

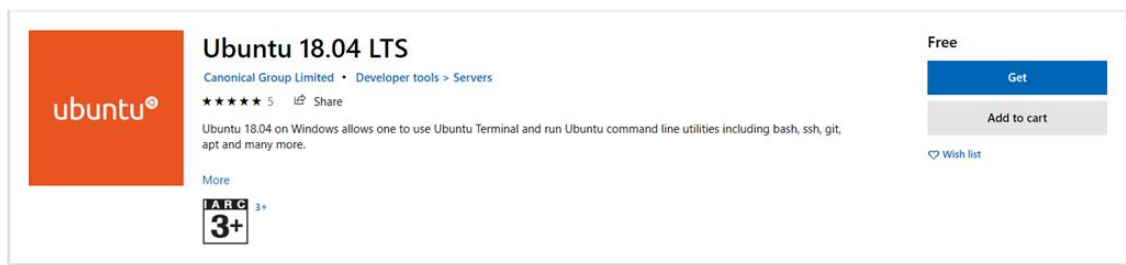
SETUP

Download the source code:

Back-end application – <https://github.com/volodymyrLeno/Robidium>

Front-end application – <https://github.com/stdevi/robidium-frontend>

To discover data transformations, the tool requires Ubuntu terminal that can be downloaded from the Microsoft Store:



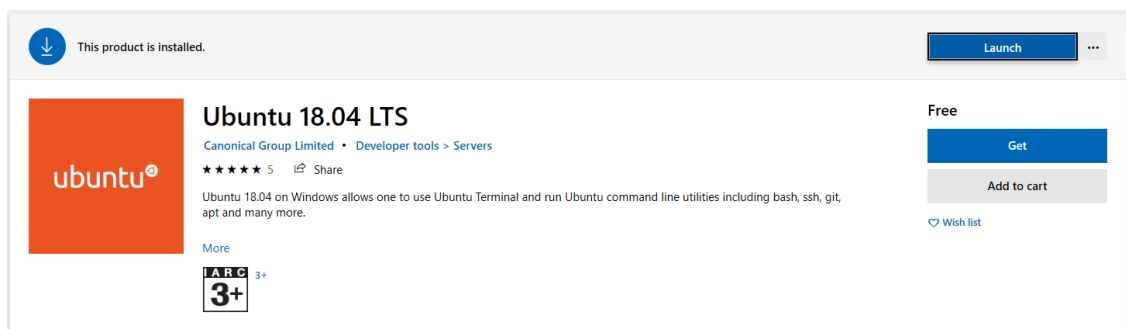
Before installing any Linux distributions on Windows, you must enable the "Windows Subsystem for Linux" optional feature.

For this, open PowerShell as Administrator and run command:

```
dism.exe /online /enable-feature /featurename:Microsoft-Windows-Subsystem-Linux /all /norestart  
dism.exe /online /enable-feature /featurename:VirtualMachinePlatform /all /norestart
```

You will have to restart the system for all the changes to be applied

After Ubuntu terminal is downloaded open it by clicking button "Launch".



Wait for the installation to finish. You will have to set the username and password.

```
vleno@DESKTOP-42GR8SQ: ~  
Installing, this may take a few minutes...  
Please create a default UNIX user account. The username does not need to match your Windows username.  
For more information visit: https://aka.ms/wslusers  
Enter new UNIX username: vleno  
Enter new UNIX password:  
Retype new UNIX password:  
passwd: password updated successfully  
Installation successful!  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.
```

In Ubuntu terminal execute the following commands:

```
sudo apt update  
sudo apt upgrade  
sudo apt install python2.7  
sudo apt install python-pip  
python -m pip install -U pip setuptools  
sudo apt-get install libboost-all-dev
```

Install all required python modules:

```
python -m pip install numpy  
python -m pip install tabulate  
python -m pip install cherrypy  
python -m pip install editdistance  
python -m pip install python-Levenshtein  
python -m pip install matplotlib
```

Navigate to */foofah* directory in the source code of the tool via Ubuntu terminal:

```
vleno@DESKTOP-42GR8SQ:/$ cd mnt  
vleno@DESKTOP-42GR8SQ:/mnt$ cd c/Volodymyr/Robidium/foofah  
vleno@DESKTOP-42GR8SQ:/mnt/c/Volodymyr/Robidium/foofah$
```

