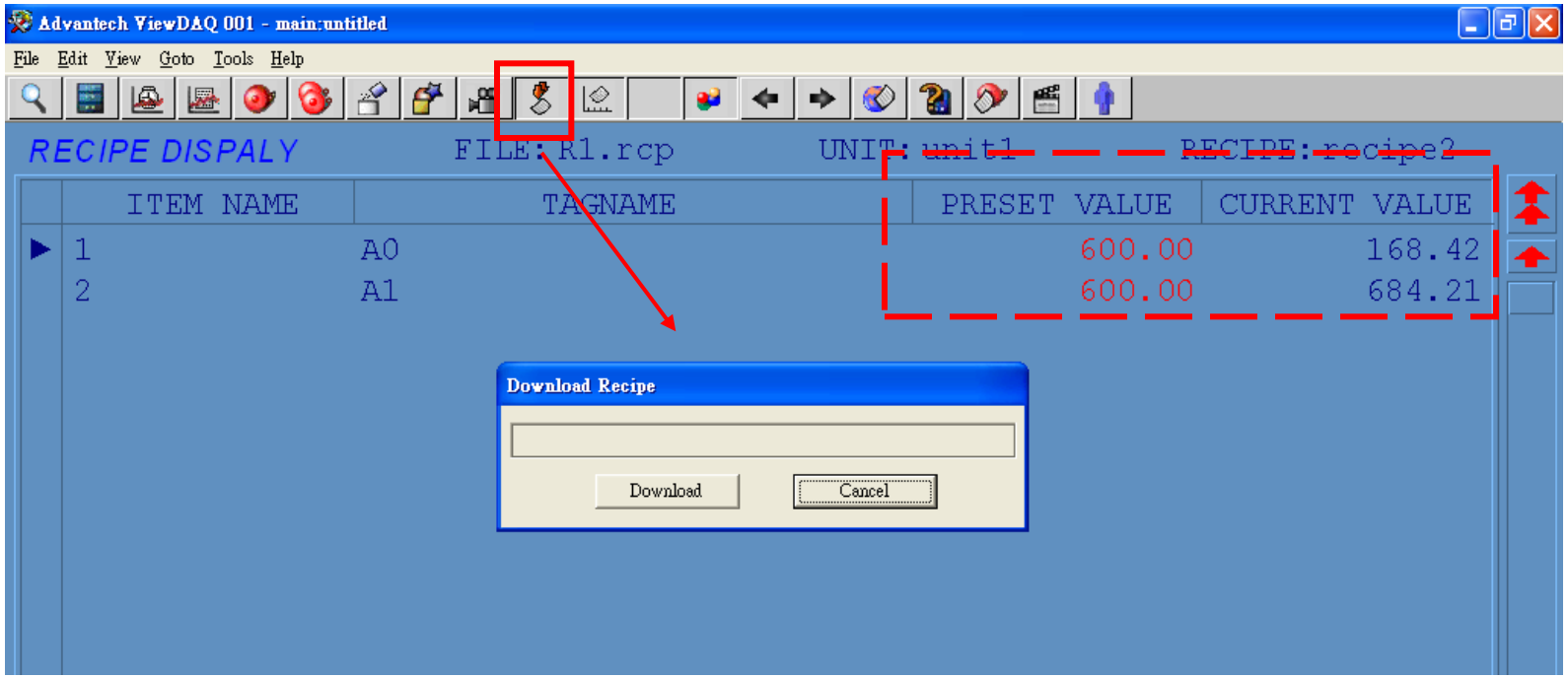
Recipe

- In ViewDAQ, click “Recipe” button
- Select “Unit Name” and “Recipe Name”, then click “OK” button



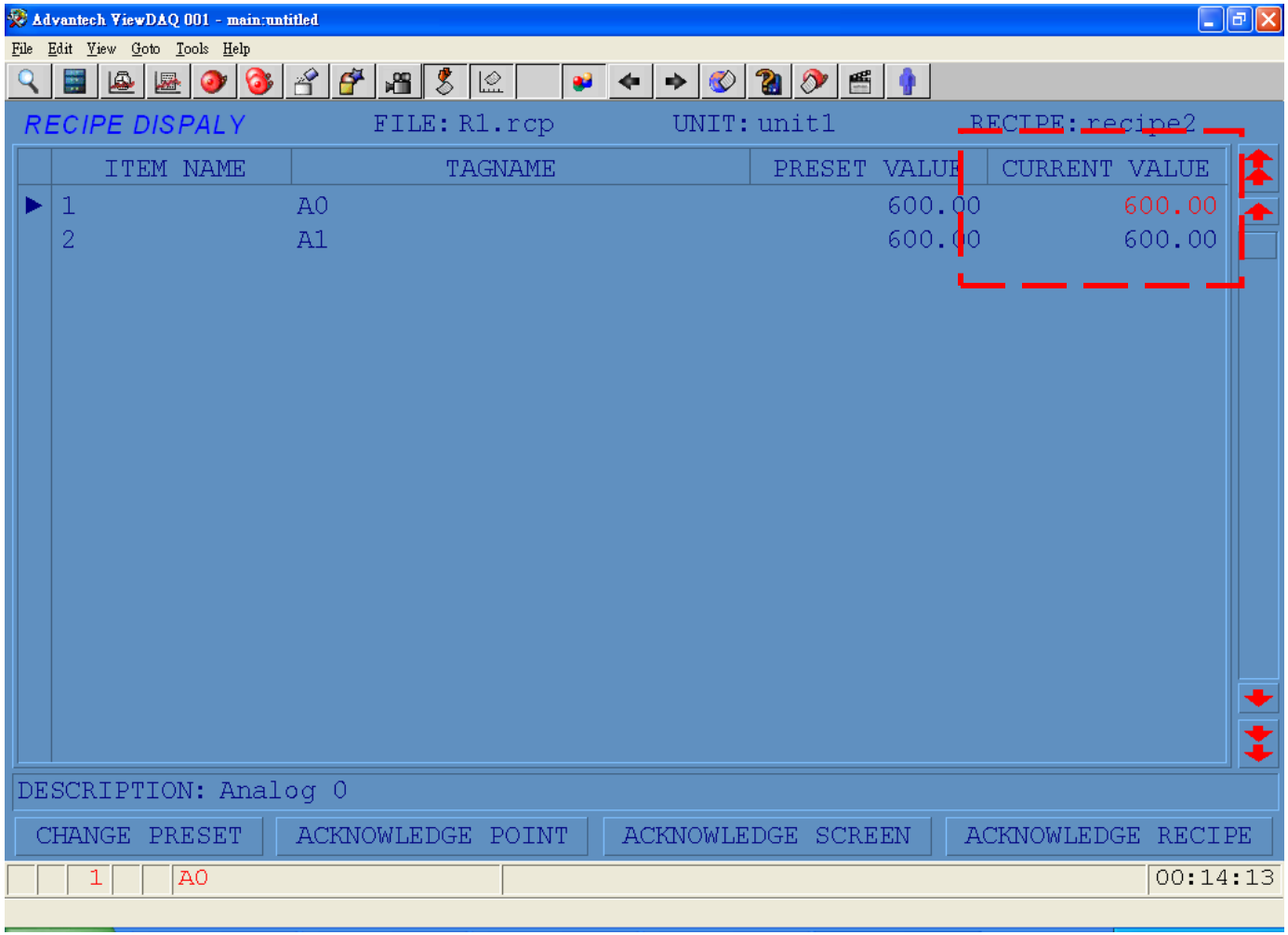
Recipe

- **Click “Download”, a “Download Recipe”dialog box will appear.**
- **Click “Download” button, the “CURRENT VALUE” values will be modified to “PRESET VALUE” values**



Recipe

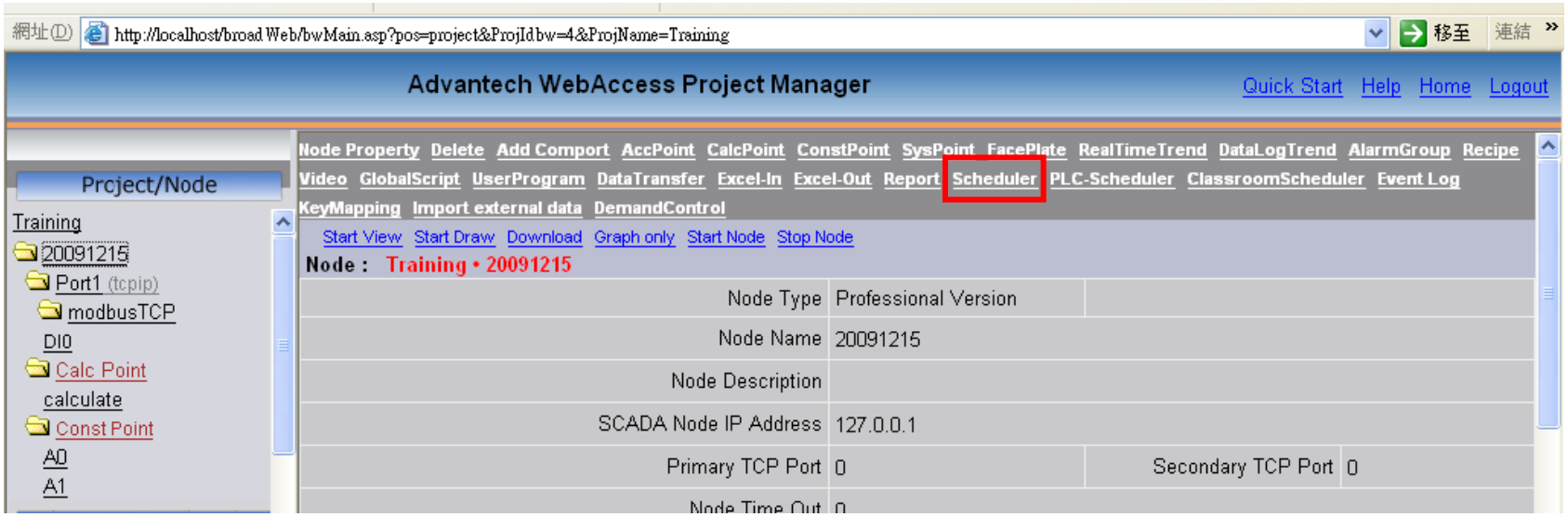
- **After clicking “download” button, the A0 and A1 values will be changed.**



Scheduler

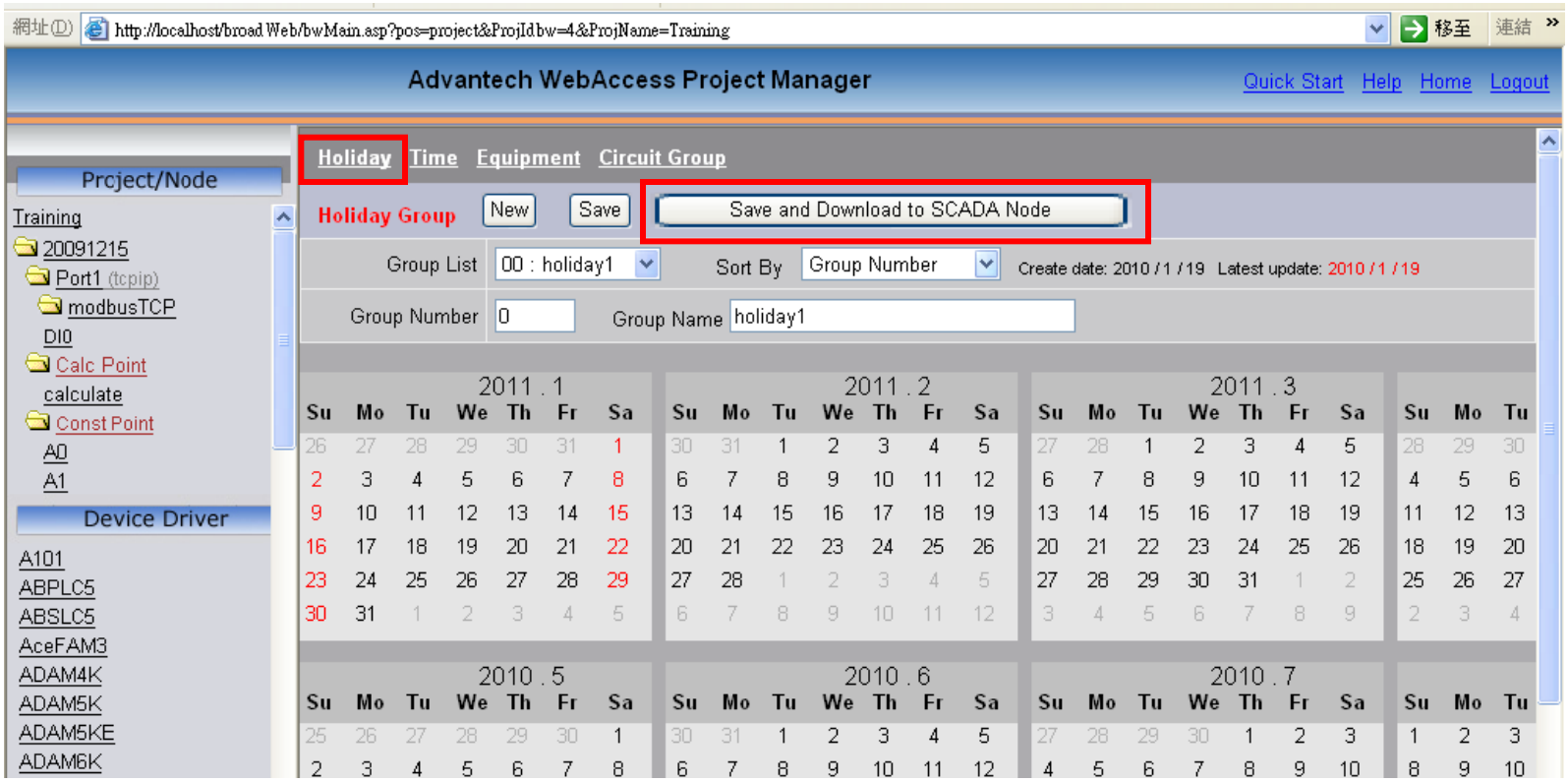
Scheduler

- **Go to SCADA Node (20091215), and then click “Scheduler”**



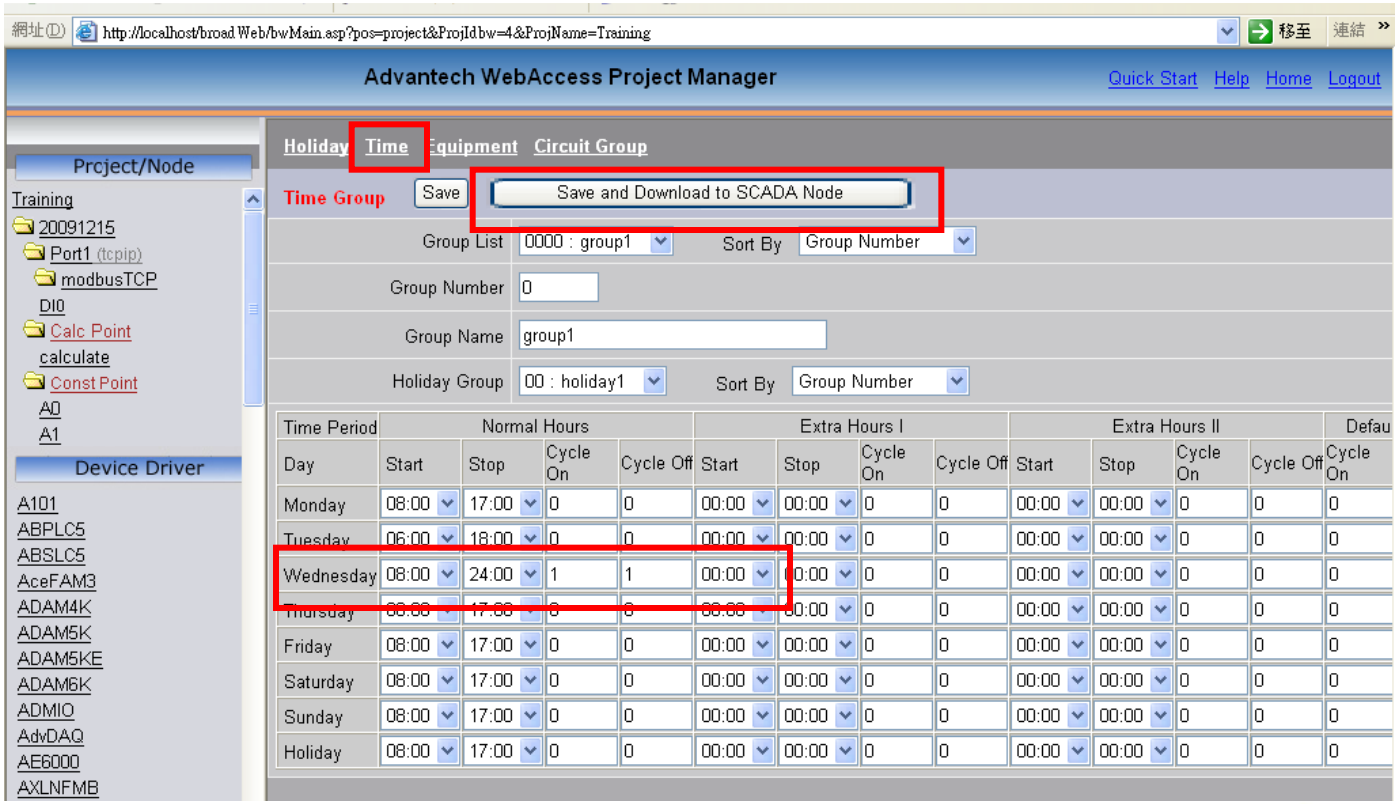
Scheduler

- **There are four sections to setup: Holiday, Time, Equipment and Circuit Group. Please do it one by one. First, select “Holiday”**
- **Setup working day (scheduler will work) and non-working (scheduler will NOT work) day. The date with RED COLOUR means non-working day.**
- **Last, click “Save and Download SCADA Node”**



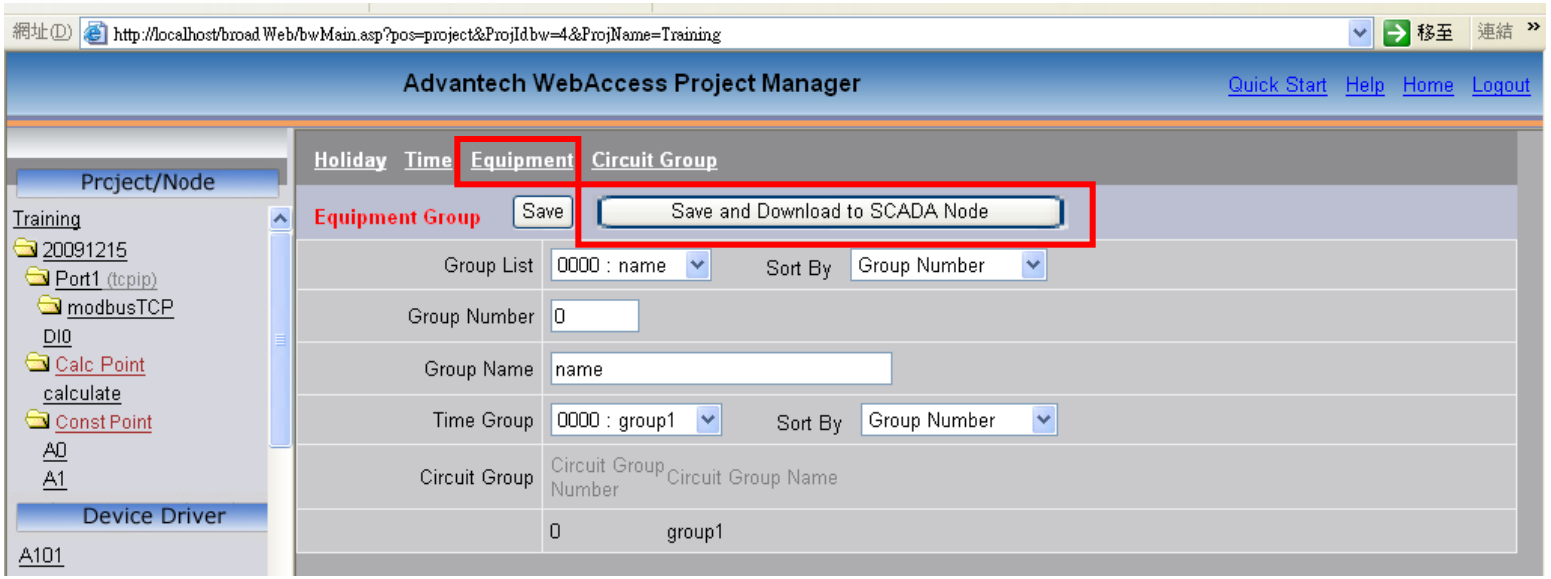
Scheduler

- In “Time” section, setup when (Mon ~ Holiday) and what time (start time ~ stop time) to start scheduler.
- Cycle On means to active this tag for a period of time (unit: minute)
- Cycle Off means to inactive this tag for a period of time (unit: minute)
- “0” in both Cycle On and Cycle Off means inactive this action.
- Cycle On = 1; Cycle Off = 1; This means to active for one minute, then inactive for one minute.
- Last, click “Save and Download to SCADA Node”



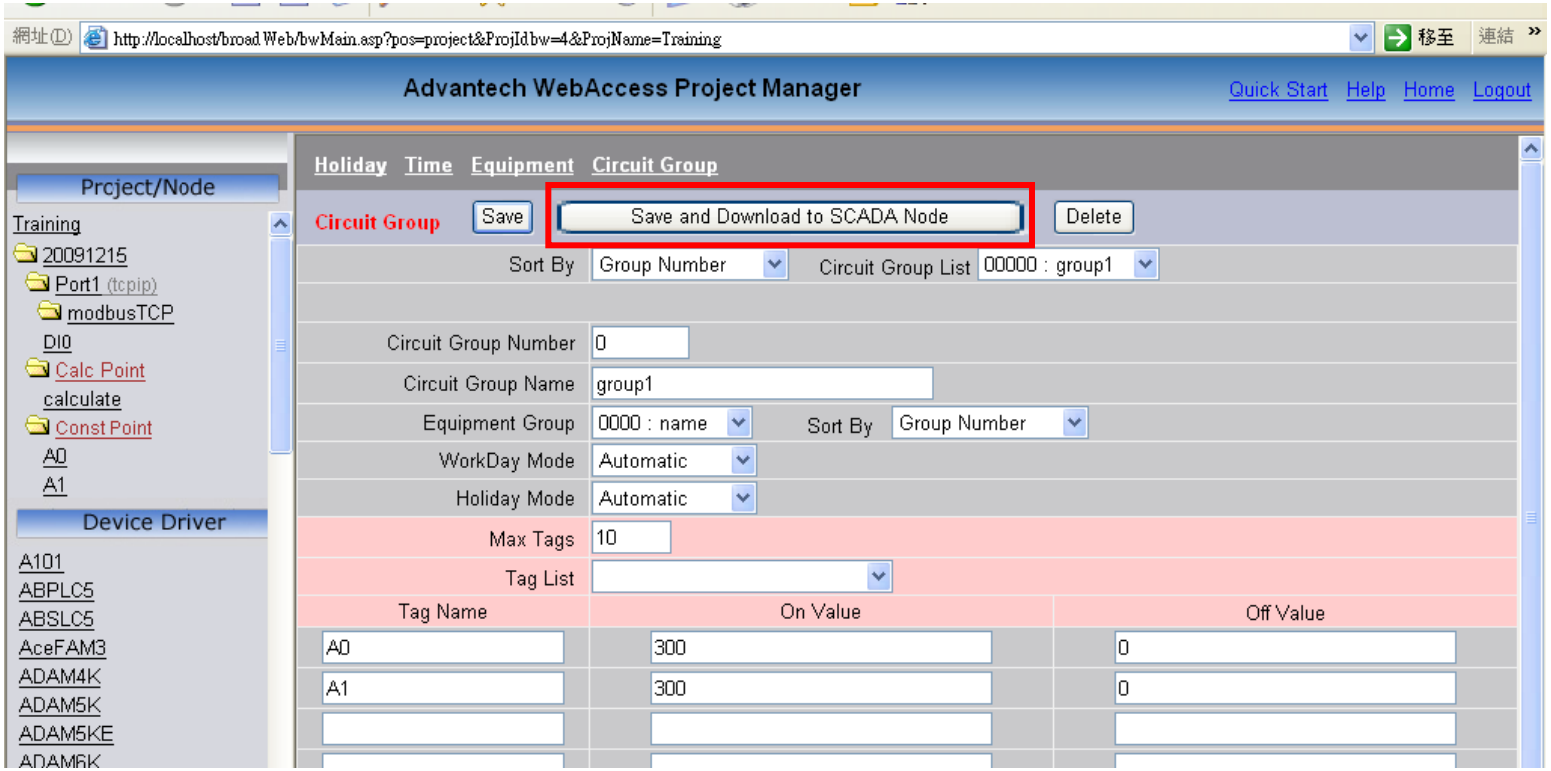
Scheduler

- **In Equipment section, simply click “Save and Download to SCADA Node”**



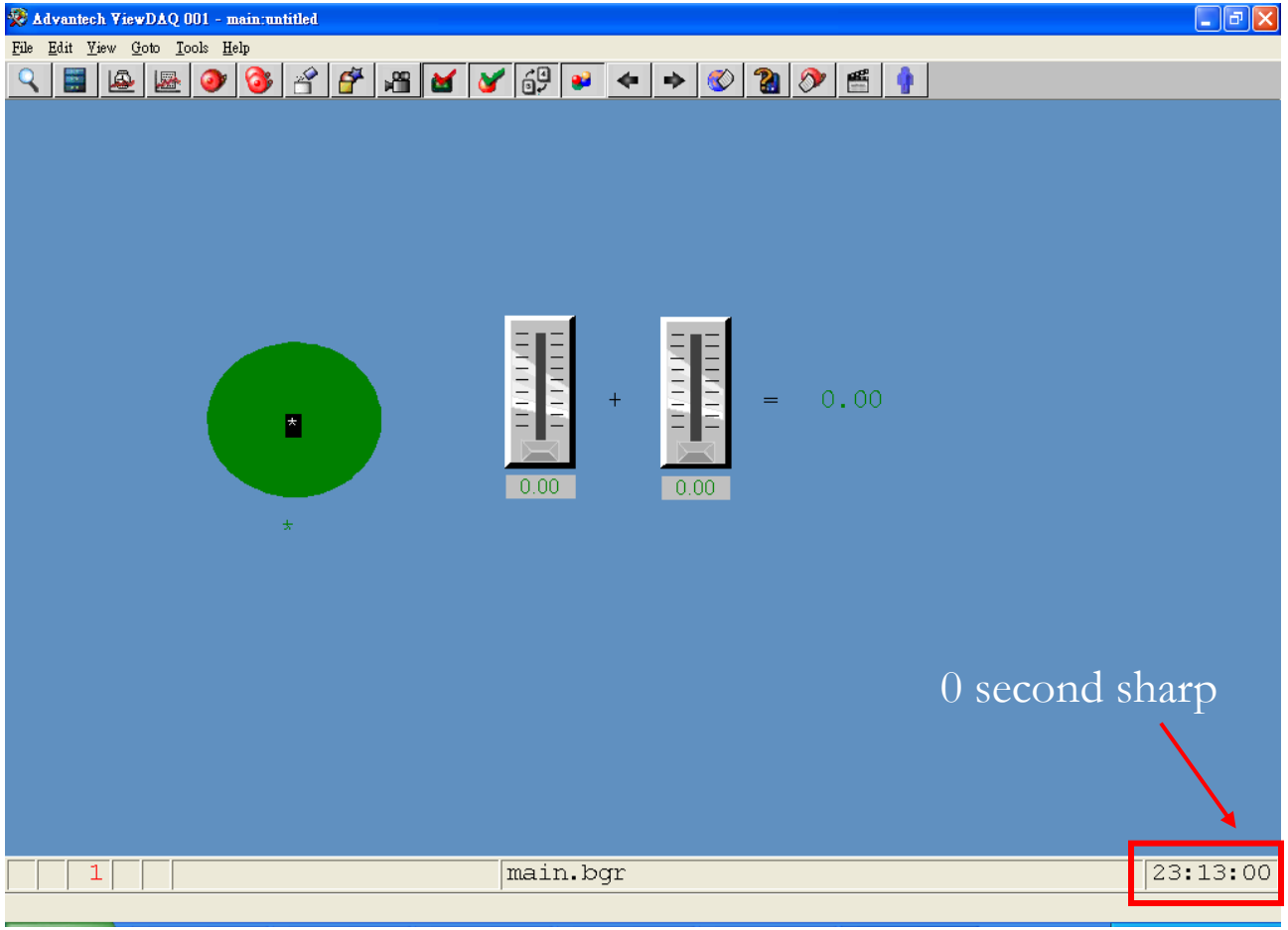
Scheduler

- In “Circuit Group”, setup Tag Name, On Value and Off Value.
- In this example, it means on every Wednesday 8:00 to 24:00, A0 will be at On Value (300) for one minute, then switch to Off Value (0) for next one minute. This action will continue from 8:00 to 24:00.
- Last, click “Save and Download to SCADA Node”



Scheduler

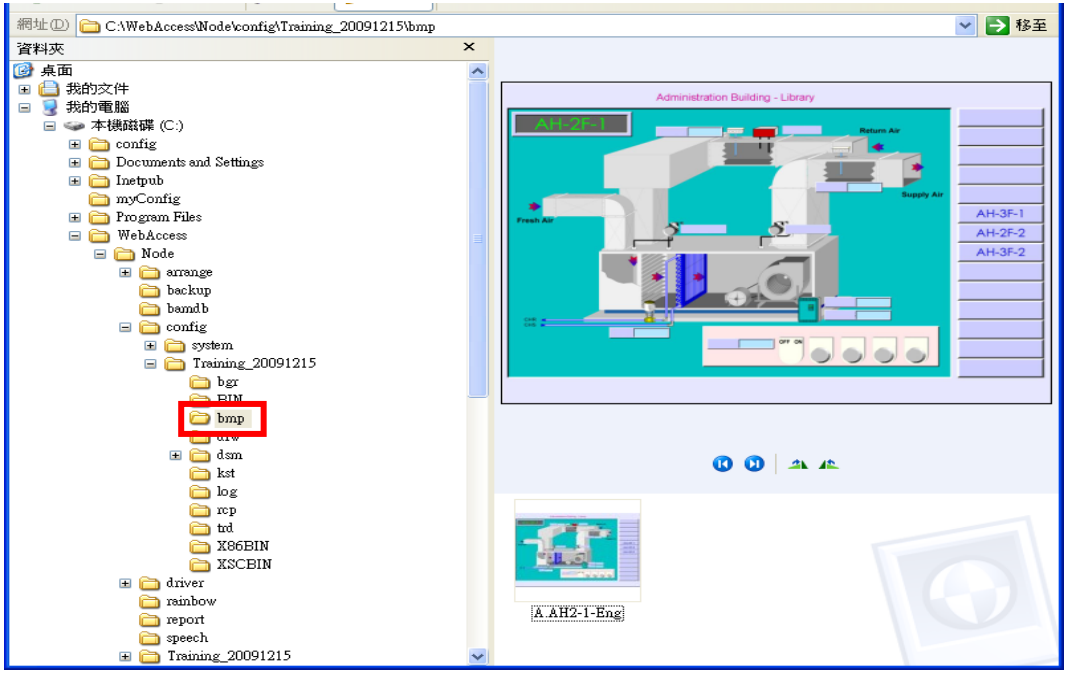
- **In ViewDAQ, user will see the A0 and A1 values change in every 0 second sharp.**



Background

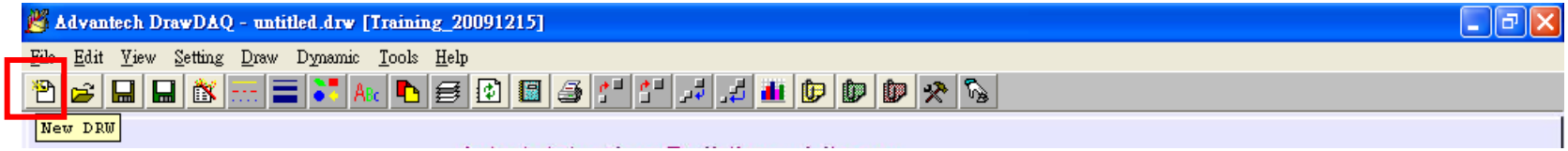
Background

- All background images must **MANUALLY** copy to
  c:\WebAccess\Node\config\Training_20091215\bmp
- Copy a jpg or bmp file to c:\WebAccess\Node\config\Training_20091215\bmp
  In this exercise, we use A-AH2-1Eng.jpg as an example
  User may also use another image as the background



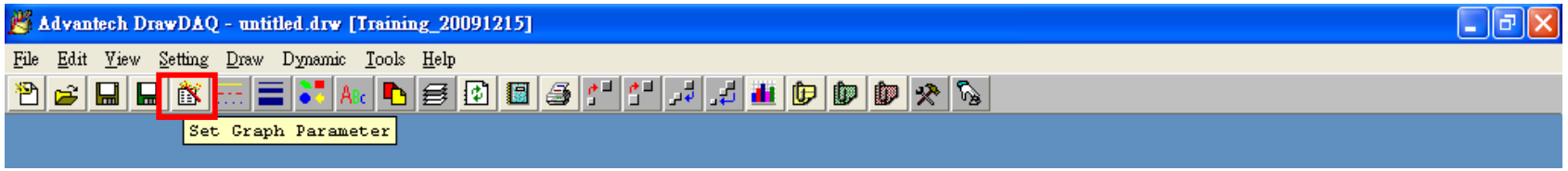
Background

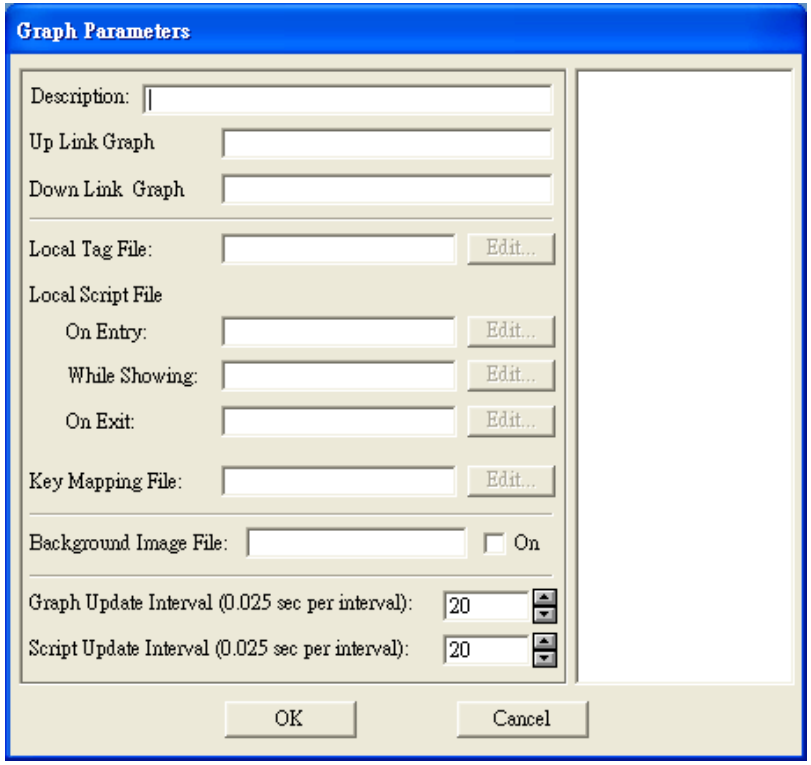
- **Let's create a new page.**
- **The purpose of creating a new page is that we will create two buttons to switch between main and second pages in next hands-on exercise.**



