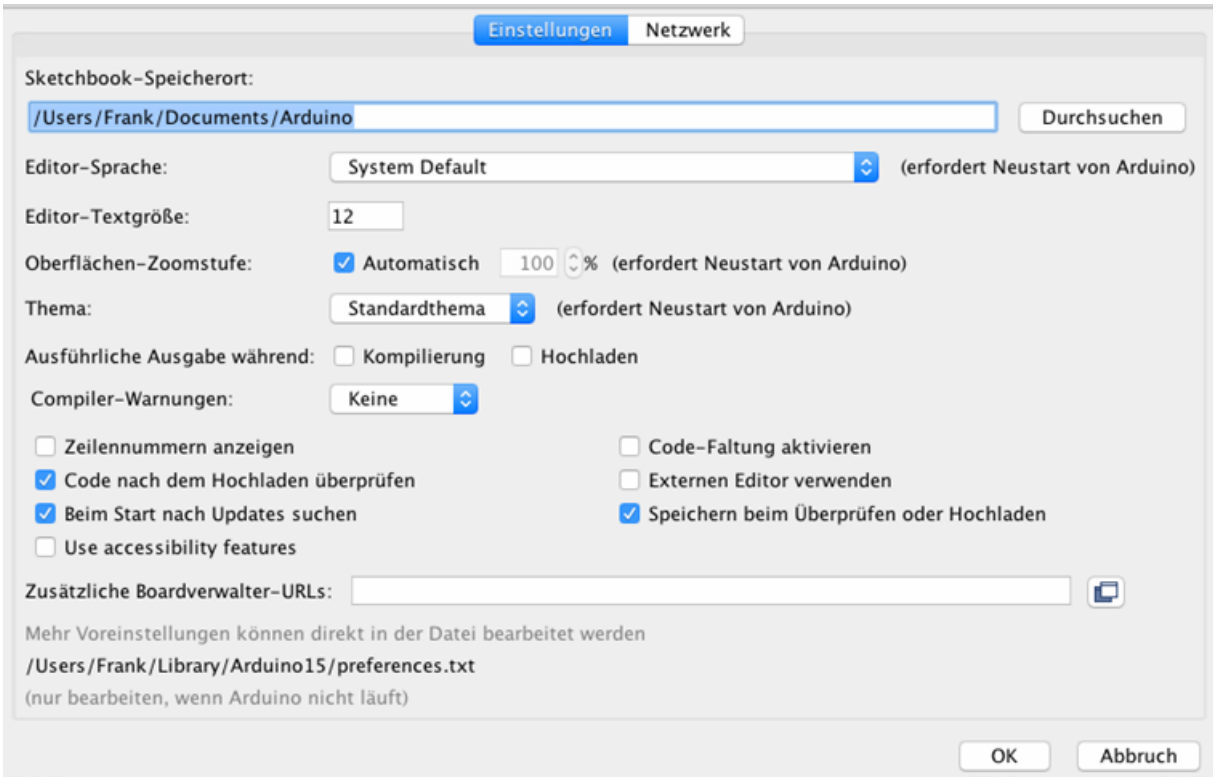
Install ARDUINO for Mac (26.8.2022)

By Harold Linke and Frank Becker

Download from https://www.arduino.cc/en/software the MAC OS X package.

The package will be downloaded to the downloads folder. You can move it to any folder on the Mac. Preferred Applications folder.

There is no installation necessary. The package can be used directly. You have to specify the location of the ARDUINO package later in the pyMobaledLib application.



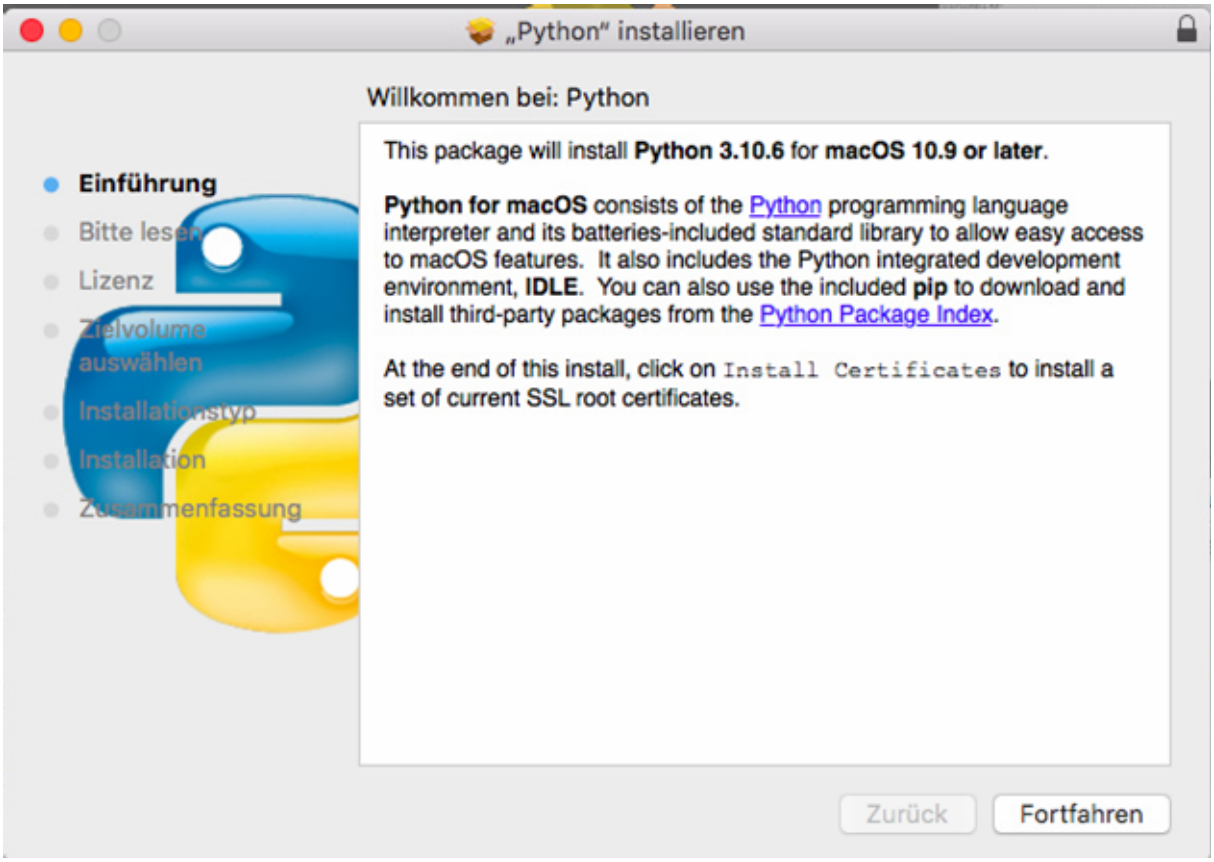
Install Python 3

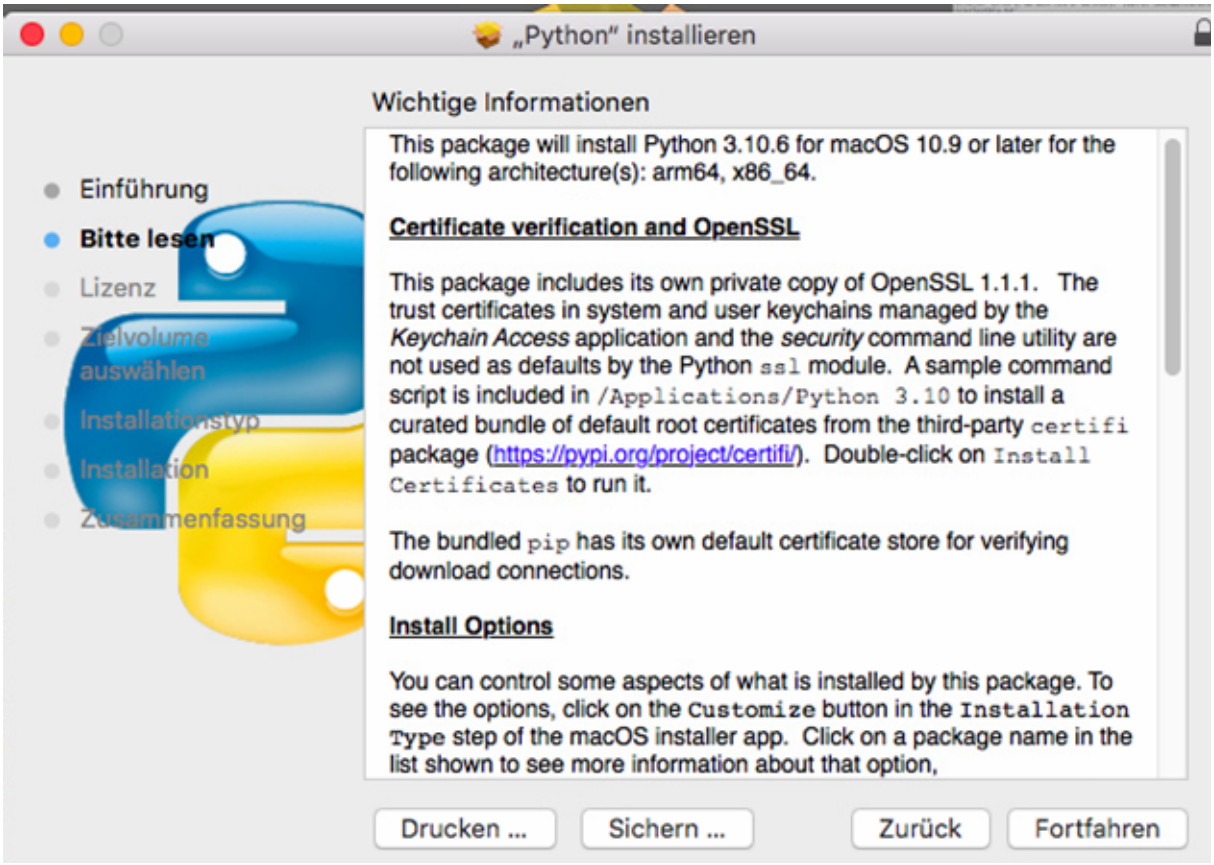
Download and install python 3 for mac. Use the latest version of the Mac OS 64-bit installer.

