

GW-7553 (Modbus TCP master)
example for SIMATIC STEP 7

Example 1: Reads DO module data from GW-7553(Modbus FC01).

Example 2: Reads DI module data from GW-7553(Modbus FC02).

Example 3: Reads AO module data from GW-7553(Modbus FC03).

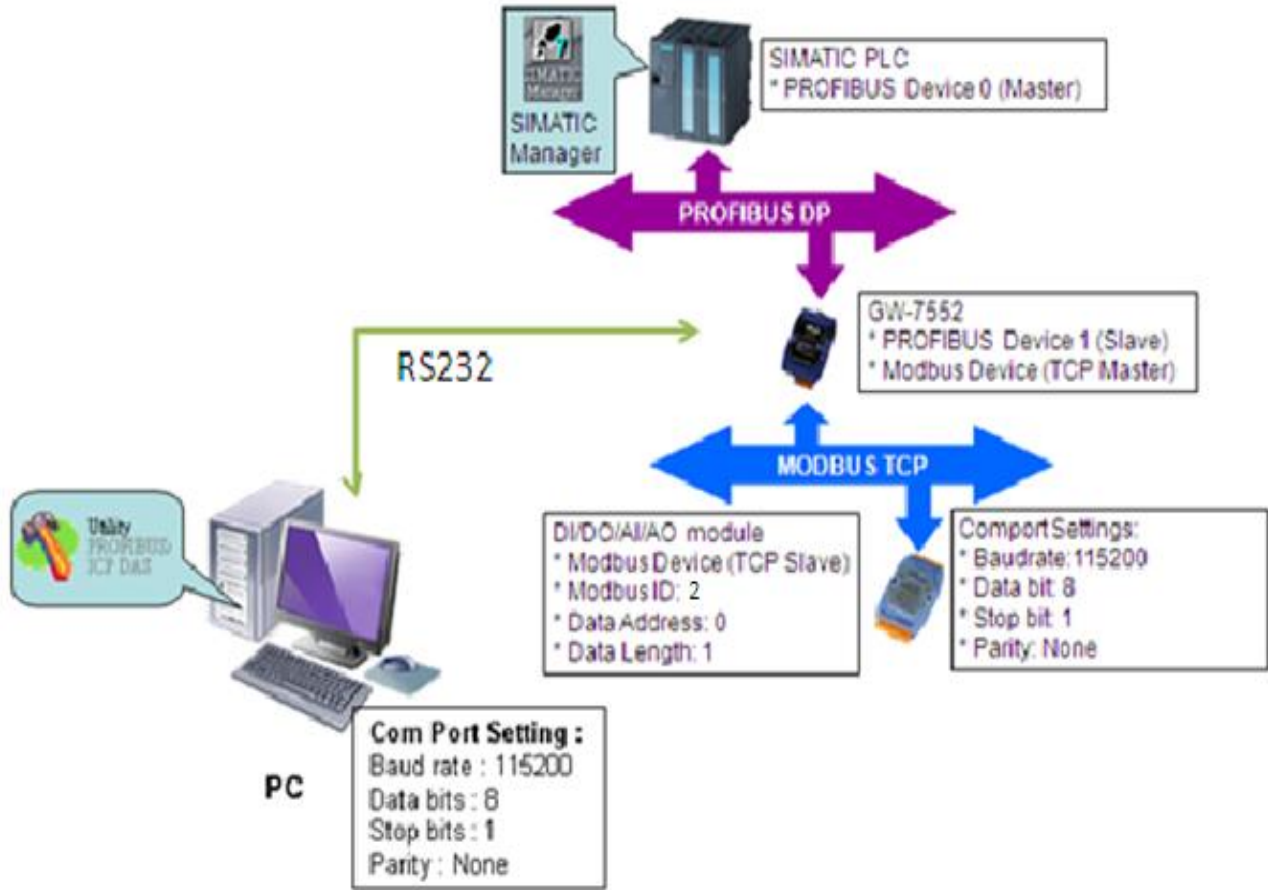
Example 4: Reads AI module data from GW-7553(Modbus FC04).

Example 5: Writes DO module data from GW-7553(Modbus FC05,15).

Example 6: Writes AO module data from GW-7553(Modbus FC06,16).

Example 1: PLC reads DO module data from GW-7553.
(Modbus FC01)

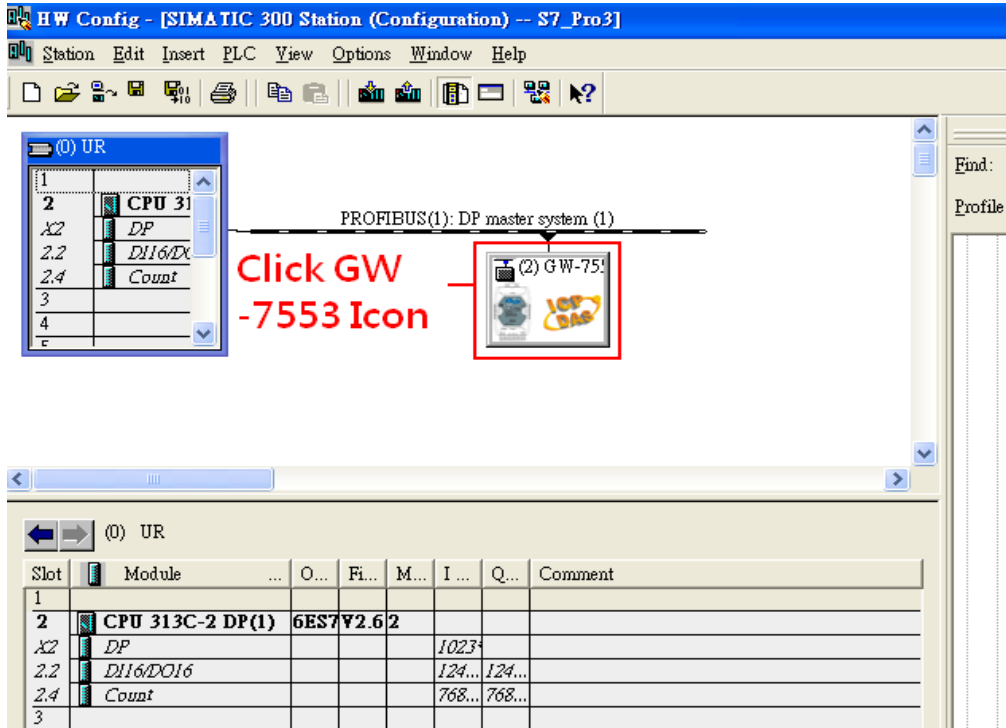
Read a Modbus TCP DO module (PROFIBUS Slave & Modbus TCP/Master)



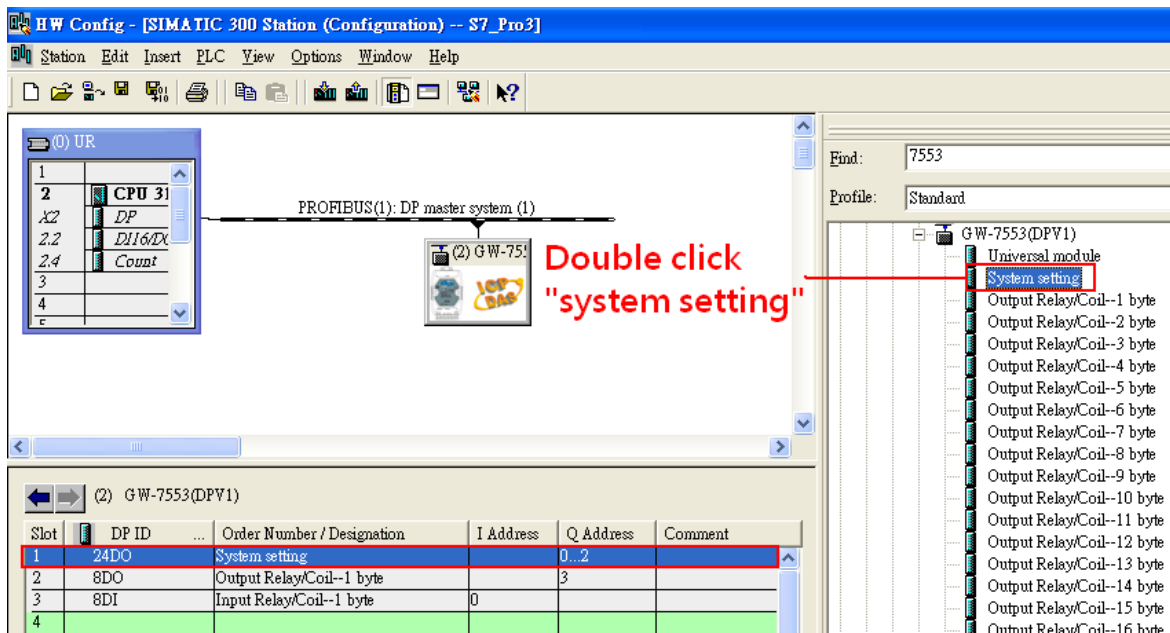
SIMATIC STEP7 Configuration:

Step 1: Setup the GW-7553 module

1. Select GW-7553 module



2. Add a System setting module



3. Add "Output Relay/Coil – 1 byte" and "Input Relay/Coil – 1 byte"

Double click "Output Relay/Coil - 1byte"

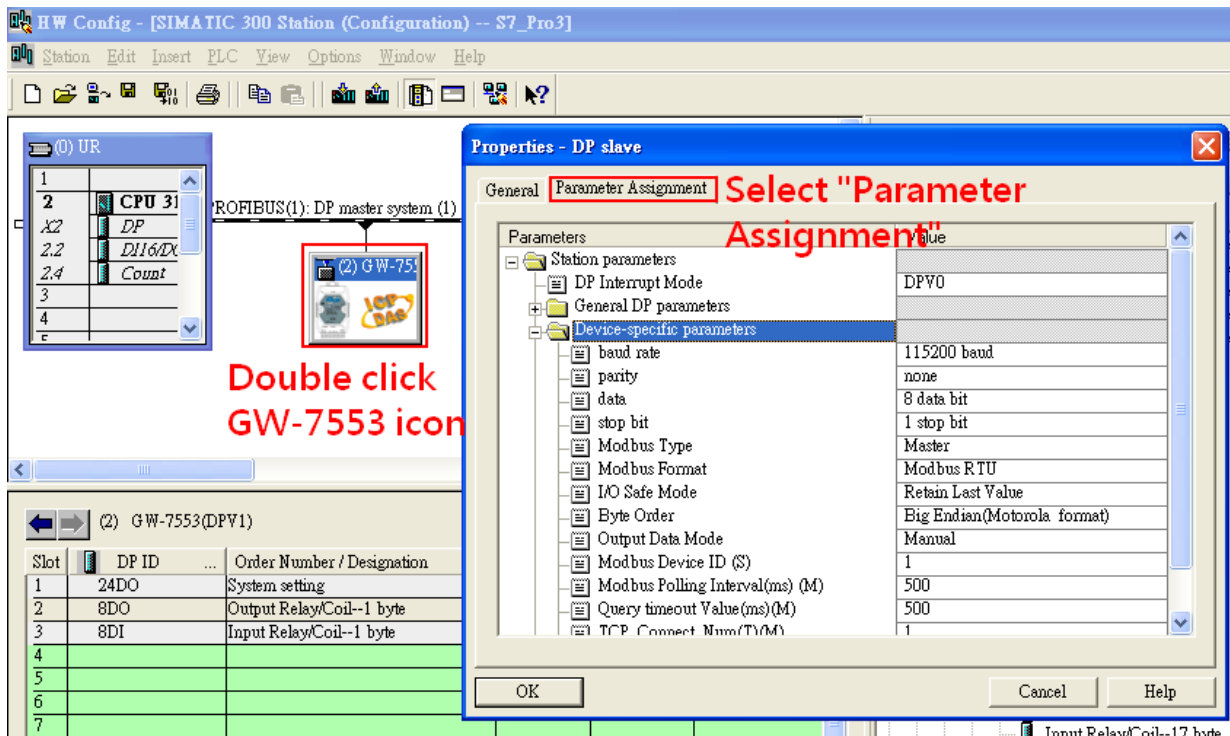
Slot	DP ID	...	Order Number / Designation	I Address	Q Address	Comment
1	24DO		System setting		0..2	
2	8DO		Output Relay/Coil--1 byte		3	
3	8DI		Input Relay/Coil--1 byte	0		
4						

Double click "Input Relay/Coil - 1byte"

Slot	DP ID	...	Order Number / Designation	I Address	Q Address	Comment
1	24DO		System setting		0..2	
2	8DO		Output Relay/Coil--1 byte		3	
3	8DI		Input Relay/Coil--1 byte	0		
4						

Step 2: Setup the parameters of the GW-7553

1. Double click GW-7553 icon
2. Select "Parameter Assignment"

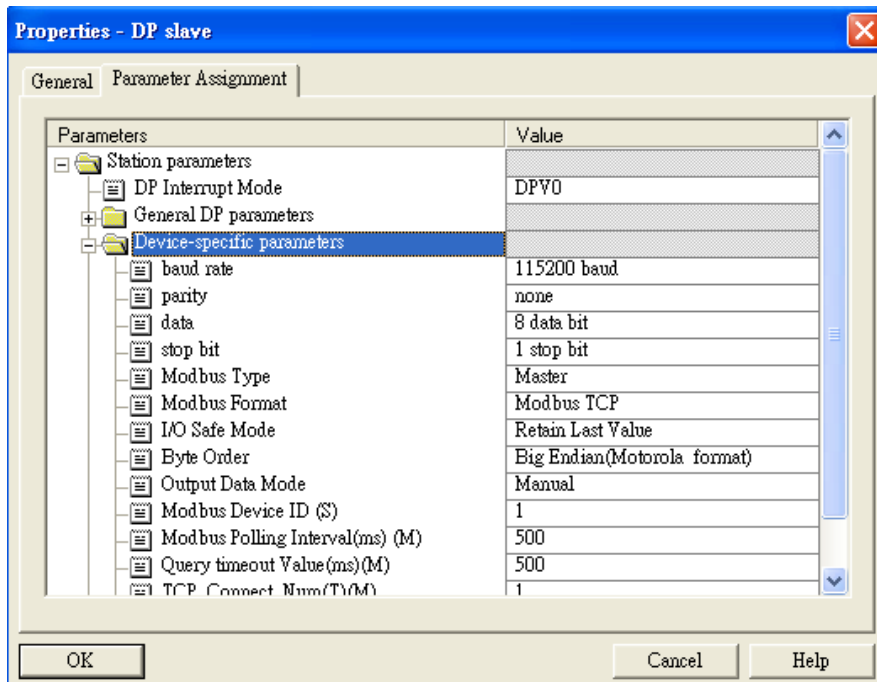


3. Set common parameters of the GW-7553

Common parameters →

Baud rate: 115200; Parity: none; Data: 8 data bit; Stop bit: 1 stop bit; Modbus type: Master

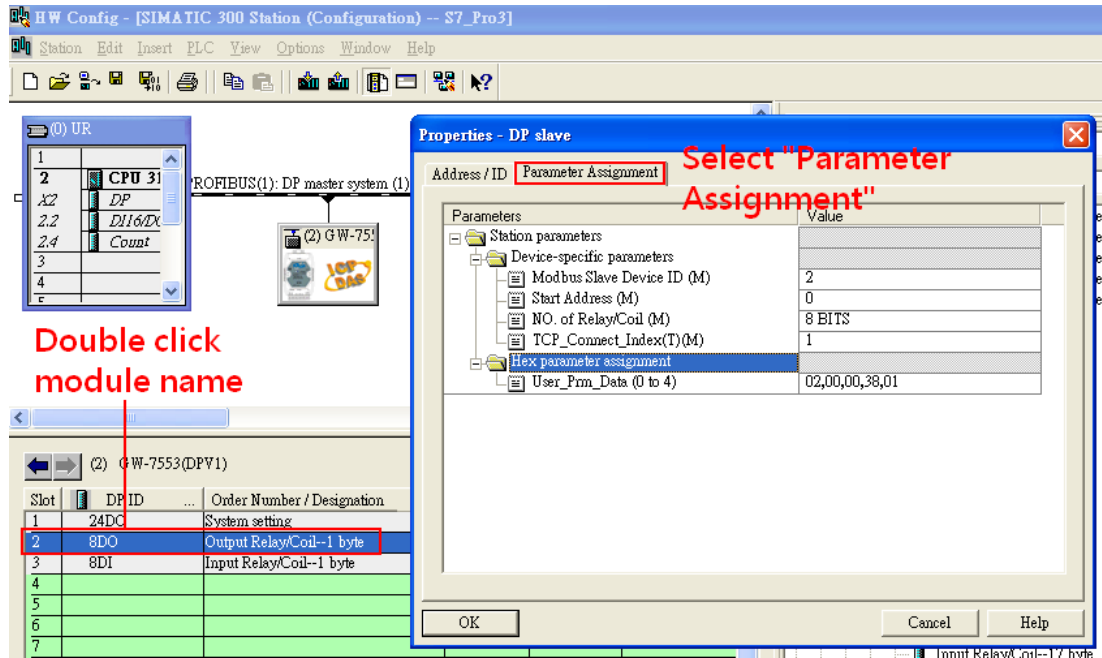
Modbus Format: Modbus TCP; Byte Order: Big Endian



4. Set module parameters of the GW-7553

(1) Double click "Output Relay/Coil – 1 byte" module

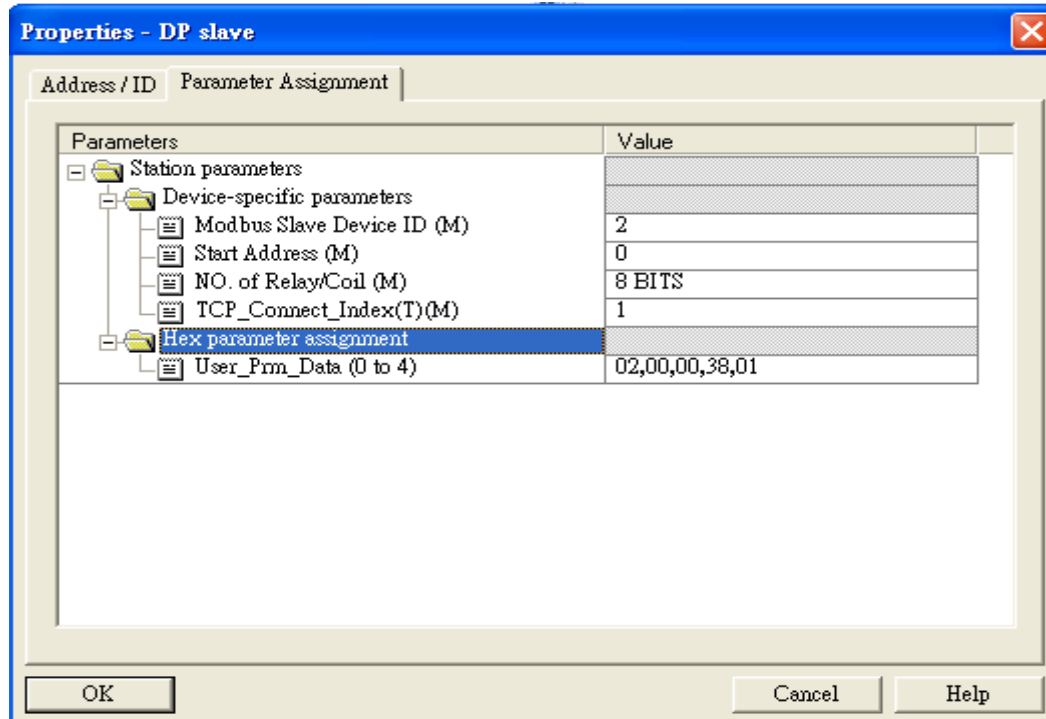
(2) Select "Parameter Assignment"



5. Setup "Output Relay/Coil – 1 byte" module parameter

Module parameters →

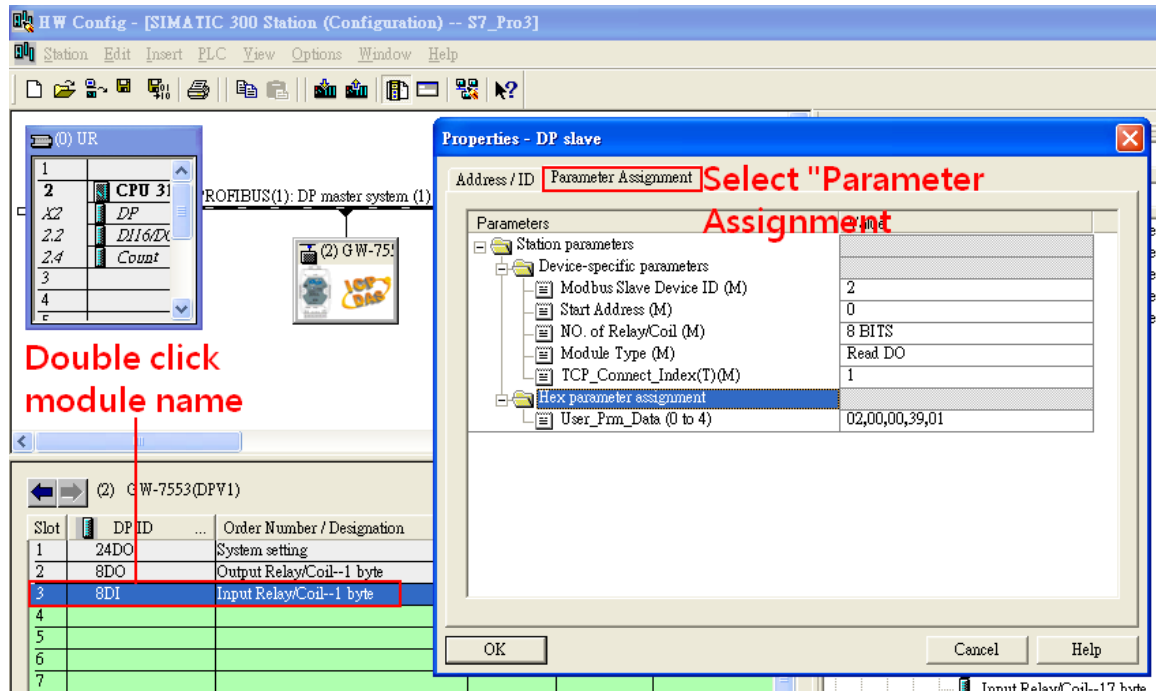
Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0))



6. Set module parameters of the GW-7553

(1) Double click "Input Relay/Coil – 1 byte" module

(2) Select "Parameter Assignment"

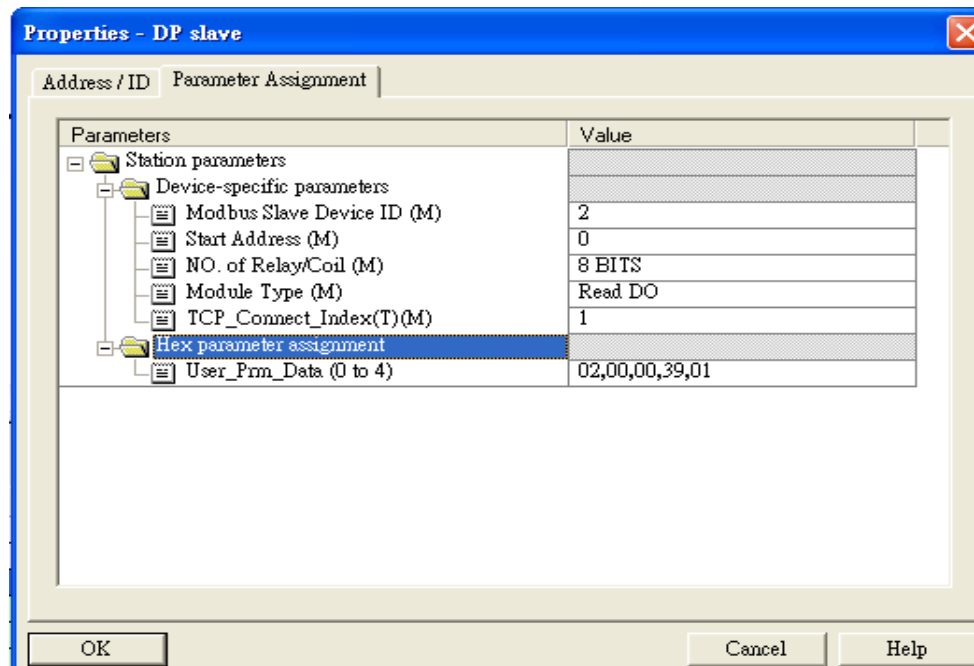


7. Setup "Input Relay/Coil – 1 byte" module parameter

Module parameters →

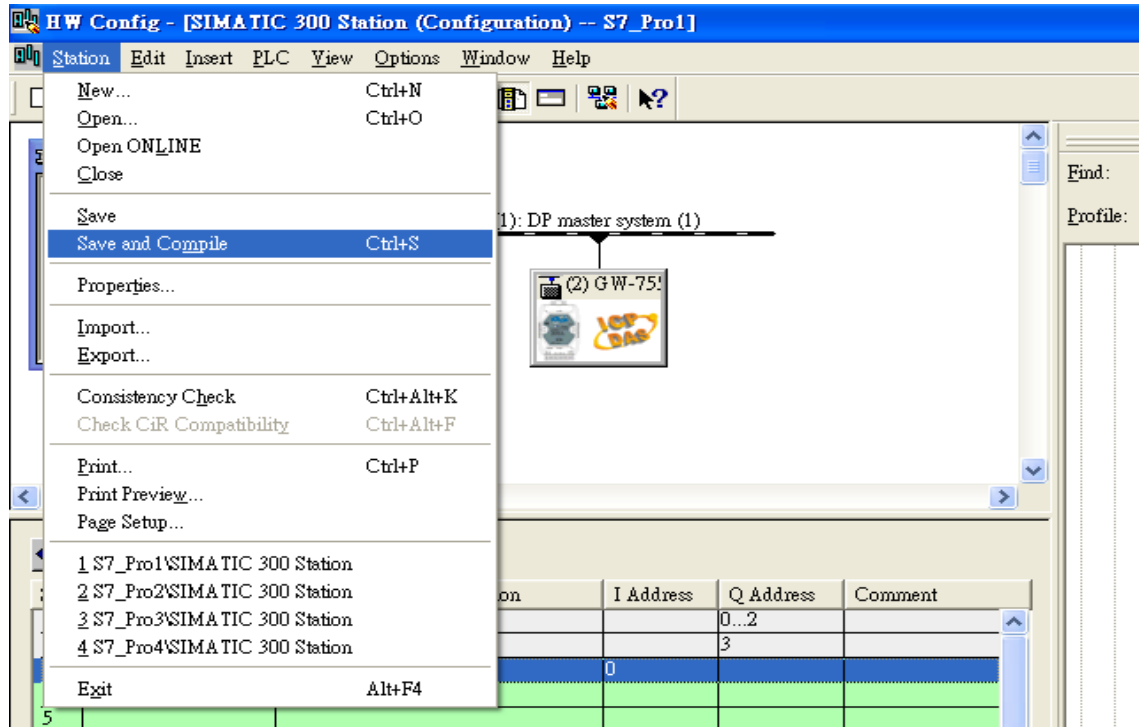
Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0))

Module Type: Read DO, click ok.

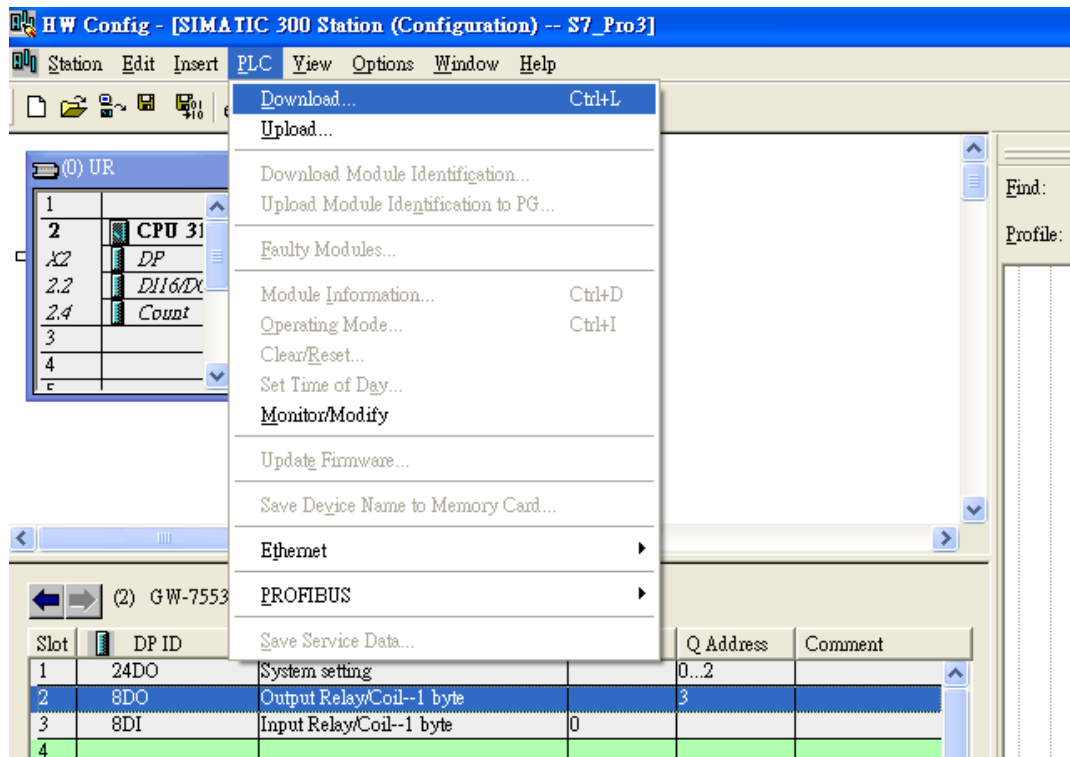


Step 3: Download the HW settings into SIMATIC PLC

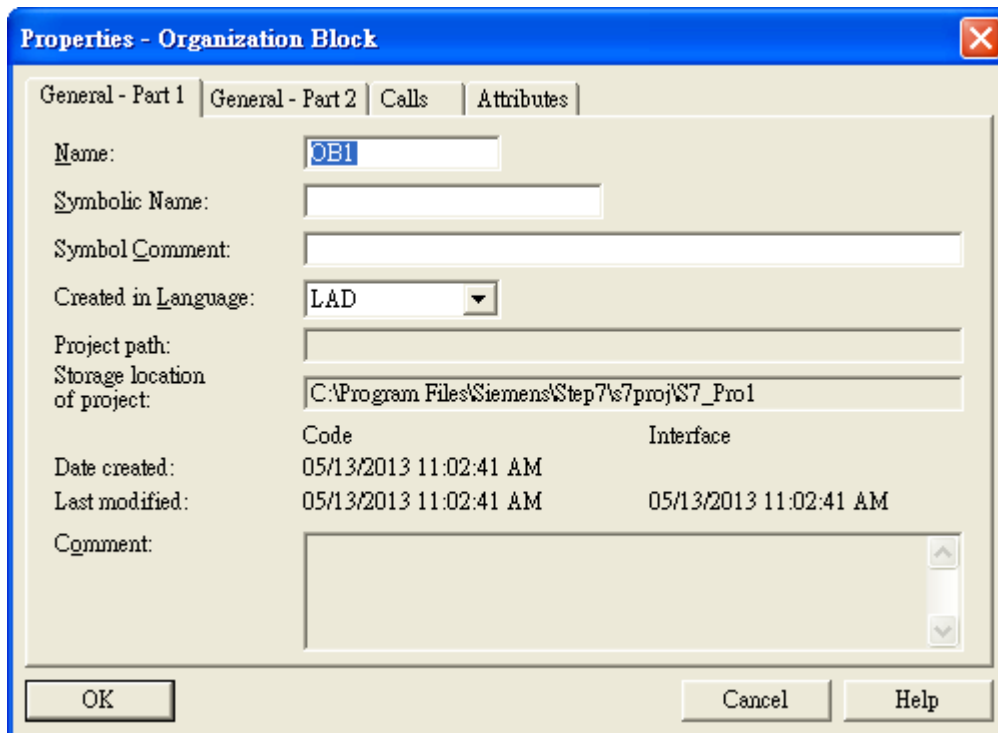
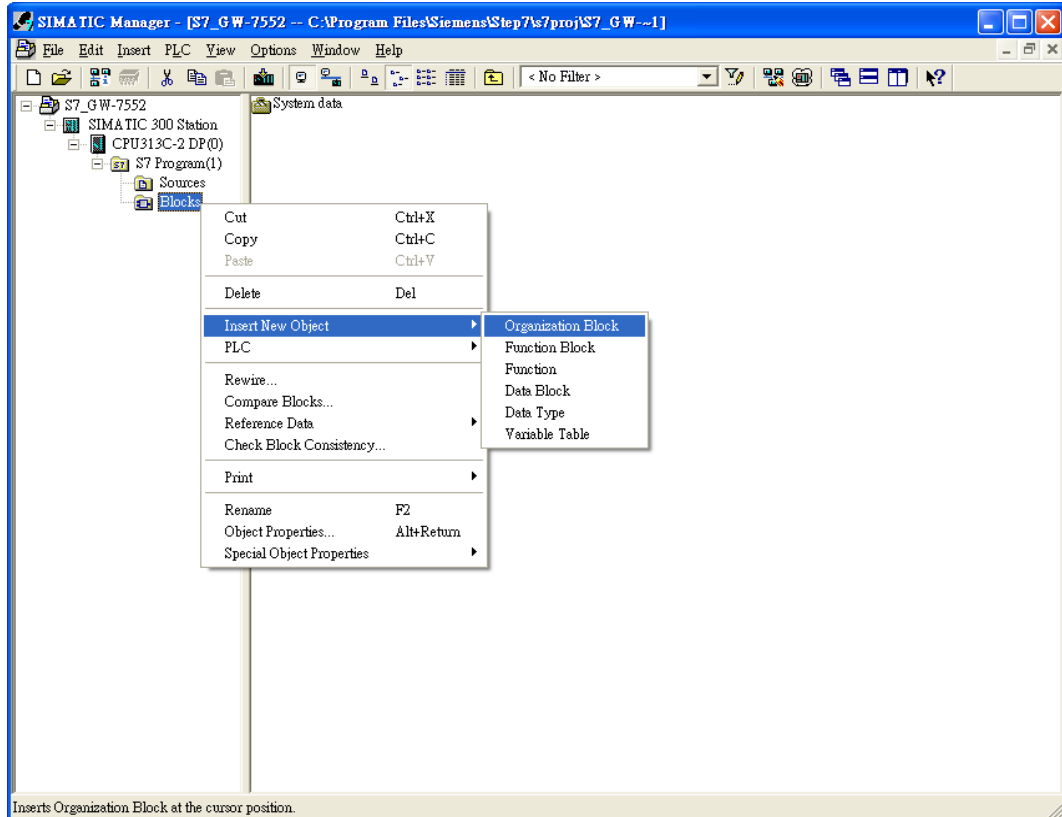
1. Save and Compile

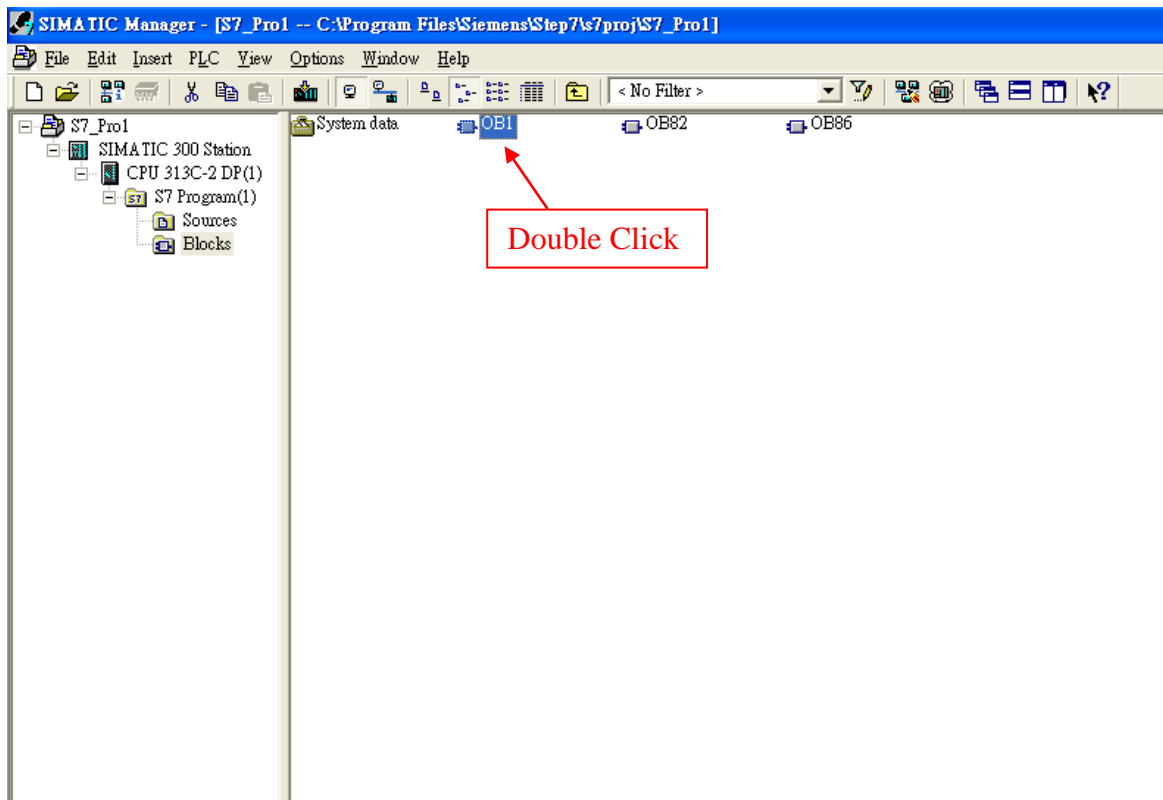


2. HW settings into SIMATIC PLC



Step 4: Insert a new Organization Block (OB1,OB82,OB86)





Step 5: Edit OB1

Variables used in the example LD Program:

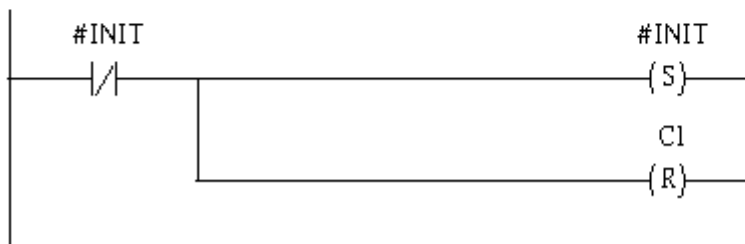
	Name	Data Type	Address	Comment
	END	Bool	20.0	
	INIT	Bool	20.1	
	Tri	Int	22.0	
	DIValue	Byte	24.0	

OB1 : "Main Program Sweep (Cycle)"

```
PROFIBUS Slave
Modbus Master
```

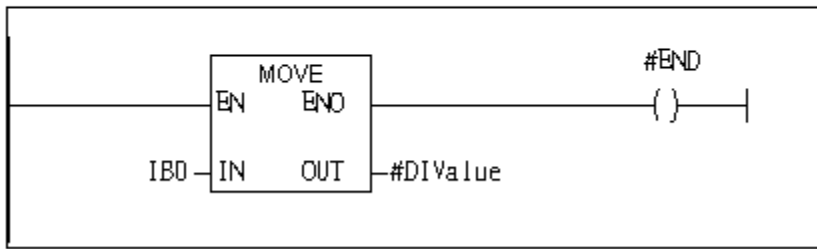
Network 1 : Reset Counter(C1)

```
Reset Counter (C1)
```



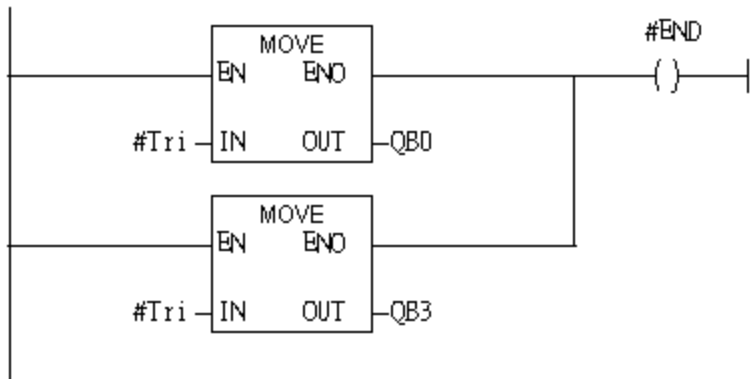
Network 2: Title:

Comment:



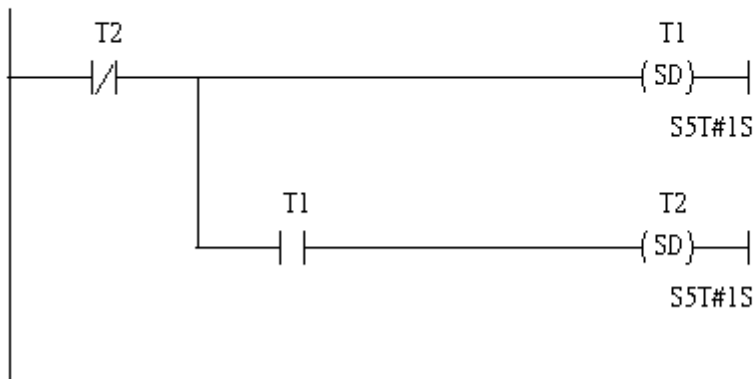
Network 3: QB0 add "1" then PLC will send QW3 out.

