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# **aqtinstall Documentation**

***Release 0.5b2***

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**Jun 18, 2020**



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## Command Line Options

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The CLI uses argparse to parse the command line options so the short or long versions may be used and the long options may be truncated to the shortest unambiguous abbreviation.

**list**

list available versions (not implemented yet)

**help**

show generic help

**install** <Qt version> <target OS> <target variant> <target environment>

install Qt library specified version and target.

**Qt version**

This is a Qt version such as 5.9, 7, 5.12.1 etc

**target OS**

linux, windows or mac

**target variant**

desktop or android

**target environment**

- gcc\_64 for linux desktop
- clang\_64 for mac desktop
- win64\_msvc2019\_64, win64\_msvc2017\_64, win64\_msvc2015\_64, in32\_msvc2015, win32\_mingw53 for windows desktop
- android\_x86, android\_armv7 for android

**--version, -v**

Display version

**--help, -h**

Display help text

**--outputdir, -O** <Output Directory>  
specify output directory.

**--base, -b** <base url>  
specify mirror site base url such as -b '<http://mirrors.ocf.berkeley.edu/qt/>' where 'online' folder exist.

**--modules, -m** <list of modules>  
specify extra modules to install as a list.

**--archives** <list of archives>  
[Advanced] specify subset of archives to limit installed archvies.

**src** <Qt version> <target OS> <target variant>  
install Qt sources specified version and target.

**doc** <Qt version> <target OS> <target variant>  
install Qt documents specified version and target.

**examples** <Qt version> <target OS> <target variant>  
install Qt examples specified version and target.

**tools** <target OS> <target tool name> <target tool version> <tool variant name>  
install tools specified. tool name may be 'tools\_openssl\_x64', 'tools\_ninja', 'tools\_ifw', 'tools\_cmake' and tool variants name may be 'qt.tools.openssl.gcc\_64', 'qt.tools.ninja', 'qt.tools.ifw.32', 'qt.tools.cmake'. You may need to looking for version number at <https://download.qt.io/online/qtsdkrepository/>



## CHAPTER 2

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### Internals

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#### **2.1 Archives module**

#### **2.2 Installer module**

#### **2.3 Cli module**

#### **2.4 Helper module**

#### **2.5 QtPatch module**



All notable changes to this project will be documented in this file.

### 3.1 Current changes

#### 3.1.1 Unreleased

**Added**

**Changed**

**Fixed**

**Deprecated**

**Removed**

**Security**

#### 3.1.2 v0.9.2 (19, June. 2020)

**Added**

- Add Qt6 as a known version. (#144)

**Fixed**

- Support package directory 'qt6\_\*' as well as 'qt5\_\*' (#145)

### **3.1.3 v0.9.1 (13, June. 2020)**

#### **Changed**

- Do not raise exception when specified combination is not found on downloaded meta data.
- Update document for developers.

### **3.1.4 v0.9.0 (31, May. 2020)**

#### **Added**

- New subcommand doc/src/example to install each components.(#137, 138)
- Doc: Add CLI example for tools, doc, examples and src.

#### **Changed**

- Refactoring to reduce code duplication in archives.py
- Explicitly call QtInstall.finalize() only when Qt library installation.

#### **Fixed**

- Show help when launched without any argument (#136)

### **3.1.5 v0.9.0b3 (21, May. 2020)**

#### **Changed**

- Patch qmake when finishing installation.(#100) qmake has a hard-coded prefix path, and aqt modify binary in finish phase. it is not necessary for Qt 5.14.2, 5.15.0 and later. This behavior try to be as same as a Qt installer framework doing.
- Patch Framework.QtCore when finishing installation.(#100) As same as qmake, framework also has a hard-coded prefix path. (Suggestions from @agateau)

### **3.1.6 v0.9.0b2 (21, May. 2020)**

#### **Added**

- CLI: ‘–archives’ option: it takes multiple module names such as qtbase, qtsvg etc. This is an advanced option to specify subset of target installation. There is no guarantee it works. It is not recommended if you are unknown what is doing.

