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# **PyUpdater wxPython Demo Documentation**

*Release 0.0.1*

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**Nov 17, 2017**



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## Demo of a Self-Updating wxPython Application

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### 1.1 Running from Source

The `pyupdater-wx-demo` repository provides a demo of a self-updating wxPython application, using `PyUpdater`, which is built on top of `PyInstaller`.

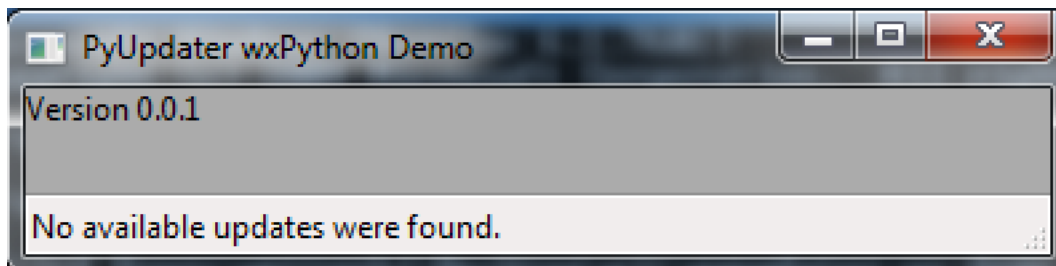
`PyUpdater`'s command line interface is described here: <http://www.pyupdater.org/usage-cli/>

Let's try running `pyupdater-wx-demo`'s `run.py` script:

```
$ python run.py
client_config.py is missing.
You need to run: pyupdater init
See: http://www.pyupdater.org/usage-cli/
```

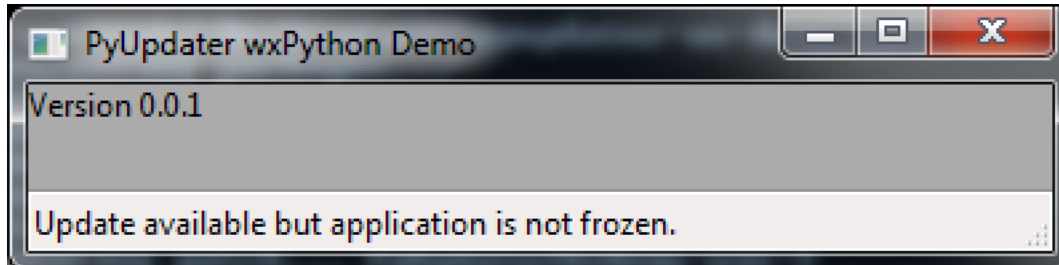
After running `pyupdater init` (described below), we can launch the wxPython demo application:

```
$ python run.py
```



In order to make update(s) available, we need to run `pyupdater build` and `pyupdater pkg` (see <http://www.pyupdater.org/usage-cli/>), after initializing a “keypack” (<http://www.pyupdater.org/commands/#keys>) which is used to sign the updates. Once the update(s) have been made available, we can run the demo again:

```
$ python run.py
```



If we are running `python run.py`, rather than a frozen `run.exe` or `PyUpdaterWxDemo.exe` binary, then PyUpdater cannot restart the application when it finds a newer version available.

## 1.2 Initializing PyUpdater Configuration

To build and sign frozen versions of the demo (`PyUpdaterWxDemo.exe` versions 0.0.1 and 0.0.2), we will use `pyupdater build` and `pyupdater pkg`, but first we need to initialize the PyUpdater configuration for our repository and create a `keypack.pyu` (for signing packages) and import the keypack into our PyUpdater configuration.

We will run `pyupdater init` from within the `pyupdater-wx-demo/` repository folder to initialize the PyUpdater configuration:

```
$ pyupdater init
Please enter app name
[DEFAULT] -> PyUpdater App
Press Enter To Use Default
--> PyUpdaterWxDemo
You entered PyUpdaterWxDemo, is this correct?
[N/y]?y
Please enter your company or name
[DEFAULT] -> PyUpdater App
Press Enter To Use Default
--> Company Name
You entered Company Name, is this correct?
[N/y]?y
Enter a url to ping for updates. - No Default Available
--> http://www.example.com
You entered http://www.example.com, is this correct?
[N/y]?y
Would you like to add another url for backup?
[N/y]?n
Would you like to enable patch updates?
[Y/n]?y
Please enter the path to where pyupdater will write the client\_config.py file. You
→ 'll need to import this file to initialize the update process.
Leave blank to use the current directory
[DEFAULT] -> pyupdater-wx-demo
Press Enter To Use Default
-->
You entered pyupdater-wx-demo, is this correct?
[N/y]?y
```

The `pyupdater init` command creates `client_config.py` and a `.pyupdater/config.pyu` JSON configuration file, and a `pyu-data/` folder, which will be used to store packages of the binary builds. For this demo, the URL of our [Flask](http://www.example.com) file server will vary depending on what port is available, so we just entered a placeholder URL for now (<http://www.example.com>).



If you want to remove the data in `.pyupdater/`, you can run `pyupdater clean`.

To create a keypack `.pyu`:

```
$ pyupdater keys -c
Are you sure you want to continue?
[N/y]?y
Please enter app name - No Default Available
--> PyUpdaterWxDemo
You entered PyUpdaterWxDemo, is this correct?
[N/y]?y
[INFO] Keypack placed in cwd
```

**WARNING:** The keypack contains a private key which should be kept SECRET!

The keypack is saved in JSON format and uses the `.pyu` extension (for PyUpdater).

