

## qTox User Manual

<https://qtox.github.io/>

[https://github.com/qTox/qTox/blob/master/doc/user\\_manual\\_en.md](https://github.com/qTox/qTox/blob/master/doc/user_manual_en.md)

<https://github.com/qTox/qTox/wiki>

<https://github.com/qTox/qTox/issues>

<https://github.com/qTox/qTox/issues?utf8=%E2%9C%93&q=usb+cam>

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# 1. About qTox

## 1.1. qTox - A New Kind of Instant Messaging

With the rise of government monitoring programs, qTox provides an easy to use application that allows you to connect with friends and family without anyone else listening in. While other big-name services require you to pay for features, qTox is totally free, and comes without advertising.

For Windows, Linux, OS X, FreeBSD.

Not for iOS, Android etc..

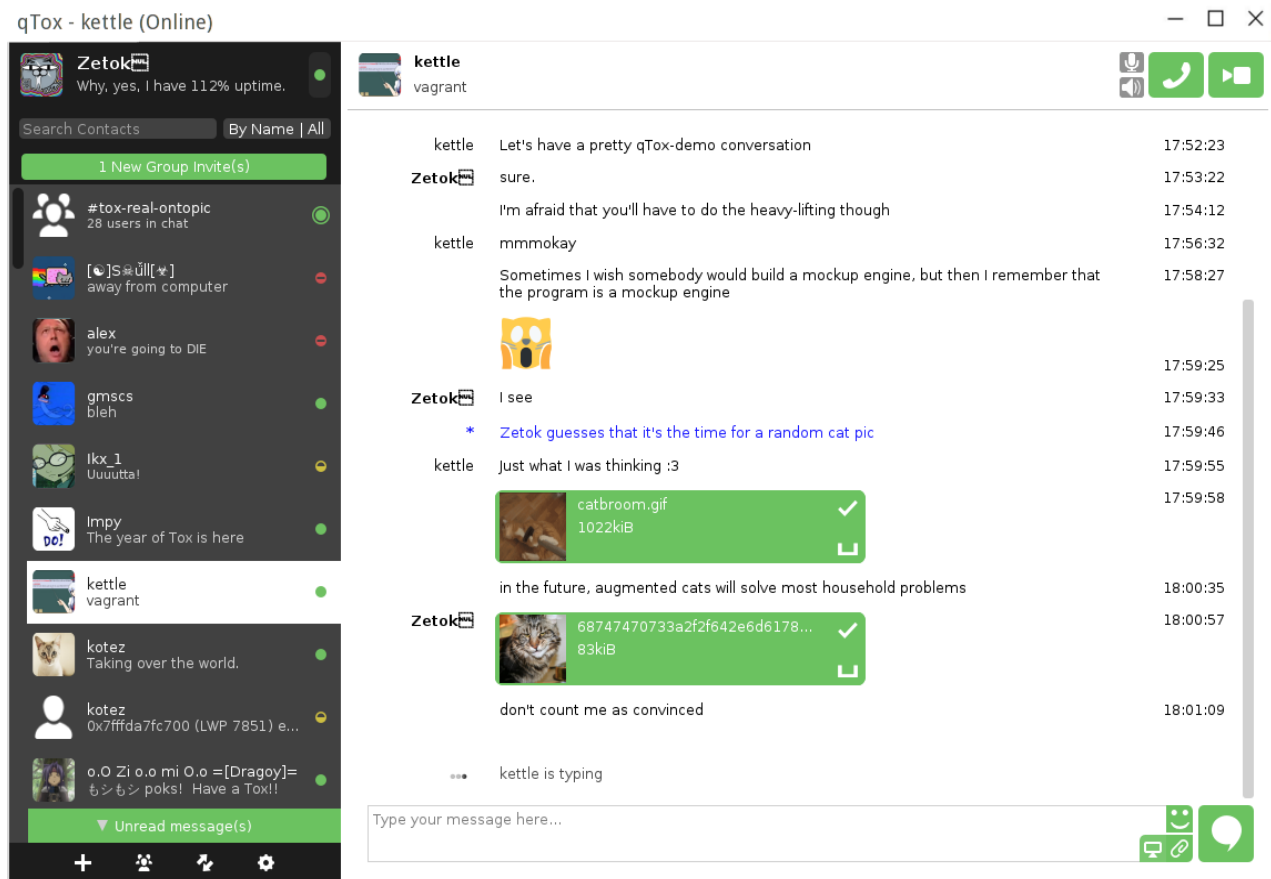
Nowadays, every government seems to be interested in what we're saying online. qTox is built on a "privacy goes first" agenda, and we make no compromises. Your safety is our top priority, and there isn't anything in the world that will change that.

Tox - P2P protocol with user-id from Distributed Hash Table (DHT).

Clients for Tox e.g.

