# docker分离部署Inmp

原创

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2017-03-12 11:44:20

评论(0)

711人阅读

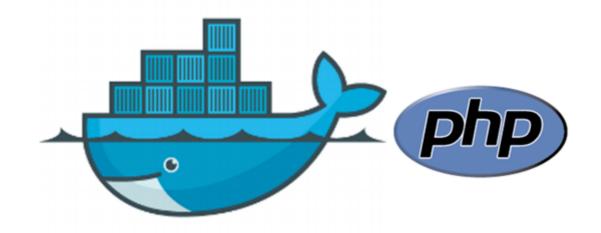
以下所需的全部的文件、镜像、软件,如有需要请到我的百度云分享下载:链接:http://pan.baidu.com/s/1kUVNdsj 密码:an9l

项目需求:

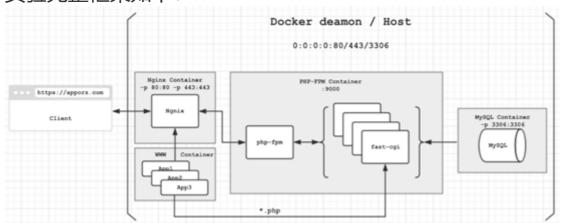
构建Inmp平台。

要求nginx、php、mysql分开布署。

Nginx通过fastcgi方式支持php动态页面



## 实验完整框架如下:



说明:使用单一进程容器,即一个容器只运行一种服务,而不是把所有服务放在一个容器的设计,让Inmp项目需要的Nginx、PHP、MySQL组件,分别运行在各自镜像创建出来的独立容器中。

## 实验步骤如下:

- 1、安装docker1.12并开始服务
- 1) 安装docker1.12

### 2) 开启docker服务并开机自启

```
文件(F) 開催(E) 直看(V) 附集(E) 終期(T) 解析(H)

root®localhost docker1. 12] # systemctl start docker
root®localhost docker1. 12] # systemctl enable docker
Created symlink from /etc/systemd/system/multi-user target wants/docker. service to /usr/lib/systemd/system/docker. service.
root®localhost docker1. 12] #
```

#### 3) 关闭selinux (一定要关闭)

```
文件(F) 编版(E) 查看(V) 按索(S) 終版(T) 解助(H)

[root@localhost ~] # cat /etc/sysconfig/selinux

# This file controls the state of SELinux on the system.

# SELINUX= can take one of these three values:

# enforcing - SELinux security policy is enforced.

# permissive - SELinux prints warnings instead of enforcing.

# disabled - No SELinux policy is loaded.

SELINUX=disabled

# SELINUXTYPE= can take one of three two values:

# targeted - Targeted processes are protected.

# minimum - Modification of targeted policy. Only selected processes are protected.

# mls - Multi Level Security protection.

SELINUXTYPE=targeted
```

关闭selinux后,不要忘记重启生效,如果不想重启可以采用临时关闭selinux的方法: setenforce 0 该命令只是临时关闭,重启失效,适合做实验,真实生产环境还是采用永久关闭的方法。

#### 4) 开启路由转发功能

```
字解文: 192.168.1.3 ×

文件(F) 编辑(E) 查看(V) 授素(S) 经端(T) 帮助(H)

[root@localhost ~] # cat /etc/sysctl.conf
# System default settings live in /usr/lib/sysctl.d/00-system.conf.
# To override those settings, enter new settings here, or in an /etc/sysctl.d/
# For more information, see sysctl.conf(5) and sysctl.d(5).

net.ipv4.ip_forward=1

[root@localhost ~] # sysctl - p

net.ipv4.ip_forward = 1
[root@localhost ~] #
```

## 5) 下载centos6镜像

(我这里已经下载好,并做成了归档压缩包,只用解压即可)

