

# ?????&????

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# CRI-O??? k8s ??

????

## 1. OS

```
$> swapoff -a

$> cat <<EOF | sudo tee /etc/modules-load.d/k8s.conf
br_netfilter
EOF

$> cat <<EOF | sudo tee /etc/sysctl.d/k8s.conf
net.bridge.bridge-nf-call-ip6tables = 1
net.bridge.bridge-nf-call-iptables = 1
EOF

$> sudo sysctl --system
```

## 2. cri-o / kubernetes

```
$> cat /etc/yum.repos.d/libcontainers.repo
[devel_kubic_libcontainers_stable]
name=Stable Releases of Upstream github.com/containers packages (CentOS_8)
type=rpm-md
baseurl=https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/CentOS_8/
gpgcheck=1
gpgkey=https://download.opensuse.org/repositories/devel:/kubic:/libcontainers:/stable/CentOS_8/repokey/repodata/repomd.xml.key
enabled=1
```

```
$> cat /etc/yum.repos.d/cri-o.repo
[cri-o]
name=CRI-O
```

```
baseurl=https://pkgs.k8s.io/addons:/cri-o:/stable:/v1.28/rpm/
enabled=1
gpgcheck=1
gpgkey=https://pkgs.k8s.io/addons:/cri-o:/stable:/v1.28/rpm/repodata/repomd.xml.key
```

k8s 1.24   repository url       .

```
$> cat /etc/yum.repos.d/k8s.repo
[kubernetes]
name=Kubernetes
baseurl=https://pkgs.k8s.io/core:/stable:/v1.28/rpm/
enabled=1
gpgcheck=1
gpgkey=https://pkgs.k8s.io/core:/stable:/v1.28/rpm/repodata/repomd.xml.key
exclude=kubelet kubeadm kubectl cri-tools kubernetes-cni
```

3.

```
$> yum install -y cri-o
$> yum install -y kubelet kubeadm kubectl --disableexcludes=kubernetes
$> systemctl enable cri-o --now
$> systemctl enable kubelet
```

## ???? ?? (control palin 1???? ??)

1. kubeadm

```
$> kubeadm init --control-plane-endpoint 172.21.107.238:6443 --pod-network-cidr
10.250.0.0/16 --ignore-preflight-errors=all --upload-certs
```

```
##  control / worker  join      
```

##Control node

```
$> kubeadm join 172.21.107.238:6443 --token abcd \  
--discovery-token-ca-cert-hash sha256:yyy \  
--control-plane --certificate-key zzz
```

## ## Worker Node

```
$> kubeadm join 172.21.107.238:6443 --token abcd \  
--discovery-token-ca-cert-hash sha256:yyyy \  
--cri-socket \  
--ignore-preflight-errors=all
```

## 2. 创建 目录

```
$> mkdir -p $HOME/.kube  
$> /bin/cp /etc/kubernetes/admin.conf $HOME/.kube/config  
$> chown $(id -u):$(id -g) $HOME/.kube/config  
$> export KUBECONFIG=/etc/kubernetes/admin.conf
```

## 3. CNI 安装 (Calico)

```
$> curl https://calico-v3-25.netlify.app/archive/v3.25/manifests/calico.yaml -O  
$> kubectl apply -f calico.yaml
```

# ???? ??

## 1. 创建 Control plane 节点 (Control Plain 节点 节点 节点 )

```
$> kubeadm join 172.21.107.238:6443 --token abcd \  
--discovery-token-ca-cert-hash sha256:yyy \  
--control-plane --certificate-key zzz
```

## 2. 查看 节点 (Control plain 节点 节点 )

```
$> kubectl get no  


| NAME                       | STATUS | ROLES                | AGE  | VERSION |
|----------------------------|--------|----------------------|------|---------|
| k8stesttx-k8s-master-dev01 | Ready  | control-plane,master | 3h6m | v1.23.5 |
| k8stesttx-k8s-master-dev02 | Ready  | control-plane,master | 3h6m | v1.23.5 |
| k8stesttx-k8s-master-dev03 | Ready  | control-plane,master | 3h6m | v1.23.5 |


