ARGOS Low-code/RPA Python Plugin Development

Jerry Chae 5 May, 2020

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1.1 google search "python 3.7 download windows"



1.2 select Python3.7.5(Any version is ok3.7.x)

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	Windows	Python 3.7.3			
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	Puthon 3.7.5	Python Peleases for Mac OS	2 X		
	Python 3.7.5. Release Date: Oct.	Python Releases for Mac OS X.			
	15, 2019. Python 3.7.5 was the	Latest Python 3 Release			
	More results from python.org »				
	www.pytorials.com > python-3-7-download-and	d-install-for-windows 🔻			
	Python 3.7 download and install	for windows pytorials.com			
	The objective of this tutorial is to help you set writing, the latest stable version of python is 3	up python 3.7 on windows OS. At the time of thi 3.7 .1.	S		
https://www.python.org/d	ownloads/release/python-375/				
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1.3 download "Windows x86 executable Installer"

32bit python is recommended because of ...

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Full Changelog

Files

Version	Operating System	Description	MD5 Sum	File Size	GPG
Gzipped source tarball	Source release		1cd071f78ff6d9c7524c95303a3057aa	23126230	SIG
XZ compressed source tarball	Source release		08ed8030b1183107c48f2092e79a87e2	17236432	SIG
macOS 64-bit/32-bit installer	Mac OS X	{Deprecated) for Mac OS X 10.6 and later	cd503606638c8e6948a591a9229446e4	35020778	SIG
macOS 64-bit installer	Mac OS X	for macOS 10.9 and later	20d9540e88c6aaba1d2bc1ad5d069359	28198752	SIG
Windows help file	Windows		608cafa250f8baa11a69bbfcb842c0e0	8141193	SIG
Windows x86-64 embeddable zip file	Windows	for AMD64/EM64T/x64	436b0f803d2a0b393590030b1cd59853	7500597	SIG
Windows x86-64 executable installer	Windows	for AMD64/EM64T/x64	697f7a884e80ccaa9dff3a77e979b0f8	26777448	SIG
Windows x86-64 web-based installer	Windows	for AMD64/EM64T/x64	b8b6e5ce8c27c20bfd28f1366ddf8a2f	1363032	SIG
Windows x86 embeddable zip file	Windows		726877d1a1f5a7dc68f6a4fa48964cd1	6745126	SIG
Windows x86 executable installer	Windows		cfe9a828af6111d5951b74093d70ee89	25766192	SIG
Windows x86 web-based installer	Windows		ea946f4b76ce63d366d6ed0e32c11370	1324872	SIG

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https://www.python.org/ftp/python/3.7.5/python-3.7.5.exe

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1.4 Execute "python-3.7.5.exe"

Start with "Customize installation"



1.5 Select only "pip" at OptionalFeatures



1.6 Customize install location at "C:\Python37-32"



ARGOS LABS

1.7 Setup was successful



2. Install POD SDK

2.1 Prepare Virtual Env

- create virtual env
- activate virtual env
- list packages

mkdir \work C:\Python37-32\python.exe –m venv \work\py37 \work\py37\Scripts\activate pip list

(py37) indicates VirtualEnv is successfully activated



2. Install POD SDK

2.2 Install POD SDK package in virtual env

pip install alabs.ppm alabs.icon --index https://pypiofficial.argos-labs.com/pypi