Background

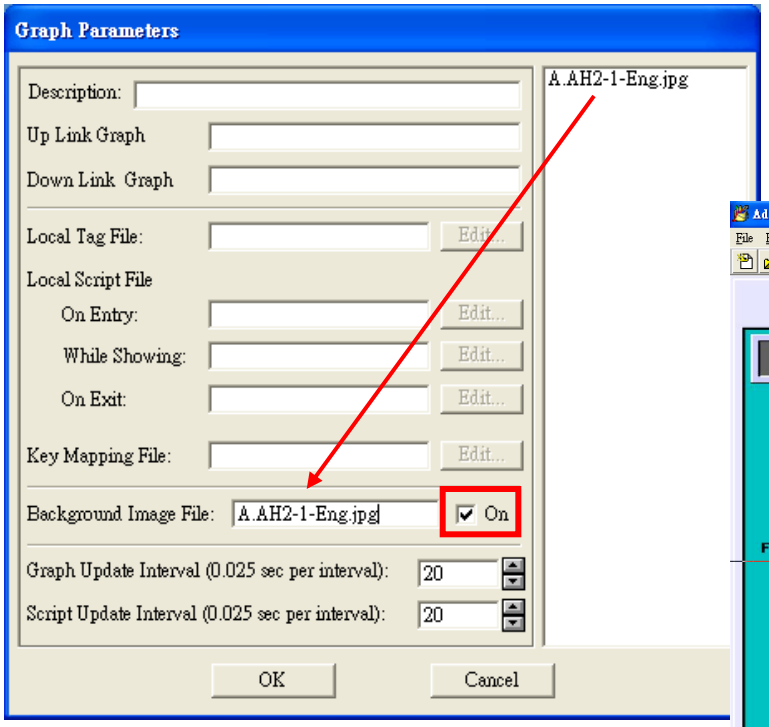
- **In DrawDAQ, click “Set Graph Parameter” button.**
- **A “Graph Parameters” dialog box will pop out.**

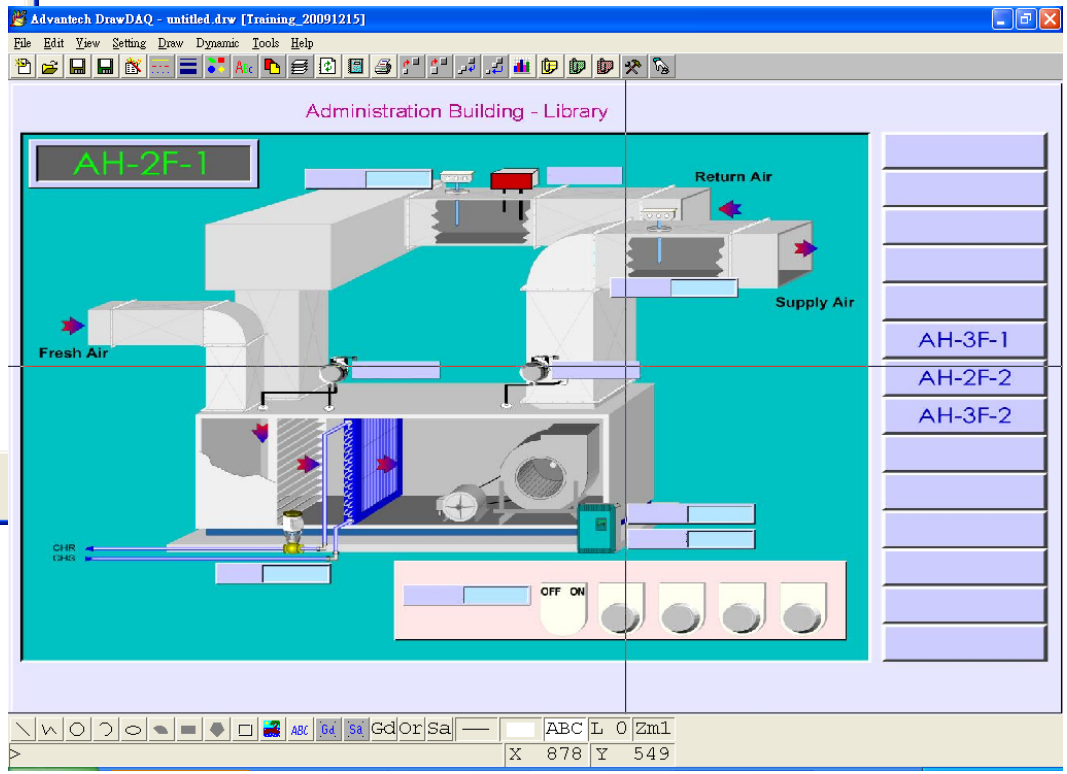




Background

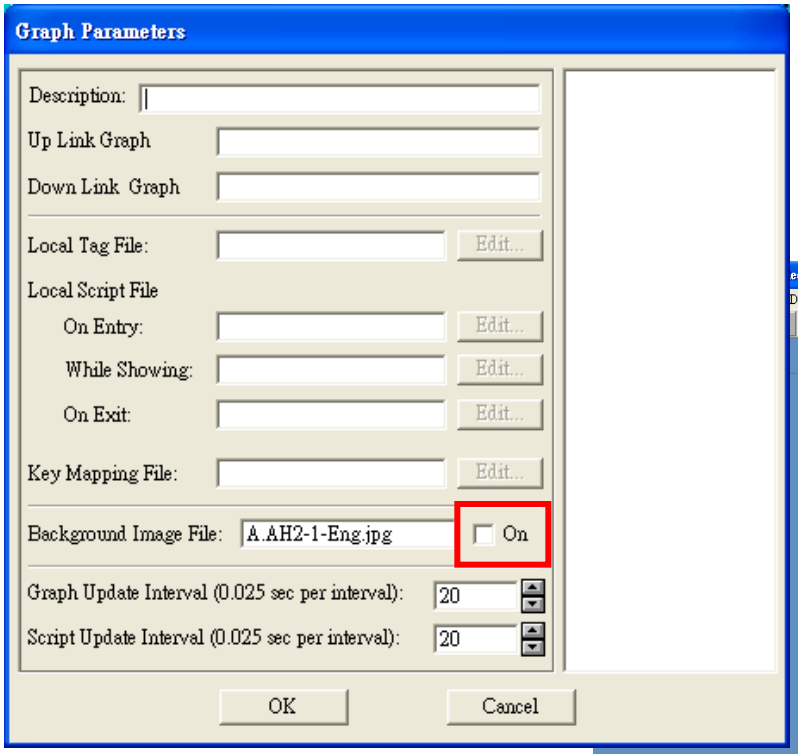
- **Click “Background Image File”, and select A.Ah2-1-Eng.jpg**
- **Click “On” and user will be able to see the background image.**

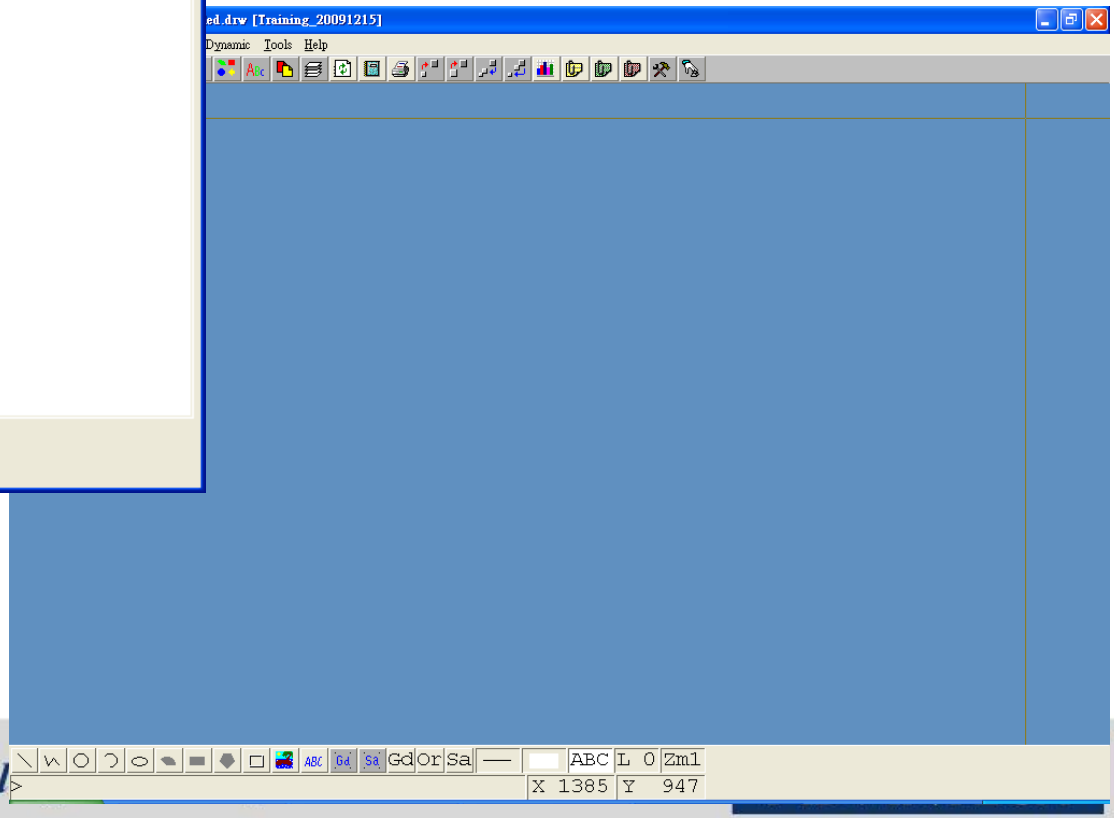




Background

- **click “Set Graph Parameter” button again, this time un-click the “On” button.**
- **The background image will be hidden.**





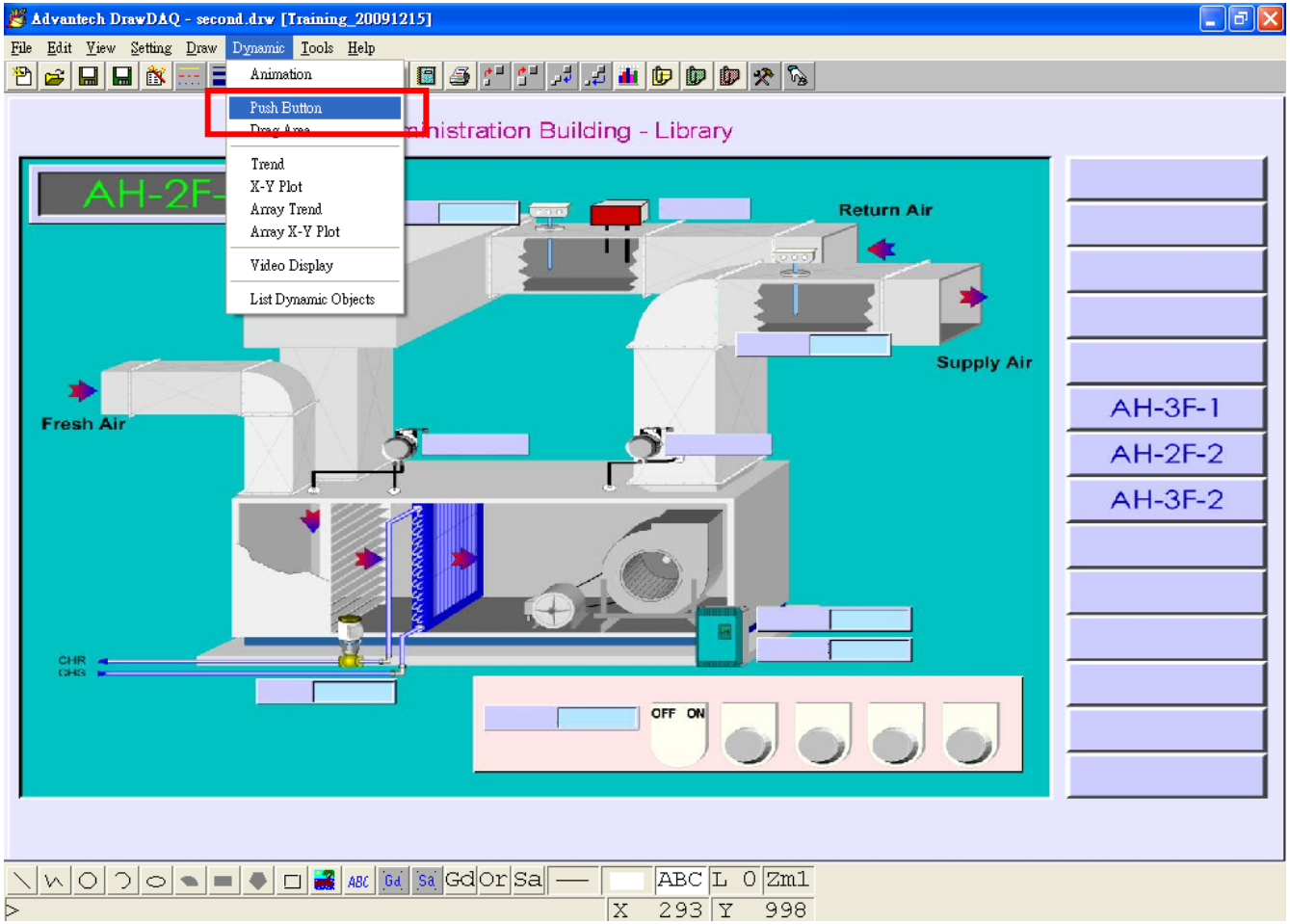
Background

- **Use ABC button**  **to type “back to main” text, then save as “second.bgr”**

Push Button and Macro

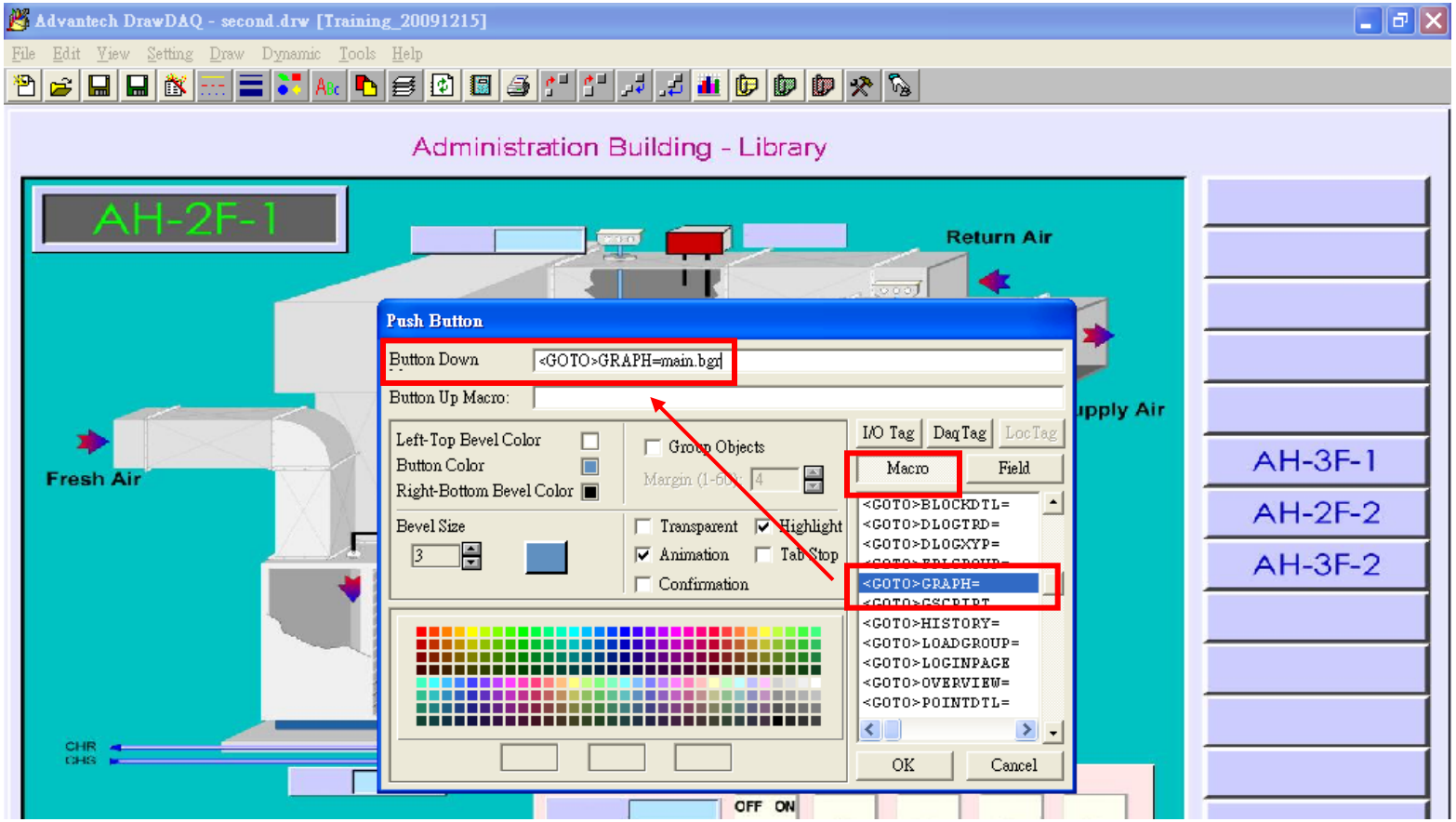
Push Button and Macro

- **Use “Open DRW” button  to open second.bgr page**
- **DrawDAQ -> Dynamic -> Push Button**



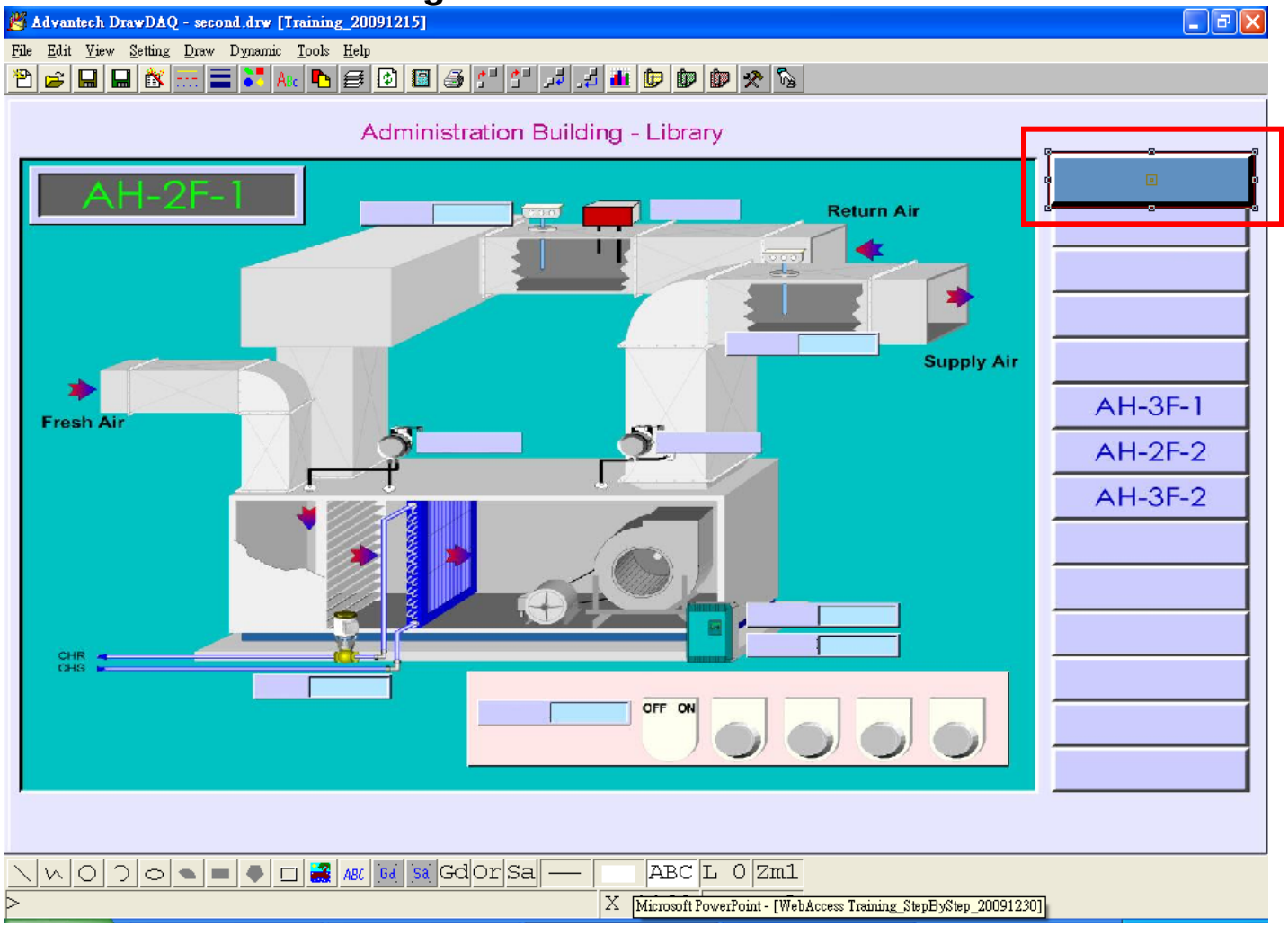
Push Button and Macro

- **A “Push Button” dialog box pop out.**
- **Find “<GOTO>GRAPH=“ in Marco and put it in “Button Down”**
- **Then type “main.bgr” by yourself, then click “OK” button to complete it.**



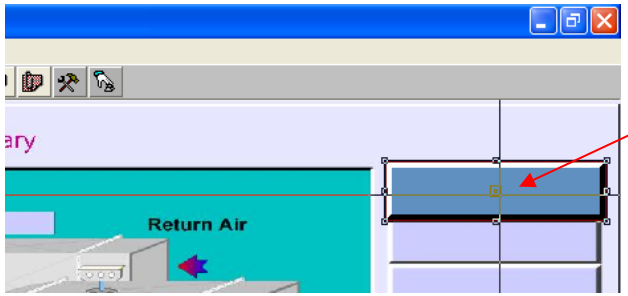
Push Button and Macro

- **Then use mouse to drag a button out.**

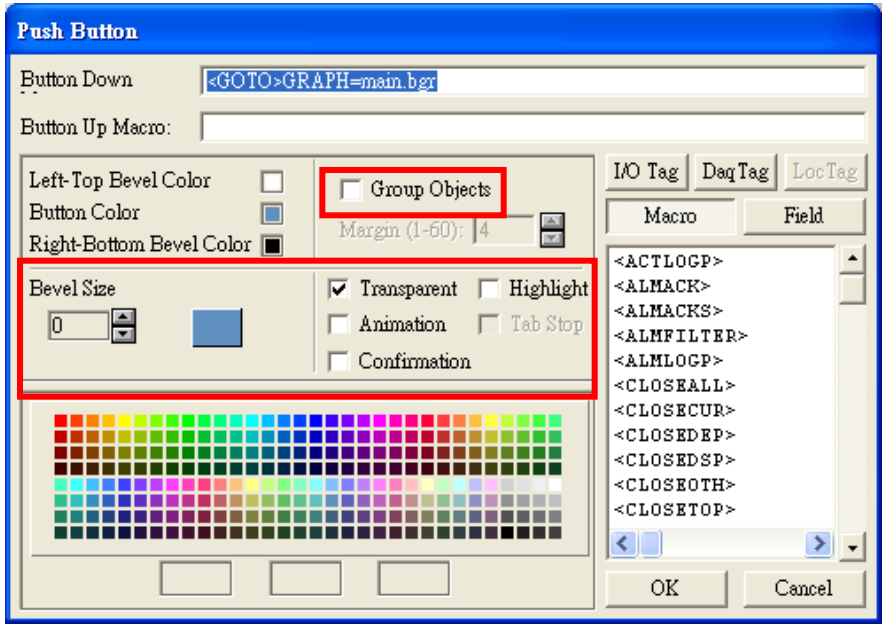


Push Button and Macro

- **Move mouse curser to the center of the button, a hand image will appear, then click it.**



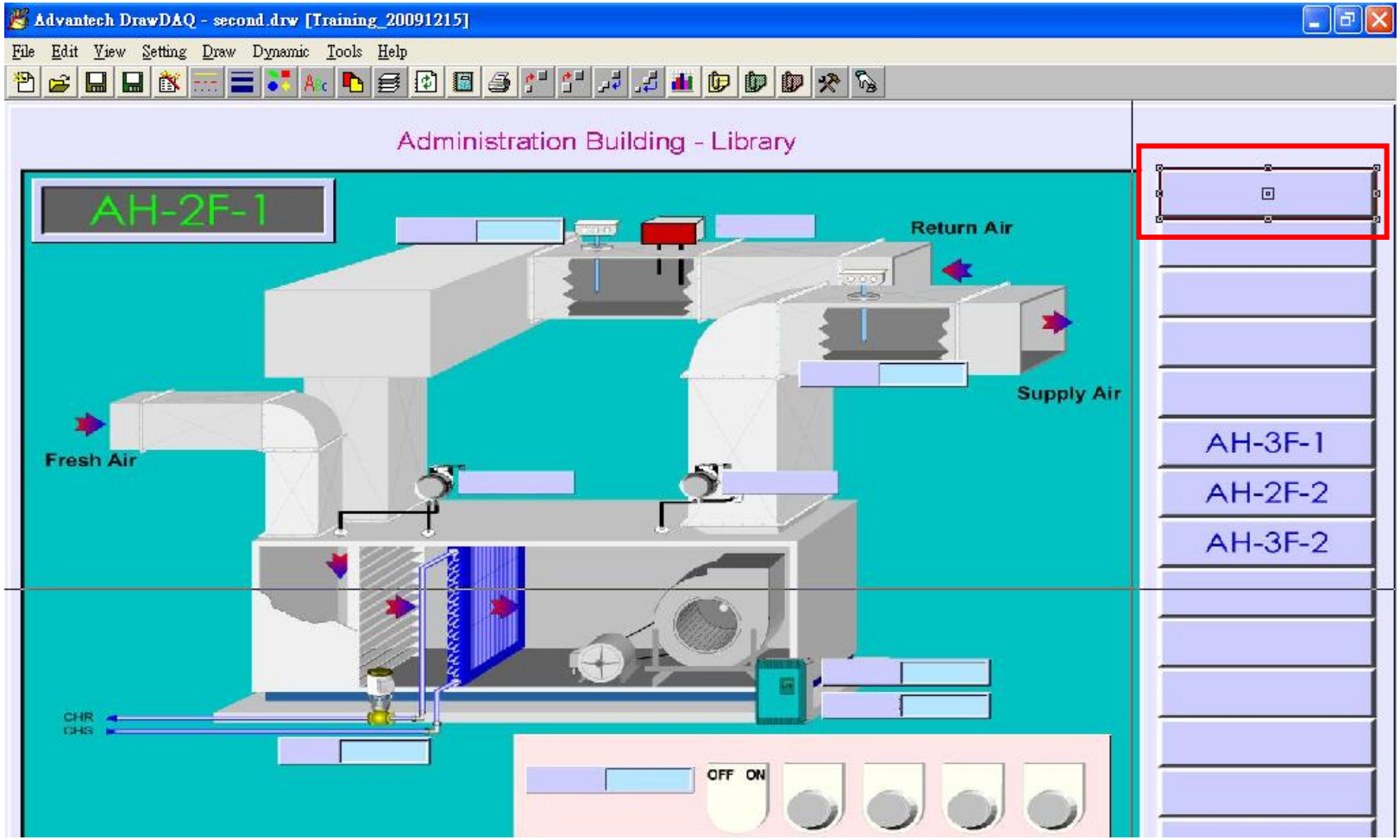
Middle of the button



1. **Don't click in Group Objects**
2. **Bevel Size setup to 0**
3. **Click on Transparent**
4. **Don't' click "Highlight"**
5. **Don't' click "Animation"**

Push Button and Macro

- **This will be an invisible button. Invisible button will not affect the background image. Remember to save the file.**

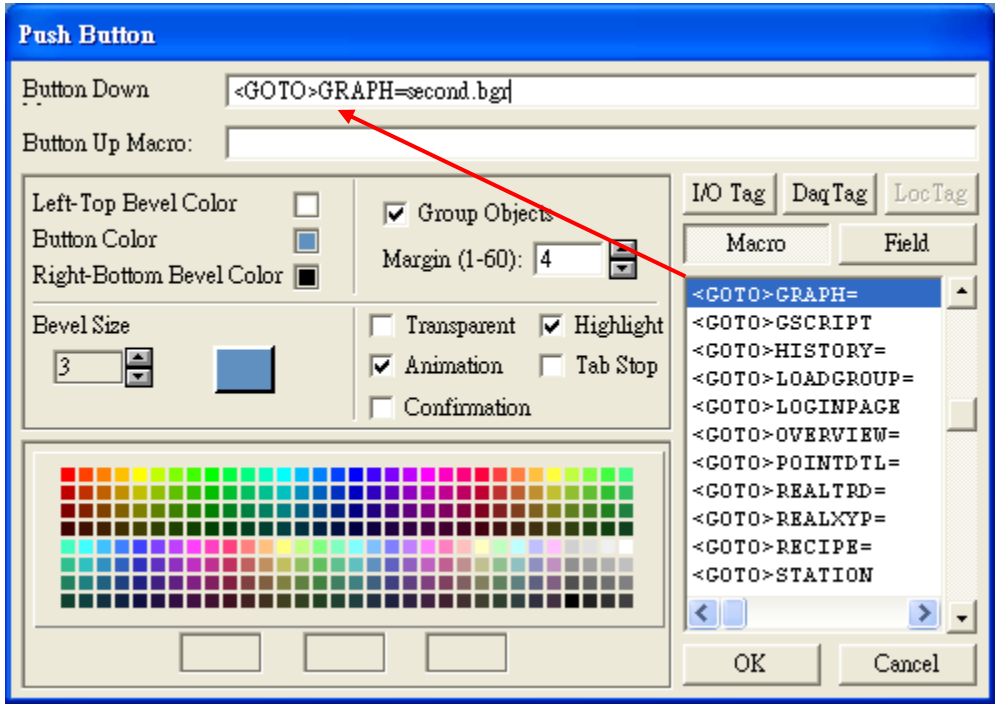


Push Button and Macro

- **Open Main.bgr**
- **Using ABC button  to type “second” string, then click “Enter”. The word “second” will be highlighted.**

Push Button and Macro

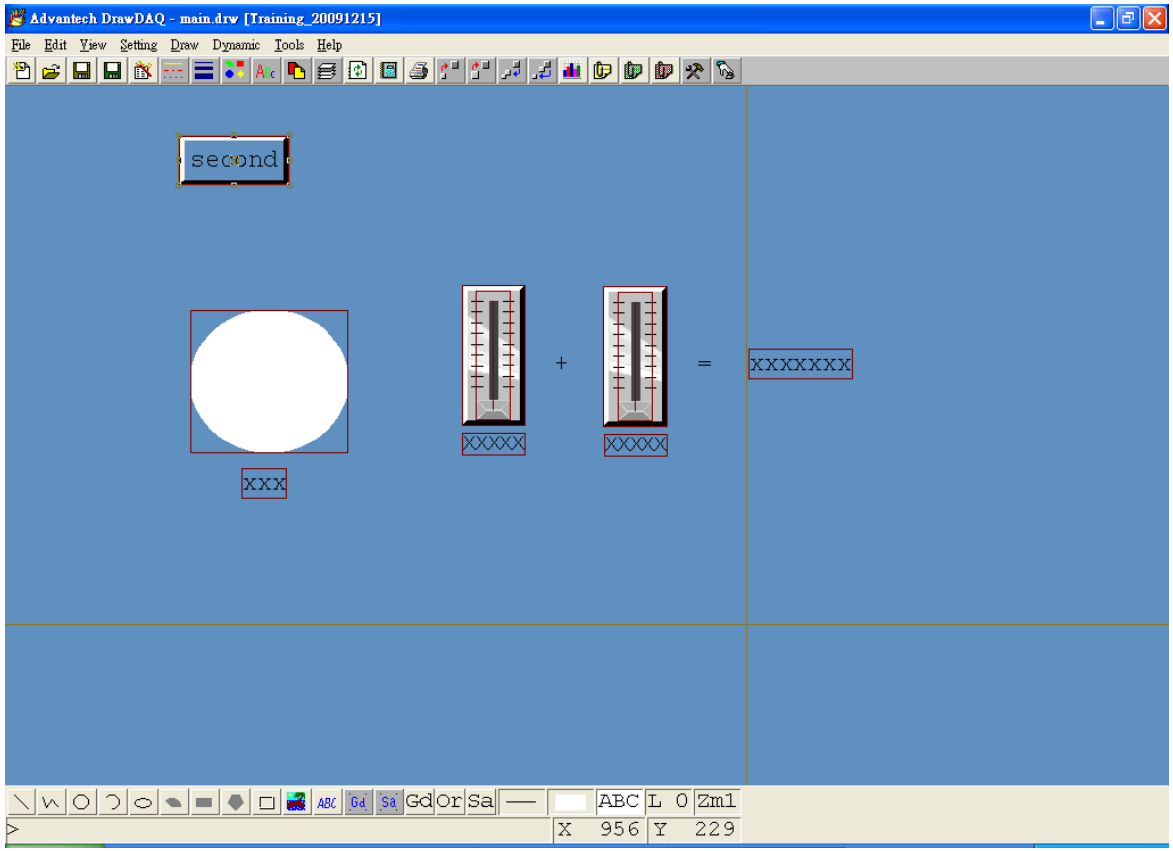
- **Dynamic -> Push Button**
- **In Button Down, enter “<GOTO>GRAPH=second.bgr**
- **Last, click “OK” button**



1. **Click the Group Objects**
2. **Set Bevel Size setup to 3**
3. **Don’t click on Transparent**
4. **Click “Highlight”**
5. **Click “Animation”**

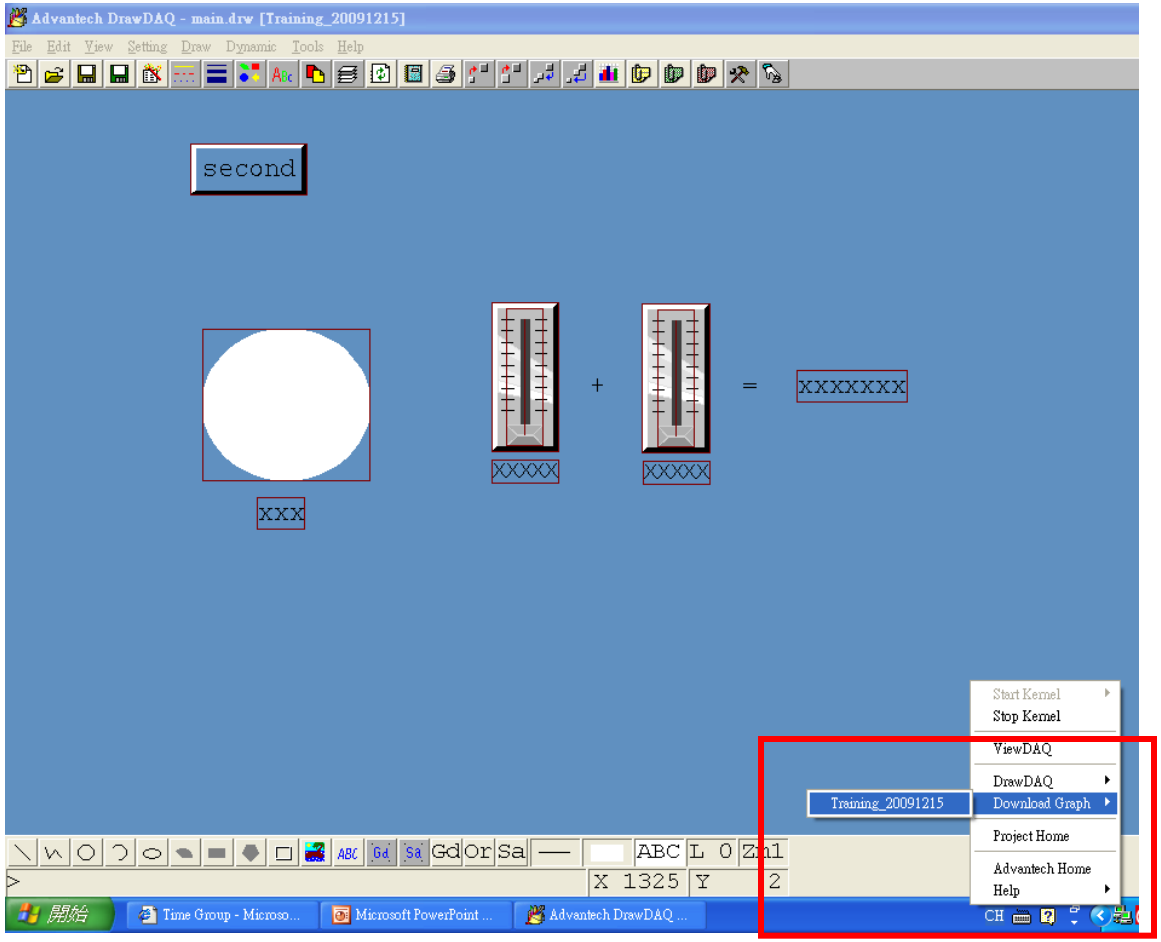
Push Button and Macro

- A button will be created.
- The button size is based on the length of the text.
- Note: remember to save the page.