- 2、创建实验所用文件夹以及文件
- 1) 分别创建工作目录

```
□ 郑鹏飞: 192.168.1.3 ×
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
[ root@localhost ~] # mkdir - pv /lnmp/{ nginx, php, mysql, web}
mkdir: 已创建目录 "/lnmp"
mkdir: 已创建目录 "/lnmp/nginx"
mkdir: 已创建目录 "/lnmp/php"
mkdir: 已创建目录 "/lnmp/mysql"
mkdir: 已创建目录 "/lnmp/web"
[root@localhost ~]# ls - l /lnmp
总用量 0
drwxr-xr-x 2 root root 6 3月
                            2 17:12 mysql
drwxr-xr-x2 root root 6 3月
                            2 17:12 nginx
drwxr- xr- x 2 root root 6 3月 2 17:12 php
drwxr- xr- x 2 root root 6 3月 2 17:12 web
[root@localhost ~]#
2) 再分别创建相应目录下的文件和子目录
₩ 郑鹏飞: 192.168.1.3 ×
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
[root@localhost ~]# tree /lnmp
/lnmp
    docker-compose.yml
    get-pip.py
    mysql
        dockerfile
        my. cnf
        software
           - cmake- 2. 8. 12. tar. gz
           - mysql- 5. 5. 38. tar. gz
       - supervisord.conf
    nginx
        dockerfile
        nginx. conf
        software

— nginx- 1. 6. 2. tar. gz

        supervisord.conf
    php
        dockerfile
        php-fpm.conf
        software

    php- 5. 3. 28. tar. gz

        supervisord.conf
    web
7 directories, 15 files
|[ root@localhost ~]#
3、分别编辑nginx、php、mysql的dockerfile文件以及各自的
```

- supervisord.conf文件
- 1) nginx

①编辑nginx的dockerfile文件

```
THE SHEET HADDRESS = THE STATE OF THE STATE
```

#images of nginx

FROM centos:centos6

MAINTAINER from zhengpengfei@example.com

#install supervisor

RUN yum -y install python-setuptools

RUN /usr/bin/easy install supervisor

#install nginx

RUN yum -y install pcre-devel zlib-devel gcc make

ADD ./software/nginx-1.6.2.tar.gz/usr/src

RUN useradd -M -s /sbin/nologin nginx

RUN cd /usr/src/nginx-1.6.2/ && ./configure --prefix=/usr/local/nginx --with-http\_stub\_status\_module --user=nginx --group=nginx && make && make install

#Modify nginx configuration file

COPY nginx.conf /usr/local/nginx/conf/

RUN In -s /usr/local/nginx/sbin/nginx /usr/local/sbin

RUN mkdir /usr/local/nginx/html/web

#Open nginx service

COPY supervisord.conf /etc/supervisor/supervisord.conf

**EXPOSE 80** 

CMD ["/usr/bin/supervisord"]

### ②编写nginx的supervisord.conf配置文件

```
掛那飞: 192.168.1.3 ×
```

文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[supervisord]

nodaemon=true

[program: nginx]

command=/usr/local/sbin/nginx

## ③docker build -t命令制作nginx镜像

```
□ 郑鹏飞: 192.168.1.3 ×
```

文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[root@localhost ~]# docker build -t=lnmp:nginx /lnmp/nginx/

Sending build context to Docker daemon 812.5 kB

Step 1: FROM centos: centos6

---> cf2c3ece5e41

Step 2 : MAINTAINER from zhengpengfei@example.com

---> Running in bcc44aee3891

4)镜像制作完成

```
Successfully built dd49a918344f
root@localhost ~] # docker images
                                         IMAGE ID
REPOSITORY
                    TAG
                                                            CREATED
                                                                                 SIZE
                                         dd49a918344f
lnmp
                                                                                 346.7 MB
                    nginx
                                                             9 minutes ago
centos
                    centos6
                                         cf2c3ece5e41
                                                            8 months ago
                                                                                 194.6 MB
[ root@localhost ~] #
```