### 3.1.7 v0.9.0b1 (10, May. 2020)

#### Added

- Support installation of Qt version for msvc2019
- Add knowledge of components combination on 5.14 and 5.15

#### Changed

- Show detailed diagnose message when error happend.
- CI test with Qt 5.14.2 and 5.15.0
- CI test with installed mingw tools compiler.
- Depends on py7zr v0.7.0b2 and later.

#### Fixed

- Tools: Fix mingw installation failure.
- Fix `-outputdir` behavior about path separator on windows

### 3.1.8 v0.8 (26, Mar. 2020)

#### Fixed

- docs: fix broken link for qli-installer

### 3.1.9 v0.8b1 (12, Mar. 2020)

#### Added

- Support specifying config with environment variable `AQT_CONFIG`

#### Fixed

- Fix to use concurrency settings

### 3.1.10 v0.8a4 (6, Mar., 2020)

#### Fixed

- Import-metadata package is required in python version `< 3.8` not `3.7`.
- Refactoring redirect helper function to improve connection error checks and error message.(#109)

### **3.1.11 v0.8a3 (5, Mar., 2020)**

#### **Changed**

- Improve error messages when command argument is wrong.

#### **Fixed**

- Work around for <http://download.qt.io/> returns wrong metalink xml data.(#105, #106)

### **3.1.12 v0.8a1 (28, Feb., 2020)**

#### **Changed**

- Allow path search for 7z (#96)
- Simplify multithreading using `concurrent.futures.ThreadPoolExecutor()`.

#### **Fixed**

- Detect exception on each download and extraction threads.
- Race condition error happend on py7zr. require py7zr>=0.5.3.(#97)

### **3.1.13 v0.7.4 (15, Feb., 2020)**

#### **Changed**

- requirement of py7zr version become >0.6b2 which fixed a multiprocessing problem.

### **3.1.14 v0.7.3 (14, Feb., 2020)**

#### **Added**

- Github Actions workflows for publishing.

#### **Changed**

- Remove run script from source. Now it is automatically generated when build.(#85)
- Update requirement py7zr >=0.5

#### **Fixed**

- README: fix reStructured text syntax.

### 3.1.15 v0.7.2 (11, Feb., 2020)

#### Changed

- Replace ‘multiprocessing.dummy’ with ‘concurrent.futures’.
  - download with multi-threading(I/O bound)
  - extract with multi-processing(CPU bound)

#### Fixed

- ‘-E | -external’ option handling which cause path is not str error.

### 3.1.16 v0.7.1 (13, Jan., 2020)

#### Fixed

- Fix installation of extra modules for Qt5.9.

### 3.1.17 v0.7 (13, Jan., 2020)

#### Changed

- Move project metadata to setup.cfg from setup.py.

### 3.1.18 v0.7b1 (10, Jan., 2020)

#### Changed

- Bump up dependency py7zr >=v0.5b5.
- Use py7zr in default to extract packages.
- Drop -internal command line option.

### 3.1.19 v0.7a2 (7, Jan., 2020)

#### Added

- Add special module name ‘all’ for extra module option.

#### Fixed

- CI conditions, update target version.

### **3.1.20 v0.7a1 (29, Nov., 2019)**

#### **Added**

- Introduce helper module.
- Introduce ‘settings.ini’ file which has a configuration for aqt module.

#### **Changed**

- Version numbering with setuptools\_scm.
- Now don’t install extra modules when installing ‘wasm\_32’ arch. You should explicitly specify it with ‘-m’ option.

#### **Fixed**

- Error when mirror site is not http, but https and ftp.

### **3.1.21 v0.6b1 (23, Nov., 2019)**

#### **Changed**

- Just warn when argument combination check is failed.
- CI: Compress sample project for build test with 7zip.
- CI: Place sample script in ci directory.

