Scripting LibO Python Macros

Macros Well Kept Secrets

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Agenda

- Scripting Framework
- Why Python ?
  - Srce Explorer, Syntax Hiliting, Code Completion, Debugging,
  - Coding Guidelines, Test-Driven Dev, Version Control
- Walkthrough Geany, PyZo, PyCharm
- Extension: APSO - JMZ
  - Xray by BM, Mri by Hanya
- IDEs
  - Projects Setup
- Scripting Python Macros
  - Help, Libraries & Modules
  - Programming Basics
  - Dialogs, Listeners, Monitors
  - X-Scripting
- Q & A

Macros Scripting Framework

- **Python**
  - In 2008
- **Basic / VBA**
  - *Office legacy
  - In 2004
- **API**

BeanShell
JavaScript

C++
Java
Python

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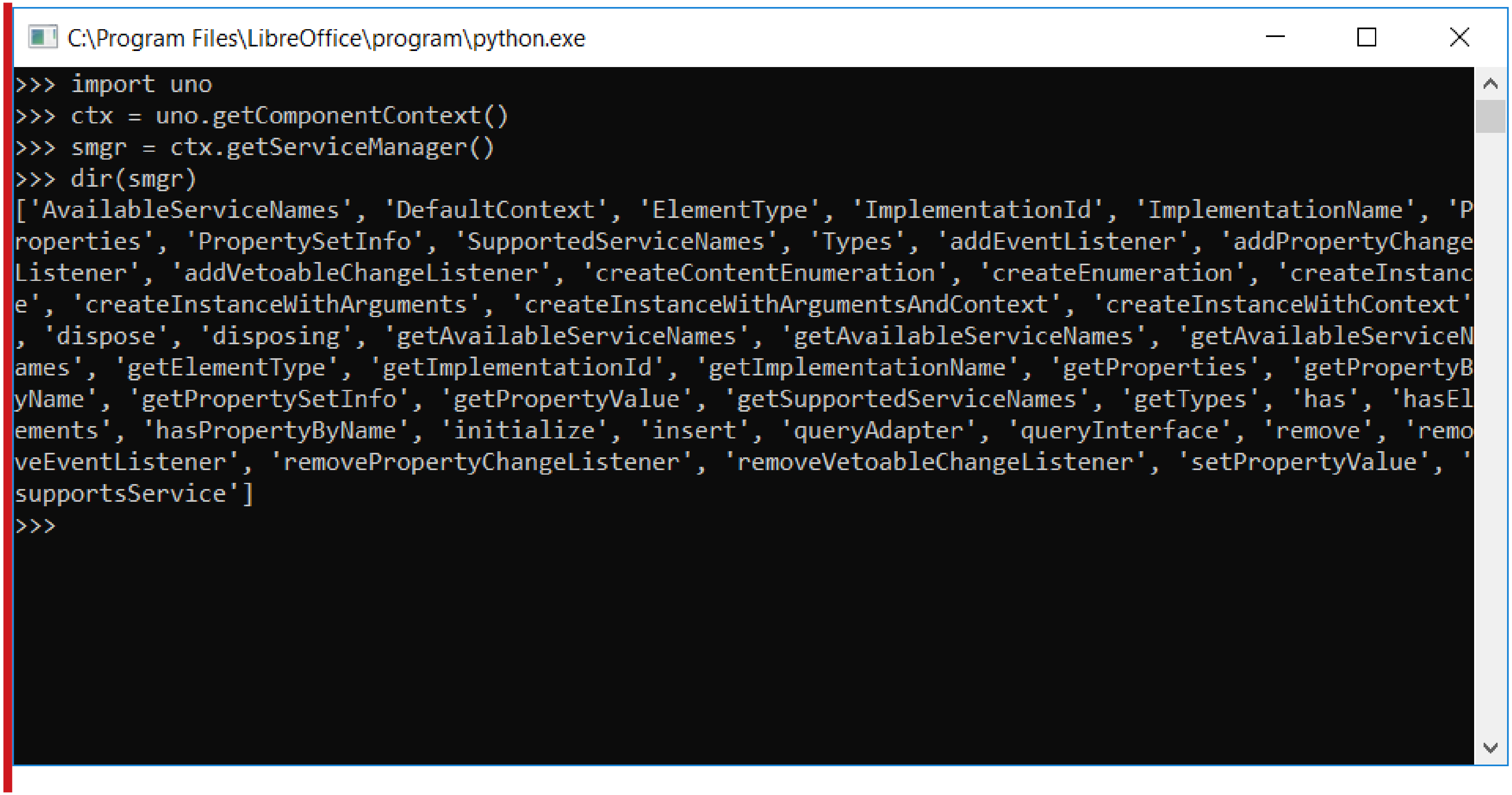
why Python?

- ✓ Source explorer
- ✓ Syntax Hiliting
- ✓ Code completion
- ✓ Debugging / REPL
- ✓ Coding guidelines PEP
- ✓ Test-driven development
- ✓ Version control

- ➔ Extensions
  - Mri, Xray
  - APSO
- ➔ IDEs
  - ➔ Python shell REPL
  - ➔ IDE_utils
  - ➔ Geany, PyZo, PyCharm

Python console



```
>>> import uno
>>> ctx = uno.getComponentContext()
>>> smgr = ctx.getServiceManager()
>>> dir(smgr)
['AvailableServiceNames', 'DefaultContext', 'ElementType', 'ImplementationId', 'ImplementationName', 'P
roperties', 'PropertySetInfo', 'SupportedServiceNames', 'Types', 'addEventListener', 'addPropertyChange
Listener', 'addVetoableChangeListener', 'createContentEnumeration', 'createEnumeration', 'createInstanc
e', 'createInstanceWithArguments', 'createInstanceWithArgumentsAndContext', 'createInstanceWithContext'
, 'dispose', 'disposing', 'getAvailableServiceNames', 'getAvailableServiceNames', 'getAvailableServiceN
ames', 'getElementType', 'getImplementationId', 'getImplementationName', 'getProperties', 'getPropertyB
yName', 'getPropertySetInfo', 'getPropertyValue', 'getSupportedServiceNames', 'getTypes', 'has', 'hasEl
ements', 'hasPropertyByName', 'initialize', 'insert', 'queryAdapter', 'queryInterface', 'remove', 'remo
veEventListener', 'removePropertyChangeListener', 'removeVetoableChangeListener', 'setPropertyValue', '
supportsService']
>>>
```

IDEs

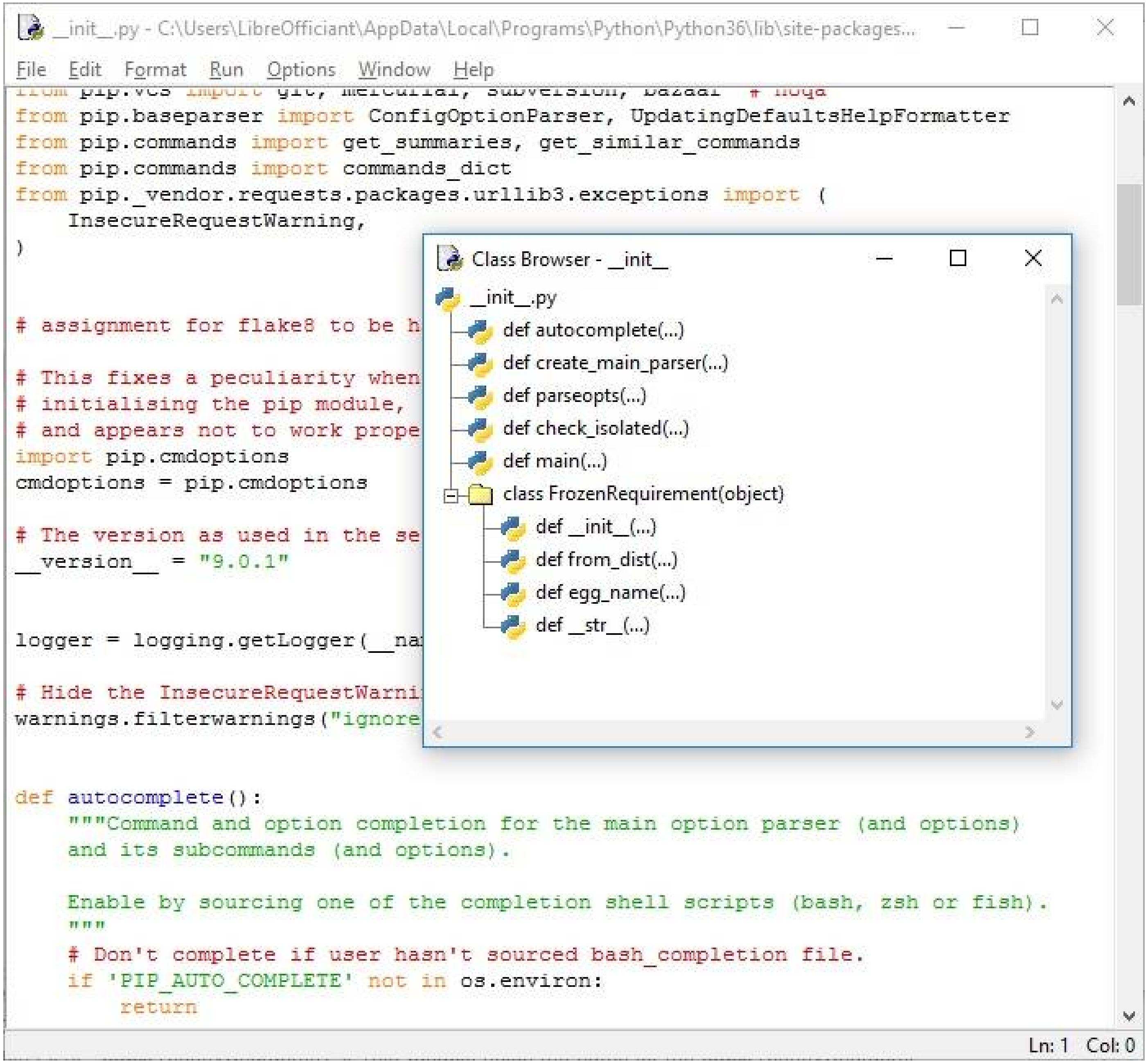
	OSs	Languages	FOSS
Geany	Gnu/Linux *BSD MacOS AIX Solaris Windows	43	yes
PyCharm	Gnu/Linux MacOS Windows	english	no
PyZo	Linux OS X Windows	10	yes

Aptana

Liclipse

PyDev for Eclipse

IDLE: class browser, syntax hiliting


__init__.py - C:\Users\LibreOfficiant\AppData\Local\Programs\Python\Python36\lib\site-packages...
File Edit Format Run Options Window Help
Class Browser - __init__
__init__.py
def autocomplete(...)
def create_main_parser(...)
def parseopts(...)
def check_isolated(...)
def main(...)
class FrozenRequirement(object)
def __init__(...)
def from_dist(...)
def egg_name(...)
def __str__(...)
Ln: 1 Col: 0

```
from pip.vcs import git, mercurial, subversion, bazaar  # noqa
from pip.baseparser import ConfigOptionParser, UpdatingDefaultsHelpFormatter
from pip.commands import get_summaries, get_similar_commands
from pip.commands import commands_dict
from pip._vendor.requests.packages.urllib3.exceptions import (
    InsecureRequestWarning,
)


# assignment for flake8 to be h

# This fixes a peculiarity when
# initialising the pip module,
# and appears not to work prope
import pip.cmdoptions
cmdoptions = pip.cmdoptions

# The version as used in the se
__version__ = "9.0.1"


logger = logging.getLogger(__na

# Hide the InsecureRequestWarni
warnings.filterwarnings("ignore


def autocomplete():
    """Command and option completion for the main option parser (and options)
    and its subcommands (and options).

    Enable by sourcing one of the completion shell scripts (bash, zsh or fish).
    """
    # Don't complete if user hasn't sourced bash_completion file.
    if 'PIP_AUTO_COMPLETE' not in os.environ:
        return
```

