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Docker系列教程【九】用于镜像操作的10个Docker Remote API

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终于这是系列文章的最后一篇了,
本文是介绍十个专门用于操作镜像的Docker Remote API。

创建一个镜像

镜像可以从两个方式获取:

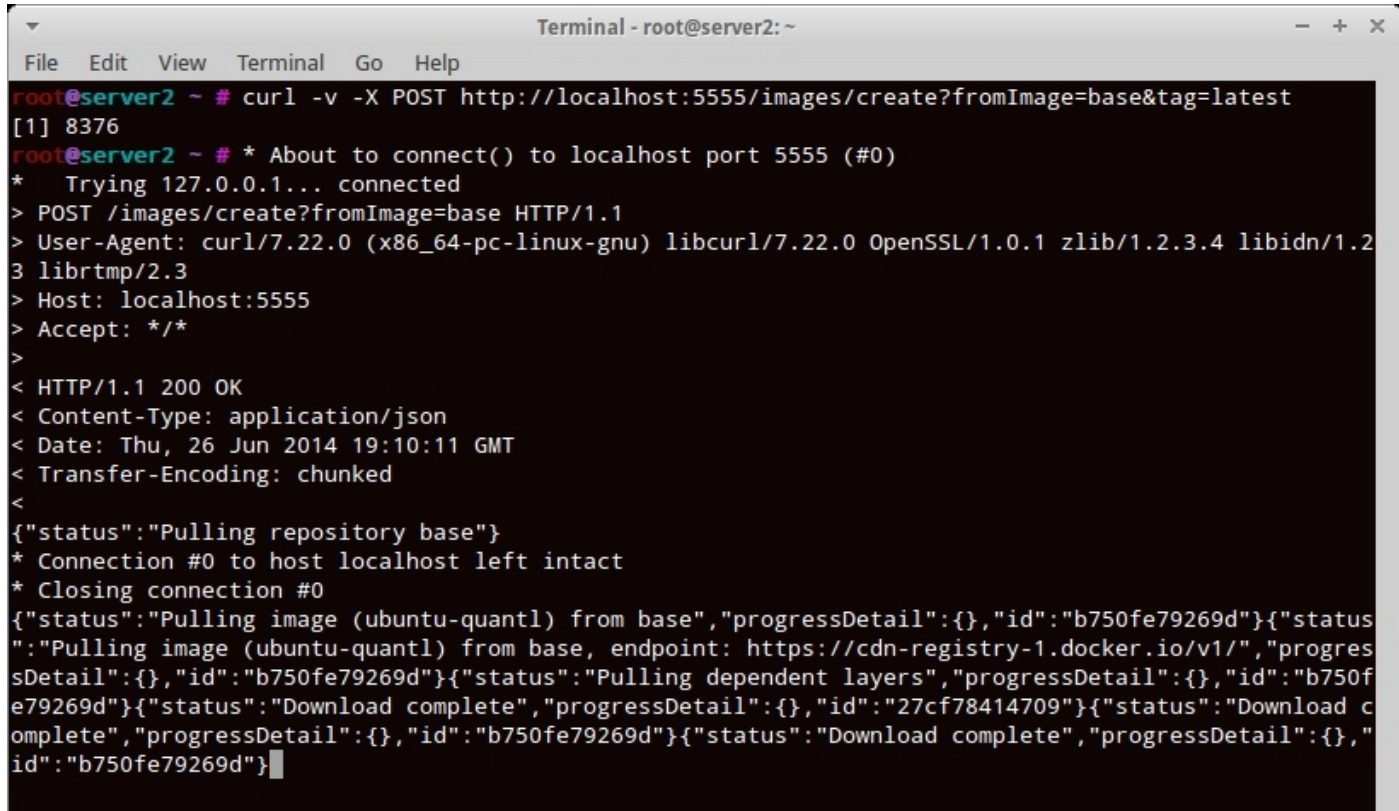
1. 从registry中pull一个
2. 导入一个

用法:

POST /images/create

POST /images/create?fromImage=base 获取名叫base的镜像。

POST /images/create?fromSrc=url 从url导入镜像。



```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v -X POST http://localhost:5555/images/create?fromImage=base&tag=latest
[1] 8376
root@server2 ~ # * About to connect() to localhost port 5555 (#0)
* Trying 127.0.0.1... connected
> POST /images/create?fromImage=base HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2
3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Thu, 26 Jun 2014 19:10:11 GMT
< Transfer-Encoding: chunked
<
{"status":"Pulling repository base"}
* Connection #0 to host localhost left intact
* Closing connection #0
{"status":"Pulling image (ubuntu-quantl) from base","progressDetail":{},"id":"b750fe79269d"}{"status":"Pulling image (ubuntu-quantl) from base, endpoint: https://cdn-registry-1.docker.io/v1/","progressDetail":{},"id":"b750fe79269d"}{"status":"Pulling dependent layers","progressDetail":{},"id":"b750fe79269d"}{"status":"Download complete","progressDetail":{},"id":"27cf78414709"}{"status":"Download complete","progressDetail":{},"id":"b750fe79269d"}{"status":"Download complete","progressDetail":{},"id":"b750fe79269d"}

```

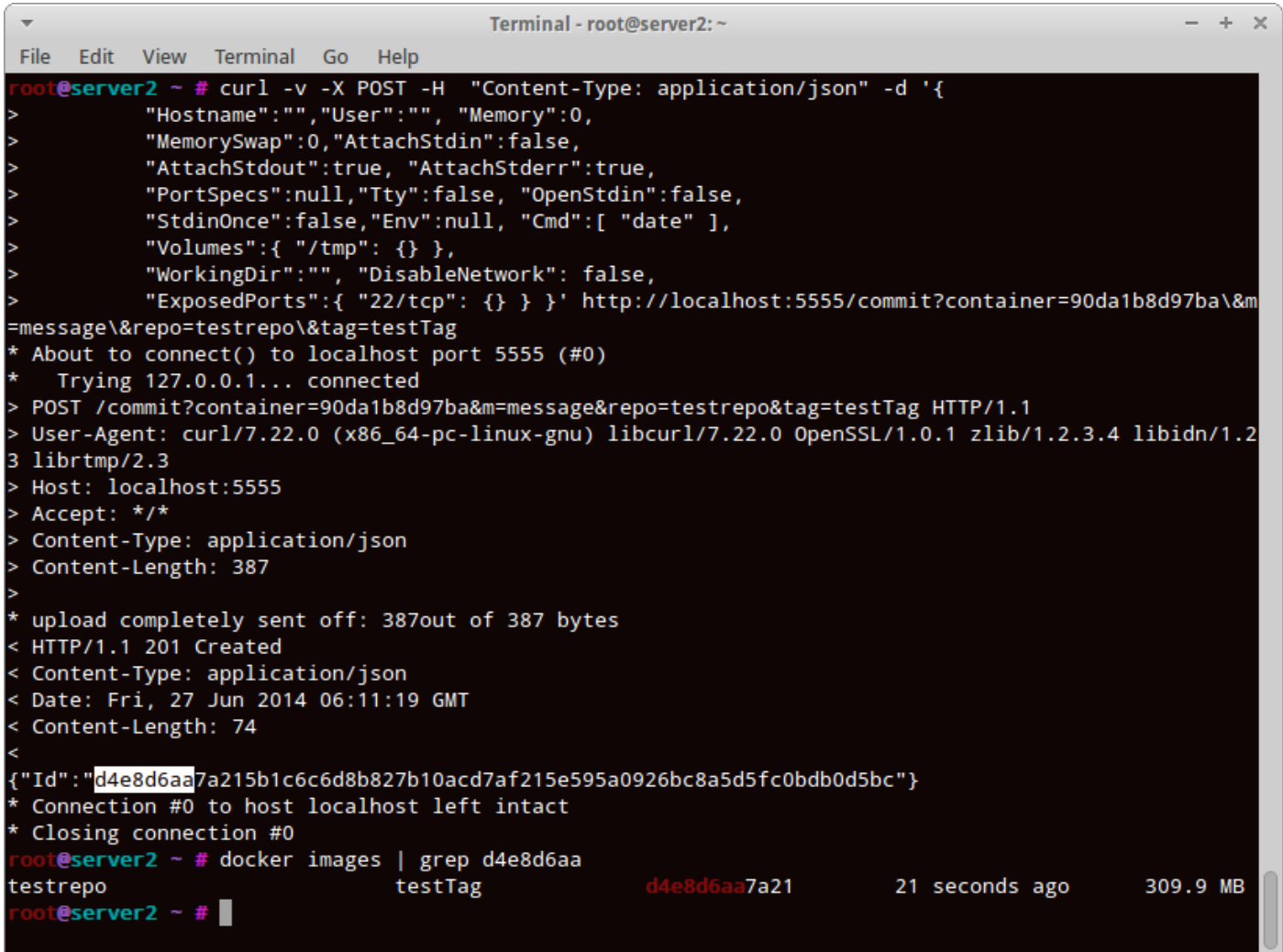
Flux7这里就有一个BUG。

shell操作中带有 & 的情况下,是需要非常小心的。

图片中的命令需要改正为: `curl -v -X POST "http://localhost:5555/images/create?fromImage=base&tag=latest"`

从容器创建镜像

POST /commit



```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v -X POST -H "Content-Type: application/json" -d '{
>   "Hostname":"","User":"","Memory":0,
>   "MemorySwap":0,"AttachStdin":false,
>   "AttachStdout":true, "AttachStderr":true,
>   "PortSpecs":null,"Tty":false, "OpenStdin":false,
>   "StdinOnce":false,"Env":null, "Cmd":[ "date" ],
>   "Volumes":{" /tmp": {} },
>   "WorkingDir":"","DisableNetwork": false,
>   "ExposedPorts":{" 22/tcp": {} } }' http://localhost:5555/commit?container=90da1b8d97ba&m
=message&\&repo=testrepo&\&tag=testTag
* About to connect() to localhost port 5555 (#0)
*   Trying 127.0.0.1... connected
> POST /commit?container=90da1b8d97ba&m=message&\&repo=testrepo&\&tag=testTag HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2
3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
> Content-Type: application/json
