

Environment

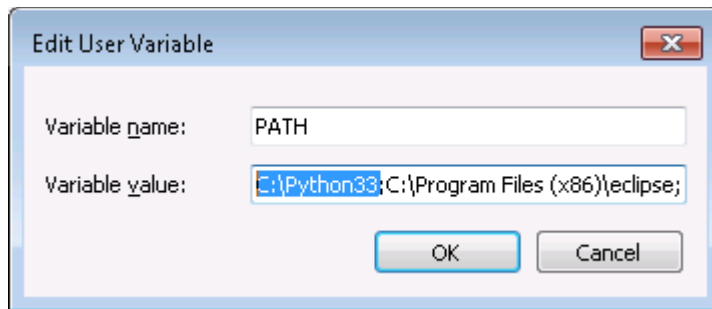
OS: Windows 7 Ultimate x64
Compiler: Visual Studio 2010
Boost: 1.57.0 (installation path is "D:\libs\boost")
CMake: 3.2.1
Python3: 3.3.5
NumPy: 1.9.1
SciPy: 0.14.0
PyQt4: 4.10.3
Pyparsing: 2.0.1
python-dateutil: 2.2
six: 1.5.2
Git: 1.9.5 (optional)

Downloading

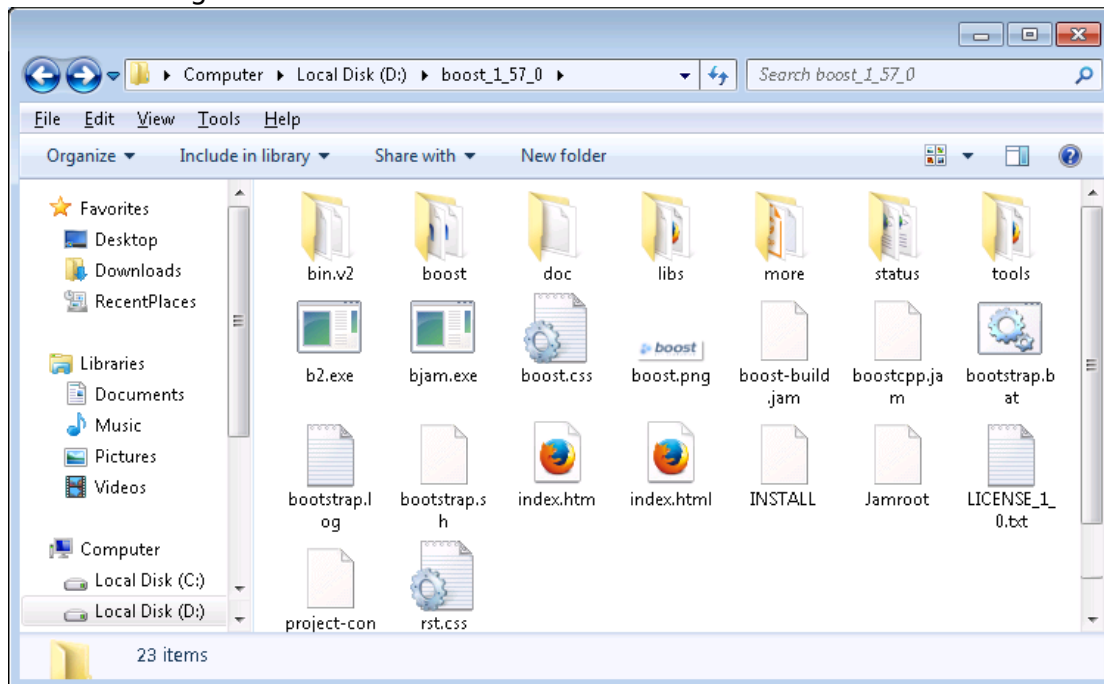
Boost: <http://sourceforge.net/projects/boost/files/boost/1.57.0/>
CMake: <http://www.cmake.org/files/v3.1/cmake-3.1.3-win32-x86.exe>
Python3: <http://www.python.org/ftp/python/3.3.5/python-3.3.5.msi>
NumPy: <http://sourceforge.net/projects/numpy/files/NumPy/1.9.1/numpy-1.9.1-win32-superpack-python3.3.exe/download>
SciPy: <http://sourceforge.net/projects/scipy/files/scipy/0.14.0/scipy-0.14.0-win32-superpack-python3.3.exe/download>
PyQt4: <http://sourceforge.net/projects/pyqt/files/PyQt4/PyQt-4.10.3/PyQt4-4.10.3-gpl-Py3.3-Qt4.8.5-x32.exe/download>
Pyparsing: <http://sourceforge.net/projects/pyparsing/files/pyparsing/pyparsing-2.0.1/pyparsing-2.0.1.win32-py3.3.exe/download>
setuptools: <https://pypi.python.org/pypi/setuptools#downloads>
python-dateutil: <https://pypi.python.org/pypi/python-dateutil/2.2>
six: <https://pypi.python.org/pypi/six/1.5.2>
Matplotlib: <http://sourceforge.net/projects/matplotlib/files/matplotlib/matplotlib-1.3.1/matplotlib-1.3.1.win32-py3.3.exe/download>
Git: <https://github.com/msysgit/msysgit/releases/download/Git-1.9.5-preview20141217/Git-1.9.5-preview20141217.exe>

Compiling Boost

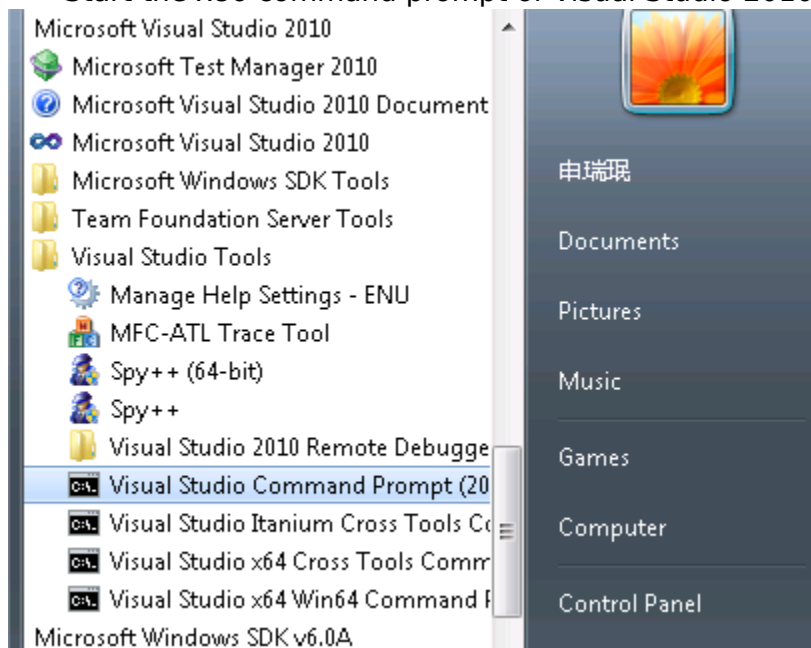
- Installing Python 3, and make sure its path is included in the PATH environment variable:



- Extracting source code files of Boost:



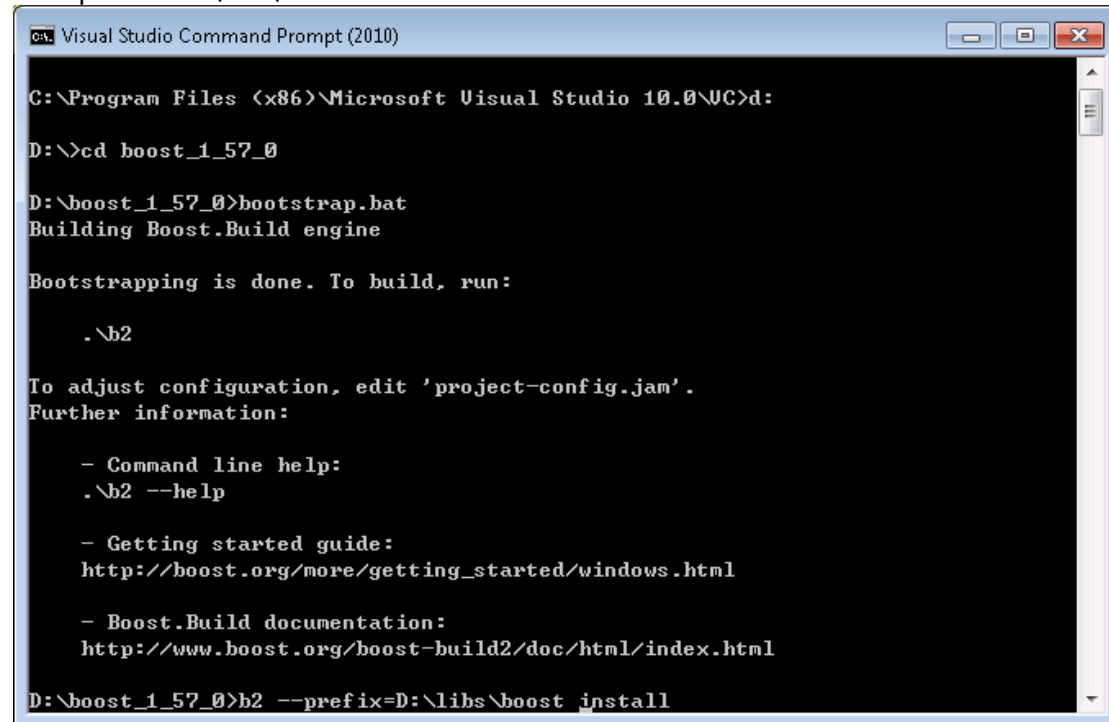
- Start the x86 command prompt of Visual Studio 2010:



- Compiling Boost (both static and shared link):

```
d:
cd D:\boost_1_57_0
bootstrap.bat
```

b2 --prefix=D:\libs\boost install



```
Visual Studio Command Prompt (2010)

C:\Program Files (x86)\Microsoft Visual Studio 10.0\VC>d:

D:\>cd boost_1_57_0

D:\boost_1_57_0>bootstrap.bat
Building Boost.Build engine

Bootstrapping is done. To build, run:

    .\b2

To adjust configuration, edit 'project-config.jam'.
Further information:

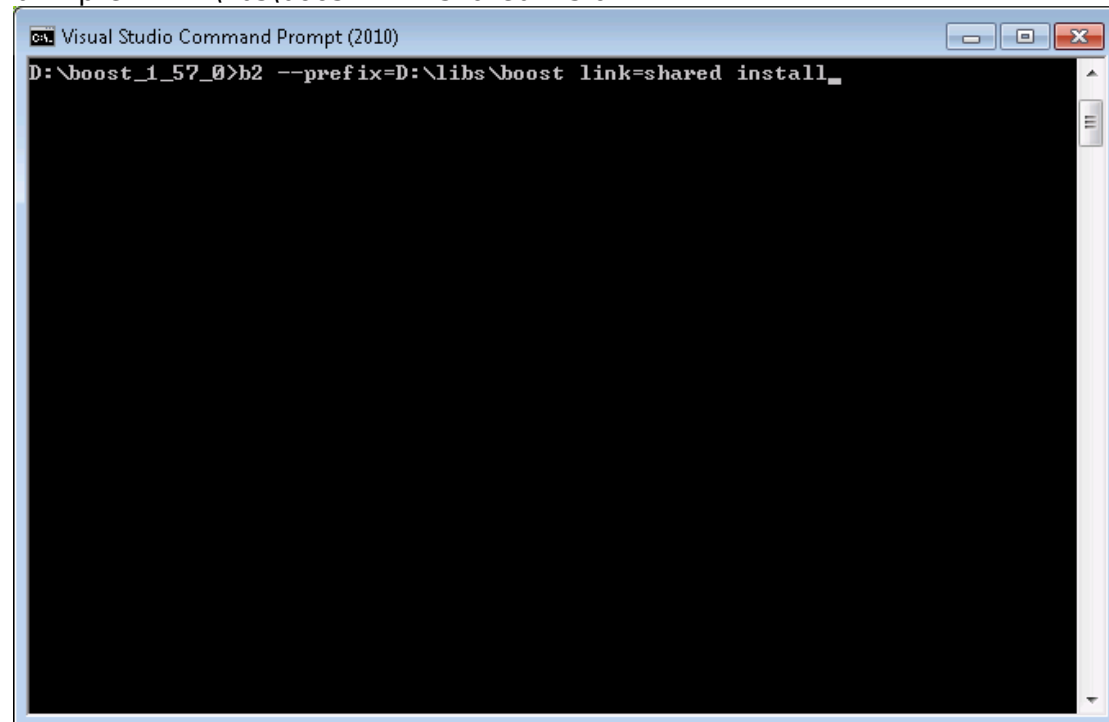
    - Command line help:
      .\b2 --help

    - Getting started guide:
      http://boost.org/more/getting_started/windows.html

    - Boost.Build documentation:
      http://www.boost.org/boost-build2/doc/html/index.html

D:\boost_1_57_0>b2 --prefix=D:\libs\boost install
```

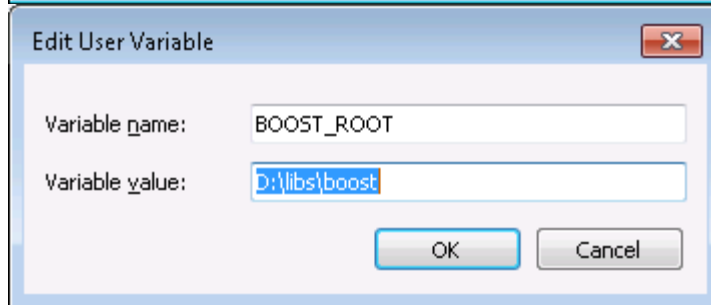
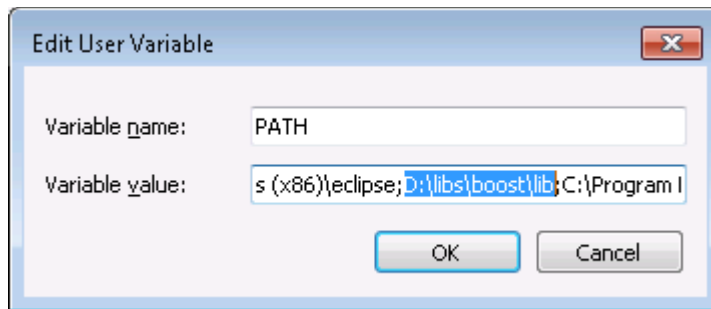
b2 --prefix=D:\libs\boost link=shared install



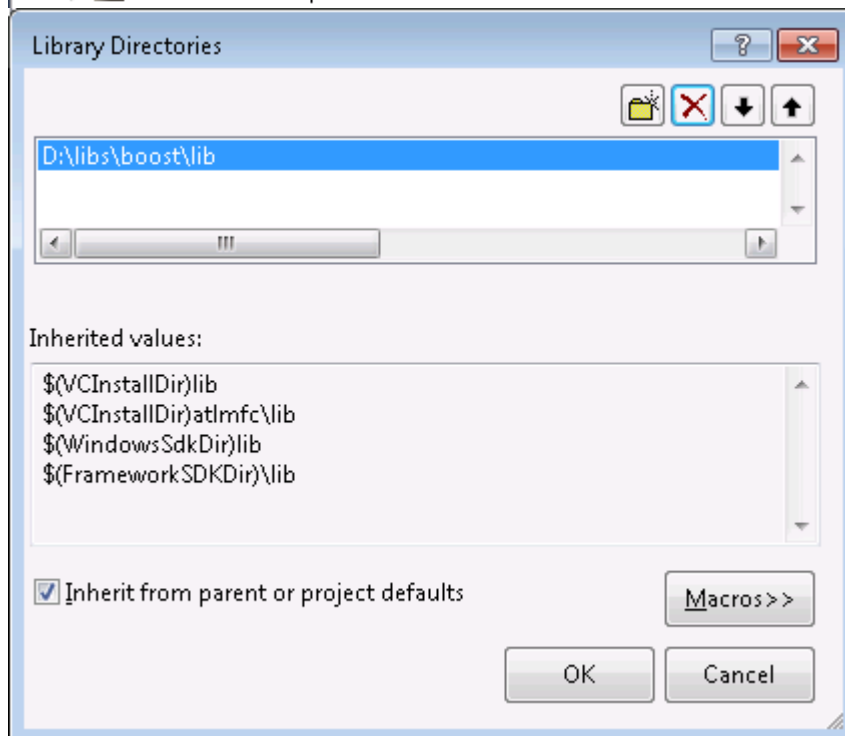
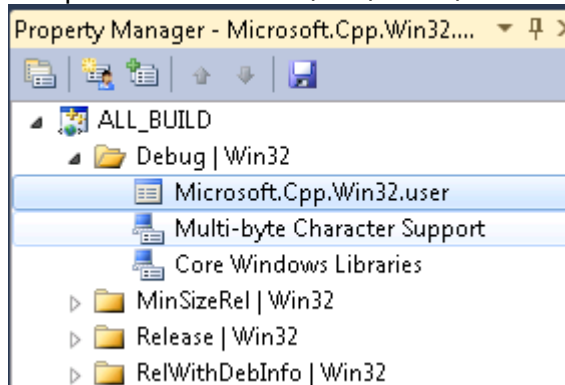
```
Visual Studio Command Prompt (2010)

D:\boost_1_57_0>b2 --prefix=D:\libs\boost link=shared install_
```

