

附件会被Block,因为带了程序文件的后缀。

我QQ传给你。

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# \_Concepts & Readings\_

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#### 分布式微服务架构的核心能力competency :

- service discover
- orchestration 编排
- load balancing
- health check / monitoring
- auto-orchestration 自动编排
- private docker registry

[naming-docker-containers-3-tips-for-beginners]

(<https://www.digitalocean.com/community/tutorials/naming-docker-containers-3-tips-for-beginners>)

[how-to-share-data-between-docker-containers]

(<https://www.digitalocean.com/community/tutorials/how-to-share-data-between-docker-containers>)

[how-to-remove-docker-images-containers-and-volumes]

(<https://www.digitalocean.com/community/tutorials/how-to-remove-docker-images-containers-and-volumes>)

[how-to-centralize-your-docker-logs-with-fluentd-and-elasticsearch-on-

ubuntu-16-04](<https://www.digitalocean.com/community/tutorials/how-to-centralize-your-docker-logs-with-fluentd-and-elasticsearch-on-ubuntu-16-04>)

#### Setup xyz

[setup docker proxy ubuntu systemd]

(<https://docs.docker.com/engine/admin/systemd/#/runtime-directory-and-storage-driver>)

[setup docker mirror ubuntu](<http://visibletrap.blogspot.kr/2016/05/add-local-registry-mirror-to-docker.html>)

[setup docker private registry](<https://docs.docker.com/registry/deploying/>)

[setun docker private registry insecure]

[setup docker private registry insecure]  
(<https://docs.docker.com/registry/insecure/>)

#### Advanced: etcd, consul, zookeeper  
[service-discovery-zookeeper-vs-etcd-vs-consul/]  
(<https://technologyconversations.com/2015/09/08/service-discovery-zookeeper-vs-etcd-vs-consul/>)  
[scalable-architecture-with-docker-consul-and-nginx]  
(<https://www.airpair.com/scalable-architecture-with-docker-consul-and-nginx>)

#### 问题：

- 如何不停服务升级docker-engine
- 如何不停服务升级container
- 服务的编排决定用什么
- 自注册 vs 第三方注册
- 客户端发现 vs 服务端发现模式
  - 客户端发现：netflix OSS
  - 服务端发现：consul, etcd

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# China Mirrors && Proxy

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## MIRROR:

### ali maven repo  
<http://maven.aliyun.com/nexus/content/groups/public/>

### How to set:

Maven

[http://blog.csdn.net/liuhui\\_306/article/details/52822152](http://blog.csdn.net/liuhui_306/article/details/52822152)

Gradle mirror setting:

<https://rahulsom.github.io/blog/2016/gradle-equivalent-of-maven-mirror.html>

### Docker hub

<http://1dbe0a9b.m.daocloud.io>

### How to set docker mirror:

<https://docs.docker.com/registry/recipes/mirror/>

\*\*\* for systemd, shall do: <http://visibletrap.blogspot.kr/2016/05/add-local-registry-mirror-to-docker.html>

### PROXY:

add this line to gradle.properties

org.gradle.jvmargs=-DsocksProxyHost=127.0.0.1 -  
DsocksProxyPort=7077

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# SPRING

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gradle

spring gradle plugin

<http://docs.spring.io/spring-boot/docs/current/reference/html/build-tool-plugins-gradle-plugin.html>

参考 application.properties

<https://docs.spring.io/spring-boot/docs/current/reference/html/common-application-properties.html>

参考 serverProperties, default values:

<https://github.com/spring-projects/spring-boot/blob/1.5.x/spring-boot-autoconfigure/src/main/java/org/springframework/boot/autoconfigure/web/ServerProperties.java>

well known endpoints:

"Actuator endpoints allow you to monitor and interact with your application"

<http://docs.spring.io/spring-boot/docs/current/reference/html/production-ready-endpoints.html>

用到的組件：

- spring-boot-starter-web
- spring-boot-starter-undertow
- spring-boot-actuator <= for built-in monitor/management endpoints like: /env, /configprops etc
- spring-cloud-starter-eureka-server

- spring-cloud-config <= for external and profile-based configuration management
- spring-cloud-starter-sleuth <= for tracing and tagging
- spring-cloud-sleuth-zipkin <= for tracing and tagging visual

```
compile("org.springframework.boot:spring-boot-starter-web")
{
    exclude module: 'spring-boot-starter-tomcat'
}
```

```
compile("org.springframework.boot:spring-boot-starter-undertow")
compile("org.springframework.boot:spring-boot-starter-actuator")
```

```
compile("org.springframework.cloud:spring-cloud-starter-hystrix")
compile("org.springframework.cloud:spring-cloud-starter-eureka")
compile("org.springframework.cloud:spring-cloud-starter-config")
compile("org.springframework.cloud:spring-cloud-starter-bus-amqp")
compile('org.springframework.cloud:spring-cloud-starter-sleuth')
```

```
compile("org.springframework.cloud:spring-cloud-starter-oauth2")
compile("org.springframework.cloud:spring-cloud-starter-security")
```

#####

Spring Cloud + Netflix

#####

```

http://localhost:9411/      Sleuth+zipkin
http://localhost:7979/hystrix/monitor?
stream=http%3A%2F%2Fturbine%3A8989%2Fturbine.stream turbine/
http://localhost:8761/      Eureka
http://localhost:15672/    RabbitMQ
```

Components:

- Sleuth + zipkin, trace solution for micro services, traceId + spanId to track the full end - end request/response chain

```
compile('org.springframework.cloud:spring-cloud-starter-zipkin')
implies:
compile('org.springframework.cloud:spring-cloud-starter-sleuth')
```



This traces:

- requests over messaging technologies like Apache Kafka or RabbitMQ (or any other Spring Cloud Stream binder)
- HTTP headers received at Spring MVC controllers
- requests that pass through a Netflix Zuul microproxy
- requests made with the RestTemplate, etc.

