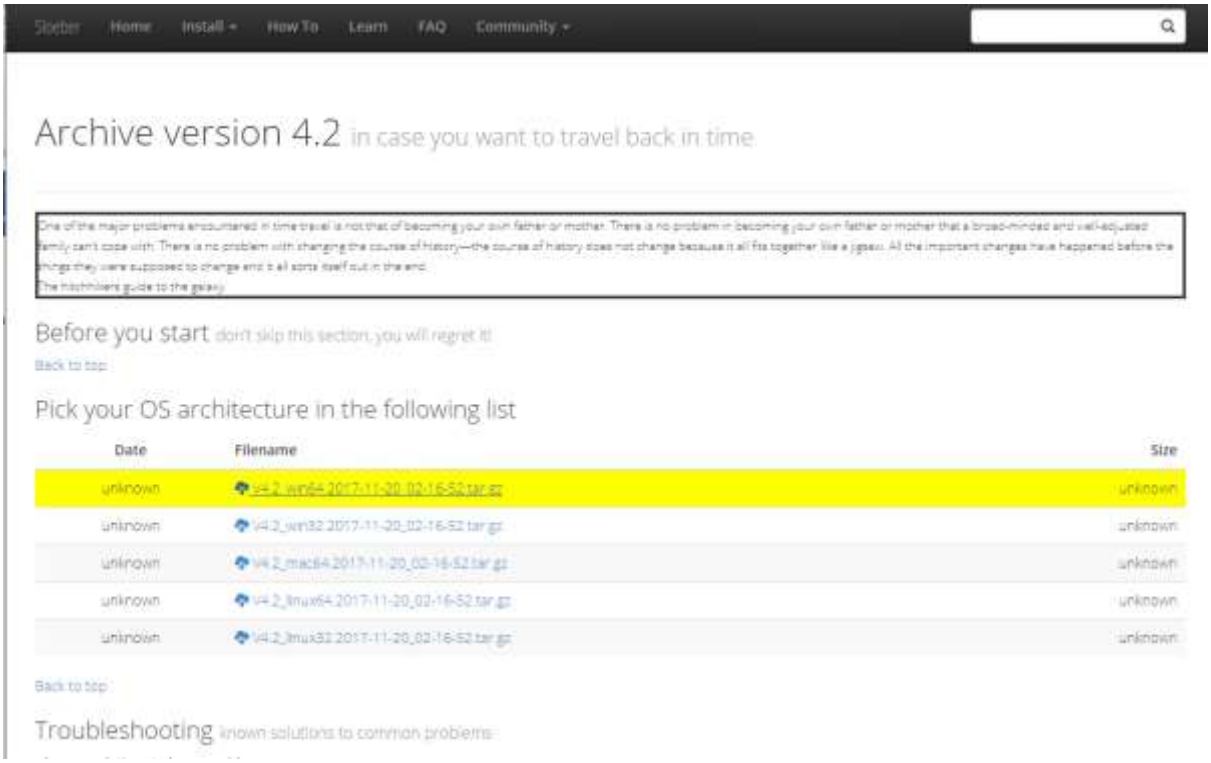
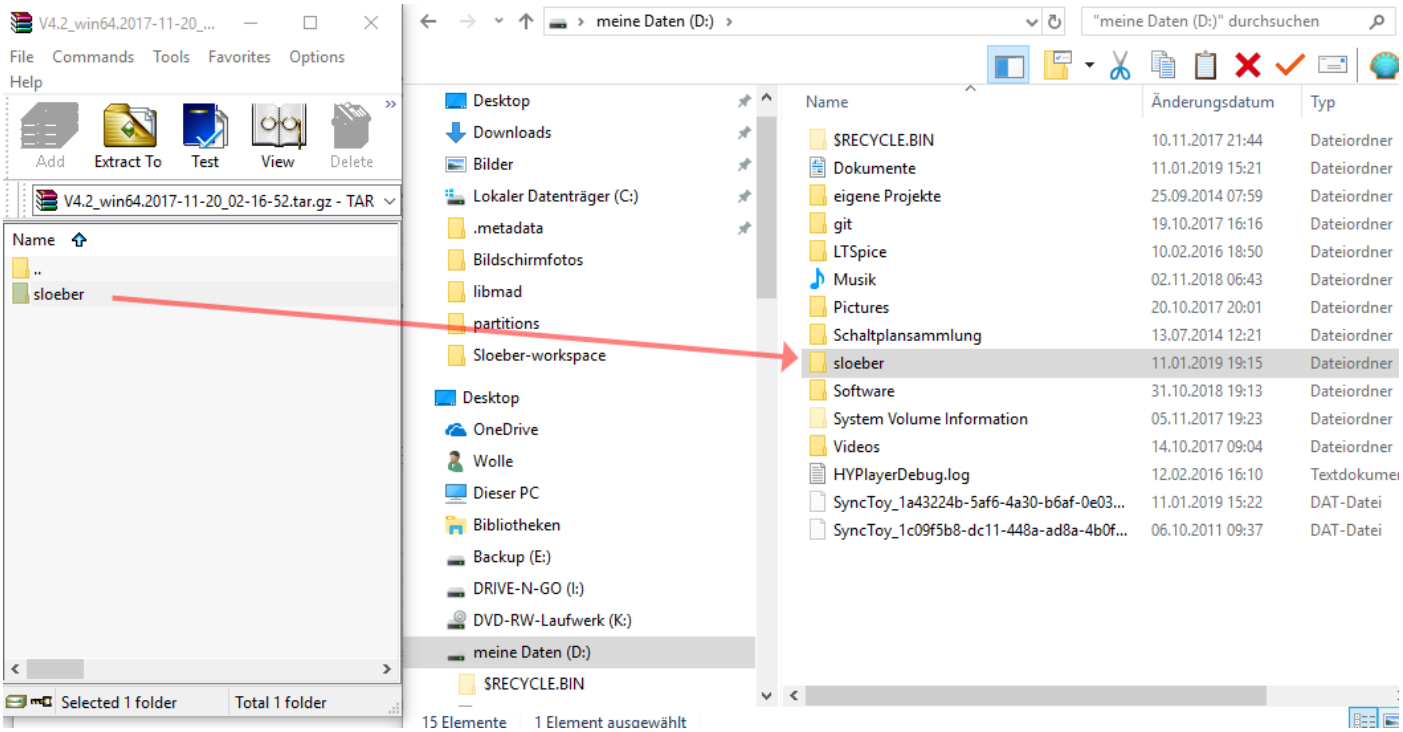
MINIWEBRADIO

INSTALLATION ECLIPSE SLOEBER

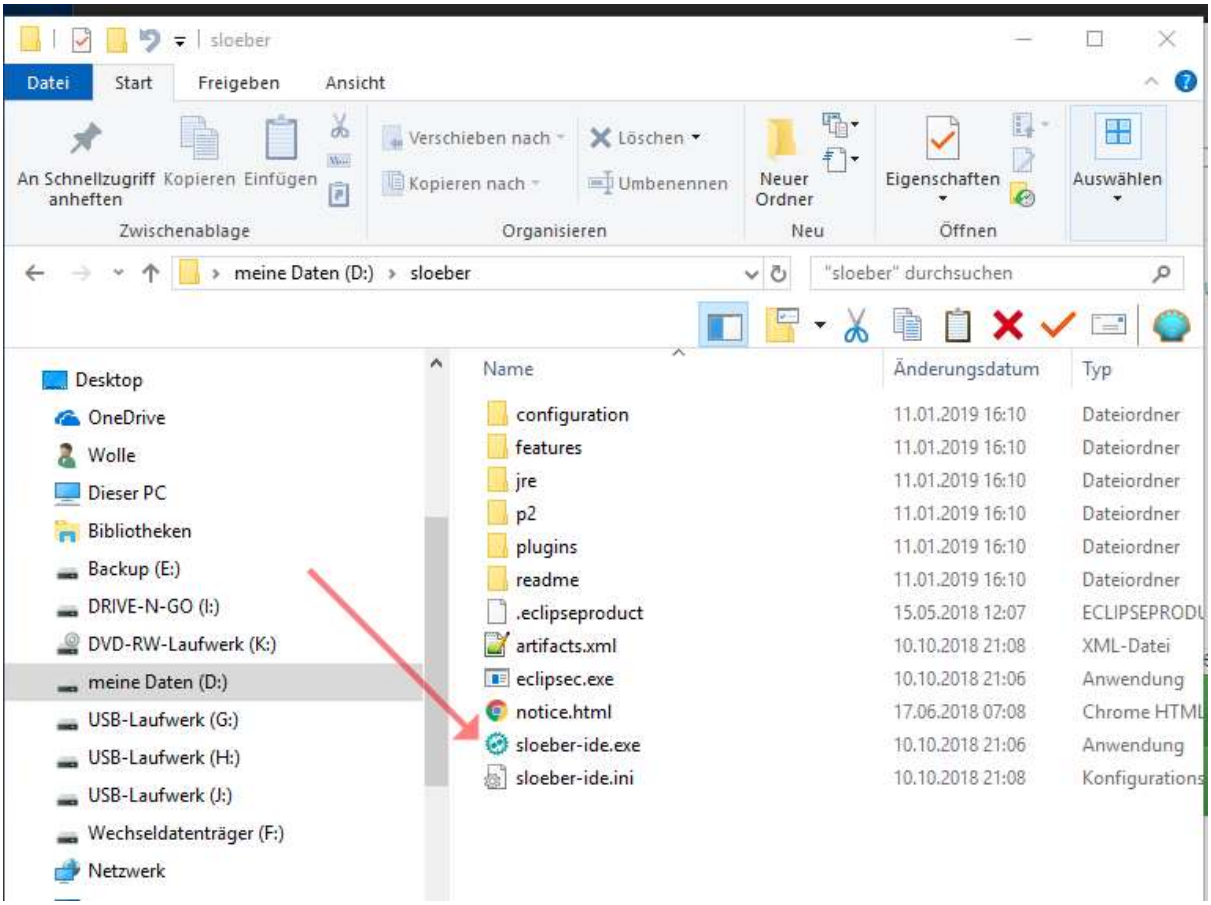
Install SLOEBER V4.2: http://eclipse.baeyens.it/archived.php?ver=4.2
Do not use V4.3, (in WiFiClientSecure: problems with `mbedtls_x509_crt`)

