Milesight DeviceHub

Installation Guide

Preface

This guide teaches you how to install Milesight on-premises DeviceHub platform.

Readers

This guide is intended for the following users:

- Distributors
- Network Planners
- On-site technical support and maintenance personnel
- Network administrators responsible for network configuration and maintenance

For assistance, please contact

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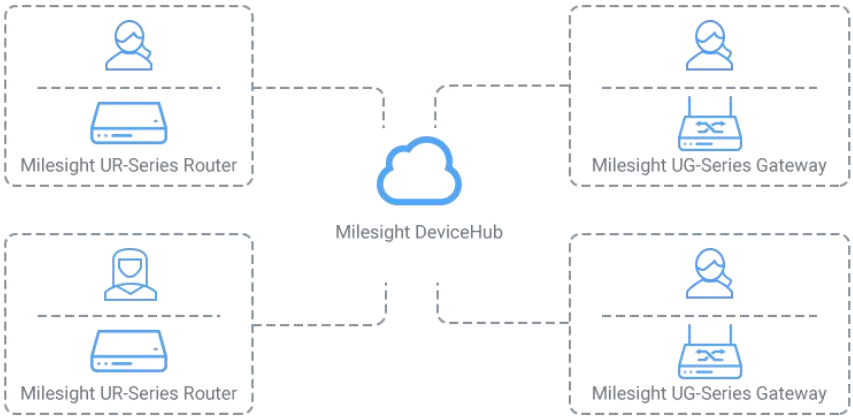
Revision History

Date	Doc Version	Description
Jan. 15, 2014	V 3.0	DeviceHub V2 Initial version

Contents

Introduction

Milesight DeviceHub provides a high-efficency, low maintenance On-Premises solution to allow easily deployment of Milesight IoT devices across multiple locations, reducing complexity and increasing productivity. This guide will describe how to install DeviceHub program.



(*Milesight routers and gateways compatibility are under development.)

System Requirements

Hardware

It is suggested to use a server that fits the following requirements:
For 500 devices and 2000 LoRaWAN end devices

- CPU: 4 Cores, 3.2 GHz
- RAM: 8 GB
- Disk: 512 GB
- Bandwidth: ≥100MBps

For 1000 devices and 2000 LoRaWAN end devices

- CPU: 8 Cores, 3.2 GHz
- RAM: 16 GB
- Disk: 1 TB
- Bandwidth: ≥100MBps

Note: the RAM should be more than 4GB, otherwise the DeviceHub will not work well.

Software

- Operating System: Ubuntu Server 22.04
- Recommended Browser: Chrome

Operation Guide

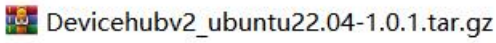
Requirements

- Ubuntu Server
- DeviceHub Installation Package: downloaded from Milesight Website
- WinSCP
- Putty (or other SSH tool)