### **3.1.22 v0.6a2 (19, Nov., 2019)**

#### **Added**

- Test: Unit test against command line.
- Android target variants.

#### **Changed**

- Use logging configuration with logging.ini

#### **Fixed**

- qconfig.pri: fix QT\_LICHECK line.

#### **Removed**

- Logging configuration file logging.yml
- Drop dependency for pyyaml.



### 3.1.23 v0.6a1 (17, Nov., 2019)

#### Added

- More build test with sample project which uses an extra module.(#56)
- Add support for installation of WebAssembly component by specifying 'wasm\_32' as an arch argument.(#53, #55)

#### Changed

- Optional modules are installed explicitly. Users need to specify extra modules with -m option.(#52, #56)

#### Fixed

- Dependency for py7zr only for python > 3.5. Now it works with python2.7.

### 3.1.24 v0.5 (10, Nov., 2019)

#### Changed

- Introduce combination DB in json form. User and developer now easily add new component for installation checking.

#### Fixed

- requires `py7zr` >= 0.4.1 because v0.4 can fails to extract file.

### 3.1.25 v0.5b2 (8, Oct., 2019)

#### Changed

- Change install path from <target>/Qt/Qt<version>/<version> to <target>/<version> (#48). - Also update CI test to specify --outputdir <target> that is \$(BinariesDirectory)/Qt

### 3.1.26 v0.5b1 (8, Oct., 2019)

#### Added

- Add feature to support installation of Qt Tools
- Add CI test for tool installation

#### Changed

- CI test target - add 5.14.0 - remove 5.11.3 - change patch\_levels to up-to-date

### 3.1.27 v0.4.3 (25, Sep, 2019)

#### Fixed

- Allow multiple redirection to mirror site.(#41)

### 3.1.28 v0.4.2 (28, Jul, 2019)

#### Changed

- README: update badge layout.
- CI: Improve azure-pipelines configurations by Nelson (#20)
- Check parameter combination allowance and add winrt variant.
- Support installation of mingw runtime package.
- Add ‘-internal’ option to use `py7zr` instead of external `7zip` command for extracting package archives.(WIP)

### 3.1.29 v0.4.1 (01, Jun, 2019)

#### Added

- Option `-b | -base` to specify mirror site.(#24)

#### Changed

- CI: add script to generate `azure-pipelines.yml` (#27, #28, #29)
- CI: use powershell script for linux, mac and windows. (#26)

#### Fixed

- Avoid blacklisted mirror site that cause CI fails.(#25)

### 3.1.30 v0.4.0 (29, May, 2019)

#### Added

- cli: output directory option.
- sphinx document.
- test packaging on CI.
- Handler for metalink information and intelligent mirror selection.

### Changed

- Change project directory structure.
- cli command name changed from ‘aqtinst’ to ‘aqt’ and now you can run ‘aqt install’
- Introduce Cli class
- Massive regression test on azure pipelines(#20)
- blacklist against <http://mirrors.tuna.tsinghua.edu.cn> and <http://mirrors.geekpie.club/> from mirror site.
- Run 7zip command with ‘-o{directory}’ option.

### Fixed

- Fix File Not Found Error when making qt.conf against win64\_mingw73 and win32\_mingw73

## 3.1.31 v0.3.1 (15, March, 2019)

### Added

- Qmake build test code in CI environment.(#14)

### Fixed

- Connect to Qt download server through proxy with authentication.(#17)

### Changed

- Change QtInstaller.install() function signature not to take any parameter.
- Replace standard urllib to requests library.(#18)
- Use 7zr external command instead of 7z in Linux and mac OSX envitonment.

### Removed

- requirements.txt file.

## 3.1.32 v0.3.0 (8, March, 2019)

### Added

- Allow execute both ‘aqtinst’ and ‘python -m aqt’ form.

### Changed

- Project URL is changed.
- Generate universal wheel support both python2.7 and python 3.x.

### **Fixed**

- Update README wordings.
- Remove dependency for python3 with 'aqtinst' command utility.
- Fix command name in help message.

