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# **Qtile Documentation**

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**Aldo Cortesi**

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## 1.1 Installing Qtile

### 1.1.1 Distro Guides

Below are the preferred installation methods for specific distros. If you are running something else, please see *[Installing From Source](#)*.

#### Installing on Arch Linux

Stable versions of Qtile are currently packaged for Arch Linux. To install this package, run:

```
pacman -S qtile
```

Please see the ArchWiki for more information on [Qtile](#).

#### Installing on Fedora

Stable versions of Qtile are currently packaged for current versions of Fedora. To install this package, run:

```
dnf -y install qtile
```

#### Installing on Funtoo

Latest versions of Qtile are available on Funtoo with Python 2.7, 3.4, and 3.5 implementations. To install it, run:

```
emerge -av x11-wm/qtile
```

You can also install the development version from GitHub:

```
echo "x11-wm/qtile-9999 **" >> /etc/portage/package.accept_keywords
emerge -av qtile
```

### Customize

You can customize your installation with the following useflags:

- dbus
- widget-khal-calendar
- widget-imap
- widget-keyboardkbdd
- widget-launchbar
- widget-mpd
- widget-mpris
- widget-wlan

The dbus useflag is enabled by default. Disable it only if you know what it is and know you don't use/need it.

All widget-\* useflags are disabled by default because these widgets require additional dependencies while not everyone will use them. Enable only widgets you need to avoid extra dependencies thanks to these useflags.

Visit [Funtoo Qtile documentation](#) for more details on Qtile installation on Funtoo.

### Installing on Debian or Ubuntu

On recent Ubuntu (17.04 or greater) and Debian unstable versions, there are Qtile packages available via:

```
sudo apt-get install qtile
```

On older versions of Ubuntu (15.10 to 16.10) and Debian 9, the dependencies are available via:

```
sudo apt-get install python3-xcffib python3-cairocffi
```

### Installing on Slackware

Qtile is available on the [SlackBuilds.org](#) as:

Package Name	Description
qtile	stable branch (release)

### Using slpkg (third party package manager)

The easy way to install Qtile is with [slpkg](#). For example:

```
slpkg -s sbo qtile
```

## Manual installation

Download dependencies first and install them. The order in which you need to install is:

- pycparser
- cffi
- futures
- python-xcffib
- trollius
- cairocffi
- qtile

Please see the HOWTO for more information on [SlackBuild Usage HOWTO](#).

## Installing on FreeBSD

Qtile is available via [FreeBSD Ports](#). It can be installed with

```
pkg install qtile
```

### 1.1.2 Installing From Source

First, you need to install all of Qtile's dependencies (although some are optional/not needed depending on your Python version, as noted below).

Note that Python 3 versions 3.5 and newer are currently supported and tested, including corresponding PyPy3 versions.

#### xcffib

Qtile uses [xcffib](#) as an XCB binding, which has its own instructions for building from source. However, if you'd like to skip building it, you can install its dependencies, you will need `libxcb` and `libffi` with the associated headers (`libxcb-render0-dev` and `libffi-dev` on Ubuntu), and install it via PyPI:

```
pip install xcffib
```

#### cairocffi

Qtile uses [cairocffi](#) with XCB support via `xcffib`. You'll need `libcairo2`, the underlying library used by the binding. You should **be sure before you install `cairocffi` that `xcffib` has been installed**, otherwise the needed `cairo-xcb` bindings will not be built. Once you've got the dependencies installed, you can use the latest version on PyPI:

```
pip install --no-cache-dir cairocffi
```

#### pangocairo

You'll also need `libpangocairo`, which on Ubuntu can be installed via `sudo apt-get install libpangocairo-1.0-0`. Qtile uses this to provide text rendering (and binds directly to it via `cffi` with a small in-tree binding).

## dbus/gobject

Until someone comes along and writes an asyncio-based dbus library, qtile will depend on `python-dbus` to interact with dbus. This means that if you want to use things like notification daemon or mpris widgets, you'll need to install `python-gobject` and `python-dbus`. Qtile will run fine without these, although it will emit a warning that some things won't work.

## Qtile

With the dependencies in place, you can now install qtile:

```
git clone git://github.com/qtile/qtile.git
cd qtile
pip install .
```

Stable versions of Qtile can be installed from PyPI:

```
pip install qtile
```

As long as the necessary libraries are in place, this can be done at any point, however, it is recommended that you first install `xcffib` to ensure the `cairo-xcb` bindings are built (see above).

The above steps are sufficient to run Qtile directly, but there are some extra works if you want to run it within a `virtualenv`. Here are the steps on a Fedora system for user `foo`, it should work on other Linux systems too.

1. Clone the repo as `~/local/qtile/`.

```
mkdir -p ~/local/
cd ~/local/
git clone git://github.com/qtile/qtile.git
```

2. Create a `virtualenv` `~/local/qtile/venv/`, and install the dependencies there (see above).
3. Create a glue shell to take advantage of the `virtualenv`.

```
cat > /home/foo/local/qtile/qtile-venv-entry <<EOF
#!/bin/bash

source ~/local/qtile/venv/bin/activate
python ~/local/qtile/bin/qtile $*
EOF
```

4. Create an `xsession` file. Note that it can only be used to log in as user `foo` due to file system permission restriction.

```
cat > /usr/share/xsessions/qtile-venv.desktop <<EOF
[Desktop Entry]
Name=Qtile (venv)
Comment=Qtile Session Within Venv
Exec=/home/foo/local/qtile/qtile-venv-entry
Type=Application
Keywords=wm;tiling
EOF
```

5. Log out or reboot your system, then select “Qtile(venv)” as your window manager by clicking the gear icon () when logging in again.



## 1.2 Configuration

Qtile is configured in Python. A script (`~/.config/qtile/config.py` by default) is evaluated, and a small set of configuration variables are pulled from its global namespace.

### 1.2.1 Configuration lookup order

Qtile looks in the following places for a configuration file, in order:

- The location specified by the `-c` argument.
- `$XDG_CONFIG_HOME/qtile/config.py`, if it is set
- `~/.config/qtile/config.py`
- It reads the module `libqtile.resources.default_config`, included by default with every Qtile installation.

Qtile will try to create the configuration file as a copy of the default config, if it doesn't exist yet.

### 1.2.2 Default Configuration

The [default configuration](#) is invoked when qtile cannot find a configuration file. In addition, if qtile is restarted via `qshell`, qtile will load the default configuration if the config file it finds has some kind of error in it. The documentation below describes the configuration lookup process, as well as what the key bindings are in the default config.

The default config is not intended to be suitable for all users; it's mostly just there so qtile does `/something/` when fired up, and so that it doesn't crash and cause you to lose all your work if you reload a bad config.

### Key Bindings

The mod key for the default config is `mod4`, which is typically bound to the “Super” keys, which are things like the windows key and the mac command key. The basic operation is:

- `mod + k` or `mod + j`: switch windows on the current stack
- `mod + <space>`: put focus on the other pane of the stack (when in stack layout)
- `mod + <tab>`: switch layouts
- `mod + w`: close window
- `mod + <ctrl> + r`: restart qtile with new config
- `mod + <group name>`: switch to that group
- `mod + <shift> + <group name>`: send a window to that group
- `mod + <enter>`: start xterm
- `mod + r`: start a little prompt in the bar so users can run arbitrary commands

The default config defines one screen and 8 groups, one for each letter in `asdfuiop`. It has a basic bottom bar that includes a group box, the current window name, a little text reminder that you're using the default config, a system tray, and a clock.

The default configuration has several more advanced key combinations, but the above should be enough for basic usage of qtile.

## Mouse Bindings

By default, holding your `mod` key and clicking (and holding) a window will allow you to drag it around as a floating window.

### 1.2.3 Configuration variables

A Qtile configuration consists of a file with a bunch of variables in it, which qtile imports and then runs as a python file to derive its final configuration. The documentation below describes the most common configuration variables; more advanced configuration can be found in the [qtile-examples](#) repository, which includes a number of real-world configurations that demonstrate how you can tune Qtile to your liking. (Feel free to issue a pull request to add your own configuration to the mix!)

## Lazy objects

The `lazy.lazy` object is a special helper object to specify a command for later execution. This object acts like the root of the object graph, which means that we can specify a key binding command with the same syntax used to call the command through a script or through *qshell*.

## Example

```
from libqtile.config import Key
from libqtile.command import lazy

keys = [
    Key(
        ["mod1"], "k",
        lazy.layout.down()
    ),
    Key(
        ["mod1"], "j",
        lazy.layout.up()
    )
]
```

## Lazy functions

This is overview of the commonly used functions for the key bindings. These functions can be called from commands on the *Qtile* object or on another object in the command tree.

Some examples are given below.

## General functions

function	description
<code>lazy.spawn("application")</code>	Run the application
<code>lazy.spawncmd()</code>	Open command prompt on the bar. See prompt widget.
<code>lazy.restart()</code>	Restart Qtile and reload its config. It won't close your windows
<code>lazy.shutdown()</code>	Close the whole Qtile

## Group functions

function	description
<code>lazy.next_layout()</code>	Use next layout on the actual group
<code>lazy.prev_layout()</code>	Use previous layout on the actual group
<code>lazy.screen.next_group()</code>	Move to the group on the right
<code>lazy.screen.prev_group()</code>	Move to the group on the left
<code>lazy.screen.toggle_group()</code>	Move to the last visited group
<code>lazy.group["group_name"].toscreen()</code>	Move to the group called <code>group_name</code>
<code>lazy.layout.increase_ratio()</code>	Increase the space for master window at the expense of slave windows
<code>lazy.layout.decrease_ratio()</code>	Decrease the space for master window in the advantage of slave windows

## Window functions

function	description
<code>lazy.window.kill()</code>	Close the focused window
<code>lazy.layout.next()</code>	Switch window focus to other pane(s) of stack
<code>lazy.window.togroup("group_name")</code>	Move focused window to the group called <code>group_name</code>
<code>lazy.window.toggle_floating()</code>	Put the focused window to/from floating mode
<code>lazy.window.toggle_fullscreen()</code>	Put the focused window to/from fullscreen mode

## ScratchPad DropDown functions

function	description
<code>lazy. group["group_name"]. dropdown_toggle("name")</code>	Toggles the visibility of the specified DropDown window. On first use, the configured process is spawned.

## Groups

A group is a container for a bunch of windows, analogous to workspaces in other window managers. Each client window managed by the window manager belongs to exactly one group. The `groups` config file variable should be initialized to a list of `DGroup` objects.

`DGroup` objects provide several options for group configuration. Groups can be configured to show and hide themselves when they're not empty, spawn applications for them when they start, automatically acquire certain groups, and various other options.

## Example

```
from libqtile.config import Group, Match
groups = [
    Group("a"),
    Group("b"),
    Group("c", matches=[Match(wm_class=["Firefox"])]),
]

# allow mod3+1 through mod3+0 to bind to groups; if you bind your groups
# by hand in your config, you don't need to do this.
from libqtile.dgroups import simple_key_binder
dgroups_key_binder = simple_key_binder("mod3")
```

## Reference

### Group

**class** `libqtile.config.Group` (*name*, *matches=None*, *exclusive=False*, *spawn=None*, *layout=None*, *layouts=None*, *persist=True*, *init=True*, *layout\_opts=None*, *screen\_affinity=None*, *position=9223372036854775807*, *label=None*)

Represents a “dynamic” group

These groups can spawn apps, only allow certain Matched windows to be on them, hide when they're not in use, etc. Groups are identified by their name.

#### Parameters

**name** [string] the name of this group

**matches** [default None] list of `Match` objects whose windows will be assigned to this group

**exclusive** [boolean] when other apps are started in this group, should we allow them here or not?

**spawn** [string or list of strings] this will be `exec()` d when the group is created, you can pass either a program name or a list of programs to `exec()`

**layout** [string] the name of default layout for this group (e.g. 'max' or 'stack'). This is the name specified for a particular layout in `config.py` or if not defined it defaults in general the class name in all lower case.

**layouts** [list] the group layouts list overriding global layouts. Use this to define a separate list of layouts for this particular group.

**persist** [boolean] should this group stay alive with no member windows?

**init** [boolean] is this group alive when qtile starts?

**position** [int] group position

**label** [string] the display name of the group. Use this to define a display name other than name of the group. If set to None, the display name is set to the name.

```
libqtile.dgroups.simple_key_binder(mod, keynames=None)
```

Bind keys to mod+group position or to the keys specified as second argument

## Group Matching

### Match

```
class libqtile.config.Match(title=None, wm_class=None, role=None, wm_type=None,
                             wm_instance_class=None, net_wm_pid=None)
```

Match for dynamic groups

It can match by title, class or role.

`Match` supports both regular expression objects (i.e. the result of `re.compile()`) or strings (match as a “include” match). If a window matches any of the things in any of the lists, it is considered a match.

#### Parameters

**title:** things to match against the title (WM\_NAME)

**wm\_class:** things to match against the second string in WM\_CLASS atom

**role:** things to match against the WM\_ROLE atom

**wm\_type:** things to match against the WM\_TYPE atom

**wm\_instance\_class:** things to match against the first string in WM\_CLASS atom

**net\_wm\_pid:** things to match against the \_NET\_WM\_PID atom (only int allowed in this rule)

### Rule

```
class libqtile.config.Rule(match, group=None, float=False, intrusive=False,
                           break_on_match=True)
```

How to act on a Match

A Rule contains a Match object, and a specification about what to do when that object is matched.

#### Parameters

**match :** Match object associated with this Rule

**float :** auto float this window?

**intrusive** : override the group's exclusive setting?

**break\_on\_match** : Should we stop applying rules if this rule is matched?

## ScratchPad and DropDown

*ScratchPad* is a special - by default invisible - group which acts as a container for *DropDown* configurations. A *DropDown* can be configured to spawn a defined process and bind that process' window to it. The associated window can then be shown and hidden by the lazy command `dropdown_toggle()` (see *Lazy objects*) from the *ScratchPad* group. Thus - for example - your favorite terminal emulator turns into a quake-like terminal by the control of qtile.

If the *DropDown* window turns visible it is placed as a floating window on top of the current group. If the *DropDown* is hidden, it is simply switched back to the *ScratchPad* group.

## Example

```
from libqtile.config import Group, ScratchPad, DropDown, Key
from libqtile.command import lazy
groups = [
    ScratchPad("scratchpad", [
        # define a drop down terminal.
        # it is placed in the upper third of screen by default.
        DropDown("term", "urxvt", opacity=0.8),

        # define another terminal exclusively for qshell at different position
        DropDown("qshell", "urxvt -hold -e qshell",
            x=0.05, y=0.4, width=0.9, height=0.6, opacity=0.9,
            on_focus_lost_hide=True) ]),
    Group("a"),
]

keys = [
    # toggle visibility of above defined DropDown named "term"
    Key([], 'F11', lazy.group['scratchpad'].dropdown_toggle('term')),
    Key([], 'F12', lazy.group['scratchpad'].dropdown_toggle('qshell')),
]
```

There is only one *DropDown* visible in current group at a time. If a further *DropDown* is set visible the currently shown *DropDown* turns invisible immediately.

Note that if the window is set to not floating, it is detached from *DropDown* and *ScratchPad*, and a new process is spawned next time the *DropDown* is set visible.

## Reference

### ScratchPad

**class** libqtile.config.**ScratchPad**(name, dropdowns=None, position=9223372036854775807, label="")

Represents a “ScratchPad” group

*ScratchPad* adds a (by default) invisible group to qtile. That group is used as a place for currently not visible windows spawned by a *DropDown* configuration.

#### Parameters

**name** [string] the name of this group

**dropdowns** [default None] list of DropDown objects

**position** [int] group position

**label** [string] The display name of the ScratchPad group. Defaults to the empty string such that the group is hidden in GroupList widget.

## DropDown

**class** `libqtile.config.DropDown(name, cmd, **config)`

Configure a specified command and its associated window for the ScratchPad. That window can be shown and hidden using a configurable keystroke or any other scripted trigger.

key	default	description
height	0.35	‘Height of window as fraction of current screen.’
on_focus_lost_hide	True	‘Shall the window be hidden if focus is lost? If so, the Drop-Down is hidden if window focus or the group is changed.’
opacity	0.9	‘Opacity of window as fraction. Zero is opaque.’
warp_pointer	True	‘Shall pointer warp to center of window on activation? This has only effect if any of the on_focus_lost_xxx configurations is True’
width	0.8	‘Width of window as fraction of current screen width’
x	0.1	‘X position of window as fraction of current screen width. 0 is the left most position.’
y	0.0	‘Y position of window as fraction of current screen height. 0 is the top most position. To show the window at bottom, you have to configure a value < 1 and an appropriate height.’

## Keys

The `keys` variable defines Qtile’s key bindings. Individual key bindings are defined with `libqtile.config.Key` as demonstrated in the following example. Note that you may specify more than one callback functions.

```
from libqtile.config import Key

keys = [
    # Pressing "Meta + Shift + a".
    Key(["mod4", "shift", "a", callback, ...),

    # Pressing "Control + p".
    Key(["control", "p", callback, ...),

    # Pressing "Meta + Tab".
    Key(["mod4", "mod1", "Tab", callback, ...),
]
```

The above may also be written more concisely with the help of the `libqtile.config.EzKey` helper class. The following example is functionally equivalent to the above:

```
from libqtile.config import EzKey as Key

keys = [
```

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```
Key("M-S-a", callback, ...),
Key("C-p",    callback, ...),
Key("M-A-<Tab>", callback, ...),
]
```

The `EzKey` modifier keys (i.e. MASC) can be overwritten through the `EzKey.modifier_keys` dictionary. The defaults are:

```
modifier_keys = {
    'M': 'mod4',
    'A': 'mod1',
    'S': 'shift',
    'C': 'control',
}
```

## Modifiers

On most systems `mod1` is the Alt key - you can see which modifiers, which are enclosed in a list, map to which keys on your system by running the `xmodmap` command. This example binds `Alt-k` to the “down” command on the current layout. This command is standard on all the included layouts, and switches to the next window (where “next” is defined differently in different layouts). The matching “up” command switches to the previous window.

Modifiers include: “shift”, “lock”, “control”, “mod1”, “mod2”, “mod3”, “mod4”, and “mod5”. They can be used in combination by appending more than one modifier to the list:

```
Key(
    ["mod1", "control"], "k",
    lazy.layout.shuffle_down()
)
```

## Special keys

These are most commonly used special keys. For complete list please see [the code](#). You can create bindings on them just like for the regular keys. For example `Key(["mod1"], "F4", lazy.window.kill())`.

Return
BackSpace
Tab
space
Home, End
Left, Up, Right, Down
F1, F2, F3, ...
XF86AudioRaiseVolume
XF86AudioLowerVolume
XF86AudioMute
XF86AudioNext
XF86AudioPrev
XF86MonBrightnessUp
XF86MonBrightnessDown



## Reference

### Key

**class** libqtile.config.**Key** (*modifiers, key, \*commands, \*\*kwargs*)

Defines a keybinding.

#### Parameters

**modifiers:** A list of modifier specifications. Modifier specifications are one of: “shift”, “lock”, “control”, “mod1”, “mod2”, “mod3”, “mod4”, “mod5”.

**key:** A key specification, e.g. “a”, “Tab”, “Return”, “space”.

**commands:** A list of lazy command objects generated with the lazy.lazy helper. If multiple Call objects are specified, they are run in sequence.

**kwargs:** A dictionary containing “desc”, allowing a description to be added

### EzConfig

**class** libqtile.config.**EzConfig**

Helper class for defining key and button bindings in an emacs-like format. Inspired by Xmonad’s XMonad.Util.EZConfig.

### Layouts

A layout is an algorithm for laying out windows in a group on your screen. Since Qtile is a tiling window manager, this usually means that we try to use space as efficiently as possible, and give the user ample commands that can be bound to keys to interact with layouts.

The `layouts` variable defines the list of layouts you will use with Qtile. The first layout in the list is the default. If you define more than one layout, you will probably also want to define key bindings to let you switch to the next and previous layouts.

See *Built-in Layouts* for a listing of available layouts.

### Example

```
from libqtile import layout
layouts = [
    layout.Max(),
    layout.Stack(stacks=2)
]
```

### Mouse

The `mouse` config file variable defines a set of global mouse actions, and is a list of *Click* and *Drag* objects, which define what to do when a window is clicked or dragged.

## Example

```
from libqtile.config import Click, Drag
mouse = [
    Drag([mod], "Button1", lazy.window.set_position_floating(),
        start=lazy.window.get_position()),
    Drag([mod], "Button3", lazy.window.set_size_floating(),
        start=lazy.window.get_size()),
    Click([mod], "Button2", lazy.window.bring_to_front())
]
```

The above example can also be written more concisely with the help of the `EzClick` and `EzDrag` helpers:

```
from libqtile.config import EzClick as Click, EzDrag as Drag
mouse = [
    Drag("M-1", lazy.window.set_position_floating(),
        start=lazy.window.get_position()),
    Drag("M-3", lazy.window.set_size_floating(),
        start=lazy.window.get_size()),
    Click("M-2", lazy.window.bring_to_front())
]
```

## Reference

### Click

**class** libqtile.config.**Click** (*modifiers, button, \*commands, \*\*kwargs*)

Defines binding of a mouse click

It focuses clicked window by default. If you want to prevent it, pass *focus=None* as an argument

### Drag

**class** libqtile.config.**Drag** (*\*args, start=False, \*\*kwargs*)

Defines binding of a mouse to some dragging action

On each motion event command is executed with two extra parameters added x and y offset from previous move

It focuses clicked window by default. If you want to prevent it pass, *focus=None* as an argument

## Screens

The `screens` configuration variable is where the physical screens, their associated bars, and the widgets contained within the bars are defined.

See [Built-in Widgets](#) for a listing of available widgets.

## Example

Tying together screens, bars and widgets, we get something like this:

```

from libqtile.config import Screen
from libqtile import bar, widget

screens = [
    Screen(
        bottom=bar.Bar([
            widget.GroupBox(),
            widget.WindowName()
        ], 30),
    ),
    Screen(
        bottom=bar.Bar([
            widget.GroupBox(),
            widget.WindowName()
        ], 30),
    )
]

```

Bars support both solid background colors and gradients by supplying a list of colors that make up a linear gradient. For example, `bar.Bar(..., background="#000000")` will give you a black back ground (the default), while `bar.Bar(..., background=["#000000", "#FFFFFF"])` will give you a background that fades from black to white.

## Fake Screens

instead of using the variable `screens` the variable `fake_screens` can be used to set split a physical monitor into multiple screens. They can be used like this:

```

from libqtile.config import Screen
from libqtile import bar, widget

# screens look like this
#      600      300
# |-----|-----|
# |           480|   |580
# |  A         |  B  |
# |-----|---|   |
# |           400|---|
# |  C         |   |400
# |-----|  D    |
#      500    |-----|
#              400
#
# Notice there is a hole in the middle
# also D goes down below the others

fake_screens = [
    Screen(
        bottom=bar.Bar(
            [
                widget.Prompt(),
                widget.Sep(),
                widget.WindowName(),
                widget.Sep(),
                widget.Systray(),
                widget.Sep(),
            ]

```

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```
        widget.Clock(format='%H:%M:%S %d.%m.%Y')
    ],
    24,
    background="#555555"
),
x=0,
y=0,
width=600,
height=480
),
Screen(
    top=bar.Bar(
        [
            widget.GroupBox(),
            widget.WindowName(),
            widget.Clock()
        ],
        30,
    ),
    x=600,
    y=0,
    width=300,
    height=580
),
Screen(
    top=bar.Bar(
        [
            widget.GroupBox(),
            widget.WindowName(),
            widget.Clock()
        ],
        30,
    ),
    x=0,
    y=480,
    width=500,
    height=400
),
Screen(
    top=bar.Bar(
        [
            widget.GroupBox(),
            widget.WindowName(),
            widget.Clock()
        ],
        30,
    ),
    x=500,
    y=580,
    width=400,
    height=400
),
]
```

## Third-party bars

There might be some reasons to use third-party bars. For instance you can come from another window manager and you have already configured dzen2, xmobar, or something else. They definitely can be used with Qtile too. In fact, any additional configurations aren't needed. Just run the bar and qtile will adapt.

