Qtile Documentation

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CHAPTER 1

Getting started

Installing Qtile

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

Qtile is available on the AUR as:

Package Name	Description
qtile	stable branch (release)
qtile-python3-git	development branch

Using an AUR Helper

The preferred way to install Qtile is with an AUR helper. For example, if you use yaourt:

```
yaourt -S <package-name>
```

Using makepkg

The latest version of either package can be obtained by downloading a snapshot or cloning its repository:

```
# snapshot
curl -s https://aur.archlinux.org/cgit/aur.git/snapshot/<package-name>.tar.gz | tar -xvzf -
# or repository
git clone https://aur.archlinux.org/<package-name>.git
```

Next makepkg has to be called in the directory where the files were saved. It installs missing dependencies using pacman, builds the package, installs it and removes obsolete build-time dependencies afterwards:

```
cd <package-name>
makepkg -sri
```

Please see the ArchWiki for more information on installing packages from the AUR.

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 (Yakkety+) and Debian unstable (Sid) versions, there are Qtile packages available via:

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

On older versions of Ubuntu (Wily+) and Debian testing (Stretch), 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
- six
- futures
- python-xcffib
- trollius
- cairocffi
- qtile

Please see the HOWTO for more information on SlackBuild Usage HOWTO.

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 3.3 and newer are currently supported and tested.

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 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).

asyncio/trollius

Qtile uses the asyncio module as introduced in PEP 3156 for its event loop. Based on your Python version, there are different ways to install this:

- Python >=3.4: The asyncio module comes as part of the standard library, so there is nothing more to install.
- Python 3.3: This has all the infrastructure needed to implement PEP 3156, but the asyncio module must be installed from the Tulip project. This is done by calling:

```
pip install asyncio
```

  Alternatively, you can install trollius (see next point). Note, however, that trollius is deprecated, and it is recommended that you use tulip, as trollius will likely be dropped if (and when) Python 2 support is dropped.

- Python 2 (and 3.3 without asyncio): You will need to install trollius, which backports the asyncio module functionality to work without the infrastructure introduced in PEP 3156. You can install this from PyPI:

```
pip install trollius
```

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
sudo python setup.py 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).

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.

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.

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.

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

Group functions

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

Window functions

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

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*)

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.

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 default layout for this group (e.g. 'max' or 'stack')

layouts : list

the group layouts list overriding global layouts

persist : boolean

should this group stay alive with no member windows?

init : boolean

is this group alive when qtile starts?

position : int

group position

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?

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 = [
    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*, ***kwds*)

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 command.lazy helper. If multiple Call objects are specified, they are run in sequence.

kwds:

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 EzClick, 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`**(*modifiers*, *button*, **commands*, ***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.

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*, *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'.

Parameters **top: List of Gap/Bar objects, or None.**

bottom: List of Gap/Bar objects, or None.

left: List of Gap/Bar objects, or None.

right: List of Gap/Bar objects, 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.
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
follow_mouse_focus	False	Controls whether or not focus follows the mouse around as it moves across windows in a layout.
bring_front_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.
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.
focus_on_window_activation	urgent	Behavior of the _NET_ACTIVATE_WINDOW message sent by applications • urgent: urgent flag is set for the window • focus: automatically focus the window • smart: automatically focus if the window is in the current group

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.

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 `xsession` s in the qtile-examples repository.

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

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():
    x = os.environ['DESKTOP_AUTOSTART_ID']
    subprocess.Popen(['dbus-send',
                      '--session',
                      '--print-reply=string',
                      '--dest=org.gnome.SessionManager',
                      '/org/gnome/SessionManager',
                      'org.gnome.SessionManager.RegisterClient',
                      'string:qtile',
                      'string:' + x])
```

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.

```
$ 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).

