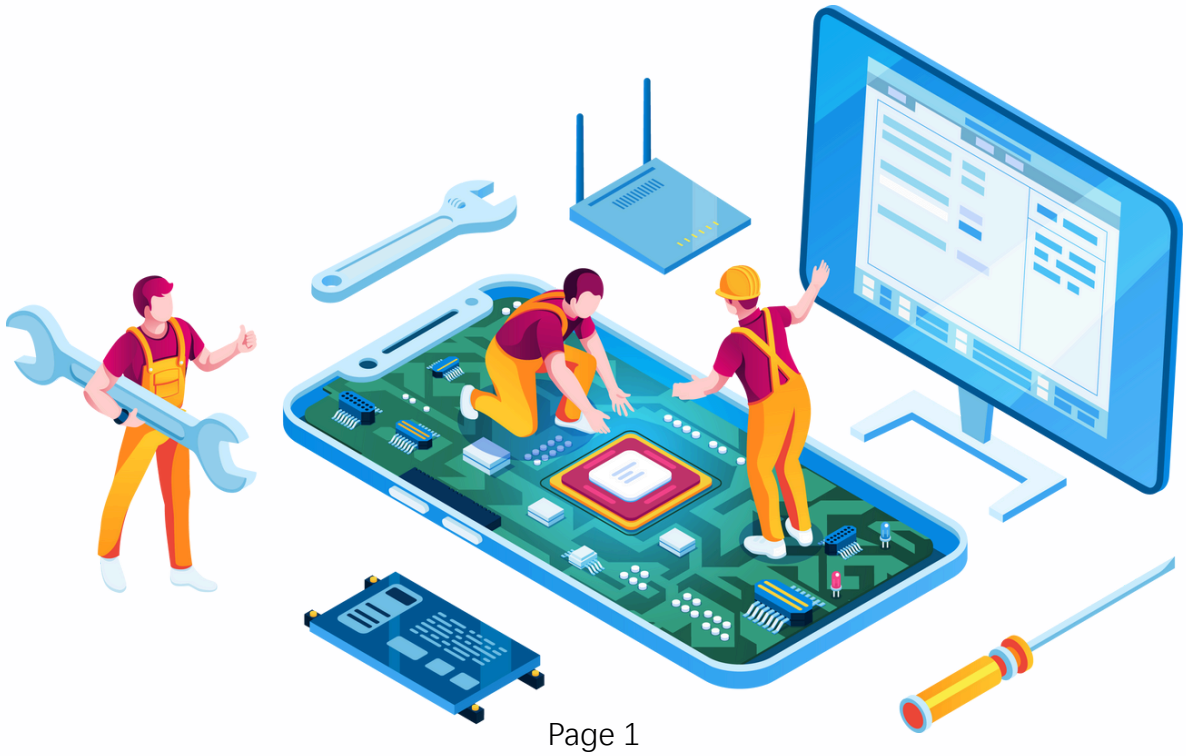
AYNOP® UNO Launchpad Kit

Getting Started Guide Arduino UNO R4 Minima

YOUR FIRST STEP INTO ARDUINO – NO PRIOR CODING REQUIRED



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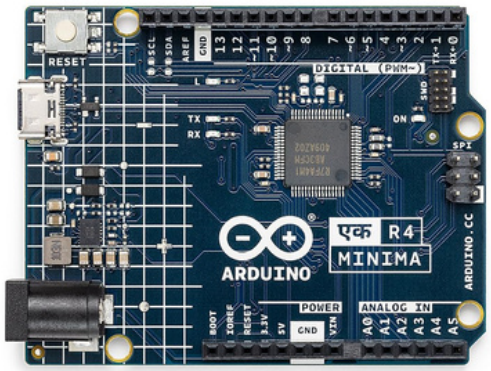

1. Introduction

The Arduino UNO R4 Minima is the first UNO model powered by a modern 32-bit microcontroller, offering more speed, memory, and possibilities for creative projects while preserving the simplicity beginners love.

This guide will help you:

- Set up the Arduino IDE on your computer
- Connect and configure your UNO R4 Minima
- Run your very first project successfully

Whether you're new to coding or electronics, follow these steps and you'll be up and running in minutes.

2. Know Your Arduino UNO R4 Minima

Specifications:

- Microcontroller: Renesas (Arm® Cortex®-M4, 48 MHz)
- Flash Memory: 256 KB (store your code)
- SRAM: 32 KB (temporary data handling)
- EEPROM: 8 KB (stores data even when powered off)
- Operating Voltage: 5V
- USB Interface: USB-Type C

What this means for you:

The board can handle more complex programs, process data faster, and store information reliably — perfect for projects that grow with your skills.

3. Installing the Arduino IDE

Why this matters: The Arduino IDE is your main tool for writing, compiling, and uploading programs to your board.