## Reference

### Screen

```
class libqtile.config.Screen(top=None, bottom=None, left=None, right=None, wall-  
                             paper=None, wallpaper_mode=None, x=None, y=None,  
                             width=None, height=None)
```

A physical screen, and its associated paraphernalia.

Define a screen with a given set of Bars of a specific geometry. Note that `bar.Bar` objects can only be placed at the top or the bottom of the screen (`bar.Gap` objects can be placed anywhere). Also, `x`, `y`, `width`, and `height` aren't specified usually unless you are using 'fake screens'.

The `wallpaper` parameter, if given, should be a path to an image file. How this image is painted to the screen is specified by the `wallpaper_mode` parameter. By default, the image will be placed at the screens origin and retain its own dimensions. If the mode is 'fill', the image will be centred on the screen and resized to fill it. If the mode is 'stretch', the image is stretched to fit all of it into the screen.

#### Parameters

**top:** Gap/Bar object, or None.

**bottom:** Gap/Bar object, or None.

**left:** Gap/Bar object, or None.

**right:** Gap/Bar object, or None.

**wallpaper:** Dict, or None.

**x** [int or None]

**y** [int or None]

**width** [int or None]

**height** [int or None]

### Bar

```
class libqtile.bar.Bar(widgets, size, **config)
```

A bar, which can contain widgets

#### Parameters

**widgets :** A list of widget objects.

**size :** The "thickness" of the bar, i.e. the height of a horizontal bar, or the width of a vertical bar.

key	default	description
background	'#000000'	'Background colour.'
margin	0	'Space around bar as int or list of ints [N E S W].'
opacity	1	'Bar window opacity.'

## Gap

**class** `libqtile.bar.Gap` (*size*)

A gap placed along one of the edges of the screen

If a gap has been defined, Qtile will avoid covering it with windows. The most probable reason for configuring a gap is to make space for a third-party bar or other static window.

### Parameters

**size** : The “thickness” of the gap, i.e. the height of a horizontal gap, or the width of a vertical gap.

## Hooks

Qtile provides a mechanism for subscribing to certain events in `libqtile.hook`. To subscribe to a hook in your configuration, simply decorate a function with the hook you wish to subscribe to.

See *Built-in Hooks* for a listing of available hooks.

## Examples

### Automatic floating dialogs

Let’s say we wanted to automatically float all dialog windows (this code is not actually necessary; Qtile floats all dialogs by default). We would subscribe to the `client_new` hook to tell us when a new window has opened and, if the type is “dialog”, as can set the window to float. In our configuration file it would look something like this:

```
from libqtile import hook

@hook.subscribe.client_new
def floating_dialogs(window):
    dialog = window.window.get_wm_type() == 'dialog'
    transient = window.window.get_wm_transient_for()
    if dialog or transient:
        window.floating = True
```

A list of available hooks can be found in the *Built-in Hooks* reference.

## Autostart

If you want to run commands or spawn some applications when Qtile starts, you’ll want to look at the `startup` and `startup_once` hooks. `startup` is emitted every time Qtile starts (including restarts), whereas `startup_once` is only emitted on the very first startup.

Let’s create a file `~/.config/qtile/autostart.sh` that will set our desktop wallpaper and start a few programs when Qtile first runs.

```
#!/bin/sh
feh --bg-scale ~/images/wallpaper.jpg &
pidgin &
dropbox start &
```

We can then subscribe to `startup_once` to run this script:

```
import os
import subprocess

@hook.subscribe.startup_once
def autostart():
    home = os.path.expanduser('~/.config/qtile/autostart.sh')
    subprocess.call([home])
```

In addition to the above variables, there are several other boolean configuration variables that control specific aspects of Qtile's behavior:

variable	default	description
auto_fullscreen	True	If a window requests to be fullscreen, it is automatically fullscreened. Set this to false if you only want windows to be fullscreen if you ask them to be.
bring_front_on_click	False	When clicked, should the window be brought to the front or not. (This sets the X Stack Mode to Above.)
cursor_warp	False	If true, the cursor follows the focus as directed by the keyboard, warping to the center of the focused window.
dgroups_key_binder	None	A function which generates group binding hotkeys. It takes a single argument, the DGroups object, and can use that to set up dynamic key bindings. A sample implementation is available in <code>libqtile/dgroups.py</code> called <code>simple_key_binder()</code> , which will bind groups to mod+shift+0-10 by default.
dgroups_app_rules		A list of Rule objects which can send windows to various groups based on matching criteria.
extension_defaults	defaults as widget.get_defaults	Default settings for extensions.
floating_layout	layout.Floating	The default floating layout to use. This allows you to set custom floating rules among other things if you wish. See the configuration file for the default <code>float_rules</code> .
focus_on_window_activation	smart	Behavior of the <code>_NET_ACTIVATE_WINDOW</code> message sent by applications <ul style="list-style-type: none"> <li>urgent: urgent flag is set for the window</li> <li>focus: automatically focus the window</li> <li>smart: automatically focus if the window is in the current group</li> </ul>
follow_mouse_focus	True	Controls whether or not focus follows the mouse around as it moves across windows in a layout.
main	None	This is a function which takes one argument, the qtile object, and is run after the qtile object has been initialized. This allows people to monkey patch in any code they want to before qtile actually starts. Note that we only consider the config objects and hooks to be public APIs, and reserve the right to refactor the internals at any time. Use at your own risk!
widget_defaults	dict(font='sans', font_size=12, padding=3)	Default settings for bar widgets.
wmname	"LG3D"	Gasp! We're lying here. In fact, nobody really uses or cares about this string besides java UI toolkits; you can see several discussions on the mailing lists, GitHub issues, and other WM documentation that suggest setting this string if your java app doesn't work correctly. We may as well just lie and say that we're a working one by default. We choose LG3D to maximize irony: it is a 3D non-reparenting WM written in java that happens to be on java's whitelist.

## 1.2.4 Testing your configuration

The best way to test changes to your configuration is with the provided Xephyr script. This will run Qtile with your `config.py` inside a nested X server and prevent your running instance of Qtile from crashing if something goes wrong.

See *Hacking Qtile* for more information on using Xephyr.



### 1.2.5 Starting Qtile

There are several ways to start Qtile. The most common way is via an entry in your X session manager's menu. The default Qtile behavior can be invoked by creating a `qtile.desktop` file in `/usr/share/xsessions`.

A second way to start Qtile is a custom X session. This way allows you to invoke Qtile with custom arguments, and also allows you to do any setup you want (e.g. special keyboard bindings like mapping caps lock to control, setting your desktop background, etc.) before Qtile starts. If you're using an X session manager, you still may need to create a `custom.desktop` file similar to the `qtile.desktop` file above, but with `Exec=/etc/X11/xsession`. Then, create your own `~/.xsession`. There are several examples of user defined `xsessions` in the [qtile-examples](#) repository.

If there is no display manager such as SDDM, LightDM or other and there is need to start Qtile directly from `~/.xinitrc` suggestion would be to do that through a custom sessions cript to save running applications.

Finally, if you're a gnome user, you can start integrate Qtile into Gnome's session manager and use gnome as usual.

### Running from systemd

This case will cover automatic login to Qtile after booting the system without using display manager. It logins in virtual console and init X by running through session.

### Automatic login to virtual console

To get login into virtual console as an example edit `getty` service by running `systemctl edit getty@tty1` and add instructions:

```
::
```

```
caption /etc/systemd/system/getty@tty1.service.d/override.conf
```

```
[Service] ExecStart= ExecStart=-/usr/bin/agetty --autologin username --noclear %I $TERM
```

`username` should be changed to current user name.

Check more for other [examples](#).

### Qtile session

Starting Qtile directly will not preserve running applications on Qtile restarts by `qtile-cmd -o cmd -f restart` or other ways in Qtile itself. This can be solved by starting simple script loop.

### Autostart X session

After login X session should be started. That can be done by `.bash_profile` if bash is used or `.zprofile` in case of zsh. Other shells can be adjusted by given examples.

```
if systemctl -q is-active graphical.target && [[ ! $DISPLAY && $XDG_VTNR -eq 1 ]];_
  then
    exec startx
  fi
```

And to start Qtile itself `.xinitrc` should be fixed:

```
# some apps that should be started before Qtile, ex.
#
#  [[ -f ~/.Xresources ]] && xrdp -merge ~/.Xresources
#  ~/.fehbg &
#  nm-applet &
#  blueman-applet &
#  dunst &
#
# or
#
#  source ~/.xsession

while true; do
    qtile
done
```

## Running Inside Gnome

Add the following snippet to your Qtile configuration. As per [this page](#), it registers Qtile with gnome-session. Without it, a “Something has gone wrong!” message shows up a short while after logging in. `dbus-send` must be on your `$PATH`.

```
import subprocess
import os
from libqtile import hook

@hook.subscribe.startup
def dbus_register():
    id = os.environ.get('DESKTOP_AUTOSTART_ID')
    if not id:
        return
    subprocess.Popen(['dbus-send',
                      '--session',
                      '--print-reply',
                      '--dest=org.gnome.SessionManager',
                      '/org/gnome/SessionManager',
                      'org.gnome.SessionManager.RegisterClient',
                      'string:qtile',
                      'string:' + id])
```

This adds a new entry “Qtile GNOME” to GDM’s login screen.

```
$ cat /usr/share/xsessions/qtile_gnome.desktop
[Desktop Entry]
Name=Qtile GNOME
Comment=Tiling window manager
TryExec=/usr/bin/gnome-session
Exec=gnome-session --session=qtile
Type=XSession
```

The custom session for gnome-session.

For Gnome >= 3.23.2 (Ubuntu >= 17.04, Fedora >= 26, etc.)

```
$ cat /usr/share/gnome-session/sessions/qtile.session
[GNOME Session]
```

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```
Name=Qtile session
RequiredComponents=qtile;org.gnome.SettingsDaemon.AllySettings;org.gnome.
↳SettingsDaemon.Clipboard;org.gnome.SettingsDaemon.Color;org.gnome.SettingsDaemon.
↳Datetime;org.gnome.SettingsDaemon.Housekeeping;org.gnome.SettingsDaemon.Keyboard;
↳org.gnome.SettingsDaemon.MediaKeys;org.gnome.SettingsDaemon.Mouse;org.gnome.
↳SettingsDaemon.Power;org.gnome.SettingsDaemon.PrintNotifications;org.gnome.
↳SettingsDaemon.Rfkill;org.gnome.SettingsDaemon.ScreensaverProxy;org.gnome.
↳SettingsDaemon.Sharing;org.gnome.SettingsDaemon.Smartcard;org.gnome.SettingsDaemon.
↳Sound;org.gnome.SettingsDaemon.Wacom;org.gnome.SettingsDaemon.XSettings;
```

### Or for older Gnome versions

```
$ cat /usr/share/gnome-session/sessions/qtile.session
[GNOME Session]
Name=Qtile session
RequiredComponents=qtile;gnome-settings-daemon;
```

So that Qtile starts automatically on login.

```
$ cat /usr/share/applications/qtile.desktop
[Desktop Entry]
Type=Application
Encoding=UTF-8
Name=Qtile
Exec=qtile
NoDisplay=true
X-GNOME-WMName=Qtile
X-GNOME-Autostart-Phase=WindowManager
X-GNOME-Provides=windowmanager
X-GNOME-Autostart-Notify=false
```

The above does not start gnome-panel. Getting gnome-panel to work requires some extra Qtile configuration, mainly making the top and bottom panels static on panel startup and leaving a gap at the top (and bottom) for the panel window.

You might want to add keybindings to log out of the GNOME session.

```
Key([mod, 'control'], 'l', lazy.spawn('gnome-screensaver-command -l')),
Key([mod, 'control'], 'q', lazy.spawn('gnome-session-quit --logout --no-prompt')),
Key([mod, 'shift', 'control'], 'q', lazy.spawn('gnome-session-quit --power-off')),
```

The above apps need to be in your path (though they are typically installed in /usr/bin, so they probably are if they're installed at all).



---

## Commands and scripting

---

### 2.1 Commands API

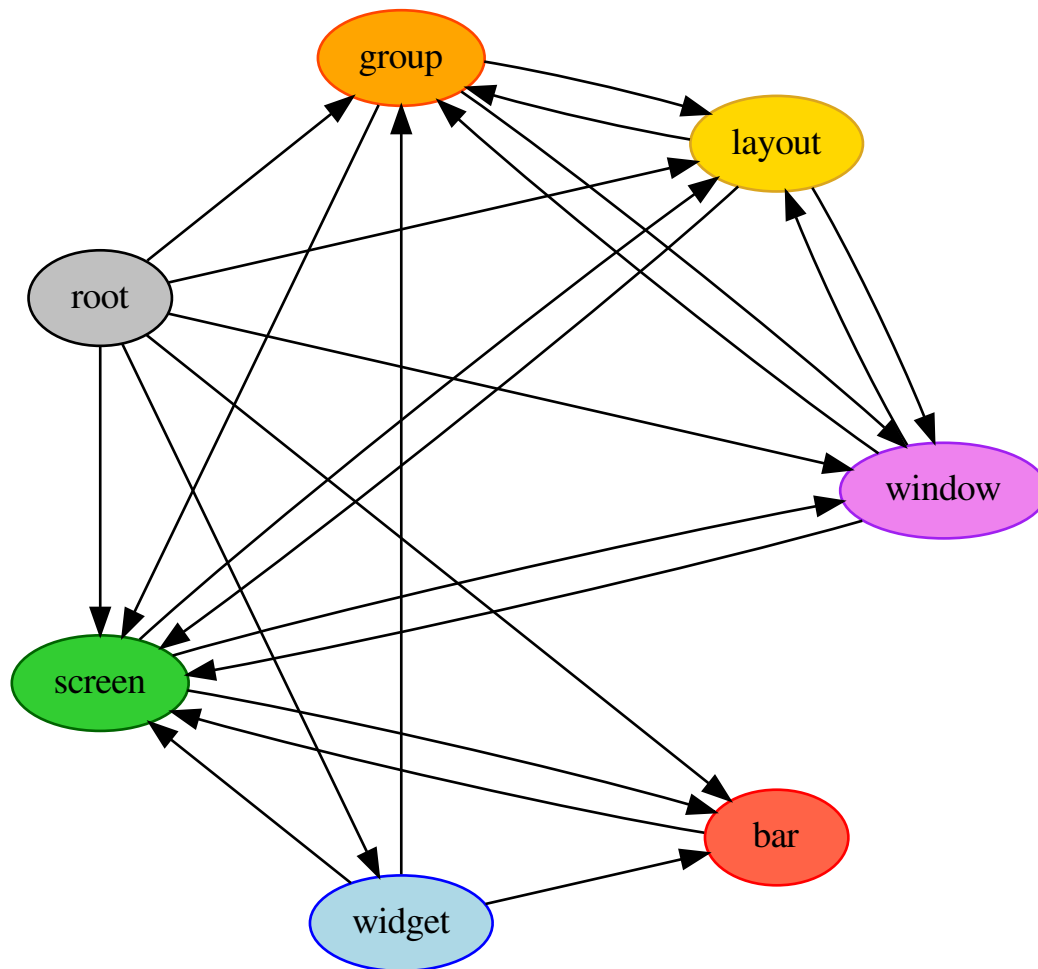
Qtile's command API is based on a graph of objects, where each object has a set of associated commands. The graph and object commands are used in a number of different places:

- Commands can be *bound to keys* in the Qtile configuration file.
- Commands can be *called through qshell*, the Qtile shell.
- The qsh can also be hooked into a Jupyter kernel *called iqshell*.
- Commands can be *called from a script* to interact with Qtile from Python.

If the explanation below seems a bit complex, please take a moment to explore the API using the `qshell` command shell. Command lists and detailed documentation can be accessed from its built-in help command.

#### 2.1.1 Object Graph

The objects in Qtile's object graph come in seven flavours, matching the seven basic components of the window manager: `layouts`, `windows`, `groups`, `bars`, `widgets`, `screens`, and a special `root` node. Objects are addressed by a path specification that starts at the root, and follows the edges of the graph. This is what the graph looks like:



Each arrow can be read as “holds a reference to”. So, we can see that a `widget` object *holds a reference to* objects of type `bar`, `screen` and `group`. Lets start with some simple examples of how the addressing works. Which particular objects we hold reference to depends on the context - for instance, widgets hold a reference to the screen that they appear on, and the bar they are attached to.

Lets look at an example, starting at the root node. The following script runs the `status` command on the root node, which, in this case, is represented by the `Client` object:

```
from libqtile.command import Client
c = Client()
print c.status()
```

From the graph, we can see that the root node holds a reference to `group` nodes. We can access the “info” command on the current group like so:

```
c.group.info()
```

To access a specific group, regardless of whether or not it is current, we use the Python containment syntax. This

command sends group “b” to screen 1 (by the `libqtile.config.Group.to_screen()` method):

```
c.group["b"].to_screen(1)
```

The current group, layout, screen and window can be accessed by simply leaving the key specifier out. The key specifier is mandatory for widget and bar nodes.

We can now drill down deeper in the graph. To access the screen currently displaying group “b”, we can do this:

```
c.group["b"].screen.info()
```

Be aware, however, that group “b” might not currently be displayed. In that case, it has no associated screen, the path resolves to a non-existent node, and we get an exception:

```
libqtile.command.CommandError: No object screen in path 'group['b'].screen'
```

The graph is not a tree, since it can contain cycles. This path (redundantly) specifies the group belonging to the screen that belongs to group “b”:

```
c.group["b"].screen.group
```

## 2.1.2 Keys

The key specifier for the various object types are as follows:

Object	Key	Optional?	Example
bar	“top”, “bottom”	No	<code>c.screen.bar[“bottom”]</code>
group	Name string	Yes	<code>c.group[“one”]</code> <code>c.group</code>
layout	Integer index	Yes	<code>c.layout[2]</code> <code>c.layout</code>
screen	Integer index	Yes	<code>c.screen[1]</code> <code>c.screen</code>
widget	Widget name	No	<code>c.widget[“textbox”]</code>
window	Integer window ID	Yes	<code>c.window[123456]</code> <code>c.window</code>

## 2.2 Scripting

### 2.2.1 Client-Server Scripting Model

Qtile has a client-server control model - the main Qtile instance listens on a named pipe, over which marshalled command calls and response data is passed. This allows Qtile to be controlled fully from external scripts. Remote interaction occurs through an instance of the `libqtile.command.Client` class. This class establishes a connection to the currently running instance of Qtile, and sources the user's configuration file to figure out which commands should be exposed. Commands then appear as methods with the appropriate signature on the `Client` object. The object hierarchy is described in the *Commands API* section of this manual. Full command documentation is available through the *Qtile Shell*.

### 2.2.2 Example

Below is a very minimal example script that inspects the current qtile instance, and returns the integer offset of the current screen.

