

# HIRSCHMANN IT

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A **BELDEN** BRAND

# DAC Installation Guide

Installation Guide  
Release 01 06/2022

Technical support  
<https://hirschmann-it-support.belden.com>

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# 1 Revision History

Revision	Date	Description
2.5	Apr-2022	The 1 <sup>st</sup> published version
2.6	May-2022	Update chapter 4.7 Get Device Code
2.7	Jul-2022	Add default Account Name and Password in chapter 4.8

## 2 Environment Preparation

### 2.1 Configuration Requirements

DAC can be installed in the server, but here recommend creating new virtual machine for DAC installation. Server or virtual machine configuration requirements are as below:

#### 1) Stand-alone mode

AP/Clients	Configurations	HDD
50APs + 1000Clients	4 Cores CPU+16GB Memory+1T HDD	Read: 1.7GB/s Write: 134MB/s
256APs + 5000Clients	8 Cores CPU+16GB Memory+1T HDD	
500APs + 10000Clients	12 Cores CPU+32GB Memory+1T HDD	
1000APs + 20000Clients	24 Cores CPU+32GB Memory+1T HDD	

#### 2) Cluster mode

AP/Clients	Configurations (per server)	HDD
2000APs + 10000Clients	12 Cores CPU+32GB Memory+2T HDD	Read: 1.7GB/s
6000APs + 30000Clients	24 Cores CPU+32GB Memory+2THDD	Write: 134MB/s

Note:

- Cluster mode require minimum 3pcs servers.
- Server host names must be unique.

## 2.2 Download Linux

Download Ubuntu 16.04.x from <https://releases.ubuntu.com/16.04.7/ubuntu-16.04.7-server-amd64.iso>.

Note: DAC only support Ubuntu 16.04.x.

## 2.3 Create New Virtual Machine

Open VMware ESXi to create new virtual machine, as shown in Figure 2-3-1.

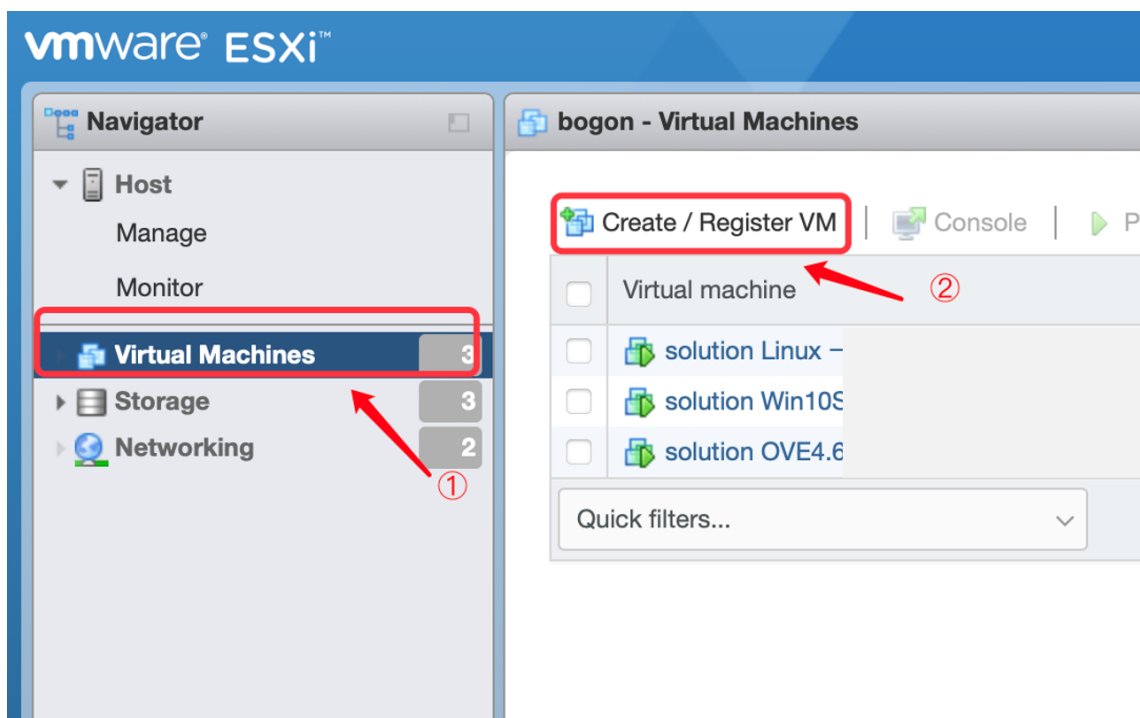


Figure 2-3-1

## 2.4 Configuring Virtual Machine

Follow the steps below to configure virtual machine, click “Next” for the steps not mentioned.

- 1) Select “Create a new virtual machine” , click “Next”.

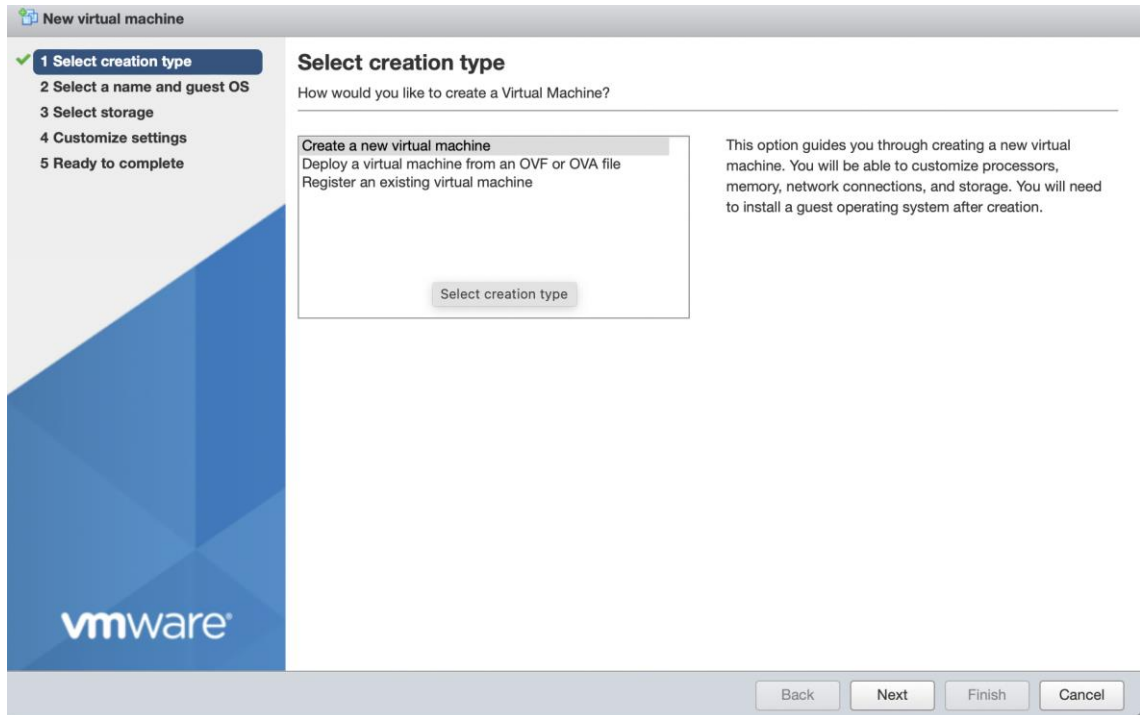


Figure 2-4-1

- 2) Config as shown in Figure 2-4-2, click “Next”.

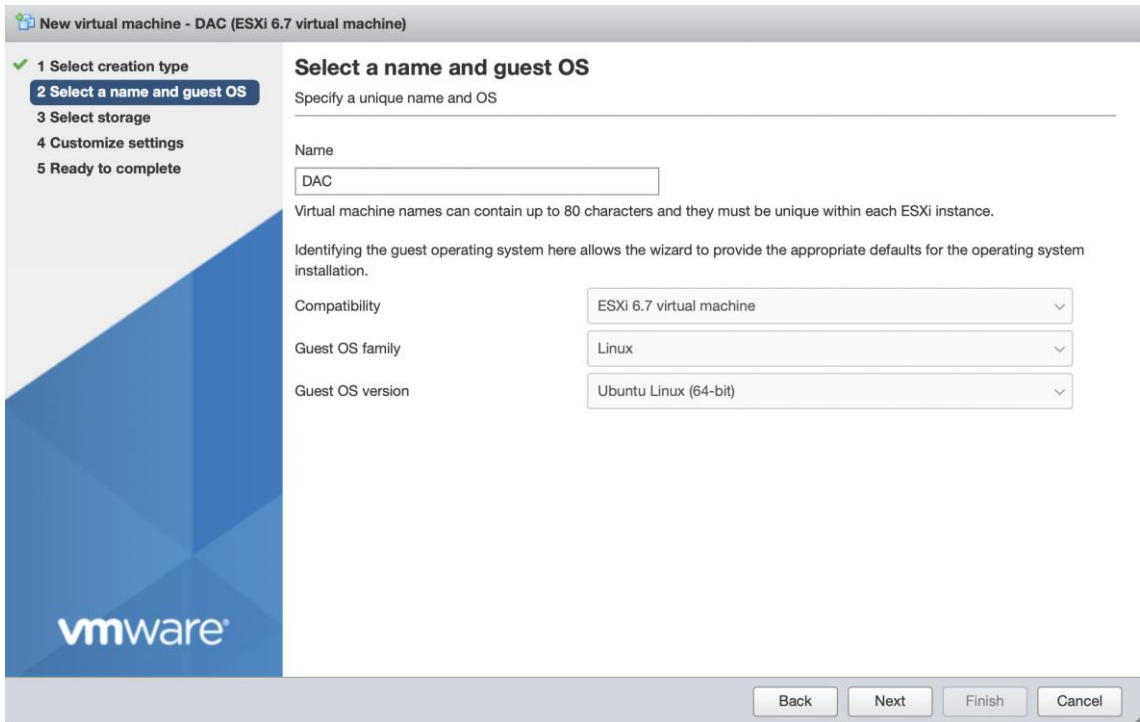


Figure 2-4-2

- 3) Select the number of cores per processor, memory and hard disk for this virtual machine, refer chapter 2.1 for detailed configuration requirements.