1 byte DO



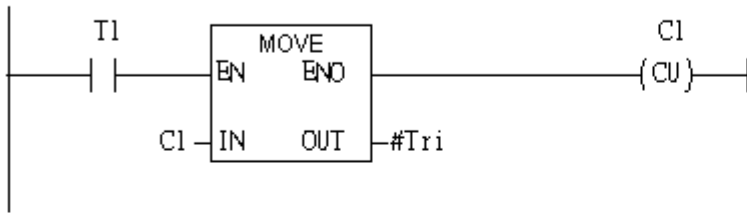
Network 4: Timer T1 & T2

Using T2 trigger T1



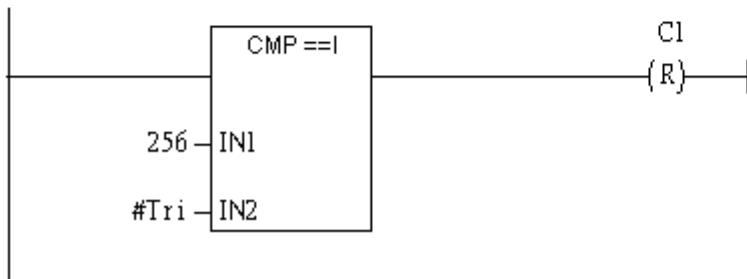
Network 5 : Counter C1

If counter(C1) add "1" and Tri will add "1" ,too.



Network 6 : Compare Tri & 256

If Tri is equal to 256,C1 will reset



Step 6: Download the settings into SIMATIC PLC

The screenshot shows the SIMATIC Manager interface. The 'Download' menu is open, showing options like 'Select Online CPU...', 'Establish Connection to Configured CPU', 'CPU Messages...', 'Display Force Values', 'Monitor/Modify Variables', 'Module Information...', 'Operating Mode...', 'Clear/Reset...', and 'Set Time of Day...'. Below the menu, a table displays data for 'Environment\Interface\TEMP':

Name	Data Type	Address	Comment
OBI_MAX...	Int	10.0	Maximum cycle time of OBI (milliseconds)
OBI_DAT...	Date_...	12.0	Date and time OBI started
END	Bool	20.0	
INIT	Bool	20.1	

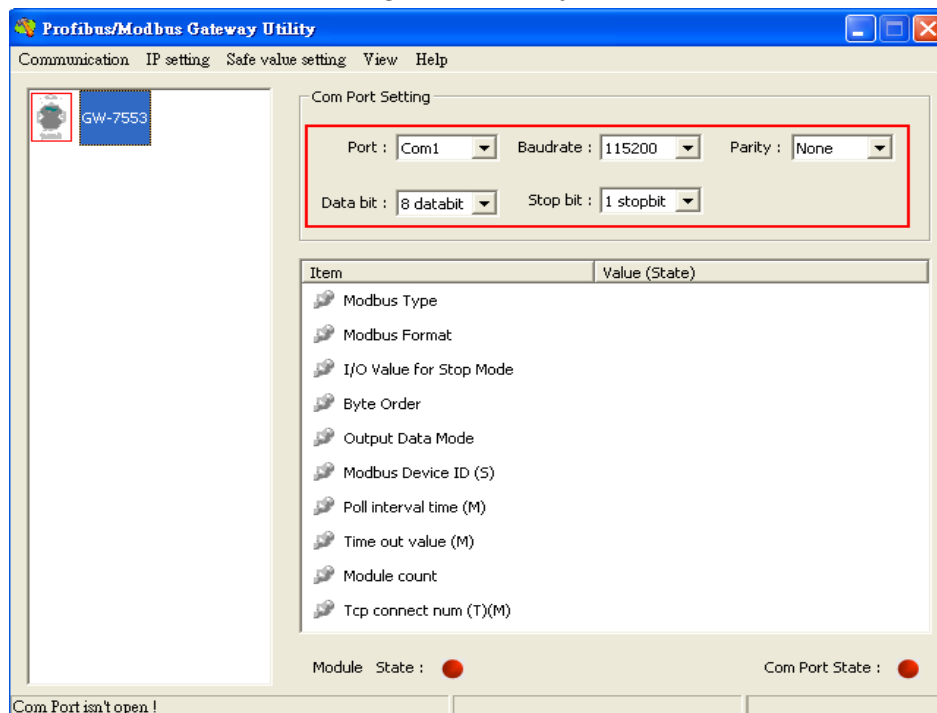
Below the table, the 'Network 1 : Reset Counter(C1)' is visible, showing a reset coil 'C1 (R)' connected to a normally open contact labeled '#INIT'.

Step 7: Make sure the RUN LED of the GW-7553 is on and the switch of the GW-7553 is at Setting mode.

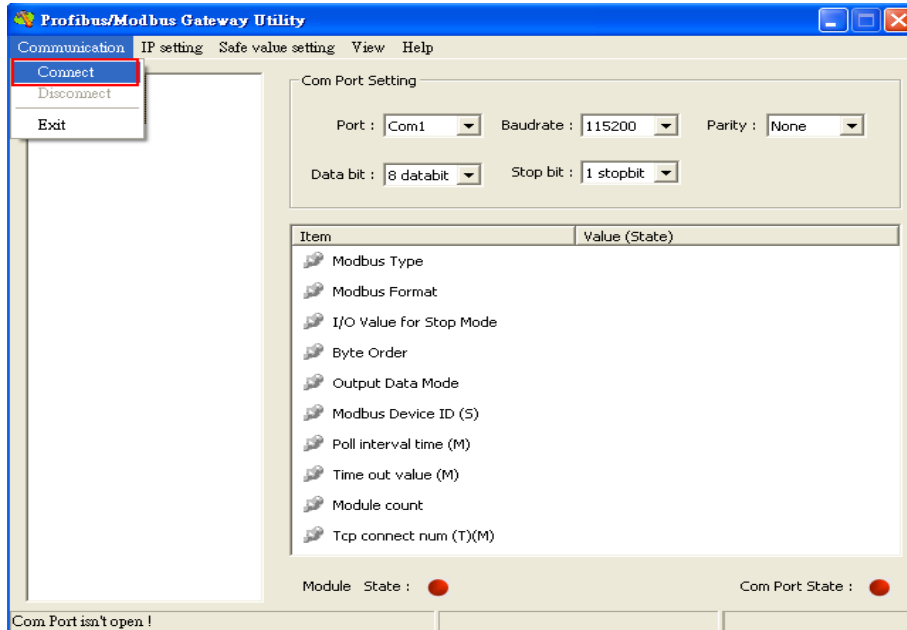


Step 8: Connect with GW-7553 and Utility

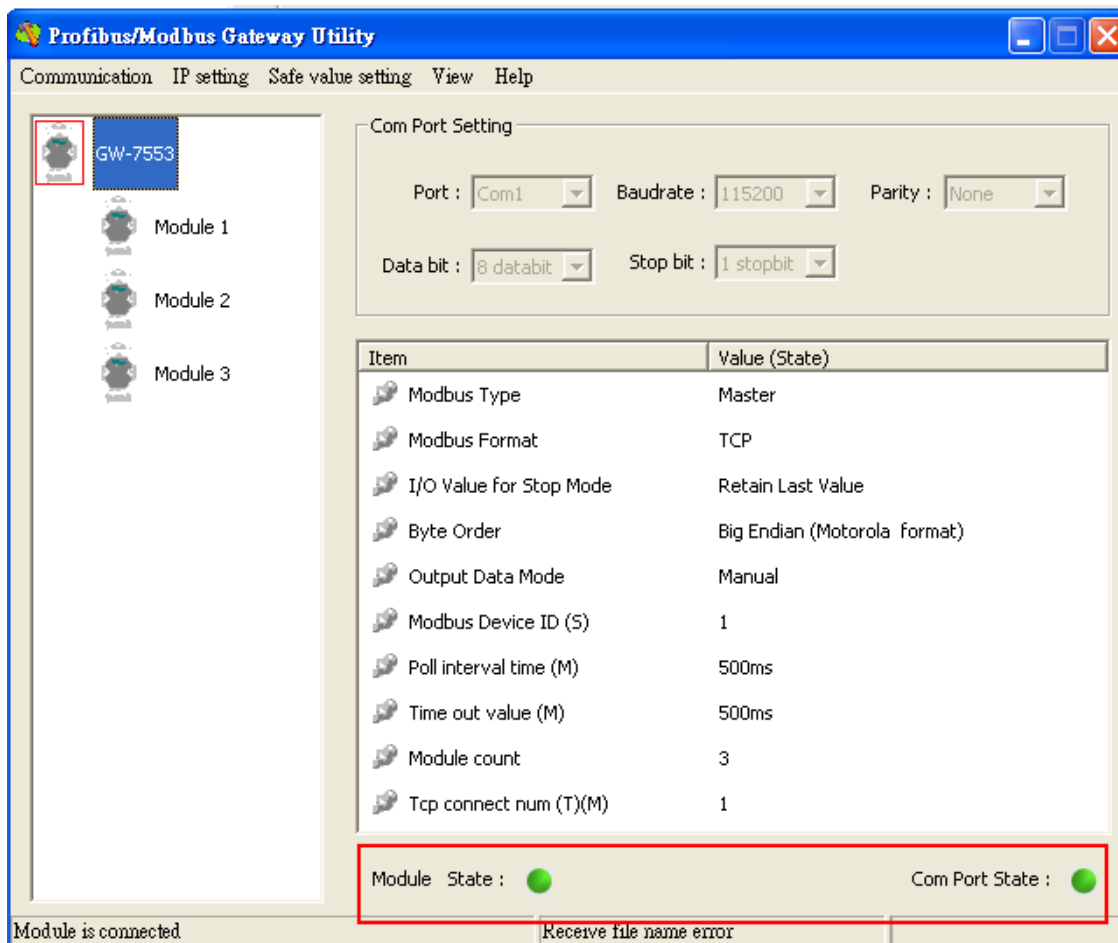
1. Set the Com Port Setting of the Utility



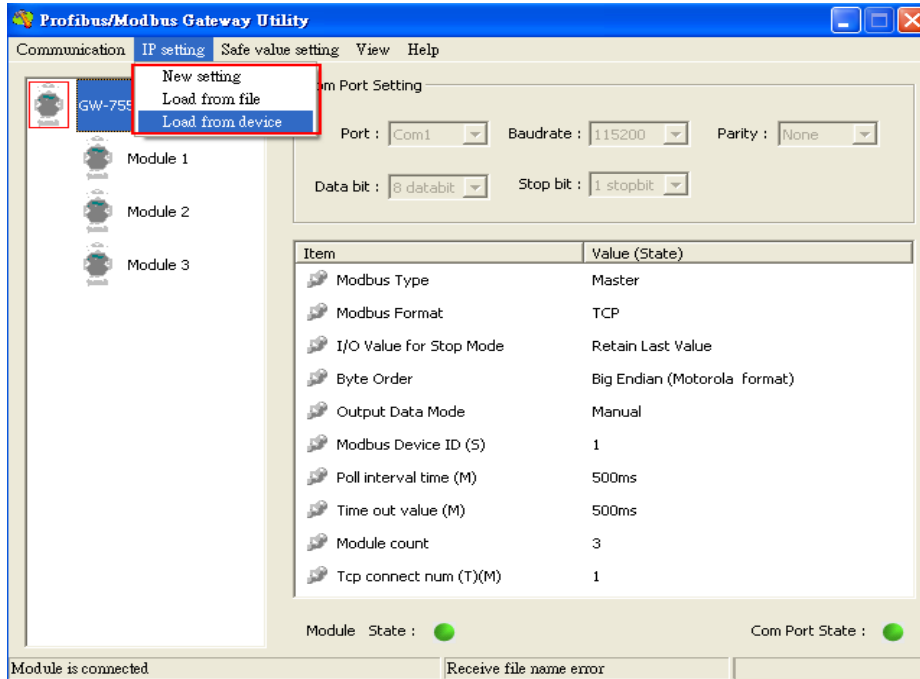
2. Click connect.



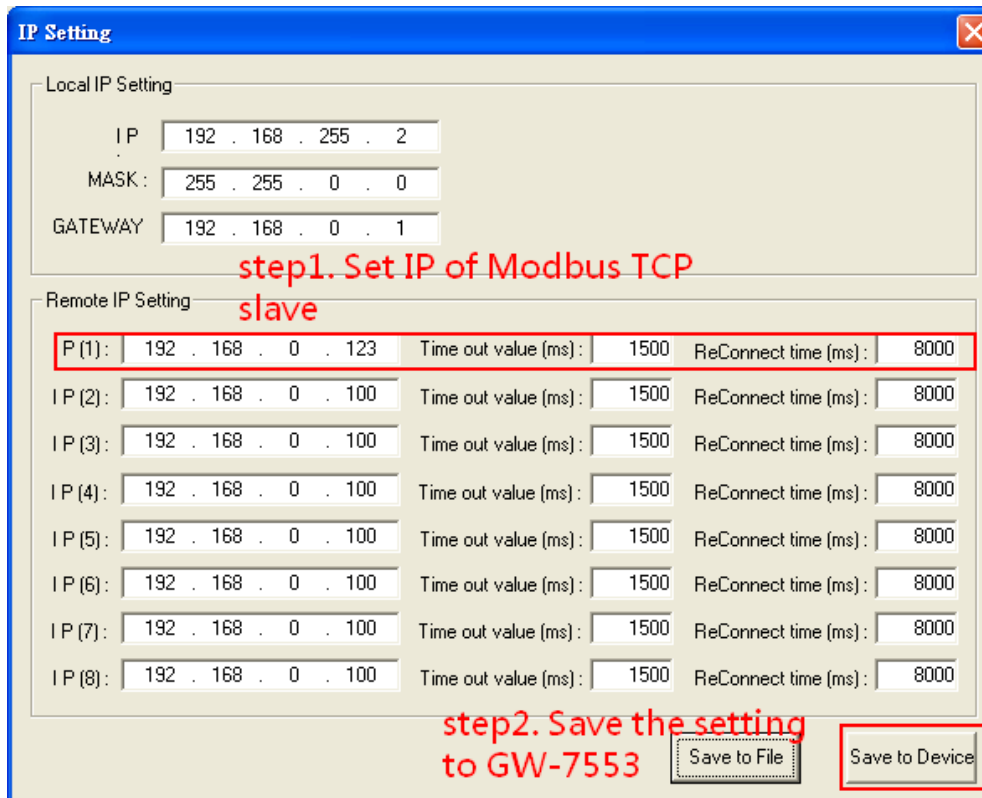
3. Connection success



4. Click IP setting → Load from device to show IP setting dialog



5. Set the IP of the Modbus TCP Slave and click "Save to Device" button to save the settings.



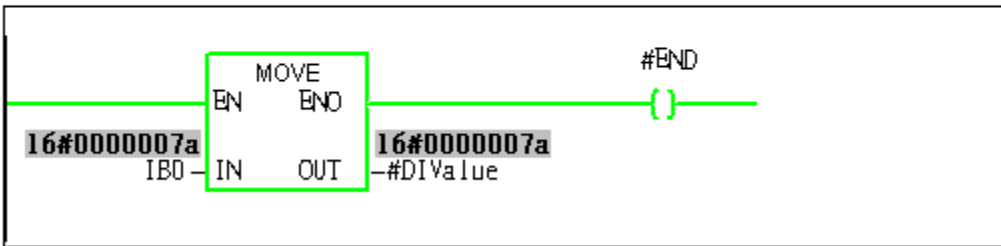
Step 9: Set the switch of the GW-7553 to Normal Mode then reset the power of GW-7553.



Now the setting procedure has been finished and the user can read the data to the Modbus DO module at address IB0.

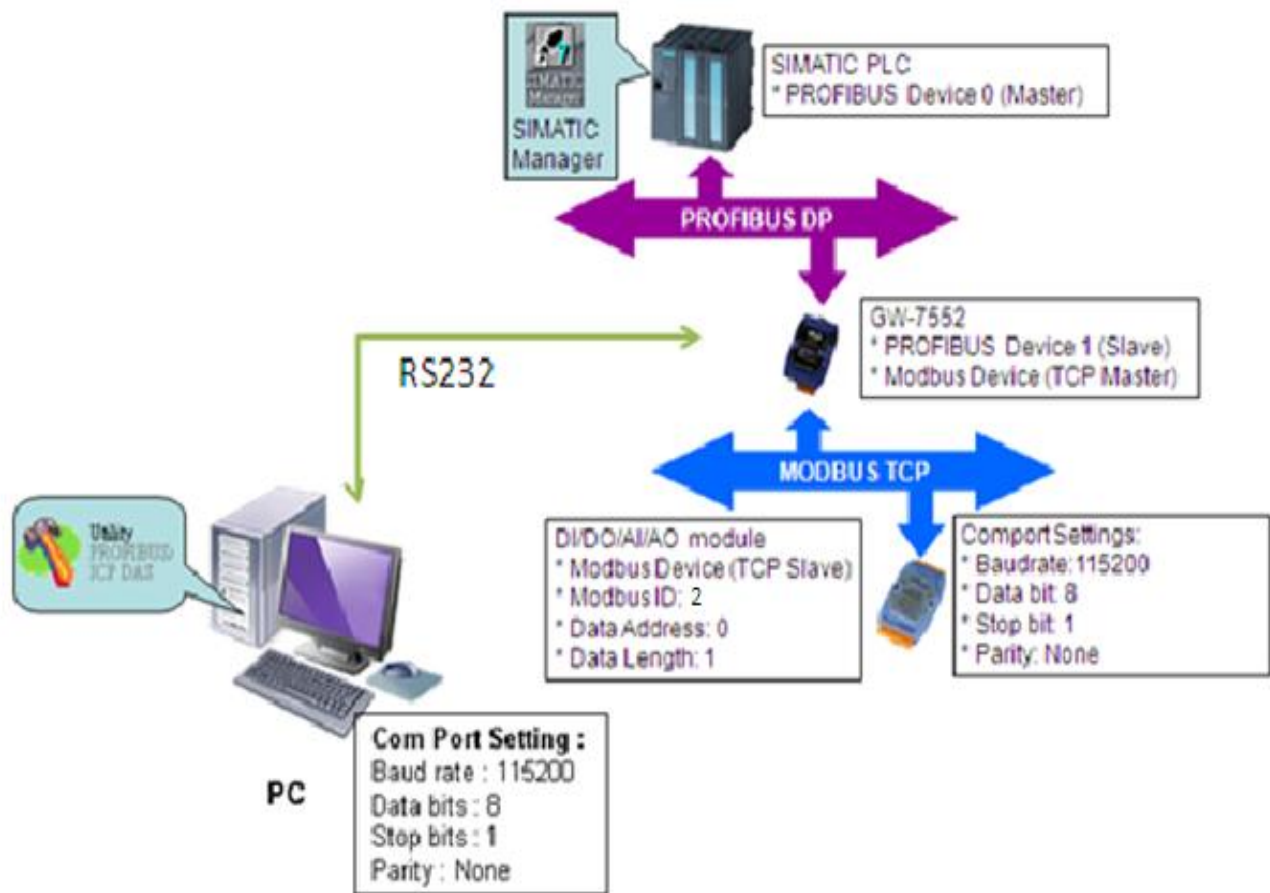
Network 2: Title:

Comment:



Example 2: PLC reads DI module data from GW-7553.
(Modbus FC02)

Read a Modbus TCP DI module (PROFIBUS Slave & Modbus TCP/Master)



SIMATIC STEP7 Configuration:

Step 1: Setup the GW-7553 module

1. Select GW-7553 module

The screenshot shows the HW Config window for a SIMATIC 300 Station. The main window displays a rack configuration with a CPU 313C-2 DP in slot 2 and DP modules in slots 2.2 and 2.4. A PROFIBUS(1) DP master system is connected to the rack. A red box highlights the GW-7553 module icon in the component palette, with a red arrow pointing to it and the text "Click GW-7553 Icon".

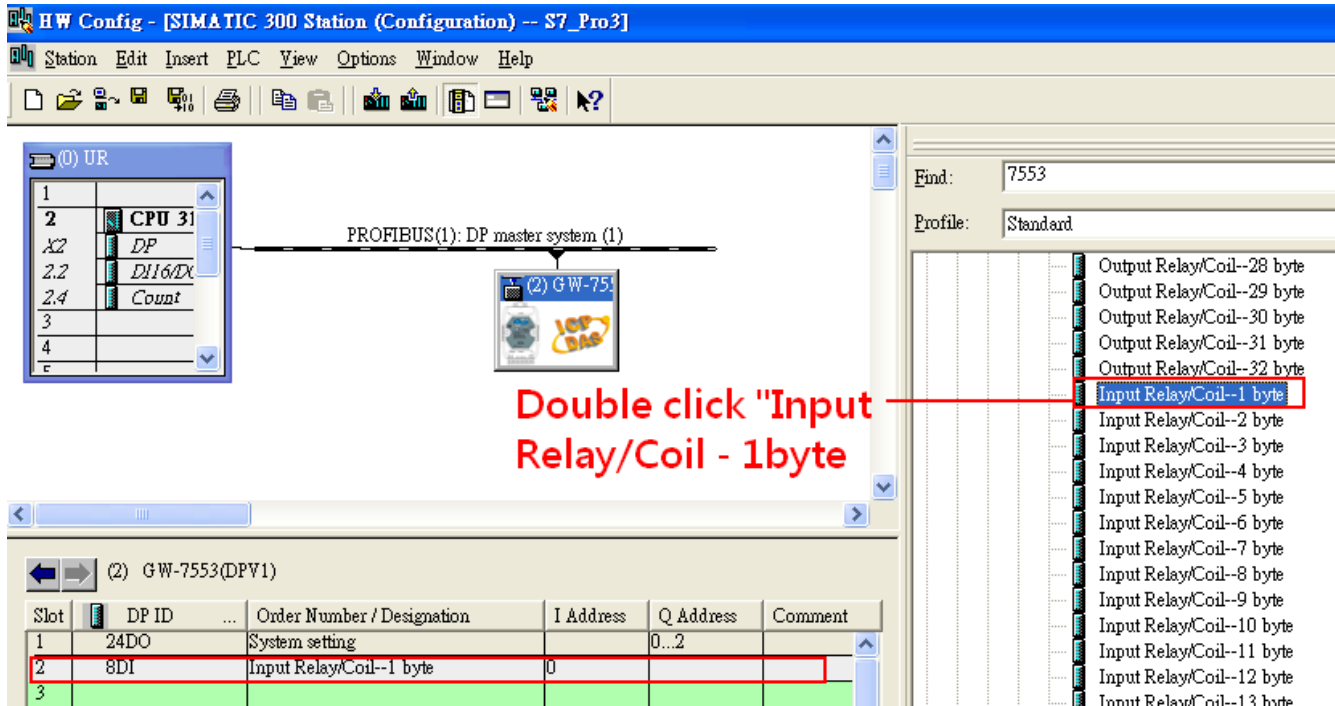
Slot	Module	O...	Fi...	M...	I ...	Q...	Comment
1							
2	CPU 313C-2 DP(1)	6ES7 72.6 2					
2.2	DP				1023		
2.2	DI16/DO16				124...	124...	
2.4	Count				768...	768...	
3							

2. Add a System setting module

The screenshot shows the HW Config window with the GW-7553 module selected. The component palette on the right is expanded to show the "System setting" module under the "Universal module" category. A red box highlights the "System setting" module, with a red arrow pointing to it and the text "Double click 'System setting'".

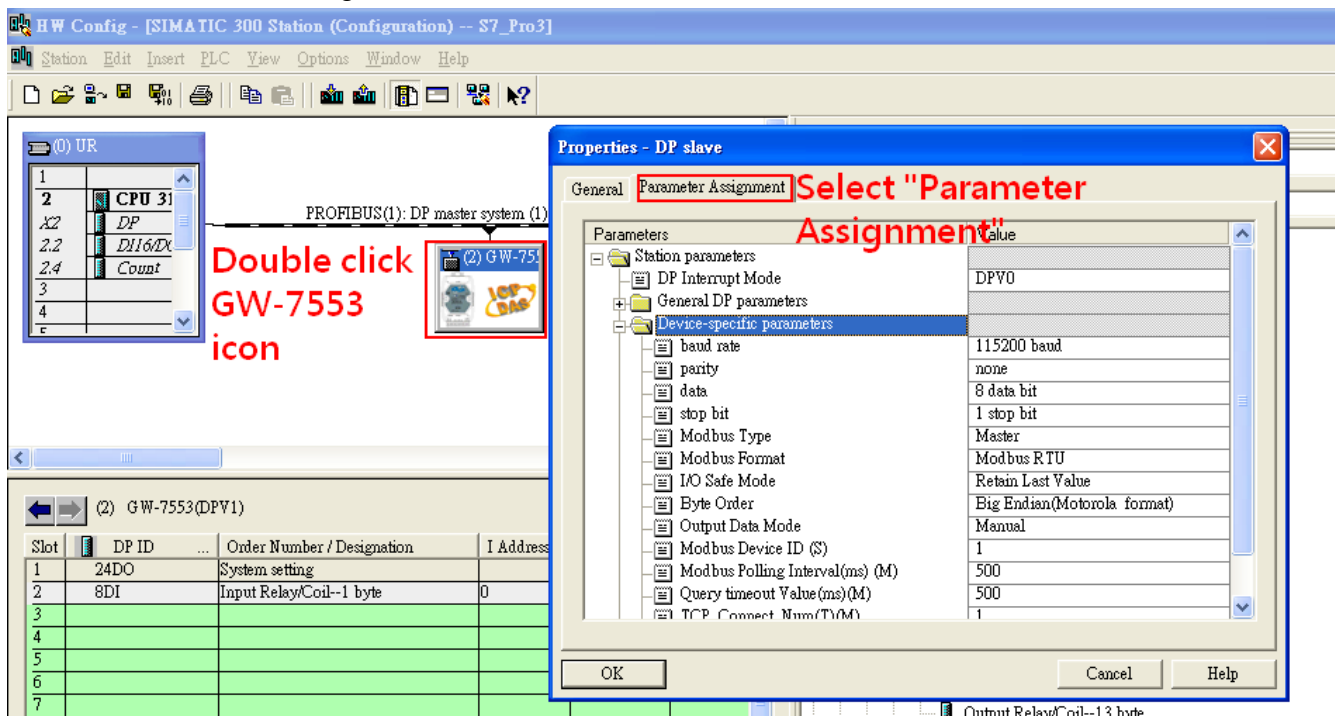
Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	8DI	Input Relay/Coil--1 byte	0		
3					

3. Add "Input Relay/Coil—1 byte" module



Step 2: Setup the parameters of the GW-7553

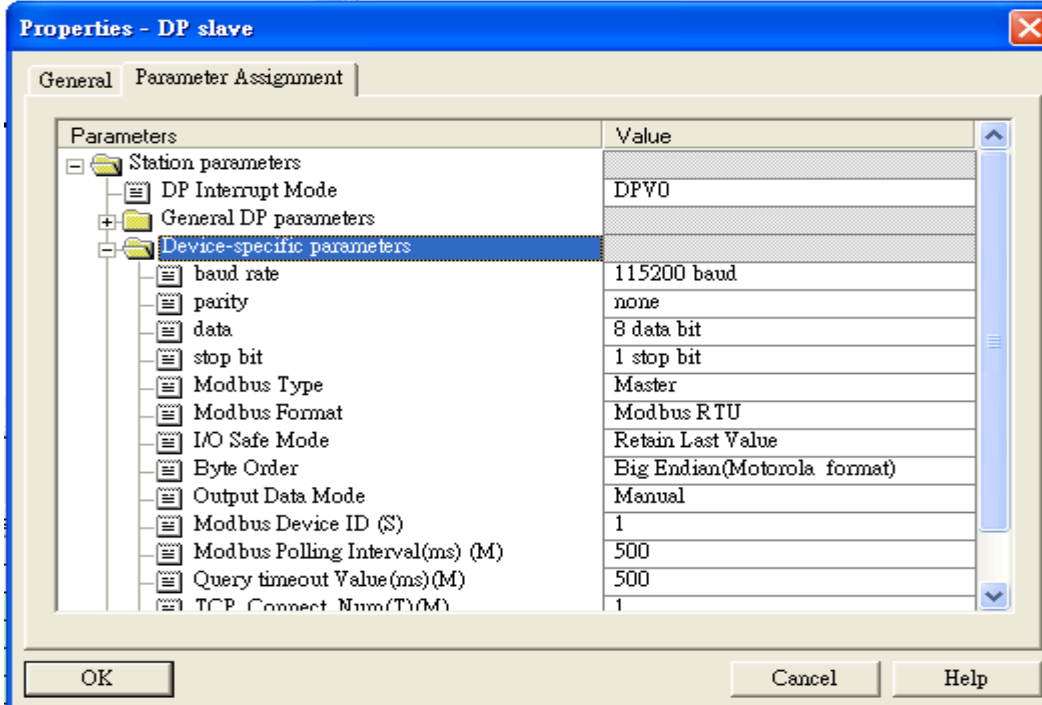
1. Double click GW-7553 icon
2. Select "Parameter Assignment"



3. Set common parameters of the GW-7553

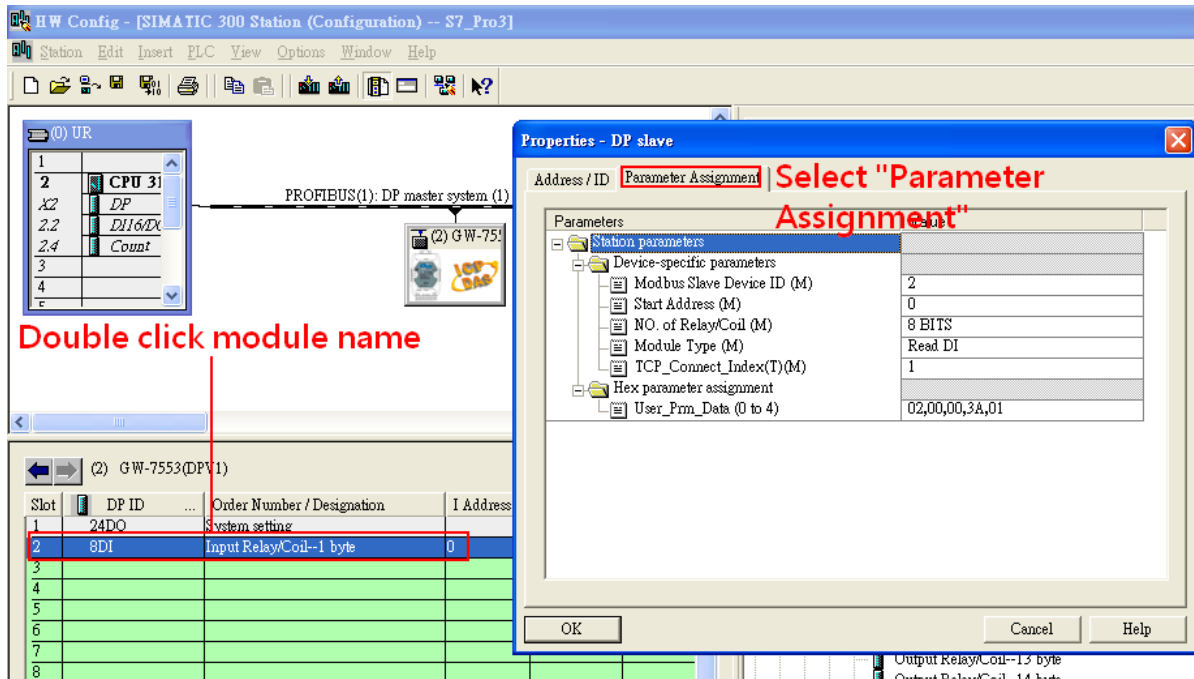
Common parameters →

Baud rate: 115200; Parity: none; Data: 8 data bit; Stop bit: 1 stop bit; Modbus type: Master
Modbus Format: Modbus TCP; Byte Order: Big Endian



4. Set module parameters of the GW-7553

- (1) Double click "Input Relay/Coil—1 byte" module
- (2) Select "Parameter Assignment"

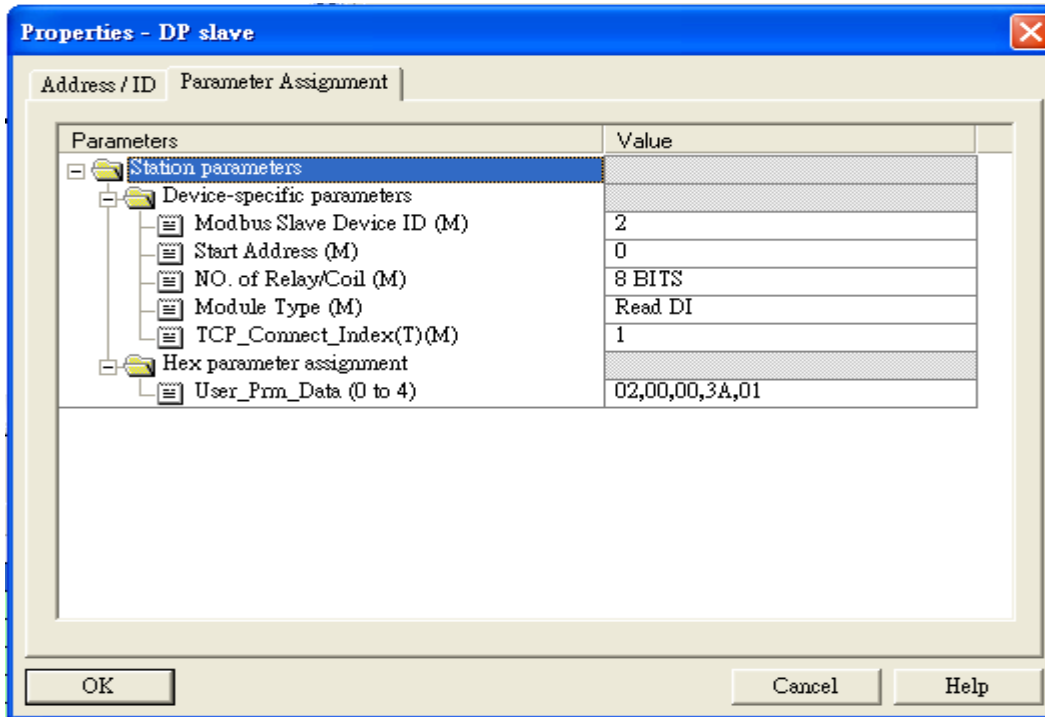


5. Setup "Input Relay/Coil—1 byte" module parameters

Module parameters →

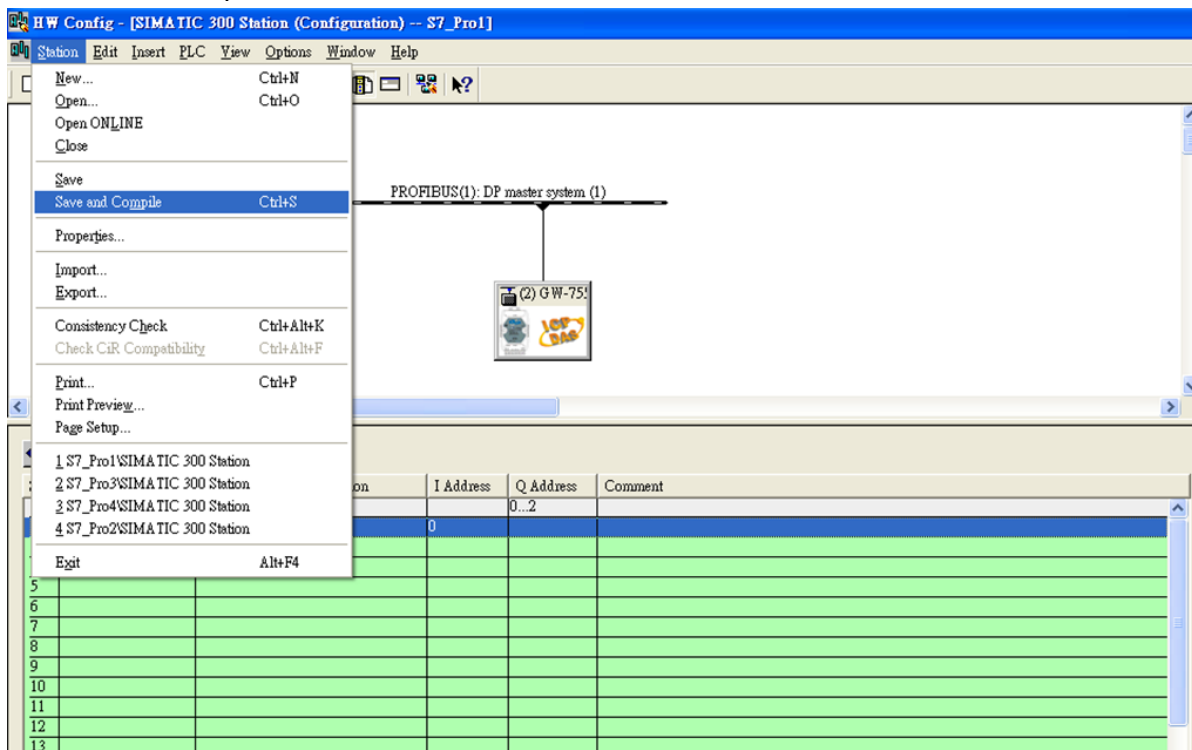
Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0))

Module Type: Read DI, click ok.