> Content-Length: 387
>
* upload completely sent off: 387out of 387 bytes
< HTTP/1.1 201 Created
< Content-Type: application/json
< Date: Fri, 27 Jun 2014 06:11:19 GMT
< Content-Length: 74
<
{"Id":"d4e8d6aa7a215b1c6c6d8b827b10acd7af215e595a0926bc8a5d5fc0bdb0d5bc"}
* Connection #0 to host localhost left intact
* Closing connection #0
root@server2 ~ # docker images | grep d4e8d6aa
testrepo                                testTag                                d4e8d6aa7a21                21 seconds ago                309.9 MB
root@server2 ~ #
```

列出镜像

GET /images/json

```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl http://localhost:5555/images/json
[{"Created":1403169743,"Id":"6e526128fd5b256ced4e7863d4e431cf3fca87ae2058c1e40ca65bf139e68285","ParentId":"14faab53c729894ee2c5e929839a8437392473ed7fba6e756d15543c269a4e06","RepoTags":["registry:0.7.3","registry:latest"],"Size":0,"VirtualSize":553135646},
{"Created":1403128455,"Id":"c5881f11ded97fd2252adf93268114329e985624c5d7bb86e439a36109d1124e","ParentId":"5796a7edb16bffa3408e0f00b1b8dc0fa4651ac88b68eee5a01b088bedb9c54a","RepoTags":["localhst:5000/registry-demo:latest"],"Size":70975635,"VirtualSize":172159231},
{"Created":1403128388,"Id":"ebe4be4dd427fcc7e137b340f60e458baa5fb710a280332454d2c8a8209a14d7","ParentId":"0b628db0b6641b51c731bda90aeabcb476ae412ad87ada2812a0909d747618e3","RepoTags":["\u003cnone\u003e:\u003cnone\u003e"],"Size":149313,"VirtualSize":210555469},
{"Created":1403128361,"Id":"e54ca5efa2e962582a223ca9810f7f1b62ea9b5c3975d14a5da79d3bf6020f37","ParentId":"6c37f792ddacad573016e6aea7fc9fb377127b4767ce6104c9f869314a12041e","RepoTags":["localhost:5000/ubuntu:latest","ubuntu:latest"],"Size":178365,"VirtualSize":276464769},
{"Created":1402318831,"Id":"b05d9cfbd4a1152bae28b8d24e8c99ad4f2c5e8432d67fffad6418c7344c1b2f","ParentId":"ae66dff5cd30fe7caac82dd48465e3aecd95cb0f25ee908fc1ea942b7ff1d4cc","RepoTags":["sampritavh/dockerplayground:mb7"],"Size":1740469,"VirtualSize":380663949},
{"Created":1402040247,"Id":"b853594c90668fc43061d8969cac461422f0376fb0b3329c9438fdac2c447024","ParentId":"6d71187017ae6227307f6a557967e7f84e639df33cbee4bde6372d85a8dde515","RepoTags":["samprita:mb5aufs"],"Size":43812919,"VirtualSize":378220774}]
root@server2 ~ #
```