```

### 3. Worker Node

```
$> kubeadm join 172.21.107.238:6443 --token abcd \  
      --discovery-token-ca-cert-hash sha256:yyyy \  
      --ignore-preflight-errors=all
```

### 4. (Control plain )

```
$> kubectl get no  
NAME                                STATUS    ROLES    AGE    VERSION  
...  
k8stesttx-k8s-worker-dev01         Ready    <none>   40m    v1.23.5  
k8stesttx-k8s-worker-dev02         Ready    <none>   40m    v1.23.5  
k8stesttx-k8s-worker-dev03         Ready    <none>   40m    v1.23.5
```

## k8s ??? 10??? ??

### 1.

```
$> git clone https://github.com/yuyicai/update-kube-cert.git  
$> cd update-kube-cert  
$> chmod 755 update-kubeadm-cert.sh  
$> ./update-kubeadm-cert.sh all
```

### 2.

```
$> kubeadm certs check-expiration  
[check-expiration] Reading configuration from the cluster...  
[check-expiration] FYI: You can look at this config file with 'kubectl -n kube-system  
get cm kubeadm-config -o yaml'  
  
CERTIFICATE          EXPIRES          RESIDUAL TIME    CERTIFICATE  
AUTHORITY    EXTERNALLY MANAGED  
admin.conf          Apr 17, 2023 06:09 UTC    364d             ca  
no  
apiserver           Apr 17, 2023 06:09 UTC    364d             ca  
no  
apiserver-etcd-client Apr 17, 2023 06:09 UTC    364d             etcd-ca
```

no				
apiserver-kubelet-client	Apr 17, 2023 06:09 UTC	364d		ca
no				
controller-manager.conf	Apr 17, 2023 06:09 UTC	364d		ca
no				
etcd-healthcheck-client	Apr 17, 2023 06:09 UTC	364d		etcd-ca
no				
etcd-peer	Apr 17, 2023 06:09 UTC	364d		etcd-ca
no				
etcd-server	Apr 17, 2023 06:09 UTC	364d		etcd-ca
no				
front-proxy-client	Apr 17, 2023 06:09 UTC	364d		front-proxy-ca
no				
scheduler.conf	Apr 17, 2023 06:09 UTC	364d		ca
no				
CERTIFICATE AUTHORITY	EXPIRES	RESIDUAL TIME	EXTERNALLY MANAGED	
ca	Apr 17, 2032 04:17 UTC	9y	no	
etcd-ca	Apr 17, 2032 04:17 UTC	9y	no	
front-proxy-ca	Apr 17, 2032 04:17 UTC	9y	no	

3. `openssl` `ca` (Control Plain `openssl` `ca` `key` `cert` , `openssl` `ca` `key` `cert` )

```
$> chmod +x cert_update.sh
$> ./cert_update.sh
...
```

4. `openssl` `ca` `key` `cert` `ca`

```
$> kubeadm certs check-expiration
[check-expiration] Reading configuration from the cluster...
[check-expiration] FYI: You can look at this config file with 'kubectl -n kube-system
get cm kubeadm-config -o yaml'
```

CERTIFICATE AUTHORITY	EXTERNALLY MANAGED	EXPIRES	RESIDUAL TIME	CERTIFICATE
admin.conf		Apr 17, 2032 06:09 UTC	9y	ca
	no			
apiserver		Apr 17, 2032 06:09 UTC	9y	ca
	no			

apiserver-etcd-client	Apr 17, 2032 06:09 UTC	9y	etcd-ca
no			
apiserver-kubelet-client	Apr 17, 2032 06:09 UTC	9y	ca
no			
controller-manager.conf	Apr 17, 2032 06:09 UTC	9y	ca
no			
etcd-healthcheck-client	Apr 17, 2032 06:09 UTC	9y	etcd-ca
no			
etcd-peer	Apr 17, 2032 06:09 UTC	9y	etcd-ca
no			
etcd-server	Apr 17, 2032 06:09 UTC	9y	etcd-ca
no			
front-proxy-client	Apr 17, 2032 06:09 UTC	9y	front-proxy-ca
no			
scheduler.conf	Apr 17, 2032 06:09 UTC	9y	ca
no			
<b>CERTIFICATE AUTHORITY</b>	<b>EXPIRES</b>	<b>RESIDUAL TIME</b>	<b>EXTERNALLY MANAGED</b>
ca	Apr 17, 2032 04:17 UTC	9y	no
etcd-ca	Apr 17, 2032 04:17 UTC	9y	no
front-proxy-ca	Apr 17, 2032 04:17 UTC	9y	no

## Reference

- <https://kubernetes.io/docs/setup/production-environment/tools/kubeadm/install-kubeadm/>
- <https://github.com/yuyicai/update-kube-cert.git>

# artifact??? - nexus ?????

???? ?