To import the keypack into your PyUpdater configuration,

```
$ pyupdater keys --import
Are you sure you want to continue?
[N/y]?y
[INFO] Keypack import successfully
[INFO] Saving Config
[INFO] Config saved
[INFO] Wrote client config
```

You should now DELETE the private `keypack.pyu` from your repository directory, after saving it in a safe place.

## 1.3 Building standalone EXEs with PyUpdater

We can now build and sign frozen builds of the demo app.

To build v0.0.1,

```
$ pyupdater build --console --hidden-import=SocketServer --app-version 0.0.1 run.py
...
[INFO] PyUpdaterWxDemo-win-0.0.1.zip has been placed in your new folder
```

The “new” folder is `pyu-data/new/`.

PyUpdater is based on [PyInstaller](#), so most of the `pyupdater` command line tools accept [PyInstaller’s command-line arguments](#). On Windows, we are using `--console` (rather than `--windowed`), so we can access the frozen application’s `STDOUT` / `STDERR` in a Command Prompt window. On Mac OS X, `--windowed` should be used to build an app bundle, to avoid wxPython’s `This program needs access to the screen` error.

in addition to PyUpdater’s command-line arguments. The `SocketServer` module (used by `werkzeug`, which is used by `Flask`) doesn’t seem to get detected automatically by `PyInstaller` (observed on Windows), so we added this as a hidden import when running `pyupdater build`.

To package and sign v0.0.1,

```
$ pyupdater pkg --process --sign
[INFO] Adding package meta-data to version manifest
[INFO] Moving packages to deploy folder
[INFO] Processing packages complete
[INFO] Signing packages...
[INFO] Adding sig to update data
```

```
[INFO] Created gzipped version manifest in deploy dir
[INFO] Created gzipped key file in deploy dir
[INFO] Signing packages complete
```

The signed PyUpdaterWxDemo-win-0.0.1.zip package is now available in your pyu-data/deploy/ folder.

Now let's build v0.0.2, so we can test the ability of the frozen demo app to recognize that an update is available.

First, we need to increment the version in wxupdatedemo/\_\_init\_\_.py from `__version__ = 0.0.1` to `__version__ = 0.0.2`.

Now we can build and sign PyUpdaterWxDemo-win-0.0.2.zip as follows:

```
$ pyupdater build --console --hidden-import=SocketServer --app-version 0.0.2 run.py
...
[INFO] PyUpdaterWxDemo-win-0.0.2.zip has been placed in your new folder

$ pyupdater pkg --process --sign
...
[INFO] Checking if patch creation is possible
[INFO] Found source file to create patch
[INFO] Starting patch creation
[INFO] Creating patch... PyUpdaterWxDemo-win-2
[INFO] Done creating patch... PyUpdaterWxDemo-win-2
...
[INFO] Moving packages to deploy folder
...
[INFO] Signing packages complete
```

The pyu-data/deploy/ folder now contains:

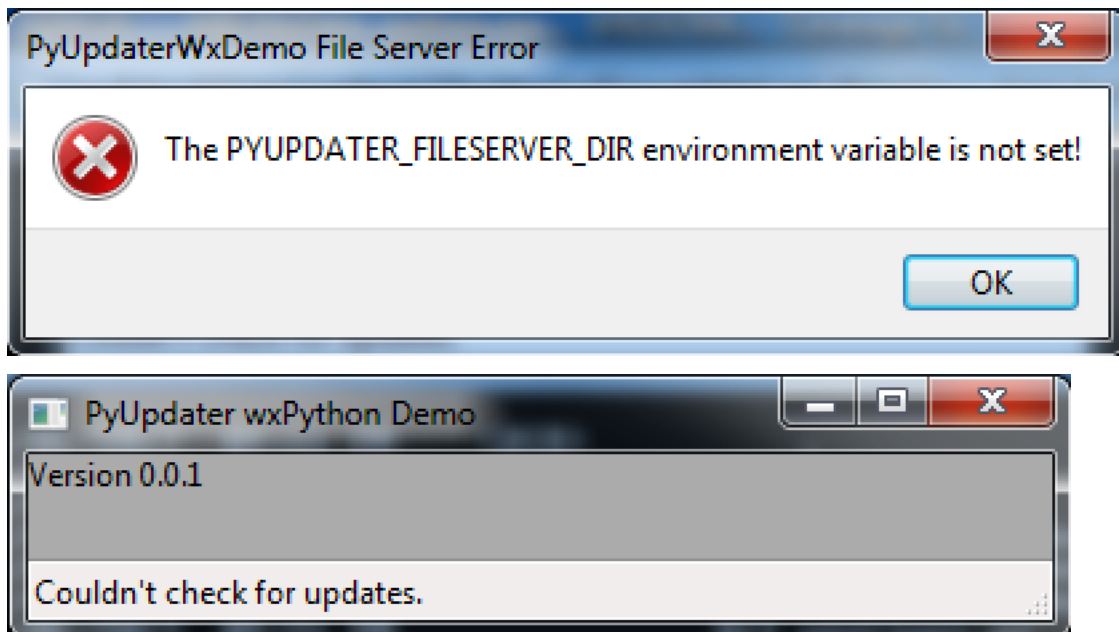
```
14,139,797 PyUpdaterWxDemo-win-0.0.1.zip
14,139,797 PyUpdaterWxDemo-win-0.0.2.zip
  191 PyUpdaterWxDemo-win-2
  180 keys.gz
  410 versions.gz
```

The PyUpdaterWxDemo-win-2 file (only 191 bytes in this case) is a patch file, generated by `pyupdater pkg --process --sign`, using the `bsdiff` Python module.