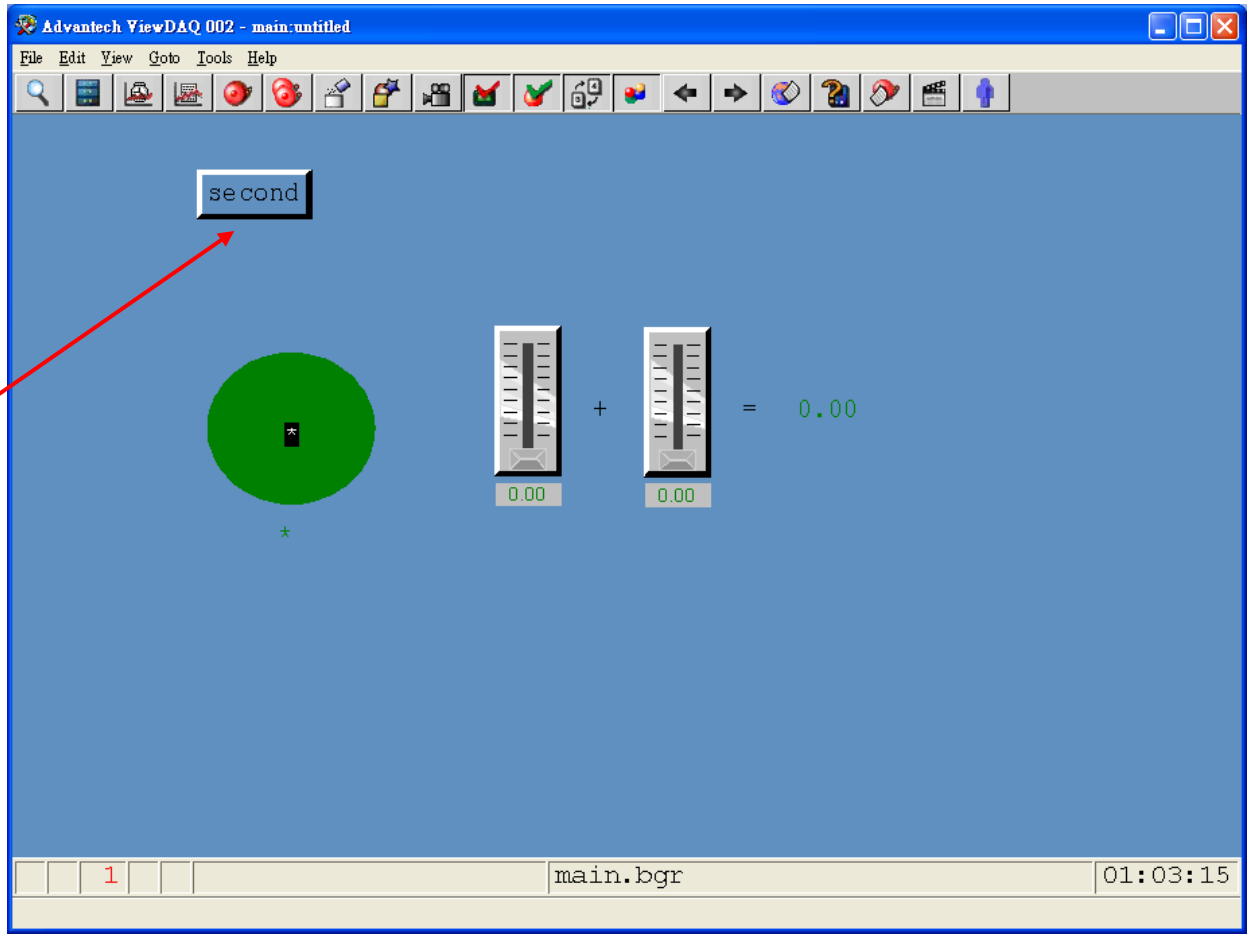
Push Button and Macro

- **Download the project**
  - **Download Graph -> Training_20091215**



Push Button and Macro

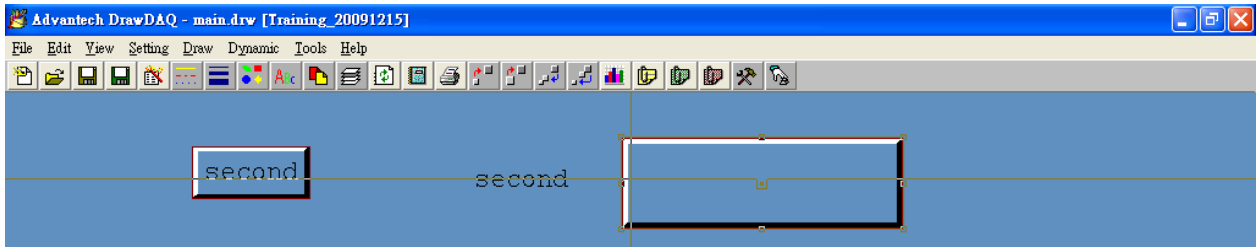
- **Run ViewDAQ**

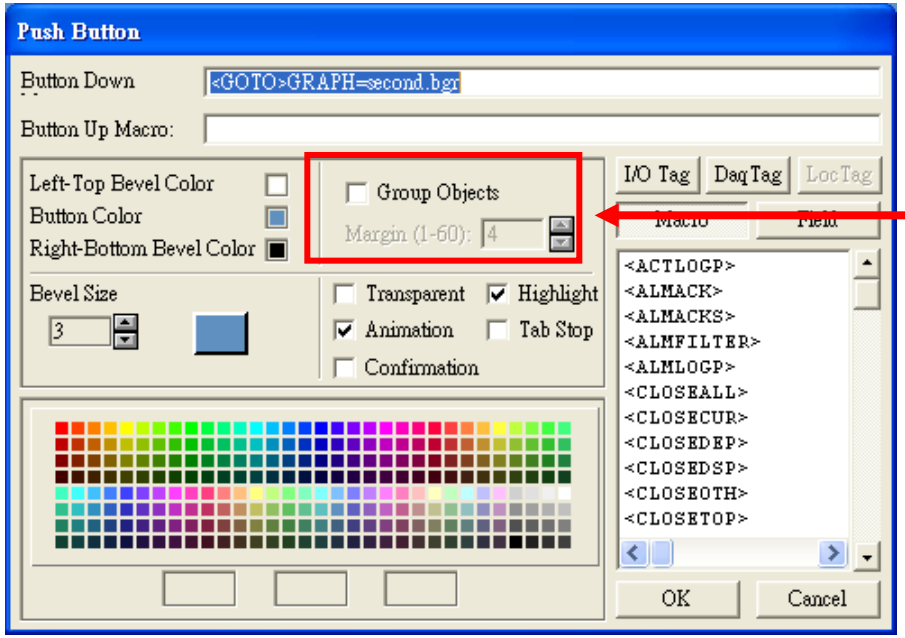


User is able to switch page by clicking the buttons

Push Button and Macro

- User may have a button that the button size is larger than the length of text
- Type “second” and draw a button.
- Remember DO NOT click the “Group Objects”

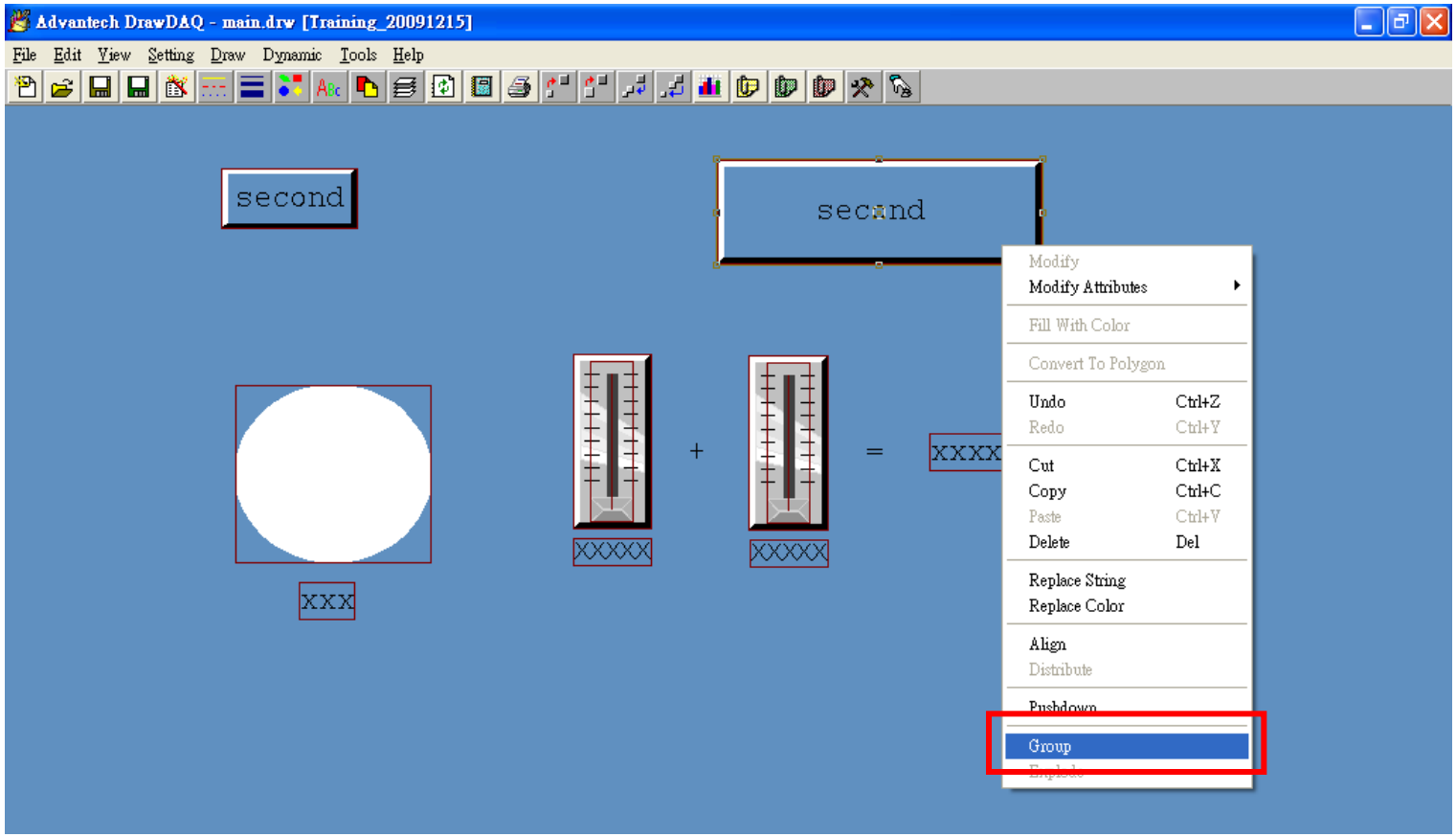




DO NOT click the “Group Objects

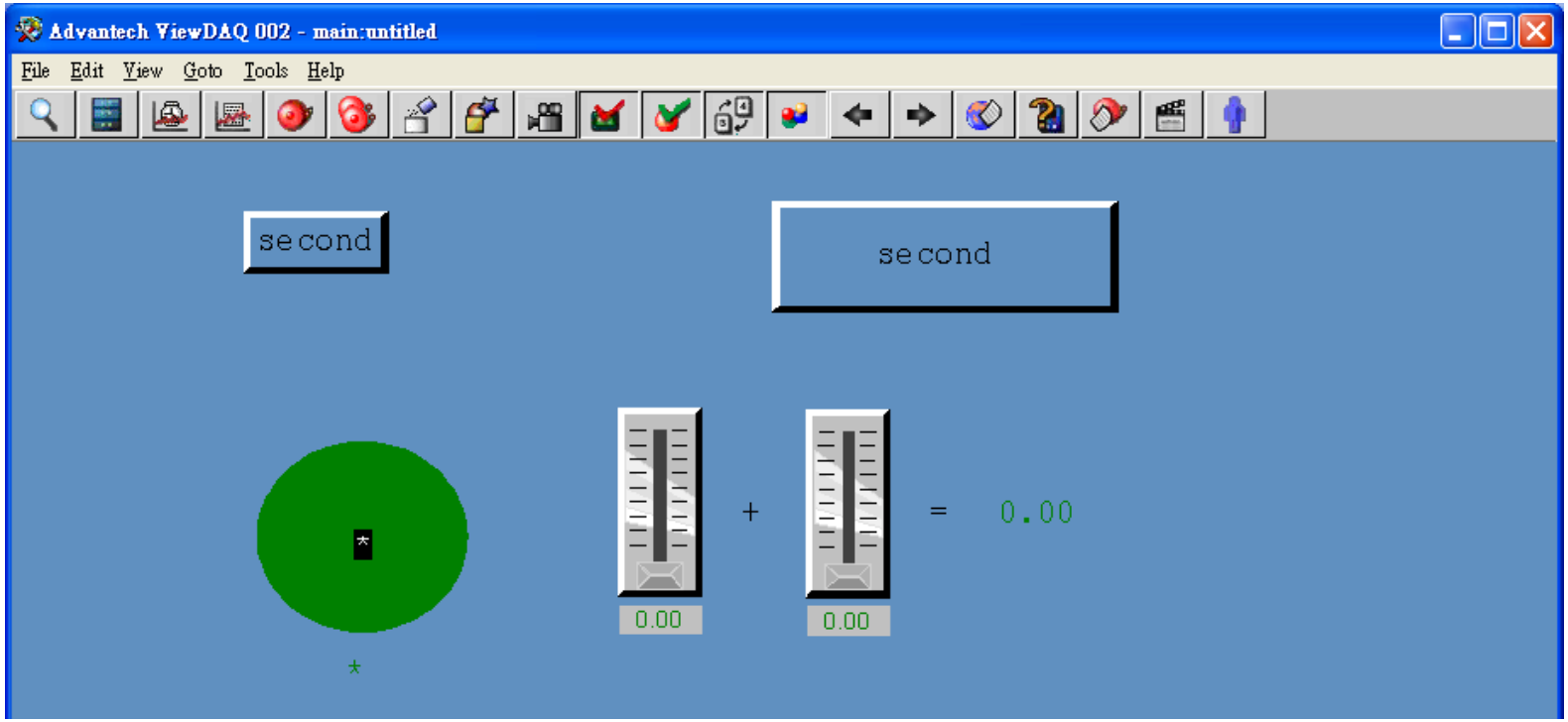
Push Button and Macro

- **Move “second” over the button, then highlight both “second” and the button**
- **Click the right button of the mouse, then click the “Group”**



Push Button and Macro

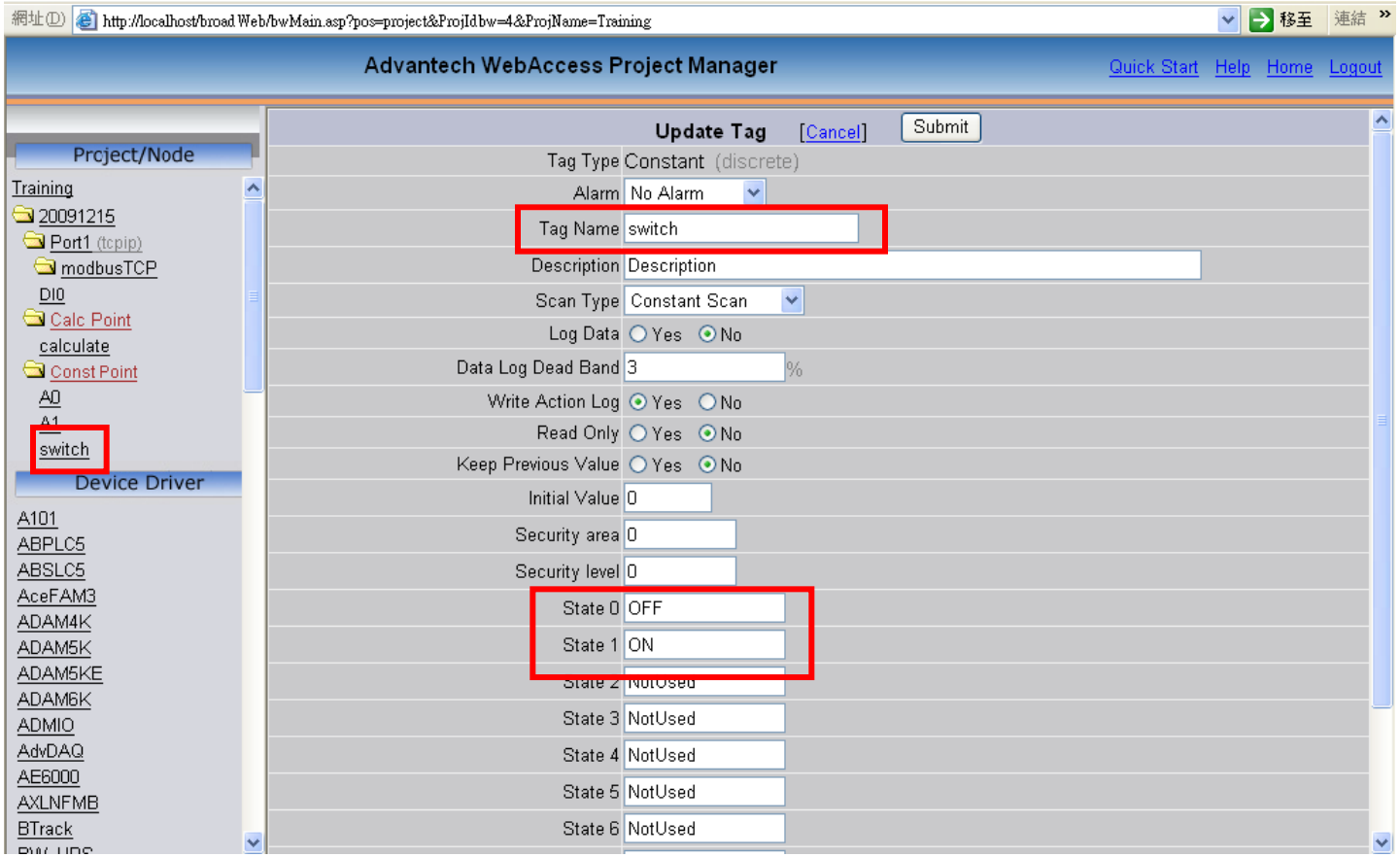
- **Save the main page and download the project.**
- **Two buttons will do the same action.**



Frame

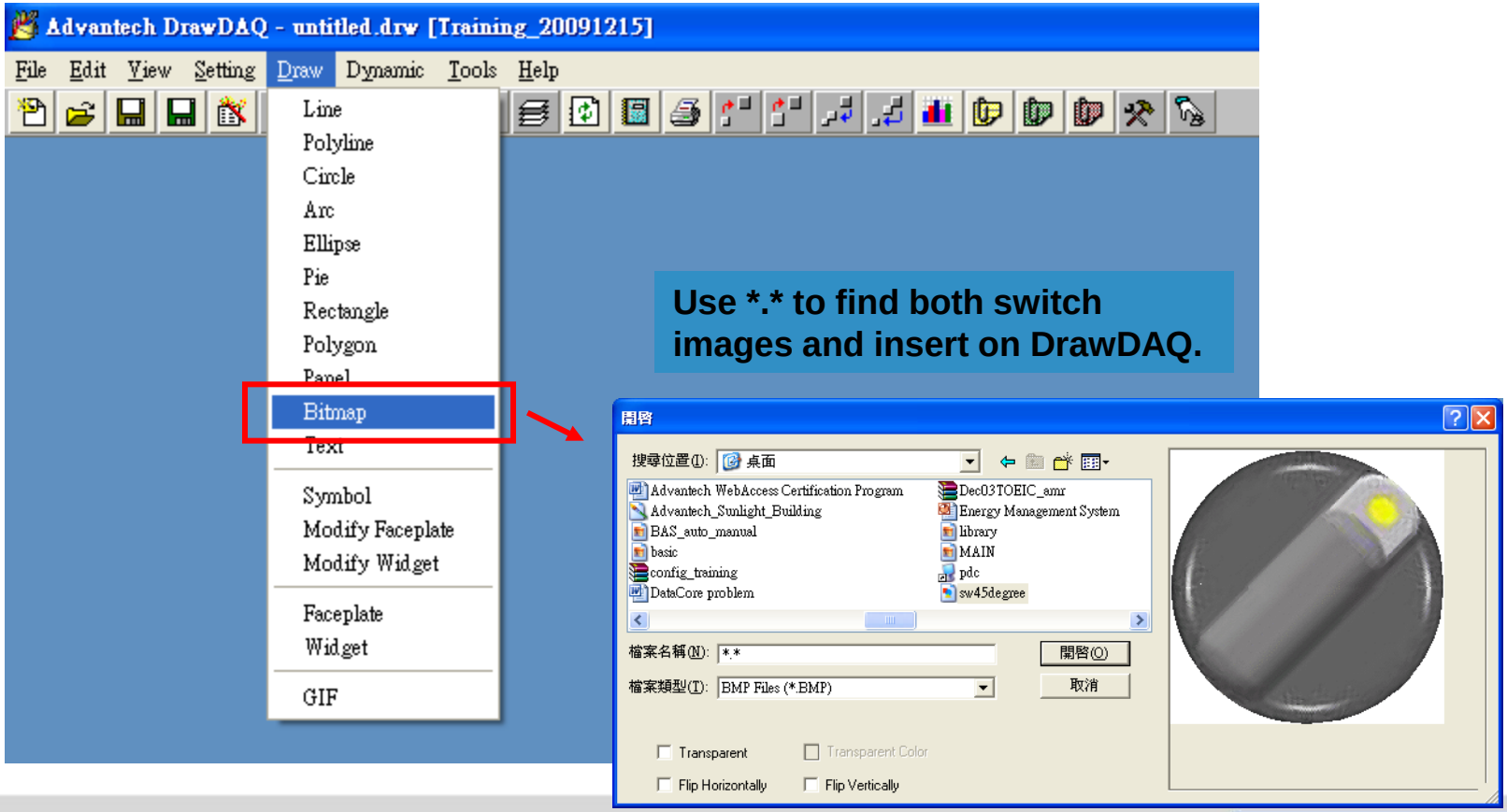
Frame

- Use Constant Point to create a digital tag named “switch”
- Setup “State 0” to display the word “OFF”
- Setup “State 1” to display the word “ON”



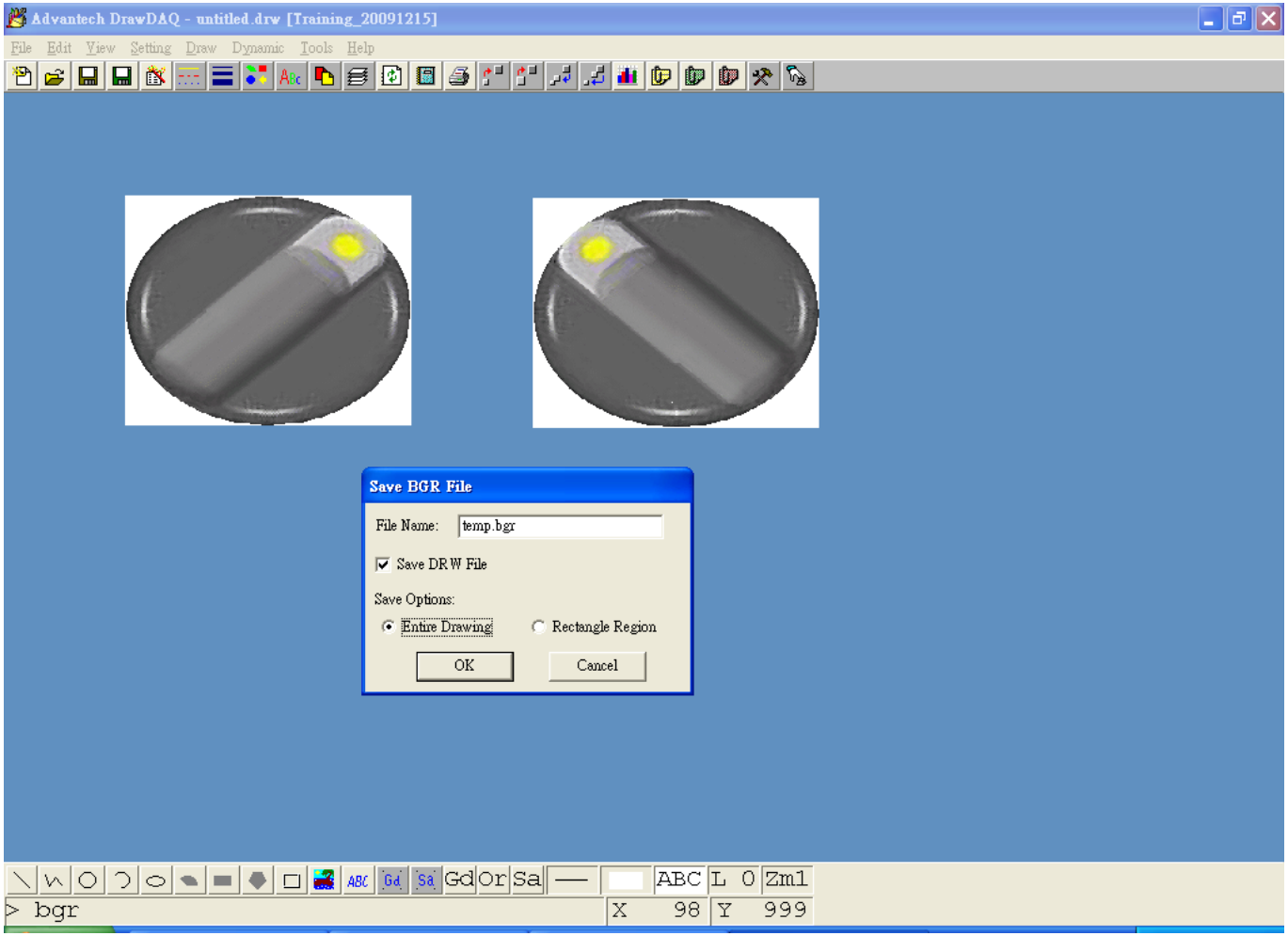
Frame

- Go to SCADA Node and click the download.
- Reopen the DrawDAQ page so the “switch” tag will be seen
- In a new page, we have to insert the two switch button images
- Draw -> Bitmap



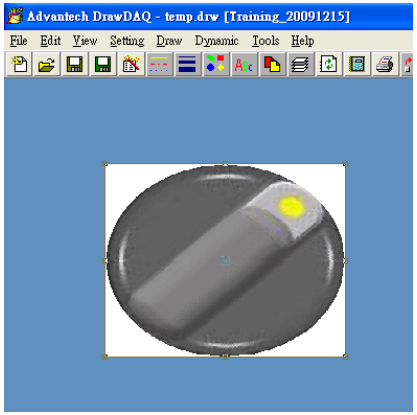
Frame

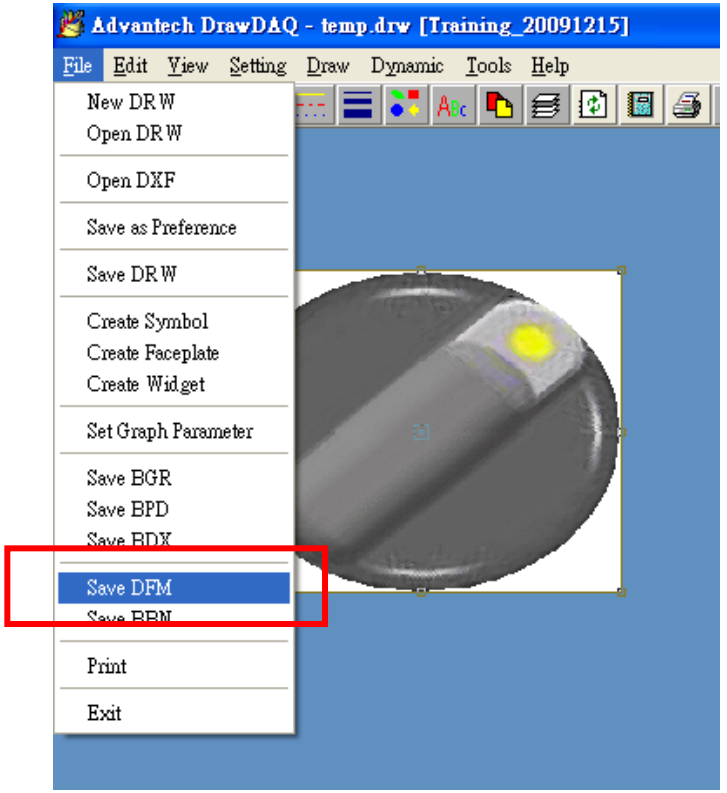
- **Display both images on the DrawDAQ, then save this page as temp.bgr**



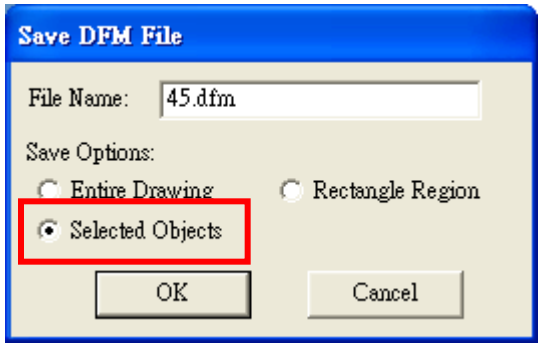
Frame

- Highlight the 45 degree switch image
- File -> Save DFM



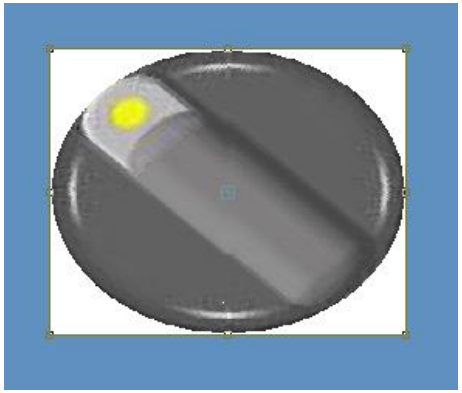


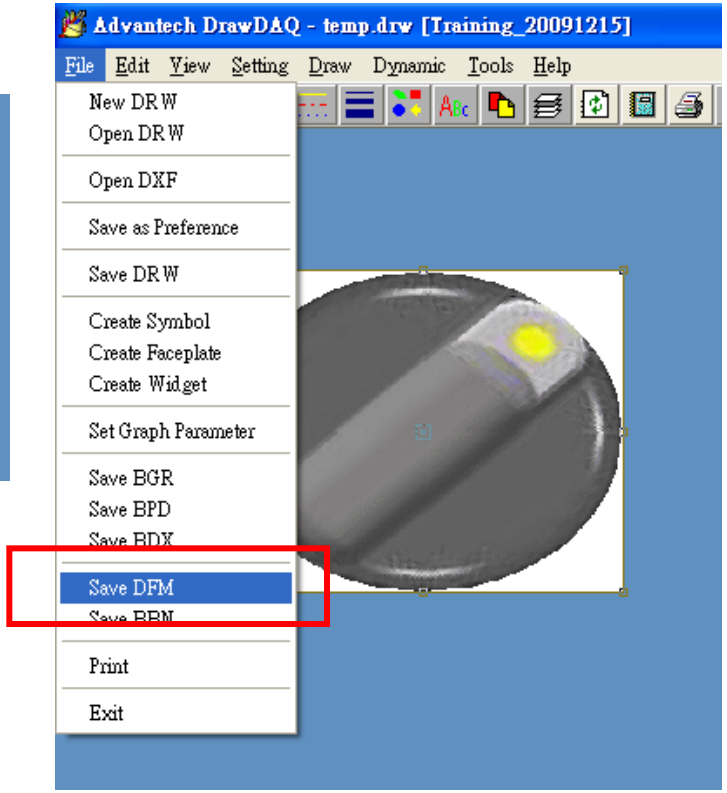
- Save File name as 45.dfm
- Select “Selected Objects”