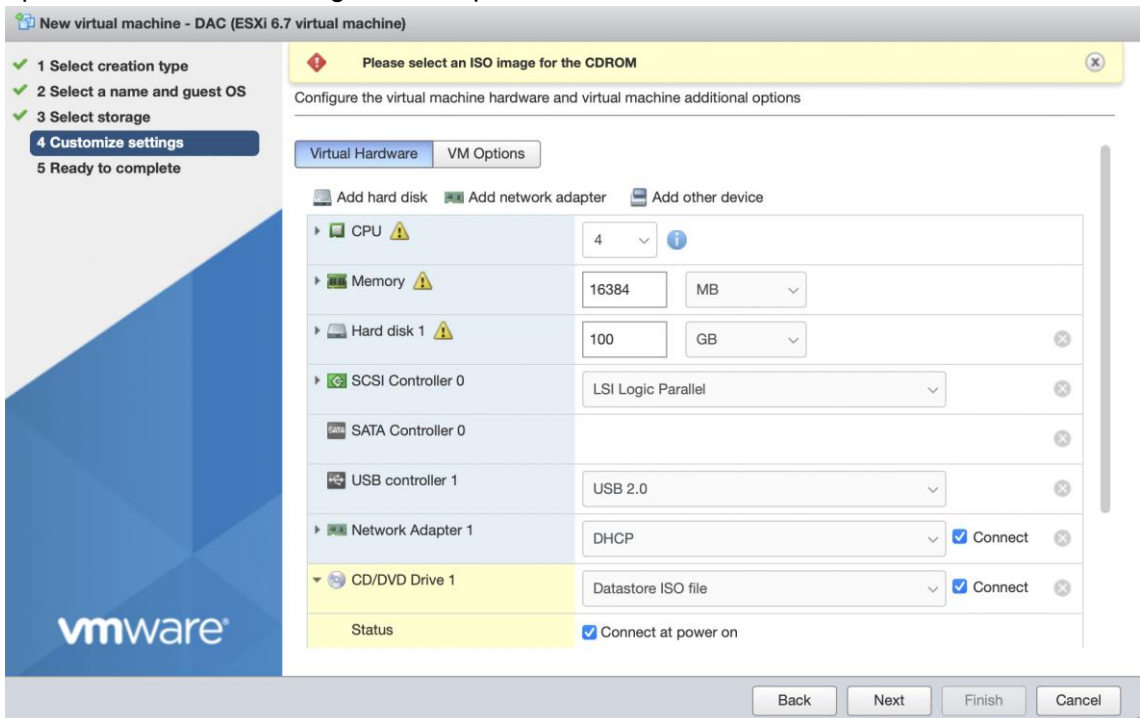


Figure 2-4-3

- 4) Select “Datastore ISO file” in “CD/DVD Drive1”, create new directory and upload Ubuntu OS file downloaded in chapter 2.2, click “Next”.



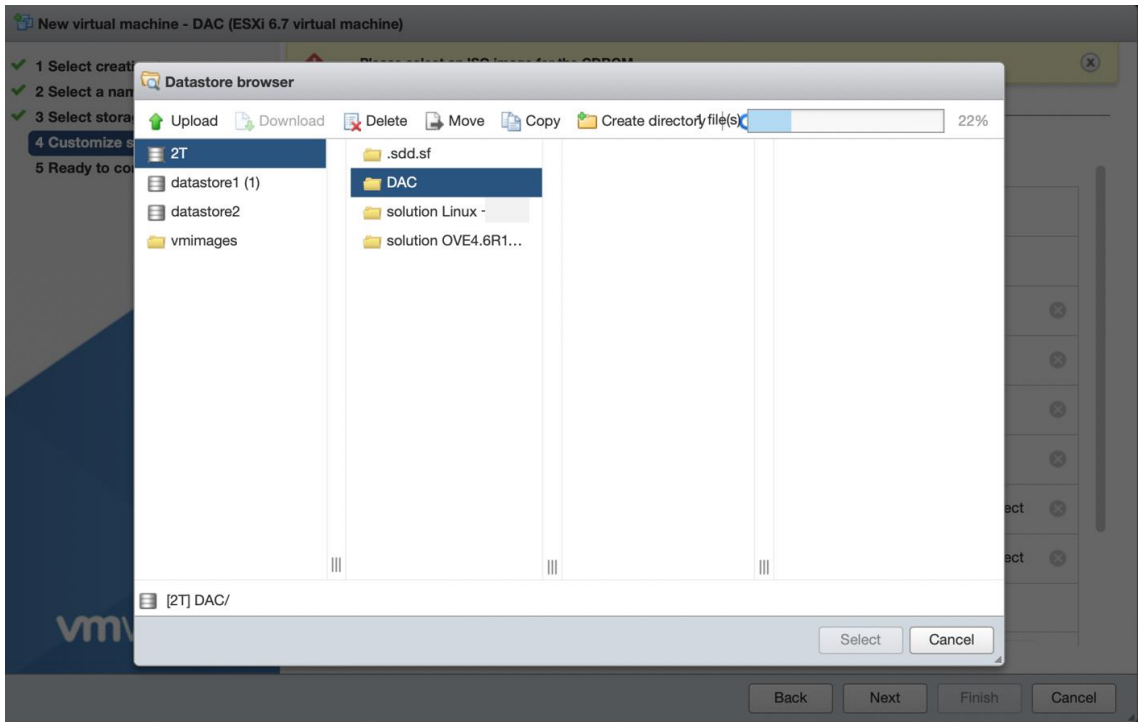


Figure 2-4-4

- 5) Click "Finish".
- 6) Power on the VM, and open browser console.

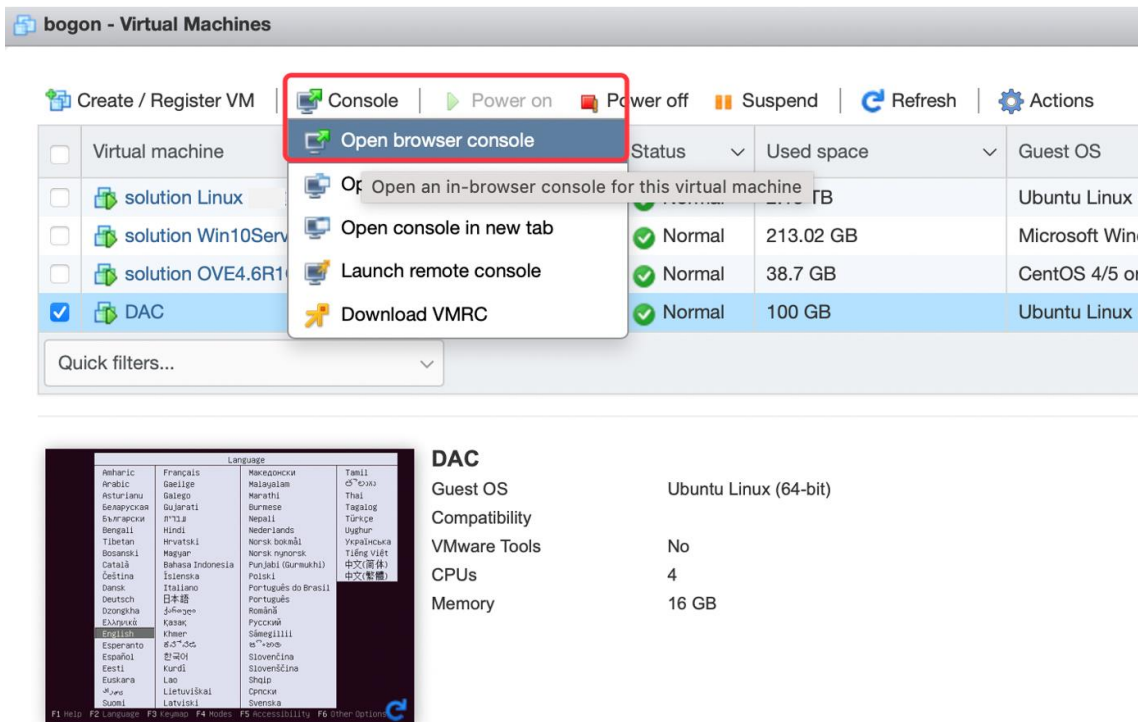


Figure 2-4-5

- 7) Select "English" and install Ubuntu Server.
- 8) Select "Language and Location", do not detect keyboard layout, then config the keyboard and the

network, Set up users and passwords, do not encrypt your home directory.

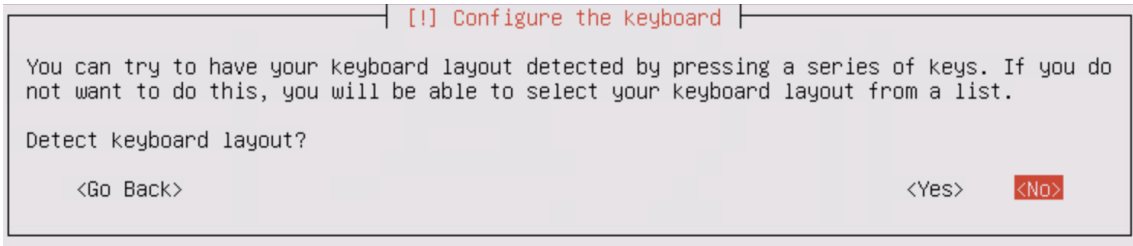


Figure 2-4-6

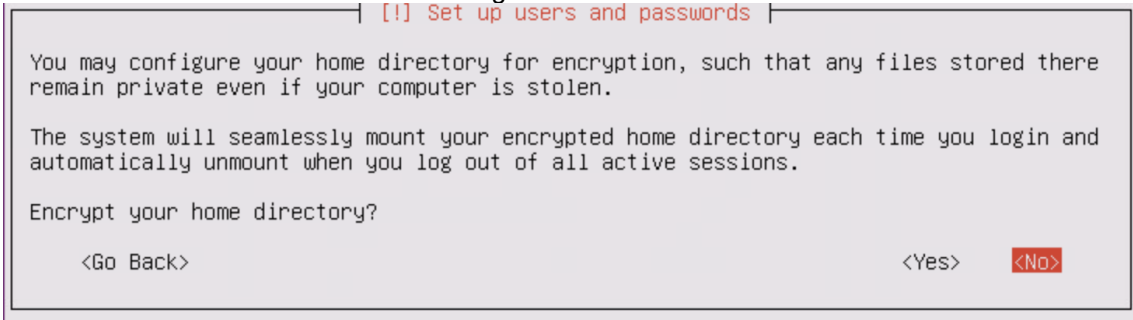


Figure 2-4-7

9) "Partition disks", as shown in the following figure.