## 1.4 Running the v0.0.1 EXE with a Full Update Available to Download

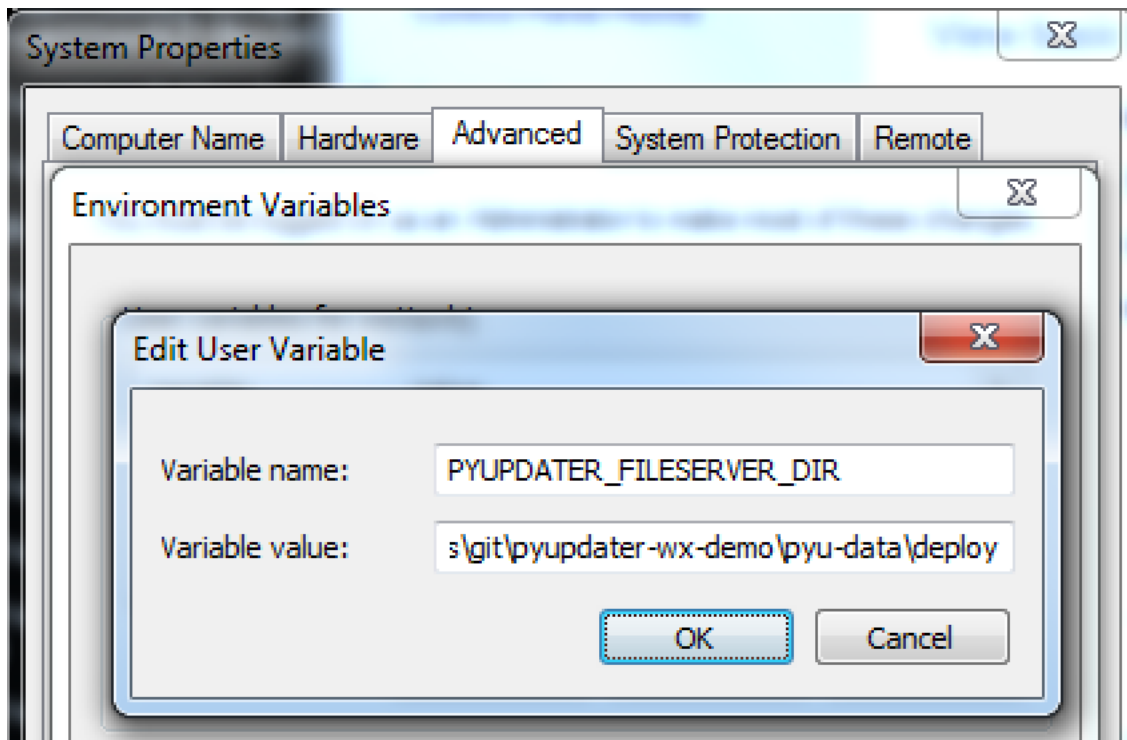
If v0.0.1 of PyUpdaterWxDemo.exe detects that a new version (v0.0.2) is available, it should be able to apply a patch, if it already has a signed binary for v0.0.1 in the application's user data directory for the current user. In my case, the PyUpdaterWxDemo app's user data directory is `C:\Users\wettenhj\AppData\Local\CompanyName\PyUpdaterWxDemo\update`, reflecting the application name and company name I entered when running `pyupdater init`. If a signed binary package is not available for the current version (v0.0.1) in that user data directory, then the full v0.0.2 binary package will be downloaded, as illustrated in this section.

Let's unzip PyUpdaterWxDemo-win-0.0.1.zip and run the resulting PyUpdaterWxDemo.exe:



The error message about the missing fileserver directory environment variable is specific to `pyupdater-wx-demo`. In a real application, you would specify the URL your application will receive updates from while running `pyupdater init` and it would be saved in `client_config.py`. But for this demo, we are running a local Flask file server to provide updates, and it needs to know the location of the updates, which is `pyu-data/deploy/`. An absolute path is required for the `PYUPDATER_FILESERVER_DIR` environment variable. For me it is:

```
C:\Users\wettenhj\git\pyupdater-wx-demo\pyu-data\deploy
```



On Windows, you should launch a new Command Prompt window after saving the environment variable shown above. Now let's make a copy of `pyu-data\deploy\PyUpdaterWxDemo-win-0.0.1.zip`, extract it, and run it:

PyUpdaterWxDemo.exe --debug

Because we built the EXE with PyInstaller's `--console` argument, we should be able to see some STD-OUT/STDERR in a Command Prompt window:

```
* Running on http://127.0.0.1:49451/ (Press CTRL+C to quit)
127.0.0.1 - - [07/Jan/2017 16:40:45] "GET /fileserver-is-ready HTTP/1.1" 200 -
DEBUG:pyupdater.client:Setting up directories...
DEBUG:pyupdater.client:Downloading key file
DEBUG:pyupdater.client.downloader:Url for request: http://127.0.0.1:49451/keys.gz
127.0.0.1 - - [07/Jan/2017 16:40:45] "GET /keys.gz HTTP/1.1" 200 -
DEBUG:pyupdater.client.downloader:Resource URL: http://127.0.0.1:49451/keys.gz
DEBUG:pyupdater.client.downloader:Got content length of: 180
DEBUG:pyupdater.client.downloader:Block size: 358
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 180, u
↪'total': 180, u'percent_complete': u'100.0', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:{u'status': u'finished', u'downloaded': 180, u'total
↪': 180, u'percent_complete': u'100.0', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Download Complete
DEBUG:pyupdater.client.downloader:No hash to verify
DEBUG:pyupdater.client:Key file download successful
DEBUG:pyupdater.client:Writing version file to disk
DEBUG:pyupdater.client:Key file verified
DEBUG:pyupdater.client:Loading version file...
DEBUG:pyupdater.client:Downloading online version file
DEBUG:pyupdater.client.downloader:Url for request: http://127.0.0.1:49451/versions.gz
127.0.0.1 - - [07/Jan/2017 16:40:45] "GET /versions.gz HTTP/1.1" 200 -
DEBUG:pyupdater.client.downloader:Resource URL: http://127.0.0.1:49451/versions.gz
DEBUG:pyupdater.client.downloader:Got content length of: 412
DEBUG:pyupdater.client.downloader:Block size: 822
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 412, u
↪'total': 412, u'percent_complete': u'100.0', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:{u'status': u'finished', u'downloaded': 412, u'total
↪': 412, u'percent_complete': u'100.0', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Download Complete
DEBUG:pyupdater.client.downloader:No hash to verify
DEBUG:pyupdater.client:Version file download successful
DEBUG:pyupdater.client:Writing version file to disk
DEBUG:pyupdater.client:Data type: <type 'str'>
DEBUG:pyupdater.client:Deleting signature from update data
DEBUG:pyupdater.client:Version file verified
DEBUG:pyupdater.client:Version Data: {u'latest': {u'PyUpdaterWxDemo': {u'stable': {u
↪'win': u'0.0.2.2.0'}}}, u'updates': {u'PyUpdaterWxDemo': {u'0.0.2.2.0': {u'win': {u
↪'filename': u'PyUpdaterWxDemo-win-0.0.2.zip', u'file_hash': u
↪'51laf4793cff7eb34bd3cd0f71106c41fe860851fd7857e5 a5f85c391df246b7', u'patch_name':
↪u'PyUpdaterWxDemo-win-2', u'file_size': 141398 75, u'patch_hash': u
↪'0a7987712142aea59962fd6b16ab653860434f69f589cc362934e2dfa2d bec13', u'patch_size':
↪190}}, u'0.0.1.2.0': {u'win': {u'file_hash': u'c0324b8c03
↪15a710a0c1f0519073792bf886d6d67c15a5315e2d79a0fec84649', u'file_size': 14139875, u
↪'filename': u'PyUpdaterWxDemo-win-0.0.1.zip'}}}}}}
DEBUG:pyupdater.client:Checking for PyUpdaterWxDemo updates...
DEBUG:pyupdater.client:updates: Highest version: 0.0.2.2.0
DEBUG:pyupdater.client:Current version: 0.0.1.2.0
DEBUG:pyupdater.client:Latest version: 0.0.2.2.0
DEBUG:pyupdater.client:Update Needed: True
DEBUG:pyupdater.client:updates: Highest version: 0.0.2.2.0
DEBUG:pyupdater.client:updates: Filename for PyUpdaterWxDemo-0.0.1.2.0:
↪PyUpdaterWxDemo-win-0.0.1.zip
DEBUG:pyupdater.client:updates: Filename for PyUpdaterWxDemo-0.0.2.2.0:
↪PyUpdaterWxDemo-win-0.0.2.zip
```