插入文件

POST /images/(name)/insert

POST /images/test/insert?path=/usr&url=myurl

如图，将url提供的文件插入到name对应的镜像的path目录中。

```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v -X POST http://localhost:5555/images/base/insert?path=%2Fusrtest&url=http%3A%2F%2Flocalhost%2Ftest%2Etxt
* About to connect() to localhost port 5555 (#0)
* Trying 127.0.0.1... connected
> POST /images/base/insert?path=%2Fusrtest&url=http%3A%2F%2Flocalhost%2Ftest%2Etxt HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2.3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Thu, 26 Jun 2014 19:26:09 GMT
< Content-Length: 207
<
{"status":"Downloading","progressDetail":{"current":21,"total":-1,"start":1403810769},"progress":"21 B","id":"b750fe79269d"}{"status":"7a50c1f751bd353f3d52dd086b837ae30214ef58d694034d39be928c80f8012f"}
* Connection #0 to host localhost left intact
* Closing connection #0
root@server2 ~ #
```

删除镜像

DELETE /images/(name)

```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v -X DELETE http://localhost:5555/images/redis
* About to connect() to localhost port 5555 (#0)
*   Trying 127.0.0.1... connected
> DELETE /images/redis HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2.3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Thu, 26 Jun 2014 19:42:26 GMT
< Content-Length: 30
<
[{"Untagged": "redis:latest"}]
* Connection #0 to host localhost left intact
* Closing connection #0
root@server2 ~ #
```

推送镜像到registry

POST /images/(name)/push

```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v -X POST -L --post301 -H "X-Registry-Auth: eyAidXNlcm5hbWUiIDogInNhXBYaXRhdmgilCAicGFzc3dvcnQiIDogInRlc3QxMjM0IiwgImVtYVlsIjogInNhXBYaXRhQGZsdXg3LmVubSIgfQo=" http://localhost:5555/images/sampritavh%2Fdockerplayground/push
* About to connect() to localhost port 5555 (#0)
*   Trying 127.0.0.1... connected
> POST /images/sampritavh%2Fdockerplayground/push HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2.3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
> X-Registry-Auth: eyAidXNlcm5hbWUiIDogInNhXBYaXRhdmgilCAicGFzc3dvcnQiIDogInRlc3QxMjM0IiwgImVtYVlsIjogInNhXBYaXRhQGZsdXg3LmVubSIgfQo=
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Fri, 27 Jun 2014 06:39:31 GMT
< Transfer-Encoding: chunked
<
{"status": "The push refers to a repository [sampritavh/dockerplayground] (len: 3)"}
{"status": "Sending image list"}
{"status": "Pushing repository sampritavh/dockerplayground (3 tags)"}
{"status": "Pushing", "progressDetail": {}, "id": "511136ea3c5a"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "511136ea3c5a"} {"status": "Pushing", "progressDetail": {}, "id": "6170bb7b0ad1"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "6170bb7b0ad1"} {"status": "Pushing", "progressDetail": {}, "id": "9cd978db300e"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "9cd978db300e"} {"status": "Pushing", "progressDetail": {}, "id": "4d4b27e7ee97"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "4d4b27e7ee97"} {"status": "Pushing", "progressDetail": {}, "id": "346579db052c"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "346579db052c"} {"status": "Pushing", "progressDetail": {}, "id": "1d2e39f1d856"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "1d2e39f1d856"} {"status": "Pushing", "progressDetail": {}, "id": "1f46da516f38"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "1f46da516f38"} {"status": "Pushing", "progressDetail": {}, "id": "db6645096445"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "db6645096445"} {"status": "Pushing", "progressDetail": {}, "id": "079698a2ace7"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "079698a2ace7"} {"status": "Pushing", "progressDetail": {}, "id": "8fc5239c5506"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "8fc5239c5506"} {"status": "Pushing", "progressDetail": {}, "id": "20479400de9f"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "20479400de9f"} {"status": "Pushing", "progressDetail": {}, "id": "51ee3d7e81dc"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "51ee3d7e81dc"} {"status": "Pushing", "progressDetail": {}, "id": "6d71187017ae"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "6d71187017ae"} {"status": "Pushing", "progressDetail": {}, "id": "b853594c9066"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "b853594c9066"} {"status": "Pushing", "progressDetail": {}, "id": "ae66dff5cd30"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "ae66dff5cd30"} {"status": "Pushing", "progressDetail": {}, "id": "b05d9cfbd4a1"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "b05d9cfbd4a1"} {"status": "Pushing tag for rev [b05d9cfbd4a1] on {https://registry-1.docker.io/v1/repositories/sampritavh/dockerplayground/tags/mb7}"} {"status": "Pushing", "progressDetail": {}, "id": "27cf78414709"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "27cf78414709"} {"status": "Pushing", "progressDetail": {}, "id": "b750fe79269d"} {"status": "Image already pushed, skipping", "progressDetail": {}, "id": "b750fe79269d"} {"status": "Pushing tag for rev [b750fe79269d] on {https://registry-1.docker.io/v1/repositories/sampritavh/dockerplayground/tags/test2}"} {"status": "Pushing tag for rev [b750fe79269d] on {https://registry-1.docker.io/v1/repositories/sampritavh/dockerplayground/tags/test2}"}
* Connection #0 to host localhost left intact
* Closing connection #0
root@server2 ~ #
```

