DE10000 USER MANUAL

PYTHON PLUGIN

TestPlanner

testplanner

DEICO

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Contents

INTRODUCTION

Overview

TestPlanner.Python is a plugin for TestPlanner to use Python scripting in an automated test environment. With this plugin, developers can execute external Python scripts using selected Python interpreters or evaluate them directly within the tool.

Target Audience

This plugin is designed for anyone who wish to utilize the capabilities of Python programming language.

Prerequisite Knowledge

This document is designed to serve as a guide for using this plugin. **TestPlanner.Python** is automatically installed along TestPlanner Editor, so installing TestPlanner Editor is sufficient.

RUNNING EXTERNAL PYTHON SCRIPTS

This plugin incorporates 2 test steps for running external Python scripts, one for Python version 2 and one for Python version 3. To use these test steps, a Python interpreter must be installed.

Note While installing TestPlanner Editor, a Python3 interpreter can be optionally installed. Alternatively, a Python interpreter can be installed from the Python website.

Running Python3 Scripts

Python3 Process is used to run external Python3 scripts. The settings layout is shown below:

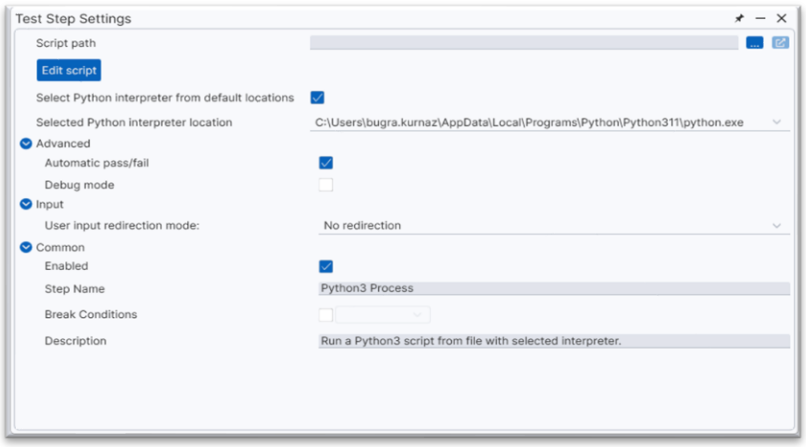

Figure 1: Python3 Settings

1. **Script Path:** Select the path of the Python script using the button with three dots. A file locator window will open to select the script. Then the script will be editable within TestPlanner using the **Edit script** button.

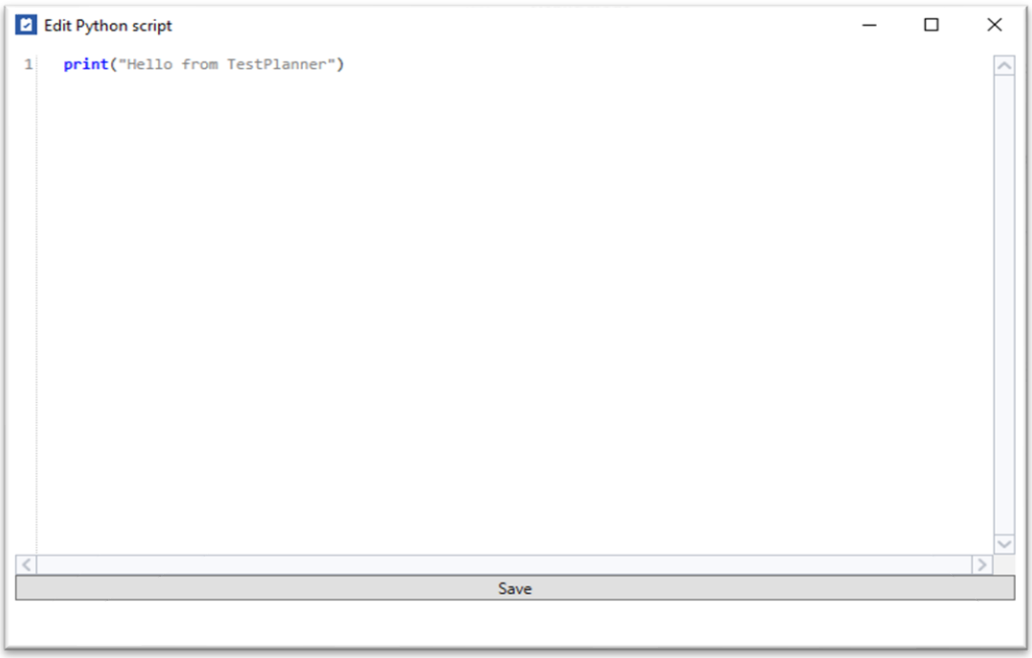

Figure 2: Python Edit Script

After editing, click on **Save** and exit from the window.