Command Prompt		- 🗆 ×
<pre>(py37) C:\Users\mcchae)pip install a looking in indexes: https://py1-off Collecting alabs.ppm Downloading https://py1-official. Downloading https://py1-official. Downloading https://py1-official. Downloading https://py1-official. Downloading https://files.pythonho Collecting beautifulsoup4 (from alabs Downloading https://files.pythonho /beautifulsoup4-4.8.2-py3-none-any.wh Collecting requirements-parser (from Downloading https://files.pythonho /requirements-parser-0.2.0.tar.gz Collecting requirements-parser (from Downloading https://files.pythonho /requests (from alabs.ppm) Downloading https://files.pythonho /requests.2.23.0-py2.py3-none-any.wh Collecting PyYAML (from alabs.ppm) Downloading https://files.pythonho /PyYAML-5.3.1-cp37-cp37m-win32.whl (Collecting alabs.common (from alabs. Downloading https://files.pythonho /PyYAML.5.2.1-cp37-cp37m-win32.whl (Collecting alabs.common (from alabs. Downloading https://pyp1-official.</pre>	alabs.ppm alabs.iconindex https://pypi-official.argos-la ficial.argos-labs.com/pypi .argos-labs.com/api/package/alabs-ppm/alabs.ppm-2.321.1800- 61kB 206kB/s .argos-labs.com/api/package/alabs-icon/alabs.icon-1.711.235 143kB 364kB/s bsted.org/packages/8c/23/848298cccf8e40f5bbb59009b32848a4c3 ps.ppm) osted.org/packages/cb/a1/c698cf319e9cfed6b17376281bd0efc6bf whl (106kB) 112kB 2.2MB/s n alabs.ppm) psted.org/packages/03/80/eb6ba1dd0429089436e90e556db50884eaa) psted.org/packages/1a/70/1935c770cb3be6e3a8b78ced23d7e0f3b1 11 (58kB) 61kB 1.3MB/s psted.org/packages/e2/61/052d3c26d38aeb663e4f080e04c6a7fa67 (196kB) 204kB 1.7MB/s .ppm) .argos-labs.com/api/package/alabs-common/alabs.common-1.120	hbs.com/pypi h py3-none-any.wh1 (53kB) i i1-py3-none-any.wh1 (136kB) i i8f4e7f3364297ab3c3e2e2cd14 i ick465698f54170ef60a485ab5d i i21da060b10f2e5668c4cac99da i i87f5cbfab4749523ed65d7c9b1 i ia55c3ed9b4bda051b70ef068867 i i6.1102-py3-none-any.wh1 i

2. Install POD SDK

2.3 Check POD SDK versions

pip list

alabs.common 1.1206.1102 alabs.icon 1.711.2351 alabs.ppm 2.406.1815

Command Prompt		_	
(py37) C:\Users∖mcc Package	hae pip list Version		
alabs.common	1.1206.1102		
alabs.icon	1.711.2351		
alabs.ppm	2.406.1815		
atomicwrites	1.3.0		
attrs	19.3.0		
beautifulsoup4	4.8.2		
certifi	2019.11.28		
chardet	3.0.4		
colorama	0.4.3		
icon-font-to-png	0.4.1		
idna	2.9		
importlib-metadata	1.5.0		
more-itertools	8.2.0		
numpy	1.18.2		
opencv-python	4.2.0.32		
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Pillow	7.0.0		
pip	19.2.3		
oluggy	0.13.1		
by a second second second second second second second second second second second second second second second s	1.8.1		
pyparsing	2.4.6		
pytest	5.4.1		
PyYAML	5.3.1		
requests	2.23.0		
requirements-parser	0.2.0		
setuptools	41.2.0		

ARGOS LABS

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3.1 Search "download pycharm" from google

Note) PyCharm is the best Python IDE (Integration of Development Environment)



3.2 Download PyCharm Community Edition



3.3 Execute pycharmcommunity...exe



3.4 Start Installing "PyCharm Community Edition Setup"



3.5 Install with default option



3.6 Completing setup

"Run Program" after Finish



3.7 Continue with "JetBrains Privacy Policy"

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	Version 2.1, last updated: July 23, 2018							
	In this Privacy Policy, we describe the types of data, including personal data (collectively, "data"), that we and our associated companies collect from you when							
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> Type nere to search				~ 🗳		3/2	4/2020	5

3.8 Select "Light" theme



3.9 open



3.10 Select "C:\work"



ЪÐ

4.1 download template from argos-labs.com

make sure new zip file



4.2 Save the plugintemplate into C:\work



4.3 PyCharm Settings

4.3.1 settings...