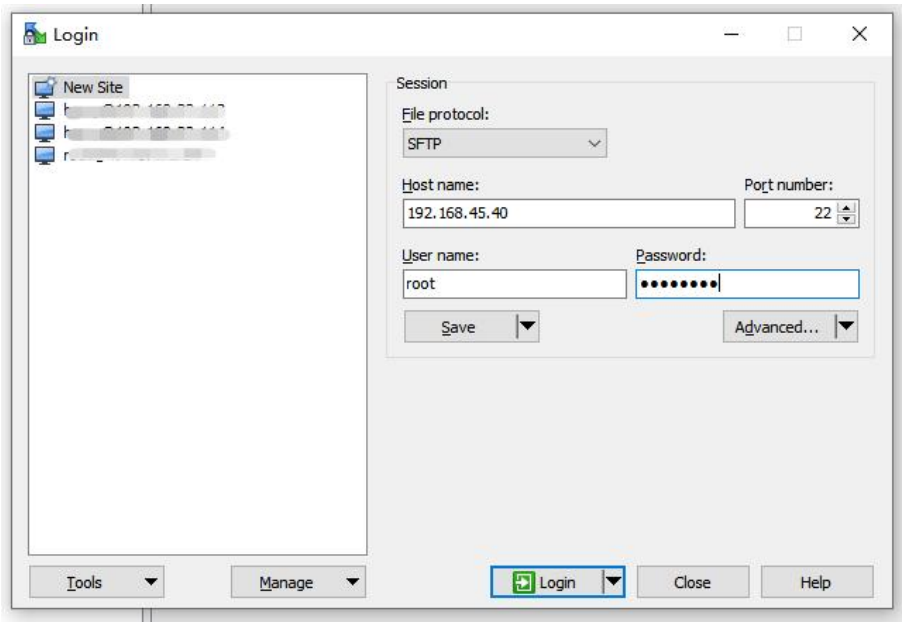
DeviceHub Installation

Note: Take “Devicehubv2_ubuntu22.04-1.0.1.tar.gz” as an example in providing the the commands below, please use the commands according to real installation package name.

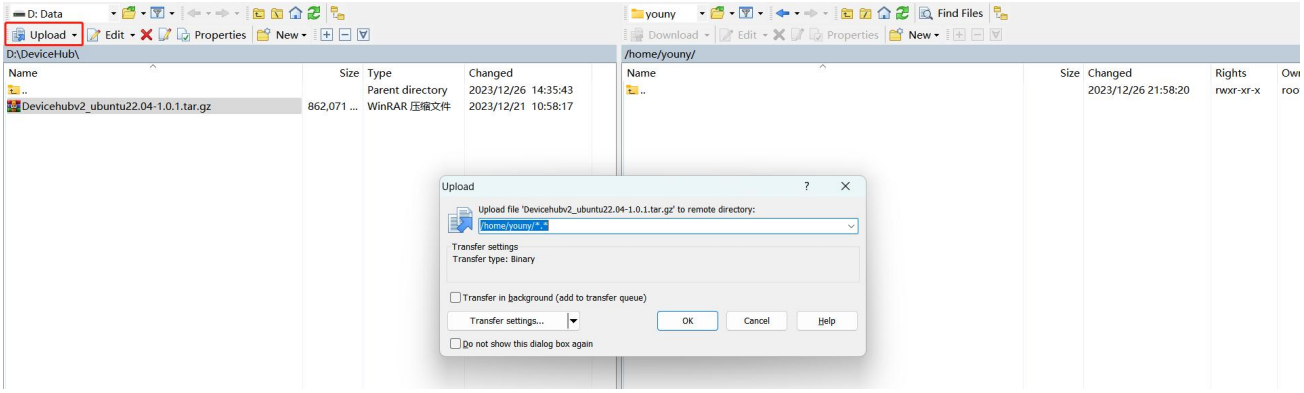
1. Download the DeviceHub and install package in your computer.



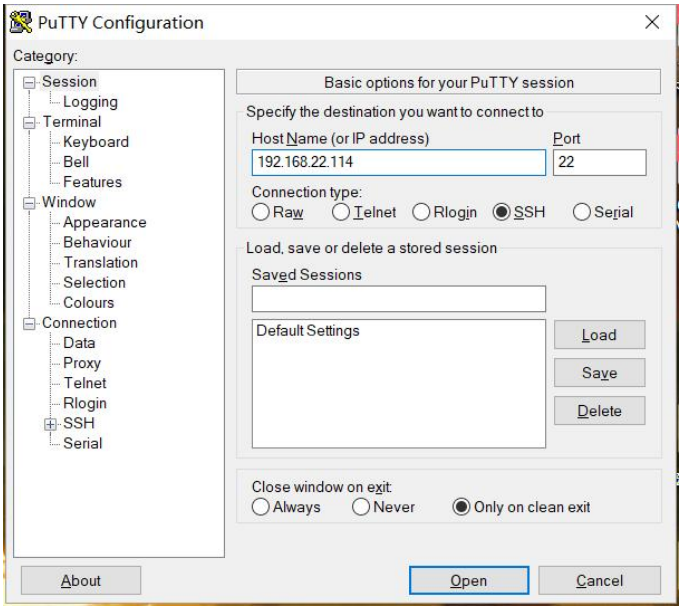
2. Open WinSCP and set up a session between WinSCP and server.