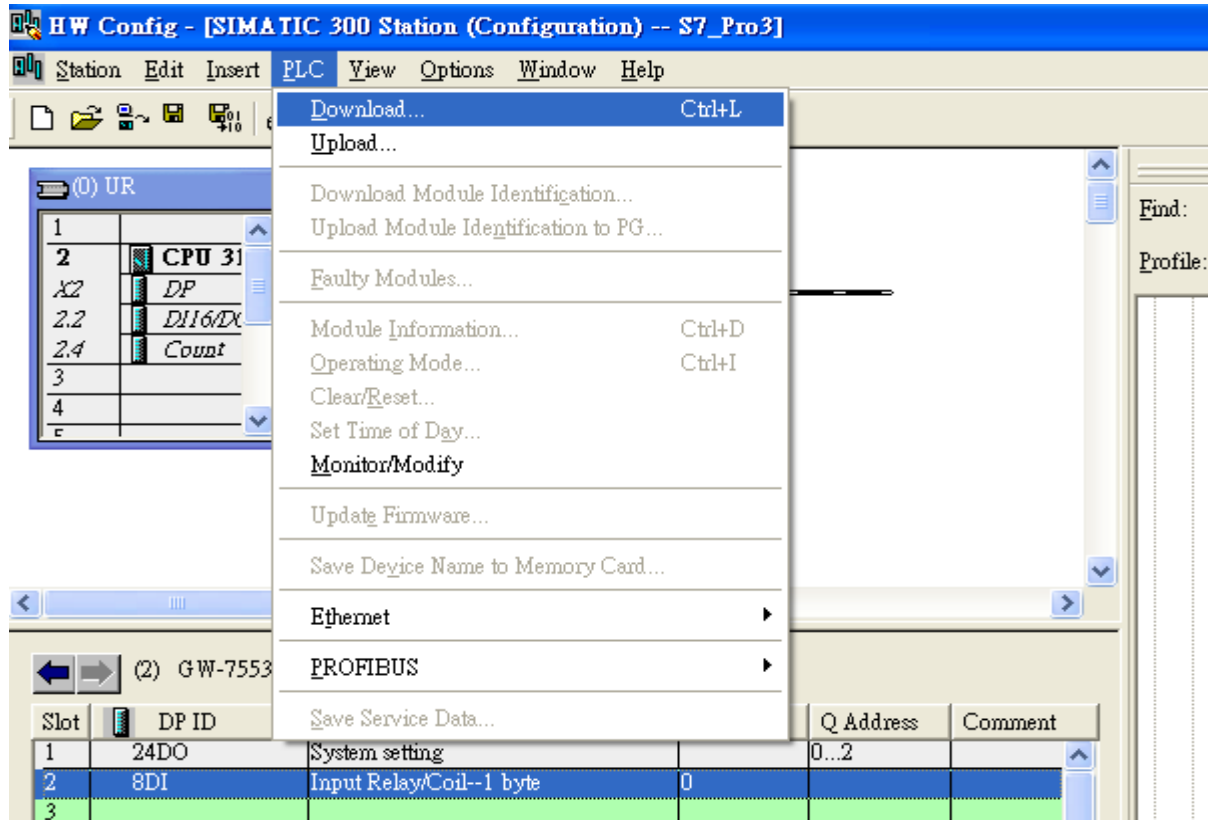


Step 3: Download the HW settings into SIMATIC PLC

1. Save and Compile

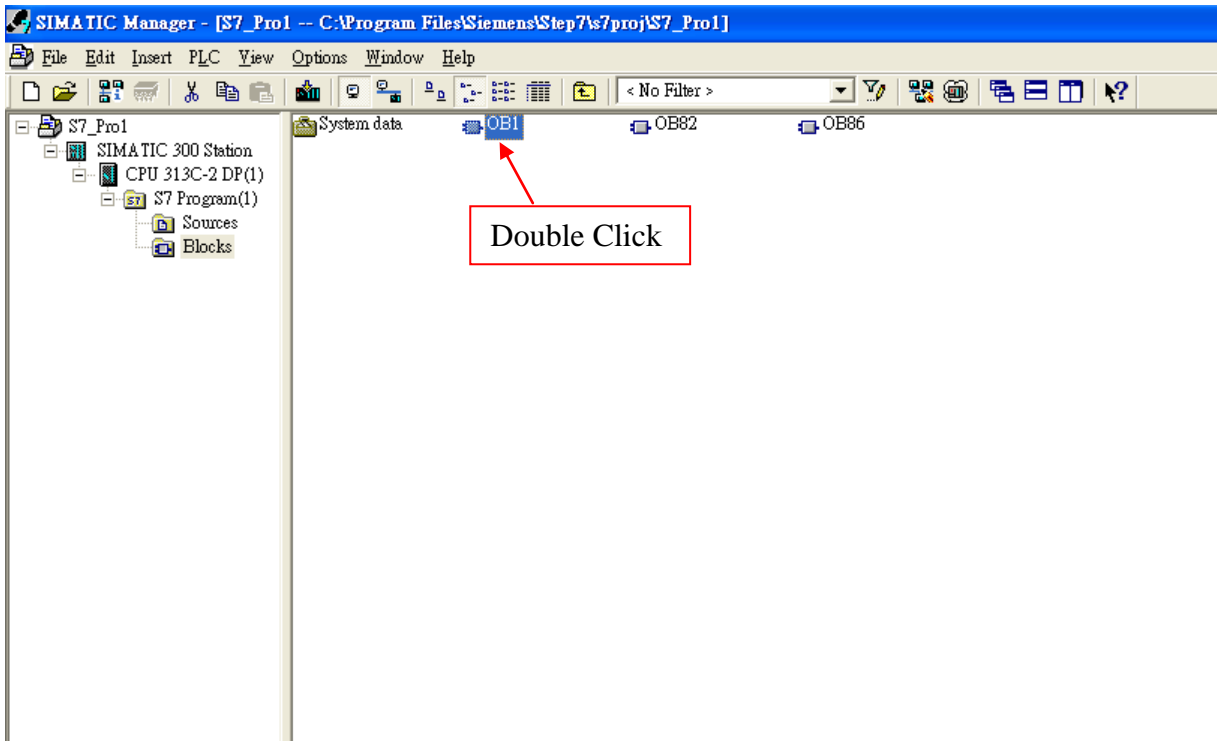
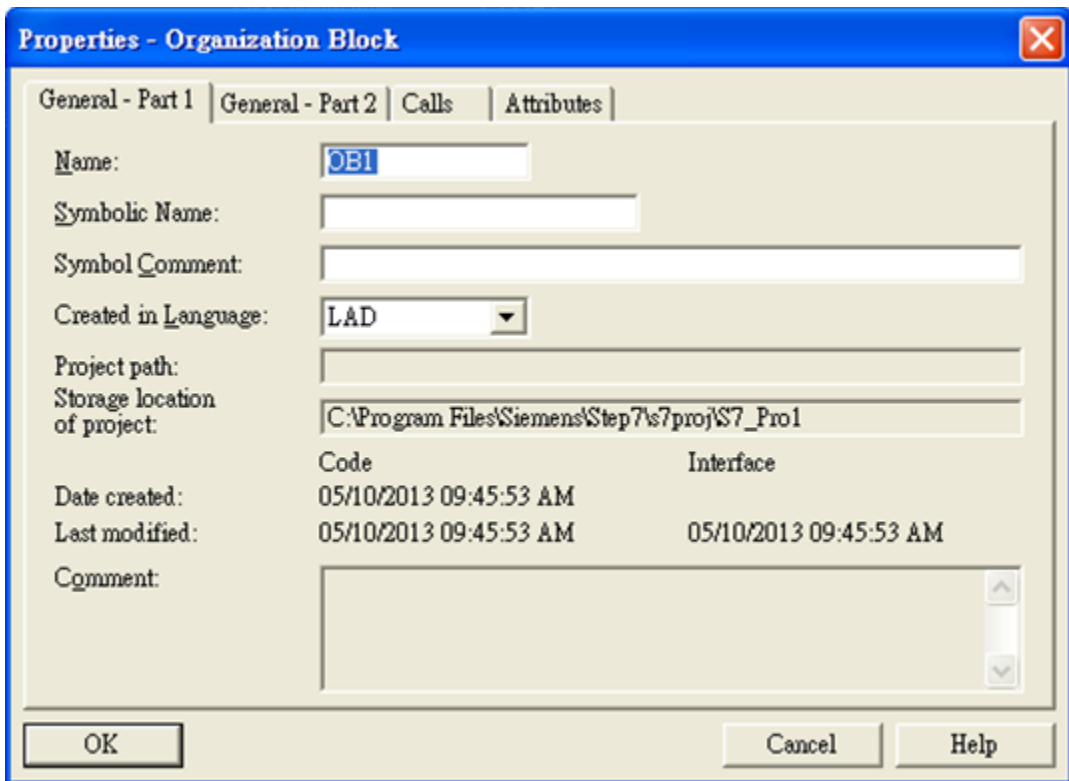


2. HW settings into SIMATIC PLC



Step 4: Insert a new Organization Block (OB1,OB82,OB86)





Step 5: Edit OB1

Contents Of: 'Environment\Interface\TEMP'

Name	Data Type	Address	Comment
OBI_MIN...	Int	8.0	Minimum cycle time of OBI (milliseconds)
OBI_MAX...	Int	10.0	Maximum cycle time of OBI (milliseconds)
OBI_DAT...	Date_...	12.0	Date and time OBI started
DIValue	Byte	20.0	
END	Bool	21.0	

OB1 : "Main Program Sweep (Cycle)"

Comment:

Network 1: Title:

Comment:

MOVE EN ENO END IN OUT #DIValue #END

Slot	DP ID	Order Number / Designation	I Address	Q Address
1	24DO	System setting		0..2
2	8DI	Input Relay/Coil--1 byte	0	
3				

Step 6: Download the settings into SIMATIC PLC

Contents Of: 'Environment\Interface\TEMP'

Name	Data Type	Address	Comment
OBI_MIN...	Int	8.0	Minimum cycle time of OBI
OBI_MAX...	Int	10.0	Maximum cycle time of OBI
OBI_DAT...	Date_...	12.0	Date and time OBI start
DIValue	Byte	20.0	
END	Bool	21.0	

OB1 : "Main Program Sweep (Cycle)"

Comment:

Network 1: Title:

Comment:

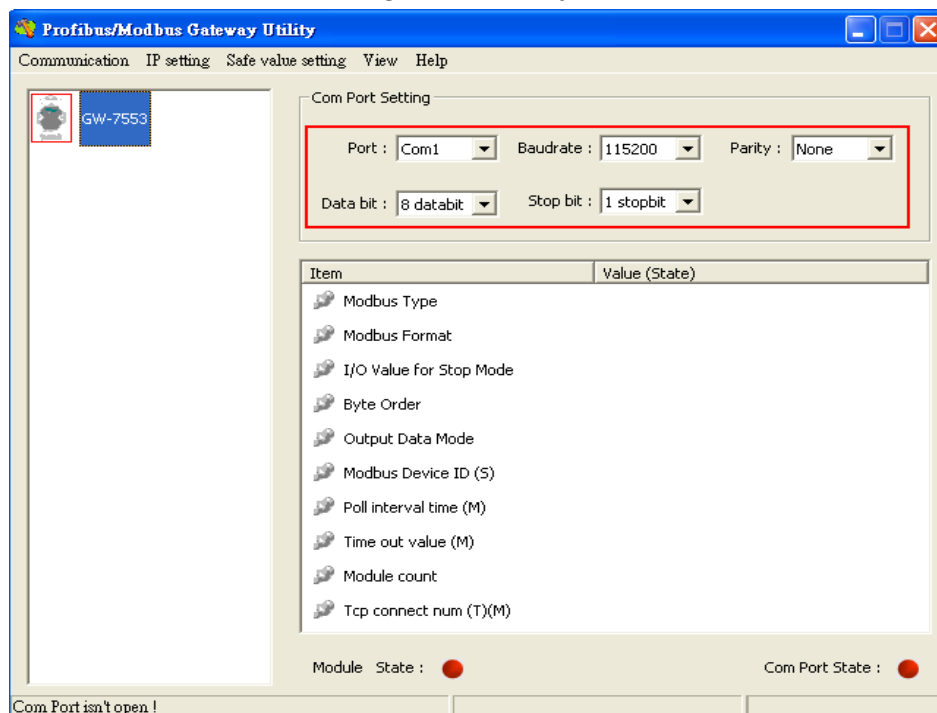
MOVE EN ENO END IN OUT #DIValue #END

Step 7: Make sure the RUN LED of the GW-7553 is on and the switch of the GW-7553 is at Normal mode.

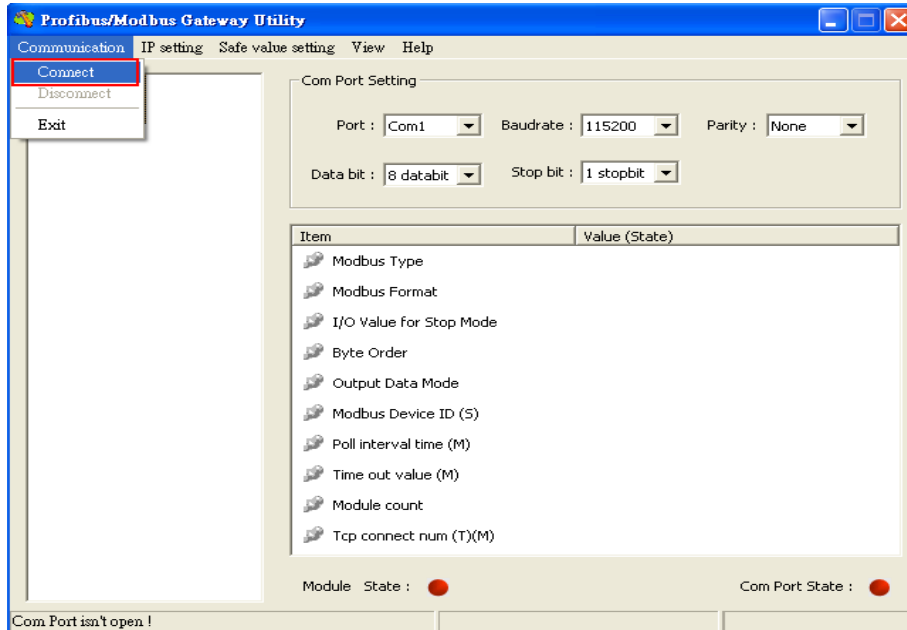


Step 8: Connect with GW-7553 and Utility

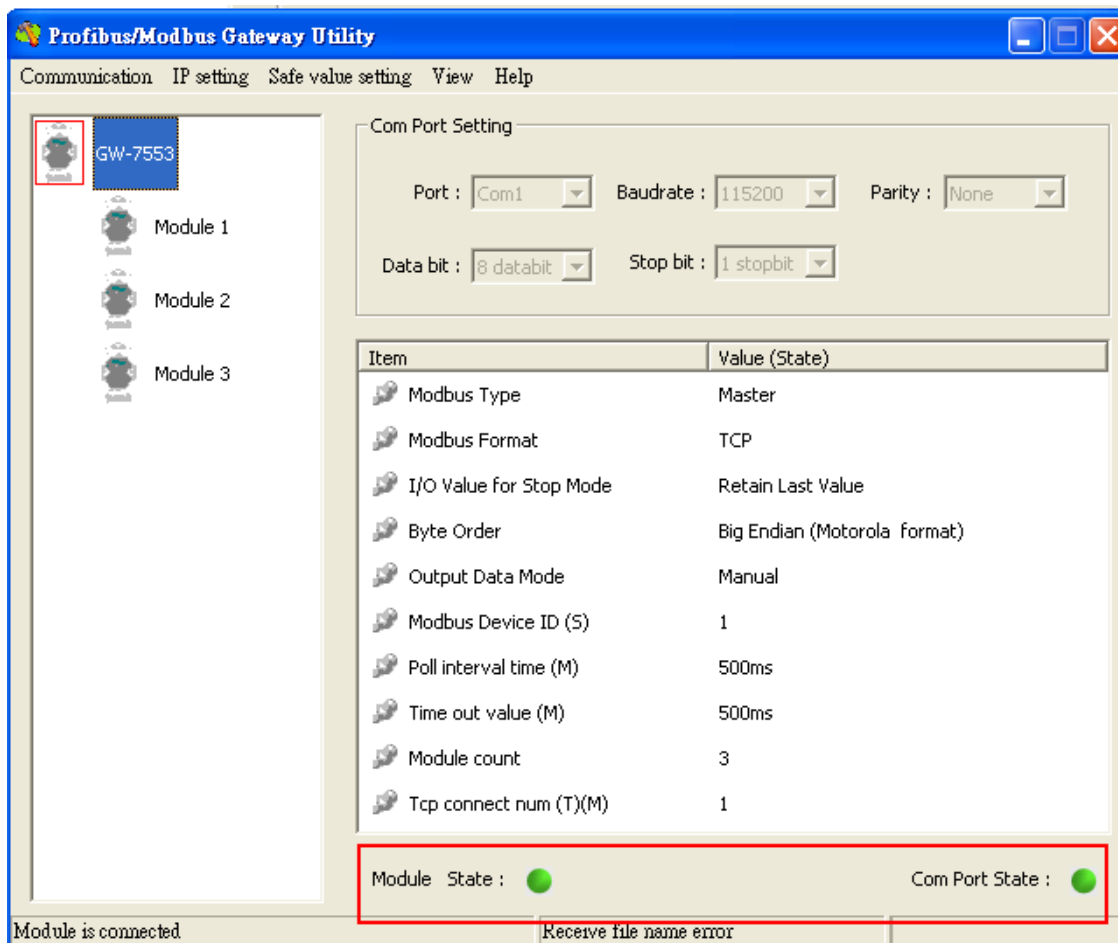
1. Set the Com Port Setting of the Utility



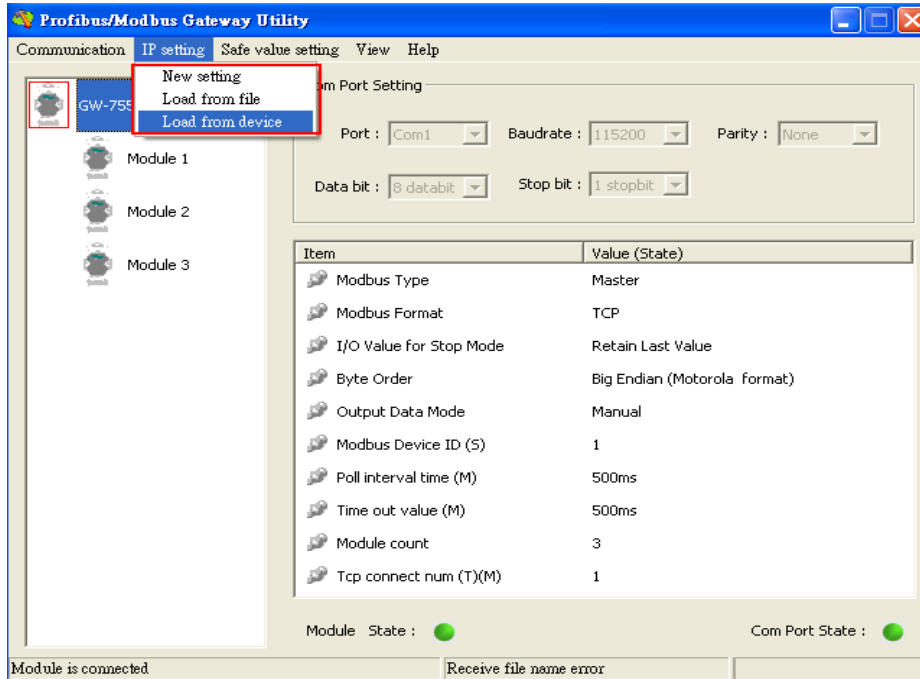
2. Click connect.



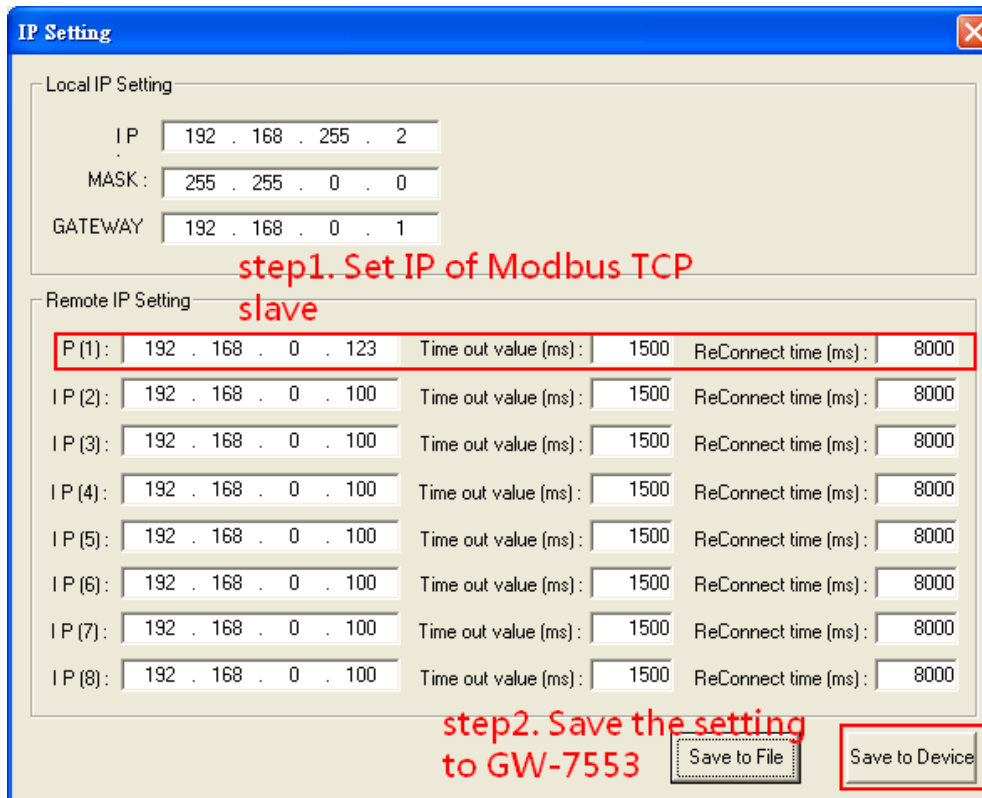
3. Connection success



4. Click IP setting → Load from device to show IP setting dialog



5. Set the IP of the Modbus TCP Slave and click "Save to Device" button to save the settings.



Step 9: Set the switch of the GW-7553 to Normal Mode then reset the power of GW-7553.



Now the setting procedure has been finished and the user can read the data of the Modbus DI module at address PIB0.

```

OBI : "Main Program Sweep (Cycle)"
Comment:
Network 1: Title:
Comment:

```

16#000000ff	PIB0	IN	OUT	16#000000ff	#DIValue	#END
		MOVE				
		EN	ENO			()

```

i:\CPU 313C-2 DP(1)\... \OBI - <offline>

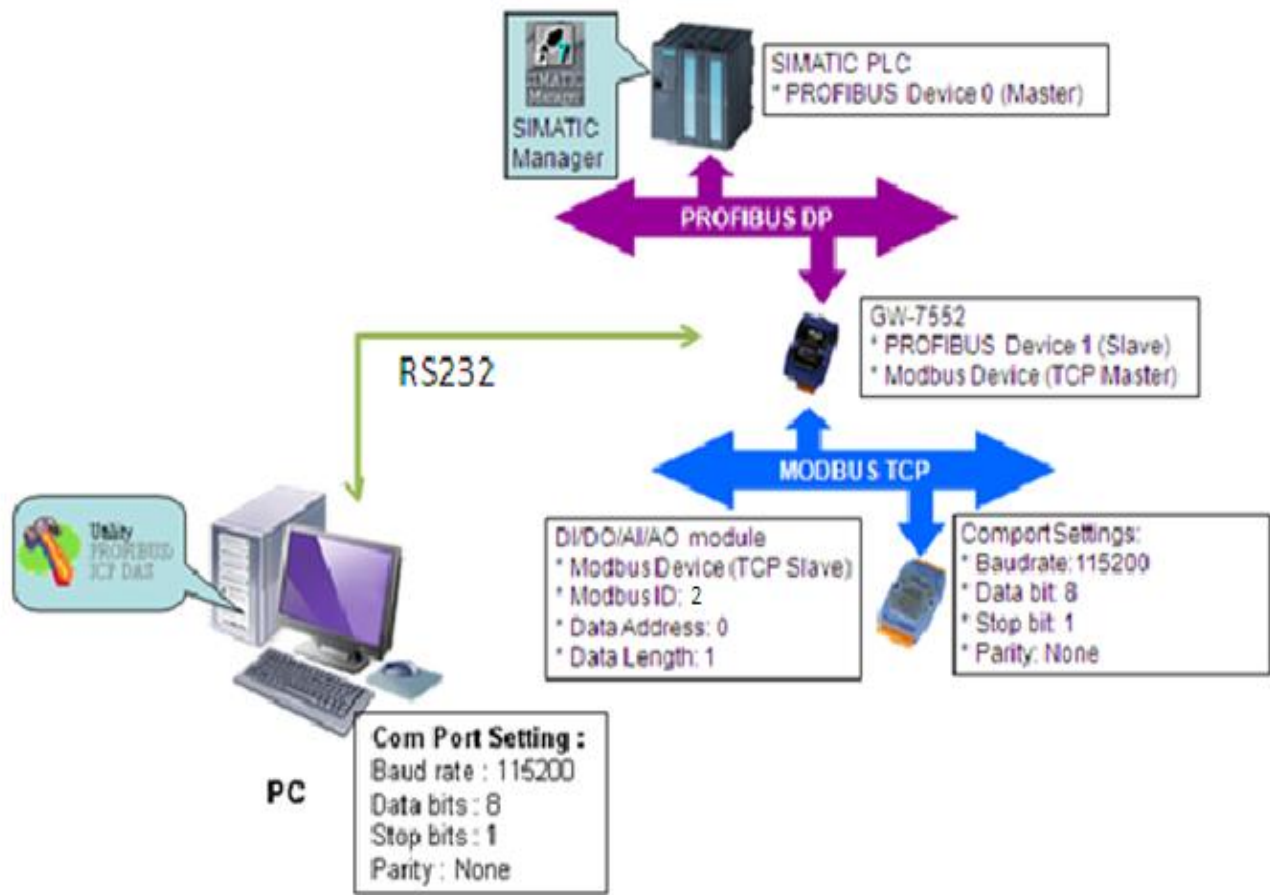
```

3: Cross-references | 4: Address info. | 5: Modify | 6: Diagnostics | 7: Comparison

RUN

Example 3: PLC reads AO module data from GW-7553.
(Modbus FC03)

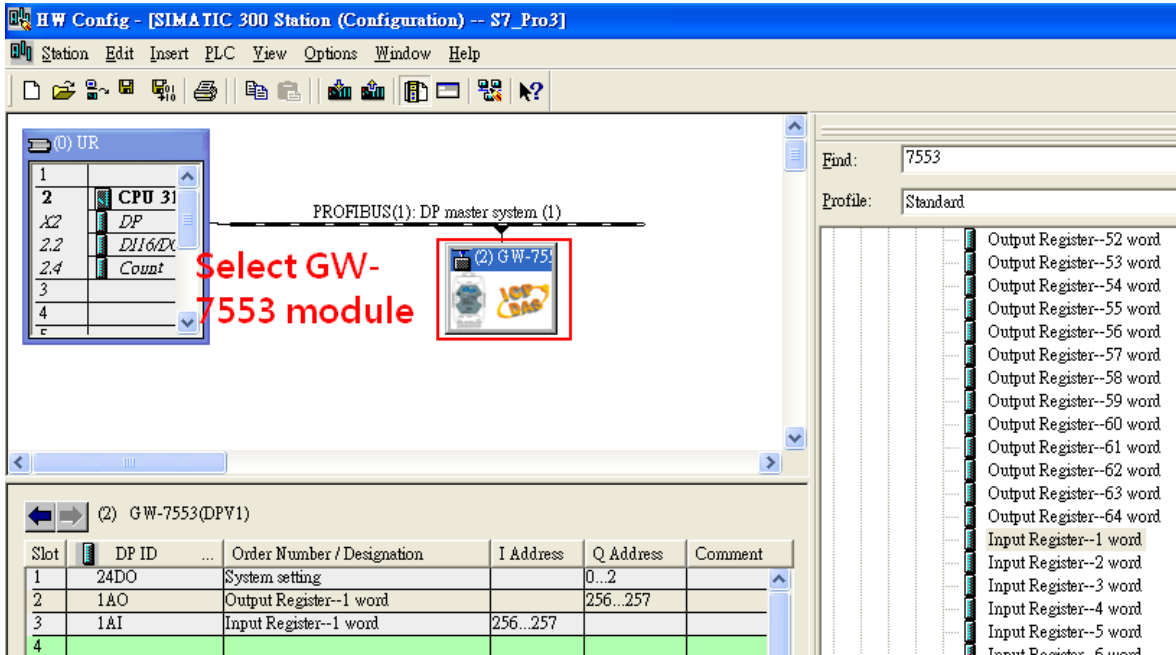
Read a Modbus TCP AO module (PROFIBUS Slave & Modbus TCP/Master)



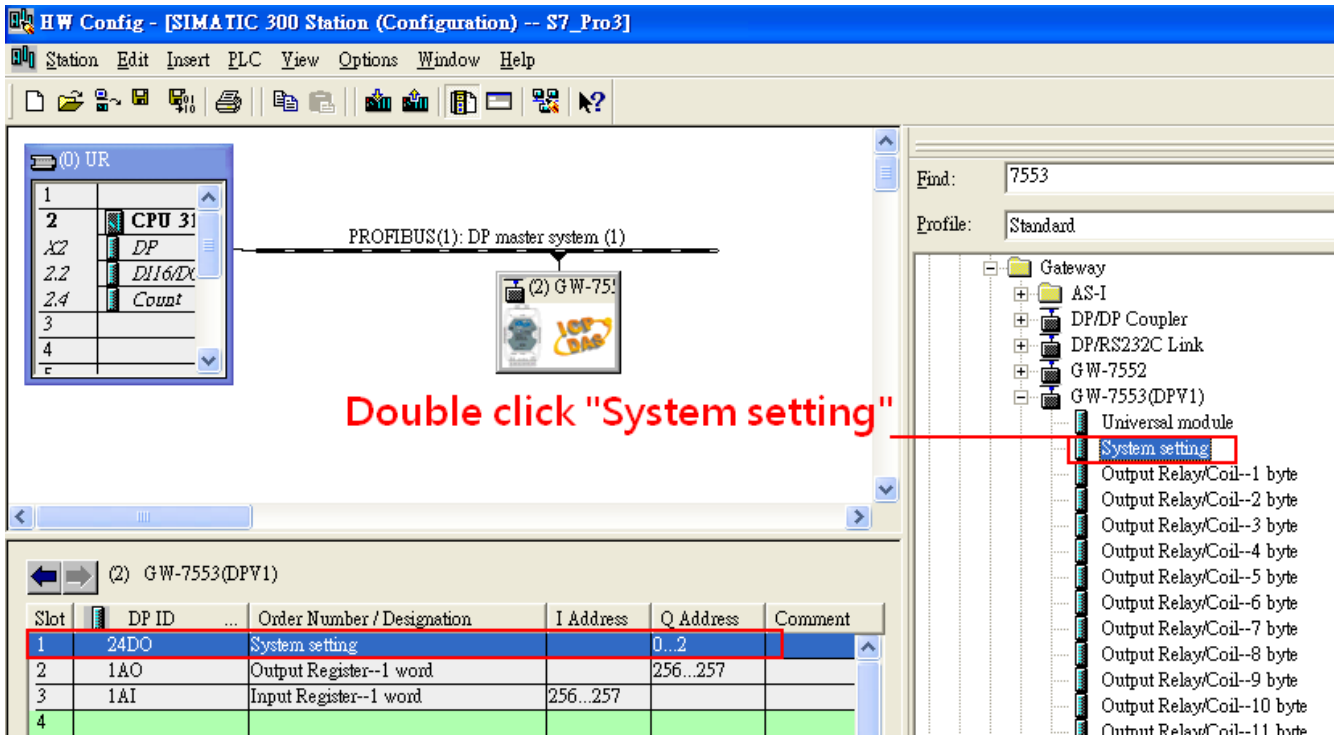
SIMATIC STEP7 Configuration:

Step 1: Setup the GW-7553 module

1. Select GW-7553 module



2. Add a System setting module



3. Add "Output Register – 1 word" and "Input Register – 1 word"

Find: 7553
Profile: Standard

Output Register--1 word

Output Register--2 word
Output Register--3 word
Output Register--4 word
Output Register--5 word
Output Register--6 word
Output Register--7 word
Output Register--8 word
Output Register--9 word
Output Register--10 word
Output Register--11 word
Output Register--12 word

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	1AO	Output Register--1 word		256...257	
3	1AI	Input Register--1 word	256...257		
4					

Find: 7553
Profile: Standard

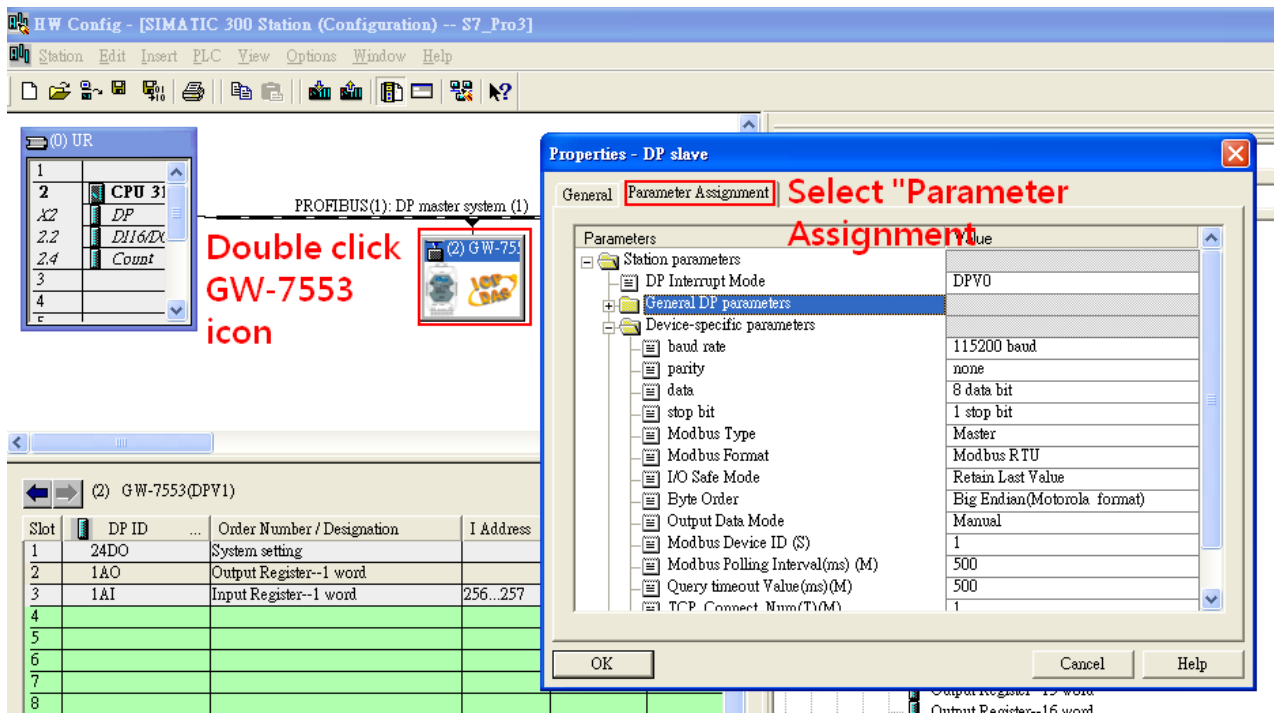
Input Register--1 word

Input Register--2 word
Input Register--3 word
Input Register--4 word
Input Register--5 word
Input Register--6 word
Input Register--7 word
Input Register--8 word
Input Register--9 word
Input Register--10 word
Input Register--11 word

Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	1AO	Output Register--1 word		256...257	
3	1AI	Input Register--1 word	256...257		
4					

Step 2: Setup the parameters of the GW-7553

1. Double click GW-7553 icon
2. Select "Parameter Assignment"

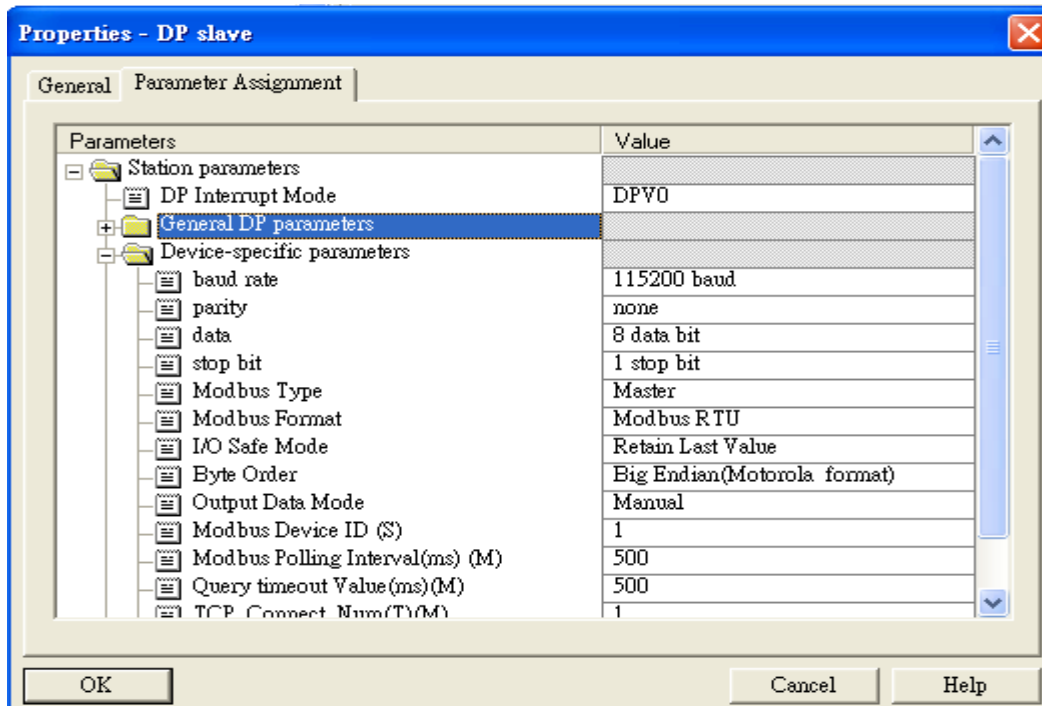


3. Set common parameters of the GW-7553

Common parameters →

Baud rate: 115200; Parity: none; Data: 8 data bit; Stop bit: 1 stop bit; Modbus type: Master

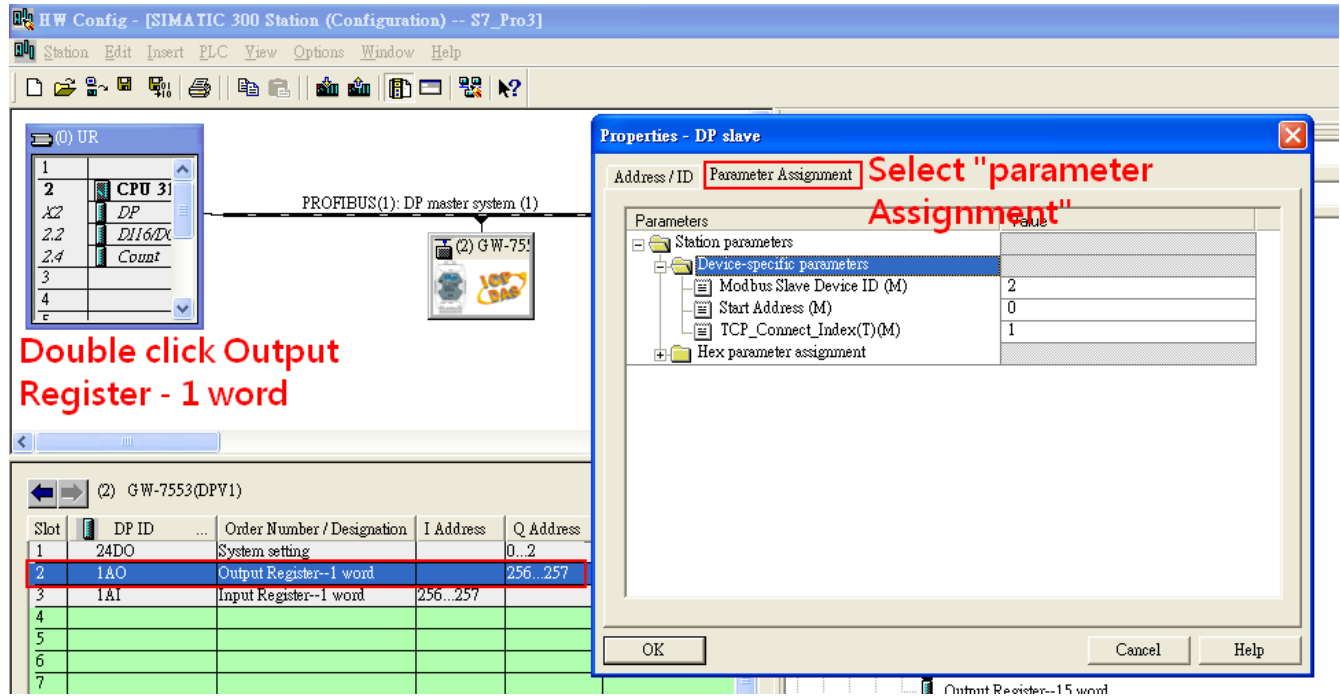
Modbus Format: Modbus TCP; Byte Order: Big Endian



4. Set module parameters of the GW-7553

(1) Double click "Output Register – 1 word" module

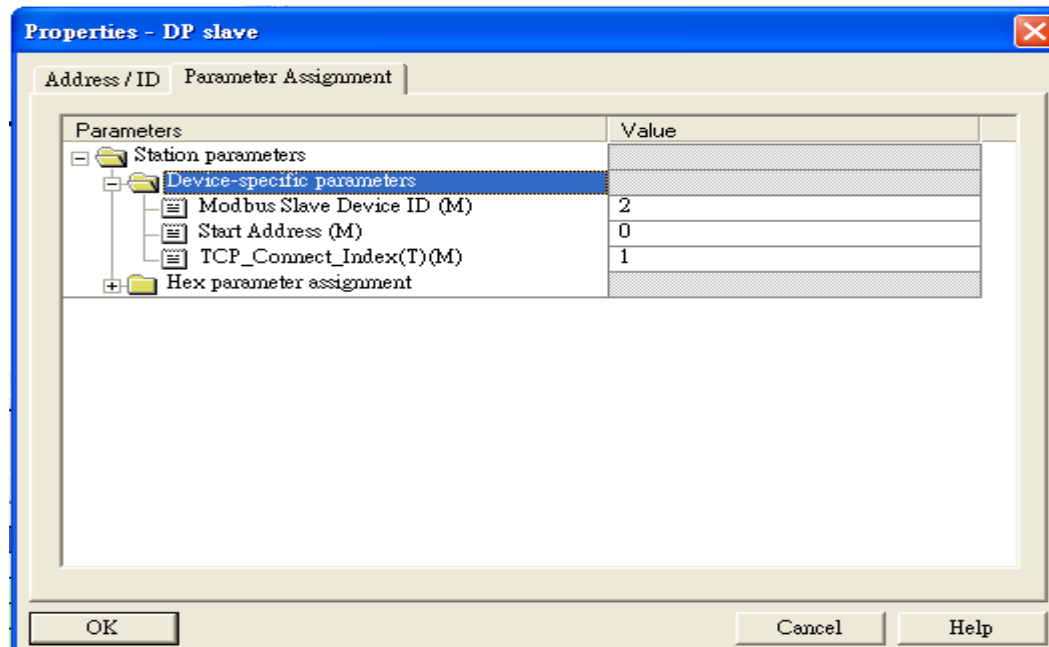
(2) Select "Parameter Assignment"



5. Setup "Output Register – 1 word" module parameters

Module parameters →

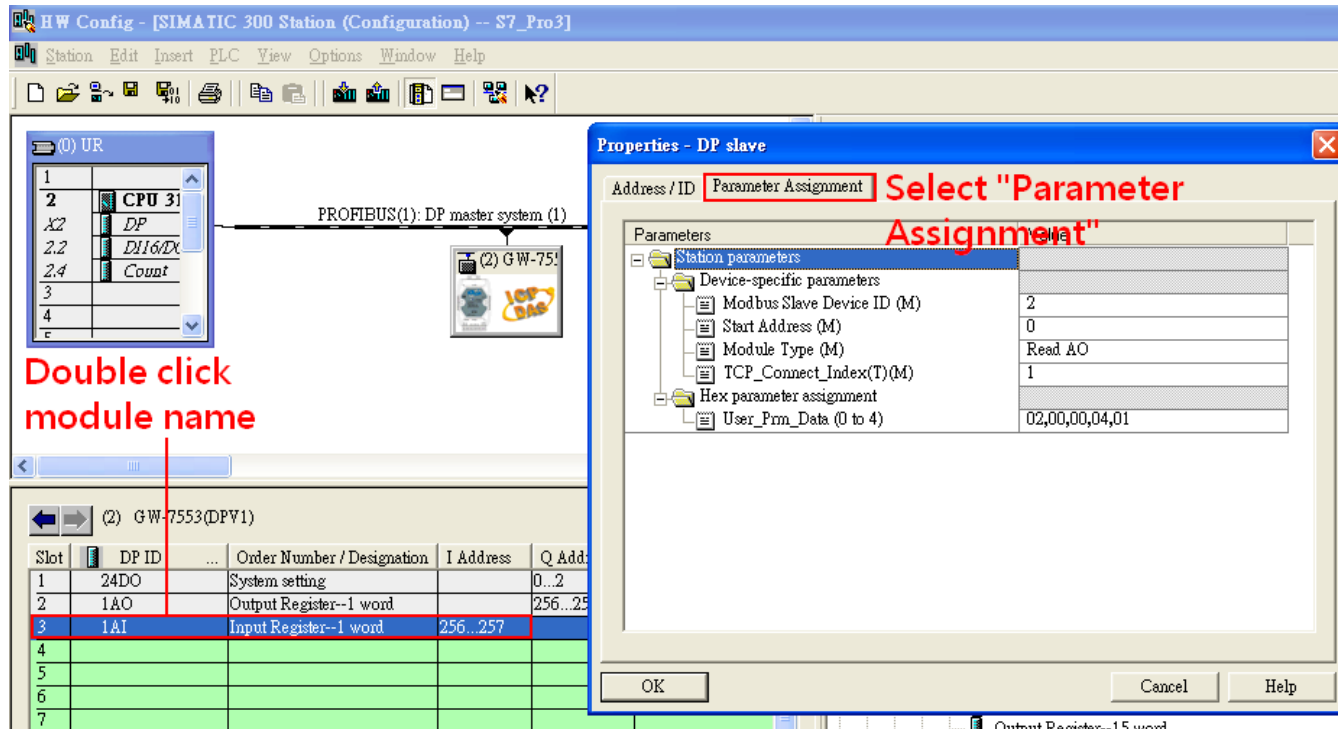
Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0)), click ok.