2. **Interpreter Selection:** The plugin automatically detects installed Python interpreters. Select the preferred interpreter from the list. To use a non-default location, untick **Select Python interpreter from default locations** and manually select the interpreter.

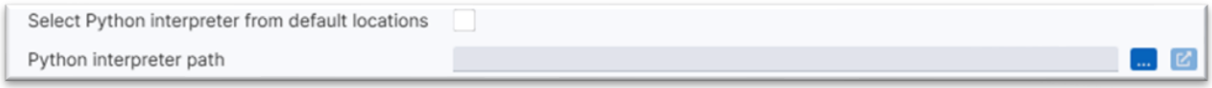

Figure 3: Python Manual Interpreter Path

3. **Output Handling:** The plugin redirects standard output to logs as information. Error messages sent to standard error are logged seperately as errors.

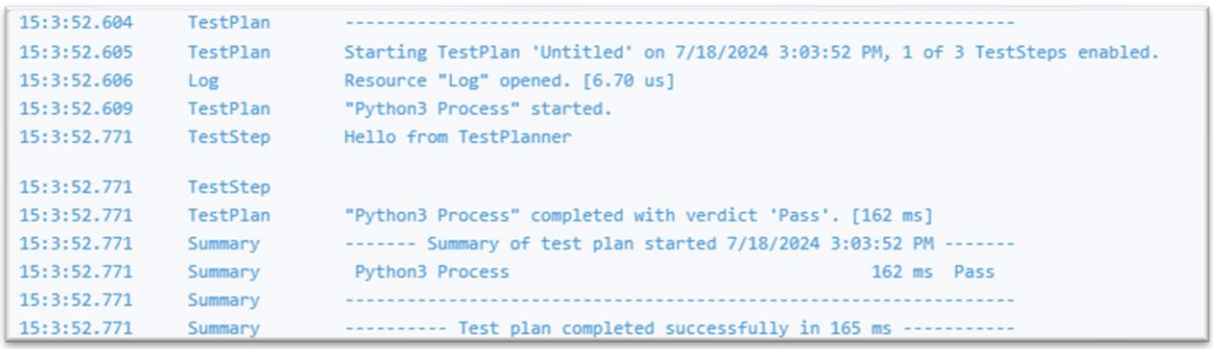

Figure 4: Python3 Output

Running Python2 Scripts

The **Python2 Process** test step runs external Python2 scripts and has the same layout as the **Python3 Process**. It also detects installed Python2 interpreters.

Advanced Options

Automatic Pass/Fail

When enabled, this option causes the test step to set its verdict based on the standard error output.

If any error message is passed to standard error, test step will fail. Otherwise, test step will pass.

```
15:8:15.649     TestStep      Traceback (most recent call last):
15:8:15.649     TestStep        File "C:\Users\bugra.kurnaz\Desktop\Analyzer.py", line 7, in <module>
15:8:15.649     TestStep          import matplotlib.pyplot as plt
15:8:15.649     TestStep      ModuleNotFoundError: No module named 'matplotlib'
15:8:15.649     TestStep
```

Figure 5: Python Error

To write a message to standard error, the file parameter of **print** function can be used, as described below:

Edit Python script

```
1
2
3   import sys

    print("Error", file=sys.stderr)
```

Figure 6: Python Error 2

Note If this option is disabled, the test step will not set a verdict. This option is ignored if **Debug Mode** is enabled.

Debug Mode

When enabled, Python IDLE will open for debugging instead of executing the script. In this mode, automatic pass/fail option is disabled.

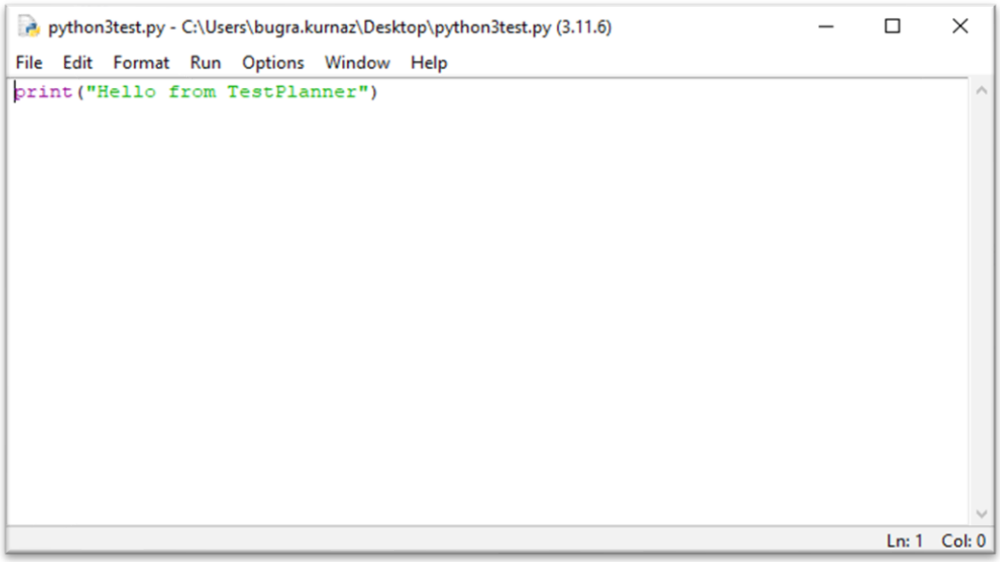

Figure 7: Python IDLE

To run the script in IDLE, the steps below must be followed.