???? , ?? ?? .

?? ?? ?? ?? ?? ?? ?? (Refactoring) ?? ?? .

Devop pipeline ?? (artifact) ?? ?? ?? ?? Sonatype ?? Nexus ?? JFrog

?? ?? jfrog ?? .

?? ?? ?? ?? ?? ?? ?? , ?? ?? ?? Nexus ??

?? .

## Nexus ??

1. NeXus Repository Manager (?? ;NXRM)
2. ?? OS : Windows / Linux / Unix / OSX
3. ?? : 3.29.2 OSS ('21.01.10 ?? )
4. License : Eclipse Public License-v 1.0
5. Pro ?? ?? : Atalssian Crowd?? , Staging / Build ?? / ?? / ?? ?? / HA /  
???? OSS ?? ?? / ?? / ?? ?? ?? ?? / SAML / SSO ??

## Nexus ??? ?????

### 1. hardware requirements

Type	Minimal	requirement
CPU	4Core	8Core
Memory	Host : 8Gb JAVA Heap : 2Gb	Host : 8Gb Java Heap : 4GB

Type	Minimal	requirement
Disk	330M	330M

- 4GB Readonly
- Java Directory ( \* 0.6 ) - java heap

## 2. ??????

	Embed	Blob	
XFS	O	O	
NFS V4	O	O	
NFS V3	X	X	
AWS - EBS	O	O	
AWS - EFS	X	O	Embed
AWS - S3	X	O	
AWS- S3	X	X	S3
Samba/CIFS	X	O	
GlusterFS	X	X	Split-brain ,
Fuse	X	X	

\* Embed : (DB / Elastic Search)

\* Blob : binary

## 3. ????? ??

目录	说明
bin	二进制文件 / 脚本
etc	nexus 配置文件 / 证书
lib	nexus 依赖库
public	nexus 公共资源
system	系统文件 / 脚本
blobs	blob 文件
cache	缓存文件
db	orientDB 数据库
elasticsearch	elasticsearch 索引
health-check	健康检查脚本
keystores	密钥库文件
log	<p>日志文件</p> <p>nexus.log → 主日志文件</p> <p>request.log → http 请求日志</p> <p>jvm.log → jvm stdout, stderr</p> <p>karaf.log → apache karaf 日志</p> <p>audit → 审计日志</p> <p>staks → 堆栈跟踪</p> <p>tmp → 临时文件</p>

## Nexus ??

### 1. ?????? ??

- hosted : 本地仓库 / 代理仓库
- proxy : hosted 代理 / 缓存 / 本地仓库
- group : 代理 hosted 或 proxy 仓库

### 2. ?????? ????? ??

- release : `mvn release:prepare` / `mvn release:perform` ( `mvn release:prepare` )
- snapshot : `mvn snapshot:perform` / `mvn snapshot:perform` `mvn snapshot:perform` `mvn snapshot:perform`

### 3. ????? ??

- maven2 : `mvn install:install-file` (group / artifact id / version `mvn install:install-file` )
- raw : `mvn install:install-file` `mvn install:install-file` `mvn install:install-file` `mvn install:install-file`
- yum : `yum install` `yum install`

### 4. ????? ?? ??

- `curl` `curl` `curl` `curl`
- `test_repo` `img-1.png` `img-1.png`

```
$ curl -u 'test:test123' http://192.168.10.10:11000/repository/test_repo/img-1.png -o img-1.png
```

- `test.tar.gz` `test_repo` `test_repo`

```
$ curl -u 'test:test123' --upload-file ./test.tar.gz http://192.168.10.10:11000/repository/test_repo/test.tar.gz
```