CHAPTER 2

Commands and scripting

Commands API

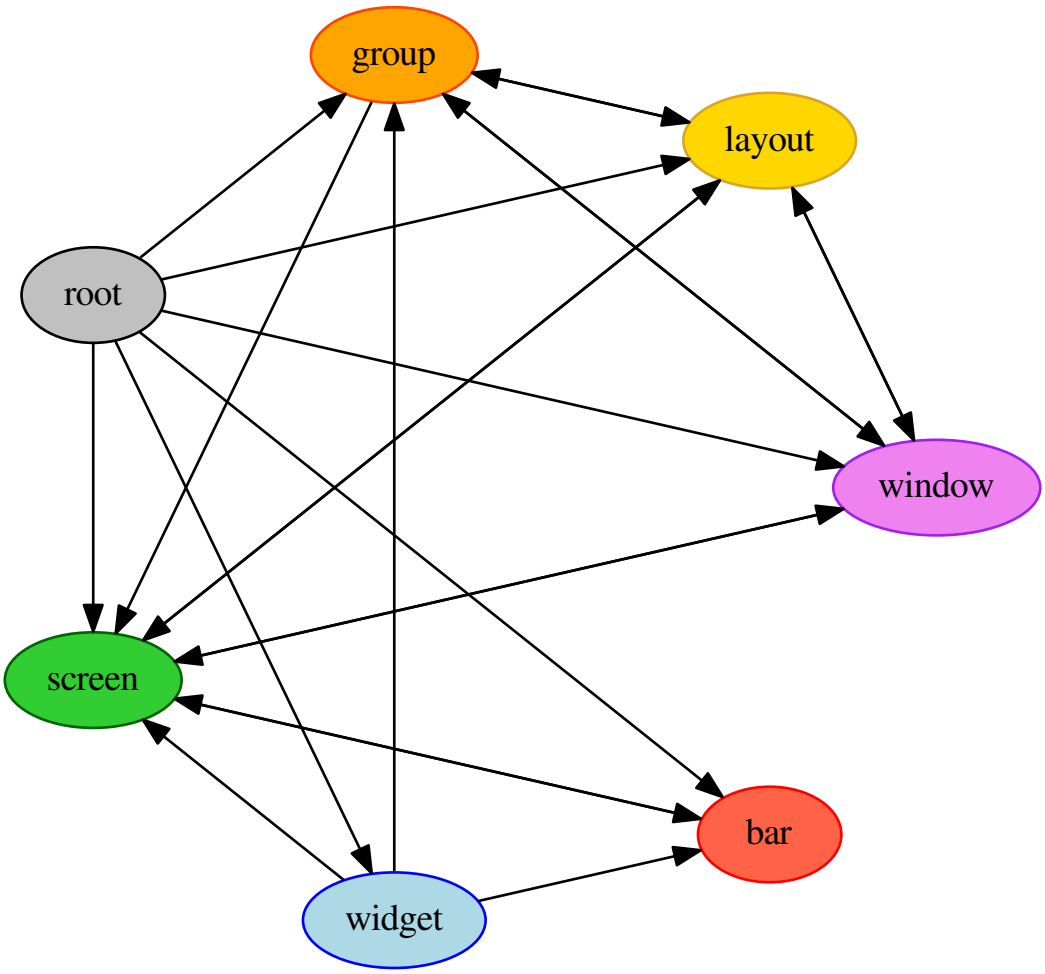
Qtile's command API is based on a graph of objects, where each object has a set of associated commands. The graph and object commands are used in a number of different places:

- 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.

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
```

Keys

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

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

Scripting

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.

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"]
```

Reference

Client

class libqtile.command.**Client**(*fname=None*, *is_json=False*)
Exposes a command tree used to communicate with a running instance of Qtile

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.

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]>
```

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.
```

Reference

Qsh

class `libqtile.sh.`**`QSh`**(*client*, *completekey='tab'*)

Qtile shell instance

`do_cd`(*arg*)

Change to another path.

Examples

cd layout/0

cd ../layout

do_exit(*args*)
Exit qshell

do_ls(*arg*)
List contained items on a node.

Examples

> ls > ls ../layout

do_pwd(*arg*)
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(*arg*)
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

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.

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.

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.

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).

qtile-top

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

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
```

CHAPTER 3

Getting involved

Contributing

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.

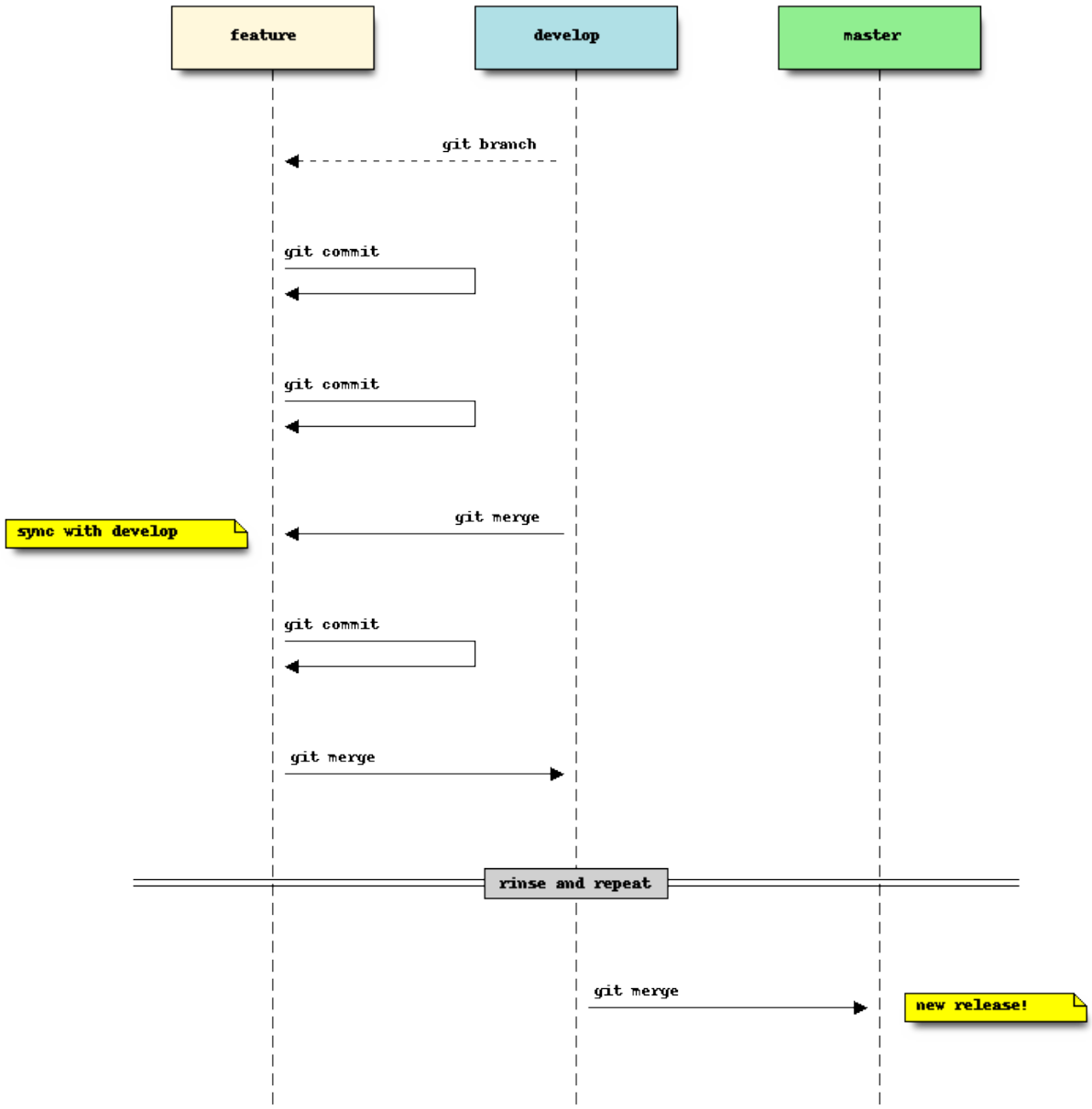
Writing code

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

Git workflow

Our workflow is based on Vincent Driessen's successful git branching model:

- The `master` branch is our current release
- The `develop` branch is what all pull requests should be based against
- Feature branches are where new features, both major and minor, should be developed.



git-flow is a git plugin that helps facilitate this branching strategy. It's not required, but can help make things a bit easier to manage. There is also a good write up on using git-flow.

We also request that git commit messages follow the standard format.

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!

Hacking on Qtile

Requirements

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

- pytest
- Xephyr
- `xrandr`, `xterm`, `xeyes` and `xclock` (`x11-apps` on ubuntu)

On ubuntu, this can be done with `sudo apt-get install python-pytest xserver-xephyr x11-apps`.

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:

```
python libqtile/ffi_build.py
```

Using Xephyr and the test suite

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
```

In practice, the development cycle looks something like this:

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

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.

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.

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.

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.

Testing

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.

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

CHAPTER 4

Miscellaneous

Reference

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.manager.**Qtile**(*config*, *displayName=None*, *fname=None*, *no_spawn=False*, *state=None*)

This object is the *root* of the command graph

cmd_add_rule(*match_args*, *rule_args*, *min_priorty=False*)

Add a dgroup rule, returns rule_id needed to remove it

Parameters **match_args :**

config.Match arguments

rule_args :

config.Rule arguments

min_priorty :

If the rule is added with minimum prioriry (last) (default: False)

cmd_addgroup(*group*)

Add a group with the given name

cmd_commands()

Returns a list of possible commands for this object

Used by __qsh__ for command completion and online help

cmd_critical()

Set log level to CRITICAL

cmd_debug()

Set log level to DEBUG

cmd_delgroup(*group*)
Delete a group with the given name

cmd_display_kb(**args*)
Display table of key bindings

cmd_doc(*name*)
Returns the documentation for a specified command name

Used by __qsh__ to provide online help.

cmd_error()
Set log level to ERROR

cmd_eval(*code*)
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_execute(*cmd*, *args*)
Executes the specified command, replacing the current process

cmd_findwindow(*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(*e*)
Bring a window to the front

Parameters **e** : xcb event

Click event used to determine window to focus

cmd_function(*function*, **args*, ***kwargs*)
Call a function with current object as argument

cmd_get_info()
Prints info for all groups

cmd_get_state()
Get pickled state for restarting qtile

cmd_groups()
Return a dictionary containing information for all groups

Examples

groups()

cmd_hide_show_bar(*position='all'*)
Toggle visibility of a given bar

Parameters **position :**

one of: "top", "bottom", "left", "right", or "all" (default: "all")

cmd_info()
Set log level to INFO

cmd_internal_windows()
Return info for each internal window (bars, for example)

cmd_items(*name*)
Returns a list of contained items for the specified name

Used by __qsh__ to allow navigation of the object graph.

cmd_list_widgets()
List of all addressible widget names

cmd_next_layout(*group=None*)
Switch to the next layout.

Parameters group :

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

cmd_next_screen()
Move to next screen

cmd_next_urgent()
Focus next window with urgent hint

cmd_pause()
Drops into pdb

cmd_prev_layout(*group=None*)
Switch to the previous layout.

Parameters group :

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

cmd_prev_screen()
Move to the previous screen

cmd_qtile_info()
Returns a dictionary of info on the Qtile instance

cmd_qtilecmd(*prompt='command'*, *widget='prompt'*, *messenger='xmessage'*)
Execute a Qtile command using the client syntax

Tab completeion 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(*rule_id*)
Remove a dgroup rule by rule_id

cmd_restart()
Restart qtile using the execute command

cmd_run_extention(*cls*)
Extentions should run from command run()

cmd_run_external(*full_path*)
Run external Python script

cmd_screens()
Return a list of dictionaries providing information on all screens

cmd_shutdown()
Quit Qtile

cmd_simulate_keypress(*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(*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(*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()
Return "OK" if Qtile is running

cmd_switch_groups(*groupa*, *groupb*)
Switch position of groupa to groupb

cmd_switchgroup(*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()
Sync the X display. Should only be used for development

cmd_to_layout_index(*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(*n*)
Warp focus to screen n, where n is a 0-based screen number

