

sesión 13

Container Orchestration Rosetta Stone

| | unidad mínima | Gestor de disponibilidad controllers | expose services | webservices exterior |
|-------|---------------|------------------------------------------------------------------|--------------------------|-------------------------|
| Swarm | contenedor | Docker Service | | |
| K8S | pod | Replication Controller ReplicaSet DaemonSet StatefulSet | HostPort LoadBalancer | LoadBalancer Ingress |

- controllers
 - Deployments = POD + ReplicaSet
 - Jobs = 1 sola ejecución
 - CronJob
- services
 - hostport : exponer en el host a través de un puerto
 - clusterIP : uso interno del cluster
 - loadbalancer :
 - externalname : definimos el mismo nombre en el servicio en diferentes namespaces, ex: oracle (dev/pre/pro)
- webservices (acceso exterior):
 - Loadbalancer
 - ingress : trabaja en kube-system, pero expone de cualquier namespace (podría usarse para hacer hablar PODs de diferentes namespaces)
 - nginx+ssl, traefik

lab

levantar docker swarm cluster, desplegar Portainer y ELK

[portainer.yaml](#)

```
version: '3.4'

services:
  portainer:
    image: portainer/portainer
    command: '-H "tcp://tasks.agent:9001" --tlsskipverify'
    ports:
      - ${PUBLIC_PORT}:9000
    networks:
      - proxy
      - portainer_agent
    volumes:
      - /var/run/docker.sock:/var/run/docker.sock
      - ${REMOTE_MOUNT}/${STACK_NAME}/portainer/data:/data
    deploy:
      mode: replicated
      replicas: 1
      labels:
```

```
    traefik.port: 9000
    traefik.frontend.rule: "Host:${FQDN}"
    traefik.docker.network: 'proxy'
  placement:
    constraints: [node.role == manager]
agent:
  image: portainer/agent
  environment:
    AGENT_CLUSTER_ADDR: tasks.agent
  volumes:
    - /var/run/docker.sock:/var/run/docker.sock
  ports:
    - target: 9001
      published: 9001
      protocol: tcp
      mode: host
  networks:
    - portainer_agent
  deploy:
    mode: global
    placement:
      constraints: [node.platform.os == linux]

networks:
  portainer_agent:
    external: true
  proxy:
    external: true
```

elk.yaml

```
# Docker Stack to deploy ELK + Logspout
# Based on .....
# Updated by: Kenneth Peiruza, kenneth@floss.cat
# Sun Mar 4 13:15:47 CET 2018
#
# cluster.name: 'docker-cluster'
# bootstrap.memory_lock: 'true'
version: '3.4'

services:
  elasticsearch:
    image: docker.elastic.co/elasticsearch/elasticsearch-oss:6.2.2
    environment:
      ES_JAVA_OPTS: '-Xms768m -Xmx768m'
      LOGSPOUT: 'ignore'
    networks:
      - elasticsearch
    volumes:
      -
/srv/docker/stack/Cluster3/elasticsearch/data:/usr/share/elasticsearch/data
  deploy:
```

```
  replicas: 1

logstash:
  image: docker.elastic.co/logstash/logstash-oss:6.2.2
  volumes:
  -
/srv/docker/stack/Cluster3/logstash/config:/usr/share/logstash/pipeline/
  depends_on:
  - elasticsearch
  networks:
  - elasticsearch
  - logstash
  environment:
  LOGSPOUT: 'ignore'
  deploy:
  replicas: 1

logspout:
  image: bekt/logspout-logstash
  environment:
  ROUTE_URIS: 'logstash://logstash:5000'
  volumes:
  - /var/run/docker.sock:/var/run/docker.sock
  depends_on:
  - logstash
  networks:
  - logstash
  environment:
  LOGSPOUT: 'ignore'
  deploy:
  mode: global
  restart_policy:
  condition: on-failure
  delay: 30s

kibana:
  image: docker.elastic.co/kibana/kibana-oss:6.2.2
  ports:
  - 5601:5601
  depends_on:
  - elasticsearch
  networks:
  - elasticsearch
  - proxy
  environment:
  ELASTICSEARCH_URL: 'http://elasticsearch:9200'
  LOGSPOUT: 'ignore'
  deploy:
  replicas: 1
  labels:
  traefik.port: 5601
  traefik.frontend.rule: "Host:logs.local"
  traefik.docker.network: "proxy"

networks:
  default:
```

```
driver: 'overlay'  
logstash:  
  driver: 'overlay'  
elasticsearch:  
  driver: 'overlay'  
proxy:  
  external: true
```

var

```
REMOTE_BIND=/srv/docker/stack  
STACK_NAME=Cluster3  
LOGS_URL=logs.local
```

logstash.conf

```
input {  
  udp {  
    port => 5000  
    codec => json  
  }  
}  
  
filter {  
  if [docker][image] =~ /logstash/ {  
    drop { }  
  }  
}  
  
output {  
  elasticsearch { hosts => ["elasticsearch:9200"] }  
}
```

otros

- whitedisplay.com
- grok debugger
- vim
 - borrar líneas de comentarios y vacías:
 - junto: % g/^\(#\|\$\)/d
 - comentarios: % g/^#/d
 - líneas vacías: % g/^\\$/d

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