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4.3 PyCharm Settings

4.3.2 Project Interpreter Check or Add local "C:\work\py36\Script\python.exe"

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	Plugins	idna	2.9	2.9				
> Version Control Control	▲ 20.0.2							
	Version Control Project: work Project Interpreter	requests	2.23.0	2.23.0				
	Project Interpreter 👘	requirements-parser	0.2.0	0.2.0				
	Project Structure	setuptools	41.2.0	▲ 46.1.1				
	> Build, Execution, Deployment	six	1.14.0	1.14.0				
	> Languages & Frameworks	soupsieve	2.0	2.0				
	> Tools	tinycss	0.4	0.4				
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4.3 PyCharm Settings

4.3.3 add Source "C:\work\plugin-template"



4.3 PyCharm Settings

4.3.4 set Code Style "Hard wrap at" 80

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		✓ Formatting	0						
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4.3 PyCharm Settings

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i⊨ <u>1</u> : Structure	0	Disable new inspections by default	Δρρίγ

4.4 Set Package

4.4.1 Change second name "demo"

Note) First package name "argoslabs" is fixed.

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म्नु 📄 Project 👻	😳 😤 🏚 — 🚲 _initpy ×		
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🖾 Terminal 🛛 🚔 Python Con	sole 🔠 <u>6</u> : TODO		C Event Log

4.4 Set Package

4.4.2 rename demo as "msazure"

Change into your name (username or ...) instread of "msazure"

Note) MUST be lowercase! Only [a-z_] is allowed

work > plugin-template > argoslabs > der	10	Add Configuration	 0.0	÷	
छु	<mark>iểinitpy</mark> ×				
Work Crwork Plugin-template Image: State of the state	2 # coljouretty picture 3 # coljouretty picture 4 #************************************				
‰_initpy ‰_mainpy ≝ build.bat	 7 moduleauthor:: Jerry Chae <mcchae@argos-labs.com></mcchae@argos-labs.com> 8 note:: ARGOS-LABS License 9 				
 build.sh icon.yaml icon-my.png LICENSE.tot README.md requirements.bot setup.yaml initpy >py37 library root plugin-template.zip > IIII External Libraries Scratches and Consoles 	10 Descript Rename X 11 ###Coose LA Rename directory 'demo' and its usages to: Imazure 12 ARGOS LA Rename directory 'demo' and its usages to: Imazure 14 # Author Search for references Search for references 15 # =====# Search in gomments and strings 17 # Jerri Scope 18 # Project Files 19 # change Image: Cancel 20 # * [2019/03/08] Image: Cancel				
tructure * 2: Favorites	23 # - add icon 24 # * [2018/11/28] 25 # - starting 26 - 27				
I Tarminal	35 Afunc lop		0	Event I	

4.4 Set Package

4.4.3 Change third level of name "helloworld"

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	ite	Copy Path Paste Find Usages Find in Path Replace in Path Inspect Code	Ctrl+V Alt+F7 Ctrl+Shift+F Ctrl+Shift+R	slugin module sample			
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ucture		Mark Directory as Remove BOM)				
C Sti		Create Gist	Mitune Log	***************************************			

4.4 Set Package

4.4.4 rename helloworld as "text"

Change into your name instread of "text"

Note) MUST be lowercase!