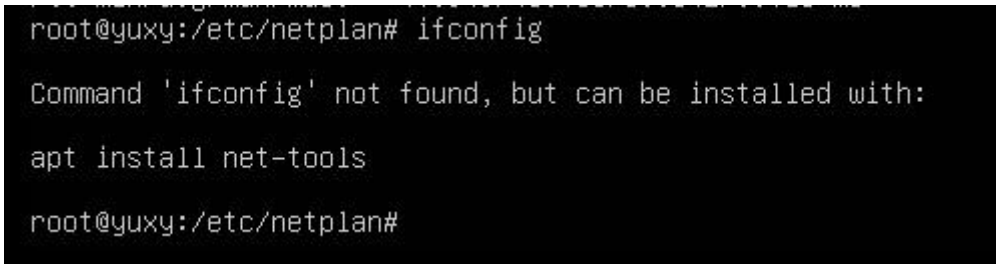
3. Select the DeviceHub installation package and click “Upload”, select the server path and click “OK” to upload.



4. Log in the server via Putty or other SSH tools.



5. Ensure the network tool is installed in the server. You can type *ifconfig* to double check. If not found, execute *apt install net-tools* to install it.



6. Navigate to the path including DeviceHub installation package to unzip it:

```
tar -zxvf Devicehubv2_ubuntu22.04-1.0.1.tar.gz
```

```
youny@youny:~$ ls
Devicehubv2_ubuntu22.04-1.0.1.tar.gz
youny@youny:~$ tar -zxvf Devicehubv2_ubuntu22.04-1.0.1.tar.gz
Devicehubv2_ubuntu22.04-1.0.1/
Devicehubv2_ubuntu22.04-1.0.1/gen_cert.sh
Devicehubv2_ubuntu22.04-1.0.1/docker-compose.yml
Devicehubv2_ubuntu22.04-1.0.1/redis/
Devicehubv2_ubuntu22.04-1.0.1/redis/config/
```

7. Navigate to the DeviceHub folder, execute the deploy script:

```
cd Devicehubv2_ubuntu22.04-1.0.1
./deploy.sh
```

Select option 7 to install docker. If the server has already installed docker, skip this step.
After installing, the following message will show.

```
youny@youny:~$ cd Devicehubv2_ubuntu22.04-1.0.1
youny@youny:~/Devicehubv2_ubuntu22.04-1.0.1$ ./deploy.sh
docker is not installed, please install docker first.
docker compose or docker-compose are not installed, please install or update docker-compsoe first
You can use the method we provide for offline installation of Docker.
If you have installed Docker using our provided method and wish to uninstall it later, please use the uninstallation method we provide as well.
choice:
1. install
2. upgrade
3. export log
4. backup
5. restore
6. uninstall
7. install docker
8. uninstall docker
9. restart container
10. reload container
q. exit
please input your choice: 7
start installing docker
[sudo] password for youny:
docker/
docker/docker
docker/docker-init
docker/dockerd
docker/runc
docker/ctr
docker/containerd-shim-runc-v2
docker/containerd
docker/docker-proxy
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
finish installing docker
```

8. Execute the deploy script again, select option 1 to install DeviceHub.

```
youny@youny:~/Devicehubv2_ubuntu22.04-1.0.1$ ./deploy.sh
choice:
1. install
2. upgrade
3. export log
4. backup
5. restore
6. uninstall
7. install docker
8. uninstall docker
9. restart container
10. reload container
q. exit
please input your choice: 1
```