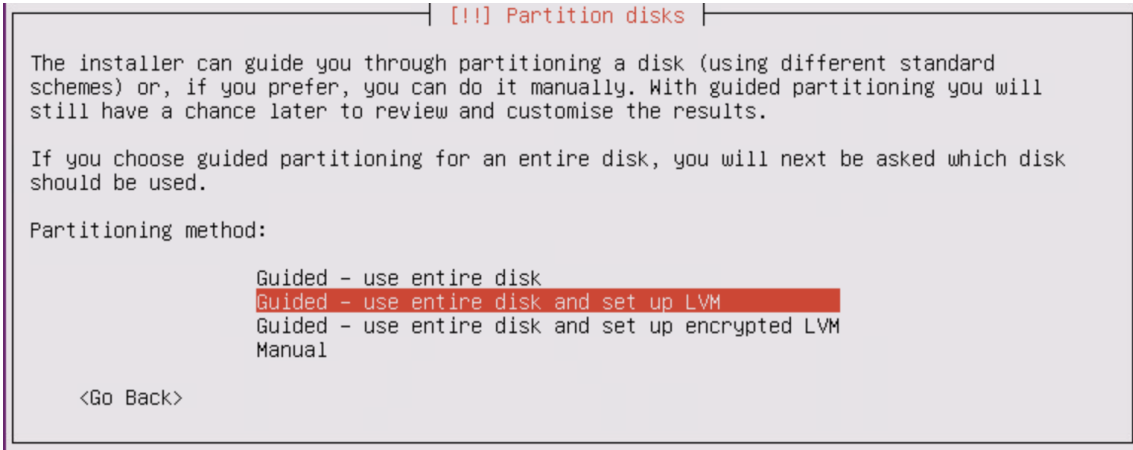


Figure 2-4-8

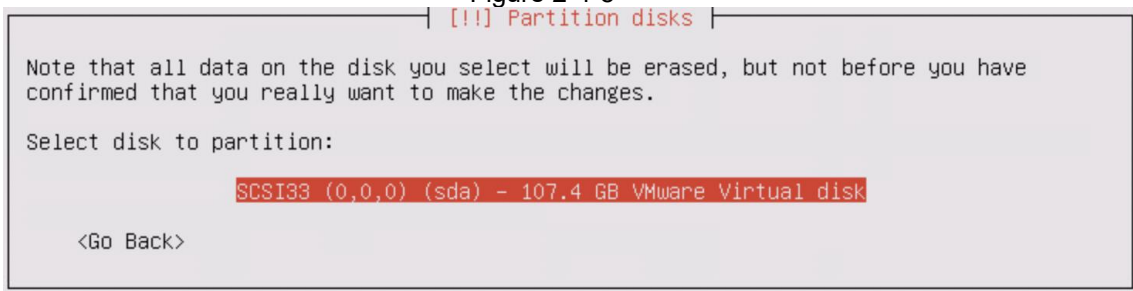


Figure 2-4-9

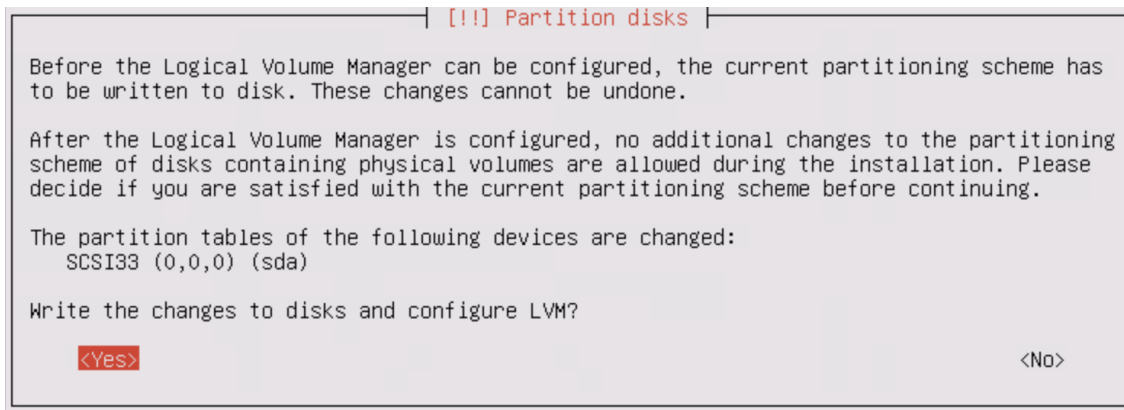


Figure 2-4-10

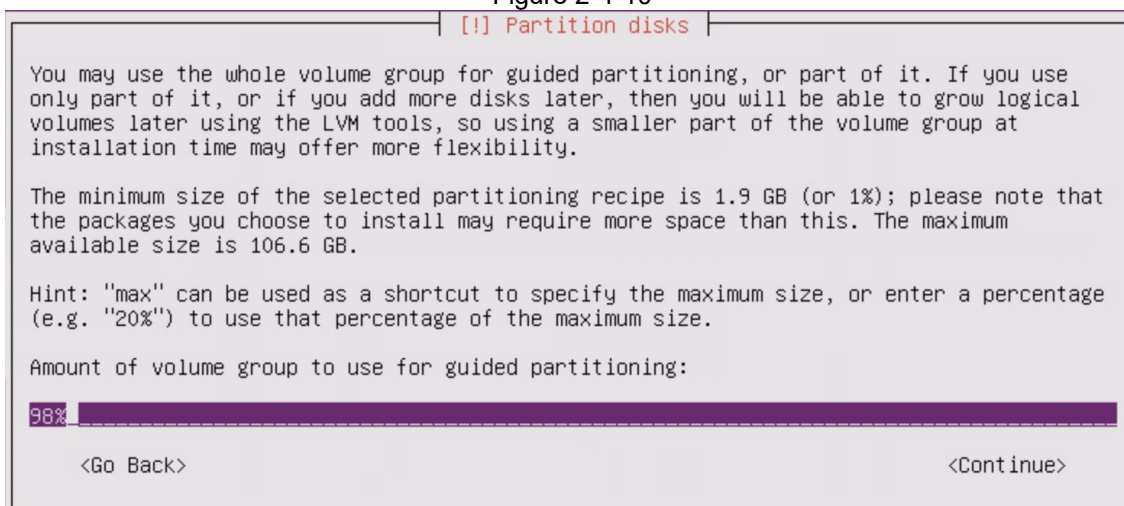


Figure 2-4-11

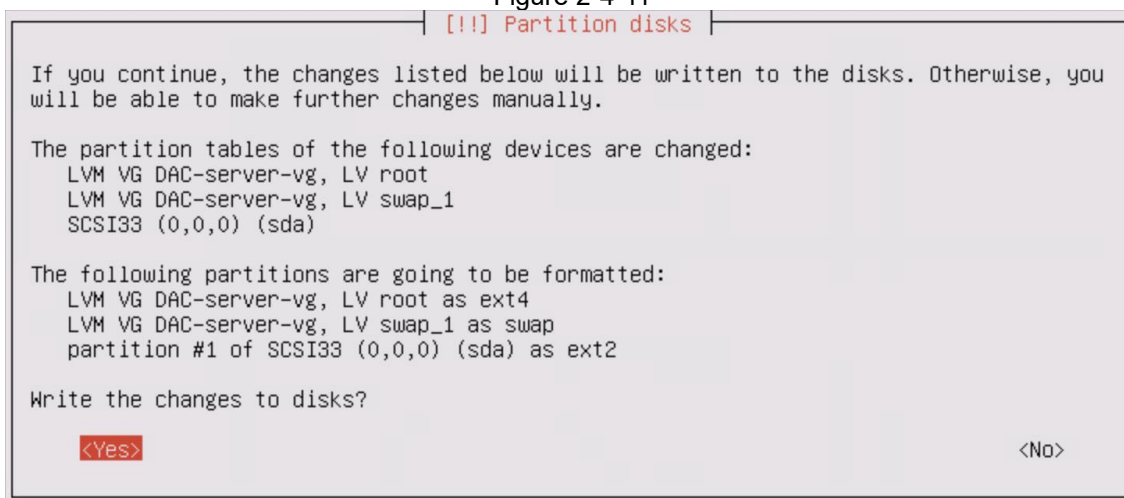


Figure 2-4-12

10) Do not config http proxy information.

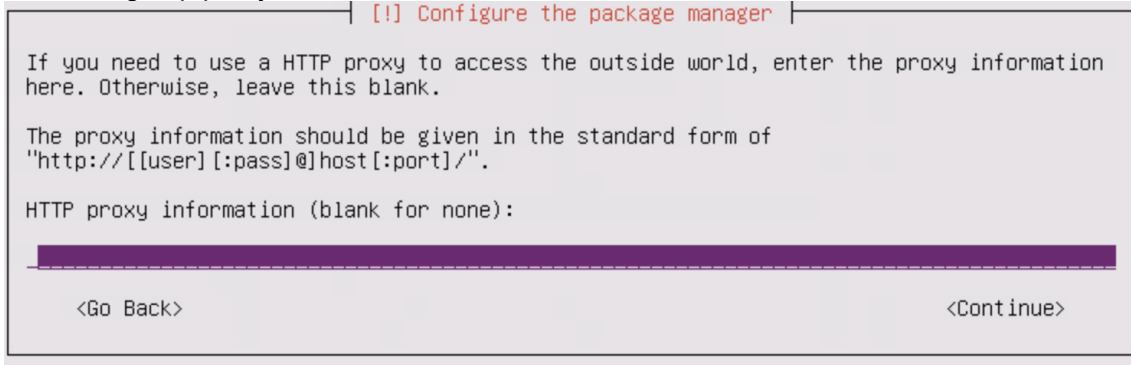


Figure 2-4-13

11) Select "No automatic updates".

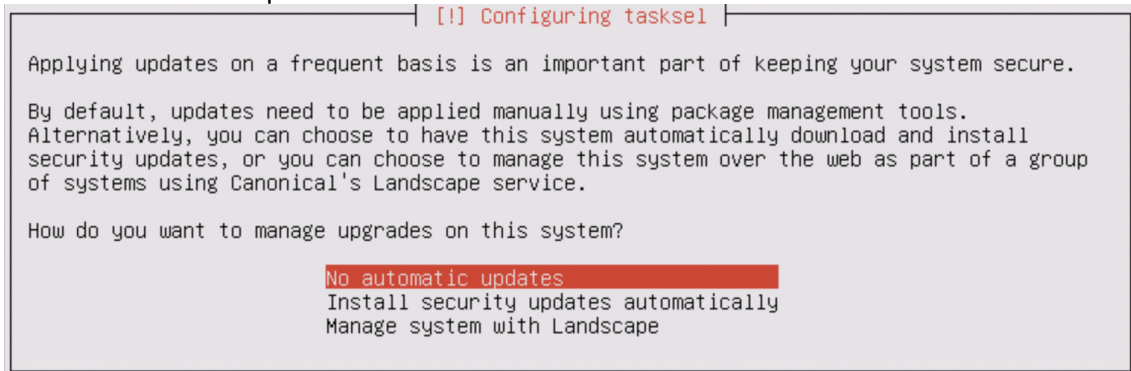


Figure 2-4-14

12) Select "OpenSSH-server" using space key.