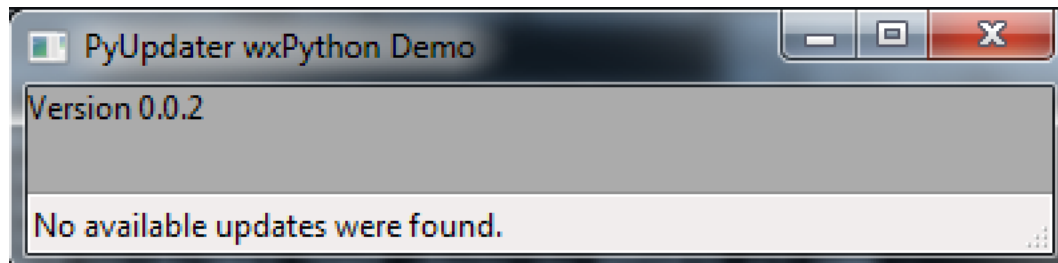
```

DEBUG:pyupdater.client.updates:Beginning removal of old updates
DEBUG:pyupdater.package_handler.package:Filename: PyUpdaterWxDemo-win-0.0.1.zip
DEBUG:pyupdater.package_handler.package:Directory:
↳C:\Users\wettenhj\AppData\Local\Company Name\PyUpdaterWxDemo\update
DEBUG:pyupdater.package_handler.package:C:\Users\wettenhj\AppData\Local\Company
↳Name\PyUpdaterWxDemo\update\PyUpdaterWxDemo-win-0.0.1.zip does not exists
DEBUG:pyupdater.package_handler.package:Not an archive format: None
DEBUG:pyupdater.client.downloader:Hash for binary data:
↳bc729b6585e16531952b8c5ef1353191605c13b7320b38064cea0c9a1bc307e0
DEBUG:pyupdater.client.updates:Starting patch download
DEBUG:pyupdater.client.updates:Starting patch update
DEBUG:pyupdater.client.updates:PyUpdaterWxDemo-win-0.0.1.zip got deleted. No base
↳binary to start patching form
DEBUG:pyupdater.client.updates:Patch update failed
DEBUG:pyupdater.client.updates:Starting full download
DEBUG:pyupdater.client.updates:Starting full update
DEBUG:pyupdater.client.updates:Downloading update...
DEBUG:pyupdater.client.downloader:Url for request: http://127.0.0.1:49451/
↳PyUpdaterWxDemo-win-0.0.2.zip
127.0.0.1 - - [07/Jan/2017 16:40:45] "GET /PyUpdaterWxDemo-win-0.0.2.zip HTTP/1. 1"
↳200 -
DEBUG:pyupdater.client.downloader:Resource URL: http://127.0.0.1:49451/
↳PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.client.downloader:Got content length of: 14139875
DEBUG:pyupdater.client.downloader:Block size: 32768
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 16385, u
↳'total': 14139875, u'percent_complete': u'0.1', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:Block size: 65536
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 49153, u
↳'total': 14139875, u'percent_complete': u'0.3', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:Block size: 131072
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 114689, u
↳'total': 14139875, u'percent_complete': u'0.8', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:Block size: 262144
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 245761, u
↳'total': 14139875, u'percent_complete': u'1.7', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:Block size: 524288
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 507905, u
↳'total': 14139875, u'percent_complete': u'3.6', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Block size: 1048576
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 1032193,
↳u'total': 14139875, u'percent_complete': u'7.3', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Block size: 2097152
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 2080769,
↳u'total': 14139875, u'percent_complete': u'14.7', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Block size: 4194304
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 4177921,
↳u'total': 14139875, u'percent_complete': u'29.5', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Block size: 4194304
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 8372225,
↳u'total': 14139875, u'percent_complete': u'59.2', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Block size: 4194304
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 12566529,
↳u'total': 14139875, u'percent_complete': u'88.9', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Block size: 3146692
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 14139875,
↳u'total': 14139875, u'percent_complete': u'100.0', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:{u'status': u'finished', u'downloaded': 14139875, u
↳'total': 14139875, u'percent_complete': u'100.0', u'time': u'00:00'}

```

```
DEBUG:pyupdater.client.downloader:Download Complete
DEBUG:pyupdater.client.downloader:Checking file hash
DEBUG:pyupdater.client.downloader:Update hash:
↪511af4793cff7eb34bd3cd0f71106c41fe860851fd7857e5a5f85c391df246b7
DEBUG:pyupdater.client.downloader:Hash for binary data:
↪511af4793cff7eb34bd3cd0f71106c41fe860851fd7857e5a5f85c391df246b7
DEBUG:pyupdater.client.downloader:File hash verified
DEBUG:pyupdater.client.updates:Download Complete
DEBUG:pyupdater.client.updates:Full download successful
127.0.0.1 - - [07/Jan/2017 16:40:46] "POST /shutdown HTTP/1.1" 200 -
Exiting with status: Extracting update and restarting.
```

PyUpdaterWxDemo.exe v0.0.1 should automatically exit and launch PyUpdaterWxDemo.exe v0.0.2:



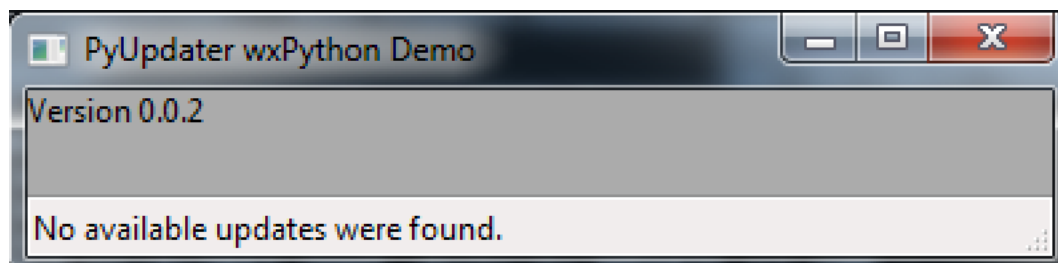
Again, because the EXE was built with `--console`, we should be able to see some STDOUT/STDERR:

```
* Running on http://127.0.0.1:49458/ (Press CTRL+C to quit)
127.0.0.1 - - [07/Jan/2017 16:41:04] "GET /fileserver-is-ready HTTP/1.1" 200 -
127.0.0.1 - - [07/Jan/2017 16:41:04] "GET /keys.gz HTTP/1.1" 200 -
127.0.0.1 - - [07/Jan/2017 16:41:04] "GET /versions.gz HTTP/1.1" 200 -
```

This time the application has retrieved `versions.gz` from the file server and concluded that there are no available updates, i.e. we are already running the latest version.

## 1.5 Running the v0.0.1 EXE with an Already-Downloaded Update Available

Now let's run PyUpdaterWxDemo.exe (extracted from PyUpdaterWxDemo-win-0.0.1.zip) again. This time, it should launch more quickly, i.e. it won't need to redownload the v0.0.2 update - it should already be available in the user data directory - `C:\Users\wettenhj\AppData\Local\Company Name\PyUpdaterWxDemo\update`.