1. Navigate to **Run > Run Module**.
2. For further debugging, navigate to **Debug > Debugger** in IDLE Shell and enable desired checkboxes.
3. Without closing debugger, run the Python script by clicking **Run Module** in the script window.

Note Breakpoints can also be set by right clicking on the lines.

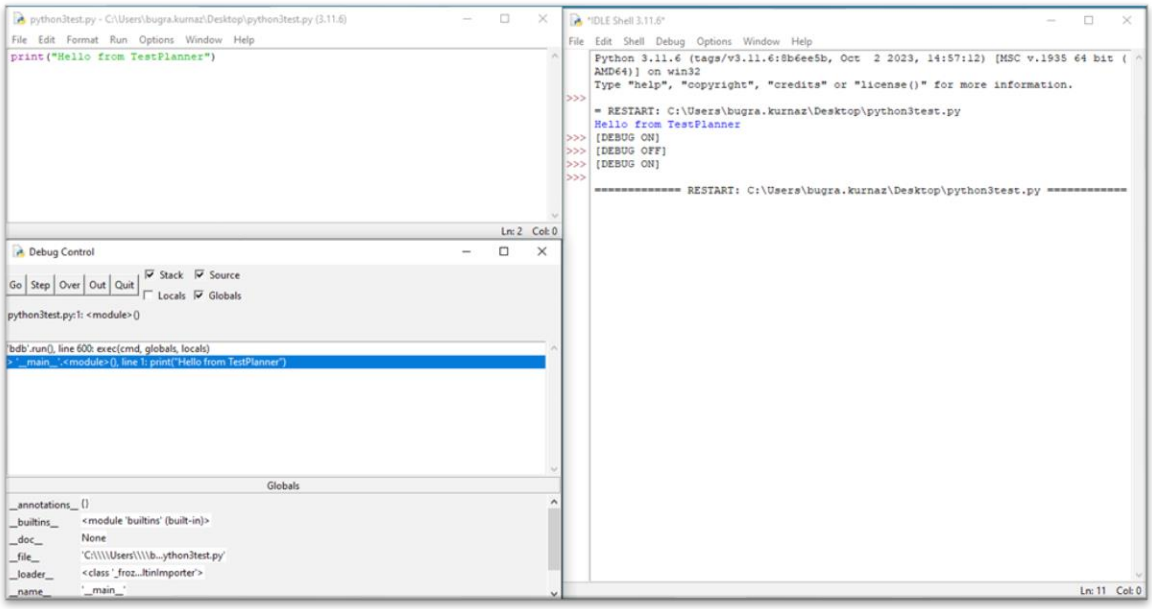

Figure 8: Debugging

Note If there is an error while starting the Python IDLE, the test step will set its verdict to **Error**.

Input Options

A string or a file can be fed to standard input of the Python process.

No Redirection (Default)

Standard input is empty.

Redirect a File

A file is read into memory and passed to standard input of the Python process. An extra newline character **‘’** is added at the end to prevent Python from waiting for a new line.

Redirect a String

A one-line string will be passed to standard input of the Python process. An extra newline character **‘’** is added at the end to prevent Python from waiting for a new line.

RUNNING INTERNAL PYTHON SCRIPTS

Python3 Test Step

Python3 Test Step can be used to run Python scripts without an external interpreter. The script will be embedded within the **.TapPlan** file, making it portable.

Note This test step uses IronPython 3.4 for executing, so it does not support all Python libraries, though most of the standard library works.

The advantage of this test step is the ability to use local and global variables defined in TestPlanner Editor. This combination enables powerful evaluation of test steps, leveraging Python’s scripting capabilities and the comprehensive Python Standard Library.

Below is an example to follow.

1. Create a new local variable named **Count**, change its type to **Integer** and set its value to 10. Refer to the DE10000_USER MANUAL (EDITOR) document for instructions on creating a local variable.