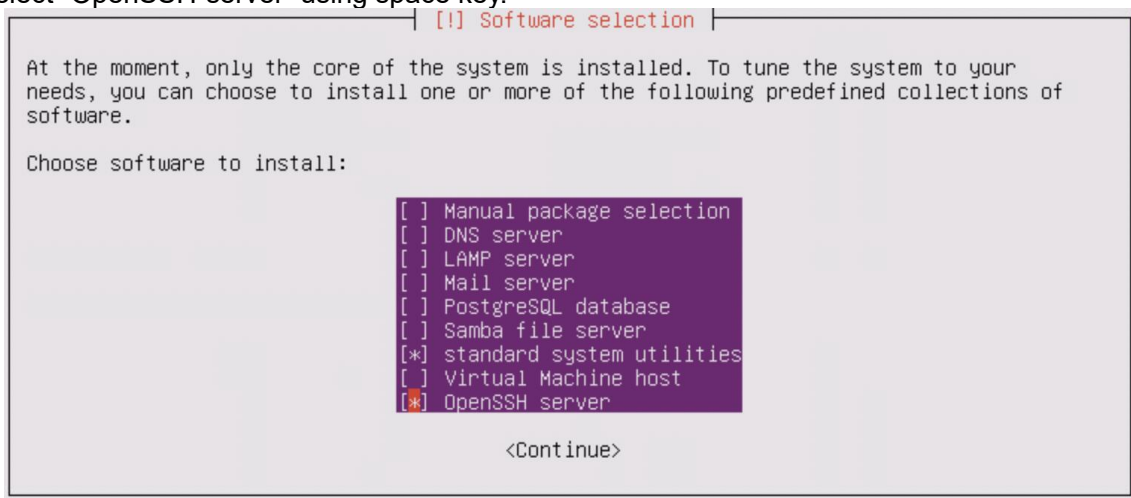


Figure 2-4-15

13) Then select "Yes".

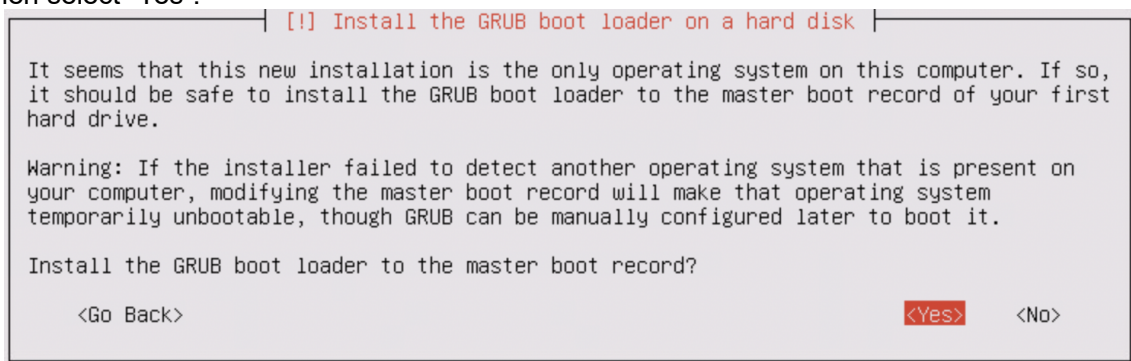


Figure 2-4-16

14) Continue to restart.

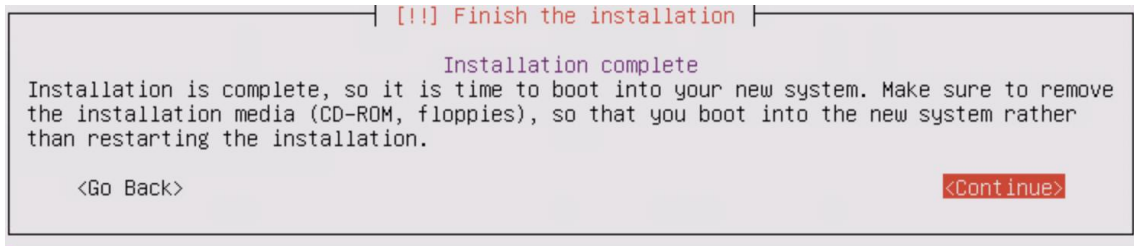


Figure 2-4-17

## 2.5 Install Ubuntu System

The virtual machine will automatically install the Ubuntu system, wait for the Ubuntu system installed successfully and login to the virtual machine with the username and password in chapter 2.4.

```
Ubuntu 16.04.2 LTS ubuntu tty1
ubuntu login:
Password:
Last login: Mon Jul 31 20:07:12 PDT 2017 on tty1
Welcome to Ubuntu 16.04.2 LTS (GNU/Linux 4.4.0-62-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage
espsver@ubuntu:~$ _
```

Figure 2-5-1

## 3 DAC Software Packages Preparation

### 3.1 Get Administrator Privileges

- 1) Enter “sudo su” in virtual machine;
- 2) Input virtual machine password;

```
dacserver@DAC-server:~$ sudo su  
[sudo] password for dacserver:  
root@DAC-server:~/home/dacserver# _
```

Figure 3-1-1

- 3) Set root user password, use command “sudo passwd”;

## 3.2 Allow Root User SSH Remote Login

- 1) Enter “vi /etc/ssh/sshd\_config” in virtual machine, enter “i” to enter edit mode;
- 2) Update PermitRootLogin prohibit-password to PermitRootLogin yes, enter “Esc” exit edit mode;
- 3) Enter “wq” to save the update;
- 4) Enter “/etc/init.d/ssh restart” in virtual machine to active above setup;

```
# What ports, IPs and protocols we listen for
Port 22
# Use these options to restrict which interfaces/protocols sshd will bind to
#ListenAddress ::
#ListenAddress 0.0.0.0
Protocol 2
# HostKeys for protocol version 2
HostKey /etc/ssh/ssh_host_rsa_key
HostKey /etc/ssh/ssh_host_dsa_key
HostKey /etc/ssh/ssh_host_ecdsa_key
HostKey /etc/ssh/ssh_host_ed25519_key
#Privilege Separation is turned on for security
UsePrivilegeSeparation yes

# Lifetime and size of ephemeral version 1 server key
KeyRegenerationInterval 3600
ServerKeyBits 1024

# Logging
SyslogFacility AUTH
LogLevel INFO

# Authentication:
LoginGraceTime 120
PermitRootLogin yes
StrictModes yes
```

Figure 3-2-1



### 3.3 Add Domain Name Resolution

- 1) Enter "vi /etc/network/interfaces" in virtual machine, enter "i" to enter edit mode.
- 2) Config network information as shown in Figure 3-3-1, don't change the iface number.
- 3) Add dns-nameservers 8.8.8.8, enter "Esc" to exit edit mode.
- 4) Enter "wq" to save the update.
- 5) Enter "/etc/init.d/networking" restart in virtual machine to active above setup.
- 6) Type "ping www.google.com" to check above configuration, as shown in Figure 3-3-2.

```
# This file describes the network interfaces available on your system
# and how to activate them. For more information, see interfaces(5).

source /etc/network/interfaces.d/*

# The loopback network interface
auto lo
iface lo inet loopback

# The primary network interface
# This is an autoconfigured IPv6 interface
auto ens160
iface ens160 inet6 static
address 192.168.10.222
netmask 255.255.255.0
gateway 192.168.10.254
dns-nameservers 8.8.8.8
```

Figure 3-3-1

```
root@node1:~# vim /etc/network/interfaces
root@node1:~# ping www.baidu.com
PING www.a.shifen.com (14.215.177.38) 56(84) bytes of data:
64 bytes from 14.215.177.38: icmp_seq=1 ttl=54 time=36.3 ms
64 bytes from 14.215.177.38: icmp_seq=2 ttl=54 time=36.6 ms
64 bytes from 14.215.177.38: icmp_seq=3 ttl=54 time=36.8 ms
^C
--- www.a.shifen.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2027ms
rtt min/avg/max/mdev = 36.354/36.631/36.854/0.207 ms
```

Figure 3-3-2

### 3.4 Download DAC Installation Package

Download DAC installation package from <https://hirschmann-it-support.belden.com/en/downloads/dragonfly-wireless>. The Login page is shown in Figure 3-4-1. For first login, you may need to register an account.

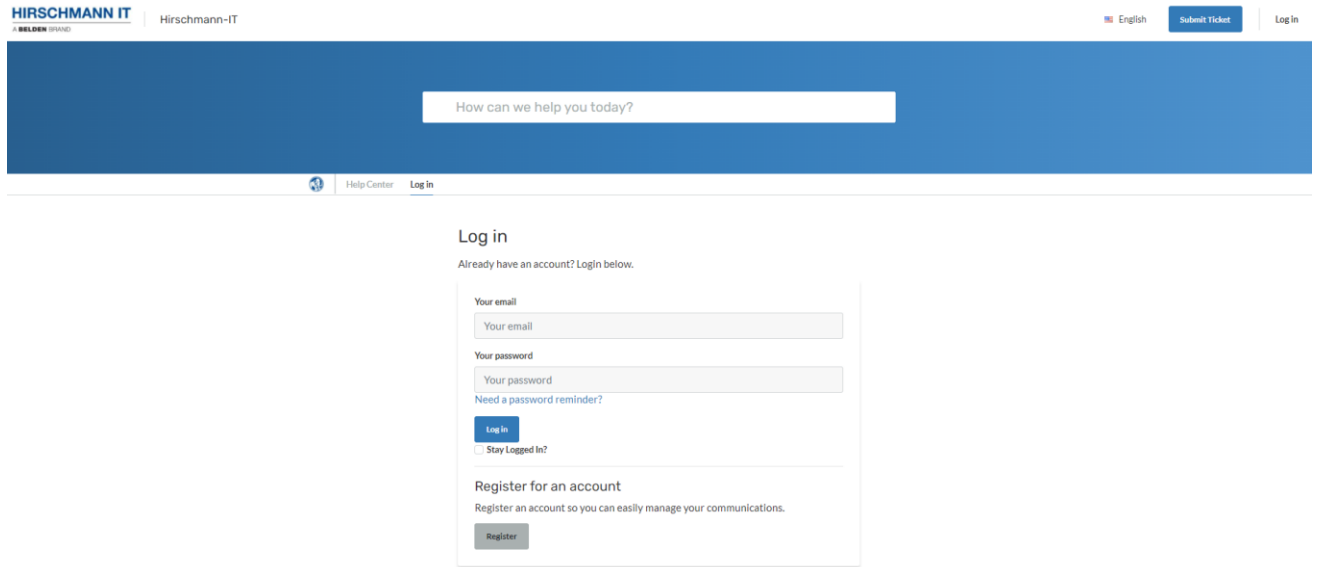


Figure 3-4-1

### 3.5 Upload Installation Package to Virtual Machine

1) Run WinSCP in Server, enter virtual machine information as shown in Figure 3-5-1.

