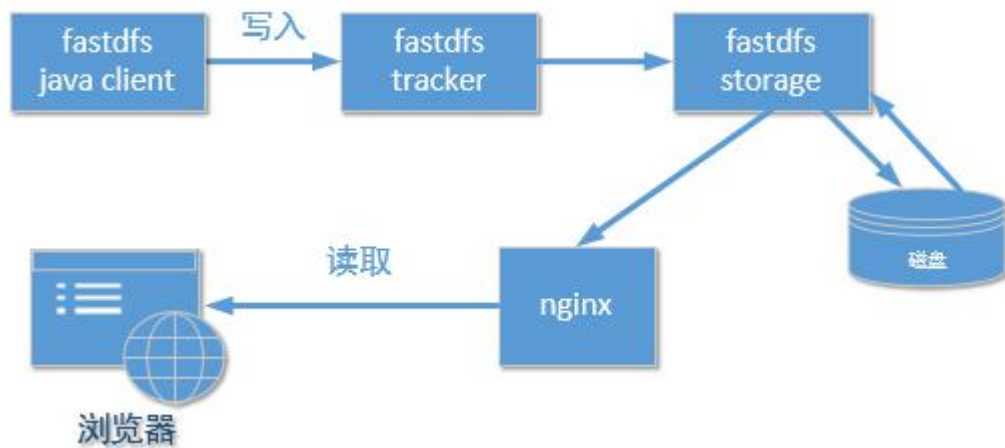


FastDfs 安装文档

版本: v1.0
www.atguigu.com

fastdfs 结构说明



一、FastDFS--tracker 安装

1 FastDFS 安装环境

FastDFS 是 C 语言开发，建议在 linux 上运行，本教程使用 Centos7.4 作为安装环境。

安装 gcc 依赖环境 `yum install gcc-c++ -y`

2 安装 libevent

2.1 `yum -y install libevent`

3 安装 libfastcommon

- 1、上传压缩包文件 libfastcommonV1.0.7.tar.gz 到 /usr/local 目录下，并解压。
- 2、tar -zxvf libfastcommonV1.0.7.tar.gz
- 3、进入到解压后的文件夹中

```
[root@localhost local]# cd libfastcommon-1.0.7/
[root@localhost libfastcommon-1.0.7]# pwd
/usr/local/libfastcommon-1.0.7
```

- 4、进行编译 ./make.sh

- 5、如果出现编译 perl 不识别 运行下面这段命令

```
# yum -y install zlib zlib-devel pcre pcre-devel gcc gcc-c++
openssl openssl-devel libevent libevent-devel perl unzip net-tools wget
```

```
-rw-rw-r--. 1 root root 2170 9月 16 2014 HISTORY
-rw-rw-r--. 1 root root 582 9月 16 2014 INSTALL
-rw-rw-r--. 1 root root 1341 9月 16 2014 libfastcommon.spec
-rwxrwxr-x. 1 root root 2151 9月 16 2014 make.sh
-rw-rw-r--. 1 root root 617 9月 16 2014 README
drwxrwxr-x. 2 root root 4096 9月 16 2014 src
[root@localhost libfastcommon-1.0.7]# ./make.sh
```

安装 ./make.sh install

```
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
ueue.c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
cc -Wall -D_FILE_OFFSET_BITS=64 -g -DDEBUG_FLAG -DOS_LINUX -DIOEVENT_USE_EPOLL -c
pool.c
ar rcs libfastcommon.a hash.o
[root@localhost libfastcommon-1.0.7]# ./make.sh install
```

注意：libfastcommon 安装好后会自动将库文件拷贝至 /usr/lib64 下，由于 FastDFS 程序引用 usr/lib 目录所以需要将 /usr/lib64 下的库文件拷贝至 /usr/lib 下。

```
# cp /usr/lib64/libfastcommon.so /usr/lib/
```