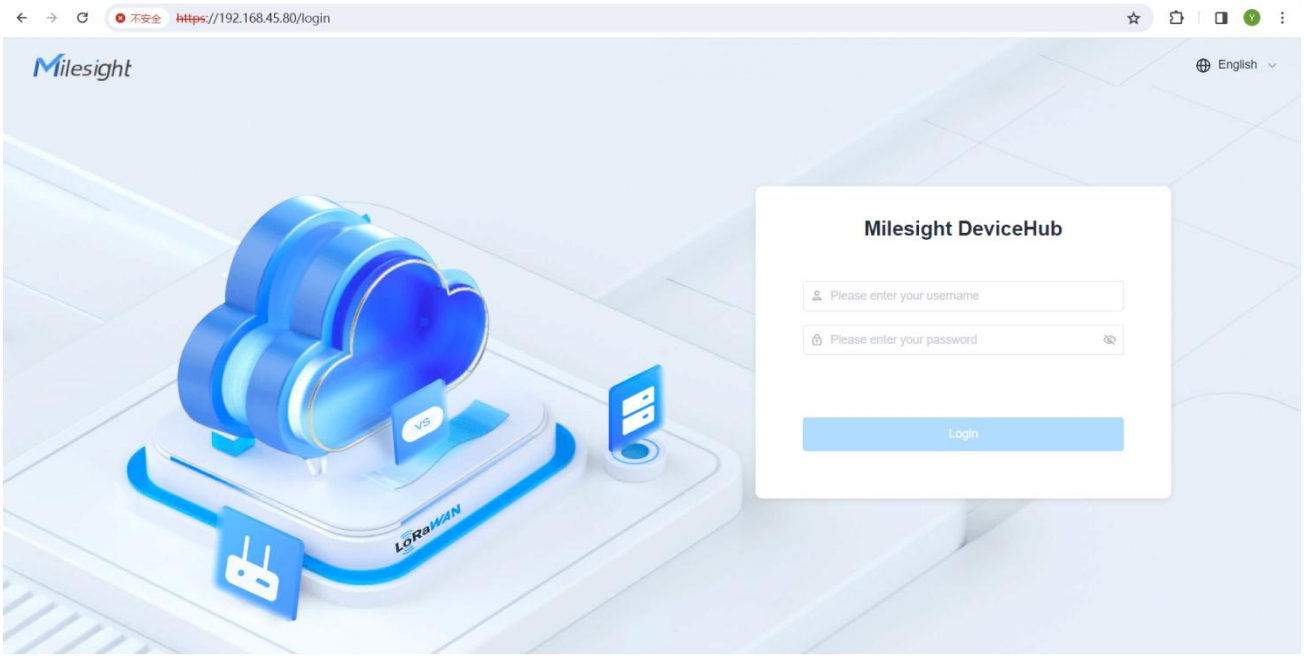
After installing, the following message will appear.

```
d89441783ad5: Loading layer [==================================================>]  10.75kB/10.75kB
d7276986b5a2: Loading layer [==================================================>]  4.151MB/4.151MB
59982b672e23: Loading layer [==================================================>]  60.16MB/60.16MB
4878d82c6612: Loading layer [==================================================>]  1.536kB/1.536kB
5f70bf18a086: Loading layer [==================================================>]  1.024kB/1.024kB
a165421a97e2: Loading layer [==================================================>]  4.096kB/4.096kB
Loaded image: redis:7.2.1
63290f9c9e52: Loading layer [==================================================>]  84.03MB/84.03MB
781f046ab200: Loading layer [==================================================>]  5.12kB/5.12kB
d6f8893d981d: Loading layer [==================================================>]  159.1MB/159.1MB
cac5acac741b: Loading layer [==================================================>]  9.216kB/9.216kB
47ee15af792b: Loading layer [==================================================>]  4.153MB/4.153MB
5f70bf18a086: Loading layer [==================================================>]  1.024kB/1.024kB
5412cbb18fa0: Loading layer [==================================================>]  159.5MB/159.5MB
Loaded image: emqx/emqx:5.1.6
[+] Running 9/9
 ✔ Network devicehubv2_default  Created
 ✔ Container emqx               Started
 ✔ Container mysql              Started
 ✔ Container postgres           Started
 ✔ Container redis              Started
 ✔ Container devicehub          Started
 ✔ Container lns                Started
 ✔ Container nginx              Started
All containers are running.
wait for initialization of devicehub 0 s
wait for initialization of devicehub 5 s
wait for initialization of devicehub 10 s
wait for initialization of devicehub 15 s
wait for initialization of devicehub 20 s
wait for initialization of devicehub 25 s
wait for initialization of devicehub 30 s
wait for initialization of devicehub 35 s
wait for initialization of devicehub 40 s
devicehub start successfully
Devicehubv2 is installed to /var/lib/devicehubv2, you can delete currenct directory now.
```