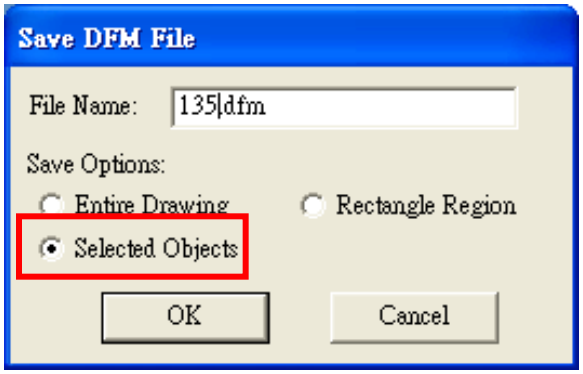
Frame

- Highlight the 135 degree switch image
- File -> Save DFM



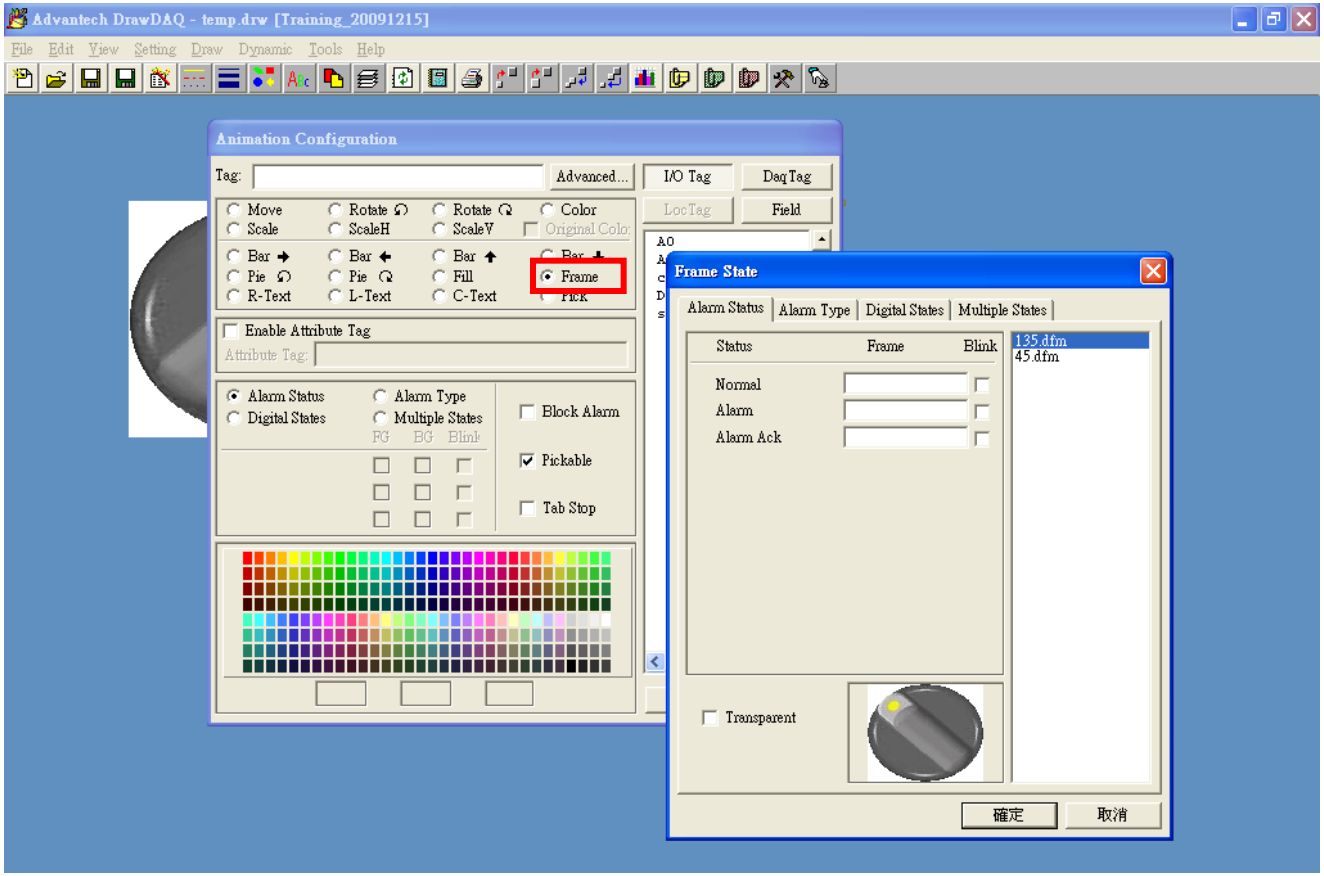


- Save File name as 135.dfm
- Select “Selected Objects”



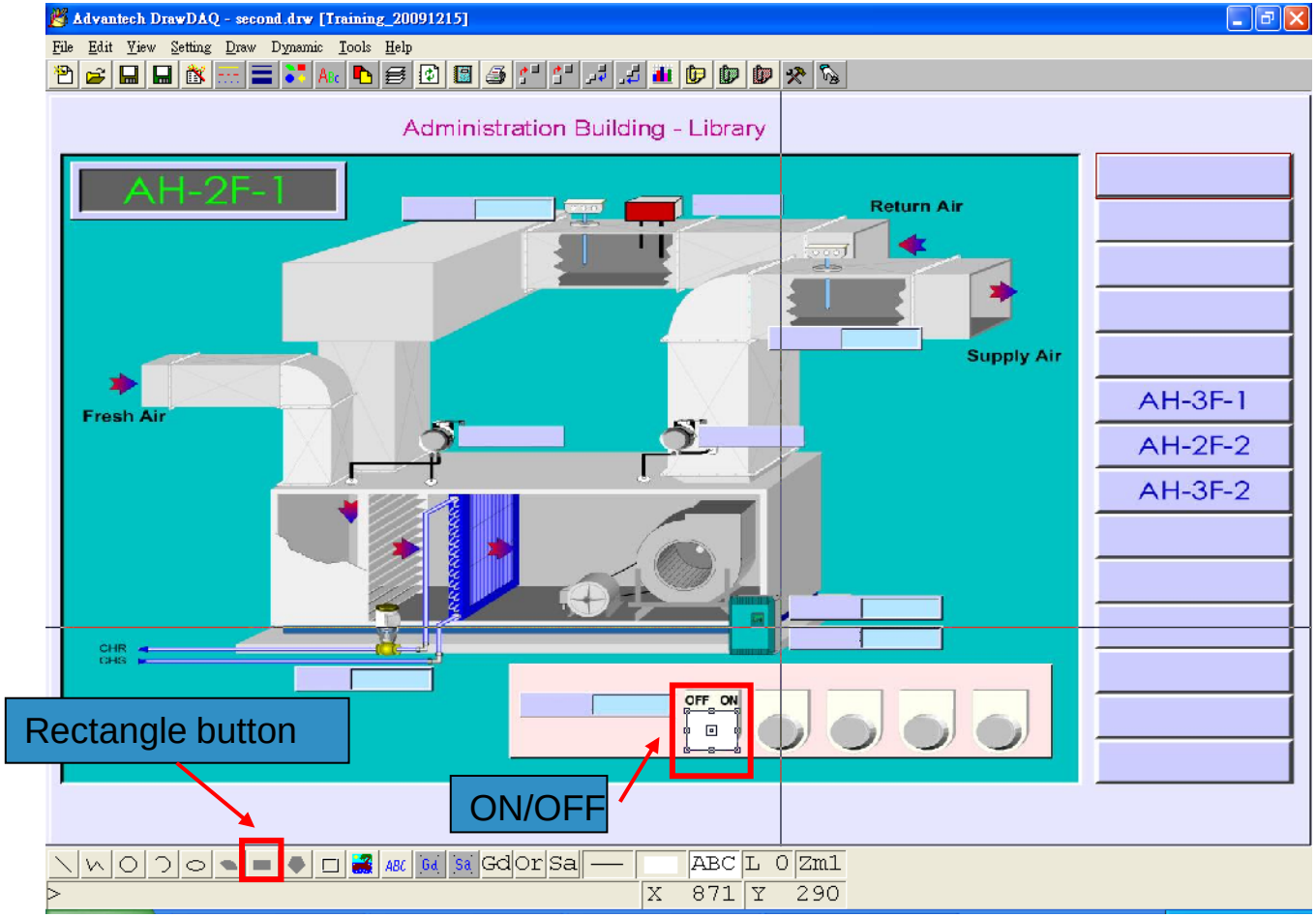
Frame

- **Dynamic -> Animation**
- **Click “Frame” and a Frame State” dialog box pop out**
- **User should be able to see both 45.dfm and 135.drm**



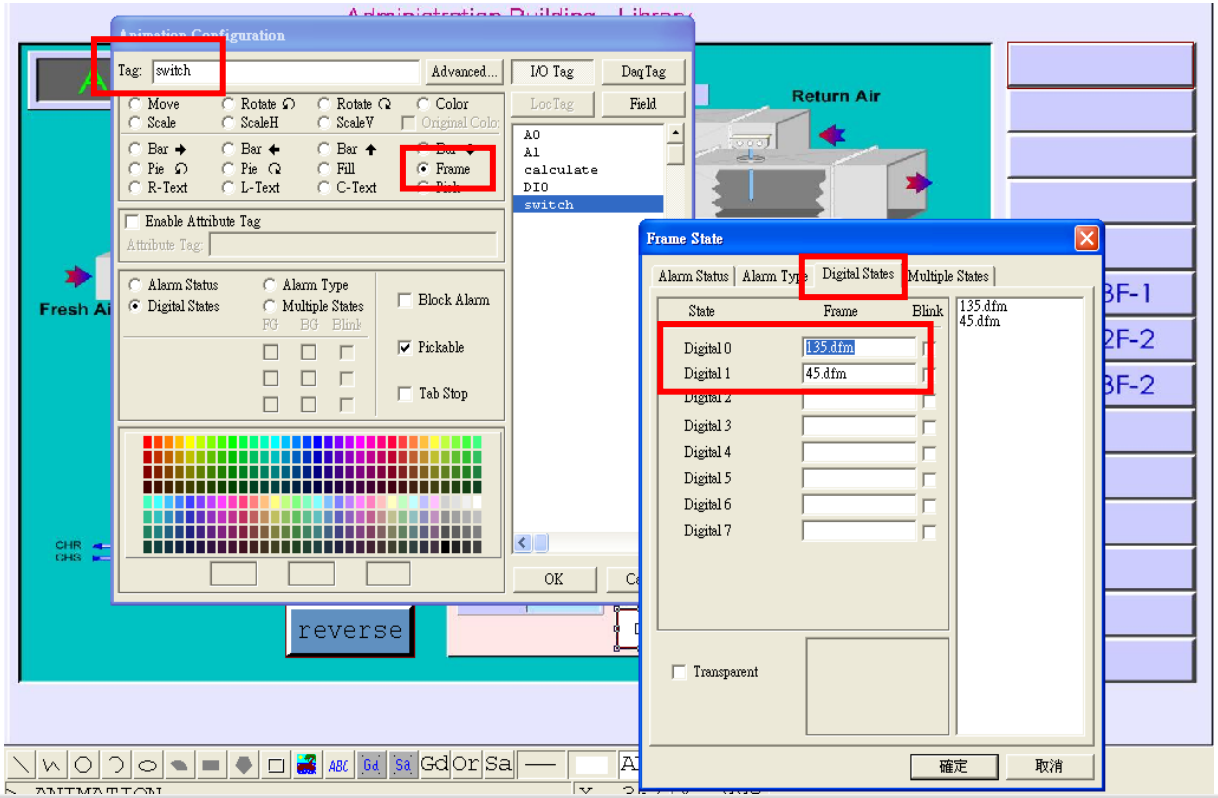
Frame

- **Open the second.bgr page**
- **Use “rectangle” button to draw & highlight a small rectangle under ON/OFF place**



Frame

- **Dynamic -> Animation -> Frame -> Digital States**
- **Tag name selects “switch”**
- **In Digital 0 inserts 135.dfm; in Digital 1 inserts 45.dfm; then click “OK” button to complete the steps.**
- **Note: the result can only be viewed in View / ViewDAQ**

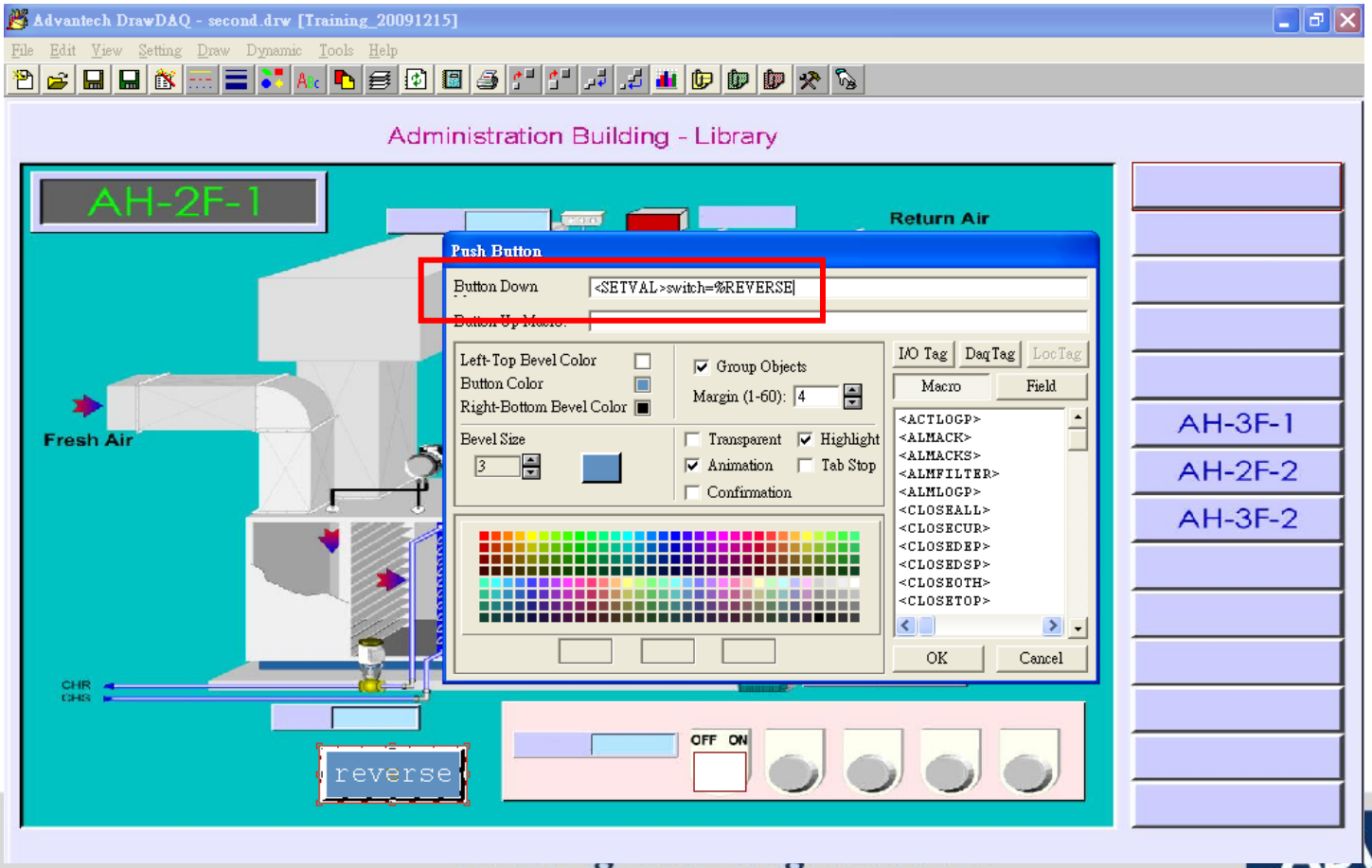


Frame

- **Draw a button which named “reverse”**
- **In Button Down action, enter “<SETVAL>switch=%REVERSE”**

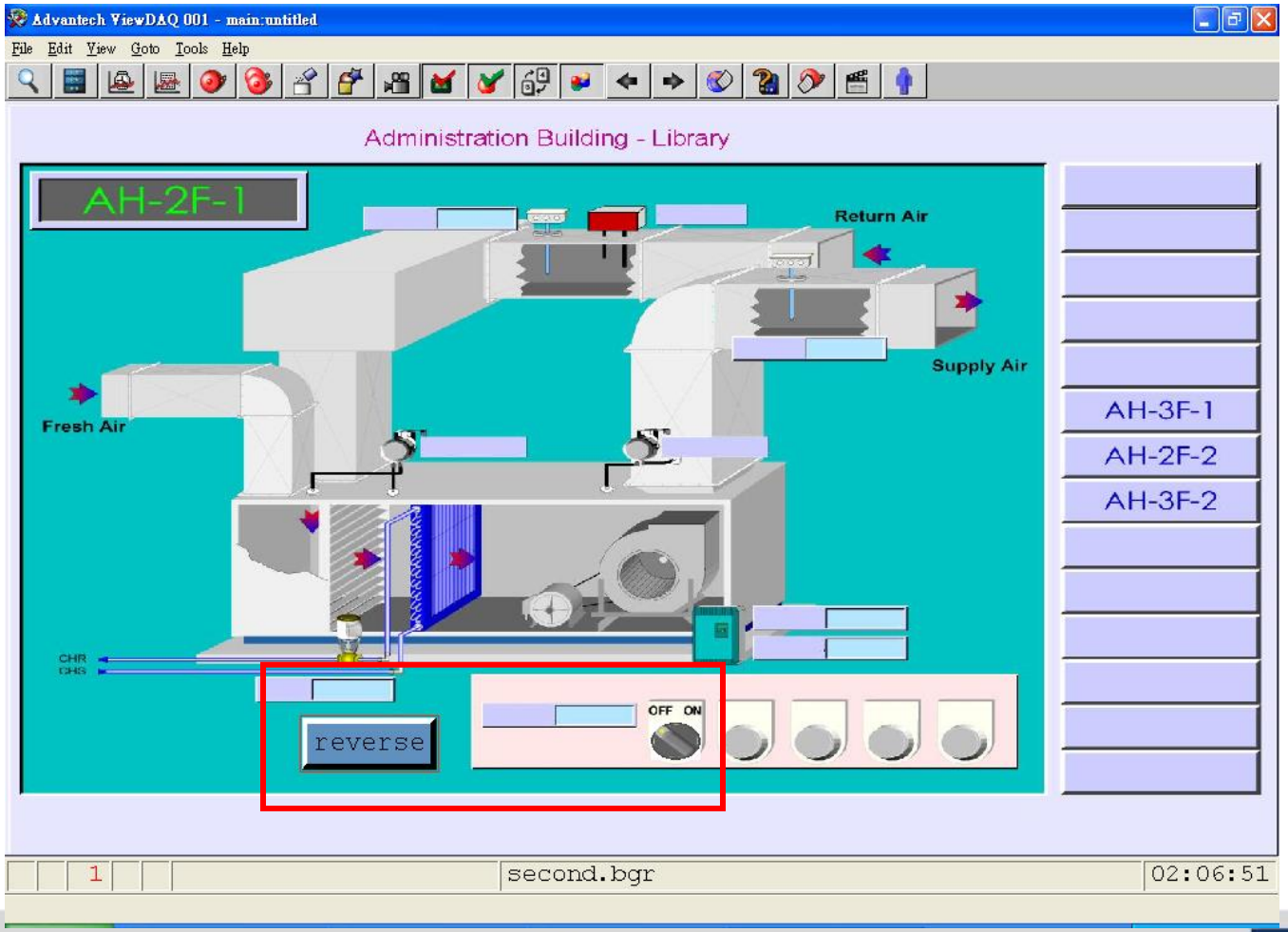
  note: % REVERSE function will switch digital tag value between 0 and 1

  note: %REVERSE function can’t be found in DaqTag



Frame

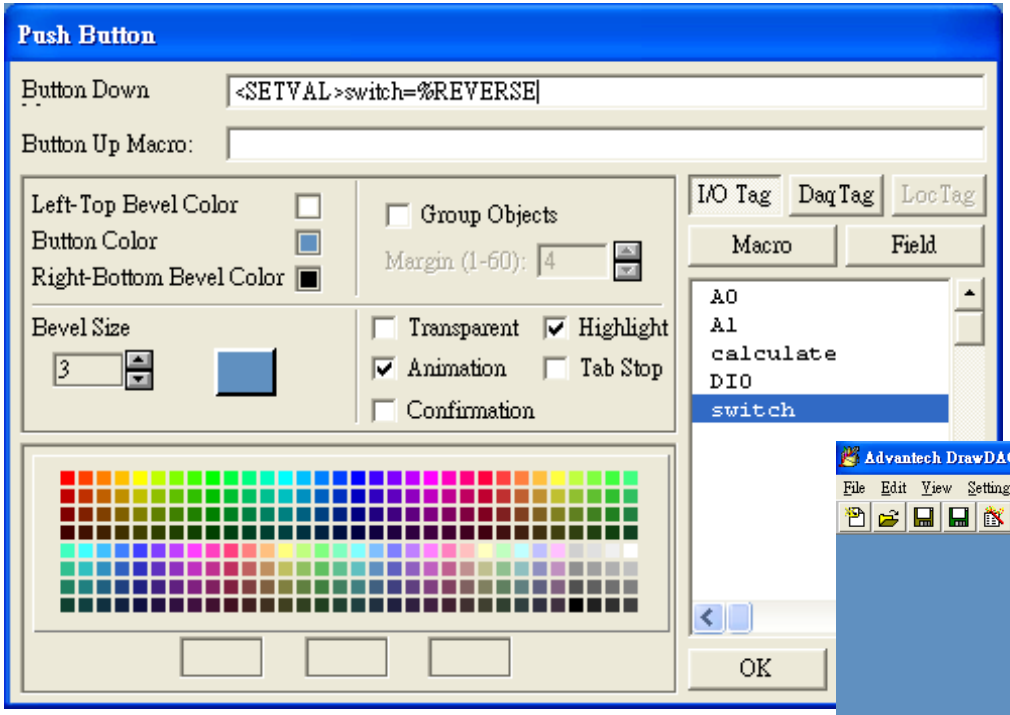
- **Save the file and download the project**
- **By clicking the “reverse” button, the switch will change its images continuously.**

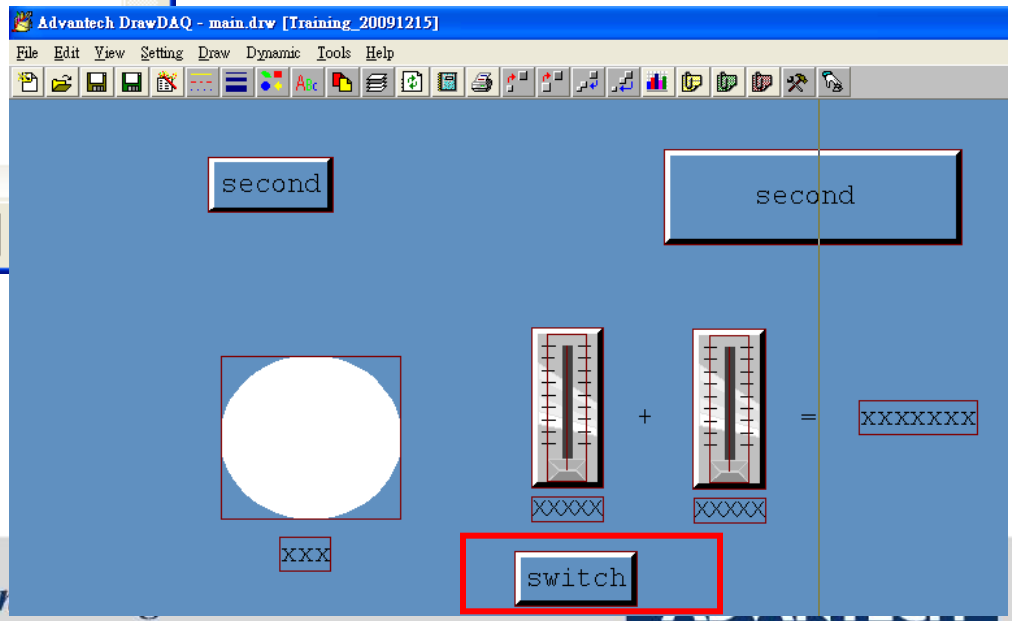


Script - TCLScript

Script - TCLScript

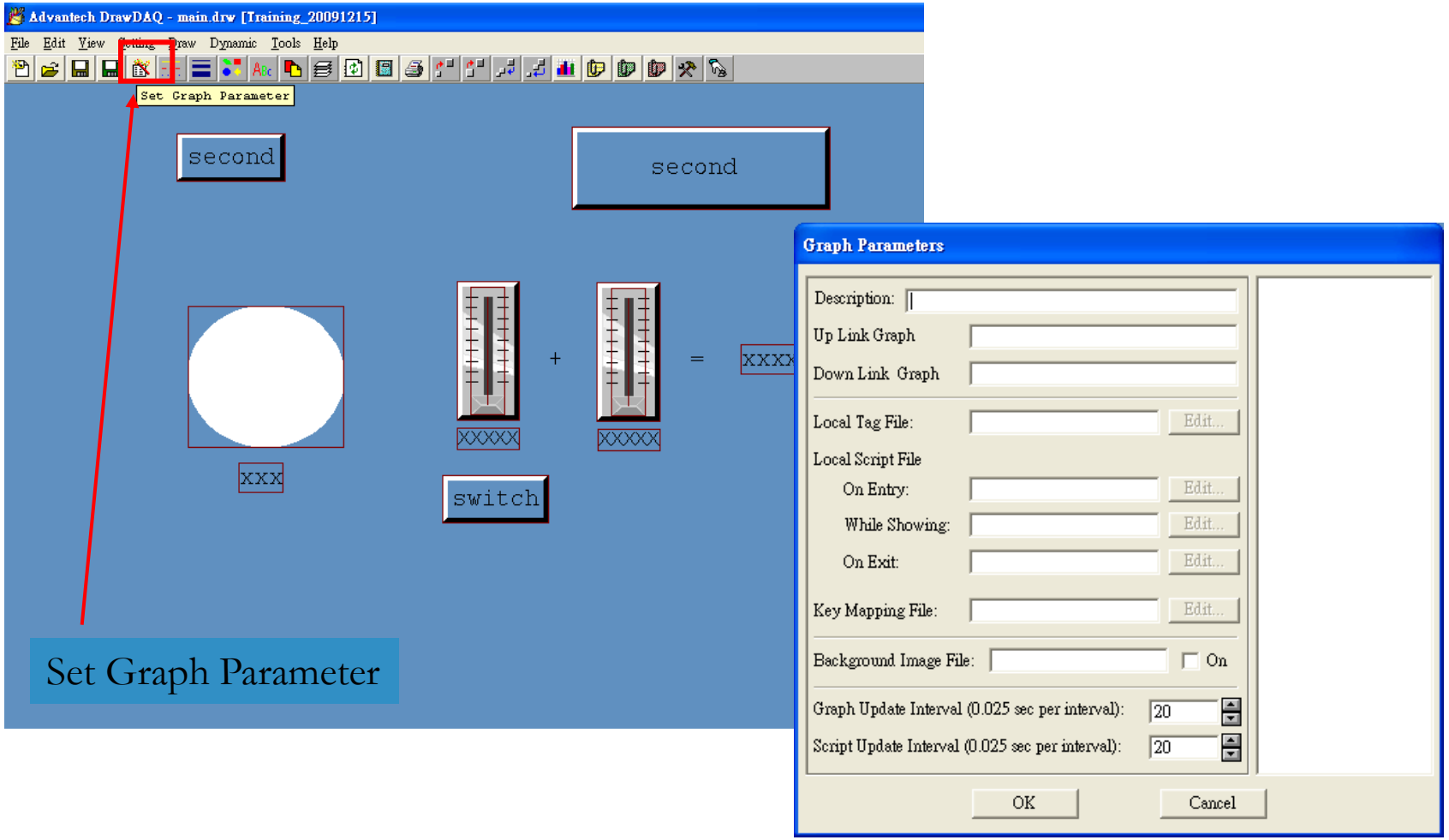
- **Open Main.bgr in ViewDAQ**
- **Create a button to reverse “switch” digital tag value**





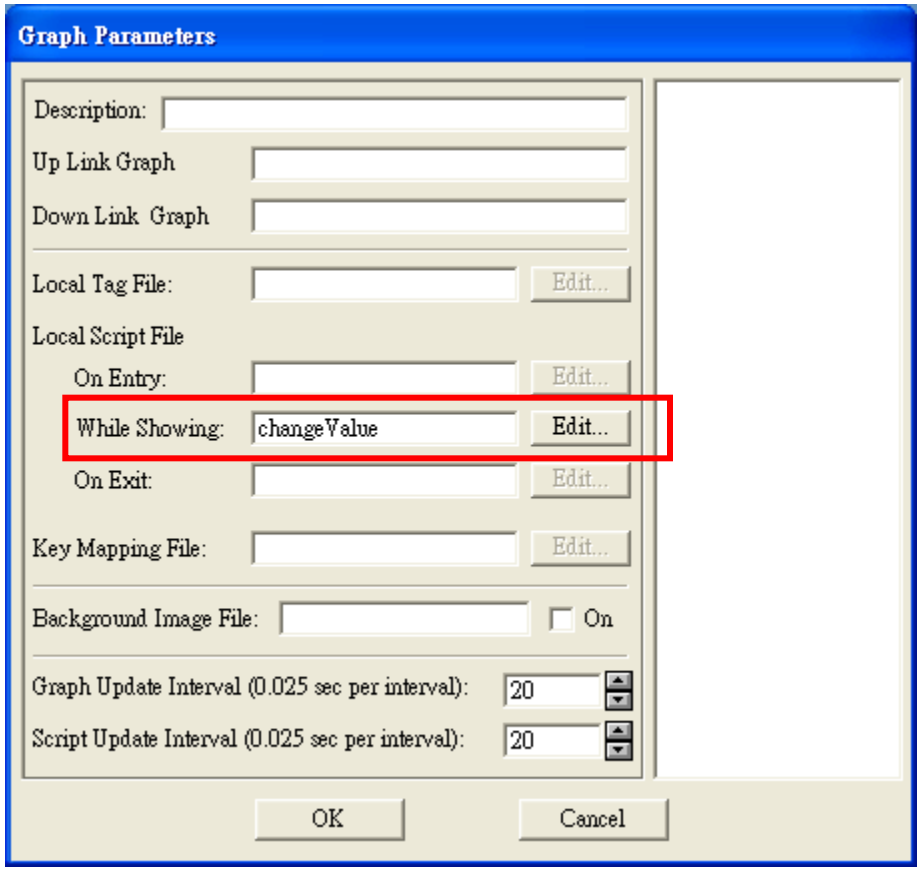
Script - TCLScript

- **Click “Set Graph Parameter” button, and a Graph Parameters dialog box popup.**



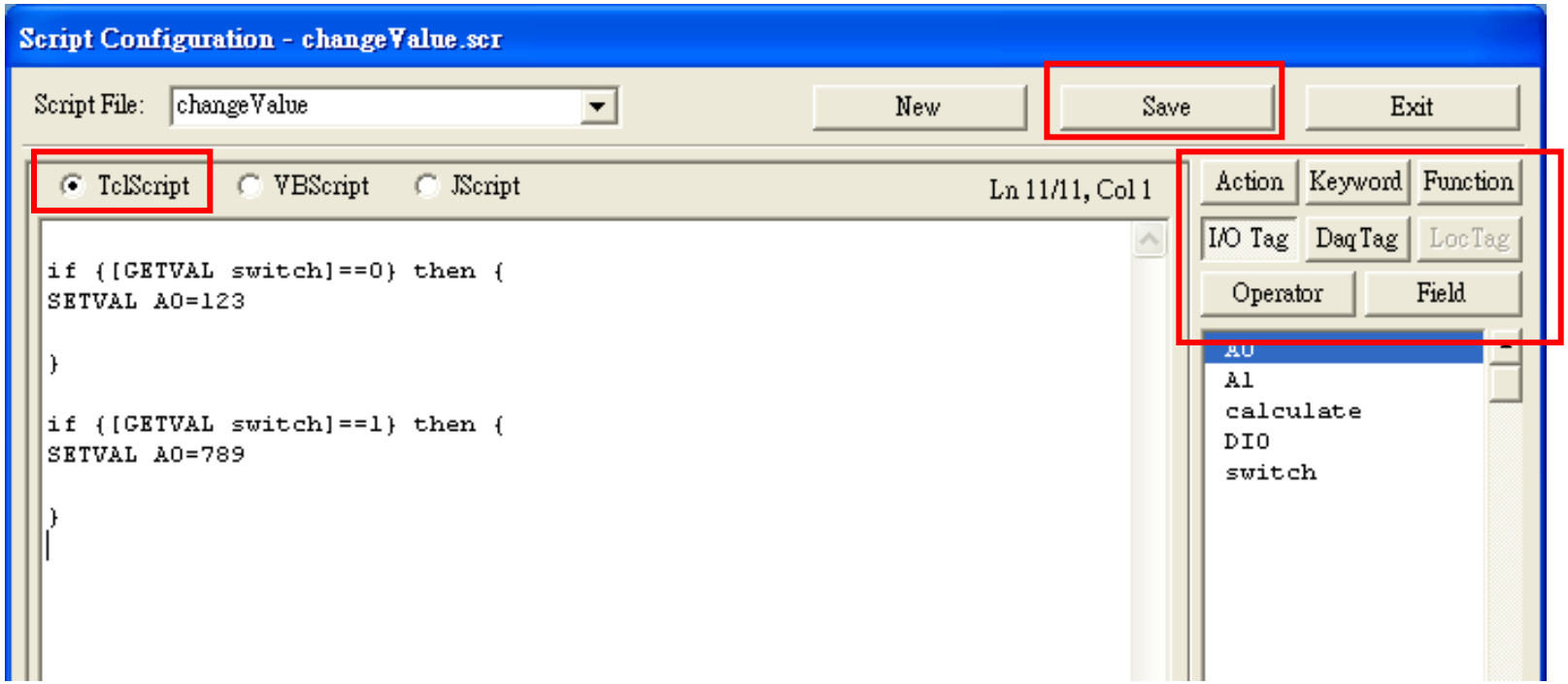
Script - TCLScript

- **Click the text box beside “While Showing”**
- **Enter the Script program Name. In here, we name it as “changeValue”**
- **Last, click “Edit” botton**