- qTox (continued in development).
- App Antox for Android.
- TRIfA Tox Client for Android.
- Antidote for iPhon.

## 1.2. Instant messaging, video conferencing, and more



### 1.2.1. Messages

At your fingertips.

You're always in the loop with instant encrypted messaging.

### 1.2.2. Calls

Stay in touch.

Make free and secure qTox to qTox calls.

### 1.2.3. Video

Seeing is believing.

Catch up face to face with a secure video call.

### 1.2.4. Security

qTox takes your privacy seriously.

With leading-class encryption, you can rest assured knowing that the only people reading your messages are the ones you send them to.

### 1.2.5. Ease of Use

Unlike other secure messaging solutions, qTox does not require you to be a computer programmer to use it. qTox comes out-of-the-box with an easy-to-use interface that allows you to focus on your conversations.

### 1.3. Freedom

qTox is both free for you to use, and free for you to change. You are completely free to both use and modify qTox. Furthermore, qTox will never harass you with ads, or require you to pay for features.

Windows	Linux	OS X	FreeBSD
64 bit release	Arch, Debian, Fedora, Gentoo, openSUSE, Ubuntu	Latest release	Package & Port
32 bit release	AppImage, Flatpak	Building instructions	
64 bit, 32 bit nightly	From Source, Flatpak nightly, AppImage nightly	Latest nightly	

Android and IOS etc: none

## 2. Installing (Linux)

2,6 GB harddisk space.

0,8 GB download.

```
sudo apt-get update
```

```
sudo apt-get install \  
  build-essential \  
  cmake \  
  libavcodec-dev \  
  libavdevice-dev \  
  libavfilter-dev \  
  libavutil-dev \  
  libexif-dev \  
  libgdk-pixbuf2.0-dev \  
  libgl2.0-dev \  
  libgtk2.0-dev \  
  libkdeui5 \  
  libopenal-dev \  
  libopus-dev \  
  libqrencode-dev \  
  libqt5opengl5-dev \  
  libqt5svg5-dev \  
  libsodium-dev \  
  libsqlcipher-dev \  
  libswresample-dev \  
  libswscale-dev \  
  libvpx-dev \  
  libxss-dev \  
  qrencode \  
  qt5-default \  
  qttools5-dev-tools \  
  qttools5-dev
```

```
sudo apt-get install v4l-utils
```

```
sudo apt-get install v4l-conf
```

```
sudo apt-get install ffmpeg
```

At last use linux management of software for users (application management, application administration):

Install qTox.



**QTox**  
 Powerful Tox chat client that follows the Tox design guidelines.  
 ★★★★★ 5.0  
 1 Bewertungen

### A New Kind of Instant Messaging

With the rise of government monitoring programs, qTox provides an easy to use application that allows you to connect with friends and family without anyone else listening in. While other big-name services require you to pay for features, qTox is totally free, and comes without advertising.

Nowadays, every government seems to be interested in what we're saying online. qTox is built on a "privacy goes first" agenda, and we make no compromises. Your safety is our top priority, and there isn't anything in the world that will change that.

Instant messaging, video conferencing, and more.

Messages: At your fingertips. You're always in the loop with instant encrypted messaging.

Calls: Stay in touch. Make free and secure qTox to qTox calls.

Video: Seeing is believing. Catch up face to face with a secure video call.

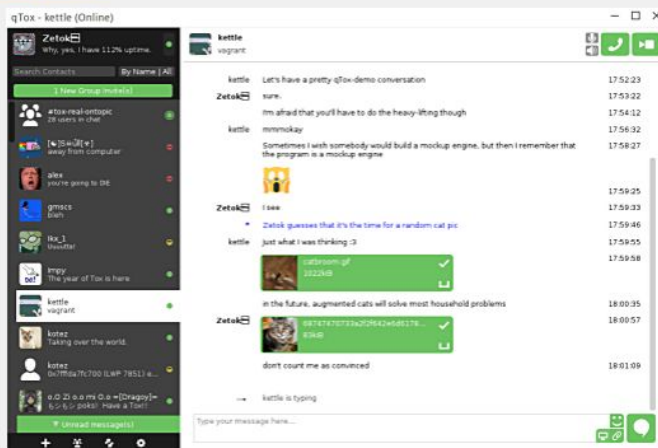
qTox is a free and open source software, built by and for the users!

Security: qTox takes your privacy seriously. With leading-class encryption, you can rest assured knowing that the only people reading your messages are the ones you send them to.

Ease of Use: Unlike other secure messaging solutions, qTox does not require you to be a computer programmer to use it. qTox comes out-of-the-box with an easy-to-use interface that allows you to focus on your conversations.

Freedom: qTox is both free for you to use, and free for you to change. You are completely free to both use and modify qTox. Furthermore, qTox will never harass you with ads, or require you to pay for features.