Step 3.1 — Visit the official Arduino website and download Arduino IDE 2.0 or later for your OS (Windows, macOS, Linux).
Official Download Page: *https://www.arduino.cc/en/software*

Step 3.2 — Install the software following on-screen instructions.

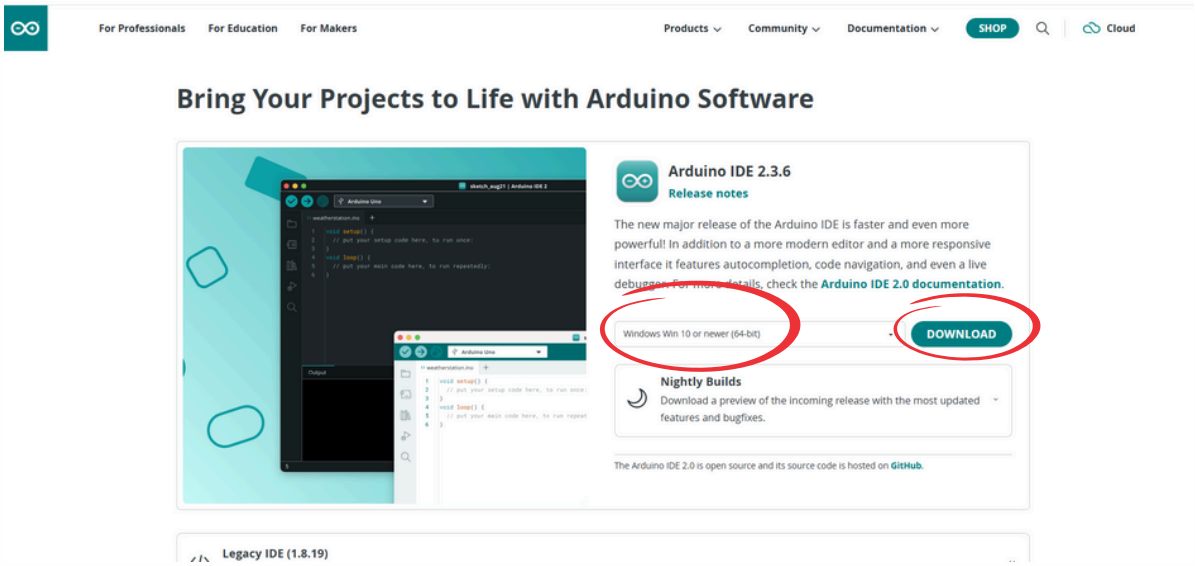

Figure 1: Arduino IDE Official Website Download Page

Tip: Download only from the official Arduino site to avoid outdated or unsafe copies.

4. Installing the UNO R4 Minima Board Package

Why this matters: This allows the Arduino IDE to recognize and program your UNO R4 Minima.

Step 4.1 — Open Arduino IDE.
Step 4.2 — Go to: **Tools → Board → Board Manager.**
Step 4.3 — In the search bar, type UNO R4.
Step 4.4 — Find "Arduino UNO R4 Boards" and click **Install.**