6. Set module parameters of the GW-7553

(1) Double click "Input Register – 1 word" module

(2) Select "Parameter Assignment"

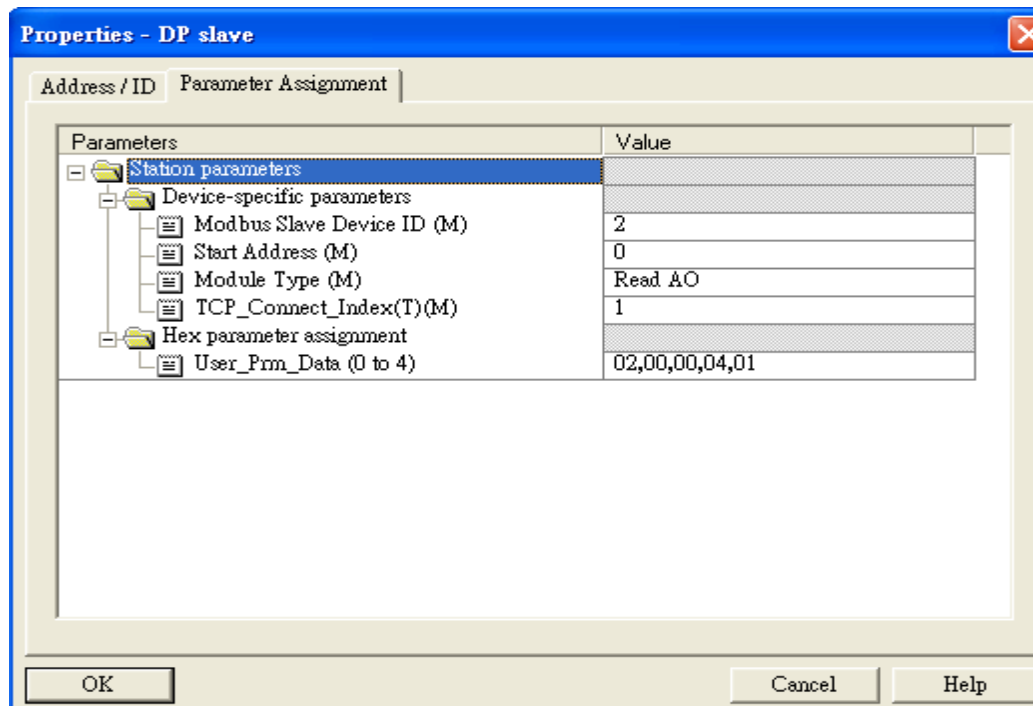


5. Setup "Input Register – 1 word" module parameters

Module parameters →

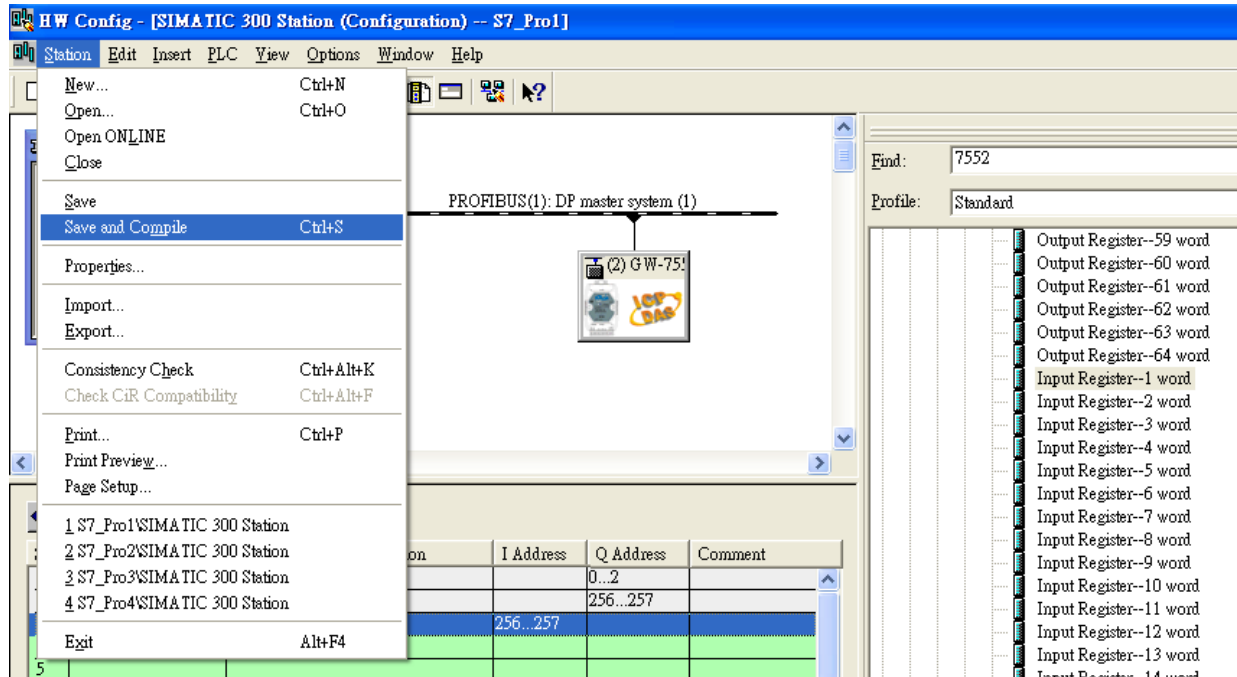
Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0)), click ok.

Module Type: Read AO, click ok.

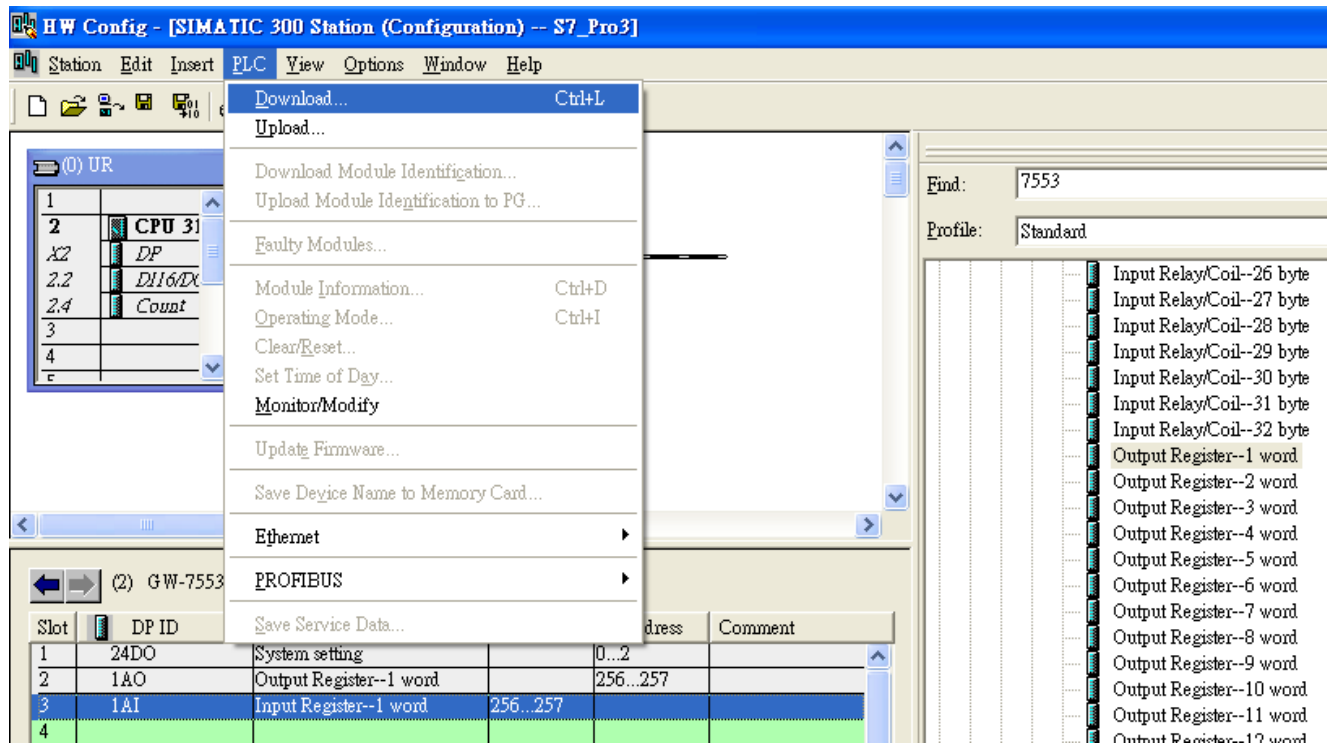


Step 3: Download the HW settings into SIMATIC PLC

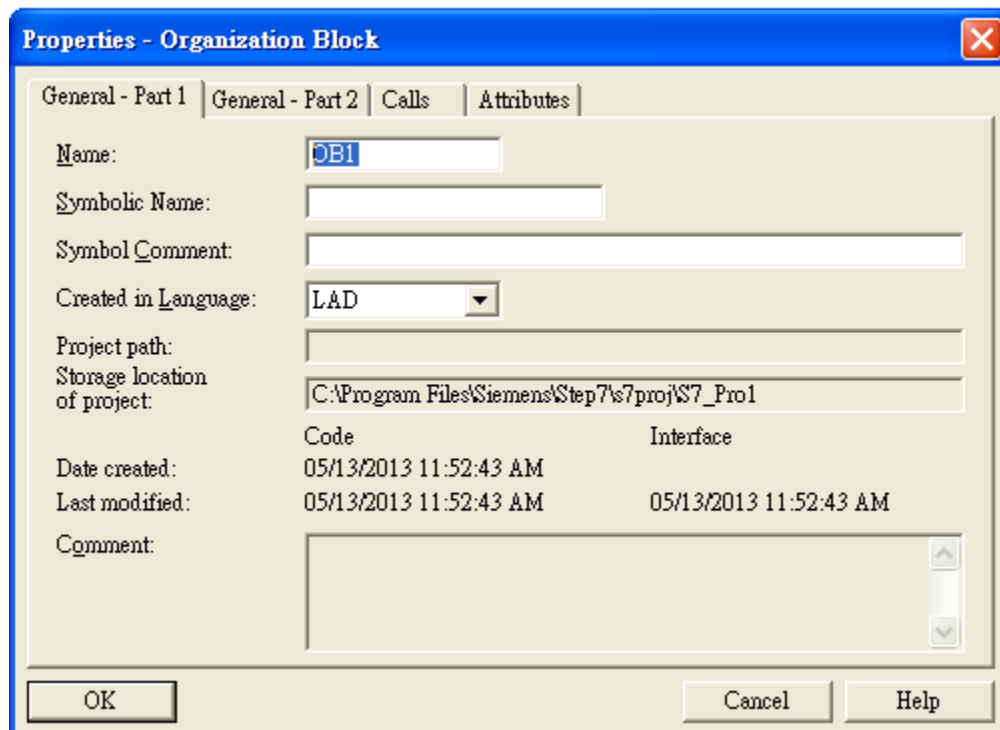
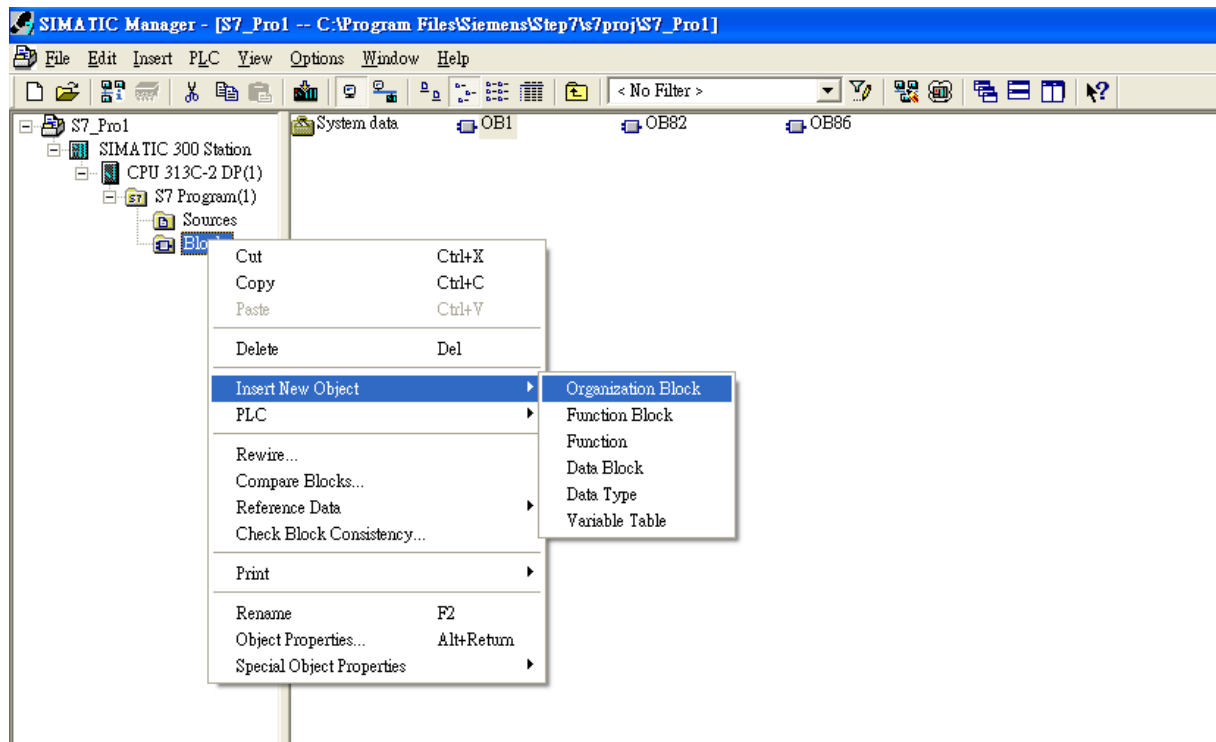
1. Save and Compile

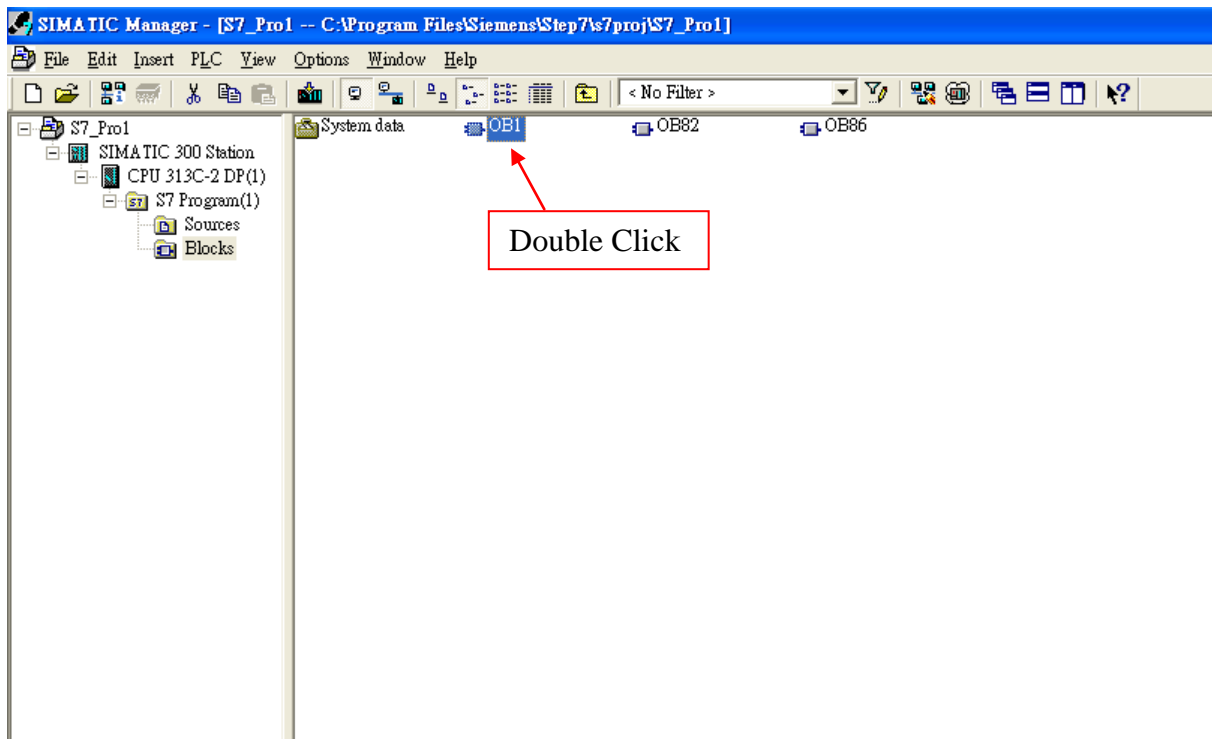


2. HW settings into SIMATIC PLC



Step 4: Insert a new Organization Block (OB1,OB82,OB86)





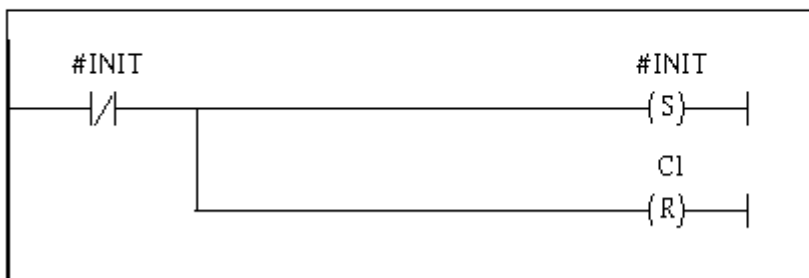
Step 5: Edit OB1

Variables used in the example LD Program:

Name	Data Type	Address	Comment
END	Bool	20.0	
INIT	Bool	20.1	
Tri	Int	22.0	
AIValue	Word	24.0	

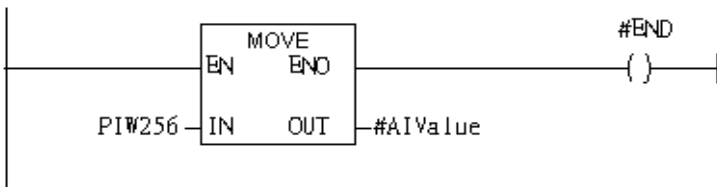
Network 1: Reset Counter(C1)

Reset Counter (C1)



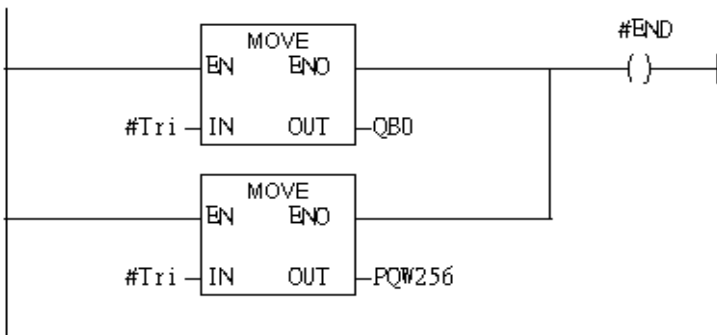
Network 2 : Title:

Comment:



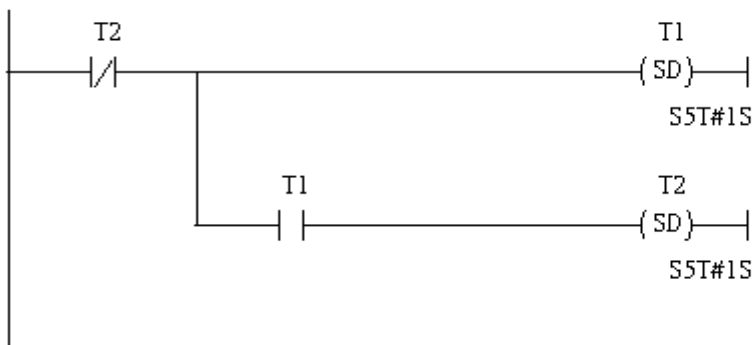
Network 3 : QW0 add "1" then PLC will send QW3 out.

1 word AO



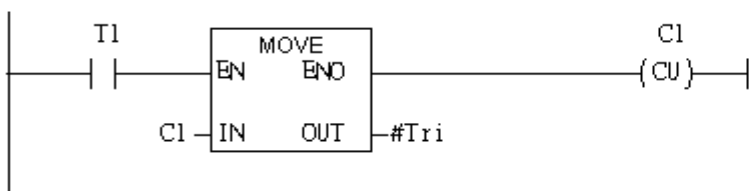
Network 4 : Timer T1 & T2

Using T2 trigger T1



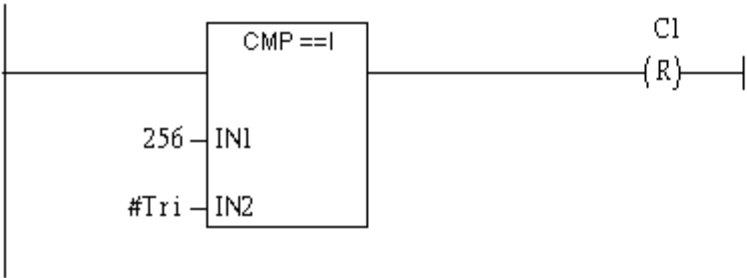
Network 5 : Counter C1

If counter(C1) add "1" and Tri will add "1" ,too.



Network 6 : Compare Tri & 256

If Tri is equal to 256, C1 will reset



Step 6: Download the settings into SIMATIC PLC

The screenshot shows the SIMATIC Manager interface. The 'Download' menu is open, listing options such as 'Select Online CPU...', 'Establish Connection to Configured CPU', 'CPU Messages...', 'Display Force Values', 'Monitor/Modify Variables', 'Module Information...', 'Operating Mode...', 'Clear/Reset...', and 'Set Time of Day...'. The 'Contents Of: 'Environment\Interface\TEMP'' table is visible in the background.

Name	Data Type	Address	Comment
OB1_MAX...	Int	10.0	Maximum cycle time of OB1
OB1_DAT...	Date_...	12.0	Date and time OB1 started
END	Bool	20.0	
INIT	Bool	20.1	
Tri	Int	22.0	
AIValue	Word	24.0	

Below the table, a portion of a ladder logic network is visible, showing a normally closed contact labeled '#INIT' connected to a coil labeled '#INIT (S)'. Another coil labeled 'C1 (R)' is also shown.

Network 2 : Title:

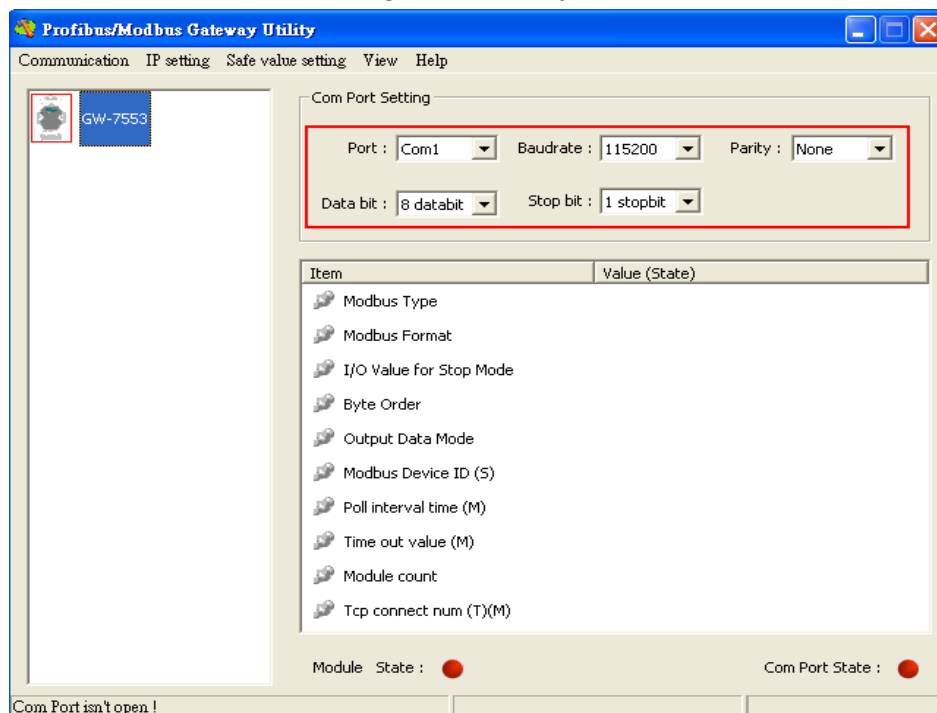
Comment:

Step 7: Make sure the RUN LED of the GW-7553 is on and the switch of the GW-7553 is at Normal mode.

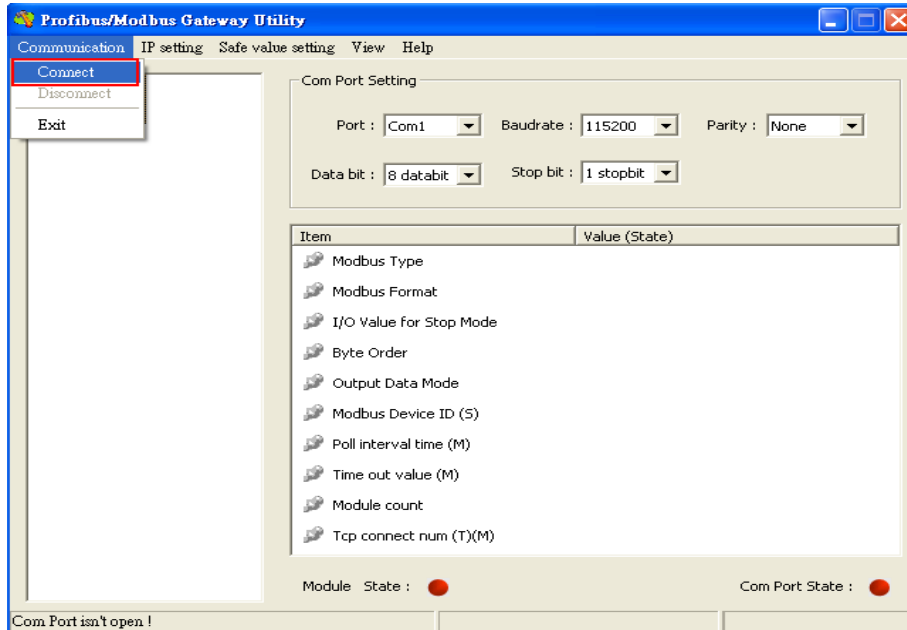


Step 8: Connect with GW-7553 and Utility

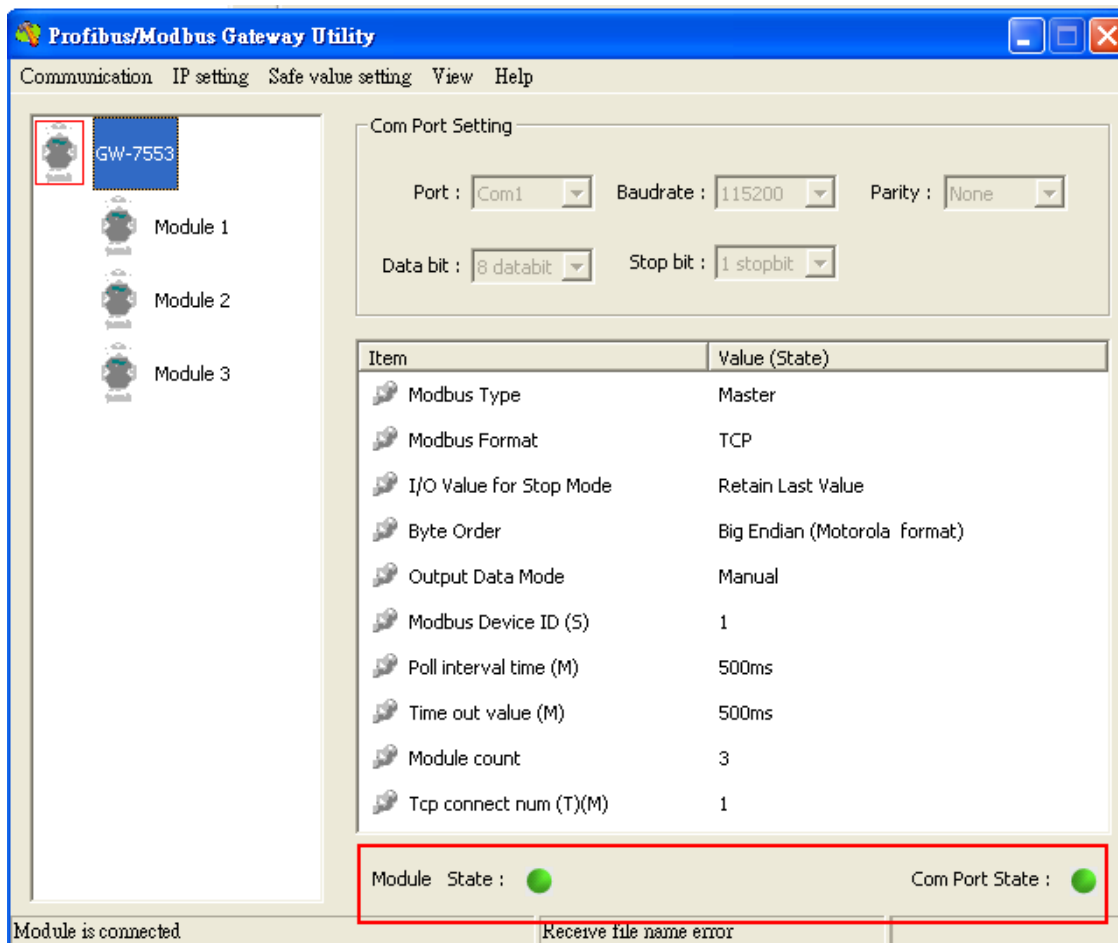
1. Set the Com Port Setting of the Utility



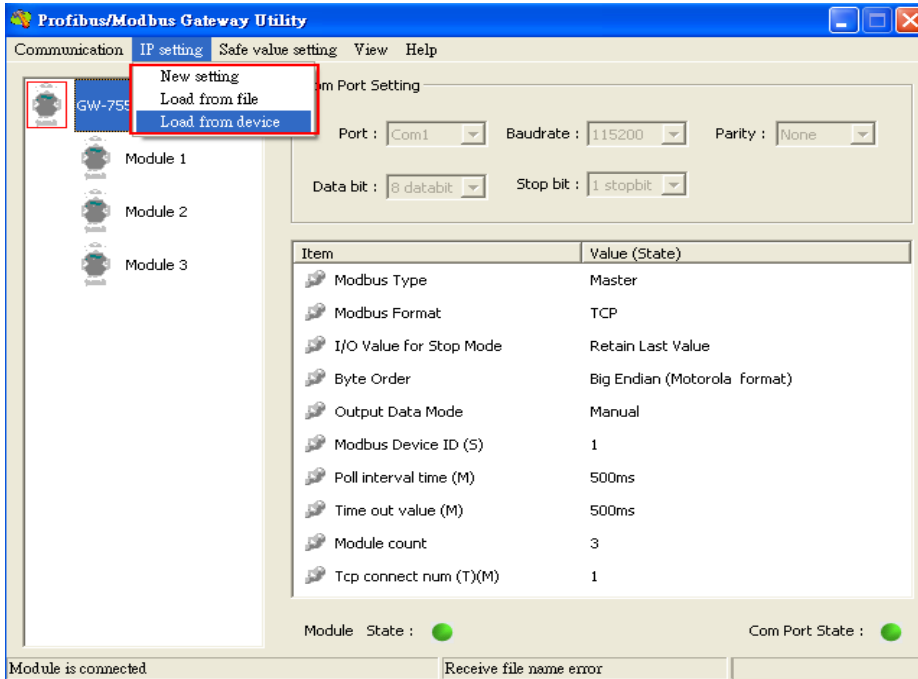
2. Click connect.



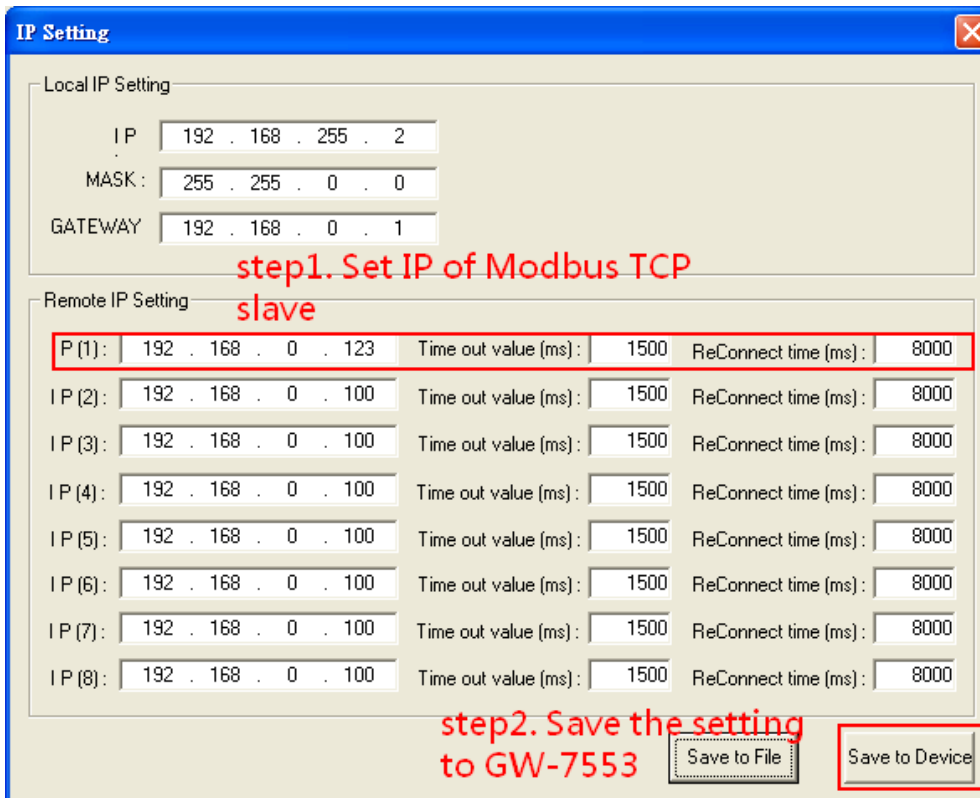
3. Connection success



4. Click IP setting → Load from device to show IP setting dialog



5. Set the IP of the Modbus TCP Slave and click "Save to Device" button to save the settings.



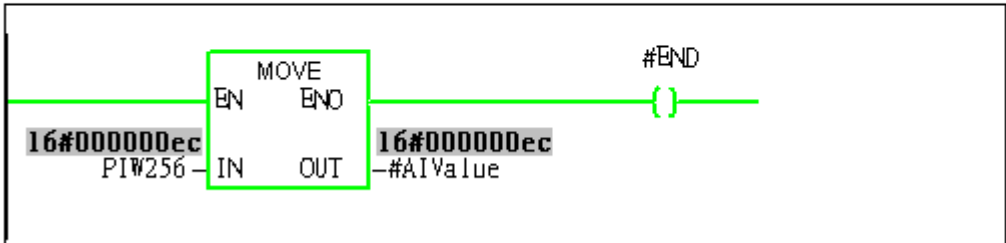
Step 9: Set the switch of the GW-7553 to Normal Mode then reset the power of GW-7553.



Now the setting procedure has been finished and the user can write the data to the Modbus AO module at address PIW256.