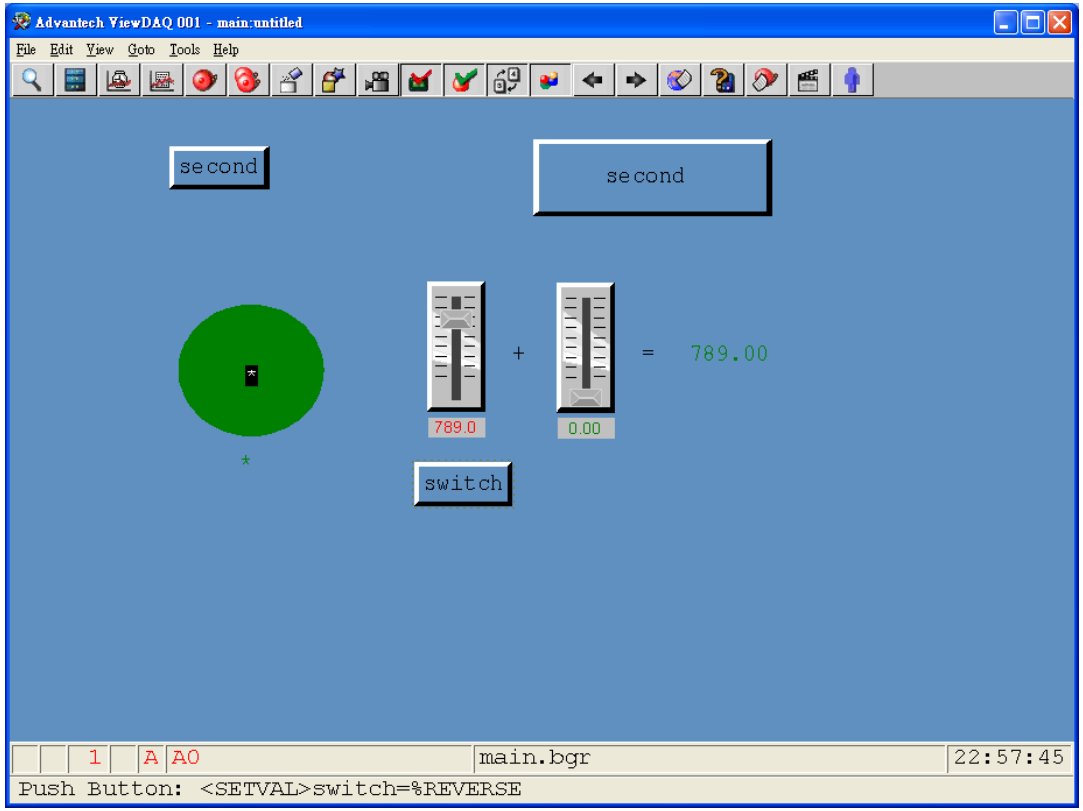
Script - TCLScript

- In TclScript language, code the following
- “if” can be found by clicking “Keyword” button
- “GETVAL” and “SETVAL” can be found by clicking “Action” button
- “==“ and “=“can be found by clicking “Operator” button
- “switch” constant tag can be found by clicking “I/O Tag” button
- Last, click “Save” button to save the program



Script - TCLScript

- **Clicking “OK” button in Graph Parameters dialog box, and save main.bgr page.**
- **Download the project and run ViewDAQ**
- **A0 value will be changed everytime user clicks “switch” button**



Video Display

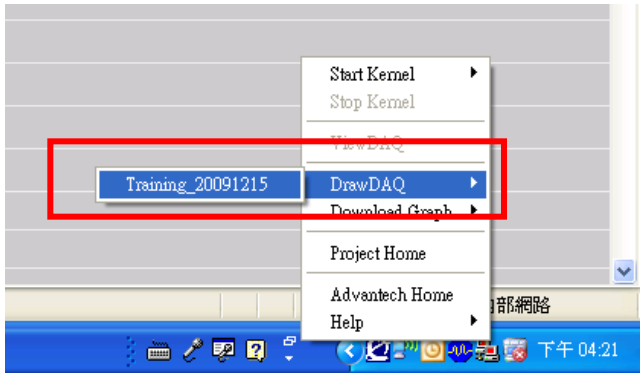
- Display Web Page in Video Display -

- Display bgr Page in Video Display -

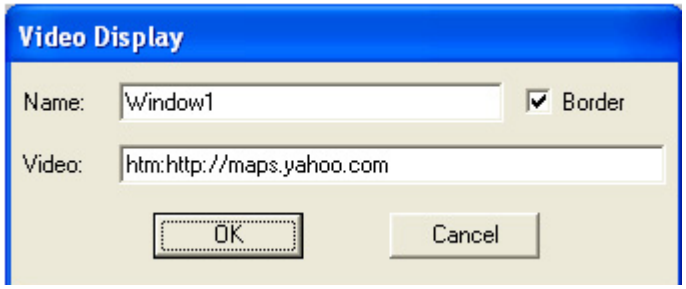
- Display Flash (*.swf) in Video Display -

Video Display
- Web Page -

1. **Right Click the Mouse** on DrawDAQ and select the project



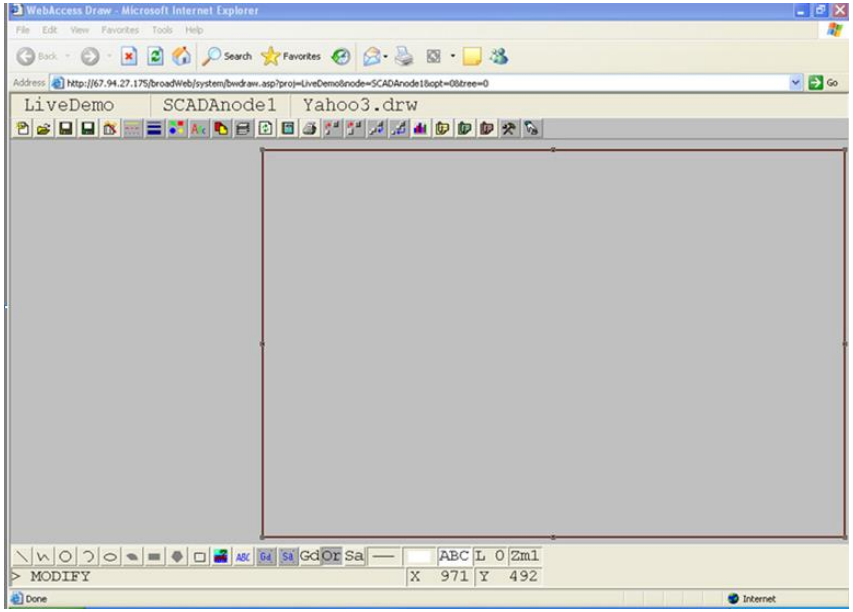
2. **Dynamic** -> **Video Display**
3. Enter a **Name** and enter the **htm:** with the **IP address** or **URL** of the Web Page.



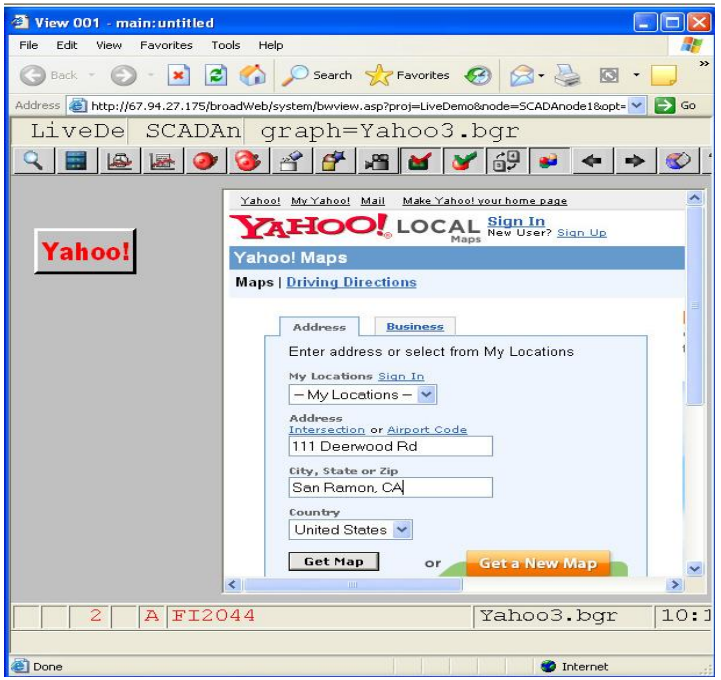
4. Select **OK** .

Video Display
- Web Page -

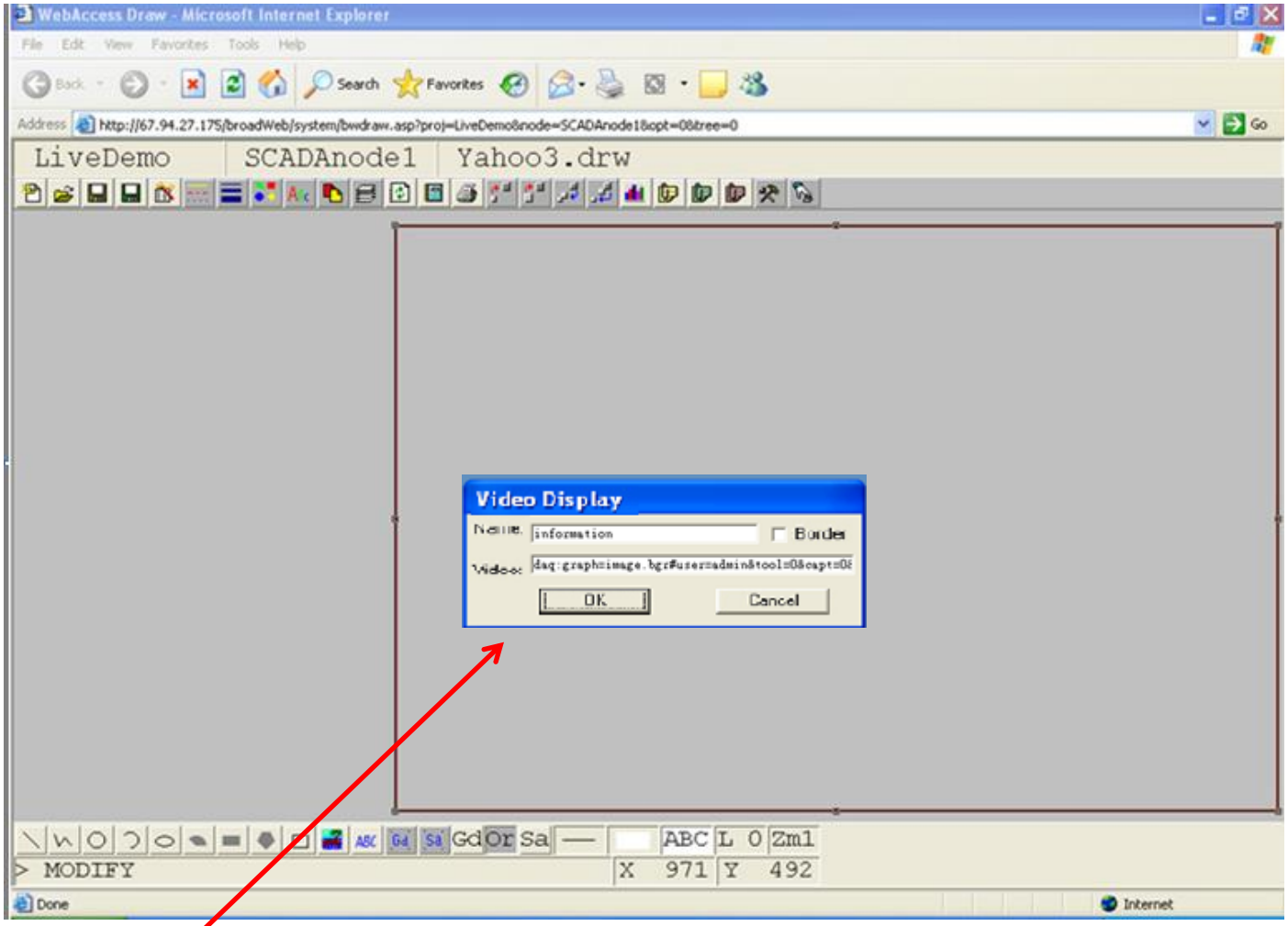
5. **Click once** to define the **start** of a **rectangle**
6. **Drag** with the mouse to define the size of the Video Window in the Graphic.
7. **Click a second time** to define the **end** of the rectangle.



8. Result



Video Display
- bgr Page -



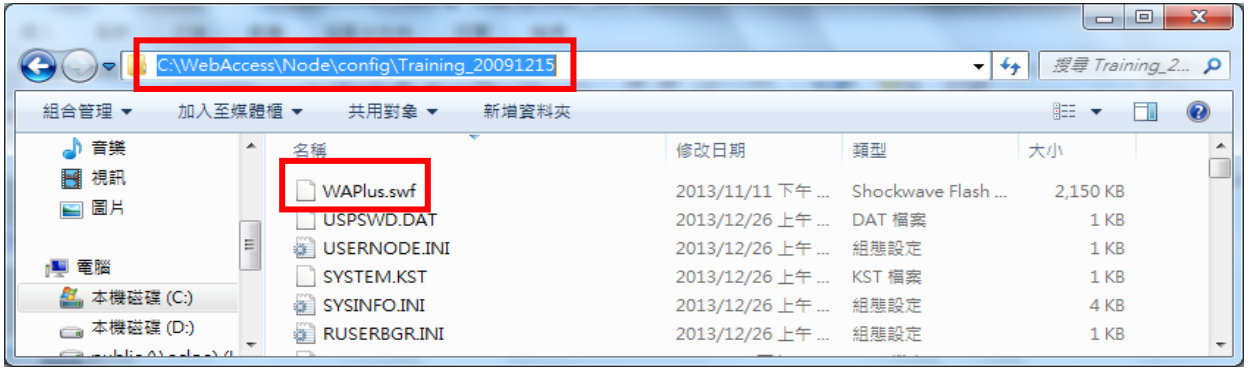
daq:graph=image.bgr#user=admin&tool=0&capt=0&stat=0

Video Display
- bgr Page -

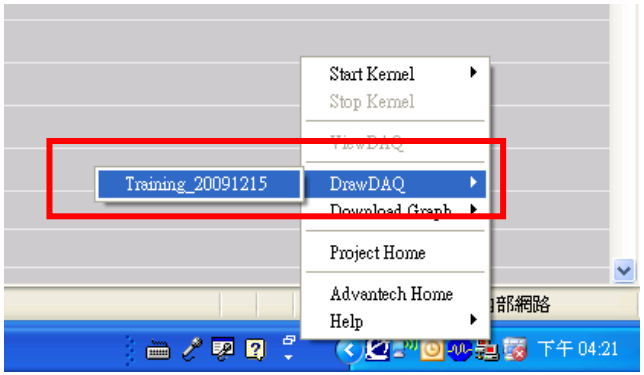
	Using Button to Switch Bgr Pages
Switch Page	<SENDPTZ>information=DAQ#<GOTO>GRAPH=temp.bgr or <SENDVDO>information=daq:graph=temp.bgr
Realtime Trend	<SENDPTZ>information=DAQ#<GOTO>REALTRD=1
Historical Trend	<SENDPTZ>information=DAQ#<GOTO>DLOGTRD=1
Schedule	<SENDPTZ>information=DAQ#<GOTO>TOOL=BWSCH.UTI
Alarm Summary	<SENDPTZ>information=daq#<GOTO>ALMSUMMARY
Alarm Group	<SENDPTZ>information=daq#<GOTO>ALMGROUP=1
Exit	<ALT_F4>

Video Display
- Insert a Flash File -

1. Copy flash file (*.swf) to **webaccess\node\config\project_node**
2. In this exercise, we will copy WAPlus.swf to
   c:\webaccess\node\config\Training_20091215

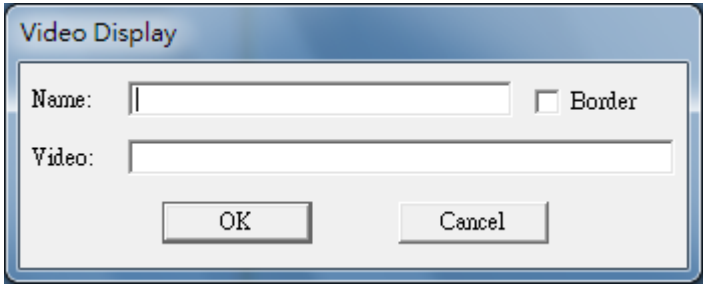


3. Right click the Mouse on DrawDAQ and select the project

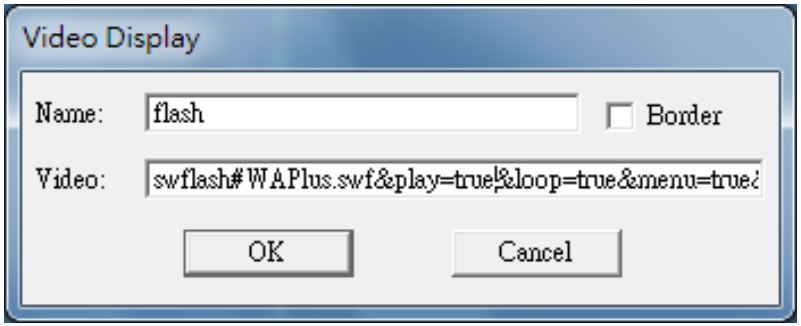


Video Display
- Insert a Flash File -

1. **Dynamic** -> **Video Display**, a “Video Display” dialog box will pop up.



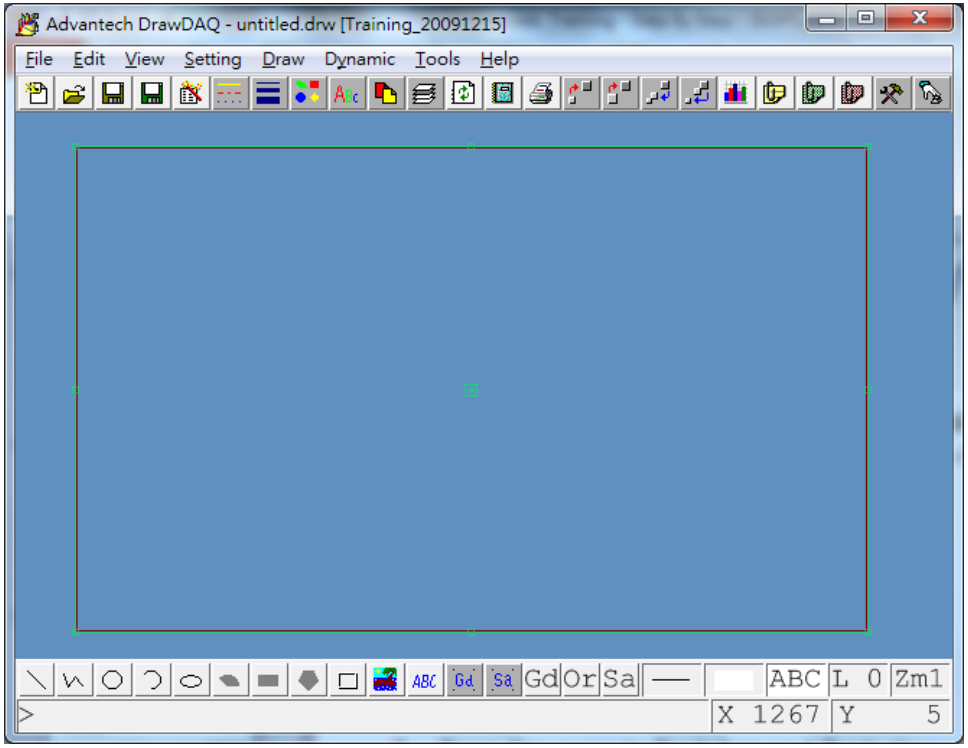
2. Enter a “**Name**” in Name text box and enter the “**swflash#WAPlus.swf&play=true&loop=true&menu=true&popmenu=true”** in Video text box



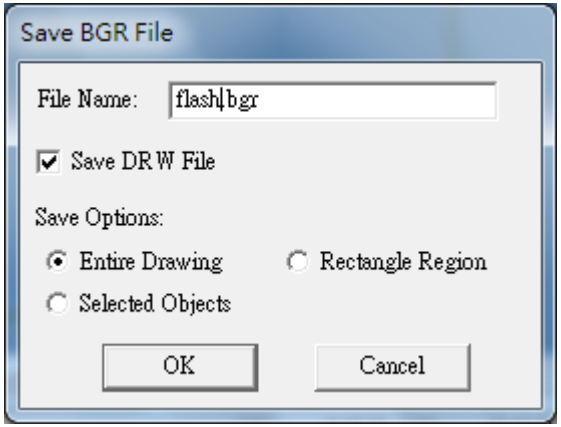
3. Click **OK** button

Video Display
- Insert a Flash File -

1. **Dynamic** -> **Video Display**, a “Video Display” dialog box will pop up.
2. Setup “first corner” and “second corner” to define the size of Video Display.

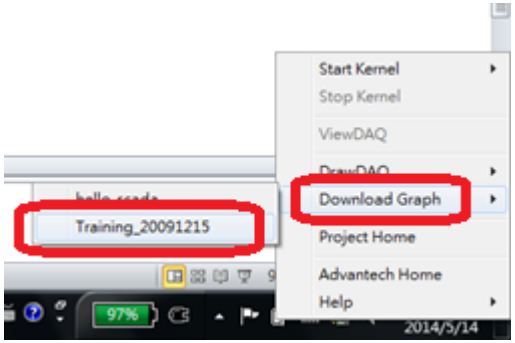


2. Save the page to flash.bgr and flash.drw

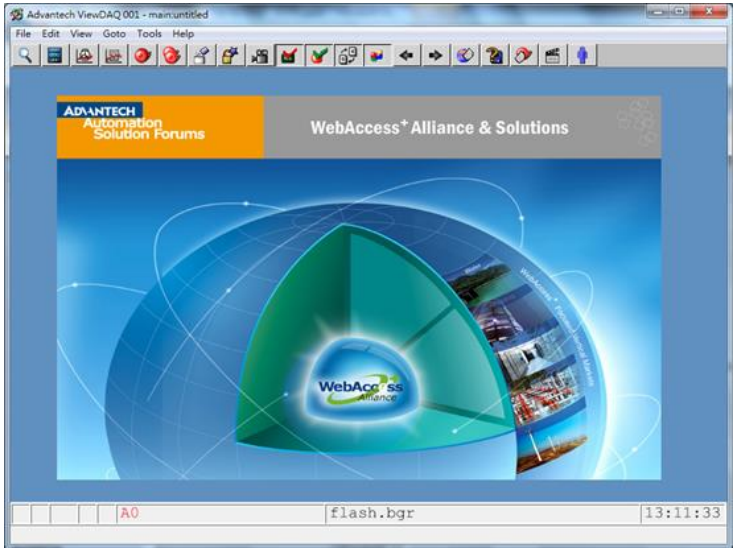


Video Display
- Insert a Flash File -

1. **Download project**



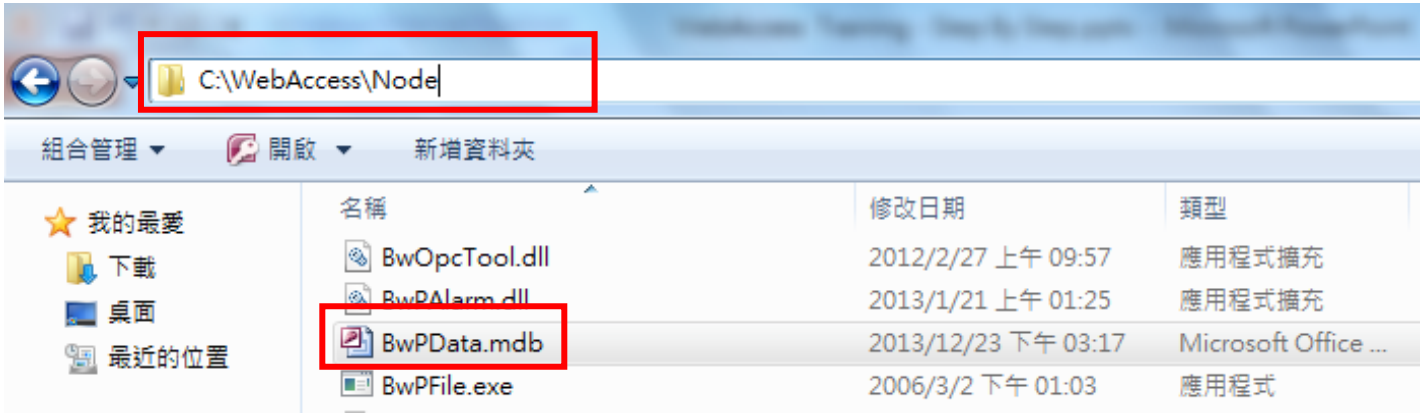
2. Result

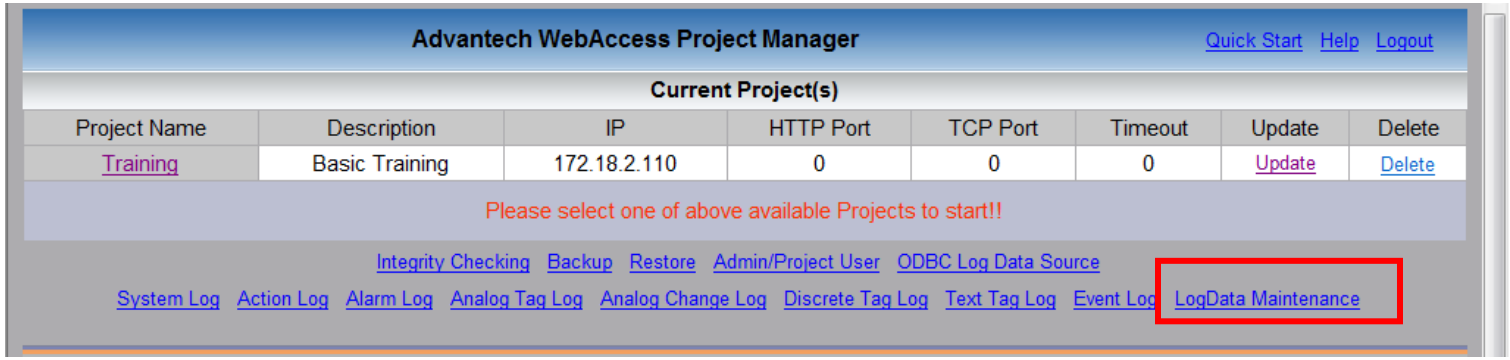


ODBC

ODBC

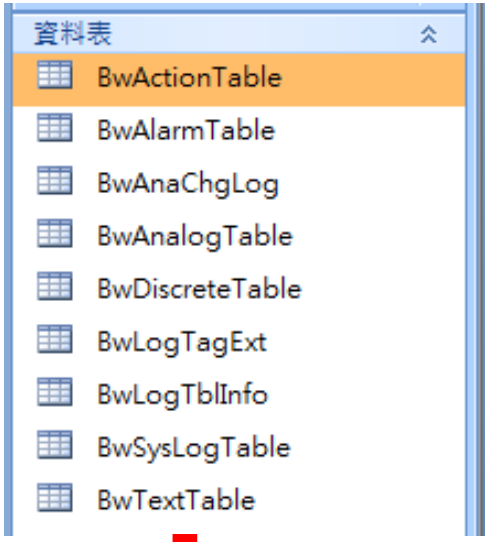
1. WebAccess default ODBC is MS Access
2. By using ODBC, LogData Maintenance must also setup
   - Data Maintenance supports data relocation save and deletion
   - These actions will make sure the database won't explore
3. The file is located under c:\webaccess\node\bwpdata.mdb



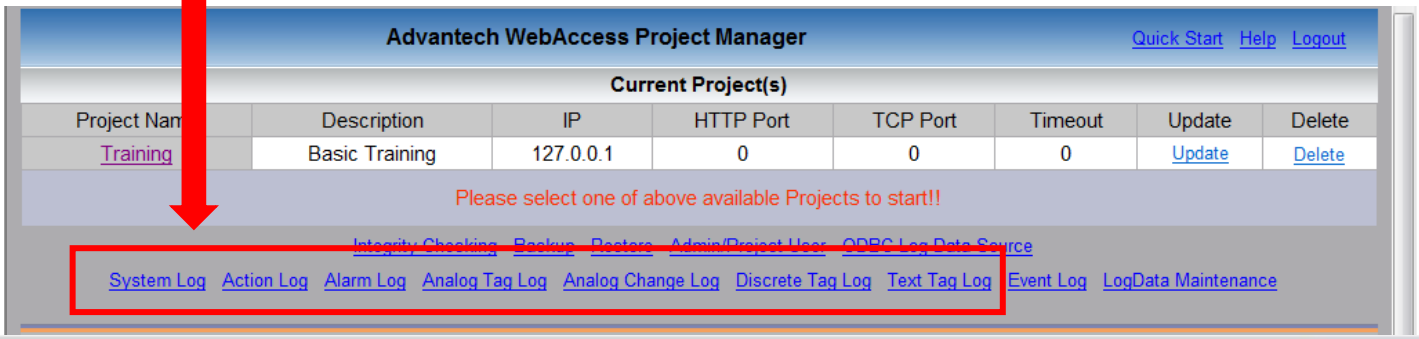


ODBC
- MS Access BwPdata.mdb -

1. Total nine tables in bwpdata.mdb, seven of them may be used for data exchange.
2. “BwLogTagExt” and “BwLogTblInfo” are for RD internal use only.

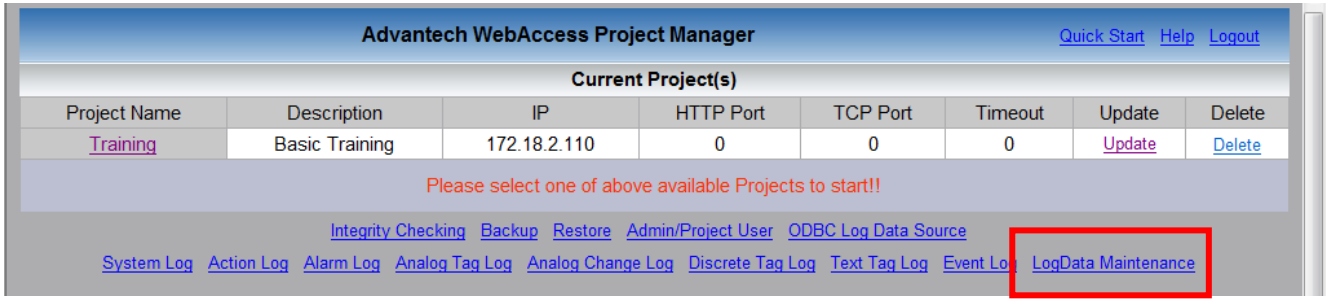


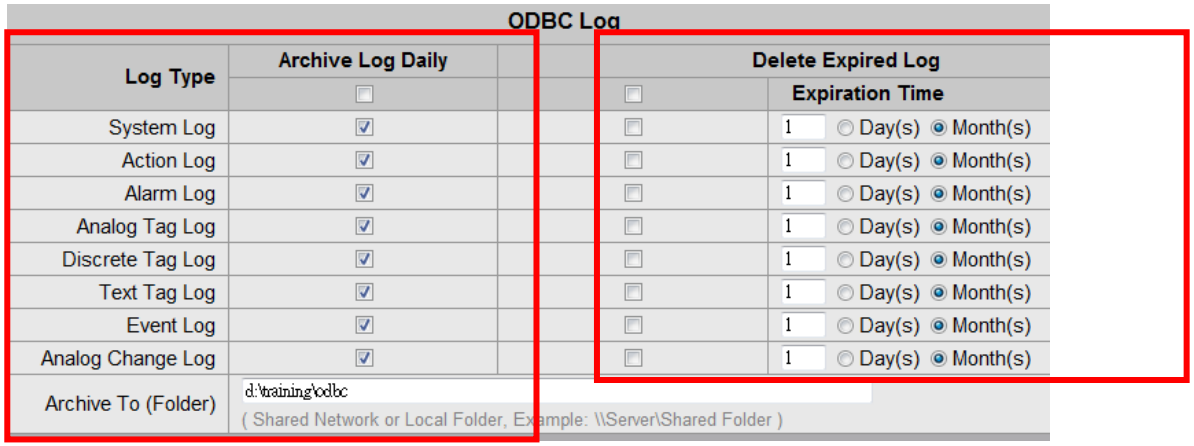
Bwpdata.mdb	WebAccess
BwActionTable	Action Log
BwAlarmTable	Alarm Log
BwAnaChgLog	Analog Change Log
BwAnalogTable	Analog Tag Log
BwDiscreteTable	Discrete Tag Log
BwSysLogTable	System Log
BwTextTable	Text Tag Log



ODBC
- LogData Maintenance -

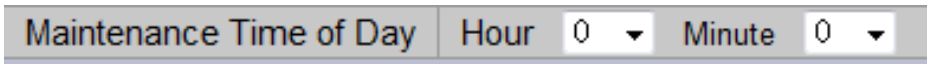
- **By setting ODBC, LogData Maintenance must also setup**
  - Data Maintenance supports data relocation save and deletion
  - These actions will make sure the database won't explore