Examples

to_screen(0)

cmd_togroup(*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()
Dump tracemalloc snapshot

cmd_tracemalloc_toggle()
Toggle tracemalloc status

Running tracemalloc is required for qtile-top

cmd_warning()
Set log level to WARNING

cmd_windows()
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.
`opacity`	`1`	Bar window opacity.

cmd_commands()
Returns a list of possible commands for this object

Used by __qsh__ for command completion and online help

cmd_doc(*name*)
Returns the documentation for a specified command name

Used by __qsh__ to provide online help.

cmd_eval(*code*)
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(*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(*function*, **args*, ***kwargs*)
Call a function with current object as argument

cmd_info()
Info for this object.

cmd_items(*name*)
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*)
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.

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 default layout for this group (e.g. 'max' or 'stack')

layouts : list

the group layouts list overriding global layouts

persist : boolean

should this group stay alive with no member windows?

init : boolean

is this group alive when qtile starts?

position : int

group position

Screen

class `libqtile.config.`**Screen**(*top=None*, *bottom=None*, *left=None*, *right=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'.

Parameters **top: List of Gap/Bar objects, or None.**

bottom: List of Gap/Bar objects, or None.

left: List of Gap/Bar objects, or None.

right: List of Gap/Bar objects, or None.

x : int or None

y : int or None

width : int or None

height : int or None

cmd_commands()

Returns a list of possible commands for this object

Used by __qsh__ for command completion and online help

cmd_doc(*name*)

Returns the documentation for a specified command name

Used by __qsh__ to provide online help.

cmd_eval(*code*)

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(*function*, **args*, ***kwargs*)
Call a function with current object as argument

cmd_info()
Returns a dictionary of info for this screen.

cmd_items(*name*)
Returns a list of contained items for the specified name

Used by __qsh__ to allow navigation of the object graph.

cmd_next_group(*skip_empty=False*, *skip_managed=False*)
Switch to the next group

cmd_prev_group(*skip_empty=False*, *skip_managed=False*)
Switch to the previous group

cmd_resize(*x=None*, *y=None*, *w=None*, *h=None*)
Resize the screen

cmd_toggle_group(*group_name=None*)
Switch to the selected group or to the previously active one

cmd_togglegroup(*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()

cmd_commands()
Returns a list of possible commands for this object

Used by __qsh__ for command completion and online help

cmd_disable_floating()

cmd_disable_fullscreen()

cmd_disable_maximize()

cmd_disable_minimize()

cmd_doc(*name*)
Returns the documentation for a specified command name

Used by __qsh__ to provide online help.

cmd_down_opacity()

cmd_enable_floating()

cmd_enable_fullscreen()

cmd_enable_maximize()

cmd_enable_minimize()

cmd_eval(*code*)
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(*warp=None*)
Focuses the window.

cmd_function(*function*, **args*, ***kwargs*)
Call a function with current object as argument

cmd_get_position()

cmd_get_size()

cmd_info()
Returns a dictionary of info for this object

cmd_inspect()
Tells you more than you ever wanted to know about a window

cmd_items(*name*)
Returns a list of contained items for the specified name

Used by __qsh__ to allow navigation of the object graph.

cmd_kill()
Kill this window

Try to do this politely if the client support this, otherwise be brutal.

cmd_match(**args*, ***kwargs*)

cmd_move_floating(*dx*, *dy*, *curx*, *cury*)
Move window by dx and dy

cmd_opacity(*opacity*)

cmd_resize_floating(*dw*, *dh*, *curx*, *cury*)
Add dw and dh to size of window

cmd_set_position(*dx*, *dy*, *curx*, *cury*)

cmd_set_position_floating(*x*, *y*, *curx*, *cury*)
Move window to x and y

cmd_set_size_floating(*w*, *h*, *curx*, *cury*)
Set window dimensions to w and h

cmd_static(*screen*, *x*, *y*, *width*, *height*)

cmd_toggle_floating()

cmd_toggle_fullscreen()

cmd_toggle_maximize()

cmd_toggle_minimize()

cmd_togroup(*groupName=None*)
Move window to a specified group.

If groupName is not specified, we assume the current group

Examples

Move window to current group:

```
togroup()
```

Move window to group "a":

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

cmd_toscreen(*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()

Built-in Hooks

subscribe.**addgroup**(*func*)
Called when group is added

Arguments

- qtile manager instance
- name of new group

subscribe.**changegroup**(*func*)
Called whenever a group change occurs

Arguments

None

subscribe.**client_focus**(*func*)
Called whenever focus changes

Arguments

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

subscribe.**client_killed**(*func*)
Called after a client has been unmanaged

Arguments

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

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

subscribe.**client_mouse_enter**(*func*)
Called when the mouse enters a client

Arguments

- `window.Window` of window entered

subscribe.**client_name_updated**(*func*)
Called when the client name changes

Never fires

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)
```

subscribe.**client_state_changed**(*func*)
Called whenever client state changes

Never fires

subscribe.**client_type_changed**(*func*)
Called whenever window type changes

Never fires

subscribe.**client_urgent_hint_changed**(*func*)
Called when the client urgent hint changes

Arguments

- `window.Window` of client with hint change

subscribe.**current_screen_change**(*func*)
Called when the current screen (i.e. the screen with focus) changes

Arguments

None

subscribe.**delgroup** (*func*)
Called when group is deleted

Arguments

•qtile manager instance

•name of deleted group

subscribe.**float_change** (*func*)
Called when a change in float state is made

Arguments

None

subscribe.**focus_change** (*func*)
Called when focus is changed

Arguments

None

subscribe.**group_window_add** (*func*)
Called when a new window is added to a group

Arguments

None

subscribe.**layout_change** (*func*)
Called on layout change

Arguments

•layout object for new layout

•group object on which layout is changed

subscribe.**net_wm_icon_change** (*func*)
Called on *_NET_WM_ICON* chance

Arguments

•`window.Window` of client with changed icon

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()
```

