

# Girls into Electronics 2025

## Software Installation



This short guide includes instructions for installing the necessary software for the Girls into Electronics practical

There are two options:

### 1. Install the desktop Arduino IDE to Windows, macOS or Linux (page 1)

The best solution to install the desktop Arduino IDE, USB drivers and the UKESF Sixth-Formers Arduino library

### 2. Use an online IDE, Duino App (suitable for all including Chromebooks) (page 4)

Use an online IDE, Duino app and install libraries each time a new project is started.

## 1. Installing the desktop Arduino IDE to Windows, macOS or Linux

The Arduino IDE is available for Windows, Linux, and macOS and can be downloaded from [arduino.cc/en/software](https://arduino.cc/en/software). Please select the correct download file for your operating system (OS) on the right hand side and follow the instructions. Note that the version number may differ from that shown in Figure 1 The Arduino IDE download screen.

### Downloads

The screenshot shows the Arduino IDE 2.3.4 download page. On the left, there is a section with the Arduino logo and the text "Arduino IDE 2.3.4". Below this, it describes the new major release as faster and more powerful, with a more modern editor and a more responsive interface. It also mentions that nightly builds with the latest bugfixes are available. On the right, there is a "DOWNLOAD OPTIONS" section with a list of download links for Windows (Win 10 and newer, 64 bits), Linux (x86-64), and macOS (Intel and Apple Silicon).

**Arduino IDE 2.3.4**

The new major release of the Arduino IDE is faster and even more powerful! In addition to a more modern editor and a more responsive interface it features autocompletion, code navigation, and even a live debugger.

For more details, please refer to the [Arduino IDE 2.0 documentation](#).

Nightly builds with the latest bugfixes are available through the section below.

**SOURCE CODE**

The Arduino IDE 2.0 is open source and its source code is hosted on [GitHub](#).

**DOWNLOAD OPTIONS**

- Windows** Win 10 and newer, 64 bits
- Windows** MSI installer
- Windows** ZIP file
- Linux** AppImage 64 bits (X86-64)
- Linux** ZIP file 64 bits (X86-64)
- macOS** Intel, 10.15: "Catalina" or newer, 64 bits
- macOS** Apple Silicon, 11: "Big Sur" or newer, 64 bits

[Release Notes](#)

Figure 1 The Arduino IDE download screen.

Once installed, launching Arduino should show a window like the one in Figure 2. You can alter Settings via **File > Preferences** where you can change the font, turn on line numbers, and more.