Run command:

```
sudo python setup.py install
```

Install Node.js – <https://nodejs.org/en/>

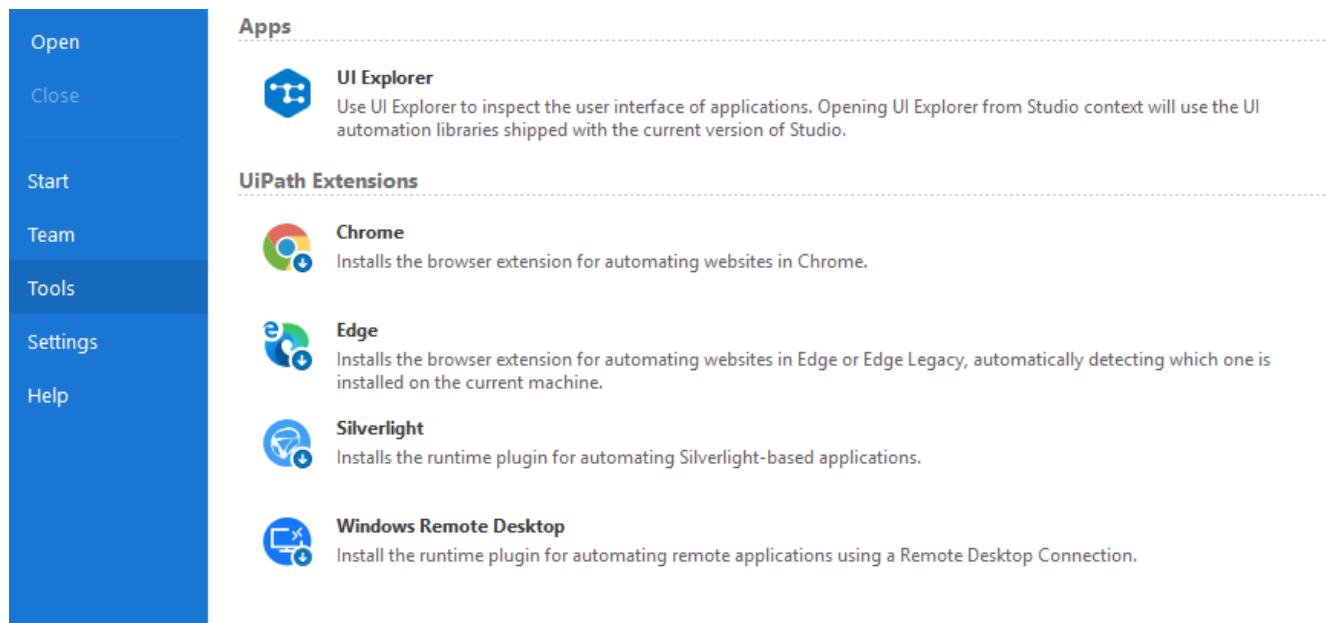
Navigate to */front-end* directory and run the next commands:

```
npm install
```

```
npm install -g create-react-app
```

```
npm install react-scripts
```

Open UIPath client. Navigate to “Tools” and select Chrome to install the corresponding extension.



The screenshot shows the UIPath client interface. On the left is a blue sidebar with a menu containing: Open, Close, Start, Team, Tools (highlighted), Settings, and Help. The main area is titled 'Apps' and contains a section for 'UiPath Extensions'. This section lists four extensions with their respective icons and descriptions:

- UI Explorer**: Use UI Explorer to inspect the user interface of applications. Opening UI Explorer from Studio context will use the UI automation libraries shipped with the current version of Studio.
- Chrome**: Installs the browser extension for automating websites in Chrome.
- Edge**: Installs the browser extension for automating websites in Edge or Edge Legacy, automatically detecting which one is installed on the current machine.
- Silverlight**: Installs the runtime plugin for automating Silverlight-based applications.
- Windows Remote Desktop**: Install the runtime plugin for automating remote applications using a Remote Desktop Connection.