`subscribe.`**`selection_change`**(*func*)
Called on selection change

Arguments

•name of the selection

•dictionary describing selection, containing `owner` and `selection` as keys

`subscribe.`**`selection_notify`**(*func*)
Called on selection notify

Arguments

•name of the selection

•dictionary describing selection, containing `owner` and `selection` as keys

`subscribe.`**`setgroup`**(*func*)
Called when group is changed

Arguments

None

`subscribe.`**`startup`**(*func*)
Called when qtile is started

Arguments

None

`subscribe.`**`startup_complete`**(*func*)
Called when qtile is started after all resources initialized

Arguments

None

`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

`subscribe.`**`window_name_change`**(*func*)
Called whenever a windows name changes

Arguments

None

Built-in Layouts

Floating

class `libqtile.layout.floating.`**`Floating`**(*float_rules=None*, ***config*)
Floating layout, which does nothing with windows but handles focus order

key	default	description
auto_float_types	{'splash', 'notification', 'toolbar', 'utility', 'dialog'}	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	0	Border width for fullscreen.
max_border_width	0	Border width for maximize.
name	'floating'	Name of this layout.

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 displays either a sigle window at a time from a stack of windows or all of them simultaneously, spliting the column space. Columns and windows can be resized and windows can be shuffled around. This layout can also emulate "Wmii", "Verical", 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
autosplit	True	Autosplit newly created columns.
border_focus	'#881111'	Border colour for the focused window.
border_normal	'#220000'	Border colour for un-focused windows.
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.
margin	0	Margin of the layout.
name	'columns'	Name of this layout.
num_columns	2	Preferred number of columns.

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.

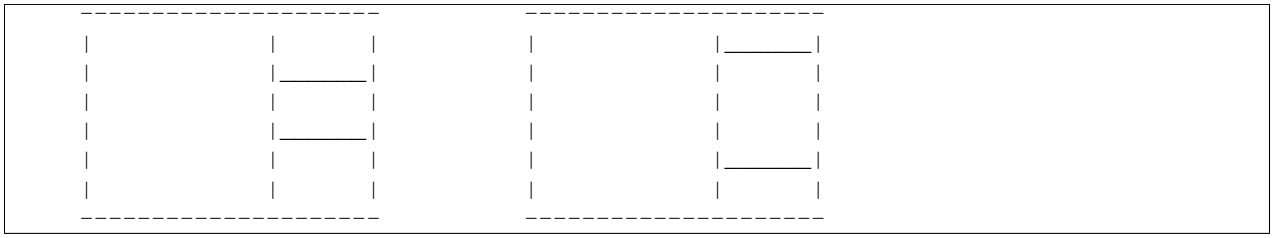
```
---------------------
|             |       |
|             |       |
|             |       |
|             |       |
|             |       |
|             |       |
---------------------
```

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.

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

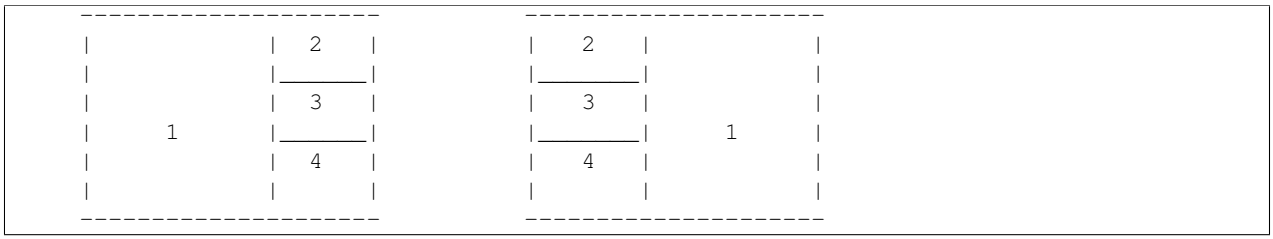
Secondary-panes:

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
align	0	Which side master plane will be placed (one of MonadTall._left or MonadTall._right)
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
name	'xmonad-tall'	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

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 0x7ff4c31f7630>	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. At the moment, this is the most mature and flexible layout in Qtile.

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*, *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.

