

Quick Start

1. Install and start the virtual machine

Open the browser, enter the following URL to enter the VMware Player virtual machine software download page, and click Download

<https://www.vmware.com/products/workstation-player.html>

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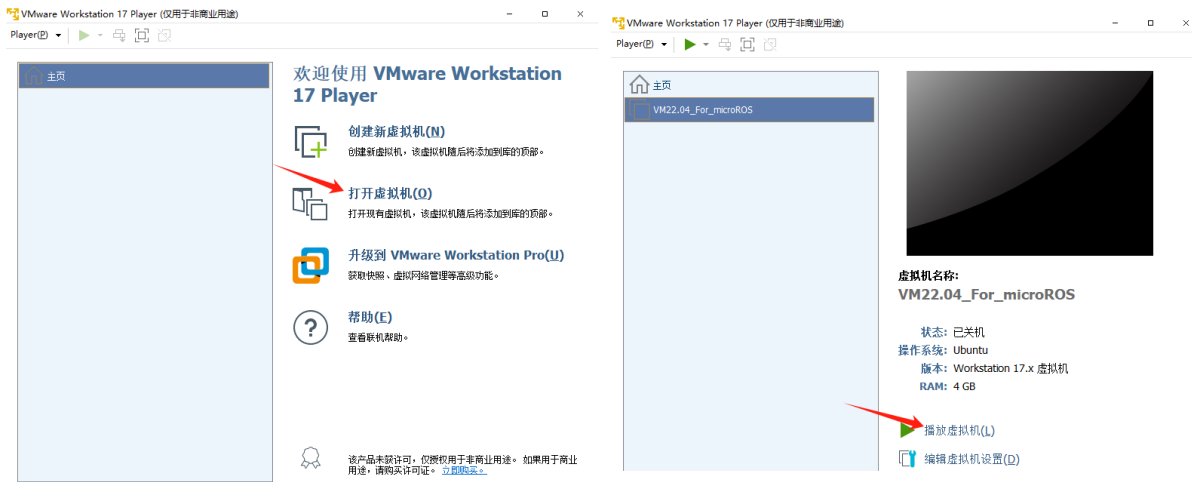
Product	Release Date	
VMware Workstation Player 17.5.0		
VMware Workstation Player	2023-10-19	GO TO DOWNLOADS

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File	Information
VMware Workstation 17.5.0 Player for Linux 64-bit File size: 469.26 MB File type: bundle Read More	DOWNLOAD NOW
VMware Workstation 17.5.0 Player for Windows 64-bit Operating Systems File size: 540.19 MB File type: exe Read More	DOWNLOAD NOW

Double-click to run the VMware virtual machine compressed package file, and then install the virtual machine software according to the prompts.

Use the virtual machine software to open the virtual machine system file in the data and enter the virtual machine system.



2. Configure the robot
3. The control board has been burned with factory firmware. If other routine firmware has been burned, please re-burn the factory firmware, then power the board and turn on the power switch.
4. Copy the configuration script (config_robot.py) file included in the product information to the virtual machine/computer.
5. If the virtual machine/computer has an external USB serial port device, please temporarily remove the USB external serial port device of the virtual machine/computer, and then use a type-C data cable to connect the serial port of the virtual machine/computer and the control board. At this time, the system pops up a window and asks you to select the connection to the virtual machine.
6. Edit the config_robot.py file, scroll to the bottom of the file, update the parameters of the set_wifi_config function according to your home WiFi network name and password, and update the parameters of the set_udp_config function according to the IP address of the virtual machine/computer. The virtual machine/computer version needs to set the car type to CAR_TYPE_COMPUTER. The parameter robot.set_lidar_id(4) indicates that the configuration file selects the radar model. Other parameters remain default or modify as needed. Save the configuration file.

```
robot.set_wifi_config("Yahboom2", "yahboom890729")
robot.set_udp_config([192, 168, 2, 99], 8090)
robot.set_car_type(robot.CAR_TYPE_COMPUTER)
#robot.set_car_type(robot.CAR_TYPE_RPI5)
robot.set_ros_domain_id(15)
robot.set_lidar_id(1) #Configure radar #配置雷达
```

#1: Indicates X3Pro radar	#1: 表示X3Pro雷达
#2: indicates 4ros radar	#2: 表示4ros雷达
#3: indicates tminiplus radar	#3: 表示tminiplus雷达
#4: indicates Silan c1 radar	#4: 表示思岚c1雷达
#5: indicates ms200 radar	#5: 表示ms200雷达