- Adding the installation path of Boost “D:\libs\boost” into both the PATH and BOOST_ROOT environment variables:



- Open the property manager of Visual Studio 2010, and adding the library path of Boost “D:\libs\boost\lib” into library directories:

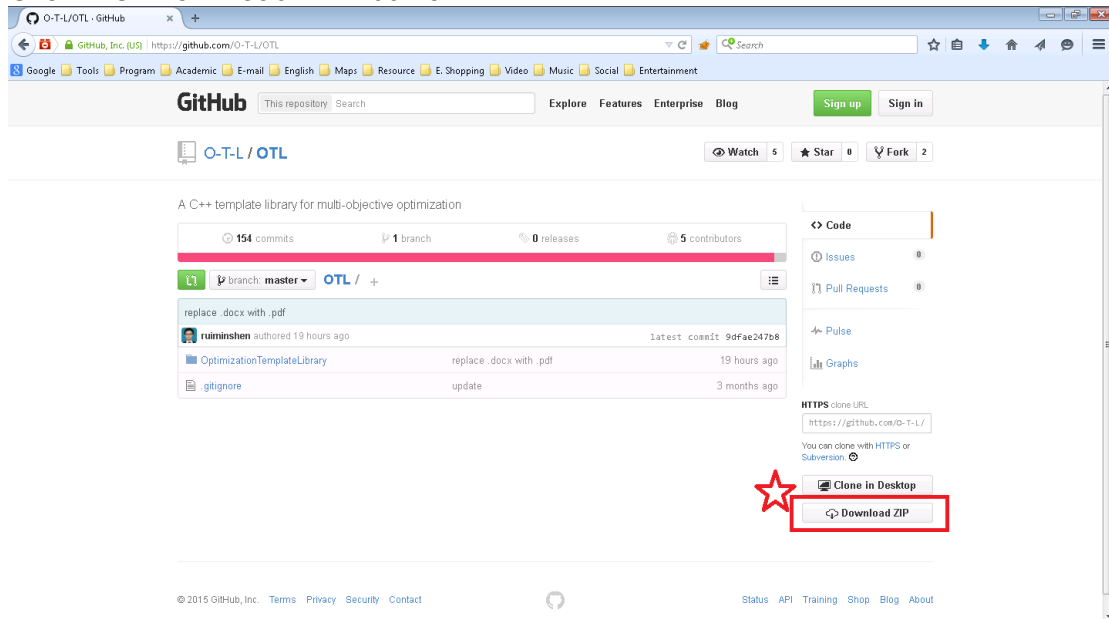


Configuring OTL

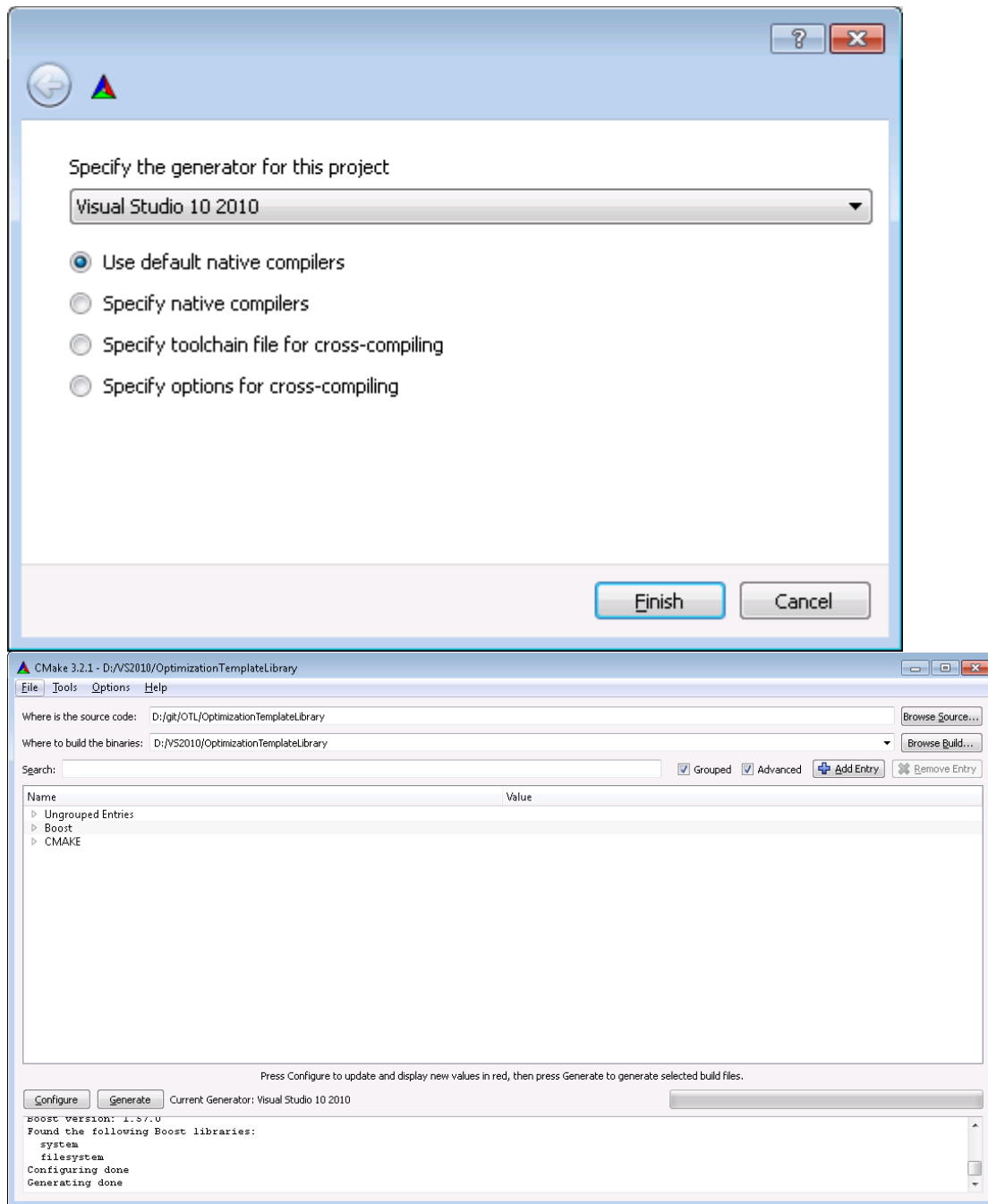
- Clone the repository (recommended):
Clone URL: <https://github.com/O-T-L/OTL.git>
Destination: D:\git\OTL



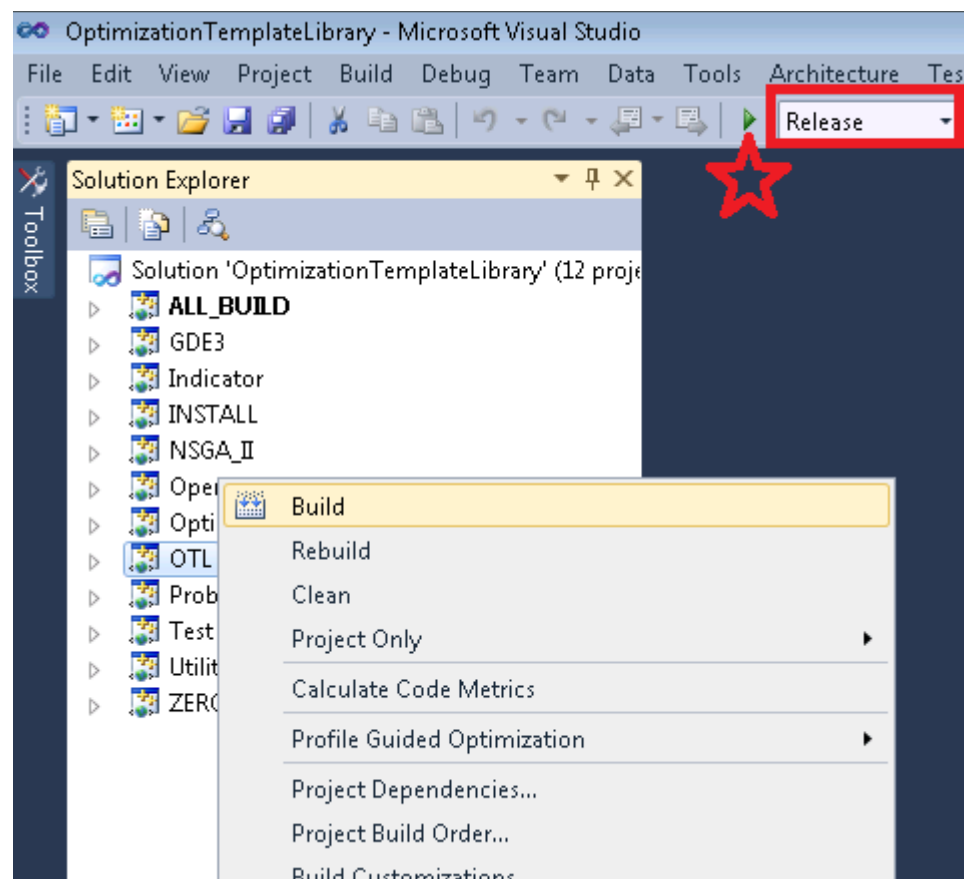
- Or downloading the source codes (if Git is not used):
Go to OTL's page: <https://github.com/O-T-L/OTL>
Click the "Download ZIP" button.