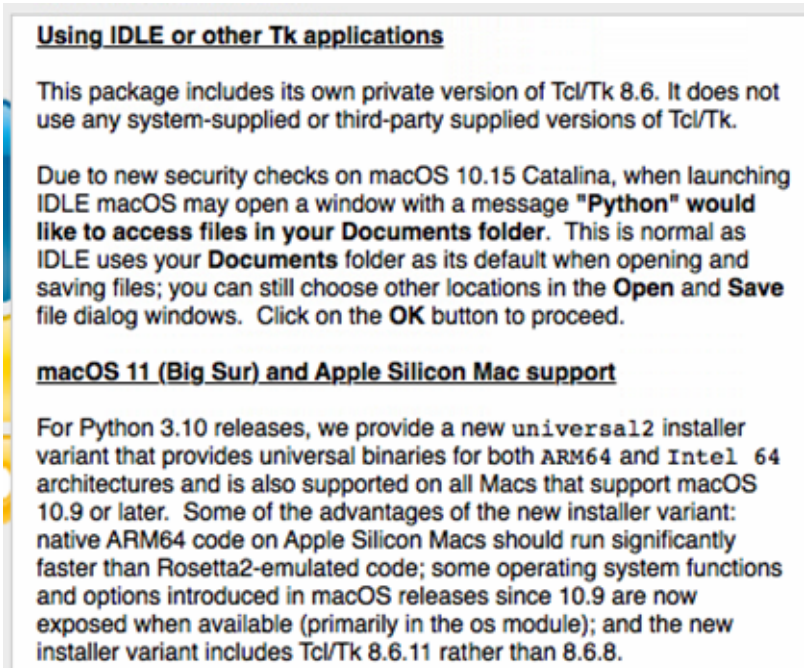
Help for the installation can be found here:
https://docs.python.org/3/using/mac.html

Python 3.10.6

Release Date: Aug. 2, 2022







Using IDLE or other Tk applications

This package includes its own private version of Tcl/Tk 8.6. It does not use any system-supplied or third-party supplied versions of Tcl/Tk.

Due to new security checks on macOS 10.15 Catalina, when launching IDLE macOS may open a window with a message **"Python" would like to access files in your Documents folder**. This is normal as IDLE uses your **Documents** folder as its default when opening and saving files; you can still choose other locations in the **Open** and **Save** file dialog windows. Click on the **OK** button to proceed.

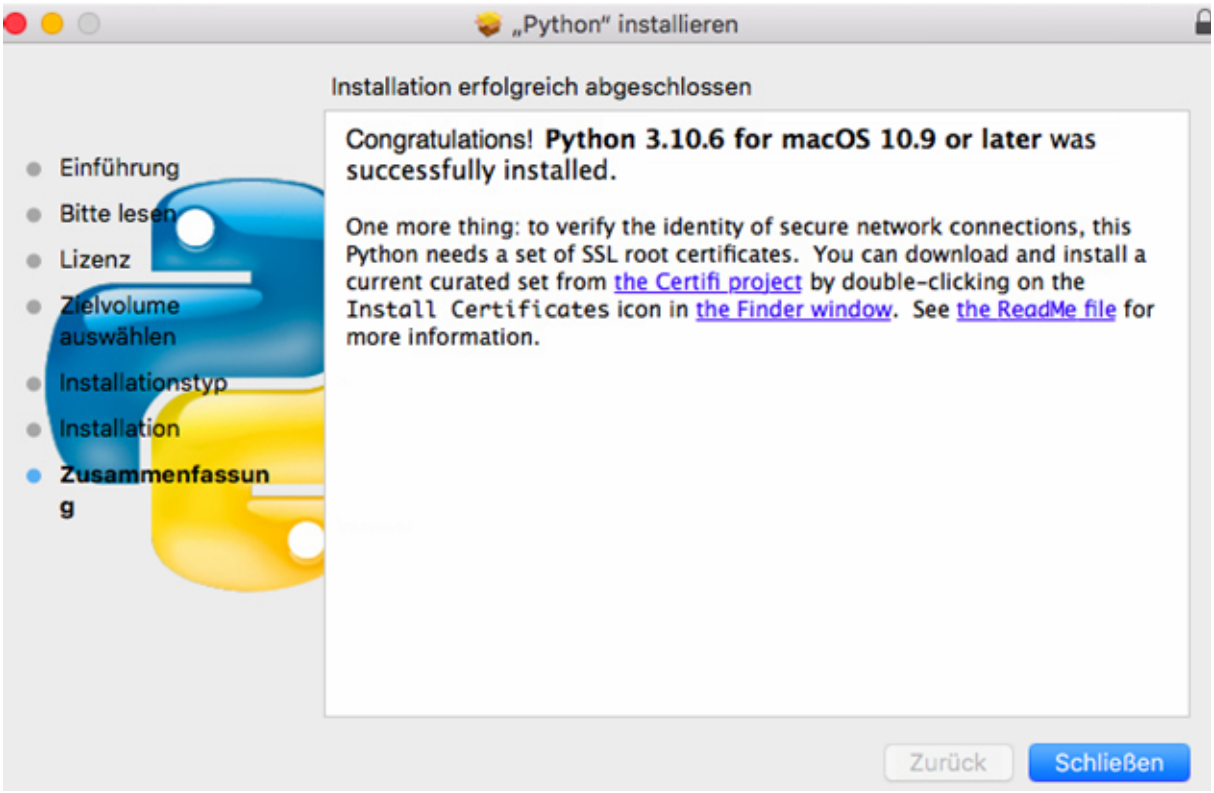
macOS 11 (Big Sur) and Apple Silicon Mac support

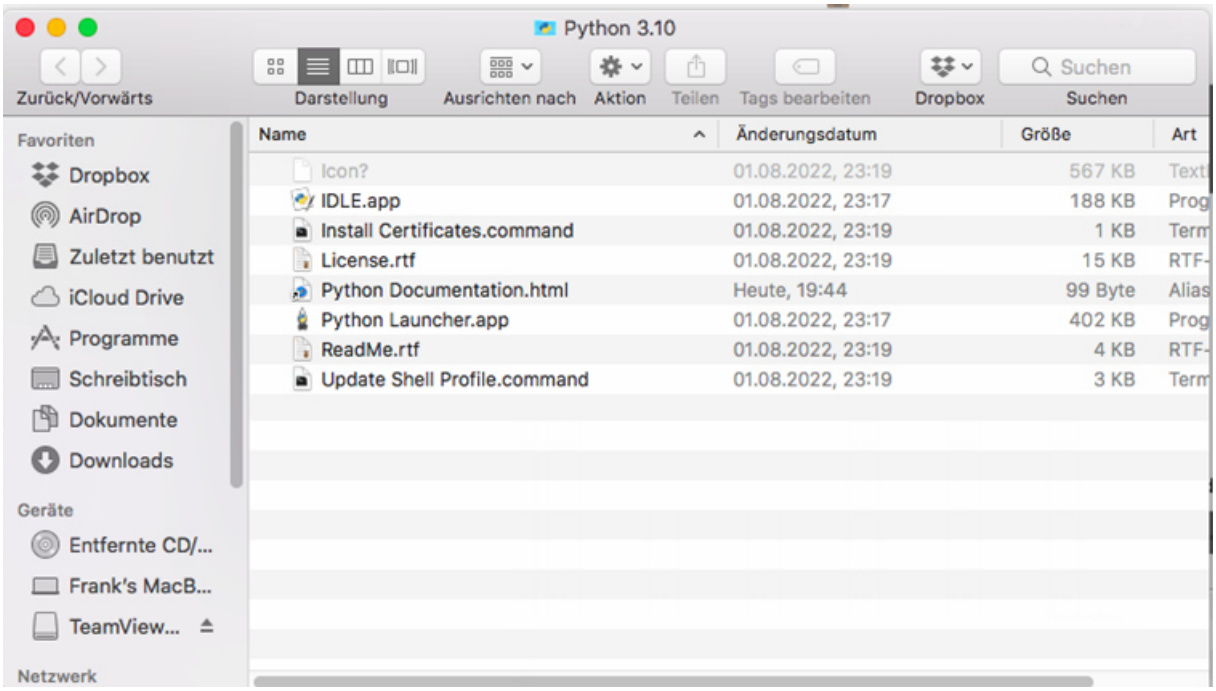
For Python 3.10 releases, we provide a new `universal2` installer variant that provides universal binaries for both `ARM64` and `Intel 64` architectures and is also supported on all Macs that support macOS 10.9 or later. Some of the advantages of the new installer variant: native ARM64 code on Apple Silicon Macs should run significantly faster than Rosetta2-emulated code; some operating system functions and options introduced in macOS releases since 10.9 are now exposed when available (primarily in the os module); and the new installer variant includes Tcl/Tk 8.6.11 rather than 8.6.8.