5. After configuring the parameters, run the following command in the configuration state to configure the robot. At this time, check whether the returned data is consistent with your settings. If they are consistent, the setting is successful.

```
python3 config_robot.py
```

```

yahboom@yahboom-VM:~$ python3 config_robot.py
Rebooting Device, Please wait.
version: 2.1.0
ssid: Yahboom2
passwd: yahboom890729
ip_addr: 192.168.2.96
ip_port: 8090
car_type: CAR_TYPE_COMPUTER
lidar_id: 1
domain_id: 15
ros_serial_baudrate: 921600
ros_namespace:
servo_offset: 0, 0
motor_pid_parm: 1.00, 0.20, 0.20
imu_yaw_pid_parm: 1.00, 0.00, 0.20
Please reboot the device to take effect, if you change some device config.
yahboom@yahboom-VM:~$

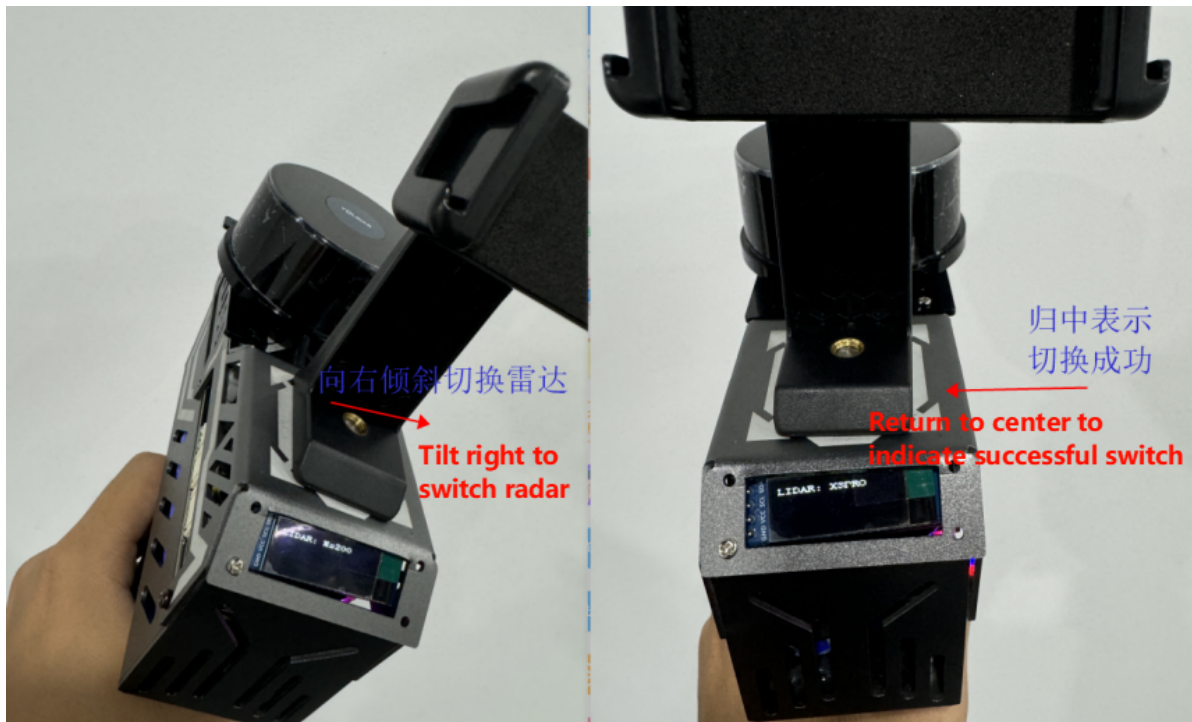
```

6. Press the robot's reset button to reload the configuration. After waiting for the IMU to initialize, the oled will display the warning level and radar model selection to be selected. At this time, you can switch the warning level and radar model by turning left and right while holding the pistol. Switch to the desired position and press the button to confirm. The following figure shows how to shake and select.

Select the alarm level. After selecting, press the button and you will hear a beep to confirm.



Select the radar model. After selecting, press the button and you will hear a beep to confirm.



After selecting the warning level and radar model, the selected radar model, imu data and radar front distance information will be displayed on the OLED.