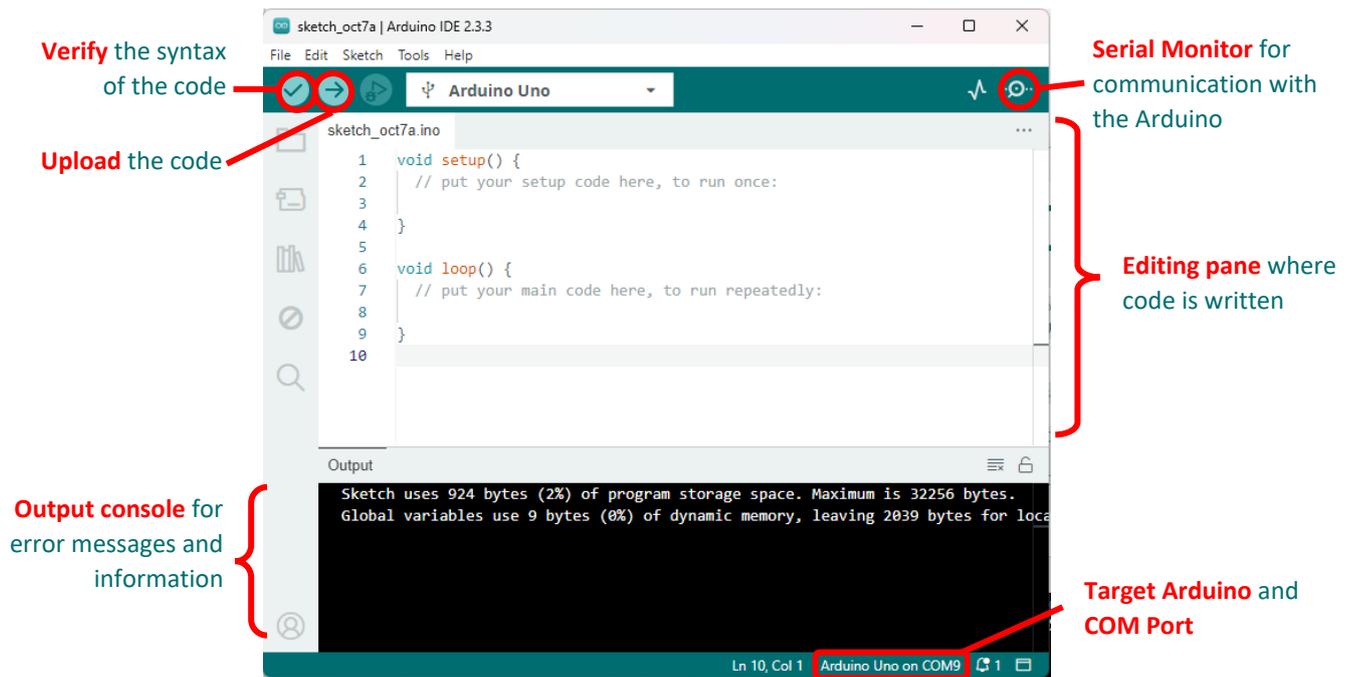


Figure 2 The Arduino IDE starting window showing an empty sketch

## Installing the USB Driver

To use the Grove kit and Seeeduno Lotus microcontroller, you need the CP210x USB driver for your OS. You can download and install it from the Silicon Labs website here: [bit.ly/3rT2eD8](https://bit.ly/3rT2eD8). The installation files are listed under the “Downloads” tab and will download as a .zip file to your computer. The available driver files for Windows and Mac are shown in Figure 3.

**Note:** Installation on other operating systems is not covered here. If you need help, search online for “installing CP201x driver + your OS” for more information.

Software Downloads	
Software (11)	Software · 11
<a href="#">CP210x Universal Windows Driver</a>	v11.3.0 8/9/2024
<a href="#">CP210x VCP Mac OSX Driver</a>	v6.0.2 10/26/2021
<a href="#">CP210x VCP Windows</a>	v6.7 9/3/2020
<a href="#">CP210x Windows Drivers</a>	v6.7.6 9/3/2020
<a href="#">CP210x Windows Drivers with Serial Enumerator</a>	v6.7.6 9/3/2020
<a href="#">Show 6 more Software</a>	

Figure 3 Downloading the CP201x driver from Silabs

After the download, the installation procedure is as follows:

### Windows install:

1. Using Windows File Explorer, locate the driver folder (that you previously unzipped).
2. Right click on the *silabser.inf* file and select Install.
3. Follow the instructions.

### MacOS install:

1. Using Finder, navigate to the downloaded zip file and unzip it (double click).
2. Mount the DMG file and double click on Silicon Labs VCP Driver.
3. On MacOS 10.13 and later, the installation of the driver may be blocked. To unblock, open the System Preferences Security & Privacy pane and unblock the system extension (See Apple Technical Note TN2459 "User-Approved Kernel Extension Loading" for more information).

### Installing the UKESF Sixth Formers Library for Arduino IDE

This guide comes with an Arduino library, called *UKESF Sixth-Formers*. A library contains a set of functions that allow you to easily do more with an Arduino that is available out of the box. To do this click on the library icon, Figure 4, on the left-hand side tab.



Figure 4 Library icon

Then type in *UKESF Sixth-Formers* and click **Install** as shown in Fig. 5. Make sure to install the latest version, which may be different from v2.0.2 as shown in the figure below.