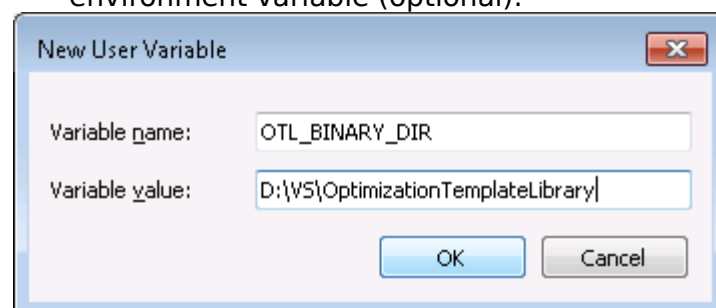
- Generating project files of Visual Studio 2010
Source code directory: D:\git\OTL\OptimizationTemplateLibrary
Binary directory: D:\VS2010\OptimizationTemplateLibrary



- Building the OTL project:
Choosing the "Release" building type will be better.



- Adding the binary directory of OTL "D:\VS2010\OptimizationTemplateLibrary" into the OTL_BINARY_DIR environment variable (optional):



Configuring PyOTL

- Clone the repository (recommended):
 Clone URL: <https://github.com/O-T-L/PyOTL.git>
 Destination: D:\git\PyOTL



- Or downloading the source codes (if Git is not used):

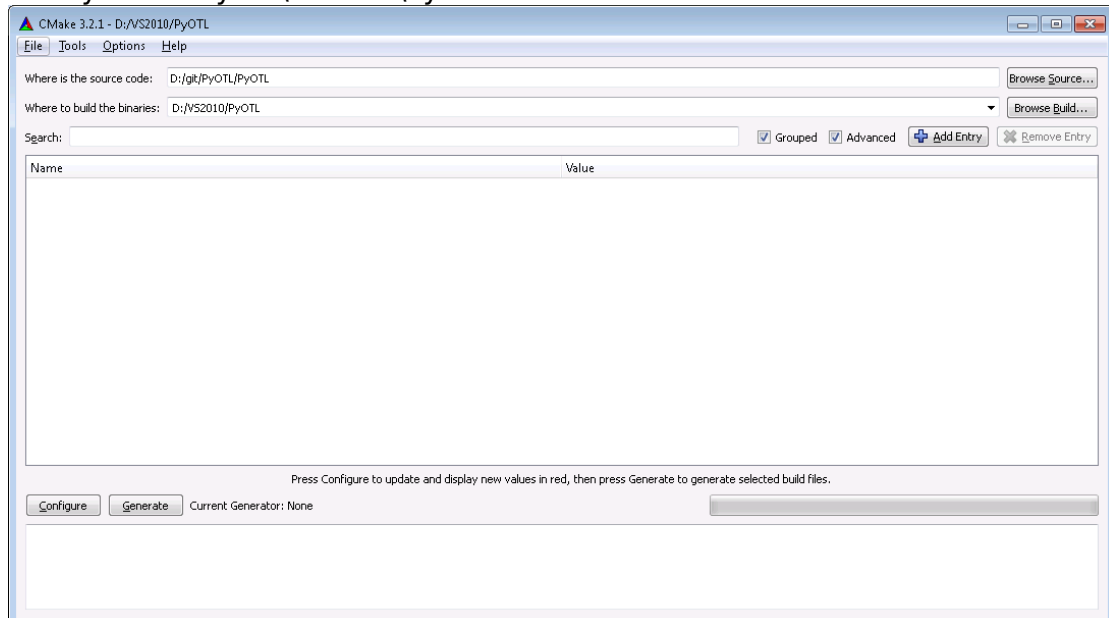
Go to PyOTL's page: <https://github.com/O-T-L/PyOTL>

Click the "Download ZIP" button.

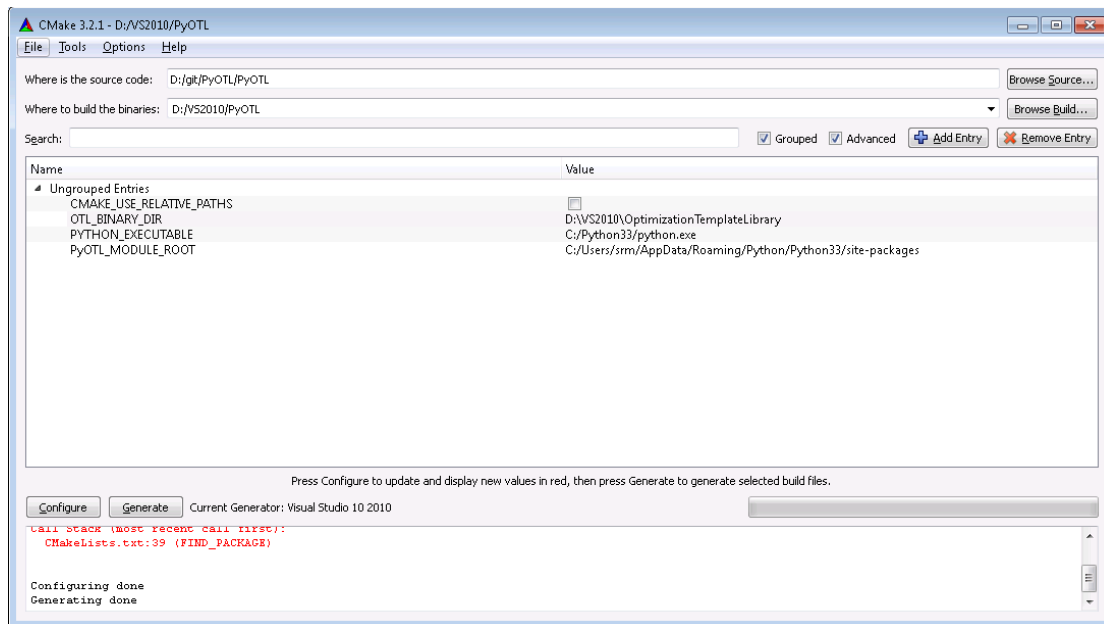
- Generating project files of Visual Studio 2010