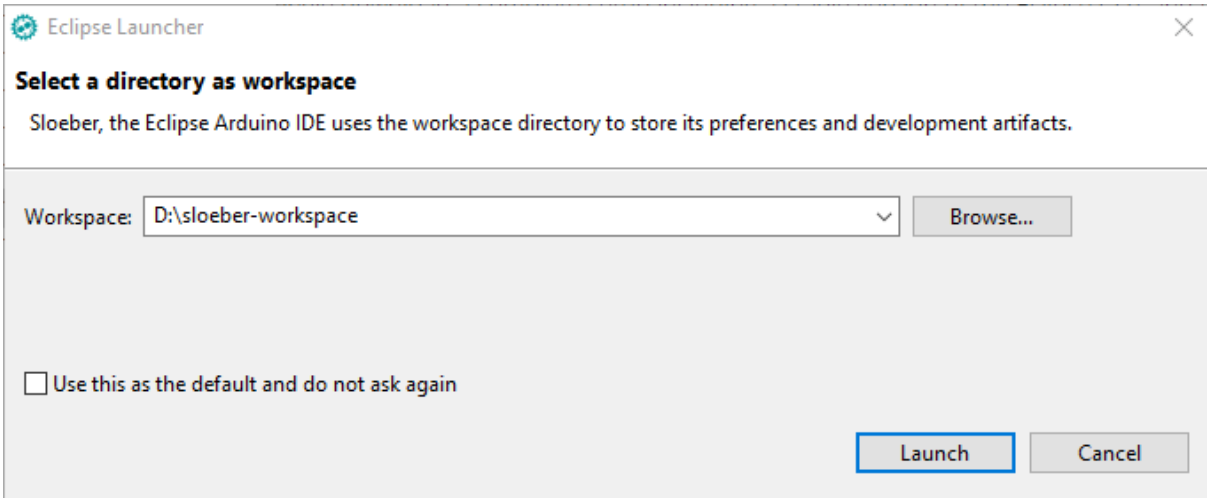


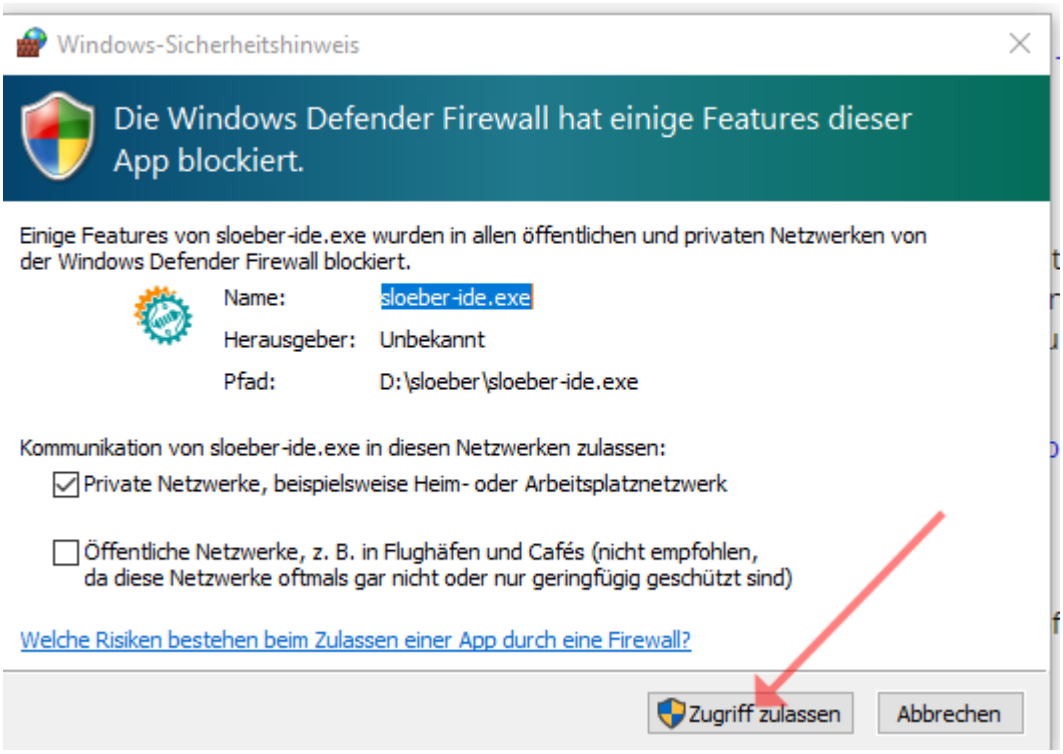
Extract SLOEBER

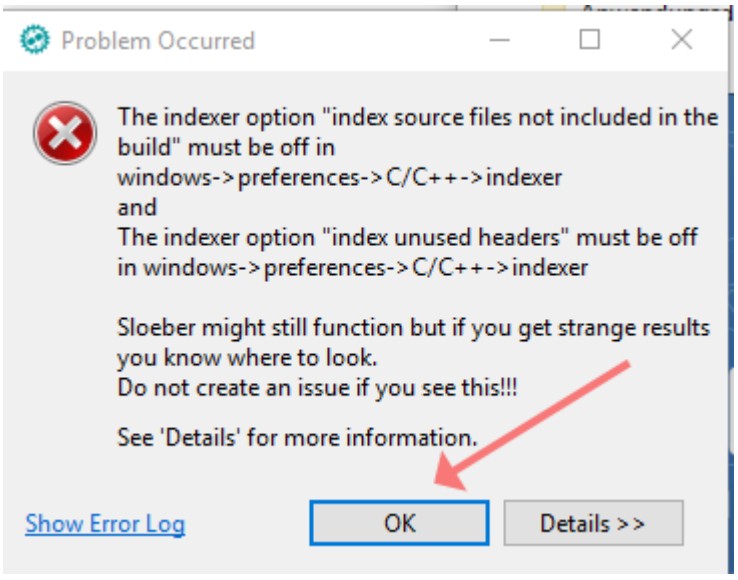


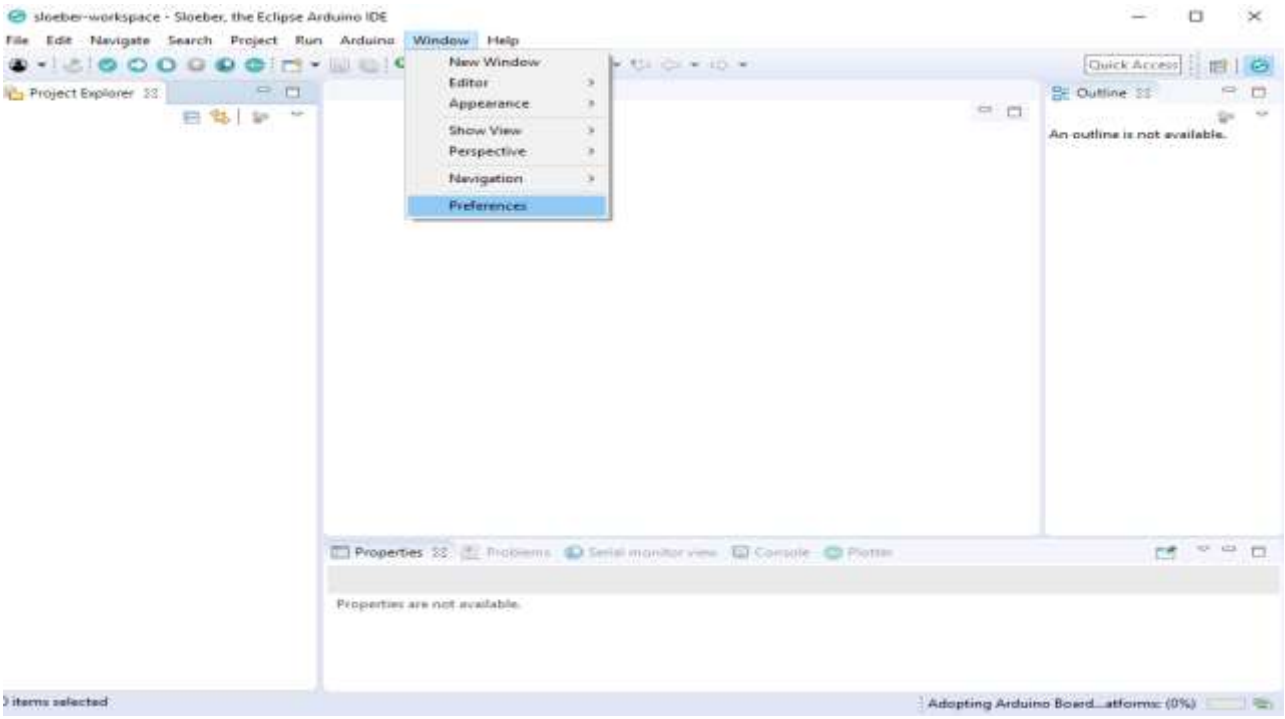
Run sloeber-ide.exe

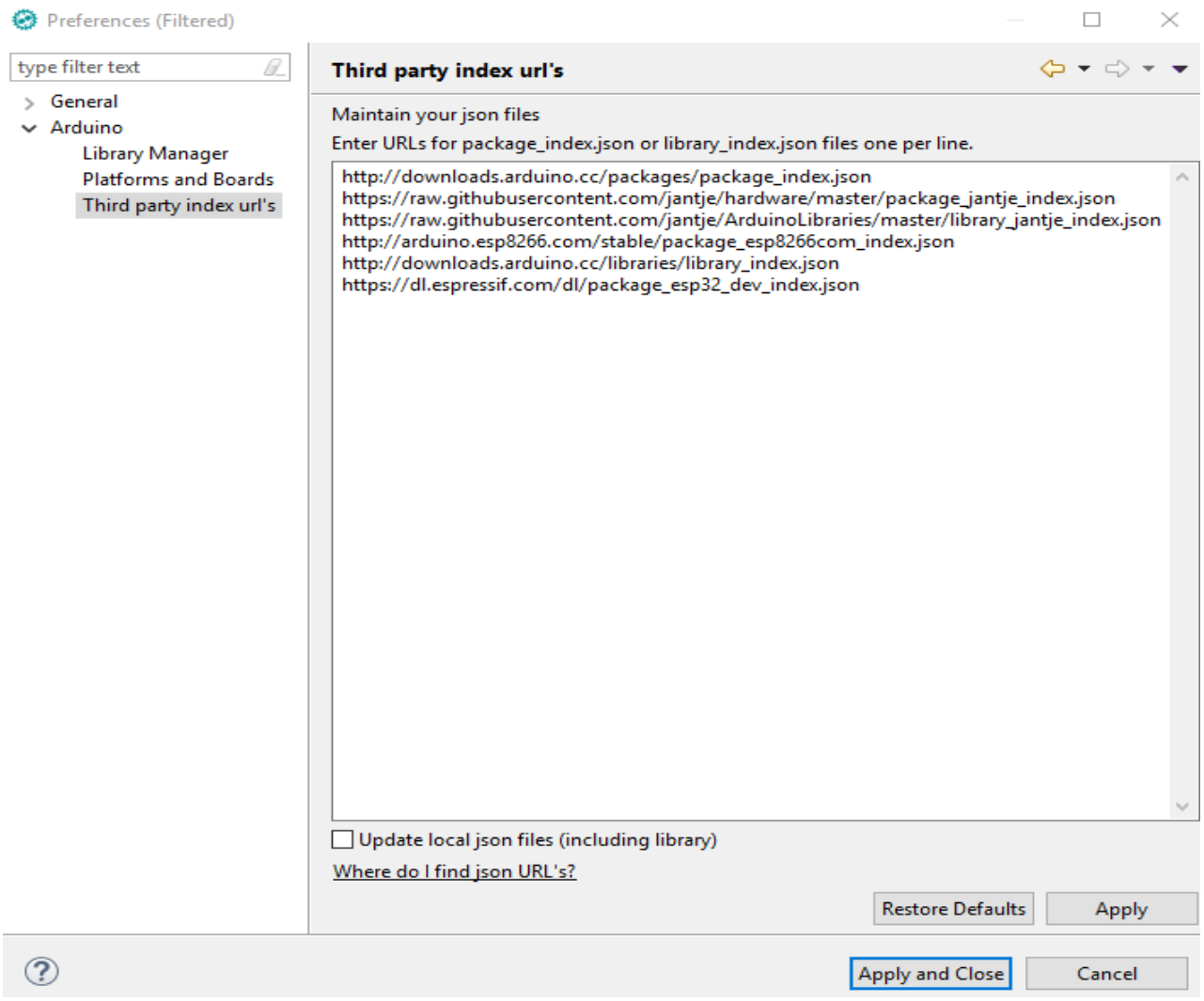



Eclipse Launcher
Select a directory as workspace
Sloeber, the Eclipse Arduino IDE uses the workspace directory to store its preferences and development artifacts.
Workspace:
D:\sloeber-workspace
Browse...
Use this as the default and do not ask again
Launch
Cancel