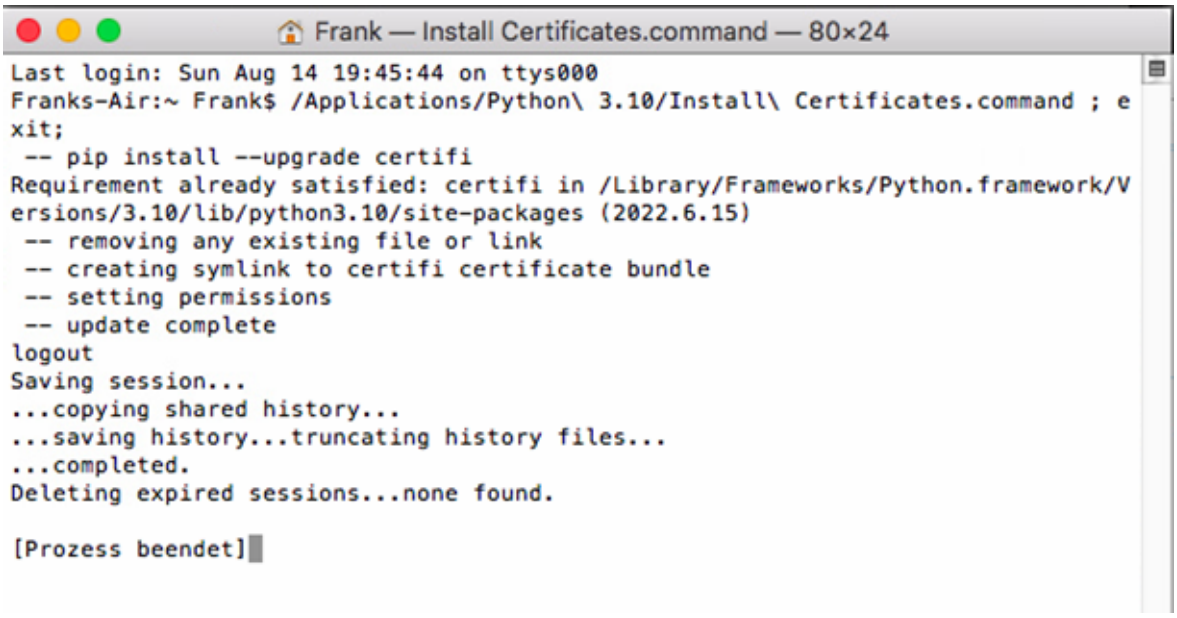
On Apple Silicon Macs, it is possible to run Python either with native ARM64 code or under Intel 64 emulation using Rosetta2. This option might be useful for testing or if binary wheels are not yet available with native ARM64 binaries. To easily force Python to run in emulation mode, invoke it from a command line shell with the `python3-intel64` command instead of just `python3`.

Other changes

For other changes in this release, see the *What's new* section in the Documentation Set for this release and its *Release Notes* link at https://www.python.org/downloads/.




Python 3.10
Zurück/Vorwärts
Darstellung
Ausrichten nach
Aktion
Teilen
Tags bearbeiten
Dropbox
Suchen
Suchen
Favoriten
Dropbox
AirDrop
Zuletzt benutzt
iCloud Drive
Programme
Schreibtisch
Dokumente
Downloads
Geräte
Entfernte CD/...
Frank's MacB...
TeamView...
Netzwerk
Name
Änderungsdatum
Größe
Art
Icon?
01.08.2022, 23:19
567 KB
IDLE.app
01.08.2022, 23:17
188 KB
Install Certificates.command
01.08.2022, 23:19
1 KB
License.rtf
01.08.2022, 23:19
15 KB
Python Documentation.html
Heute, 19:44
99 Byte
Python Launcher.app
01.08.2022, 23:17
402 KB
ReadMe.rtf
01.08.2022, 23:19
4 KB
Update Shell Profile.command
01.08.2022, 23:19
3 KB


Frank — Install Certificates.command — 80×24
Last login: Sun Aug 14 19:45:44 on ttys000
Franks-Air:~ Frank$ /Applications/Python\ 3.10/Install\ Certificates.command ; exit;
-- pip install --upgrade certifi
Requirement already satisfied: certifi in /Library/Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (2022.6.15)
-- removing any existing file or link
-- creating symlink to certifi certificate bundle
-- setting permissions
-- update complete
logout
Saving session...
...copying shared history...
...saving history...truncating history files...
...completed.
Deleting expired sessions...none found.
[Prozess beendet]

Install Module keyboard (optional)

For some special features, we did to install the module keyboard. This is optional and pyMobaledLib will run without this module.

Unfortunately, the standard python installer is not part of the MAC python installation.

Please follow the instructions below:

Install PIP:

Details for this procedure can be found here:

https://phoenixnap.com/kb/install-pip-mac

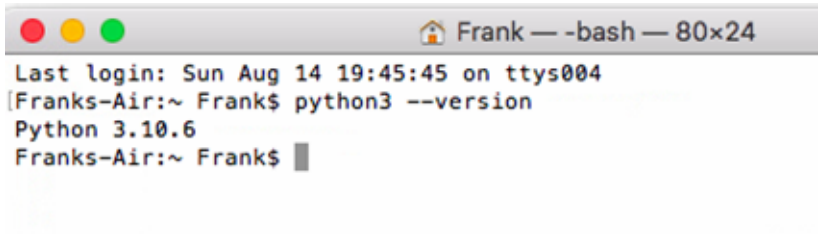
Install Pip on macOS via get-pip.py

The get-pip.py method installs pip via the command line. The script automatically downloads and installs the pip package for Python.Follow the steps below to install Pip:

1. Press Command + Space Bar and type in *Terminal*. Click the app icon to open a new terminal window.

2. Check your Python version to make sure **Python3** is installed:

```
python3 --version
```



3. Download pip by running the following command:

```
curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
```

The curl command allows you to specify a direct download link. Use the `-o` option to set the name of the downloaded file.

```
marko@MacBook-Pro ~ % curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 1911k  100 1911k    0     0  2046k      0 --:--:-- --:--:-- --:--:-- 2046k
```

```
Frank — -bash — 80×24
Last login: Sun Aug 14 19:45:45 on ttys004
Franks-Air:~ Frank$ python3 --version
Python 3.10.6
Franks-Air:~ Frank$ curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 2500k  100 2500k    0     0  4057k      0 --:--:-- --:--:-- --:--:-- 4066k
Franks-Air:~ Frank$
```

4. Install the downloaded package by running:

```
python3 get-pip.py
```

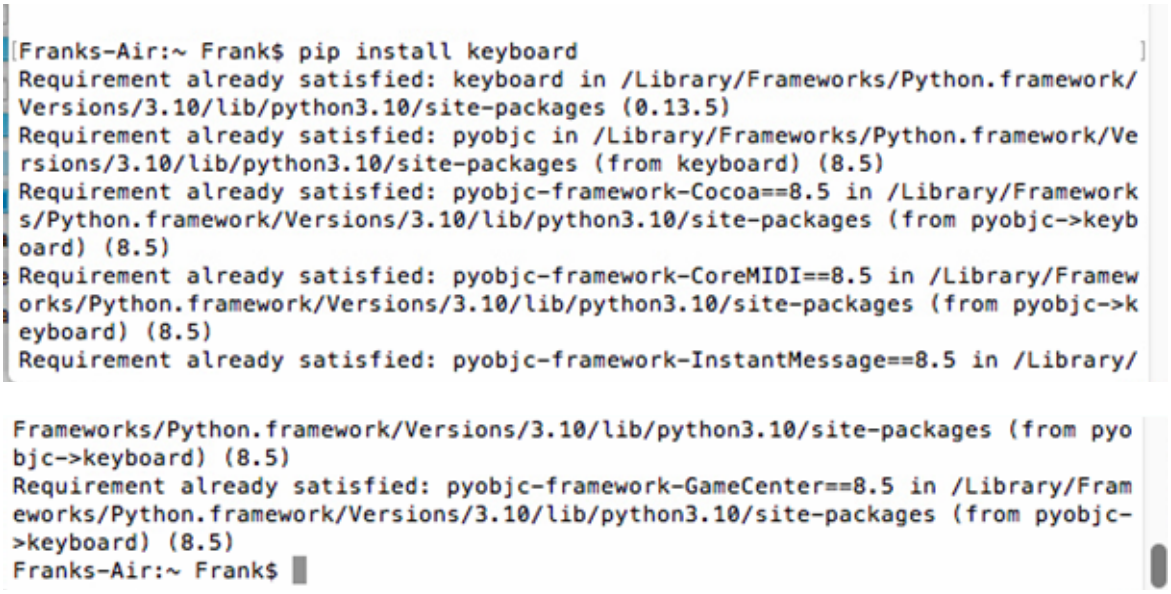
```
marko@MacBook-Pro ~ % python3 get-pip.py
Collecting pip
  Using cached pip-21.2.4-py3-none-any.whl (1.6 MB)
Collecting wheel
  Downloading wheel-0.37.0-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel, pip
  Attempting uninstall: pip
    Found existing installation: pip 21.2.4
    Uninstalling pip-21.2.4:
      Successfully uninstalled pip-21.2.4
Successfully installed pip-21.2.4 wheel-0.37.0
```

```
Frank — -bash — 80×24
Last login: Sun Aug 14 19:45:45 on ttys004
Franks-Air:~ Frank$ python3 --version
Python 3.10.6
Franks-Air:~ Frank$ curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 2500k  100 2500k    0     0  4057k      0 --:--:-- --:--:-- --:--:-- 4066k
Franks-Air:~ Frank$ python3 get-pip.py
Collecting pip
  Using cached pip-22.2.2-py3-none-any.whl (2.0 MB)
Collecting wheel
  Downloading wheel-0.37.1-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel, pip
  Attempting uninstall: pip
    Found existing installation: pip 22.2.2
    Uninstalling pip-22.2.2:
      Successfully uninstalled pip-22.2.2
Successfully installed pip-22.2.2 wheel-0.37.1
Franks-Air:~ Frank$
```

Wait for the installation to finish. Now you have successfully installed pip on your Mac.

