# 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. 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.

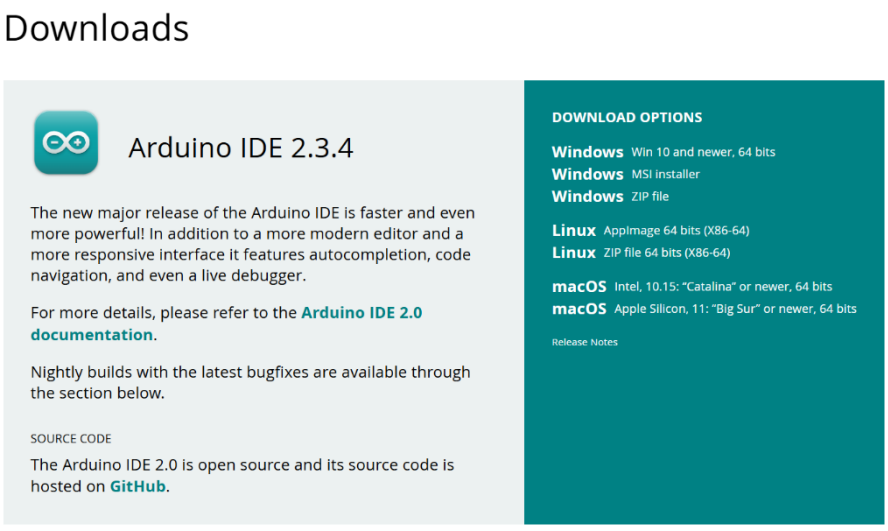



*Figure 1 The Arduino IDE download screen.*

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.

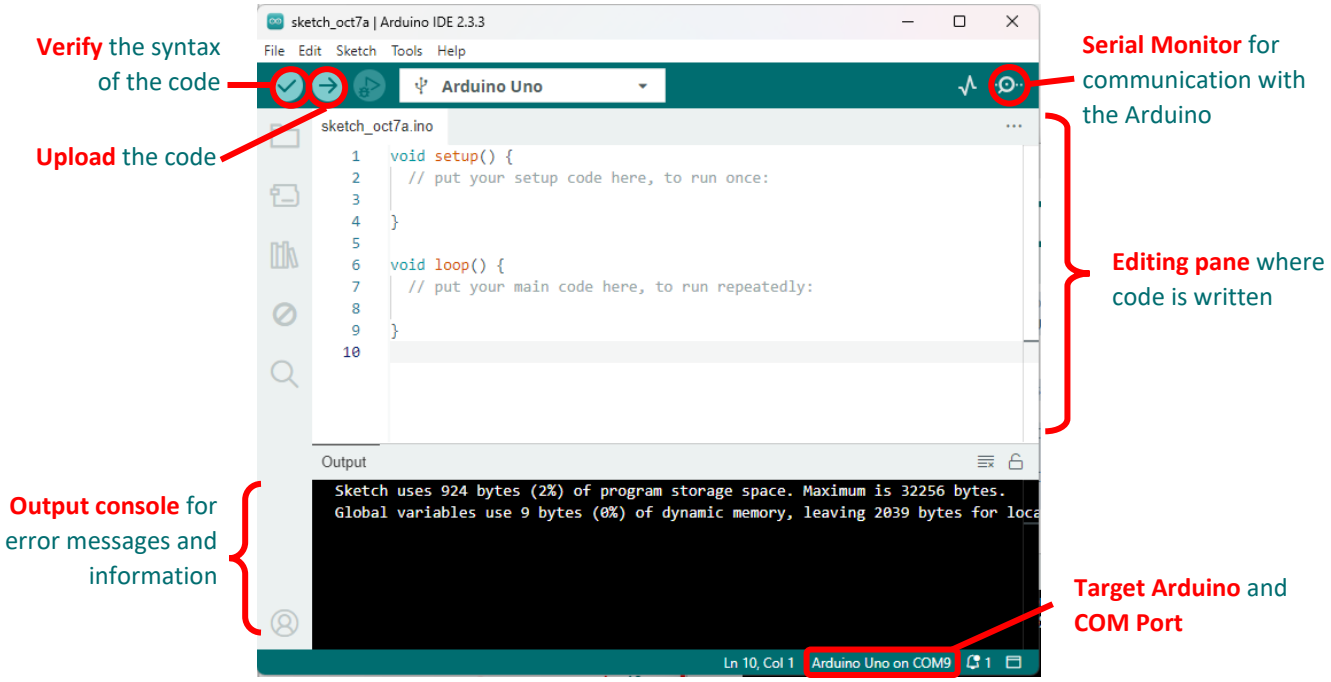



*Figure 2 The Arduino IDE starting window showing an empty sketch*

## Installing the USB Driver

To use the Grove kit and Seeeduino 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. 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.