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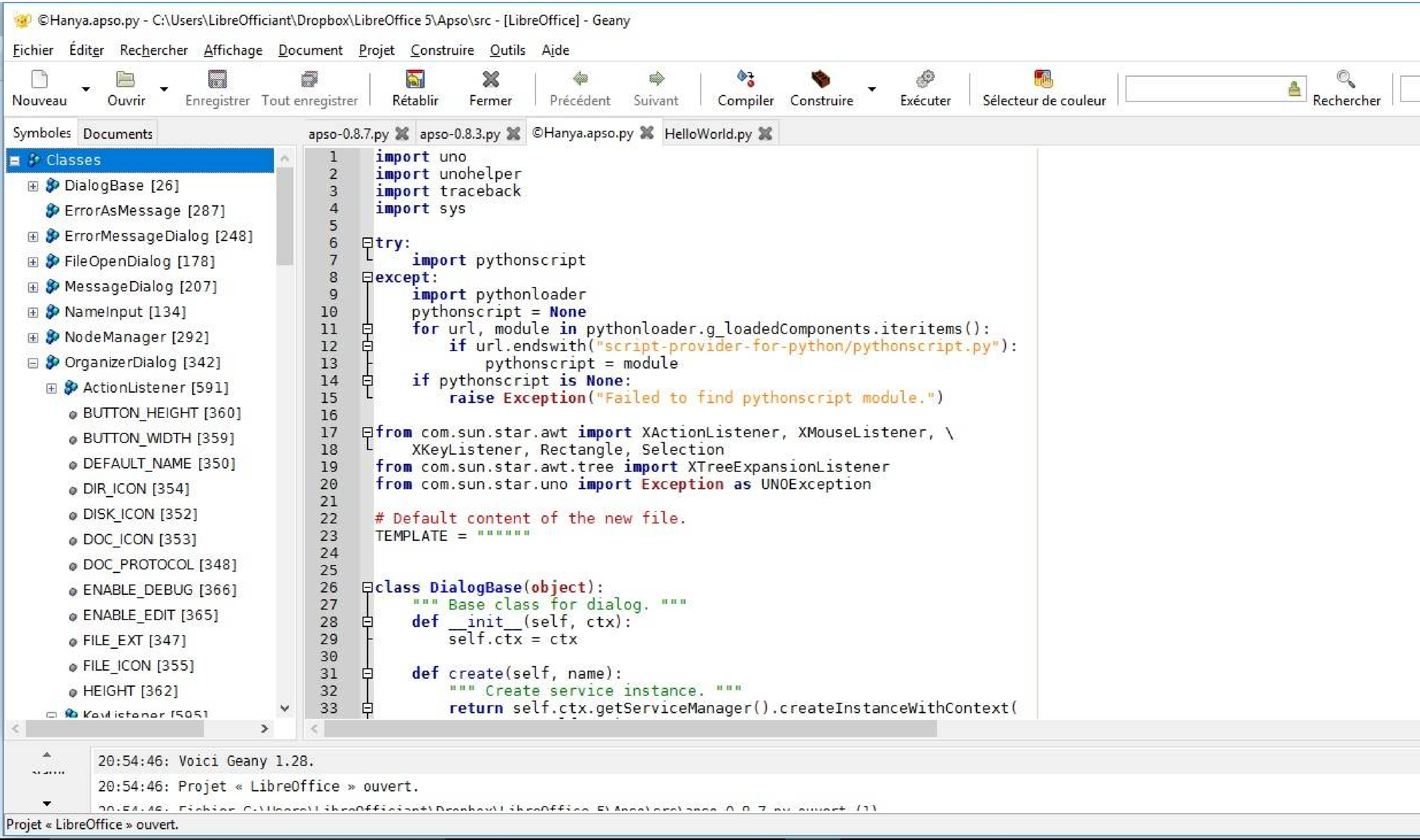
Geany: srce explorer, syntax hiliting, code folding

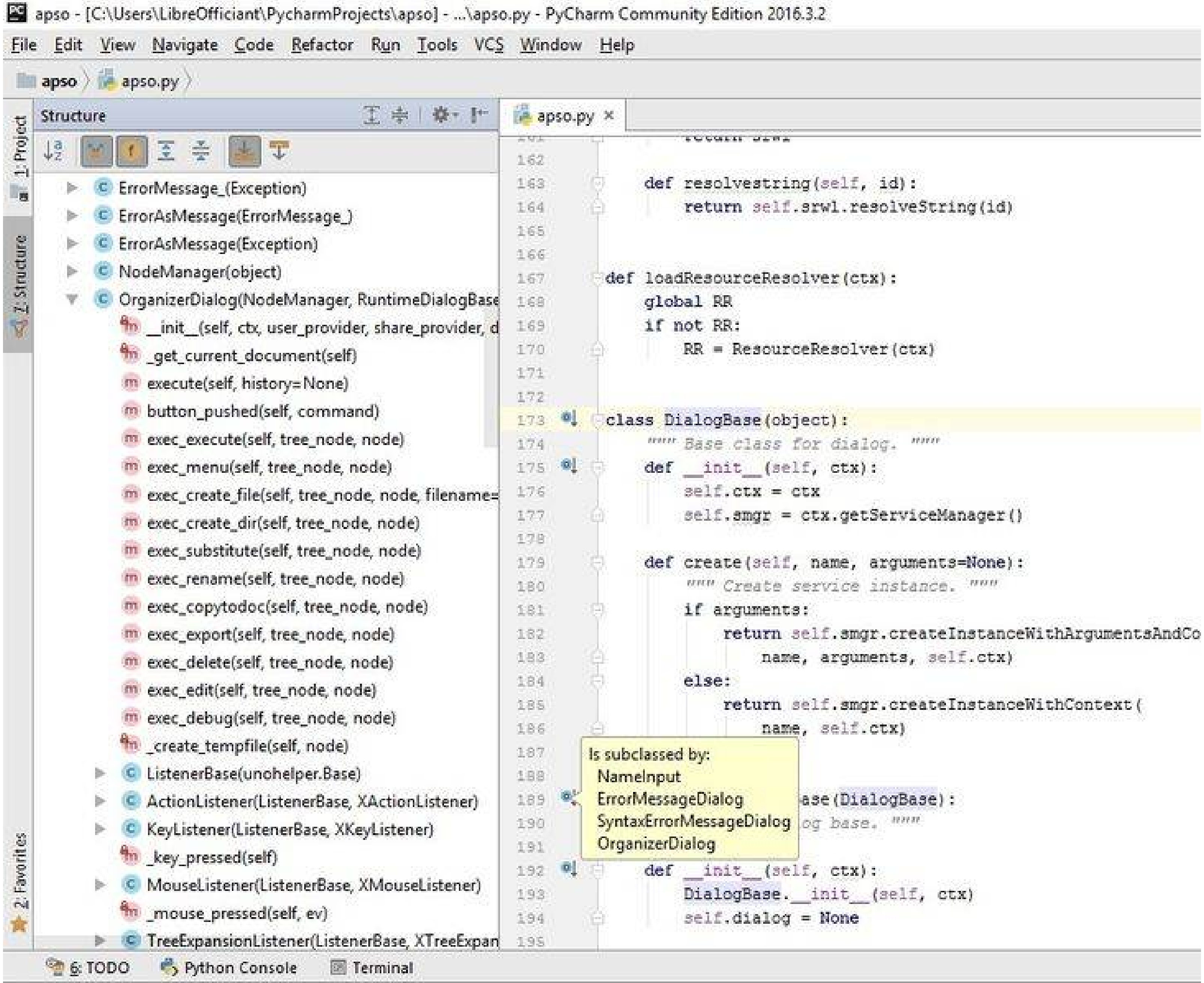


- Classes
  - DialogBase [26]
  - ErrorAsMessage [287]
  - ErrorMessageDialog [248]
  - FileOpenDialog [178]
  - MessageDialog [207]
  - NameInput [134]
  - NodeManager [292]
  - OrganizerDialog [342]
    - ActionListener [591]
    - BUTTON_HEIGHT [360]
    - BUTTON_WIDTH [359]
    - DEFAULT_NAME [350]
    - DIR_ICON [354]
    - DISK_ICON [352]
    - DOC_ICON [353]
    - DOC_PROTOCOL [348]
    - ENABLE_DEBUG [366]
    - ENABLE_EDIT [365]
    - FILE_EXT [347]
    - FILE_ICON [355]
    - HEIGHT [362]
    - KeyListener [595]

```python
import uno
import unohelper
import traceback
import sys

try:
    import pythonscript
except:
    import pythonloader
    pythonscript = None
    for url, module in pythonloader.g_loadedComponents.iteritems():
        if url.endswith("script-provider-for-python/pythonscript.py"):
            pythonscript = module
    if pythonscript is None:
        raise Exception("Failed to find pythonscript module.")

from com.sun.star.awt import XActionListener, XMouseListener, \
    XKeyListener, Rectangle, Selection
from com.sun.star.awt.tree import XTreeExpansionListener
from com.sun.star.uno import Exception as UNOException

# Default content of the new file.
TEMPLATE = """"""


class DialogBase(object):
    """ Base class for dialog. """
    def __init__(self, ctx):
        self.ctx = ctx

    def create(self, name):
        """ Create service instance. """
        return self.ctx.getServiceManager().createInstanceWithContext(
```

```
20:54:46: Voici Geany 1.28.
20:54:46: Projet « LibreOffice » ouvert.
20:54:46: Fichier C:\Users\LibreOfficiant\Dropbox\LibreOffice 5\Apso\src\apso-0.8.7.py ouvert (1).
```