USAGE

1) To run the front-end:

Using command line or PowerShell navigate to \front-end directory and run “npm start”

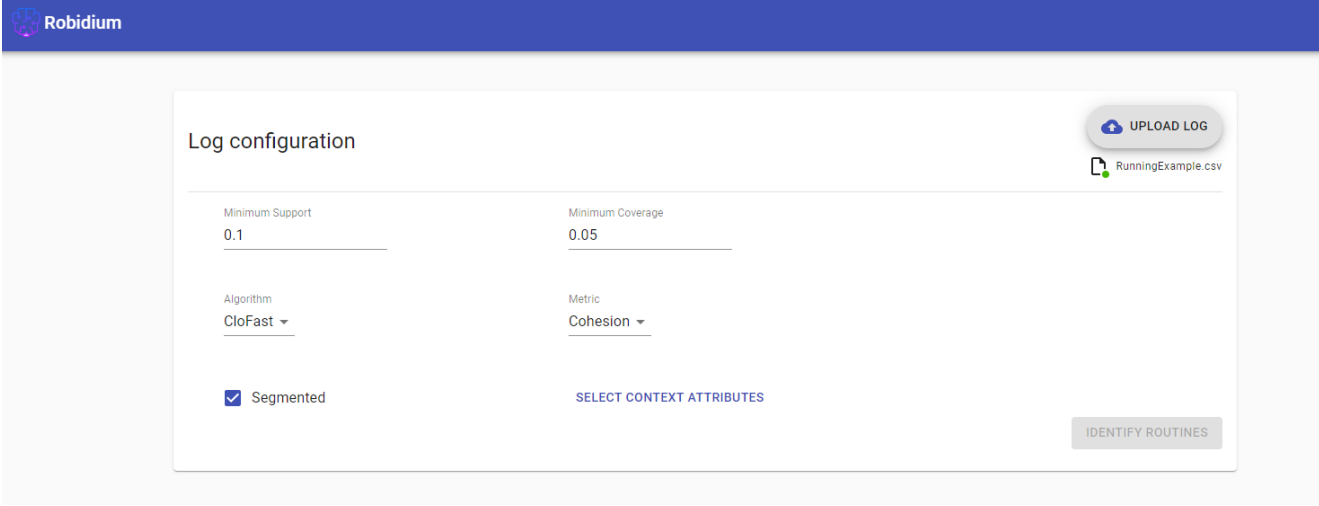
2) To run the back-end:

In PowerShell navigate to the main directory of the tool and run “./mvnw spring-boot:run”

3) The tool is available at <http://localhost:3000>

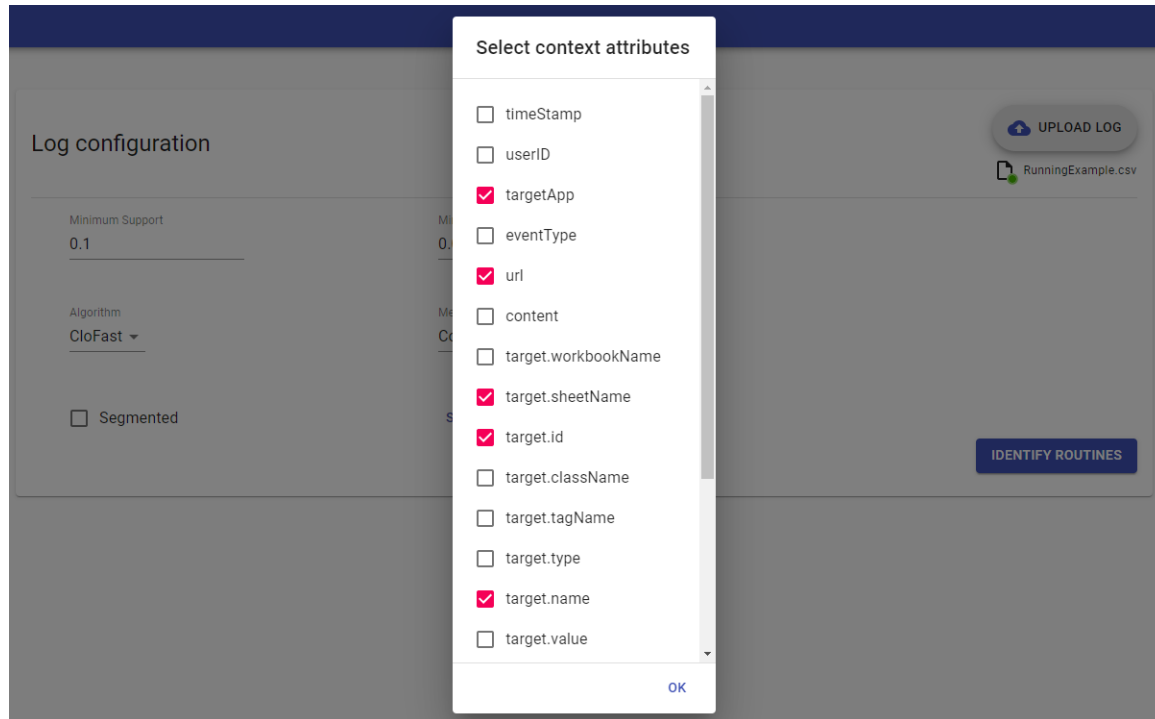
4) Upload the UI log and specify the input parameters

