

# AI 축구 설치 매뉴얼

## 1. 우분투 설치

<https://www.iroc.kr/2019-11> (참조: 공지사항에 매뉴얼 있음)

## 2. Webots 설치

The image shows a Google search result for 'webots'. The search bar contains the word 'webots'. Below the search bar, there are navigation tabs for '전체', '이미지', '동영상', '뉴스', '쇼핑', and '도구'. The search results show approximately 109,000 results. The top result is 'Webots: open source robotics simulation software' with a link to 'https://cyberbotics.com/'. Below this, there are several links: 'Download', 'User Guide', 'Tutorial 1: Your First ...', 'Webots User Guide R2019a', 'Tutorials', and 'Forum'. A red box highlights the 'Download' link, and an arrow points to it with the text 'click' and '① 구글에서 webots를 검색'.

## ② 화면 상단에 Download 클릭

The image shows the Webots website. The navigation bar at the top includes 'Webots', 'Portfolio', 'Download', 'Features', 'Support', 'About', and 'Shop'. The 'Download' button is highlighted with a red box. Below the navigation bar, there is a large image of a car in a simulation environment with the text 'Real-Time Sensor Visualization'. To the right, there is a section for 'Tweets by @webots'. Below the main content, there is a 'Plans & Pricing' section with a table of pricing options. The 'Free' plan is selected, and the 'select' button is highlighted with a red box.

	Free	Premier Service Standard	Premier Service Deluxe
Source Code — Apache 2.0 license	✓	✓	✓
Binary Packages	✓	✓	✓
User Support	✓	✓	✓
Consulting			12 hours / year

# Download Webots R2019a-rev1

③ Download DEB 클릭하여 설치

Windows 64-bit  
7, 8, 8.1 & 10  
Download setup.exe  
1.31 GB

Mac OS X  
High Sierra 10.13 & Mojave 10.14  
Download DMG  
1.20 GB

Linux 64-bit  
Ubuntu 16.04 & 18.04  
Download DEB  
1.19 GB

Download tar.bz2  
1.27 GB

On Ubuntu Linux software center, use the Cyberbotics.asc authentication key with the following deb entry: deb https://www.cyberbotics.com/debian/ binary-amd64/

## Download a previous version

Previous versions of Webots can be downloaded from our [archive repository](#).

### 3. 라이브러리 설치

- ① 터미널에서 `apt-get install python3-pip`로 pip3 설치  
(root 권한 필요하다는 메시지가 나오면 명령어 앞에 `sudo`를 붙여 설치  
→ `sudo apt-get install python3-pip`)

```
kty@kty-desktop:~$ apt-get install python3-pip
E: Could not open lock file /var/lib/dpkg/lock-frontent - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontent), are you root?
kty@kty-desktop:~$ sudo apt-get install python3-pip
[sudo] password for kty:
Reading package lists... Done
Building dependency tree
Reading state information... Done
```

- ② `pip3 list`로 설치가 제대로 되었는지 확인

```
kty@kty-desktop:~$ pip3 list
absl-py (0.7.0)
apturl (0.5.2)
astor (0.7.1)
atari-py (0.1.14)
attrs (18.2.0)
autobahn (19.2.1)
Automat (0.7.0)
```

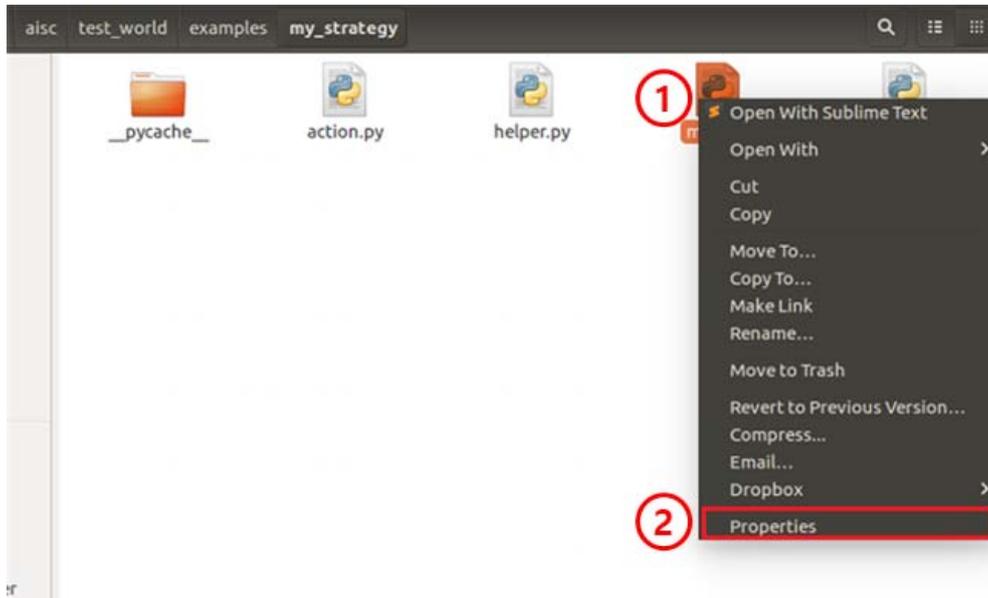
- ③ `pip3 install numpy` 의 형태로 라이브러리를 설치

```
kty@kty-desktop:~$ pip3 install numpy
Collecting numpy
  Downloading https://files.pythonhosted.org/packages/bb/ef/d5a21cbc094d3f4d5b5336494db
100% |#####| 17.2MB 187kB/s
```