```
from libqtile.command import Client
c = Client()
print c.screen.info()["index"]
```

## 2.3 qshell

The Qtile command shell is a command-line shell interface that provides access to the full complement of Qtile command functions. The shell features command name completion, and full command documentation can be accessed from the shell itself. The shell uses GNU Readline when it's available, so the interface can be configured to, for example, obey VI keybindings with an appropriate `.inputrc` file. See the GNU Readline documentation for more information.

### 2.3.1 Navigating the Object Graph

The shell presents a filesystem-like interface to the object graph - the builtin “cd” and “ls” commands act like their familiar shell counterparts:

```
> ls
layout/  widget/  screen/  bar/      window/  group/

> cd bar

bar> ls
bottom/

bar> cd bottom

bar['bottom']> ls
screen/

bar['bottom']> cd ../..

> ls
layout/  widget/  screen/  bar/      window/  group/
```



Note that the shell provides a “short-hand” for specifying node keys (as opposed to children). The following is a valid shell path:

```
> cd group/4/window/31457314
```

The command prompt will, however, always display the Python node path that should be used in scripts and key bindings:

```
group['4'].window[31457314]>
```

## 2.3.2 Live Documentation

The shell `help` command provides the canonical documentation for the Qtile API:

```
> cd layout/1

layout[1]> help
help command  -- Help for a specific command.

Builtins
=====
cd    exit  help  ls    q      quit

Commands for this object
=====
add          commands    current    delete    doc
down         get info    items     next       previous
rotate       shuffle_down shuffle_up toggle_split up

layout[1]> help previous
previous()
Focus previous stack.
```

## 2.3.3 Reference

### Qsh

**class** `libqtile.sh.QSh` (*client: libqtile.command\_interface.CommandInterface, completekey='tab'*)

Qtile shell instance

**do\_cd** (*self, arg*) → str  
Change to another path.

### Examples

```
cd layout/0
```

```
cd ../layout
```

**do\_exit** (*self, args*) → None  
Exit qshell

**do\_ls** (*self, arg: str*) → str  
List contained items on a node.

### Examples

```
> ls > ls ../layout
```

**do\_pwd** (*self*, *arg*) → str

Returns the current working location

This is the same information as presented in the qshell prompt, but is very useful when running iqshell.

### Examples

```
> pwd / > cd bar/top bar['top']> pwd bar['top']
```

**do\_help** (*self*, *arg*) → str

Give help on commands and builtins

When invoked without arguments, provides an overview of all commands. When passed as an argument, also provides a detailed help on a specific command or builtin.

### Examples

```
> help
```

```
> help command
```

## 2.4 iqshell

In addition to the standard `qshell` shell interface, we provide a kernel capable of running through Jupyter that hooks into the `qshell` client. The command structure and syntax is the same as `qshell`, so it is recommended you read that for more information about that.

### 2.4.1 Dependencies

In order to run `iqshell`, you must have `ipykernel` and `jupyter_console`. You can install the dependencies when you are installing `qtile` by running:

```
$ pip install qtile[ipython]
```

Otherwise, you can just install these two packages separately, either through PyPI or through your distribution package manager.

### 2.4.2 Installing and Running the Kernel

Once you have the required dependencies, you can run the kernel right away by running:

```
$ python -m libqtile.interactive.iqshell_kernel
```

However, this will merely spawn a kernel instance, you will have to run a separate frontend that connects to this kernel.

A more convenient way to run the kernel is by registering the kernel with Jupyter. To register the kernel itself, run:

```
$ python -m libqtile.interactive.iqshell_install
```

If you run this as a non-root user, or pass the `--user` flag, this will install to the user Jupyter kernel directory. You can now invoke the kernel directly when starting a Jupyter frontend, for example:

```
$ jupyter console --kernel qshell
```

The `iqshell` script will launch a Jupyter terminal console with the `qshell` kernel.

### 2.4.3 iqshell vs qshell

One of the main drawbacks of running through a Jupyter kernel is the frontend has no way to query the current node of the kernel, and as such, there is no way to set a custom prompt. In order to query your current node, you can call `pwd`.

This, however, enables many of the benefits of running in a Jupyter frontend, including being able to save, run, and re-run code cells in frontends such as the Jupyter notebook.

The Jupyter kernel also enables more advanced help, text completion, and introspection capabilities (however, these are currently not implemented at a level much beyond what is available in the standard `qshell`).

## 2.5 qtile-top

Is a top like to measure memory usage of qtile's internals.

## 2.6 qtile-run

Run a command applying rules to the new windows, ie, you can start a window in a specific group, make it floating, intrusive, etc.

The Windows must have `NET_WM_PID`.

```
# run xterm floating on group "test-group"
qtile-run -g test-group -f xterm
```

## 2.7 qtile-cmd

This is a simple tool to expose `qtile.command` functionality to shell. This can be used standalone or in other shell scripts.

### 2.7.1 Examples:

#### Output of `qtile-cmd -h`

```
usage: qtile-cmd [-h] [--object OBJ_SPEC [OBJ_SPEC ...]]
               [--function FUNCTION] [--args ARGS [ARGS ...]] [--info]

Simple tool to expose qtile.command functionality to shell.

optional arguments:
```

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```

-h, --help            show this help message and exit
--object OBJ_SPEC [OBJ_SPEC ...], -o OBJ_SPEC [OBJ_SPEC ...]
                        Specify path to object (space separated). If no
                        --function flag display available commands.
--function FUNCTION, -f FUNCTION
                        Select function to execute.
--args ARGS [ARGS ...], -a ARGS [ARGS ...]
                        Set arguments supplied to function.
--info, -i            With both --object and --function args prints
                        documentation for function.

```

## Examples:

```

qtile-cmd
qtile-cmd -o cmd
qtile-cmd -o cmd -f prev_layout -i
qtile-cmd -o cmd -f prev_layout -a 3 # prev_layout on group 3
qtile-cmd -o group 3 -f focus_back

```

Output of `qtile-cmd -o group 3`

<code>-o group 3 -f commands</code>	Returns a <b>list</b> of possible commands <b>for</b> this <b>object</b>
<code>-o group 3 -f doc</code>	* Returns the documentation <b>for</b> a specified command_
<code>↪name</code>	
<code>-o group 3 -f eval</code>	* Evaluates code <b>in</b> the same context <b>as</b> this function
<code>-o group 3 -f focus_back</code>	Focus the window that had focus before the current_
<code>↪one got it.</code>	
<code>-o group 3 -f focus_by_name</code>	* Focus the first window <b>with</b> the given name. Do_
<code>↪nothing <b>if</b> the name <b>is</b></code>	
<code>-o group 3 -f function</code>	* Call a function <b>with</b> current <b>object</b> <b>as</b> argument
<code>-o group 3 -f info</code>	Returns a dictionary of info <b>for</b> this group
<code>-o group 3 -f info_by_name</code>	* Get the info <b>for</b> the first window <b>with</b> the given_
<code>↪name without giving it</code>	
<code>-o group 3 -f items</code>	* Returns a <b>list</b> of contained items <b>for</b> the specified_
<code>↪name</code>	
<code>-o group 3 -f next_window</code>	Focus the <b>next</b> window <b>in</b> group.
<code>-o group 3 -f prev_window</code>	Focus the previous window <b>in</b> group.
<code>-o group 3 -f set_label</code>	* Set the display name of current group to be used <b>in</b> _
<code>↪GroupBox widget.</code>	
<code>-o group 3 -f setlayout</code>	
<code>-o group 3 -f switch_groups</code>	* Switch position of current group <b>with</b> name
<code>-o group 3 -f toscreen</code>	* Pull a group to a specified screen.
<code>-o group 3 -f unminimize_all</code>	Unminimise <b>all</b> windows <b>in</b> this group

Output of `qtile-cmd -o cmd`

<code>-o cmd -f add_rule</code>	* Add a dgroup rule, returns rule_id needed to remove_
<code>↪it</code>	
<code>-o cmd -f addgroup</code>	* Add a group <b>with</b> the given name
<code>-o cmd -f commands</code>	Returns a <b>list</b> of possible commands <b>for</b> this <b>object</b>
<code>-o cmd -f critical</code>	Set log level to CRITICAL
<code>-o cmd -f debug</code>	Set log level to DEBUG
<code>-o cmd -f delgroup</code>	* Delete a group <b>with</b> the given name
<code>-o cmd -f display_kb</code>	* Display table of key bindings

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```

-o cmd -f doc * Returns the documentation for a specified command_
↪name
-o cmd -f error Set log level to ERROR
-o cmd -f eval * Evaluates code in the same context as this function
-o cmd -f findwindow * Launch prompt widget to find a window of the given_
↪name
-o cmd -f focus_by_click * Bring a window to the front
-o cmd -f function * Call a function with current object as argument
-o cmd -f get_info Prints info for all groups
-o cmd -f get_state Get pickled state for restarting qtile
-o cmd -f get_test_data Returns any content arbitrarily set in the self.
↪test_data attribute.
-o cmd -f groups Return a dictionary containing information for all_
↪groups
-o cmd -f hide_show_bar * Toggle visibility of a given bar
-o cmd -f info Set log level to INFO
-o cmd -f internal_windows Return info for each internal window (bars, for_
↪example)
-o cmd -f items * Returns a list of contained items for the specified_
↪name
-o cmd -f list_widgets List of all addressible widget names
-o cmd -f next_layout * Switch to the next layout.
-o cmd -f next_screen Move to next screen
-o cmd -f next_urgent Focus next window with urgent hint
-o cmd -f pause Drops into pdb
-o cmd -f prev_layout * Switch to the previous layout.
-o cmd -f prev_screen Move to the previous screen
-o cmd -f qtile_info Returns a dictionary of info on the Qtile instance
-o cmd -f qtilecmd * Execute a Qtile command using the client syntax
-o cmd -f remove_rule * Remove a dgroup rule by rule_id
-o cmd -f restart Restart qtile
-o cmd -f run_extension * Run extensions
-o cmd -f run_extention * Deprecated alias for cmd_run_extension()
-o cmd -f run_external * Run external Python script
-o cmd -f screens Return a list of dictionaries providing information_
↪on all screens
-o cmd -f shutdown Quit Qtile
-o cmd -f simulate_keypress * Simulates a keypress on the focused window.
-o cmd -f spawn * Run cmd in a shell.
-o cmd -f spawncmd * Spawn a command using a prompt widget, with tab-
↪completion.
-o cmd -f status Return "OK" if Qtile is running
-o cmd -f switch_groups * Switch position of groupa to groupb
-o cmd -f switchgroup * Launch prompt widget to switch to a given group to_
↪the current screen
-o cmd -f sync Sync the X display. Should only be used for_
↪development
-o cmd -f to_layout_index * Switch to the layout with the given index in self.
↪layouts.
-o cmd -f to_screen * Warp focus to screen n, where n is a 0-based screen_
↪number
-o cmd -f togroup * Launch prompt widget to move current window to a_
↪given group
-o cmd -f tracemalloc_dump Dump tracemalloc snapshot
-o cmd -f tracemalloc_toggle Toggle tracemalloc status
-o cmd -f warning Set log level to WARNING
-o cmd -f windows Return info for each client window

```

## 2.8 dqtile-cmd

A Rofi/dmenu interface to qtile-cmd. Accepts all arguments of qtile-cmd.

### 2.8.1 Examples:

Output of `dqtile-cmd -o cmd`

dmenu:	-
Alt-l	Prompt for args and show function help (if -f is present)
..	Go back to menu.
C-u	Clear input
Esc	Exit
-o cmd -f add_rule	* Add a dgroup rule, returns rule_id needed to remove it
-o cmd -f addgroup	* Add a group with the given name
-o cmd -f commands	Returns a list of possible commands for this object
-o cmd -f critical	Set log level to CRITICAL
-o cmd -f debug	Set log level to DEBUG
-o cmd -f delgroup	* Delete a group with the given name
-o cmd -f display_kb	* Display table of key bindings
-o cmd -f doc	* Returns the documentation for a specified command name
-o cmd -f error	Set log level to ERROR
-o cmd -f eval	* Evaluates code in the same context as this function
-o cmd -f findwindow	* Launch prompt widget to find a window of the given name
-o cmd -f focus_by_click	* Bring a window to the front
-o cmd -f function	* Call a function with current object as argument
-o cmd -f get_info	Prints info for all groups
-o cmd -f get_state	Get pickled state for restarting qtile

Output of `dqtile-cmd -h`

```
dqtile-cmd

A Rofi/dmenu interface to qtile-cmd. Excepts all arguments of qtile-cmd
(see below).

usage: dqtile-cmd [-h] [--object OBJ_SPEC [OBJ_SPEC ...]]
                [--function FUNCTION] [--args ARGS [ARGS ...]] [--info]

Simple tool to expose qtile.command functionality to shell.

optional arguments:
  -h, --help                show this help message and exit
  --object OBJ_SPEC [OBJ_SPEC ...], -o OBJ_SPEC [OBJ_SPEC ...]
                          Specify path to object (space separated). If no
                          --function flag display available commands.
  --function FUNCTION, -f FUNCTION
                          Select function to execute.
  --args ARGS [ARGS ...], -a ARGS [ARGS ...]
                          Set arguments supplied to function.
  --info, -i                With both --object and --function args prints
                          documentation for function.
```

(continues on next page)

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Examples:

```
dqtile-cmd
dqtile-cmd -o cmd
dqtile-cmd -o cmd -f prev_layout -i
dqtile-cmd -o cmd -f prev_layout -a 3 # prev_layout on group 3
dqtile-cmd -o group 3 -f focus_back
```

If both rofi **and** dmenu are present rofi will be selected **as** default, to change this, ↪us `--force-dmenu` **as** the first argument.





### 3.1 Contributing

#### 3.1.1 Reporting bugs

Perhaps the easiest way to contribute to Qtile is to report any bugs you run into on the [GitHub issue tracker](#).

Useful bug reports are ones that get bugs fixed. A useful bug report normally has two qualities:

1. **Reproducible.** If your bug is not reproducible it will never get fixed. You should clearly mention the steps to reproduce the bug. Do not assume or skip any reproducing step. Described the issue, step-by-step, so that it is easy to reproduce and fix.
2. **Specific.** Do not write a essay about the problem. Be Specific and to the point. Try to summarize the problem in minimum words yet in effective way. Do not combine multiple problems even they seem to be similar. Write different reports for each problem.

#### 3.1.2 Writing code

To get started writing code for Qtile, check out our guide to *Hacking on Qtile*.

#### Submit a pull request

You've done your hacking and are ready to submit your patch to Qtile. Great! Now it's time to submit a [pull request](#) to our [issue tracker](#) on GitHub.

---

**Important:** Pull requests are not considered complete until they include all of the following:

- **Code** that conforms to PEP8.
- **Unit tests** that pass locally and in our CI environment.
- **Documentation** updates on an as needed basis.

Feel free to add your contribution (no matter how small) to the appropriate place in the CHANGELOG as well!

## 3.2 Hacking on Qtile

### 3.2.1 Requirements

Any reasonably recent version of these should work, so you can probably just install them from your package manager.

- `pytest`
- `Xephyr`
- `xrandr`, `xcalc`, `xeyes` and `xclock` (`x11-apps` on Ubuntu)

On Ubuntu, if testing on Python 3, this can be done with:

```
sudo apt-get install python3-pytest xserver-xephyr x11-apps
```

On ArchLinux, the X11 requirements are installed with:

```
sudo pacman -S xorg-xrandr xorg-xcalc xorg-xeyes xorg-xclock
```

To build the documentation, you will also need to install `graphviz`. On ArchLinux, you can install it with `sudo pacman -S graphviz`.

### 3.2.2 Building cffi module

Qtile ships with a small in-tree pangocairo binding built using `cffi`, `pangocffi.py`, and also binds to `xcursor` with `cffi`. The bindings are not built at run time and will have to be generated manually when the code is downloaded or when any changes are made to the `cffi` library. This can be done by calling:

```
./scripts/ffibuild
```

### 3.2.3 Setting up the environment

In the root of the project, run `./dev.sh`. It will create a virtualenv called `venv`.

Activate this virtualenv with `. venv/bin/activate`. Deactivate it with the `deactivate` command.

### 3.2.4 Building the documentation

Activate your virtualenv, and install the `graphviz` Python package:

```
pip install graphviz
```

Go into the `docs/` directory and run `pip install -r requirements.txt`.

Build the documentation with `make html`.

Check the result by opening `_build/html/index.html` in your browser.

### 3.2.5 Development and testing

In practice, the development cycle looks something like this:

1. make minor code change
2. run appropriate test: `pytest tests/test_module.py` or `pytest -k PATTERN`
3. GOTO 1, until hackage is complete
4. run entire test suite: `pytest`
5. commit

Of course, your patches should also pass the unit tests as well (i.e. `make check`). These will be run by travis-ci on every pull request so you can see whether or not your contribution passes.

### 3.2.6 Coding style

While not all of our code follows [PEP8](#), we do try to adhere to it where possible. All new code should be PEP8 compliant.

The `make lint` command will run a linter with our configuration over libqtile to ensure your patch complies with reasonable formatting constraints. We also request that git commit messages follow the [standard format](#).

### 3.2.7 Deprecation policy

When a widget API is changed, you should deprecate the change using `libqtile.widget.base.deprecated` to warn users, in addition to adding it to the appropriate place in the changelog. We will typically remove deprecated APIs one tag after they are deprecated.

### 3.2.8 Using Xephyr

Qtile has a very extensive test suite, using the Xephyr nested X server. When tests are run, a nested X server with a nested instance of Qtile is fired up, and then tests interact with the Qtile instance through the client API. The fact that we can do this is a great demonstration of just how completely scriptable Qtile is. In fact, Qtile is designed expressly to be scriptable enough to allow unit testing in a nested environment.

The Qtile repo includes a tiny helper script to let you quickly pull up a nested instance of Qtile in Xephyr, using your current configuration. Run it from the top-level of the repository, like this:

```
./scripts/xephyr
```

Change the screen size by setting the `SCREEN_SIZE` environment variable. Default: 800x600. Example:

```
SCREEN_SIZE=1920x1080 ./scripts/xephyr
```

Change the log level by setting the `LOG_LEVEL` environment variable. Default: INFO. Example:

```
LOG_LEVEL=DEBUG ./scripts/xephyr
```

The script will also pass any additional options to Qtile. For example, you can use a specific configuration file like this:

```
./scripts/xephyr -c ~/.config/qtile/other_config.py
```

Once the Xephyr window is running and focused, you can enable capturing the keyboard shortcuts by hitting Control+Shift. Hitting them again will disable the capture and let you use your personal keyboard shortcuts again.

You can close the Xephyr window by enabling the capture of keyboard shortcuts and hit Mod4+Control+Q. Mod4 (or Mod) is usually the Super key (or Windows key). You can also close the Xephyr window by running `qtile-cmd -o cmd -f shutdown` in a terminal (from inside the Xephyr window of course).

You don't need to run the Xephyr script in order to run the tests as the test runner will launch its own Xephyr instances.

### 3.2.9 Second X Session

Some users prefer to test Qtile in a second, completely separate X session: Just switch to a new tty and run `startx` normally to use the `~/ .xinitrc` X startup script.

It's likely though that you want to use a different, customized startup script for testing purposes, for example `~/ .config/qtile/xinitrc`. You can do so by launching X with:

```
startx ~/.config/qtile/xinitrc
```

`startx` deals with multiple X sessions automatically. If you want to use `xinit` instead, you need to first copy `/etc/X11/xinit/xserverrc` to `~/ .xserverrc`; when launching it, you have to specify a new session number:

```
xinit ~/.config/qtile/xinitrc -- :1
```

Examples of custom X startup scripts are available in [qtile-examples](#).

### 3.2.10 Capturing an `xtrace`

Occasionally, a bug will be low level enough to require an `xtrace` of Qtile's conversations with the X server. To capture one of these, create an `xinitrc` or similar file with:

```
exec xtrace qtile >> ~/qtile.log
```

This will put the `xtrace` output in Qtile's logfile as well. You can then demonstrate the bug, and paste the contents of this file into the bug report.

Note that `xtrace` may be named `x11trace` on some platforms, for example, on Fedora.

### 3.2.11 Debugging in PyCharm

Make sure to have all the requirements installed and your development environment setup.

PyCharm should automatically detect the `venv` virtualenv when opening the project. If you are using another virtualenv, just instruct PyCharm to use it in Settings -> Project: `qtile` -> Project interpreter.

In the project tree, on the left, right-click on the `libqtile` folder, and click on Mark Directory as -> Sources Root.

Next, add a Configuration using a Python template with these fields:

- Script path: `bin/qtile`, or the absolute path to it
- Parameters: `-c libqtile/resources/default_config.py`, or nothing if you want to use your own config file in `~/ .config/qtile/config.py`
- Environment variables: `PYTHONUNBUFFERED=1;DISPLAY=:1`
- Working directory: the root of the project

- Add contents root to PYTHONPATH: yes
- Add source root to PYTHONPATH: yes

Then, in a terminal, run:

```
Xephyr +extension RANDR -screen 1920x1040 :1 -ac &
```

Note that we used the same display, `:1`, in both the terminal command and the PyCharm configuration environment variables. Feel free to change the screen size to fit your own screen.

Finally, place your breakpoints in the code and click on `Debug`!

Once you finished debugging, you can close the Xephyr window with `kill PID` (use the `jobs` builtin to get its PID).

### 3.2.12 Resources

Here are a number of resources that may come in handy:

- [Inter-Client Conventions Manual](#)
- [Extended Window Manager Hints](#)
- [A reasonable basic Xlib Manual](#)

### 3.2.13 Troubleshoot

#### Cairo errors

When running the Xephyr script (`./scripts/xephyr`), you might see tracebacks with attribute errors like the following or similar:

```
AttributeError: cffi library 'libcairo.so.2' has no function, constant or global_
↳variable named 'cairo_xcb_surface_create'
```

If it happens, it might be because the `cairocffi` and `xcffib` dependencies were installed in the wrong order.

To fix this:

1. uninstall them from your environment: with `pip uninstall cairocffi xcffib` if using a virtualenv, or with your system package-manager if you installed the development version of Qtile system-wide.
2. re-install them sequentially (again, with `pip` or with your package-manager):

```
pip install xcffib
pip install --no-cache-dir cairocffi
```

See [this issue comment](#) for more information.

If you are using your system package-manager and the issue still happens, the packaging of `cairocffi` might be broken for your distribution. Try to contact the persons responsible for `cairocffi`'s packaging on your distribution, or to install it from the sources with `xcffib` available.

#### DBus/GObject errors

When running the Xephyr script (`./scripts/xephyr`), you might see a line in the output like the following or similar:

```
libqtile manager.py:setup_python_dbus():L310 importing dbus/gobject failed, dbus_
↳will not work.
```

If it happens, it might be because you are missing some dependencies on your system and/or in your Qtile virtualenv.

To fix this:

1. follow the installation instructions of PyGObject at [https://pygobject.readthedocs.io/en/latest/getting\\_started.html](https://pygobject.readthedocs.io/en/latest/getting_started.html). There are methods for several Linux distributions: pick yours.
2. there are instructions for system-wide installation and virtualenv installation: pick the relevant one, depending on how you installed the development version of Qtile (usually in a virtualenv).
3. Optionally re-install Qtile's dependencies:

```
pip install -r requirements.txt
pip install -r requirements-dev.txt
```

### Fonts errors

When running the test suite or the Xephyr script (./scripts/xephyr), you might see errors in the output like the following or similar:

- Xephyr script:

```
xterm: cannot load font "-Misc-Fixed-medium-R-**-13-120-75-75-C-120-ISO10646-1"
xterm: cannot load font "-misc-fixed-medium-r-semicondensed--13-120-75-75-c-60-
↳iso10646-1"
```

- pytest:

```
----- Captured stderr call -----
Warning: Cannot convert string "8x13" to type FontStruct
Warning: Unable to load any usable ISO8859 font
Warning: Unable to load any usable ISO8859 font
Error: Aborting: no font found

----- Captured stderr teardown -----
Qtile exited with exitcode: -9
```

If it happens, it might be because you're missing fonts on your system.

On ArchLinux, you can fix this by installing xorg-fonts-misc:

```
sudo pacman -S xorg-fonts-misc
```

Try to search for “xorg fonts misc” with your distribution name on the internet to find how to install them.

## 4.1 Reference

### 4.1.1 Scripting Commands

Here is documented some of the commands available on objects in the command tree when running qshell or scripting commands to qtile. Note that this is an incomplete list, some objects, such as *layouts* and *widgets*, may implement their own set of commands beyond those given here.

#### Qtile

**class** `libqtile.core.manager.Qtile` (*kore, config, eventloop, no\_spawn=False, state=None*)

This object is the *root* of the command graph

**cmd\_add\_rule** (*self, match\_args, rule\_args, min\_priority=False*)

Add a dgroup rule, returns rule\_id needed to remove it

#### Parameters

**match\_args** : `config.Match` arguments

**rule\_args** : `config.Rule` arguments

**min\_priority** : If the rule is added with minimum priority (last) (default: False)

**cmd\_addgroup** (*self, group, label=None, layout=None, layouts=None*)

Add a group with the given name

**cmd\_commands** (*self*) → `List[str]`

Returns a list of possible commands for this object

Used by `__qsh__` for command completion and online help

**cmd\_critical** (*self*)

Set log level to CRITICAL

**cmd\_debug** (*self*)

Set log level to DEBUG

**cmd\_delgroup** (*self*, *group*)

Delete a group with the given name

**cmd\_display\_kb** (*self*, *\*args*)

Display table of key bindings

**cmd\_doc** (*self*, *name*) → str

Returns the documentation for a specified command name

Used by `__qsh__` to provide online help.

**cmd\_error** (*self*)

Set log level to ERROR

**cmd\_eval** (*self*, *code: str*) → Tuple[bool, Union[str, NoneType]]

Evaluates code in the same context as this function

Return value is tuple (*success*, *result*), *success* being a boolean and *result* being a string representing the return value of `eval`, or `None` if `exec` was used instead.

**cmd\_findwindow** (*self*, *prompt='window'*, *widget='prompt'*)

Launch prompt widget to find a window of the given name

#### Parameters

**prompt** : Text with which to prompt user (default: “window”)

**widget** : Name of the prompt widget (default: “prompt”)

**cmd\_focus\_by\_click** (*self*, *e*)

Bring a window to the front

#### Parameters

**e** [xcb event] Click event used to determine window to focus

**cmd\_function** (*self*, *function*, *\*args*, *\*\*kwargs*) → None

Call a function with current object as argument

**cmd\_get\_info** (*self*)

Prints info for all groups

**cmd\_get\_state** (*self*)

Get pickled state for restarting qtile

**cmd\_get\_test\_data** (*self*)

Returns any content arbitrarily set in the `self.test_data` attribute. Useful in tests.

**cmd\_groups** (*self*)

Return a dictionary containing information for all groups

## Examples

`groups()`

**cmd\_hide\_show\_bar** (*self*, *position='all'*)

Toggle visibility of a given bar

#### Parameters

**position** : one of: “top”, “bottom”, “left”, “right”, or “all” (default: “all”)



**cmd\_info** (*self*)  
Set log level to INFO

**cmd\_internal\_windows** (*self*)  
Return info for each internal window (bars, for example)

**cmd\_items** (*self*, *name*) → Tuple[bool, List[str]]  
Returns a list of contained items for the specified name  
Used by `__qsh__` to allow navigation of the object graph.

**cmd\_list\_widgets** (*self*)  
List of all addressible widget names

**cmd\_loglevel** (*self*)

**cmd\_loglevelname** (*self*)

**cmd\_next\_layout** (*self*, *group=None*)  
Switch to the next layout.

**Parameters**

**group** : Group name. If not specified, the current group is assumed

**cmd\_next\_screen** (*self*)  
Move to next screen

**cmd\_next\_urgent** (*self*)  
Focus next window with urgent hint

**cmd\_pause** (*self*)  
Drops into pdb

**cmd\_prev\_layout** (*self*, *group=None*)  
Switch to the previous layout.

**Parameters**

**group** : Group name. If not specified, the current group is assumed

**cmd\_prev\_screen** (*self*)  
Move to the previous screen

**cmd\_qtile\_info** (*self*)  
Returns a dictionary of info on the Qtile instance

**cmd\_qtilecmd** (*self*, *prompt='command'*, *widget='prompt'*, *messenger='xmessage'*) → None  
Execute a Qtile command using the client syntax  
Tab completion aids navigation of the command tree

**Parameters**

**prompt** : Text to display at the prompt (default: “command: “)

**widget** : Name of the prompt widget (default: “prompt”)

**messenger** : Command to display output, set this to None to disable (default: “xmessage”)

**cmd\_remove\_rule** (*self*, *rule\_id*)  
Remove a dgroup rule by rule\_id

**cmd\_restart** (*self*)  
Restart qtile

**cmd\_run\_extension** (*self, extension*)

Run extensions

**cmd\_run\_external** (*self, full\_path*)

Run external Python script

**cmd\_screens** (*self*)

Return a list of dictionaries providing information on all screens

**cmd\_shutdown** (*self*)

Quit Qtile

**cmd\_simulate\_keypress** (*self, modifiers, key*)

Simulates a keypress on the focused window.

#### Parameters

**modifiers** : A list of modifier specification strings. Modifiers can be one of “shift”, “lock”, “control” and “mod1” - “mod5”.

**key** : Key specification.

#### Examples

```
simulate_keypress(["control", "mod2"], "k")
```

**cmd\_spawn** (*self, cmd*)

Run cmd in a shell.

cmd may be a string, which is parsed by shlex.split, or a list (similar to subprocess.Popen).

#### Examples

```
spawn("firefox")
```

```
spawn(["xterm", "-T", "Temporary terminal"])
```

**cmd\_spawncmd** (*self, prompt='spawn', widget='prompt', command='%s', complete='cmd'*)

Spawn a command using a prompt widget, with tab-completion.

#### Parameters

**prompt** : Text with which to prompt user (default: “spawn: “).

**widget** : Name of the prompt widget (default: “prompt”).

**command** : command template (default: “%s”).

**complete** : Tab completion function (default: “cmd”)

**cmd\_status** (*self*)

Return “OK” if Qtile is running

**cmd\_switch\_groups** (*self, groupa, groupb*)

Switch position of groupa to groupb

**cmd\_switchgroup** (*self, prompt='group', widget='prompt'*)

Launch prompt widget to switch to a given group to the current screen

#### Parameters

**prompt** : Text with which to prompt user (default: “group”)

**widget** : Name of the prompt widget (default: “prompt”)

**cmd\_sync** (*self*)

Sync the X display. Should only be used for development

**cmd\_to\_layout\_index** (*self*, *index*, *group=None*)

Switch to the layout with the given index in self.layouts.

#### Parameters

**index** : Index of the layout in the list of layouts.

**group** : Group name. If not specified, the current group is assumed.

**cmd\_to\_screen** (*self*, *n*)

Warp focus to screen n, where n is a 0-based screen number

### Examples

to\_screen(0)

**cmd\_togroup** (*self*, *prompt='group'*, *widget='prompt'*)

Launch prompt widget to move current window to a given group

#### Parameters

**prompt** : Text with which to prompt user (default: “group”)

**widget** : Name of the prompt widget (default: “prompt”)

**cmd\_tracemalloc\_dump** (*self*)

Dump tracemalloc snapshot

**cmd\_tracemalloc\_toggle** (*self*)

Toggle tracemalloc status

Running tracemalloc is required for qtile-top

**cmd\_warning** (*self*)

Set log level to WARNING

**cmd\_windows** (*self*)

Return info for each client window

## Bar

**class** libqtile.bar.**Bar** (*widgets*, *size*, *\*\*config*)

A bar, which can contain widgets

#### Parameters

**widgets** : A list of widget objects.

**size** : The “thickness” of the bar, i.e. the height of a horizontal bar, or the width of a vertical bar.

key	default	description
background	'#000000'	'Background colour.'
margin	0	'Space around bar as int or list of ints [N E S W].'
opacity	1	'Bar window opacity.'

**cmd\_commands** (*self*) → List[str]

Returns a list of possible commands for this object

Used by `__qsh__` for command completion and online help

**cmd\_doc** (*self*, *name*) → str

Returns the documentation for a specified command name

Used by `__qsh__` to provide online help.

**cmd\_eval** (*self*, *code*: str) → Tuple[bool, Union[str, NoneType]]

Evaluates code in the same context as this function

Return value is tuple (*success*, *result*), *success* being a boolean and *result* being a string representing the return value of `eval`, or `None` if `exec` was used instead.

**cmd\_fake\_button\_press** (*self*, *screen*, *position*, *x*, *y*, *button*=1)

Fake a mouse-button-press on the bar. Co-ordinates are relative to the top-left corner of the bar.

:screen The integer screen offset :position One of “top”, “bottom”, “left”, or “right”

**cmd\_function** (*self*, *function*, \**args*, \*\**kwargs*) → None

Call a function with current object as argument

**cmd\_info** (*self*)

Info for this object.

**cmd\_items** (*self*, *name*) → Tuple[bool, List[str]]

Returns a list of contained items for the specified name

Used by `__qsh__` to allow navigation of the object graph.

## Group

**class** libqtile.config.**Group** (*name*, *matches*=None, *exclusive*=False, *spawn*=None, *layout*=None, *layouts*=None, *persist*=True, *init*=True, *layout\_opts*=None, *screen\_affinity*=None, *position*=9223372036854775807, *label*=None)

Represents a “dynamic” group

These groups can spawn apps, only allow certain Matched windows to be on them, hide when they’re not in use, etc. Groups are identified by their name.

### Parameters

**name** [string] the name of this group

**matches** [default None] list of `Match` objects whose windows will be assigned to this group

**exclusive** [boolean] when other apps are started in this group, should we allow them here or not?

**spawn** [string or list of strings] this will be `exec()` d when the group is created, you can pass either a program name or a list of programs to `exec()`

**layout** [string] the name of default layout for this group (e.g. ‘max’ or ‘stack’). This is the name specified for a particular layout in `config.py` or if not defined it defaults in general the class name in all lower case.

**layouts** [list] the group layouts list overriding global layouts. Use this to define a separate list of layouts for this particular group.

**persist** [boolean] should this group stay alive with no member windows?

**init** [boolean] is this group alive when qtile starts?

**position** [int] group position

**label** [string] the display name of the group. Use this to define a display name other than name of the group. If set to None, the display name is set to the name.

## Screen

```
class libqtile.config.Screen(top=None, bottom=None, left=None, right=None, wallpaper=None, wallpaper_mode=None, x=None, y=None, width=None, height=None)
```

A physical screen, and its associated paraphernalia.

Define a screen with a given set of Bars of a specific geometry. Note that bar.Bar objects can only be placed at the top or the bottom of the screen (bar.Gap objects can be placed anywhere). Also, x, y, width, and height aren't specified usually unless you are using 'fake screens'.

The wallpaper parameter, if given, should be a path to an image file. How this image is painted to the screen is specified by the wallpaper\_mode parameter. By default, the image will be placed at the screens origin and retain its own dimensions. If the mode is 'fill', the image will be centred on the screen and resized to fill it. If the mode is 'stretch', the image is stretched to fit all of it into the screen.

### Parameters

**top:** Gap/Bar object, or None.

**bottom:** Gap/Bar object, or None.

**left:** Gap/Bar object, or None.

**right:** Gap/Bar object, or None.

**wallpaper:** Dict, or None.

**x** [int or None]

**y** [int or None]

**width** [int or None]

**height** [int or None]

**cmd\_commands** (self) → List[str]

Returns a list of possible commands for this object

Used by \_\_qsh\_\_ for command completion and online help

**cmd\_doc** (self, name) → str

Returns the documentation for a specified command name

Used by \_\_qsh\_\_ to provide online help.

**cmd\_eval** (self, code: str) → Tuple[bool, Union[str, NoneType]]

Evaluates code in the same context as this function

Return value is tuple (success, result), success being a boolean and result being a string representing the return value of eval, or None if exec was used instead.

**cmd\_function** (self, function, \*args, \*\*kwargs) → None

Call a function with current object as argument

**cmd\_info** (self)

Returns a dictionary of info for this screen.

**cmd\_items** (*self*, *name*) → Tuple[bool, List[str]]  
Returns a list of contained items for the specified name  
Used by `__qsh__` to allow navigation of the object graph.

**cmd\_next\_group** (*self*, *skip\_empty=False*, *skip\_managed=False*)  
Switch to the next group

**cmd\_prev\_group** (*self*, *skip\_empty=False*, *skip\_managed=False*)  
Switch to the previous group

**cmd\_resize** (*self*, *x=None*, *y=None*, *w=None*, *h=None*)  
Resize the screen

**cmd\_toggle\_group** (*self*, *group\_name=None*)  
Switch to the selected group or to the previously active one

**cmd\_togglegroup** (*self*, *groupName=None*)  
Switch to the selected group or to the previously active one  
Deprecated: use `toggle_group()`

## Window

**class** libqtile.window.**Window** (*window*, *qtile*)

**cmd\_bring\_to\_front** (*self*)

**cmd\_commands** (*self*) → List[str]  
Returns a list of possible commands for this object  
Used by `__qsh__` for command completion and online help

**cmd\_disable\_floating** (*self*)

**cmd\_disable\_fullscreen** (*self*)

**cmd\_disable\_maximize** (*self*)

**cmd\_disable\_minimize** (*self*)

**cmd\_doc** (*self*, *name*) → str  
Returns the documentation for a specified command name  
Used by `__qsh__` to provide online help.

**cmd\_down\_opacity** (*self*)

**cmd\_enable\_floating** (*self*)

**cmd\_enable\_fullscreen** (*self*)

**cmd\_enable\_maximize** (*self*)

**cmd\_enable\_minimize** (*self*)

**cmd\_eval** (*self*, *code: str*) → Tuple[bool, Union[str, NoneType]]  
Evaluates code in the same context as this function  
Return value is tuple (*success*, *result*), *success* being a boolean and *result* being a string representing the return value of `eval`, or `None` if `exec` was used instead.

**cmd\_focus** (*self*, *warp=None*)  
Focuses the window.

**cmd\_function** (*self*, *function*, \**args*, \*\**kwargs*) → None  
 Call a function with current object as argument

**cmd\_get\_position** (*self*)

**cmd\_get\_size** (*self*)

**cmd\_info** (*self*)  
 Returns a dictionary of info for this object

**cmd\_inspect** (*self*)  
 Tells you more than you ever wanted to know about a window

**cmd\_items** (*self*, *name*) → Tuple[bool, List[str]]  
 Returns a list of contained items for the specified name  
 Used by `__qsh__` to allow navigation of the object graph.

**cmd\_kill** (*self*)  
 Kill this window  
 Try to do this politely if the client support this, otherwise be brutal.

**cmd\_match** (*self*, \**args*, \*\**kwargs*)

**cmd\_move\_floating** (*self*, *dx*, *dy*)  
 Move window by dx and dy

**cmd\_opacity** (*self*, *opacity*)

**cmd\_resize\_floating** (*self*, *dw*, *dh*)  
 Add dw and dh to size of window

**cmd\_set\_position** (*self*, *dx*, *dy*)

**cmd\_set\_position\_floating** (*self*, *x*, *y*)  
 Move window to x and y

**cmd\_set\_size\_floating** (*self*, *w*, *h*)  
 Set window dimensions to w and h

**cmd\_static** (*self*, *screen*, *x*, *y*, *width*, *height*)

**cmd\_toggle\_floating** (*self*)

**cmd\_toggle\_fullscreen** (*self*)

**cmd\_toggle\_maximize** (*self*)

**cmd\_toggle\_minimize** (*self*)

**cmd\_togroup** (*self*, *groupName=None*, \*, *switch\_group=False*)  
 Move window to a specified group.  
 If *groupName* is not specified, we assume the current group. If *switch\_group* is True, also switch to that group.

## Examples

Move window to current group:

```
togroup()
```

Move window to group “a”:

```
togroup("a")
```

Move window to group “a”, and switch to group “a”:

```
togroup("a", switch_group=True)
```

**cmd\_toscreen** (*self*, *index=None*)

Move window to a specified screen.

If index is not specified, we assume the current screen

### Examples

Move window to current screen:

```
toscreen()
```

Move window to screen 0:

```
toscreen(0)
```

**cmd\_up\_opacity** (*self*)

## 4.1.2 Built-in Hooks

**classmethod** `subscribe.addgroup` (*func*)

Called when group is added

#### Arguments

- qtile manager instance
- name of new group

**classmethod** `subscribe.changegroup` (*func*)

Called whenever a group change occurs

#### Arguments

None

**classmethod** `subscribe.client_focus` (*func*)

Called whenever focus changes

#### Arguments

- `window.Window` object of the new focus.

**classmethod** `subscribe.client_killed` (*func*)

Called after a client has been unmanaged

#### Arguments

- `window.Window` object of the killed window.

**classmethod** `subscribe.client_managed` (*func*)

Called after Qtile starts managing a new client

Called after a window is assigned to a group, or when a window is made static. This hook is not called for internal windows.



**Arguments**

- `window.Window` object of the managed window

**classmethod** `subscribe.client_mouse_enter` (*func*)

Called when the mouse enters a client

**Arguments**

- `window.Window` of window entered

**classmethod** `subscribe.client_name_updated` (*func*)

Called when the client name changes

**Arguments**

- `window.Window` of client with updated name

**classmethod** `subscribe.client_new` (*func*)

Called before Qtile starts managing a new client

Use this hook to declare windows static, or add them to a group on startup. This hook is not called for internal windows.

**Arguments**

- `window.Window` object

**Examples**

