

21、Docker Compose介绍、下载、安装、快速使用

1、Compose是Docker官方的开源项目，需要安装！

2、Compose来轻松高效的管理众多容器。

2、需要编写一个docker-compose.yml文件，用来定义多种类型的容器，后续使用Compose的命令docker-compose up/down/stop命令可以一键批量运行/停止出多种类型的容器。因为编写一个Dockerfile文件，只能构建运行出一种容器。

3、第4步，使用Compose的docker-compose up命令启动web服务时会构建镜像，运行出web容器，也会同时--link到redis，运行出redis容器。（web服务+一组关联的容器）

- 注意这里提供了两种获取镜像的方式：Dockerfile的build方式，和从Dockerhub仓库拉取image的方式。
- 获取到镜像后，然后运行出容器
 - 镜像名的默认规则：文件夹名_服务名
 - 容器名的默认规则：文件夹名_服务名_count，集群状态下，count代表容器运行的实例数量，HA高可用。
 - 网络规则：web镜像和redis镜像运行容器时，默认创建了一个网络，名字是（文件夹名_default），运行出的容器都使用这个网络（网段）下的子网ip，所以容器间可以通过容器名（域名）互联。

```
[root@kuangshen ~]# docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
7f2a3e7b5dab        bridge              bridge               local
caff1f59b938        composetest_default bridge               local
c2965e19a00f        host                host                  local
fffebb0a079b        none                null                  local
[root@kuangshen ~]#
```

4、Compose重要概念

- services：应用，容器

Compose

```
1 version: '2.0'
2 services:
3     web:
4         build: .
5         ports:
6             - "5000:5000"
7         volumes:
8             - .:/code
9             - logvolume01:/var/log
10        links:
11            - redis
12    redis:
13        image: redis
14 volumes:
15     logvolume01: {}
```

5、下载、安装Docker Compose

- 0、找到下载Compose的链接地址

<https://docs.docker.com/compose/install/>

- 1-1、Compose官方下载地址

```
sudo curl -L "https://github.com/docker/compose/releases/download/1.29.2/docker-compose-$(uname -s)-$(uname -m)" -o
/usr/local/bin/docker-compose
```

docs.docker.com/compose/install/ 1

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Compose releases are also listed and available for direct download on the [Compose release](#) of Compose, refer to the [install pre-release builds](#) section.

Mac Windows Windows Server Linux 4 Alternative install option:

Install Compose on Linux systems

On Linux, you can download the Docker Compose binary from the [Compose repository](#) link, which involve running the `curl` command in your terminal to download the t

For `alpine`, the following dependency packages are needed: `py-pip`, `python3`, `cargo` and `make`.

1. Run this command to download the current stable release of Docker Compose: 5

```
$ sudo curl -L "https://github.com/docker/compose/releases/download/1
```

- 1-2、Compose国内下载地址

```
sudo curl -L "https://get.daocloud.io/docker/compose/releases/download/1.25.5/docker-compose-$(uname -s)-$(uname -m)" > /usr/local/bin/docker-compose
```

```
[root@kuangshen home]# curl -L https://get.daocloud.io/docker/compose/releases/download/1.25.5/docker-compose-`uname -s`-`uname -m` > /usr/local/bin/docker-compose
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100  423    100  423    0     0   403      0  0:00:01  0:00:01 --:--:--  403
100 16.7M    100 16.7M    0     0 8188k      0  0:00:02  0:00:02 --:--:-- 21.0M
[root@kuangshen home]#
```

- 2、查看一下Compose的下载目录

```
[root@kuangshen home]# cd /usr/local/bin
[root@kuangshen bin]# ll
total 54928
-rwxr-xr-x 1 root root 17586312 Jul 24 20:39 docker-compose
-rwxr-xr-x 1 root root 4739112 May 13 21:59 redis-benchmark
-rwxr-xr-x 1 root root 9617624 May 13 21:59 redis-check-aof
-rwxr-xr-x 1 root root 9617624 May 13 21:59 redis-check-rdb
-rwxr-xr-x 1 root root 5049928 May 13 21:59 redis-cli
lrwxrwxrwx 1 root root 12 May 13 21:59 redis-sentinel -> redis-server
-rwxr-xr-x 1 root root 9617624 May 13 21:59 redis-server
[root@kuangshen bin]#
```

- 为docker-compose文件授予可执行权限

```
sudo chmod +x /usr/local/bin/docker-compose
```

- compose安装成功

```
[root@kuangshen bin]# docker-compose version
docker-compose version 1.25.5, build 8a1c60f6
docker-py version: 4.1.0
CPython version: 3.7.5
OpenSSL version: OpenSSL 1.1.101 10 Sep 2019
[root@kuangshen bin]#
```

6、快速使用Docker Compose

- <https://docs.docker.com/compose/gettingstarted/>
- 上述官网链接的三步骤的总结
 - app.py文件编写
 - Dockerfile文件（将应用构建为镜像）
 - docker-compose.yml文件（定义镜像执行流程，并进行容器启动的编排）
 - docker-compose up命令（启动Compose构建的项目）
- 启动过程
 - 插件网络

- 执行docker-compose.yml文件
- 启动服务（运行出容器或启动容器）
 - creating 文件夹名_服务名_count ... done
 - creating 文件夹名_服务名_count ... done