### **3.1.33 v0.2.0 (7, March, 2019)**

#### **Added**

- Released on pypi.org

#### **Changed**

- Install not only basic packages also optional packages.
- Rename project/command to aqt - Another QT installer

#### **Fixed**

- Update mkspecs/qconfig.pri to indicate QT\_EDITION is OpenSource
- Support Python2

### **3.1.34 v0.1.0 (5, March, 2019)**

#### **Changed**

- Support multiprocessing concurrent download and installation.

### **3.1.35 v0.0.2 (4, March, 2019)**

#### **3.1.36 Added**

- CI test on Azure-pipelines

#### **3.1.37 Changed**

- Refactoring code
- Install QtSDK into (cwd)/Qt<version>/<version>/gcc\_64/
- Drop dependency for `requests` library
- Use standard `argparse` for command line argument.

### 3.1.38 Fixed

- Support windows.
- looking for 7zip in standard directory.

### 3.1.39 v0.0.1 (2, March, 2019)

- Fork from qli-installer



# CHAPTER 4

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## Contribution guide

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This is contribution guide for aqtnstall project. You are welcome to send a Pull-Request, reporting bugs and ask questions.

### 4.1 Resources

- Project owner: Hiroshi Miura
- Bug Tracker: Github issue [Tracker](#)
- Status: alpha
- Activity: high

### 4.2 Bug triage

Every report to github issue tracker should be in triage. whether it is bug, question or invalid.

### 4.3 Send patch

Here is small amount rule when you want to send patch the project;

1. every proposal for modification should send as 'Pull Request'
1. each pull request can consist of multiple commits.
1. you are encourage to split modifications to individual commits that are logical subpart.

## **4.4 CI tests**

The project configured to use Azure Pipelines, Travis-CI and CoverAlls for regression test. You can see test results on badge and see details in a web page linked from badge.



## CHAPTER 5

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### Authors

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Aqtinstall is written and maintained by Hiroshi Miura <[miurahr@linux.com](mailto:miurahr@linux.com)>

Original qli-installer is written by Linus Jahn

Contributors, listed alphabetically, are:

- Kyle Altendorf (7z binary path search)
- Martin Delille
- Nelson Chen (CI tests)
- Skycoder42 (Explicit extra module installation)
- Thomas Grainger



## CHAPTER 6

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### Indices and tables

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- `genindex`
- `modindex`
- `search`



## Symbols

-archives <list of archives>  
    aqt command line option,4  
-base, -b <base url>  
    aqt command line option,4  
-help, -h  
    aqt command line option,3  
-modules, -m <list of modules>  
    aqt command line option,4  
-outputdir, -O <Output Directory>  
    aqt command line option,3  
-version, -v  
    aqt command line option,3

## A

aqt command line option  
    -archives <list of archives>,4  
    -base, -b <base url>,4  
    -help, -h,3  
    -modules, -m <list of modules>,4  
    -outputdir, -O <Output Directory>,3  
    -version, -v,3  
doc <Qt version> <target OS>  
    <target variant>,4  
examples <Qt version> <target OS>  
    <target variant>,4  
help,3  
install <Qt version> <target  
    OS> <target variant> <target  
    environment>,3  
list,3  
src <Qt version> <target OS>  
    <target variant>,4  
tools <target OS> <target tool  
    name> <target tool version>  
    <tool variant name>,4

## D

doc <Qt version> <target OS> <target  
    variant>

    aqt command line option,4

## E

examples <Qt version> <target OS>  
    <target variant>  
    aqt command line option,4

## H

help  
    aqt command line option,3

## I

install <Qt version> <target OS>  
    <target variant> <target  
    environment>  
    aqt command line option,3

## L

list  
    aqt command line option,3

## S

src <Qt version> <target OS> <target  
    variant>  
    aqt command line option,4

## T

tools <target OS> <target tool name>  
    <target tool version> <tool  
    variant name>  
    aqt command line option,4