Windows-Sicherheitshinweis
Die Windows Defender Firewall hat einige Features dieser App blockiert.
Einige Features von sloeber-ide.exe wurden in allen öffentlichen und privaten Netzwerken von der Windows Defender Firewall blockiert.
Name:
sloeber-ide.exe
Herausgeber:
Unbekannt
Pfad:
D:\sloeber\sloeber-ide.exe
Kommunikation von sloeber-ide.exe in diesen Netzwerken zulassen:
Private Netzwerke, beispielsweise Heim- oder Arbeitsplatznetzwerk
Öffentliche Netzwerke, z. B. in Flughäfen und Cafés (nicht empfohlen, da diese Netzwerke oftmals gar nicht oder nur geringfügig geschützt sind)
Welche Risiken bestehen beim Zulassen einer App durch eine Firewall?
Zugriff zulassen
Abbrechen

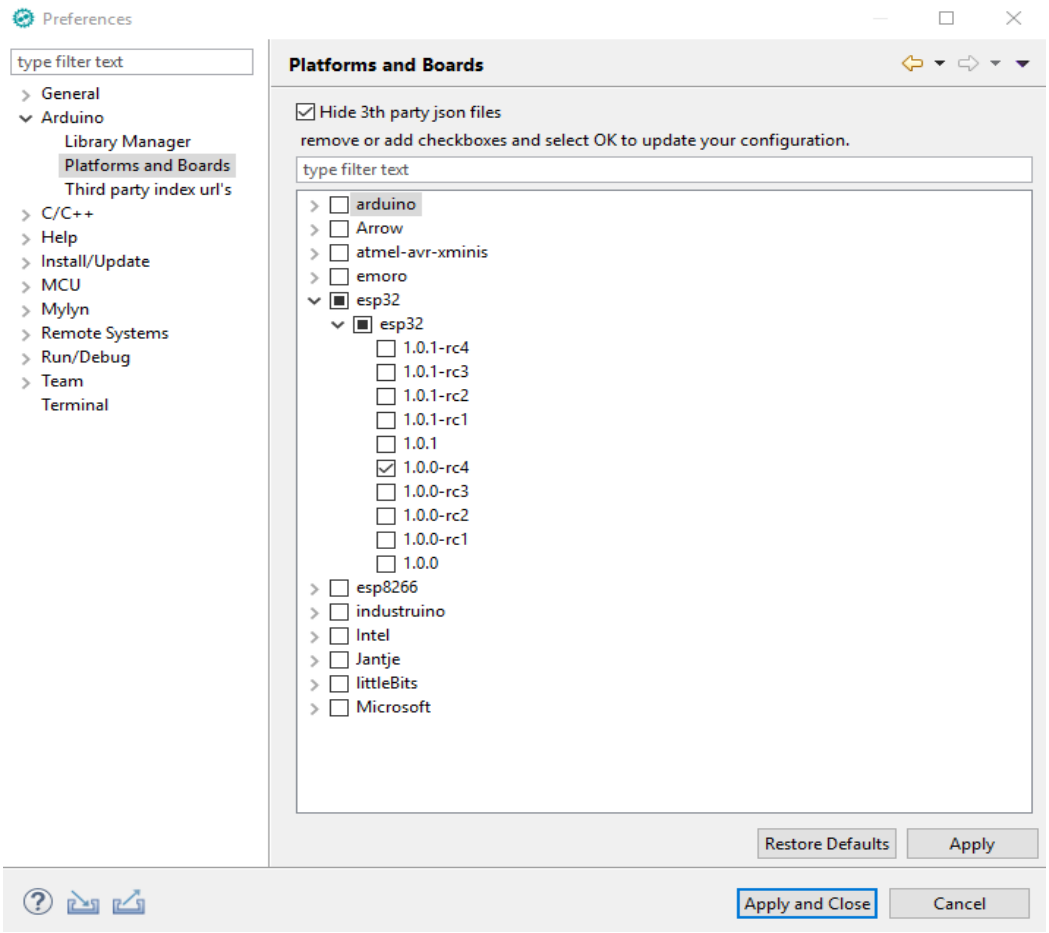

Problem Occurred
The indexer option "index source files not included in the build" must be off in windows->preferences->C/C++->indexer and
The indexer option "index unused headers" must be off in windows->preferences->C/C++->indexer
Sloeber might still function but if you get strange results you know where to look.
Do not create an issue if you see this!!!
See 'Details' for more information.
Show Error Log
OK
Details >>



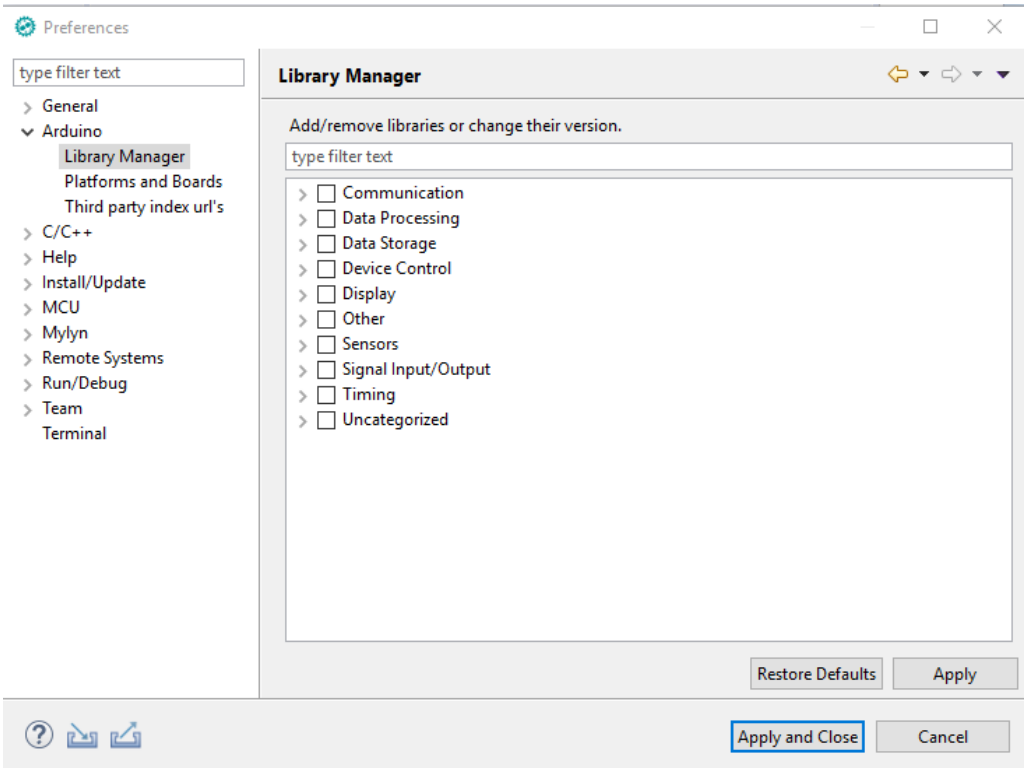


Add https://dl.espressif.com/dl/package_esp32_dev_index.json **<Apply>**

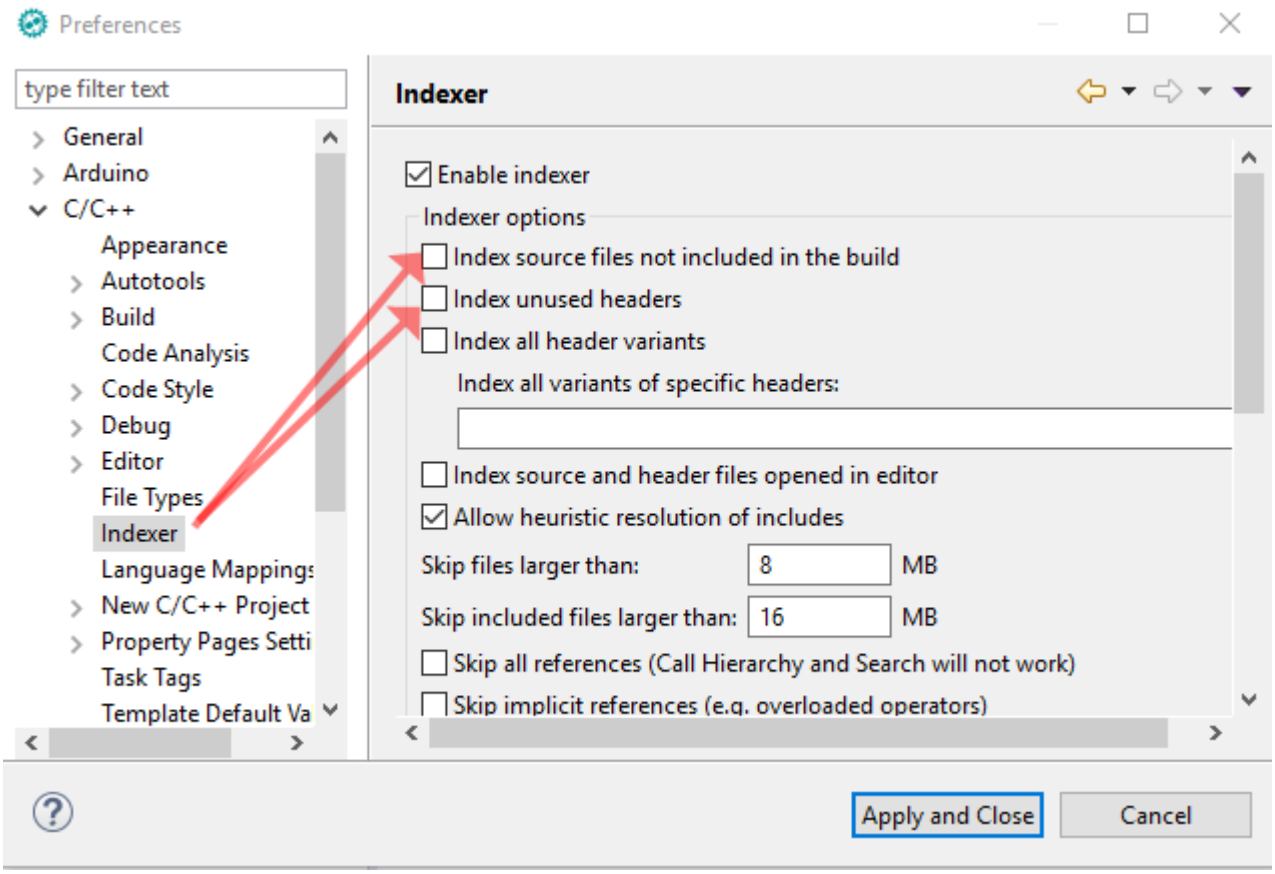
Deselect Arduino, select 1.0.0-rc4 (not V1.0.1, WiFi isn't reliable)