```
@libqtile.hook.subscribe.client_new
def func(c):
    if c.name == "xterm":
        c.togroup("a")
    elif c.name == "dzen":
        c.static(0)
```

**classmethod** `subscribe.client_state_changed` (*func*)

Called whenever client state changes

Never fires

**classmethod** `subscribe.client_type_changed` (*func*)

Called whenever window type changes

Never fires

**classmethod** `subscribe.client_urgent_hint_changed` (*func*)

Called when the client urgent hint changes

**Arguments**

- `window.Window` of client with hint change

**classmethod** `subscribe.current_screen_change` (*func*)

Called when the current screen (i.e. the screen with focus) changes

**Arguments**

None

**classmethod** `subscribe.delgroup` (*func*)

Called when group is deleted

#### Arguments

- qtile manager instance
- name of deleted group

**classmethod** `subscribe.float_change` (*func*)

Called when a change in float state is made

#### Arguments

None

**classmethod** `subscribe.focus_change` (*func*)

Called when focus is changed

#### Arguments

None

**classmethod** `subscribe.group_window_add` (*func*)

Called when a new window is added to a group

#### Arguments

None

**classmethod** `subscribe.layout_change` (*func*)

Called on layout change

#### Arguments

- layout object for new layout
- group object on which layout is changed

**classmethod** `subscribe.net_wm_icon_change` (*func*)

Called on `_NET_WM_ICON` change

#### Arguments

- `window.Window` of client with changed icon

**classmethod** `subscribe.screen_change` (*func*)

Called when a screen is added or screen configuration is changed (via `xrandr`)

Common usage is simply to call `qtile.cmd_restart()` on each event (to restart qtile when there is a new monitor):

#### Arguments

- qtile manager instance
- `xproto.randr.ScreenChangeNotify` event

### Examples

```
@libqtile.hook.subscribe.screen_change
def restart_on_randr(qtile, ev):
    qtile.cmd_restart()
```

**classmethod** `subscribe.selection_change` (*func*)

Called on selection change

#### Arguments

- name of the selection
- dictionary describing selection, containing `owner` and `selection` as keys

**classmethod** `subscribe.selection_notify(func)`

Called on selection notify

**Arguments**

- name of the selection
- dictionary describing selection, containing `owner` and `selection` as keys

**classmethod** `subscribe.setgroup(func)`

Called when group is changed

**Arguments**

None

**classmethod** `subscribe.startup(func)`

Called when qtile is started

**Arguments**

None

**classmethod** `subscribe.startup_complete(func)`

Called when qtile is started after all resources initialized

**Arguments**

None

**classmethod** `subscribe.startup_once(func)`

Called when Qtile has started on first start

This hook is called exactly once per session (i.e. not on each `lazy.restart()`).

**Arguments**

None

**classmethod** `subscribe.window_name_change(func)`

Called whenever a windows name changes

Deprecated: use `client_name_updated` **Arguments**

None

### 4.1.3 Built-in Layouts

#### Floating

**class** `libqtile.layout.floating.Floating(float_rules=None, no_reposition_match=None, **config)`

Floating layout, which does nothing with windows but handles focus order

key	default	description
auto_float_types	'dialog', 'splash', 'utility', 'notification', 'toolbar'}	'default wm types to automatically float'
border_focus	'#0000ff'	'Border colour for the focused window.'
border_normal	'#000000'	'Border colour for un-focused windows.'
border_width	1	'Border width.'
fullscreen_border_width	border_width	'Border width for fullscreen.'
max_border_width	0	'Border width for maximize.'
name	'floating'	'Name of this layout.'

## Bsp

**class** libqtile.layout.bsp.Bsp(\*\*config)

This layout is inspired by bspwm, but it does not try to copy its features.

The first client occupies the entire screen space. When a new client is created, the selected space is partitioned in 2 and the new client occupies one of those subspaces, leaving the old client with the other.

The partition can be either horizontal or vertical according to the dimensions of the current space: if its width/height ratio is above a pre-configured value, the subspaces are created side-by-side, otherwise, they are created on top of each other. The partition direction can be freely toggled. All subspaces can be resized and clients can be shuffled around.

An example key configuration is:

```
Key([mod], "j", lazy.layout.down()),
Key([mod], "k", lazy.layout.up()),
Key([mod], "h", lazy.layout.left()),
Key([mod], "l", lazy.layout.right()),
Key([mod], "shift", "j", lazy.layout.shuffle_down()),
Key([mod], "shift", "k", lazy.layout.shuffle_up()),
Key([mod], "shift", "h", lazy.layout.shuffle_left()),
Key([mod], "shift", "l", lazy.layout.shuffle_right()),
Key([mod], "mod1", "j", lazy.layout.flip_down()),
Key([mod], "mod1", "k", lazy.layout.flip_up()),
Key([mod], "mod1", "h", lazy.layout.flip_left()),
Key([mod], "mod1", "l", lazy.layout.flip_right()),
Key([mod], "control", "j", lazy.layout.grow_down()),
Key([mod], "control", "k", lazy.layout.grow_up()),
Key([mod], "control", "h", lazy.layout.grow_left()),
Key([mod], "control", "l", lazy.layout.grow_right()),
Key([mod], "shift", "n", lazy.layout.normalize()),
Key([mod], "Return", lazy.layout.toggle_split()),
```

key	default	description
border_focus	'#881111'	'Border colour for the focused window.'
border_normal	'#220000'	'Border colour for un-focused windows.'
border_width	2	'Border width.'
fair	True	'New clients are inserted in the shortest branch.'
grow_amount	10	'Amount by which to grow a window/column.'
lower_right	True	'New client occupies lower or right subspace.'
margin	0	'Margin of the layout.'
name	'bsp'	'Name of this layout.'
ratio	1.6	'Width/height ratio that defines the partition direction.'

## Columns

**class** libqtile.layout.columns.**Columns** (\*\**config*)

Extension of the Stack layout.

The screen is split into columns, which can be dynamically added or removed. Each column can present its windows in 2 modes: split or stacked. In split mode, all windows are presented simultaneously, splitting the column space. In stacked mode, only a single window is presented from the stack of windows. Columns and windows can be resized and windows can be shuffled around.

This layout can also emulate wmii's default layout via:

```
layout.Columns(num_columns=1, insert_position=1)
```

Or the “Vertical”, and “Max”, depending on the default parameters.

An example key configuration is:

```
Key([mod], "j", lazy.layout.down()),
Key([mod], "k", lazy.layout.up()),
Key([mod], "h", lazy.layout.left()),
Key([mod], "l", lazy.layout.right()),
Key([mod], "shift", "j", lazy.layout.shuffle_down()),
Key([mod], "shift", "k", lazy.layout.shuffle_up()),
Key([mod], "shift", "h", lazy.layout.shuffle_left()),
Key([mod], "shift", "l", lazy.layout.shuffle_right()),
Key([mod], "control", "j", lazy.layout.grow_down()),
Key([mod], "control", "k", lazy.layout.grow_up()),
Key([mod], "control", "h", lazy.layout.grow_left()),
Key([mod], "control", "l", lazy.layout.grow_right()),
Key([mod], "Return", lazy.layout.toggle_split()),
Key([mod], "n", lazy.layout.normalize()),
```

key	default	description
border_focus	'#881111'	'Border colour for the focused window.'
border_focus_stacked	'#881111'	'Border colour for the focused window in stacked columns.'
border_normal	'#220000'	'Border colour for un-focused windows.'
border_normal_stacked	'#220000'	'Border colour for un-focused windows in stacked columns.'
border_width	2	'Border width.'
fair	False	'Add new windows to the column with least windows.'
grow_amount	10	'Amount by which to grow a window/column.'
insert_position	0	'Position relative to the current window where new ones are inserted (0 means right above the current window, 1 means right after).'
margin	0	'Margin of the layout.'
name	'columns'	'Name of this layout.'
num_columns	2	'Preferred number of columns.'
split	True	'New columns presentation mode.'
wrap_focus_columns	True	'Wrap the screen when moving focus across columns.'
wrap_focus_rows	True	'Wrap the screen when moving focus across rows.'
wrap_focus_stacked	True	'Wrap the screen when moving focus across stacked.'

## Matrix

**class** libqtile.layout.matrix.**Matrix**(*columns=2, \*\*config*)

This layout divides the screen into a matrix of equally sized cells and places one window in each cell. The number of columns is configurable and can also be changed interactively.

key	default	description
border_focus	'#0000ff'	'Border colour for the focused window.'
border_normal	'#000000'	'Border colour for un-focused windows.'
border_width	1	'Border width.'
margin	0	'Margin of the layout'
name	'matrix'	'Name of this layout.'

## Max

**class** libqtile.layout.max.**Max**(*\*\*config*)

Maximized layout

A simple layout that only displays one window at a time, filling the screen. This is suitable for use on laptops and other devices with small screens. Conceptually, the windows are managed as a stack, with commands to switch to next and previous windows in the stack.

key	default	description
name	'max'	'Name of this layout.'

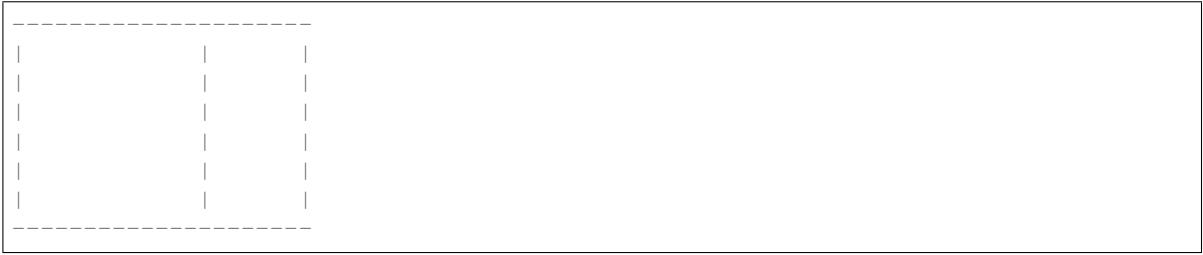
## MonadTall

**class** libqtile.layout.xmonad.**MonadTall**(*\*\*config*)

Emulate the behavior of XMonad's default tiling scheme.

Main-Pane:

A main pane that contains a single window takes up a vertical portion of the screen based on the ratio setting. This ratio can be adjusted with the `cmd_grow_main` and `cmd_shrink_main` or, while the main pane is in focus, `cmd_grow` and `cmd_shrink`.

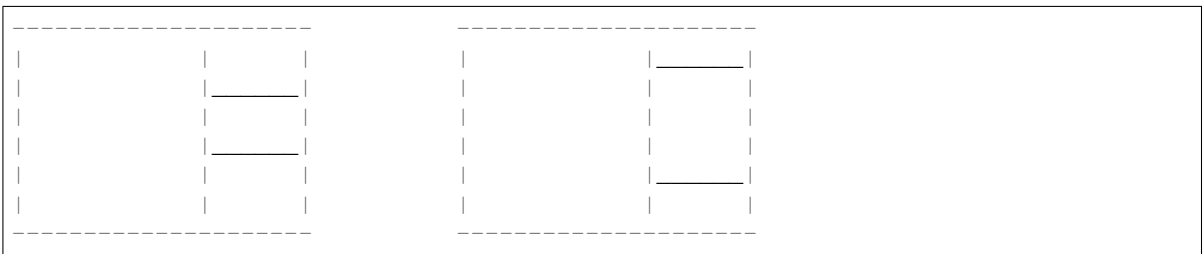


Using the `cmd_flip` method will switch which horizontal side the main pane will occupy. The main pane is considered the “top” of the stack.



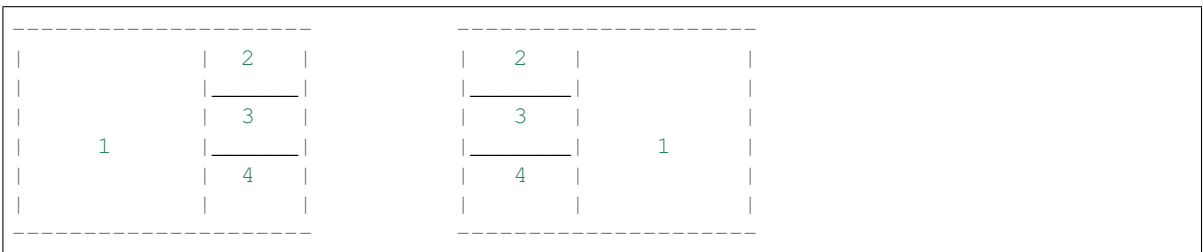
Secondary-panes:

Occupying the rest of the screen are one or more secondary panes. The secondary panes will share the vertical space of the screen however they can be resized at will with the `cmd_grow` and `cmd_shrink` methods. The other secondary panes will adjust their sizes to smoothly fill all of the space.



Panes can be moved with the `cmd_shuffle_up` and `cmd_shuffle_down` methods. As mentioned the main pane is considered the top of the stack; moving up is counter-clockwise and moving down is clockwise.

The opposite is true if the layout is “flipped”.



Normalizing:

To restore all client windows to their default size ratios simply use the `cmd_normalize` method.

Maximizing:

To toggle a client window between its minimum and maximum sizes simply use the `cmd_maximize` on a focused client.

Suggested Bindings:

```
Key([modkey], "h", lazy.layout.left()),
Key([modkey], "l", lazy.layout.right()),
Key([modkey], "j", lazy.layout.down()),
Key([modkey], "k", lazy.layout.up()),
Key([modkey], "shift", "h", lazy.layout.swap_left()),
Key([modkey], "shift", "l", lazy.layout.swap_right()),
Key([modkey], "shift", "j", lazy.layout.shuffle_down()),
Key([modkey], "shift", "k", lazy.layout.shuffle_up()),
Key([modkey], "i", lazy.layout.grow()),
Key([modkey], "m", lazy.layout.shrink()),
Key([modkey], "n", lazy.layout.normalize()),
Key([modkey], "o", lazy.layout.maximize()),
Key([modkey], "shift", "space", lazy.layout.flip()),
```

key	default	description
<code>align</code>	0	‘Which side master plane will be placed (one of <code>MonadTall._left</code> or <code>MonadTall._right</code> )’
<code>border_focus</code>	<code>'#ff0000'</code>	‘Border colour for the focused window.’
<code>border_normal</code>	<code>'#000000'</code>	‘Border colour for un-focused windows.’
<code>border_width</code>	2	‘Border width.’
<code>change_ratio</code>	0.05	‘Resize ratio’
<code>change_size</code>	20	‘Resize change in pixels’
<code>margin</code>	0	‘Margin of the layout’
<code>max_ratio</code>	0.75	‘The percent of the screen-space the master pane should occupy at maximum.’
<code>min_ratio</code>	0.25	‘The percent of the screen-space the master pane should occupy at minimum.’
<code>min_secondary_size</code>	35	‘minimum size in pixel for a secondary pane window’
<code>name</code>	<code>'xmonadtall'</code>	‘Name of this layout.’
<code>new_at_current</code>	False	‘Place new windows at the position of the active window.’
<code>ratio</code>	0.5	‘The percent of the screen-space the master pane should occupy by default.’
<code>single_border_width</code>	None	‘Border width for single window’
<code>single_margin</code>	None	‘Margin size for single window’

## MonadWide

**class** `libqtile.layout.xmonad.MonadWide` (\*\**config*)

Emulate the behavior of XMonad’s horizontal tiling scheme.

This layout attempts to emulate the behavior of XMonad wide tiling scheme.

Main-Pane:

A main pane that contains a single window takes up a horizontal portion of the screen based on the ratio setting. This ratio can be adjusted with the `cmd_grow_main` and `cmd_shrink_main` or, while the main pane is in focus, `cmd_grow` and `cmd_shrink`.

```
-----
|                                     |
```

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Using the `cmd_flip` method will switch which vertical side the main pane will occupy. The main pane is considered the “top” of the stack.



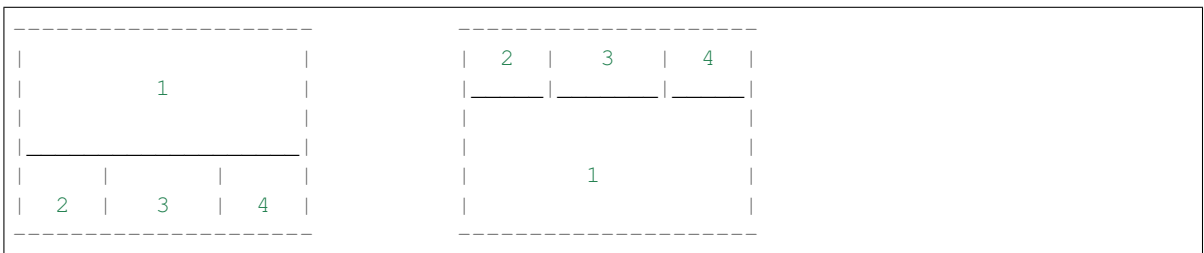
Secondary-panes:

Occupying the rest of the screen are one or more secondary panes. The secondary panes will share the horizontal space of the screen however they can be resized at will with the `cmd_grow` and `cmd_shrink` methods. The other secondary panes will adjust their sizes to smoothly fill all of the space.



Panes can be moved with the `cmd_shuffle_up` and `cmd_shuffle_down` methods. As mentioned the main pane is considered the top of the stack; moving up is counter-clockwise and moving down is clockwise.

The opposite is true if the layout is “flipped”.



Normalizing:

To restore all client windows to their default size ratios simply use the `cmd_normalize` method.

Maximizing:

To toggle a client window between its minimum and maximum sizes simply use the `cmd_maximize` on a focused client.

Suggested Bindings:

```

Key([modkey], "h", lazy.layout.left()),
Key([modkey], "l", lazy.layout.right()),
Key([modkey], "j", lazy.layout.down()),
Key([modkey], "k", lazy.layout.up()),
Key([modkey], "shift", "h", lazy.layout.swap_left()),
Key([modkey], "shift", "l", lazy.layout.swap_right()),
Key([modkey], "shift", "j", lazy.layout.shuffle_down()),
Key([modkey], "shift", "k", lazy.layout.shuffle_up()),
Key([modkey], "i", lazy.layout.grow()),
Key([modkey], "m", lazy.layout.shrink()),
Key([modkey], "n", lazy.layout.normalize()),
Key([modkey], "o", lazy.layout.maximize()),
Key([modkey], "shift", "space", lazy.layout.flip()),

```

key	default	description
align	0	‘Which side master plane will be placed (one of <code>MonadTall._left</code> or <code>MonadTall._right</code> )’
border_focus	'#ff0000'	‘Border colour for the focused window.’
border_normal	'#000000'	‘Border colour for un-focused windows.’
border_width	2	‘Border width.’
change_ratio	0.05	‘Resize ratio’
change_size	20	‘Resize change in pixels’
margin	0	‘Margin of the layout’
max_ratio	0.75	‘The percent of the screen-space the master pane should occupy at maximum.’
min_ratio	0.25	‘The percent of the screen-space the master pane should occupy at minimum.’
min_secondary_size	35	‘minimum size in pixel for a secondary pane window’
name	'xmonadtall'	‘Name of this layout.’
new_at_current	False	‘Place new windows at the position of the active window.’
ratio	0.5	‘The percent of the screen-space the master pane should occupy by default.’
single_border_width	None	‘Border width for single window’
single_margin	None	‘Margin size for single window’

## RatioTile

**class** libqtile.layout.ratiotile.**RatioTile**(\*\*config)

Tries to tile all windows in the width/height ratio passed in

key	default	description
border_focus	'#0000ff'	‘Border colour for the focused window.’
border_normal	'#000000'	‘Border colour for un-focused windows.’
border_width	1	‘Border width.’
fancy	False	‘Use a different method to calculate window sizes.’
margin	0	‘Margin of the layout’
name	'ratiotile'	‘Name of this layout.’
ratio	1.618	‘Ratio of the tiles’
ratio_increment	0.1	‘Amount to increment per ratio increment’

## Slice

**class** libqtile.layout.slice.**Slice** (\*\*config)  
 Slice layout

This layout cuts piece of screen and places a single window on that piece, and delegates other window placement to other layout

key	default	description
fallback	<libqtile.layout.max.Max object at 0x7f856611fd30>	'Fallback layout'
name	'max'	'Name of this layout.'
role	None	'WM_WINDOW_ROLE to match'
side	'left'	'Side of the slice (left, right, top, bottom)'
width	256	'Slice width'
wmclass	None	'WM_CLASS to match'
wname	None	'WM_NAME to match'

## Stack

**class** libqtile.layout.stack.**Stack** (\*\*config)  
 A layout composed of stacks of windows

The stack layout divides the screen horizontally into a set of stacks. Commands allow you to switch between stacks, to next and previous windows within a stack, and to split a stack to show all windows in the stack, or unsplit it to show only the current window.

Unlike the columns layout the number of stacks is fixed.

key	default	description
autosplit	False	'Auto split all new stacks.'
border_focus	'#0000ff'	'Border colour for the focused window.'
border_normal	'#000000'	'Border colour for un-focused windows.'
border_width	1	'Border width.'
fair	False	'Add new windows to the stacks in a round robin way.'
margin	0	'Margin of the layout'
name	'stack'	'Name of this layout.'
num_stacks	2	'Number of stacks.'

## Tile

**class** libqtile.layout.tile.**Tile** (ratio=0.618, masterWindows=1, expand=True, ratio\_increment=0.05, add\_on\_top=True, add\_after\_last=False, shift\_windows=False, master\_match=None, \*\*config)

key	default	description
border_focus	'#0000ff'	'Border colour for the focused window.'
border_normal	'#000000'	'Border colour for un-focused windows.'
border_width	1	'Border width.'
margin	0	'Margin of the layout'
name	'tile'	'Name of this layout.'

## TreeTab