Install module keyboard

To install the module keyboard. Open the terminal on Mac and insert the command: “pip install keyboard”



Fix Certification Error in Python for Mac

(already done at the end of Python installation)

Unfortunately, there is a certification issue in Python for Mac. This issue will not allow to access HTTPS websites like Github via Python.

The following steps are taken from this site:

[How To Fix Python Error Certificate Verify Failed: Unable To Get Local Issuer Certificate In Mac OS (dev2qa.com)]

1. Fix Certificate Verify Failed: Unable To Get Local Issuer Certificate Error Steps.

1. Open mac os finder, then click **Applications (on Finder window left side) —> Python 3.7** folder (on Finder window right side) to expand it. Your python may have a different version. You can find the **Install Certificates.command** program in the **Python 3.7** folder.
2. Double click the **Install Certificates.command** file to run it. It will open another popup terminal window and show below command execution output text.

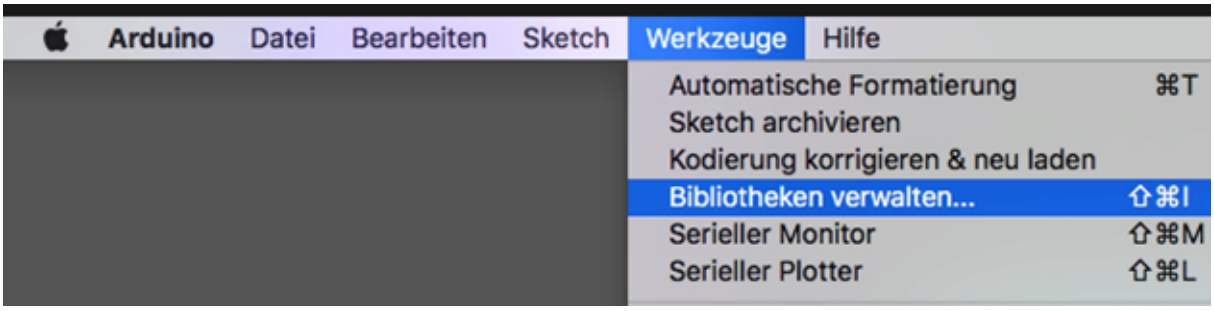
```
3. Last login: Mon Jun 24 15:53:52 on ttys002

4. /Applications/Python\ 3.7/Install\ Certificates.command ; exit;

5. songs-MacBook-Pro:~ songzhao$ /Applications/Python\ 3.7/Install\
   Certificates.command ; exit;

6.  -- pip install --upgrade certifi

7. Requirement already up-to-date: certifi in
   /Library/Frameworks/Python.framework/Versions/3.7/lib/python3.7/site-
   packages (2019.6.16)

8.  -- removing any existing file or link

9.  -- creating symlink to certifi certificate bundle

10. -- setting permissions

11. -- update complete

12. logout
```

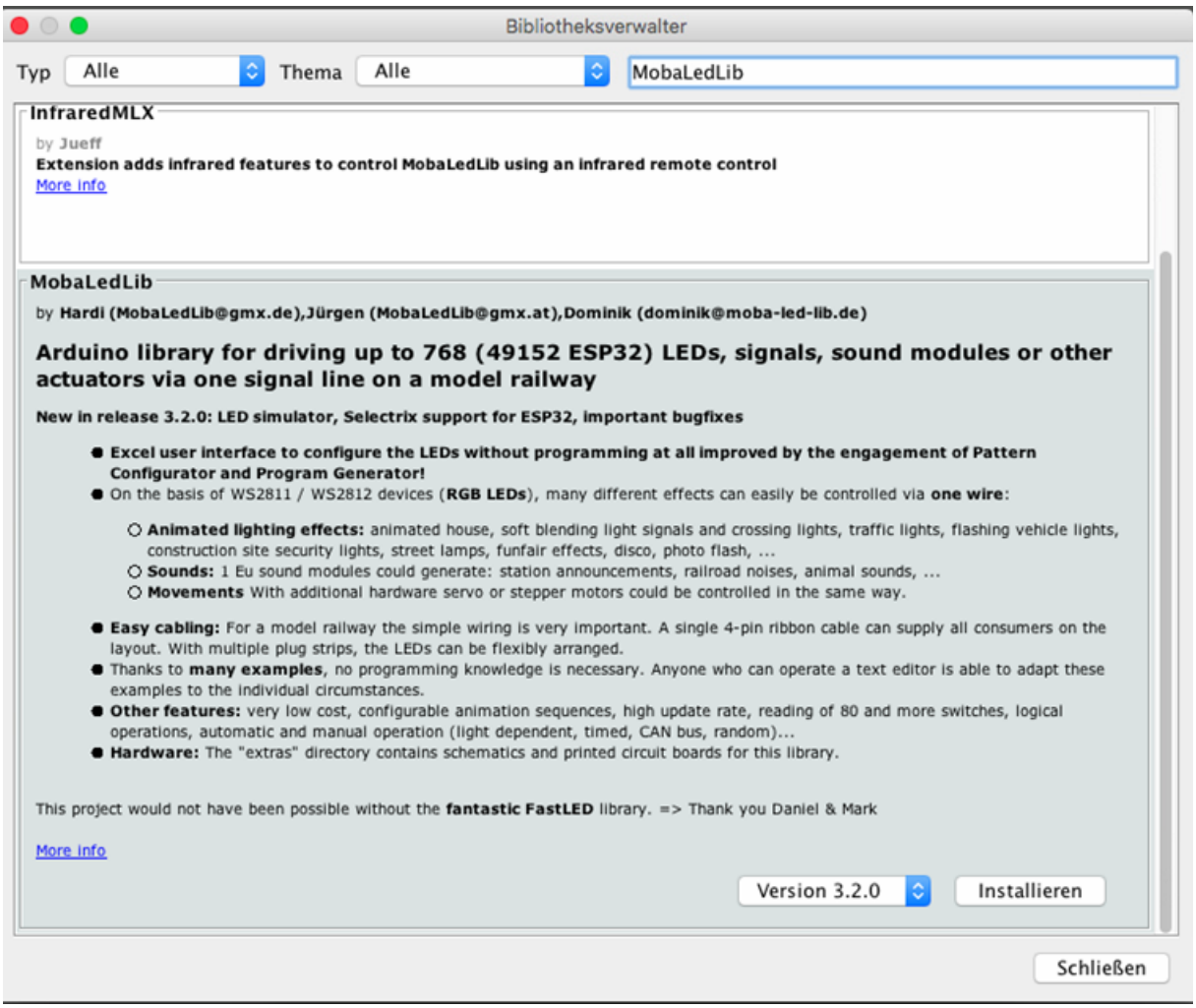
```
Saving session...

...copying shared history...

...saving history...truncating history files...

...completed.

[Process completed]
```

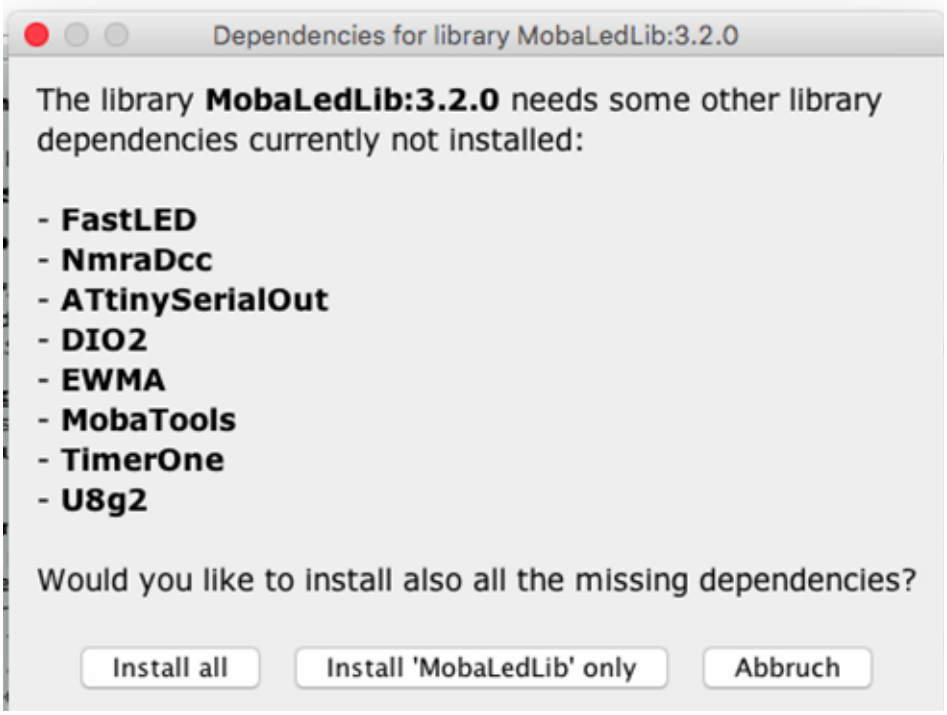
19. Close the popup window when the command runs completely successfully. Now run the python code again, and the **Certificate Verify Failed** Error will disappear.