<https://qtox.github.io>



### Details (Flatpak)

Paket io.github.qtox.qTox  
 Version 1.16.3



### 3. Profile corner (Avatar, Name, Status)

Located in the top left corner of the main window.

- **Avatar:** picture that is shown to your contacts. Clicking on it will open user profile where you can change it.
- **Name:** your name shown to your contacts. Clicking on it will open user profile where you can change it.
- **Status message:** your status message shown to your contacts. Click on it to change it.
- **Status orb:** colored orb button that shows your current status. Click on it to change it.

**Status color can be one of:**

- **Online** – green
- **Away** – yellow
- **Busy** – red
- **Offline** – gray, set automatically by qTox when there is no connection to the Tox network.

## 4. Contact list

Located on the left, below the profile corner. Can be sorted e.g. By Activity.

By Activity sorting in qTox is updated whenever client receives something that is directly aimed at you, and not sent to everyone, that is:

- audio/video call
- file transfer
- groupchat invite
- message

**Not updated on:**

- avatar change
- groupchat message
- name change
- status change
- status message change

### 4.1. Contact menu

Can be accessed by right-clicking on a contact or circle. When right-clicking on a contact a menu appears that has the following options:

- **Open chat in a new window:** opens a new window for the chosen contact.
- **Invite to group:** offers an option to create a new groupchat and automatically invite the friend to it or to an already existing groupchat.
- **Move to circle:** offers an option to move friend to a new circle, or to an existing one.
- **Set alias:** set alias that will be displayed instead of contact's name.
- **Auto accept group invites:** if enabled, all group chat invites from this friend are automatically accepted.
- **Auto accept files from this friend:** option to automatically save files from the selected contact in a chosen directory.
- **Remove friend:** option to remove the contact. Confirmation is needed to remove the friend.
- **Show details:** show details of a friend.

### 4.2. Circles

Circles allow you to group contacts together and give this circle a name. Contacts can be in one or in no circle.

### 4.3. Contact details

Contact details can be accessed by right-clicking on a contact and picking the Show details option.

Some of the informations listed are:

- avatar
- name
- status message
- Public Key (PK) – note that PK is only a part of Tox ID and alone can't be used to add the contact e.g. on a different profile. Part not known by qTox is the NoSpam.

## 5. User Profile

To access it, click on **Avatar/Name** in the profile corner.

Your User Profile contains everything you share with other people on Tox. You can open it by clicking the picture in the top left corner. It contains the following settings:

### 5.1. Public Information (Name, Status, Avatar)

- **Name:** This is your nickname which everyone who is on your contact list can see.
- **Status:** You can post a status message here, which again everyone on your contact list can see.
- **Avatar:** Your profile picture that all your friends can see. To add or change, click on the avatar. To remove, right-click.

### 5.2. Tox ID (qTox ID)

The long code in hexadecimal format is your Tox ID, share this with everyone you want to talk to. Click it to copy it to your clipboard. Your Tox ID is also shown as QR code to easily share it with friends over a smartphone.

The "Save image" button saves the QR code into a image file, while the "Copy image" button copies into your clipboard.

### 5.3. Register on ToxMe

An integration for ToxMe service providers that allows you to create a simple alias for your Tox ID that will look like user@example.com. A default service provider (toxme.io) is already listed, and you can add your own.

- **Username:** This will be used as an alias for your Tox ID.
- **Biography:** Optional. If you want, you can write something here.
- **Server:** Service address where your alias will be registered.

Note that by default aliases are public, but you can check the option to make a private one, but given that it would be stored on a server that you don't control, it's not actually private. At best you have a promise of privacy from the owner of the server. For 100% privacy use Tox IDs.

After registration, you can give your new alias, e.g. user@example.com to your friends instead of the long Tox ID.

### 5.4. Profile

qTox allows you to use multiple Tox IDs with different profiles, each of which can have different nicknames, status messages and friends.

- **Current profile:** Shows the filename which stores your information.
- **Current profile location:** Shows the path to the profile file.
- **Rename:** Allows you to rename your profile. Your nickname and profile name don't have to be the same.
- **Delete:** Deletes your profile and the corresponding chat history.
- **Export:** Allows you to export your profile in a format compatible with other Tox clients. You can also manually back up your \*.tox files.
- **Logout:** Close your current profile and show the login window.
- **Remove password:** Removes the existing password for your profile. If the profile already has no password, you will be notified.
- **Change password:** Allows you to either change an existing password, or create a new password if your profile does not have one.

Nikita B. Zuev edited this page on 26 Jun 2017 · 14 revisions

Located under ~/.config/tox/ on \*nix, in %APPDATA%\tox\ on Windows XP, (%APPDATA%\Roaming)\tox\ on Windows 7 and 10), and ~/Library/Application Support/Tox/ on OS X.

To easily open that location, click on your avatar picture, and then in the bottom of the configuration screen, click "Current Profile location: ....."