Delete expired data

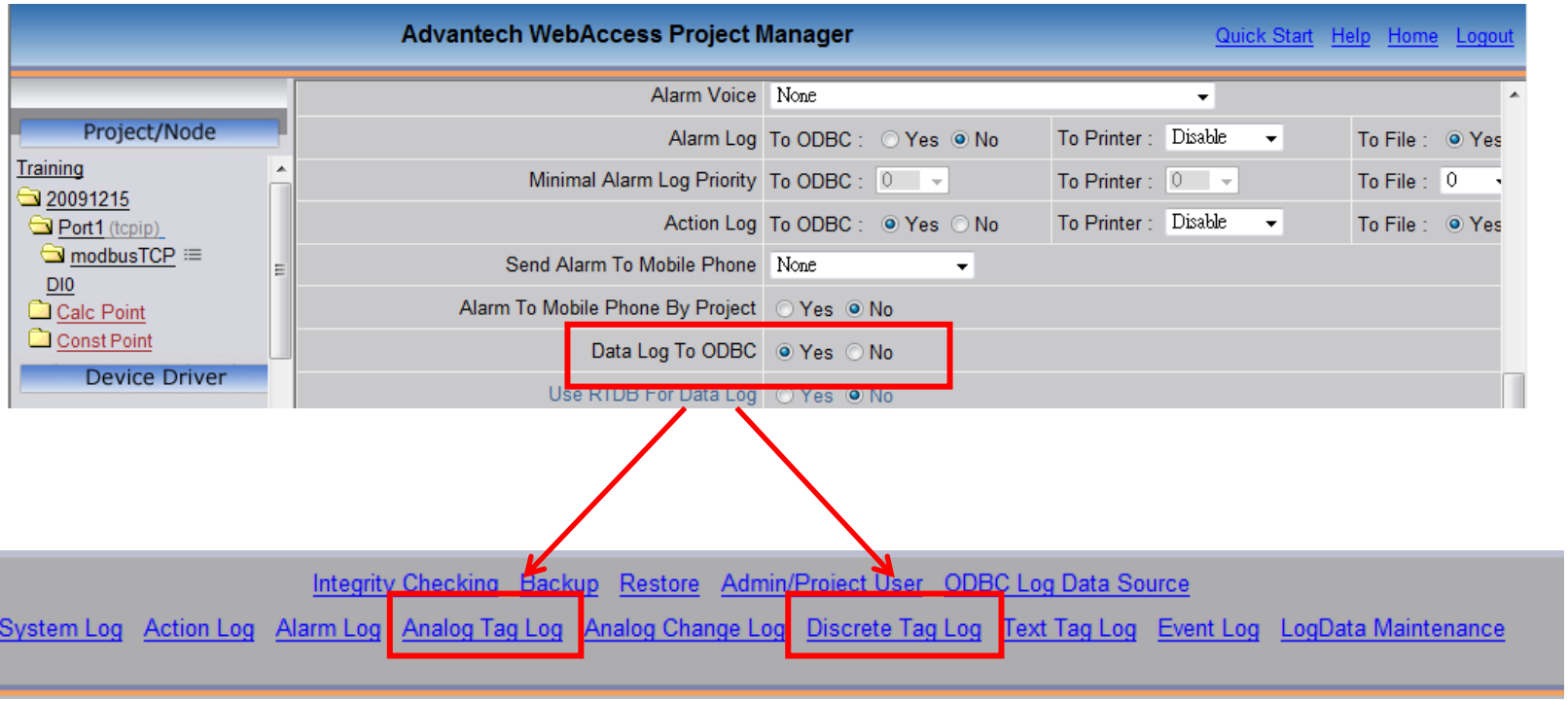
Save data to other location



data maintenance starts time

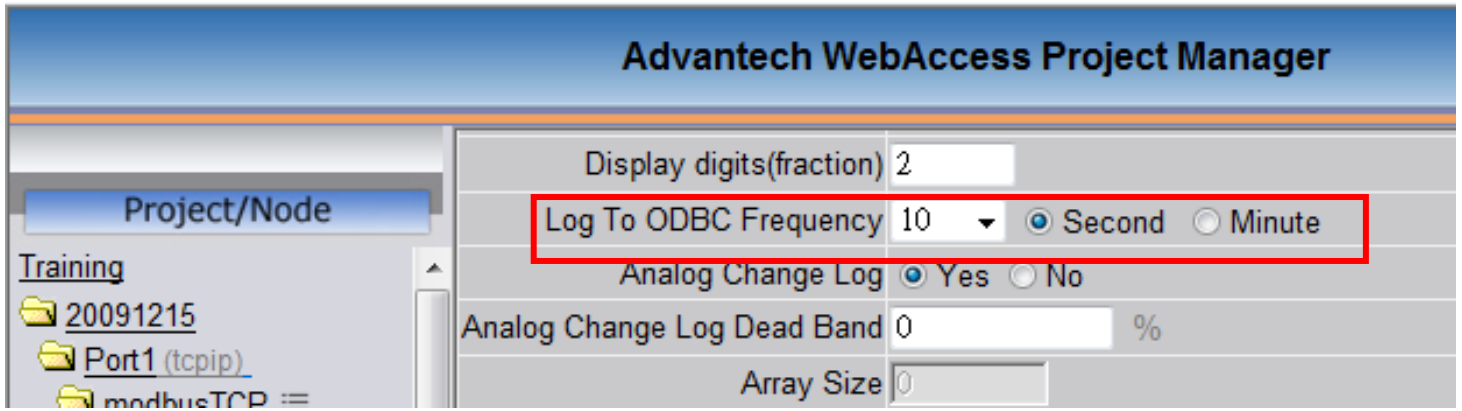
ODBC

1. Set “Data Log To ODBC” in SCADA Node property
2. Data Log To ODBC: the data is stored at “Analog Tag Log” and “Discrete Tag Log”

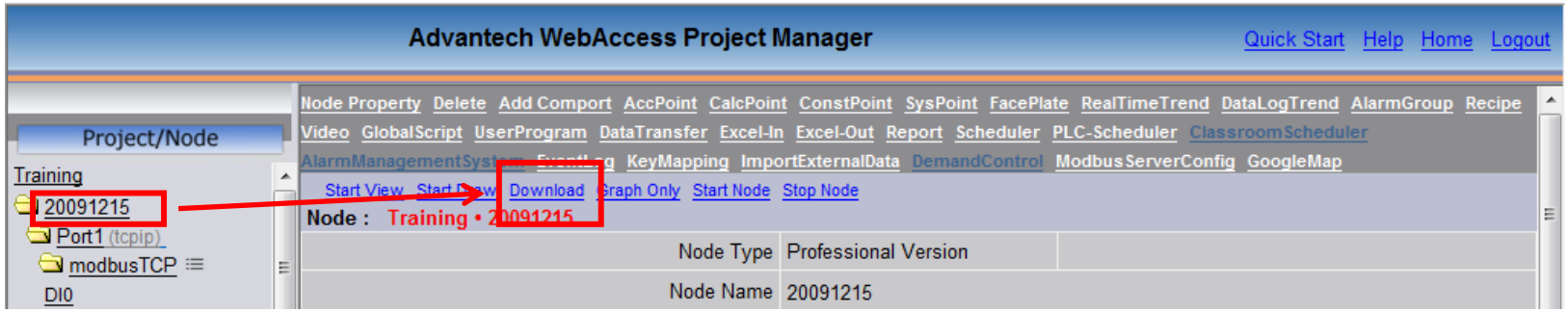


ODBC

1. Setup “Log to ODBC Frequency” in Tag property

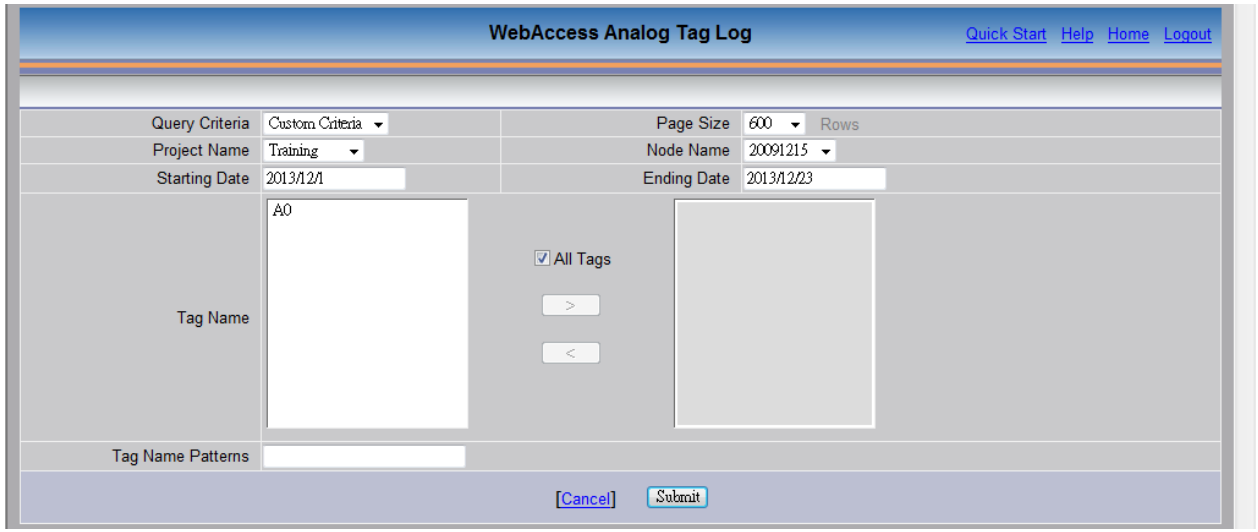


1. After finishing setup SCADA Node and Tag properties, back to SCADA Node and click “Download”

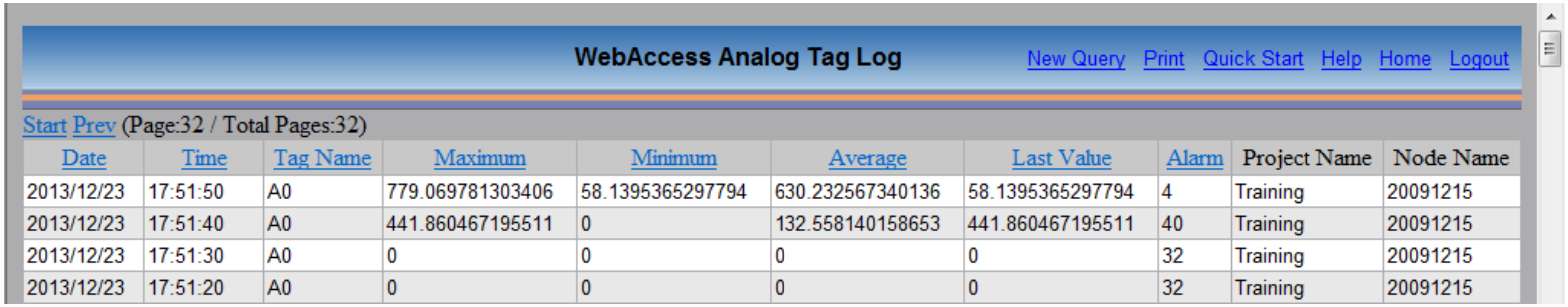


ODBC

1. By clicking “Analog Tag Log”, user may query AO tag historical data from MS Access



1. Result



Date	Time	Tag Name	Maximum	Minimum	Average	Last Value	Alarm	Project Name	Node Name
2013/12/23	17:51:50	A0	779.069781303406	58.1395365297794	630.232567340136	58.1395365297794	4	Training	20091215
2013/12/23	17:51:40	A0	441.860467195511	0	132.558140158653	441.860467195511	40	Training	20091215
2013/12/23	17:51:30	A0	0	0	0	0	32	Training	20091215
2013/12/23	17:51:20	A0	0	0	0	0	32	Training	20091215

Report

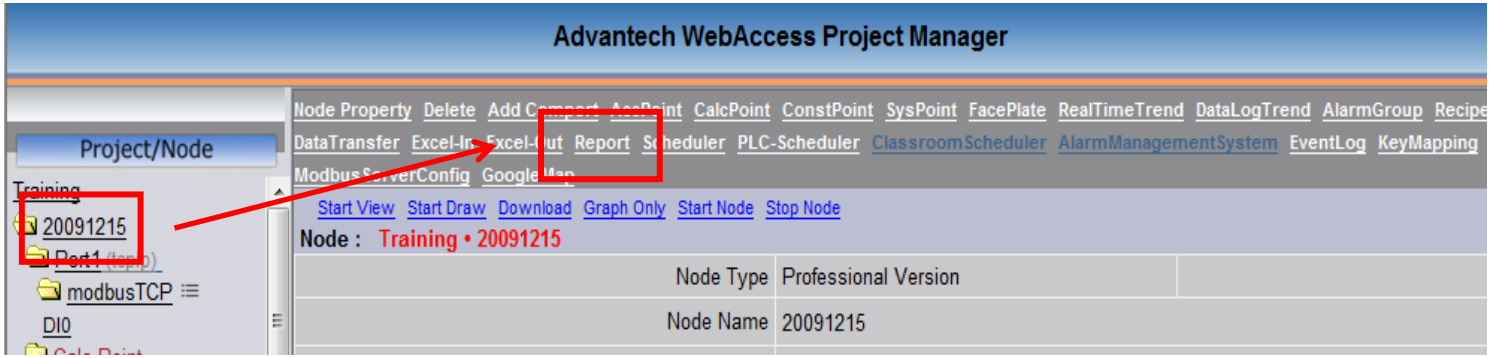
Report

1. WebAccess supports three types of reports
    1. Shift Report
    2. Daily Report
    3. Monthly Report

2. All reports retrieve data from central database (default database is MS Access)

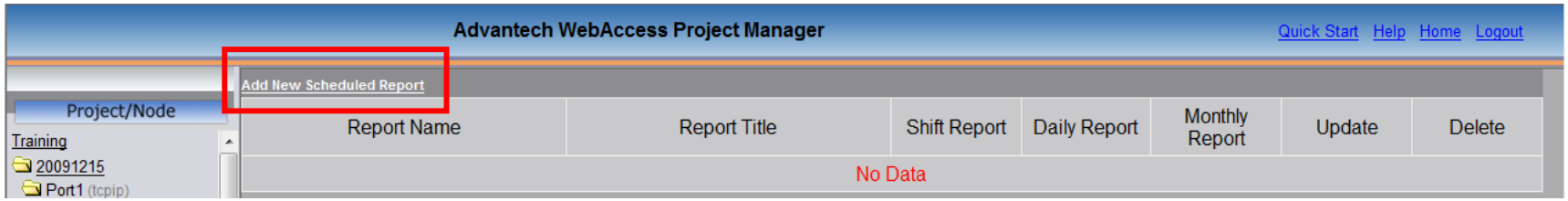
3. In here, we will practice “Daily Report”

4. Click “Report” in SCADA Node

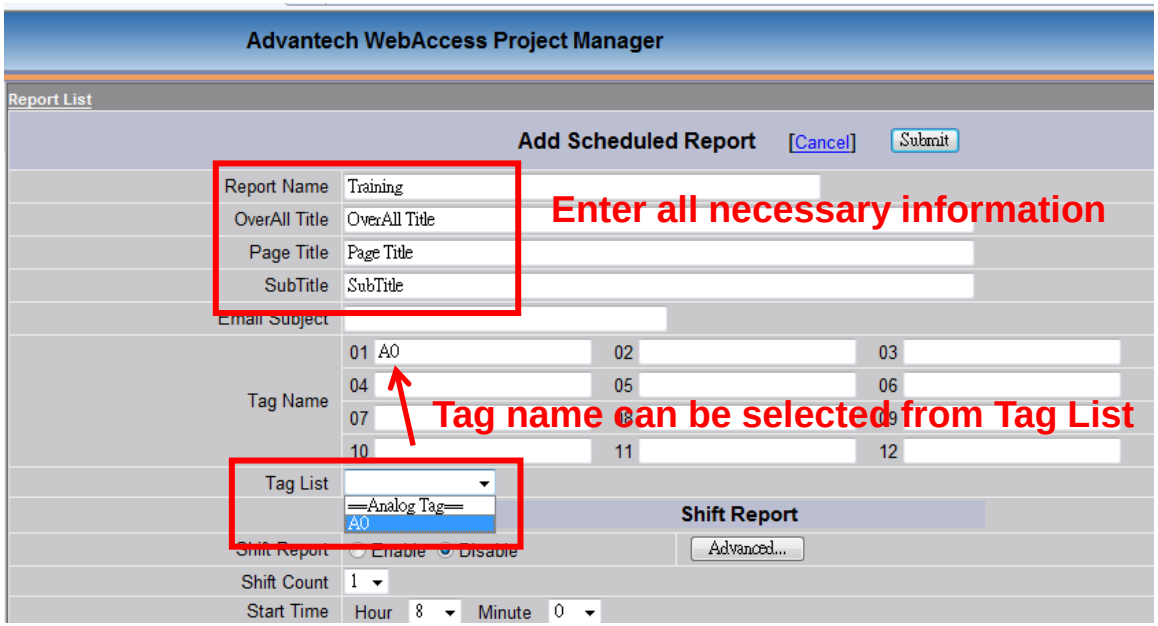


Report

1. Click “Add New Scheduled Report”

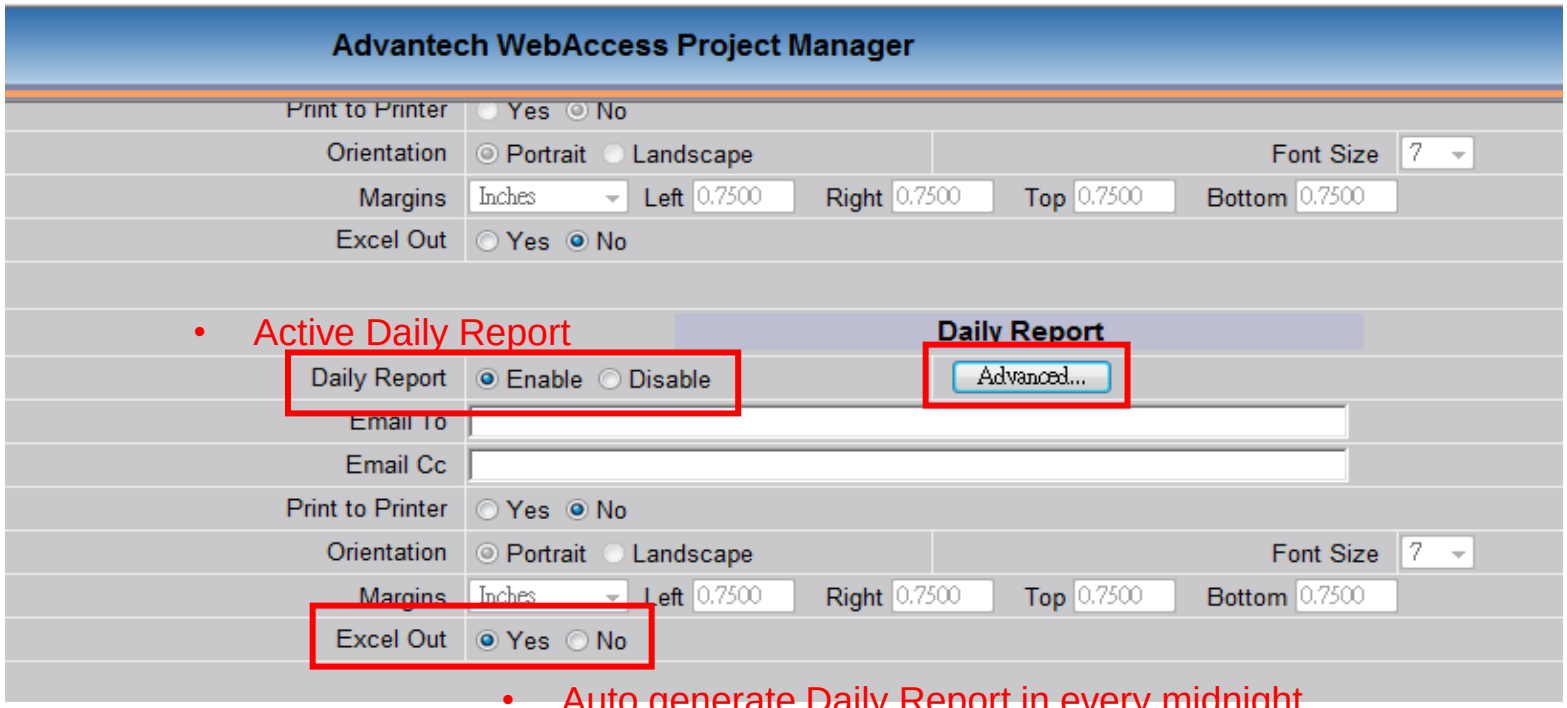


1. Click “Add New Scheduled Report”
   - “Report Name” can’t have any space



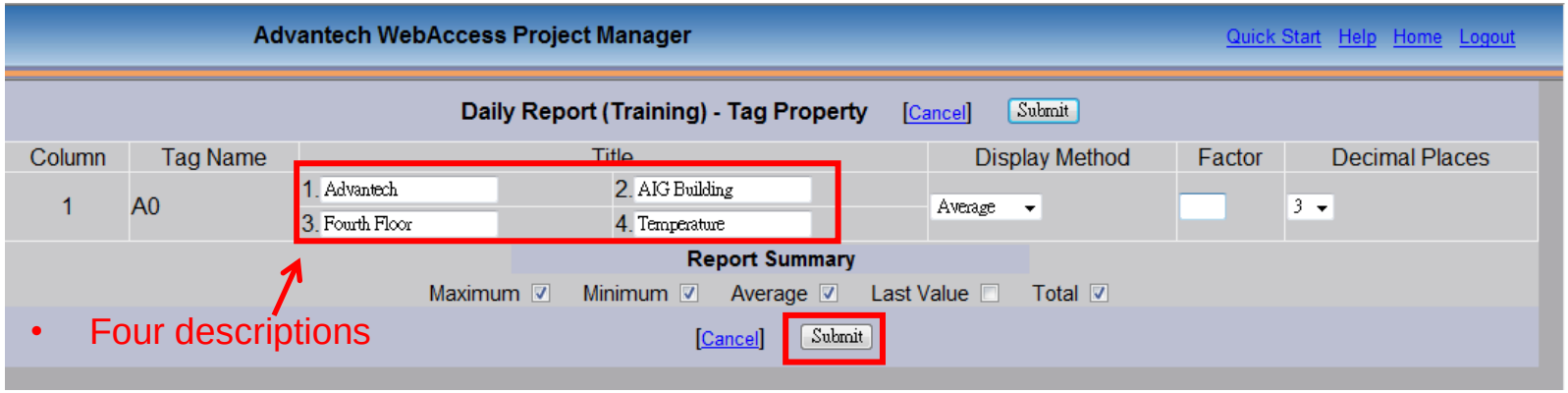
Report

1. Click “Enable” in Daily Report
2. Click “Excel Out” if user prefers WebAccess to auto-generate report in midnight.
   - File name will be Project Node name bundled with date
   - Report will be generated to the below location
   - C:\webaccess\node\Training_20091215\Report\Traiing_20131225.xls
3. Click “Advanced…” button for more detailed setup

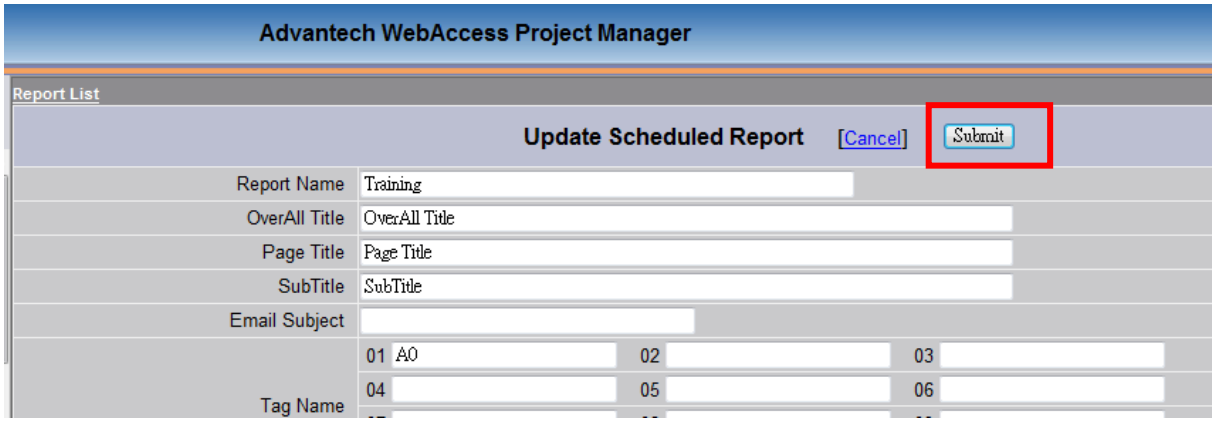


Report

1. Each tag allows to enter four descriptions
2. Click “Submit” when it is done.



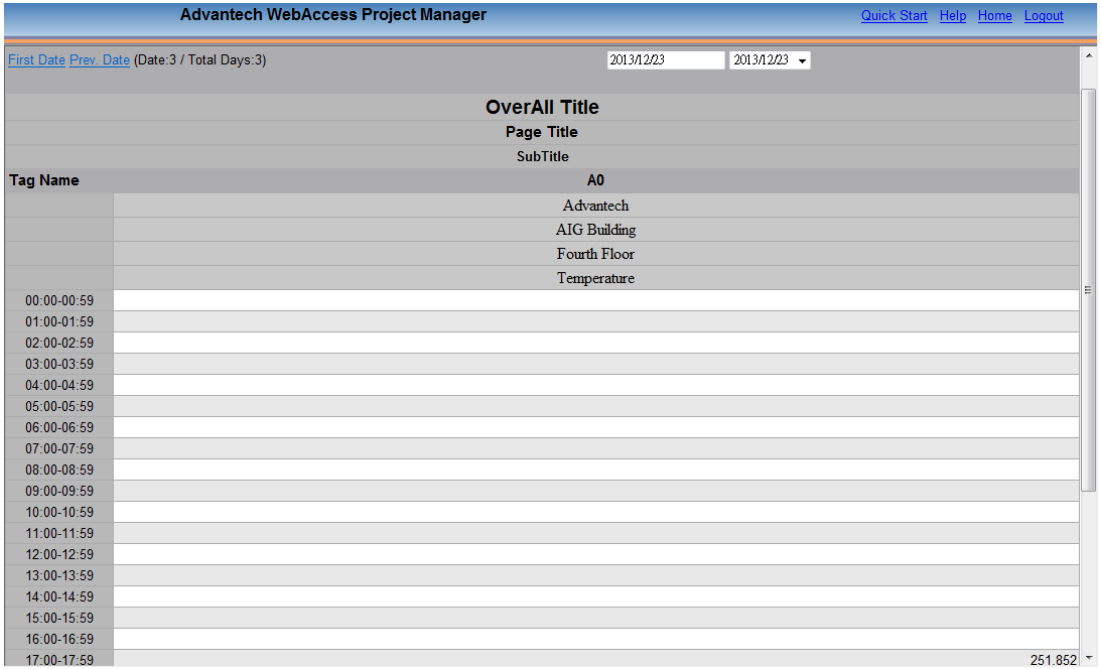
1. Click “Submit” again to complete the Daily Report setup



Report

1. Click “View” to view the Daily Report

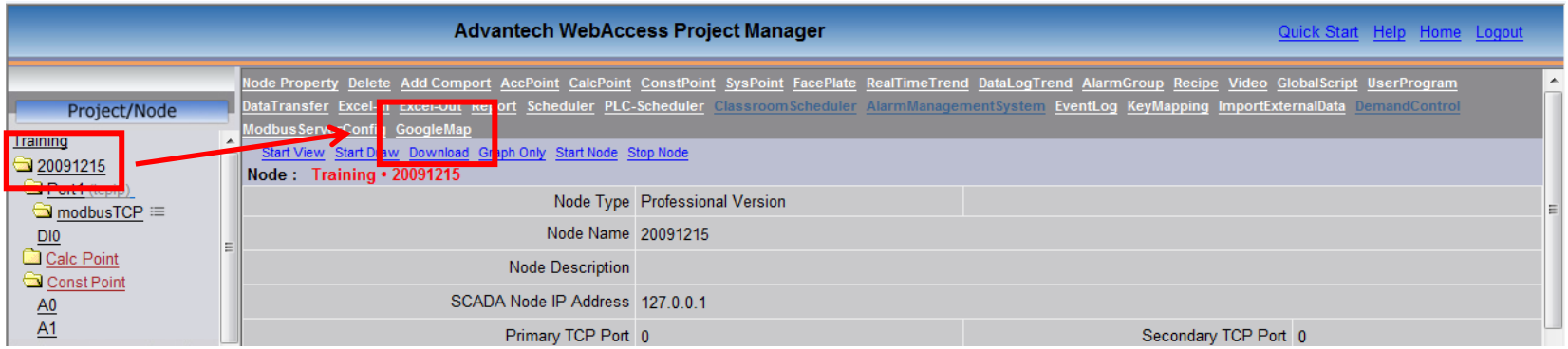
2. Daily Report result



Google Map Integration

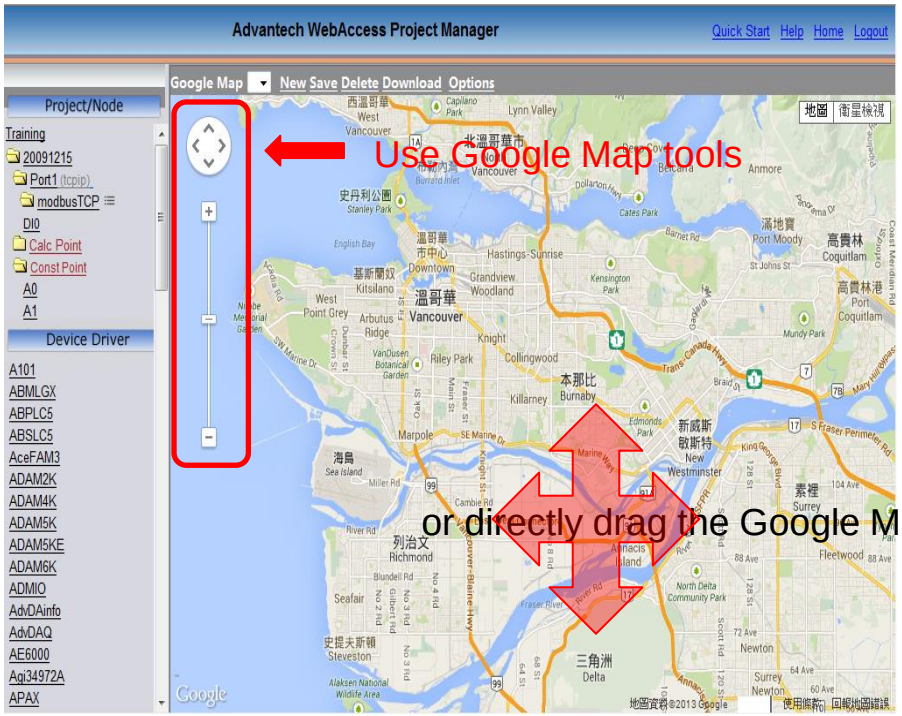
Google Map Integration

1. To active GoogleMap function, user's computer must go online
2. Google Map function is located in SCADA Node property
3. Click "GoogleMap" to start it.

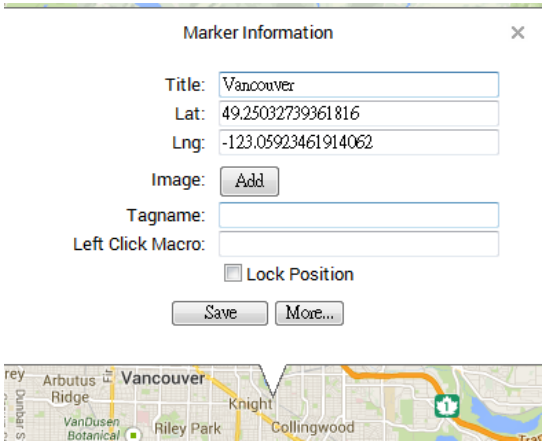


Google Map Integration

1. Google Map will appear on the screen.
2. Two ways to select Google Map area:
   - First Way: Use Mouse to select area and location
   - Second Way: Enter Longitude and Latitude manually



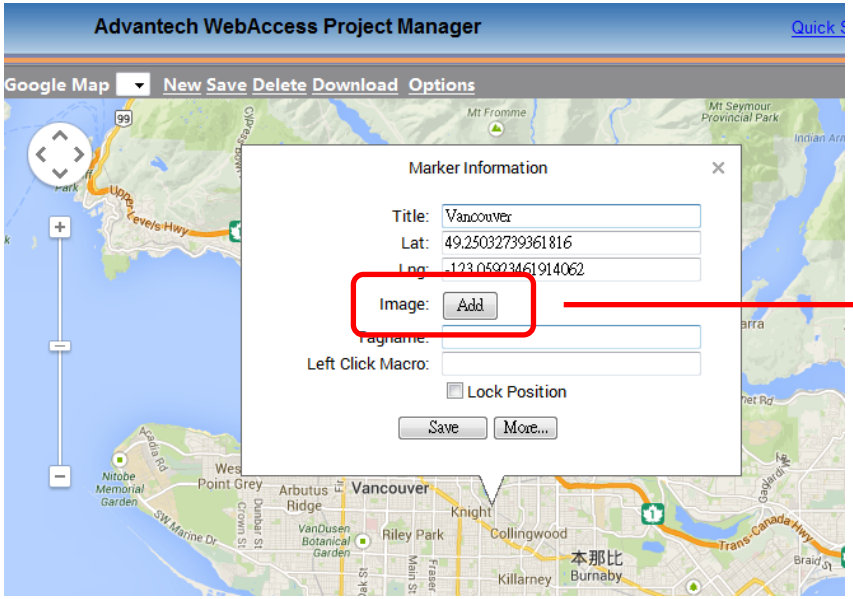
First Way



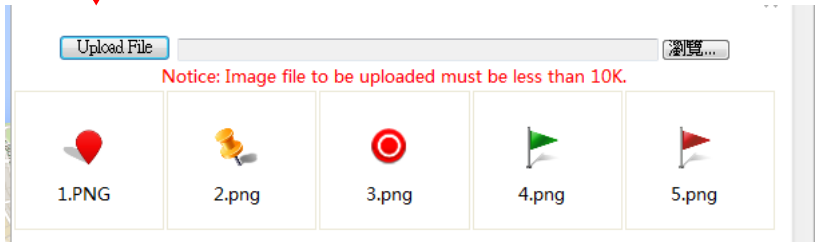
Second Way:
Click left button of mouse to directly enter Title, Longitude, Latitude and Image

Google Map Integration

1. For first way:
   - ➢ After select the area, click right button of mouse to enter Title, Lng and Lat.
2. For both first and second ways:
   - ➢ Click “Add” button to insert a flag

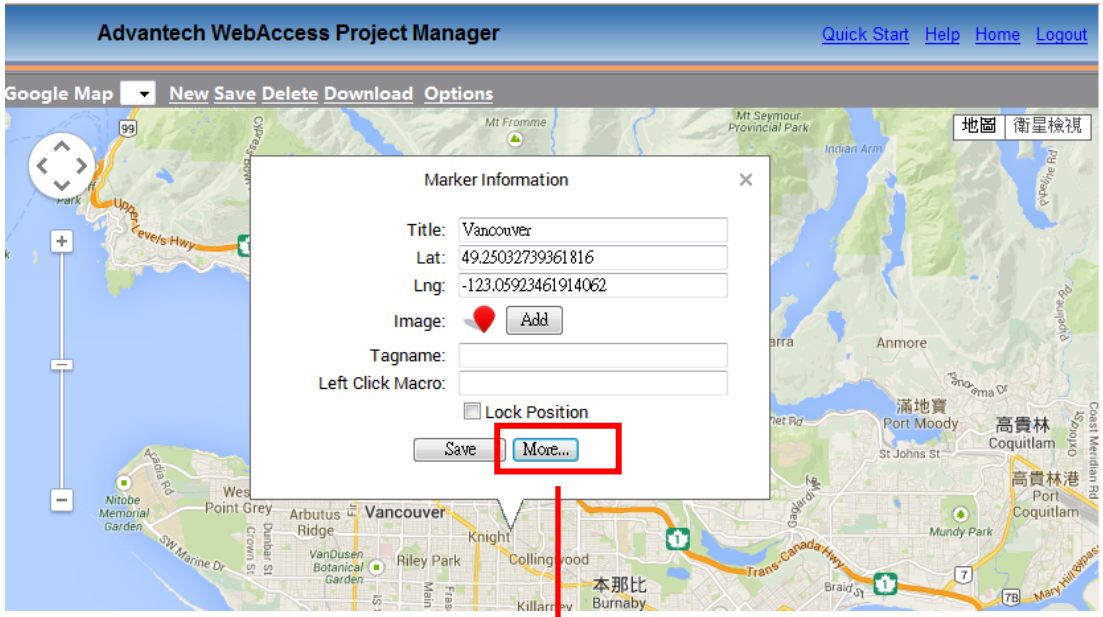


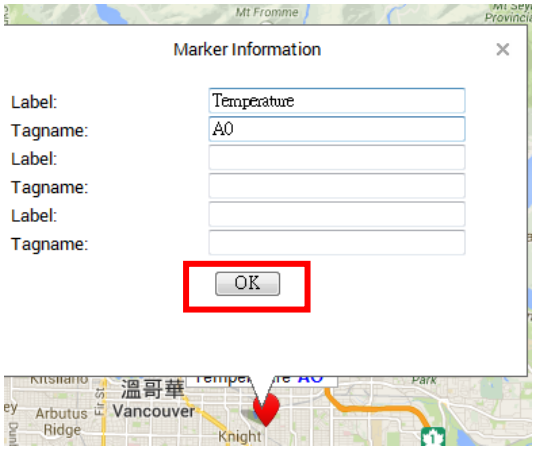
Size limitation for uploading user’s own icon; 10KB



Google Map Integration

1. GoogleMap allows user to display three tags with their values on the screen
2. Click “OK” in Marker Information when setup is done.

