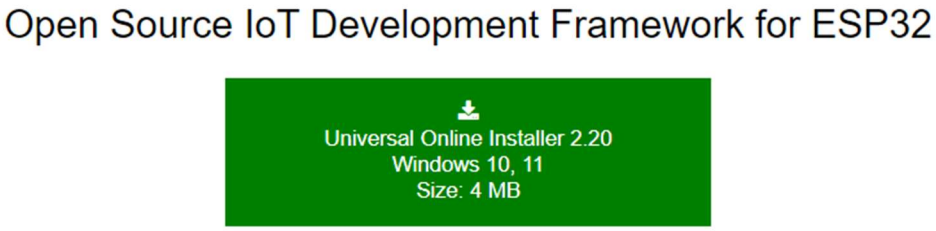
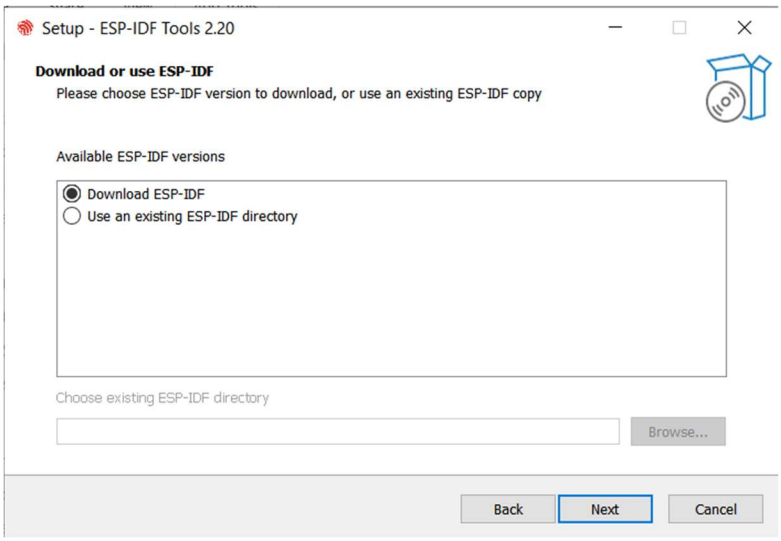
Getting started with ESP-IDF

Install ESP-IDF & Dependencies

Before the ESP-IDF extension can be installed some prerequisites have to be met. The easiest way to install the prerequisites on Windows 10 and 11 is to download and install the ESP-IDF Tools Installer which can be found https://dl.espressif.com/dl/esp-idf/



Run the installation. At a point during the installation, you will be prompted to download the ESP-IDF or to select an existing ESP-IDF directory. If you have not downloaded the ESP-IDF previously then select the Download ESP-IDF option.



The next windows will ask you to choose the version of the ESP-IDF that you want to download, etc.

Create ESP-IDF project in Eclipse

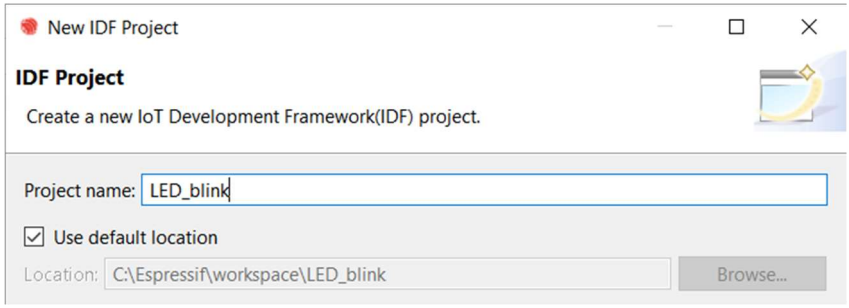
Now that the ESP-IDF has been installed and configured, we need to test the setup with the traditional Hello World application. In the embedded world this is traditionally a flashing LED program.

- Start ESP-IDF Eclipse

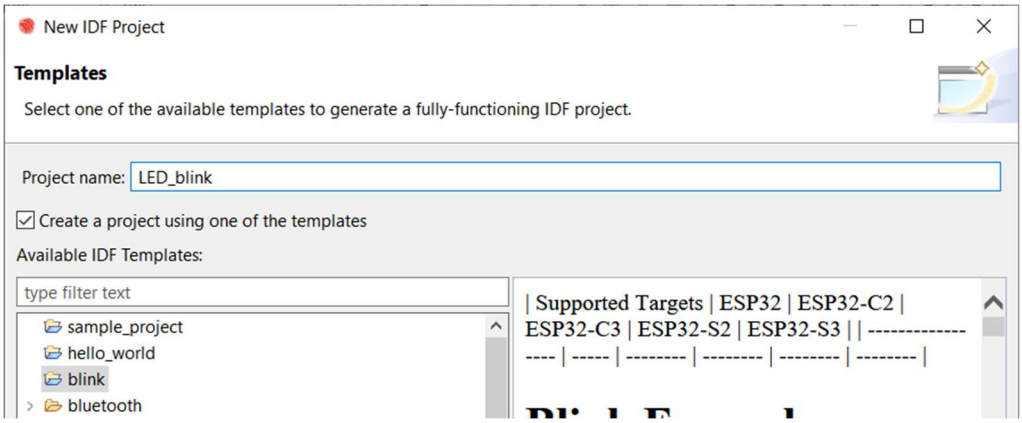
There should be a desktop icon to run ESP-IDF Eclipse, if it is not then press the Windows key search for ESP-IDF Eclipse and run the program.

