



Frank Anemaet

**Python3**  
**PyQt5**

**Make Apps**  
**for the**  
**Desktop**

# Desktop Apps with Python PyQt5

Frank Anemaet

This book is for sale at <http://leanpub.com/desktopappswithpythonpyqt5>

This version was published on 2020-07-27



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# Introduction

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## Qt and PyQt

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## Python

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# Chapter 1: Install PyQt

## Installation on Mac OS X

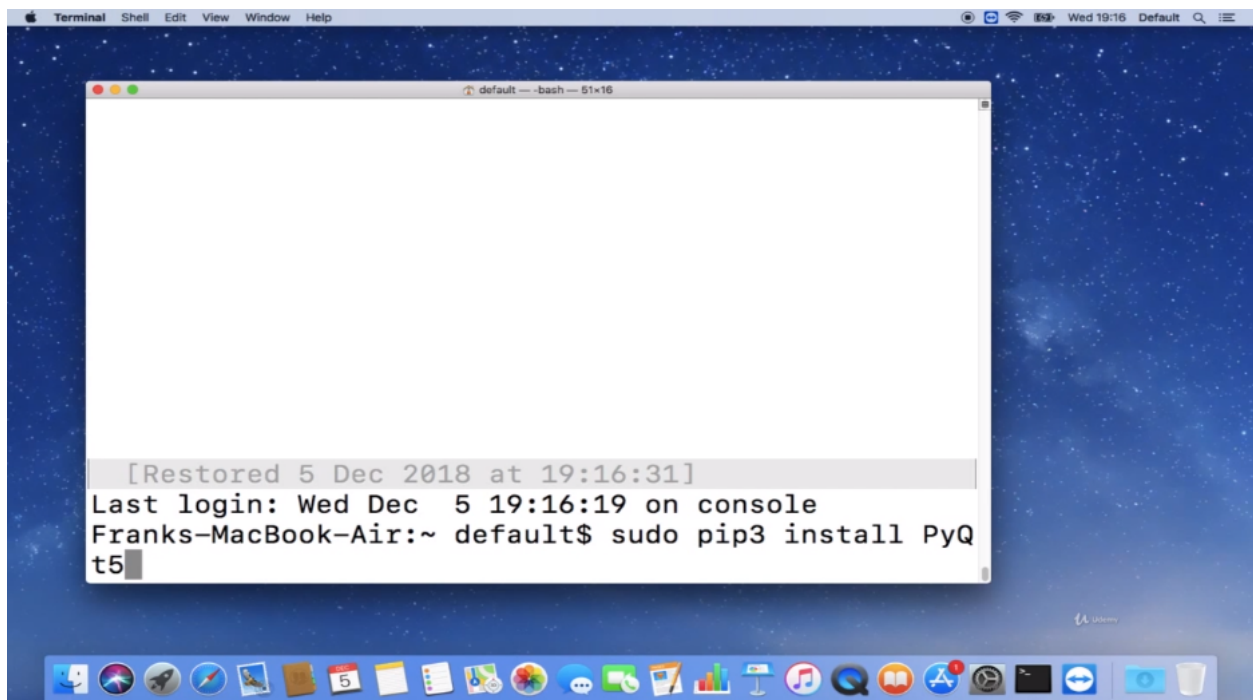
On Mac OS X you first need to install some software. Open a terminal window, because you will need to type a command. Python and pip should already be installed.

Use pip to install PyQt.

If you type this command it will install PyQt.

```
1 sudo pip3 install PyQt5
```

which is the first software package you need to install. So you need to make graphical apps with Python.



Install PyQt5 module

After installation is complete, you also need to install XCode and the Qt framework.

You should have XCode installed, which you can get from the Apple App store.