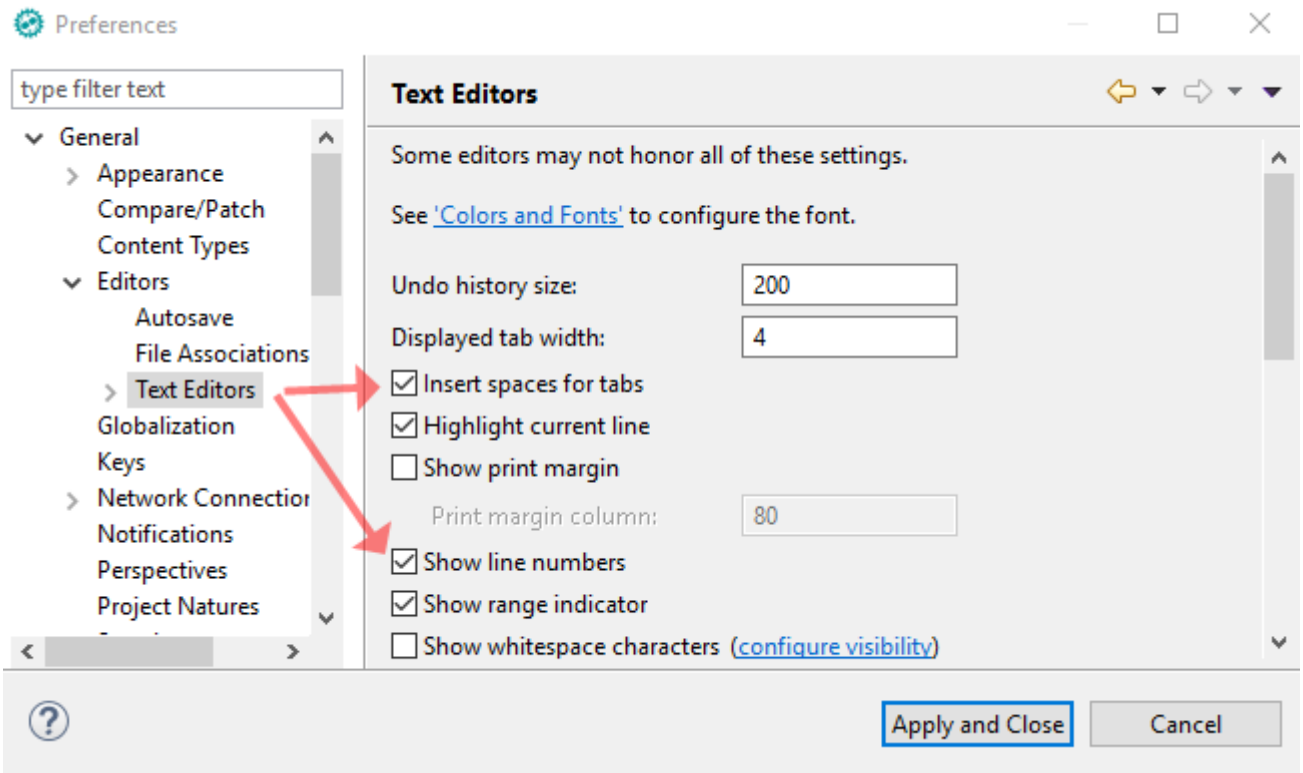
<Apply and Close> an wait some minutes
Deselect all Arduino libraries

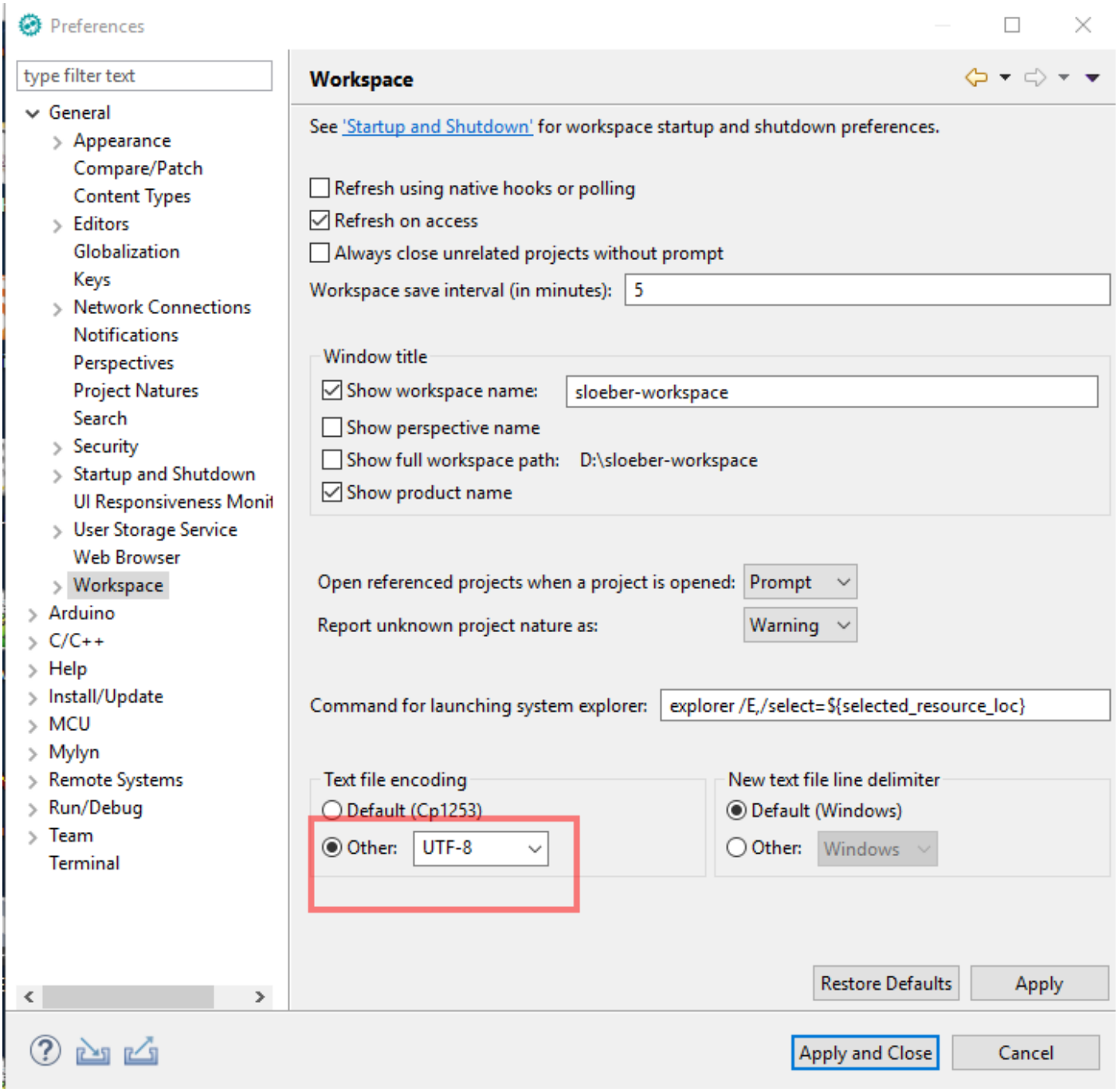


Window/Preferences/Indexer: deselect „**Index source files not included in the build**“ und „**Index unused headers**“



Window/Preferences/Editors/Text Editors aelect “Insert spaces for tabs” and “Show line numbers”

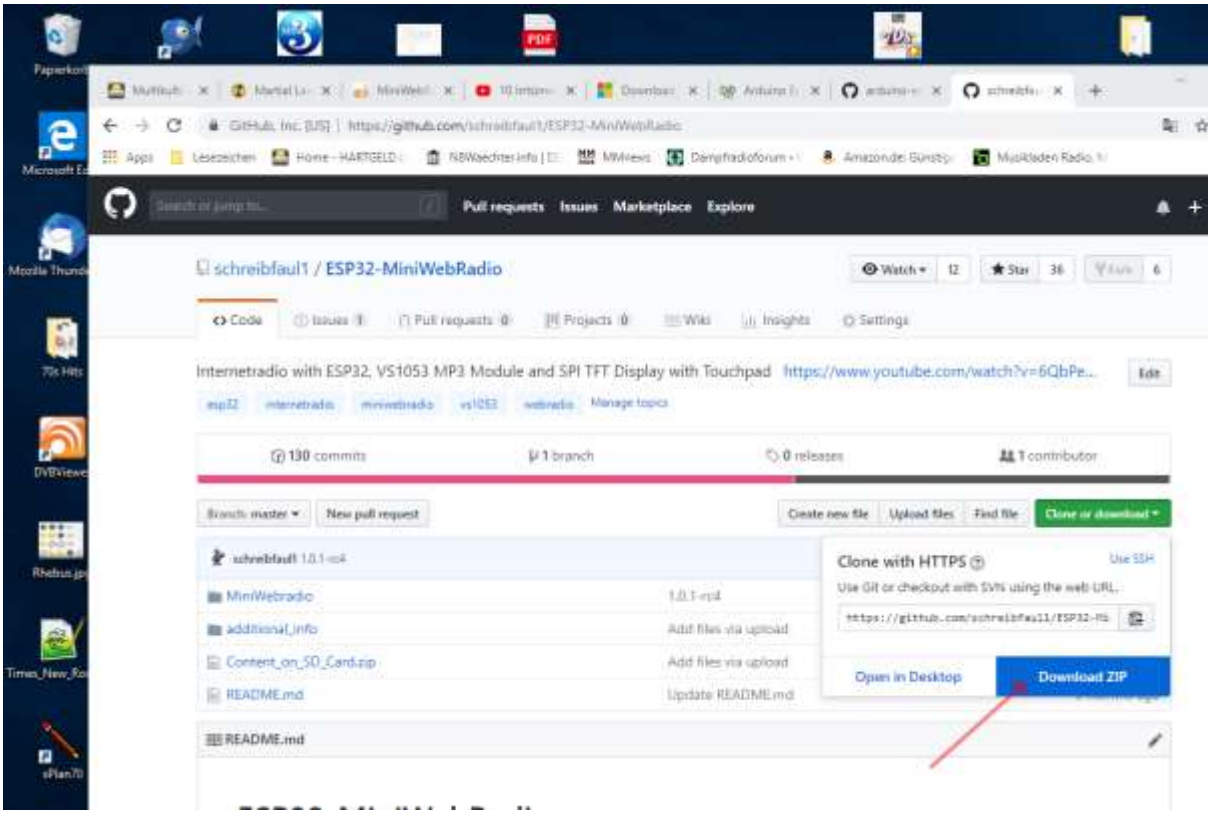




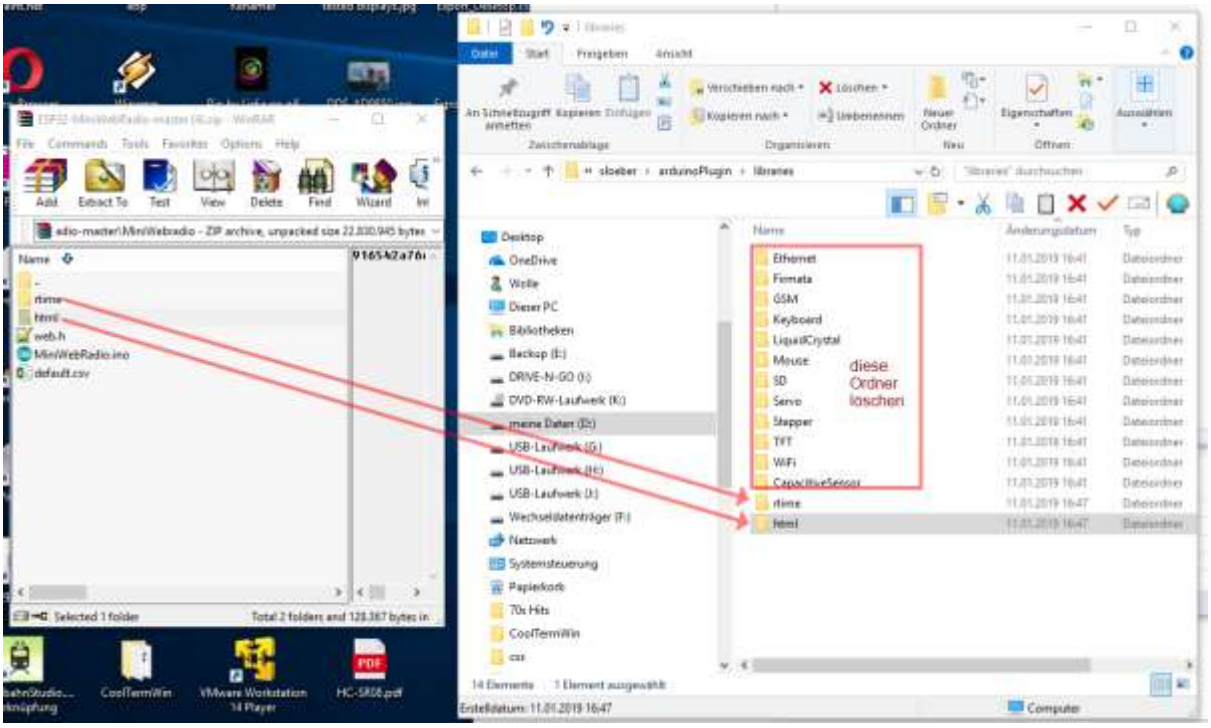
Window/Preferences/General/Workspace/ Set "Text file encoding" to **UTF-8**