- Create a new Espressif IDF Project: menu *File -> New -> Espressif IDF Project*.

- Enter a project name, click *Next*

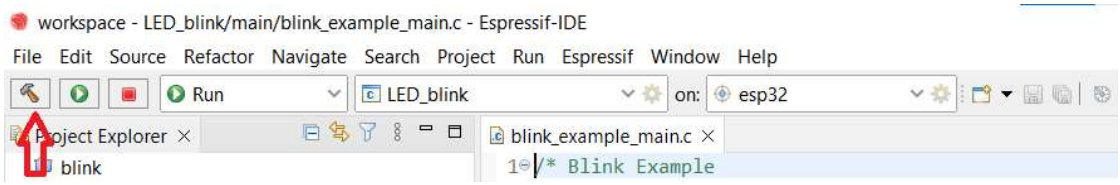


- On the next window check the Create a project using one of the templates checkbox, select blink, and click on finish.



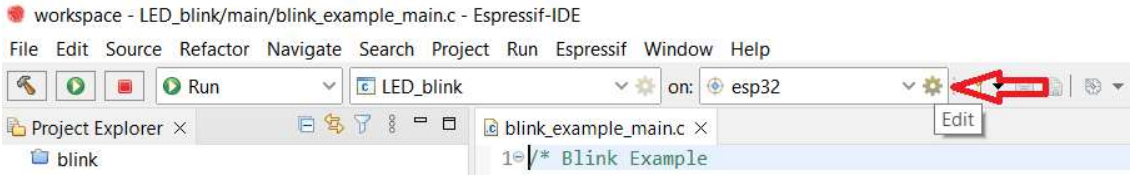
- Build the project.

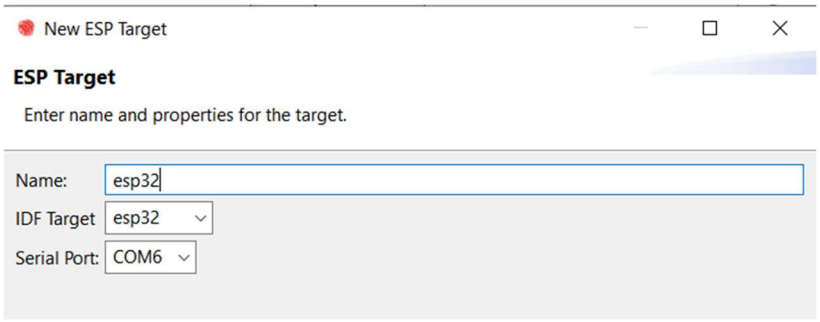
After the project created, there will however be numerous errors in the code and the configuration file has not been created yet. To resolve this, you need to build the project.



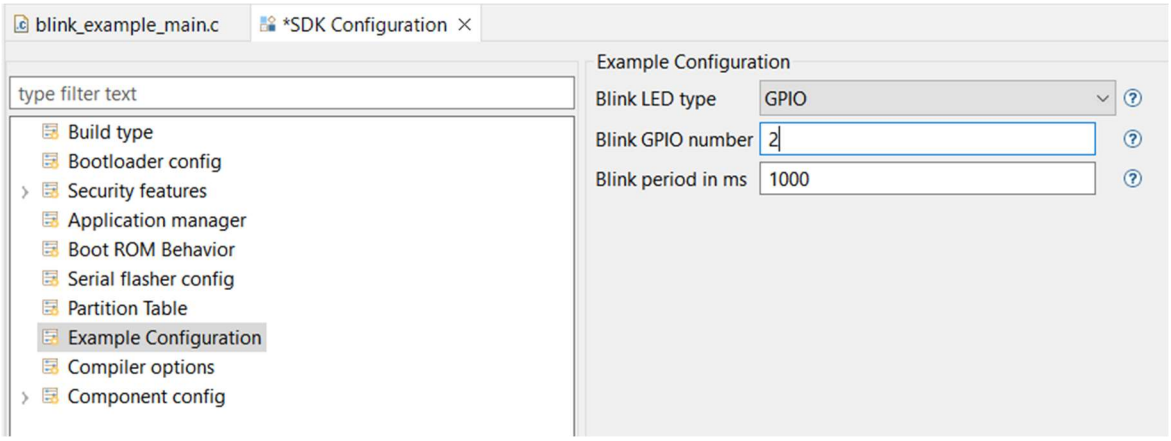
- Select the device and serial port.

On the top of the window, there will be 3 dropdown boxes with a gear next to the second and third. Click on the settings for the third dropdown box containing the text esp32. In the window that comes up select the ESP device that you are using next to IDF Target and the Serial Port that your device is connected to.





- Specify which pin to flash in the example. There are several ways to do this.
  - Option 1 - replace CONFIG_BLINK_GPIO with the pin number connected to a LED (it is a wrong way…).
  - Option 2 - use project configuration menu. Using ESP-IDF Command Prompt navigate to project directory, enter *idf.py menuconfig*, application to configure project will be opened.
  - Option 3 - open *sdkconfig* in the project explorer, select Example Configuration, and enter the pin number.



- After you specify the pin connected to the LED you can press the *Run* button on the top left-hand side of the window to flash the program to your ESP device.