Install MLL in ARDUINO IDE

Open the ARDUINO IDE go to library management and install the newest version of MobaLedLib. See wiki [anleitungen:quickstart [MobaLedLib Wiki]]





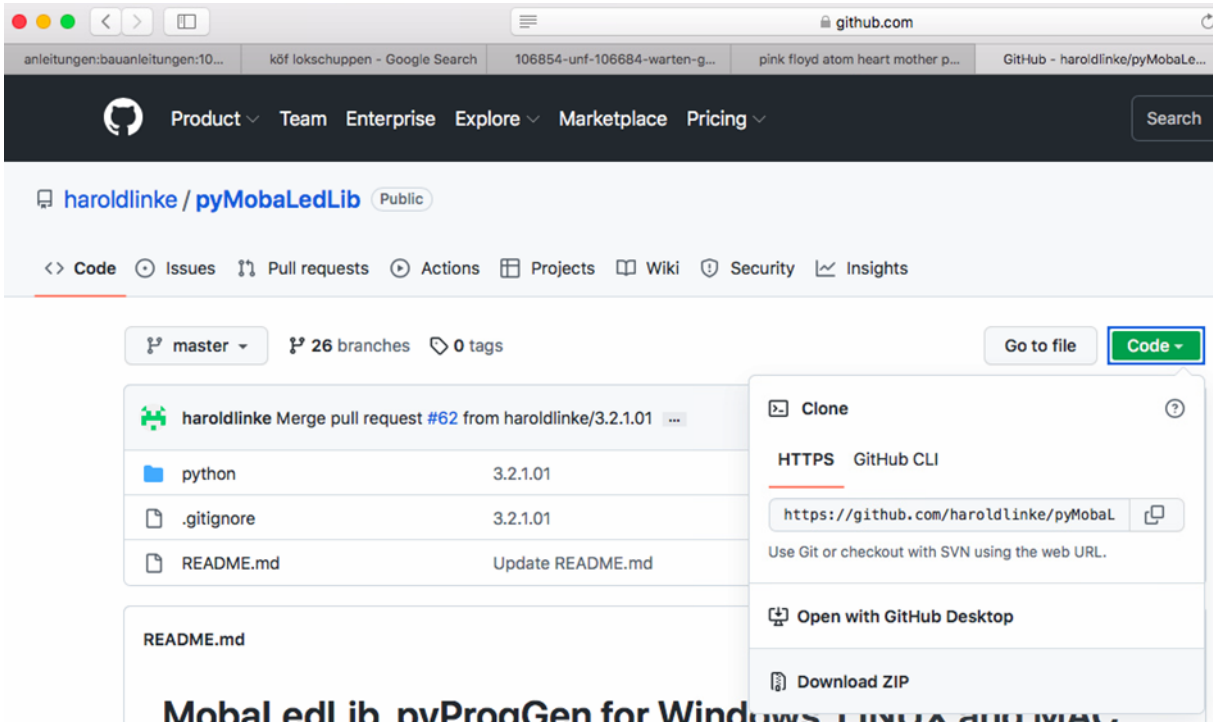


Choose „Install all“

Install pyMobaLedLib

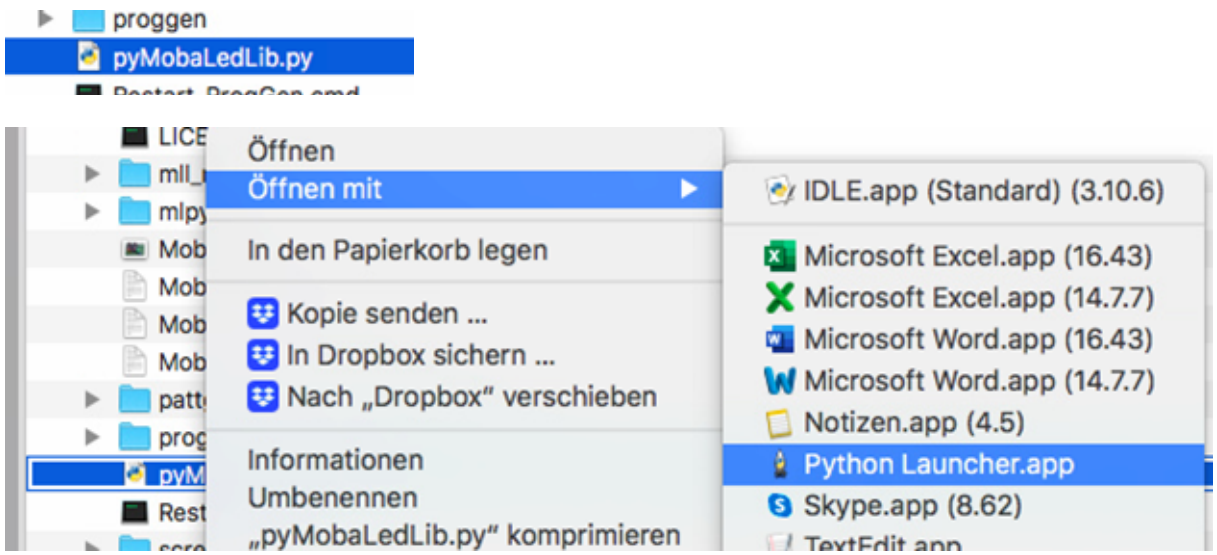
Open the following github page: https://github.com/haroldlinke/pyMobaLedLib

Click on the green button named “Code”. Select “download ZIP”. Save the ZIP in any folder you want.

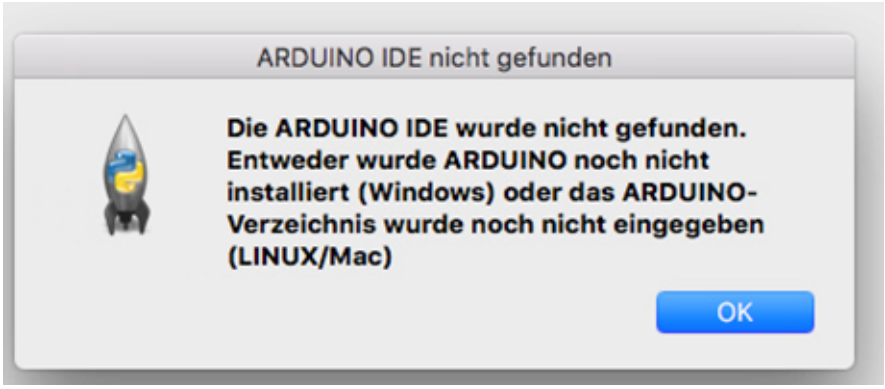


Extract the ZIP file.

Open pyMobaLedLib using the python launcher by selecting the file pyMobaLedLib.py ("yourPath\pyMobaLedLib\python\pyMobaLedLib.py")



After starting pyMobaLedLib will first check if the ARDUINO IDE and the necessary libraries are accessible.



As it does not know yet where the ARDUINO IDE can be found, an error message will be shown. Ignore this error and specify later in the tab “ARDUINO Einstellungen” the directory path to the ARDUINO IDE.

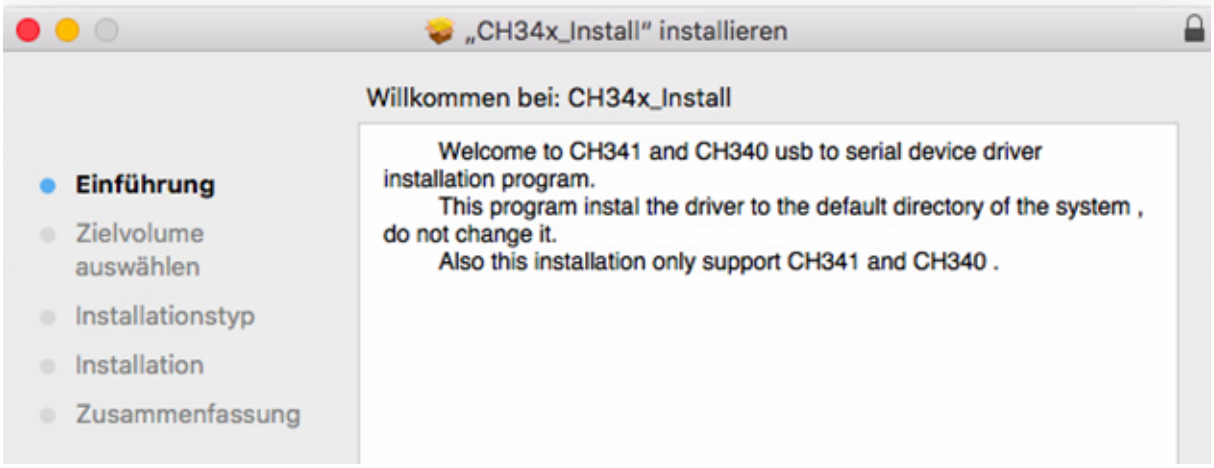
If some libraries are not installed yet, pyMobaLedLib will issue a message and ask if the libraries should be installed. This installation can take some time. The installation is only possible when you followed the steps for fixing the **certification error in Python**.

After these steps pyMobaLedLib should run on your Mac.