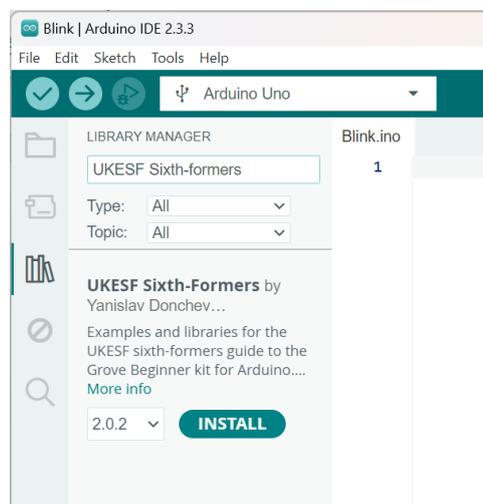


Figure 5 The Library Manager window

That's it, you are now ready to move on to the main guide and start the exercises there.

## 2. Use online IDE, Duino App (suitable for all platforms including Chromebooks)

The Duino App can be used from most web browsers. Go to the website: <https://duino.app/>

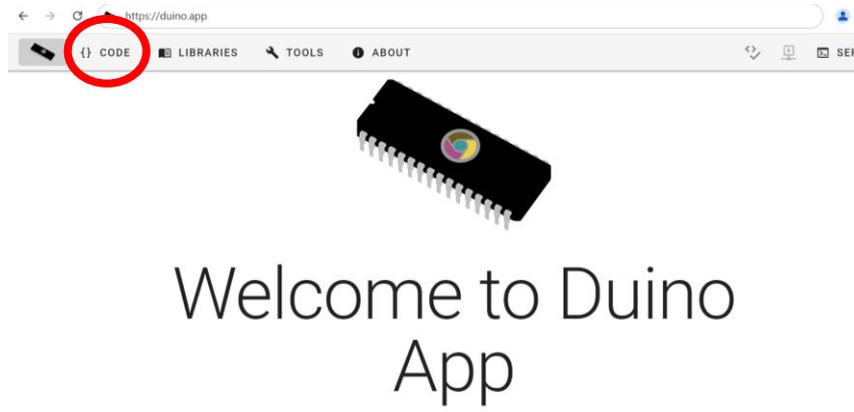


Figure 6 Duino App

To create a new project, click “Code” in the top bar of the webpage (Figure 6), then “Create New Project” as seen in Figure 7.

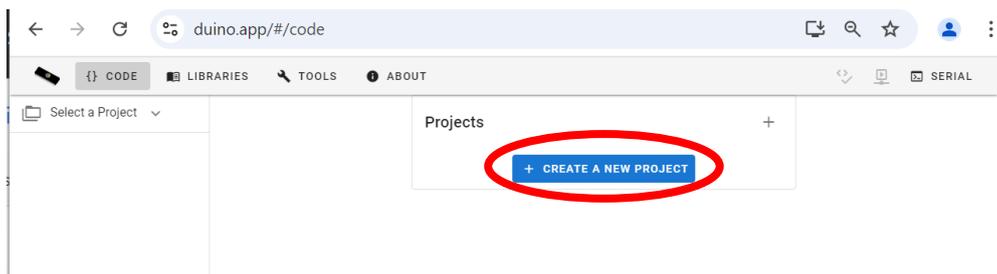


Figure 7 Duino App- Creating a new project

Then fill in a project name and click “Create”.

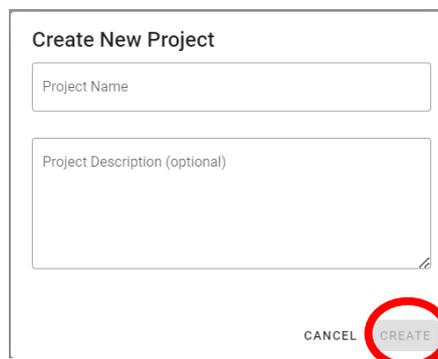


Figure 8 Duino App - Creating a new Project

Delete the standard code that appears, so you have a blank sketch ready to start.