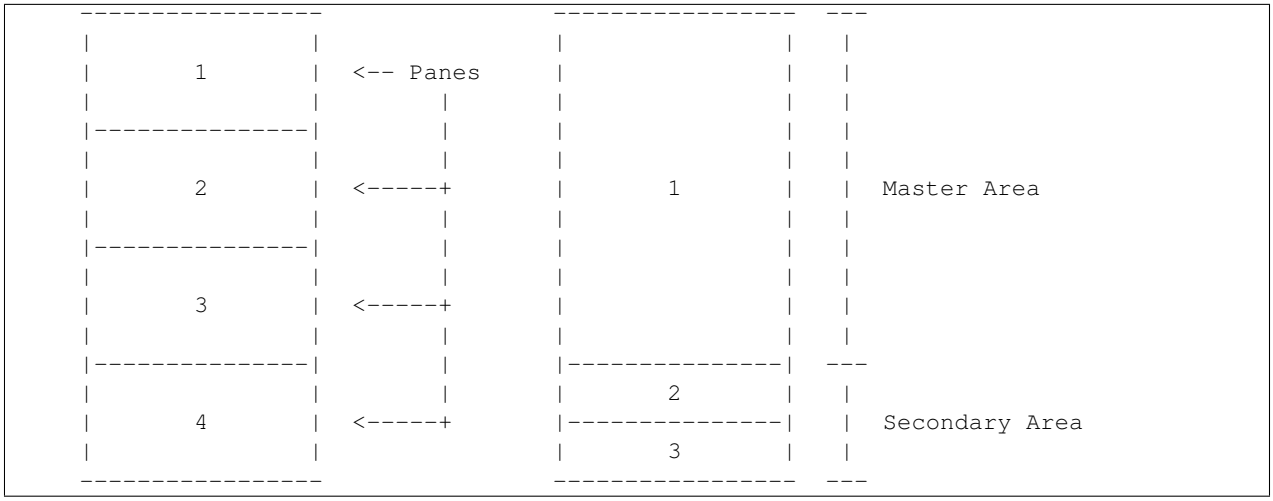
key	default	description
active_bg	'000080'	Background color of active tab
active_fg	'ffffff'	Foreground color of active tab
bg_color	'000000'	Background color of tabs
border_width	2	Width of the border
font	'Arial'	Font
fontshadow	None	font shadow color, default is None (no shadow)
fontsize	14	Font pixel 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.

```
-----------------------------------  In some cases VerticalTile can be
|                                 |  useful on horizontal mounted
|                1                |  monitors two.
|                                 |  For example if you want to have a
|---------------------------------|  webbrowser and a shell below it.
|                                 |
|                2                |
|                                 |
-----------------------------------
```

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.

Wmii

class libqtile.layout.wmii.**Wmii**(***config*)

This layout emulates wmii layouts

The screen it split into columns, always starting with one. A new window is created in the active window's column. Windows can be shifted left and right. If there is no column when shifting, a new one is created. Each column can be stacked or divided (equally split).

This layout implements something akin to wmii's semantics.

Each group starts with one column. The first window takes up the whole screen. Next window splits the column in half. Windows can be moved to the column to the left or right. If there is no column in the direction being moved into, a new column is created.

Each column can be either stacked (each window takes up the whole vertical real estate) or split (the windows are split equally vertically in the column) Columns can be grown horizontally (cmd_grow_left/right).

My config.py has the following added:

```
Key(
    [mod, "shift", "control"], "l",
    lazy.layout.grow_right()
),
Key(
    [mod, "shift"], "l",
    lazy.layout.shuffle_right()
),
```

```
    Key(
        [mod, "shift", "control"], "h",
        lazy.layout.grow_left()
    ),
    Key(
        [mod, "shift"], "h",
        lazy.layout.shuffle_left()
    ),
    Key(
        [mod], "s",
        lazy.layout.toggle_split()
    ),
```

key	default	description
border_focus	'#881111'	Border colour for the focused window.
border_focus_stack	'#0000ff'	Border colour for un-focused windows.
border_normal	'#220000'	Border colour for un-focused windows.
border_normal_stack	'#000022'	Border colour for un-focused windows.
border_width	2	Border width.
grow_amount	5	Amount by which to grow/shrink a window.
margin	0	Margin of the layout
name	'wmii'	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	None	The name of this layout (usually the class' name in lowercase, e.g. 'max')
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

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	False	center-aligned group box
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.

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
font	'Arial'	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	False	Whether or not to use pango markup
max_brightness_file	'max_brightness'	Name of file with the maximum brightness in /sys/class/backlight/backlight_name
padding	None	Padding. Calculated if None.
step	10	Percent of backlight every scroll changed
update_interval	0.2	The delay in seconds between updates

Battery

class libqtile.widget.**Battery**(**_config_)
A simple but flexible text-based battery widget

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
battery_name	'BAT0'	ACPI name of a battery, usually BAT0
charge_char	'^'	Character to indicate the battery is charging
discharge_char	'V'	Character to indicate the battery is discharging
energy_full_file	None	Name of file with the maximum energy in /sys/class/power_supply/battery_name
energy_now_file	None	Name of file with the current energy in /sys/class/power_supply/battery_name
error_message	'Error'	Error message if something is wrong
font	'Arial'	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}'	Display format
hide_threshold	None	Hide the text when there is enough energy
low_foreground	'FF0000'	Font color on low battery
low_percentage	0.1	Indicates when to use the low_foreground color 0 < x < 1
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
power_now_file	None	Name of file with the current power draw in /sys/class/power_supply/battery_name
status_file	'status'	Name of status file in /sys/class/power_supply/battery_name
update_delay	60	The delay in seconds between 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_name	'BAT0'	ACPI name of a battery, usually BAT0
custom_icons	{}	dict containing key->filename icon map
energy_full_file	None	Name of file with the maximum energy in /sys/class/power_supply/battery_name
energy_now_file	None	Name of file with the current energy in /sys/class/power_supply/battery_name
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
power_now_file	None	Name of file with the current power draw in /sys/class/power_supply/battery_name
status_file	'status'	Name of status file in /sys/class/power_supply/battery_name
theme_path	'/home/docs/checkouts/readthedocs.org/user_builds/qtile/checkouts/latest/libq	Path of the icons
update_delay	60	The delay in seconds between updates