## 2) php

①编辑php的dockerfile文件

```
THEY MAN(E) MEN(E) MEN(S) MEN(E) MEN(E)

Finages of php

FROM centos: centos0

MAINTAINER from Zhengpengfei@example.com

Finstall supervisor

RUM yum -y install python-setuptools

RUM yus-/bin/easy install supervisor

Finstall php

RUM yum -y install gd libxml2-devel libjpeg devel libpng devel mysql-devel gcc make

RUM useradd M -s /sbin/nologin php

100 /software/php 5.3.28 tar, gz /usr/src

RUM cd /usr/src/php 5.3.28 tar. gz /usr/src

RUM cd /usr/src/php fp 5.3.28 tar. gz /usr/src

RUM cd /usr/src/php fp fp fp conf /usr/local/php - usith gd - usith zlib - with mysql - with m
```

#images of php

FROM centos:centos6

MAINTAINER from zhengpengfei@example.com

#install supervisor

RUN yum -y install python-setuptools

RUN /usr/bin/easy\_install supervisor

#install php

RUN yum -y install gd libxml2-devel libjpeg-devel libpng-devel mysql-devel gcc make

RUN useradd -M -s /sbin/nologin php

ADD ./software/php-5.3.28.tar.gz/usr/src

RUN cd /usr/src/php-5.3.28/

RUN cp /usr/lib64/mysql/libmysqlclient.so.16.0.0 /usr/lib/libmysqlclient.so

RUN cd /usr/src/php-5.3.28/ && ./configure --prefix=/usr/local/php --with-gd --with-mysql --with-mysqli --with-mysql-sock --with-config-file-path=/usr/local/php --enable-mbstring --enable-fpm --with-jpeg-dir=/usr/lib && make && make install

#Modify PHP configuration file

RUN cp /usr/local/php/etc/php-fpm.conf.default /usr/local/php/etc/php-fpm.conf

COPY php-fpm.conf /usr/local/php/etc/

RUN mkdir -p /var/www/html/web

#Open php-fpm service

ADD ./supervisord.conf /etc/supervisor/supervisord.conf

EXPOSE 9000

CMD ["/usr/bin/supervisord"]

#### ②编写php的supervisord.conf配置文件

```
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
[ supervisord]
nodaemon=true
[ program: php]
command=/usr/local/php/sbin/php-fpm
```

③docker build -t命令制作php镜像

```
₩ 郑鹏飞: 192.168.1.3 ×
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
root@localhost ~] # docker build - t=lnmp: php /lnmp/php
Sending build context to Docker daemon 14.02 MB
Step 1: FROM centos: centos6
---> cf2c3ece5e41
Step 2: MAINTAINER from 819594300@qq.com
---> Running in 3286e951af05
---> 549c643b1fea
```

### 4. 镜像制作完成

Successfully built [root@localhost ~]# REPOSITORY	NAME AND ADDRESS OF THE OWNER, WHEN PERSONS ASSESSED.	IMAGE ID	CREATED	SIZE
lnmp	php	cd8067c79a21	2 minutes ago	632.5 MB
lnmp	nginx	dd49a918344f	34 minutes ago	346. 7 MB
centos [root@localhost ~]#	centos6	cf2c3ece5e41	8 months ago	194.6 MB

## 3) mysql

①编辑mysql的dockerfile文件

```
文件(F) 編稿(E) 高管(V) 授業(S) 折項(T) 帮助(H)
 #Initialize mysql
RLM: groupedd mysql
RLM: useradd - H · s /sbin/nologin mysql · g mysql
RLM: chown - R mysql: mysql /usr/local/mysql
RXM: /usr/local/mysql/scripts/mysql_install_db
#service mysql start
                                                  -- user=mysql -- basedir=/usr/local/mysql -- datadir=/usr/local/mysql/data/
  O /supervisord.conf /etc/supervisor/supervisord.conf
 MD ["/usr/bin/supervisord"]
```