tag一个镜像

POST /images/(name)/tag


```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v -X POST http://localhost:5555/images/ubuntu/tag?repo=myrepo\&force=0
* About to connect() to localhost port 5555 (#0)
*   Trying 127.0.0.1... connected
> POST /images/ubuntu/tag?repo=myrepo\&force=0 HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2
3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
>
< HTTP/1.1 201 Created
< Date: Thu, 26 Jun 2014 19:39:50 GMT
< Content-Length: 0
< Content-Type: text/plain; charset=utf-8
<
* Connection #0 to host localhost left intact
* Closing connection #0
root@server2 ~ #
```

搜索镜像

GET /images/search

```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v http://localhost:5555/images/search?term=HDFS
* About to connect() to localhost port 5555 (#0)
*   Trying 127.0.0.1... connected
> GET /images/search?term=HDFS HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2
3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Thu, 26 Jun 2014 19:46:45 GMT
< Content-Length: 1086
<
[{"description":"CentOS image with Cloudera's CDH4 HDFS packages for Hadoop installed","is_official":false,"is_trusted":false,"name":"zenfractal/centos-cdh4-hdfs","star_count":1}, {"description":"Contains Namenode and Datanode from the Standalone HDFS distribution.\n","is_official":false,"is_trusted":false,"name":"besn0847/hdfs","star_count":1}, {"description":"","is_official":false,"is_trusted":false,"name":"rogaha/apache-hadoop-hdfs-precise","star_count":1}, {"description":"","is_official":false,"is_trusted":false,"name":"joshdub223/hdfsslave","star_count":0}, {"description":"","is_official":false,"is_trusted":false,"name":"joshdub223/hdfs_master","star_count":0}, {"description":"","is_official":false,"is_trusted":false,"name":"jaffee/hdfs2.0.0","star_count":0}, {"description":"","is_official":false,"is_trusted":false,"name":"joshdub223/hdfs_slave","star_count":0}, {"description":"","is_official":false,"is_trusted":false,"name":"jonbaer/cdh4-hdfs","star_count":0}, {"description":"","is_official":false,"is_trusted":false,"name":"joshdub223/hdfsmaster","star_count":0}]
* Connection #0 to host localhost left intact
* Closing connection #0
root@server2 ~ #
```

查看镜像历史记录

GET /images/(name)/history

```
Terminal - root@server2: ~
File Edit View Terminal Go Help
root@server2 ~ # curl -v http://localhost:5555/images/base/history
* About to connect() to localhost port 5555 (#0)
* Trying 127.0.0.1... connected
> GET /images/base/history HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2.3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Thu, 26 Jun 2014 19:29:06 GMT
< Content-Length: 309
<
[{"Created":1364102658,"CreatedBy":"/bin/bash","Id":"b750fe79269d2ec9a3c593ef05b4332b1d1a02a62b4accb2c21d589ff2f5f2dc","Size":77,"Tags":["base:latest","base:ubuntu-12.10","base:ubuntu-quantal","base:ubuntu-quantl"]}
,{"Created":1364068391,"CreatedBy":"","Id":"27cf784147099545","Size":175306958,"Tags":null}
* Connection #0 to host localhost left intact
* Closing connection #0
]root@server2 ~ #
```