- Minimum support (used to discover only frequently repetitive routines)
- Minimum coverage (used to filter out short routines with low frequency)
- Algorithm (sequence pattern mining algorithm to extract frequent routines, currently BIDE+ and CloFast algorithms are supported)
- Metric (specifies routine selection strategy)
- Segmented (specifies whether the given log is already segmented, or it requires segmentation first)

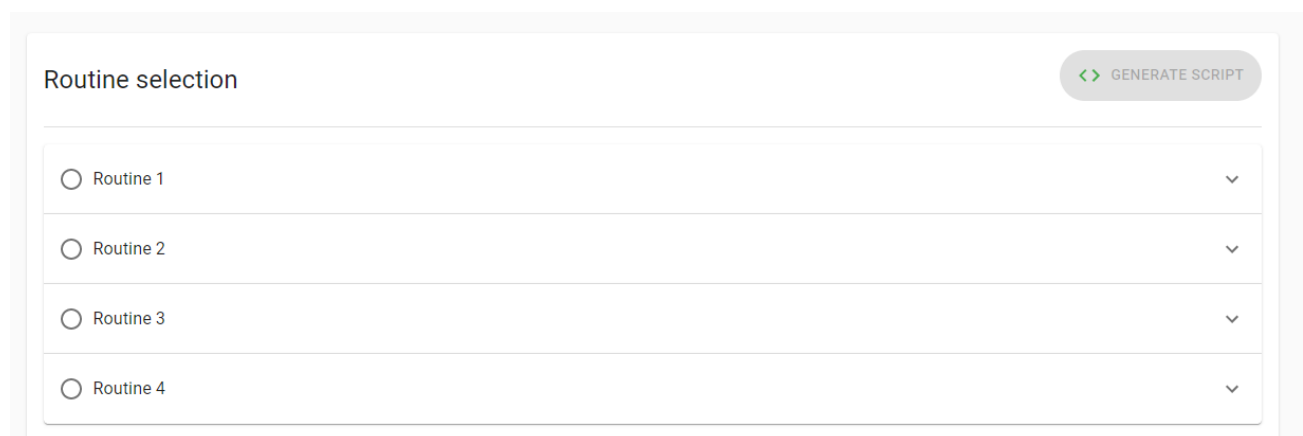


The screenshot shows the Robidium web application interface. At the top is a blue header with the Robidium logo. Below it is a 'Log configuration' panel with a light gray background. In the top right corner of this panel is an 'UPLOAD LOG' button with a cloud icon and a file icon labeled 'RunningExample.csv'. The configuration area contains four input fields: 'Minimum Support' with the value '0.1', 'Minimum Coverage' with the value '0.05', 'Algorithm' with a dropdown menu showing 'CloFast', and 'Metric' with a dropdown menu showing 'Cohesion'. At the bottom left, there is a checked checkbox labeled 'Segmented'. At the bottom right, there is a link labeled 'SELECT CONTEXT ATTRIBUTES' and a gray button labeled 'IDENTIFY ROUTINES'.

5) Select context attributes:



6) Click button *Identify Routines* to extract automatable routines from the log. Discovered routines will be available under Routine selection



7) You can check the discovered routines by expanding them

☐ Routine 4

1	copyCell	Excel	Sheet1	A
2	paste	Chrome	SingleLine	https://forms....
3	editField	Chrome	SingleLine	https://forms....
4	copyCell	Excel	Sheet1	B
5	paste	Chrome	SingleLine	https://forms....
6	editField	Chrome	SingleLine	https://forms....
7	copyCell	Excel	Sheet1	C
8	paste	Chrome	Date-date	https://forms....
9	editField	Chrome	Date-date	https://forms....
10	copyCell	Excel	Sheet1	D

8) Select the routine to be automated by clicking the corresponding radio button and click the button *Generate Script*.

