

# Camera preview screen

## Camera preview screen

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Preview camera

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Briefly introduce how to enter the container and preview the camera image through the Docker script (for detailed Docker content, please refer to the Docker course).

## Install docker

Use the Docker official script to install Docker, which is to install the latest version of Docker.

```
curl -fsSL https://get.docker.com -o get-docker.sh
```

```
sudo sh get-docker.sh
```

```
sunrise@ubuntu:~$ curl -fsSL https://get.docker.com -o get-docker.sh
sunrise@ubuntu:~$ sudo sh get-docker.sh
# Executing docker install script, commit: e5543d473431b782227f8908005543bb4389b8de
+ sh -c apt-get update -qq >/dev/null
w: Failed to fetch http://archive.sunrisepi.tech/ubuntu-rdk/dists/focal/InRelease Could not resolve 'archive.sunrisepi.tech'
w: Some index files failed to download. They have been ignored, or old ones used instead.
+ sh -c DEBIAN_FRONTEND=noninteractive apt-get install -y -qq apt-transport-https ca-certificates curl >/dev/null
+ sh -c install -m 0755 -d /etc/apt/keyrings
+ sh -c curl -fsSL "https://download.docker.com/linux/ubuntu/gpg" | gpg --dearmor --yes -o /etc/apt/keyrings/docker.gpg
+ sh -c chmod a+r /etc/apt/keyrings/docker.gpg
+ sh -c echo deb [arch=amd64 signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu focal stable > /etc/apt/sources.list.d/docker.list
+ sh -c apt-get update -qq >/dev/null
w: Failed to fetch http://archive.sunrisepi.tech/ubuntu-rdk/dists/focal/InRelease Could not resolve 'archive.sunrisepi.tech'
w: Some index files failed to download. They have been ignored, or old ones used instead.
+ sh -c DEBIAN_FRONTEND=noninteractive apt-get install -y -qq docker-ce docker-ce-cli containerd.io docker-compose-plugin docker-buildx-plugin >/dev/null
+ sh -c docker version
Client: Docker Engine - Community
 Version:           25.0.4
 API version:       1.44
 Go version:        go1.21.8
 Git commit:        1a576c5
 Built:             Wed Mar  6 16:32:13 2024
 OS/Arch:           linux/arm64
 Context:           default

Server: Docker Engine - Community
 Engine:
  Version:          25.0.4
  API version:      1.44 (minimum version 1.24)
  Go version:       go1.21.8
  Git commit:       061aa95
  Built:            Wed Mar  6 16:32:13 2024
  OS/Arch:          linux/arm64
  Experimental:     false
 containerd:
  Version:          1.6.28
  GitCommit:        ae07eda36dd25f8a1b98dfbf587313b99c0190bb
 runc:
  Version:          1.1.12
  GitCommit:        v1.1.12-0-g51d5e94
 docker-init:
  Version:          0.19.0
  GitCommit:        de40ad0

=====
To run Docker as a non-privileged user, consider setting up the
Docker daemon in rootless mode for your user:

    dockerd-rootless-setuptool.sh install

Visit https://docs.docker.com/go/rootless/ to learn about rootless mode.
```

## Got image

Just choose one of the two methods below.

## Online

```
sudo docker pull yahboomtechnology/ros-melodic:usb_cam
```

## Offline

```
sudo docker load -i yahboomtechnology-ros-melodic-usb-cam.tar
```

## Enter Docker

Write Docker script file--DockerRos.sh

```
sudo nano DockerRos.sh
```

## For Raspberry Pi and Jetson

Add following content.

```
#!/bin/bash
xhost +
docker run -it \
--net=host \
--env="DISPLAY" \
--env="QT_X11_NO_MITSHM=1" \
-v /tmp/.X11-unix:/tmp/.X11-unix \
--security-opt apparmor:unconfined \
--device=/dev/video0 \
yahboomtechnology/ros-melodic:usb_cam /bin/bash
```

Input following command to add executable permissions

```
sudo chmod +x DockerRos.sh
```

Input following command to run script file

```
sudo ./DockerRos.sh
```

## Preview camera

After entering Docker, Input following command to enter the user directory

```
cd
```

```
python3 CameraPreview.py
```

```

root@yahboom: ~
jetson@yahboom:~$ sudo chmod +x DockerRos.sh
jetson@yahboom:~$ ./DockerRos.sh
access control disabled, clients can connect from any host
-----
ROS_DOCKER: ROS1-melodic
-----
root@yahboom:/# cd
root@yahboom:~# ls
CameraPreview.py  opencv_apps  temp  yahboomcar_ws
root@yahboom:~# python3 CameraPreview.py