Source code directory: D:\git\PyOTL\PyOTL

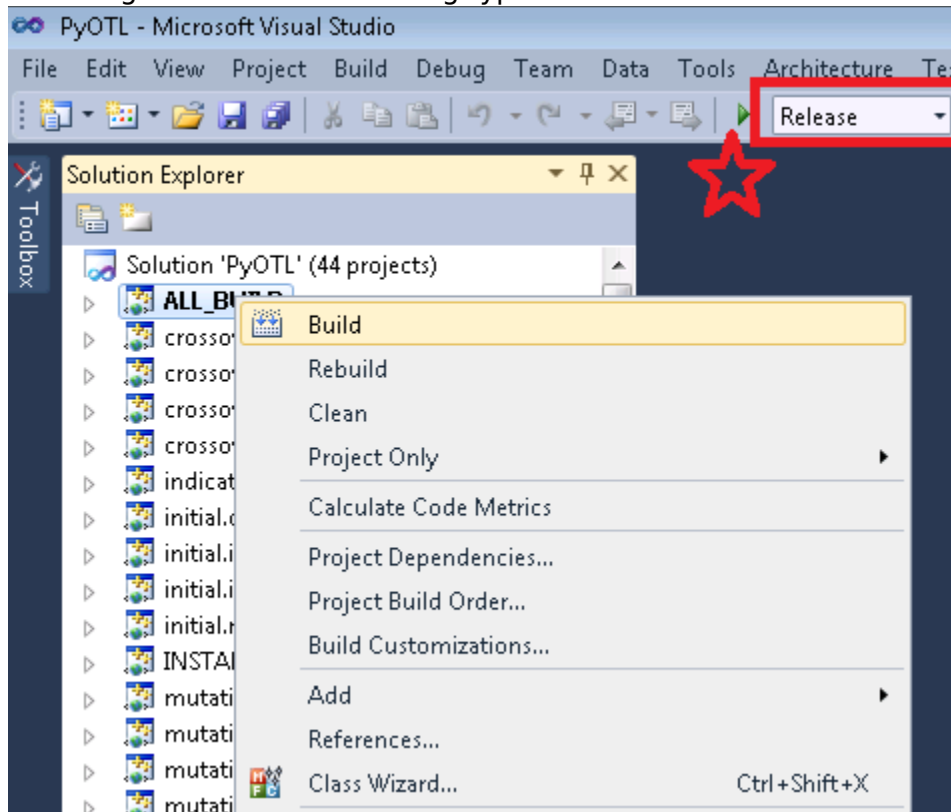
Binary directory: D:\VS2010\PyOTL



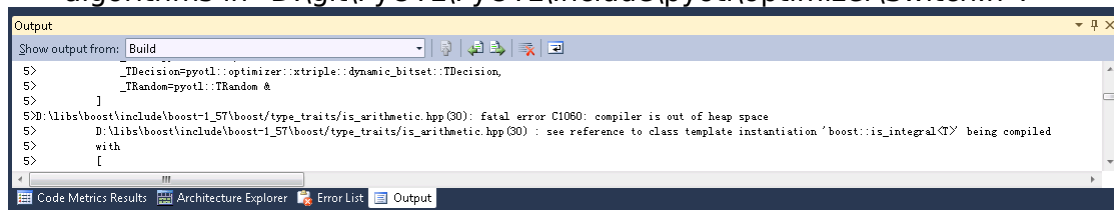
- If the OTL_BINARY_DIR environment variable is not set, then set the OTL_BINARY_DIR CMake variable into "D:\VS2010\OptimizationTemplateLibrary":

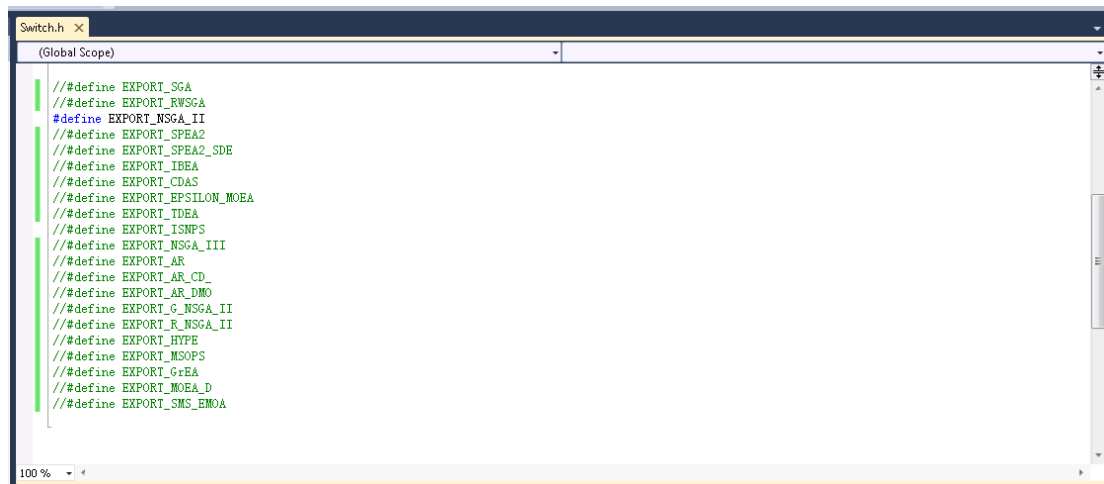


- Compiling all projects of PyOTL:
Choosing the “Release” building type will be better.



- If your memory is not enough, you can disable some optimization algorithms in “D:\git\PyOTL\PyOTL\Include\pyotl\optimizer\Switch.h”:





```
Switch.h
(Global Scope)

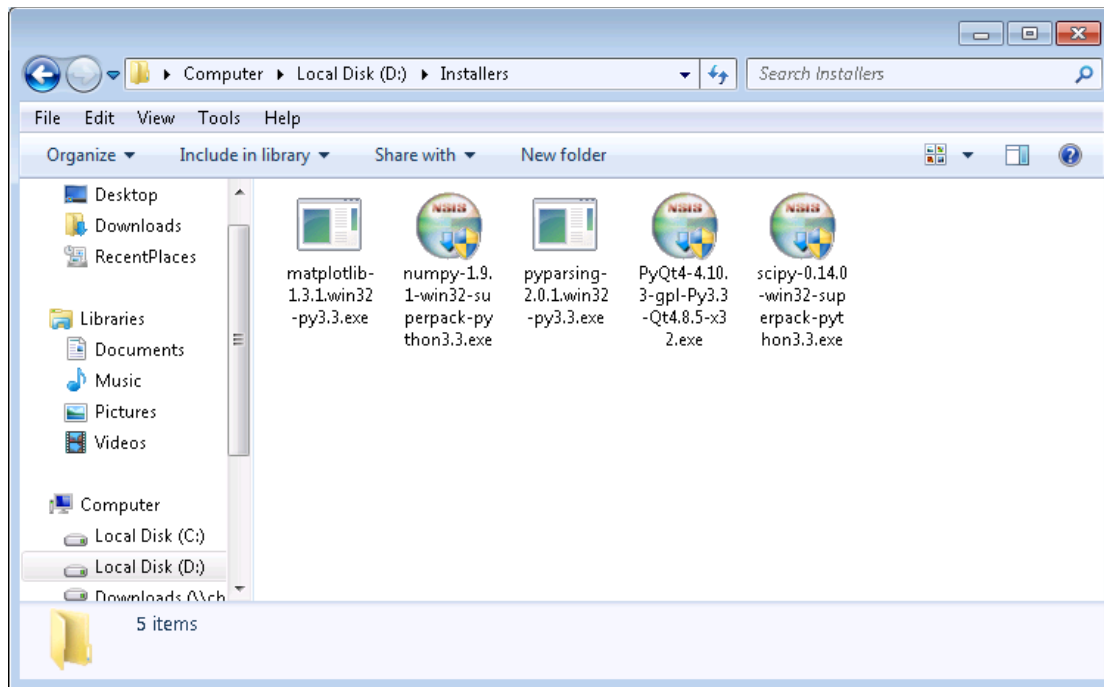
// #define EXPORT_SGA
// #define EXPORT_RWSGA
#define EXPORT_NSGA_II
// #define EXPORT_SPEA2
// #define EXPORT_SPEA2_SDE
// #define EXPORT_IBEA
// #define EXPORT_CDAS
// #define EXPORT_EPSILON_MOEA
// #define EXPORT_TDEA
// #define EXPORT_ISNPS
// #define EXPORT_NSGA_III
// #define EXPORT_AR
// #define EXPORT_AR_CD
// #define EXPORT_AR_DMO
// #define EXPORT_G_NSGA_II
// #define EXPORT_R_NSGA_II
// #define EXPORT_HYPE
// #define EXPORT_MSOPS
// #define EXPORT_GrEA
// #define EXPORT_MOEA_D
// #define EXPORT_SMS_EMOA
```