Routine selection

☒ Routine 1

1

copyCell

Excel

Sheet1

A

2

paste

Chrome

SingleLine

https://forms....

3

editField

Chrome

SingleLine

https://forms....

4

copyCell

Excel

Sheet1

B

5

paste

Chrome

SingleLine

https://forms....

6

editField

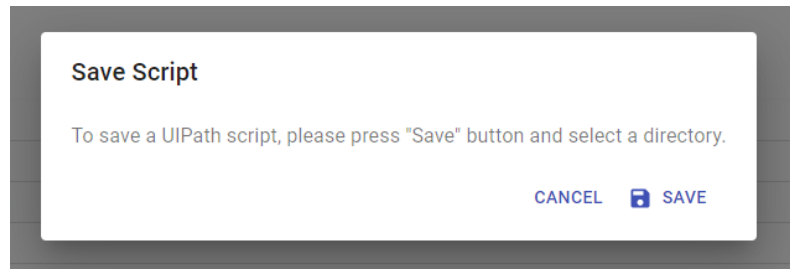
Chrome

SingleLine

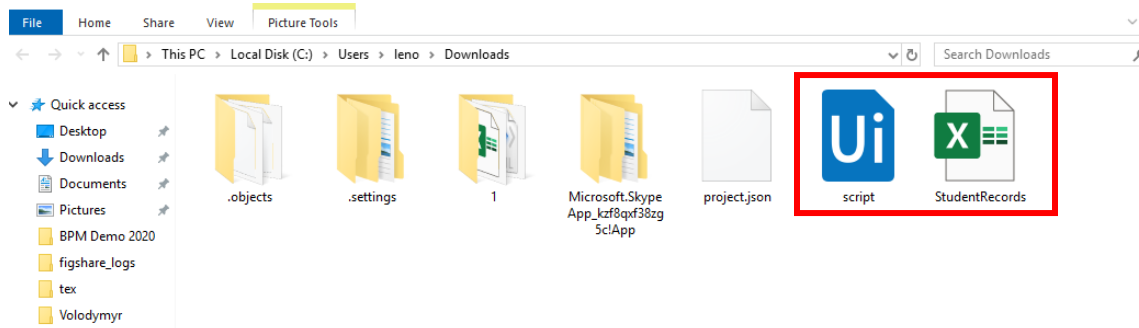
https://forms....

<> GENERATE SCRIPT

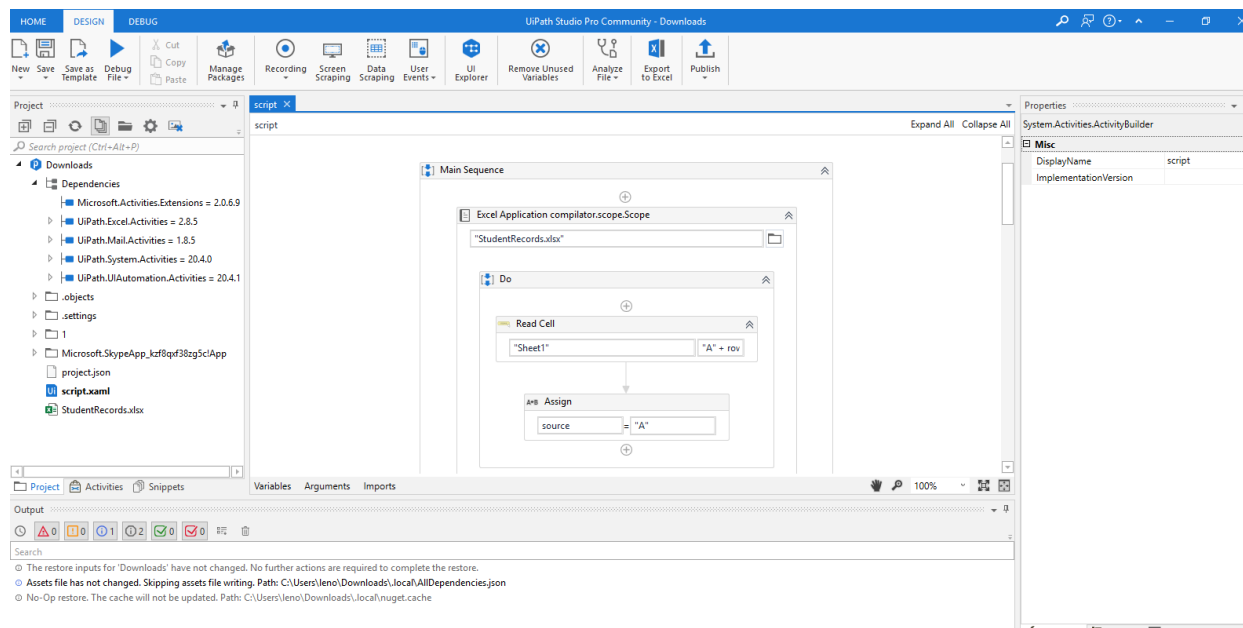
- 9) After the script was generated, a notification will pop up with the option to save the script on your machine. Click button **Save**