Users can also use command below to check if the DeviceHub is installed well.

```
youny@youny:~/Devicehubv2_ubuntu22.04-1.0.1$ sudo docker image ls
REPOSITORY   TAG                 IMAGE ID       CREATED        SIZE
lns          1.0.1               479e8d398daa   5 days ago     189MB
devicehub    1.0.1               1b748edab2a1   5 days ago     412MB
mysql        8.0                 96bc8cf3633b   2 months ago   582MB
nginx        1.25.2-alpine3.18   661daf9bcac8   2 months ago   42.6MB
redis        7.2.1               5b0542ad1e77   3 months ago   138MB
emqx/emqx    5.1.6               369cf6d7ddb0   4 months ago   399MB
postgres     9.6.8               7df8faa6c830   5 years ago    234MB
```

9. After installing, log in the DeviceHub with IP address http://xx.xx.xx.xx. The default login info:
Username: **admin**
Password: **password**

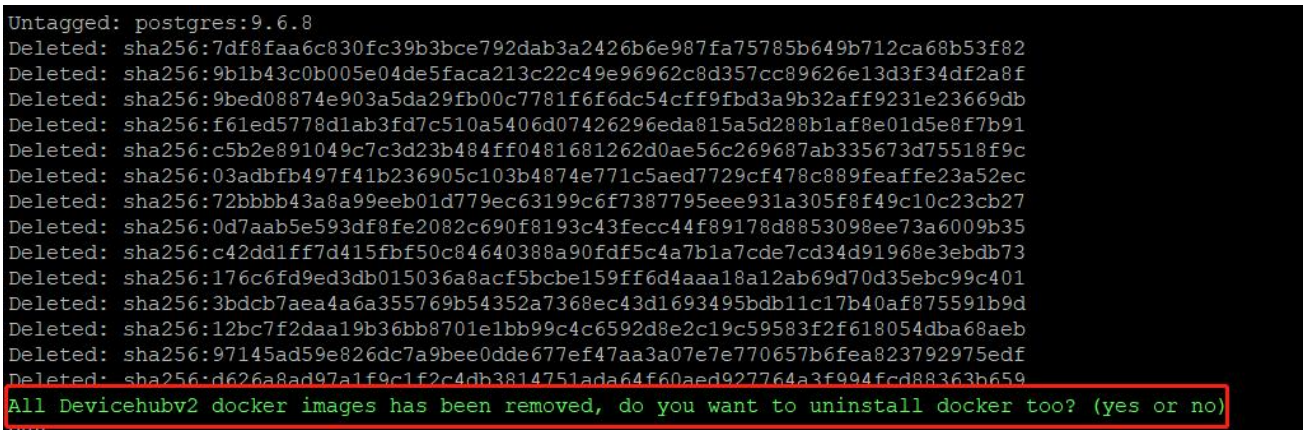


DeviceHub Uninstallation

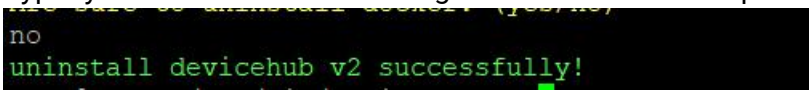
1. Navigate to the DeviceHub folder, execute the deploy script:

```
cd /var/lib/devicehubv2/
./deploy.sh
```

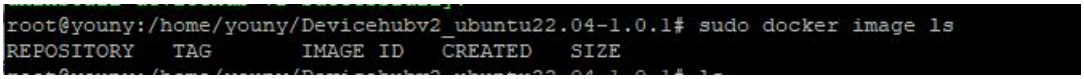
Select option 6 to uninstall the DeviceHub. After uninstalling, the following message will appear.