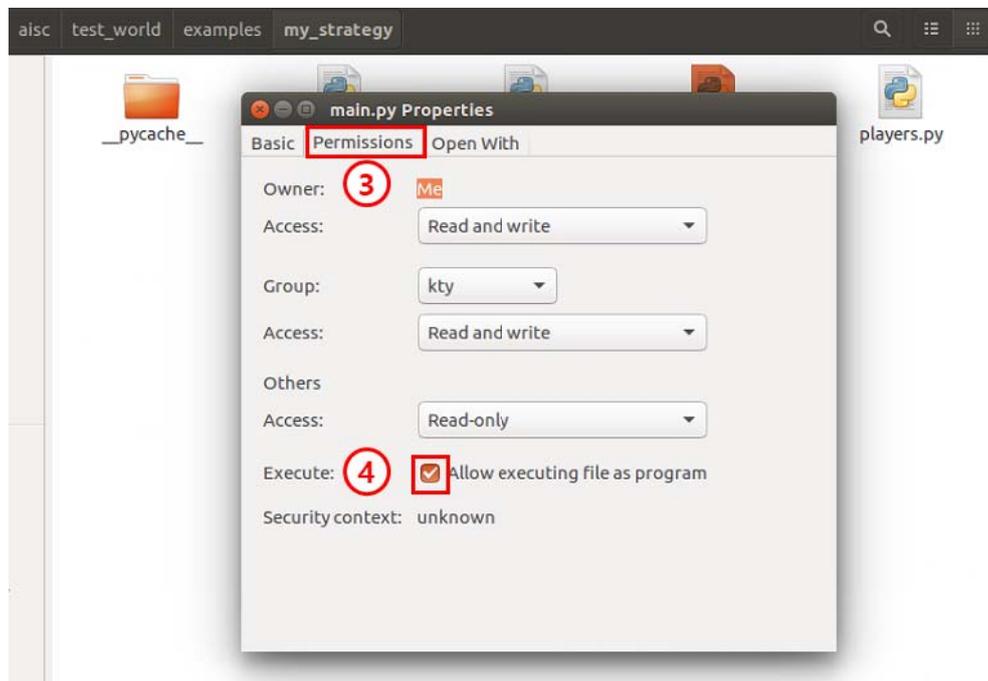
- numpy의 자리만 필요한 라이브러리를 넣어 설치
- 설치 항목 : `h5py`, `keras`, `scipy`, `autobahn[twisted]`, `msgpack`, `numpy`

4. 위젯에서 파일을 실행하기 위해서는 실행 가능한(executable) 파일로 변경하여야 함  
(우분투 영어 버전 기준입니다.)

1. 파일 오른쪽 클릭
2. Properties 클릭



3. Permissions (두번째에 있는 것) 탭 클릭
4. 밑에서 두 번째 'Execute:' 옆 'allow executing file as program' 박스 체크

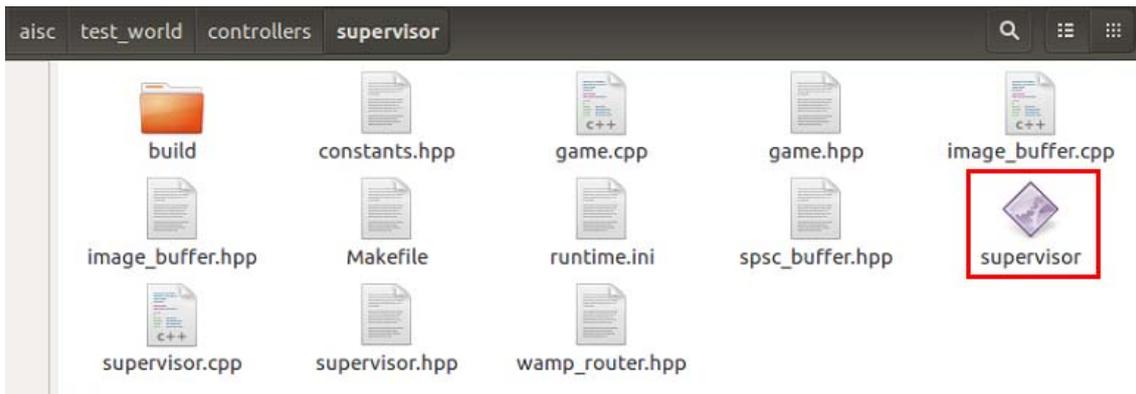


실행 가능한 파일로 바꿔야하는 파일 :

.../aisc/test\_world/controllers/soccer\_robot/soccer\_robot



.../aisc/test\_world/controllers/supervisor/supervisor



.../aisc/test\_world/examples/my\_strategy/main.py