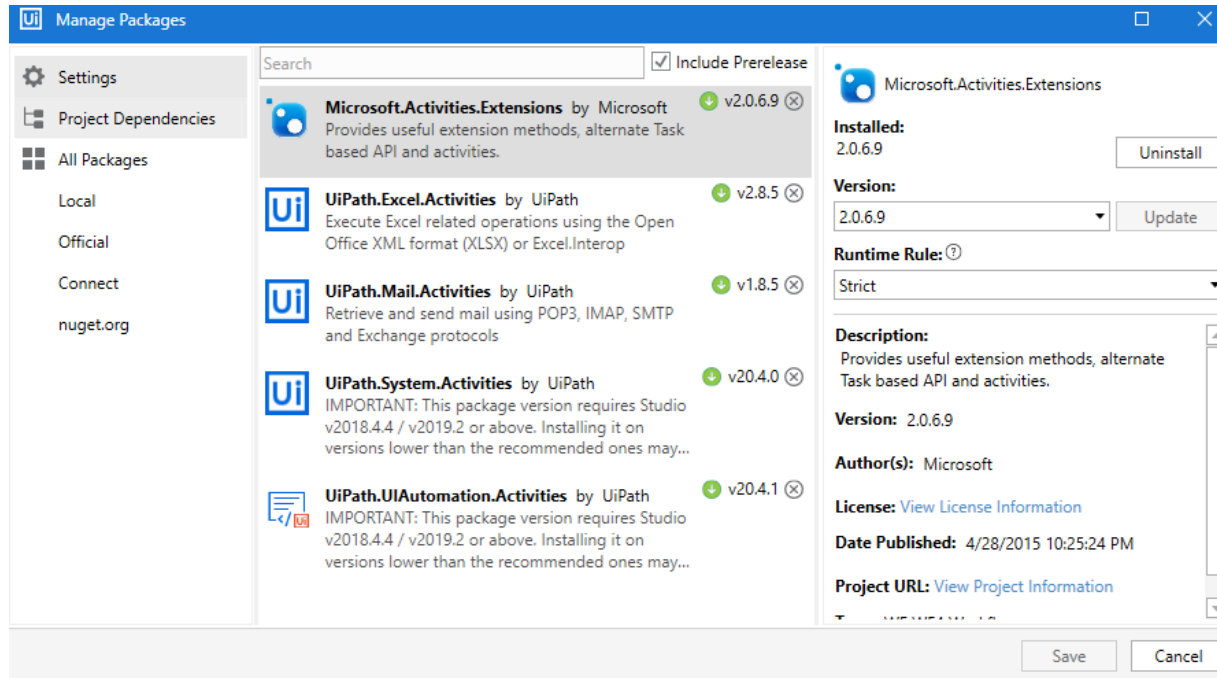
- 10) If the automated routine works with a spreadsheet, place the generated script and the corresponding spreadsheet in the same directory.



- 11) Open the script using UiPath client



12) Select Manage Packages and install Microoft.Activities.Extensions



13) Set the input parameter for the script. In our example, it will be a row of a spreadsheet, that corresponds to a particular student entry

Name	Direction	Argument type	Default value
row	In	String	"2"
column	In	String	Enter a VB expression

Create Argument

Variables Arguments Imports

14) Run the script by clicking the *Debug File* button