4 tracker 编译安装

- 1、上传资料 FastDFS_v5.05.tar.gz 到 /usr/local 目录下
- 2、解压编译安装

```
tar -zxvf FastDFS_v5.05.tar.gz
cd FastDFS
./make.sh
./make.sh install
```
- 3、安装成功之后，将安装目录下的 conf 下的文件拷贝到/etc/fdfs/下。

```
cd conf
cp * /etc/fdfs/
```
- 4、修改配置文件

```
vim /etc/fdfs/tracker.conf
```

```
# is this config file disabled
# false for enabled
# true for disabled
disabled=false

# bind an address of this host
# empty for bind all addresses of this host
bind_addr=

# the tracker server port
port=22122

# connect timeout in seconds
# default value is 30s
connect_timeout=30

# network timeout in seconds
# default value is 30s
network_timeout=60

# the base path to store data and log files
base_path=/opt/fastdfs
```

- 5、创建 fastdfs 文件夹
- 6、mkdir /opt/fastdfs

5 设置启动项

```
mkdir /usr/local/fdfs
拷贝安装目录下 stop.sh 和 restart.sh 到/usr/local/fdfs/
cp restart.sh /usr/local/fdfs/
cp stop.sh /usr/local/fdfs/
```

```
-rw-r--r--. 1 8980 users 2802 12月 2 2014 fastdfs.spec
-rw-r--r--. 1 8980 users 31386 12月 2 2014 HISTORY
drwxr-xr-x. 2 8980 users 48 3月 9 21:43 init.d
-rw-r--r--. 1 8980 users 7755 12月 2 2014 INSTALL
-rwxr-xr-x. 1 8980 users 5813 12月 2 2014 make.sh
drwxr-xr-x. 2 8980 users 4096 12月 2 2014 php_client
-rw-r--r--. 1 8980 users 2380 12月 2 2014 README.md
-rwxr-xr-x. 1 8980 users 1768 12月 2 2014 restart.sh
-rwxr-xr-x. 1 8980 users 1680 12月 2 2014 stop.sh
drwxr-xr-x. 4 8980 users 4096 3月 9 21:04 storage
drwxr-xr-x. 2 8980 users 4096 12月 2 2014 test
drwxr-xr-x. 2 8980 users 4096 3月 9 21:04 tracker
[root@localhost FastDFS_soft]# cp restart.sh /usr/local/fdfs/
```

修改启动脚本

vim /etc/init.d/fdfs_trackerd

```
/etc/init.d/functions
PRG=/usr/bin/fdfs_trackerd
CONF=/etc/fdfs/tracker.conf

if [ ! -f $PRG ]; then
    echo "file $PRG does not exist!"
    exit 2
fi

if [ ! -f /usr/local/fdfs/stop.sh ]; then
    echo "file /usr/local/bin/stop.sh does not exist!"
    exit 2
fi

if [ ! -f /usr/local/fdfs/restart.sh ]; then
    echo "file /usr/local/bin/restart.sh does not exist!"
    exit 2
fi

if [ ! -f $CONF ]; then
    echo "file $CONF does not exist!"
    exit 2
fi

CMD="$PRG $CONF"
RETVAL=0

stop() {
    /usr/local/fdfs/stop.sh $CMD
    RETVAL=$?
    return $RETVAL
}

rhstatus() {
    status fdfs_storaged
}

restart() {
    /usr/local/fdfs/restart.sh $CMD &
}
```

把启动脚本中的路径按照上图修改

修改完毕后

注册服务

```
chkconfig --add fdfs_trackerd
```

然后可以用 `service fdfs_trackerd start` 启动测试 如下图

```
[root@localhost opt]# ps -ef |grep tracker
root      9736   9135  0 22:00 pts/2    00:00:00 grep --color=auto tracker
[root@localhost opt]# service fdfs_trackerd start
Starting fdfs_trackerd (via systemctl): [ 确定 ]
[root@localhost opt]# ps -ef |grep tracker
root      9799     1  0 22:00 ?        00:00:00 /usr/bin/fdfs_trackerd /etc/fdfs/tracker.conf
root      9807   9135  0 22:00 pts/2    00:00:00 grep --color=auto tracker
```