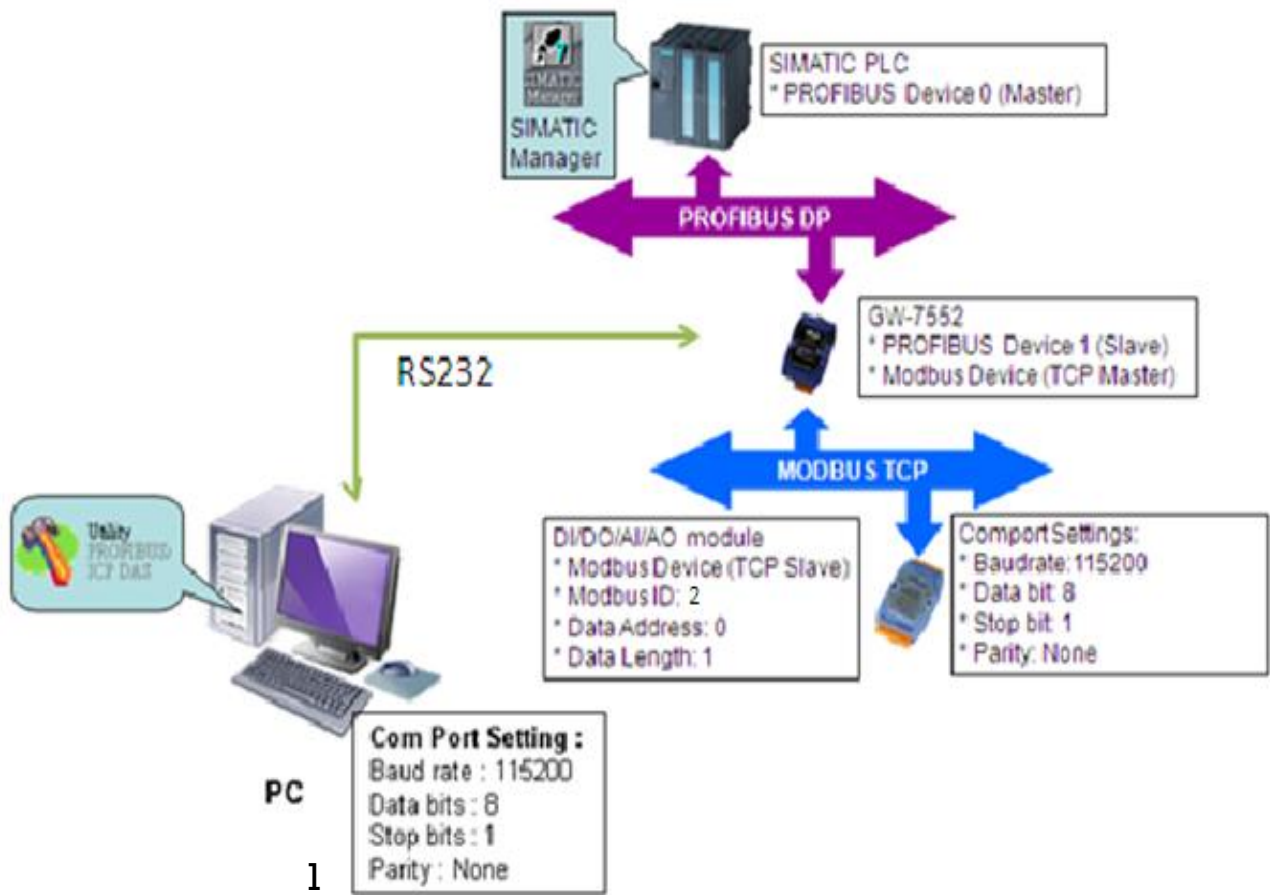
Network 2: Title:

Comment:



Example 4: PLC reads AI module data from GW-7553.
(Modbus FC04)

Read a Modbus TCP AI module (PROFIBUS Slave & Modbus TCP/Master)



SIMATIC STEP7 Configuration:

Step 1: Setup the GW-7553 module

1. Select GW-7553 module

The screenshot shows the HW Config interface for a SIMATIC 300 station. On the left, a rack diagram shows slots 1 through 5. Slot 1 contains CPU 31, slot 2 contains DP, slot 2.2 contains DI16/DO, and slot 2.4 contains Count. A red box highlights the GW-7553 icon in the component palette, with a red arrow pointing to it and the text "Select GW-7553 icon". Below the rack diagram, a table lists the modules:

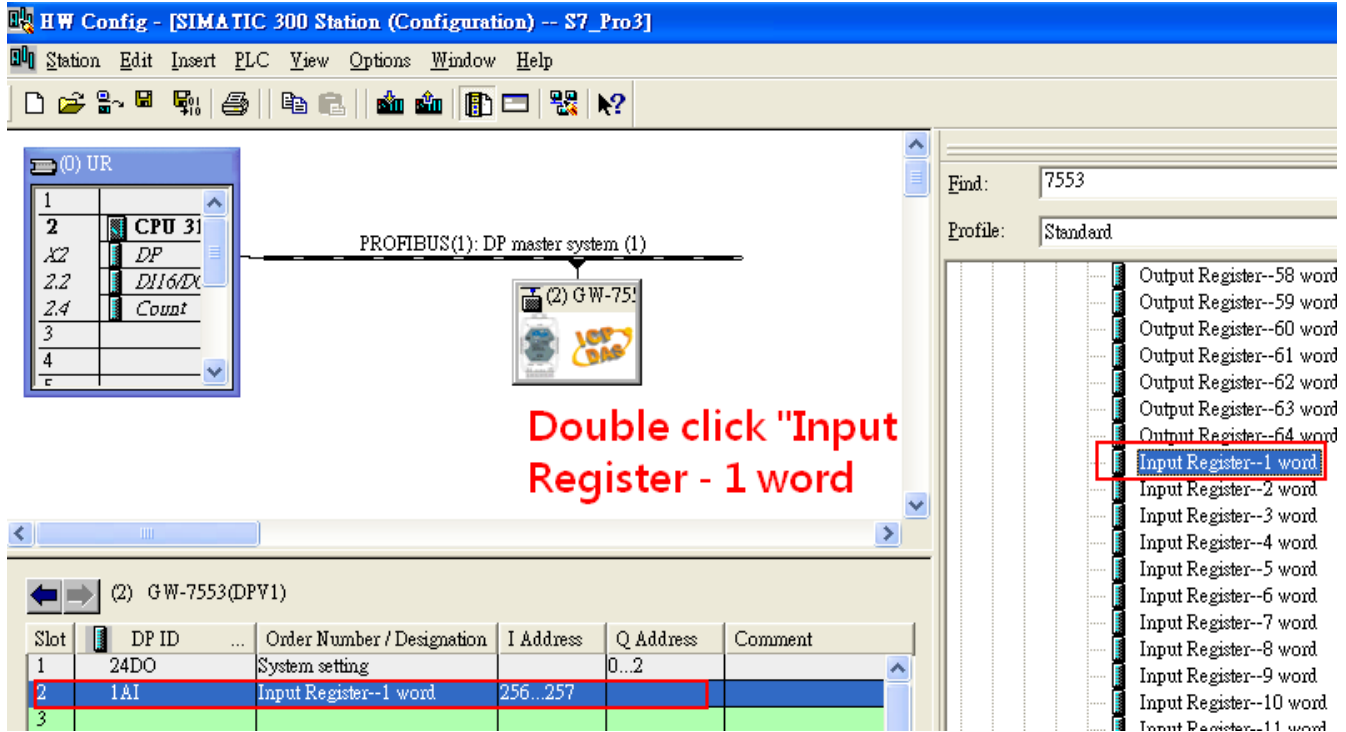
Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	1AI	Input Register--1 word	256...257		
3					

2. Add a System setting module

The screenshot shows the HW Config interface with the GW-7553 module selected. A red box highlights the "System setting" module in the component palette, with a red arrow pointing to it and the text "Double click 'System setting'". Below the rack diagram, a table lists the modules:

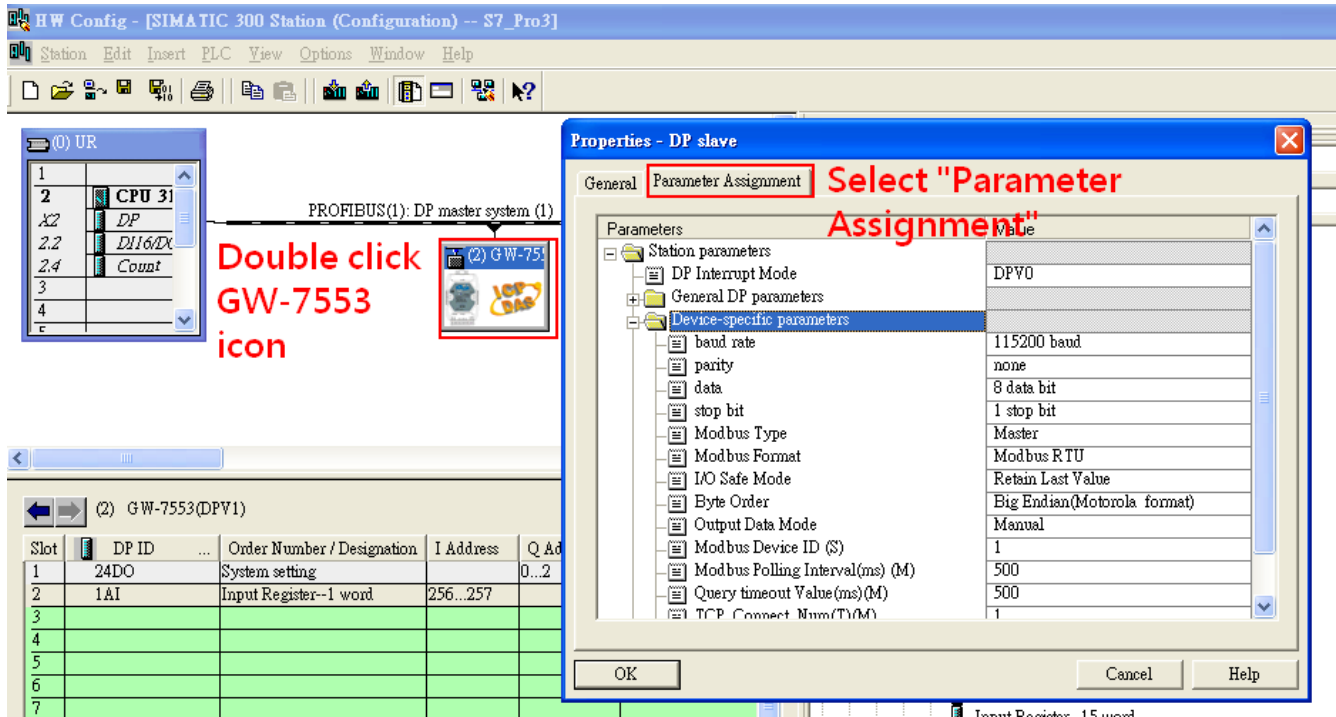
Slot	DP ID	Order Number / Designation	I Address	Q Address	Comment
1	24DO	System setting		0...2	
2	1AI	Input Register--1 word	256...257		
3					

3. Add "Input Register—1 word" module



Step 2: Setup the parameters of the GW-7553

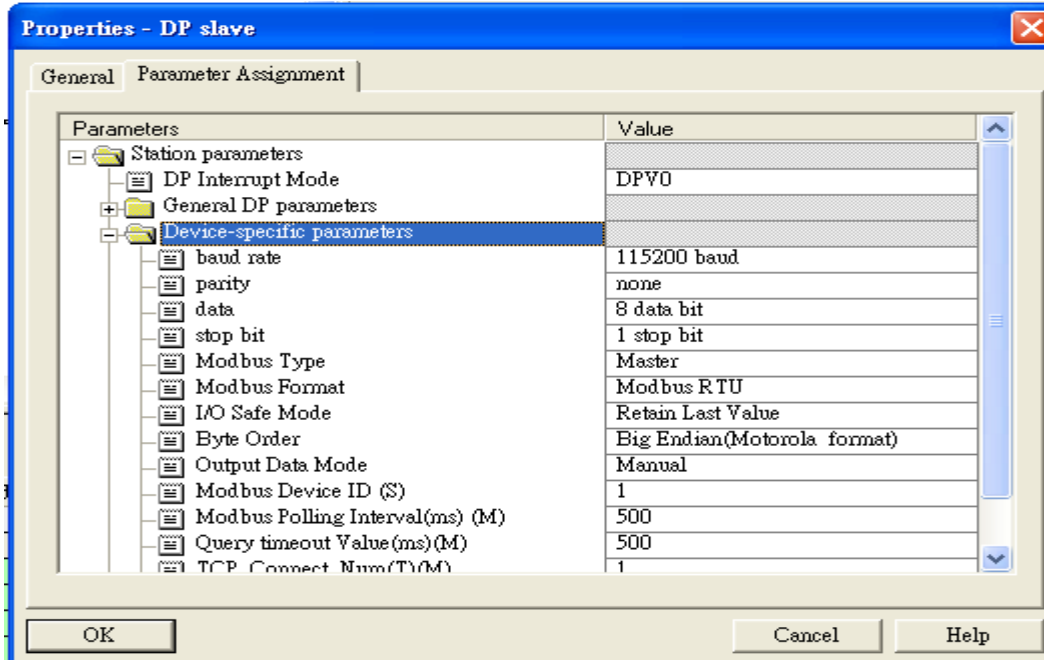
1. Double click GW-7553 icon
2. Select "Parameter Assignment"



3. Set common parameters of the GW-7553

Common parameters →

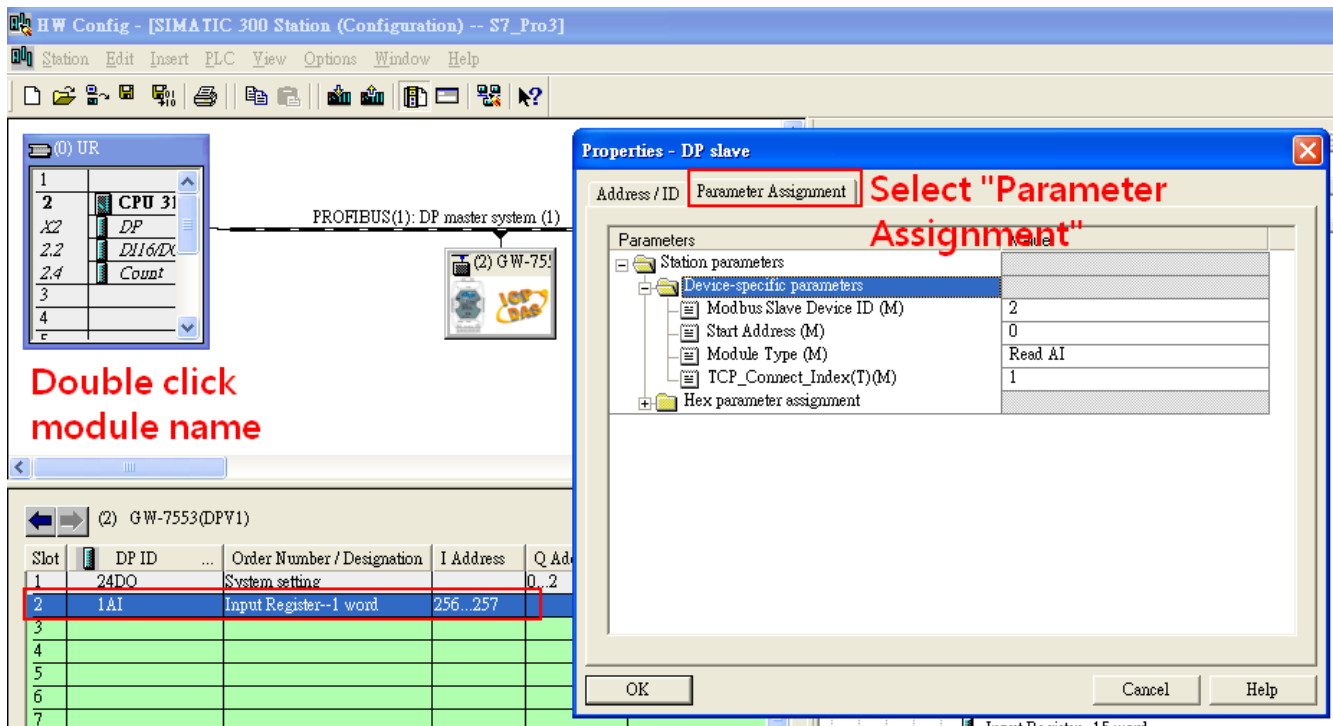
Baud rate: 115200; Parity: none; Data: 8 data bit; Stop bit: 1 stop bit; Modbus type: Master
 Modbus Format: Modbus TCP; Byte Order: Big Endian



4. Set module parameters of the GW-7553

(1) Double click "input register—1 word" module

(2) Select "Parameter Assignment"

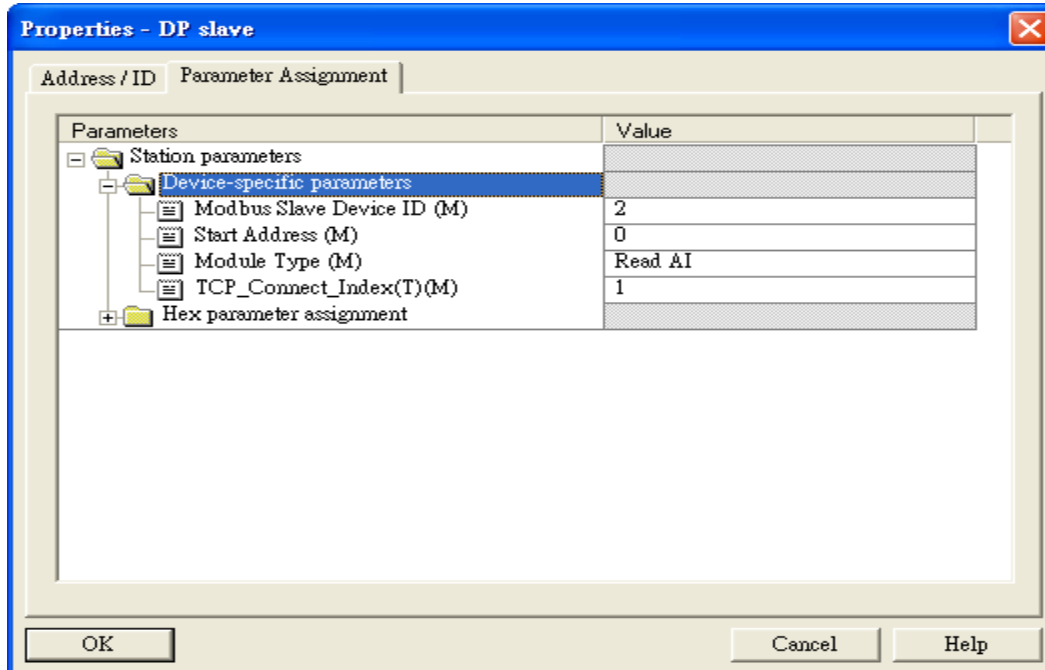


5. Setup “input register—1 word” module parameters

Module parameters →

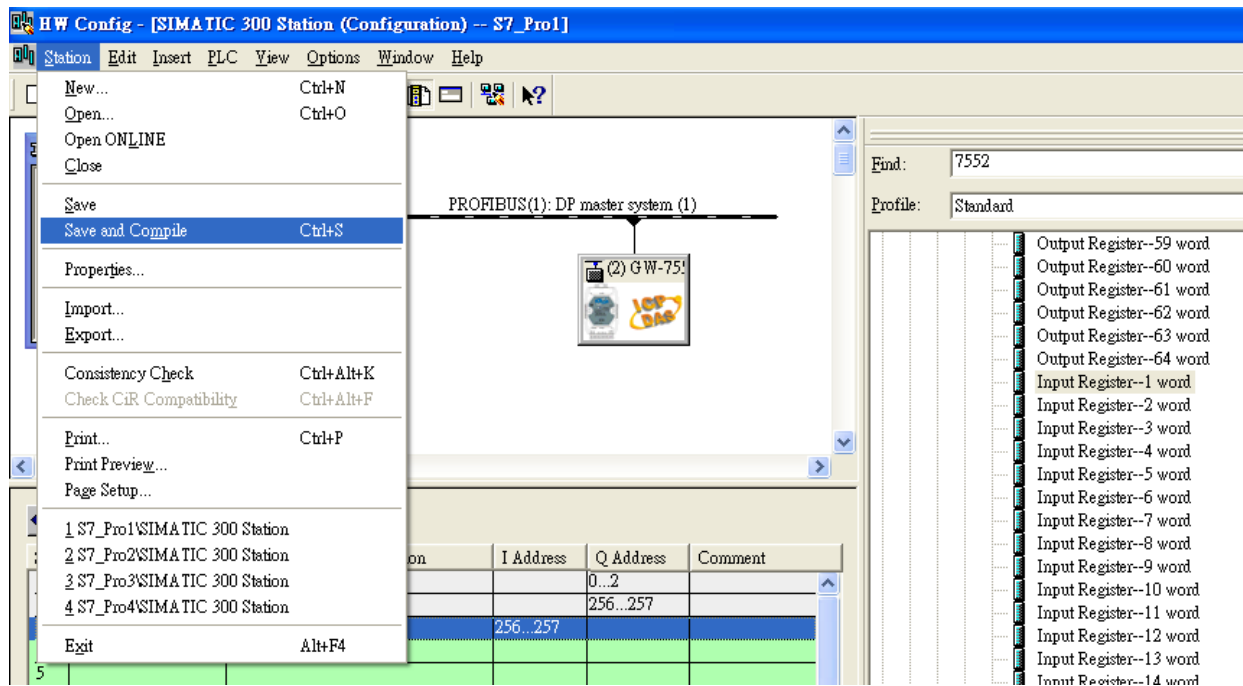
Modbus Slave Device ID: 1; Slave Address: 0 (Protocol address (base 0))

Module Type: Read AI, click ok.

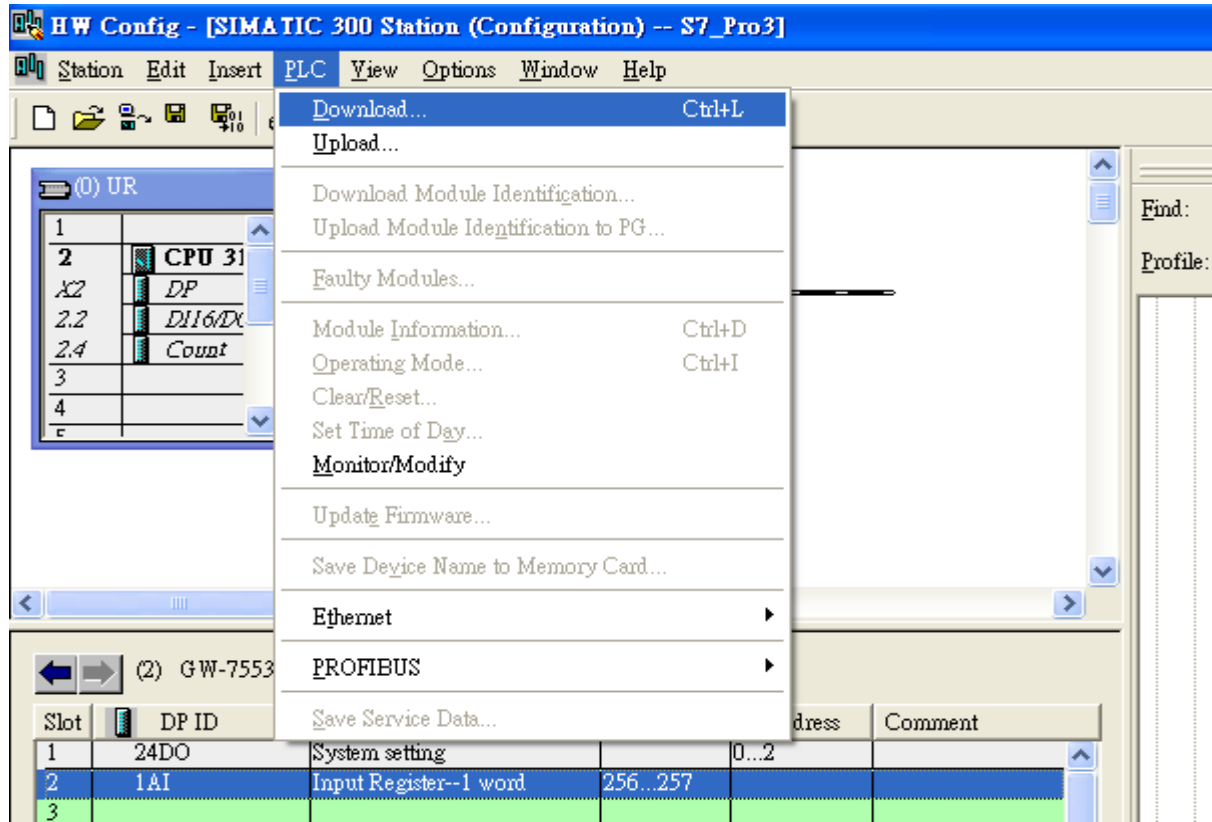


Step 3: Download the HW settings into SIMATIC PLC

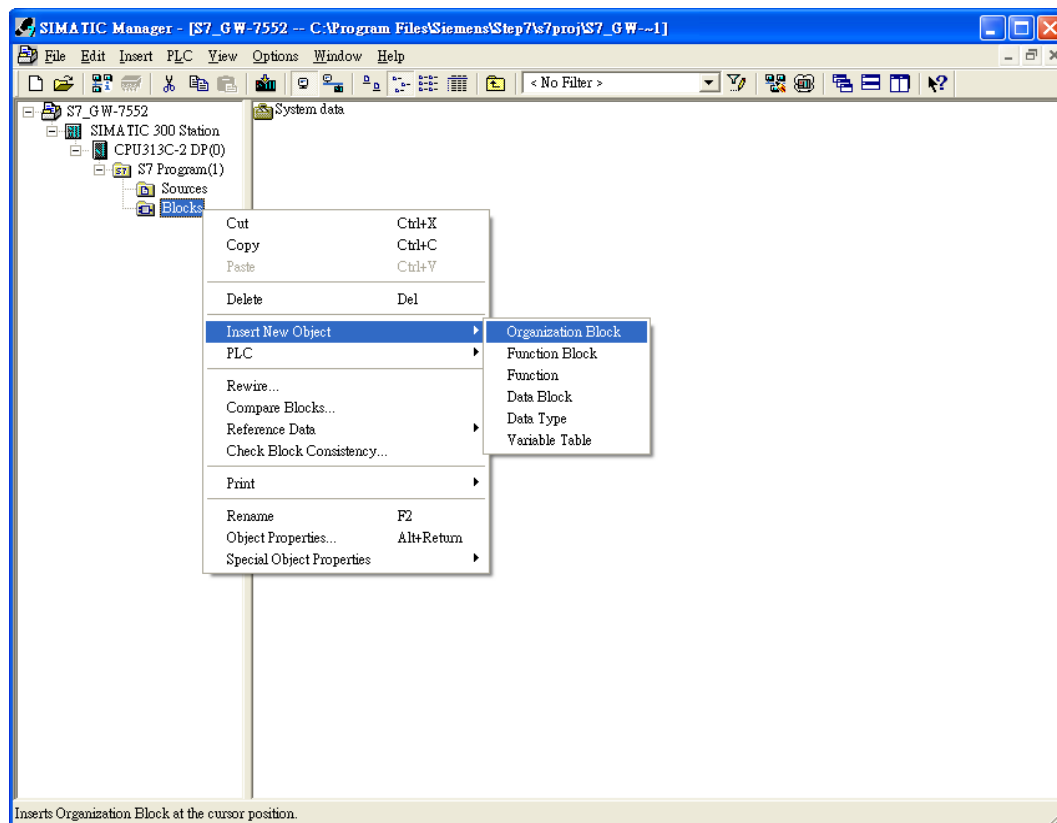
1. Save and Compile

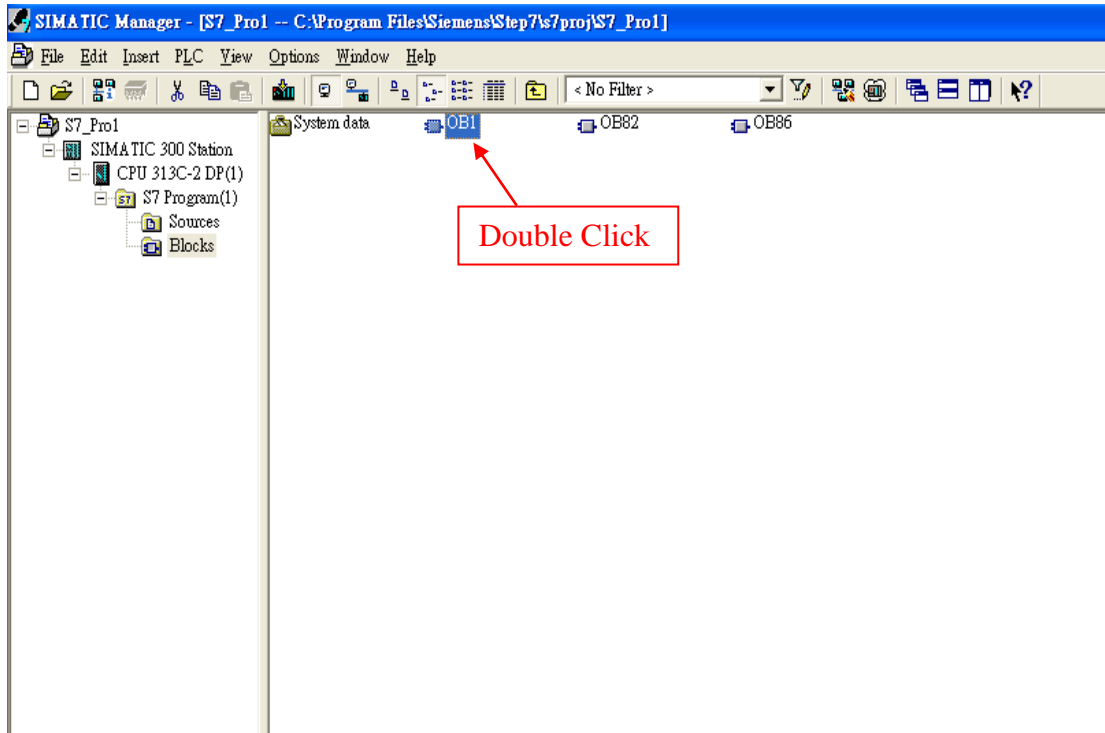
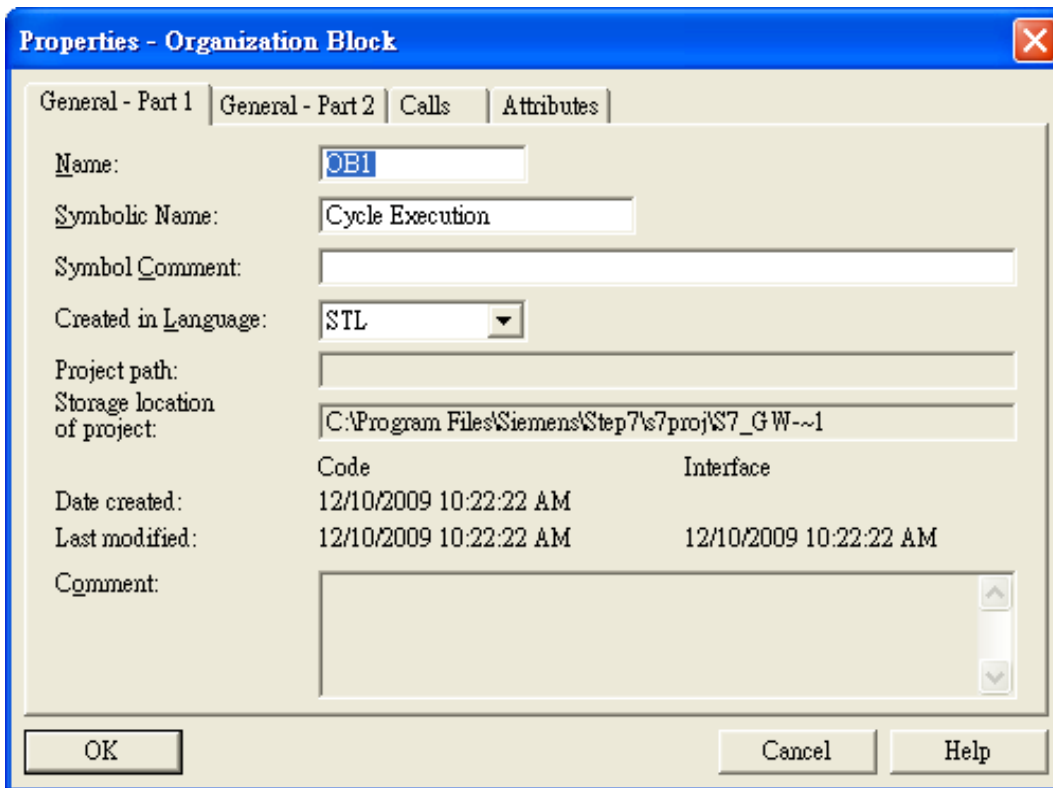


2. HW settings into SIMATIC PLC



Step 4: Insert a new Organization Block (OB1,OB82,OB86)





Step 5: Edit OB1

Contents Of: 'Environment\Interface\TEMP'

Name	Data Type	Address
AIValue	Word	20.0
END	Bool	22.0

OB1 : "Main Program Sweep (Cycle)"

Network 1: Read AI

```

    MOVE IN=PIW256, OUT=#AIValue
    END
  
```

Slot	D.	Order Number / Designation	I Address	Q Address	Comment
1	24DC	System setting		0..2	
2	131	Input Register-1 word	256..257		
3					
4					
5					
6					
7					
8					
9					

Step 6: Download the settings into SIMATIC PLC

Download Ctrl+L

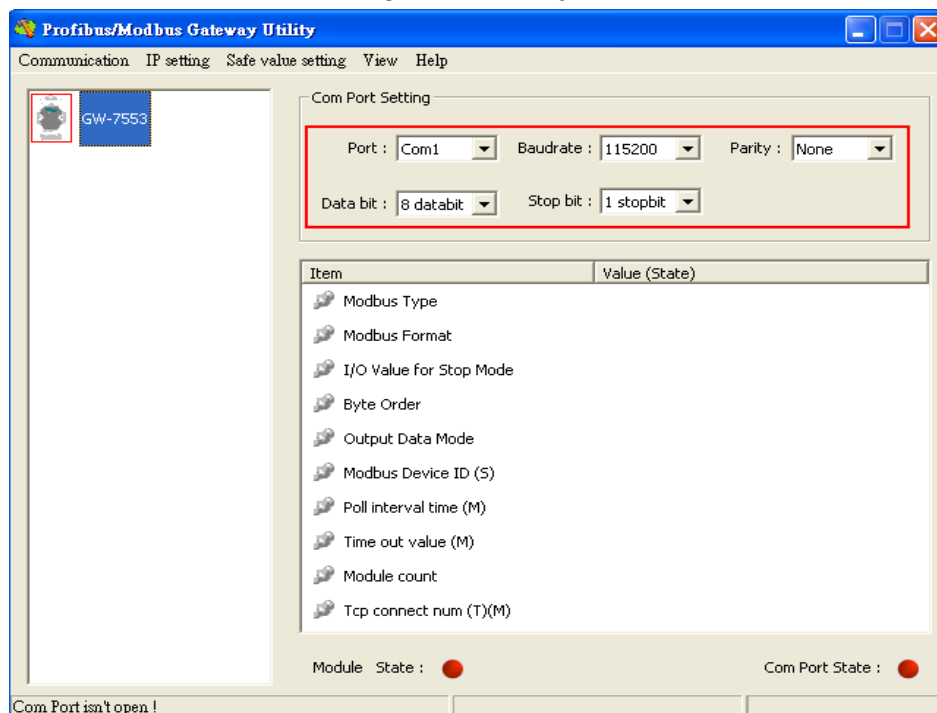
- Select Online CPU...
- Establish Connection to Configured CPU
- CPU Messages...
- Display Force Values Ctrl+Alt+F
- Monitor/Modify Variables
- Module Information... Ctrl+D
- Operating Mode... Ctrl+I
- Clear/Reset...
- Set Time of Day...

Step 7: Make sure the RUN LED of the GW-7553 is on and the switch of the GW-7553 is at Normal mode.

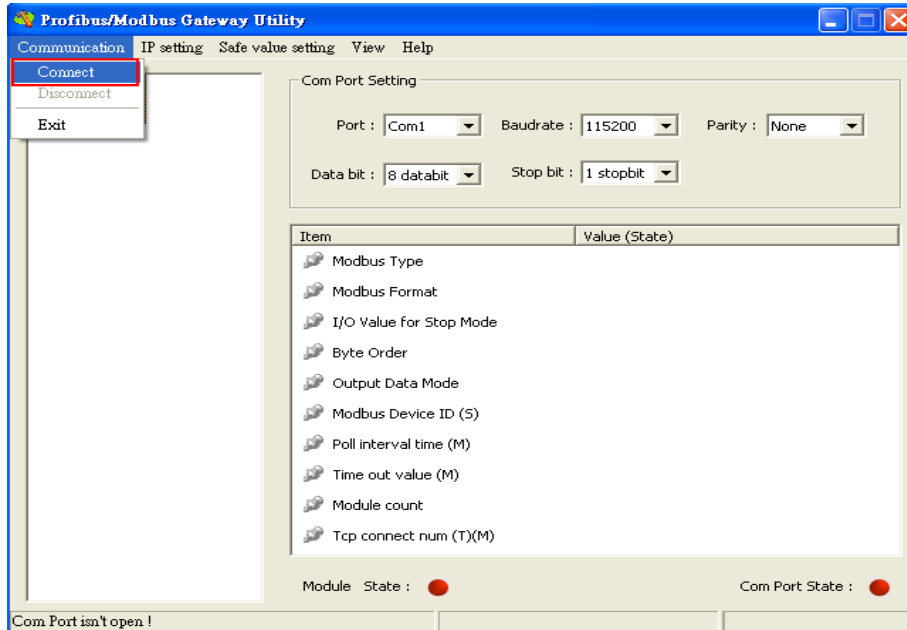


Step 8: Connect with GW-7553 and Utility

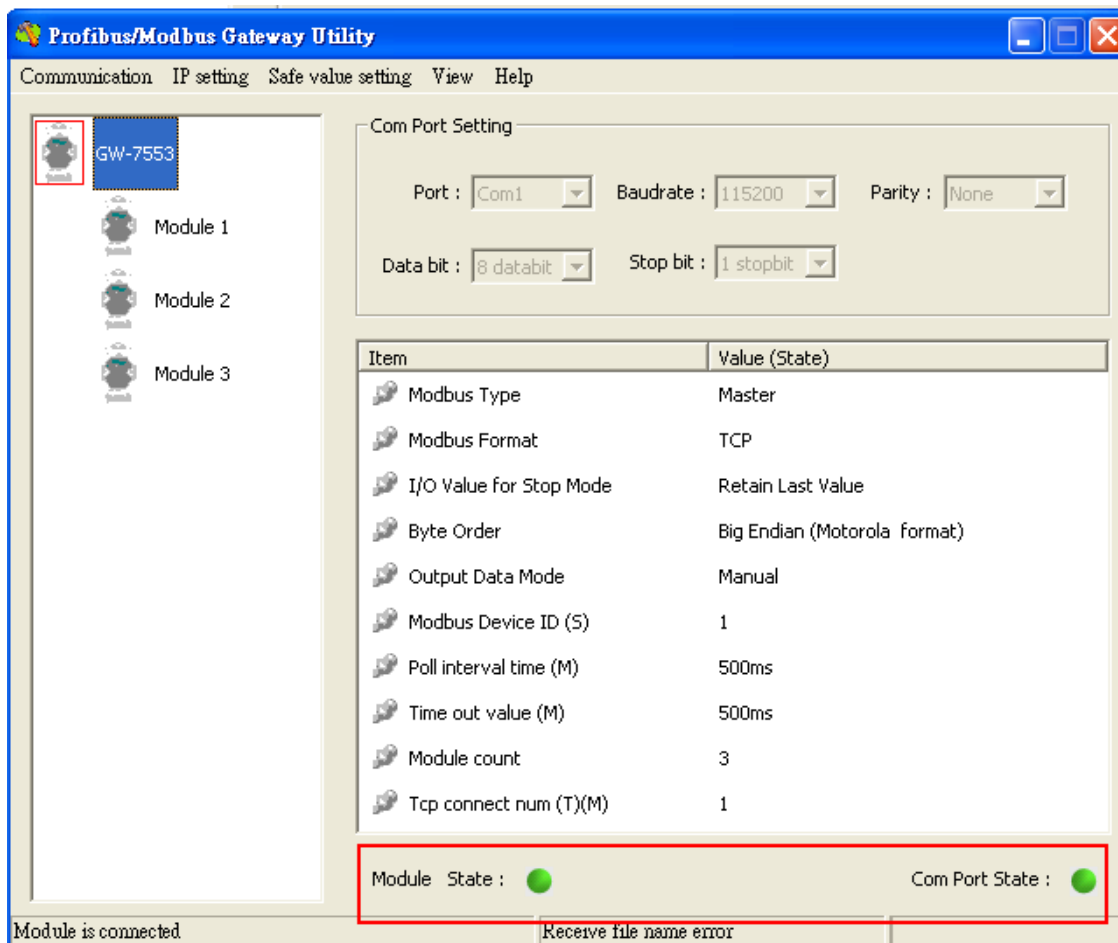
1. Set the Com Port Setting of the Utility



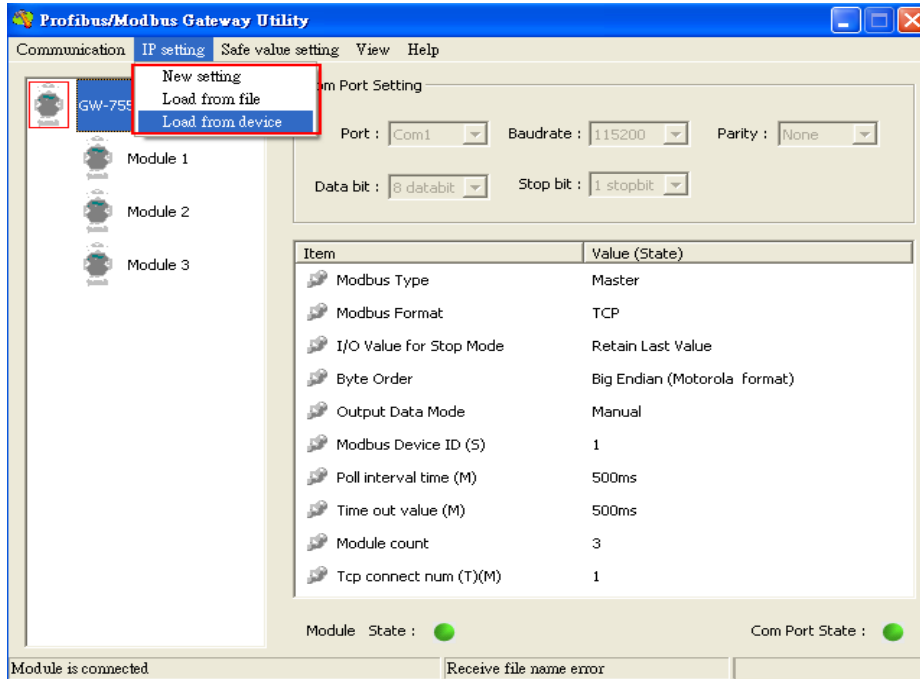
2. Click connect.



