

---

# PyVirtualDisplay Documentation

*Release 0.2.1*

**ponty**

**Jul 04, 2017**

---

# Contents

---

<b>1</b>	<b>About</b>	<b>1</b>
<b>2</b>	<b>Basic usages</b>	<b>2</b>
<b>3</b>	<b>Installation</b>	<b>3</b>
3.1	General . . . . .	3
3.2	Ubuntu 14.04 . . . . .	3
3.3	Uninstall . . . . .	3
<b>4</b>	<b>Usage</b>	<b>4</b>
4.1	GUI Test . . . . .	4
4.2	Screenshot . . . . .	5
4.3	vncserver . . . . .	5
<b>5</b>	<b>xauth</b>	<b>6</b>
<b>6</b>	<b>Hierarchy</b>	<b>7</b>
<b>7</b>	<b>API</b>	<b>8</b>

pyvirtualdisplay is a python wrapper for [Xvfb](#), [Xephyr](#) and [Xvnc](#)

**Links:**

- home: <https://github.com/ponty/pyvirtualdisplay>
- documentation: <http://pyvirtualdisplay.readthedocs.org>
- PYPI: <https://pypi.python.org/pypi/pyvirtualdisplay>

**Features:**

- python wrapper
- supported python versions: 2.7, 3.3, 3.4, 3.5
- back-ends: [Xvfb](#), [Xephyr](#), [Xvnc](#)

**Warning:** at least one back-end should be installed

**Known problems:**

- only a few back-end options are supported

**Possible applications:**

- GUI testing
- automatic GUI screenshot

## CHAPTER 2

---

### Basic usages

---

Start Xephyr:

```
from pyvirtualdisplay import Display
xephyr=Display(visible=1, size=(320, 240)).start()
```

Create screenshot of xmessage with Xvfb:

```
from easyprocess import EasyProcess
from pyvirtualdisplay.smartdisplay import SmartDisplay
with SmartDisplay(visible=0, bgcolor='black') as disp:
    with EasyProcess('xmessage hello'):
        img = disp.waitgrab()
img.show()
```

### General

- install `Xvfb` or `Xephyr` or `Xvnc`.
- install `pip`
- optional: `pyscreenshot` and `PIL` should be installed for `smartdisplay` submodule
- install the program:

```
# as root
pip install pyvirtualdisplay
```

### Ubuntu 14.04

```
sudo apt-get install python-pip
sudo apt-get install xvfb xserver-xephyr vnc4server
sudo pip install pyvirtualdisplay
# optional
sudo apt-get install python-pil scrot
sudo pip install pyscreenshot
# optional for examples
sudo pip install entrypoint2
```

### Uninstall

```
# as root
pip uninstall pyvirtualdisplay
```

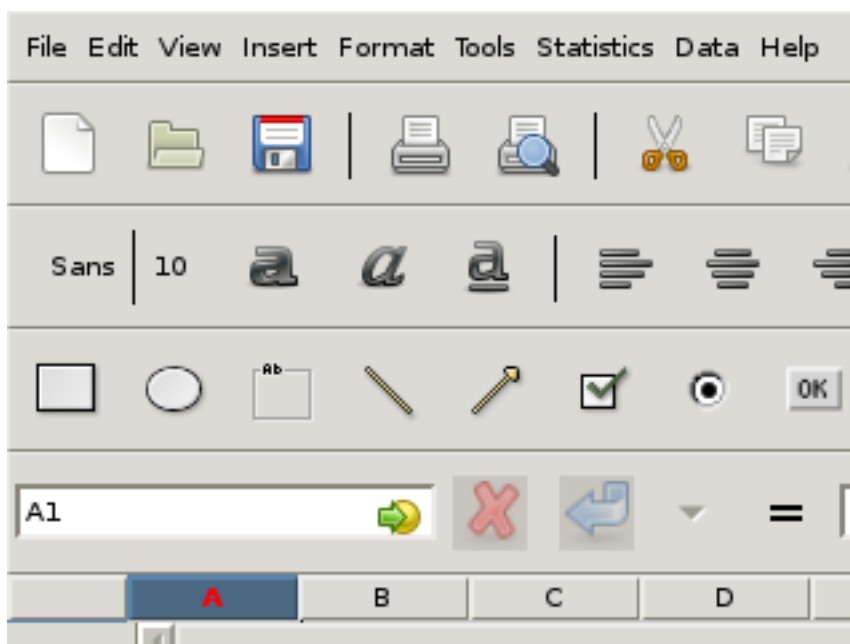
## GUI Test

Testing gnumeric on low resolution:

```
#!/usr/bin/env python
-- include('examples/lowres.py') --#
from easyprocess import EasyProcess
from pyvirtualdisplay import Display

if __name__ == "__main__":
    Display(visible=1, size=(320, 240)).start()
    EasyProcess('gnumeric').start()
##
```