- `find` `find`

```
$ find ./ -exec curl -u 'test:test123' -T ./{} http://192.168.10.10:11000/repository/test_repo/test.tar.gz/{} \;
```

- `test_repo` `test.tar.gz` `test_repo` `test_repo`

```
$> curl --request DELETE -u 'test:test123' http://http/192.168.10.10:11000/repository/test_repo/test.tar.gz
```

## Nexus ?? (Docker ??)

### 1. container pull ??



~~~~~

5. web-ui ???? – http://{{??IP}}:88081/

6. ?? ?? ??

7. ??? ????? ??

```
$docker exec -it nexus cat /nexus-data/admin.password
1123-aad-xxxx-xxxx-
```

8. ??? ?? ( admin)

9. admin ????? ?? (??? ????? ?? ? Next)

10. ??

## Repository Cleanup ?????

1. cleanup policies ?? ?????

- [Home](#) [Admin](#) [Repository](#) → Repository → Cleanup Policies → Create Cleanup Policy
- Cleanup policy [Name](#) [Format](#) [Notes](#)
- [Name](#) [Format](#) ( [Name](#) 90 [Days](#) [Before](#) [Expiration](#) [Date](#) )

| <a href="#">Name</a> | <a href="#">Format</a>                                            | <a href="#">Notes</a>                        | <a href="#">Actions</a>                     |
|----------------------|-------------------------------------------------------------------|----------------------------------------------|---------------------------------------------|
| Name                 | Repository format<br><a href="#">Name</a>                         | proxy_cleanup_{{<br><a href="#">Name</a> }}d | <a href="#">Edit</a> <a href="#">Delete</a> |
| Format               | Repository format<br><a href="#">Name</a>                         | raw                                          | <a href="#">Edit</a> <a href="#">Delete</a> |
| notes                | <a href="#">Name</a> <a href="#">Format</a> <a href="#">Notes</a> |                                              | <a href="#">Edit</a>                        |

| Item               | Category | Value | Details |
|--------------------|----------|-------|---------|
| Component Age      | Category | 90    | Details |
| Component Usage    | Category | 90    | Details |
| preview repository | Category |       | Details |

# Repository ??

## 1. Hosted ??? ????? ??

- Repository → Create Repository → RAW (hosted)
- repository
- 

| Item                | Category   | Value      | Details             |
|---------------------|------------|------------|---------------------|
| Name                | Repository | repo       | Details             |
| Online              | repository |            | Details             |
| Content Disposition |            | attachment | Attachment / inline |
| Blob store          |            | default    | Details             |

| □ □               | □ □                     | □□□            | □ □                                                                                              |
|-------------------|-------------------------|----------------|--------------------------------------------------------------------------------------------------|
| Deployment Policy | □□□□ □□ /<br>□□□□ □□ □□ | Allow redeploy | Allow redeploy : □<br>□□□□<br>Deny redeploy :<br>□□□ □□<br>read only : □□□□<br>□□ , □□□□□□<br>□□ |
| Cleanup policies  | Repository □□□<br>□□ □□ |                | Cleanup □□<br>□□□□□ □□                                                                           |

## 2. Proxy ??? ?????? ??

- □□ □□□□ □□ → Repository → Create Repository → RAW (Proxy)
- repository □□ □□□□
- □□□ □□□□

| □ □                   | □ □                                                  | □□□  | □ □                                                             |
|-----------------------|------------------------------------------------------|------|-----------------------------------------------------------------|
| Name                  | Repository □□ □□                                     |      | □□ , □□□□<br>□□□□□ □□<br>□□□□□ ( -, _ )□<br>□□□□ □□□□<br>□□□ □□ |
| Online                | repository □□□<br>□□                                 |      | □□□□ □□□□<br>□□                                                 |
| Remote storage        | hosted □□□□□<br>□□ □□                                |      |                                                                 |
| Blocked               | □□ Proxy □□□<br>□□□ □□ □□                            | □□□□ |                                                                 |
| Auto blocking enabled | Remote Storage□<br>□□□ □□ □□<br>□□ □□ Proxy □□<br>□□ | □□□□ |                                                                 |
| Maximum component age | cache□ □□□□□<br>□□ □□ □□ ( □□□ )                     | 60   |                                                                 |

| Property                       | Description                       | Default Value | Notes                               |
|--------------------------------|-----------------------------------|---------------|-------------------------------------|
| Maximum metadata age           | cache (in minutes)                | 60            |                                     |
| Blob store                     | Storage provider                  | default       | Storage providers: Storage, Storage |
| Strict Content Type Validation | MIME type validation              | True          |                                     |
| Not found cache enabled        | Cache for not found responses     | True          |                                     |
| Not found cache TTL            | Cache TTL for not found responses | 60            |                                     |
| Cleanup policies               | Repository cleanup                |               | Cleanup policies                    |
| HTTP authentication            | Authentication for proxy          | host: nexus   |                                     |

### 3. Proxy Repo cache

- Repository → Proxy → Repository → Invalidate cache

## Proxy ???

### 1. Proxy ???

| Cache Level | Proxy Behavior      |
|-------------|---------------------|
| -1          | Cache all artifacts |
| 0           | Cache metadata only |
| 1           | Cache Proxy repo    |
| 2           | Cache Proxy Repo    |

## 2. Proxy ?? Traffic ??

- `curl -x 192.168.10.10 -c /tmp/cookies.txt http://192.168.100.10/`  
`curl -x 192.168.10.10 --cache-control 'no-cache' http://192.168.100.10/`  
`curl -x 192.168.10.10 --cache-control 'no-cache' --flush http://192.168.100.10/`
- `curl -x 192.168.10.10 (Hosted → Proxy), 192.168.10.10 (Proxy), 192.168.100.10 (Hosted)`

