

Install nChronos Server

Please note that the server to be installed with nChronos Server has at least two disks (physical or logical), one for installing nChronos Server software and the other for storing nChronos data.

System Requirements

The basic system requirements for nChronos Server are listed as below:

- OS: Linux CentOS 7.1/7.4/7.8
- CPU: 4-core, 1.8GHz
- RAM: 16 GB
- Hard disk: at least two disks (physical or logical)
- Network interface: at least 2 network ports

Depending on network traffic and analysis performance required, the requirements may be substantially higher.

Factors that contribute to superior performance include high speed CPU, RAM, and high performance disk storage subsystem, and enough hard disk space is required to store network packets and data that you want to have.

It is recommended to prepare two hard disks, one of at least 60GB for installing the operating system and nChronos Server, and the other of at least 200GB for storing nChronos data.

It is also recommended to [do RAID](#) on the hard disks to protect data.

Install Operating system

Install CentOS

Download CentOS 7 ISO file and install it.

Install csxfs

Input the installation file “csxfs-1.0.4-91.x86_64.rpm” to */root* path and do following command:

```
rpm -ivh csxfs-1.0.4-91.x86_64.rpm
```

Disk partition and amount

1. Check disk status:
lsblk
2. sdb partition:
parted /dev/sdb
mklabel gpt
mkpart
1
ext4
0%
100%

- toggle 1 lvm
3. Check the partition information:
p
 4. Quit:
q
 5. LVM logical volume creation:
 - 1) fdisk -l #Get the disk name
 - 2) pvcreate /dev/sdb1
 - 3) vgcreate vg1 /dev/sdb1
 - 4) lvcreate -l 100%FREE -n lv1 vg1
 - 5) mkfs.csxfs /dev/vg1/lv1
 6. Mount lv1 to the /data directory:
 - 1) Edit fstab file : vi /etc/fstab
Add following content:
/dev/vg1/lv1 /data csxfs defaults,nofail,noatime 0 0
 - 2) mkdir /data
 - 3) mount -a
 - 4) df -h # Confirm that lv1 has been mounted to the /data directory
 - 5) df -T #View the mounted file format is csxfs

Configure network interface

After installing the operating system, modify the IP address for management port. You can refer to *How to Configure Network Interfaces* for nChronos Server for details.

Configure firewall

Follow steps below to configure firewall:

1. Disable firewalld


```
systemctl mask firewalld.service                      #mask firewalld
systemctl stop firewalld.service                      #stop firewalld
systemctl disable firewalld.service                      #disable start-up firewalld
```
2. Install and enable iptables with following commands:


```
yum install iptables-services -y                      #install iptables
systemctl enable iptables.service                      #enable iptables
```
3. Modify the iptables file by vi /etc/sysconfig/iptables as below:


```
*filter
:INPUT ACCEPT [0:0]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [0:0]
-A INPUT -m state --state RELATED,ESTABLISHED -j ACCEPT
-A INPUT -p icmp -j ACCEPT
-A INPUT -i lo -j ACCEPT
-A INPUT -p tcp -m state --state NEW -m tcp --dport 22 -j ACCEPT
```

```
-A INPUT -p tcp -m state --state NEW -m tcp --dport 443 -j ACCEPT
-A INPUT -p tcp -m state --state NEW -m tcp --dport 3000 -j ACCEPT
-A INPUT -p tcp -m state --state NEW -m tcp --dport 8080 -j ACCEPT
-A INPUT -j REJECT --reject-with icmp-host-prohibited
-A FORWARD -j REJECT --reject-with icmp-host-prohibited
COMMIT
```

4. Restart firewall.

```
systemctl restart iptables
```

Modify time

If the system time is correct, please ignore this step. If the system time is incorrect, please follow steps below to modify the time.

