Development Environment Construction

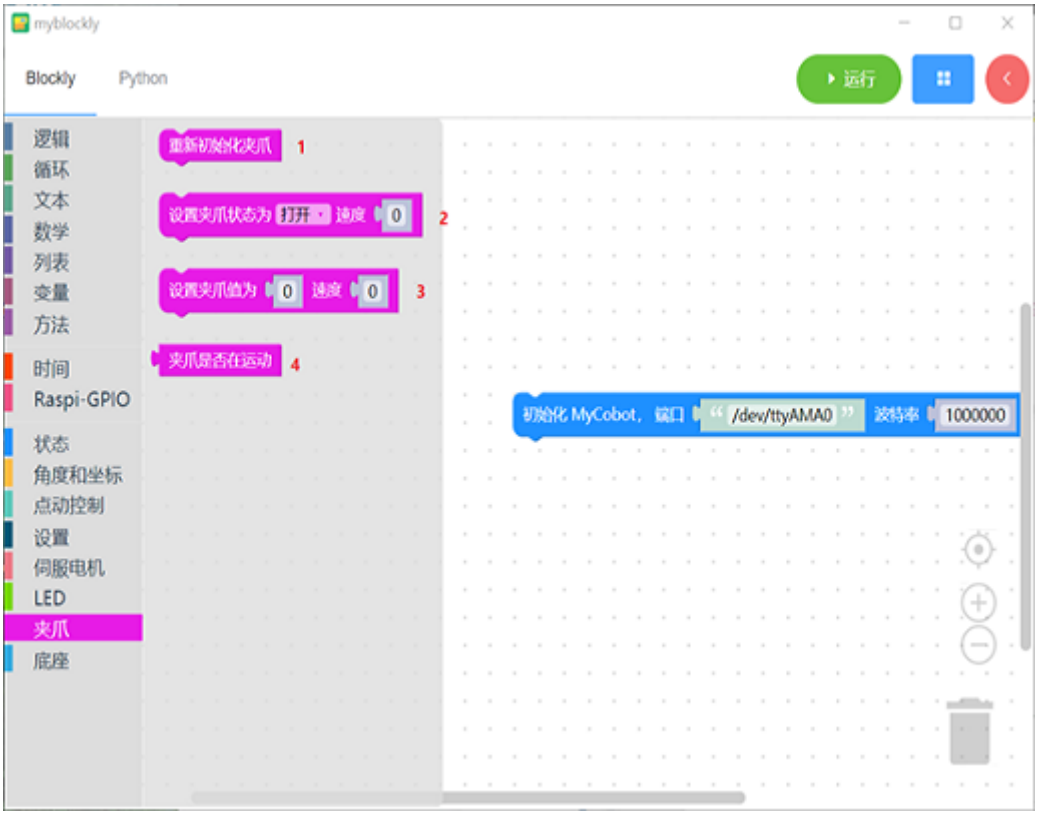
1 Use Environment

myCobot 320 for M5 is developed and used on the basis of PC. As there is no built-in system inside the robotic arm, the combination of the robotic arm and the PC is required during use. Prepare a PC firstly before use.

2 Development Environment

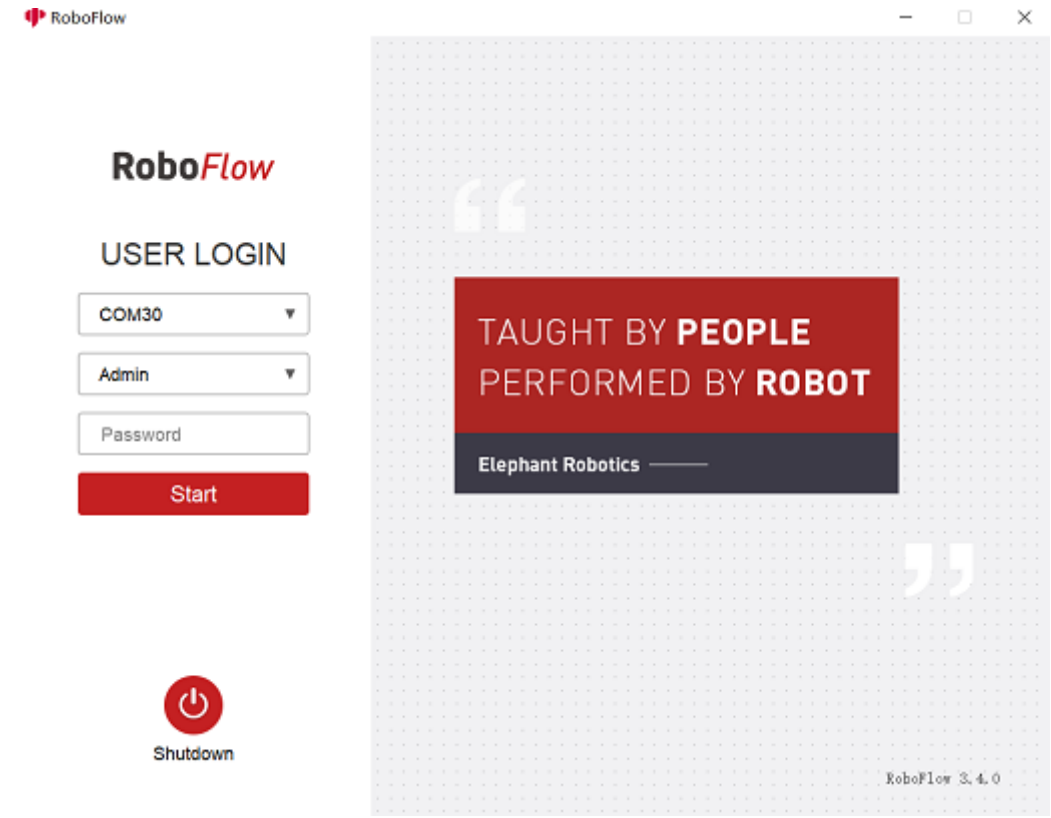
Here are the development environments supported by myCobot 320 M5. Read to download and install:

- 2.1 Development based on myBlockly and UIFlow, which are both graphical programming software and visualization tools. Users can create programs dragging modules, the process of which is very similar to building blocks. After installing myblockly and UIFlow , refer to myblockly use cases and UIFlow use cases.



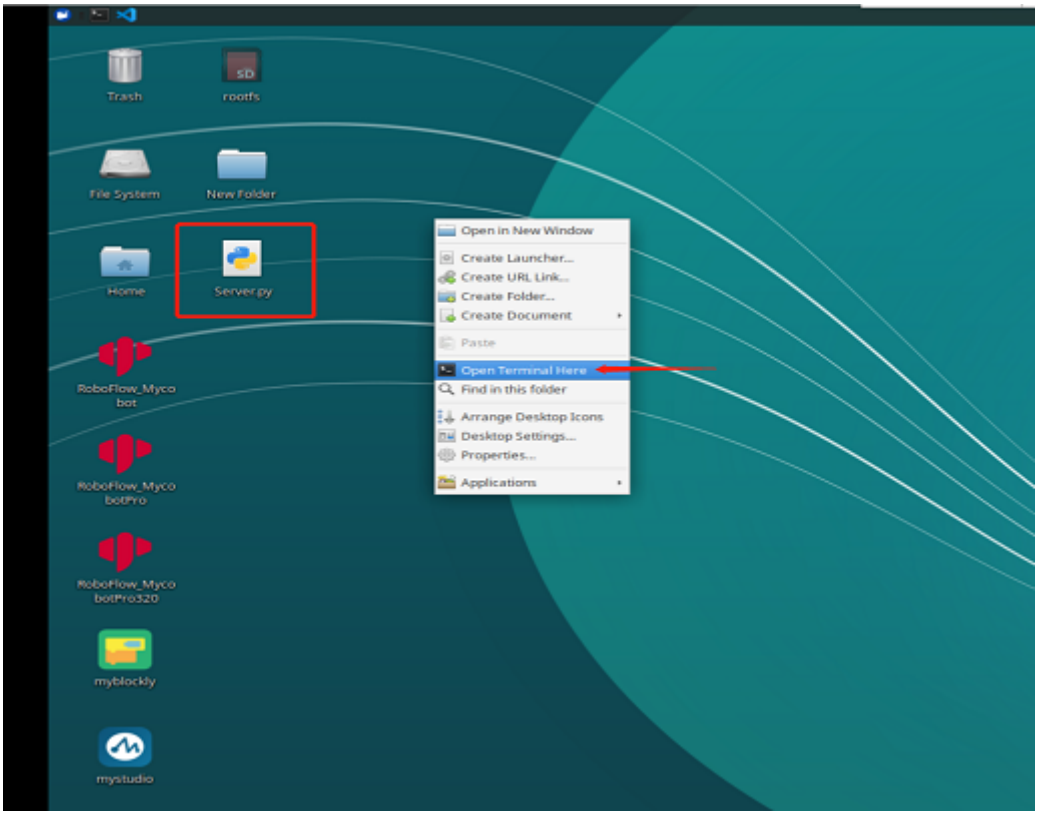
- 2.2 Development based onRoboFlow.