When copying your profile to a new instance of qTox (be it portable or installed mode), the %username%.tox file contains the contact list and is most essential. The %user%.ini and qtox.ini files contain user-determined configuration data. The \tox\avatars\ directory can also be moved to the same folder as the new profile location, to retain your user avatar as well as those of your contacts.

qTox supports portable mode, which can be enabled in advanced settings. Portable mode saves & loads profile & settings from the working directory, i.e. from where qTox has been launched.

To avoid losing your profile, you should *maintain backups of your tox directory*. This can be achieved by simple copy or archive, but the program cannot be running while the backup is made.

The primary %user%.tox file can also be exported from the user profile page, by clicking Export.

New Feature: Toxme Registration allows for registering your nick `username@toxme.io` on the main registration server (`toxme.io` for `qtox`). This also has benefit (while a little less secure) of giving a non hexadecimal Toxid, instead giving `username@toxme.io` e.g. `l33thaXor@toxme.io` ).

Restoration of the profile is as easy as replacing the `tox` directory in its original location noted above, before running either the re-installed or portable version of `qTox` once more.

## 5.5. Friends' options

In the friend's window you can customize some options for this friend specifically.

- *Auto answer*: chooses the way to autoaccept audio and video calls.
- *Manual*: All calls must be manually accepted.
- *Audio*: Only audio calls will be automatically accepted. Video calls must be manually accepted.
- *Audio + video*: All calls will be automatically accepted.

## 6. Settings

### 6.1. General

- **Language:** Changes which language the qTox interface uses.
- **Autostart:** If set, qTox will start when you login on your computer. qTox will also automatically open the profile which was active when you ticked the checkbox, but this only works if your profile isn't encrypted (has no password set).
- **Light icon:** If set, qTox will use a different icon, which is easier to see on black backgrounds.
- **Show system tray icon:** If set, qTox will show its icon in your system tray.
- **Start in tray:** On start, qTox will only show its tray icon and no window.
- **Minimize to tray:** The minimize button on the top right, will minimize qTox to its tray icon. There won't be a taskbar item.
- **Close to tray:** The close button on the top right will minimize qTox to its tray icon. There won't be a taskbar item.
- **Play sound:** If checked, qTox will play a sound when you get a new message.
- **Play sound while Busy:** If checked, qTox will play a sound even when your status is set to Busy.
- **Show contacts' status changes:** If set, qTox will show contact status changes in your chat window.
- **Faux offline messaging:** If enabled, qTox will attempt to send messages when a currently offline contact comes online again.
- **Auto away after (0 to disable):** After the specified amount of time, qTox will set your status to "Away". A setting of 0 will never change your status.
- **Default directory to save files:** Allows you to specify the default destination for incoming file transfers.
- **Autoaccept files:** If set, qTox will automatically accept file transfers and put them in the directory specified above.

### 6.2. User Interface

#### 6.2.1. Chat

- **Base font:** You can set a non-default font and its size for the chat. The new font setting will be used for new messages and all messages after qTox has been restarted.
- **Text Style format:** see Message styling section.

#### 6.2.2. New message

- **Open window:** If checked, the qTox window will be opened when you receive a new message. If you use the multiple windows mode, see Multi Window Mode for details.
- **Focus window:** If checked, the qTox window will additionally be focused when you receive a new message.

#### 6.2.3. Contact list

- **Group chats always notify:** If set, qTox will notify you on every new message in a groupchat.
- **Place groupchats at top of friend list:** If checked, your groupchats will be at the top of the contacts list instead of being sorted with your other contacts.
- **Compact contact list:** If set, qTox will use a contact list layout which takes up less screen space.
- **Multiple windows mode:** If enabled, the qTox user interface will be split into multiple independent windows. For details see Multi Window Mode.
- **Open each chat in an individual window:** If checked, a new window will be opened for every chat you open. If you manually grouped the chat into another window, the window which hosts the chat will be focused.

#### 6.2.4. Emoticons

- **Use emoticons:** If enabled, qTox will replace smileys ( e.g. :- ) with corresponding graphical emoticons.
- **Smiley Pack:** Allows you to choose from different sets of shipped emoticon styles.
- **Emoticon size:** Allows you to change the size of the emoticons.

#### 6.2.5. Theme

- **Style:** Changes the appearance of qTox.
- **Theme color:** Changes the colors qTox uses.
- **Timestamp format:** Changes the format in which qTox displays message timestamps.
- **Date format:** Same as above for the date.

### 6.2.6. Privacy

- **Send typing notifications:** If enabled, notify your chat partner when you are currently typing.
- **Keep chat history:** If enabled, qTox will save your sent and received messages. Encrypt your profile, if you want to encrypt the chat history. *Note* that disabling history disables Faux offline messaging. With disabled history qTox doesn't store messages, so it can't try to re-send them.