PyCharm: various explorers, syntax hiliting, code folding



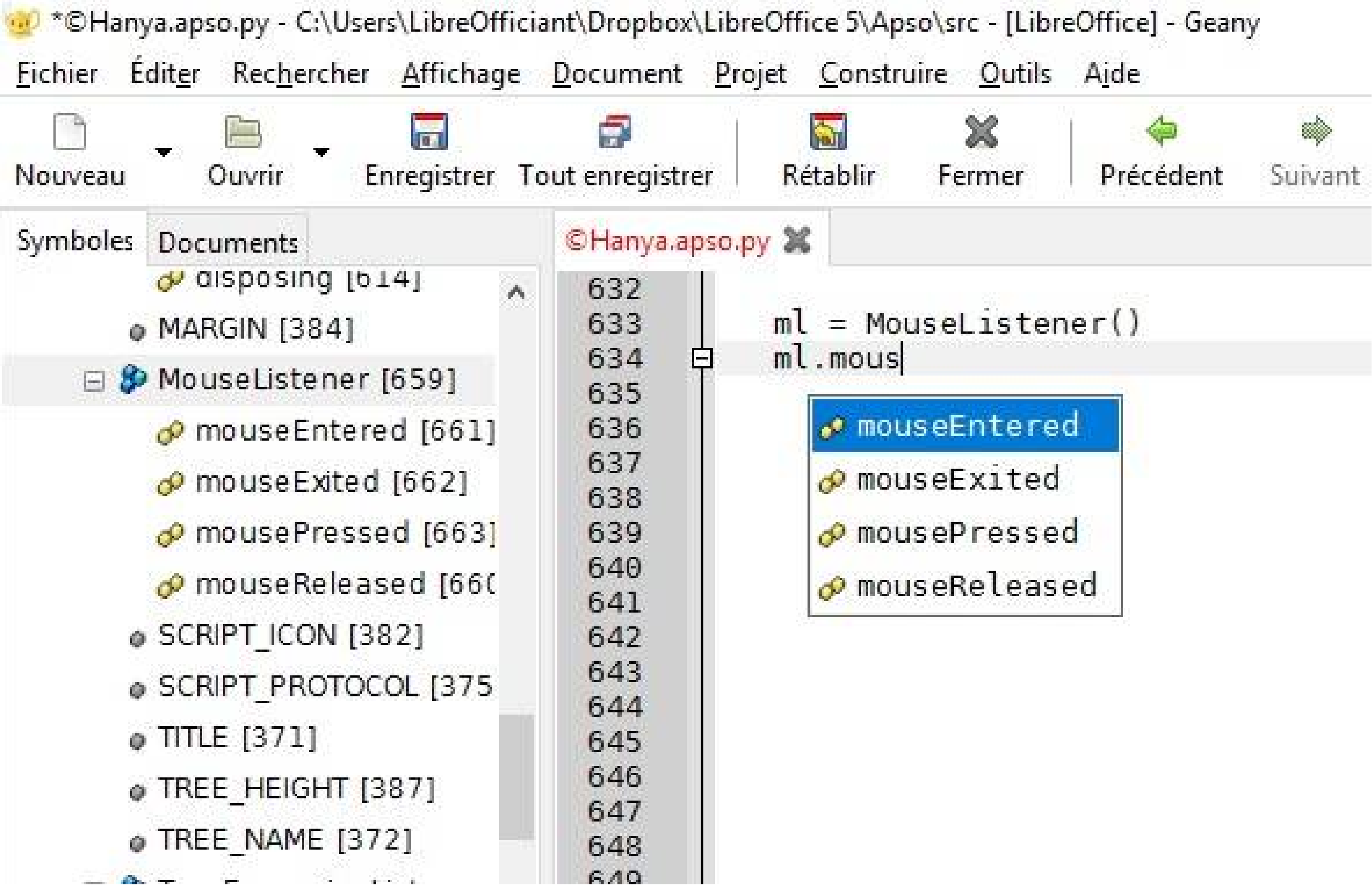
apso - [C:\Users\LibreOfficiant\PycharmProjects\apso] - ...\apso.py - PyCharm Community Edition 2016.3.2

```
▶ ErrorMessage_(Exception)
▶ ErrorAsMessage(ErrorMessage_)
▶ ErrorAsMessage(Exception)
▶ NodeManager(object)
▼ OrganizerDialog(NodeManager, RuntimeDialogBase
      __init__(self, ctx, user_provider, share_provider, d
      _get_current_document(self)
      execute(self, history=None)
      button_pushed(self, command)
      exec_execute(self, tree_node, node)
      exec_menu(self, tree_node, node)
      exec_create_file(self, tree_node, node, filename=
      exec_create_dir(self, tree_node, node)
      exec_substitute(self, tree_node, node)
      exec_rename(self, tree_node, node)
      exec_copytodoc(self, tree_node, node)
      exec_export(self, tree_node, node)
      exec_delete(self, tree_node, node)
      exec_edit(self, tree_node, node)
      exec_debug(self, tree_node, node)
      _create_tempfile(self, node)
  ▶ ListenerBase(unohelper.Base)
  ▶ ActionListener(ListenerBase, XActionListener)
  ▶ KeyListener(ListenerBase, XKeyListener)
      _key_pressed(self)
  ▶ MouseListener(ListenerBase, XMouseListener)
      _mouse_pressed(self, ev)
  ▶ TreeExpansionListener(ListenerBase, XTreeExpan
```

```python
        return srwl

    def resolvestring(self, id):
        return self.srwl.resolveString(id)


def loadResourceResolver(ctx):
    global RR
    if not RR:
        RR = ResourceResolver(ctx)


class DialogBase(object):
    """ Base class for dialog. """
    def __init__(self, ctx):
        self.ctx = ctx
        self.smgr = ctx.getServiceManager()

    def create(self, name, arguments=None):
        """ Create service instance. """
        if arguments:
            return self.smgr.createInstanceWithArgumentsAndCo
                name, arguments, self.ctx)
        else:
            return self.smgr.createInstanceWithContext(
                name, self.ctx)


                   ase(DialogBase):
                   og base. """

    def __init__(self, ctx):
        DialogBase.__init__(self, ctx)
        self.dialog = None

```

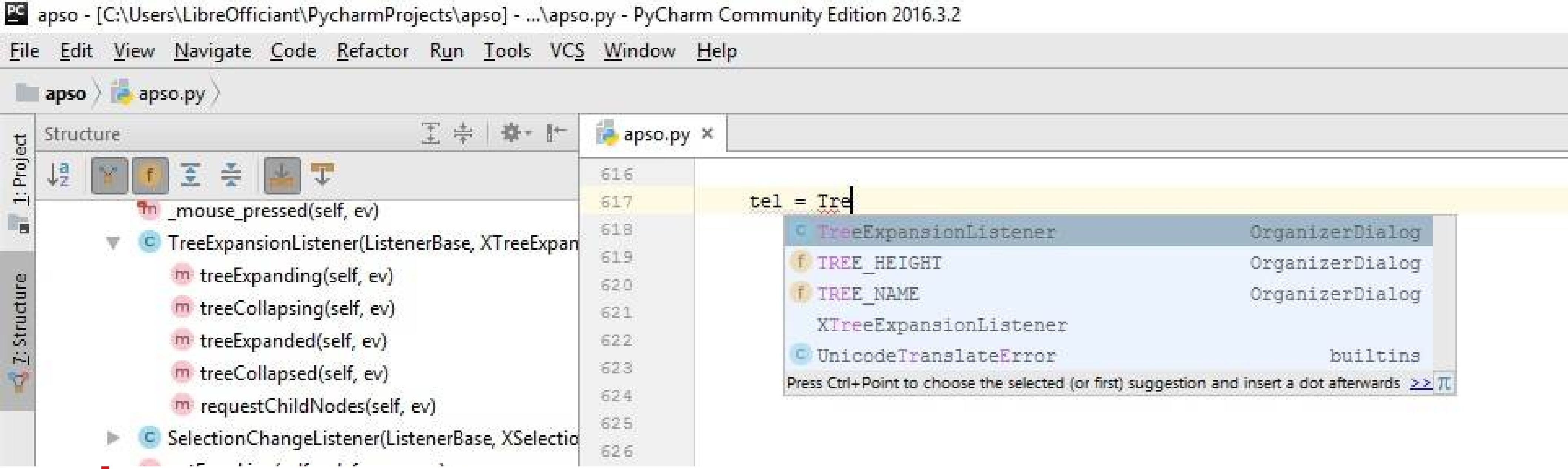
Is subclassed by:
NameInput
ErrorMessageDialog
SyntaxErrorMessageDialog
OrganizerDialog

Geany: code completion



```
ml = MouseListener()
ml.mous
```

PyCharm: code completion


apso - [C:\Users\LibreOfficiant\PycharmProjects\apso] - ...\apso.py - PyCharm Community Edition 2016.3.2
File
Edit
View
Navigate
Code
Refactor
Run
Tools
VCS
Window
Help
apso
apso.py
1: Project
7: Structure
Structure
apso.py ×

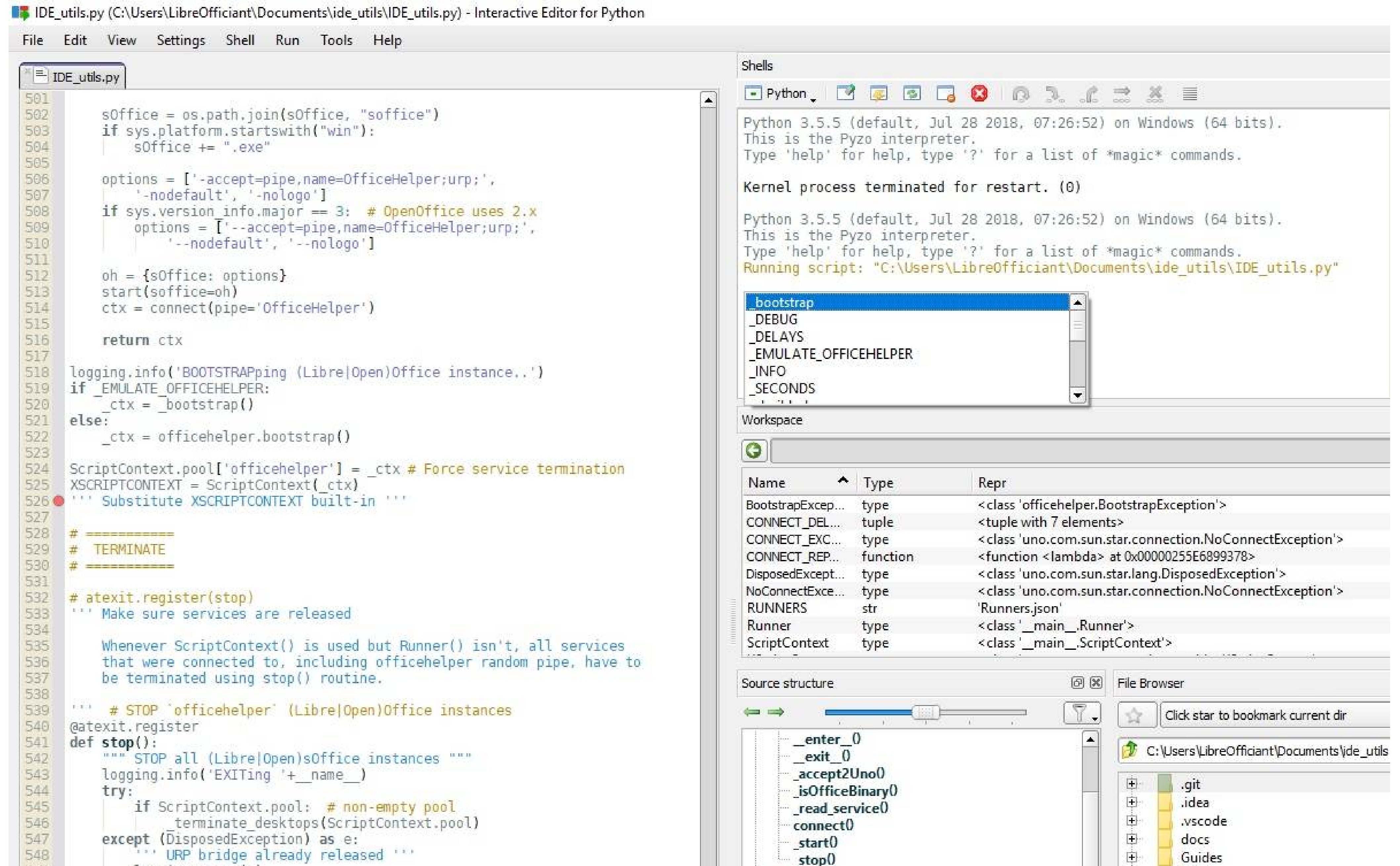
```
_mouse_pressed(self, ev)
TreeExpansionListener(ListenerBase, XTreeExpan
    treeExpanding(self, ev)
    treeCollapsing(self, ev)
    treeExpanded(self, ev)
    treeCollapsed(self, ev)
    requestChildNodes(self, ev)
SelectionChangeListener(ListenerBase, XSelectio
```

```
        tel = Tre
```

```
TreeExpansionListener        OrganizerDialog
TREE_HEIGHT                  OrganizerDialog
TREE_NAME                    OrganizerDialog
XTreeExpansionListener
UnicodeTranslateError               builtins
```