```
15:42:31.554851 IP 192.168.10.10.42224 > 192.168.100.10.88081: Flags [S], seq
1521618240, win 29200, options [mss 1460,nop,nop,sackOK], length 0
15:42:31.555029 IP 192.168.100.10.88081 > 192.168.10.10.42224: Flags [S.], seq
2385004980, ack 1521618241, win 29200, options [mss 1460,nop,nop,sackOK], length
0
15:42:31.555223 IP 192.168.10.10.42224 > 192.168.100.10.88081: Flags [.], ack 1,
win 29200, length 0
15:42:31.555234 IP 192.168.10.10.42224 > 192.168.100.10.88081: Flags [P.], seq
1:262, ack 1,
```



```
-e CONTROL_PANEL_PORT_80_TCP=80 \  
-e CONTROL_PANEL_PORT_80_TCP_ADDR=office_panel \  
-v /data/office/CommunityServer/letsencrypt:/etc/letsencrypt \  
-v /sys/fs/cgroup:/sys/fs/cgroup:ro \  
-v /data/office/CommunityServer/data:/var/www/onlyoffice/Data \  
-v /data/office/CommunityServer/logs:/var/log/onlyoffice \  
-v /data/office/DocumentServer/data:/var/www/onlyoffice/DocumentServerData \  
--name office onlyoffice/communityserver
```

5. `docker run` `onlyoffice/office` `http://{{IP}}`

## Reference

- <https://helpcenter.onlyoffice.com/installation/docs-community-install-docker.aspx>

# pip? docker-compose ?? ??

## 1. 環境

- os : centos7
- pip : pip2 / pip3

## 2. 環境構築

- pip2をインストールし、python3用に名前を変更する
- pipをpip2からpip3に名前を変更する

```
$> ls -l pip
/usr/bin/pip -> /usr/bin/pip2
$> ln -snf /usr/bin/pip3 /usr/bin/pip
$> pip -V
pip 21.0.1 from /usr/local/lib/python3.6/site-packages/pip (python 3.6)
```

## 3. pipでdocker-composeをインストールする