### 6.2.7. NoSpam

NoSpam is a feature of Tox that prevents a malicious user from spamming you with friend requests. If you get spammed, enter or generate a new NoSpam value. This will alter your Tox ID. You don't need to tell your existing contacts your new Tox ID, but you have to tell new contacts your new Tox ID. Your Tox ID can be found in your User Profile.

### 6.2.8. BlackList

BlackList is a feature of qTox that locally blocks a group member's messages across all your joined groups, in case someone spams a group. You need to put a members public key into the BlackList text box one per line to activate it. Currently qTox doesn't have a method to get the public key from a group member, this will be added in the future.

## 6.3. Audio/Video

### 6.3.1. Audio Settings

- **Playback device:** Select the device qTox should use for all audio output (notifications, calls, etc).
- **Volume:** Here you can adjust the playback volume to your needs.
- **Capture device:** Select the device qTox should use for audio input in calls.
- **Gain:** Set the input volume of your microphone with this slider. When you are talking normally, the displayed volume indicator should be in the green range.

### 6.3.2. Video Settings

- **Video device:** Select the video device qTox should use for video calls. "None" will show a dummy picture to your chat partner. "Desktop" will stream the content of your screen.
- **Resolution:** You can select from the available resolutions and frame rates here. Higher resolutions provide more quality, but if the bandwidth of your connection is low, the video may get choppy.

If you set up everything correctly, you should see the preview of your video device in the box below.

- **Rescan devices:** Use this button to search for newly attached devices, e.g. you plugged in a webcam.

## 6.4. Advanced

### 6.4.1. Portable

- **Make Tox portable:** If enabled, qTox will load/save user data from the working directory, instead of `~/config/tox/`.

### 6.4.2. Connection Settings

- **Enable IPv6 (recommended):** If enabled, qTox will use IPv4 and IPv6 protocols, whichever is available. If disabled, qTox will only use IPv4.
- **Enable UDP (recommended):** If enabled, qTox will use TCP and UDP protocols. If disabled, qTox will only use TCP, which lowers the amount of open connections and slightly decreases required bandwidth, but is also slower and puts more load on other network participants.

Most users will want both options enabled, but if qTox negatively impacts your router or connection, you can try to disable them.

- **Proxy type:** If you want to use a proxy, set the type here. "None" disables the proxy.
- **Address:** If you use a proxy, enter the address here.
- **Port:** If you use a proxy, enter the port here.
- **Reconnect:** Reconnect to the Tox network, e.g. if you changed the proxy settings.
- **Reset to default settings:** Use this button to revert any changes you made to the qTox settings. *Note that current implementation is buggy and aside from settings also friend [aliases] will be removed!*

### 6.4.3. About

- **Version:** Shows the version of qTox and the libraries it depends on. Please append this information to every bug report.
- **License:** Shows the license under which the code of qTox is available.
- **Authors:** Lists the people who developed this shiny piece of software.
- **Known Issues:** Links to our list of known issues and improvements.



## 7. Groupchats

Groupchats are a way to talk with multiple friends at the same time, like when you are standing together in a group. To create a groupchat click the groupchat icon in the bottom left corner and set a name. Now you can invite your contacts by right-clicking on the contact and selecting "Invite to group". Currently, if the last person leaves the chat, it is closed and you have to create a new one. Videochats and file transfers are currently unsupported in groupchats.

## 8. Message Styling

Similar to other messaging applications, qTox supports stylized text formatting.

- For **Bold**, surround text in single or double asterisks: `*text*` or `**text**`
- For **Italics**, surround text in single or double forward slashes: `/text/` or `//text//`
- For **Strikethrough**, surround text in single or double tilde's: `~text~` or `~~text~~`
- For **Underline**, surround text in single or double underscores: `_text_` or `__text__`
- For **Code**, surround your code in in single backticks: ``text``

Additionally, qTox supports three modes of Markdown parsing:

- Plaintext: No text is stylized
- Show Formatting Characters: Stylize text while showing formatting characters (Default)
- Don't Show Formatting Characters: Stylize text without showing formatting characters

*Note that any change in Markdown preference will require a restart.*

qTox also supports action messages by prefixing a message with `/me`, where `/me` is replaced with your current username. For example `/me likes cats` turns into *\* qTox User likes cats*.

## 9. Quotes, Friend- and Groupinvites

qTox has feature to quote selected text in chat window:

1. Select the text you want to quote.
2. Right-click on the selected text and choose "Quote selected text" in the context menu. You also can use ALT + q shortcut.
3. Selected text will be automatically quoted into the message input area in a pretty formatting.

### Friend- and Groupinvites

To invite a friend to a chat with you, you have to click the + button on the bottom left of the qTox window. The "Add a friend" Tab allows you to enter the Tox ID of your friend, or the username of a ToxMe service if your friend registered there.

On the "Friend requests" tab you can see, friend requests you got from other Tox users. You can then choose to either accept or decline these requests.