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	1.0		then 27 (week)	209

4.4 Set Package

4.4.5 make sure package name is changed "argoslabs .msazure.text" at the source



4.5 Install dependent modules

4.5.1 Denote all dependent 3rd party python moduels at requirements.txt

4.5 Install dependent modules

4.5.2 open in Terminal from argoslabs/msazure/ text

work > plugin-template >	argoslabs > msazure > text		Add Configuration 🕨 🗿 🕻
Project -	③ ÷ ♀ − ‰_initpy × iii	requirements.txt ×	
work C:\work Plugin-template argoslabs msazure text	1 # pip dep 2 3 4 # default 5 alabs.com	for alabs	
> test	New	>	
6in 6m	p; X Cut Ctrl+X in□ <u>C</u> opy Ctrl+C	Text Recognizer	
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YHL icor	yam Find Usages Alt+F7		
	Find in Path Ctrl+Shift+F		
HO REA	ME. Inspect Code		
nequente a setu	rem Refactor Oyar Clean Python Compiled Files	>	
> py37 library root	Add to Favorites	>	
plugin-template.zip Illi External Libraries Scratches and Console	Reformat Code Ctrl+Alt+L Optimize Imports Ctrl+Alt+O Delete Delete		
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iit es	Open in Terminal		
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*	→ Compare With Ctrl+D		
ructure	Mark Directory as Remove BOM	>	
- 7: St	O Create Gist		
Terminal Python Co	nsole := <u>6</u> : TODO		C Event I

4.5 Install dependent modules

4.5.3 install 3rd party python modules

pip install -r requirements.txt



4.6 Code the body

4.6.1 Set for the module info at __init__.py

(Refer Irene)



4.6 Code the body

4.6.2 Design arguments

options parameters

(Refer Irene)

Eile Edit View Navigate Code Refactor R	in Tools VCS	ndow Help work [C:\work]\plugin-template\argoslabs\msazure\text_initpy - PyCharm	- 0
🖿 work) 🖿 plugin-template) 🖿 argoslabs) 🖿 m	azure) 🖿 text)	_initpy	Add Configuration 🕨 🍏 🖏 🔳
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E v work C:\work	150	<pre>'cognitive-services/computer-vision/quickstarts/'</pre>	
🛁 🗸 🖿 plugin-template	151	'python-print-text}}',	
🗸 🔪 🔤 argoslabs	152 👳	as mcxt:	
🗸 🖿 msazure	153	<pre># ###################################</pre>	
🗸 🖿 text	154	<pre>mcxt.add_argument('box-imgfile',</pre>	
> 🖿 tests	155	<pre>display_name='Out Img File', input_method='filewrite',</pre>	
🛃_initpy	156	help='If set with file path to write then save result')
🛃mainpy	157		
🕷 build.bat	158	# # ##################################	
El build.sh	159	<pre>mcxt.add_argument('apimkey', display_name='key',</pre>	
icon.yaml	160	<pre>input_method='password',</pre>	
🗂 icon-my.png	161	help='customized key')	
LICENSE.txt	162	<pre>mcxt.add_argument('endpoint', display_name='endpoint',</pre>	
README.md	163	<pre>help='msazure endpoint')</pre>	
🗑 requirements.txt	164	<pre>mcxt.add_argument('imgfile', display_name='image file',</pre>	
setup.yaml	165	<pre>input_method='fileread',</pre>	
💏initpy	166	help='test image')	
> py37 library root	167	<pre>argspec = mcxt.parse_args(args)</pre>	
📗 plugin-template.zip	168 🖸	<pre>return msazuretexts_op(mcxt, argspec)</pre>	
> IIII External Libraries	169		
Scratches and Consoles	* 7.0		
Terminal: Local X Local (2) X +			÷
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Microsoft Windows [Version 10.0.18363.4	18]		
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4.2MB)			
Terminal @ Python Console 🗉 <u>6</u> : TODO			C Event Log

4.7 UnitTest

4.7.1 Fill out tests\test_me.py as UnitTest bodies

Note) How to code UnitTest for plugin

	n <u>Tools ACS Millioom Helb</u> Mork [C:/Mork]/bindiu-template/argoslabs/msazure/text/tests/test_me.py - hyv	
work > plugin-template > argoslabs > m	szure) 🖿 text) 🖿 tests) 🐞 test_me.py	Add Configuration 🕨 🇯 🖏
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4.7 UnitTest