Press Ctrl+Point to choose the selected (or first) suggestion and insert a dot afterwards >> π

PyZo: debugging

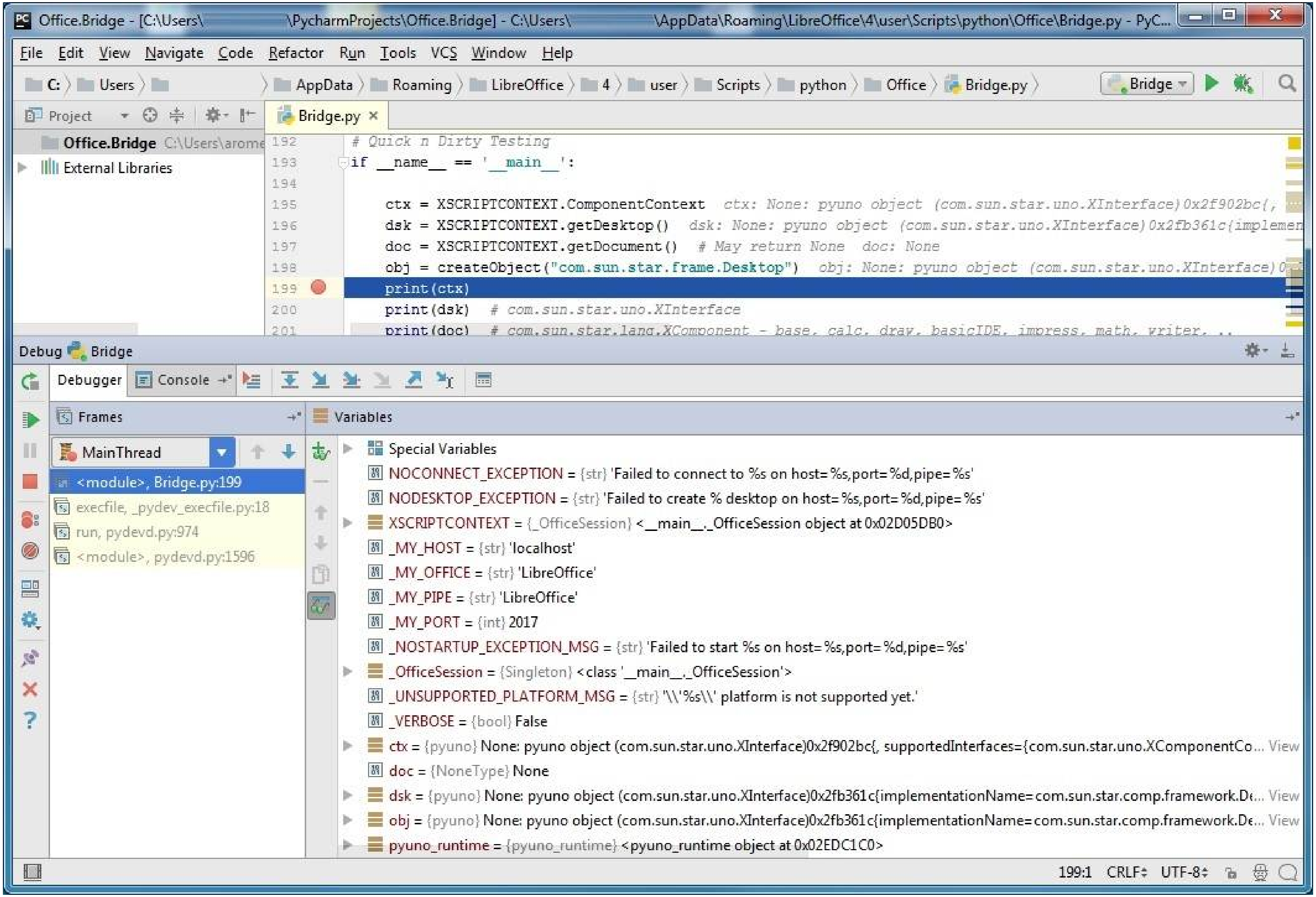


```python

    sOffice = os.path.join(sOffice, "soffice")
    if sys.platform.startswith("win"):
        sOffice += ".exe"

    options = ['-accept=pipe,name=OfficeHelper;urp;',
        '-nodefault', '-nologo']
    if sys.version_info.major == 3:  # OpenOffice uses 2.x
        options = ['--accept=pipe,name=OfficeHelper;urp;',
            '--nodefault', '--nologo']

    oh = {sOffice: options}
    start(soffice=oh)
    ctx = connect(pipe='OfficeHelper')

    return ctx

logging.info('BOOTSTRAPping (Libre|Open)Office instance..')
if _EMULATE_OFFICEHELPER:
    _ctx = _bootstrap()
else:
    _ctx = officehelper.bootstrap()

ScriptContext.pool['officehelper'] = _ctx # Force service termination
XSCRIPTCONTEXT = ScriptContext(_ctx)
''' Substitute XSCRIPTCONTEXT built-in '''

# ===========
#  TERMINATE
# ===========

# atexit.register(stop)
''' Make sure services are released

    Whenever ScriptContext() is used but Runner() isn't, all services
    that were connected to, including officehelper random pipe, have to
    be terminated using stop() routine.

'''  # STOP `officehelper` (Libre|Open)Office instances
@atexit.register
def stop():
    """ STOP all (Libre|Open)sOffice instances """
    logging.info('EXITing '+__name__)
    try:
        if ScriptContext.pool:  # non-empty pool
            _terminate_desktops(ScriptContext.pool)
    except (DisposedException) as e:
        ''' URP bridge already released '''
```

```
Python 3.5.5 (default, Jul 28 2018, 07:26:52) on Windows (64 bits).
This is the Pyzo interpreter.
Type 'help' for help, type '?' for a list of *magic* commands.

Kernel process terminated for restart. (0)

Python 3.5.5 (default, Jul 28 2018, 07:26:52) on Windows (64 bits).
This is the Pyzo interpreter.
Type 'help' for help, type '?' for a list of *magic* commands.
Running script: "C:\Users\LibreOfficiant\Documents\ide_utils\IDE_utils.py"
```

Name	Type	Repr
BootstrapExcep...	type	<class 'officehelper.BootstrapException'>
CONNECT_DEL...	tuple	<tuple with 7 elements>
CONNECT_EXC...	type	<class 'uno.com.sun.star.connection.NoConnectException'>
CONNECT_REP...	function	<function <lambda> at 0x00000255E6899378>
DisposedExcept...	type	<class 'uno.com.sun.star.lang.DisposedException'>
NoConnectExce...	type	<class 'uno.com.sun.star.connection.NoConnectException'>
RUNNERS	str	'Runners.json'
Runner	type	<class '__main__.Runner'>
ScriptContext	type	<class '__main__.ScriptContext'>

PyCharm: debugging



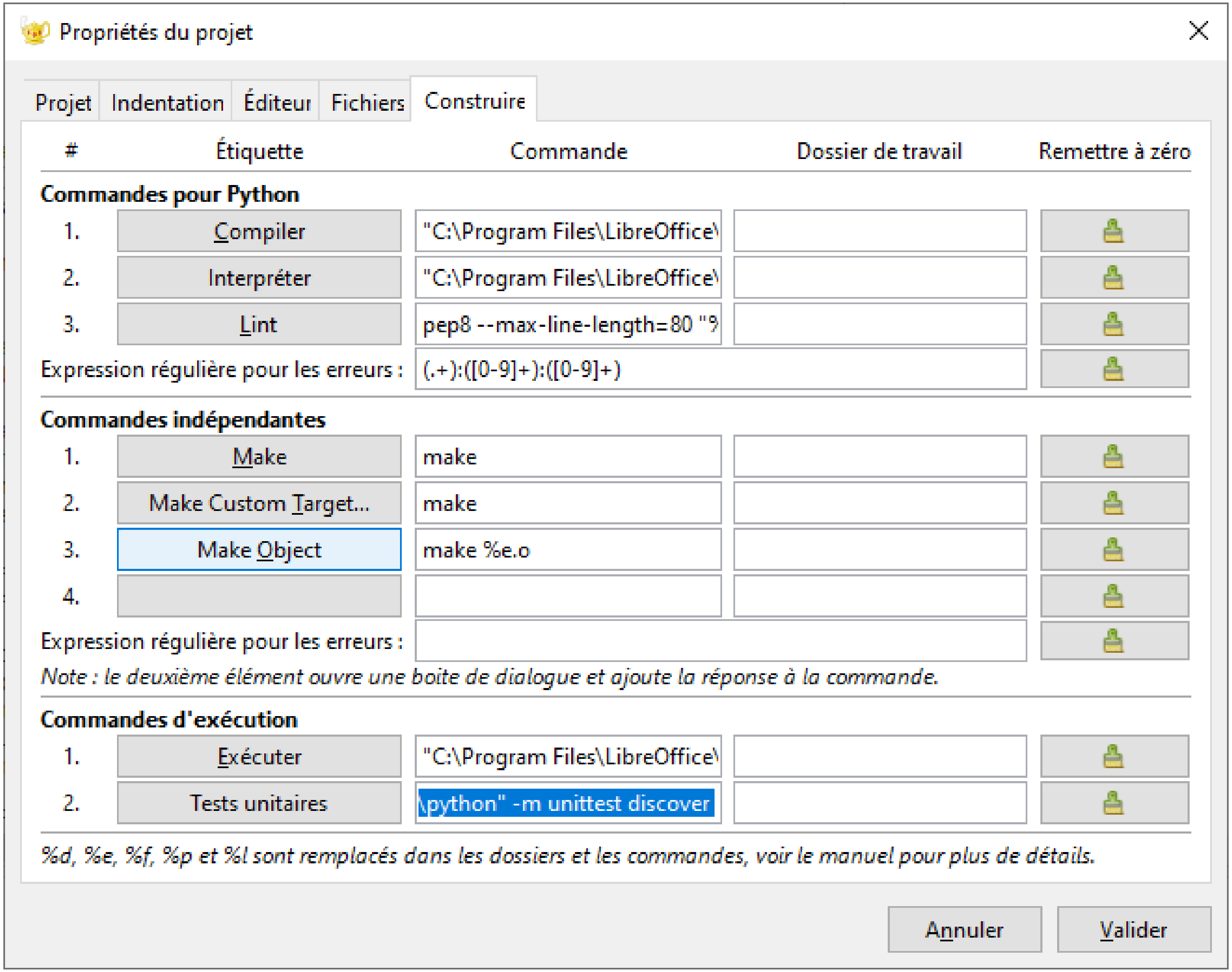
Office.Bridge - [C:\Users\ \PycharmProjects\Office.Bridge] - C:\Users\ \AppData\Roaming\LibreOffice\4\user\Scripts\python\Office\Bridge.py - PyC...
File Edit View Navigate Code Refactor Run Tools VCS Window Help
C: Users AppData Roaming LibreOffice 4 user Scripts python Office Bridge.py
Bridge
Project
Office.Bridge C:\Users\arome
External Libraries
Bridge.py
Debug Bridge
Debugger
Console
Frames
Variables
MainThread

```
# Quick n Dirty Testing
if __name__ == '__main__':

    ctx = XSCRIPTCONTEXT.ComponentContext  ctx: None: pyuno object (com.sun.star.uno.XInterface)0x2f902bc(,
    dsk = XSCRIPTCONTEXT.getDesktop()  dsk: None: pyuno object (com.sun.star.uno.XInterface)0x2fb361c(implemen
    doc = XSCRIPTCONTEXT.getDocument()  # May return None  doc: None
    obj = createObject("com.sun.star.frame.Desktop")  obj: None: pyuno object (com.sun.star.uno.XInterface)0
    print(ctx)
    print(dsk)  # com.sun.star.uno.XInterface
    print(doc)  # com.sun.star.lang.XComponent - base, calc, draw, basicIDE, impress, math, writer, ..
```

```
<module>, Bridge.py:199
execfile, _pydev_execfile.py:18
run, pydevd.py:974
<module>, pydevd.py:1596
```

```
Special Variables
NOCONNECT_EXCEPTION = {str} 'Failed to connect to %s on host=%s,port=%d,pipe=%s'
NODESKTOP_EXCEPTION = {str} 'Failed to create % desktop on host=%s,port=%d,pipe=%s'
XSCRIPTCONTEXT = {_OfficeSession} <__main__._OfficeSession object at 0x02D05DB0>
_MY_HOST = {str} 'localhost'
_MY_OFFICE = {str} 'LibreOffice'
_MY_PIPE = {str} 'LibreOffice'
_MY_PORT = {int} 2017
_NOSTARTUP_EXCEPTION_MSG = {str} 'Failed to start %s on host=%s,port=%d,pipe=%s'
_OfficeSession = {Singleton} <class '__main__._OfficeSession'>
_UNSUPPORTED_PLATFORM_MSG = {str} '\\'%s\\' platform is not supported yet.'
_VERBOSE = {bool} False
ctx = {pyuno} None: pyuno object (com.sun.star.uno.XInterface)0x2f902bc{, supportedInterfaces={com.sun.star.uno.XComponentCo... View
doc = {NoneType} None
dsk = {pyuno} None: pyuno object (com.sun.star.uno.XInterface)0x2fb361c{implementationName=com.sun.star.comp.framework.De... View
obj = {pyuno} None: pyuno object (com.sun.star.uno.XInterface)0x2fb361c{implementationName=com.sun.star.comp.framework.De... View
pyuno_runtime = {pyuno_runtime} <pyuno_runtime object at 0x02EDC1C0>
```