#image of mysql

FROM centos:centos6

MAINTAINER from zhengpengfei@example.com

#install supervisor

RUN yum -y install python-setuptools

RUN /usr/bin/easy install supervisor

#install mysql

RUN yum -y install ncurses-devel make gcc gcc-c++

ADD ./software/cmake-2.8.12.tar.gz/usr/src

ADD ./software/mysql-5.5.38.tar.gz/usr/src

RUN cd /usr/src/cmake-2.8.12 && ./configure && gmake && gmake install

RUN cd /usr/src/mysql-5.5.38 && cmake -DCMAKE INSTALL PREFIX=/usr/local/mysql-

DSYSCONFDIR=/etc/-DDEFAULT CHARSET=utf8 -DDEFAULT COLLATION=utf8 general ci -

DWITH EXTRA CHARSETS=all && make && make install

#Optimal adjustment mysql

WORKDIR /usr/src/mysql-5.5.38/

RUN cp -rf ./support-files/my-medium.cnf /etc/my.cnf

RUN cp -rf ./support-files/mysql.server /etc/rc.d/init.d/mysqld

RUN chmod +x /etc/rc.d/init.d/mysqld

RUN echo "PATH=\$PATH:/usr/local/mysql/bin" >> /etc/profile

RUN source /etc/profile

#Initialize mysql

RUN groupadd mysgl

RUN useradd -M -s /sbin/nologin mysgl -g mysgl

RUN chown -R mysql:mysql /usr/local/mysql

RUN /usr/local/mysql/scripts/mysql\_install\_db --user=mysql --basedir=/usr/local/mysql --datadir=/usr/local/mysql/data/

#service mysql start

ADD ./supervisord.conf /etc/supervisor/supervisord.conf

EXPOSE 3306

CMD ["/usr/bin/supervisord"]

#### ②编写mysql的supervisord.conf配置文件

#### ∰郑鹏飞: 192.168.1.3 ×

文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[supervisord]

nodaemon=true

[program: mysqld]

command=/etc/init.d/mysqld start

## ③docker build -t命令制作mysql镜像

#### ∰郑鹏飞: 192.168.1.3 ×

文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[root@localhost ~]#<mark>docker build -t=lnmp:mysql/lnmp/mysql/</mark>

Sending build context to Docker daemon 27.81 MB

Step 1: FROM centos: centos6

---> cf2c3ece5e41

Step 2 : MAINTAINER from zhengpengfei@example.com

---> Using cache

---> 87179d075b18

Step 3 : RUN yum - y install python-setuptools

---> Using cache

---> 4be6d98d9d39

## ④镜像制作完成

#### Successfully built 9236044224b2

TAG	IMAGE ID	CREATED	SIZE
mysql	9236044224b2	46 seconds ago	1.889 GB
php	cd8067c79a21	28 minutes ago	632. 5 MB 346. 7 MB
centos6	cf2c3ece5e41	8 months ago	194.6 MB
	TAG mysql php nginx	TAG IMAGE ID mysql 9236044224b2 php cd8067c79a21 nginx dd49a918344f centos6 cf2c3ece5e41	TAG IMAGE ID CREATED  mysql 9236044224b2 46 seconds ago php cd8067c79a21 28 minutes ago nginx dd49a918344f About an hour ago centos6 cf2c3ece5e41 8 months ago

## 4、编写docker-compose.yml文件

#### ∰郑鹏飞: 192.168.1.3 ×

文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[root@localhost lnmp]# ls

mysql nginx php web

[ root@localhost lnmp] # vim docker- compose.yml

```
→ 郑昭飞: 192.168.1.3 ×
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
 1 mysql:
 2
            image: lnmp: mysql
 3
            volumes:
            /lnmp/mysql/my.cnf:/etc/my.cnf
            expose:
            - 3306
 7 php:
 8
            image: lnmp: php
 9
            volumes:
10
            - /lnmp/php/php-fpm.conf:/usr/local/php/etc/php-fpm.conf
11
              /lnmp/web/:/var/www/html/web/
            links:
13
            - mysql
14
            expose:
15
            9000
16 nginx:
17
            image: lnmp: nginx
18
            volumes:

    /lnmp/nginx/nginx.conf:/usr/local/nginx/conf/nginx.conf

19
20
              /lnmp/web/:/usr/local/nginx/html/web/
            links:
21
22
           - php
23

    mysql

24
            ports:
25
            - "80: 80"
```