```
class libqtile.layout.tree.TreeTab(**config)
```

Tree Tab Layout

This layout works just like Max but displays tree of the windows at the left border of the screen, which allows you to overview all opened windows. It's designed to work with `uzbl-browser` but works with other windows too.

key	default	description
active_bg	'000080'	'Background color of active tab'
active_fg	'ffffff'	'Foreground color of active tab'
bg_color	'000000'	'Background color of tabs'
border_width	2	'Width of the border'
font	'sans'	'Font'
fontshadow	None	'font shadow color, default is None (no shadow)'
fontsize	14	'Font pixel size.'
inactive_bg	'606060'	'Background color of inactive tab'
inactive_fg	'ffffff'	'Foreground color of inactive tab'
level_shift	8	'Shift for children tabs'
margin_left	6	'Left margin of tab panel'
margin_y	6	'Vertical margin of tab panel'
name	'treetab'	'Name of this layout.'
padding_left	6	'Left padding for tabs'
padding_x	6	'Left padding for tab label'
padding_y	2	'Top padding for tab label'
panel_width	150	'Width of the left panel'
previous_on_rm	False	'Focus previous window on close instead of first.'
section_bottom	6	'Bottom margin of section'
section_fg	'ffffff'	'Color of section label'
section_fontsize	11	'Font pixel size of section label'
section_left	4	'Left margin of section label'
section_padding	4	'Bottom of margin section label'
section_top	4	'Top margin of section label'
sections	['Default']	'Foreground color of inactive tab'
vspace	2	'Space between tabs'

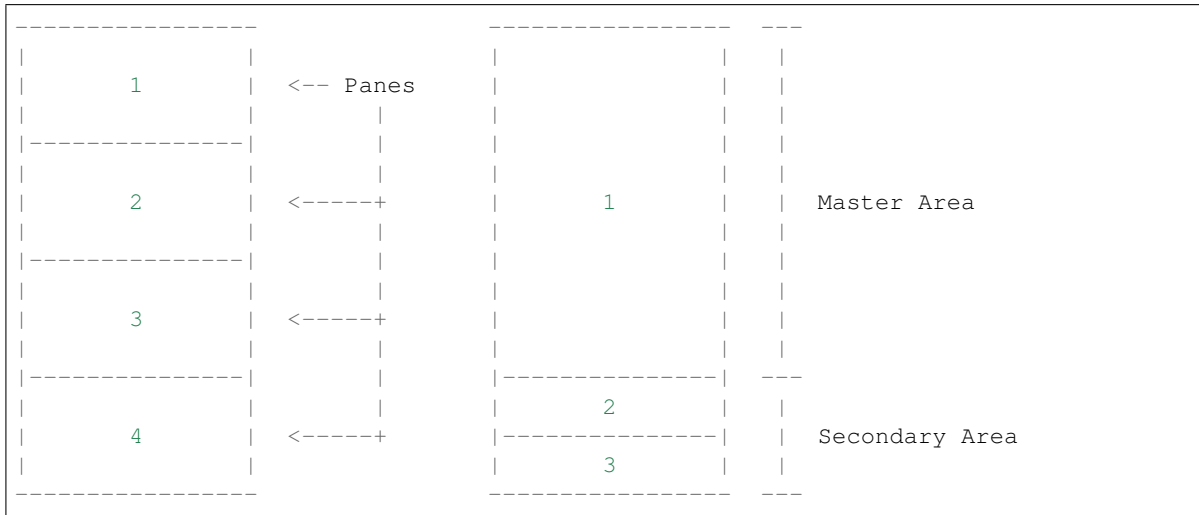
## VerticalTile

```
class libqtile.layout.verticaltile.VerticalTile(**config)
```

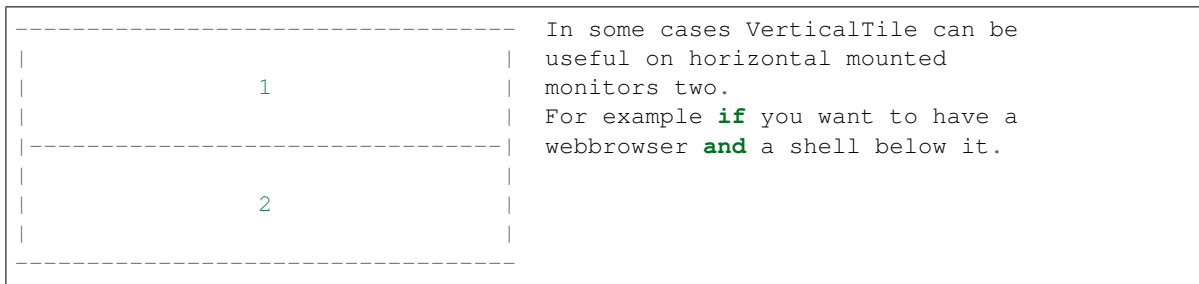
Tiling layout that works nice on vertically mounted monitors

The available height gets divided by the number of panes, if no pane is maximized. If one pane has been maximized, the available height gets split in master- and secondary area. The maximized pane (master pane)

gets the full height of the master area and the other panes (secondary panes) share the remaining space. The master area (at default 75%) can grow and shrink via keybindings.



Normal behavior. No One maximized pane in the master area maximized pane. No and two secondary panes in the specific areas. secondary area.



Suggested keybindings:

```
Key([modkey], 'j', lazy.layout.down()),
Key([modkey], 'k', lazy.layout.up()),
Key([modkey], 'Tab', lazy.layout.next()),
Key([modkey], 'shift', 'Tab', lazy.layout.next()),
Key([modkey], 'shift', 'j', lazy.layout.shuffle_down()),
Key([modkey], 'shift', 'k', lazy.layout.shuffle_up()),
Key([modkey], 'm', lazy.layout.maximize()),
Key([modkey], 'n', lazy.layout.normalize()),
```

key	default	description
border_focus	'#FF0000'	'Border color for the focused window.'
border_normal	'#FFFFFF'	'Border color for un-focused windows.'
border_width	1	'Border width.'
margin	0	'Border margin.'
name	'verticaltile'	'Name of this layout.'

## Zoomy

**class** libqtile.layout.zoomy.**Zoomy** (\*\*config)

A layout with single active windows, and few other previews at the right

key	default	description
columnwidth	150	‘Width of the right column’
margin	0	‘Margin of the layout’
name	'zoomy'	‘Name of this layout.’
property_big	'1.0'	‘Property value to set on normal window’
property_name	'ZOOM'	‘Property to set on zoomed window’
property_small	'0.1'	‘Property value to set on zoomed window’

## 4.1.4 Built-in Widgets

### AGroupBox

**class** libqtile.widget.**AGroupBox** (\*\*config)

A widget that graphically displays the current group

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border	'000000'	‘group box border color’
borderwidth	3	‘Current group border width’
center_aligned	True	‘center-aligned group box’
fmt	'{ } '	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
margin	3	‘Margin inside the box’
margin_x	None	“X Margin. Overrides ‘margin’ if set”
margin_y	None	“Y Margin. Overrides ‘margin’ if set”
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
padding_x	None	“X Padding. Overrides ‘padding’ if set”
padding_y	None	“Y Padding. Overrides ‘padding’ if set”

### Backlight

**class** libqtile.widget.**Backlight** (\*\*config)

A simple widget to show the current brightness of a monitor

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
backlight_name	'acpi_video0'	‘ACPI name of a backlight device’
brightness_file	'brightness'	‘Name of file with the current brightness in /sys/class/backlight/backlight_name’
change_command	'xbacklight -set {0}'	‘Execute command to change value’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'{percent: 2.0%}'	‘Display format’
markup	True	‘Whether or not to use pango markup’
max_brightness	max_brightness	‘Name of file with the maximum brightness in /sys/class/backlight/backlight_name’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
step	10	‘Percent of backlight every scroll changed’
update_interval	10.2	‘The delay in seconds between updates’

## Battery

**class** libqtile.widget.**Battery** (\*\**config*)

A text-based battery monitoring widget currently supporting FreeBSD

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
battery	0	‘Which battery should be monitored (battery number or name)’
charge_char	'^'	‘Character to indicate the battery is charging’
discharge_char	'V'	‘Character to indicate the battery is discharging’
empty_char	'x'	‘Character to indicate the battery is empty’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'{char} {percent:2. 0%} {hour:d}:{min:02d} {watt:.2f} W'	‘Display format’
full_char	'='	‘Character to indicate the battery is full’
hide_threshold	None	‘Hide the text when there is enough energy $0 \leq x < 1$ ’
low_foreground	'FF0000'	‘Font color on low battery’
low_percentage	0.1	‘Indicates when to use the low_foreground color $0 < x < 1$ ’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
show_short_text	True	‘Show “Full” or “Empty” rather than formatted text’
unknown_char	'?'	‘Character to indicate the battery status is unknown’
update_interval	160	‘Seconds between status updates’

## BatteryIcon

**class** libqtile.widget.**BatteryIcon**(\*\*config)

Battery life indicator widget.

Supported bar orientations: horizontal only



key	default	description
background	None	‘Widget background color’
battery	0	‘Which battery should be monitored’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
theme_path	'/home/docs/ checkouts/ readthedocs. org/ user_builds/ qtile/ checkouts/ v0.15.0/ libqtile/ resources/ battery-icons'	‘Path of the icons’
update_interval	160	‘Seconds between status updates’

## BitcoinTicker

**class** libqtile.widget.**BitcoinTicker**(\*\*config)

A bitcoin ticker widget, data provided by the coinbase.com API. Defaults to displaying currency in whatever the current locale is. Examples:

```
# display the average price of bitcoin in local currency
widget.BitcoinTicker()

# display it in Euros:
widget.BitcoinTicker(currency="EUR")
```

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
currency	' '	‘The currency the value that bitcoin is displayed in’
data	None	‘Post Data’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
headers	{}	‘Extra Headers’
json	True	‘Is Json?’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
parse	None	‘Parse Function’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’
url	None	‘Url’
user_agent	'Qtile'	‘Set the user agent’
xml	False	‘Is XML?’

## CPU

**class** libqtile.widget.**CPU**(\*\**config*)  
Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'CPU {freq_current}GHz {load_percent}%'	‘CPU display format’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	1.0	‘Update interval for the CPU widget’

## CPUGraph

**class** libqtile.widget.**CPUGraph**(\*\**config*)  
Display CPU usage graph  
Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border_color	'215578'	‘Widget border color’
border_width	2	‘Widget border width’
core	'all'	‘Which core to show (all/0/1/2/...)’
fill_color	'1667EB.3'	‘Fill color for linefill graph’
frequency	1	‘Update frequency in seconds’
graph_color	'18BAEB'	‘Graph color’
line_width	3	‘Line width’
margin_x	3	‘Margin X’
margin_y	3	‘Margin Y’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
samples	100	‘Count of graph samples.’
start_pos	'bottom'	‘Drawer starting position (‘bottom’/‘top’)’
type	'linefill'	‘“box”, “line”, “linefill”’

## Canto

**class** libqtile.widget.**Canto** (\*\*config)

Display RSS feeds updates using the canto console reader

Supported bar orientations: horizontal only

key	default	description
all_format	'{number}'	‘All feeds display format’
background	None	‘Widget background color’
feeds	[]	‘List of feeds to display, empty for all’
fetch	False	‘Whether to fetch new items on update’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
one_format	'{name} : {number}'	‘One feed display format’
padding	None	‘Padding. Calculated if None.’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’

## CapsNumLockIndicator

**class** libqtile.widget.**CapsNumLockIndicator** (\*\*config)

Really simple widget to show the current Caps/Num Lock state.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	10.5	‘Update Time in seconds.’

## CheckUpdates

**class** libqtile.widget.**CheckUpdates** (\*\*config)

Shows number of pending updates in different unix systems

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
colour_have_updates	'#ffffff'	‘Colour when there are updates.’
colour_no_updates	'#ffffff'	‘Colour when there’s no updates.’
custom_command	None	‘Custom shell command for checking updates (counts the lines of the output)’
display_format	'Updates: {updates}'	‘Display format if updates available’
distro	'Arch'	‘Name of your distribution’
execute	None	‘Command to execute on click’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
restart_indicator	True	‘Indicator to represent reboot is required. (Ubuntu only)’
update_interval	60	‘Update interval in seconds.’

## Clipboard

**class** libqtile.widget.**Clipboard** (width=CALCULATED, \*\*config)

Display current clipboard contents

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
blacklist	['keepassx']	‘list with blacklisted wm_class, sadly not every clipboard window sets them, keepassx does.Clipboard contents from blacklisted wm_classes will be replaced by the value of blacklist_text.’
blacklist_text	'*****'	‘text to display when the wm_class is blacklisted’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
max_width	10	‘maximum number of characters to display (None for all, useful when width is bar.STRETCH)’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
selection	'CLIPBOARD'	‘the selection to display(CLIPBOARD or PRIMARY)’
timeout	10	‘Default timeout (seconds) for display text, None to keep forever’

## Clock

**class** libqtile.widget.**Clock** (\*\*config)

A simple but flexible text-based clock

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'%H:%M'	‘A Python datetime format string’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
timezone	None	‘The timezone to use for this clock, either as string if pytz is installed (e.g. “US/Central” or anything in /usr/share/zoneinfo), or as tzinfo (e.g. datetime.timezone.utc). None means the system local timezone and is the default.’
update_interval	11.0	‘Update interval for the clock’

## Cmus

**class** libqtile.widget.**Cmus** (\*\*config)

A simple Cmus widget.

Show the artist and album of now listening song and allow basic mouse control from the bar:

- toggle pause (or play if stopped) on left click;
- skip forward in playlist on scroll up;
- skip backward in playlist on scroll down.

Cmus (<https://cmus.github.io>) should be installed.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
max_chars	0	‘Maximum number of characters to display in widget.’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
noplay_color	'cecece'	‘Text colour when not playing.’
padding	None	‘Padding. Calculated if None.’
play_color	'00ff00'	‘Text colour when playing.’
update_interval	10.5	‘Update Time in seconds.’

## Countdown

**class** libqtile.widget.**Countdown** (\*\*config)

A simple countdown timer text widget

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
date	datetime.datetime(2020, 4, 12, 14, 7, 33, 660160)	‘The datetime for the endo of the countdown’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'{D}d {H}h {M}m {S}s'	‘Format of the displayed text. Available variables: {D} == days, {H} == hours, {M} == minutes, {S} seconds.’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	1.0	‘Update interval in seconds for the clock’

## CurrentLayout

**class** libqtile.widget.**CurrentLayout** (*width=CALCULATED, \*\*config*)

Display the name of the current layout of the current group of the screen, the bar containing the widget, is on.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’

## CurrentLayoutIcon

**class** libqtile.widget.**CurrentLayoutIcon** (*\*\*config*)

Display the icon representing the current layout of the current group of the screen on which the bar containing the widget is.

If you are using custom layouts, a default icon with question mark will be displayed for them. If you want to use custom icon for your own layout, for example, *FooGrid*, then create a file named “layout-foogrid.png” and place it in *~/.icons* directory. You can as well use other directories, but then you need to specify those directories in *custom\_icon\_paths* argument for this plugin.

The order of icon search is:

- dirs in *custom\_icon\_paths* config argument
- *~/.icons*
- built-in qtile icons

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
custom_icon_paths	None	‘List of folders where to search icons before using built-in icons or icons in <i>~/.icons</i> dir. This can also be used to provide missing icons for custom layouts. Defaults to empty list.’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
scale	1	‘Scale factor relative to the bar height. Defaults to 1’

## CurrentScreen

**class** libqtile.widget.**CurrentScreen** (*width=CALCULATED, \*\*config*)

Indicates whether the screen this widget is on is currently active or not

Supported bar orientations: horizontal only

key	default	description
active_color	'00ff00'	'Color when screen is active'
active_text	'A'	'Text displayed when the screen is active'
background	None	'Widget background color'
fmt	'{ }'	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
inactive_color	'ff0000'	'Color when screen is inactive'
inactive_text	'I'	'Text displayed when the screen is inactive'
markup	True	'Whether or not to use pango markup'
mouse_callbacks	{}	'Dict of mouse button press callback functions.'
padding	None	'Padding. Calculated if None.'

## DF

**class** libqtile.widget.**DF** (*\*\*config*)

Disk Free Widget

By default the widget only displays if the space is less than warn\_space.

Supported bar orientations: horizontal only

key	default	description
background	None	'Widget background color'
fmt	'{ }'	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
format	'{p} ( {uf} {m}   {r:. 0f} %) '	'String format (p: partition, s: size, f: free space, uf: user free space, m: measure, r: ratio (uf/s))'
markup	True	'Whether or not to use pango markup'
measure	'G'	'Measurement (G, M, B)'
mouse_callbacks	{}	'Dict of mouse button press callback functions.'
padding	None	'Padding. Calculated if None.'
partition	'/'	'the partition to check space'
update_interval	160	'The update interval.'
visible_on_warn	True	'Only display if warning'
warn_color	'ff0000'	'Warning color'
warn_space	2	'Warning space in scale defined by the measure option.'



## DebugInfo

**class** libqtile.widget.**DebugInfo** (\*\*config)

Displays debugging infos about selected window

Supported bar orientations: horizontal only

key	default	description
background	None	'Widget background color'
fmt	'{ } '	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
markup	True	'Whether or not to use pango markup'
mouse_callbacks	{ }	'Dict of mouse button press callback functions.'
padding	None	'Padding. Calculated if None.'

## GenPollText

**class** libqtile.widget.**GenPollText** (\*\*config)

A generic text widget that polls using poll function to get the text

Supported bar orientations: horizontal only

key	default	description
background	None	'Widget background color'
fmt	'{ } '	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
func	None	'Poll Function'
markup	True	'Whether or not to use pango markup'
mouse_callbacks	{ }	'Dict of mouse button press callback functions.'
padding	None	'Padding. Calculated if None.'
update_interval	1600	'Update interval in seconds, if none, the widget updates whenever the event loop is idle.'

## GenPollUrl

**class** libqtile.widget.**GenPollUrl** (\*\*config)

A generic text widget that polls an url and parses it using parse function

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
data	None	‘Post Data’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
headers	{ }	‘Extra Headers’
json	True	‘Is Json?’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
parse	None	‘Parse Function’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’
url	None	‘Url’
user_agent	'Qtile'	‘Set the user agent’
xml	False	‘Is XML?’

## GmailChecker

**class** libqtile.widget.**GmailChecker** (\*\*config)

A simple gmail checker. If ‘status\_only\_unseen’ is True - set ‘fmt’ for one argument, ex. ‘unseen: {0}’

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
email_path	'INBOX'	‘email_path’
fmt	'inbox[{0}], unseen[{1}]'	‘fmt’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
password	None	‘password’
status_only_unseen	False	‘Only show unseen messages’
update_interval	130	‘Update time in seconds.’
username	None	‘username’

## GroupBox

**class** libqtile.widget.**GroupBox** (\*\*config)

A widget that graphically displays the current group. All groups are displayed by their label. If the label of a group is the empty string that group will not be displayed.

Supported bar orientations: horizontal only

key	default	description
active	'FFFFFF'	'Active group font colour'
background	None	'Widget background color'
block_highlight_text_color	None	'Selected group font colour'
borderwidth	3	'Current group border width'
center_aligned	True	'center-aligned group box'
disable_drag	False	'Disable dragging and dropping of group names on widget'
fmt	'{ }'	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
hide_unused	False	'Hide groups that have no windows and that are not displayed on any screen.'
highlight_color	['000000', '282828']	'Active group highlight color when using 'line' highlight method.'
highlight_method	'border'	'Method of highlighting ('border', 'block', 'text', or 'line')Uses *_border color settings'
inactive	'404040'	'Inactive group font colour'
invert_mouse_wheel	False	'Whether to invert mouse wheel group movement'
margin	3	'Margin inside the box'
margin_x	None	'X Margin. Overrides 'margin' if set'
margin_y	None	'Y Margin. Overrides 'margin' if set'
markup	True	'Whether or not to use pango markup'
mouse_callbacks	{}	'Dict of mouse button press callback functions.'
other_current_screen_border	'404040'	'Border or line colour for group on other screen when focused.'
other_screen_border	'404040'	'Border or line colour for group on other screen when unfocused.'
padding	None	'Padding. Calculated if None.'
padding_x	None	'X Padding. Overrides 'padding' if set'
padding_y	None	'Y Padding. Overrides 'padding' if set'
rounded	True	'To round or not to round box borders'
spacing	None	'Spacing between groups(if set to None, will be equal to margin_x)'
this_current_screen_border	'215578'	'Border or line colour for group on this screen when focused.'
this_screen_border	'215578'	'Border or line colour for group on this screen when unfocused.'
urgent_alert_method	'border'	'Method for alerting you of WM urgent hints (one of 'border', 'text', 'block', or 'line')'
urgent_border	'FF0000'	'Urgent border or line color'
urgent_text	'FF0000'	'Urgent group font color'
use_mouse_wheel	True	'Whether to use mouse wheel events'
visible_groups	None	'Groups that will be visible. If set to None or [], all groups will be visible.Visible groups are identified by name not by their displayed label.'

## HDDBusyGraph

**class** libqtile.widget.HDDBusyGraph(\*\*config)

Display HDD busy time graph

Parses /sys/block/<dev>/stat file and extracts overall device IO usage, based on io\_ticks's value. See <https://www.kernel.org/doc/Documentation/sysfs/block.html>

[//www.kernel.org/doc/Documentation/block/stat.txt](http://www.kernel.org/doc/Documentation/block/stat.txt)

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border_color	'215578'	‘Widget border color’
border_width	2	‘Widget border width’
device	'sda'	‘Block device to display info for’
fill_color	'1667EB.3'	‘Fill color for linefill graph’
frequency	1	‘Update frequency in seconds’
graph_color	'18BAEB'	‘Graph color’
line_width	3	‘Line width’
margin_x	3	‘Margin X’
margin_y	3	‘Margin Y’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
samples	100	‘Count of graph samples.’
start_pos	'bottom'	“Drawer starting position (‘bottom’/‘top’)”
type	'linefill'	“‘box’, ‘line’, ‘linefill’”

## HDDGraph

**class** libqtile.widget.HDDGraph (\*\*config)

Display HDD free or used space graph

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border_color	'215578'	‘Widget border color’
border_width	2	‘Widget border width’
fill_color	'1667EB.3'	‘Fill color for linefill graph’
frequency	1	‘Update frequency in seconds’
graph_color	'18BAEB'	‘Graph color’
line_width	3	‘Line width’
margin_x	3	‘Margin X’
margin_y	3	‘Margin Y’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
path	'/'	‘Partition mount point.’
samples	100	‘Count of graph samples.’
space_type	'used'	‘free/used’
start_pos	'bottom'	“Drawer starting position (‘bottom’/‘top’)”
type	'linefill'	“‘box’, ‘line’, ‘linefill’”

## IdleRPG

**class** libqtile.widget.IdleRPG (\*\*config)

A widget for monitoring and displaying IdleRPG stats.