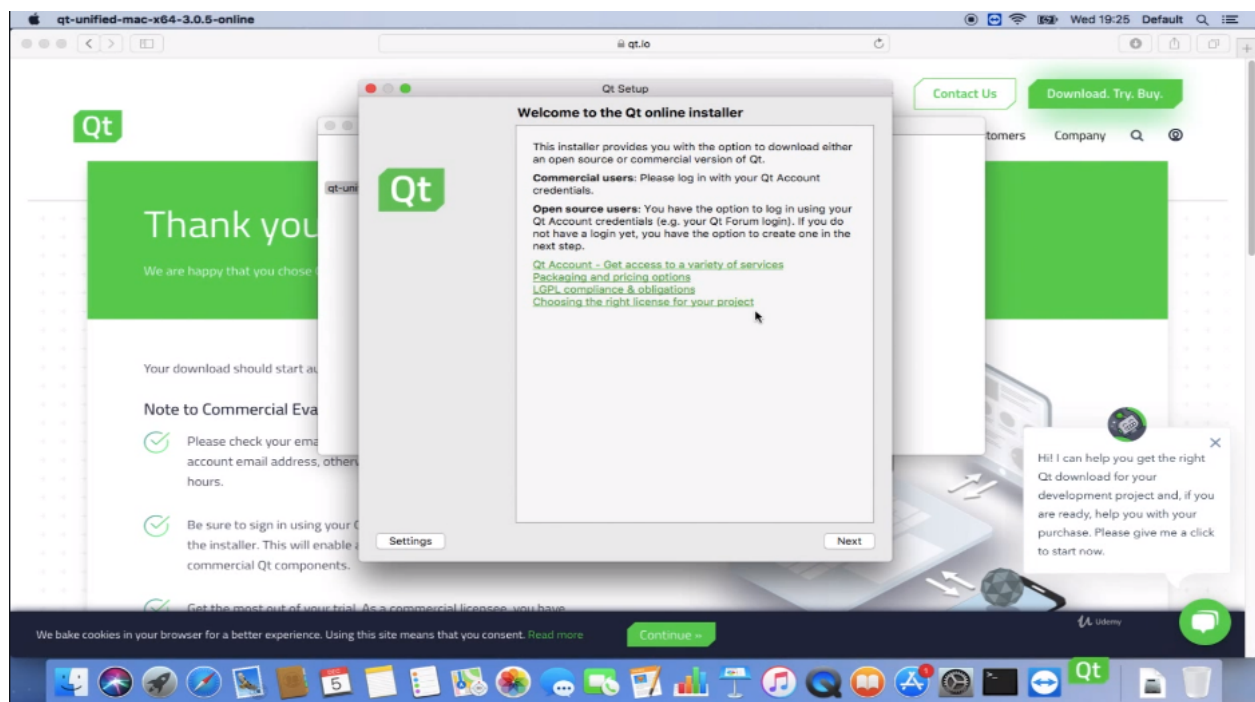
That has a GUI designer called *designer*. Go to the Web site [qt.io](http://qt.io)<sup>1</sup> download the Qt framework and install it. When download has completed, run the wizzard. You can keep pressing next next next finish and it will be installed.

## Mac Install steps (tldr;)

To summarize the steps:

- Open a Mac OS X terminal and type `sudo pip3 install PyQt5`
- Install xcode from the app store
- Install the PyQt framework. Download Qt version (choose the latest version), [Download PyQt framework](#)<sup>2</sup> like `qt-opensource-mac-x64-clang-5.6.3.dmg` and install
- (Optional) to start designer, open a terminal and type

- 1 `cd /Users/default/Qt5.6.3/5.6.3/clang_64/bin`
- 2 `open -a Designer`



Install Qt framework

<sup>1</sup>[qt.io](http://qt.io)

<sup>2</sup>[http://download.qt.io/official\\_releases/qt/5.6/5.6.3/](http://download.qt.io/official_releases/qt/5.6/5.6.3/)

## Installation on Windows

To install the PyQt and Qt framework on Windows, you'll need to do several steps. I've split these steps up into paragraphs to make it easier to follow along.