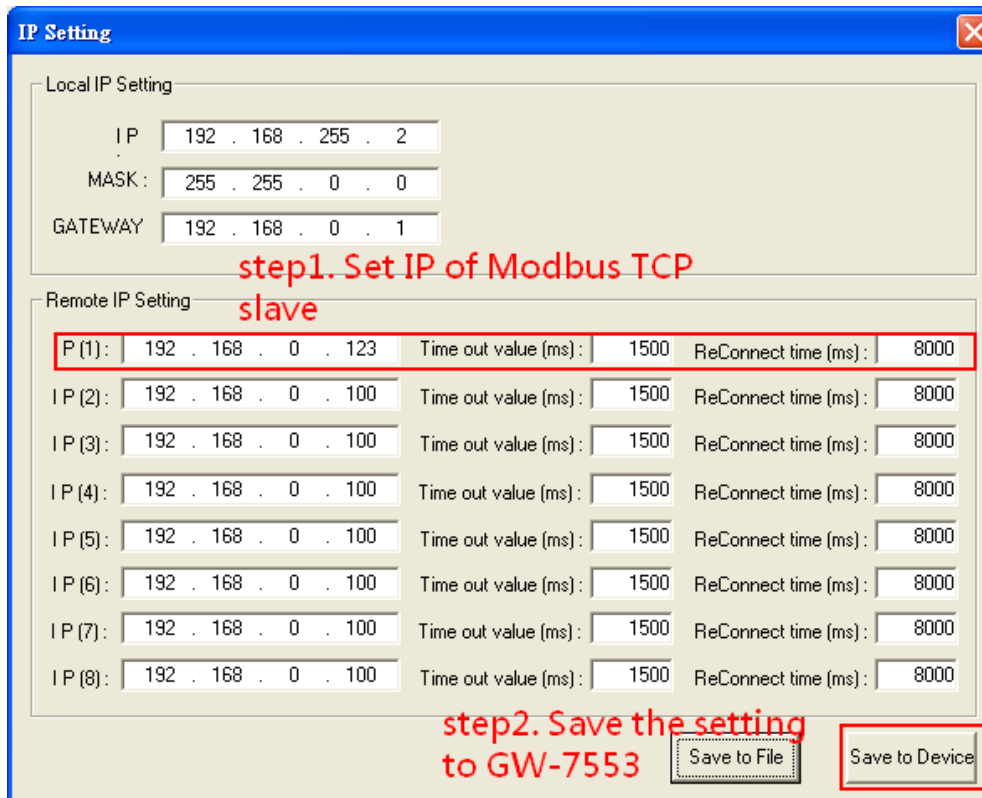
3. Connection success



4. Click IP setting → Load from device to show IP setting dialog



5. Set the IP of the Modbus TCP Slave and click "Save to Device" button to save the settings.



Step 9: Set the switch of the GW-7553 to Normal Mode then reset the power of GW-7553.



Now the setting procedure has been finished and the user can read the data of the Modbus AI module at address PIW256.

Contents Of: 'Environment\Interface\TEMP'

Name	Data Type	Address	Co
AIValue	Word	20.0	
End	Bool	22.0	

OBI : "Main Program Sweep (Cycle)"

Comment:

Network 1: Read AI

Comment:

```
graph LR
    IN[16#00002211 PIW256 - IN] -- MOVE --> OUT[16#00002211 -#AIValue]
    OUT --> End((#End))
```

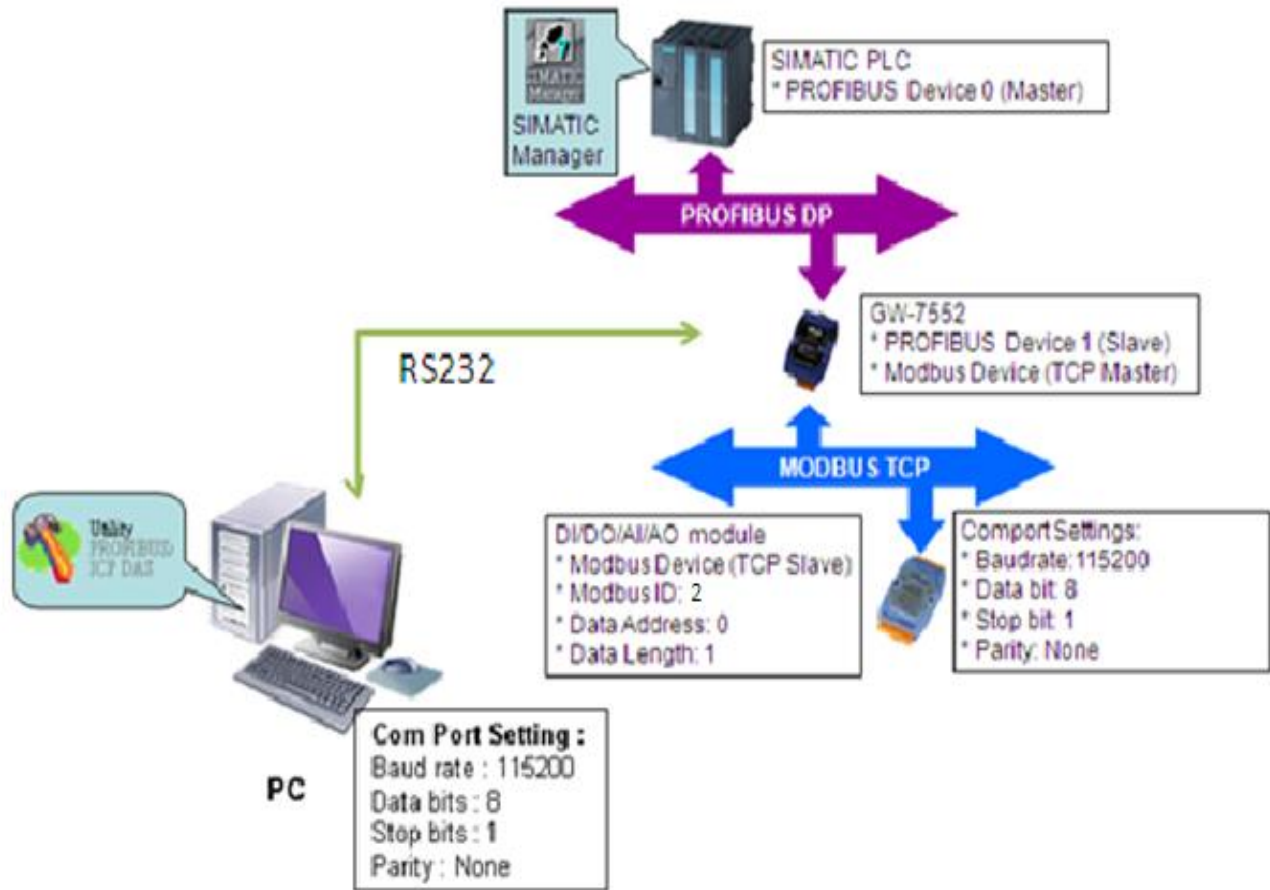
1: Error 2: Info 3: Cross-references 4: Address info. 5: Modify 6: Diagnostics 7: Comp

Press F1 to get Help. RUN Abs < 5.2 Nw 1 Rd Chg

Example 5: PLC writes DO module data to GW-7553.

(Modbus FC05, FC15)

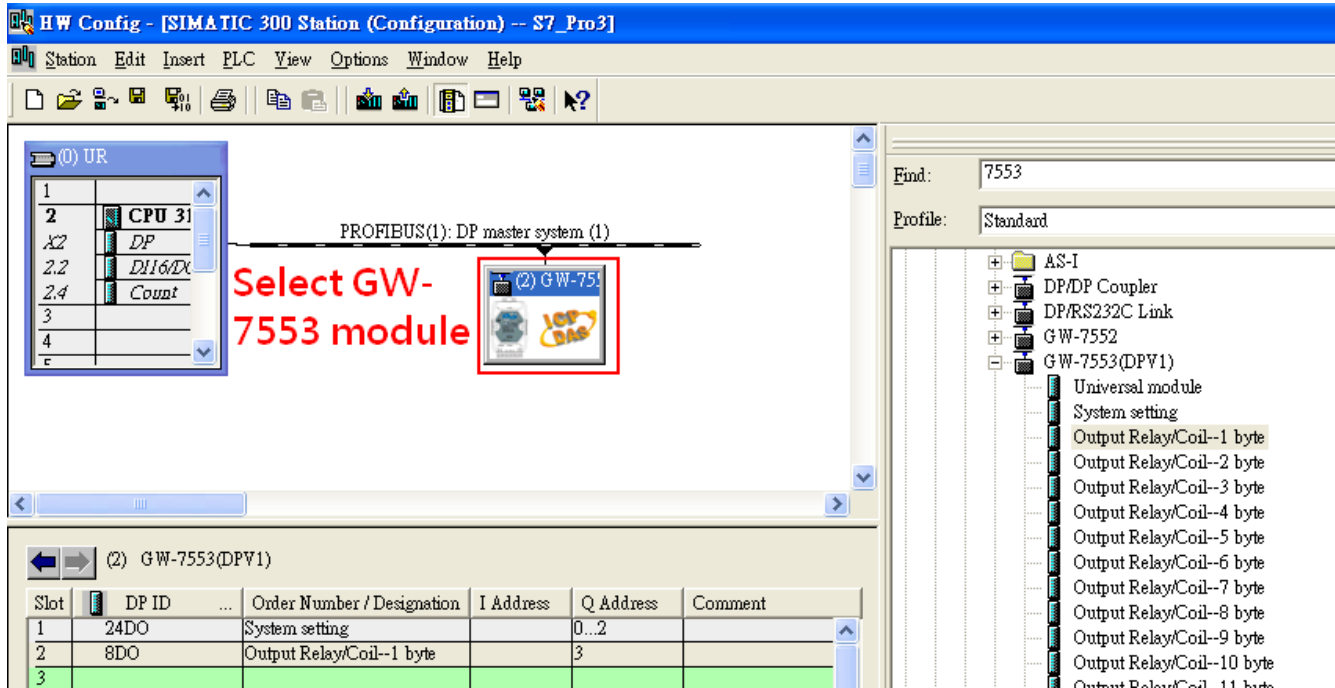
Write a Modbus TCP DO module (PROFIBUS Slave & Modbus TCP/Master)



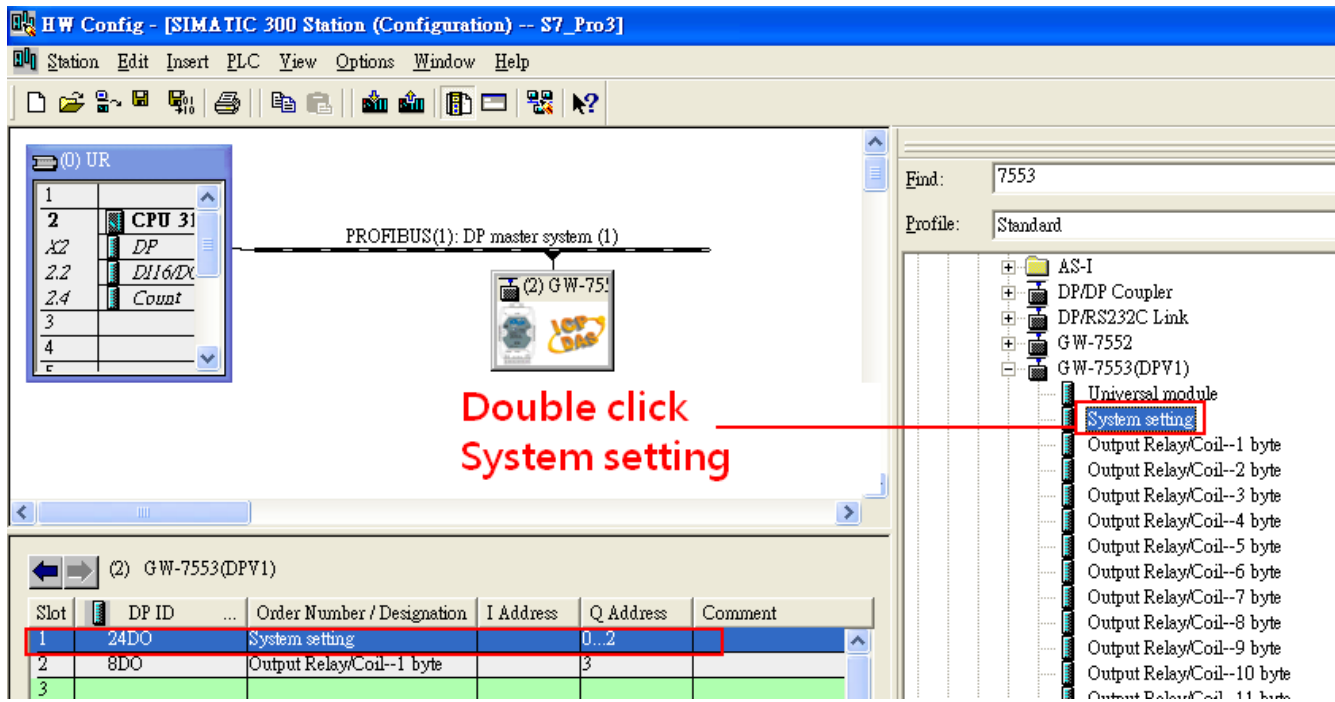
SIMATIC STEP7 Configuration:

Step 1: Setup the GW-7553 module

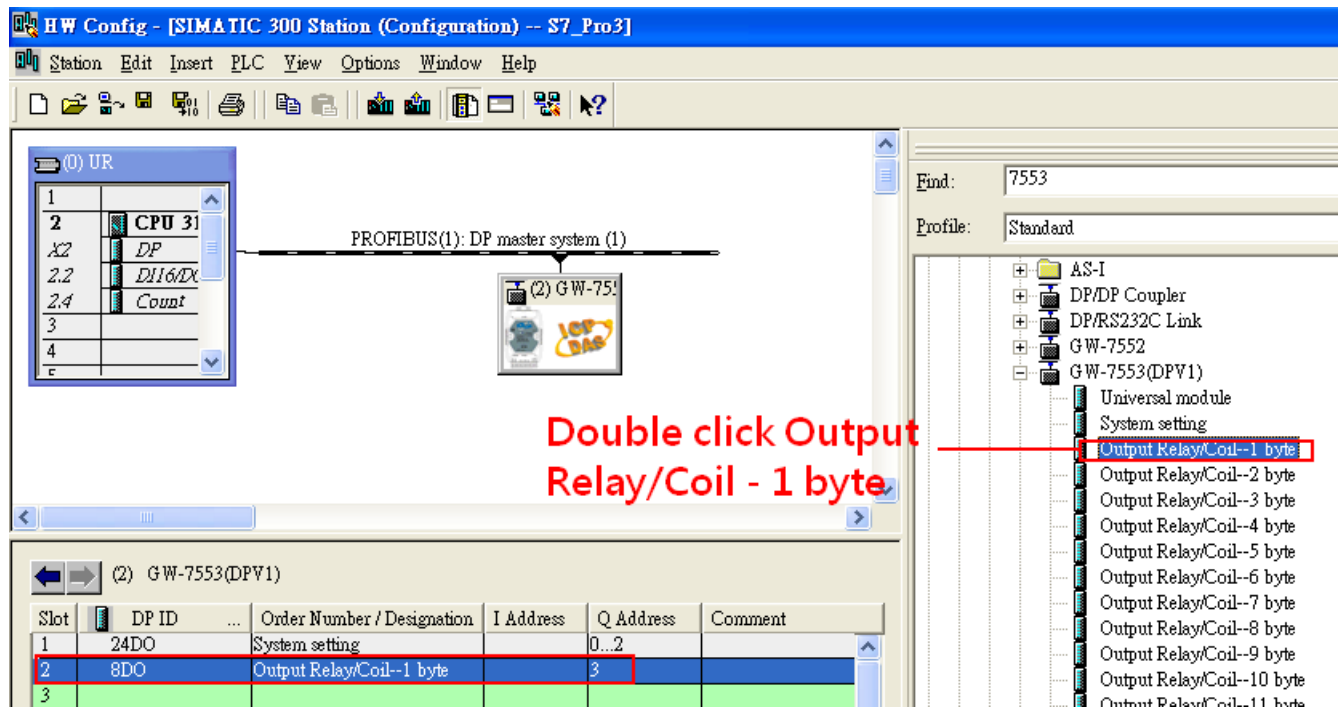
1. Select GW-7553 module



2. Add a System setting module

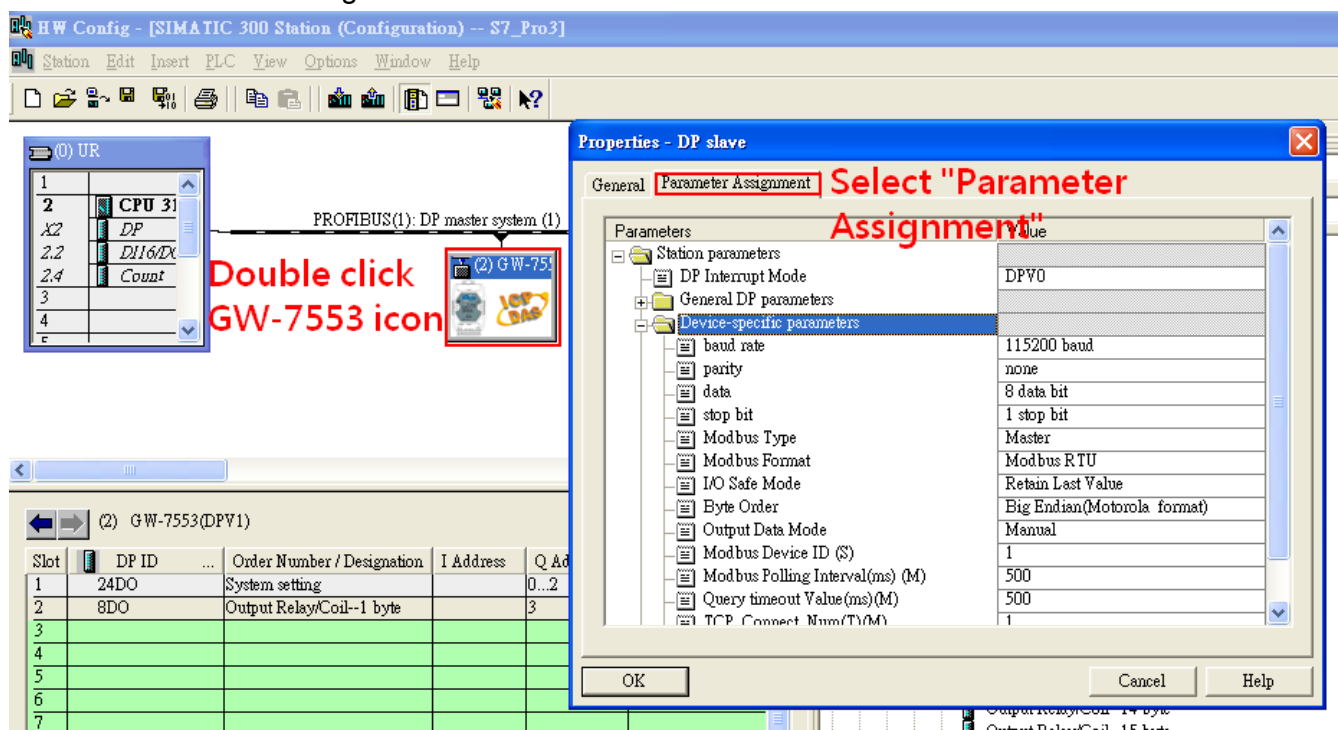


3. Add “Onput Relay/Coil—1 byte” module(For FC15,multiple coils, please select more than 1 byte module)



Step 2: Setup the parameters of the GW-7553

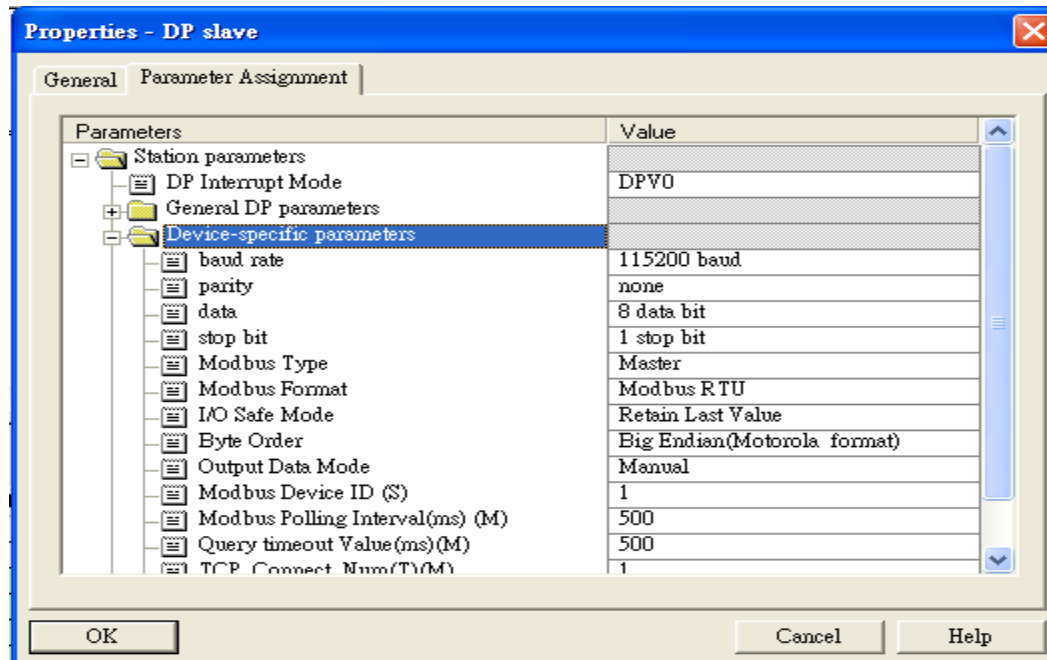
1. Double click GW-7553 icon
2. Select “Parameter Assignment”



3. Set common parameters of the GW-7553

Common parameters →

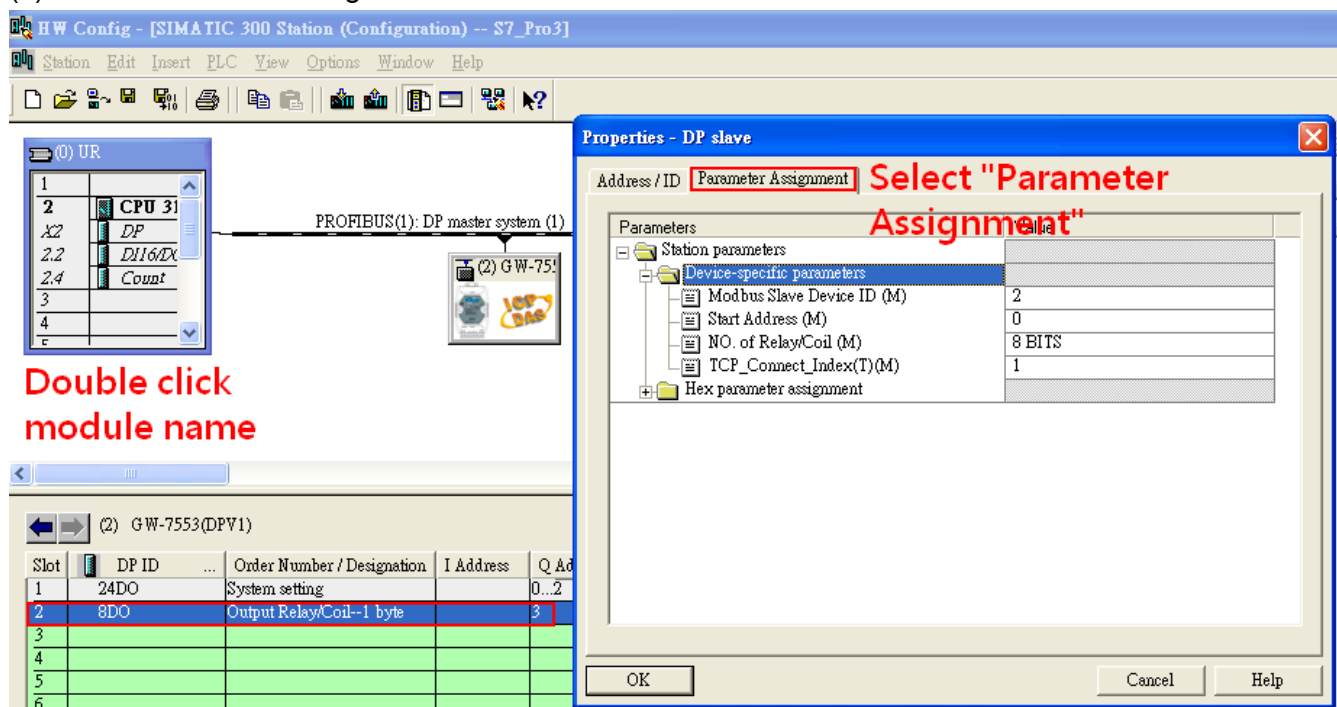
Baud rate: 115200; Parity: none; Data: 8 data bit; Stop bit: 1 stop bit; Modbus type: Master
 Modbus Format: Modbus TCP; Byte Order: Big Endian



4. Set module parameters of the GW-7553

(1) Double click "Output Relay/Coil—1 byte" module

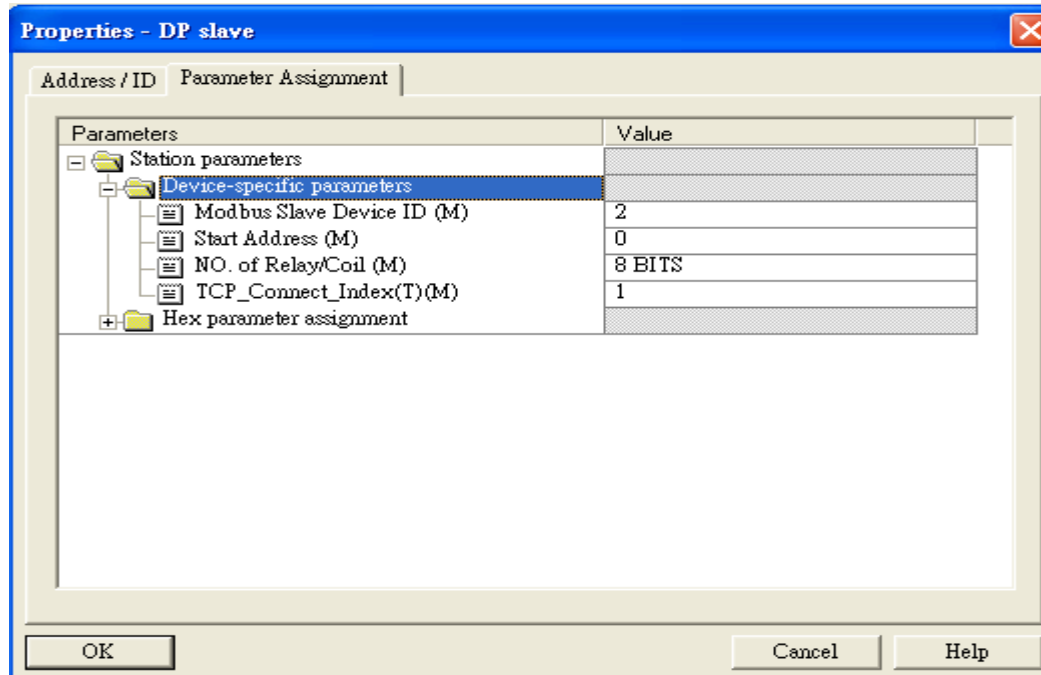
(2) Select "Parameter Assignment"



5. Setup "Output Relay/Coil—1 byte" module parameters

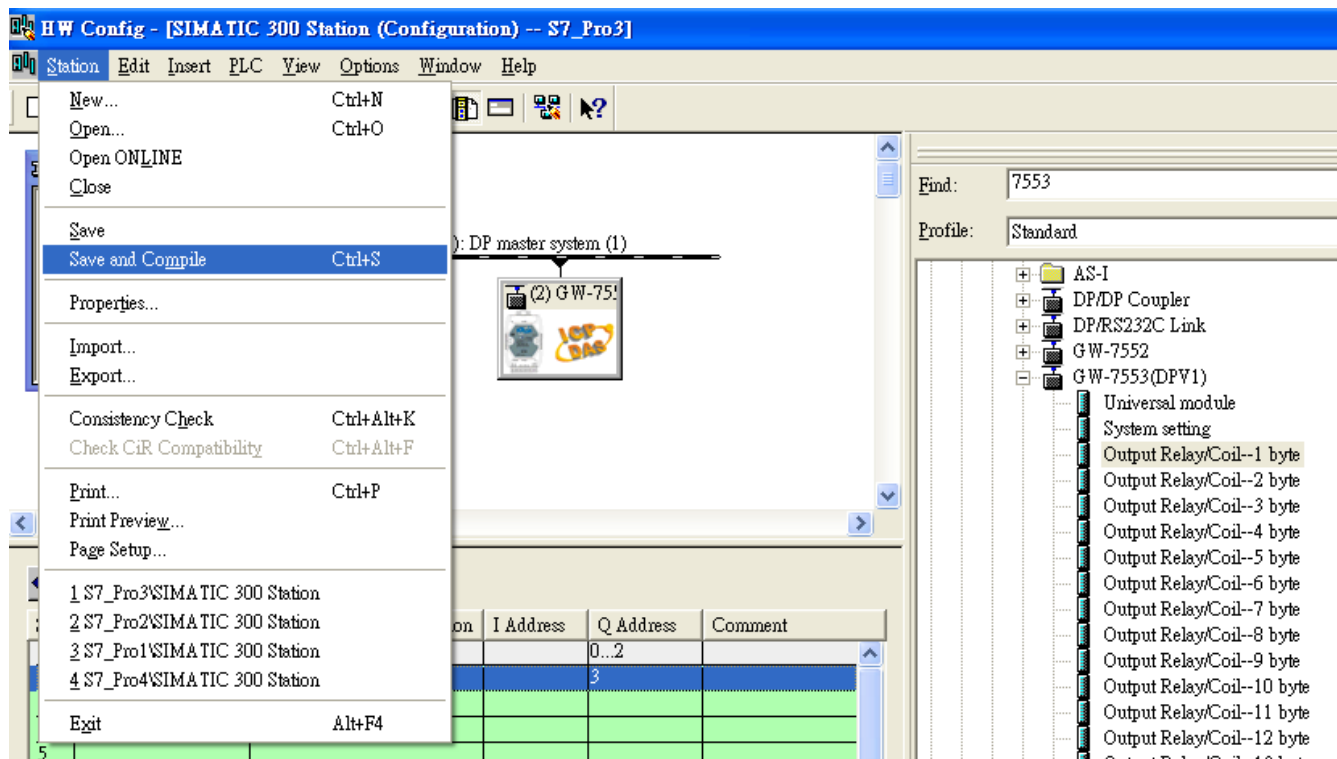
Module parameters →

Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0)), click ok.

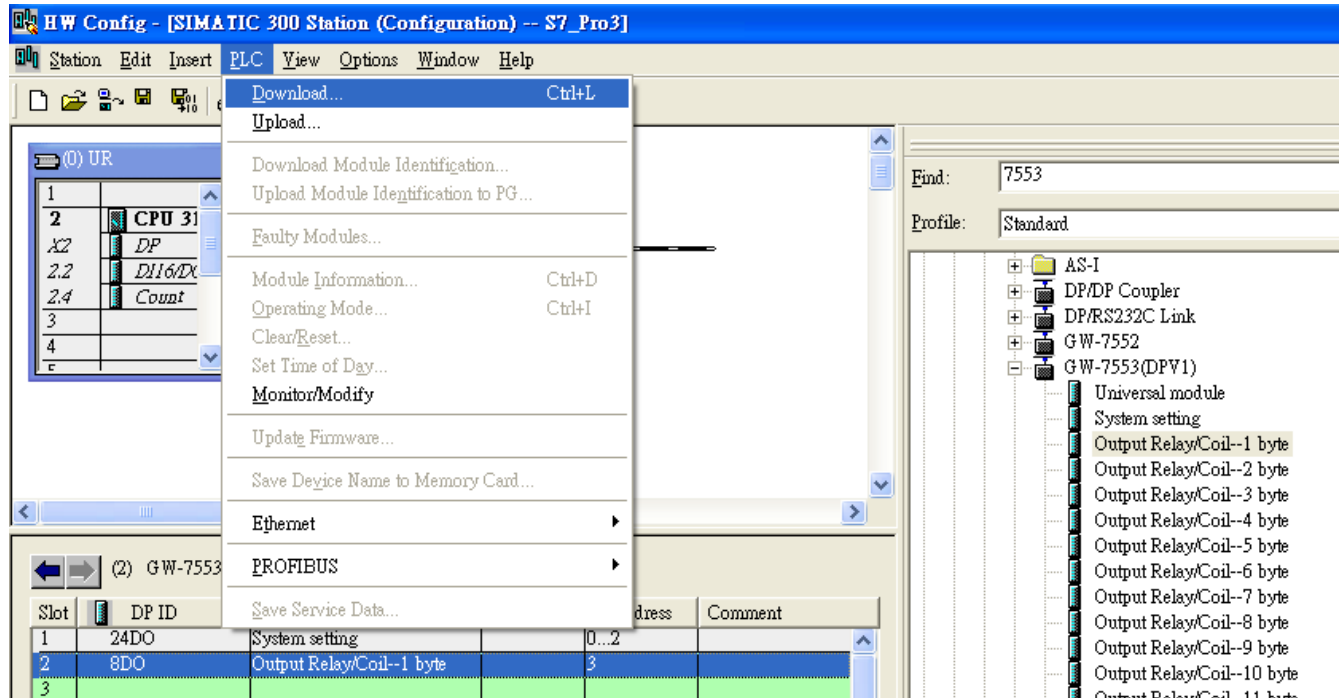


Step 3: Download the HW settings into SIMATIC PLC

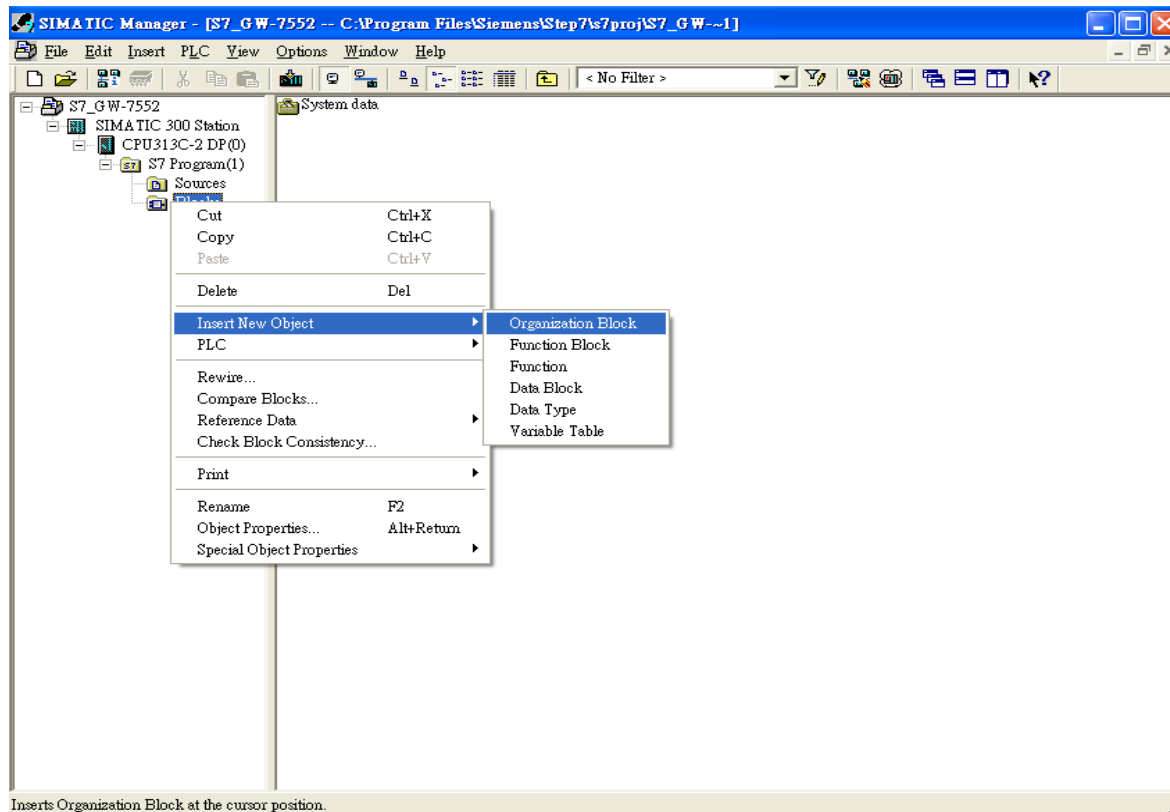
1. Save and Compile

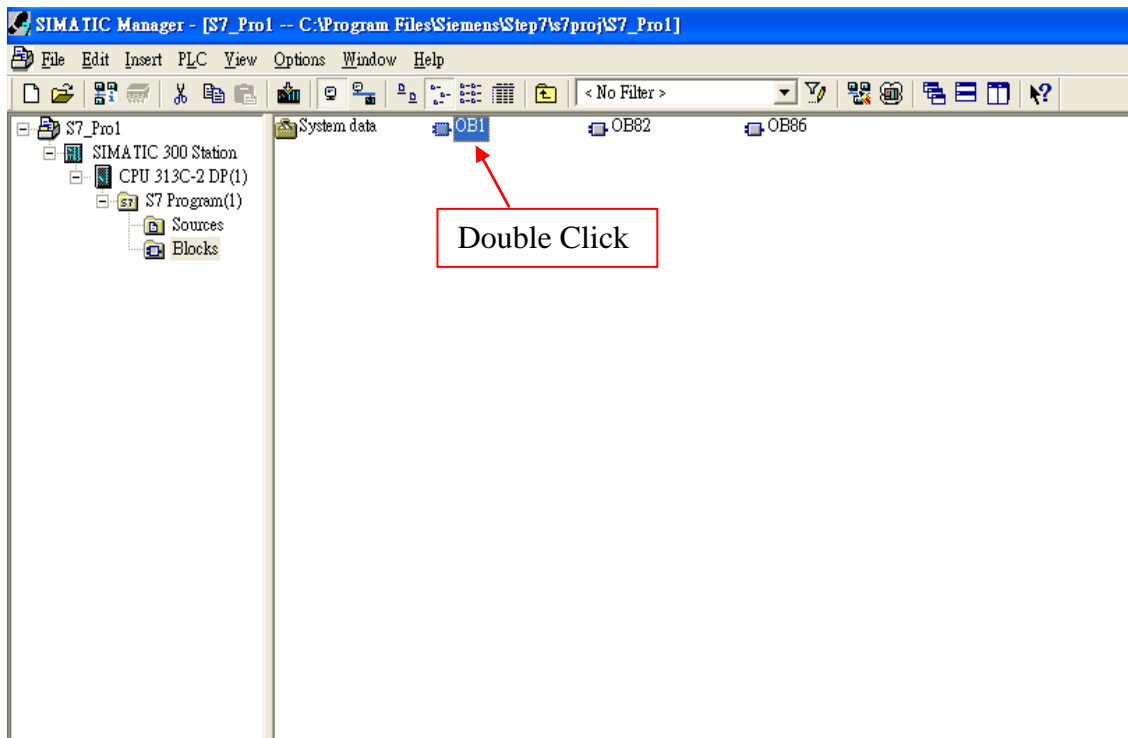
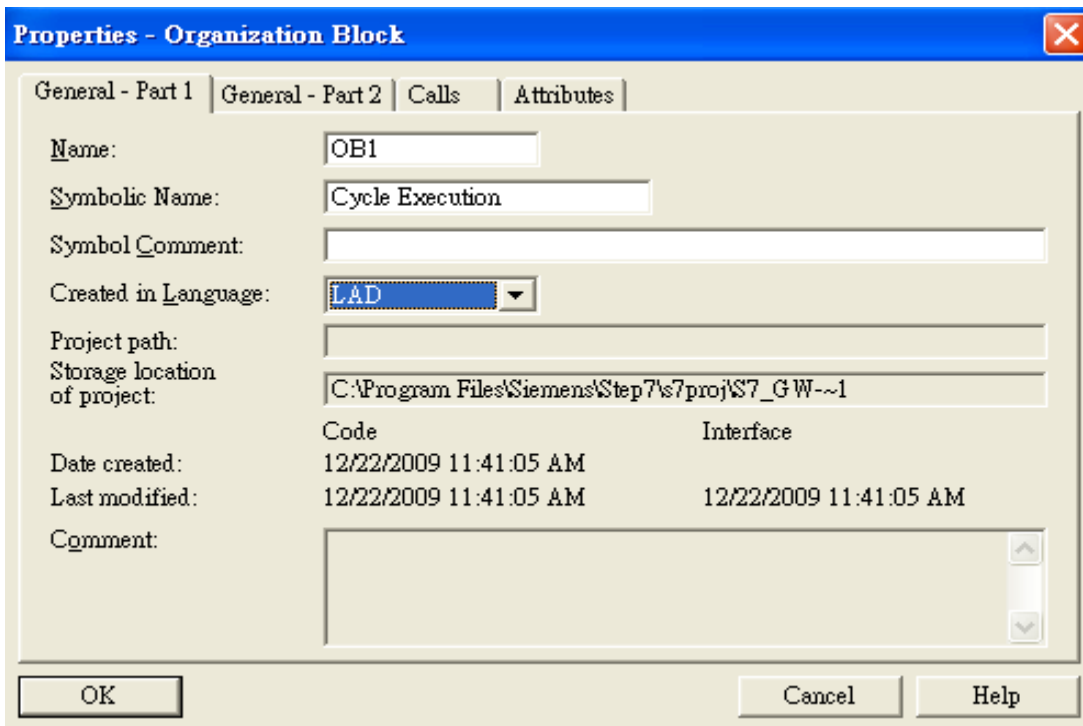


