

Webots: Getting Started

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This document is based on the installation instructions for a Windows OS. Links have been provided for macOS and Linux, but most instructions should be relatively similar.

Download

Please download version R2022b of **Webots**. Click on the down arrow near Download -> older versions -> [webots-R2022b_setup.exe](#). Then add the bin-location (see Section 2.1, step 2.5c). Next to this, you will also need a Python environment since we will be programming in Python. Webots' Python API supports Python versions 3.7-3.10, so download one of these if you don't have it yet. The installation instructions are explained in the upcoming sections. However, if you cannot get Webots to work with these instructions, there are also general installation instructions on the Webots website ([Webots User Guide: Using Python](#)).

Create Environment

Python and Webots in the Environment

Before you can create an environment, it is important that you can access Python through the command line:

1. Open your Command Prompt.
2. Type `python --version`.

If this results into a Python version between 3.7 - 3.10, you can skip the following steps.

In case no Python version shows up, you'll have to install python or modify your PATH environment variable to add the path to the python.exe file which is located in the main Python installation folder. We will also add Webots to the environment variables:

- 2.1. On the Windows taskbar, right-click the Windows icon and select **System**.
- 2.2. In the Settings window, under Related Settings, click **Advanced system settings**.
- 2.3. On the Advanced tab, click **Environment Variables**.
- 2.4. Double-click on **Path** in the *System variables*.
- 2.5. Click **New** to add new paths (replace username with your own username of course, and Python39 with your Python version):
 - (a) Add `C:\Users\username\AppData\Local\Programs\Python\Python39`
 - (b) Add `C:\Users\username\AppData\Local\Programs\Python\Python39\Scripts`

- (c) Add C:\Program Files\Webots\msys64\mingw64\bin

The Virtual Environment

1. Open the Command Prompt in the folder where you want your Python environment to be located.

For those who've never done this before:

- (a) *Go to the folder and click on the Location bar on top, this should highlight the location of the folder.*
- (b) *Type cmd and press Enter.*

2. Type the following lines in order to create and activate the virtual environment:

- (a) `python -m venv hri_venv`
- (b) `cd hri_venv`
- (c) `cd Scripts`
- (d) `activate`

Step *d* will change your command prompt line like so:

```
C:\Users\username\Desktop\HRI\hri_venv\Scripts>activate ( hri_venv ) C:\Users\username\Desktop\HRI\hri_venv\Scripts>
```

3. Install the necessary libraries:

- (a) `python -m pip install --upgrade pip`
- (b) `pip install numpy`
- (c) `pip install opencv-python`

4. If everything is configured correctly, you can now open Webots by typing `webots` and press Enter.