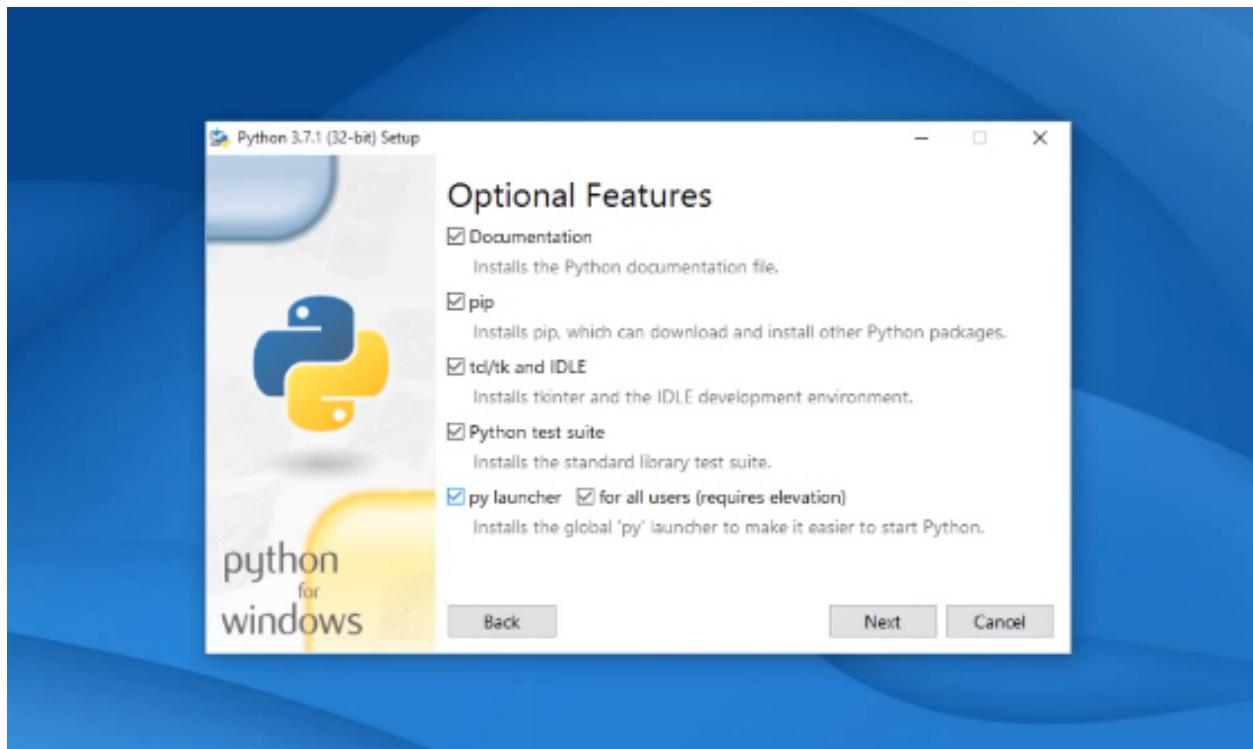
The steps are:

- install Python 3.x
- install PyQt module
- install Qt framework

### Install Python

First thing to do is to head over to [python.org](https://python.org) and download Python 3, the latest version of Python.

Once that's completed you know one to run the installer. Run the installer from your system and install it. The installation popup will show up.