## 1.6 Running the v0.0.1 EXE with an Already-Downloaded Full Update and a Patch Update Available

Now that we have a signed v0.0.2 package in our user data directory - C:\Users\wettenhj\AppData\Local\Company Name\PyUpdaterWxDemo\update, if we create a v0.0.3 package, we should be able to upgrade to that version via a patch, instead of downloading the full package.

First, we need to increment the version in wxupdatedemo/\_\_init\_\_.py from \_\_version\_\_ = 0.0.2 to \_\_version\_\_ = 0.0.3.

Now we can build and sign as before:

```
pyupdater build --console --hidden-import=SocketServer --app-version=0.0.3 run.py
pyupdater pkg --process --sign
```

The pyu-data/deploy/ directory now contains:

```
180 keys.gz
14,139,797 PyUpdaterWxDemo-win-0.0.1.zip
14,139,797 PyUpdaterWxDemo-win-0.0.2.zip
14,139,797 PyUpdaterWxDemo-win-0.0.3.zip
191 PyUpdaterWxDemo-win-2
193 PyUpdaterWxDemo-win-3
191 PyUpdaterWxDemo-win-4
537 versions.gz
```

We can also find information in the .pyupdater/config.pyu JSON file about the latest available updates and patches. Keep in mind that the version numbers in .pyupdater/config.pyu use two extra digits, e.g. 0.0.3.2.0, where the '2' means 'stable' (compared with '1' for 'beta' and '0' for 'alpha'), and the final '0' is the release number.

Now let's run PyUpdaterWxDemo.exe (extracted from PyUpdaterWxDemo-win-0.0.1.zip) again. This time, it should be able to quickly apply the latest patch to upgrade from v0.0.2 to v0.0.3, using the existing signed v0.0.2 package in the user data directory (C:\Users\wettenhj\AppData\Local\Company Name\PyUpdaterWxDemo\update) and the patch file downloaded from the file server:

```
* Running on http://127.0.0.1:49555/ (Press CTRL+C to quit)
127.0.0.1 - - [07/Jan/2017 21:34:05] "GET /fileserver-is-ready HTTP/1.1" 200 -
DEBUG:pyupdater.client:Setting up directories...
DEBUG:pyupdater.client:Downloading key file
DEBUG:pyupdater.client.downloader:Url for request: http://127.0.0.1:49555/keys.gz
127.0.0.1 - - [07/Jan/2017 21:34:05] "GET /keys.gz HTTP/1.1" 200 -
DEBUG:pyupdater.client.downloader:Resource URL: http://127.0.0.1:49555/keys.gz
DEBUG:pyupdater.client.downloader:Got content length of: 180
DEBUG:pyupdater.client.downloader:Block size: 358
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 180, u'
↳ 'total': 180, u'percent_complete': u'100.0', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:{u'status': u'finished', u'downloaded': 180, u'total
↳ ': 180, u'percent_complete': u'100.0', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Download Complete
DEBUG:pyupdater.client.downloader:No hash to verify
DEBUG:pyupdater.client:Key file download successful
DEBUG:pyupdater.client:Writing version file to disk
DEBUG:pyupdater.client:Key file verified
DEBUG:pyupdater.client:Loading version file...
```



```

DEBUG:pyupdater.client:Downloading online version file
DEBUG:pyupdater.client.downloader:Url for request: http://127.0.0.1:49555/versions.gz
127.0.0.1 - - [07/Jan/2017 21:34:05] "GET /versions.gz HTTP/1.1" 200 -
DEBUG:pyupdater.client.downloader:Resource URL: http://127.0.0.1:49555/versions.gz
DEBUG:pyupdater.client.downloader:Got content length of: 537
DEBUG:pyupdater.client.downloader:Block size: 1072
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 537, u
↳ 'total': 537, u'percent_complete': u'100.0', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:{u'status': u'finished', u'downloaded': 537, u'total
↳ ': 537, u'percent_complete': u'100.0', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Download Complete
DEBUG:pyupdater.client.downloader:No hash to verify
DEBUG:pyupdater.client:Version file download successful
DEBUG:pyupdater.client:Writing version file to disk
DEBUG:pyupdater.client:Data type: <type 'str'>
DEBUG:pyupdater.client:Deleting signature from update data
DEBUG:pyupdater.client:Version file verified
DEBUG:pyupdater.client:Version Data: {u'latest': {u'PyUpdaterWxDemo': {u'stable': {u
↳ 'win': u'0.0.3.2.0'}}}, u'updates': {u'PyUpdaterWxDemo': {u'0.0.3.2.0': {u'win': {u
↳ 'filename': u'PyUpdaterWxDemo-win-0.0.3.zip', u'file_hash': u
↳ '3740f42b3b98d3fc22b4f7b504810e81a24388f5319746282ddc37dd01bled2d', u'patch_name': u
↳ 'PyUpdaterWxDemo-win-4', u'file_size': 14139797, u'patch_hash': u
↳ '4d5c3a4d5bbafaead615132ecc3d6001d4cdc8ff09f056e8988fbcfffb95cabab', u'patch_size':
↳ 191}}, u'0.0.2.2.0': {u'win': {u'filename': u'PyUpdaterWxDemo-win-0.0.2.zip', u
↳ 'file_hash': u'0645d90c163ecb6fccff5007324ee7e8cdd01d7a9c25bedef00ec8d36c095839', u
↳ 'patch_name': u'PyUpdaterWxDemo-win-2', u'file_size': 14139797, u'patch_hash': u
↳ 'c471cfc10c73d76ae7cf4d87f94da15c1cc5d1365d66f4db046fe67bc635a13a', u'patch_size':
↳ 191}}, u'0.0.1.2.0': {u'win': {u'filename': u'PyUpdaterWxDemo-win-0.0.1.zip', u
↳ 'file_hash': u'61106956b23f3ce8b7c1b485ed4ae34264c83ac202ac2843334308e56b49d487', u
↳ 'patch_name': u'PyUpdaterWxDemo-win-3', u'file_size': 14139797, u'patch_hash': u
↳ 'f09bef145040c02d7d5b9fe3c020b3d7610285b31bca321e6c4e52d2cdea0ba5', u'patch_size':
↳ 193}}}}}}
DEBUG:pyupdater.client:Checking for PyUpdaterWxDemo updates...
DEBUG:pyupdater.client.updates:Highest version: 0.0.3.2.0
DEBUG:pyupdater.client:Current version: 0.0.2.2.0
DEBUG:pyupdater.client:Latest version: 0.0.3.2.0
DEBUG:pyupdater.client:Update Needed: True
DEBUG:pyupdater.client.updates:Highest version: 0.0.3.2.0
DEBUG:pyupdater.client.updates:Filename for PyUpdaterWxDemo-0.0.2.2.0:
↳ PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.client.updates:Filename for PyUpdaterWxDemo-0.0.3.2.0:
↳ PyUpdaterWxDemo-win-0.0.3.zip
DEBUG:pyupdater.client.updates:Beginning removal of old updates
DEBUG:pyupdater.package_handler.package:Filename: PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.package_handler.package:Directory:
↳ C:\Users\wettenhj\AppData\Local\Company Name\PyUpdaterWxDemo\update
DEBUG:pyupdater.package_handler.package:Extracting update archive info for:
↳ PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.package_handler.package:Got version info
DEBUG:pyupdater.package_handler.package:Parsing "PyUpdaterWxDemo-win-0.0.2.zip" for
↳ platform info
DEBUG:pyupdater.package_handler.package:Platform name is: win
DEBUG:pyupdater.package_handler.package:Got platform info
DEBUG:pyupdater.package_handler.package:Package name: PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.package_handler.package:Regex name: PyUpdaterWxDemo
DEBUG:pyupdater.package_handler.package:Got name of update: PyUpdaterWxDemo
DEBUG:pyupdater.package_handler.package:Info extraction complete
DEBUG:pyupdater.package_handler.package:Current version: 0.0.2.2.0