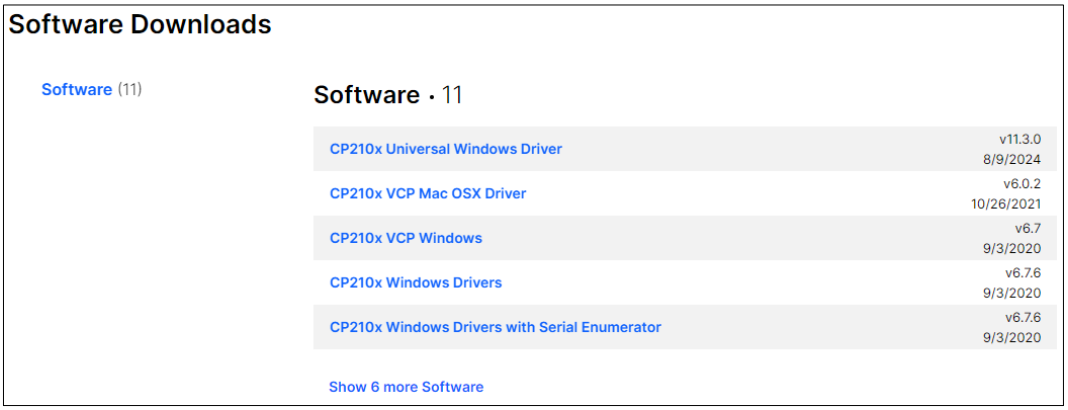



*Figure 3 Downloading the CP201x driver from Silabs*

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.

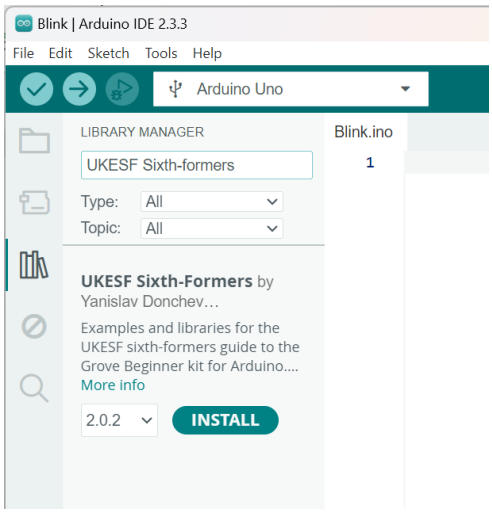



*Figure 5 The Library Manager window*

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/

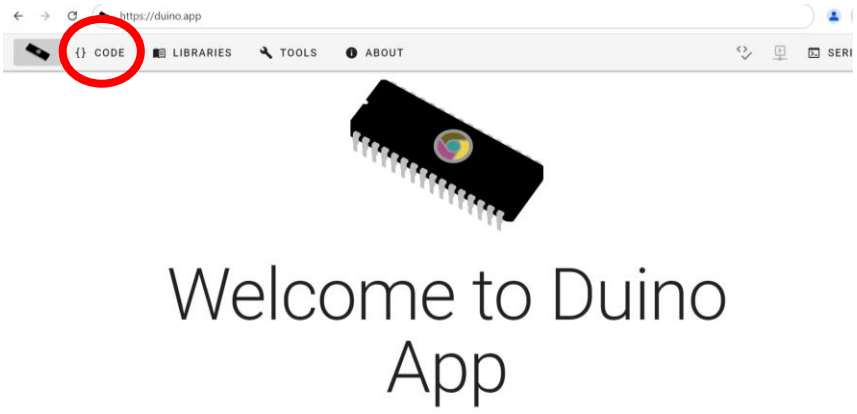



*Figure 6 Duino App*

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.