## 5、安装docker-compose

## 1)先安装pip

```
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[root@localhost lnmp] # python get-pip.py
Collecting pip
Downloading pip- 9. 0. 1- py2. py3- none- any. whl (1. 3MB)
100% | 1. 3MB 843kB/S

Collecting wheel
Downloading wheel- 0. 29. 0- py2. py3- none- any. whl (66kB)
100% | 71kB 11. 0MB/S

Installing collected packages: pip, wheel
Successfully installed pip- 9. 0. 1 wheel- 0. 29. 0
[root@localhost lnmp] #
```

## 2) 再安装compose

```
文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)

[root@localhost lnmp] # pip install docker-compose
Collecting docker-compose
Downloading docker_compose-1.11.2-py2.py3-none-any.whl (85kB)
100%
```

```
文件(F) 编辑(E) 查看(V) 搜索(S) 終端(T) 帮助(H)

[ root@localhost lnmp] # ln - s /usr/bin/docker-compose /usr/local/bin/docker-compose version 1.11.2, build dfed245
[ root@localhost lnmp] #
```

6、通过docker-compose启动项目

```
文件(F) 編稿(E) 重要(V) 按案(S) 前端(T) 解助(H)
| rootilocalhost lnmp|# docker compose up d
Creating lnmp_mysql_1
Creating lnmp_npin_1
Creating lnmp_npinx_1
| rootilocalhost lnmp|# docker ps
                                                                                  CREATED
CONTAINER ID
                         IMAGE
S#17600f0fff
                      Inmp: nginx
                                                  "/usr/bin/supervisord" 20 seconds ago
                                                                                                           Up 10 seconds
                                                                                                                                     0.0.0.0:80->80/tcp lnm
p_nginx_1
256c71b694a2
                       Inmp: php
                                                  "/usr/bin/supervisord" 24 seconds ago
                                                                                                            Up 20 seconds
p_php_1
cbe0571cbbc1
                      lomp: mysql
                                                  "/usr/bin/supervisord" 26 seconds ago
                                                                                                           Up 24 seconds
                                                                                                                                      3306/tcp
                                                                                                                                                                Inn
p_mysql_1
|root@localhost lnmp]#
```

- 7、进入mysql容器修改数据库root密码以及创建数据库和创建授权用户
- 1) 修改数据库用户root密码

```
学業者: 192.168.1.3 ×
文件(F) 編輯(E) 查看(V) 搜索(S) 終端(T) 帮助(H)

[root@localhost ~] # docker exec - it lnmp_mysql_1 /bin/bash <5. 38] # /usr/local/mysql/bin/mysqladmin - uroot - p password '123456' Enter password:
[root@cbe0571cbbc1 mysql-5.5.38] #
```

```
2) 创建数据库

<5.38] # /usr/local/mysql/bin/mysql - uroot - p' 123456'
Welcome to the MySQL monitor. Commands end with; or \g.
Your MySQL connection id is 2
Server version: 5.5.38-log Source distribution

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Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database movie;
Query OK, 1 row affected (0.00 sec)

mysql>
```

## 3) 创建授权用户

```
mysql> grant all privileges on movie. * to 'zpf'@ %' identified by '123456';
Query OK, O rows affected (0.02 sec)
mysql>
```

## 4) 给root用户授予全部权限

```
mysql> grant all privileges on *. * to 'root'@% identified by '123456';
Query OK, O rows affected (0.00 sec)
mysql>
```