Type “yes” to continue uninstalling docker or “no” to complete the devicehub uninstallation.



Users can also use below command to check if the DeviceHub is removed.



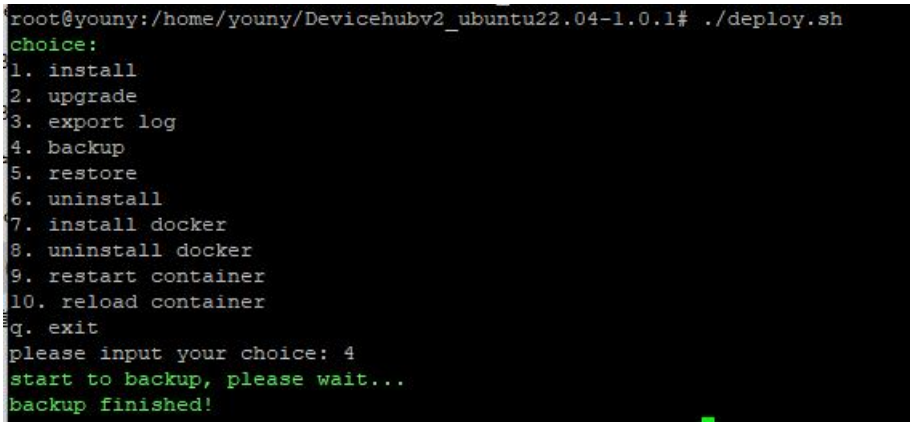
Backup and Restore

When transferring the DeviceHub program from one server to another, please refer below steps to backup the data from old server and restore it to the new server.

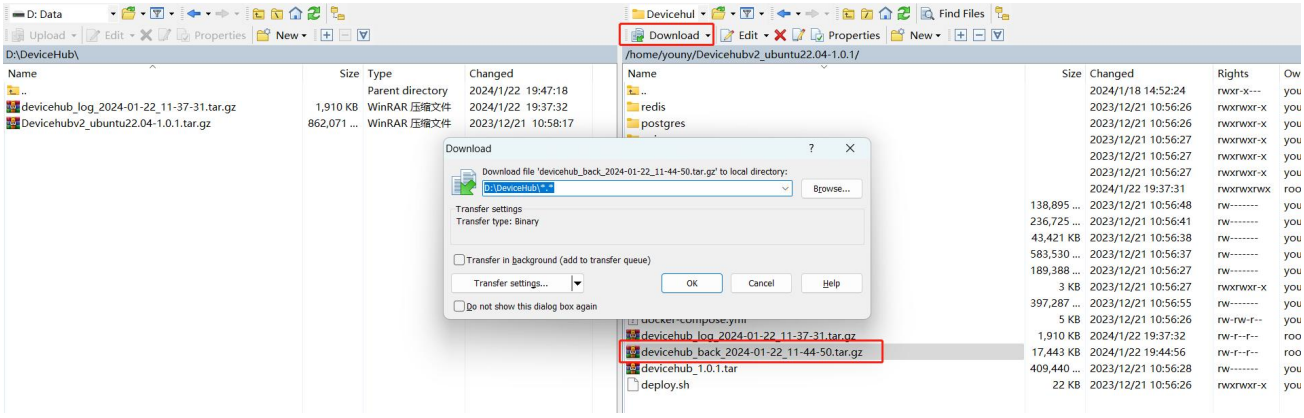
1. Navigate to the DeviceHub folder of old server, execute the deploy script:

```
cd /var/lib/devicehubv2/
./deploy.sh
```