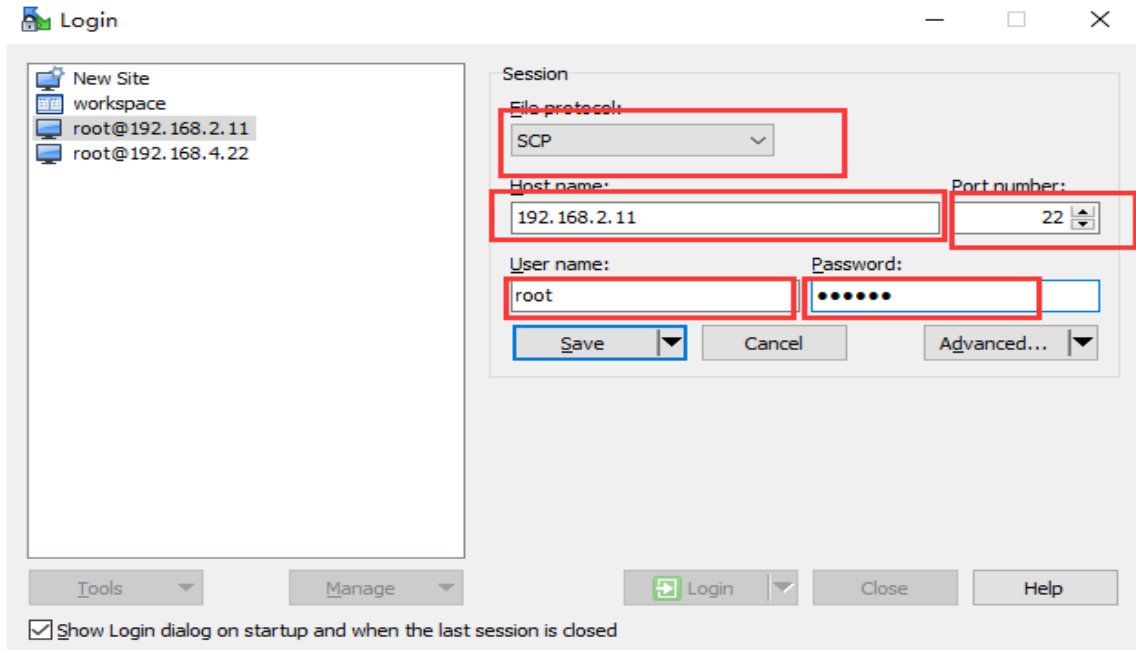


Figure 3-5-1

2) Select target directory, Figure 3-5-2 is for Windows system and Figure 3-5-3 is for Linux system.

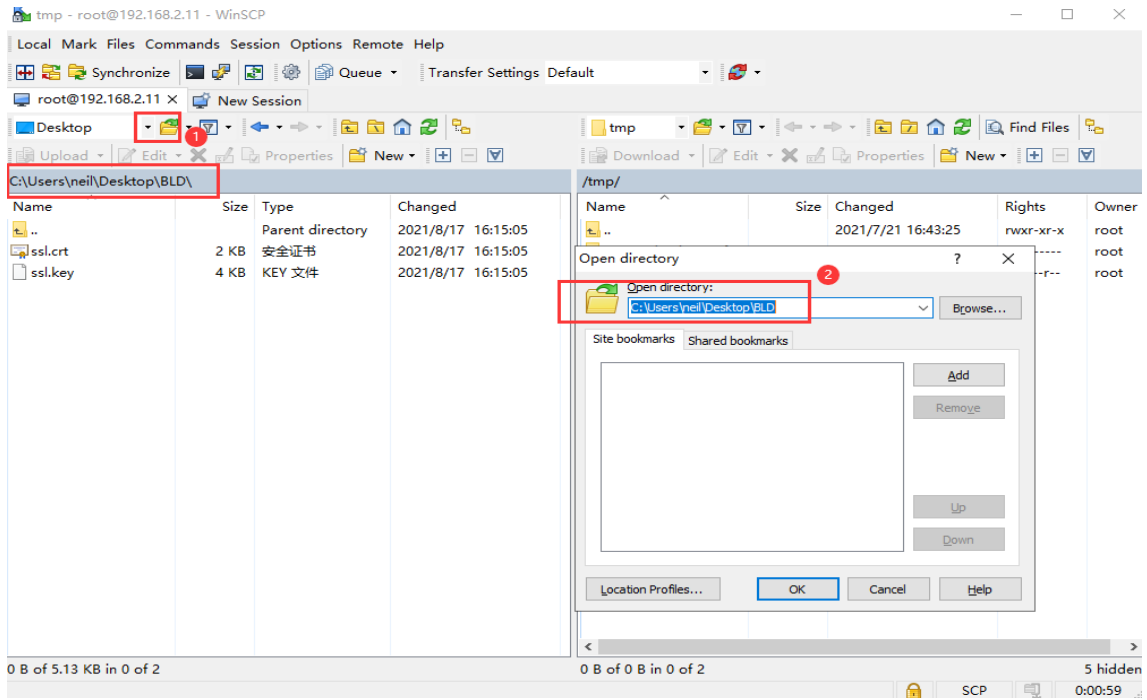


Figure 3-5-2

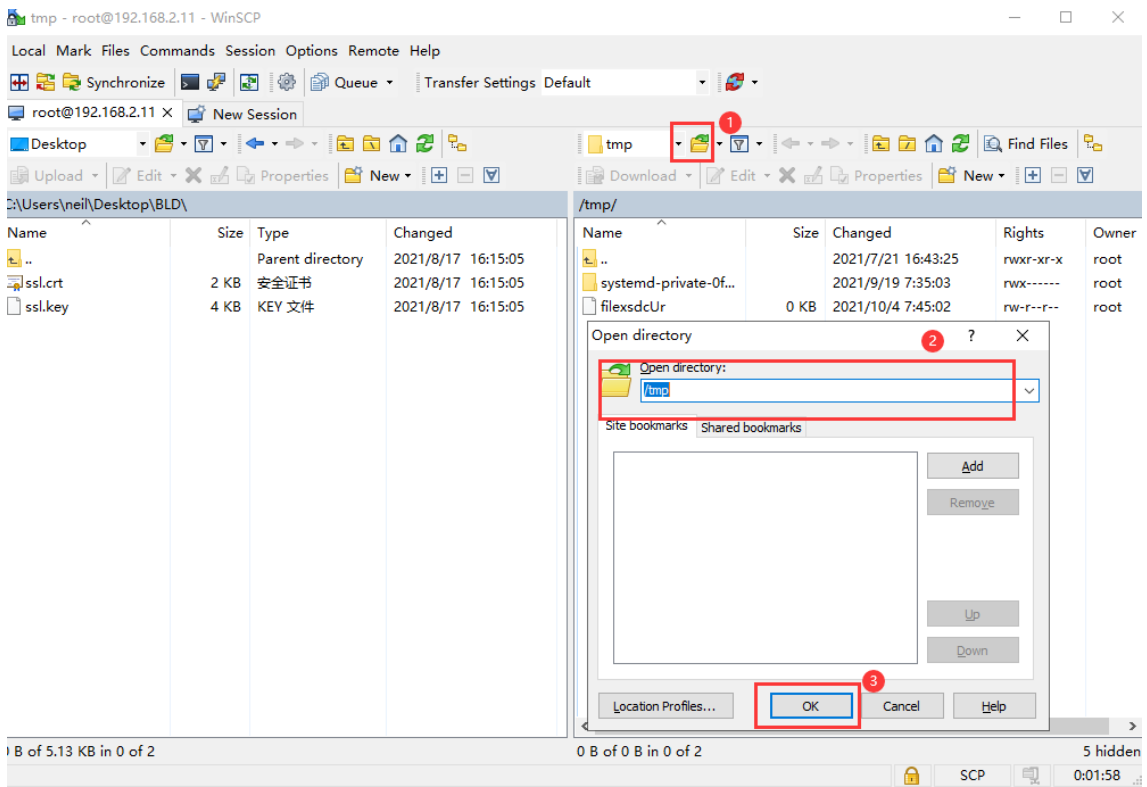


Figure 3-5-3

3) Upload installation package to directory.

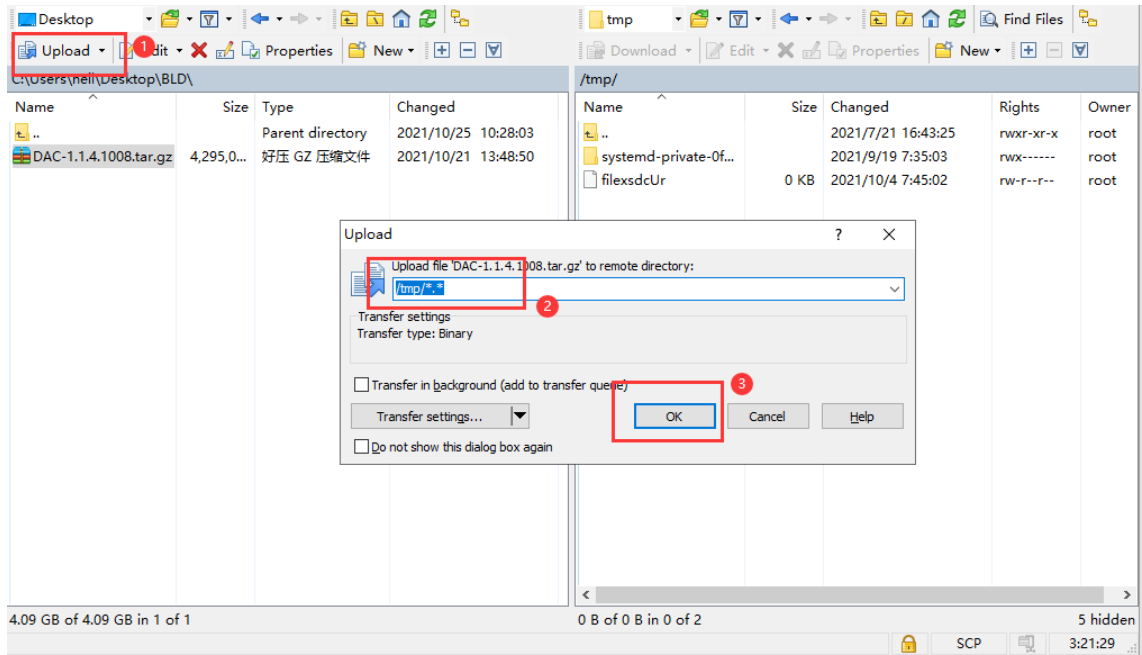


Figure 3-5-4

Note:

- To install WinSCP into the server ahead.
- 4) Successful status as shown in Figure 3-5-5.