INSTALLATION MINIWEBRADIO

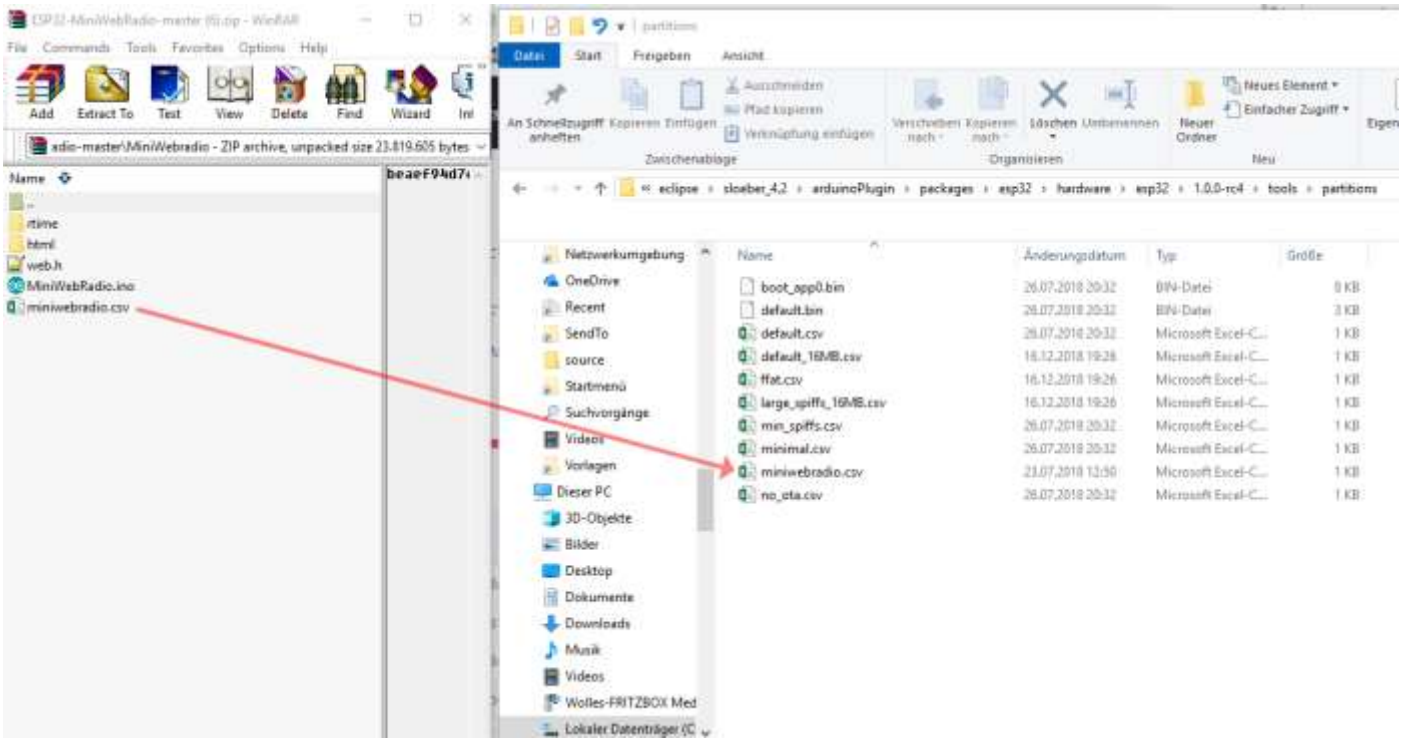
Download project: https://github.com/schreibfaul1/ESP32-MiniWebRadio



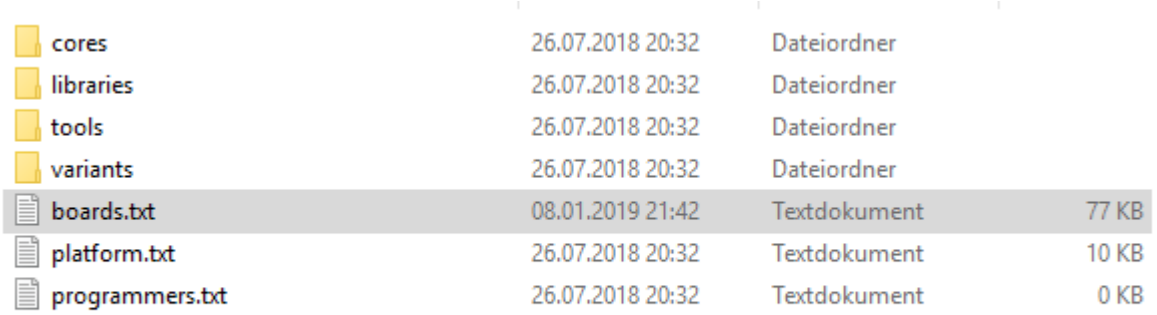
Delete in folder **sloeber/arduinoPlugin/libraries** all Arduino libraries, add „**html**" and „**rtime**"



In **...\sloeber\arduinoPlugin\packages\esp32\hardware\esp32\1.0...\tools\partitions** extract and copy the new partition table miniwebradio.csv



Then in boards.txt



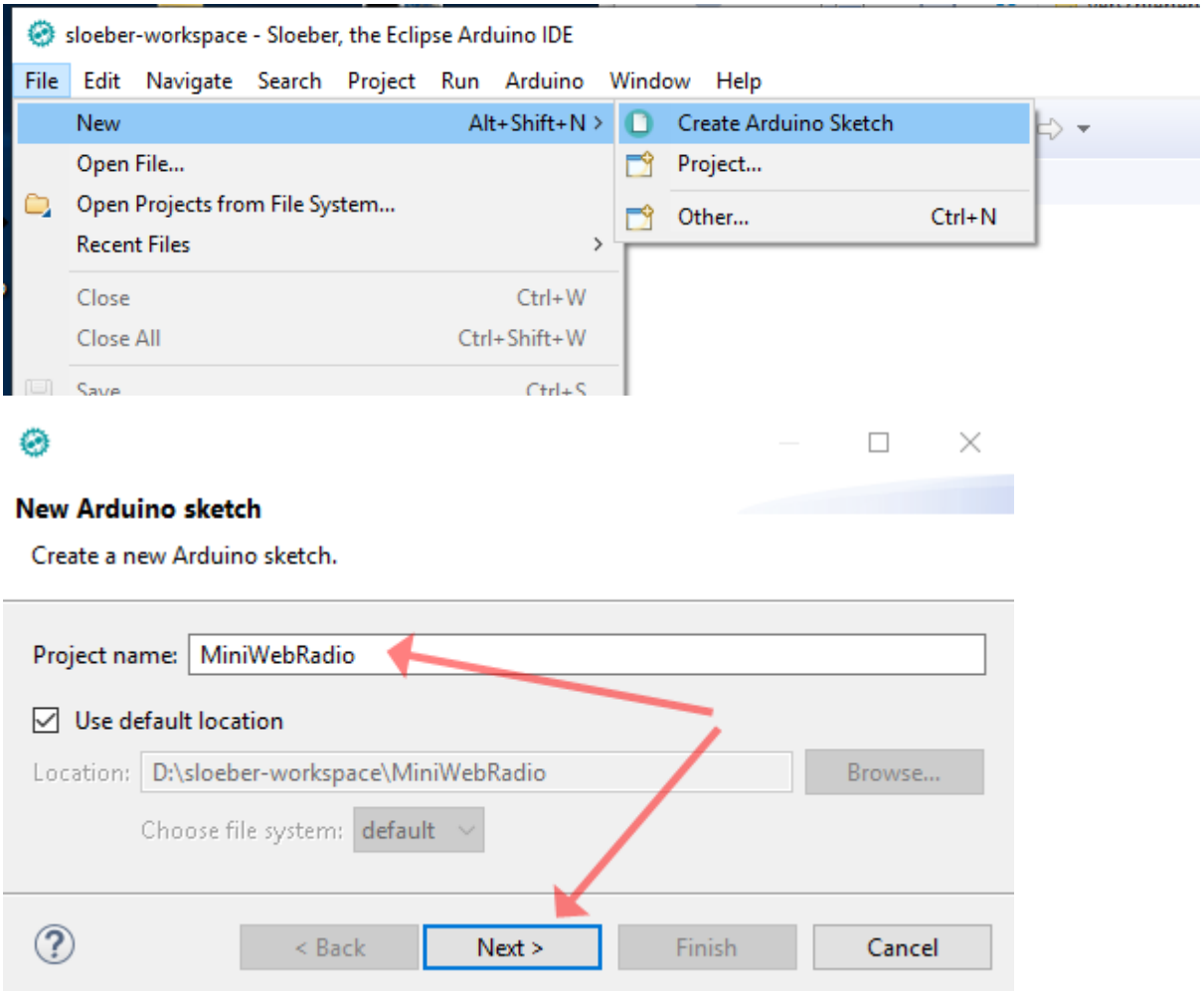
add this in section ESP32 Dev Module:

esp32.menu.PartitionScheme.miniwebradio=MiniWebRadio (3MB No OTA)
esp32.menu.PartitionScheme.miniwebradio.build.partitions=miniwebradio
esp32.menu.PartitionScheme.miniwebradio.upload.maximum_size=3145728