Geany, PyCharm: Unit Testing



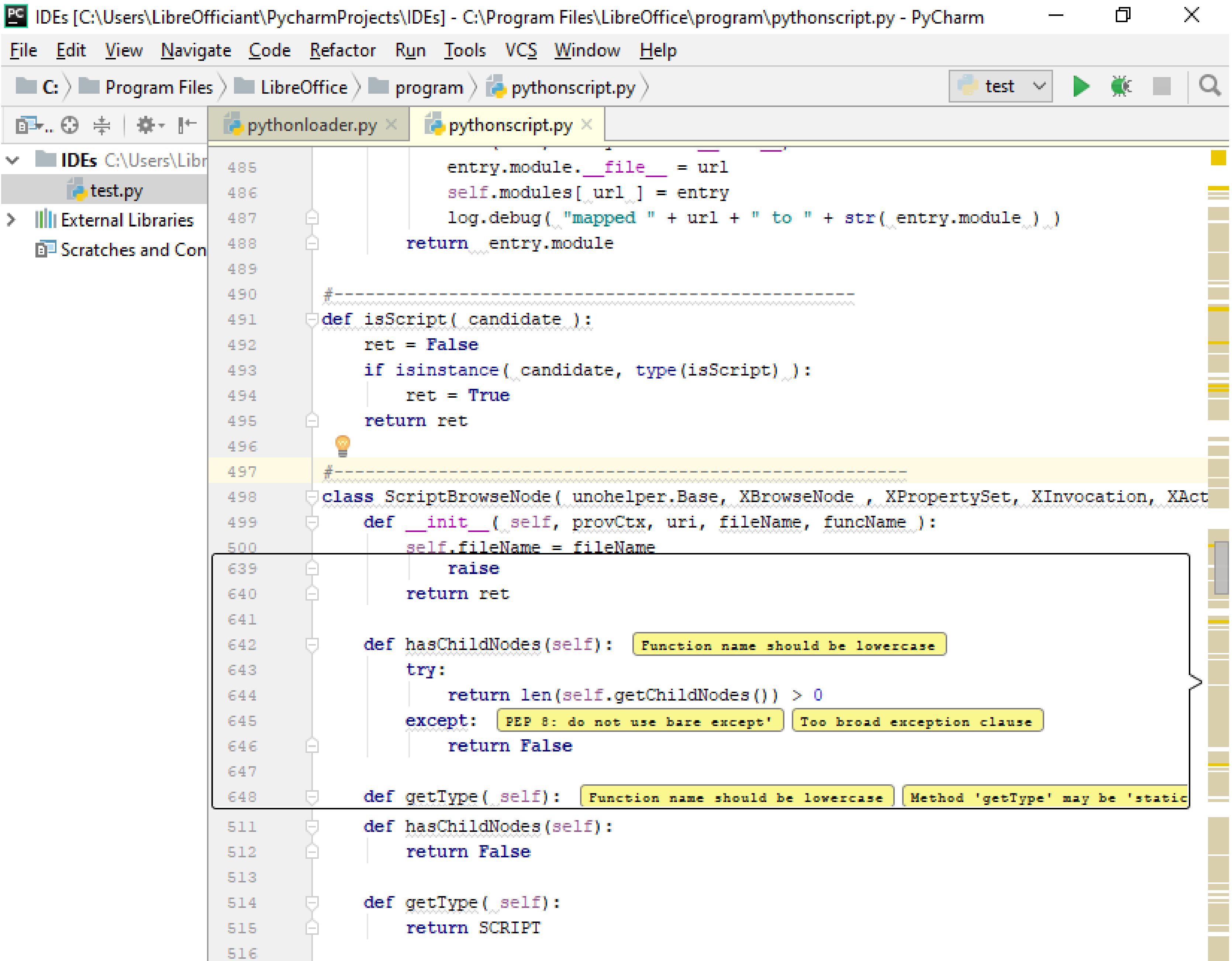
Propriétés du projet

#	Étiquette	Commande	Dossier de travail	Remettre à zéro
Commandes pour Python				
1.	Compiler	"C:\Program Files\LibreOffice\		
2.	Interpréter	"C:\Program Files\LibreOffice\		
3.	Lint	pep8 --max-line-length=80 "%		
Expression régulière pour les erreurs :		(.+):([0-9]+):([0-9]+)		
Commandes indépendantes				
1.	Make	make		
2.	Make Custom Target...	make		
3.	Make Object	make %e.o		
4.				
Expression régulière pour les erreurs :				
Commandes d'exécution				
1.	Exécuter	"C:\Program Files\LibreOffice\		
2.	Tests unitaires	\python" -m unittest discover		

Note : le deuxième élément ouvre une boite de dialogue et ajoute la réponse à la commande.

%d, %e, %f, %p et %l sont remplacés dans les dossiers et les commandes, voir le manuel pour plus de détails.

Pycharm: PEP compliance

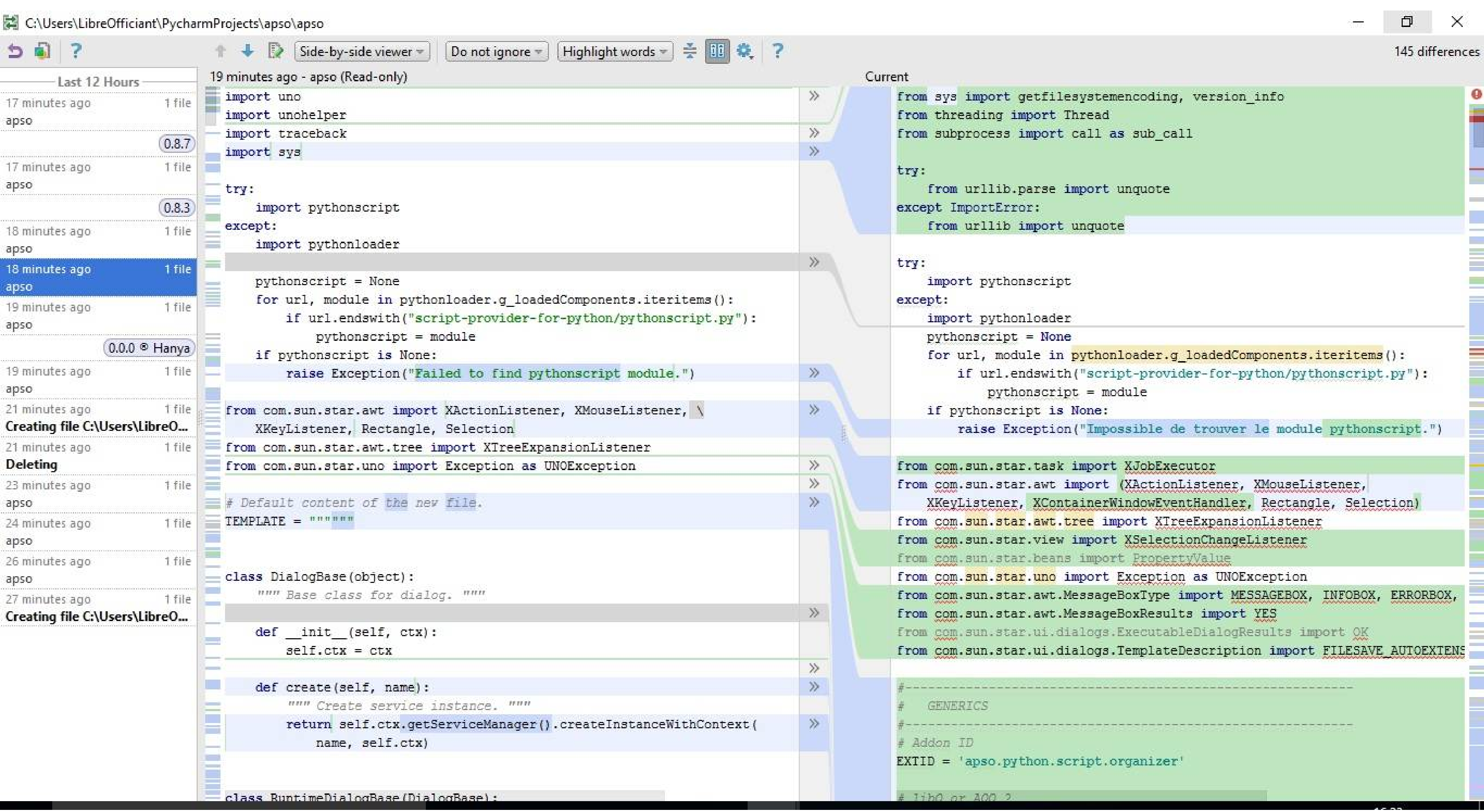


```
            entry.module.__file__ = url
            self.modules[ url ] = entry
            log.debug( "mapped " + url + " to " + str( entry.module ) )
        return  entry.module

#--------------------------------------------------------
def isScript( candidate ):
    ret = False
    if isinstance( candidate, type(isScript) ):
        ret = True
    return ret

#--------------------------------------------------------
class ScriptBrowseNode( unohelper.Base, XBrowseNode , XPropertySet, XInvocation, XAct
    def __init__( self, provCtx, uri, fileName, funcName ):
        self.fileName = fileName
```

```
            raise
        return ret

    def hasChildNodes(self):   Function name should be lowercase
        try:
            return len(self.getChildNodes()) > 0
        except:   PEP 8: do not use bare except'   Too broad exception clause
            return False

    def getType( self):   Function name should be lowercase   Method 'getType' may be 'static
```

```
    def hasChildNodes(self):
        return False

    def getType( self):
        return SCRIPT

```

PyCharm: Versioning



C:\Users\LibreOfficiant\PycharmProjects\apso\apso

Last 12 Hours

17 minutes ago 1 file
apso

0.8.7

17 minutes ago 1 file
apso

0.8.3

18 minutes ago 1 file
apso

18 minutes ago 1 file
apso

19 minutes ago 1 file
apso

0.0.0 ® Hanya

19 minutes ago 1 file
apso

21 minutes ago 1 file
Creating file C:\Users\LibreO...