On the Groupinvites page, you can create a new groupchat and add users to it by using the context menu in your contact list. Invites from your contacts are also displayed here and you can accept and decline them.

## 10. Multi Window Mode

In this mode, qTox will separate its main window into a single contact list and one or multiple chat windows, which allows you to have multiple conversations on your screen at the same time. Additionally you can manually group chats into a window by dragging and dropping them onto each other. This mode can be activated and configured in settings.

## 11. Keyboard Shortcuts

The following shortcuts are currently supported:

Shortcut	Action
Arrow up	Paste last sent message
CTRL + SHIFT + L	Clear chat
CTRL + q	Quit qTox
CTRL + Page Down	Switch to the next contact
CTRL + Page Up	Switch to the previous contact
CTRL + TAB	Switch to the next contact
CTRL + SHIFT + TAB	Switch to the previous contact
CTRL + p	Push to talk
ALT + q	Quote selected text
F11	Toggle fullscreen mode

Push to talk In audio group chat microphone mute state will be changed while Ctrl + p pressed and reverted on release.

## 12. Commandline Options

Option	Action
-p <profile>	Use specified unencrypted profile
-l	Start with loginscreen
-I <on/off>	Sets IPv6 toggle [Default: ON]
-U <on/off>	Sets UDP toggle [Default: ON]
-L <on/off>	Sets LAN toggle [Default: ON]
-P <protocol>:<address>:<port>	Applies proxy options [Default: NONE]

### Commandline Proxy Options

Protocol: NONE, HTTP or SOCKS5

Address: Proxy address

Port: Proxy port number (0-65535)

Example input:

```
qtox -P SOCKS5:192.168.0.1:2121
```

```
qtox -P none
```

## 13. Emoji Packs

qTox provides support for custom emoji packs. To install a new emoji pack put it in %LOCALAPPDATA%/emoticons for Windows or ~/.local/share/emoticons for Linux. If these directories don't exist, you have to create them. The emoji files have to be in a subfolder also containing emoticon.xml, see the structure of <https://github.com/qTox/qTox/tree/v1.5.2/smileys> or for further information (nameless icon svg, only number).

## 14. Pulseaudio

Bignaux Ronan edited this page on 25 Mar 2016 · 5 revisions

If you are using openal with pulseaudio support, you can benefit a few useful feature of pulseaudio to improve you call experience. Put all your tips here!

Make sure openal uses PA backend. I dont find a way to know that trough openal API or openal-info (?) Even the default order of choice seems to differ between version... And you can't fix it per app (!)

So you should config it via openal ... configuration file! echo "drivers=pulse" > ~/.alsoftrc or globally in /etc/openal/alsoft.conf Hope this works for you...

### 14.1. First step with PulseAudio

First, you can list already loaded modules : `$ pactl list short modules`

### 14.2. Noise and echo cancellation: module-echo-cancel

see #1655

```
$ pactl load-module module-echo-cancel aec_method=webrtc 26
```

```
$ pactl unload-module 26
```

more informations :

- <https://github.com/otcshare/pulseaudio/blob/master/src/modules/echo-cancel/module-echo-cancel.c>
- [https://wiki.archlinux.org/index.php/PulseAudio/Troubleshooting#Enable\\_Echo.2FNoise-Cancellation](https://wiki.archlinux.org/index.php/PulseAudio/Troubleshooting#Enable_Echo.2FNoise-Cancellation)
- <https://www.freedesktop.org/wiki/Software/PulseAudio/Documentation/User/Modules/#index45h3>

### 14.3. PulseAudio ducking

see #257

WONT WORK because phonon deprecated shadok machine! openal seems to be very limited. Even if i set media.role in the code and it seems ok for pulseaudio, it doesnt work. Anyway, without the capability of handle differently notification sound and call audio, it won't help.

<KittyCat> and unfortunately, openal soft has to force the pulseaudio media role to default/empty because Qt/Phonon tries to globally set it such that it hides the streams in pavucontrol

<KittyCat> `pa_proplist_set(prop_filter, PA_PROP_MEDIA_ROLE, NULL, 0);` I set it there, and `prop_filter` gets passed to `pa_stream_new_with_proplist` for the playback stream

<KittyCat> that overrides the env var Phonon sets

```
pactl load-module module-role-ducking trigger_roles=phone ducking_roles=music,video volume=0
```

```
PULSE_PROP='media.role=phone' qtox
```

### 14.4. Idea of light integration :

```
#if defined(Q_OS_LINUX)
```

```
    // set a few environment variable to improve pulseaudio integration.
```

```
    // TODO : QT backend and PA only.
```

```
    // see : https://www.freedesktop.org/wiki/Software/PulseAudio/Documentation/Developer/Clients/ApplicationProperties/
```

```
    setenv("PULSE_PROP_application.name", "qTox", 1); // not work.
```

```
    setenv("PULSE_PROP_media.role", "phone", 1); // TODO : add option at least in ini file.
```

```
    setenv("PULSE_PROP_application.icon_name", "qtox", 1);
```

```
#endif
```