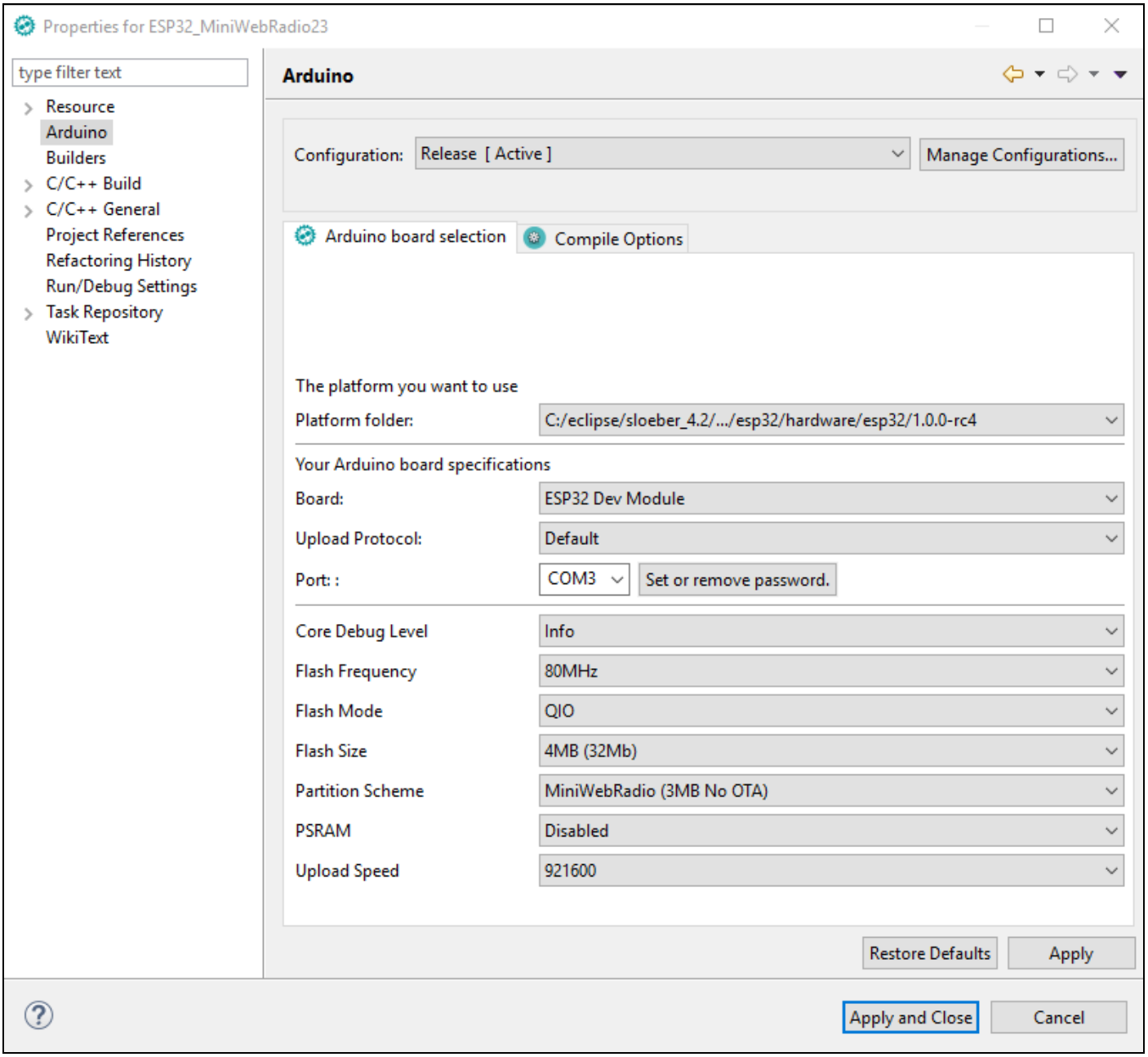
```
esp32.menu.PSRAM.disabled=Disabled
esp32.menu.PSRAM.disabled.build.defines=
esp32.menu.PSRAM.enabled=Enabled
esp32.menu.PSRAM.enabled.build.defines=-DBOARD_HAS_PSRAM -mfix-esp32-psram-cache-issue

esp32.menu.PartitionScheme.default=Default
esp32.menu.PartitionScheme.default.build.partitions=default
esp32.menu.PartitionScheme.minimal=Minimal (2MB FLASH)
esp32.menu.PartitionScheme.minimal.build.partitions=minimal
esp32.menu.PartitionScheme.no_ota=No OTA (Large APP)
esp32.menu.PartitionScheme.no_ota.build.partitions=no_ota
esp32.menu.PartitionScheme.no_ota.upload.maximum_size=2097152
esp32.menu.PartitionScheme.min_spiffs=Minimal SPIFFS (Large APPS with OTA)
esp32.menu.PartitionScheme.min_spiffs.build.partitions=min_spiffs
esp32.menu.PartitionScheme.min_spiffs.upload.maximum_size=1966080
esp32.menu.PartitionScheme.fatflash=16M Fat
esp32.menu.PartitionScheme.fatflash.build.partitions=ffat
esp32.menu.PartitionScheme.miniwebradio=MiniWebRadio (3MB No OTA)
esp32.menu.PartitionScheme.miniwebradio.build.partitions=miniwebradio
esp32.menu.PartitionScheme.miniwebradio.upload.maximum_size=3145728
```

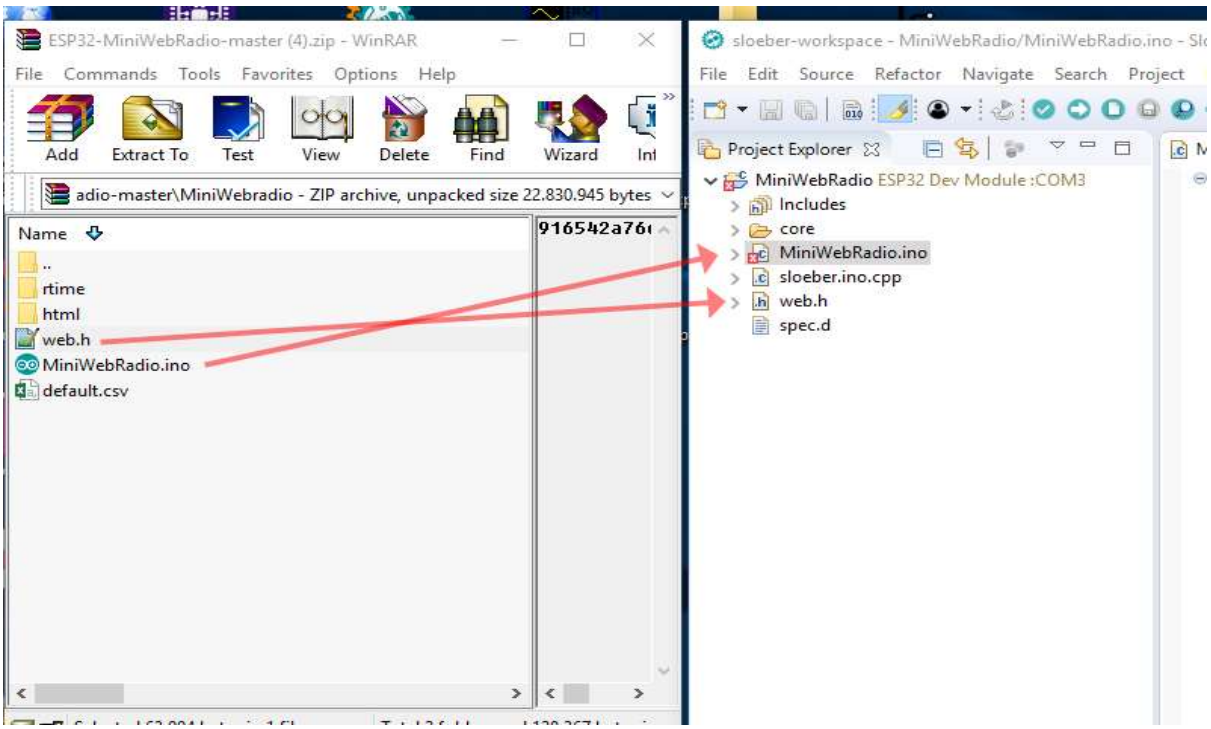
Restart Sloeber



Make this window bigger and select all items



Replace **MiniWebRadio.ino** and add **web.h**



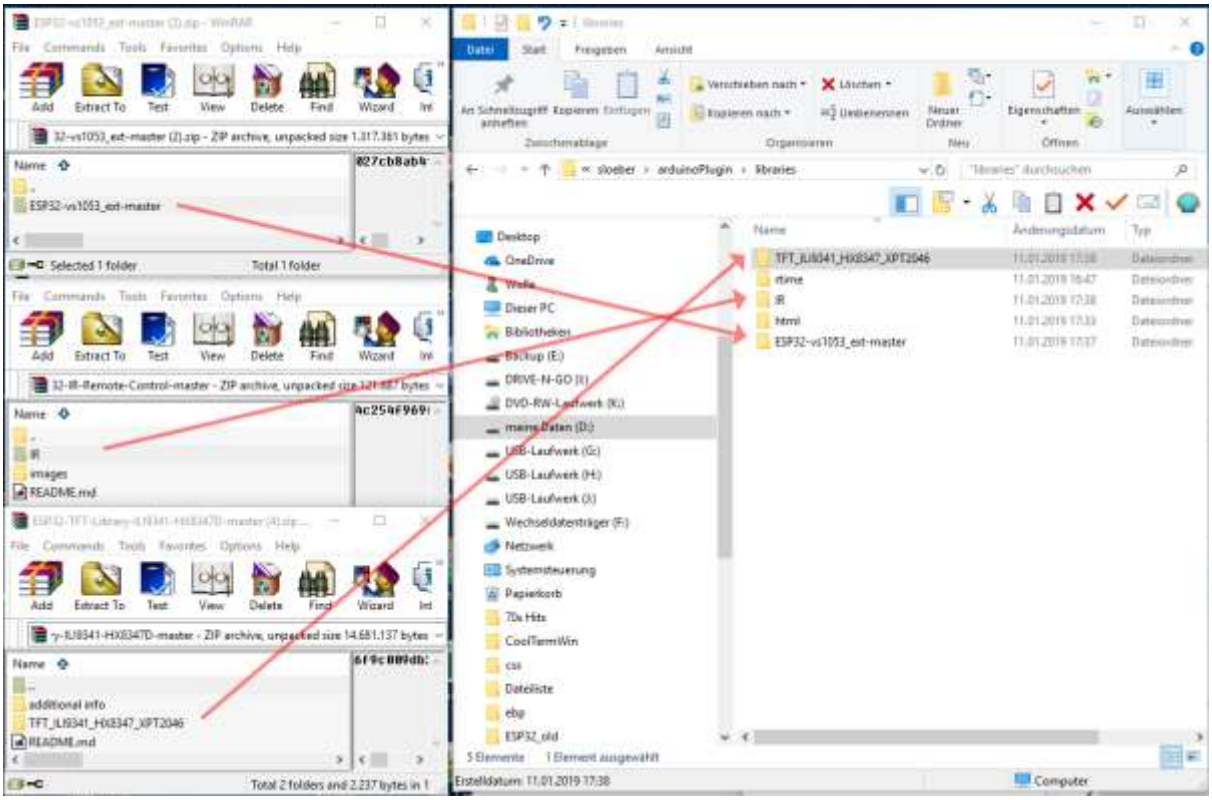
Download this libraries:

https://github.com/schreibfaul1/ESP32-vs1053_ext
https://github.com/schreibfaul1/ESP32-IR-Remote-Control
https://github.com/schreibfaul1/ESP32-TFT-Library-ILI9341-HX8347D

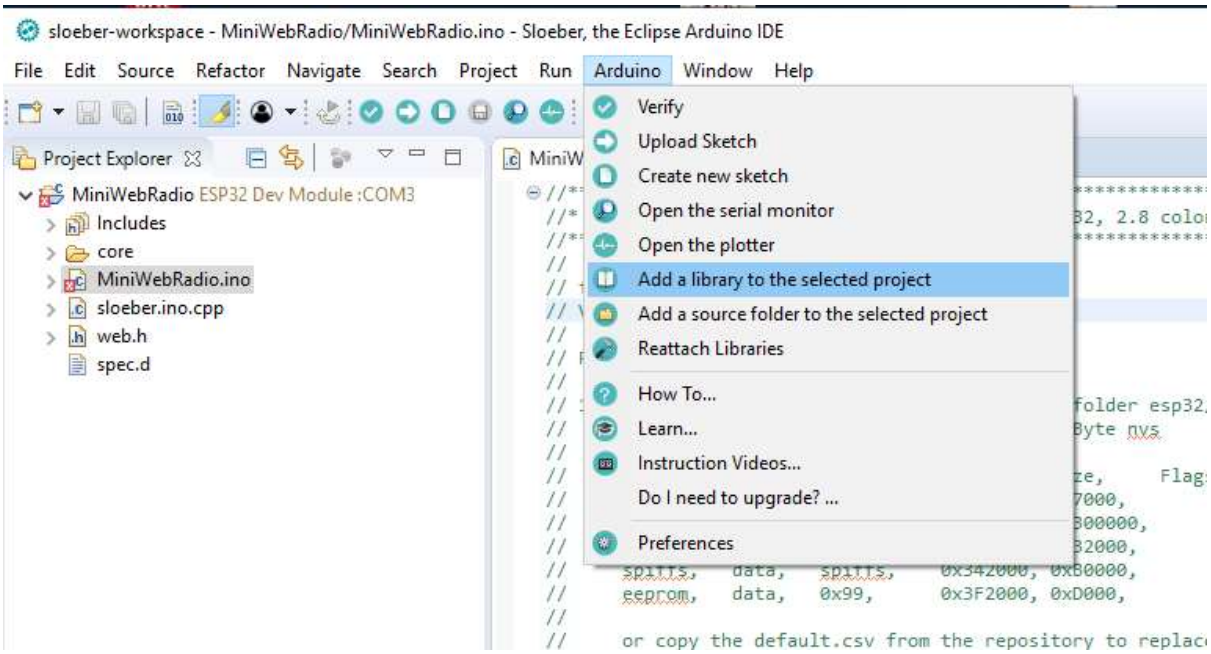
add to library folder „sloeber/arduinoPlugin/libraries" (rtime und html exists already).