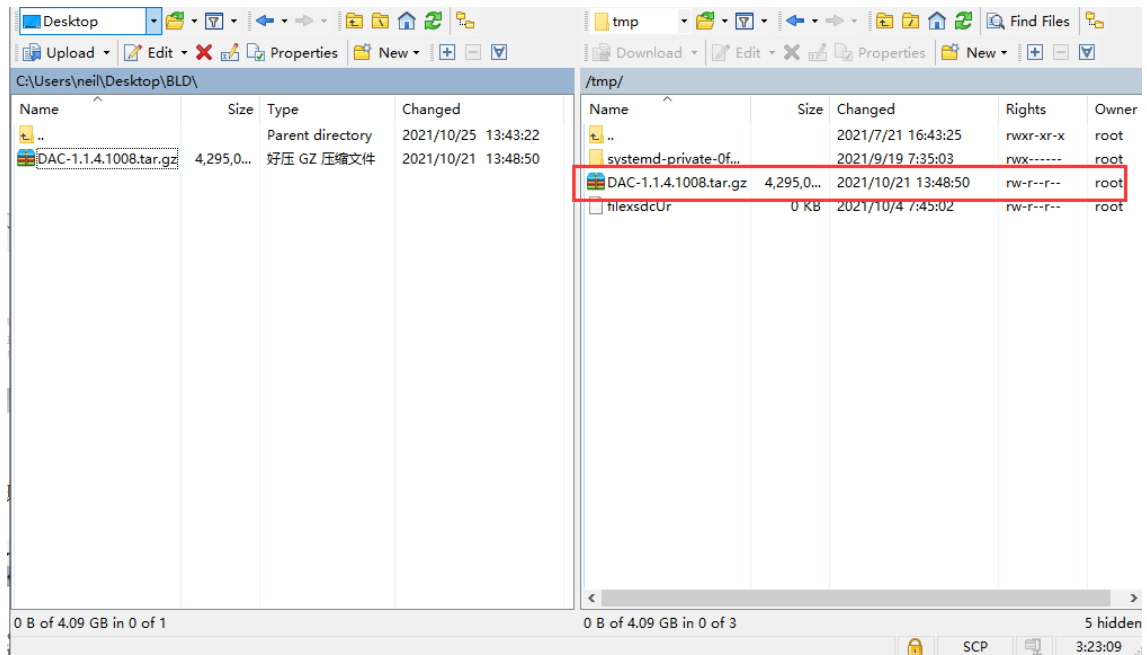


Figure 3-5-5

## 4 Installation and Uninstallation

### 4.1 Installation for Stand-Alone Mode

- 1) Create version directory: `mkdir -p /tmp/x.x.x.xxxx`.
- 2) Move uploaded installation package to version directory: `mv /tmp/DAC-XXXX.tar.gz /tmp/x.x.x.xxxx`.
- 3) Enter version directory: `cd /tmp/x.x.x.xxxx`.
- 4) Unzip the installation package: `tar -xzf DAC-XXXX.tar.gz`.
- 5) Enter directory: `cd /tmp/x.x.x.xxxx/data/package-BLD` and run `./check_md5.sh` to check if unzip successfully.
- 6) Release installation script 755 permissions : `sudo chmod 755 ./deployment-all.sh`.
- 7) Run `./deployment-all.sh`, enter 1 to start installation.

```
root@ubuntu:~/data/package-BLD# ./deployment-all.sh
1. Install/upgrade
2. Uninstall
3. Config New IP
4. Config Nat Network
5. Backup Database
Please input your Choice:1
You will Install/upgrade Plateform!
start uninstall old version
2021-10-25 09:53:00 275-0400
```

Figure 4-1-1

- 8) Input installation information in Figure 4-1-2.

```
uninstall complete!
Installation code: version101
1. stand alone
2. cluster
Please choose Mode(1/2):1
Enter server IP:192.168.2.44
IP 192.168.2.44 format correct!
192.168.2.44 is up =====
Enter server IPV6 address:
Enter your company info:
Enter your address info:
Enter your phonenum info:
=====
your mode is stand alone=====
your server IP is 192.168.2.44=====
your server IPV6 address is =====
your company name is: =====
your address is: =====
your phonenum is: =====
the version is: 1.1.4.1008=====
Are we continue?(y/n)
Generating public/private rsa key pair.
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:krFrps0yhJbhtQaQrZUKADEAEz829B80wM1le6XTTE root@ubuntu
The key's randomart image is:
+----[RSA 2048]-----+
|  oo  . . . |
| .o . . . E |
| .. * o . o |
| =o.+ B X . |
| =o % * S |
| oo o + o . |
| o.o = ^ . |
| .. + . |
+-----+
+----[SHA256]-----+
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@192.168.2.44's password:
```

Annotations in Figure 4-1-2:

- 1.install stand alone (points to Mode 1)
- 2.install cluster (points to Mode 2)
- server ip (points to IP 192.168.2.44)
- server ipV6,company info ,address info,phonenum info (points to the input fields for IPv6, company, address, and phone number)
- input 'y' to continue (points to the 'Are we continue?' prompt)
- server ssh password (points to the password prompt at the end)

Figure 4-1-2

DAC installation will proceed automatically until it is complete.

## 4.2 Installation for Cluster Mode

- 1) Specify one server in the cluster as the primary server.
- 2) Run the following command in each server for the first installation, then reboot them
  - a) `sed -i "s/#DefaultLimitNOFILE=/DefaultLimitNOFILE=65535/g" /etc/systemd/system.conf`
  - b) `sed -i "s/#DefaultLimitNOFILE=/DefaultLimitNOFILE=65535/g" /etc/systemd/user.conf`
- 3) Execute Step 1 to Step 7 in chapter 4.1 on the primary server.
- 4) Select cluster mode, fill the cluster information as shown in Figure 4-2-1 and installation will proceed automatically.

```
1. stand alone
2. cluster
Please choose Mode(1/2):2
Enter First Server IP:192.168.7.201
IP 192.168.7.201 format correct!
===== 192.168.7.201 is up =====
Enter Second Server IP:192.168.7.202
IP 192.168.7.202 format correct!
===== 192.168.7.202 is up =====
Enter Third Server IP:192.168.7.203
IP 192.168.7.203 format correct!
===== 192.168.7.203 is up =====
Enter Virtual IP:192.168.7.208
IP 192.168.7.208 format correct!
Enter your company info:
Enter your address info:
Enter your phonenum info:
===== your mode is cluster =====
===== your first server IP is 192.168.7.201 =====
===== your second server IP is 192.168.7.202 =====
===== your third server IP is 192.168.7.203 =====
===== your VIP is 192.168.7.208 =====
===== your company name is: =====
===== your address is: =====
===== your phonenum is: =====
===== the version is: 1.1.4.1008 =====
Are we continue?(y/n)y
Generating public/private rsa key pair.
Your identification has been saved in /root/.ssh/id_rsa.
Your public key has been saved in /root/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:LTevIHlGIFLbrGMxNLySrTlulwju/oopy6YhMS9p5w0 root@ubuntu11
The key's randomart image is:
+-----[RSA 2048]-----+
  o o o
  . o o o
  * * +
o = B = S = .
= + + . + *
=.E+0 O + +
100*O= . o +
 . + =00..
+-----[SHA256]-----+
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@192.168.7.201's password:
Number of key(s) added: 1
Now try logging into the machine, with: "ssh 'root@192.168.7.201'"
and check to make sure that only the key(s) you wanted were added.
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@192.168.7.202's password:
Number of key(s) added: 1
Now try logging into the machine, with: "ssh 'root@192.168.7.202'"
and check to make sure that only the key(s) you wanted were added.
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
/usr/bin/ssh-copy-id: INFO: attempting to log in with the new key(s), to filter out any that are already installed
/usr/bin/ssh-copy-id: INFO: 1 key(s) remain to be installed -- if you are prompted now it is to install the new keys
root@192.168.7.203's password:
```

Figure 4-2-1

## 4.3 Installation and Service Status Check

Installation will take about 30mins dependance on server and network. After installation, need to check whether all services are normal.

### 1) Stand-alone mode

Command Line:

In the remote login tool, enter the command: `docker ps -a`. If the status is Up, the service is running normally.

```
root@ubuntu:~# docker ps -a
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
19201588983e	clientstatistics:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		clientstatistics
6f17fefa3c9e	cspadmin-portal:1.1.5.2	"tini /bin/sh -c 'ja..."	5 hours ago	Up 5 hours		cspadmin-portal
048c835a40fa	espinfoprovider:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		espinfoprovider
59c7e4dbca5c	message:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		message
183ad030e6b4	rest-esp:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		rest-esp
367b51decd87	scene:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		scene
922c7aaf47b8	terminalcenter:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		terminalcenter
095c334f891f	terminalinfogather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		terminalinfogather
0b6ffbf8f1dc	dispatch-esp:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		trapdispatch
efdbe277556	widsapgather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		widsapgather
cdaafde58ce1	widsclientgather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		widsclientgather
332eef80752f	dispatch-esp:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		willdispatch
becd55c21878	wiredclientgather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		wiredclientgather
3595f64d565a	wiredclients:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		wiredclients
93b0b13f68ea	apinfogather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		apinfogather
31efe84411db	aprfinfogather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		aprfinfogather
5604463234b1	apstatusgather:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		apstatusgather
4d5862f2dc24	authbroker:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours	0.0.0.0:2000->2000/udp	authbroker
ef96fa4d1173	clientdetail:1.1.5.2	"/bin/go/microservic..."	5 hours ago	Up 5 hours		

Figure 4-3-1

URL:

Login URL `http://XX.XX.XX.XX:7777` (xx.xx.xx.xx is the IP address of the server), user name / password: admin / admin, you can view the service status. All service statuses are green and OK, indicates that the service is started normally.

System	Status	Load	CPU	Memory	Swap	
localhost	OK	[ 2.96] [ 1.88] [ 4.07]	5.71us 10.91us 0.07us 0.07us	35.3% [ 5.5 GB]	3.1% [ 35.7 MB]	
Process	Status	Uptime	CPU Total	Memory Total	Read	Write
sshd@sshd	OK	2d 1h 3m	0.1%	0.8% (89.0 MB)	132.5 B/s	4.5 B/s
sshd@sshd	OK	2d 0h 55m	0.2%	0.2% (20.2 MB)	140.0 B/s	116.6 B/s
wirelessd@wirelessd	OK	2d 0h 55m	0.3%	0.2% (26.9 MB)	140.0 B/s	121.1 B/s
willdispatch	OK	2d 0h 55m	0.4%	0.3% (31.5 MB)	516.4 B/s	454.7 B/s
wids@wids	OK	2d 0h 55m	0.2%	0.1% (10.4 MB)	0.0 B/s	0.0 B/s
widsclientgather	OK	2d 0h 55m	0.2%	0.2% (21.2 MB)	137.2 B/s	112.1 B/s
widsappgather	OK	2d 0h 55m	0.2%	0.2% (24.0 MB)	147.6 B/s	120.0 B/s
wsm@wsm	OK	2d 1h 3m	0.1%	0.7% (112.9 MB)	0.0 B/s	0.0 B/s
userservice	OK	2d 0h 55m	0.2%	0.3% (32.2 MB)	175.6 B/s	122.0 B/s
wids@wids	OK	2d 0h 57m	0.3%	0.2% (28.4 MB)	580.6 B/s	422.3 B/s
wids@wids	OK	2d 0h 55m	0.3%	0.2% (28.3 MB)	509.5 B/s	446.9 B/s
toolservice	OK	2d 0h 55m	0.2%	0.2% (27.0 MB)	200.0 B/s	209.8 B/s
terminalinfogather	OK	2d 0h 55m	0.3%	0.2% (21.9 MB)	144.0 B/s	124.5 B/s
terminalidentity	OK	2d 0h 55m	0.3%	0.2% (24.6 MB)	39.7 B/s	4.0 B/s
systemproperty	OK	2d 0h 55m	0.3%	0.3% (33.9 MB)	207.9 B/s	174.3 B/s
scene	OK	2d 0h 55m	0.3%	0.4% (88.8 MB)	229.5 B/s	207.5 B/s
sp@sp	OK	2d 0h 55m	0.3%	0.4% (88.0 MB)	262.9 B/s	258.4 B/s
radio	OK	2d 1h 3m	0.1%	0.1% (12.0 MB)	310.2 B/s	418.0 B/s
reportcs	OK	2d 1h 2m	0.0%	3.1% (801.3 MB)	50.7 B/s	1.3 B/s
scened	OK	2d 0h 57m	0.4%	0.3% (30.2 MB)	634.0 B/s	512.0 B/s
portal	OK	2d 0h 55m	0.0%	0.1% (14.7 MB)	0.0 B/s	0.0 B/s
msgbox	OK	2d 1h 5m	0.2%	1.0% (163.2 MB)	10.5 MB/s	1.5 MB/s
message	OK	2d 0h 57m	0.2%	0.1% (20.3 MB)	0.0 B/s	0.0 B/s
mailmanager	OK	2d 0h 57m	0.2%	0.2% (28.8 MB)	43.5 B/s	5.6 B/s
loadash	OK	2d 0h 55m	0.3%	4.8% (772.9 MB)	767.6 B/s	1.7 MB/s
loadash	OK	2d 0h 55m	0.2%	0.3% (42.7 MB)	168.9 B/s	152.6 B/s
loadash	OK	2d 0h 55m	0.3%	0.2% (21.1 MB)	102.6 B/s	200.8 B/s
infostatistic	OK	2d 0h 55m	0.2%	0.2% (28.8 MB)	175.5 B/s	193.2 B/s
hamqr	OK	2d 0h 55m	0.2%	0.2% (28.7 MB)	80.7 B/s	42.2 B/s
hamqr	OK	2d 0h 55m	0.2%	0.1% (21.7 MB)	2.6 B/s	1.0 B/s
hamqr	OK	2d 1h 2m	0.9%	3.3% (862 MB)	0.0 B/s	0.0 B/s
esp@esp	OK	2d 0h 55m	0.2%	0.2% (20.0 MB)	128.3 B/s	114.2 B/s
dispatch	OK	2d 0h 55m	0.4%	0.2% (28.0 MB)	735.7 B/s	644.6 B/s
dispatch	OK	2d 0h 55m	0.4%	0.3% (33.3 MB)	691.6 B/s	538.8 B/s
csadmin.portal	OK	2d 0h 55m	0.1%	2.3% (122.3 MB)	0.0 B/s	0.0 B/s
csadmin.call	OK	2d 0h 55m	0.3%	0.2% (27.7 MB)	313.5 B/s	242.5 B/s
csadmin	OK	2d 0h 55m	0.3%	2.8% (402.6 MB)	0.0 B/s	0.0 B/s

Figure 4-3-2

## 2) Cluster mode

Enter the command: `kubectl get pod` in the remote login tool. If the status of the service is Running, the service is running normally.

```

root@ubuntu:~# kubectl get pod
NAME                                READY   STATUS    RESTARTS   AGE
apinfogather-bd5896cb7-9zxyv        1/1     Running   0           36m
aprfinfogather-69d9f56bf8-djst8     1/1     Running   0           35m
aprservice-7b468b56b7-12249         1/1     Running   0           35m
apsstatusgather-5cd9c95dc-wsm2p     1/1     Running   0           35m
aptrapservice-5dd89657fc-wvfz7      1/1     Running   0           36m
apupgrade-6b9b5768d7-rzdn9          1/1     Running   0           36m
apwillservice-579f9f665b-q6j5d      1/1     Running   0           35m
ca-bridge-8464965875-p8qff          1/1     Running   0           35m
clientdetail-677f4b87f9-w6mmc       1/1     Running   0           35m
clientevent-b7d96746f-9bsgn         1/1     Running   0           35m
clientname-6897d6c678-hvjvk         1/1     Running   0           35m
clientsstatistics-6bb45d6cc5-9f9mr   1/1     Running   0           35m
clienttraffic-66f8774fd9-pp577      1/1     Running   0           35m
config-5fb9595bbf-2k5zq             1/1     Running   0           35m
cspadmin-77d8cb549b-rpk28            1/1     Running   0           38m
cspadmin-call-854f74484-hrwj6        1/1     Running   0           35m
cspadmin-portal-7cd55b4d75-jg2lf     1/1     Running   0           38m
cspadmin-report-86d8bc9f96-fvgbw     1/1     Running   0           35m
datasynchronization-7bcd4c897c-n8csp 1/1     Running   0           35m
dispatch-75bffcf5c5-w7z42           1/1     Running   0           35m
dsp-ad-resource-f5cd6964b-t4cwt      1/1     Running   0           18m
dsp-ad-resource-strategy-7d998d4857-t4htt 1/1     Running   0           18m
dsp-apigateway-6dfc45f7cb-4cdnn      1/1     Running   0           18m
dsp-bidding-5b6846544c-gr754        1/1     Running   0           18m
dsp-report-5465f9dd67-bmpwk          1/1     Running   0           18m
dsp-usermanager-7d89c7b797-zjmsv     1/1     Running   0           18m
espinfoprovder-97d4c797c-ng5n2       1/1     Running   0           35m
espversion-6695685958-nflwl         1/1     Running   0           18m
eureka-5b5bf5d7df-7dzcf             1/1     Running   0           36m
guideservice-b56b788c6-x99xv         1/1     Running   0           35m
hamqrcode-5d5555f89d-lnk5l          1/1     Running   0           35m
hamqrservice-77cfbcf59-7hnfx        1/1     Running   0           35m
infostatistics-7b8cb4b4dd-tfvfp      1/1     Running   0           35m
jobscheduler-68d6786967-g47mp        1/1     Running   0           35m
license-79fd579fb8-c95g6             1/1     Running   0           35m
mail-manager-58969f48b6-hm5h8        1/1     Running   0           35m
message-796dfd8689-blxvz            1/1     Running   0           35m
nginx-78d978b7ff-8skx4              1/1     Running   0           35m
portal-69f6f6ccc6-s9zdt             1/1     Running   0           35m
portal-esp-584d898b85-vdbx5          1/1     Running   0           35m
reportcsadminservice-6c6d59fbc6-2npvd 1/1     Running   0           36m
rest-esp-c749978fc-tpwgt             1/1     Running   0           35m
rfservice-7f5dd89787-pkncx          1/1     Running   0           36m
rtb-bidding-6fcd557b5d-wzbth         1/1     Running   0           18m
scene-69d88c8fb8b-ms78z             1/1     Running   0           35m
systemproperty-65f78d778d-pwrfg      1/1     Running   0           35m
terminalidentity-7fc957f5bb-rmbrs    1/1     Running   0           18m
terminalinfogather-669bb6fc94-c785p   1/1     Running   0           35m
toolservice-65d9d7d9cd-xxnsr        1/1     Running   0           35m
trapdispatch-6cf7c4bc4c-hfnwf        1/1     Running   0           35m
upgradedispatch-cfc6d4f49-skvr        1/1     Running   0           35m
userservice-7c764fc8f8-f6k7d         1/1     Running   0           35m
wechat-6f659c58cf-2nqvb             1/1     Running   0           35m
widsappgather-57d7486894-7b99s       1/1     Running   0           35m
widsclientgather-5cdbf77f76-sgbt4    1/1     Running   0           35m
widservice-675cc869bd-ws659          1/1     Running   0           36m
willdispatch-8456c57b84-f7hw4        1/1     Running   0           35m
wiredclientgather-5c4d8b6b8b-m5lkt   1/1     Running   0           35m
wiredclients-568d759fd8-n77f2       1/1     Running   0           35m
root@ubuntu:~#

```

Figure 4-3-3



## 4.4 Modify DAC Server IP

The stand-alone server IP can be modified, not support cluster mode. This script can be executed after the normal installation of the version.

- 1) Modify server IP, and the IP configured in the /etc/network/interfaces, save and to restart the server.
- 2) After the Mongo database is restarted, check if the server IP has been modified.
- 3) Execute deployment-all.sh script, follow the steps in Figure 4-4-1.
- 4) If no error is reported during execution, docker ps -a | grep exit does not exit the service and the page access is normal, means the modification is successful. To restart the server if there is any error.