1. Select time zone

```
timedatectl set-local-rtc 1
timedatectl set-timezone Asia/Shanghai #choose the correct time zone
```

2. Set time

```
date -s "2017-07-11 10:25:25" #here input local time
```

3. Set RTC (hardware clock)

```
hwclock --systohc #Synchronize hardware clock
```

After above steps, do “timedatectl” to check if the time is OK.

```
[root@localhost ~]# timedatectl
Local time: Tue 2017-07-11
Universal time: Tue 2017-07-11
RTC time: Tue 2017-07-11
Timezone: Asia/Shanghai
```

Install nChronos Server software

Download the Server software installation package. Before downloading, check the operating system version and if the CPU supports avx2 instructions.

Operating System	Package for CentOS 6	Package for CentOS 7
Centos6.6 (avx2 unsupported)	✓	
Centos6.6 (avx2 supported)	✓	
Centos7.x (avx2 unsupported)	✓	
Centos7.x (avx2 supported)	✓	✓

Use the command: `grep -i "avx2" /proc/cpuinfo` to check if CPU supports avx2. If the return result prints information including avx2, it means the CPU supports avx2; if nothing returned, it means the CPU doesn't support avx2. Like the image below:

```
[root@localhost ~]# grep -i "avx2" /proc/cpuinfo
flags      : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
clflush dts mmx fxsr sse sse2 ss syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pe
bs bts nopl xtopology tsc_reliable nonstop_tsc aperfmperf eagerfpu pni pclmulqdq ssse3 fma
cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand
hypervisor lahf_lm abm 3dnowprefetch ida arat epb xsaveopt pln pts dtherm fsgsbase tsc_adj
ust bmi1 hle avx2 smep bmi2 invpcid rtm rdseed adx smap
flags      : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
clflush dts mmx fxsr sse sse2 ss syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pe
bs bts nopl xtopology tsc_reliable nonstop_tsc aperfmperf eagerfpu pni pclmulqdq ssse3 fma
cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand
hypervisor lahf_lm abm 3dnowprefetch ida arat epb xsaveopt pln pts dtherm fsgsbase tsc_adj
ust bmi1 hle avx2 smep bmi2 invpcid rtm rdseed adx smap
flags      : fpu vme de pse tsc msr pae mce cx8 apic sep mtrr pge mca cmov pat pse36
clflush dts mmx fxsr sse sse2 ss syscall nx pdpe1gb rdtscp lm constant_tsc arch_perfmon pe
bs bts nopl xtopology tsc_reliable nonstop_tsc aperfmperf eagerfpu pni pclmulqdq ssse3 fma
cx16 pcid sse4_1 sse4_2 x2apic movbe popcnt tsc_deadline_timer aes xsave avx f16c rdrand
hypervisor lahf_lm abm 3dnowprefetch ida arat epb xsaveopt pln pts dtherm fsgsbase tsc_adj
ust bmi1 hle avx2 smep bmi2 invpcid rtm rdseed adx smap

[-----]
[.root@colasoft ~]# grep -i "avx2" /proc/cpuinfo
[.root@colasoft ~]#
```

Please note it's best to manually input the command to prevent incorrect symbol recognition.

Follow steps below to install nChronos Server software.

1. Download the Server software installation package, which includes four files: **csrass_xxx.rpm**, **dependency.tar.gz**, **setup_csrass.sh**, and **unsetup_csrass.sh**. SSH connect to the server, and copy the installation package to the server.

```
192.168.160.142 x +
[.root@colasoft ~]# ll
total 155156
-rw-r--r-- 1 root root 2502 Oct 26 19:17 anaconda-ks.cfg
-rw-r--r-- 1 root root 5500464 Nov 20 13:18 csrasm
-rw-r--r-- 1 root root 151661876 Dec 5 10:37 csrass-std-5.5.1.10573_7_x86_64.rpm
-rw-r--r-- 1 root root 1696439 Nov 28 20:17 dependency.tar.gz
-rw-r--r-- 1 root root 7305 Dec 6 09:17 setup_csrass.sh
-rw-r--r-- 1 root root 992 Dec 6 09:17 unsetup_csrass.sh
[.root@colasoft ~]#
```