BitcoinTicker

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

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

```
# display the average price of bitcoin in local currency
widget.BitcoinTicker(format="BTC: {avg}")

# display the average price of litecoin in local currency
widget.BitcoinTicker(format="LTC: {avg}", source_currency='ltc')

# display the average price of litecoin in bitcoin
widget.BitcoinTicker(format="BTC: Ƀ{avg}", source_currency='ltc', currency='btc', round=False)
```

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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
format	'BTC Buy: {buy}, Sell: {sell}'	Display format, allows buy, sell, high, low, avg, vol, vol_cur, last, variables.
headers	{}	Extra Headers
json	True	Is Json?
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
parse	None	Parse Function
round	True	whether or not to use locale.currency to round the values
source_currency	'btc'	The source currency to convert from
update_interval	600	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?

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
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
one_format	'{name}: {number}'	One feed display format
padding	None	Padding. Calculated if None.
update_interval	600	Update interval in seconds, if none, the widget updates whenever the event loop is idle.

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.
display_format	'Updates: {updates}'	Display format if updates available
distro	'Arch'	Name of your distribution
execute	None	Command to execute on click
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	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)
padding	None	Padding. Calculated if None.
selection	'CLIPBOARD'	which 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
font	'Arial'	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	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
timezone	None	The timezone to use for this clock, e.g. "US/Central" (or anything in /usr/share/zoneinfo). None means the default timezone.
update_interval	1	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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
max_chars	0	Maximum number of characters to display in widget.
noplay_color	'cecece'	Text colour when not playing.
padding	None	Padding. Calculated if None.
play_color	'00ff00'	Text colour when playing.
update_interval	0.5	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(2017, 2, 26, 19, 32, 35, 417332)	The datetime for the endo of the countdown
font	'Arial'	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	False	Whether or not to use pango markup
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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	[]	List of folders where to search icons beforeusing built-in icons or icons in ~/.icons dir. This can also be used to providemissing icons for custom layouts. Defaults to empty list.
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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
font	'Arial'	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	False	Whether or not to use pango markup
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
font	'Arial'	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})'	String format (p: partition, s: size, f: free space, uf: user free space, m: measure)
markup	False	Whether or not to use pango markup
measure	'G'	Measurement (G, M, B)
padding	None	Padding. Calculated if None.
partition	'/'	the partition to check space
update_interval	60	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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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
font	'Arial'	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	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
update_interval	600	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
font	'Arial'	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	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
parse	None	Parse Function
update_interval	600	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

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
email_path	'INBOX'	email_path
fmt	'inbox[%s],unseen[%s]'	fmt
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
password	None	password
status_only_unseen	False	Only show unseen messages
update_interval	30	Update time in seconds.
username	None	username

GroupBox

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

A widget that graphically displays the current group

Supported bar orientations: horizontal only

key	default	description
active	'FFFFFF'	Active group font colour
background	None	Widget background color
borderwidth	3	Current group border width
center_aligned	False	center-aligned group box
disable_drag	False	Disable dragging and dropping of group names on widget
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
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
markup	False	Whether or not to use pango markup
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.
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)