```
root@ubuntu:~/data/package-Taichu# ./deployment-all.sh
1. Install/Upgrade
2. Uninstall
3. Config New IP
4. Config Nat Network
5. Backup Database
Please input your Choice:3
You will Config New IP for Plateform!
Please input your NewIP:192.168.2.45
```

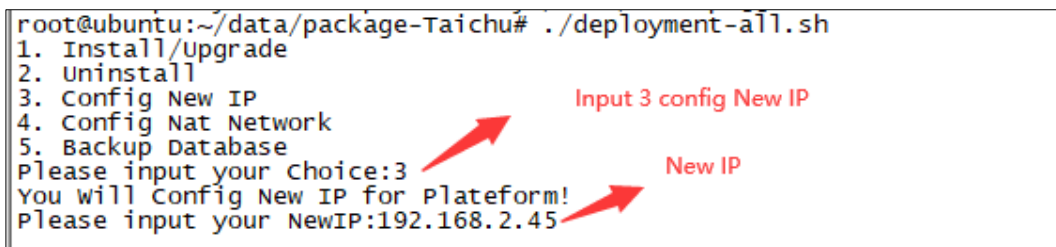


Figure 4-4-1

## 4.5 Configure DAC Public IP

Execute following steps to modify DAC public IP after normal installation.

- 1) To confirm all services is running normally, and public IP is correct.
- 2) Execute deployment-all.sh script, follow the steps in Figure 4-5-1.
- 3) If no error is reported during execution, docker ps -a | grep exit does not exit the service, means the modification is successful.

```
root@ubuntu:~/data/package-Taichu# ./deployment-all.sh
1. Install/Upgrade
2. Uninstall
3. Config New IP
4. Config Nat Network
5. Backup Database
Please input your choice:4
You Will Config NAT Network for Plateform!
Please input your Public IP:182.150.57.140
IP 182.150.57.140 format correct!
Can you use public network port 443?(y/n)n
If not,please input your public network port which you can use:4433
```

Input 4 config Nat Network

Public IP

Input "y" use default 443,"n" use you defind port

Figure 4-5-1

## 4.6 Start/Stop Service

Enter “**kubectI apply/delete -f XXX/XX.yaml**”, to start or stop some services.

All yaml files are stored in /opt/micro-esp-playbook、 /etc/csp/advertisement/advertisement-yaml/、  
/etc/csp/csp-report/、 /etc/csp/Portal/、 /etc/csp/docker-cspadmin/、 /etc/csp/csp-statistic/、  
/etc/csp/csp-email/、 /etc/csp/aiops-itt/.

## 4.7 Get Device Code

Device code is the fingerprint of the DAC server, which is required to provide to your supplier for offline license application. To get DAC server device code in following page, the supplier will generate license code based on this device code.

Refer DAC User Manual to active the license code.

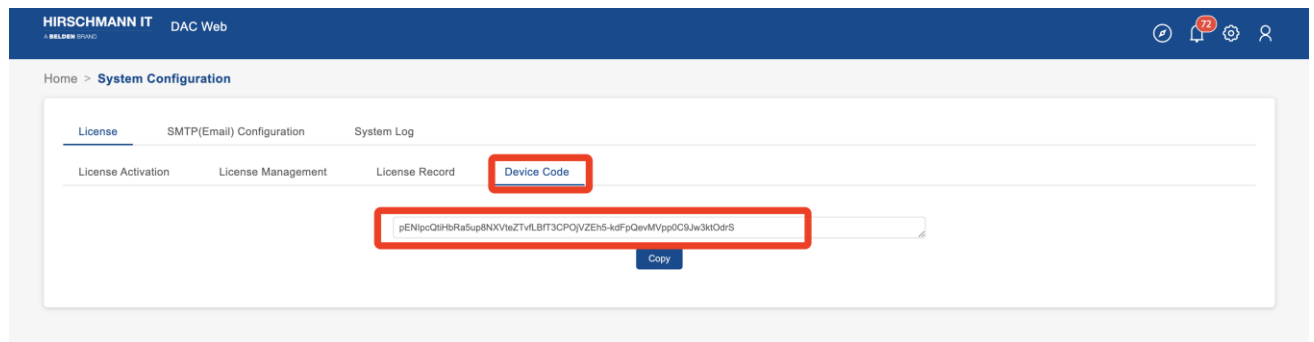


Figure 4-7-1

## 4.8 Login DAC

Open the computer browser and visit <http://XX.XX.XX.XX:8808> (xx.xx.xx.xx is the virtual IP of the cluster mode) , log in to the DAC as shown in Figure 4-8-1.

Default Account Name is **admin**, Password is **Admin@01**.

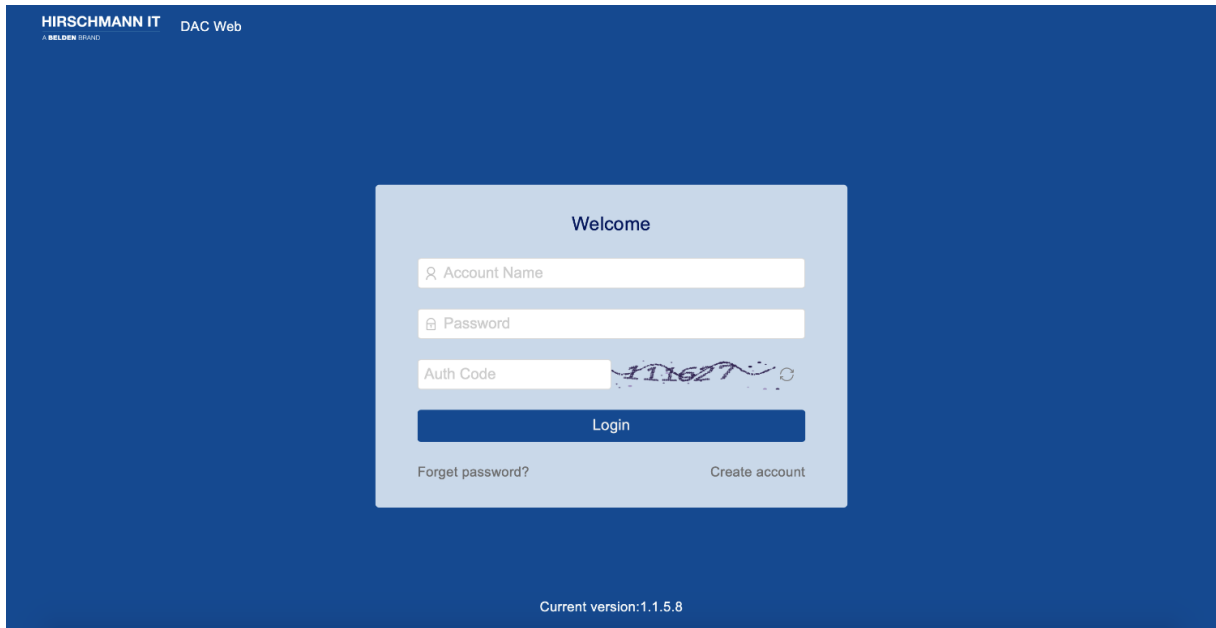


Figure 4-8-1

## 4.9 Uninstallation

- 1) Enter unzip directory: `cd /tmp/x.x.x.xxx/data/package-BLD.`
- 2) Run script: `sudo ./deployment-all.sh.`

```
root@ubuntu:~/data/package-Taichu# ./deployment-all.sh
1. Install/Upgrade
2. Uninstall
3. Config New IP
4. Config Nat Network
5. Backup Database
Please input your choice:2
You will Uninstall Plateform!
```

Input 2 uninstall services

Figure 4-9-1

## 4.10 Data Backup and Recovery

- 1) Data backup

Execute **deployment-all.sh script**, choice 5 to backup database and default directory is **/root/databackup/**.

```
root@ubuntu:~/data/package-Taichu# ./deployment-all.sh
1. Install/Upgrade
2. Uninstall
3. Config New IP
4. Config Nat Network
5. Backup Database
Please input your choice:5
You will Backup Database!
Please input your backup directory:/root/dackup█
```

Input 5 Backup Database

Data backup directory

Figure 4-10-1

- 2) Data recovery

Execute the script `datastore.sh` for data recovery, `bash /etc/csp/datastore. sh parameter 1.`

Note: Parameter 1 is the directory during data backup. Example: `bash / etc / csp / datastore sh /etc/csp/databackup/data-2019-12-11_ 14:32.`

## 4.11 DAC Upgrade

- 1) Refer to 3.4, to download target DAC version.
- 2) Backup data, as show in Figure 4-10-1.
- 3) Upload installation package to virtual machine.
- 4) Refer to 4.1 or 4.2, to finish installation.
- 5) Data recovery.

## 5 Trouble Shooting

### 5.1 Subnet IP Conflict

1) If 172.17.0.1 subnet IP had conflict after installation.

Enter directory: `cd /tmp/x.x.x.xxxx/data/package-BLD/csp` and run `./ipconflictresolve.sh`

Select 1 to solve this problem as shown in Figure 5-1-1.

2) If 172.18.0.1 subnet IP had conflict after installation.

Enter directory: `cd /tmp/x.x.x.xxxx/data/package-BLD/csp` and run `./ipconflictresolve.sh`

Select 2 to solve this problem as shown in Figure 5-1-1.

Then reinstall DAC to use new subnet IP address.

```
root@ubuntu:/tmp/1.1.5.2/data/package-BLD/csp# ./ipconflictresolve.sh
Before use this script to solve 172.17 or 172.18 subnet conflict,make sure docker service is already installed
1) 172.17 subnet conflict
2) 172.18 subnet conflict
Please choose which subnet conflict(1/2):
```

Figure 5-1-1

## 5.2 Installation Failure

The installation is restricted by the server environment. Occasionally, if the first installation fails, you can run the installation command again after the first installation.

## 5.3 Service Failure

If the service cannot be started after installation, please check whether the following ports are occupied, and whether the server has insufficient resources, if the disk is full.

Port	TCP/UDP	Service	Function
20101	TCP	mongo1	Database port
8883/8888	TCP	vernemq	AP connection port
15672/61613	TCP	rabbitmq	Message queuing port
5432	TCP	postgres	Database port
1812	UDP	freeradius	Authentication service port
1813	UDP	freeradius	Authentication service port
1814	UDP	freeradius	Authentication service port
50051	TCP	freeradius	Authentication service port
443	TCP	nginx	Web page port
8808	TCP	nginx	Web page port
8060	TCP	nginx	Web page port
8081	TCP	nginx	Web page port
8099	TCP	nginx	Web page port

8443	TCP	nginx	Web page port
8282	TCP	hamrcode	QR service port
2000	UDP	authbroker	Authentication service port

## 5.4 Cannot Access the Page

After restarting the virtual machine, the page cannot be accessed sometimes. Firstly, to check whether the service status is Up or Running. Then waiting until all services are normal, the page can be accessed.