2. Modify the privilege with the command: **chmod +x setup_csrass.sh**

```

1 192.168.160.142 x +
[root@colasoft ~]# chmod +x setup_csrass.sh
[root@colasoft ~]# ll
total 155156
-rw-r--r-- 1 root root 2502 Oct 26 19:17 anaconda-ks.cfg
-rw-r--r-- 1 root root 5500464 Nov 20 13:18 csrasmd
-rw-r--r-- 1 root root 151661876 Dec 5 10:37 csrass-std-5.5.1.10573_7_x86_64.rpm
-rw-r--r-- 1 root root 1696439 Nov 28 20:17 dependency_tar.gz
-rwxr-xr-x 1 root root 7305 Dec 6 09:17 setup_csrass.sh
-rw-r--r-- 1 root root 992 Dec 6 09:17 unsetup_csrass.sh
[root@colasoft ~]#

```

3. Do the command: `./setup_csrass.sh` and then follow the wizard to complete the installation.

```

[root@colasoft ~]# chmod +x setup_csrass.sh
[root@colasoft ~]# ./setup_csrass.sh
Change mode to Manual!
-----
0 ./csrass-std-5.5.1.10573_7_x86_64.rpm
-----
Input number to select package:0
Choose rpm package is ./csrass-std-5.6.0.12004_7_x86_64.rpm!
-----
0 Chinese
1 English
-----
Input number to select language:1 Choose language
Set language to English!
denpendency/
denpendency/libXrender.so.1
denpendency/libxcb.so.1
denpendency/libX11.so.6
denpendency/libgstvideo-0.10.so.0
denpendency/libgstinterfaces-0.10.so.0
denpendency/libgstapp-0.10.so.0
denpendency/libXau.so.6
denpendency/libgstpbutils-0.10.so.0
denpendency/libfontconfig.so.1
denpendency/libXext.so.6
denpendency/libpng12.so.0
denpendency/libjpeg.so.62
denpendency/libgstbase-0.10.so.0
denpendency/libgststreamer-0.10.so.0
Preparing... ##### [100%]

Note: This output shows SysV services only and does not include native
systemd services. SysV configuration data might be overridden by native
systemd configuration.

If you want to list systemd services use 'systemctl list-unit-files'.
To see services enabled on particular target use
'systemctl list-dependencies [target]'.

Note: This output shows SysV services only and does not include native
systemd services. SysV configuration data might be overridden by native
systemd configuration.

If you want to list systemd services use 'systemctl list-unit-files'.
To see services enabled on particular target use
'systemctl list-dependencies [target]'.

Updating / installing...
 1:csrass-5.6.0-12004 ##### [100%]
cpucount is 2, usr default config, please re-select in the web browser!
Starting csrasmd (via systemctl): [ OK ]
Install csrass complete!
[root@colasoft ~]#

```

The default username for logging in nChronos Server is **admin** and the password is **D&^4Vs**.

After the installation, please log in Web Portal to activate it.

After the activation, please configure storage settings, interface settings, and link settings, etc.

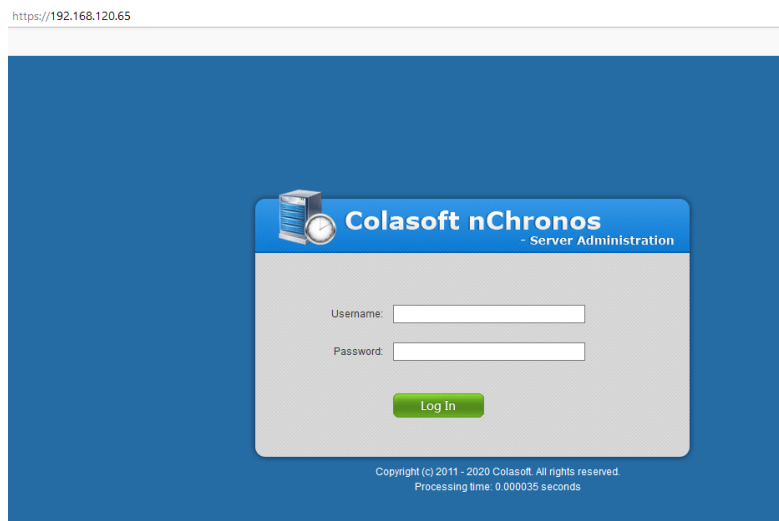
When configuring the storage space, the Config Space is usually less than the Available Space by 100GB. The 100GB is reserved.