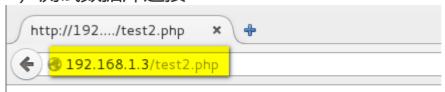
- 8、做html、php页面和数据库访问测试
- 1) 制作html、php测试页

```
₩ 郑鹏飞: 192.168.1.3 ×
 文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
[root@localhost ~]# <mark>cd /lnmp/web/</mark>
[root@localhost web]#<mark>cat index.html</mark>
Welcome to beijing
[root@localhost web]# cat test.php
<?php
phpinfo();
[root@localhost web]#
2) 测试nginx和php的访问处理
   http://192.168.1.3/
     3 192.168.1.3
Welcome to beijing
                                             phpinfo() - Mozilla Firefox
phpinfo()
← @ 192.168.1.3/test.ph
                                                                   マピ 見接索
                              PHP Version 5.3.28
                                                                  والأو
                                        Linux 256/710694e2 3.10.0-327.e7.x86_64 E1 9/P Thu Nov 19 221057 UTC 2015
                              Build Date
                                        Mar 2 2017 1007:26
                                        Server API
                                        FPM/FestCGE
                              Virtual Directory
```

## 3) 制作数据库的测试页面

```
予解飞: 192.168.1.3 × 文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)  
■?php  
$link=mysql_connect('172.17.0.2','root','123456'); if($link) echo"Congratulations, the connection database is successful!"; mysql_close(); ?■
```

## 4) 测试数据库连接



Congratulations, the connection database is successful!

- 至此说明nginx、php、mysql三者的协同工作已经没有问题了
- 8、安装一个电影网站,做最后的Inmp协同工作测试
- 1)解压缩SKYUC

```
2018/4/12
                                         docker分离部署Inmp-IT技术助手-51CTO博客
  □ 郑昭飞: 192.168.1.3 ×
  文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
  root@localhost lnmp] # ls
 docker-compose.yml get-pip.py mysql nginx php SKYUC_3.4.2_for_php5.3.zip web
  [root@localhost lnmp] # rpm - q unzip
  unzip-6.0-15.el7.x86_64
[root@localhost lnmp]# unzip SKYUC_3.4.2_for_php5.3.zip]
 2)设置权限
  ₩ 郑鹏飞: 192.168.1.3 ×
  文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
 [ root@localhost lnmp] # cd SKYUC. v3. 4. 2. SOURCE/www.root/
 [root@localhost wwwroot]#<mark>/bin/cp-r*/lnmp/web/</mark>
 [ root@localhost wwwroot] # cd /lnmp/web/
 分别去nginx和php容器给予权限:
 php:
  □ 郑昭飞: 192.168.1.3 ×
  文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
  [root@localhost ~]# docker exec - it lnmp_php_1 /bin/bash
  root@256c71b694a2 /] # cd /var/www/html/web/
  [root@256c71b694a2 web] # chown - R php: php admincp/ data/ templates/ upload/
  [ root@256c71b694a2 web]#
 nginx:
  □ 郑昭飞: 192.168.1.3 ×
  文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
  root@localhost ~] # docker exec - it lnmp_nginx_1 /bin/bash
   root@8e17609f0fff /] # cd /usr/local/nginx/html/web/
root@8e17609f0fff web] # chown - R nginx: nginx admincp/ data/ templates/ upload/
  [root@8e17609f0fff web] #
  3)宿主机防火墙开启80例外
  → 郑鹏飞: 192.168.1.3 ×
  ➡ 应用程序 ▼ 位置 ▼
  文件(F) 编辑(E) 查看(V) 搜索(S) 终端(T) 帮助(H)
```

```
root
[root@localhost ~]# <mark>firewall-cmd --permanent --add-port=80/tcp</mark>
success
[root@localhost ~] # firewall-cmd -- reload
success
root@localhost ~]#
```

#### 4) 在一台客户机安装SKYUC





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