```
$ pip install docker-compose
...
Collecting cryptography>=2.5 (from paramiko>=2.4.2; extra == "ssh"->docker[ssh]<5,>=4.4.3->docker-compose)
  Downloading http://python.org/pypi/+f/2d3/2223e5b0ee029/cryptography-3.4.6.tar.gz
(546kB)
  100% |████████████████████████████████████████| 552kB 43.7MB/s
  Complete output from command python setup.py egg_info:
  WARNING: The wheel package is not available.
  ERROR: 'pip wheel' requires the 'wheel' package. To fix this, run: pip install
wheel
  Traceback (most recent call last):
    File "/usr/local/lib/python3.6/site-packages/setuptools/installer.py", line
75, in fetch_build_egg
      subprocess.check_call(cmd)
    File "/usr/lib64/python3.6/subprocess.py", line 311, in check_call
      raise CalledProcessError(retcode, cmd)
  subprocess.CalledProcessError: Command '['/usr/bin/python3', '-m', 'pip', '--
disable-pip-version-check', 'wheel', '--no-deps', '-w', '/tmp/tmpn5ys3xpr', '--
quiet', 'cffi>=1.12']' returned non-zero exit status 1.
```

```

The above exception was the direct cause of the following exception: Traceback (most
recent call last):  File "<string>", line 1, in <module>  File "/tmp/pip-build-
0pwkcfz1/cryptography/setup.py", line 152, in <module>
    rust_extensions=rust_extensions,  File "/usr/local/lib/python3.6/site-
packages/setuptools/__init__.py", line 152, in setup
    _install_setup_requires(attrs)  File "/usr/local/lib/python3.6/site-
packages/setuptools/__init__.py", line 147, in _install_setup_requires
    dist.fetch_build_eggs(dist.setup_requires)  File "/usr/local/lib/python3.6/site-
packages/setuptools/dist.py", line 689, in fetch_build_eggs
    replace_conflicting=True,  File "/usr/local/lib/python3.6/site-
packages/pkg_resources/__init__.py", line 768, in resolve
    replace_conflicting=replace_conflicting  File "/usr/local/lib/python3.6/site-
packages/pkg_resources/__init__.py", line 1051, in best_match  return
self.obtain(req, installer)  File "/usr/local/lib/python3.6/site-
packages/pkg_resources/__init__.py", line 1063, in obtain  return
installer(requirement)  File "/usr/local/lib/python3.6/site-
packages/setuptools/dist.py", line 745, in fetch_build_egg  return
fetch_build_egg(self, req)  File "/usr/local/lib/python3.6/site-
packages/setuptools/installer.py", line 77, in fetch_build_egg  raise
DistutilsError(str(e)) from e distutils.errors.DistutilsError: Command
['/usr/bin/python3', '-m', 'pip', '--disable-pip-version-check', 'wheel', '--no-
deps', '-w', '/tmp/tmpn5ys3xpr', '--quiet', 'cffi>=1.12'] returned non-zero exit
status 1.  =====DEBUG
ASSISTANCE=====  If you are seeing a compilation error
please try the following steps to  successfully install cryptography:  1)
Upgrade to the latest pip and try again. This will fix errors for most  users.
See: https://pip.pypa.io/en/stable/installing/#upgrading-pip  2) Read
https://cryptography.io/en/latest/installation.html for specific  instructions
for your platform.  3) Check our frequently asked questions for more information:
https://cryptography.io/en/latest/faq.html  4) Ensure you have a recent
Rust toolchain installed:
https://cryptography.io/en/latest/installation.html#rust  5) If you are
experiencing issues with Rust for *this release only* you may  set the
environment variable `CRYPTOGRAPHY_DONT_BUILD_RUST=1`.
=====DEBUG ASSISTANCE=====
----- Command "python setup.py egg_info" failed
with error code 1 in /tmp/pip-build-0pwkcfz1/cryptography/

```

- `pip` `pip` ...????

4. `pip`

- `pip` `2` `3` `4` `5` `6` `7` `8` `9` `10` ...
- `python` `2` `3` `4` `5` `6` `7` `8` `9` `10` `python3` `4` `5` `6` `7` `8` `9` `10`

5. `pip`

```
$ pip install --upgrade setuptools pip --ignore-installed
WARNING: Running pip install with root privileges is generally not a good idea. Try
pip install --user instead. Collecting setuptools Downloading
http://python.org/pypi/+f/0e8/6620d658c5ca8/setuptools-53.0.0-py3-none-any.whl
(784kB) 100% |████████████████████████████████████████████████████████████████████████████████| 788kB 58.3MB/s Collecting pip
Downloading http://python.org/pypi/+f/37f/d50e056e2aed6/pip-21.0.1-py3-none-any.whl
(1.5MB) 100% |████████████████████████████████████████████████████████████████████████████████| 1.5MB 36.2MB/s Installing collected
packages: setuptools, pip
```

6. `docker-compose`