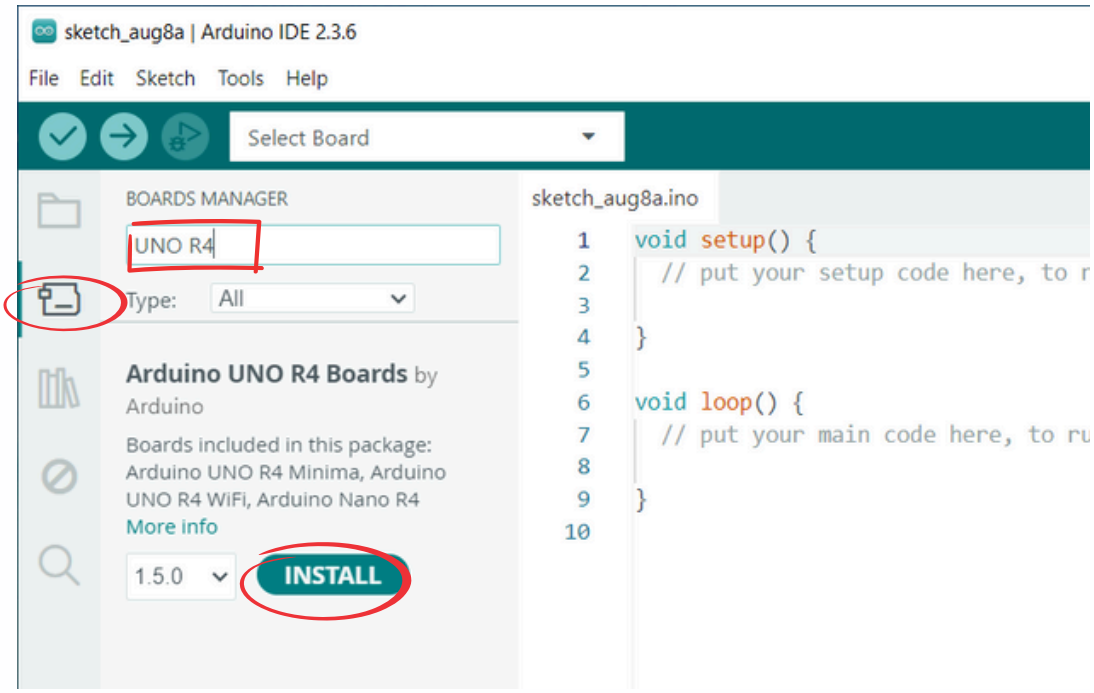

Figure 2: Arduino IDE Boards Manager with UNO R4 search result

Before moving on, we recommend reading the Arduino IDE Getting Started guide (Click Here). It will help you understand its features and make the next section easier to follow.

5. Verifying Your Setup

Why this matters: Ensures your computer and Arduino IDE can communicate with your UNO R4 Minima so you can upload sketches successfully.

Step 5.1 — Connect your Arduino UNO R4 Minima to your computer using a **data-capable** USB Type-C cable. This cable provides power and data transfer capability.

Step 5.2 — You can confirm detection within a few seconds by looking at the board selector on the top bar of the Arduino IDE. It should display: "Arduino UNO R4 Minima"

- Additionally, go to **Tools → Board** to see the detected board's name and confirm it is set to Arduino UNO R4 Minima.

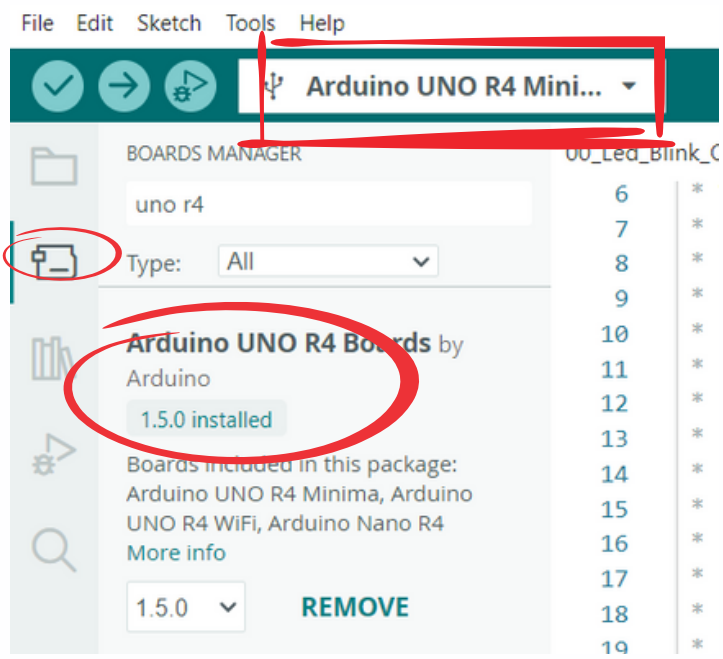

Figure 3: Arduino IDE showing UNO R4 Minima detected

If not detected:

1. Try a different USB cable or port.
2. Restart the Arduino IDE, then reconnect the USB cable and wait for a minute.
3. Reinstall the board package.

6. Your First Project: Onboard LED Blink

Why this matters: This simple project confirms your board and setup are working correctly.

Step 6.1 — In your provided kit folder, go to:
01_Basic_Projects → 00_Led_Blink_OnBoard.doc
Open this .doc file first — it contains detailed, step-by-step instructions and explanations for the project.

Step 6.2 — In the same folder, open the Arduino sketch file:
00_Led_Blink_OnBoard.ino

Step 6.3 — Follow the instructions in the 00_Led_Blink_OnBoard.doc carefully to upload the code and make the onboard LED blink on your UNO R4 Minima board.

7. Safety Tips & Troubleshooting

- Use quality USB Type-C cables that support data, not just charging.
- Avoid forcing connectors or bending pins.
- Touch a grounded metal surface before handling the board to discharge static electricity.
- If code upload fails, check Port settings, cable, and board package installation.

8. Next Steps in Your Learning Journey

Congratulations! You've successfully set up your Arduino UNO R4 Minima and run your first sketch.
From here, explore sensors, motors, and displays included in your AYNOP® UNO Launchpad Kit. Each project will build your skills and confidence.

9. Support & Feedback

We value your feedback and are happy to assist with any questions, troubleshooting, or suggestions you may have.

✉️ Email Support: *tech-support@aynop.com*

✏️ **When Sending an Email:**
Please include your kit name **(AYNOP® UNO Launchpad Kit)** and, if applicable, the project name in the subject line. This will help our team respond faster and more accurately.
We aim to respond to all queries within **2–3 business days**. Your feedback helps us improve our products and create even better learning experiences for all Arduino beginners.

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