21 minutes ago 1 file
Deleting

23 minutes ago 1 file
apso

24 minutes ago 1 file
apso

26 minutes ago 1 file
apso

27 minutes ago 1 file
Creating file C:\Users\LibreO...

19 minutes ago - apso (Read-only)

```
import uno
import unohelper
import traceback
import sys

try:
    import pythonscript
except:
    import pythonloader

    pythonscript = None
    for url, module in pythonloader.g_loadedComponents.iteritems():
        if url.endswith("script-provider-for-python/pythonscript.py"):
            pythonscript = module
    if pythonscript is None:
        raise Exception("Failed to find pythonscript module.")

from com.sun.star.awt import XActionListener, XMouseListener, \
    XKeyListener, Rectangle, Selection
from com.sun.star.awt.tree import XTreeExpansionListener
from com.sun.star.uno import Exception as UNOException

# Default content of the new file.
TEMPLATE = """"""


class DialogBase(object):
    """ Base class for dialog. """

    def __init__(self, ctx):
        self.ctx = ctx

    def create(self, name):
        """ Create service instance. """
        return self.ctx.getServiceManager().createInstanceWithContext(
            name, self.ctx)


class RuntimeDialogBase(DialogBase):
```

Current

```
from sys import getfilesystemencoding, version_info
from threading import Thread
from subprocess import call as sub_call

try:
    from urllib.parse import unquote
except ImportError:
    from urllib import unquote

try:
    import pythonscript
except:
    import pythonloader
    pythonscript = None
    for url, module in pythonloader.g_loadedComponents.iteritems():
        if url.endswith("script-provider-for-python/pythonscript.py"):
            pythonscript = module
    if pythonscript is None:
        raise Exception("Impossible de trouver le module pythonscript.")

from com.sun.star.task import XJobExecutor
from com.sun.star.awt import (XActionListener, XMouseListener,
    XKeyListener, XContainerWindowEventHandler, Rectangle, Selection)
from com.sun.star.awt.tree import XTreeExpansionListener
from com.sun.star.view import XSelectionChangeListener
from com.sun.star.beans import PropertyValue
from com.sun.star.uno import Exception as UNOException
from com.sun.star.awt.MessageBoxType import MESSAGEBOX, INFOBOX, ERRORBOX,
from com.sun.star.awt.MessageBoxResults import YES
from com.sun.star.ui.dialogs.ExecutableDialogResults import OK
from com.sun.star.ui.dialogs.TemplateDescription import FILESAVE_AUTOEXTENS

#------------------------------------------------------------
#   GENERICS
#------------------------------------------------------------
# Addon ID
EXTID = 'apso.python.script.organizer'

# libO or AOO ?
```

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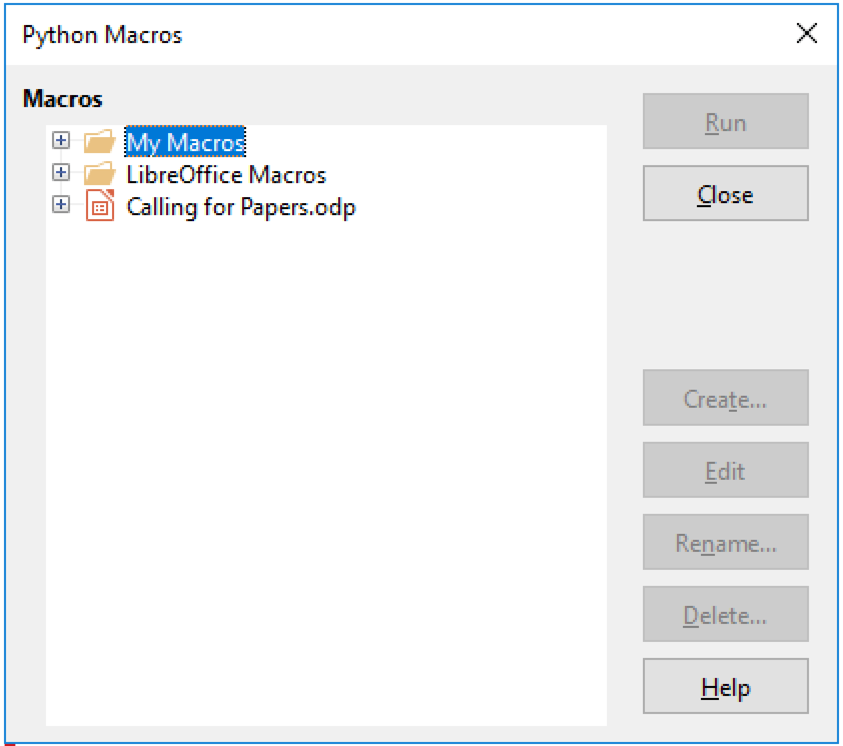
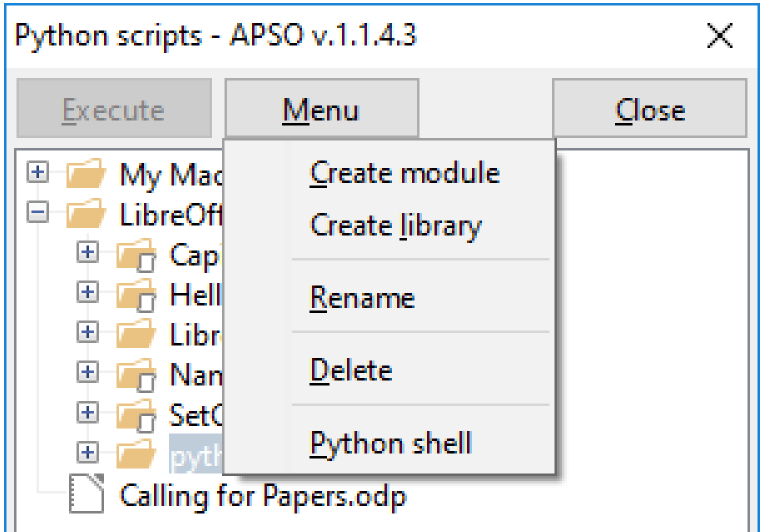
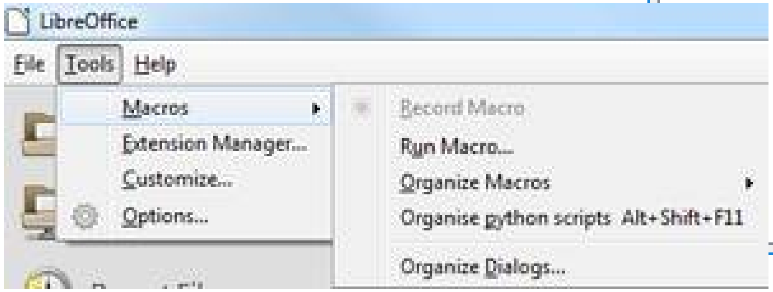
Altern. Python Script Org^{zer}



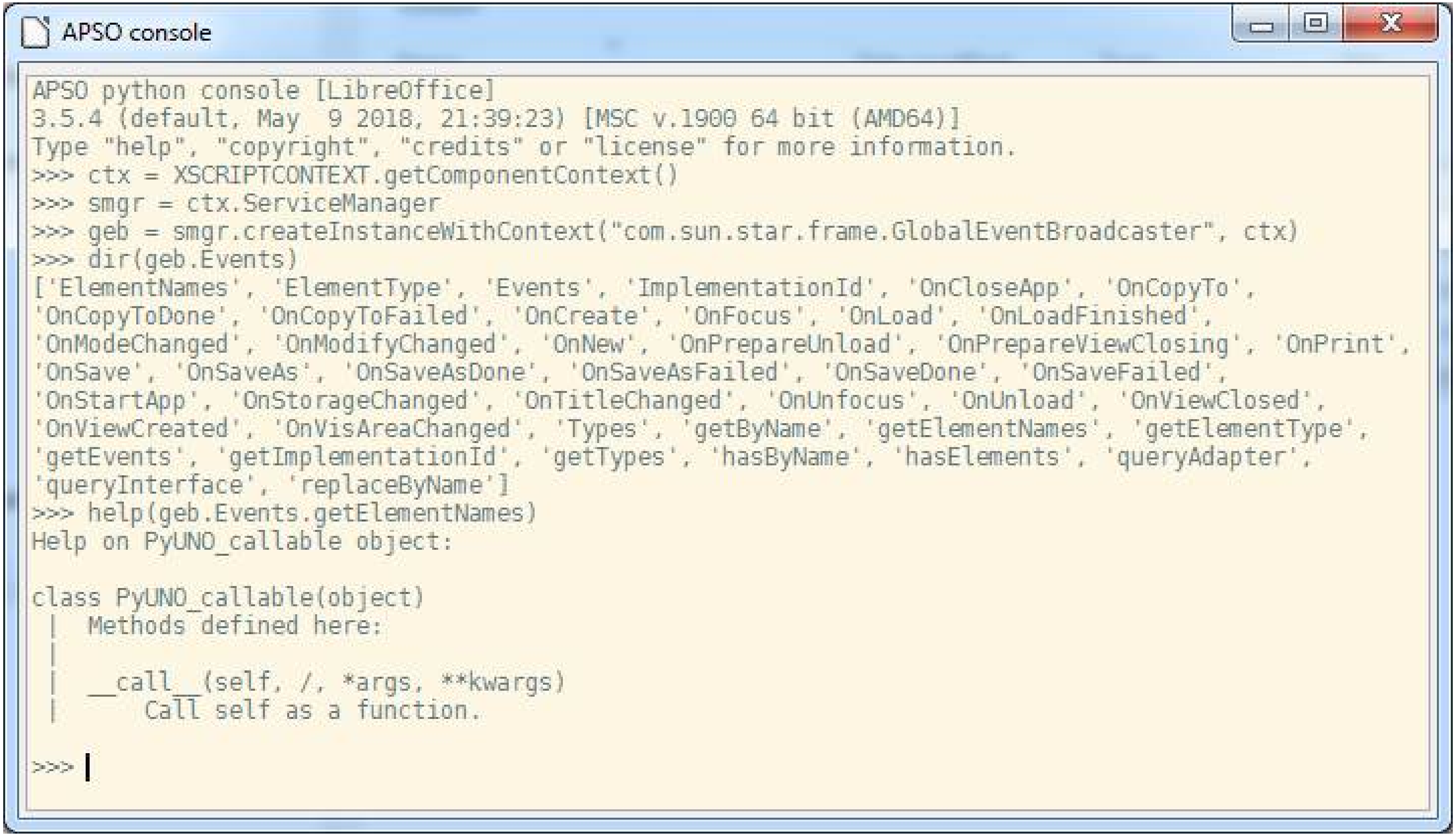
More although..