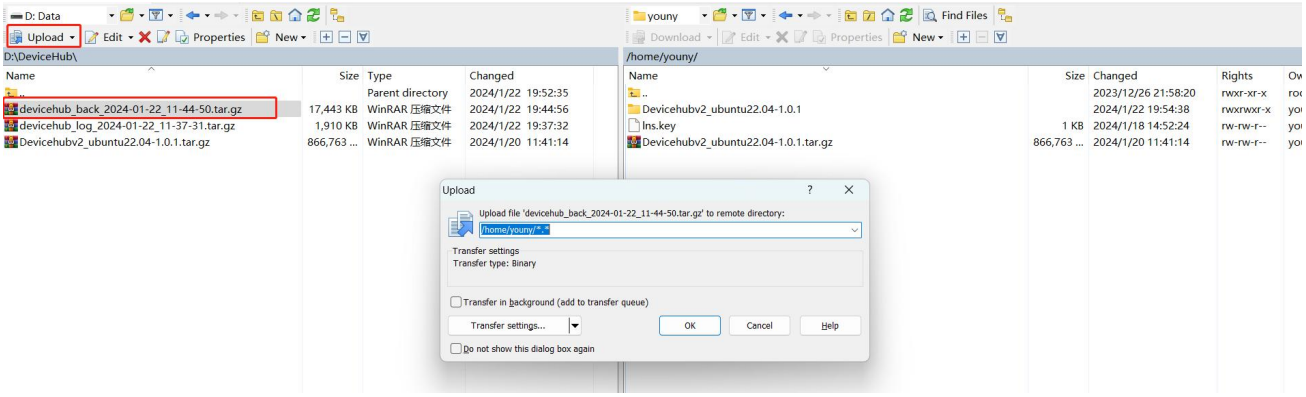
Select option 4 to backup the data. After backing up, the following message will appear.



2. Export the backup data file from old server via WinSCP or other tool:



3. Install DeviceHub program to the new server according to DeviceHub Installation.
4. Import the backup data file to the new server via WinSCP or other tool:



5. Navigate to the DeviceHub folder of new server, execute the deploy script:

```
cd /var/lib/devicehubv2/
./deploy.sh
```

Select option 5 to restore the data, type the path of backup data file, then click **Enter** to restore the data.

```
iot@iot:/var/lib/devicehubv2$ ./deploy.sh
[sudo] password for iot:
choice:
1. install
2. upgrade
3. export log
4. backup
5. restore
6. uninstall
7. install docker
8. uninstall docker
9. restart container
10. reload container
q. exit
please input your choice: 5
Please note that the current operation will erase existing data.
Please make a backup beforehand!
Please input the path of backup:
(input factory to do factory reset)
/home/iot/devicehub_back_2023-12-21_19-49-46.tar.gz
[+] Running 8/8
 ✔ Container nginx              Removed
 ✔ Container lns                Removed
 ✔ Container devicehub          Removed
 ✔ Container mysql              Removed
 ✔ Container redis              Removed
 ✔ Container emqx               Removed
 ✔ Container postgres           Removed
 ✔ Network devicehubv2_default  Removed
[+] Running 8/8
 ✔ Network devicehubv2_default  Creat...                    1.2s
 ✔ Container redis              Started                     5.2s
 ✔ Container emqx               Started                     5.3s
 ✔ Container mysql              Started                     5.1s
 ✔ Container postgres           Started                     5.1s
 ✔ Container lns                Started                     2.4s
 ✔ Container devicehub          Started                     2.4s
 ✔ Container nginx              Started                     0.5s
[+] Restarting 1/1
 ✔ Container lns  Started                                  40.7s
All containers are running.
devicehub start successfully
```