<http://zipkin.io/pages/quickstart>

<https://github.com/openzipkin/zipkin/tree/master/zipkin-server>

- config-server, externalize the config  
`compile("org.springframework.cloud:spring-cloud-starter-config")`

- Hystrix + monitor+turbine, circuit break monitor

`compile("org.springframework.cloud:spring-cloud-starter-hystrix")`

`compile("org.springframework.cloud:spring-cloud-netflix-hystrix-amqp")`

`compile("org.springframework.cloud:spring-cloud-starter-bus-amqp")`

- Eureka + ribbon, service registration + discovery

`compile("org.springframework.cloud:spring-cloud-starter-eureka")`

- Zuul, edge server, and service routing solution

`compile('org.springframework.cloud:spring-cloud-starter-zuul')`

- RabbitMQ

- Oauth, service2service authentication

- Docker compose references:

<https://docs.docker.com/compose/compose-file/>

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# Docker Stack

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Ubuntu机器 :

ssh : [222.73.105.217:1922](https://222.73.105.217:1922)

user : qf password : p@sswordQF

Concepts:

- docker-engine
- docker-machine \*\*\*
  - make a local docker-engine remotely manageable
- docker-swarm
- dockerfile
- docker-compose
- cluster & orchestration

docker monitor stack

- <https://stefanprodan.com/2016/a-monitoring-solution-for-docker-hosts-containers-and-containerized-services/>

the whole stack: Prometheus, Grafana, cAdvisor, NodeExporter and AlertManager.

DESIGN

docker-file-standard:

- Put docker RUN scripts in:
  - /container-files/docker/run.sh, or [01.run.sh](#), [02.run.sh](#) if there is more than one
- "set -xe" enable the script debug mode
- all volume shall be named (to be avoid rm by accident)

ports:

- 3xxx: docker management
- 4xxx: docker monitoring
- 8xxx: app services

image-stack:

- centos-base \*\*\*
- ubuntu-base \*\*\*

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# Monitoring Stack

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host/container-monitoring-stack: dockprom

- cAdvisor (collector)
- Prometheus (metrix-storage)
- Grafana (metrix-visual)
- NodeExporter ()
- AlertManager (alert)

component-monitoring-stack:

- zabbix-db (metrix storage)
- zabbix-xxl (metrix visual)
- grafana-xxl (metrix visual)
- zabbix-xxl-agent !!!
- why there are key item not supported?

application-monitoring-stack:

- ELK

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# Component Stack

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- haproxy
- nginx
- tomcat/undertow
- redis
- rabbitmq
- elasticsearch

#####

# Application Stack

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- spring cloud + netflix + container

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# Orchestration Stack

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- kubernetes?
- nanix?

#####  
- haproxy?

#####  
# Orchestration Stack  
#####  
- logback/log4j/slf4j?

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# Docker + Rancher + ShadowSocks Install  
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\*xenial\*

```
### install docker-engine
apt-get update
apt-get install apt-transport-https ca-certificates
apt-get install linux-image-extra-$(uname -r) linux-image-extra-virtual
apt-key adv --keyserver hkp://ha.pool.sks-keyservers.net:80 --recv-keys
58118E89F3A912897C070ADBF76221572C52609D

echo "deb https://apt.dockerproject.org/repo ubuntu-xenial main" | sudo
tee /etc/apt/sources.list.d/docker.list
apt-get update

apt-cache policy docker-engine
apt-get install docker-engine

# start docker at boot
sudo systemctl enable docker

# enable ss local client
pip install shadowsocks

# Edit the configuration file
vim /etc/shadowsocks.json
```javascript
{
  "server": "104.131.137.8",
  "server_port": 443,
```



```
"local_address": "127.0.0.1",  
"local_port":1080,  
"password":"ss.qf@123",  
"timeout":600,  
"method":"aes-256-cfb"  
}  
...
```

```
# enable socks5 127.0.0.1:1080  
sslocal -c /etc/shadowsocks.json -d start
```

```
# install docker-compose  
curl -sL --tlsv1.2 --socks5 127.0.0.1  
"https://github.com/docker/compose/releases/download/1.9.0/docker-  
compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
```

```
# install jdk  
apt install openjdk-8-jdk jq htop iftop
```

### Docker Registry加速器配置：

```
# 设置docker registry 加速器, daocloud.io  
http://visibletrap.blogspot.kr/2016/05/add-local-registry-mirror-to-  
docker.html  
*** for systemd, shall do: http://visibletrap.blogspot.kr/2016/05/add-local-  
registry-mirror-to-docker.html
```

```
sudo mkdir -p /etc/systemd/system/docker.service.d  
sudo vi /etc/systemd/system/docker.service.d/mirror.conf
```

### mirror.conf

```
[Service]  
ExecStart=  
ExecStart=/usr/bin/docker daemon -H fd:// --registry-  
mirror=http://1dbe0a9b.m.daocloud.io--dns=223.5.5.5
```

```
sudo systemctl daemon-reload  
sudo systemctl restart docker
```

```
# Verify
```

```
sudo systemctl status docker
```

```
# Install local docker registry
```

```
...
```

```
# install grade, 并设置maven镜像
```