Docker Container

Docker Container

0x00

Docker `namespace` `Docker` `Container` `docker run --link` `docker-compose` `docker image` `CTF` `Image`

0x01

- upstart

```
# Dockerfile
From ubuntu:14.04
RUN apt-get update && apt-get upgrade -y && apt-get install mysql apache2 php7.0
ADD web /var/www/html
RUN service mysql start && /var/www/html/init_sql.sh && service mysql stop
CMD service mysql start && service apache2 start && while true; do sleep 10;done
```

- systemd

```
# Dockerfile
From ubuntu:16.04
RUN apt-get update && apt-get upgrade -y && apt-get install mysql apache2 php7.0
ADD web /var/www/html
RUN systemctl start mysql && /var/www/html/init_sql.sh && systemctl stop mysql
CMD systemctl start mysql && systemctl start apache2 && while true; do sleep 10;done
```

```
# Dockerfile
From ubuntu:16.04
RUN apt-get update && apt-get upgrade -y && apt-get install mysql apache2 php7.0
ADD web /var/www/html
ADD entrypoint.sh /sbin/
RUN chmod +x /sbin/entrypoint.sh /var/www/html/init_sql.sh&&
     /etc/init.d/mysql start && /var/www/html/init_sql.sh && /etc/init.d/mysql stop
```

```
```

```
CMD /sbin/entrypoint.sh
```

```
#!/bin/bash

# entrypoint.sh
/usr/bin/mysqld start &
/usr/bin/httpd &
while true
do
sleep 100
done
```

1 2 container 3

```
SIGTERM
```

1 2 docker service xxx start systemctl start xxx upstart container init 3 init PID=1

```
root@vpscn:/var/lib/docker# docker exec -it hackmd sh
/hackmd # ps -ef
PID   USER     TIME   COMMAND
    1 hackmd     1:03 node app.js
   42 hackmd     0:00 /usr/local/bin/node ./lib/workers/dmpWorker.js
   62 root       0:00 sh
   69 root       0:00 ps -ef
```

3 container --init tini init

0x02

phusion/baseimage SUCTF2018 0.10.1 ubuntu 16.04 a Container Entrypoint runit ~~WebIDE~~ Coding Web Terminal NUAACTF/SUCTF xinetd

SUCTF2018 Dockerfile

```
#Dockerfile
FROM phusion/baseimage:0.10.1
MAINTAINER Yibai Zhang
```

```
RUN sed -i 's/archive.ubuntu.com/mirrors.aliyun.com/g' /etc/apt/sources.list &&
    sed -i 's/security.ubuntu.com/mirrors.aliyun.com/g' /etc/apt/sources.list &&
    apt-get update && apt-get install -y apache2 libapache2-mod-php php-mysql mariadb-server
&&
    apt-get clean && rm -rf /var/lib/apt/lists/* /tmp/* /var/tmp/* /var/www/html/*

RUN mkdir -p /etc/service/apache2/ &&
    printf "#!/bin/shnntrap "apachectl -k graceful-stop" 1 2 3 6 15nnexec /usr/sbin/apachectl
-D FOREGROUNDn" > /etc/service/apache2/run &&
    chmod +x /etc/service/apache2/run && mkdir -p /etc/service/mysql/ &&
    printf "#!/bin/shnntrap "mysqladmin -uroot -psuCTF_P1us_1s shutdown" 1 2 3 6 15nnexec
/usr/bin/mysqld_safe" > /etc/service/mysql/run &&
    mkdir -p /var/run/mysqld/ && chown mysql:mysql /var/run/mysqld &&
    chmod 700 /etc/service/mysql/run /etc/service/apache2/run

COPY web /var/www/html
COPY flag /flag
RUN echo "secure-file-priv=/var/www/" >>/etc/mysql/mariadb.conf.d/50-server.cnf && chmod -R
777 /var/www/html/favicon
COPY init_sql.sh /tmp/init_sql.sh
RUN chmod +x /tmp/init_sql.sh && bash -c "/tmp/init_sql.sh" && rm /tmp/init_sql.sh
EXPOSE 80
```

```
#!/usr/bin/env bash
#init_sql.sh

mysqld_safe &
echo -n "Waiting for mysql startup"
while ! mysqladmin --host="localhost" --silent ping ; do
    echo -n "."
    sleep 1
done
echo

mysql -uroot <<EOF
UPDATE mysql.user SET Password=PASSWORD('XXXXXX'), plugin = '' WHERE User='root';
create database calc;
use calc;
create table user(
id INT NOT NULL AUTO_INCREMENT primary key,
```

```
username varchar(32) NOT NULL,
password varchar(32) NOT NULL
)ENGINE=InnoDB DEFAULT CHARSET=utf8;
insert into user values(1,'admin','aa67095d8e65d624548cb6b50bd4778e');
create table file(
id INT NOT NULL AUTO_INCREMENT primary key,
filename varchar(32) NOT NULL,
filehash varchar(32) NOT NULL,
sig varchar(120) NOT NULL
)ENGINE=InnoDB DEFAULT CHARSET=utf8;
create table flag(
flag varchar(120) primary key
)ENGINE=InnoDB DEFAULT CHARSET=utf8;
insert into flag values('SUCTF{a_very_long_long_long_long_long_fake_flag_d}');
grant SELECT, INSERT on calc.user to 'suctf'@localhost identified by 'suctf';
grant SELECT, INSERT, UPDATE on calc.file to 'suctf'@localhost ;
grant SELECT on calc.flag to 'suctf'@localhost ;
FLUSH PRIVILEGES;
EOF

mysqladmin -uroot -pXXXXXX shutdown
```

printf "#!/bin/shnntrap "apachectl -k graceful-stop" 1 2 3 6 15nnexec /usr/sbin/apachectl -D FOREGROUNDn" > /etc/service/apache2/run runit phusion/baseimage run /etc/service/apache2/run

```
#! /bin/sh

trap "apachectl -k graceful-stop" 1 2 3 6 15

exec /usr/sbin/apachectl -D FOREGROUND
```

runit Apache2 1 2 3 6 15 (graceful) Apache2 Apac
apache2 Container ~~ -

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