Install Python

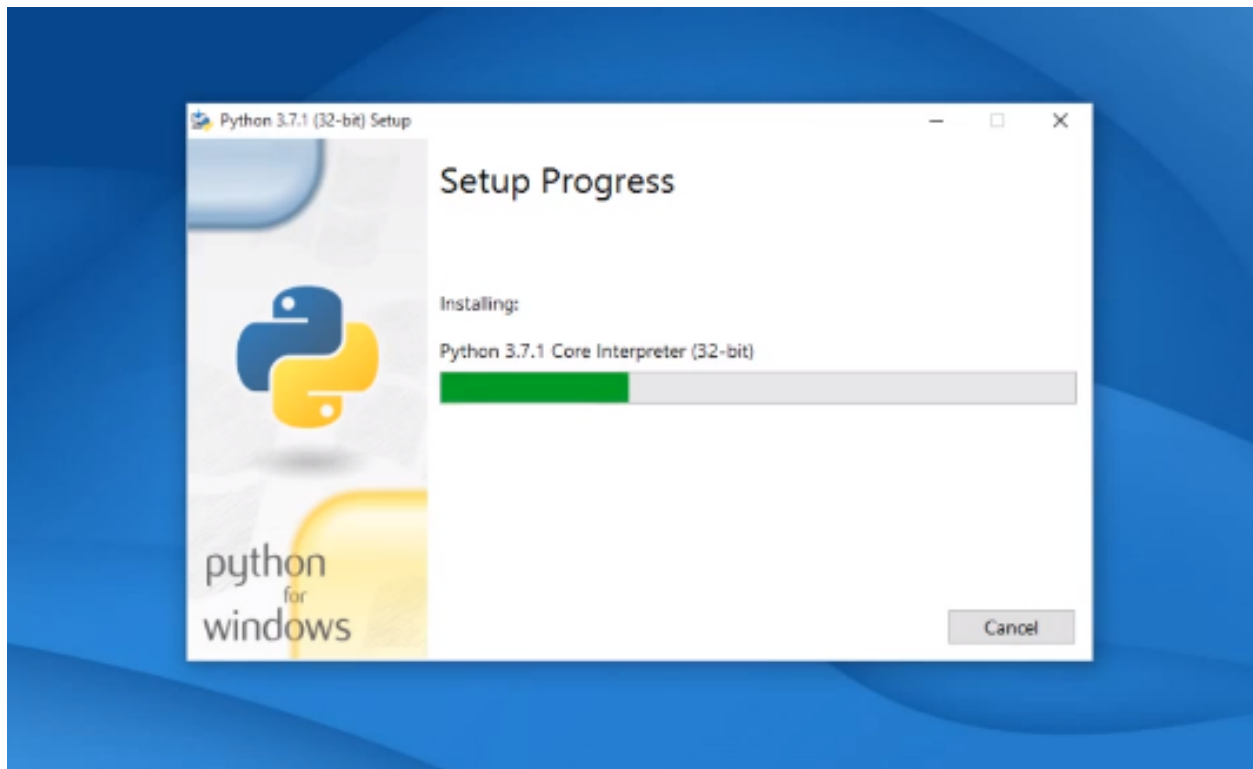
This is a basic wizzard that lets you install Python on a Windows computer. But there are some things to keep in mind.



You can choose to select for all users if you want to. I'd suggest you just use the current user and then click next.

And you'll want to specify and that, **add to the environment variables so that you can simply start Python in the command prompt.**

Once it starts installing you'll see this progressbar:



Installing Python

## Install PyQt

Now once that's completed some will need to install PyQt.

So go to the terminal (Command Prompt). To open a command prompt, press Ctrl+R and type `cmd.exe`.

Then you can use **pip**, the python package manager, to install the PyQt module.

```
1 pip install pyqt5
```