3. Start the map
4. Start the agent and enter the virtual machine terminal:

```
sh ~/start_agent_computer.sh
```



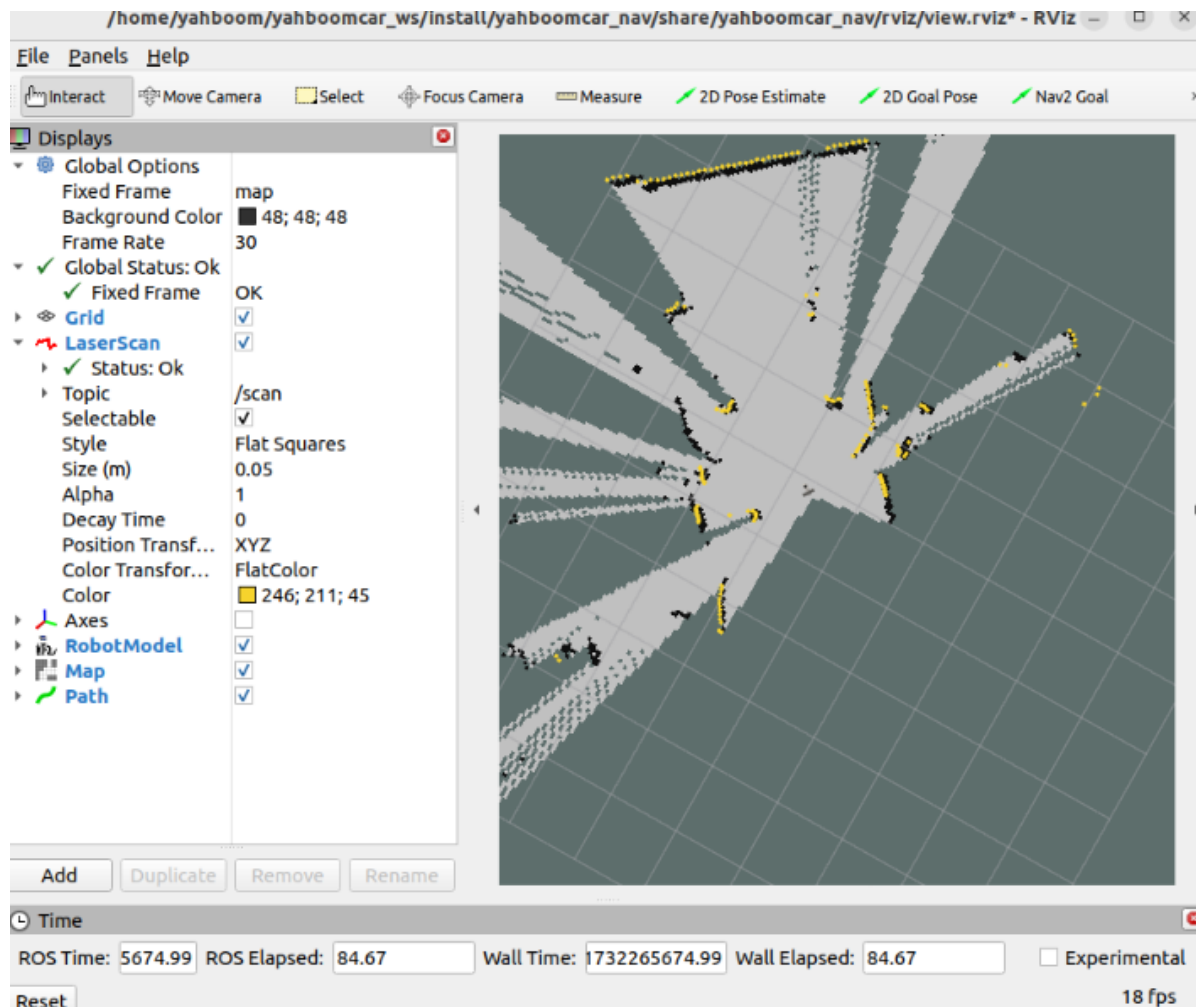
```

yahboom@yahboom-VM:~$ sh start_agent_computer.sh
[1732273244.686328] info | UDPv4AgentLinux.cpp | init | running... | port: 8090
[1732273244.687877] info | Root.cpp | set_verbose_level | logger setup | verbose_level: 4
[1732273258.869629] info | Root.cpp | create_client | create | client_key: 0x56A4550B, s
session_id: 0x81
[1732273258.869834] info | SessionManager.hpp | establish_session | session established | client_key: 0x56A4550B, a
ddress: 192.168.2.106:39455
[1732273258.951100] info | ProxyClient.cpp | create_participant | participant created | client_key: 0x56A4550B, p
articipant_id: 0x000(1)
[1732273259.016756] info | ProxyClient.cpp | create_topic | topic created | client_key: 0x56A4550B, t
opic_id: 0x000(2), participant_id: 0x000(1)
[1732273259.031781] info | ProxyClient.cpp | create_publisher | publisher created | client_key: 0x56A4550B, p
ublisher_id: 0x000(3), participant_id: 0x000(1)
[1732273259.042312] info | ProxyClient.cpp | create_datawriter | datawriter created | client_key: 0x56A4550B, d
atawriter_id: 0x000(5), publisher_id: 0x000(3)
[1732273259.066468] info | ProxyClient.cpp | create_topic | topic created | client_key: 0x56A4550B, t
opic_id: 0x001(2), participant_id: 0x000(1)
[1732273259.078533] info | ProxyClient.cpp | create_publisher | publisher created | client_key: 0x56A4550B, p
ublisher_id: 0x001(3), participant_id: 0x000(1)
[1732273259.088448] info | ProxyClient.cpp | create_datawriter | datawriter created | client_key: 0x56A4550B, d
atawriter_id: 0x001(5), publisher_id: 0x001(3)
[1732273259.105791] info | ProxyClient.cpp | create_topic | topic created | client_key: 0x56A4550B, t
opic_id: 0x002(2), participant_id: 0x000(1)
[1732273259.117081] info | ProxyClient.cpp | create_publisher | publisher created | client_key: 0x56A4550B, p
ublisher_id: 0x002(3), participant_id: 0x000(1)
[1732273259.134612] info | ProxyClient.cpp | create_datawriter | datawriter created | client_key: 0x56A4550B, d
atawriter_id: 0x002(5), publisher_id: 0x002(3)
[1732273259.153783] info | ProxyClient.cpp | create_topic | topic created | client_key: 0x56A4550B, t
opic_id: 0x003(2), participant_id: 0x000(1)
[1732273259.177380] info | ProxyClient.cpp | create_subscriber | subscriber created | client_key: 0x56A4550B, s
ubscriber_id: 0x000(4), participant_id: 0x000(1)
[1732273259.188756] info | ProxyClient.cpp | create_datareader | datareader created | client_key: 0x56A4550B, d
atareader_id: 0x000(6), subscriber_id: 0x000(4)