..Less





APSO: interactive console



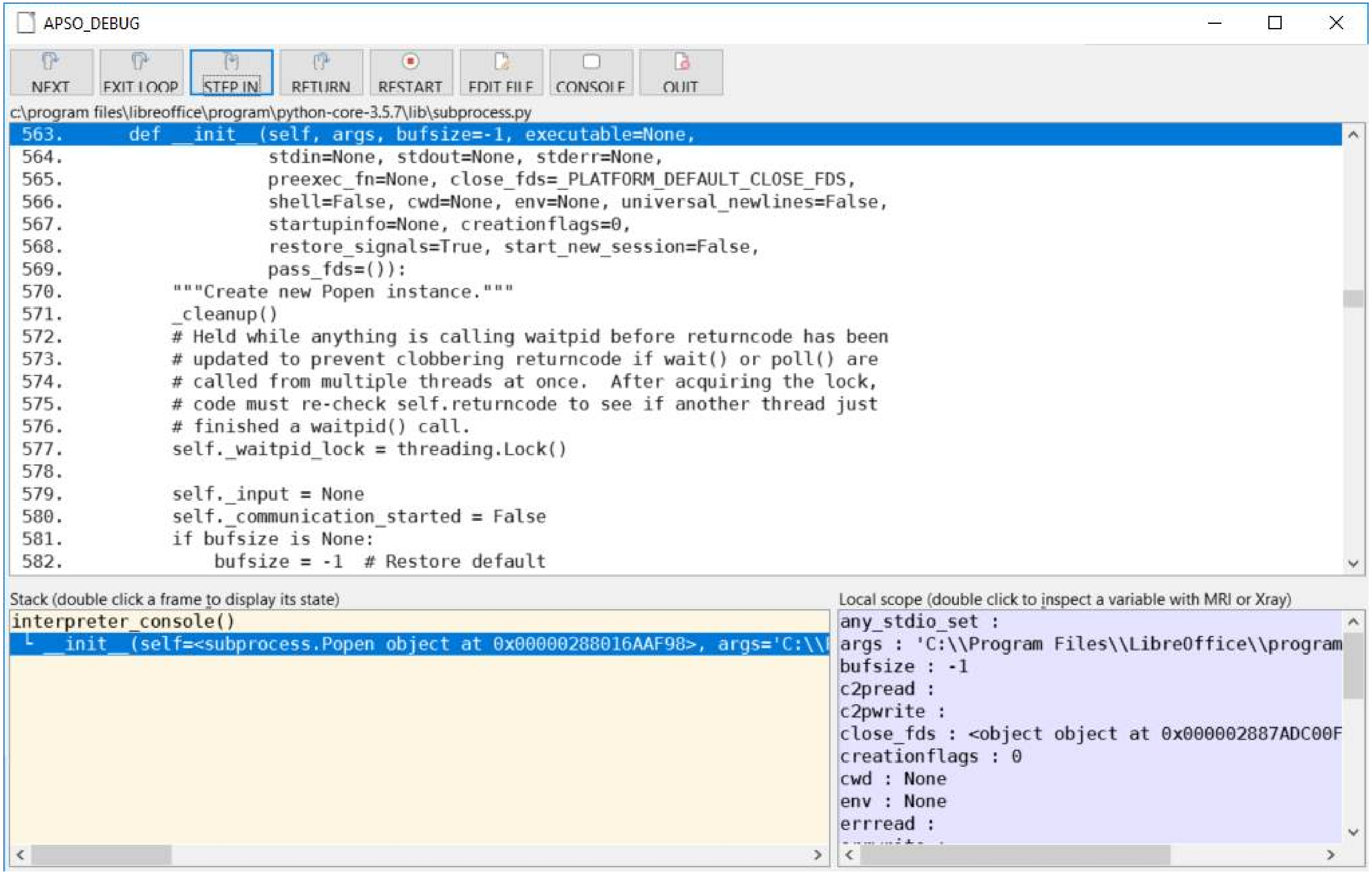
```
APSO python console [LibreOffice]
3.5.4 (default, May  9 2018, 21:39:23) [MSC v.1900 64 bit (AMD64)]
Type "help", "copyright", "credits" or "license" for more information.
>>> ctx = XSCRIPTCONTEXT.getComponentContext()
>>> smgr = ctx.ServiceManager
>>> geb = smgr.createInstanceWithContext("com.sun.star.frame.GlobalEventBroadcaster", ctx)
>>> dir(geb.Events)
['ElementNames', 'ElementType', 'Events', 'ImplementationId', 'OnCloseApp', 'OnCopyTo',
'OnCopyToDone', 'OnCopyToFailed', 'OnCreate', 'OnFocus', 'OnLoad', 'OnLoadFinished',
'OnModeChanged', 'OnModifyChanged', 'OnNew', 'OnPrepareUnload', 'OnPrepareViewClosing', 'OnPrint',
'OnSave', 'OnSaveAs', 'OnSaveAsDone', 'OnSaveAsFailed', 'OnSaveDone', 'OnSaveFailed',
'OnStartApp', 'OnStorageChanged', 'OnTitleChanged', 'OnUnfocus', 'OnUnload', 'OnViewClosed',
'OnViewCreated', 'OnVisAreaChanged', 'Types', 'getByName', 'getElementNames', 'getElementType',
'getEvents', 'getImplementationId', 'getTypes', 'hasByName', 'hasElements', 'queryAdapter',
'queryInterface', 'replaceByName']
>>> help(geb.Events.getElementNames)
Help on PyUNO_callable object:

class PyUNO_callable(object)
 |  Methods defined here:
 |
 |  __call__(self, /, *args, **kwargs)
 |      Call self as a function.

>>> 
```

Read Evaluate Print Loop

APSO: debug window



c:\program files\libreoffice\program\python-core-3.5.7\lib\subprocess.py

```
    def __init__(self, args, bufsize=-1, executable=None,
                 stdin=None, stdout=None, stderr=None,
                 preexec_fn=None, close_fds=_PLATFORM_DEFAULT_CLOSE_FDS,
                 shell=False, cwd=None, env=None, universal_newlines=False,
                 startupinfo=None, creationflags=0,
                 restore_signals=True, start_new_session=False,
                 pass_fds=()):
        """Create new Popen instance."""
        _cleanup()
        # Held while anything is calling waitpid before returncode has been
        # updated to prevent clobbering returncode if wait() or poll() are
        # called from multiple threads at once.  After acquiring the lock,
        # code must re-check self.returncode to see if another thread just
        # finished a waitpid() call.
        self._waitpid_lock = threading.Lock()

        self._input = None
        self._communication_started = False
        if bufsize is None:
            bufsize = -1  # Restore default
```

Stack (double click a frame to display its state)

```
interpreter_console()
 └ __init__(self=<subprocess.Popen object at 0x00000288016AAF98>, args='C:\\
```

Local scope (double click to inspect a variable with MRI or Xray)

```
any_stdio_set :
args : 'C:\\Program Files\\LibreOffice\\program
bufsize : -1
c2pread :
c2pwrite :
close_fds : <object object at 0x000002887ADC00F
creationflags : 0
cwd : None
env : None
errread :
```

see also Mri, Xray

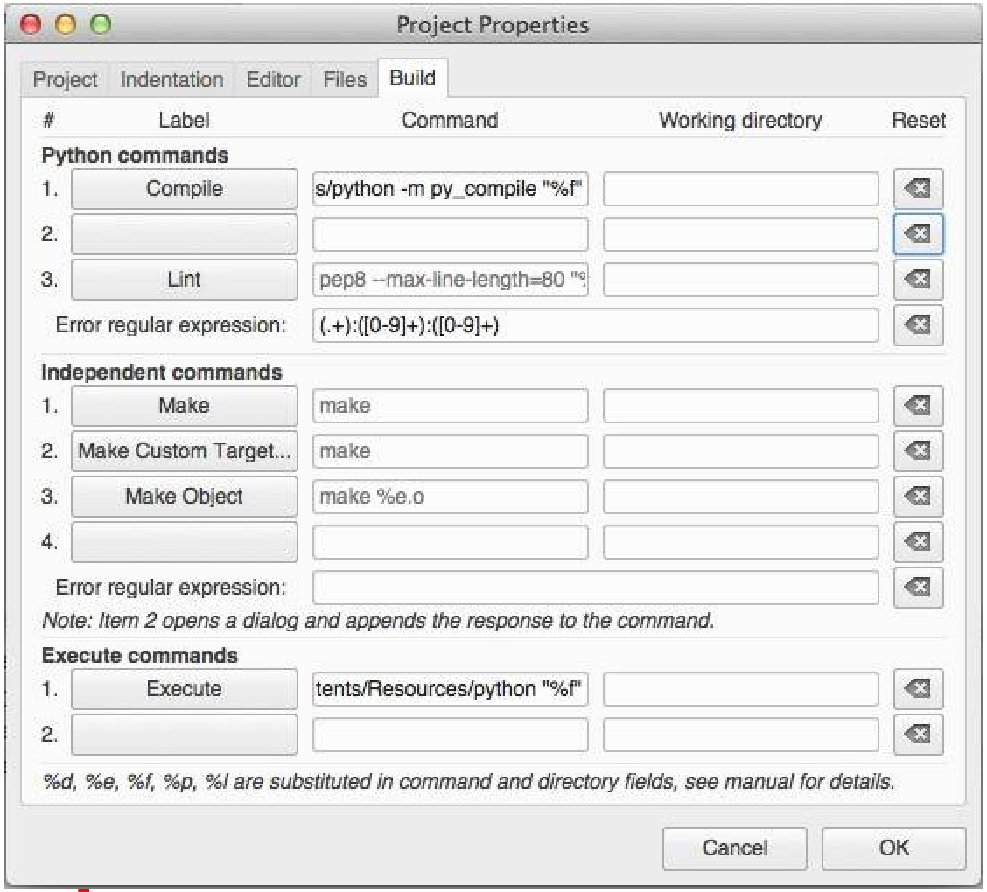
Agenda

- Scripting Framework
- Why Python ?
  - Srce Explorer, Syntax Hiliting, Code Completion, Debugging,
  - Coding Guidelines, Test-Driven Dev, Version Control
- Walkthrough Geany, PyZo, PyCharm
- Extension: APSO - JMZ
  - Xray by BM, Mri by Hanya
- IDEs
  - Projects Setup
- Scripting Python Macros
  - Help, Libraries & Modules
  - Programming Basics
  - Dialogs, Listeners, Monitors
  - X-Scripting
- Q & A

IDEs: Setup

- Geany
- Pyzo
- PyCharm

IDEs: Geany projects setup



Project Properties

Project | Indentation | Editor | Files | Build

Python commands

#	Label	Command	Working directory	Reset
1.	Compile	s/python -m py_compile "%f"		
2.				
3.	Lint	pep8 --max-line-length=80 "%		
	Error regular expression:	(.+):([0-9]+):([0-9]+)		

Independent commands

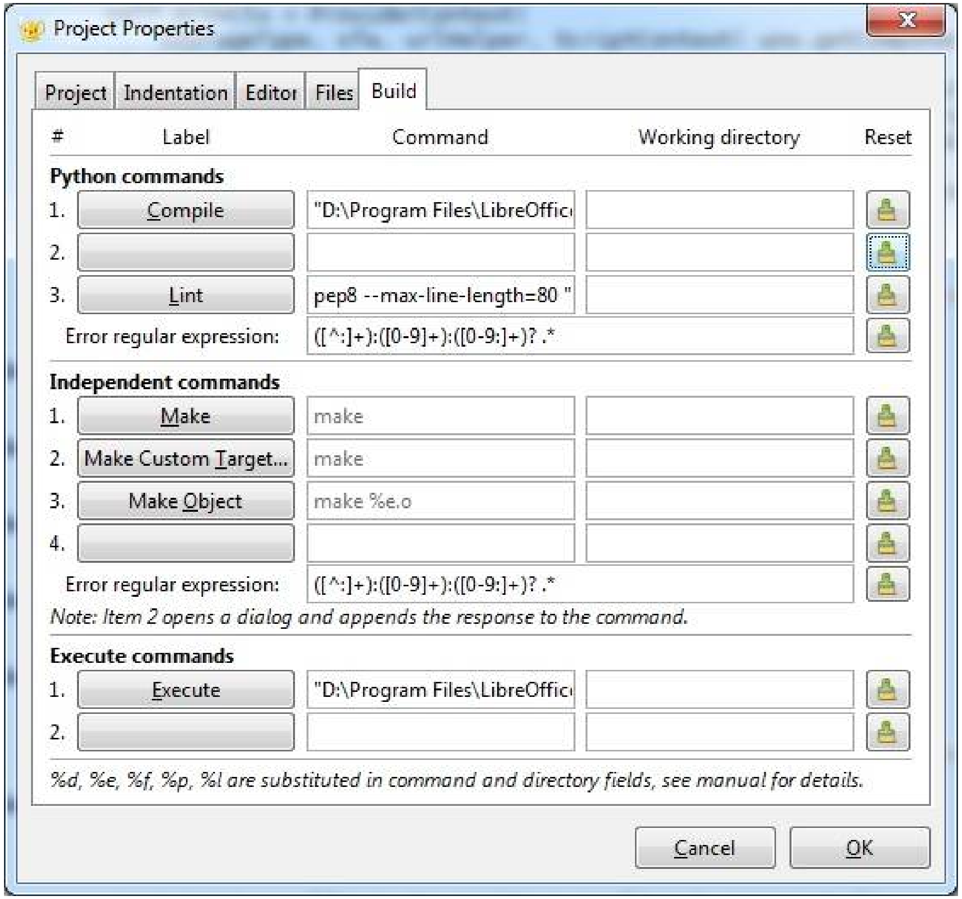
#	Label	Command	Working directory	Reset
1.	Make	make		
2.	Make Custom Target...	make		
3.	Make Object	make %e.o		
4.				
	Error regular expression:			

Note: Item 2 opens a dialog and appends the response to the command.