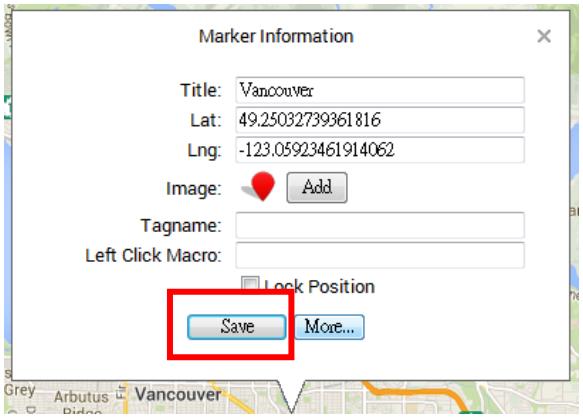


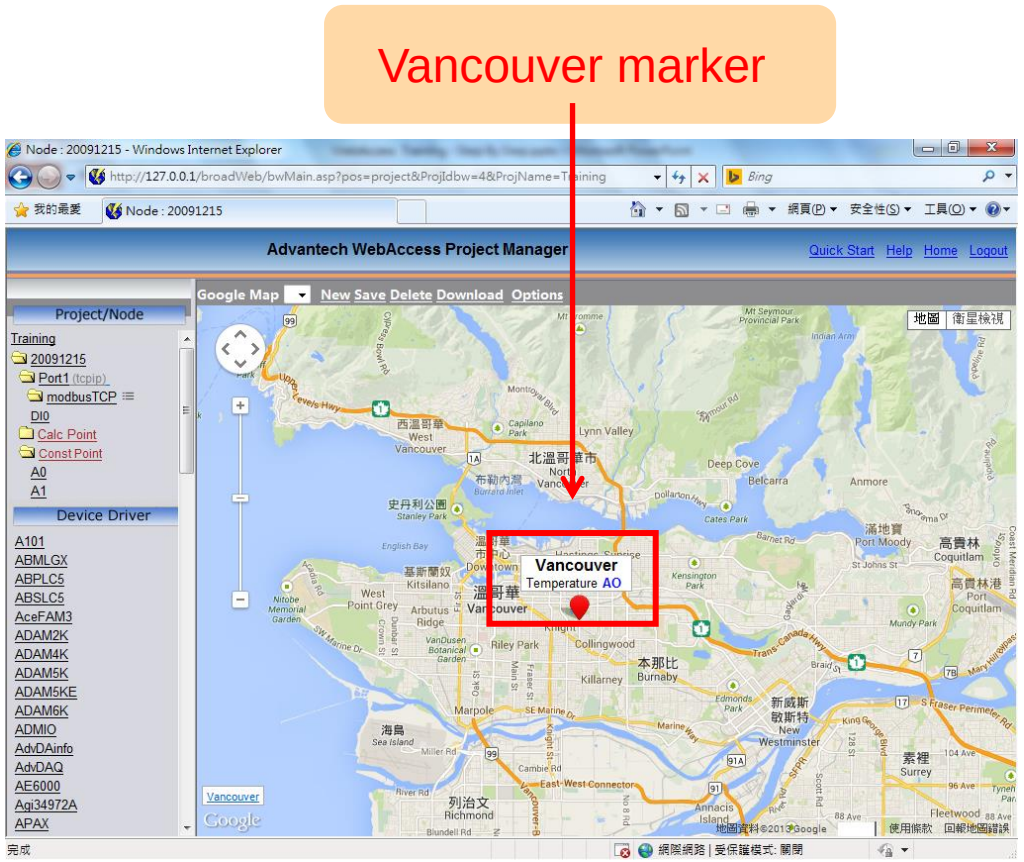


Label: enter the name that user may recognize (ex. Temperature)
Tagname: Tag Name (ex. A0)

Google Map Integration

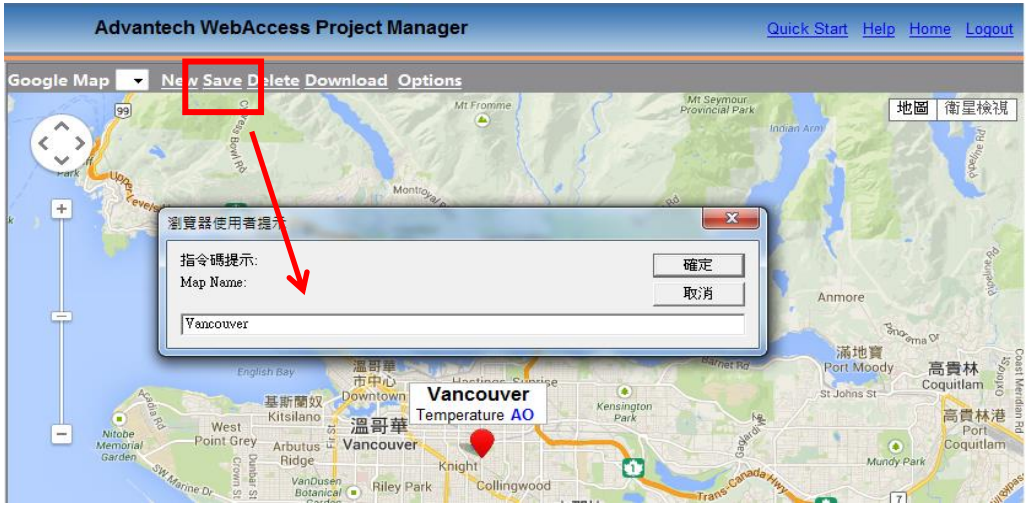
1. Click “Save” when all setup is completed.
2. User will see a ‘Vancouver” marker on the screen

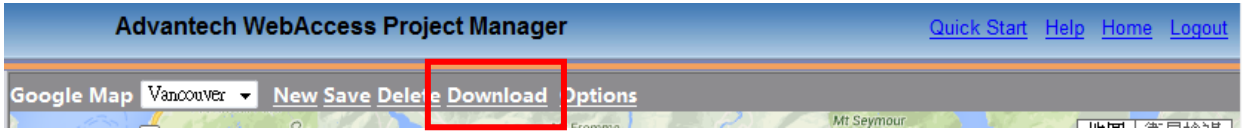




Google Map Integration

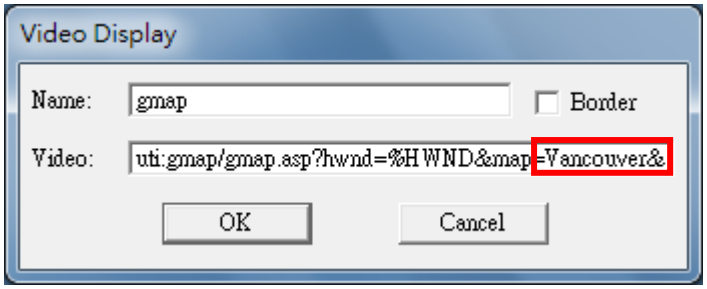
1. Last, remember to save and download the GoogleMap.



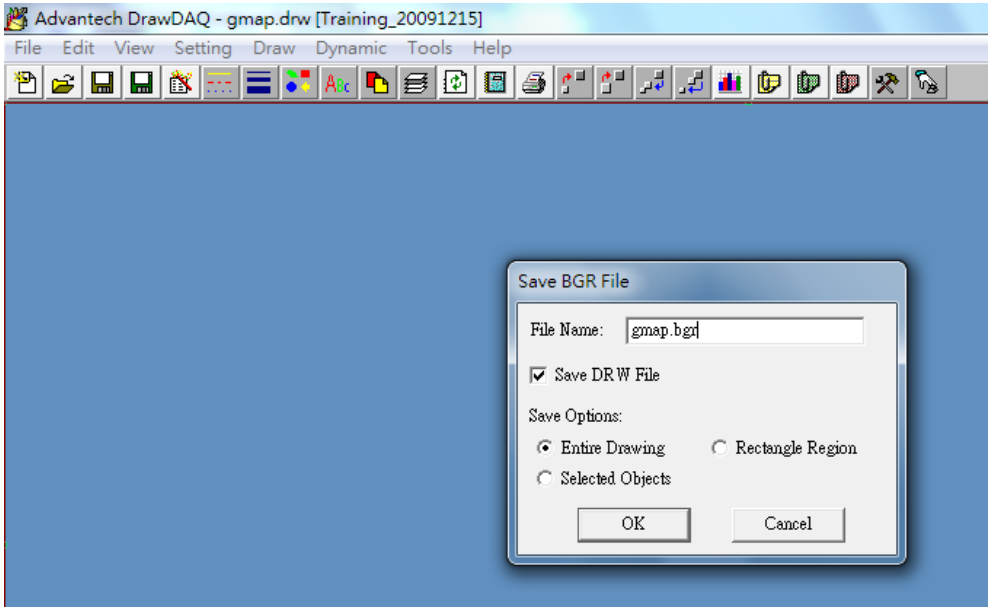


Google Map Integration

1. GoogleMap is able to insert into Video Display
   1. Key word: uti:gmap/gmap.asp?hwnd=%HWND&map=**Vancouver**&

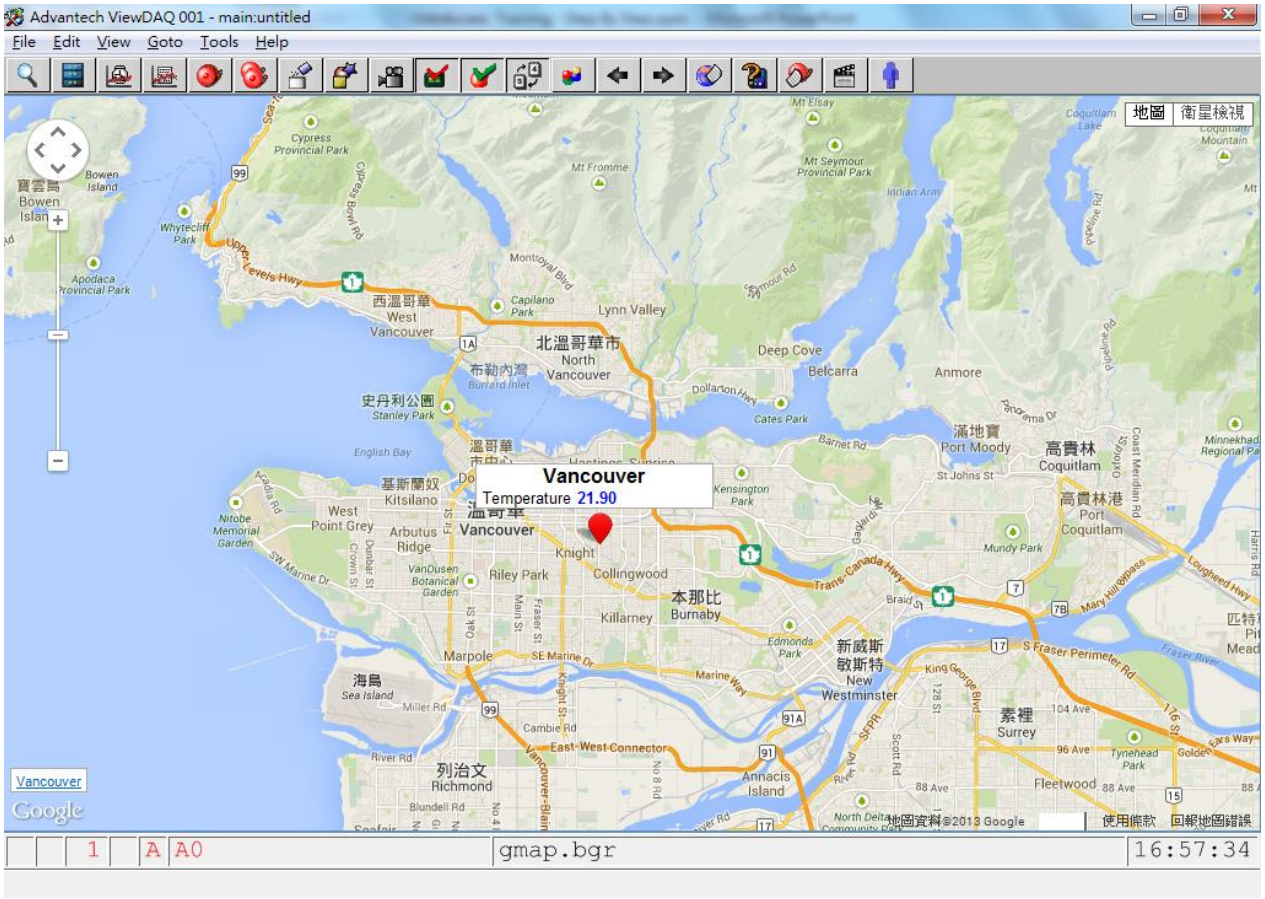


The name “Vancouver” is based on user’s GoogleMap file name



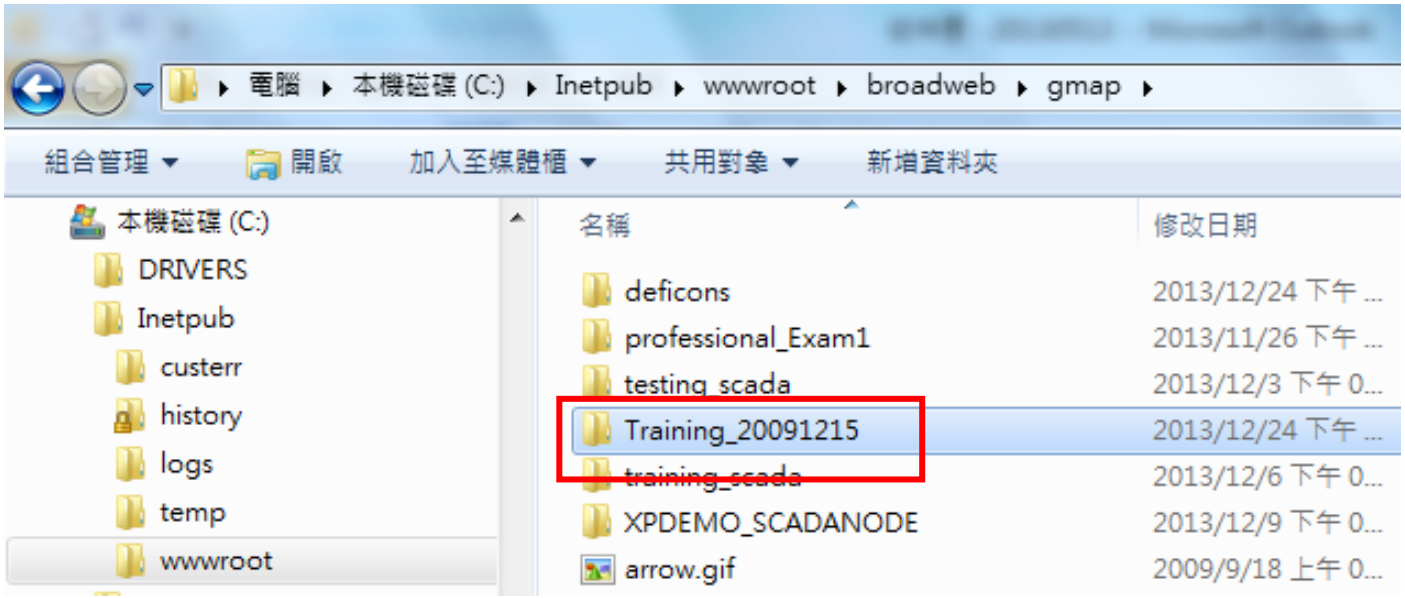
Google Map Integration

1. Result



Google Map Integration

1. Google Map source files will be store at
   - C:\Inetpub\wwwroot\broadweb\gmap\
2. “Training_20091215” folder contains source files of WebAccess Training project



GPS Integration

(available in WebAccess V7.2)

GPS Integration

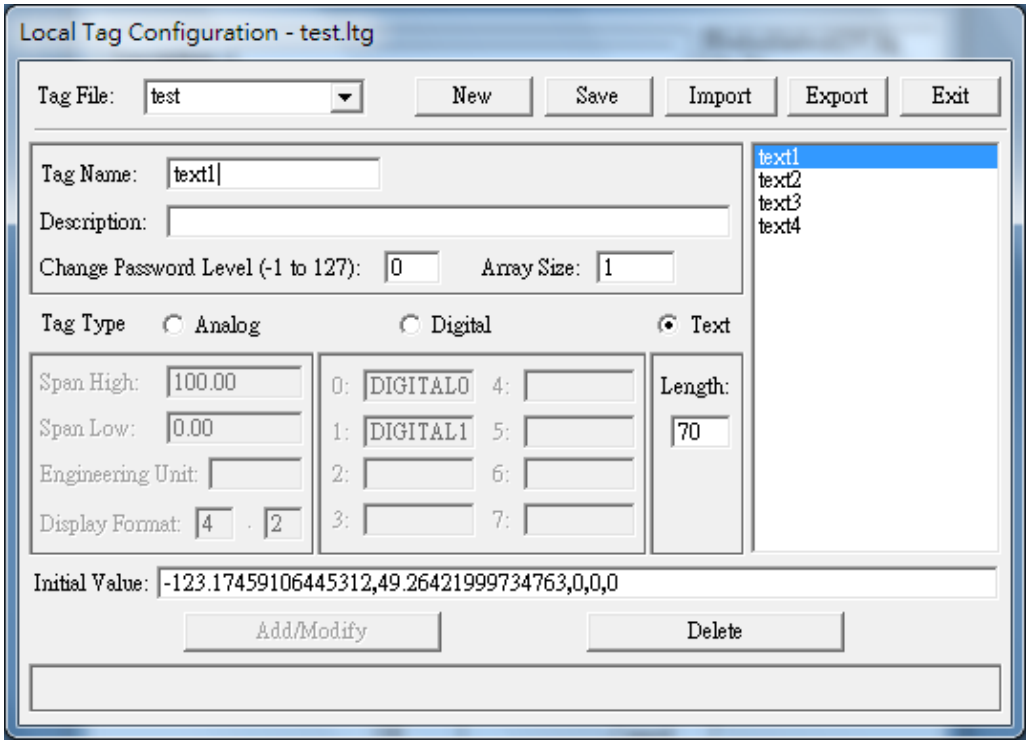
- GPS function is based on Google Map function
  - Please compete GPS Integration before starting GPS Integration
- Please refer to WebAccess Engineering User Manual 17.3.3.3 “WebAccess GPS Location Tracking Configuration” for detail setup steps.
- Here only focus on GPS simulation, so you may demo GPS Integration function to other user without actually having a GPS module on hand.

GPS Integration

1. Copy test.ltg and gpsJs.js to c:\webaccess\node\config\Training_20091215\bgr

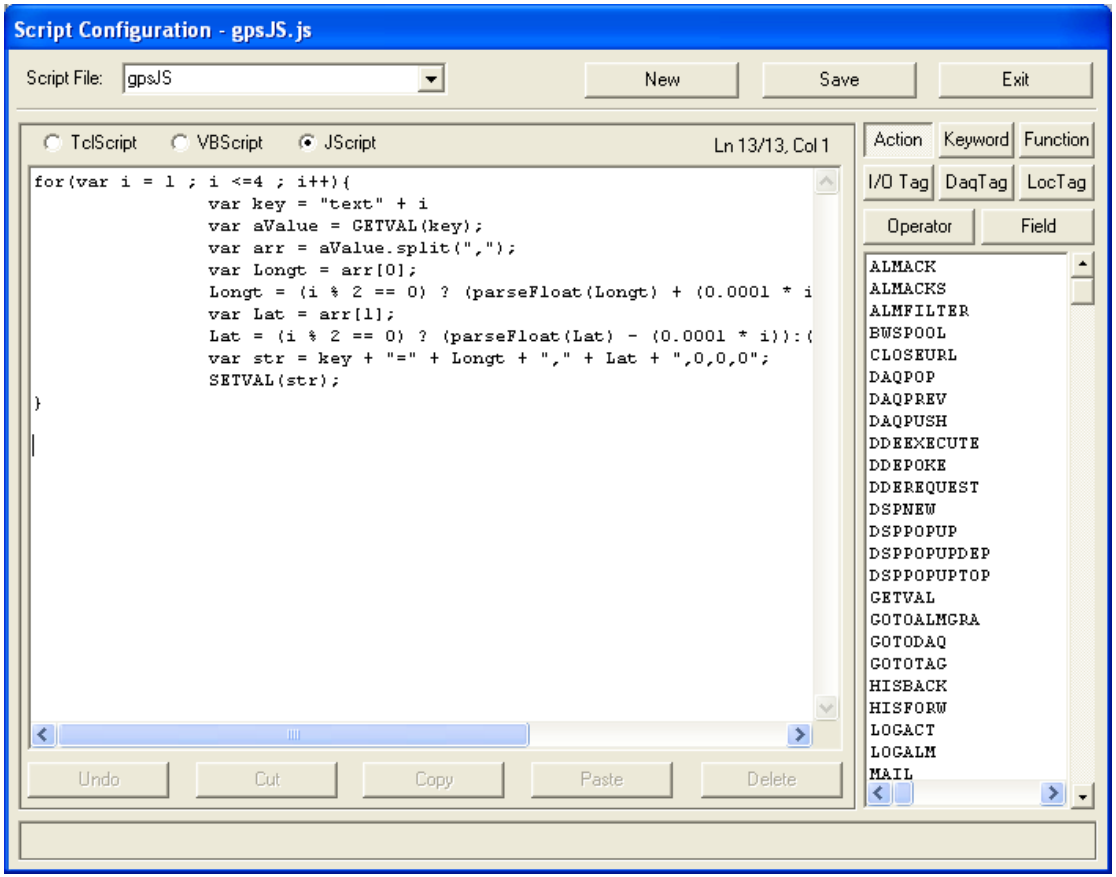
   Note: these three files may be found in “training material”

2. The purpose of having test.ltg is to create four local tags. And we willuse these four local tags to simulate four objects on Google Map.



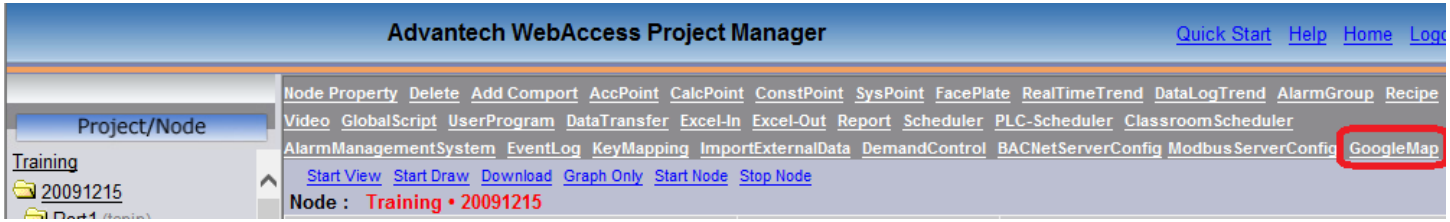
GPS Integration

1. gpsJS.js script information
   The purpose of gpsJS is to control four tags moving directions.

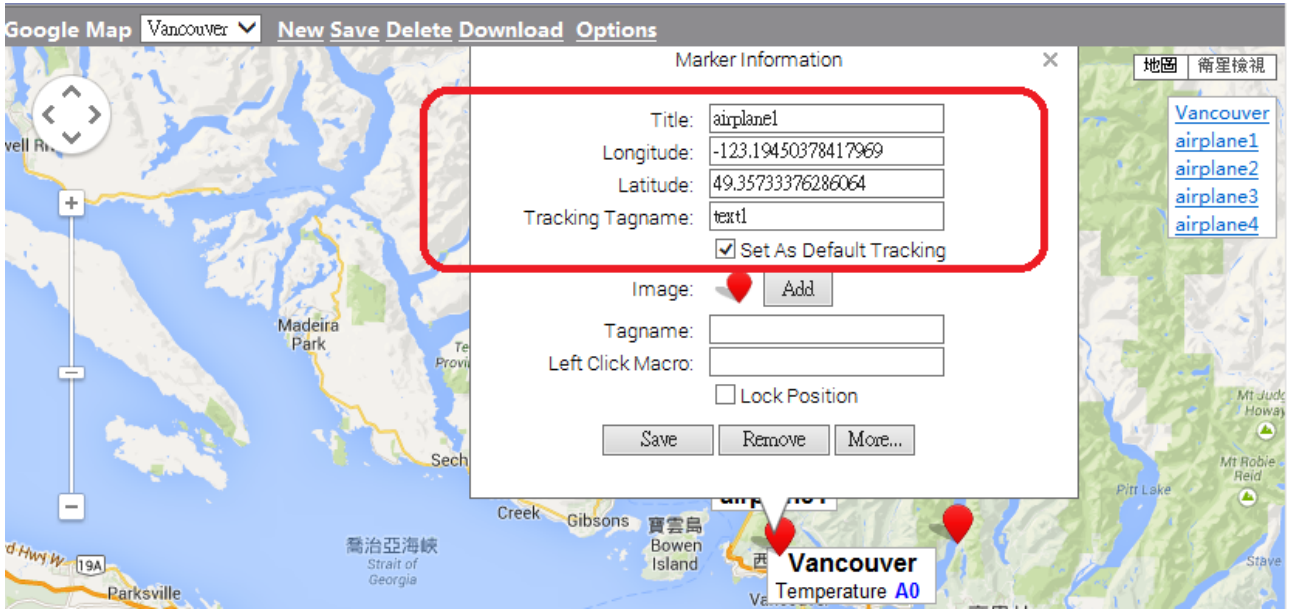


GPS Integration

1. Click “GoogleMap” function in SCADA Node

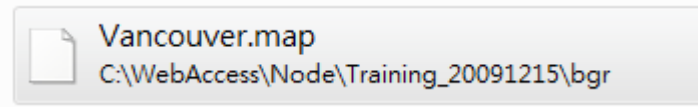


2. Create 4 tags (ex. first tag will be: Title: airplane1; Tracking Tagname: text1) click “Set As Default Tracking” if you prefer this tag to be displayed in the center of the Google Map.

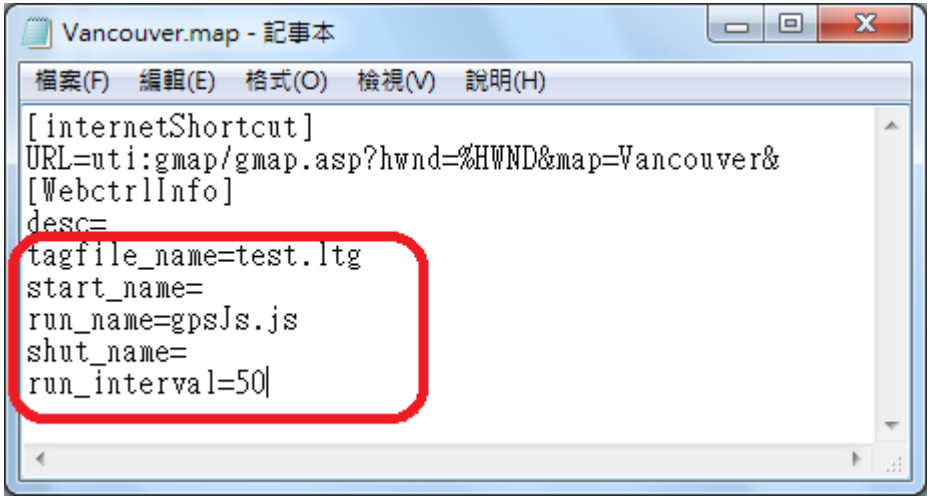


GPS Integration

1. Save and download project
2. Use notepad.exe to open c:\webaccess\node\training_20091215

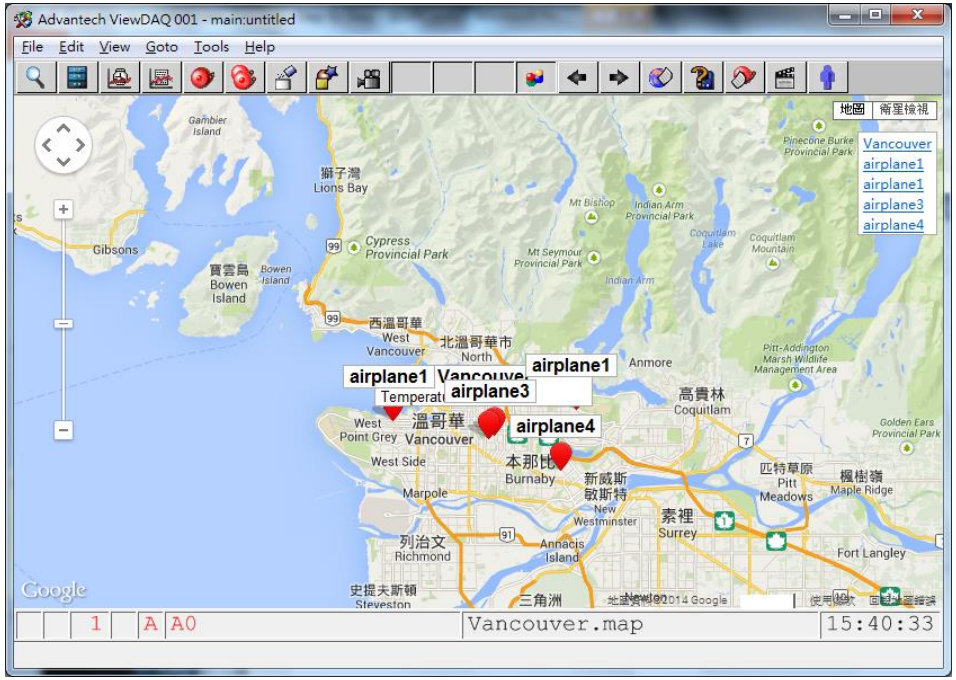


3. Add “test.ltg” in tagfile
4. Add “gpsJs.js” in run_name
5. Add “50” in run_interval



GPS Integration

1. Check result: ViewDAQ -> Tools -> Map -> Vancouver.map

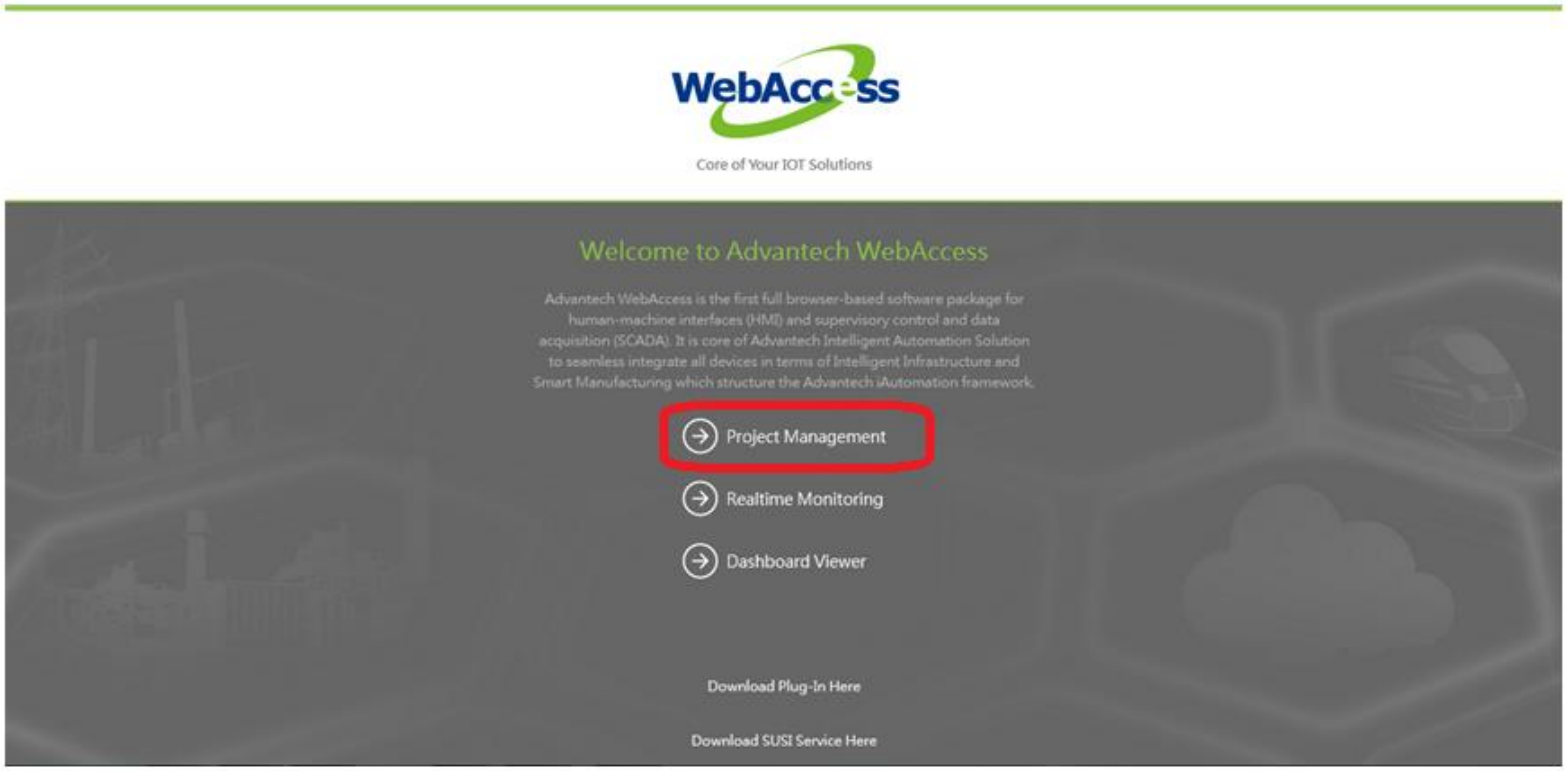


Note: user has to re-modify Vancouver.map everytime user re-download the project.