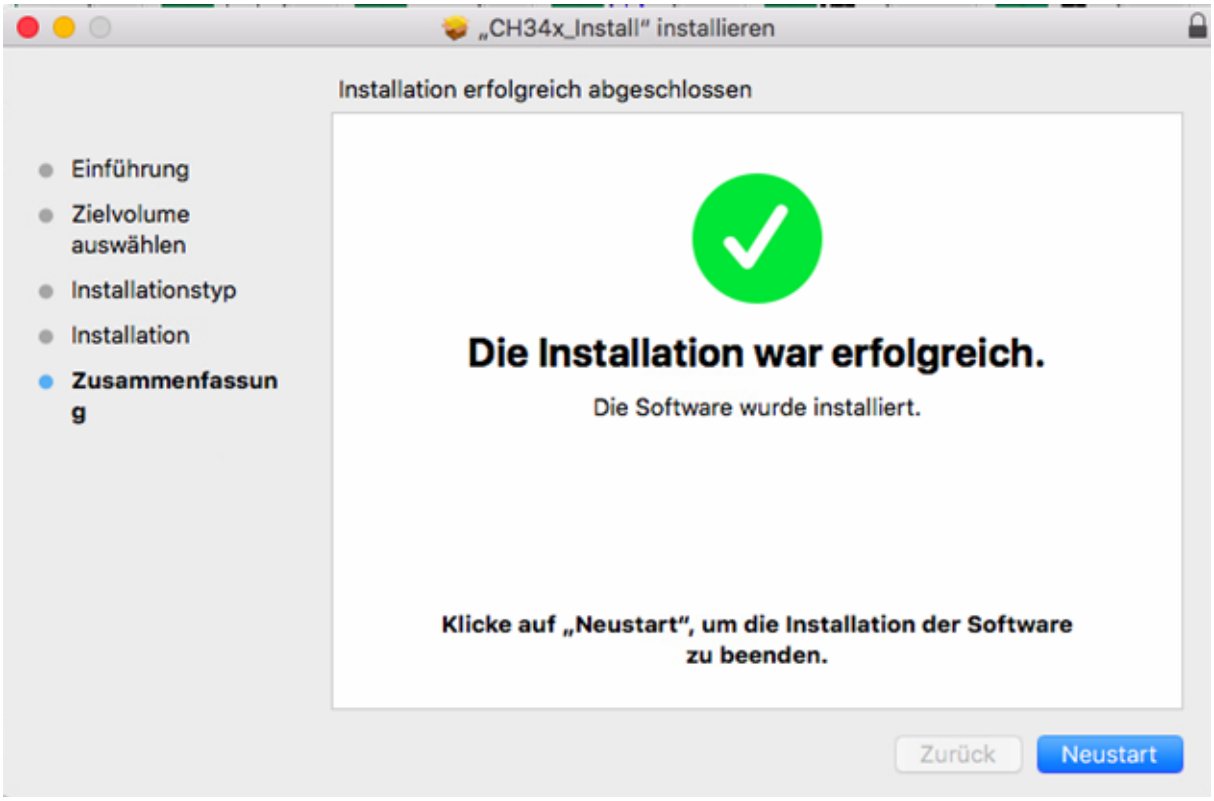
CH340 Driver Installation

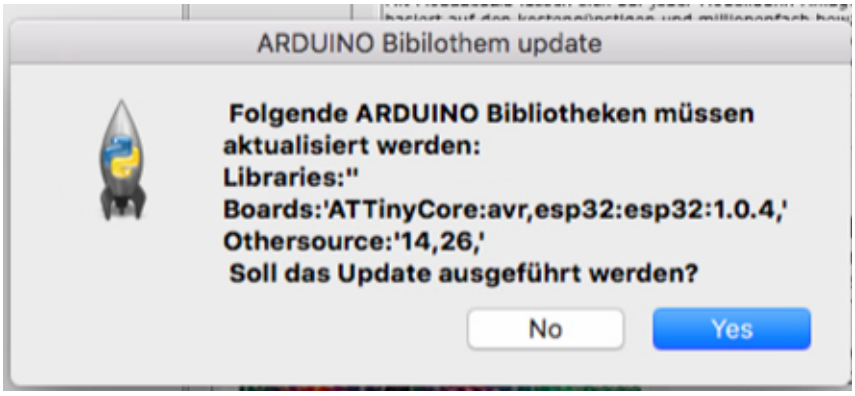
Your ARDUINO might use the CH340 Chipset for the USB Interface. If the ARDUINO is not found in the USB interfaces it might be necessary to install the USB-driver for CH340.

https://github.com/adrianmihalko/ch340g-ch34g-ch34x-mac-os-x-driver/raw/master/CH34x_Install_V1.5.pkg

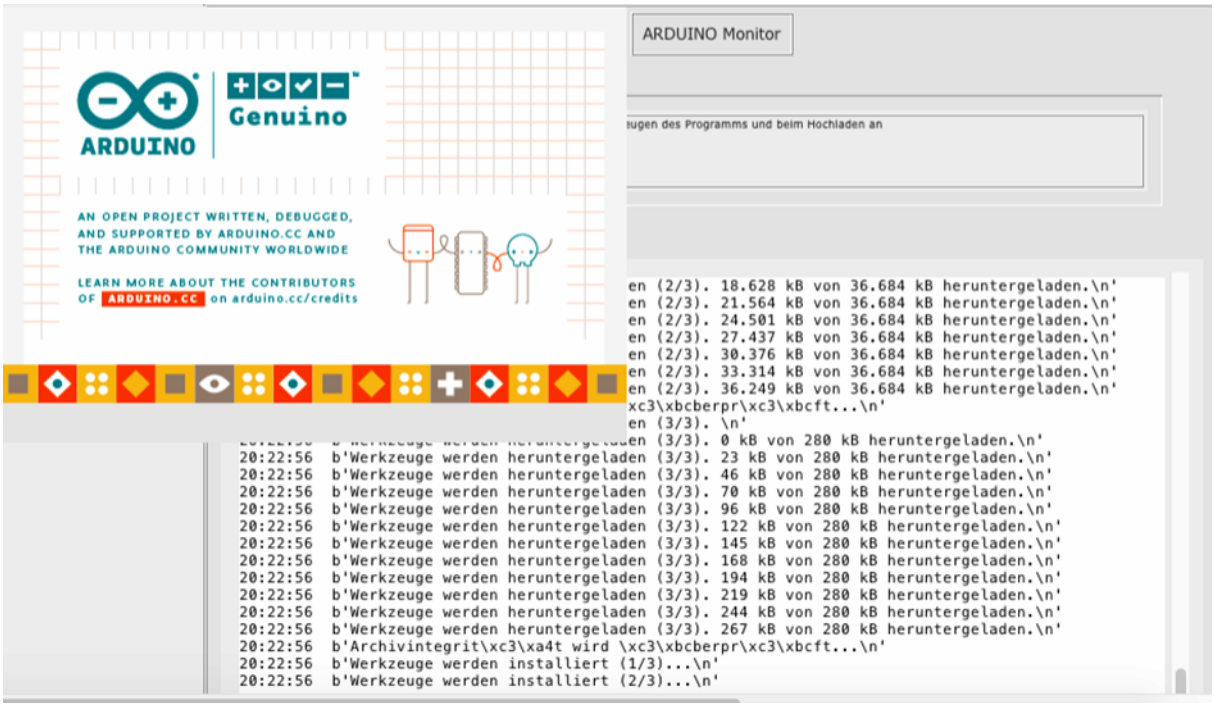

„CH34x_Install" installieren
Willkommen bei: CH34x_Install
Einführung
Zielvolume auswählen
Installationstyp
Installation
Zusammenfassung
Welcome to CH341 and CH340 usb to serial device driver installation program.
This program instal the driver to the default directory of the system , do not change it.
Also this installation only support CH341 and CH340 .


„CH34x_Install" installieren
Nach der Installation dieser Software muss dein Computer neu gestartet werden. Möchtest du die Software wirklich jetzt installieren?
Abbrechen
Installation fortsetzen
Installation
Zusammenfassung
verwendet werden.

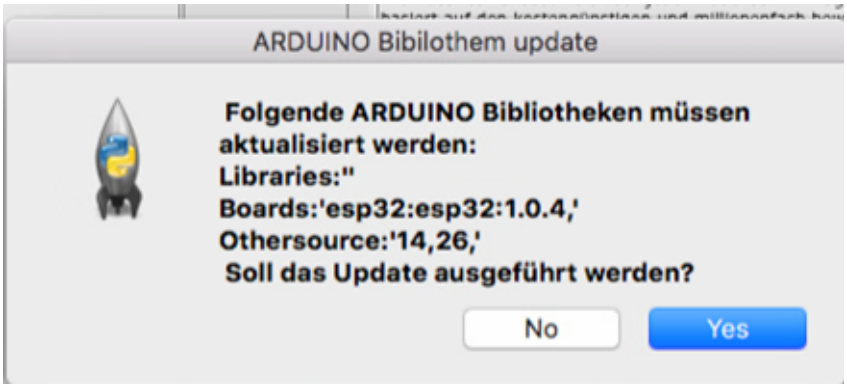

„CH34x_Install" installieren
Installation erfolgreich abgeschlossen
Einführung
Zielvolume auswählen
Installationstyp
Installation
Zusammenfassung
Die Installation war erfolgreich.
Die Software wurde installiert.
Klicke auf „Neustart", um die Installation der Software zu beenden.
Zurück
Neustart