  RoboFlow is the operating system developed for the Elephant collaborative robots. It serves to provide a human-computer interaction interface and its functions include coordinate control, angle control, io control, trajectory recording, gripper control, etc. Since the RoboFlow operating system runs through the teach pendant, users can use the teach pendant as a carrier to manually operate the robot, program and perform other operations. After installing RoboFlow , refer to see simple use cases .



- 2.3 Development based on Python.

  Our robots support Python and the development of the Python API library has become increasingly complete. The joint angle, coordinates, gripper and other aspects of the robot can be controlled via Python. Refer to installing the python environment for more information.



- 2.4 Development based on C++.

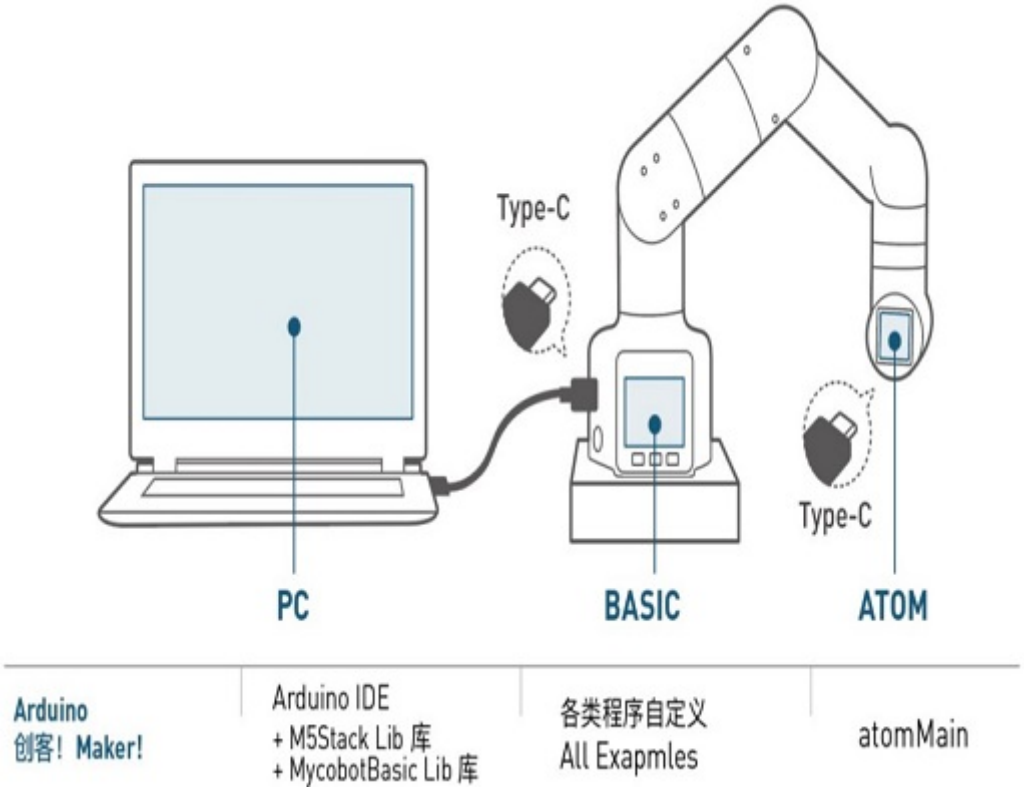
C++ is the inheritance of C Language. It can not only carry out the procedural programming of the C Language, but also the object-based programming characterized by abstract data types, as well as inheritance and polymorphism as the Features of object-oriented programming. With C++ language, you can freely develop programms(coordinate control, angle control, io control, gripper control, etc.) through the C++ dynamic library developed by our company, and control some of the robots. After installing the C++ environment , refer to the use cases for more infromation.

- 2.5 Development based on C#.

  C# is an object-oriented programming language derived from C and C++ released by Microsoft, an advanced programming language running on .NET Framework and .NET Core (completely open source and cross-platform) . Using the C#, you can freely develop programs (coordinate control, angle control, io control, gripper control, etc.) through the C# dynamic library provided by our company, and control some of the robots. After installing the C# environment , refer to the use cases for more information.

- 2.6 Development based on Arduino:

  Arduino is an easy-to-use, open-source electronic prototyping platform that includes hardware (various Arduino-compliant development boards) and software (Arduino IDE and related development kits). The hardware part (or development board) consists of a microcontroller (MCU), flash memory (Flash), and a set of general-purpose input/output interfaces (GPIO), etc. It can be understood as a microcomputer motherboard. The software part is mainly composed of Arduino IDE on the PC side, related board support packages (BSP) and rich third-party function libraries. Users can use Arduino IDE to easily download the BSP related to the development board and the required function library to write program. Refer to simple use of Arduino for more information.