Image:



## Screenshot

Create screenshot of xmessage in background:

```

#-- include('examples/screenshot3.py') --#
'''
using :keyword:`with` statement
'''
from easyprocess import EasyProcess
from pyvirtualdisplay.smartdisplay import SmartDisplay

if __name__ == "__main__":
    with SmartDisplay(visible=0, bgcolor='black') as disp:
        with EasyProcess('xmessage hello'):
            img = disp.waitgrab()

    img.show()
#--#

```

Image:



## vncserver

```

#-- include('examples/vncserver.py') --#
'''
Example for Xvnc backend
'''

from easyprocess import EasyProcess
from pyvirtualdisplay.display import Display

if __name__ == "__main__":
    with Display(backend='xvnc', rfbport=5904) as disp:
        with EasyProcess('xmessage hello') as proc:
            proc.wait()
#--#

```

## CHAPTER 5

---

### xauth

---

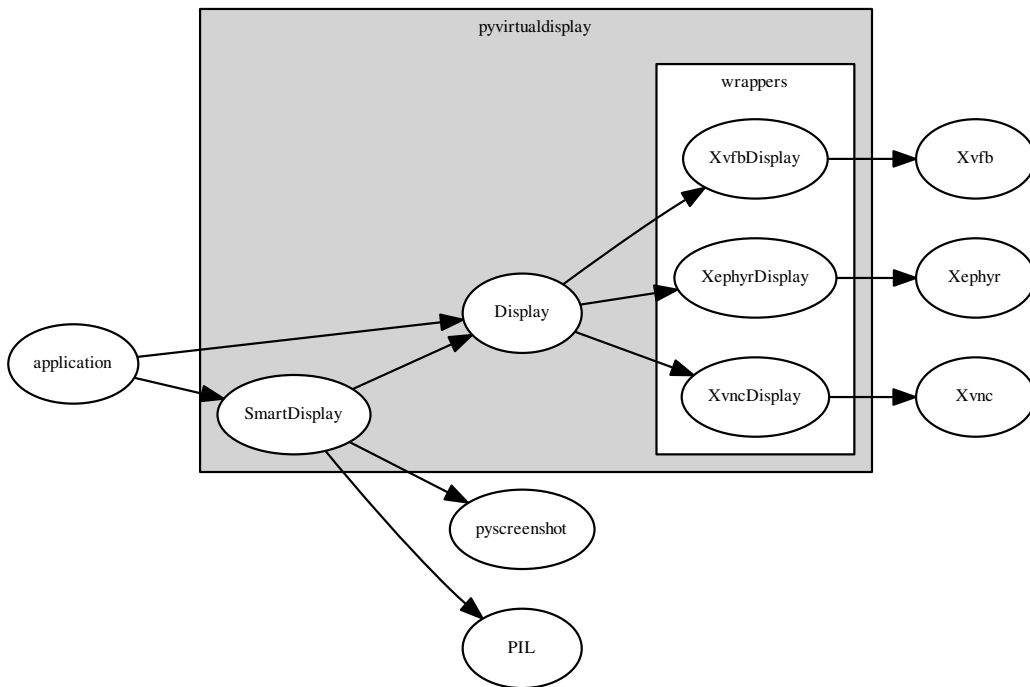
Some programs require a functional Xauthority file. `PyVirtualDisplay` can generate one and set the appropriate environment variables if you pass `use_xauth=True` to the `Display` constructor. Note however that this feature needs `xauth` installed, otherwise a `pyvirtualdisplay.xauth.NotFoundError` is raised.



---

Hierarchy

---



```
class pyvirtualdisplay.Display (backend=None, visible=False, size=(1024, 768),  
                                color_depth=24, bgcolor='black', use_xauth=False,  
                                **kwargs)
```

Common class

### Parameters

- **color\_depth** – [8, 16, 24, 32]
- **size** – screen size (width,height)
- **bgcolor** – background color ['black' or 'white']
- **visible** – True -> Xephyr, False -> Xvfb
- **backend** – 'xvfb', 'xvnc' or 'xephyr', ignores **visible**
- **xauth** – If a Xauthority file should be created.

**start** ()  
start display

**Return type** self

**stop** ()  
stop display

**Return type** self

## D

Display (class in pyvirtualdisplay), 8

## S

start() (pyvirtualdisplay.Display method), 8

stop() (pyvirtualdisplay.Display method), 8