二、FastDFS--storage 安装

1 修改配置文件

`vim /etc/fdfs/storage.conf`

```
# network timeout in seconds
# default value is 30s
network_timeout=60

# heart beat interval in seconds
heart_beat_interval=30

# disk usage report interval in seconds
stat_report_interval=60

# the base path to store data and log files
base_path=/opt/fastdfs

# max concurrent connections the server supported
# default value is 256
# more max_connections means more memory will be used
max_connections=256
```



```
# store_path# based 0, if store_path0 not exists, it's value is base_path
# the paths must be exist
store_path0=/opt/fastdfs/fdfs_storage
#store_path1 /home/yuqing/fastdfs2

# subdir_count * subdir_count directories will be auto created under each
# store_path (disk), value can be 1 to 256, default value is 256
subdir_count_per_path=256

# tracker_server can occur more than once, and tracker_server format is
# "host:port", host can be hostname or ip address
tracker_server=192.168.67.163:22122
```

2 创建 fdfs_storage 文件夹

```
mkdir /opt/fastdfs/fdfs_storage
```

3 设置启动服务

```
vim /etc/init.d/fdfs_storaged
```

```
PRG=/usr/bin/fdfs_storaged
CONF=/etc/fdfs/storage.conf

if [ ! -f $PRG ]; then
    echo "file $PRG does not exist!"
    exit 2
fi

if [ ! -f /usr/local/fdfs/stop.sh ]; then
    echo "file /usr/local/bin/stop.sh does not exist!"
    exit 2
fi

if [ ! -f /usr/local/fdfs/restart.sh ]; then
    echo "file /usr/local/bin/restart.sh does not exist!"
    exit 2
fi

stop() {
    /usr/local/fdfs/stop.sh $CMD
    RETVAL=$?
    return $RETVAL
}

rhstatus() {
    status fdfs_storaged
}

restart() {
    /usr/local/fdfs/restart.sh $CMD &
}
```

```
chkconfig --add fdfs_storaged
```

启动服务

```
service fdfs_storaged start
```

```
[root@localhost FastDFS_soft]# service fdfs_storaged start
Starting fdfs_storaged (via systemctl): [ 确定 ]
[root@localhost FastDFS_soft]# ps -ef |grep fdfs
root      9799      1  0 22:00 ?        00:00:01 /usr/bin/fdfs_trackerd /etc/fdfs/tracker.conf
root     10304      1  0 23:03 ?        00:00:00 /usr/bin/fdfs_storaged /etc/fdfs/storage.conf
root     10314    9135  0 23:04 pts/2    00:00:00 grep --color=auto fdfs
[root@localhost FastDFS_soft]#
```

4 功能文件目录总结说明

/opt/fastdfs/	数据文件及日志
/usr/bin/fdfs_trackerd 、 fdfs_storaged	启动执行程序
/usr/local/fdfs/ stop.sh 、 restart.sh	关闭、重启脚本
/etc/init.d/fdfs_trackerd 、 fdfs_storaged	服务启动脚本
/etc/fdfs/	配置文件

5 上传图片测试

FastDFS 安装成功可通过/usr/bin/fdfs_test 测试上传、下载等操作。

修改/etc/fdfs/client.conf

```
[root@localhost ~]# vim /etc/fdfs/client.conf
```

```
base_path=/opt/fastdfs
```

```
tracker_server=192.168.67.163:22122
```

```
# the base path to store log files
base_path=/opt/fastdfs

# tracker_server can occur more than once, and tracker_server format
# "host:port", host can be hostname or ip address
tracker_server=192.168.67.163:22122

#standard log level as syslog, case insensitive, value list:
```

比如将/root 下的日志上传到 FastDFS 中：

```
/usr/bin/fdfs_test /etc/fdfs/client.conf upload
```

```
/root/winteriscoming.jpg
```

```
[root@localhost FastDFS_soft]# /usr/bin/fdfs_test /etc/fdfs/client.conf upload /root/winteriscoming.jpg
This is FastDFS client test program VS.05

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Public License V3, which may be found in the FastDFS source kit.
Please visit the FastDFS Home Page http://www.csource.org/
for more detail.

[2018-03-09 23:18:16] DEBUG - base_path=/opt/fastdfs, connect_timeout=30, network_timeout=60, tracker_server_count=1, a
token=0, anti_steal_secret_key length=0, use_connection_pool=0, g_connection_pool_max_idle_time=3600s, use_storage_id=0
server id count: 0

tracker_query_storage_store_list_without_group:
server 1. group_name=, ip_addr=192.168.67.163, port=23000

group_name=group1, ip_addr=192.168.67.163, port=23000
storage_upload_by_filename
group_name=group1, remote_filename=M00/00/00/wKhDolqipbiAJC6iAAB1tayPlqs094.jpg
source ip address: 192.168.67.163
file timestamp=2018-03-09 23:18:16
file size=30133
file crc32=2895091371
example file url: http://192.168.67.163/group1/M00/00/00/wKhDolqipbiAJC6iAAB1tayPlqs094.jpg
storage_upload_slave_by_filename
group_name=group1, remote_filename=M00/00/00/wKhDolqipbiAJC6iAAB1tayPlqs094_big.jpg
source ip address: 192.168.67.163
file timestamp=2018-03-09 23:18:16
file size=30133
file crc32=2895091371
example file url: http://192.168.67.163/group1/M00/00/00/wKhDolqipbiAJC6iAAB1tayPlqs094_big.jpg
[root@localhost FastDFS_soft]#
```