### Installing the UKESF Sixth Formers Library for Duino

This guide comes with an Arduino library, called *UKESF Sixth-Formers*. A library contains a set of functions that allow you to easily do more with an Arduino that is available out of the box. To do this click on the library icon, shown in Figure 9.

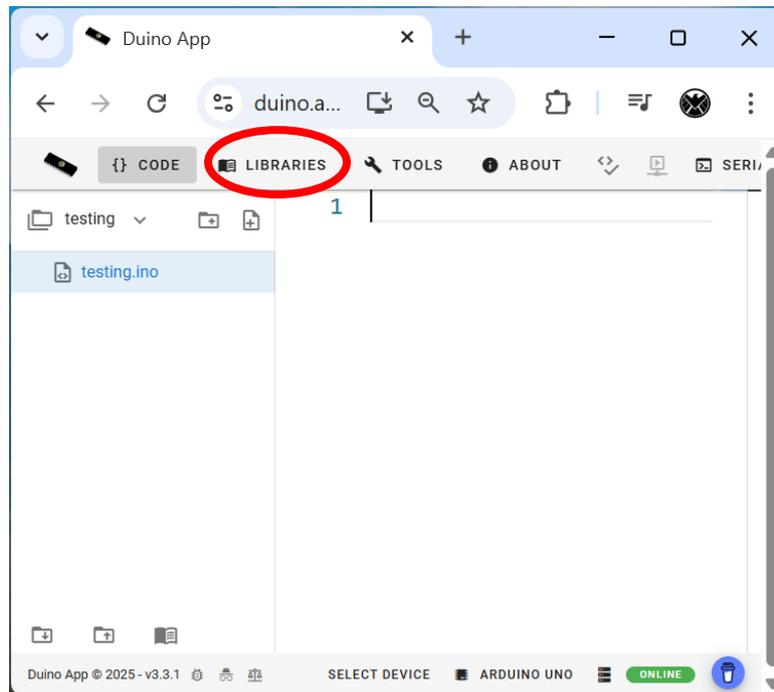


Figure 9 Duino App- Library icon

In the search box in the top right corner type in “ukesf”. This should come up with one library called “UKESF Sixth-Formers” as shown in Figure 10.

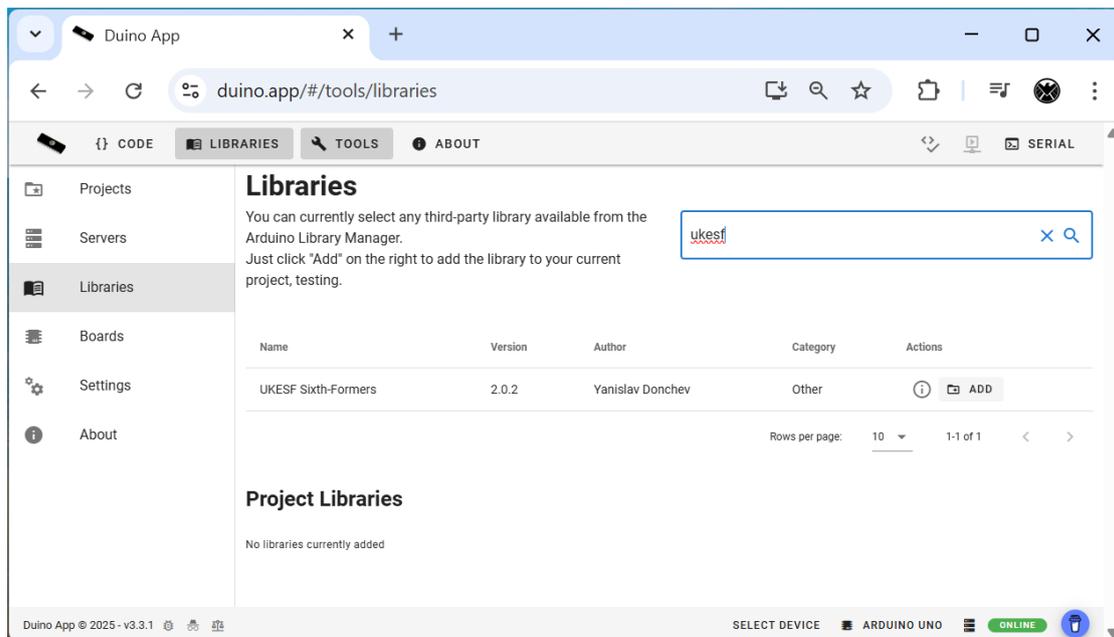
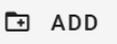


