
Multi Bus Tester - Tutorial

Release 0.2.3

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INTRODUCTION

This guide helps you to create your first MB-Tester script. The example will use MP communication. The IDE used in this example is the Visual Studio Community 2019 edition.

Important: This tutorial assumes that you completed the MB-Tester installation, please read the Installation Guide.

STEP 1: CREATE VISUAL STUDIO PROJECT

Type of project: Python Application


Create a new project

Recent project templates

A list of your recently accessed templates will be displayed here.

Search for templates (Alt+S) 🔍 Cle

Python ▾ All platforms ▾ All project types

 Python Application
A project for creating a command-line application

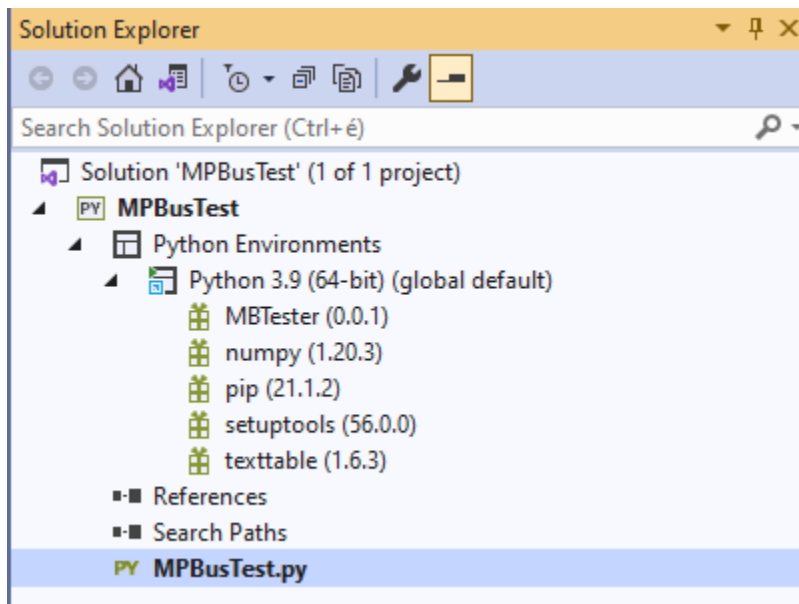
Python Windows Linux macOS Console

STEP 2: SELECT PYTHON ENVIRONMENT

Each installed python environments has its own packages, so it is important to use the python environment for your project, where MB-Tester has been installed.

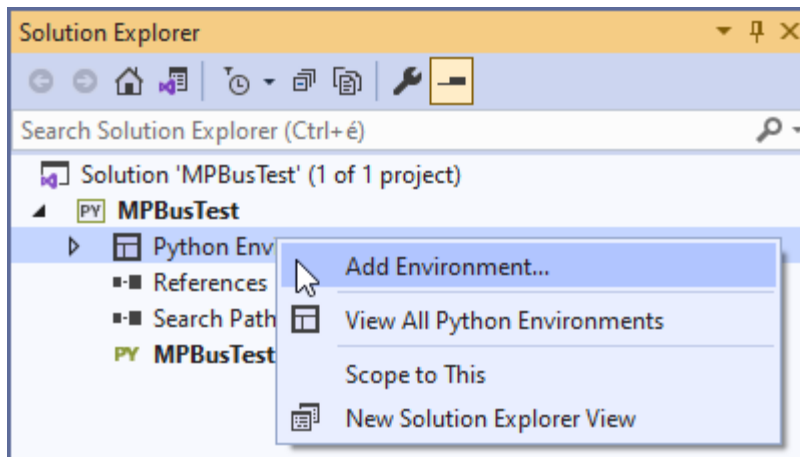
3.1 Checking The Actual Environment

If you do not see the MBTester package at the used environment, you have to check your installation or you have to select the correct python environment. If you followed the Installation Guide, you will see the following picture:

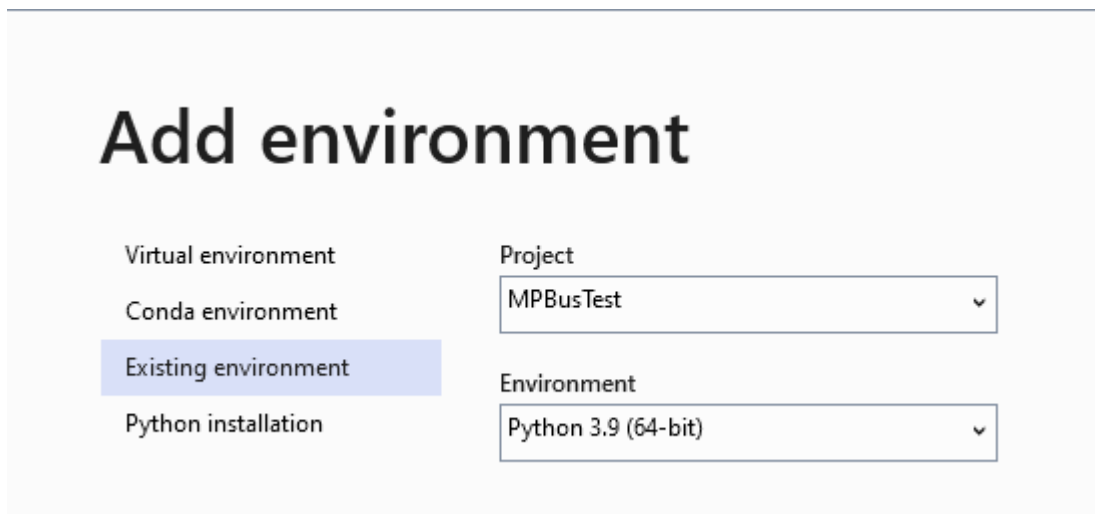


3.2 Select The Python Environment

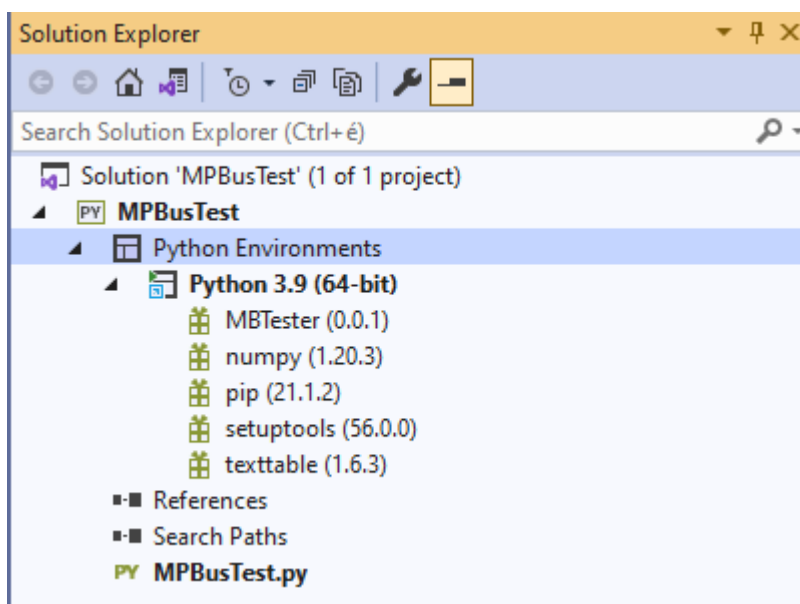
1. Use the “Add Environment” button in “Python Environments” (sub) window or use the “Add Environment...” item from the right click menu of the project in “Solution Explorer”.



2. Choose the correct environment from the existing environments



3. Check that the MBTester package is available.



WRITE THE FIRST SCRIPT

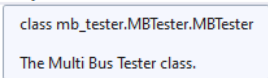
We will use the GetSeriesNo MP command as an example command because it is working with all MP devices, so the type of the device is not relevant for this new script.

The python development tool can help during the script writing with quick info generated by Visual Studio IntelliSense.

Note: When using Visual Studio 2019 the quick info text is shown truncated if it is too long. If you use Visual Studio Code it shows long quick info as scrollable text.

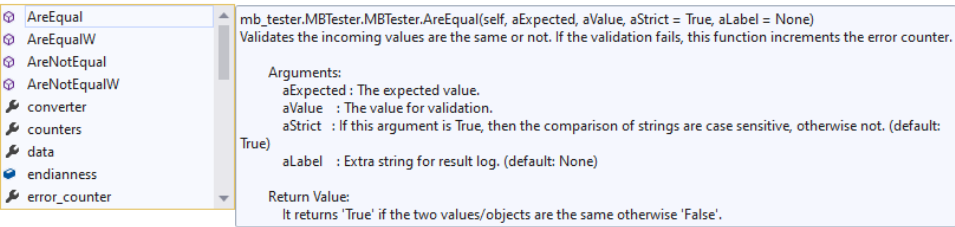
A few examples for the quick info:

```
1
2 from mb_tester.MBTester import MBTester;
```



class mb_tester.MBTester.MBTester
The Multi Bus Tester class.

```
1
2 from mb_tester.MBTester import MBTester;
3
4 tester = MBTester();
5
6 tester.
```