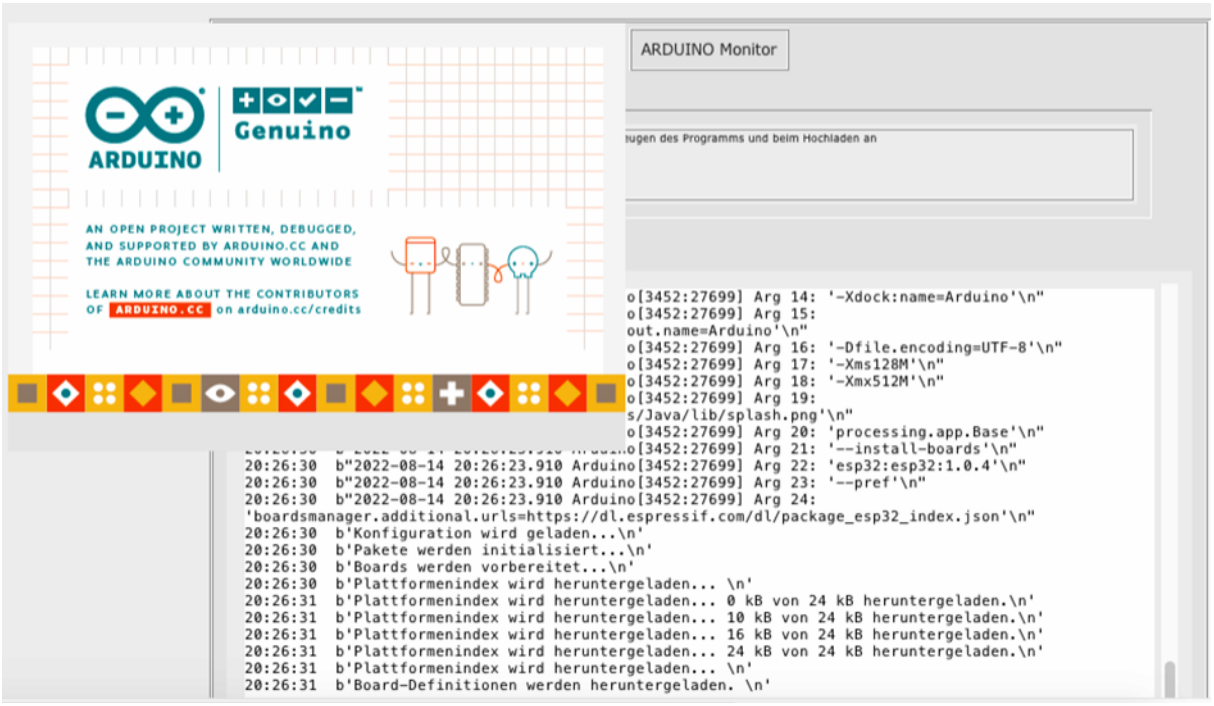
Yes



Absturz

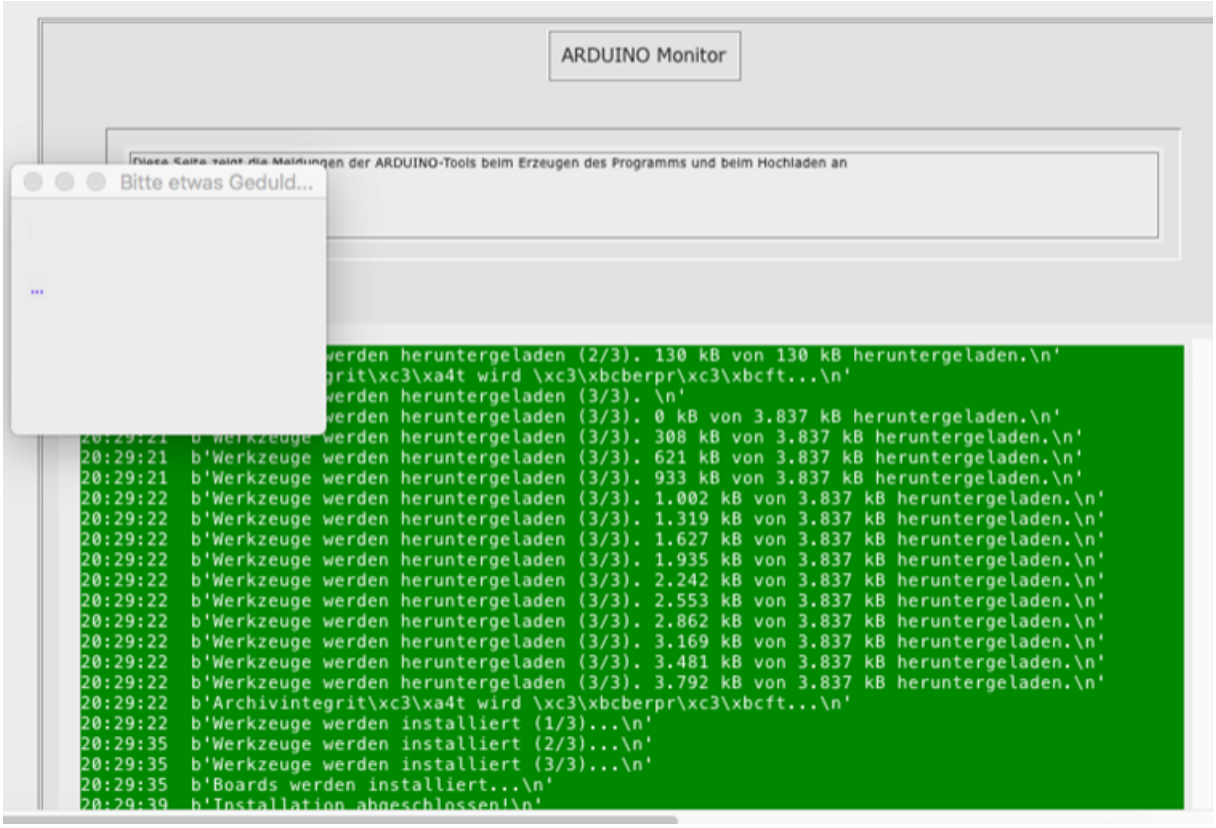


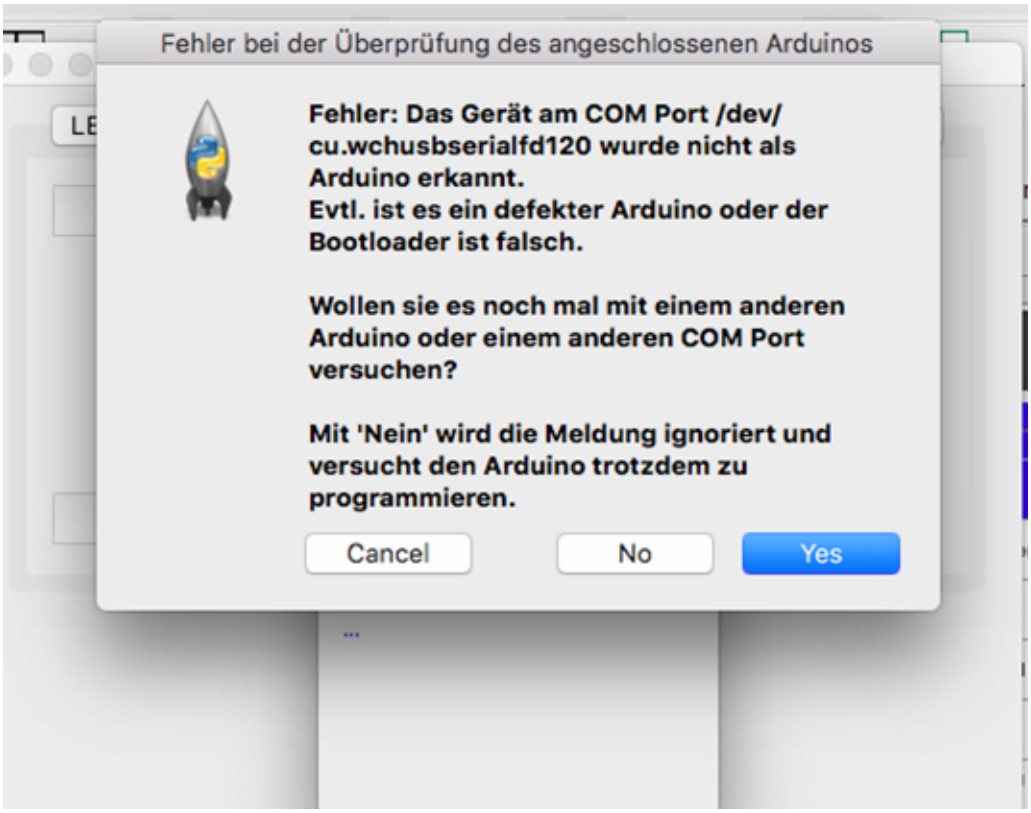
Yes

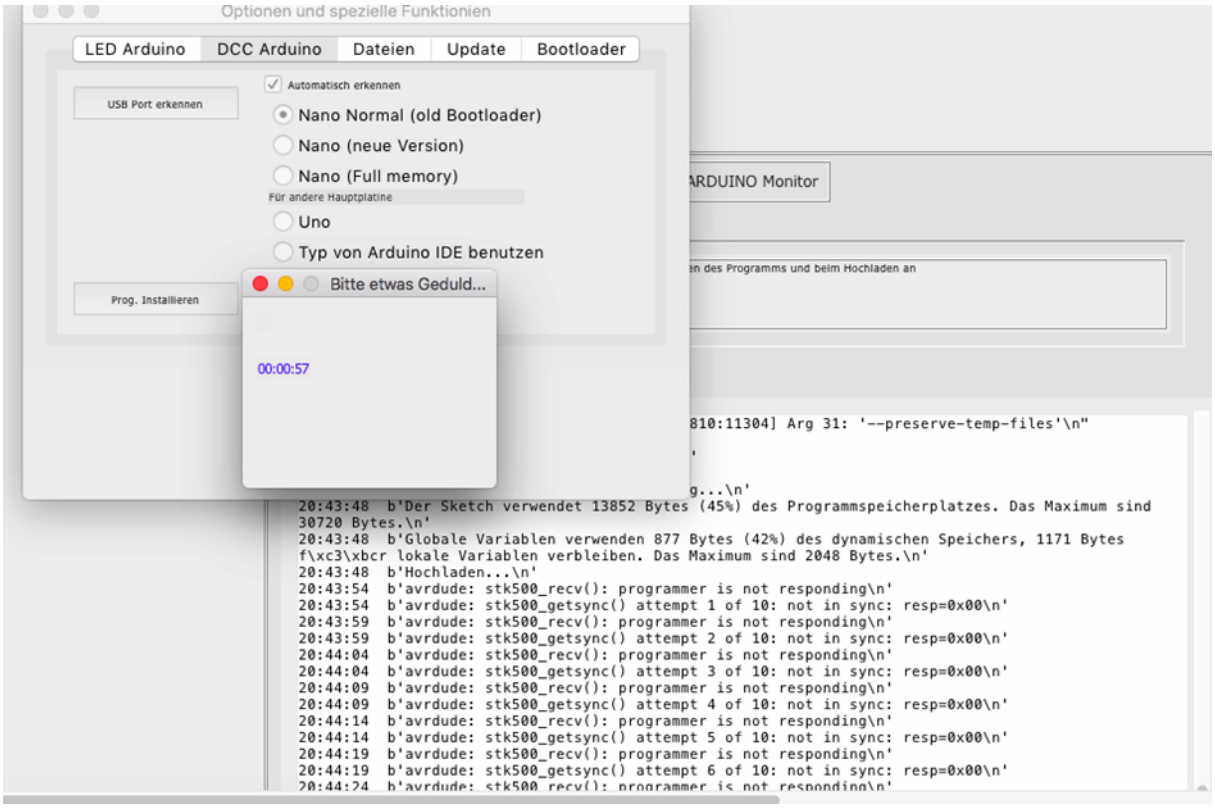


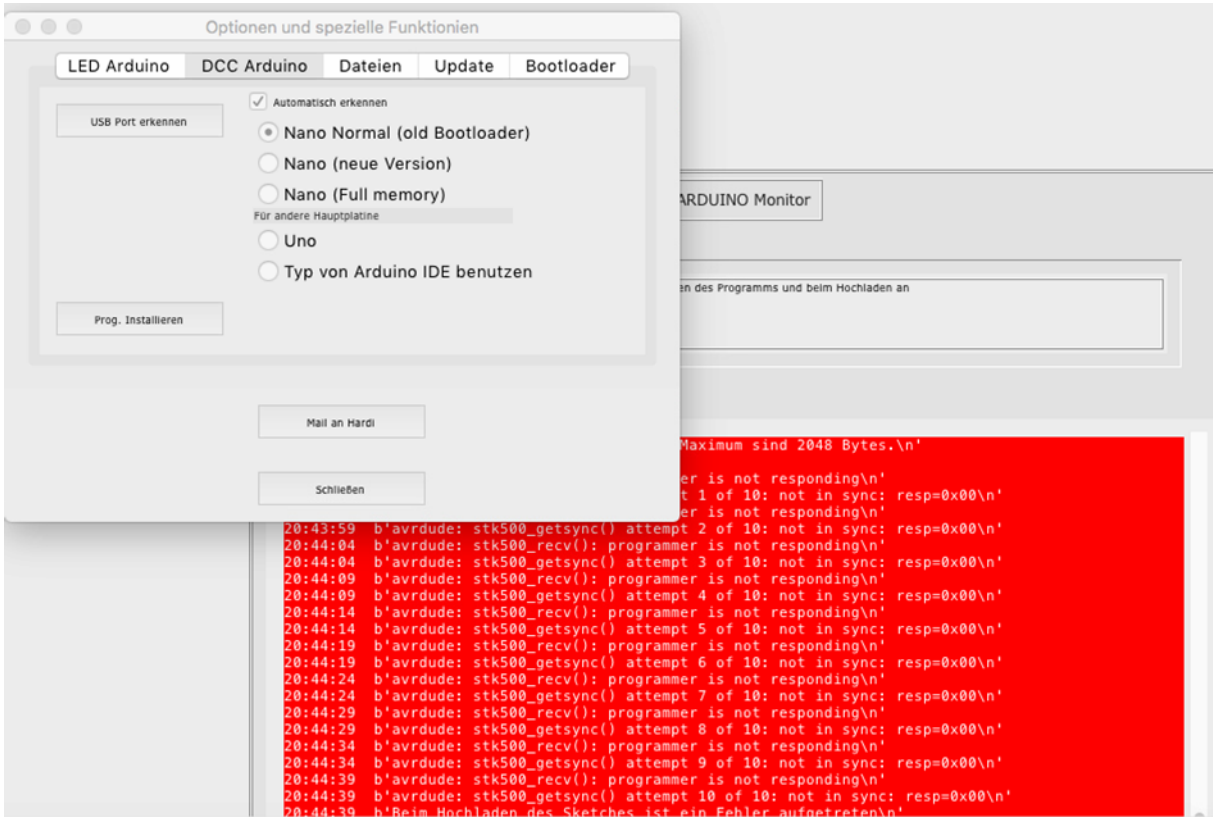
Absturz

3ter Versuch




Fehler bei der Überprüfung des angeschlossenen Arduinos
Fehler: Das Gerät am COM Port /dev/ cu.wchusbserialfd120 wurde nicht als Arduino erkannt.
Evtl. ist es ein defekter Arduino oder der Bootloader ist falsch.
Wollen sie es noch mal mit einem anderen Arduino oder einem anderen COM Port versuchen?
Mit 'Nein' wird die Meldung ignoriert und versucht den Arduino trotzdem zu programmieren.
Cancel
No
Yes


Optionen und spezielle Funktionien
LED Arduino
DCC Arduino
Dateien
Update
Bootloader
USB Port erkennen
Automatisch erkennen
Nano Normal (old Bootloader)
Nano (neue Version)
Nano (Full memory)
Für andere Hauptplatine
Uno
Typ von Arduino IDE benutzen
Prog. Installieren
Bitte etwas Geduld...
00:00:57
ARDUINO Monitor
20:43:48 b'Der Sketch verwendet 13852 Bytes (45%) des Programmspeicherplatzes. Das Maximum sind 30720 Bytes.\n'
20:43:48 b'Globale Variablen verwenden 877 Bytes (42%) des dynamischen Speichers, 1171 Bytes f\xc3\xbcr lokale Variablen verbleiben. Das Maximum sind 2048 Bytes.\n'
20:43:48 b'Hochladen...\n'
20:43:54 b'avrdude: stk500_recv(): programmer is not responding\n'
20:43:54 b'avrdude: stk500_getsync() attempt 1 of 10: not in sync: resp=0x00\n'
20:43:59 b'avrdude: stk500_recv(): programmer is not responding\n'
20:43:59 b'avrdude: stk500_getsync() attempt 2 of 10: not in sync: resp=0x00\n'
20:44:04 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:04 b'avrdude: stk500_getsync() attempt 3 of 10: not in sync: resp=0x00\n'
20:44:09 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:09 b'avrdude: stk500_getsync() attempt 4 of 10: not in sync: resp=0x00\n'
20:44:14 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:14 b'avrdude: stk500_getsync() attempt 5 of 10: not in sync: resp=0x00\n'