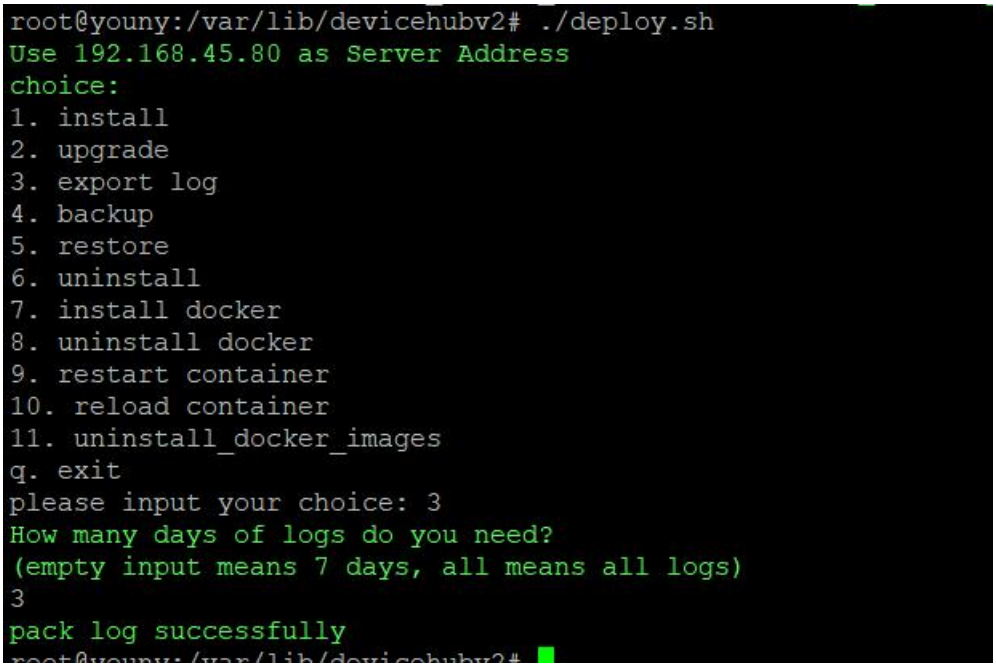
Export Log

DeviceHub program supports exporting logs for troubleshooting.

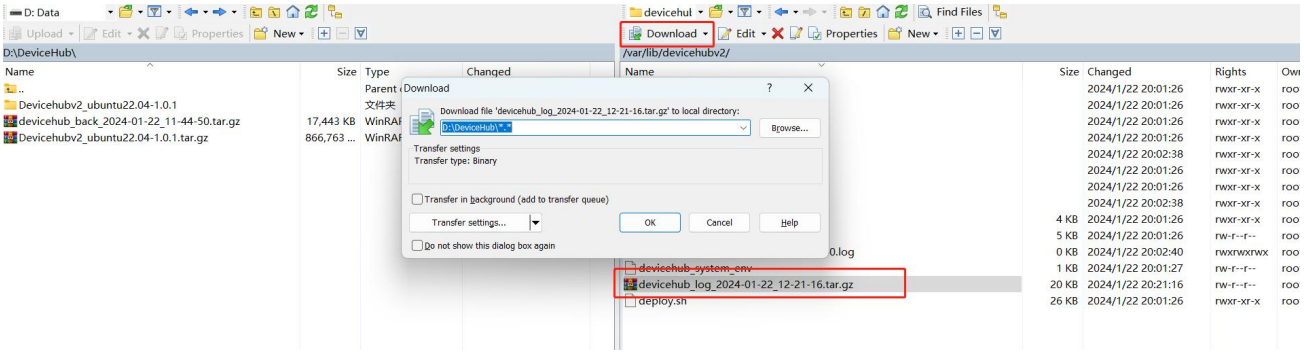
1. Navigate to the DeviceHub folder of old server, execute the deploy script:

```
cd /var/lib/devicehubv2/
./deploy.sh
```

Select option 3 to export the log files. After exporting, the following message will appear.



2. Export the log files via WinSCP or other tool:



Services and Ports

In order to ensure the secured communication, here are some ports for the services:

Port	Protocol	Description
80	TCP	HTTP Service
443	TCP	HTTPS Service
1883	TCP	MQTT Service
8883	TCP	MQTTS Service
50000-50100	TCP	Remote Access Service

-END-