```
# display idlerpg stats for the player 'pants' on freenode's #idlerpg
widget.IdleRPG(url="http://xethron.lolhosting.net/xml.php?player=pants")
```

Widget requirements: `xmltodict`.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
data	None	‘Post Data’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'IdleRPG: {online} TTL: {ttl}{'	‘Display format’
headers	{}	‘Extra Headers’
json	False	‘Not json :)’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
parse	None	‘Parse Function’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’
url	None	‘Url’
user_agent	'Qtile'	‘Set the user agent’
xml	True	‘Is XML :)’

## Image

**class** `libqtile.widget.Image` (*length=CALCULATED, width=None, \*\*config*)

Display a PNG image on the bar

Supported bar orientations: horizontal and vertical

key	default	description
background	None	‘Widget background color’
filename	None	‘Image filename. Can contain ‘~’
margin	3	‘Margin inside the box’
margin_x	None	‘X Margin. Overrides ‘margin’ if set’
margin_y	None	‘Y Margin. Overrides ‘margin’ if set’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
rotate	0.0	‘rotate the image in degrees counter-clockwise’
scale	True	‘Enable/Disable image scaling’

## ImapWidget

**class** `libqtile.widget.ImapWidget` (*\*\*config*)

Email IMAP widget

This widget will scan one of your imap email boxes and report the number of unseen messages present. I’ve configured it to only work with imap with ssl. Your password is obtained from the Gnome Keyring.

Writing your password to the keyring initially is as simple as (changing out <userid> and <password> for your userid and password):

- 1) create the file `~/.local/share/python_keyring/keyringrc.cfg` with the following contents:

```
[backend]
default-keyring=keyring.backends.Gnome.Keyring
keyring-path=/home/<userid>/.local/share/keyring/
```

- 2) Execute the following python shell script once:

```
#!/usr/bin/env python3
import keyring
user = <userid>
password = <password>
keyring.set_password('imapwidget', user, password)
```

mbox names must include the path to the mbox (except for the default INBOX). So, for example if your mailroot is `~/Maildir`, and you want to look at the mailbox at `HomeMail/fred`, the mbox setting would be: `mbox="~/Maildir/HomeMail/fred"`. Note the nested sets of quotes! Labels can be whatever you choose, of course.

Widget requirements: [keyring](#).

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
label	'INBOX'	‘label for display’
markup	True	‘Whether or not to use pango markup’
mbox	'"INBOX"'	‘mailbox to fetch’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
server	None	‘email server name’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’
user	None	‘email username’

## KeyboardKbdd

**class** `libqtile.widget.KeyboardKbdd` (*\*\*config*)

Widget for changing keyboard layouts per window, using kbdd

kbdd should be installed and running, you can get it from: <https://github.com/qnikst/kbdd>

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
colours	None	“foreground colour for each layout either ‘None’ or a list of colours.example: [‘ffffff’, ‘E6F0AF’]. “
configured_keyboard_layouts	layouts, ‘ir’]	“your predefined list of keyboard layouts.example: [‘us’, ‘ir’, ‘es’]”
fmt	{ }	‘How to format the text’
font	‘sans’	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	‘ffffff’	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	1	‘Update interval in seconds.’

## KeyboardLayout

**class** libqtile.widget.**KeyboardLayout** (\*\*config)  
Widget for changing and displaying the current keyboard layout

It requires setxkbmap to be available in the system.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
configured_keyboard_layouts	layouts]	“A list of predefined keyboard layouts represented as strings. For example: [‘us’, ‘us colemak’, ‘es’, ‘fr’].”
fmt	{ }	‘How to format the text’
font	‘sans’	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	‘ffffff’	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
option	None	“string of setxkbmap option. Ex., ‘compose:menu.grp_led:scroll’”
padding	None	‘Padding. Calculated if None.’
update_interval	1	‘Update time in seconds.’

## KhalCalendar

**class** libqtile.widget.**KhalCalendar** (\*\*config)  
Khal calendar widget

This widget will display the next appointment on your Khal calendar in the qtile status bar. Appointments within the “reminder” time will be highlighted.

Widget requirements: `dateutil`.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'FFFF33'	‘default foreground color’
lookahead	7	‘days to look ahead in the calendar’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
reminder_color	'FF0000'	‘color of calendar entries during reminder time’
remindertime	10	‘reminder time in minutes’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’

## LaunchBar

**class** libqtile.widget.**LaunchBar** (progs=None, width=CALCULATED, \*\*config)

A widget that display icons to launch the associated command

Widget requirements: [pyxdg](#).

### Parameters

**progs**: a list of tuples (software\_name, command\_to\_execute, comment), for example:

```
('thunderbird', 'thunderbird -safe-mode', 'launch thunderbird in_
↳ safe mode')
('logout', 'qshell:self.qtile.cmd_shutdown()', 'logout from qtile')
```

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
default_icon	‘/usr/share/ icons/ oxygen/ 256x256/ mimetypes/ application-x-executable. png’	‘Default icon not found’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	2	‘Padding between icons’

## Maildir

**class** libqtile.widget.**Maildir** (\*\*config)

A simple widget showing the number of new mails in maildir mailboxes

Supported bar orientations: horizontal only



key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
maildir_path	'~/Mail'	‘path to the Maildir folder’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
separator	' '	‘the string to put between the subfolder strings.’
sub_folders	[]	‘The subfolders to scan (e.g. [{"path": "INBOX", "label": "Home mail"}], [{"path": "spam", "label": "Home junk"}])’
total	False	‘Whether or not to sum subfolders into a grand total. The first label will be used.’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’

## Memory

**class** libqtile.widget.**Memory**(\*\*config)

Displays memory/swap usage

MemUsed: Returns memory in use MemTotal: Returns total amount of memory MemFree: Returns amount of memory free Buffers: Returns buffer amount Active: Returns active memory Inactive: Returns inactive memory Shmem: Returns shared memory SwapTotal: Returns total amount of swap SwapFree: Returns amount of swap free SwapUsed: Returns amount of swap in use

Widget requirements: [psutil](#).

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'{MemUsed}M/{MemTotal}M'	‘Formatting for field names.’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	11.0	‘Update interval for the Memory’

## MemoryGraph

**class** libqtile.widget.**MemoryGraph**(\*\*config)

Displays a memory usage graph

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border_color	'215578'	‘Widget border color’
border_width	2	‘Widget border width’
fill_color	'1667EB.3'	‘Fill color for linefill graph’
frequency	1	‘Update frequency in seconds’
graph_color	'18BAEB'	‘Graph color’
line_width	3	‘Line width’
margin_x	3	‘Margin X’
margin_y	3	‘Margin Y’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
samples	100	‘Count of graph samples.’
start_pos	'bottom'	‘Drawer starting position (‘bottom’/‘top’)’
type	'linefill'	‘“box”, ‘line’, ‘linefill’”

## Moc

**class** libqtile.widget.**Moc** (\*\*config)

A simple MOC widget.

Show the artist and album of now listening song and allow basic mouse control from the bar:

- toggle pause (or play if stopped) on left click;
- skip forward in playlist on scroll up;
- skip backward in playlist on scroll down.

MOC (<http://moc.daper.net>) should be installed.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
max_chars	0	‘Maximum number of characters to display in widget.’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
noplay_color	'cecece'	‘Text colour when not playing.’
padding	None	‘Padding. Calculated if None.’
play_color	'00ff00'	‘Text colour when playing.’
update_interval	10.5	‘Update Time in seconds.’

## Mpd2

**class** libqtile.widget.**Mpd2** (\*\*config)

Mpd2 Object.

## Parameters

**status\_format** : format string to display status

**For a full list of values, see:** `MPDClient.status()` and `MPDClient.currentsong()`

[https://musicpd.org/doc/protocol/command\\_reference.html#command\\_status](https://musicpd.org/doc/protocol/command_reference.html#command_status) <https://musicpd.org/doc/protocol/tags.html>

Default:

```
'{play_status} {artist}/{title} \
  [{repeat}]{random}{single}{consume}{updating_db}{'
`play_status` is a string from `play_states` dict
Note that the ``time`` property of the song renamed to ``fulltime``
to prevent conflicts with status information during formating.
```

**idle\_format** : format string to display status when no song is in queue.

Default:

```
'{play_status} {idle_message} \
  [{repeat}]{random}{single}{consume}{updating_db}{'
```

**idle\_message** : text to display instead of song information when MPD is idle. (i.e. no song in queue)

Default:: “MPD IDLE”

**prepare\_status** : dict of functions to replace values in status with custom characters.

`f(status, key, space_element) => str`

New functionality allows use of a dictionary of plain strings.

Default:

```
status_dict = {
    'repeat': 'r',
    'random': 'z',
    'single': 'l',
    'consume': 'c',
    'updating_db': 'U'
}
```

**format\_fns** : A dict of functions to format the various elements.

`‘Tag’ : f(str) => str`

Default:: { ‘all’: lambda s: cgi.escape(s) }

**N.B. if ‘all’ is present, it is processed on every element of song\_info** before any other formatting is done.

**mouse\_buttons** : A dict of mouse button numbers to actions

**Widget requirements:** `python-mpd2`.

**.. `_python-mpd2`:** <https://pypi.org/project/python-mpd2/>

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
color_progress	None	‘Text color to indicate track progress.’
command	<function default_cmd at 0x7f8565a7ee18>	‘command to be executed by mapped mouse button.’
fmt	'{}'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format_fns	{'all': <function <lambda> at 0x7f8565a7eea0>}	‘Dictionary of format methods’
host	'localhost'	‘Host of mpd server’
idle_format	'{play_status}'	‘format for status when mpd has no playlist.’
idle_message	{idle_message}	‘text to display when mpd is idle.’
idletimeout	5	‘MPDClient idle command timeout’
keys	{'command': None, 'next': 5, 'previous': 4, 'stop': 3, 'toggle': 1}	‘mouse button mapping. action -> b_num. deprecated.’
markup	True	‘Whether or not to use pango markup’
mouse_buttons	{}	‘b_num -> action. replaces keys.’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
no_connection	'No connection'	‘Text when mpd is disconnected’
padding	None	‘Padding. Calculated if None.’
password	None	‘Password for auth on mpd server’
play_states	{'pause': '', 'play': '', 'stop': ''}	‘Play state mapping’
port	6600	‘Port of mpd server’
prepare_status	{'consume': 'c', 'random': 'z', 'repeat': 'r', 'single': '1', 'updating_db': 'U'}	‘characters to show the status of MPD’
space	'-'	‘Space keeper’
status_format	'{play_status}' {artist}/ {title}	‘format for displayed song info.’
timeout	30	‘MPDClient timeout’
update_interval	11	‘Interval of update widget’

## Mpris

```
class libqtile.widget.Mpris(**config)
    MPRIS player widget
```

A widget which displays the current track/artist of your favorite MPRIS player. It should work with all players which implement a reasonably correct version of MPRIS, though I have only tested it with clementine.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
name	'clementine'	‘Name of the widget’
objname	'org.mpris.clementine'	‘DBUS object to connect to’
padding	None	‘Padding. Calculated if None.’
stop_pause_text	'Stopped'	‘Optional text to display when in the stopped/paused state’

## Mpris2

```
class libqtile.widget.Mpris2(**config)
    An MPRIS 2 widget
```

A widget which displays the current track/artist of your favorite MPRIS player. It should work with all MPRIS 2 compatible players which implement a reasonably correct version of MPRIS, though I have only tested it with audacious. This widget scrolls the text if neccessary and information that is displayed is configurable.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
display_metadata	<code>['xesam:title', 'xesam:album', 'xesam:artist']</code>	‘Which metadata identifiers to display. See <a href="http://www.freedesktop.org/wiki/Specifications/mpri-spec/metadata/#index5h3">http://www.freedesktop.org/wiki/Specifications/mpri-spec/metadata/#index5h3</a> for available values’
fmt	<code>'{}'</code>	‘How to format the text’
font	<code>'sans'</code>	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	<code>'ffffff'</code>	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	<code>{}</code>	‘Dict of mouse button press callback functions.’
name	<code>'audacious'</code>	‘Name of the MPRIS widget.’
objname	<code>'org.mpris.MediaPlayer2.audacious'</code>	‘DBUS MPRIS 2 compatible player identifier- Find it out with <code>dbus-monitor</code> - Also see: <a href="http://specifications.freedesktop.org/mpri-spec/latest/#Bus-Name-Policy">http://specifications.freedesktop.org/mpri-spec/latest/#Bus-Name-Policy</a> ’
padding	None	‘Padding. Calculated if None.’
scroll_chars	30	‘How many chars at once to display.’
scroll_interval	10.5	‘Scroll delay interval.’
scroll_wait_intervals	3	‘Wait x scroll_interval before scrolling/removing text’
stop_pause_text	None	‘Optional text to display when in the stopped/paused state’

## Net

**class** `libqtile.widget.Net` (*\*\*config*)

Displays interface down and up speed

Widget requirements: [psutil](#).

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	<code>'{}'</code>	‘How to format the text’
font	<code>'sans'</code>	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	<code>'ffffff'</code>	‘Foreground colour’
format	<code>'{interface}: {down} ↓↑ {up}'</code>	‘Display format of down-/upload speed of given interfaces’
interface	None	‘List of interfaces or single NIC as string to monitor, None to displays all active NICs combined’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	<code>{}</code>	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	1	‘The update interval.’
use_bits	False	‘Use bits instead of bytes per second?’

## NetGraph

**class** libqtile.widget.**NetGraph** (\*\*config)

Display a network usage graph

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
bandwidth_type	'down'	‘down(load)/up(load)’
border_color	'215578'	‘Widget border color’
border_width	2	‘Widget border width’
fill_color	'1667EB.3'	‘Fill color for linefill graph’
frequency	1	‘Update frequency in seconds’
graph_color	'18BAEB'	‘Graph color’
interface	'auto'	“Interface to display info for (‘auto’ for detection)”
line_width	3	‘Line width’
margin_x	3	‘Margin X’
margin_y	3	‘Margin Y’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
samples	100	‘Count of graph samples.’
start_pos	'bottom'	“Drawer starting position (‘bottom’/‘top’)”
type	'linefill'	“‘box’, ‘line’, ‘linefill’”

## Notify

**class** libqtile.widget.**Notify** (width=CALCULATED, \*\*config)

A notify widget

Supported bar orientations: horizontal only

key	default	description
audiofile	None	‘Audiofile played during notifications’
background	None	‘Widget background color’
default_timeout	None	‘Default timeout (seconds) for notifications’
fmt	'{ } '	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
foreground_low	'dddddd'	‘Foreground low priority colour’
foreground_urgent	'ff0000'	‘Foreground urgent priority colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’

## Pacman

**class** libqtile.widget.**Pacman** (\*\*config)

Shows number of available updates

Needs the pacman package manager installed. So will only work in Arch Linux installation.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
execute	None	‘Command to execute on click’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
unavailable	'ffffff'	‘Unavailable Color - no updates.’
update_interval	160	‘The update interval.’

## Pomodoro

```
class libqtile.widget.Pomodoro (**config)
```

Pomodoro technique widget

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
color_active	'00ff00'	‘Colour then pomodoro is running’
color_break	'ffff00'	‘Colour then it is break time’
color_inactive	'ff0000'	‘Colour then pomodoro is inactive’
fmt	'{ }'	‘fmt’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
length_long_break	15	‘Length of a long break in minutes’
length_pomodori	25	‘Length of one pomodori in minutes’
length_short_break	5	‘Length of a short break in minutes’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
notification_on	True	‘Turn notifications on’
num_pomodori	4	‘Number of pomodori to do in a cycle’
padding	None	‘Padding. Calculated if None.’
prefix_active	' '	‘Prefix then app is active’
prefix_break	'B '	‘Prefix during short break’
prefix_inactive	'POMODORO '	‘Prefix when app is inactive’
prefix_long_break	'LB '	‘Prefix during long break’
prefix_paused	'PAUSE '	‘Prefix during pause’
update_interval	1	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’



## Prompt

**class** libqtile.widget.**Prompt** (*name='prompt', \*\*config*)

A widget that prompts for user input

Input should be started using the `.start_input()` method on this class.

Supported bar orientations: horizontal only

key	default	description
background	None	'Widget background color'
bell_style	'audible'	'Alert at the begin/end of the command history. Possible values: 'audible', 'visual' and None.'
cursor	True	'Show a cursor'
cursor_color	'bef098'	'Color for the cursor and text over it.'
cursorblink	0.5	'Cursor blink rate. 0 to disable.'
fmt	'{ }'	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
ignore_dups_history	False	'Don't store duplicates in history'
markup	True	'Whether or not to use pango markup'
max_history	100	'Commands to keep in history. 0 for no limit.'
mouse_callbacks	{}	'Dict of mouse button press callback functions.'
padding	None	'Padding. Calculated if None.'
prompt	'{prompt}:'	'Text displayed at the prompt'
record_history	True	'Keep a record of executed commands'
visual_bell_color	'bfff0000'	'Color for the visual bell (changes prompt background).'
visual_bell_time	0.2	'Visual bell duration (in seconds).'

## PulseVolume

libqtile.widget.**PulseVolume**

alias of libqtile.widget.import\_error.make\_error.<locals>.ImportErrorWidget

## QuickExit

**class** libqtile.widget.**QuickExit** (*widget=CALCULATED, \*\*config*)

A button of exiting the running qtile easily. When clicked this button, a countdown start. If the button pushed with in the countdown again, the qtile shutdown.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
countdown_format	[ {} seconds ]	‘This text is showed when counting down.’
countdown_start	5	‘Time to accept the second pushing.’
default_text	[ shutdown ]	‘A text displayed as a button’
fmt	{ }	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
timer_interval	1	‘A countdown interval.’

## Sep

**class** libqtile.widget.**Sep** (*height\_percent=None, \*\*config*)

A visible widget separator

Supported bar orientations: horizontal and vertical

key	default	description
background	None	‘Widget background color’
foreground	'888888'	‘Separator line colour.’
linewidth	1	‘Width of separator line.’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	2	‘Padding on either side of separator.’
size_percent	80	‘Size as a percentage of bar size (0-100).’

## She

**class** libqtile.widget.**She** (*\*\*config*)

Widget to display the Super Hybrid Engine status

Can display either the mode or CPU speed on eeepc computers.

Supported bar orientations: horizontal only

key	default	description
background	None	'Widget background color'
device	'/sys/ devices/ platform/ eeepc/cpufv'	'sys path to cpufv'
fmt	'{ }'	'How to format the text'
font	'sans'	'Default font'
fontshadow	None	'font shadow color, default is None(no shadow)'
fontsize	None	'Font size. Calculated if None.'
foreground	'ffffff'	'Foreground colour'
format	'speed'	'Type of info to display "speed" or "name"'
markup	True	'Whether or not to use pango markup'
mouse_callbacks	{}	'Dict of mouse button press callback functions.'
padding	None	'Padding. Calculated if None.'
update_interval	10.5	'Update Time in seconds.'

## Spacer

**class** libqtile.widget.**Spacer** (*length=STRETCH, width=None, \*\*config*)

Just an empty space on the bar

Often used with length equal to bar.STRETCH to push bar widgets to the right or bottom edge of the screen.

### Parameters

**length** : Length of the widget. Can be either bar.STRETCH or a length in pixels.

**width** : DEPRECATED, same as length.

Supported bar orientations: horizontal and vertical

key	default	description
background	None	'Widget background color'
mouse_callbacks	{}	'Dict of mouse button press callback functions.'

## StockTicker

**class** libqtile.widget.**StockTicker** (*\*\*config*)

A stock ticker widget, based on the alphavantage API. Users must acquire an API key from <https://www.alphavantage.co/support/#api-key>

The widget defaults to the TIME\_SERIES\_INTRADAY API function (i.e. stock symbols), but arbitrary Alpha Vantage API queries can be made by passing extra arguments to the constructor.