2. HW settings into SIMATIC PLC



Step 4: Insert a new Organization Block (OB1,OB82,OB86)





Step 5: Edit OB1

Variables used in the example LD Program:

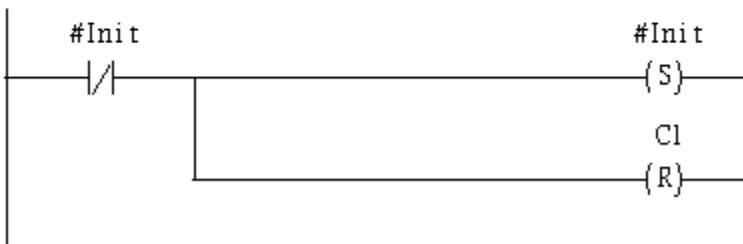
Name	Data Type	Address	Comment
OB1_DAT...	Date_...	12.0	Date and time OB1 started
END	Bool	20.0	
Init	Bool	20.1	
Tri	Int	22.0	

OB1 : "Main Program Sweep (Cycle)"

Profibus Slave
Modbus Master

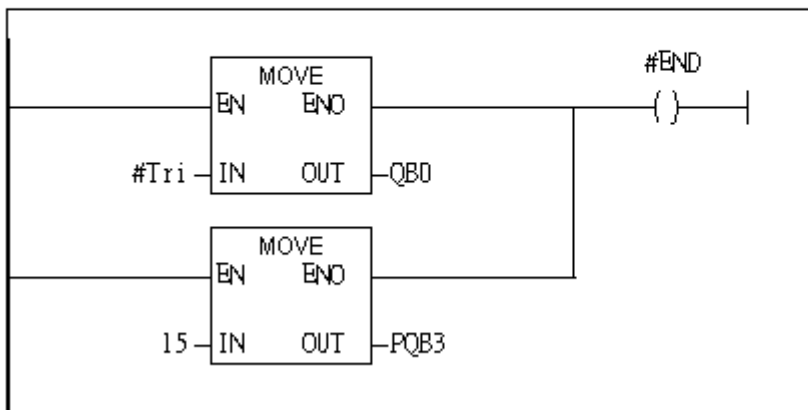
Network 1 : Title:

Comment:



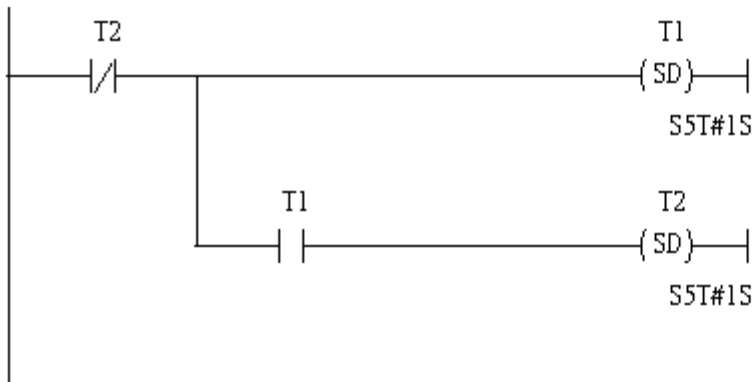
Network 2 : Title:

Comment:



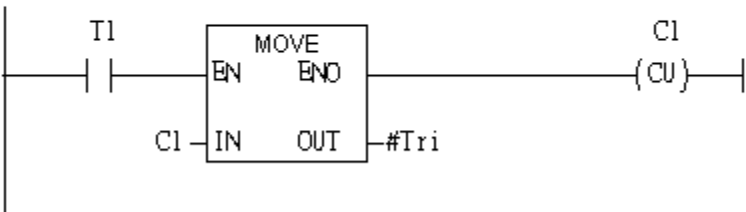
Network 3 : Title:

Comment:



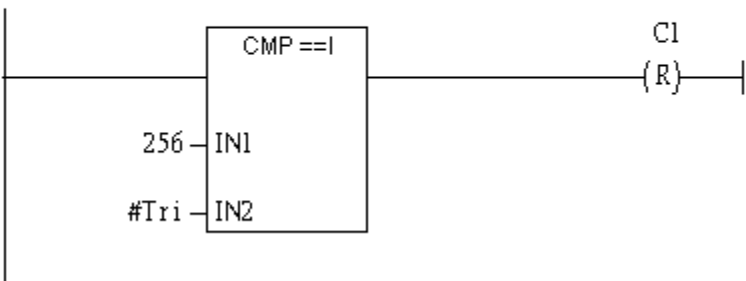
Network 4 : Title:

Comment:



Network 5 : Title:

Comment:



Step 6: Download the settings into SIMATIC PLC

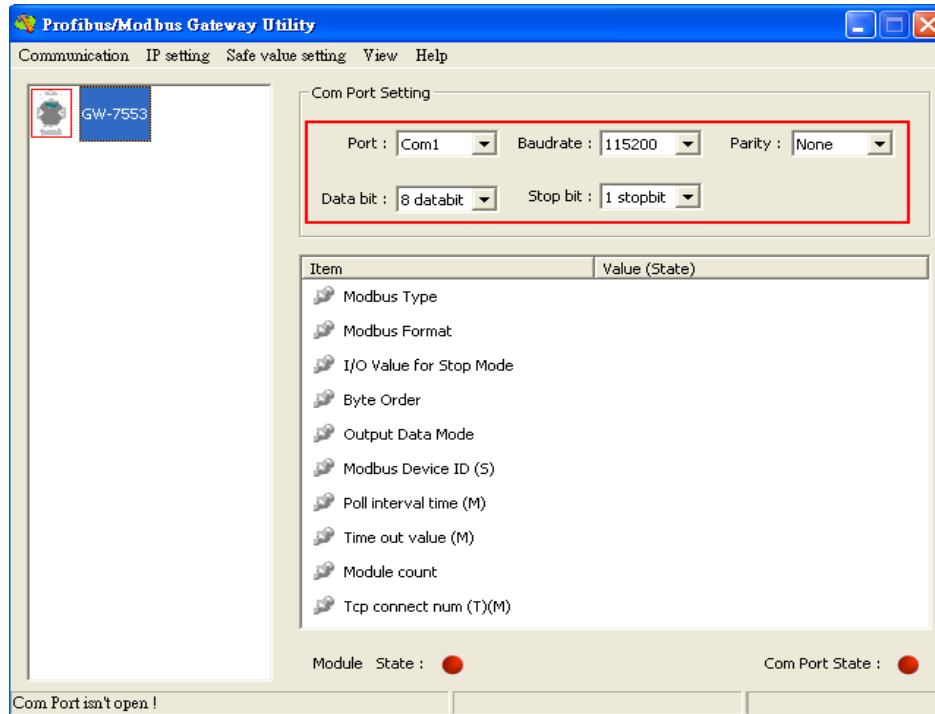
The screenshot shows the SIMATIC Manager interface. The 'Download' menu is open, displaying options such as 'Select Online CPU...', 'Establish Connection to Configured CPU', 'CPU Messages...', 'Display Force Values', 'Monitor/Modify Variables', 'Module Information...', 'Operating Mode...', 'Clear/Reset...', and 'Set Time of Day...'. The 'Operating Mode...' option is highlighted with the keyboard shortcut 'Ctrl+I'. In the background, a ladder logic network is visible, titled 'Network 4 : Title:'. The network contains a normally open contact labeled 'T1' connected to the 'EN' input of a 'MOVE' block. The 'END' output of the 'MOVE' block is connected to a coil labeled 'CI'. The 'IN' input of the 'MOVE' block is labeled '#Tri', and the 'OUT' output is also labeled '#Tri'. A table in the upper right corner lists variables: 'OB1_MAX...' (Int, 10.0, Maximum cycle time of OE), 'OB1_DAT...' (Date_..., 12.0, Date and time OB1 starte), 'END' (Bool, 20.0), 'Init' (Bool, 20.1), and 'Tri' (Int, 22.0).

Step 7: Make sure the RUN LED of the GW-7553 is on and the switch of the GW-7553 is at Normal mode.

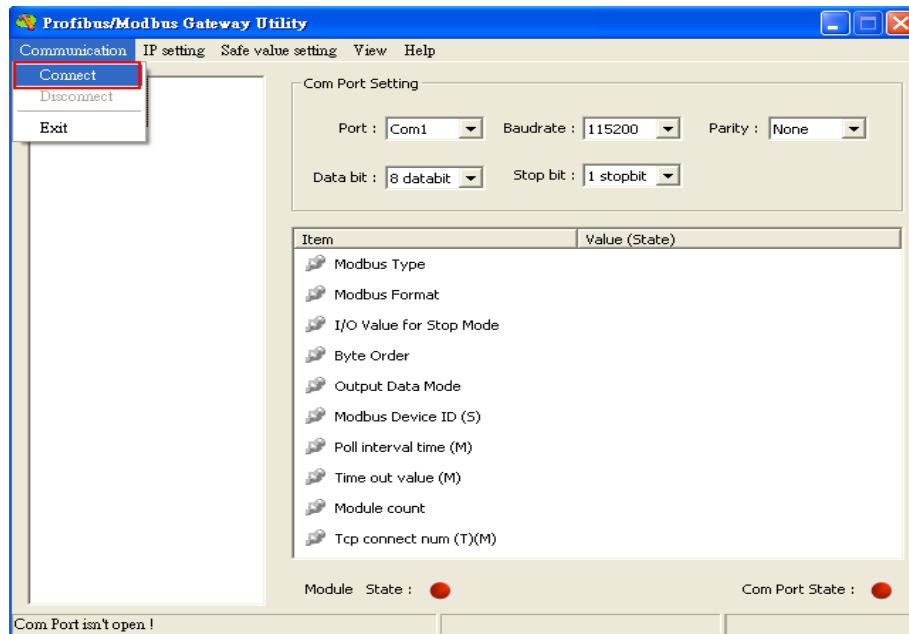


Step 8: Connect with GW-7553 and Utility

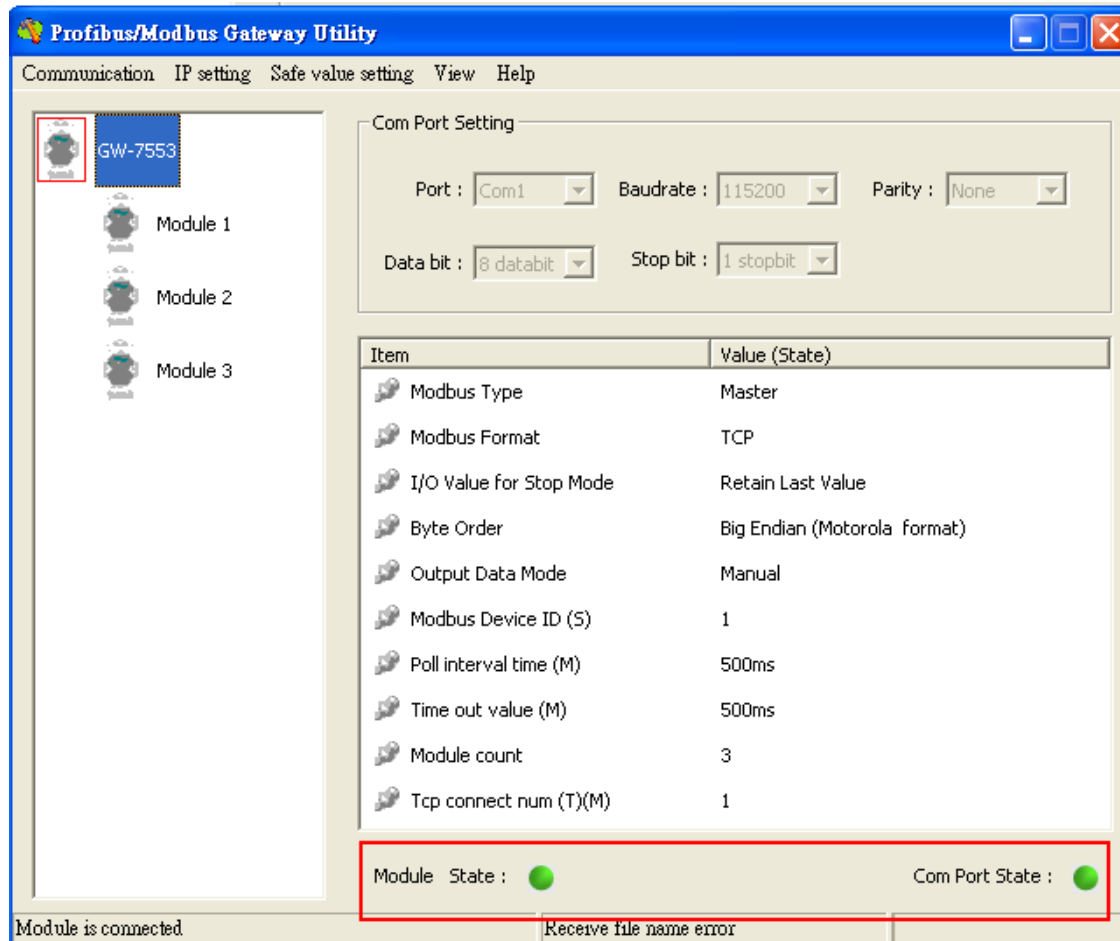
1. Set the Com Port Setting of the Utility



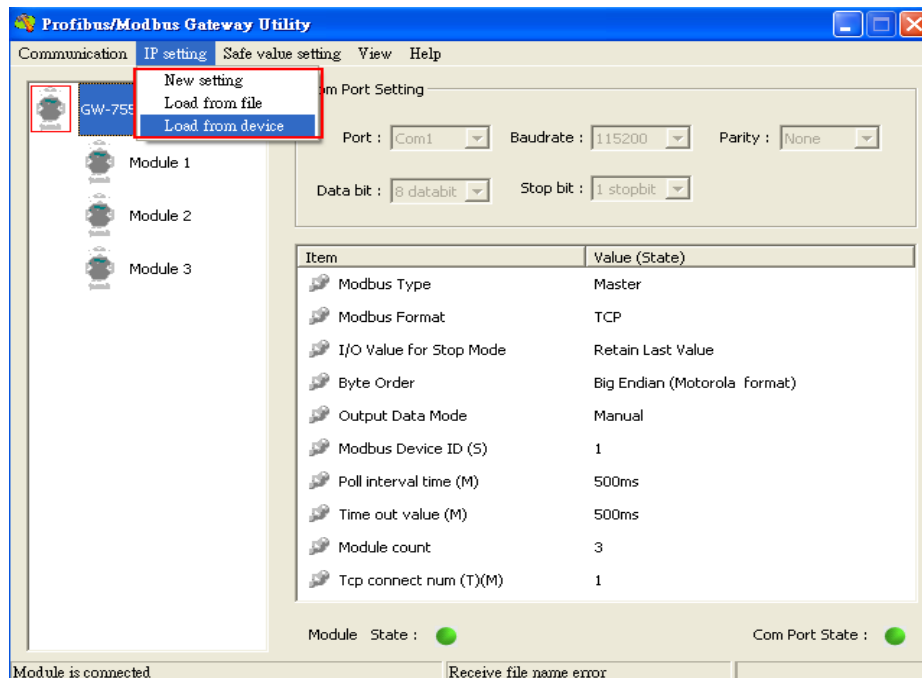
2. Click connect.



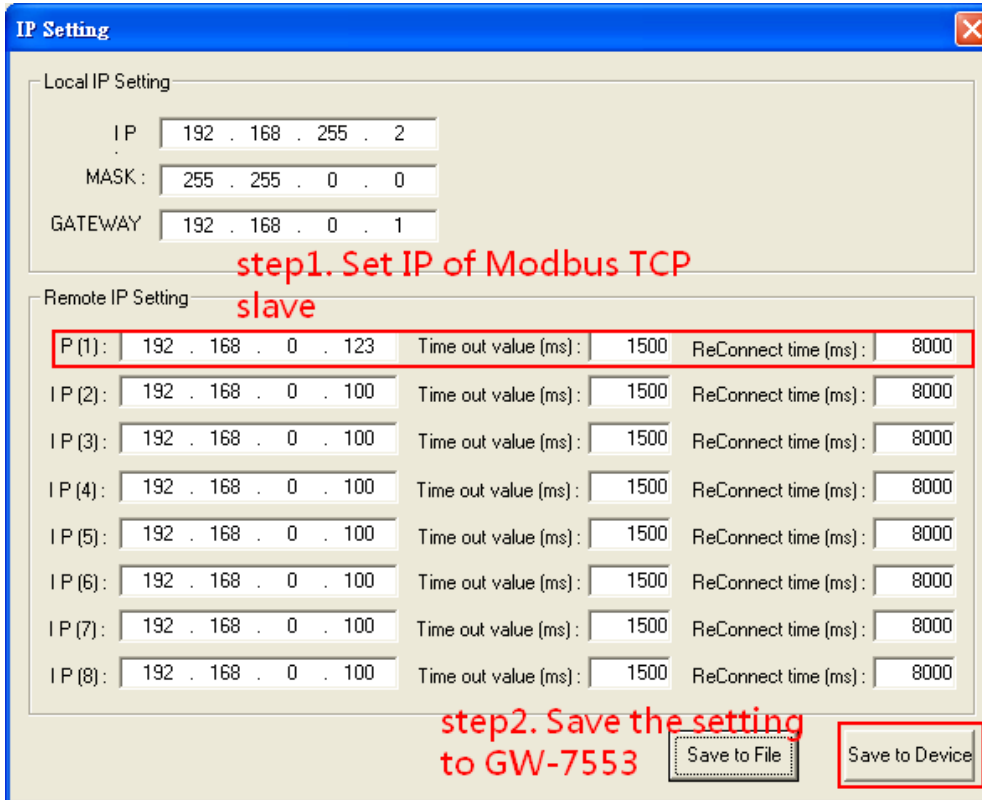
3. Connection success



4. Click IP setting → Load from device to show IP setting dialog



5. Set the IP of the Modbus TCP Slave and click “Save to Device” button to save the settings.



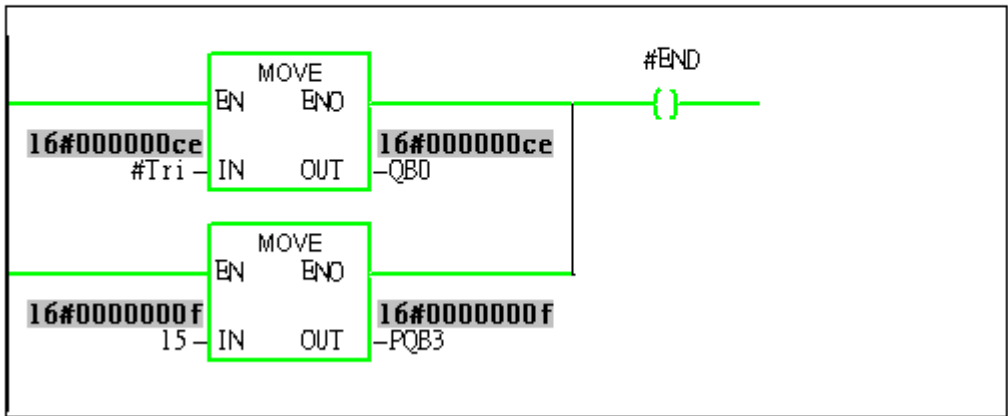
Step 9: Set the switch of the GW-7553 to Normal Mode then reset the power of GW-7553.



Now the setting procedure has been finished and the user can write the data to the Modbus DO module at address QB3.

Network 2: Title:

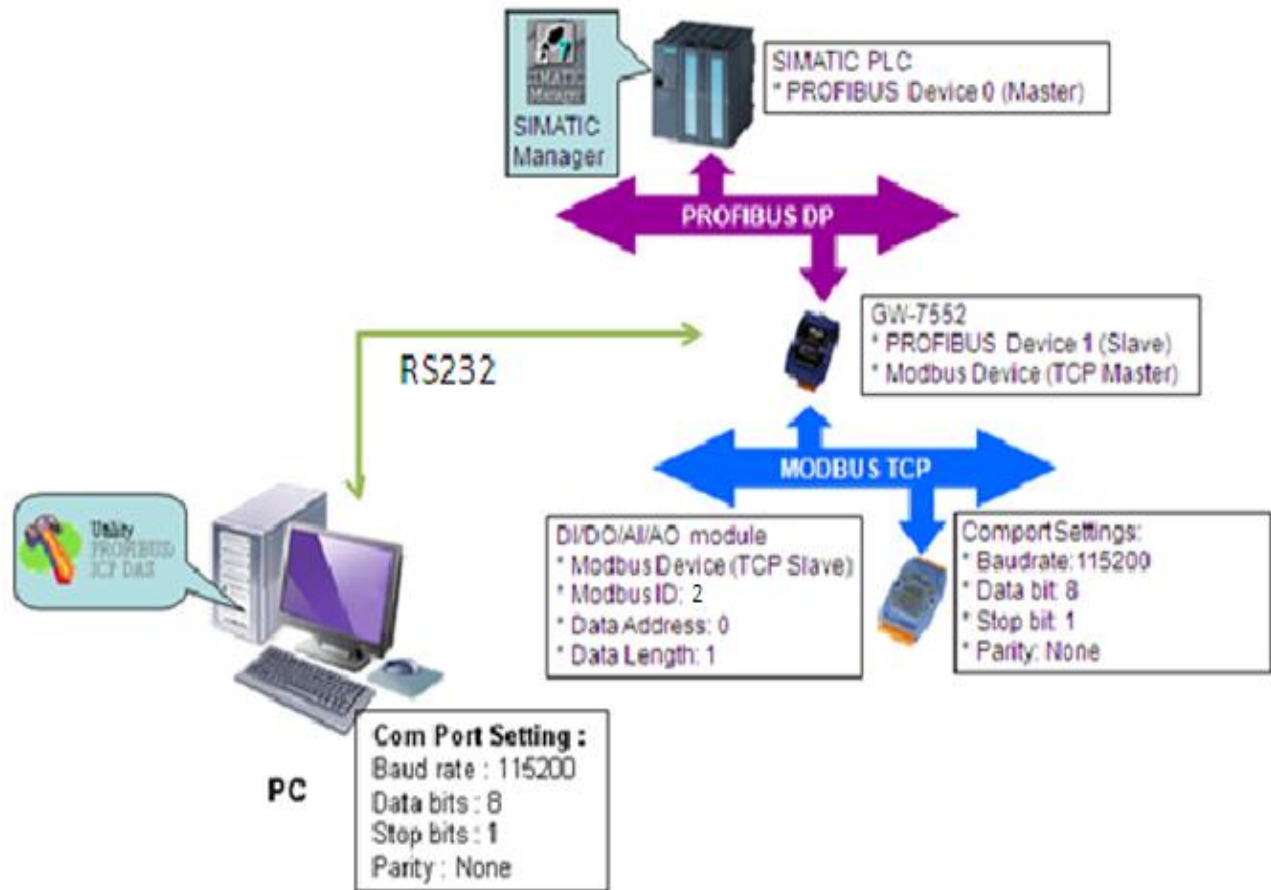
Comment:



Example 6: PLC writes AO module data to GW-7553.

(Modbus FC06, FC16)

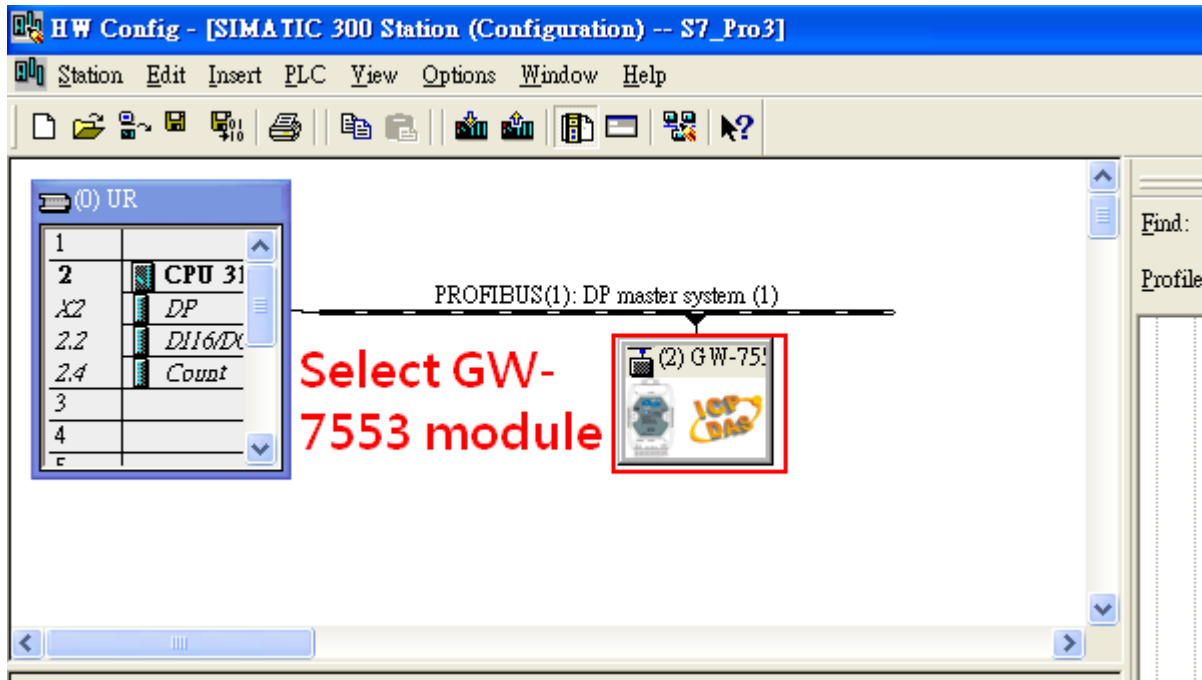
Write a Modbus TCP AO module (PROFIBUS Slave & Modbus TCP/Master)



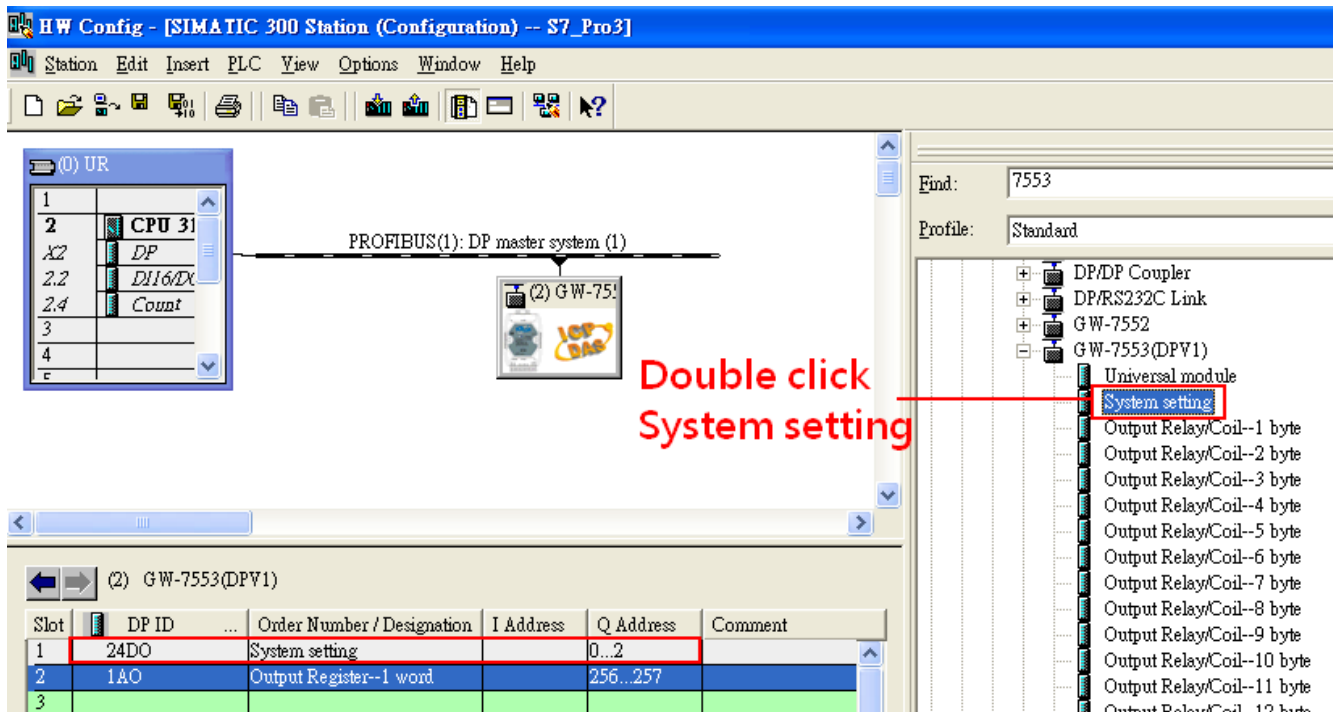
SIMATIC STEP7 Configuration:

Step 1: Setup the GW-7553 module

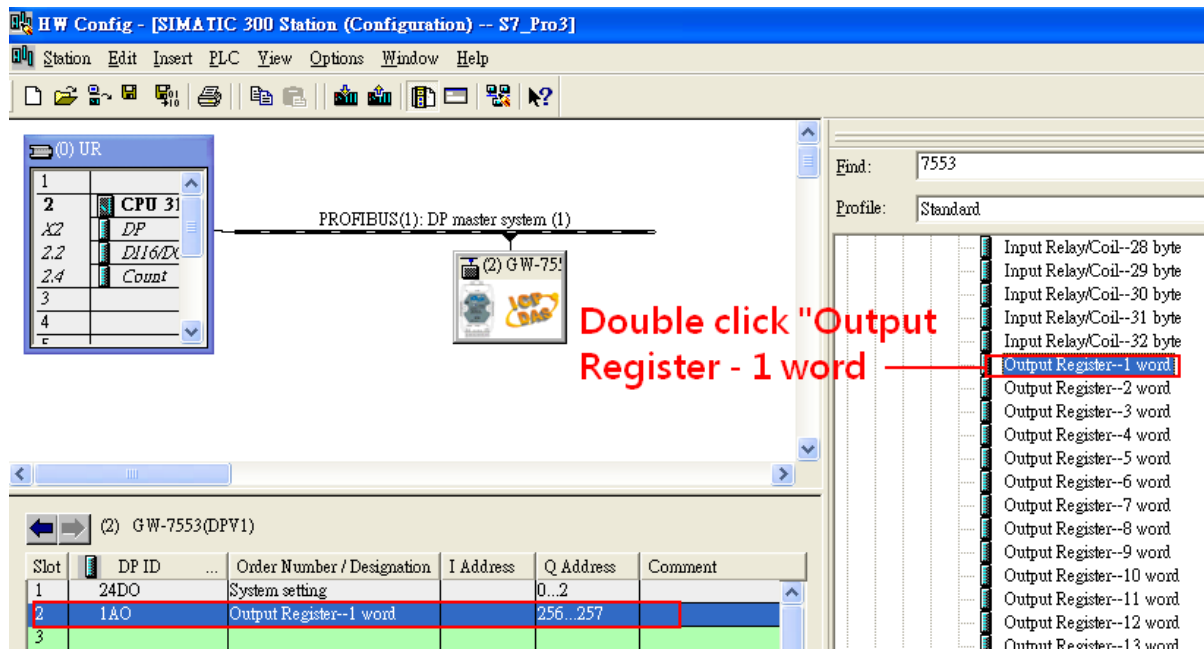
1. Select GW-7553 module



2. Add a System setting module

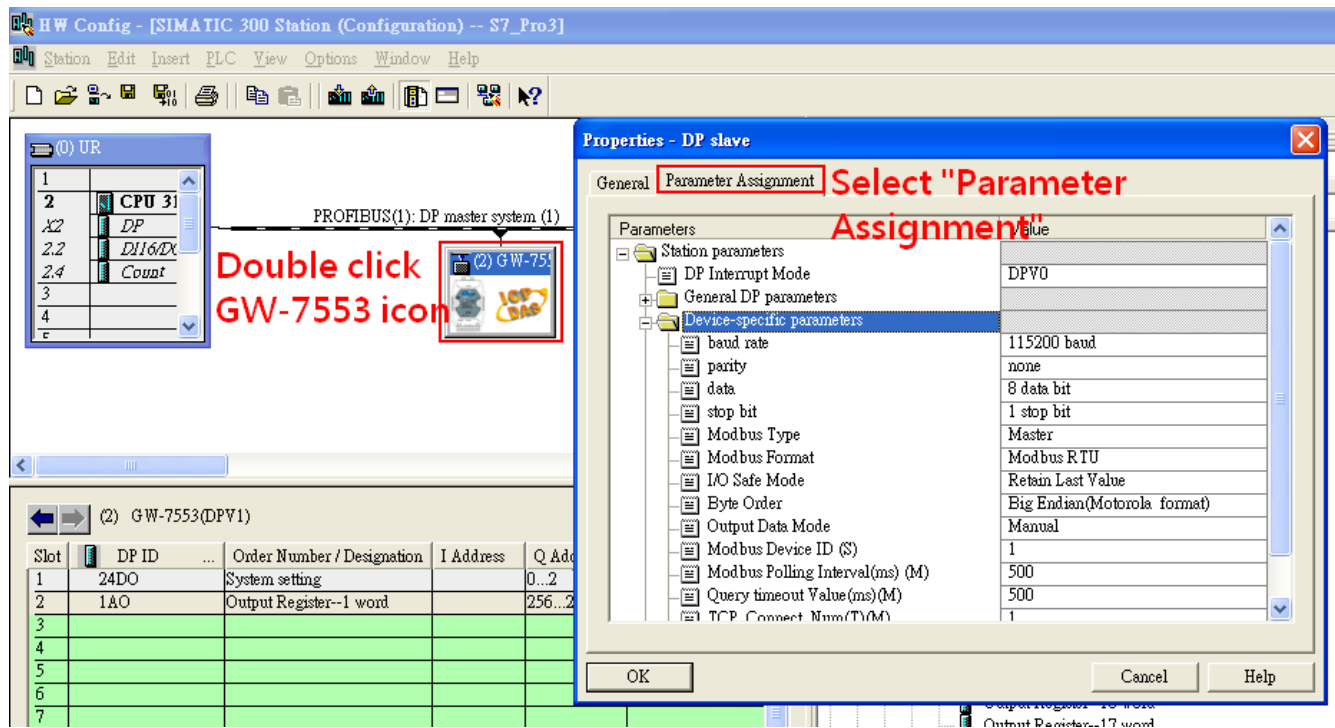


3. Add “Output Register—1word” module(For FC16,multiple registers, please select more than 1 word module)



Step 2: Setup the parameters of the GW-7553

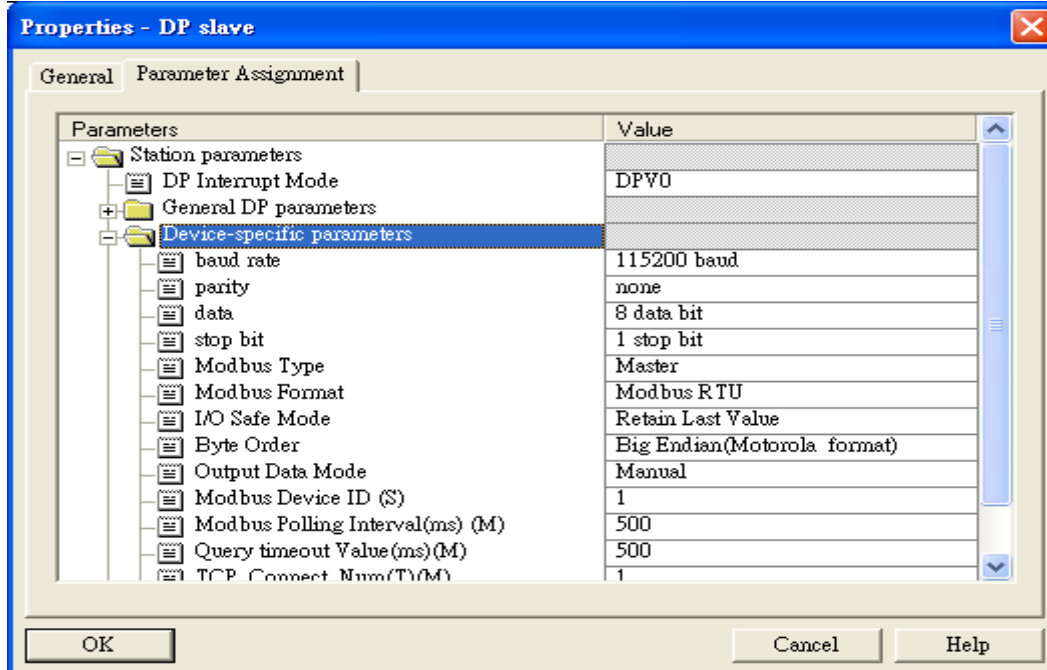
1. Double click GW-7553 icon
2. Select “Parameter Assignment”