```

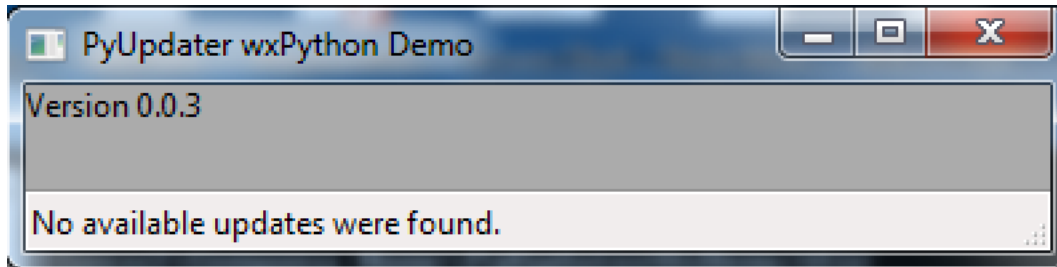


```

DEBUG:pyupdater.package_handler.package:Name to search for: PyUpdaterWxDemo
DEBUG:pyupdater.package_handler.package:Checking: PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.package_handler.package:Found possible match
DEBUG:pyupdater.package_handler.package:Latest name: PyUpdaterWxDemo
DEBUG:pyupdater.package_handler.package:Old name: PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.package_handler.package:Found version: 0.0.2.2.0
DEBUG:pyupdater.package_handler.package:Old version: 0.0.2.2.0
DEBUG:pyupdater.package_handler.package:Current version: 0.0.2.2.0
DEBUG:pyupdater.client.updates:File does not exist
DEBUG:pyupdater.client.updates:Starting patch download
DEBUG:pyupdater.client.updates:Starting patch update
DEBUG:pyupdater.client.patcher:Current Info - Filename: PyUpdaterWxDemo-win-0.0.2.zip
DEBUG:pyupdater.client.patcher:Current Info - File hash: ↪
↪0645d90c163ecb6fccff5007324ee7e8cdd01d7a9c25bedef00ec8d36c095839
DEBUG:pyupdater.client.patcher:Current Info - File size: 14139797
DEBUG:pyupdater.client.patcher:Starting patch updater...
DEBUG:pyupdater.client.patcher:Checking for current installed binary to patch
DEBUG:pyupdater.client.patcher:Binary found and verified
DEBUG:pyupdater.client.patcher:Getting patch meta-data
DEBUG:pyupdater.client.patcher:Getting required patches
DEBUG:pyupdater.client.patcher:Current Info - Filename: PyUpdaterWxDemo-win-0.0.3.zip
DEBUG:pyupdater.client.patcher:Current Info - File hash: ↪
↪3740f42b3b98d3fc22b4f7b504810e81a24388f5319746282ddc37dd01b1ed2d
DEBUG:pyupdater.client.patcher:Current Info - File size: 14139797
DEBUG:pyupdater.client.patcher:Downloading patches
DEBUG:pyupdater.client.downloader:Url for request: http://127.0.0.1:49555/
↪PyUpdaterWxDemo-win-4
127.0.0.1 - - [07/Jan/2017 21:34:05] "GET /PyUpdaterWxDemo-win-4 HTTP/1.1" 200 -

DEBUG:pyupdater.client.downloader:Resource URL: http://127.0.0.1:49555/
↪PyUpdaterWxDemo-win-4
DEBUG:pyupdater.client.downloader:Got content length of: 191
DEBUG:pyupdater.client.downloader:Block size: 380
DEBUG:pyupdater.client.downloader:{u'status': u'downloading', u'downloaded': 191, u
↪'total': 191, u'percent_complete': u'100.0', u'time': u'--:--'}
DEBUG:pyupdater.client.downloader:{u'status': u'finished', u'downloaded': 191, u'total
↪': 191, u'percent_complete': u'100.0', u'time': u'00:00'}
DEBUG:pyupdater.client.downloader:Download Complete
DEBUG:pyupdater.client.downloader:Checking file hash
DEBUG:pyupdater.client.downloader:Update hash: ↪
↪4d5c3a4d5bbafaead615132ecc3d6001d4cdc8ff09f056e8988fbcffb95cabab
DEBUG:pyupdater.client.downloader:Hash for binary data: ↪
↪4d5c3a4d5bbafaead615132ecc3d6001d4cdc8ff09f056e8988fbcffb95cabab
DEBUG:pyupdater.client.downloader:File hash verified
DEBUG:pyupdater.client.patcher:Applying patches
DEBUG:pyupdater.client.patcher:Applied patch successfully
DEBUG:pyupdater.client.patcher:Writing update to disk
DEBUG:pyupdater.client.patcher:Wrote update file
DEBUG:pyupdater.client.patcher:Current Info - Filename: PyUpdaterWxDemo-win-0.0.3.zip
DEBUG:pyupdater.client.patcher:Current Info - File hash: ↪
↪3740f42b3b98d3fc22b4f7b504810e81a24388f5319746282ddc37dd01b1ed2d
DEBUG:pyupdater.client.patcher:Current Info - File size: 14139797
DEBUG:pyupdater.client.patcher:checking file hash match
DEBUG:pyupdater.client.updates:Patch download successful
127.0.0.1 - - [07/Jan/2017 21:34:05] "POST /shutdown HTTP/1.1" 200 -
DEBUG:__main__:Extracting update and restarting...