```
# Display AMZN
widget.StockTicker(apikey=..., symbol="AMZN")

# Display BTC
widget.StockTicker(apikey=..., function="DIGITAL_CURRENCY_INTRADAY", symbol="BTC",
↪ market="USD")
```

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
data	None	‘Post Data’
fmt	'{ } '	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
function	'TIME_SERIES_IN'	‘The default API function to query’
headers	{}	‘Extra Headers’
interval	'1min'	‘The default latency to query’
json	True	‘Is Json?’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
parse	None	‘Parse Function’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’
url	None	‘Url’
user_agent	'Qtile'	‘Set the user agent’
xml	False	‘Is XML?’

## SwapGraph

**class** libqtile.widget.**SwapGraph**(\*\*config)

Display a swap info graph

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border_color	'215578'	‘Widget border color’
border_width	2	‘Widget border width’
fill_color	'1667EB.3'	‘Fill color for linefill graph’
frequency	1	‘Update frequency in seconds’
graph_color	'18BAEB'	‘Graph color’
line_width	3	‘Line width’
margin_x	3	‘Margin X’
margin_y	3	‘Margin Y’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
samples	100	‘Count of graph samples.’
start_pos	'bottom'	‘Drawer starting position (‘bottom’/‘top’)’
type	'linefill'	‘“box”, “line”, “linefill”’

## Systray

**class** libqtile.widget.**Systray**(\*\*config)

A widget that manages system tray

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
icon_size	20	‘Icon width’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	5	‘Padding between icons’

## TaskList

**class** libqtile.widget.**TaskList** (\*\*config)

Displays the icon and name of each window in the current group

Contrary to WindowTabs this is an interactive widget. The window that currently has focus is highlighted.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
border	'215578'	‘Border colour’
borderwidth	2	‘Current group border width’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
highlight_method	'border'	“Method of highlighting (one of ‘border’ or ‘block’) Uses *_border color settings”
icon_size	None	‘Icon size. (Calculated if set to None. Icons are hidden if set to 0.)’
margin	3	‘Margin inside the box’
margin_x	None	“X Margin. Overrides ‘margin’ if set”
margin_y	None	“Y Margin. Overrides ‘margin’ if set”
markup_floating	None	‘Text markup of the floating window state. Supports pangomarkup with markup=True.e.g., “{}” or “<span underline=“low”>{</span>”
markup_focused	None	‘Text markup of the focused window state. Supports pangomarkup with markup=True.e.g., “{}” or “<span underline=“low”>{</span>”
markup_maximized	None	‘Text markup of the maximized window state. Supports pangomarkup with markup=True.e.g., “{}” or “<span underline=“low”>{</span>”
markup_minimized	None	‘Text markup of the minimized window state. Supports pangomarkup with markup=True.e.g., “{}” or “<span underline=“low”>{</span>”
markup_normal	None	‘Text markup of the normal window state. Supports pangomarkup with markup=True.e.g., “{}” or “<span underline=“low”>{</span>”
max_title_width	None	‘Max size in pixels of task title.(if set to None, as much as available.)’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	3	‘Padding inside the box’
padding_x	None	“X Padding. Overrides ‘padding’ if set”
padding_y	None	“Y Padding. Overrides ‘padding’ if set”

Continued on next page

Table 2 – continued from previous page

key	default	description
rounded	True	‘To round or not to round borders’
spacing	None	‘Spacing between tasks.(if set to None, will be equal to margin_x)’
title_width_method	None	“Method to compute the width of task title. (None, ‘uniform’.)Defaults to None, the normal behaviour.”
txt_floating	'V '	‘Text representation of the floating window state. e.g., “V ” or “ “
txt_maximized	'[] '	‘Text representation of the maximized window state. e.g., “[ ] ” or “ “
txt_minimized	'_ '	‘Text representation of the minimized window state. e.g., “_ ” or “ “
unfocused_border	None	“Border color for unfocused windows. Affects only highlight_method ‘border’ and ‘block’. Defaults to None, which means no special color.”
urgent_alert_method	'border'	“Method for alerting you of WM urgent hints (one of ‘border’ or ‘text’)”
urgent_border	'FF0000'	‘Urgent border color’

## TextBox

**class** libqtile.widget.**TextBox** (text=' ', width=*CALCULATED*, *\*\*config*)

A flexible textbox that can be updated from bound keys, scripts, and qshell.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Text font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font pixel size. Calculated if None.’
foreground	'#ffffff'	‘Foreground colour.’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding left and right. Calculated if None.’

## ThermalSensor

**class** libqtile.widget.**ThermalSensor** (*\*\*config*)

Widget to display temperature sensor information

For using the thermal sensor widget you need to have lm-sensors installed. You can get a list of the tag\_sensors executing “sensors” in your terminal. Then you can choose which you want, otherwise it will display the first available.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
foreground_alert	'ff0000'	‘Foreground colour alert’
markup	True	‘Whether or not to use pango markup’
metric	True	‘True to use metric/C, False to use imperial/F’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
show_tag	False	‘Show tag sensor’
tag_sensor	None	‘Tag of the temperature sensor. For example: “temp1” or “Core 0”’
threshold	70	‘If the current temperature value is above, then change to foreground_alert colour’
update_interval	12	‘Update interval in seconds’

## Volume

**class** libqtile.widget.**Volume** (\*\**config*)

Widget that display and change volume

If theme\_path is set it draw widget as icons.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
cardid	None	‘Card Id’
channel	'Master'	‘Channel’
device	'default'	‘Device Name’
emoji	False	‘Use emoji to display volume states, only if <code>theme_path</code> is not set. The specified font needs to contain the correct unicode characters.’
fmt	'{}'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
get_volume_command	None	‘Command to get the current volume’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
mute_command	None	‘Mute command’
padding	3	‘Padding left and right. Calculated if None.’
step	2	‘Volume change for up an down commands in percentage. Only used if <code>volume_up_command</code> and <code>volume_down_command</code> are not set.’
theme_path	None	‘Path of the icons’
update_interval	10.2	‘Update time in seconds.’
volume_app	None	‘App to control volume’
volume_down_command	None	‘Volume down command’
volume_up_command	None	‘Volume up command’

## Wallpaper

```
class libqtile.widget.Wallpaper(**config)
    Supported bar orientations: horizontal only
```



key	default	description
background	None	‘Widget background color’
directory	'~/Pictures/ wallpapers/'	‘Wallpaper Directory’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
label	None	‘Use a fixed label instead of image name.’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
option	'fill'	“How to fit the wallpaper when wallpaper_command is None. None, ‘fill’ or ‘stretch’.”
padding	None	‘Padding. Calculated if None.’
random_selection	False	‘If set, use random initial wallpaper and randomly cycle through the wallpapers.’
wallpaper	None	‘Wallpaper’
wallpaper_command	'feh', ['--bg-fill']	‘Wallpaper command. If None, the wallpaper will be painted without the use of a helper.’

## WindowName

**class** libqtile.widget.**WindowName** (*width=STRETCH, \*\*config*)

Displays the name of the window that currently has focus

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
for_current_screen	False	‘instead of this bars screen use currently active screen’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
show_state	True	‘show window status before window name’

## WindowTabs

**class** libqtile.widget.**WindowTabs** (*\*\*config*)

Displays the name of each window in the current group. Contrary to TaskList this is not an interactive widget. The window that currently has focus is highlighted.

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
selected	(' < ', ' > ')	‘Selected task indicator’
separator	'   '	‘Task separator text.’

## Wlan

**class** libqtile.widget.**Wlan**(\*\*config)

Displays Wifi SSID and quality.

Widget requirements: [iwlib](#).

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
disconnected_message	'Disconnected'	‘String to show when the wlan is diconnected.’
fmt	'{ }'	‘How to format the text’
font	'sans'	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'{essid} {quality}/ 70'	‘Display format. For percents you can use “{essid} {percent:2.0%}”’
interface	'wlan0'	‘The interface to monitor’
markup	True	‘Whether or not to use pango markup’
mouse_callbacks	{}	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
update_interval	1	‘The update interval.’

## YahooWeather

**class** libqtile.widget.**YahooWeather**(\*\*config)

A weather widget, data provided by the Yahoo! Weather API.

Format options:

- astronomy\_sunrise
- astronomy\_sunset
- atmosphere\_humidity
- atmosphere\_visibility

- atmosphere\_pressure
- atmosphere\_rising
- condition\_text
- condition\_code
- condition\_temp
- condition\_date
- location\_city
- location\_region
- location\_country
- units\_temperature
- units\_distance
- units\_pressure
- units\_speed
- wind\_chill

Supported bar orientations: horizontal only

key	default	description
background	None	‘Widget background color’
data	None	‘Post Data’
down	'v '	‘symbol for falling atmospheric pressure’
fmt	'{ } '	‘How to format the text’
font	'sans '	‘Default font’
fontshadow	None	‘font shadow color, default is None(no shadow)’
fontsize	None	‘Font size. Calculated if None.’
foreground	'ffffff'	‘Foreground colour’
format	'{location_city}{condition_temp}°{units_temperature}'	‘Display format’
headers	{ }	‘Extra Headers’
json	True	‘Is Json?’
location	None	‘Location to fetch weather for. Ignored if woeid is set.’
markup	True	‘Whether or not to use pango markup’
metric	True	‘True to use metric/C, False to use imperial/F’
mouse_callbacks	{ }	‘Dict of mouse button press callback functions.’
padding	None	‘Padding. Calculated if None.’
parse	None	‘Parse Function’
steady	's '	‘symbol for steady atmospheric pressure’
up	'^ '	‘symbol for rising atmospheric pressure’
update_interval	1600	‘Update interval in seconds, if none, the widget updates whenever the event loop is idle.’
url	None	‘Url’
user_agent	'Qtile'	‘Set the user agent’
woeid	None	‘Where On Earth ID. Auto-calculated if location is set.’
xml	False	‘Is XML?’

## 4.1.5 Built-in Extensions

### CommandSet

**class** libqtile.extension.**CommandSet** (\*\*config)

Give list of commands to be executed in dmenu style.

ex. manage mocp daemon:

```
Key([mod], 'm', lazy.run_extension(extension.CommandSet(
    commands={
        'play/pause': '[ $(mocp -i | wc -l) -lt 2 ] && mocp -p || mocp -G',
        'next': 'mocp -f',
        'previous': 'mocp -r',
        'quit': 'mocp -x',
        'open': 'urxvt -e mocp',
        'shuffle': 'mocp -t shuffle',
        'repeat': 'mocp -t repeat',
    },
    pre_commands=['[ $(mocp -i | wc -l) -lt 1 ] && mocp -S'],
    **Theme.dmenu)))
```

key	default	description
background	None	‘defines the normal background color’
command	None	‘the command to be launched (string or list with arguments)’
commands	None	‘dictionary of commands where key is runnable command’
dmenu_bottom	False	‘dmenu appears at the bottom of the screen’
dmenu_command	'dmenu'	‘the dmenu command to be launched’
dmenu_font	None	“override the default ‘font’ and ‘fontsize’ options for dmenu”
dmenu_height	None	‘defines the height (only supported by some dmenu forks)’
dmenu_ignorecase	False	‘dmenu matches menu items case insensitively’
dmenu_lines	None	‘dmenu lists items vertically, with the given number of lines’
dmenu_prompt	None	‘defines the prompt to be displayed to the left of the input field’
font	'sans'	‘defines the font name to be used’
fontsize	None	‘defines the font size to be used’
foreground	None	‘defines the normal foreground color’
pre_commands	None	‘list of commands to be executed before getting dmenu answer’
selected_background	None	‘defines the selected background color’
selected_foreground	None	‘defines the selected foreground color’

### Dmenu

**class** libqtile.extension.**Dmenu** (\*\*config)

Python wrapper for dmenu <http://tools.suckless.org/dmenu/>

key	default	description
background	None	‘defines the normal background color’
command	None	‘the command to be launched (string or list with arguments)’
dmenu_bottom	False	‘dmenu appears at the bottom of the screen’
dmenu_command	'dmenu'	‘the dmenu command to be launched’
dmenu_font	None	“override the default ‘font’ and ‘fontsize’ options for dmenu”
dmenu_height	None	‘defines the height (only supported by some dmenu forks)’
dmenu_ignorecase	False	‘dmenu matches menu items case insensitively’
dmenu_lines	None	‘dmenu lists items vertically, with the given number of lines’
dmenu_prompt	None	‘defines the prompt to be displayed to the left of the input field’
font	'sans'	‘defines the font name to be used’
fontsize	None	‘defines the font size to be used’
foreground	None	‘defines the normal foreground color’
selected_background	None	‘defines the selected background color’
selected_foreground	None	‘defines the selected foreground color’

## DmenuRun

**class** libqtile.extension.DmenuRun (\*\*config)

Special case to run applications.

config.py should have something like:

```
from libqtile import extension
keys = [
    Key(['mod4'], 'r', lazy.run_extension(extension.DmenuRun(
        dmenu_prompt=">",
        dmenu_font="Andika-8",
        background="#15181a",
        foreground="#00ff00",
        selected_background="#079822",
        selected_foreground="#fff",
        dmenu_height=24, # Only supported by some dmenu forks
    )))
]
```

key	default	description
background	None	‘defines the normal background color’
command	None	‘the command to be launched (string or list with arguments)’
dmenu_bottom	False	‘dmenu appears at the bottom of the screen’
dmenu_command	'dmenu_run'	‘the dmenu command to be launched’
dmenu_font	None	“override the default ‘font’ and ‘fontsize’ options for dmenu”
dmenu_height	None	‘defines the height (only supported by some dmenu forks)’
dmenu_ignorecase	False	‘dmenu matches menu items case insensitively’
dmenu_lines	None	‘dmenu lists items vertically, with the given number of lines’
dmenu_prompt	None	‘defines the prompt to be displayed to the left of the input field’
font	'sans'	‘defines the font name to be used’
fontsize	None	‘defines the font size to be used’
foreground	None	‘defines the normal foreground color’
selected_background	None	‘defines the selected background color’
selected_foreground	None	‘defines the selected foreground color’

## J4DmenuDesktop

**class** libqtile.extension.**J4DmenuDesktop** (\*\*config)

Python wrapper for j4-dmenu-desktop <https://github.com/enkore/j4-dmenu-desktop>

key	default	description
background	None	‘defines the normal background color’
command	None	‘the command to be launched (string or list with arguments)’
dmenu_bottom	False	‘dmenu appears at the bottom of the screen’
dmenu_command	'dmenu'	‘the dmenu command to be launched’
dmenu_font	None	“override the default ‘font’ and ‘fontsize’ options for dmenu”
dmenu_height	None	‘defines the height (only supported by some dmenu forks)’
dmenu_ignorecase	False	‘dmenu matches menu items case insensitively’
dmenu_lines	None	‘dmenu lists items vertically, with the given number of lines’
dmenu_prompt	None	‘defines the prompt to be displayed to the left of the input field’
font	'sans'	‘defines the font name to be used’
fontsize	None	‘defines the font size to be used’
foreground	None	‘defines the normal foreground color’
j4dmenu_command	'j4-dmenu-desktop'	‘the dmenu command to be launched’
j4dmenu_display_binary	False	‘display binary name after each entry’
j4dmenu_generic	True	‘include the generic name of desktop entries’
j4dmenu_terminal	None	‘terminal emulator used to start terminal apps’
j4dmenu_usage_list	None	‘file used to sort items by usage frequency’
j4dmenu_use_xdg	False	‘read \$XDG_CURRENT_DESKTOP to determine the desktop environment’
selected_background	None	‘defines the selected background color’
selected_foreground	None	‘defines the selected foreground color’

## RunCommand

**class** libqtile.extension.**RunCommand** (\*\*config)

Run an arbitrary command.

Mostly useful as a superclass for more specific extensions that need to interact with the qtile object.

Also consider simply using `lazy.spawn()` or writing a [client](#).

key	default	description
background	None	‘defines the normal background color’
command	None	‘the command to be launched (string or list with arguments)’
font	'sans'	‘defines the font name to be used’
fontsize	None	‘defines the font size to be used’
foreground	None	‘defines the normal foreground color’
selected_background	None	‘defines the selected background color’
selected_foreground	None	‘defines the selected foreground color’

## WindowList

**class** libqtile.extension.**WindowList** (\*\*config)

Give vertical list of all open windows in dmenu. Switch to selected.

key	default	description
all_groups	True	'If True, list windows from all groups; otherwise only from the current group'
background	None	'defines the normal background color'
command	None	'the command to be launched (string or list with arguments)'
dmenu_bottom	False	'dmenu appears at the bottom of the screen'
dmenu_command	'dmenu'	'the dmenu command to be launched'
dmenu_font	None	'override the default 'font' and 'fontsize' options for dmenu'
dmenu_height	None	'defines the height (only supported by some dmenu forks)'
dmenu_ignorecase	False	'dmenu matches menu items case insensitively'
dmenu_lines	'80'	'Give lines vertically. Set to None get inline'
dmenu_prompt	None	'defines the prompt to be displayed to the left of the input field'
font	'sans'	'defines the font name to be used'
fontsize	None	'defines the font size to be used'
foreground	None	'defines the normal foreground color'
item_format	'{group}. {id}: {window}'	'the format for the menu items'
selected_background	None	'defines the selected background color'
selected_foreground	None	'defines the selected foreground color'

## 4.2 Frequently Asked Questions

### 4.2.1 Why the name Qtile?

Users often wonder, why the Q? Does it have something to do with Qt? No. Below is an IRC excerpt where cortesi explains the great trial that ultimately brought Qtile into existence, thanks to the benevolence of the Open Source Gods. Praise be to the OSG!

```
ramnes: what does Qtile mean?
ramnes: what's the Q?
@tych0: ramnes: it doesn't :)
@tych0: cortesi was just looking for the first letter that wasn't registered
        in a domain name with "tile" as a suffix
@tych0: qtile it was :)
cortesi: tych0, dx: we really should have something more compelling to
        explain the name. one day i was swimming at manly beach in sydney,
        where i lived at the time. suddenly, i saw an enormous great white
        right beside me. it went for my leg with massive, gaping jaws, but
        quick as a flash, i thumb-punched it in both eyes. when it reared
        back in agony, i saw that it had a jagged, gnarly scar on its
        stomach... a scar shaped like the letter "Q".
cortesi: while it was distracted, i surfed a wave to shore. i knew that i
        had to dedicate my next open source project to the ocean gods, in
        thanks for my lucky escape. and thus, qtile got its name...
```

### 4.2.2 When I first start xterm/urxvt/rxvt containing an instance of Vim, I see text and layout corruption. What gives?

Vim is not handling terminal resizes correctly. You can fix the problem by starting your xterm with the “-wf” option, like so:

```
xterm -wf -e vim
```

Alternatively, you can just cycle through your layouts a few times, which usually seems to fix it.

### 4.2.3 How do I know which modifier specification maps to which key?

To see a list of modifier names and their matching keys, use the `xmodmap` command. On my system, the output looks like this:

```
$ xmodmap
xmodmap: up to 3 keys per modifier, (keycodes in parentheses):

shift      Shift_L (0x32),  Shift_R (0x3e)
lock       Caps_Lock (0x9)
control    Control_L (0x25),  Control_R (0x69)
mod1       Alt_L (0x40),  Alt_R (0x6c),  Meta_L (0xcd)
mod2       Num_Lock (0x4d)
mod3
mod4       Super_L (0xce),  Hyper_L (0xcf)
mod5       ISO_Level3_Shift (0x5c),  Mode_switch (0xcb)
```

### 4.2.4 My “pointer mouse cursor” isn’t the one I expect it to be!

Qtile should set the default cursor to `left_ptr`, you must install `xcb-util-cursor` if you want support for themed cursors.

### 4.2.5 LibreOffice menus don’t appear or don’t stay visible

A workaround for problem with the mouse in libreoffice is setting the environment variable `»SAL_USE_VCLPLUGIN=gen«`. It is dependet on your system configuration where to do this. e.g. Arch-Linux with libreoffice-fresh in `/etc/profile.d/libreoffice-fresh.sh`.

## 4.3 License

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