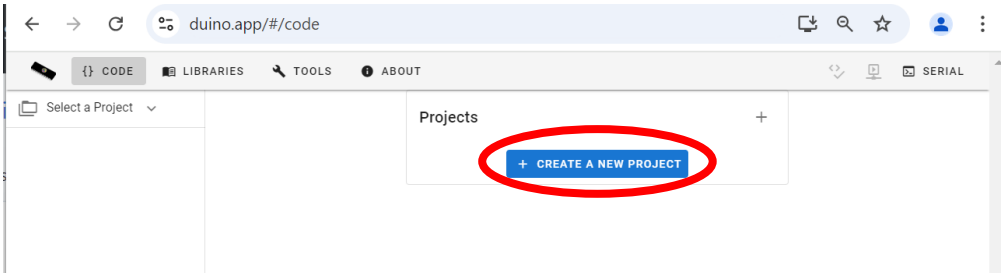



*Figure 7 Duino App- Creating a new project*

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

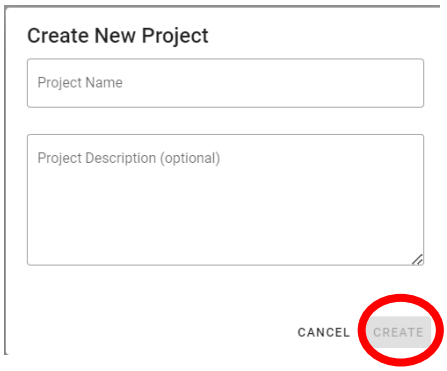



*Figure 8 Duino App - Creating a new Project*

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.

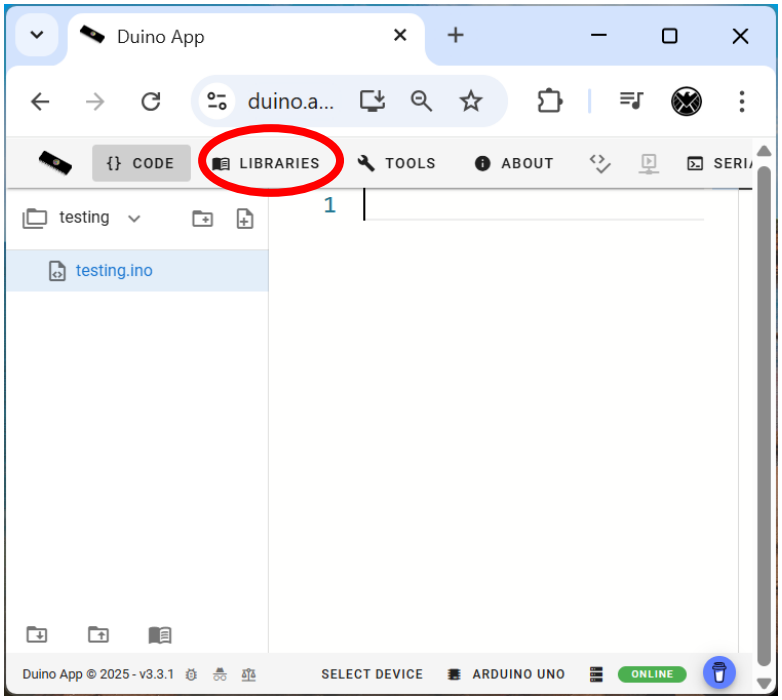



*Figure 9 Duino App- Library icon*

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.

