Network Configuration

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1. Wireless Network
2. Wired Network

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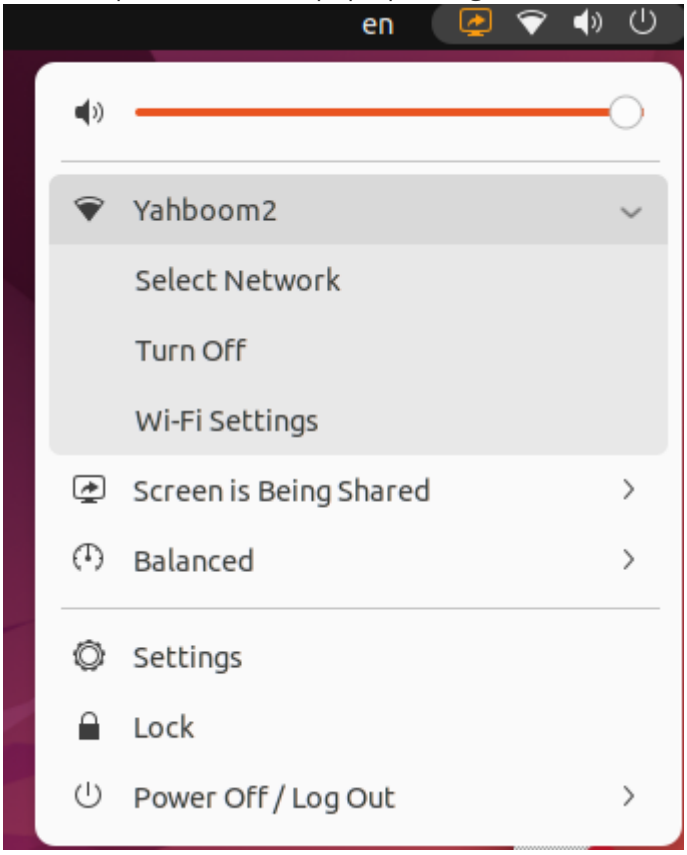
- ### Desktop Operation

  Connect to Wi-Fi using the Wi-Fi management tool in the upper right corner of the menu bar, as shown in the image below. Click on the Wi-Fi name you want to connect to, and then enter the Wi-Fi password in the pop-up dialog box.



- ### Command-Line Operation

Wireless network configuration can be completed via command line. The steps are as follows:

```
sudo nmcli device wifi rescan# Scan Wi-Fi networks
sudo nmcli device wifi list # List the found Wi-Fi networks
```

To connect to the specified Wi-Fi network, enter the following command:

```
sudo wifi_connect "SSID" "PASSWD"
```

Once the terminal returns the message "successfully activated", the Wi-Fi connection is successful.

If, after connecting to the hotspot, the following message is returned, it means the hotspot was not found. You can execute the command `sudo nmcli device wifi rescan` to rescan and connect again.

```
root@ubuntu:~# sudo wifi_connect "WiFi-Test" "12345678"
Error: No network with SSID 'WiFi-Test' found.
```

2. Wired Network

Network configuration via Netplan has only been verified and used on the `RDK S100(P)`; other platforms are currently not supported.

The root filesystem of `RDK S100(P)` is built upon Ubuntu 22.04, which by default does not support enabling or disabling network interfaces using the traditional `ifup`/`ifdown` commands.

- **Static IP and Subnet Mask**: To assign a static IP address and subnet mask to a network interface, use the `addresses` field with CIDR notation for the subnet mask.
- **DHCP Configuration**: To enable a specified network interface to automatically obtain an IP address via DHCP (Dynamic Host Configuration Protocol), set the `dhcp4` or `dhcp6` field to `yes`.
- **Custom MAC Address**: Use the `macaddress` field to assign a custom MAC address to a network interface.
- **Custom DNS Servers**: Use the `nameservers` field to specify custom DNS server addresses for a network interface.

An example of network configuration using Netplan is as follows:

```
sudo vim /etc/netplan/01-hobot-net.yaml
```

```
network:
  version: 2
  renderer: NetworkManager
  ethernets:
    eth0:
      dhcp4: yes
      dhcp6: yes
      nameservers:
        addresses: [10.9.1.2, 8.8.8.8, 8.8.4.4]
    eth1:
      addresses:
        - 192.168.127.10/24
      nameservers:
        addresses: [10.9.1.2, 8.8.8.8, 8.8.4.4]
```

After making changes, run `sudo netplan apply` to apply the new configuration.

Tips:

The desktop version of RDK S100(P) uses NetworkManager + Netplan as its default network management framework. When users configure network connections via NetworkManager (either through GUI or the `nmcli` command), corresponding configuration files are generated under `/etc/NetworkManager/system-connections`.

During Ubuntu system boot, Netplan configuration files located in `/etc/netplan/` are used to generate corresponding connection profiles under `/run/NetworkManager/system-connections`. By default in Ubuntu, connection profiles under `/run/NetworkManager/system-connections` take **precedence over** those under `/etc/NetworkManager/system-connections`.

Therefore, if you wish configurations made via NetworkManager (GUI or `nmcli`) to take effect, you must first **remove** the corresponding settings from the Netplan configuration files under `/etc/netplan/`.