## 15. Testing

<https://github.com/qTox/qTox/issues?utf8=%E2%9C%93&q=usb+cam>

zetok edited this page on 3 May 2016 · 11 revisions

### 15.1. Audio / Video testing

Use Echobot for testing audio and video. If you start a voice/video call with Echobot, it will echo back all audio & video you send it with a 1-2 second delay. Echobot's ID:

76518406F6A9F2217E8DC487CC783C25CC16A15EB36FF32E335A235342C48A39218F515C39A6

When writing a bug report about something wrong with camera, include this info:

lsusb

lsusb -s 1:6 -v # Replace 1:6 by the correct bus/devnum of the webcam if necessary

v4l2-ctl --list-devices

v4l2-ctl --list-formats-ext

ffmpeg -f v4l2 -list\_formats all -i /dev/video0

### 15.2. Web-cam simulation (Linux):

Download, compile & install v4l2loopback (Debian/Ubuntu/Mint: aptitude install v4l2loopback-dkms

<https://github.com/umlaute/v4l2loopback>

v4l2loopback - a kernel module to create V4L2 loopback devices)

modprobe v4l2loopback max\_width=800 max\_height=600

ffmpeg -loop 1 -y -i testfile\_800x600.png -f v4l2 /dev/video0

### 15.3. Gotchas

If you're using cam under Linux, you may be interested in trying different kernel versions - there already has been a case where changing kernel 3.16 → 4.2 fixed problem with qTox freezing.

### 15.4. Regression testing

Resource: [https://wiki.winehq.org/Regression\\_Testing#Running\\_the\\_Bisection](https://wiki.winehq.org/Regression_Testing#Running_the_Bisection)

I've based steps below on assumption that one did read link above ↑, even though it's not about qTox.

Differences and general tips.

- Provided that you have needed dependencies all that you need to compile qTox is:

```
$ qmake && make
```

It ↑ will create qtox binary in your qTox directory. You may want to use more than 1 core when compiling, e.g. to use 4 threads:

```
$ qmake && make -j4
```

- For compiling with ccache, you'll need to have it properly installed, so which g++ reports for ccache binary or just add QMAKE\_CXX="ccache g++" to your qmake command, i.e.:

```
$ qmake QMAKE_CXX="ccache g++"
```

- Before issuing git bisect good / bad, you should clear changed files. It will remove also compiled binary:

```
$ make clean && git checkout -f
```

- To prevent damaging your Tox profile / history, you may want to make qTox use temporary profile. Thus create temporary directory where it'll be stored:

```
$ mkdir -p /tmp/.config/tox && touch /tmp/.config/tox/profile.tox
```

and then make qTox use it when launching from compiled binary:

```
$ HOME="/tmp/" ./qtox -p profile
```

## 15.5. Testing with linux tools in terminal

### get devices informations

```
v4l2-ctl --list-devices
```

output for 1 USB-Cam e.g.

```
UVC Camera (046d:0809) (usb-0000:02:0c.2-1):
```

```
    /dev/video0
```

```
    /dev/video1
```

Only /dev/video0 is useable !

### get device informations /dev/video0

```
ffmpeg -f v4l2 -list_formats all -i /dev/video0
```

### record video from USB-Cam (in actual folder) /dev/video0

```
ffmpeg -f v4l2 -framerate 25 -video_size 640x480 -i /dev/video0 output.mkv
```

## 15.6. Rotating / flipping webcam data stream and other issues

Currently qTox doesn't support adjusting the video stream obtained from webcams. This may change in the future. In some laptops, the camera has been assembled upside-down. To have the image correctly displayed it is required to flip the stream vertically.

One way to workaroud this is by using a kernel module that creates a virtual video (webcam) device v4l2loopback and ffmpeg to transform the original video with one or more filters.

First, compile and install v4l2loopback. After modprobe v4l2loopback and if everything worked correctly you should now see a /dev/videoX device that didn't exist before. If you have only one video device on your machine, the new one will likely be video1.

Next you can use **ffmpeg** to process the original stream and redirect it to /dev/video1. To do this, open a new terminal window and run: `ffmpeg -f v4l2 -i /dev/video0 -f v4l2 /dev/video1`. If you have an activity led on your webcam, it should now be on.

You can now start qTox, go to **Settings > Audio/Video** and on **Video device** select Dummy video device .... If all is good you should see video as if you had selected the webcam device.