```



```
* Running on http://127.0.0.1:49486/ (Press CTRL+C to quit)
127.0.0.1 - - [07/Jan/2017 17:36:05] "GET /fileserver-is-ready HTTP/1.1" 200 -
127.0.0.1 - - [07/Jan/2017 17:36:05] "GET /keys.gz HTTP/1.1" 200 -
127.0.0.1 - - [07/Jan/2017 17:36:05] "GET /versions.gz HTTP/1.1" 200 -
```

## 1.7 Version Number Semantics

For a version like 1.3.5, ‘1’ is the major version, ‘3’ is the minor version and ‘5’ is the patch version. When using PyUpdater, you will sometimes see two additional numbers at the end of the version string, e.g. “1.3.5.2.0”. The ‘2’ is used to indicate a stable release (compared with ‘1’ for a beta release and ‘0’ for an alpha release), and the final ‘0’ is the release number.

For updates which only change the patch version (e.g. from 1.3.5 to 1.3.7), an application configured to use the PyUpdater client can automatically download the new binary and restart itself.

## 1.8 Tests

Tests can be run with:

```
python setup.py nosetests
```

## 1.9 Troubleshooting

1. If PyInstaller hangs while performing the operation:

```
Adding redirect Microsoft.VC90.MFC
```

See: <http://stackoverflow.com/questions/40380721/pyinstaller-hangs-adding-redirect-microsoft-vc90-mfc>

This issue has been observed on Windows with PyInstaller 3.2

2. In some versions of PyInstaller, `sys.exit` (used by `run.py`’s `DisplayVersionAndExit`) can generate a misleading ‘Failed to execute script run’ message when running the frozen app. This message can usually be ignored: <https://github.com/pyinstaller/pyinstaller/issues/1869>
3. One of the tests may fail on Windows if running without administrator privileges, because PyInstaller doesn’t seem to embed an appropriate manifest into the EXE to tell the OS that privilege elevation is not required.
4. On Mac OS X, if the GUI resolution looks too low, you may wish to edit the SPEC file used by PyInstaller / PyUpdater, in particular, you may want to add `NSHighResolutionCapable` to the `Info.plist` as described here: <https://pythonhosted.org/PyInstaller/spec-files.html> Using SPEC files with PyUpdater is described here: <http://www.pyupdater.org/usage-cli/#step-6-make-spec>

5. On Mac OS X, if you get wxPython's `This program needs access to the screen` error, you need to run `pyupdater` build with `--windowed` instead of `--console` to create an app bundle. You can still access the application's `STDOUT` / `STDERR` in your Terminal window by running the binary inside the app bundle, i.e. `./PyUpdaterWxDemo.app/Contents/MacOS/PyUpdaterWxDemo --debug`.



## CHAPTER 2

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### Indices and tables

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- `genindex`
- `search`