20:44:19 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:19 b'avrdude: stk500_getsync() attempt 6 of 10: not in sync: resp=0x00\n'


Optionen und spezielle Funktionien
LED Arduino
DCC Arduino
Dateien
Update
Bootloader
USB Port erkennen
Automatisch erkennen
Nano Normal (old Bootloader)
Nano (neue Version)
Nano (Full memory)
Für andere Hauptplatine
Uno
Typ von Arduino IDE benutzen
Prog. Installieren
Mail an Hardi
Schließen
ARDUINO Monitor
Maximum sind 2048 Bytes.\n'
20:43:59 b'avrdude: stk500_getsync() attempt 2 of 10: not in sync: resp=0x00\n'
20:44:04 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:04 b'avrdude: stk500_getsync() attempt 3 of 10: not in sync: resp=0x00\n'
20:44:09 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:09 b'avrdude: stk500_getsync() attempt 4 of 10: not in sync: resp=0x00\n'
20:44:14 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:14 b'avrdude: stk500_getsync() attempt 5 of 10: not in sync: resp=0x00\n'
20:44:19 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:19 b'avrdude: stk500_getsync() attempt 6 of 10: not in sync: resp=0x00\n'
20:44:24 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:24 b'avrdude: stk500_getsync() attempt 7 of 10: not in sync: resp=0x00\n'
20:44:29 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:29 b'avrdude: stk500_getsync() attempt 8 of 10: not in sync: resp=0x00\n'
20:44:34 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:34 b'avrdude: stk500_getsync() attempt 9 of 10: not in sync: resp=0x00\n'
20:44:39 b'avrdude: stk500_recv(): programmer is not responding\n'
20:44:39 b'avrdude: stk500_getsync() attempt 10 of 10: not in sync: resp=0x00\n'

Known Issues:

The Automatic ARDUINO detection may not work correctly. You may have to use the checkbox “show unknown devices” in the USB selection dialog.

MLL extensions are not implemented yet.

Installing the software on the DCC-ARDUINO is not tested completely yet and might fail.