For the original issue of the image being upside-down, you need to enable the vflip filter by adding `-vf "vflip"`. Go ahead and try running: `ffmpeg -f v4l2 -i /dev/video0 -vf "vflip" -f v4l2 /dev/video1` You should now see the preview video image on qTox shown correctly (or upside-down if it wasn't broken before). If you also wanted to flip the image horizontally you would use: `ffmpeg -f v4l2 -i /dev/video0 -vf "vflip,hflip" -f v4l2 /dev/video1`

For any further manipulation check all the available filters with: `ffmpeg -filters`. Note that the list also includes **audio** related filters. In this case only the ones concerning **video** matter.

## 16. FAQ (Frequently Asked Questions)

Anthony Bilinski edited this page on 14 Sep 2017 · 13 revisions

### 16.1. Boxes instead of the text ("tofu")

If the text/emoticons are displayed as blank boxes (so called "tofu"), your system is missing fonts.

Download and install BotnetGoogle Noto Fonts to fix that.

Downloading 0.5 GB of fonts quite well explains why qTox can't just bundle all fonts required to properly support whole Unicode.

### 16.2. Can a profile be automatically loaded if it's password-protected?

**Short answer: no.**

**Longer answer:**

Password protection in qTox, as opposed to variety of other software that claims to be "secure" actually does provide fairly strong guarantees that your data is secure. If you're using a password, your data is encrypted before writing it to disk, and decrypted when you type in your password. Only person who knows the password can get to know what your data is.

So the guarantee is that as long as the only person knowing your password is you, your data is known only to you (but whatever text you've sent to your friends is also known to them ;P ).

Automatically loading an encrypted profile would require writing down the plaintext password somewhere on your disk, which would result in the guarantee being nullified – now the only requirement would be just having an access to the storage, which doesn't differ from having a non-encrypted profile. At which point having a password in the first place is unnecessary.

So if there's no difference between having a profile without password-protection and password-"protected" profile that has password written down somewhere, qTox does the only sane thing and simply doesn't offer a way to nullify strong guarantees about security.

If you want automatically loaded profile, it conflicts with security – you can't have both. Either explicitly remove the password (in which case you know well that there's no security to be expected), or keep the password and security it provides.

### 16.3. High-DPI support

There are some Qt docs on that, although if your qTox is built against an old Qt version (before 5.6) those might not apply/be helpful.

Docs:

- <https://blog.qt.io/blog/2016/01/26/high-dpi-support-in-qt-5-6/>
- <https://doc.qt.io/qt-5/highdpi.html>

### 16.4. How to merge two profiles of the same ID (synchronize contacts and history)?

Contacts sync: <https://github.com/qTox/qTox/issues/3408>

### 16.5. qTox couldn't open your chat logs, they will be disabled.

Most likely you're missing SQLite/SQLCipher dependencies.

### 16.6. Network usage

Network is being continuously used while I'm not doing anything, why?

qTox is P2P – it needs to search, connect to, and maintain the connection to the friends and other network nodes all the time in order to stay online. This generates network traffic. The more friends you have, the bigger network usage.

Networking is managed by toxcore library, and eventual improvements to qTox's network usage depend on toxcore development.

## 16.7. Why is qTox killing my internet connection?

tl;dr: Your network connection deserved to be killed.

Explanation: Sometimes you will have a router or some other network device which does not want to work well with qTox. In fact, it may outright refuse to work at all, “dying” at your hands.

<irungentoo> the routers dieing is caused by too many connections

<irungentoo> some idiotic routers treat one UDP packet sent to an ip/port as one connection

<irungentoo> and keep track of it

..

<irungentoo> and the reason why hole punching doesn't work very well on newer routers

There isn't a lot that could be done about it, but there is a workaround - you can disable UDP in qTox and see whether it would help.

## 16.8. Support for other instant messaging protocols

**Short answer: no.**

**Longer answer:**

One of key things in making software secure is keeping attack surface as small as possible.

Supporting more than one IM protocol is opposite of that. It doesn't just enlarge attack surface, it adds entirely new (big!) attack surfaces.

Thus the simplest solution when it comes to security and supporting multiple protocols is simply: *don't*.

And qTox does just that: it doesn't support protocols other than Tox.

Supporting only one protocol allows full focus on it, which means that eventual problems are more likely to be found & fixed faster. Full focus on one protocol helps prevent bugs landing in code in the first place.

It's also good to keep in mind that interface exposed to qTox client by toxcore library is really nice (aka as idiot-proof as possible), which further lowers risk of something being done wrong. This is rarely (if ever) the case for other protocols.

## 16.9. Can I run multiple instances of qTox at once?

Yes, to open different profiles, run `qtox -p profile-name` to open a second instance and load `profile-name`. If you want one profile open with multiple windows, see [https://github.com/qTox/qTox/blob/master/doc/user\\_manual\\_en.md#multi-window-mode](https://github.com/qTox/qTox/blob/master/doc/user_manual_en.md#multi-window-mode)

## 16.10. USB Cam issues

<https://github.com/qTox/qTox/issues?utf8=%E2%9C%93&q=usb+cam>