```

## Multiple terminals: enter the same Docker

Run Docker through a script: If it has been started through a docker script, you do not need to enter this command again.

```
sudo ./DockerRos.sh
```

View running containers

```
sudo docker ps
```

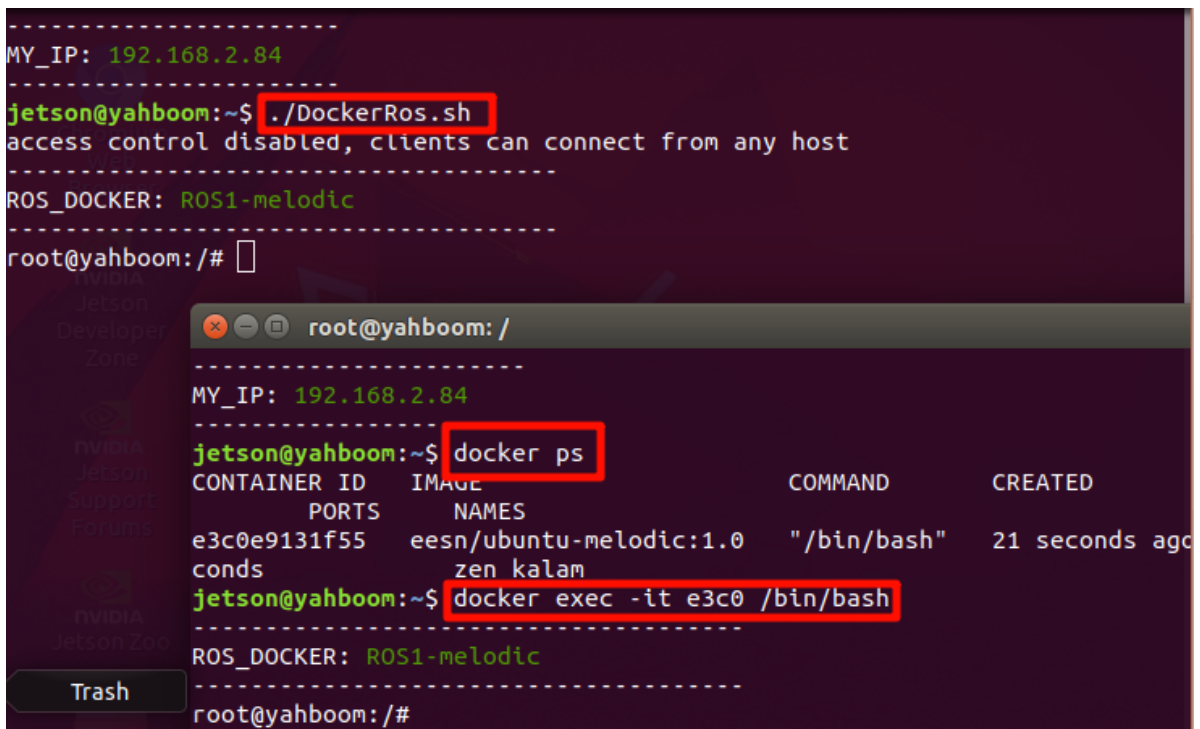
Enter the running container: CONTAINER ID can be the first four digits

```
sudo docker exec -it [CONTAINER ID] /bin/bash
```

```

-----
MY_IP: 192.168.2.84
-----
jetson@yahboom:~$ ./DockerRos.sh
access control disabled, clients can connect from any host
-----
ROS_DOCKER: ROS1-melodic
-----
root@yahboom:/# 

```



```

root@yahboom: /
-----
MY_IP: 192.168.2.84
-----
jetson@yahboom:~$ docker ps
CONTAINER ID   IMAGE                                COMMAND                  CREATED
PORTS         NAMES
e3c0e9131f55   eesn/ubuntu-melodic:1.0            "/bin/bash"             21 seconds ago
conds          zen kalam
jetson@yahboom:~$ docker exec -it e3c0 /bin/bash
ROS_DOCKER: ROS1-melodic
-----
root@yahboom:/#

```