Figure 10 Duino App- Libraries tab

Click on the add button to add this library to your project. 

You will find a message pops up saying you are missing a dependency as shown in .

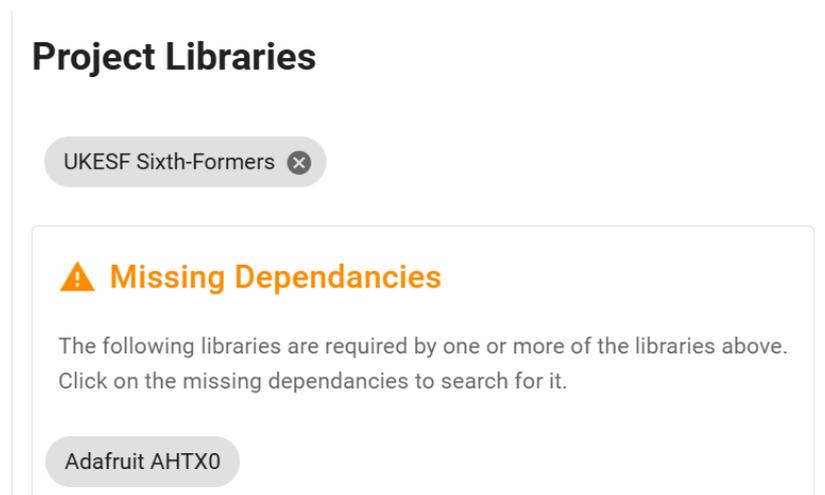


Figure 11 Duino App- Missing dependencies

Click on the name of the dependency in the grey oval (in Figure 11 this is “Adafruit AHTX0”). This will make it appear above, and you can add it like you did with the UKESF library,

After this more missing dependencies will appear. Repeat the process of clicking on the name in the grey oval and then adding it. Eventually the “Missing Dependencies” box should go, and you should be left with the following libraires in your project as shown in Figure 12.

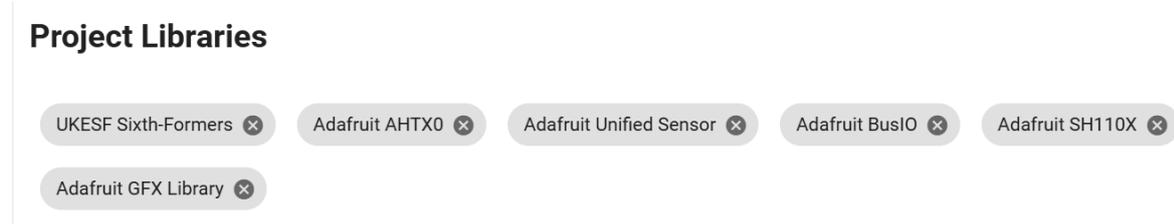


Figure 12 Duino App- Project Libraries

Click on the code icon again in the top bar to take you back to where you will write your code.

That’s it, you are now ready to move on to the main guide and start the exercises there.