

Code and Compile  
presents

# How to write Scripts in HMI



# Things required

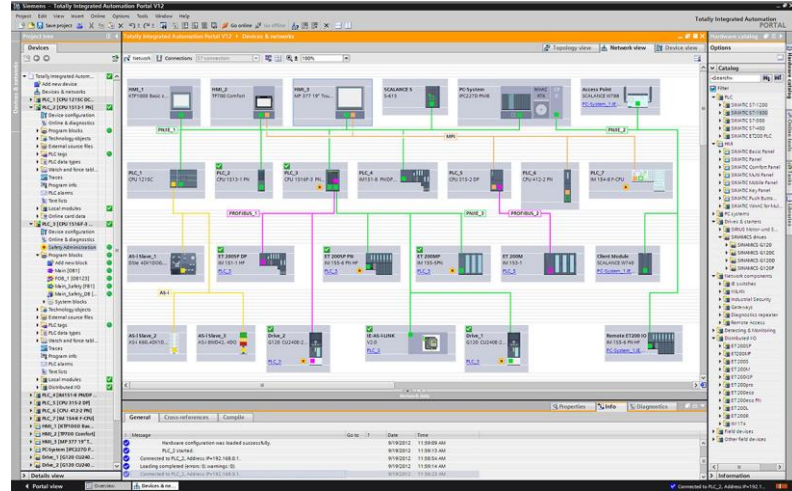


## Hardware used:



Siemens PLC  
S7-1200

## Software used:



Siemens TIA Portal  
WinCC Advanced V15

# What we are going to learn in this section:



## Tasks: Achieve the following using scripts in HMI

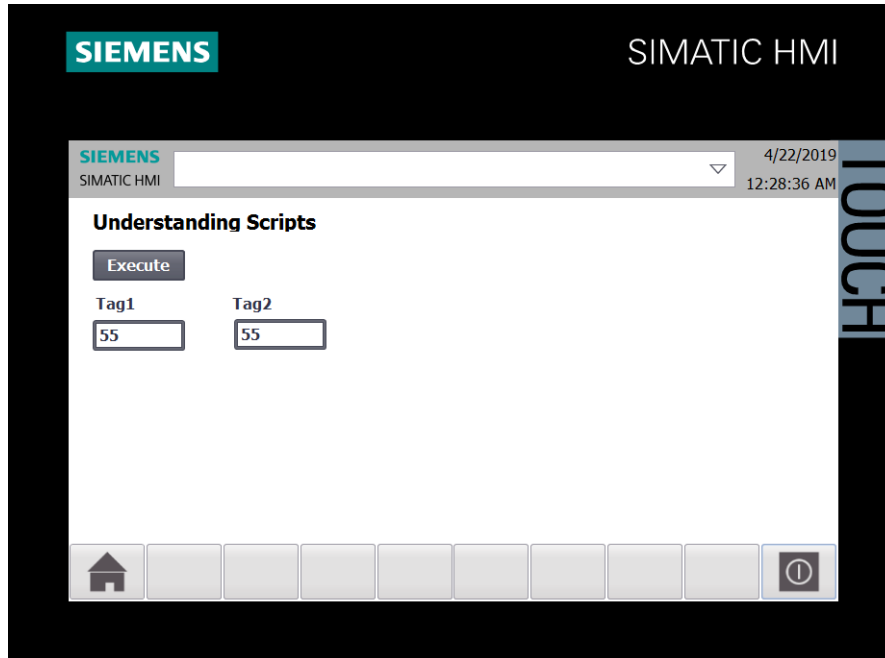
1. Moving/Copying the HMI internal tag via button
2. Perform basic arithmetic operations
3. Reading the PLC tag using scripts in HMI and execute the script using PLC clock pulse
4. Box animation using script



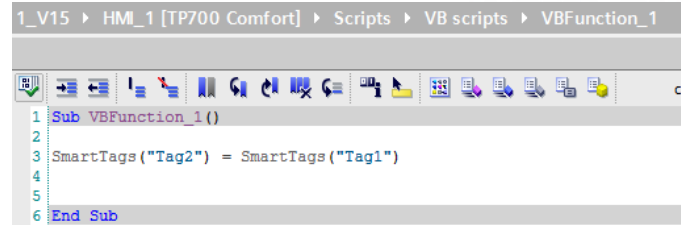
# What we are going to learn in this section:



## Task 1: Moving/Copying the HMI internal tag via button or scheduler



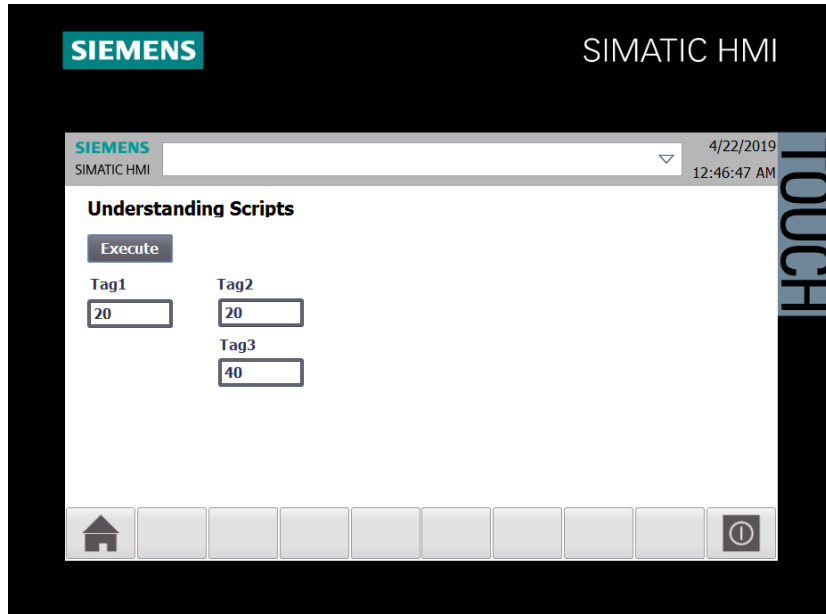
### VB Script



# What we are going to learn in this section:



## Task 2: Perform basic arithmetic operations



### VB Script

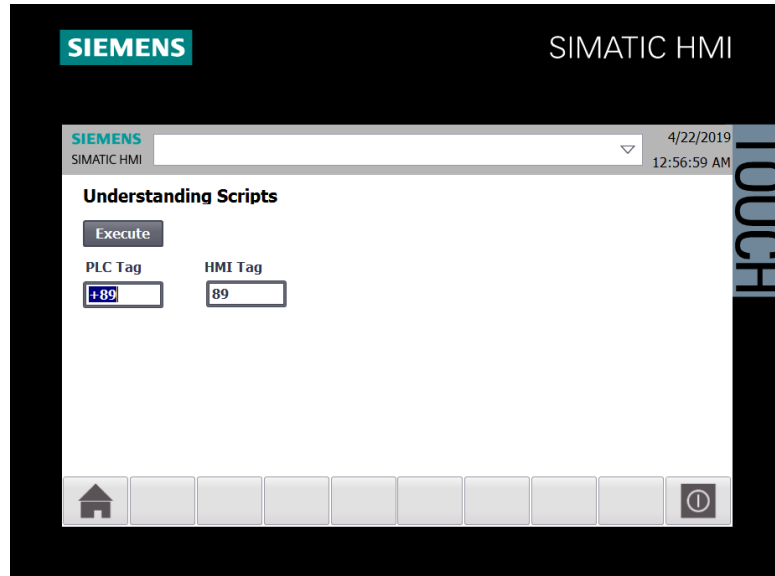
```
1_V15 > HMI_1 [TP700 Comfort] > Scripts > VB scripts > VBFunction_1  
  
1 Sub VBFunction_1()  
2  
3 SmartTags("Tag2") = SmartTags("Tag1")  
4 SmartTags("Tag3") = SmartTags("Tag1") * 2  
5  
6 End Sub
```



# What we are going to learn in this section:



## Task 3: Reading the PLC tag using scripts in HMI and execute the script using PLC clock pulse



### HMI Tags

1\_V15 > HMI\_1 [TP700 Comfort] > HMI tags > Default tag table [4]

Default tag table				
Name	Access mode	Acquisition cycle	Logged	Acquisition mo...
1 Hz	<symbolic access>	500 ms	<input type="checkbox"/>	Cyclic conti...
HMITag		1 s	<input type="checkbox"/>	Cyclic in operat...
PLCTag	<symbolic access>	100 ms	<input type="checkbox"/>	Cyclic in operat...

### VB Script

1\_V15 > HMI\_1 [TP700 Comfort] > Scripts > VB scripts > VBFunction\_1

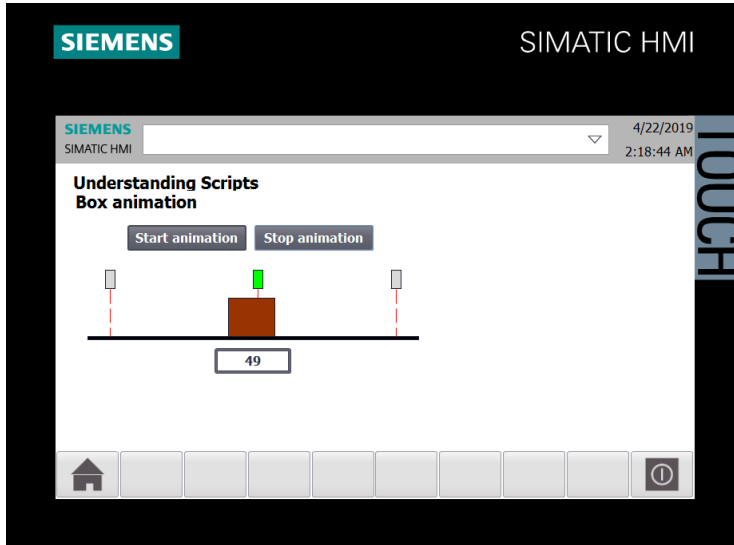
```
1 Sub VBFunction_1()  
2  
3 SmartTags("HMITag") = SmartTags("PLCTag")  
4  
5 End Sub
```