```

2. Start the map command and enter it in the virtual machine terminal. Wait for a while and the map screen will appear.

```
ros2 launch yahboomcar_nav map_gmapping_slam_launch.xml
```



3. After the map is built, run the following command to save the map to the location of the red box in the figure.

```
ros2 launch yahboomcar_nav save_map_launch.py
```

```
y
[INFO] [launch]: All log files can be found below /home/yahboom/.ros/log/2024-11-22-16-56-44-063241-yahboom-VM-37680
[INFO] [launch]: Default logging verbosity is set to INFO
[INFO] [map_saver_cli-1]: process started with pid [37681]
[map_saver_cli-1] [INFO] [1732265807.280308323] [map_saver]:
[map_saver_cli-1]         map_saver lifecycle node launched.
[map_saver_cli-1]         Waiting on external lifecycle transitions to activate
[map_saver_cli-1]         See https://design.ros2.org/articles/node\_lifecycle.html
    for more information.
[map_saver_cli-1] [INFO] [1732265807.296459554] [map_saver]: Creating
[map_saver_cli-1] [INFO] [1732265807.297086500] [map_saver]: Configuring
[map_saver_cli-1] [INFO] [1732265807.316182287] [map_saver]: Saving map from 'map'
    topic to '/home/yahboom/yahboomcar_ws/src/yahboomcar_nav/maps/yahboom_map' file
[map_saver_cli-1] [WARN] [1732265807.316270776] [map_saver]: Free threshold unspecified. Setting it to default value: 0.250000
[map_saver_cli-1] [WARN] [1732265807.316287485] [map_saver]: Occupied threshold unspecified. Setting it to default value: 0.650000
[map_saver_cli-1] [INFO] [1732265808.723322909] [map_saver]: Map saved successfully
[map_saver_cli-1] [INFO] [1732265808.729627010] [map_saver]: Destroying
[INFO] [map_saver_cli-1]: process has finished cleanly [pid 37681]
yahboom@yahboom-VM:~/yahboomcar_ws$
```