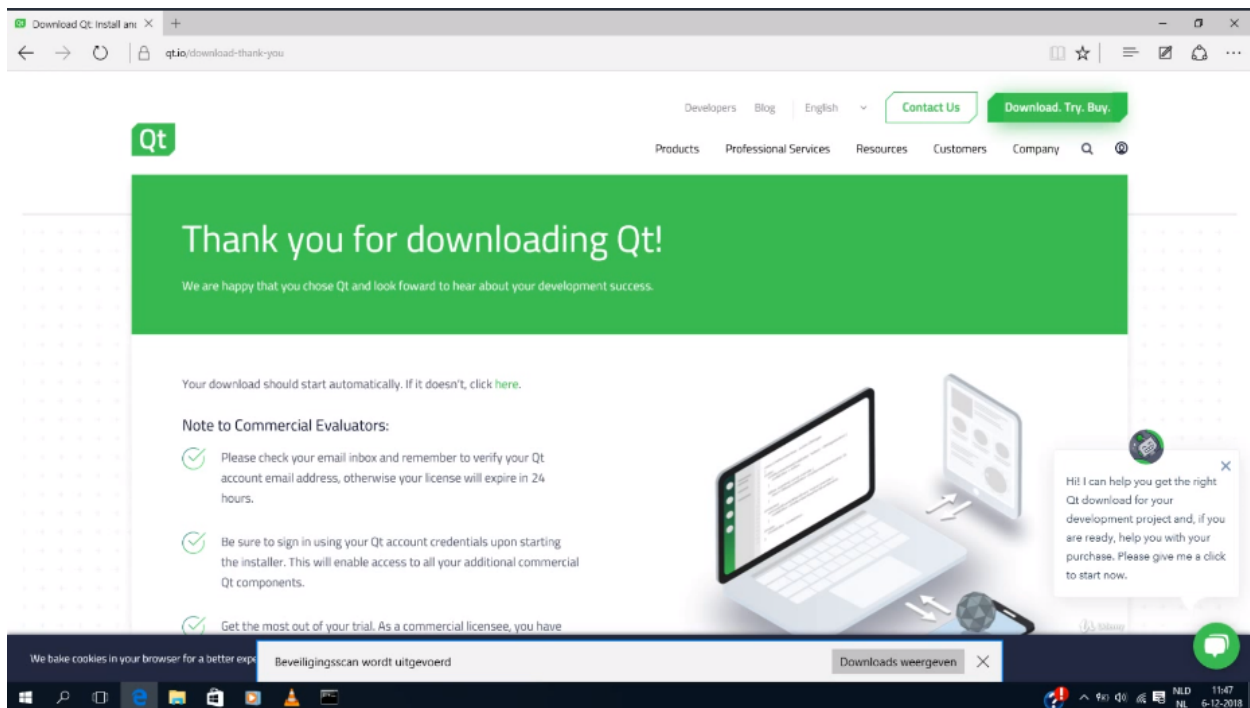
So this will run the installation for PyQt5.

## Install Qt Framework

And once that's completed with installing, there's another thing we need to do and that's to install the Qt framework.

So head over to [qt.io](http://qt.io), scroll down to downloads. If you scroll down you'll see there's a choice between commercial and open source.

So click on open source and on that site click download. Then all you have to do is run the installer and complete it.



Install Qt framework

## Windows install steps (tldr;)

To install PyQt on Windows:

- Install python 3 from [python.org](http://python.org)  
*Check the environment variables during setup*
- Then open a command prompt (cmd) and type

```
1 pip install PyQt5
```

- Then download the qt framework from [qt.io](http://qt.io)

## Linux Install (Ubuntu)

### Python

Python is already installed by default on Ubuntu Linux. You can verify this by opening a terminal (Ctrl+Alt+T) and type the command

```
1 python3
```

This should open the Python interactive shell. You can exit with Ctrl+Z.

If it's not installed type the commands

```
1 sudo apt-get install -y python3
2 sudo apt-get install -y python3-pip
3 sudo apt-get install build-essential libssl-dev libffi-dev python-dev
```

### PyQt module

On Ubuntu Linux the first thing you want to do is to install the Qt framework and you can do it with these commands.

```
1 sudo apt-get install python3-pyqt5
```

You type this command and press enter.  
It will install the Qt module for you.

So in short,

To install PyQt on Ubuntu

- Open a terminal
- Type `sudo apt-get install python3-pyqt5`

# Chapter 2: First Programs

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## Window

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## Hello World (Label)

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# Chapter 3: Basic PyQt5 features

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## Buttons

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## Signals and slots

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## Widgets

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## Layouts

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## Default layout

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## Horizontal Layout

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## Vertical Layout

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## Grid layout

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## Styles

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## MessageBox

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## QMessageBox

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## Default dialogs

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## Dialogs

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## Input dialog

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## File dialog

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## Custom Dialogs

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## Text Input

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## Events

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## Mouse events

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# Chapter 4: Menu

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## File Menu

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## Toolbar

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# Chapter 6: Designer tool

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## Designer

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## How it works

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# Chapter 7: BMI calculator project

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## Create an BMI calculator app with Designer

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## Design the app

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## Load the UI file

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## Link Python to UI

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# Chapter 8: Web Browser Project

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## Design the app

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## Load the UI file

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## Connect Python to UI

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# Chapter 9: Text Editor Project

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## Create a Text Editor with Designer

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## Load the UI file

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## Link Python to UI

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## Open file dialog

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## Save file dialog

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