Configuring PyOptimization

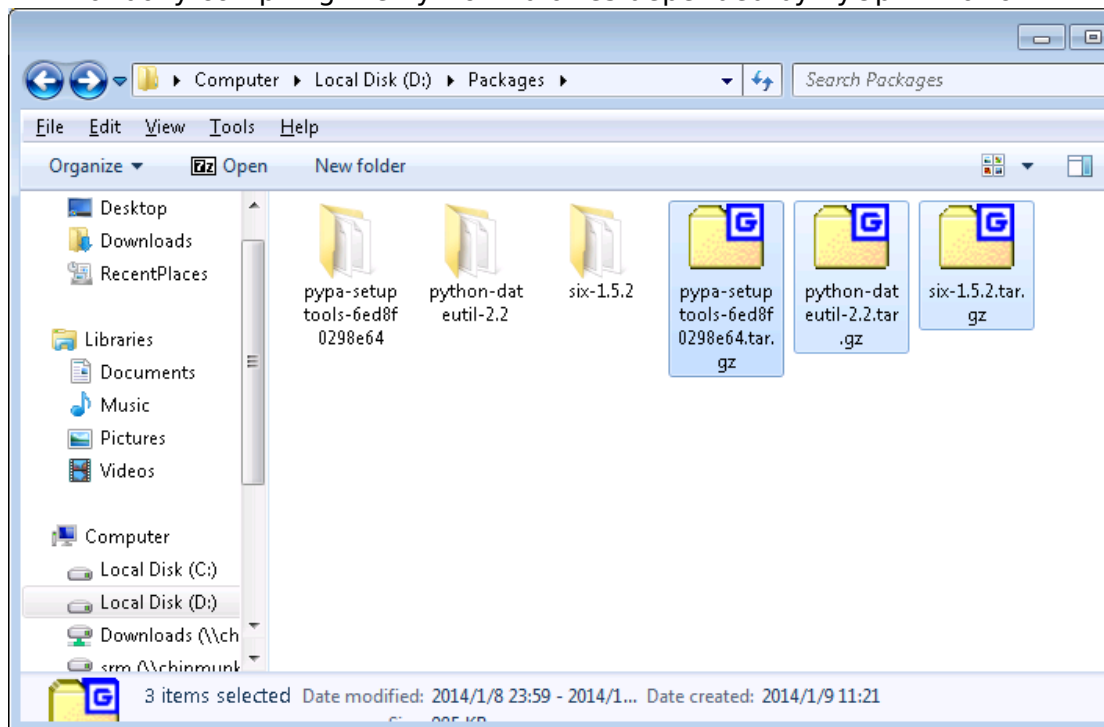
- Clone the repository (recommended):
Clone URL: <https://github.com/O-T-L/PyOptimization.git>
Destination: D:\git\PyOptimization



- Or downloading the source codes (if Git is not used):
Go to PyOptimization's page: <https://github.com/O-T-L/PyOptimization>
Click the "Download ZIP" button.
- Installing the Python libraries depended by PyOptimization:



- Manually compiling the Python libraries depended by PyOptimization:



- Compiling setuptools:
 python setup.py config
 python setup.py build
 python setup.py bdist_wininst

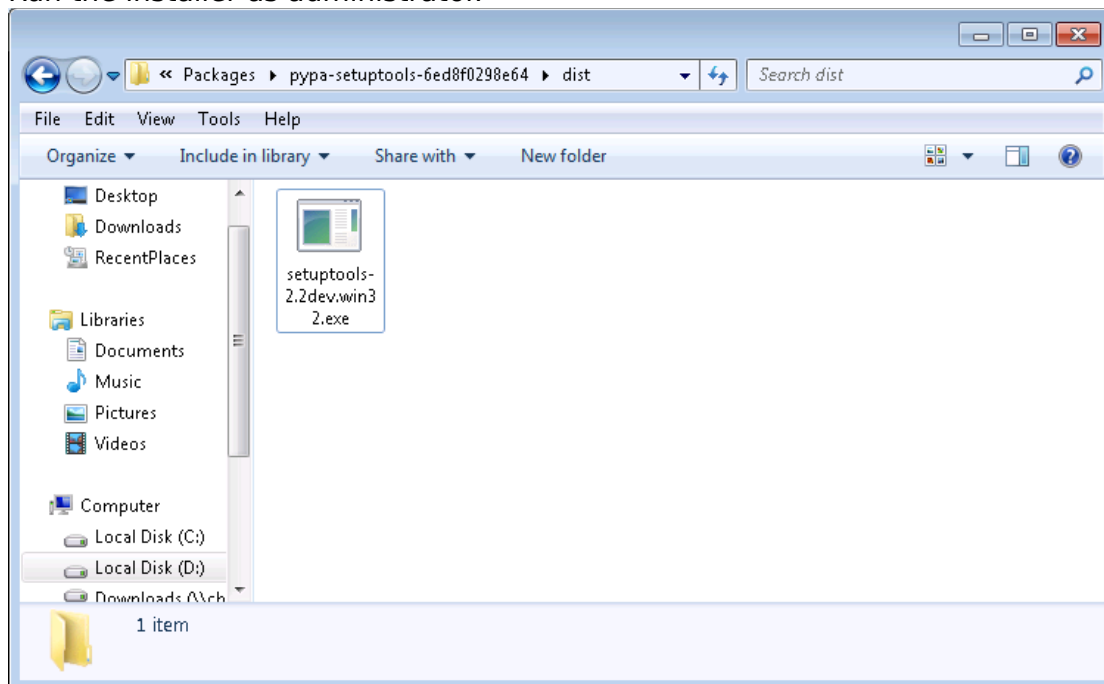
```
C:\Windows\system32\cmd.exe

D:\Packages\pypa-setuptools-6ed8f0298e64>python setup.py config
running config

D:\Packages\pypa-setuptools-6ed8f0298e64>python setup.py build
running build
running build_py

D:\Packages\pypa-setuptools-6ed8f0298e64>python setup.py bdist_wininst
running bdist_wininst
running build
running build_py
installing to build\bdist.win32\wininst
running install_lib
creating build\bdist.win32\wininst
creating build\bdist.win32\wininst\PURELIB
copying build\lib\easy_install.py -> build\bdist.win32\wininst\PURELIB
copying build\lib\pkg_resources.py -> build\bdist.win32\wininst\PURELIB
creating build\bdist.win32\wininst\PURELIB\setuptools
copying build\lib\setuptools\archive_util.py -> build\bdist.win32\wininst\PURELIB\setuptools
copying build\lib\setuptools\cli-32.exe -> build\bdist.win32\wininst\PURELIB\setuptools
copying build\lib\setuptools\cli-64.exe -> build\bdist.win32\wininst\PURELIB\setuptools
copying build\lib\setuptools\cli-arm-32.exe -> build\bdist.win32\wininst\PURELIB\setuptools
```

Run the installer as administrator.



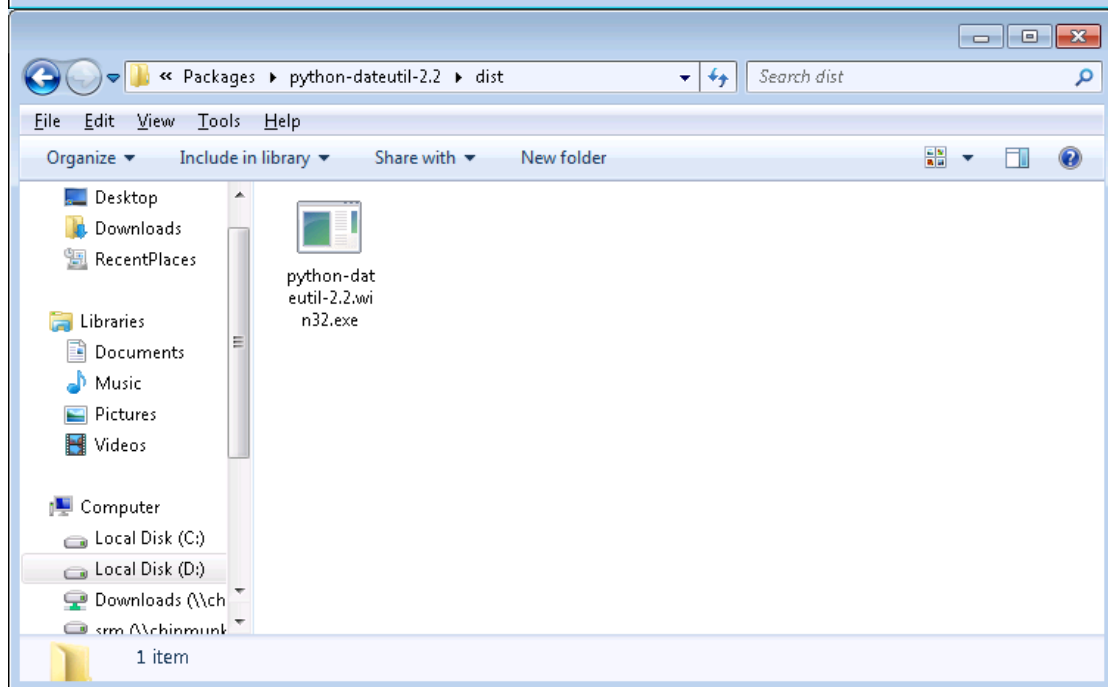
- Use the same way to compile python-dateutil and six:

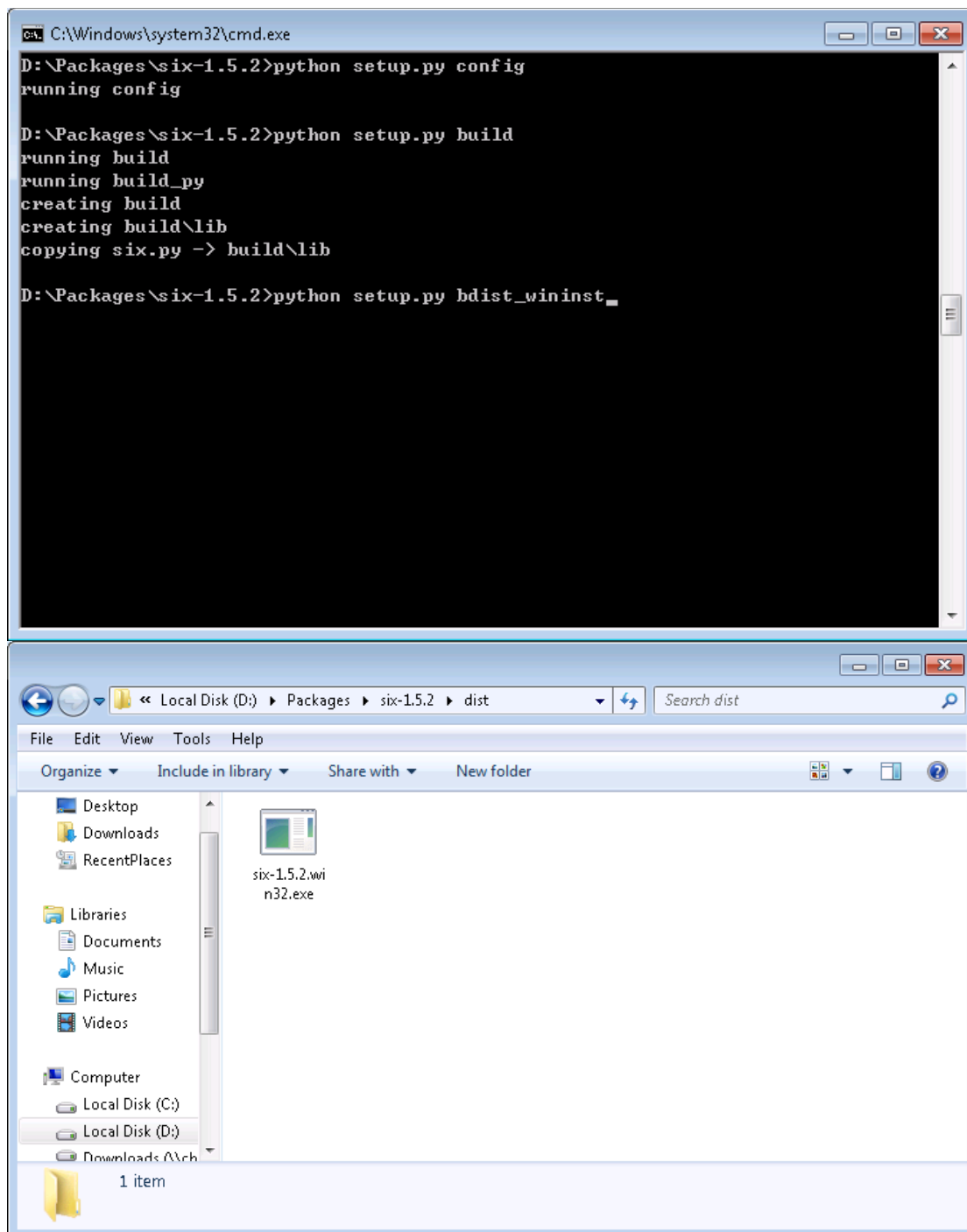
```
C:\Windows\system32\cmd.exe

D:\Packages\python-dateutil-2.2>python setup.py config
running config

D:\Packages\python-dateutil-2.2>python setup.py build
running build
running build_py
running egg_info
writing dependency_links to python_dateutil.egg-info\dependency_links.txt
writing python_dateutil.egg-info\PKG-INFO
writing requirements to python_dateutil.egg-info\requires.txt
writing top-level names to python_dateutil.egg-info\top_level.txt
reading manifest file 'python_dateutil.egg-info\SOURCES.txt'
reading manifest template 'MANIFEST.in'
writing manifest file 'python_dateutil.egg-info\SOURCES.txt'

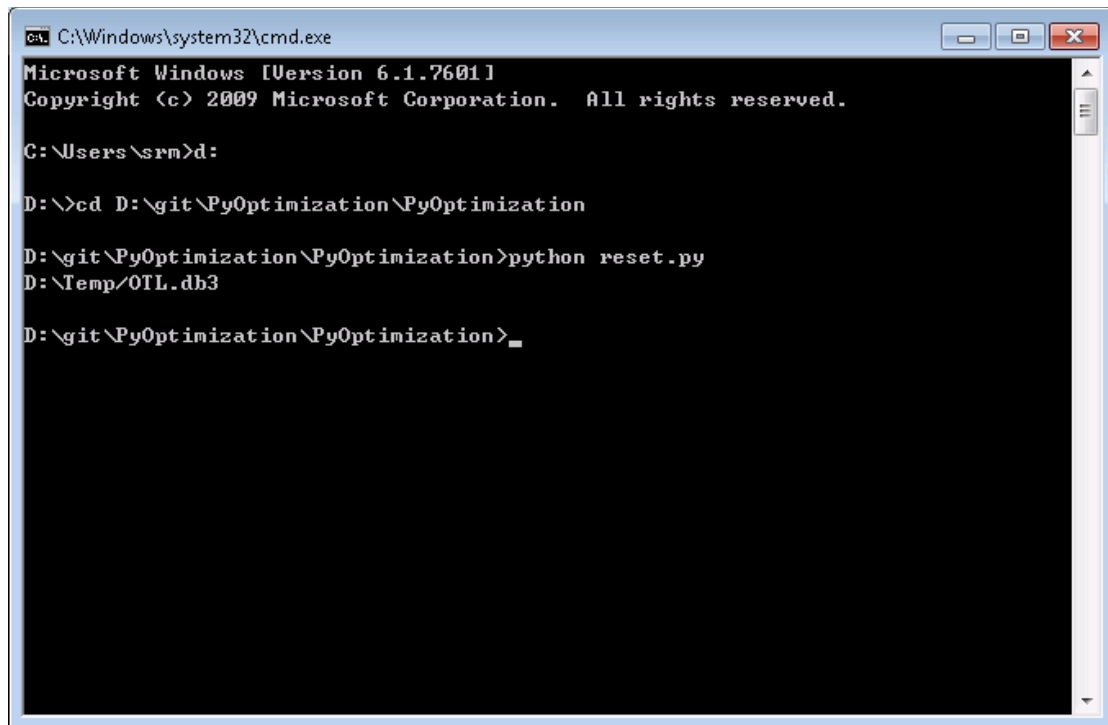
D:\Packages\python-dateutil-2.2>python setup.py bdist_wininst_
```





Using PyOptimization

- Creating an empty database:
d:
cd D:\git\PyOptimization\PyOptimization
python reset.py



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

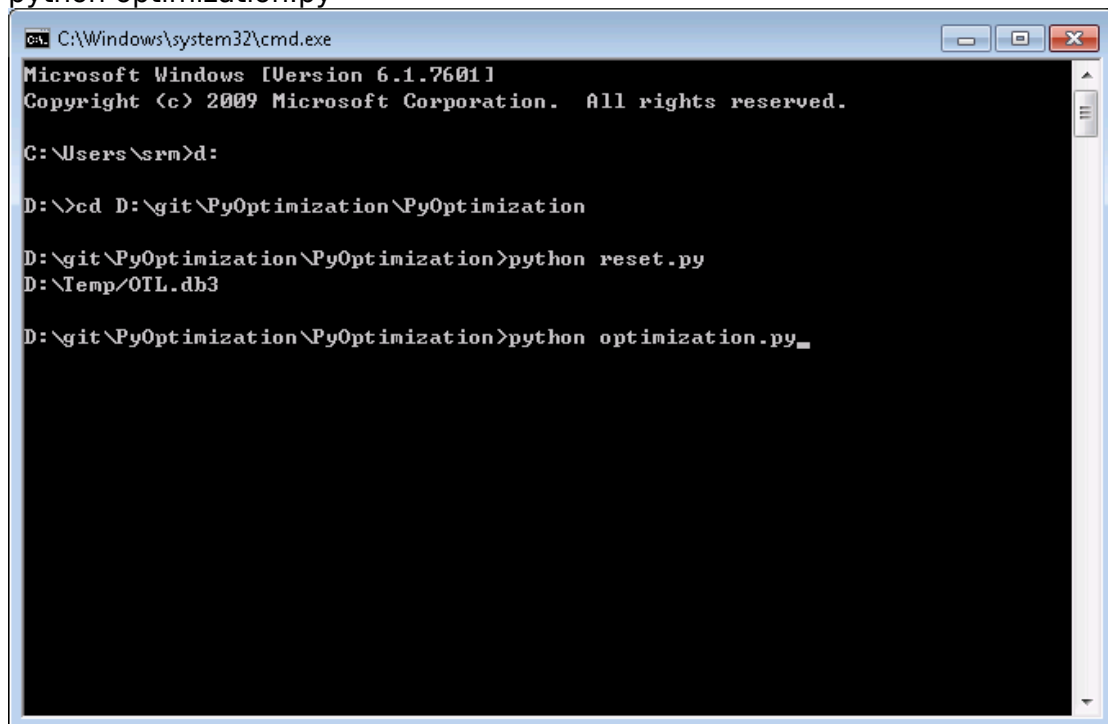
C:\Users\srm>d:

D:\>cd D:\git\PyOptimization\PyOptimization

D:\git\PyOptimization\PyOptimization>python reset.py
D:\Temp\OTL.db3

D:\git\PyOptimization\PyOptimization>_
```

- Running optimization algorithms:
python optimization.py



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

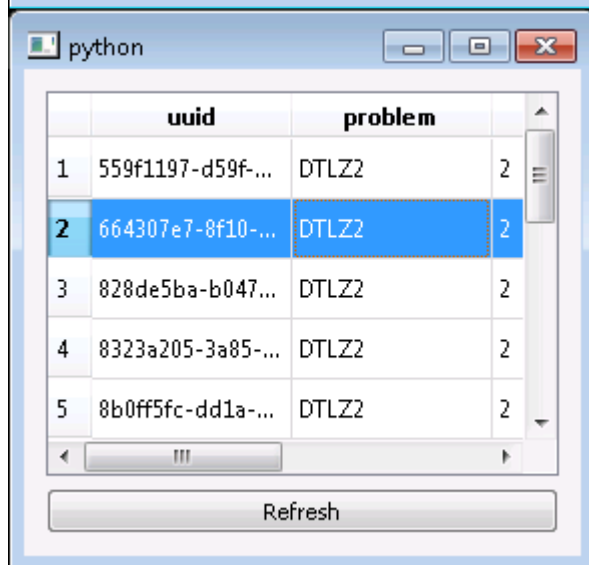
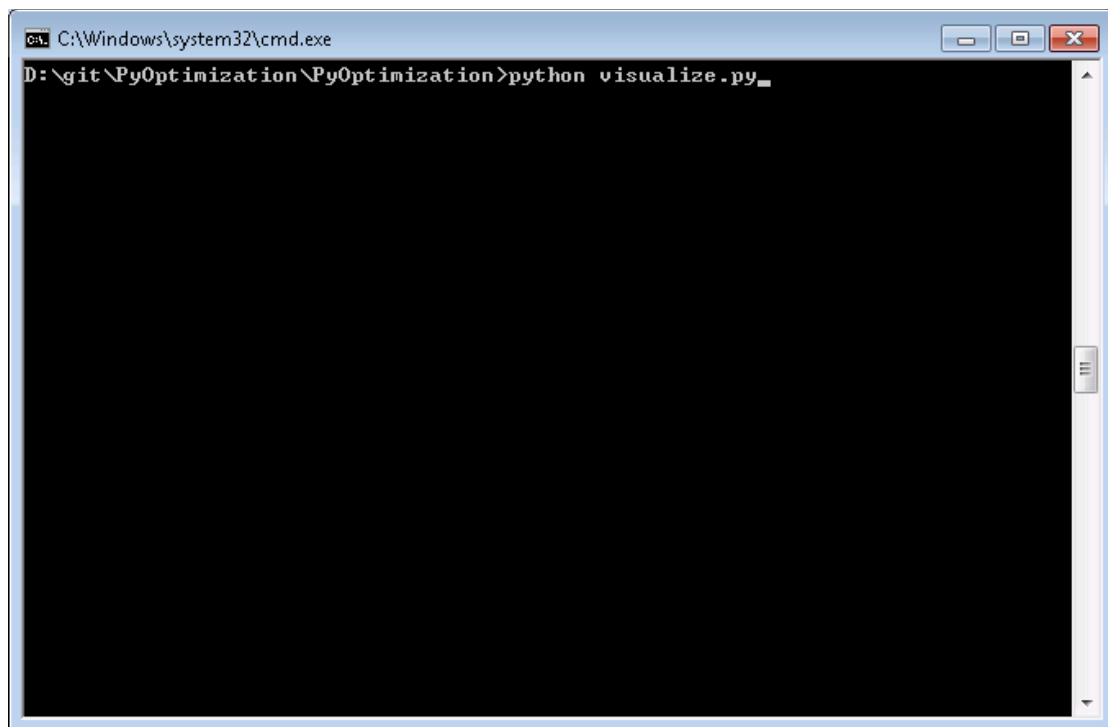
C:\Users\srm>d:

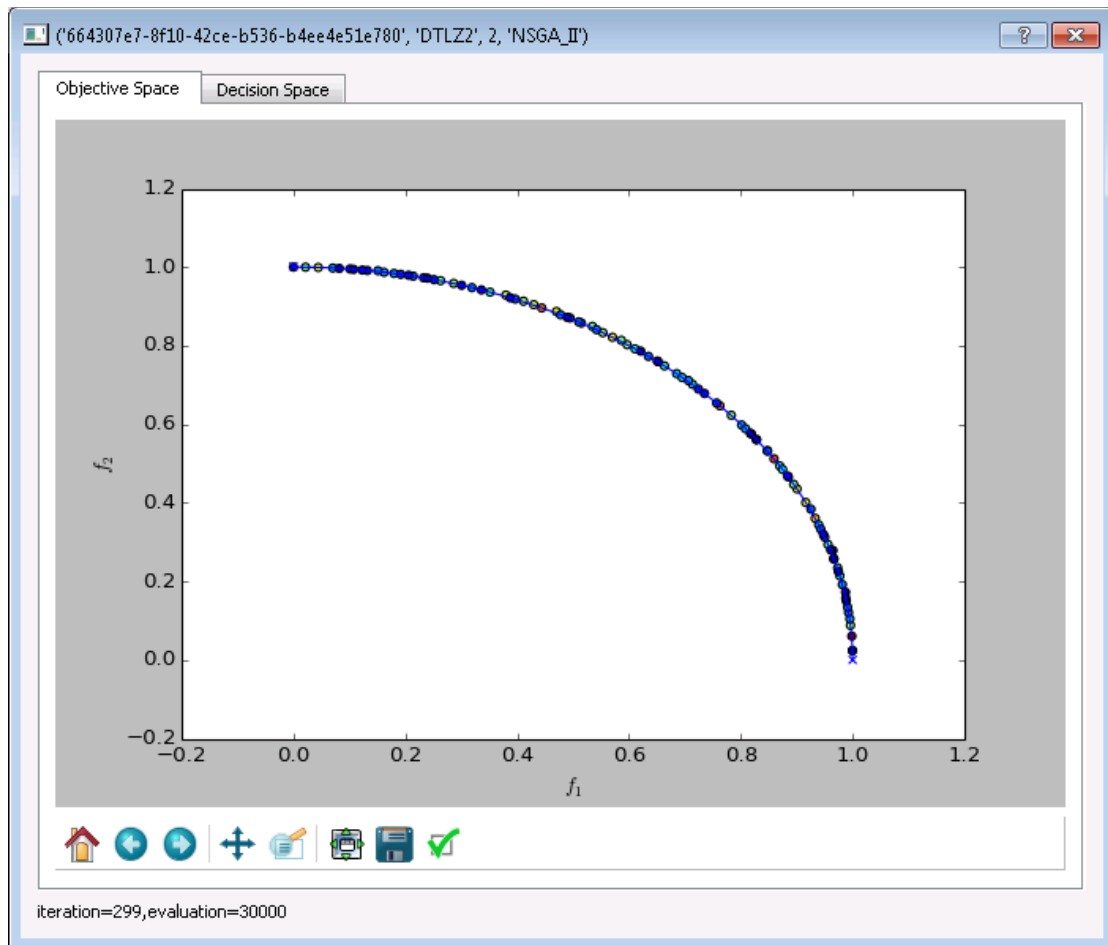
D:\>cd D:\git\PyOptimization\PyOptimization

D:\git\PyOptimization\PyOptimization>python reset.py
D:\Temp\OTL.db3

D:\git\PyOptimization\PyOptimization>python optimization.py_
```

- Visualizing the results:
python visualize.py





- Evaluating the results:
python visualize.py

```
C:\Windows\system32\cmd.exe
D:\git\PyOptimization\PyOptimization>python visualize.py_
```