Dashboard

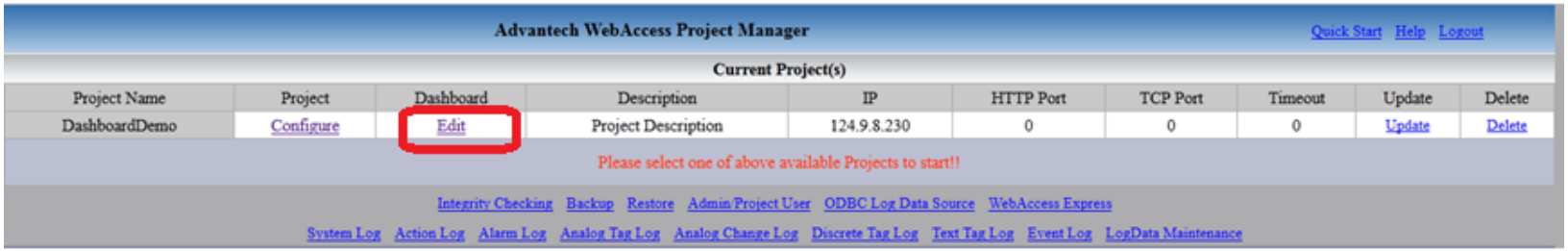
Dashboard

1. Open WebAccess Project Home Page
2. Go to Project Management and Login the Account



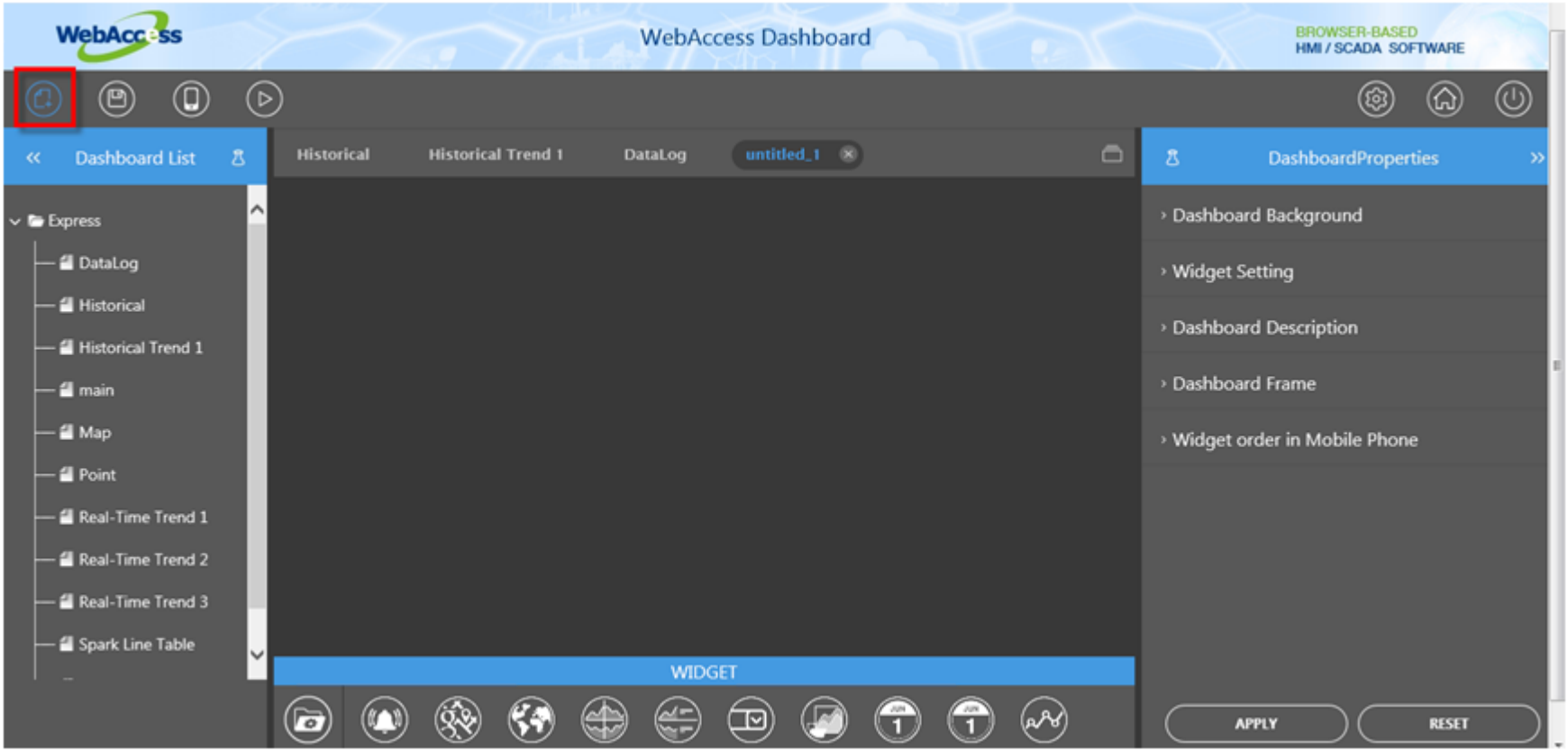
Dashboard

1. Choose the Project and go to Dashboard Edit



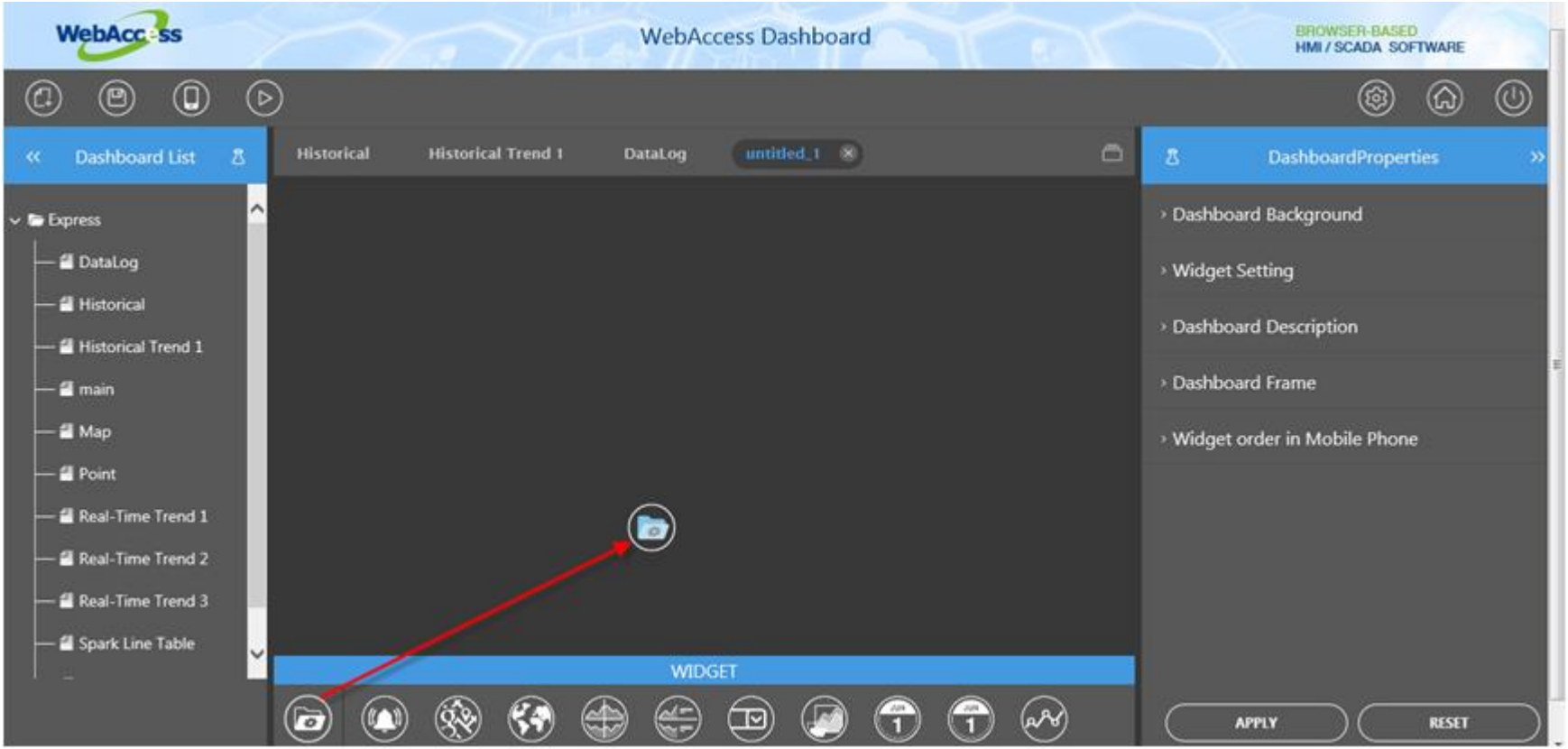
Dashboard

1. Create New Dashboard



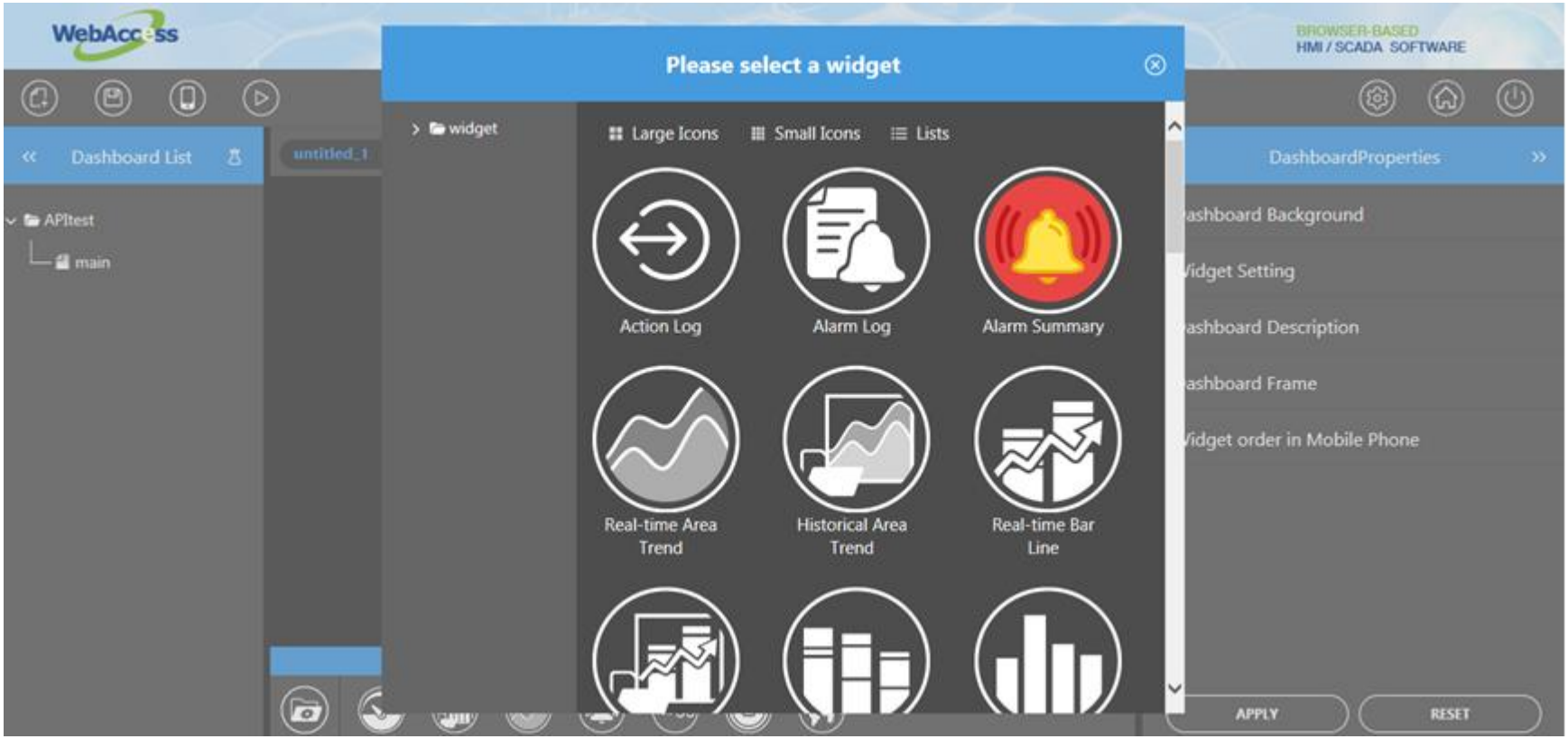
Dashboard

1. Drag the Widget Library and Choose widget to edit the Dashboard page in Dashboard Area.



Dashboard

1. Widget Library dialog box will pop up.
2. Drag and drop “Real-time Area Trend” and “Meter” widgets one by one.

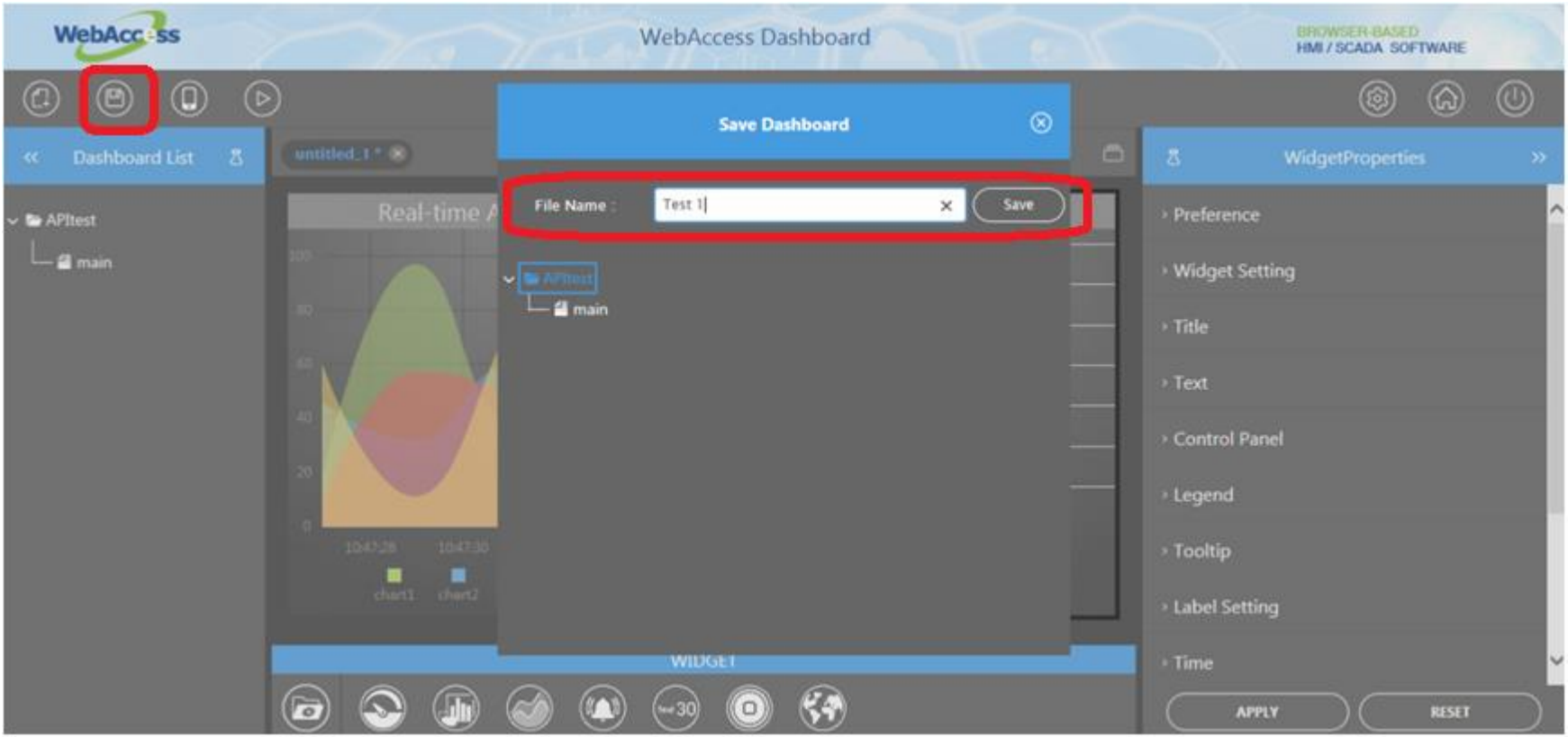


Dashboard

1. Config the page with the right pane Properties
2. Setup Time Interval in “Widget Setting”
3. Select the IO tag in “ WebAccess Data Source”
4. Click “APPLY” button when these steps are done.

Dashboard

1. Save the Dashboard page
2. “Save Dashboard” dialog box will pop up
3. Enter file name and click “Save” button

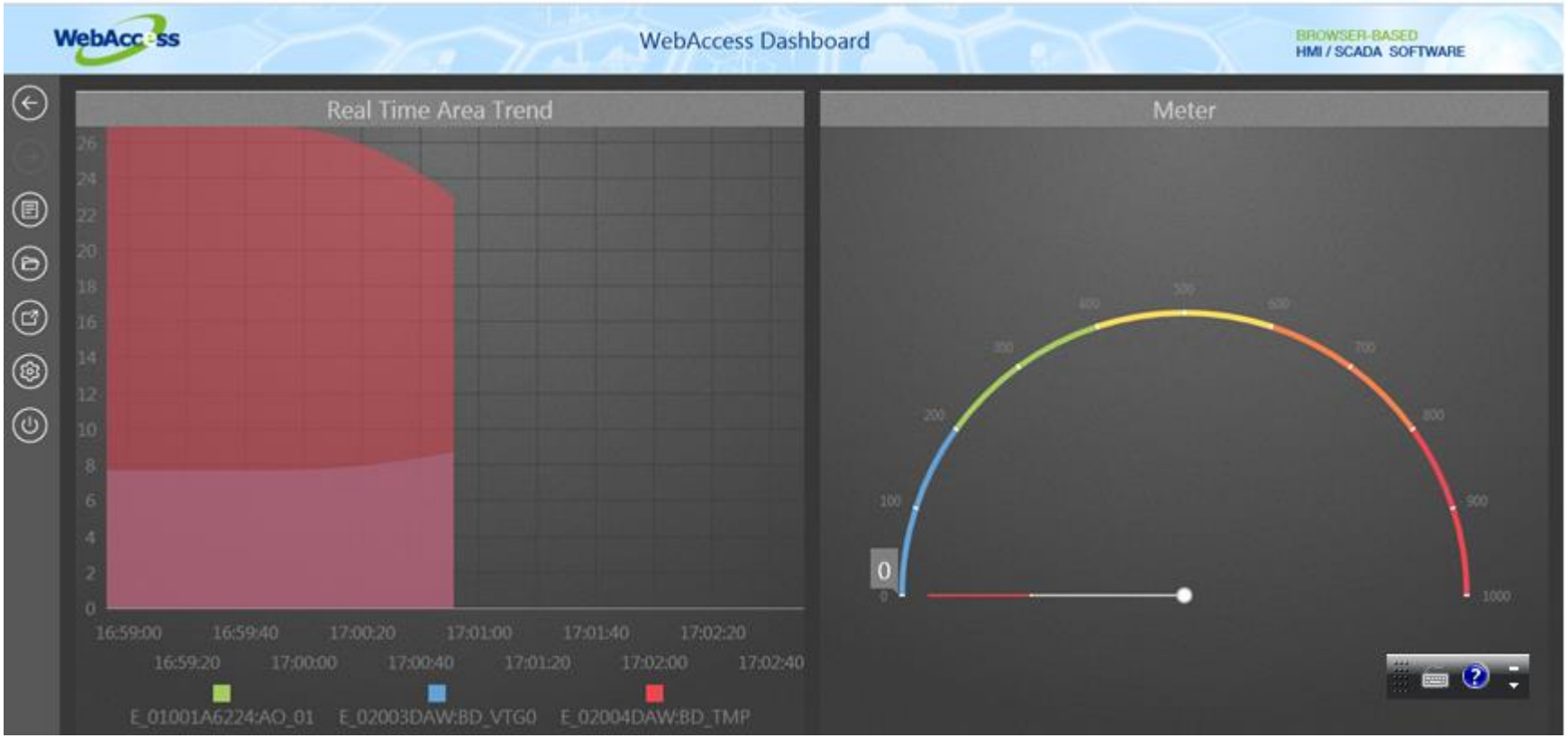


Dashboard

1. Go to dashboard Viewer to view the result

Dashboard

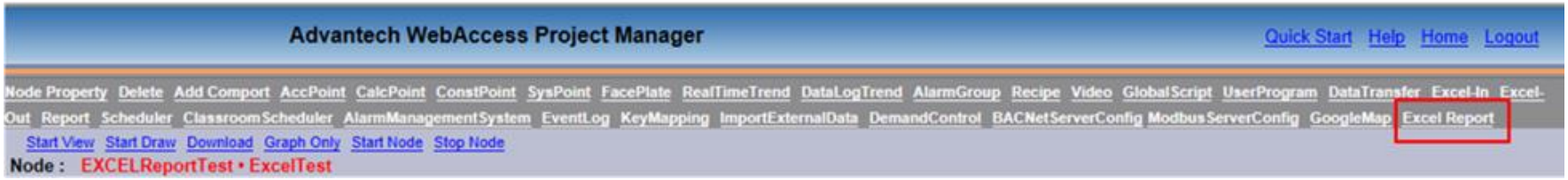
1. Result in Dashboard View



Excel Report

Excel Report

1. Start Advantech WebAccess Project Manager.
2. Login with the User Name and Password and select your Project Name.
3. Open the SCADA node.
4. Choose the **EXCEL Report** in SCADA Node：Go to the EXCEL report list page



Excel Report

1. Click **New Report** to create NEW EXCEL report

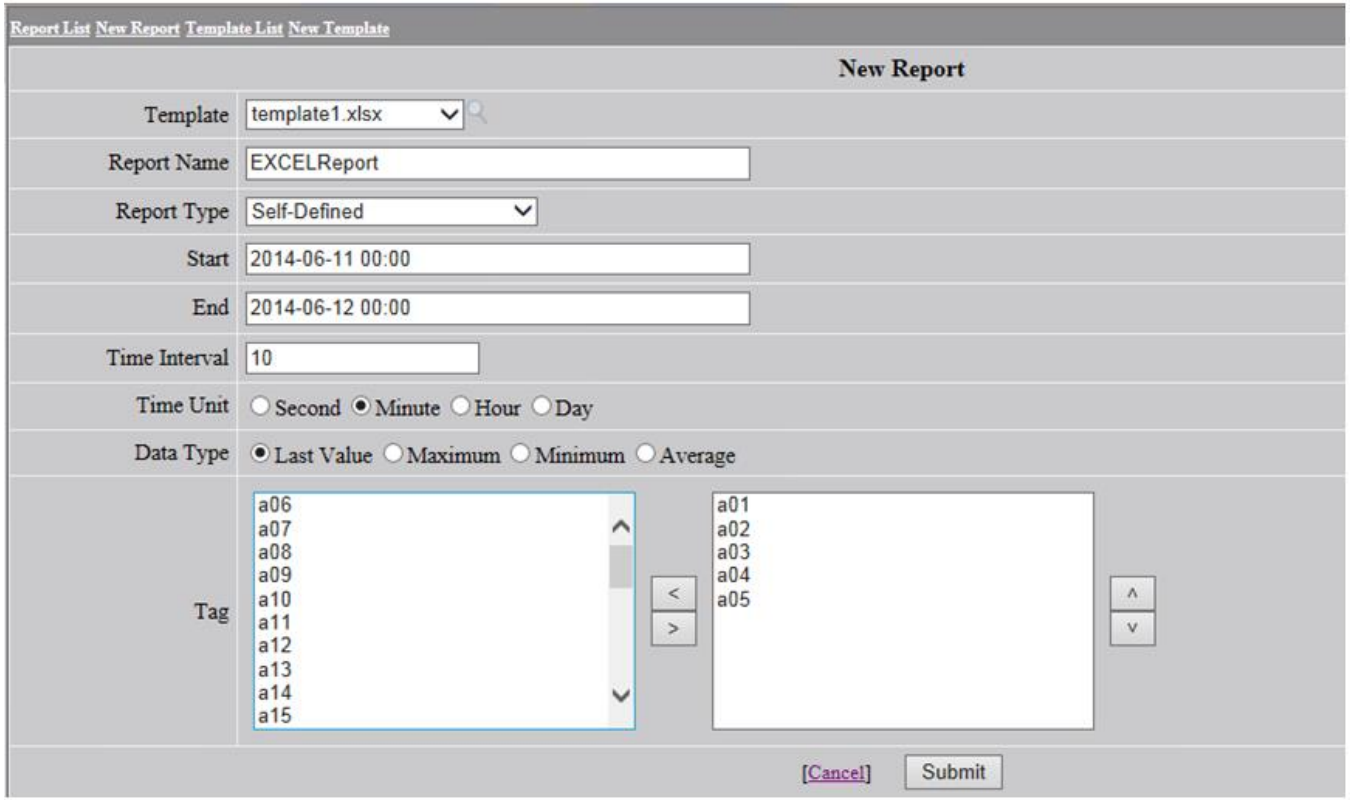
Report List | New Report | Template List | New Template

Report List

Report Name	View	Template	Report Type	Time Interval	Update	Delete	Generate
Test1		template4.xlsx	Multi-Time	3 Minute	Update	Delete	Generate
Daily Report		template4.xlsx	Daily Report	1 Minute	Update	Delete	
Weekly Report		template1.xlsx	Weekly Report	3 Minute	Update	Delete	
Test2		Rows Temp.xlsx	Self-Defined	1 Minute	Update	Delete	Generate
Rows Test		Rows Temp.xlsx	Self-Defined	1 Minute	Update	Delete	Generate
Monthly Report		template2.xlsx	Monthly Report	30 Minute	Update	Delete	

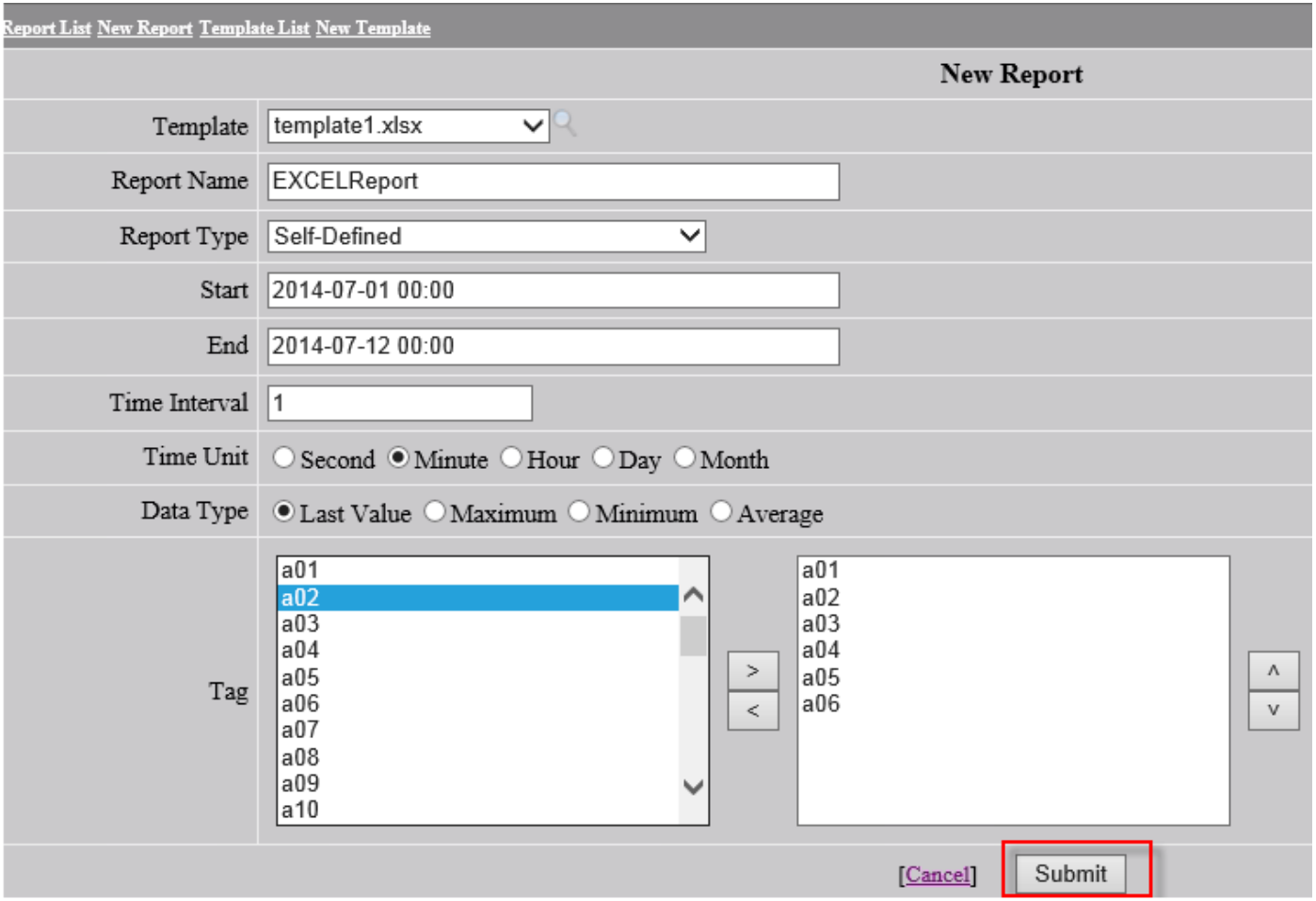
Excel Report

1. Configure the Report information
2. Enter Report Name
3. Select “self-defined” in Report Type, then setup range in “Start” and “End”
4. Setup “Time Interval” and “Time Unit”. Here use 10 minutes as an example
5. Select Data Type and tag(s)



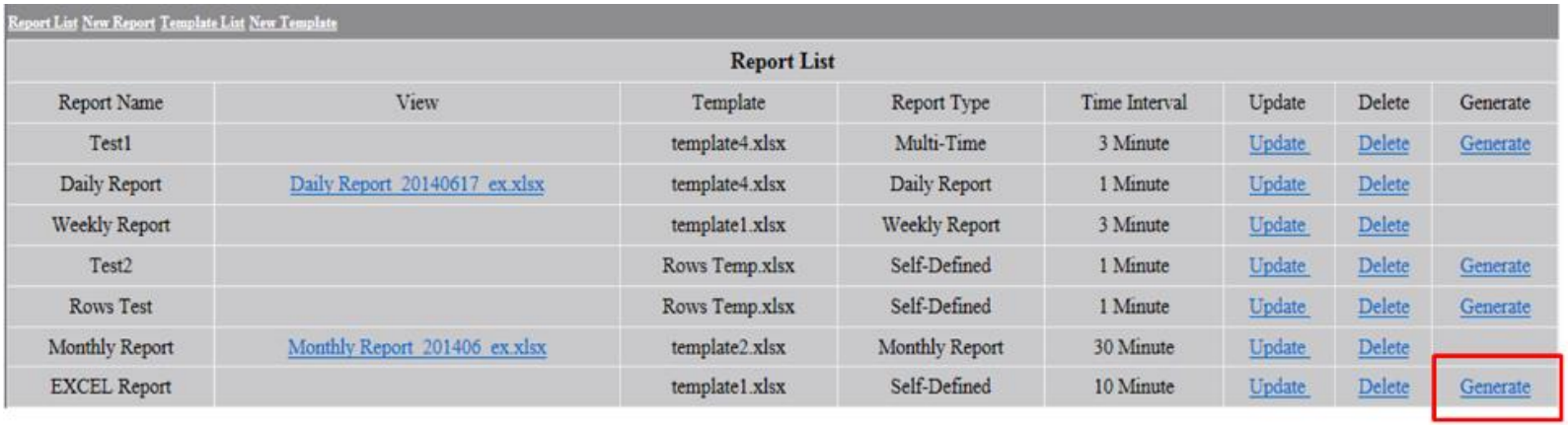
Excel Report

1. Click “Submit” button to save the configuration



Excel Report

1. Clicking Generate to generate the Report. If the report has been generated, the report link is shown in the View column

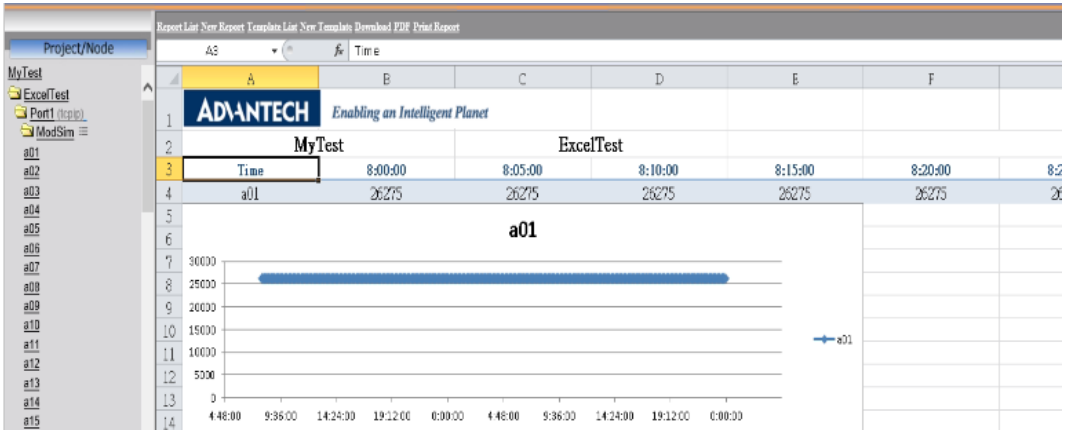


Report List New Report Template List New Template

Report List

Report Name	View	Template	Report Type	Time Interval	Update	Delete	Generate
Test1		template4.xlsx	Multi-Time	3 Minute	Update	Delete	Generate
Daily Report	Daily Report_20140617_ex.xlsx	template4.xlsx	Daily Report	1 Minute	Update	Delete	
Weekly Report		template1.xlsx	Weekly Report	3 Minute	Update	Delete	
Test2		Rows Temp.xlsx	Self-Defined	1 Minute	Update	Delete	Generate
Rows Test		Rows Temp.xlsx	Self-Defined	1 Minute	Update	Delete	Generate
Monthly Report	Monthly Report_201406_ex.xlsx	template2.xlsx	Monthly Report	30 Minute	Update	Delete	
EXCEL Report		template1.xlsx	Self-Defined	10 Minute	Update	Delete	Generate

2. Excel Report result:



THANK YOU!