构建镜像

POST /build

这个需要解释一下：POST传入的 **Dockerfile** 文件必须是 **tar.gz** 格式。

或者不传入 **Dockerfile**，而是用remote参数指定一个，这种情况下不要求格式。

使用POST传入文件的用法：

```
Terminal - root@server2: ~/docker-build-sample
File Edit View Terminal Go Help
root@server2 ~/docker-build-sample # cat Dockerfile
FROM ubuntu
RUN echo "deb http://archive.ubuntu.com/ubuntu precise main universe" > /etc/apt/sources.list
mkdir /root
RUN apt-get update
EXPOSE 22 80
CMD echo "this is a test"
root@server2 ~/docker-build-sample # tar zcf Dockerfile.tar.gz Dockerfile
root@server2 ~/docker-build-sample # curl -v -X POST -H "Content-Type:application/tar" --data-binary
'@Dockerfile.tar.gz' http://localhost:5555/build?t=samlerepo
* About to connect() to localhost port 5555 (#0)
* Trying 127.0.0.1... connected
> POST /build?t=samlerepo HTTP/1.1
> User-Agent: curl/7.22.0 (x86_64-pc-linux-gnu) libcurl/7.22.0 OpenSSL/1.0.1 zlib/1.2.3.4 libidn/1.2.3 librtmp/2.3
> Host: localhost:5555
> Accept: */*
> Content-Type:application/tar
> Content-Length: 257
>
* upload completely sent off: 257out of 257 bytes
< HTTP/1.1 200 OK
< Content-Type: application/json
< Date: Fri, 27 Jun 2014 05:43:36 GMT
< Transfer-Encoding: chunked
<
{"stream":"Step 0 : FROM ubuntu\n"}
{"stream":" ---\u003e e54ca5efa2e9\n"}
{"stream":"Step 1 : RUN echo \"deb http://archive.ubuntu.com/ubuntu precise main universe\" \u003e /
etc/apt/sources.list\n"}
{"stream":" ---\u003e Using cache\n"}
{"stream":" ---\u003e 93e7ca67d269\n"}
{"stream":"Step 2 : mkdir /root\n"}
{"stream":"\u001b[91m# Skipping unknown instruction MKDIR\n\u001b[0m"}
{"stream":"Step 3 : RUN apt-get update\n"}
{"stream":" ---\u003e Using cache\n"}
{"stream":" ---\u003e 03b0862aa802\n"}
{"stream":"Step 4 : EXPOSE 22 80\n"}
{"stream":" ---\u003e Running in f176bcf61891\n"}
{"stream":" ---\u003e ec1069ff4684\n"}
{"stream":"Step 5 : CMD echo \"this is a test\"\n"}
{"stream":" ---\u003e Running in 90da1b8d97ba\n"}
```

再例如使用remote传入 **Dockerfile** 的 **URI** 用法：

效果如下：

```
命令 # curl localhost/Dockerfile    #用于展示存储Dockerfile的URI
FROM ubuntu
RUN mkdir /myvol
RUN echo "hello world" > /myvol/greeting
VOLUME /myvol
命令 # curl -X POST "127.0.0.1:4243/build?t=asd&remote=http%3A%2F%2Flocalhost%2FDockerfile"
命令 # docker images
REPOSITORY          TAG                IMAGE ID           CREATED            VIRTUAL
SIZE
asd                 latest            1946f0511bda      36 seconds ago    188.3 MB
```

结尾

本系列的docker教程到此结束。
再次吐槽一下flux7：各种不全，原文很多重要的地方一句话带过。。
用两个非常非常厚实的资料作为本系列教程的结尾：
[docker官方文档](#)
[docker remote api 1.6文档](#) 这里可以选择版本，目前的稳定版本是1.6。
[Docker —— 从入门到实践](#)中文文档，写得相当好。

标签: none

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