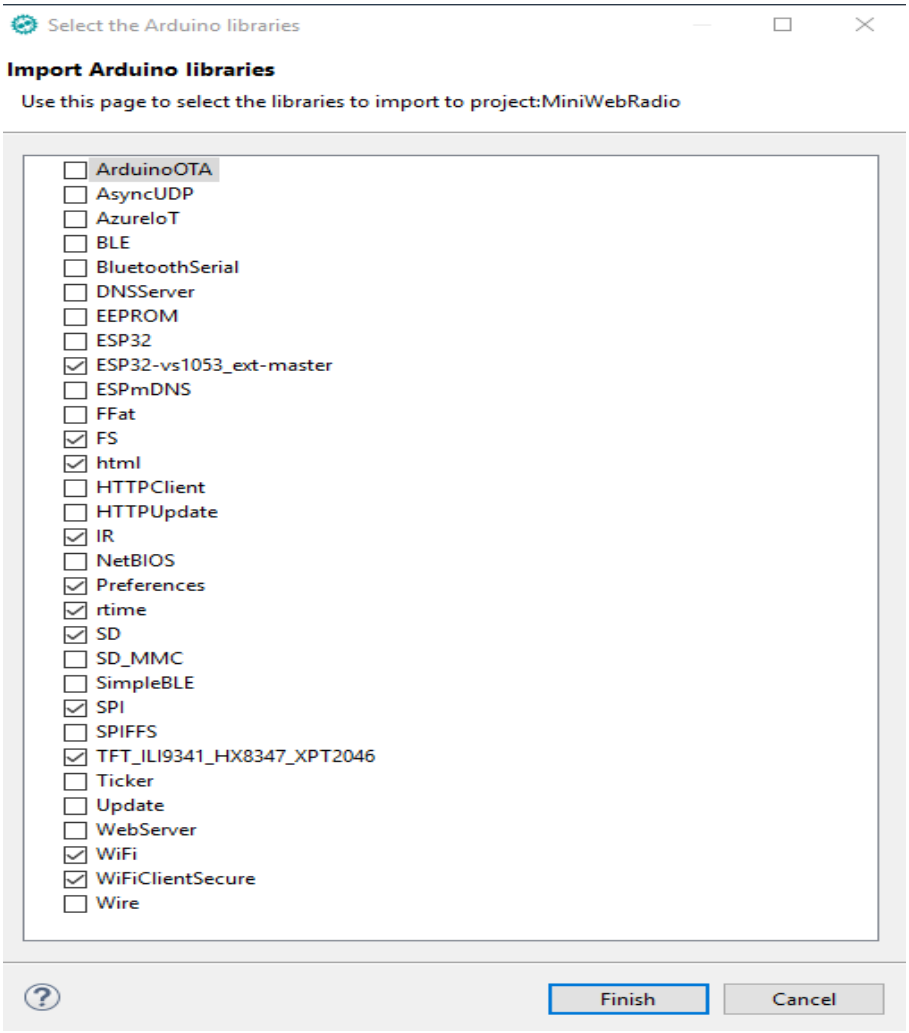
Copy the folders:

- ESP32-vs1053_ext-master
- IR
- TFT_ILI9341_HX8347_XPT2046

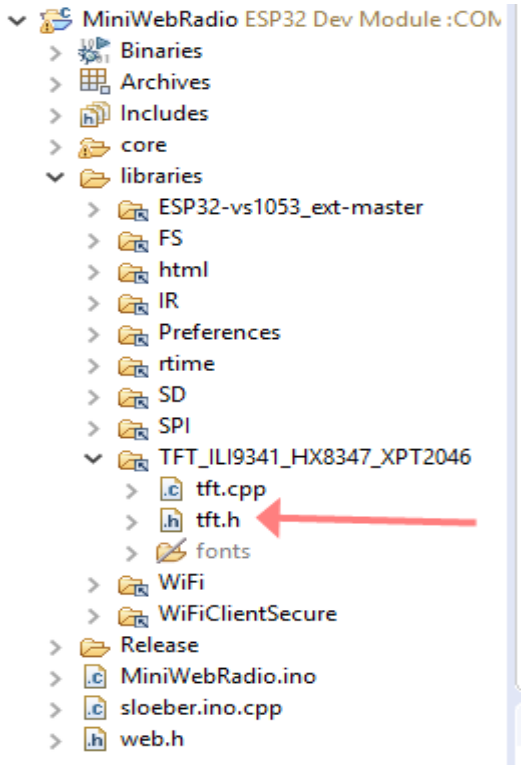


Add all needed libraries:

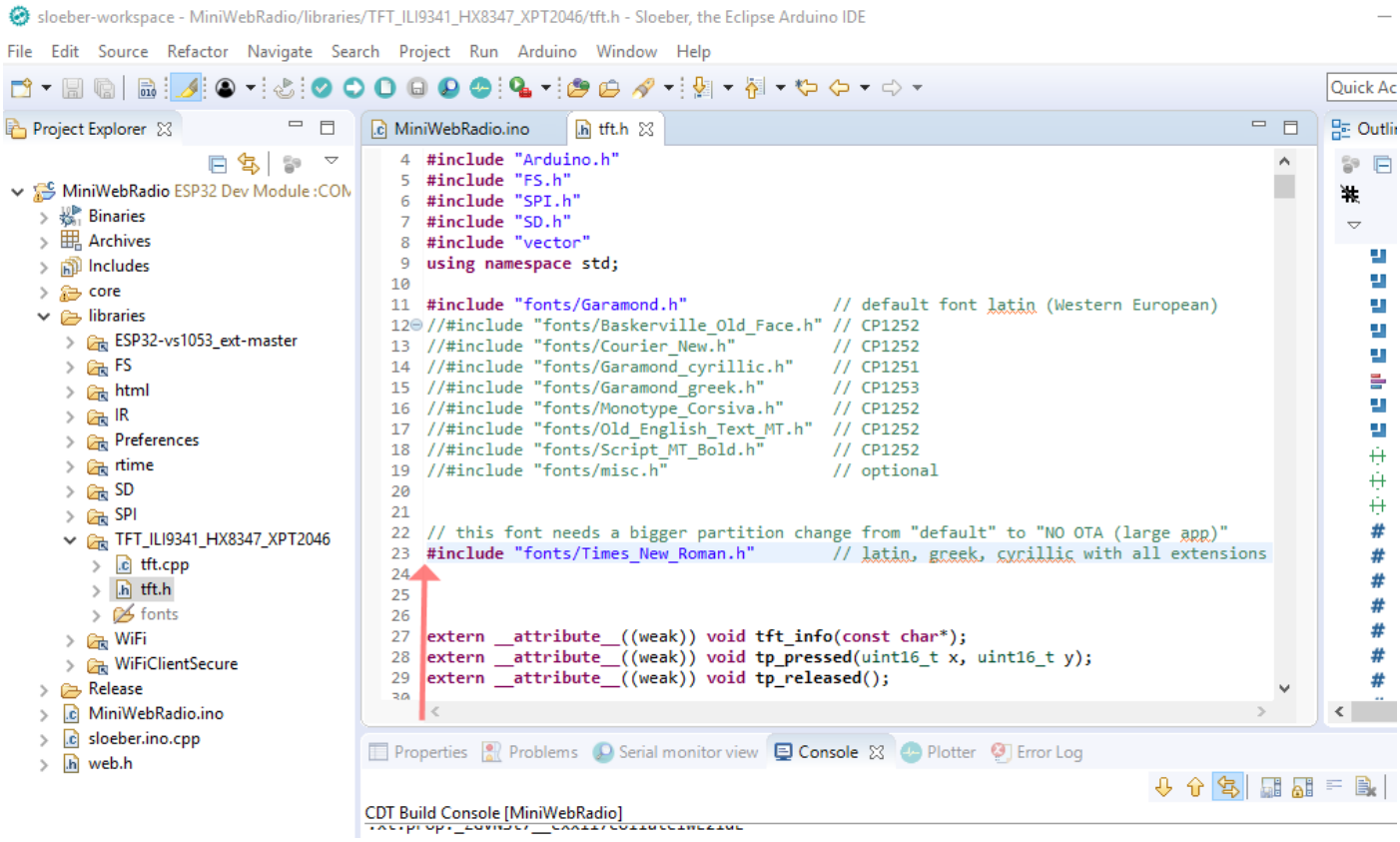




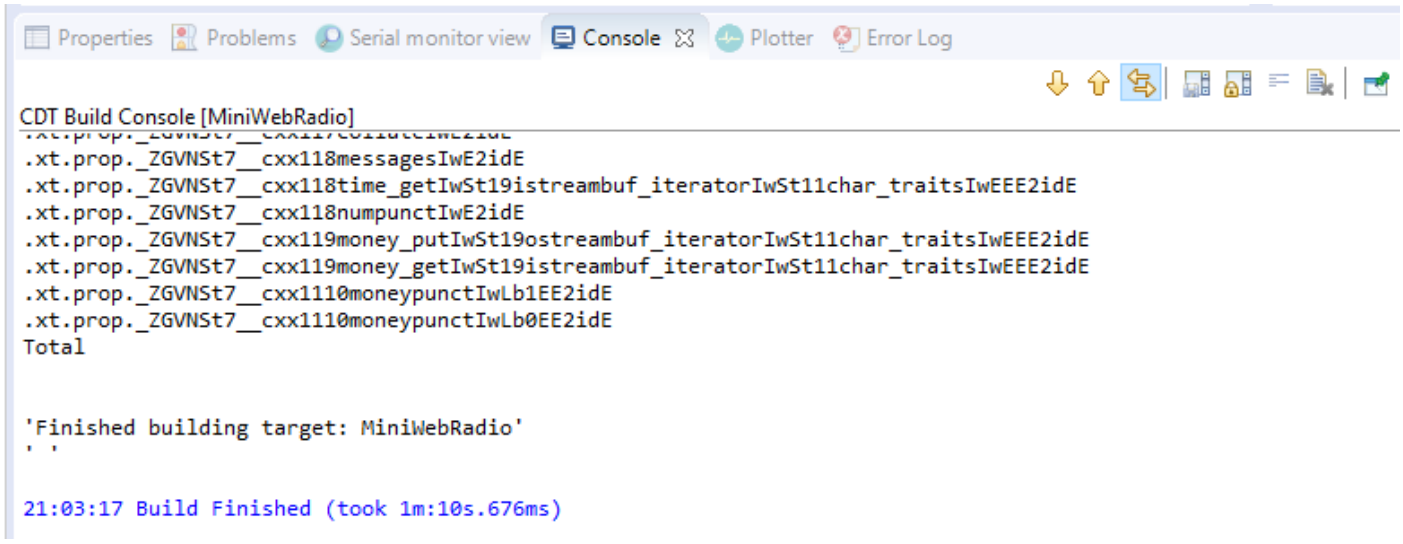
Doubleclick tft.h



Remove comment `#include "fonts/Times_New_Roman.h"`



and compile



LAST SETTINGS

Extract file "Content _ on _ SD _ Card.zip" on the SD card.