# What we are going to learn in this section:



## Task 4: Box animation using script



## HMI Tags

1\_V15 ▶ HMI\_1 [TP700 Comfort] ▶ HMI tags ▶ Default tag table [10]

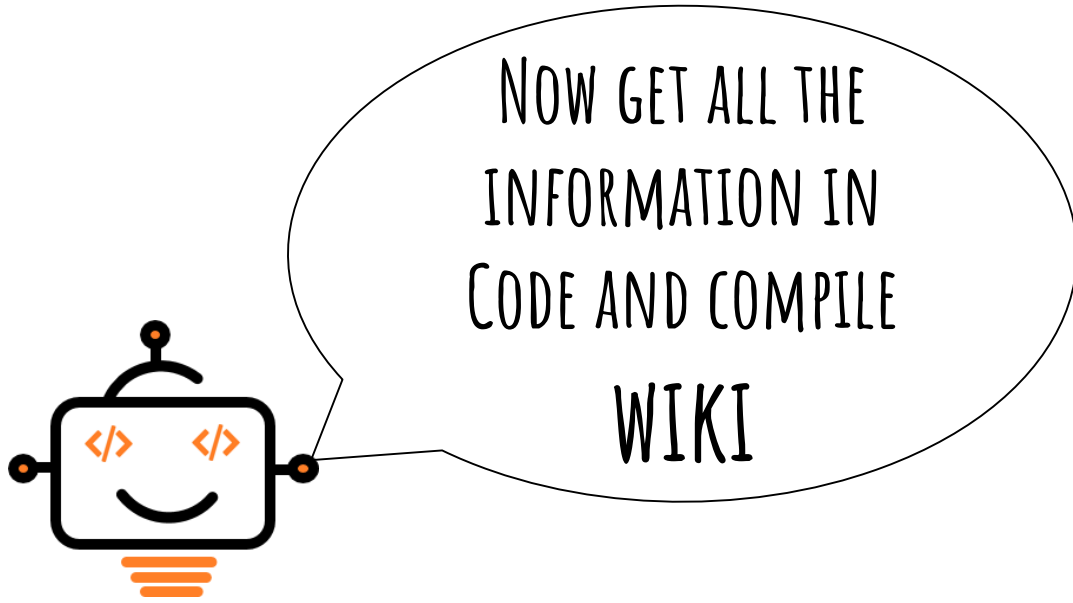
Default tag table				
Name	Data type	Connection	PLC name	PLC tag
1Hz	Bool	HMI_Connection...	PLC_1	Clock_5Hz
5Hz	Bool	HMI_Connection...	PLC_1	Clock_5Hz
animation	Bool	<Internal tag>		<Undefined>
HMITag	Int	<Internal tag>		<Undefined>
i	Int	<Internal tag>		<Undefined>
PLCTag	Int	HMI_Connection...	PLC_1	test.data
Sensor1	Bool	<Internal tag>		<Undefined>
Sensor2	Bool	<Internal tag>		<Undefined>
Sensor3	Bool	<Internal tag>		<Undefined>

## VB Script 1 and 2

```
1_V15 + HMI_1 [TP700 Comfort] ▶ Scripts ▶ VB scripts ▶ VBFunction_1
1_V15 + HMI_1 [TP700 Comfort] ▶ Scripts ▶ VB scripts ▶ VBFunction_2

Sub VBFunction_1()
1
2
3
4 If SmartTag("HMITag") <= 1 Then
5   SmartTag("I") = 1
6 End If
7
8 If SmartTag("HMITag") >= 99 Then
9   SmartTag("I") = -1
10 End If
11
12 If (SmartTag("HMITag") >= 0 And SmartTag("HMITag") <= 5) Then
13   SmartTag("Sensor1") = True
14 Else
15   SmartTag("Sensor1") = False
16 End If
17
18 If (SmartTag("HMITag") >= 40 And SmartTag("HMITag") <= 50) Then
19   SmartTag("Sensor3") = True
20 Else
21   SmartTag("Sensor3") = False
22 End If
23
24 If (SmartTag("HMITag") >= 95 And SmartTag("HMITag") <= 100) Then
25   SmartTag("Sensor2") = True
26 Else
27   SmartTag("Sensor2") = False
28 End If
29
30
31 End Sub

Sub VBFunction_2()
1
2
3 If SmartTag("animation") = True Then
4   SmartTag("HMITag") = SmartTag("HMITag") + SmartTag("I")
5 End If
6 End Sub
```



**To get more information visit**

<https://www.codeandcompile.com>

*Link is also given in the video description*

[www.codeandcompile.com](https://www.codeandcompile.com)