```
$ pip install docker-compose
WARNING: pip is being invoked by an old script wrapper. This will fail in a future
version of pip.
Please see https://github.com/pypa/pip/issues/5599 for advice on fixing the
underlying issue.
To avoid this problem you can invoke Python with '-m pip' instead of running pip
directly.
Looking in indexes: http://python.org/pypi/simple/
Collecting docker-compose
...
Successfully installed PyYAML-5.4.1 attrs-20.3.0 bcrypt-3.2.0 cached-property-1.5.2
certifi-2020.12.5 cffi-1.14.5 chardet-4.0.0 cryptography-3.4.6 distro-1.5.0 docker-
4.4.3 docker-compose-1.28.4 dockerpty-0.4.1 docopt-0.6.2 idna-2.10 importlib-
metadata-3.6.0 jsonschema-3.2.0 paramiko-2.7.2 pycparser-2.20 pynacl-1.4.0
pysistent-0.17.3 python-dotenv-0.15.0 requests-2.25.1 six-1.15.0 texttable-1.6.3
typing-extensions-3.7.4.3 urllib3-1.26.3 websocket-client-0.57.0 zipp-3.4.0
```

7. `pip` `3` !

```
$ pip list| grep docker
```

```
docker          4.4.3  
docker-compose  1.28.4  
dockerpty       0.4.1
```

# QEMU tcp???? ?????

## 1. libvirt.conf ( )

```
$> vi /etc/libvirt/libvirtd.conf
listen_tls = 0 ( TLS)
listen_tcp = 1 ( )
tcp_port = "16509" (TCP  )
listen_addr = "0.0.0.0" IP (  )
mdns_name = "VMHOST-001" (MDNS,  )
unix_sock_group = "libvirt" (Qemu, root  ;...)
unix_sock_rw_perms = "0770" (TCP  )
```

## 2. /etc/sysconfig/libvirtd ( )

```
$> vi /etc/sysconfig/libvirtd
...
LIBVIRT_ARGS="--listen"
...
```

## 3. TLS ( ) ( ) ( ) ( ) ( ) ( ) ( )

```
$> vi /etc/sysconfig/libvirtd
#KRB5_KTNAME=/etc/libvirt/krb5.tab
#KRB5_KTNAME  
```

## 4. ( ) ( )

```
$> groupadd libvirt
$> saslpasswd2 -a libvirt svc
```

## 5. ( ) ( )

```
$> /etc/init.d/libvirt start
```

# VMware GuestOS?? ??? 5?? ???? ?? ?????

vmware guestOS?? ?? 5?? ?? ?? ?? (???? ?? ?? ?? ?? ,  
?? ?? ?? , ?? ? 5??? ?? ?? ?? .)

1. host?? ?? VM?? ?? ?? \*.vmx ?? ?? ??

2. ??? ? ? ?

```
...  
usb.generic.allowHID = "TRUE"  
mouse.vusb.enable = "TRUE"  
mouse.vusb.useBasicMouse = "FALSE"  
...
```

3. GuestOS?? ? ?? ?? ?? 5?? ?? ?? ??

reference

- <https://superuser.com/questions/35830/back-forward-mouse-buttons-do-not-work-in-vmware-workstation-6-5-guest-os>



### 3. rancher ????? ?? ?? (test2????? ??)

```
$> crictl ps | grep rancher
a68dc79eeld8c      81ee0878ffcdc      26 minutes ago      Running
rancher              3                    f44aa8d23b68a      rancher-
c56764479-nt7nb
```

### 4. rancher ?????? ????? ??? (test2????? ??)

```
$> crictl exec a68dc79eeld8c reset-password
W1104 17:53:31.241158      386 client_config.go:617] Neither --kubeconfig nor --master
was specified. Using the inClusterConfig. This might not work.
New password for default admin user (user-q2kl4):
123123
```

## reference

- <https://nevido.tistory.com/740>