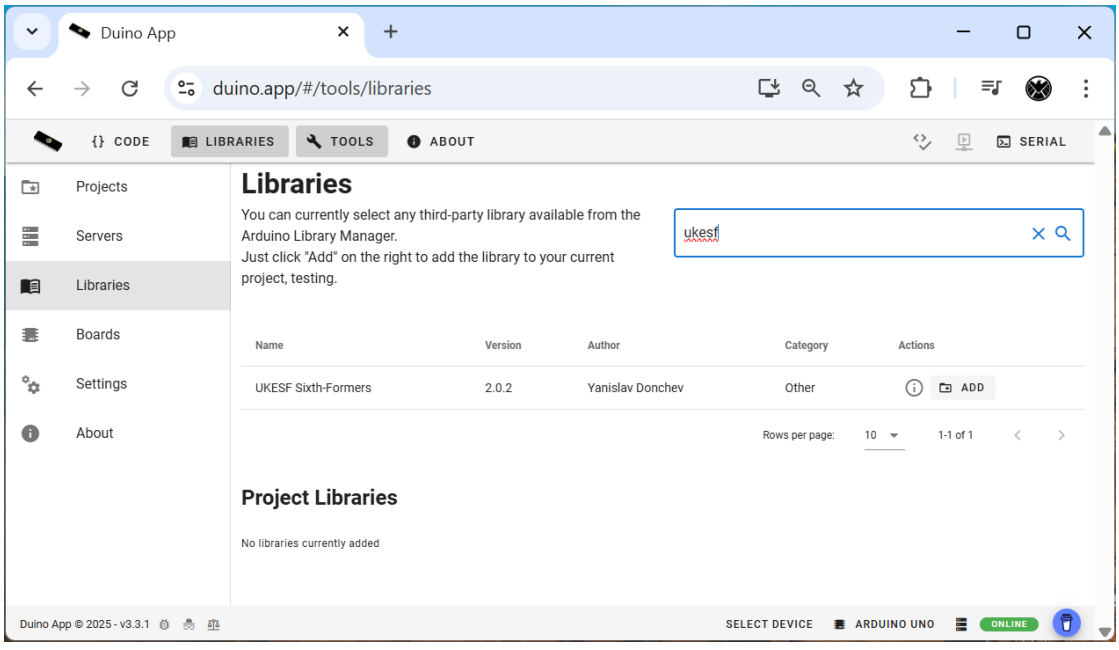
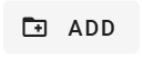



*Figure 10 Duino App- Libraries tab*

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 .

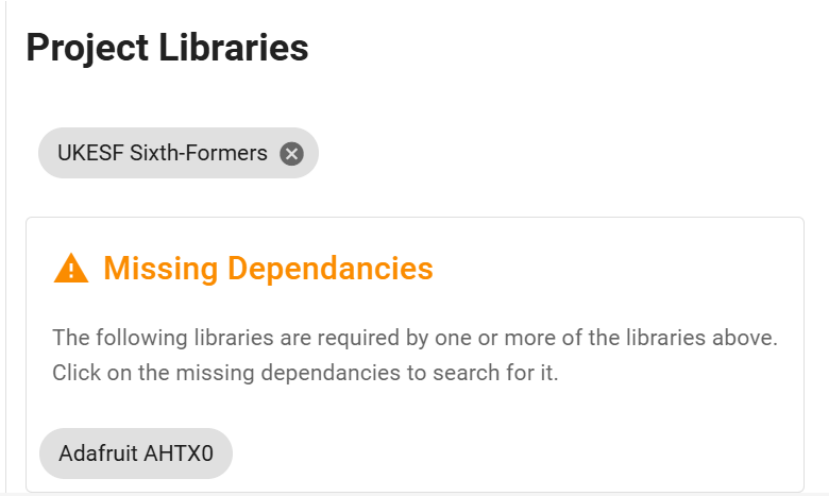



*Figure 11 Duino App- Missing dependencies*

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.

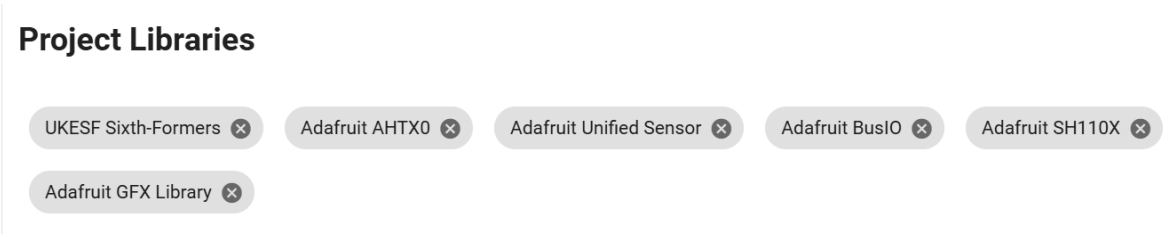



*Figure 12 Duino App- Project Libraries*

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.