4.7.2 Debug

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4.7 UnitTest

4.7.3 Unit test until all tests are passed

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4.8 Check unique

4.8.1 In case of unique is OK. This plugin can upload or submit.

alabs.ppm plugin unique



4.8 Check unique

4.8.2 In case of already same package name or display name



4.8 Setting

4.8.3 modify setup.yaml

argoslabs.msazure.textversion

Note) Version number must not starts with "0"

1.2.3.04 not allowed 1.2.3.4 is allowed



4.9 pypi-server

4.9.1 make a virtual env for pypi-server

C:\Python37-32\python.exe —m venv \work\pps \work\pps\Scripts\activate pip install pypiserver passlib mkdir \work\packages



4.9 pypi-server

4.9.2 goto a site and make a user and copy

http://hostingcanada.org/ htpasswd-generator/

← → C 1)6	hostingcanada.org/htpasswd-generator/	0- ☆	☑ 💁	EX Q	V 4		٢
	using the MD5 algorithm, which means that you can use it for sites hosted on any platform, includin create htpasswd passwords with PHP on your own server – this technique only works on Linux tho	ng Windows and Li ng h.	nux. Yo	ou can als	0		
	myuser:{SHA}5yfRRkrhJDbomacm2lsvEdg4GyY= 4) copy						
	Username						
	Enter the username you would like to add your .htpasswd file.						
	2) myuser						
	Password						
	Enter the pasword to be encrypted.						
	3)						
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4.9 pypi-server

4.9.3 Make a htpasswd.txt file



4.9 pypi-server

4.9.4 run pypi server

private repository for plugin same as python modules

pypi-server --P
\work\packages\htpasswd.txt
\work\packages



ЪF

4.9 pypi-server

4.9.5 In supervisor add "Update Private Plugin"

- URL:
http://127.0.0.1:8080/simple
- User
- Password



4.9 pypi-server

4.9.6 Set as first private plugin repository

• • • •			Win10EngTest				
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📤 РАМ							
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💅 Plugins							
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Supervisor Wiki							
Document FAQ							

ARGOS LABS

4.10 Set Icon

- replace icon-my.png
- execute alabs.icon
- Check icon.png

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4.11 build

4.11.1 run build.bat

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4.11 build

4.11.2 Input user and password same as supervisor for uploading modules

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4.11 build

4.11.3 Confirm that plugin python module is uploaded into pypi-server packages folder





4.12 STU

4.12 STU

4.12.2 Your plugin shows up at the private plugin

🖬 PC Scenario Studio		- 0
File Run Settings Help		Search keyword
Scenario Name Description	Advanced Select Monitor Advanced Select Monitor File/Folder SSH File Conv String Op Command File Conv String	
☑ Timeout 120 Sec	Drag and SQL Web Arithmetic	
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+ 🛍	(P)MS	endpoint
Variables	Azure Text Analytics	image file Advanced
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my c [{my.c}}		f f f f f f f f f f f f f f f f f f f

5. submit plugin

request information for the submit by email (plugin@argos-labs.com)

- get the url and key

- use submit command with url and key

After QA your plugin will be exist at official repository

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msazure	165	input method-'fileread'						
✓ Intext	165	helps'test image')						
> 🛅 tests	167	netp- test mage)						
👗 _initpy	167	argspec = mcxc.parse_args(args)						
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icon png	173	try:						
a icon yaml	174	<pre>return _main(*args)</pre>						
icon munon	175	except ArgsError as err:						
	176	<pre>sys.stderr.write('Error: %s\nPlease -h to print help\n' % str</pre>	r(err))					
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Rules to keep in mind

- python package name
 - Starts with "argoslabs" like argoslabs.first.second
 - Three level like argoslabs.a.b
 - Only lowercase of a ~ z and _ is allowed
 - Package name must be unique
- __init__.py
 - Display name must be unique
 - Set platform like ['windows', 'darwin', 'linux']
- setup.yaml setting
 - Set proper keywords
 - Set proper platform
 - Set version like 1.2.3.4
 - Do not start with 0, 1.2.03.04 is not allowed
 - Set the proper package name in package_data

Happy Automation!