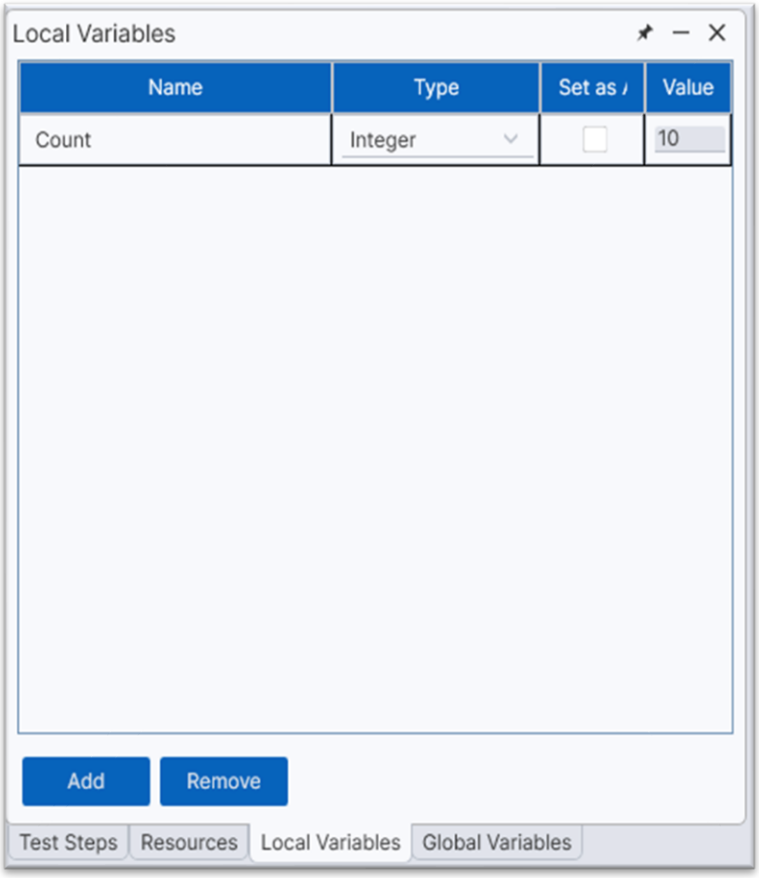

Figure 9: Local Variables

2. Click on **Edit script**, and write a simple expression.

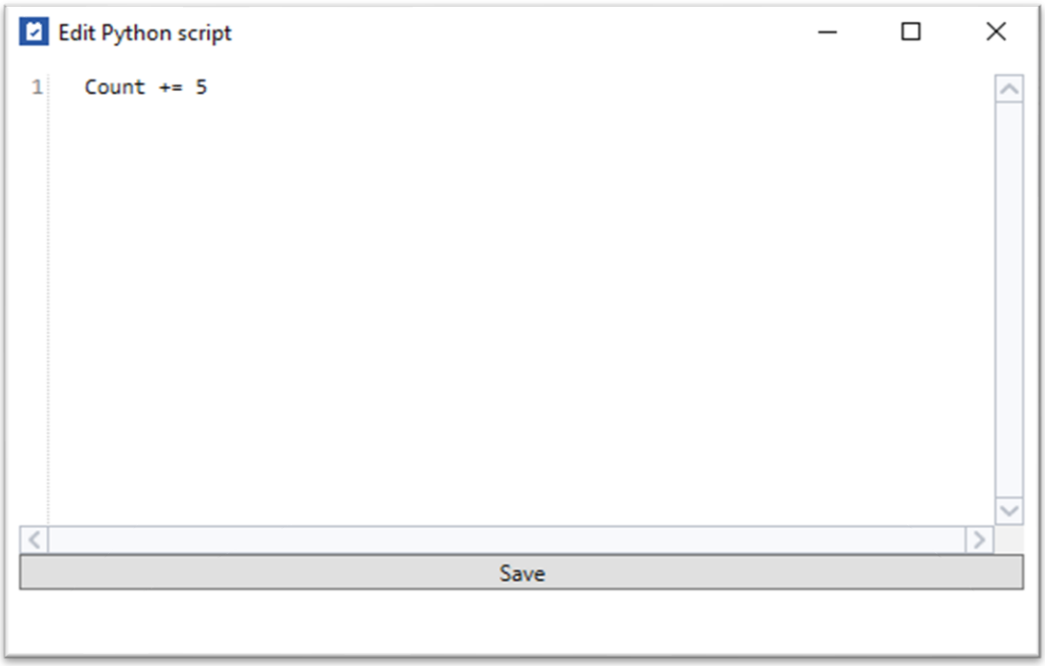

Figure 10: Python Script

3. Run the test plan. It can be seen that variable's value increases by 5.

Advanced Options

Automatic Pass/Fail

This option works the same as in the Python Process test steps (Automatic Pass/Fail).

Hide Script from Side Panel

When disabled, the script will be displayed in the test step settings panel.

Input Options

Input options are the same as in the Python Process test steps (Input Options).

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