Execute commands

#	Label	Command	Working directory	Reset
1.	Execute	tents/Resources/python "%f"		
2.				

%d, %e, %f, %p, %l are substituted in command and directory fields, see manual for details.



Project Properties

Project | Indentation | Editor | Files | Build

Python commands

#	Label	Command	Working directory	Reset
1.	Compile	"D:\Program Files\LibreOffic		
2.				
3.	Lint	pep8 --max-line-length=80 "		
	Error regular expression:	([^:]+):([0-9]+):([0-9:]+)? .*		

Independent commands

#	Label	Command	Working directory	Reset
1.	Make	make		
2.	Make Custom Target...	make		
3.	Make Object	make %e.o		
4.				
	Error regular expression:	([^:]+):([0-9]+):([0-9:]+)? .*		

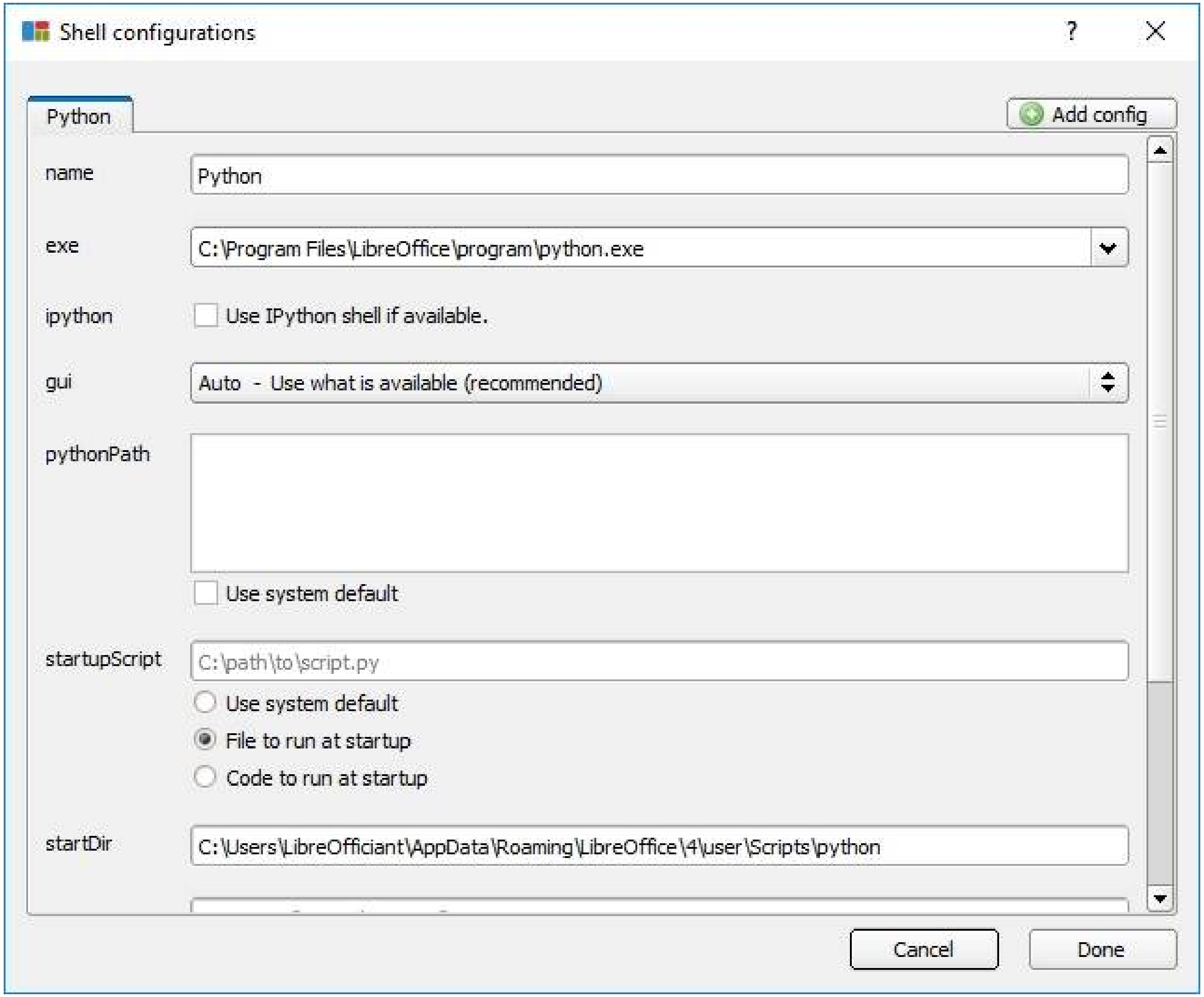
Note: Item 2 opens a dialog and appends the response to the command.

Execute commands

#	Label	Command	Working directory	Reset
1.	Execute	"D:\Program Files\LibreOffic		
2.				

%d, %e, %f, %p, %l are substituted in command and directory fields, see manual for details.

IDEs: PyZo shell configurations



Shell configurations

name: Python

exe: C:\Program Files\LibreOffice\program\python.exe

ipython: □ Use IPython shell if available.

gui: Auto - Use what is available (recommended)

pythonPath:

□ Use system default

startupScript: C:\path\to\script.py

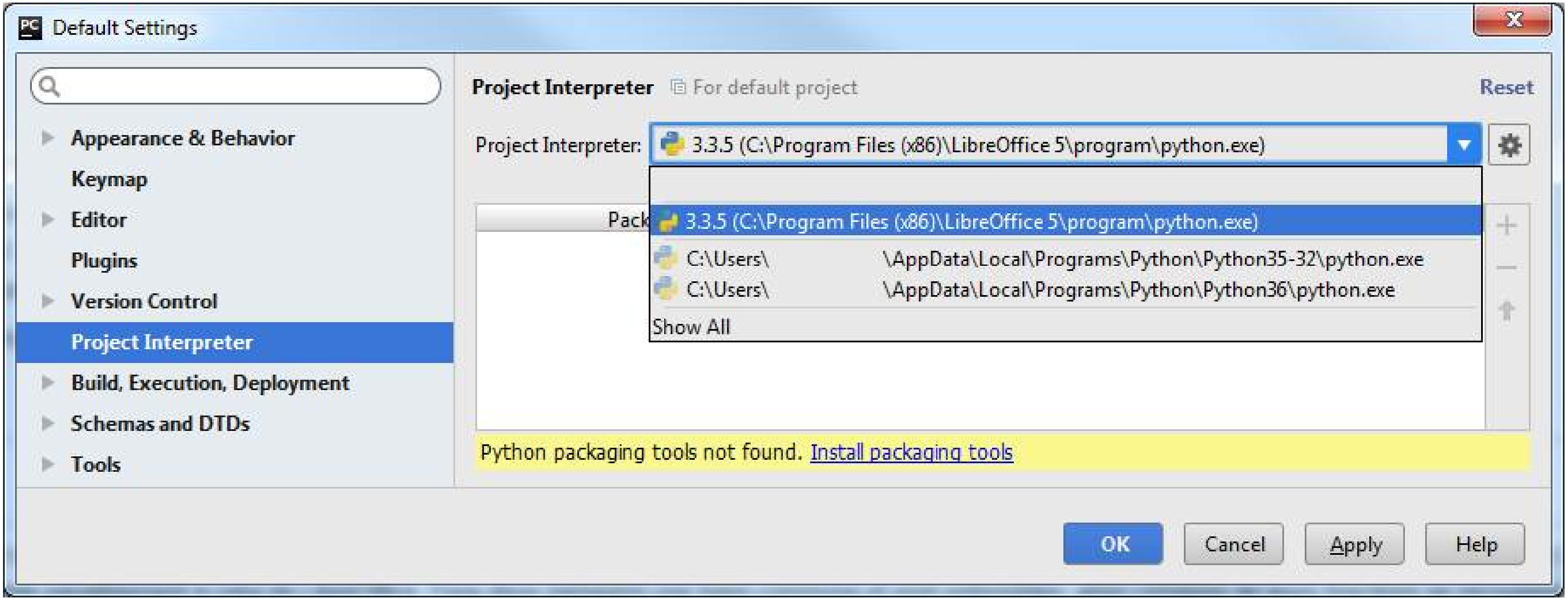
○ Use system default

● File to run at startup

○ Code to run at startup

startDir: C:\Users\LibreOfficiant\AppData\Roaming\LibreOffice\4\user\Scripts\python

IDEs: PyCharm project interpreters



Default Settings

Project Interpreter For default project Reset

Project Interpreter: 3.3.5 (C:\Program Files (x86)\LibreOffice 5\program\python.exe)

3.3.5 (C:\Program Files (x86)\LibreOffice 5\program\python.exe)
C:\Users\ \AppData\Local\Programs\Python\Python35-32\python.exe
C:\Users\ \AppData\Local\Programs\Python\Python36\python.exe
Show All

Python packaging tools not found. Install packaging tools

- Debugging Python & Basic altogether

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  - Dialogs, Listeners, Monitors
  - X-Scripting
- Q & A

Scripting: API help

- LibreOffice Help
  local / online

- API documentation
  Software Developer Kit

- Python Interactive Console (REPL)

- Forums

Scripting: module/library

- Programming Python Scripts

- Standalone module: XSCRIPTCONTEXT
- Shared module: import uno
- Xlating Basic 2 Python

Scripting: Basics

- Input/Output to Screen
- Getting session information
- Identifying the operating system
- Importing Python modules

Scripting: Dialogs, Listeners

- Std dialogs, Listeners
- Dialog handlers

in 6.4

- Monitoring doc. Events

demo

Scripting: X-Languages

- Python to Basic
  MsgBox, InputBox
  other use case?
- Basic to Python
  Std modules
  cmath, datetime, json, math, net, re, unittest
  e.g. python.os.Filelen - demo

- Python/Basic to JavaScript
  ..you name it..

e-References

- Altern. Python Script Org. (APSO)

(Mri, Xray)

- local/online **Help**

Macros and Scripting

- **Wikis**

Designing & Developing Python Apps

Python Apache OpenOffice

Thanks
Happy Python!

Q & A

come to discuss

- Python IDE simple enablement (for *Office) using IDE_utils
- LibreOffice Basic Hidden Gems