To configure a storage area, the recommended space ratio of statistics : packets : transaction log : alarm log is 0.2 : 0.7 : 0.05 : 0.05.

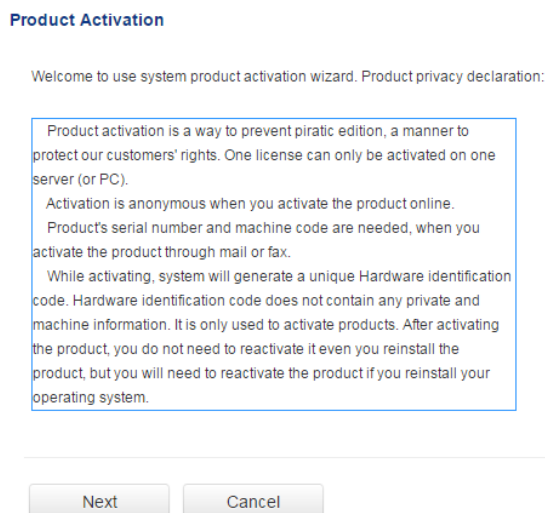
Activate nChronos Server

Follow steps below to activate nChronos Server:

1. Launch a browser, in the address bar input `https://xxx.xxx.xxx.xxx` (`xxx.xxx.xxx.xxx` stands for the IP address of the management interface of the nChronos server) and then press ENTER.



2. On nChronos Server login portal, input the user name **admin** and the password **D&^4Vs!()**, and then press ENTER. It shows the activation page as the screenshot below:



3. Click **Next** and input the Serial Number, and then choose an activation method.

Product Activation

Please enter the correct license information.

Serial number:

☒ Activate online (recommended)

☐ Activate with license file

Previous

Next

Cancel

Activate online

To activate nChronos Server online, just enter the Serial Number and then click Next to complete the activation. This method is very quick and easy, and the activation process will only take a few seconds.

Activate with license file

When you don't have Internet access or failed to activate online, you can choose this method to activate nChronos.

The license file can be obtained by two ways: via Colasoft Webpage and via Colasoft Support.

Product Activation

1: Click [here](#) to automatically get license file

2: Copy the below information and send email to support@colasoft.com to get license file

Serial number: 04520-21520-40161-03711-20201

Machine code: 42541-23973-42821-02201-20308-40601-12150

Version: 5.4.1.8595

Click the button Browse to import license file:

Browse

Previous

Next

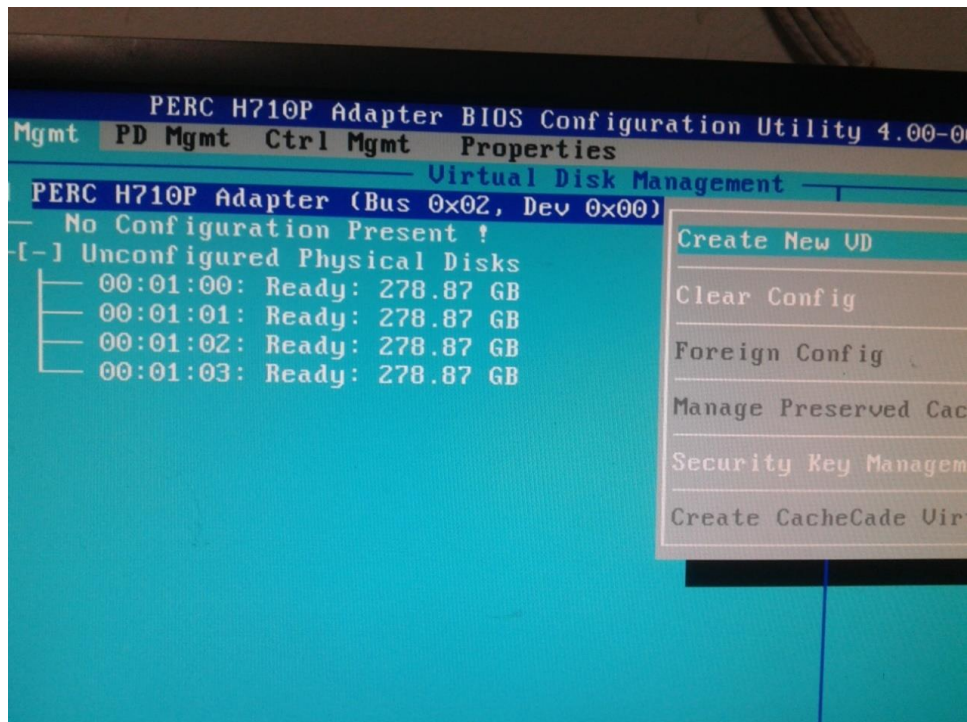
Cancel

Via Colasoft Webpage

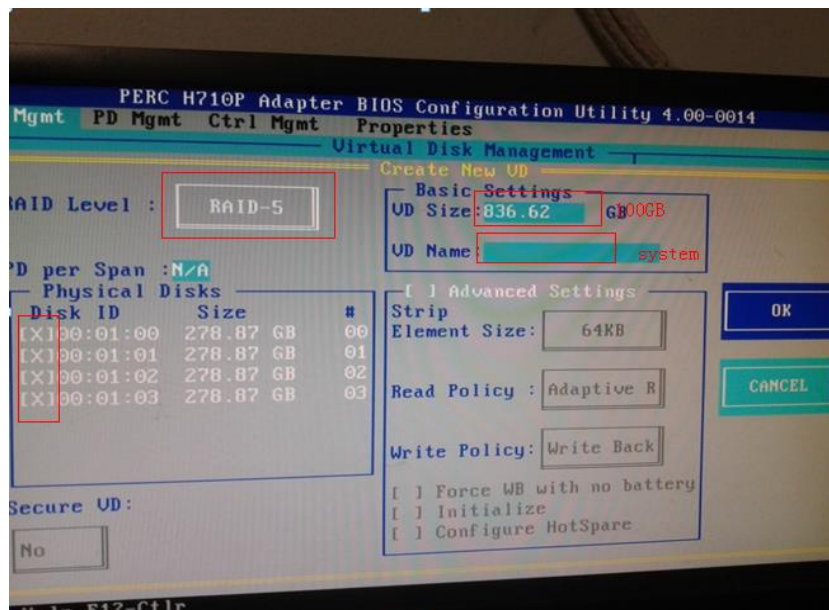
Follow steps below to obtain license file via Colasoft Webpage:

1. On the activation interface, click the link in Option 1, and then Colasoft Activation Webpage pops up:

2. Click **Save as Bin** to save the license file.
3. On the activation interface, import the license file, and then click **Next**.



3. Choose Create New VD, choose RAID-5, select all physical disks, use Tab key to switch, set VD Size of VD1 as recommended 100 G and VD Name as system, and then choose OK.



4. Add VD2 on Disk Group, no need to choose physical disk again here, choose RAID-5 for RAID Level, choose the rest storage space, set VD Name as data, choose Advanced Settings, set Strip Size as 1 MB, and choose OK.
5. Initialize the two partitions, select the partition, press F2, select Fast Init.
6. Restart the server after finishing the settings.