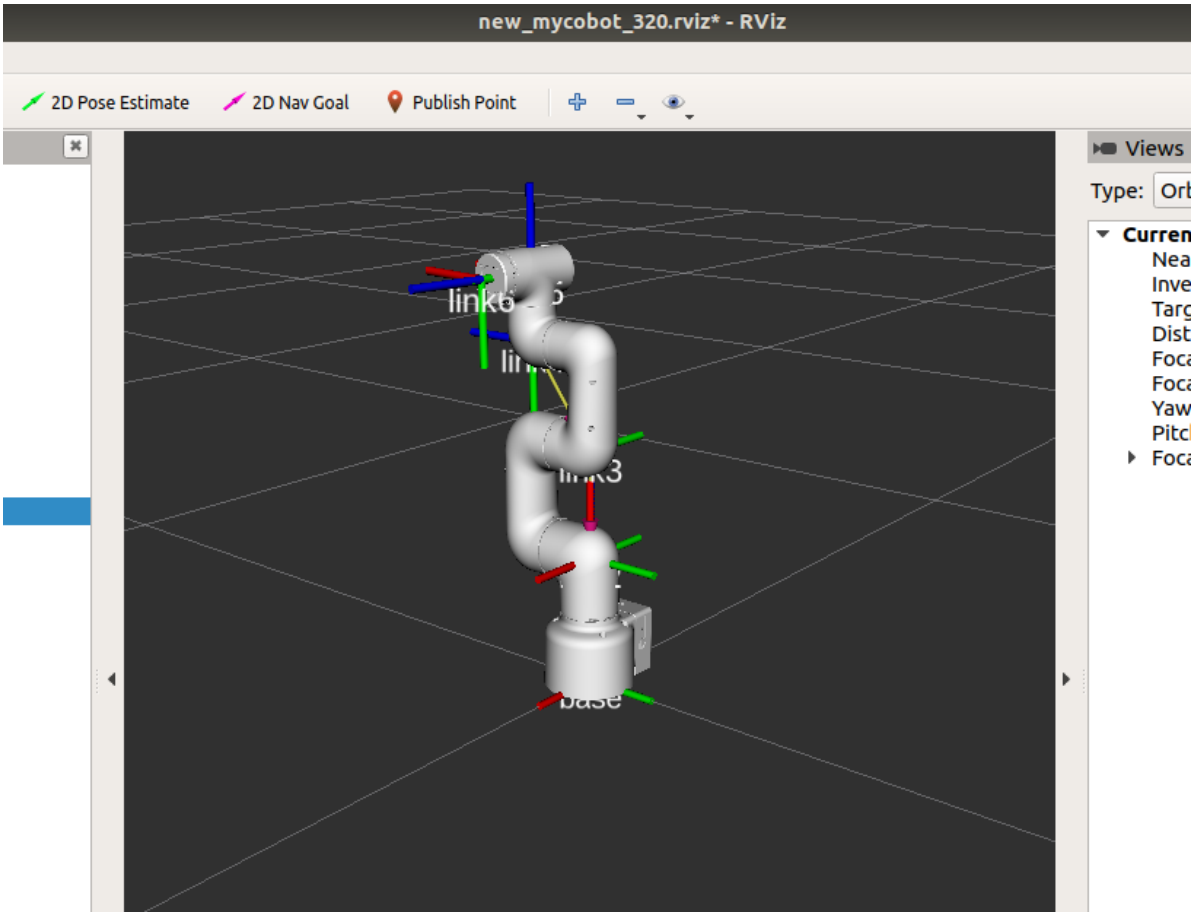


- 2.7 Development based on JavaScript.

JavaScript is a scripting language that runs on the client application and does not require compilation. js interpreter is used to interpret and execute codes one by one in the process of running. , some of our robots can be controlled through our company's ecological library of JavaScript language. After installing the JavaScript environment , refer to use cases for more information.

- 2.8 Development based on ROS.

  ROS is open-source and is a post operating system, or secondary operating system, used for robot control. With the use of ROS, the simulation control of the manipulator can be realized in the virtual environment. The robotic arm can be visualized through the rviz platform, and operate the robotic arm in a variety of ways. It can also be used to plan and execute the robotic arm's action path through to freely control the robotic arm. After installing the ROS development environment , refer to use cases and use of moveit for more information.



The M5Stack-basic firmware of myCobot 320 for M5 and the update of Atom firmware need to be updated using myStudio.