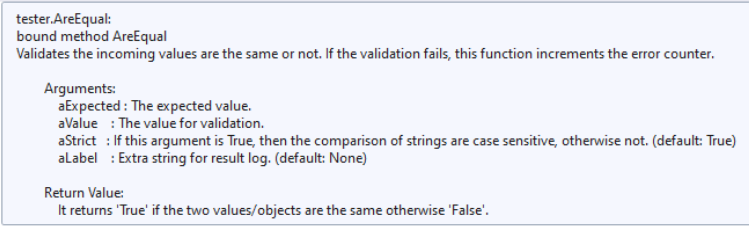


tester.AreEqual
mb_tester.MBTester.MBTester.AreEqual(self, aExpected, aValue, aStrict = True, aLabel = None)
Validates the incoming values are the same or not. If the validation fails, this function increments the error counter.

Arguments:
aExpected : The expected value.
aValue : The value for validation.
aStrict : If this argument is True, then the comparison of strings are case sensitive, otherwise not. (default: True)
aLabel : Extra string for result log. (default: None)

Return Value:
It returns 'True' if the two values/objects are the same otherwise 'False'.

```
1
2 from mb_tester.MBTester import MBTester;
3
4 tester = MBTester();
5
6 tester.AreEqual();
```



tester.AreEqual:
bound method AreEqual
Validates the incoming values are the same or not. If the validation fails, this function increments the error counter.

Arguments:
aExpected : The expected value.
aValue : The value for validation.
aStrict : If this argument is True, then the comparison of strings are case sensitive, otherwise not. (default: True)
aLabel : Extra string for result log. (default: None)

Return Value:
It returns 'True' if the two values/objects are the same otherwise 'False'.

Now write the following simple script. You may need to change the COM port to match your system. See the comments below for an explanation.

```

from mb_tester.MBTester import MBTester, LogLevels;
from mb_tester.MPBus import MPBus, CommunicationTypes;
from mb_tester.MPSerialPort import MPSerialPort, MPBaudRates;

# Create the MBTester object that will conduct the test
tester = MBTester( aDefaultLogLevel = [ LogLevels.ERROR
                                       , LogLevels.WARNING
                                       , LogLevels.INFO
                                       , LogLevels.INPUT
                                       , LogLevels.OUTPUT ] );

# Create a serial port for the MP Bus to use
mpserial = MPSerialPort( aTester          = tester
                        , aName           = "MPPort1"
                        , aDeviceId       = "COM25"
                        , aCommunicationType = CommunicationTypes.MP3
                        , aBaudRate       = MPBaudRates.B1200
                        , aIsDefault      = True);

# Create the MP Bus object that implements the MP stack to send
# MP commands and receive the answers.
mpbus = MPBus(tester, aDefaultPort = mpserial);

# Execute the MP Command. The call will return after the answer is
# received. The Answer bytes are returned in the buffer.
(result, buffer) = mpbus.GetSeriesNo();
if result == 0:
    tester.LogBytes(LogLevels.INFO, "Received data : ", buffer);
else:
    tester.Log(LogLevels.ERROR, "Could not get series no. Error code: (" + str(result) + ")");

```

Now you can run your script, you should see an output similar to the following.

The screenshot shows a Python script being executed in a terminal window. The script on the left is the same as the one provided in the previous block. The output on the right shows the following log messages:

```

2022.09.23 13:40:07.531 [E0000,W0000] INFO MP Port created ['MPPort1', 1]
2022.09.23 13:40:07.533 [E0000,W0000] INFO Command bytes generated [0x183280aa]
2022.09.23 13:40:07.545 [E0000,W0000] OUTPUT getSeriesNo [0x183280aa]
2022.09.23 13:40:07.654 [E0000,W0000] INPUT getSeriesNo [0x7d565758595a5b5c4c6c]
2022.09.23 13:40:07.686 [E0000,W0000] INFO Received data : [0x565758595a5b5c]
2022.09.23 13:40:08.416 [E0000,W0000] INFO MP Port deleted ['MPPort1']
2022.09.23 13:40:08.416 [E0000,W0000] INFO DONE - Test done.
Press any key to continue . . .

```

**CHAPTER
FIVE**

EPILOGUE

Now, you are done with your first script. We hope, it was easy.