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/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
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
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")
```

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
data	None	Post Data
font	'Arial'	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	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
parse	None	Parse Function
update_interval	60	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	PNG Image filename. Can contain '~'
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.

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
font	'Arial'	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	False	Whether or not to use pango markup
mbox	'"INBOX"'	mailbox to fetch
padding	None	Padding. Calculated if None.
server	None	email server name
update_interval	600	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 layouteither 'None' or a list of colours.example: ['ffffff', 'E6F0AF'].
configured_keyboards	['us', 'ir']	your predefined list of keyboard layouts.example: ['us', 'ir', 'es']
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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_keyboards	['us']	A list of predefined keyboard layouts represented as strings. For example: ['us', 'us colemak', 'es', 'fr'].
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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.

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
font	'Arial'	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	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
reminder_color	'FF0000'	color of calendar entries during reminder time
remindertime	10	reminder time in minutes
update_interval	600	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

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
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
maildirPath	'~/Mail'	path to the Maildir folder
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
separator	' '	the string to put between the subfolder strings.
subFolders	[]	The subfolders to scan (e.g. [{"path": "INBOX", "label": "Home mail"}, {"path": "spam", "label": "Home junk"}]
update_interval	60	Update interval in seconds, if none, the widget updates whenever the event loop is idle.

Memory

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

Displays memory usage

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
fmt	'{MemUsed}M/{MemTotal}M'	see /proc/meminfo for field names
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
update_interval	60	Update interval in seconds, if none, the widget updates whenever the event loop is idle.

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
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
max_chars	0	Maximum number of characters to display in widget.
noplay_color	'cecece'	Text colour when not playing.
padding	None	Padding. Calculated if None.
play_color	'00ff00'	Text colour when playing.
update_interval	0.5	Update Time in seconds.

Mpd

class libqtile.widget.**Mpd**(**config*)
A widget for the Music Player Daemon (MPD)

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
do_color_progress	True	Whether to indicate progress in song by altering message color
fmt_playing	'%a – %t [%v%%]'	Format string to display when playing/paused
fmt_stopped	'Stopped [%v%%]'	Format strings to display when stopped
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
foreground_progress	'ffffff'	Foreground progress colour
host	'localhost'	Host to connect to, can be either an IP address or a UNIX socket path
markup	False	Whether or not to use pango markup
msg_nc	'Mpd off'	Which message to show when we're not connected
padding	None	Padding. Calculated if None.
password	None	Password to use
port	6600	Port to connect to
reconnect	False	Attempt to reconnect if initial connection failed
reconnect_interval	1	Time to delay between connection attempts.
update_interval	0.5	Update Time in seconds.

Mpd2

class libqtile.widget.**Mpd2**(*status_format='{play_status} {artist}/{title} [{repeat}{random}{single}{consume}{updating_db}]'*, *prepare_status={'single': <function option.<locals>._convert at 0x7ff4c30a5400>, 'repeat': <function option.<locals>._convert at 0x7ff4c30a52f0>, 'updating_db': <function option.<locals>._convert at 0x7ff4c30a5510>, 'random': <function option.<locals>._convert at 0x7ff4c30a5378>, 'consume': <function option.<locals>._convert at 0x7ff4c30a5488>}*, ***config*)

A widget for Music Player Daemon (MPD) based on python-mpd2

This widget exists since python-mpd library is no more supported.

Parameters **status_format :**

format string to display status

Full list of values see in `status` and `currentsong` commands

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 string from `play_states` dict

Note that `time` property of song renamed to `fulltime` to prevent conflicts with status information during formating.

prepare_status :

dict of functions for replace values in status with custom

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

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
command	None	Executable command by "command" shortcut
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
host	'localhost'	Host of mpd server
idletimeout	5	MPDClient idle command timeout
keys	{'command': None, 'next': 5, 'previous': 4, 'stop': 3, 'toggle': 1}	Shortcut keys
markup	False	Whether or not to use pango markup
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
space	'-'	Space keeper
timeout	30	MPDClient timeout
update_interval	1	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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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	['xesam:title', 'xesam:album', 'xesam:artist']	Which metadata identifiers to display. See http://www.freedesktop.org/wiki/Specifications/mpris-spec/metadata/#index5h3 for available values
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
name	'audacious'	Name of the MPRIS widget.
objname	'org.mpris.MediaPlayer2.audacious'	DBUS MPRIS 2 compatible player identifier- Find it out with dbus-monitor - Also see: http://specifications.freedesktop.org/mpris-spec/latest/#Bus-Name-Policy
padding	None	Padding. Calculated if None.
scroll_chars	30	How many chars at once to display.
scroll_interval	0.5	Scroll delay interval.
scroll_wait_intervals	8	Wait x scroll_interval beforescrolling/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

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
interface	'wlan0'	The interface to monitor
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
update_interval	1	The update interval.

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
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
font	'Arial'	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	False	Whether or not to use pango markup
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
unavailable	'ffffff'	Unavailable Color - no updates.
update_interval	60	The update interval.

Prompt

class libqtile.widget.**Prompt**(*name='prompt'*, ***config*)
A widget that prompts for user input

Input should be started using the .startInput() 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.
font	'Arial'	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	False	Whether or not to use pango markup
max_history	100	Commands to keep in history. 0 for no limit.
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	'ff0000'	Color for the visual bell (changes prompt background).
visual_bell_time	0.2	Visual bell duration (in seconds).

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.
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
font	'Arial'	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	False	Whether or not to use pango markup
padding	None	Padding. Calculated if None.
update_interval	0.5	Update Time in seconds.

Spacer

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

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
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
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	'Arial'	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
max_title_width	200	size in pixels of task title
rounded	True	To round or not to round borders
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
font	'Arial'	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	False	Whether or not to use pango markup
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
font	'Arial'	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	False	Whether or not to use pango markup
metric	True	True to use metric/C, False to use imperial/F
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	2	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 theme_path is not set.The specified font needs to contain the correct unicode characters.
font	'Arial'	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	False	Whether or not to use pango markup
mute_command	None	Mute command
padding	3	Padding left and right. Calculated if None.
theme_path	None	Path of the icons
update_interval	0.2	Update time in seconds.
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
font	'Arial'	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	False	Whether or not to use pango markup
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	None	Wallpaper command

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
font	'Arial'	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	False	Whether or not to use pango markup
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
font	'Arial'	Default font
fontshadow	None	font shadow color, default is None(no shadow)
fontsize	None	Font size. Calculated if None.
foreground	'ffffff'	Foreground colour
markup	False	Whether or not to use pango markup
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

Supported bar orientations: horizontal only

key	default	description
background	None	Widget background color
disconnected_message	'Disconnected'	String to show when the wlan is diconnected.
font	'Arial'	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	False	Whether or not to use pango markup
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
font	'Arial'	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	False	Whether or not to use pango markup
metric	True	True to use metric/C, False to use imperial/F
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	600	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?

Frequently Asked Questions

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...
```

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.

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)
```

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.

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.

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