Time zones: default is middle Europe, examples for other time zones can be found in **rtime.cpp**

```
// Timezone
#define TZName  "CET-1CEST,M3.5.0,M10.5.0/3"

String   _SSID = "mySSID";      // Your WiFi credentials here
String   _PW   = "myWiFiPassword";
```

Set default SSID/PW. If the connection to the Wi-Fi cannot be established, more networks can be searched in "networks.txt." First always associated with the strongest Wi-Fi, then with the second strongest, etc..

Here, TFT controller is set, the display has the dimension 320x240 pixels

```
165
166 //objects
167 TFT tft(1);                    // parameter:  (0)ILI9341, (1)HX8347D
168 VS1053 mp3(VS1053_CS, VS1053_DCS, VS1053_DREQ);
169 hw_timer_t* timer=NULL;        // instance of the timer
```

In the setup, the image or touchscreen can be rotated depending on the design of the display.
Example: tft.setRotation(1);

```
659     ir.begin();  // Init InfraredDecoder
660     tft.setRotation(3); // Use landscape format
661     tp.setRotation(3);
662     pref.begin("MiniWebRadio", false);  // instance of pref
663     stations.begin("Stations", false);  // instance of pref
```

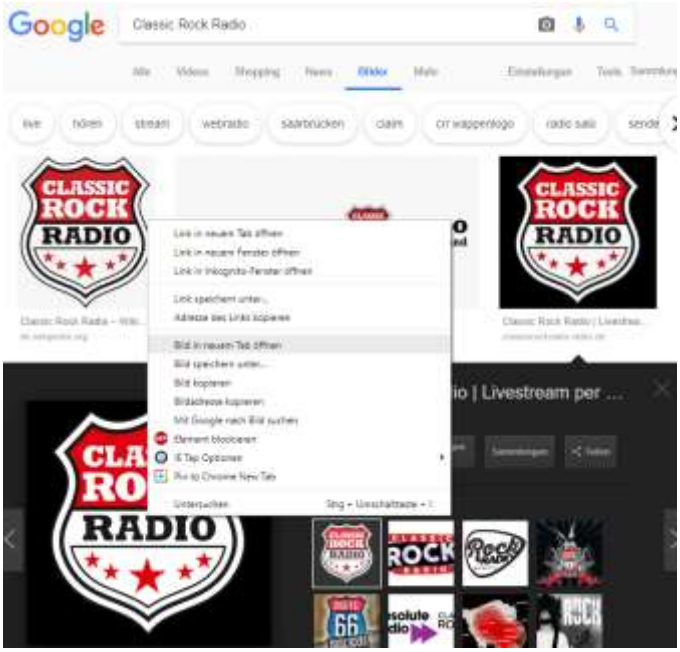
In the setup, the clock can be increased with good SD card and short wires

```
657     tft.begin(TFT_CS, TFT_DC, SPI_MOSI, SP
658     SD.begin(SD_CS, SPI, 16000000);  // fa
659     ir.begin();  // Init InfraredDecoder
660     tft.setRotation(3); // Use landscape f
```

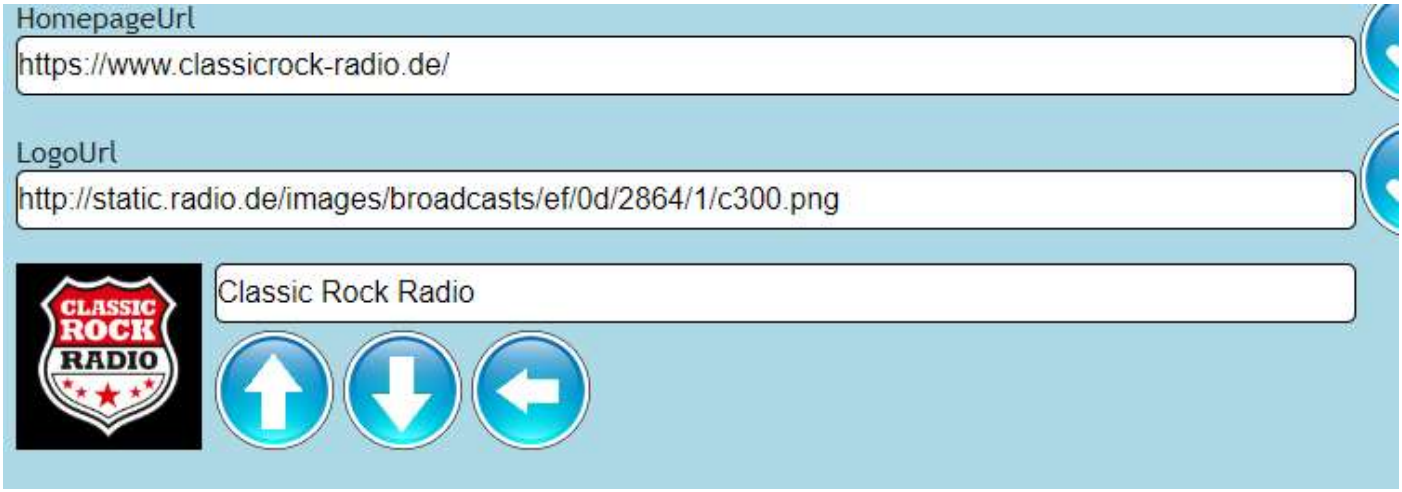
Possible meaningful values are 20000000, 40000000, 80000000

The last line displays the IP address assigned by the router on the display. The web browser allows me to connect the IP to MiniWebRadio. On the page with the magnifying glass symbol can be selected for a country stations. The StreamUrl can be tested for function and, if necessary, the sender homepage can be displayed. If there is no logo, you can search the Internet for a suitable

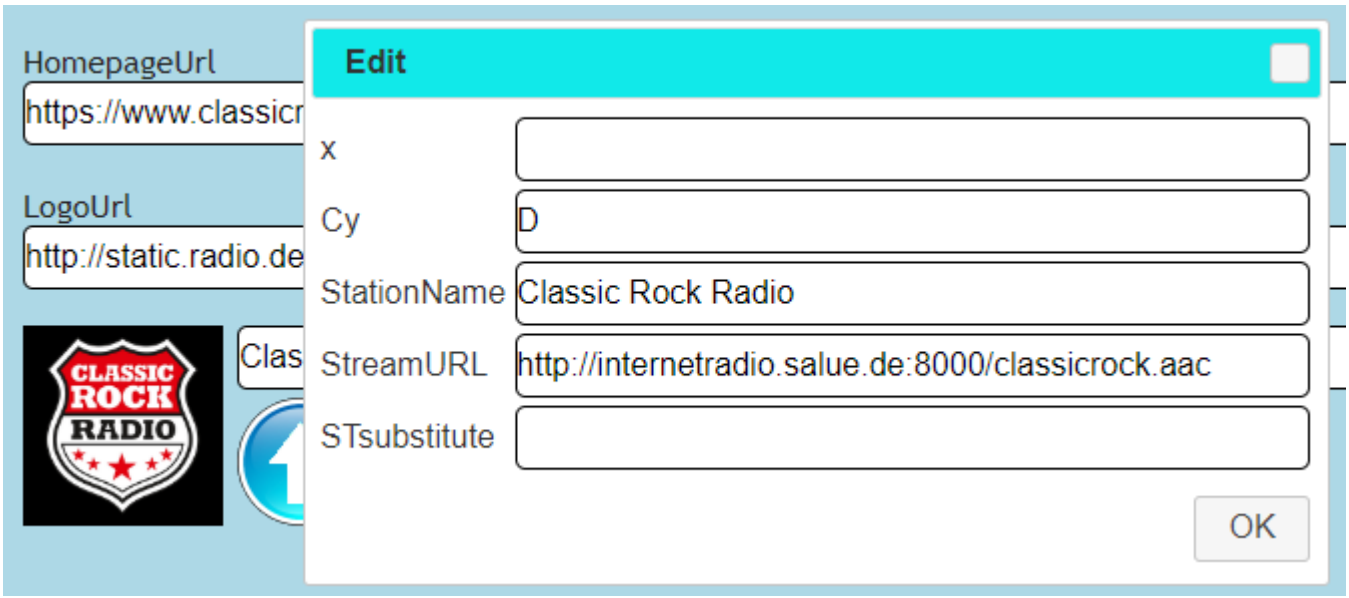
For example, with the Google image search:



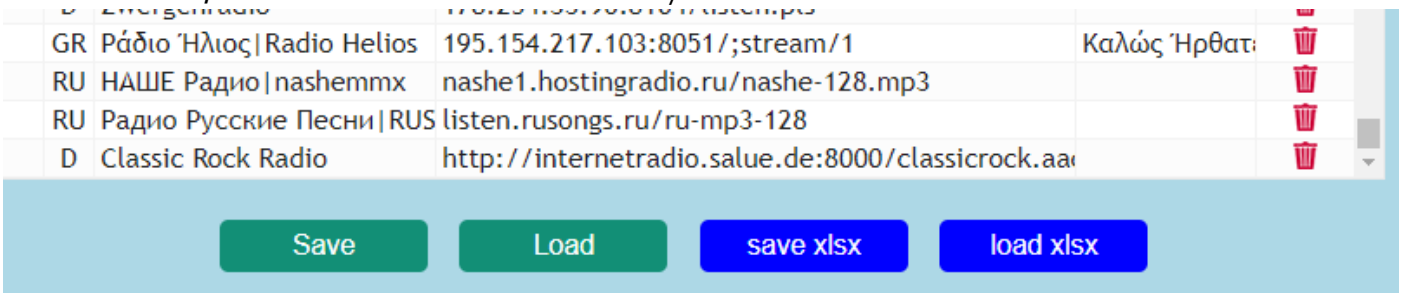
Click image to open with the right mouse button image in the new tab. Then copy the URL of the image, paste it into the line LogoUrl and press Enter



The new image is scaled and displayed. With The image can be written on the SD card. The file name is the name displayed that may be changed. At the same time, that's the name of the station. With The station can be added to the station list. Cy (Country) is the country, e.g. "D," STsubstitute is an alternative text that is displayed if no text is transmitted by the transmitter. X = * means: The sender exists in the station list but does not appear in the list.



In the station list, the transmitter is now available locally



But it is only with "save" that the station list is stored on the SD card.

Sender names can be separated with a pipe (Example): **Ράδιο Ήλιος|Radio Helios** If the Name does not contain ASCII characters (latin 1). In front of the pipe, the name as it is displayed is after the pipe as it is stored. Sender name and file name of the logo must match, but file names must not contain Cyrillic or Greek characters