4. Multi-machine communication configuration
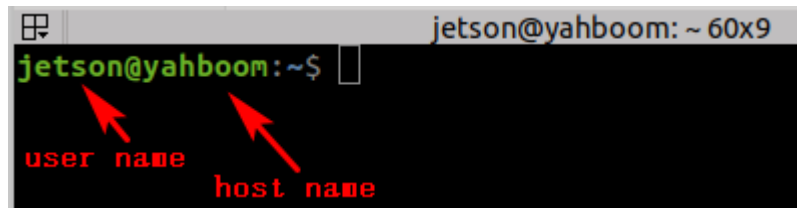
Note: Before logging in remotely, you must know the IP of the robot, which can be displayed on an external monitor or OLED.

For example, the following figure: Username [jetson], hostname [yahboom].

4.1. Configuration

Require:

- All masters are under the same network
- Choose one as the master, the others are all slaves
- Install ssh and chrony packages on each device for synchronization

```
#Raspberry Pi 5 master needs to enter docker first, please perform this step
#If running the script into docker fails, please refer to the ROS/07.Docker
tutorial
~/run_docker.sh
```

```
sudo apt-get install chrony openssh-server
```

For example: jetson nano is the host machine, the virtual machine is the slave machine, and the IP of jetson nano is known.

Next, just modify the .bashrc file of the slave machine (virtual machine).

```
sudo vim ~/.bashrc
```

Add at the bottom, where [IP] refers to the IP of [jetson nano].

```
export ROS_MASTER_URI=http://IP:11311
```

After setting the IP, it is best to refresh the environment variables.

```
source ~/.bashrc
```

4.2. effect demonstration

Note: ROS Master must be started on the host.

Use ssh to remotely log in to jetson nano and start rosmaster

```
roscore
```

ubuntu (virtual machine)

```
rosrun turtlesim turtlesim_node
rosrun turtlesim turtle_teleop_key
```