3. Set common parameters of the GW-7553

Common parameters →

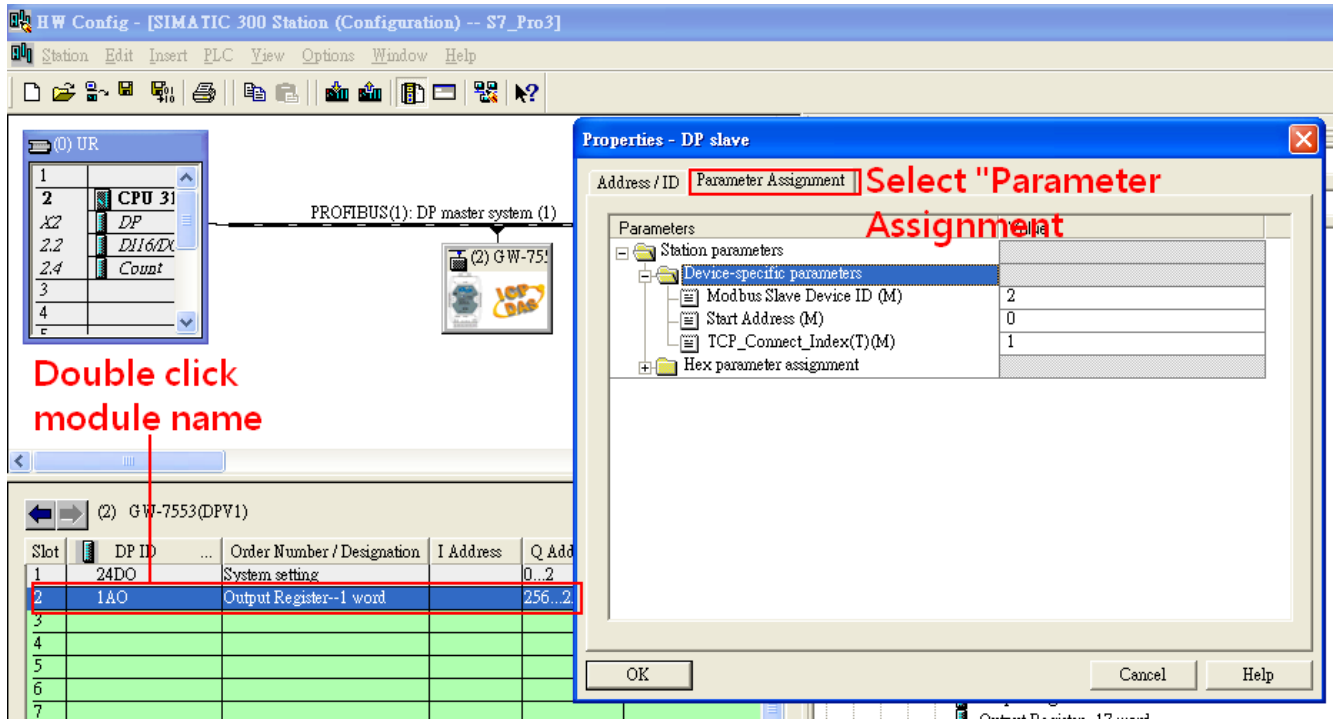
Baud rate: 115200; Parity: none; Data: 8 data bit; Stop bit: 1 stop bit; **Modbus type: Master**
Modbus Format: Modbus TCP; **Byte Order: Big Endian**



4. Set module parameters of the GW-7553

(1) Double click "Output Register—1 word" module

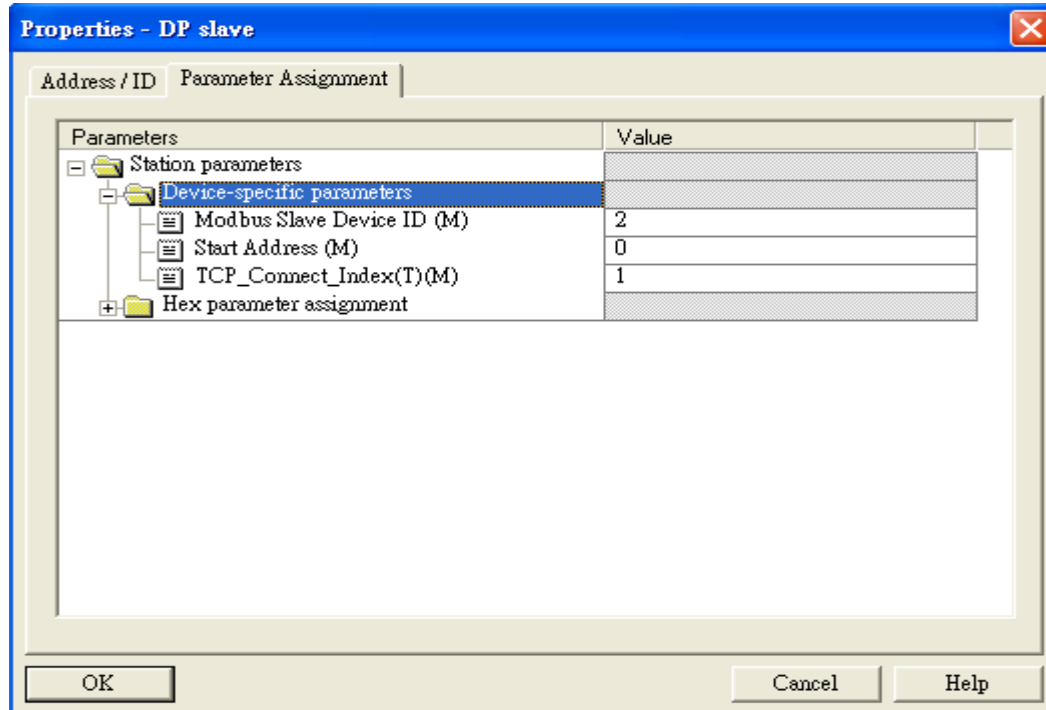
(2) Select "Parameter Assignment"



5. Setup "Output Register—1 word" module parameters

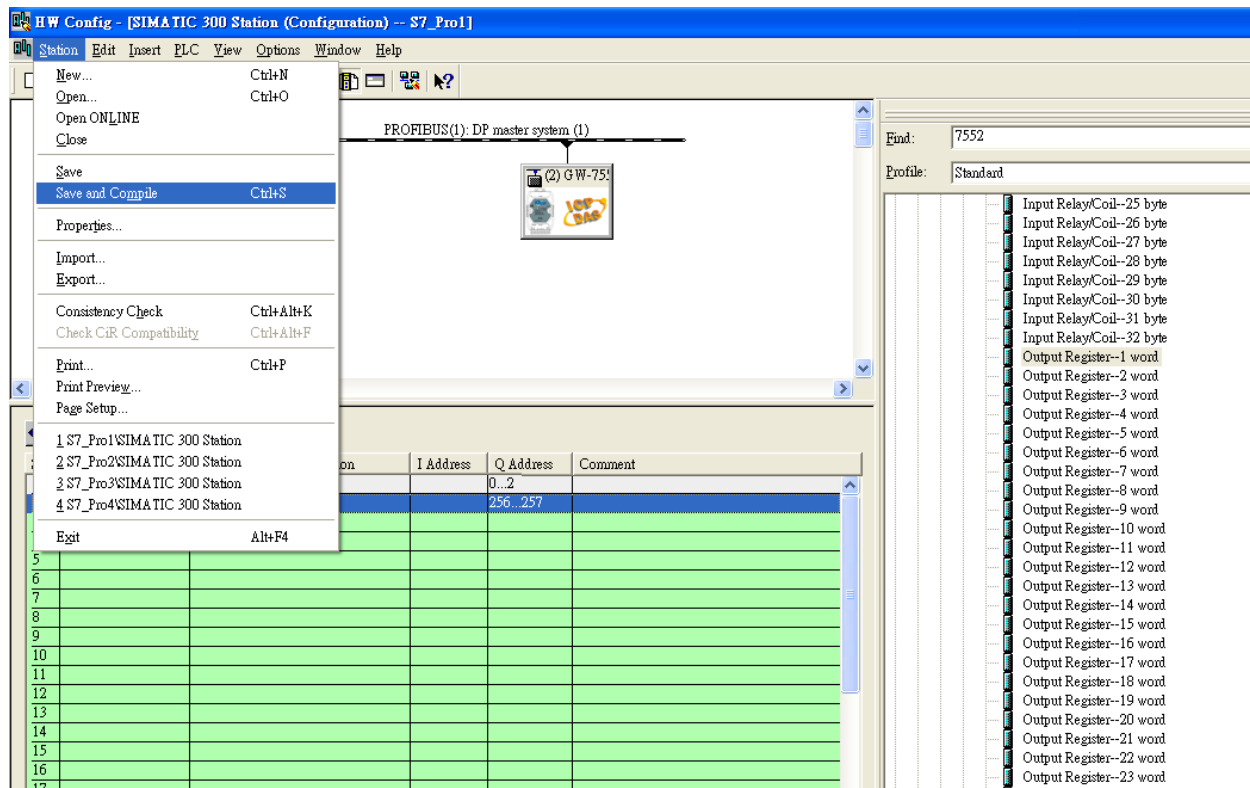
Module parameters →

Modbus Slave Device ID: 2; Slave Address: 0 (Protocol address (base 0)), click ok.

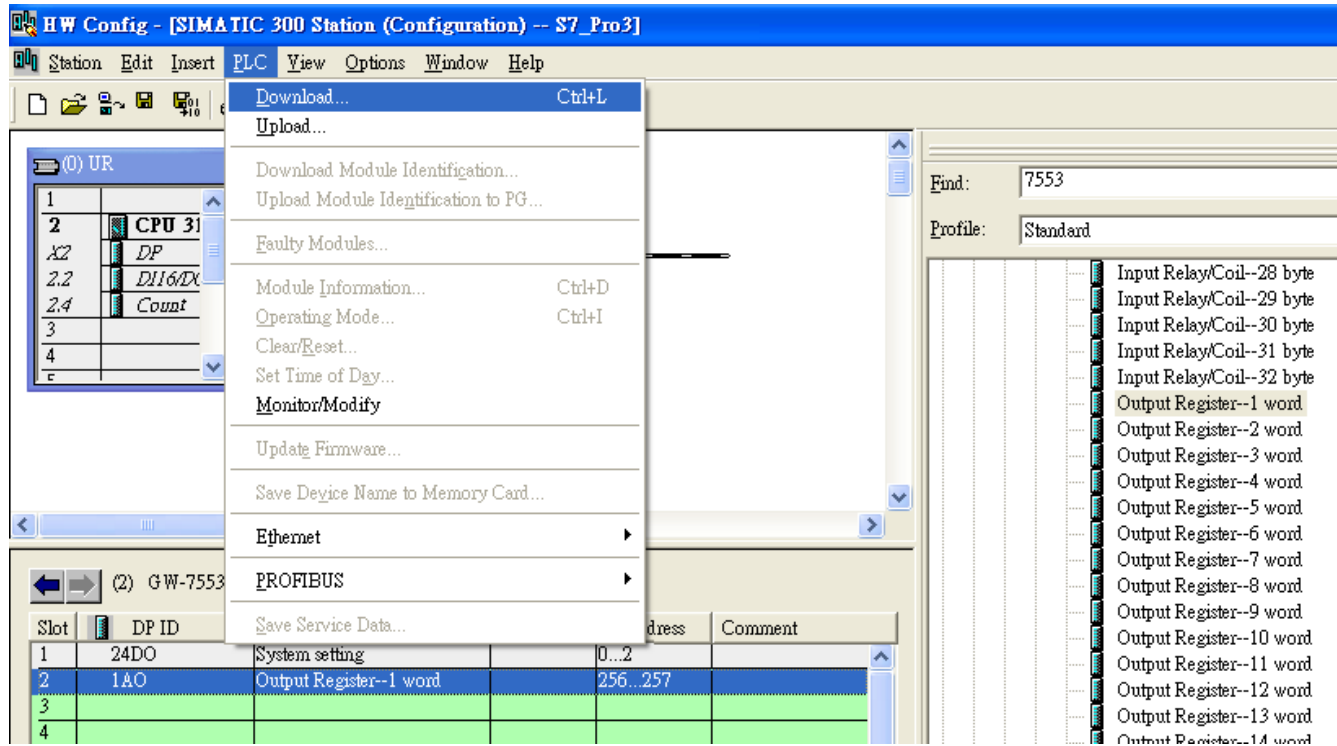


Step 3: Download the HW settings into SIMATIC PLC

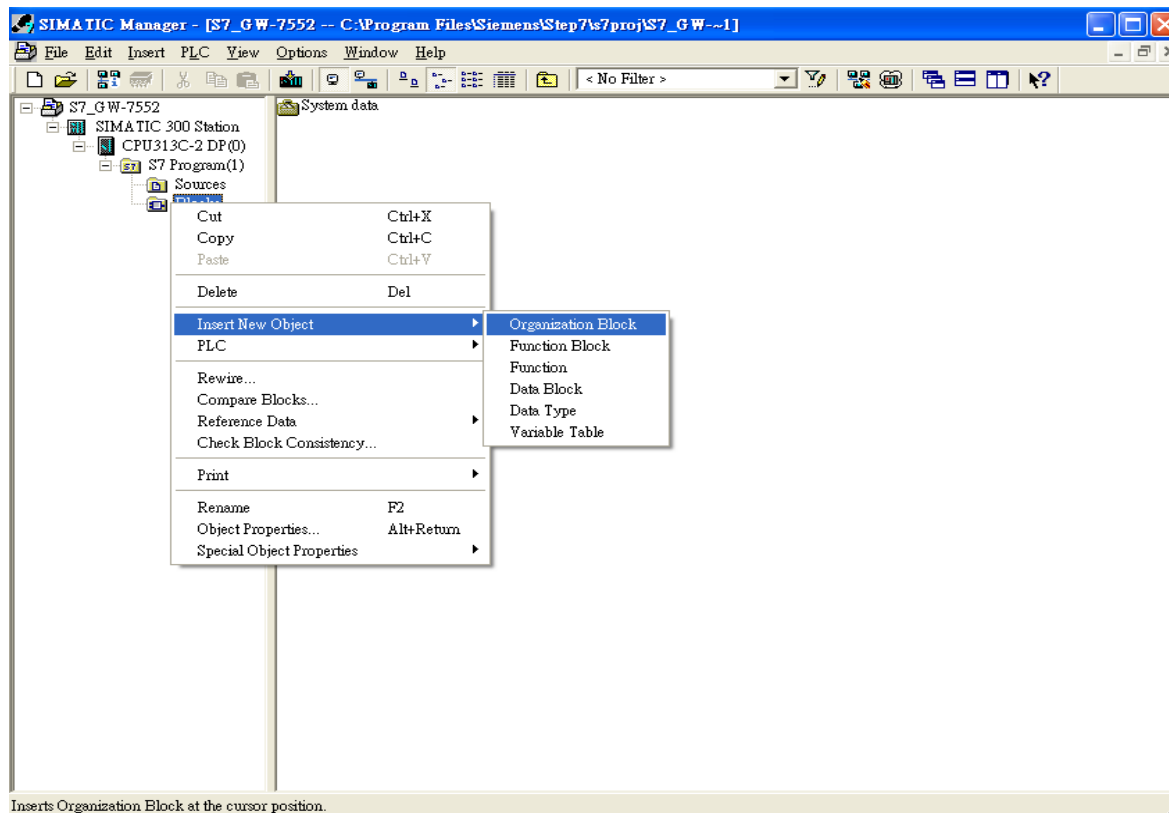
1. Save and Compile

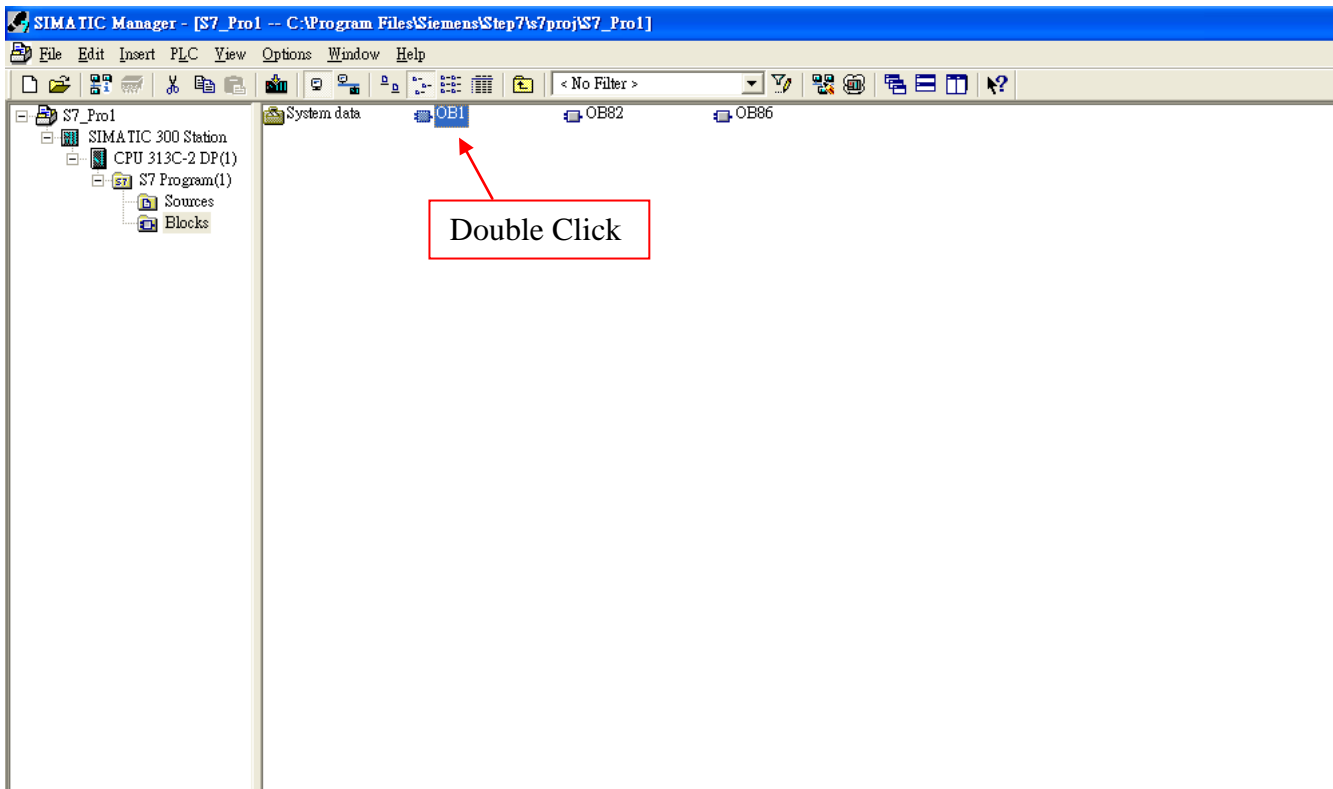
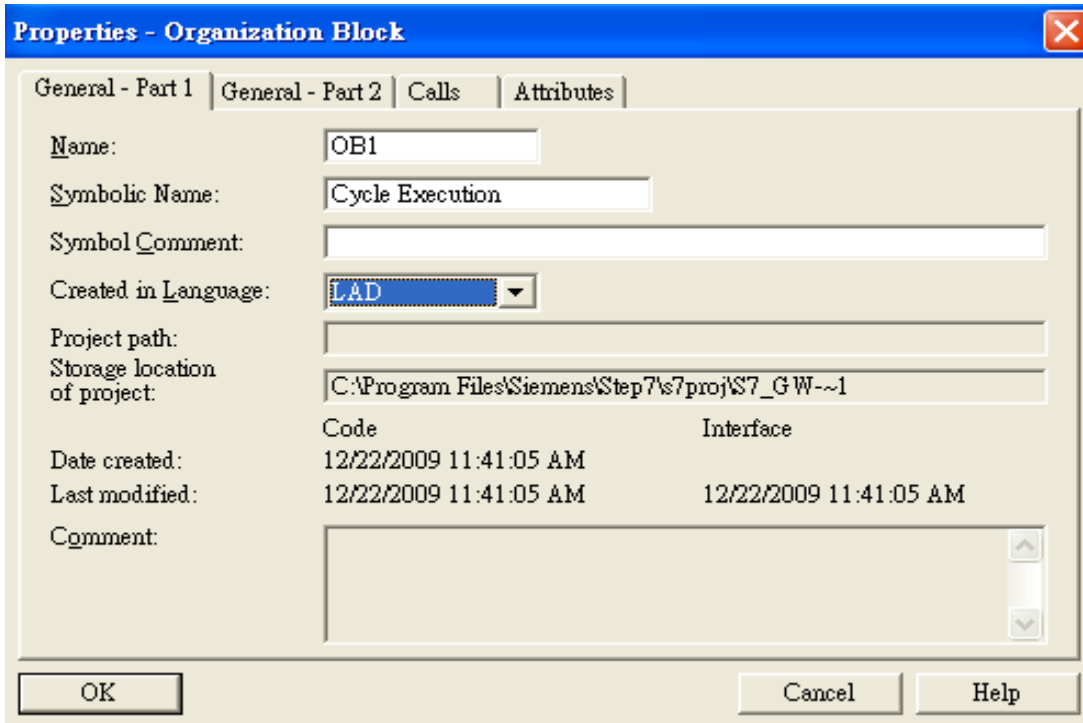


2. HW settings into SIMATIC PLC



Step 4: Insert a new Organization Block (OB1,OB82,OB86)





Step 5: Edit OB1

Variables used in the example LD Program:

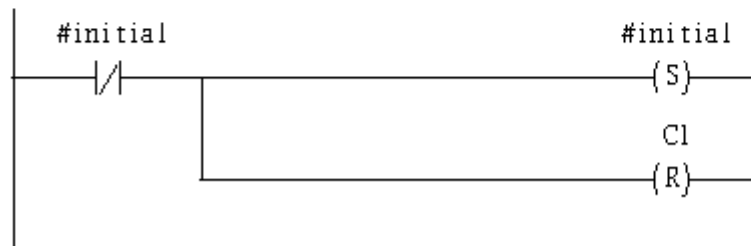
Name	Data Type	Address	Comment
OB1_MAX...	Int	10.0	Maximum cycle time of OBI (milliseconds)
OB1_DAT...	Date_...	12.0	Date and time OBI started
END	Bool	20.0	
Tri	Int	22.0	
initial	Bool	24.0	

OB1 : "Main Program Sweep (Cycle)"

PROFIBUS Slave
Modbus Master

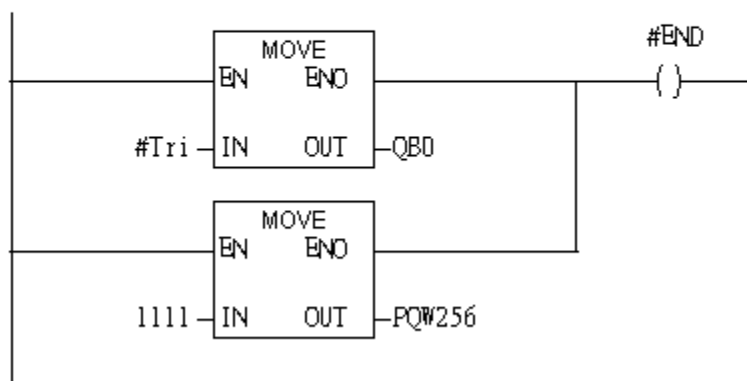
Network 1 : Reset Counter(C1)

Reset Counter(C1)



Network 2 : QBO add "1" then PLC will send PQB256 out.

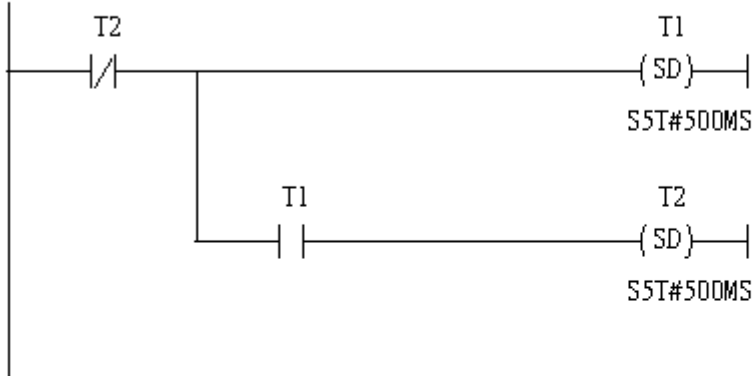
1 word 16AO



Using T2 trigger T1 If counter (C1) add 1 and Tri will add 1 every 1s.

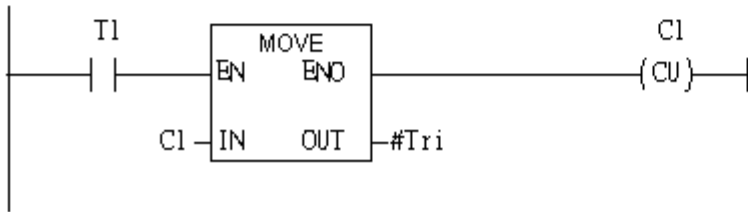
Network 3 : Timer T1 & T2

Using T2 trigger T1



Network 4 : Counter C1

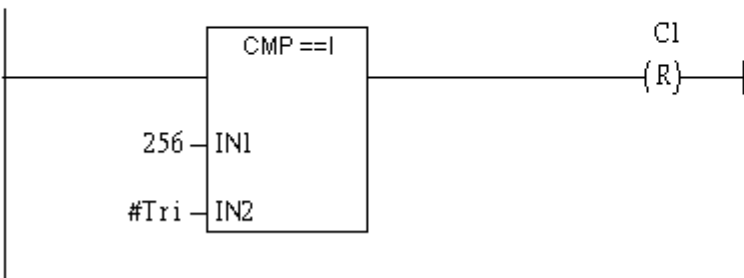
If counter(C1) add "1" and Tri will add "1" ,too.



If Tri is equal to 256 then reset counter (C1).

Network 5 : Compare Tri & 256

If Tri is equal to 256 ,C1 will reset.



Step 6: Download the settings into SIMATIC PLC

The screenshot shows the SIMATIC Manager interface. The 'Download' menu is open, displaying options such as 'Select Online CPU...', 'Establish Connection to Configured CPU', 'CPU Messages...', 'Display Force Values', 'Monitor/Modify Variables', 'Module Information...', 'Operating Mode...', 'Clear/Reset...', and 'Set Time of Day...'. The 'Operating Mode...' option is highlighted. In the background, a ladder logic diagram is visible, featuring a 'CMP == I' block with inputs 'IN1' (value 256) and 'IN2' (value #Tri), and an output 'CI (R)'. A table of variables is also visible in the upper right corner.

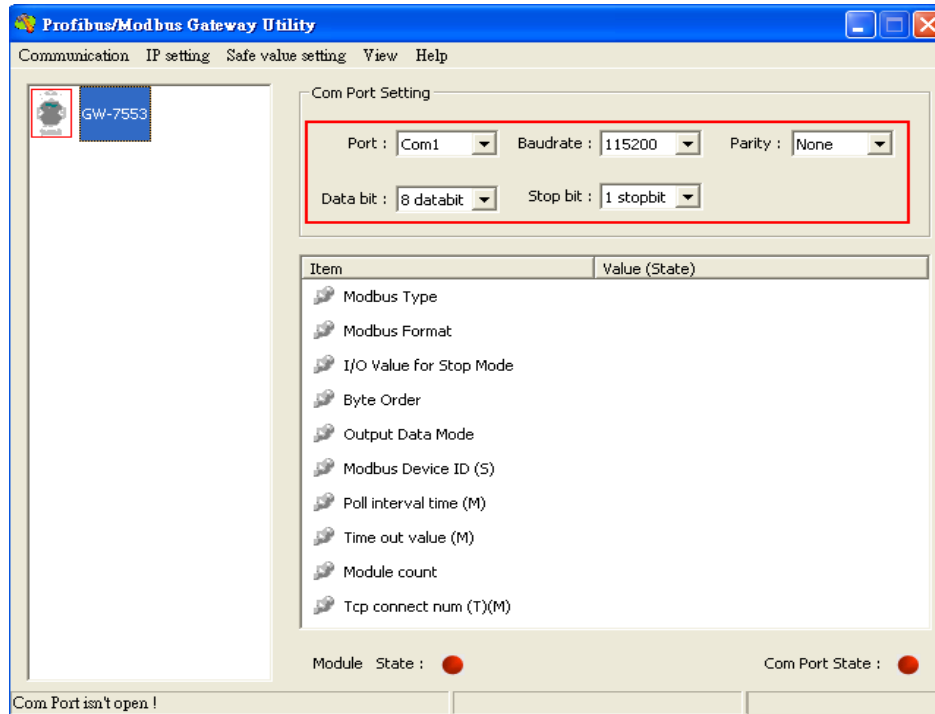
Name	Data Type	Address	Comment
OBI_PRE...	Int	6.0	Cycle time of previous OBI scan (milliseconds)
OBI_MIN...	Int	8.0	Minimum cycle time of OBI (milliseconds)
OBI_MAX...	Int	10.0	Maximum cycle time of OBI (milliseconds)
OBI_DAT...	Date ...	12.0	Date and time OBI started

Step 7: Make sure the RUN LED of the GW-7553 is on and the switch of the GW-7553 is at Normal mode.

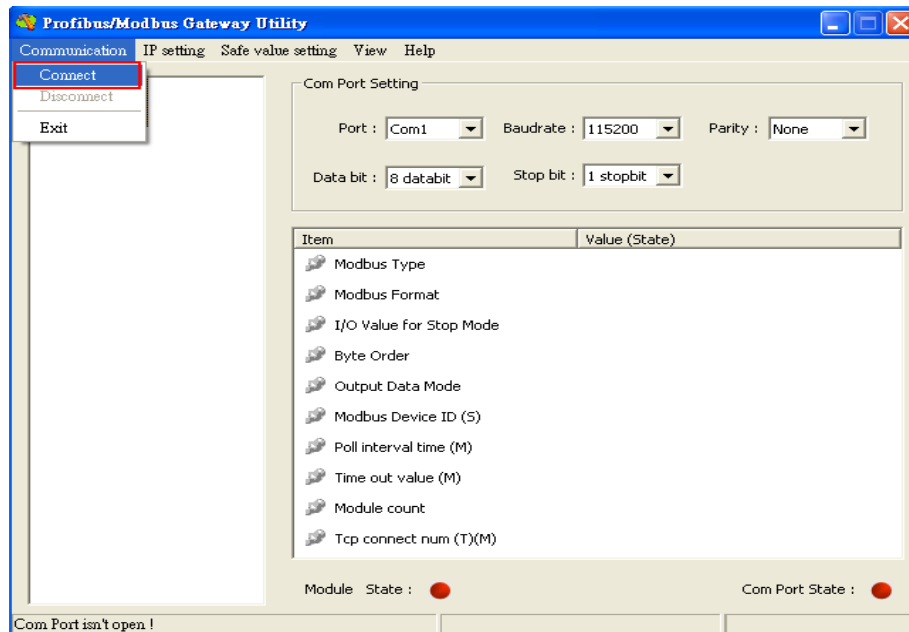


Step 8: Connect with GW-7553 and Utility

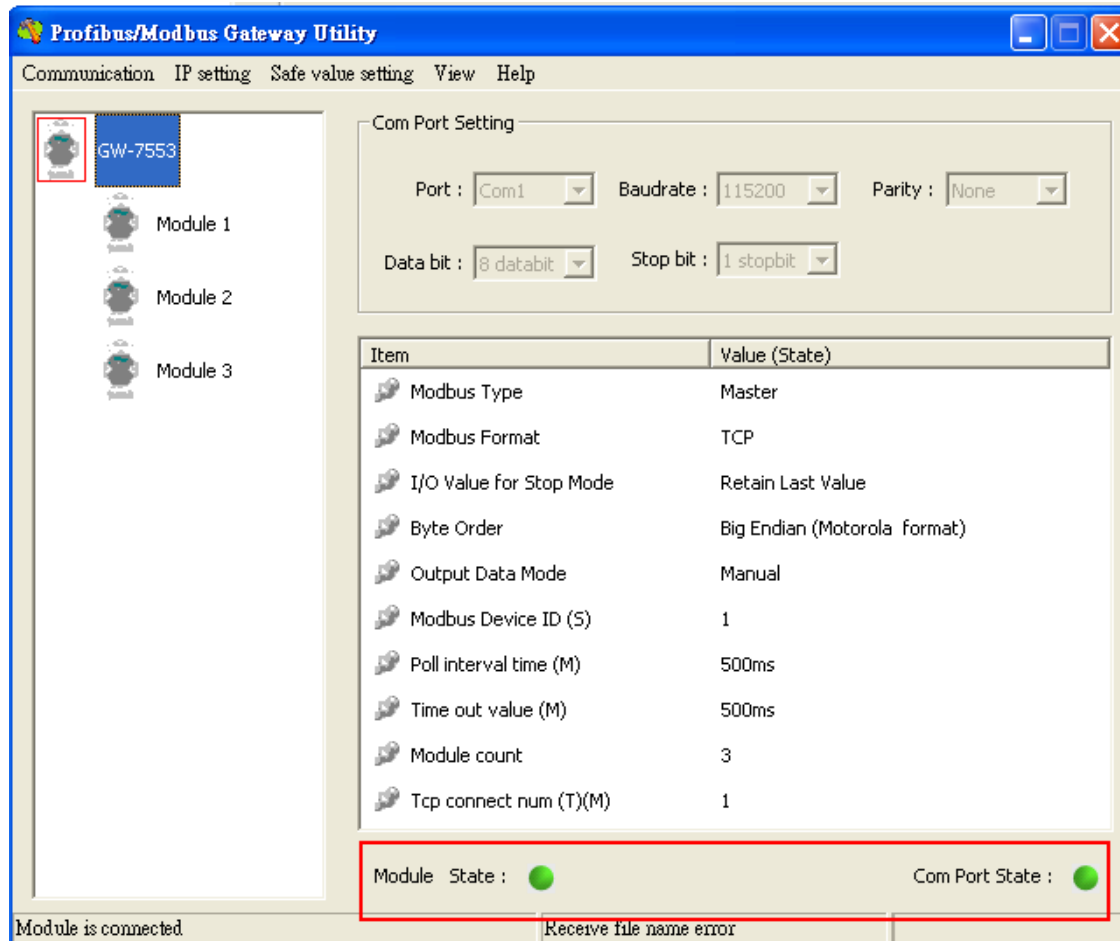
1. Set the Com Port Setting of the Utility



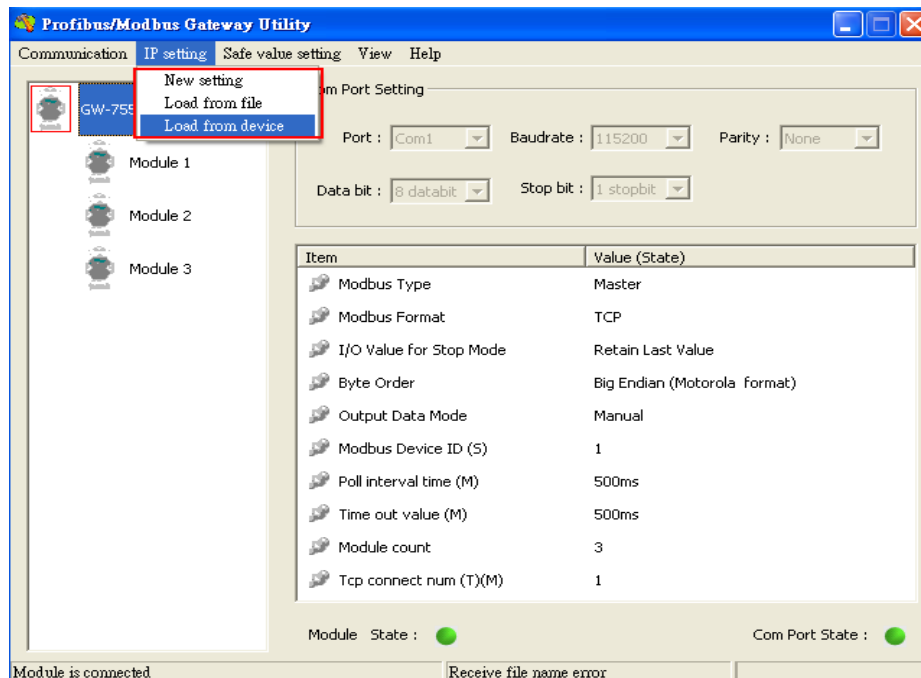
2. Click connect.



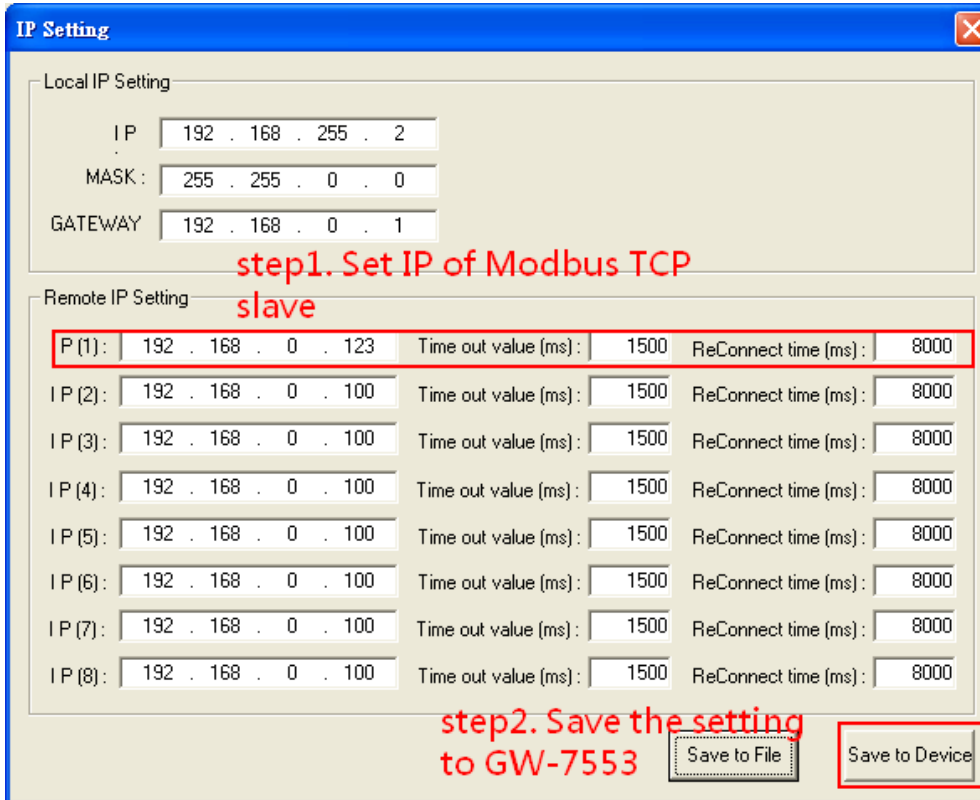
3. Connection success



4. Click IP setting → Load from device to show IP setting dialog



5. Set the IP of the Modbus TCP Slave and click “Save to Device” button to save the settings.



Step 9: Set the switch of the GW-7553 to Normal Mode then reset the power of GW-7553.



Now the setting procedure has been finished and the user can write the data to the Modbus AO module at address PQW256.

Network 2 : QB0 add "1" then PLC will send PQB256 out.

1 word 16AO