对应的上传路径:

/opt/fastdfs/fdfs_storage/data

/00/00/wKhDolqipbiAJC6iAAB1tayPlqs094_big.jpg

```
-rw-r--r--. 1 root root 30133 3月 9 23:18 wKhDolqipbiAJC6iAAB1tayPlqs094_big.jpg
-rw-r--r--. 1 root root 49 3月 9 23:18 wKhDolqipbiAJC6iAAB1tayPlqs094_big.jpg-m
-rw-r--r--. 1 root root 30133 3月 9 23:18 wKhDolqipbiAJC6iAAB1tayPlqs094.jpg
-rw-r--r--. 1 root root 49 3月 9 23:18 wKhDolqipbiAJC6iAAB1tayPlqs094.jpg-m
[root@localhost 00]# pwd
/opt/fastdfs/fdfs_storage/data/00/00
```

三、FastDFS 整合 nginx

1 安装前配置 fastdfs-nginx-module

上传 fastdfs-nginx-module_v1.16.tar.gz 上传到 /usr/local，并解压

tar -zxvf fastdfs-nginx-module_v1.16.tar.gz

编辑配置文件: 修改 config 文件将 /usr/local/ 路径改为 /usr/

vim

fastdfs-nginx-module/src/config


```
ngx_addon_name=ngx_http_fastdfs_module
HTTP_MODULES="$HTTP_MODULES ngx_http_fastdfs_module"
NGX_ADDON_SRCS="$NGX_ADDON_SRCS $ngx_addon_dir/ngx_http_fastdfs_module.c"
CORE_INCS="$CORE_INCS /usr/include/fastdfs /usr/include/fastcommon/"
CORE_LIBS="$CORE_LIBS -L/usr/lib -lfastcommon -ldfsclient"
CFLAGS="$CFLAGS -D_FILE_OFFSET_BITS=64 -DFDFS_OUTPUT_CHUNK_SIZE='256*1024' -DFDFS_MOD_CONF_FILENAME='\"/etc/fdfs/mod_fastdfs.conf\"'
..."
-- 插入 --
```

将 FastDFS-nginx-module/src 下的 mod_fastdfs.conf 拷贝至/etc/fdfs/下

```
[root@localhost src]# cp mod_fastdfs.conf /etc/fdfs/
```

并修改 mod_fastdfs.conf 的内容:

```
vim /etc/fdfs/mod_fastdfs.conf
```

```
# the base path to store log files
base_path=/opt/fastdfs

# if load FastDFS parameters from tracker server
# since V1.12
# default value is false
load_fdfs_parameters_from_tracker=true

# storage sync file max delay seconds
```

继续修改

```
# FastDFS tracker_server can occur more than once, and tracker_server format is
# "host:port", host can be hostname or ip address
# valid only when load_fdfs_parameters_from_tracker is true
tracker_server=192.168.67.163:22122

# the port of the local storage server
# the default value is 23000
storage_server_port=23000
```

继续修改 url 中包含 group 名称

```
tracker_server=192.168.67.130:22122

# the port of the local storage server
# the default value is 23000
storage_server_port=23000

# the group name of the local storage server
group_name=group1

# if the url / uri including the group name
# set to false when uri like /M00/00/00/xxx
# set to true when uri like ${group_name}/M00/00/00/xxx, such as group1/M00/xxx
# default value is false
url_have_group_name = true

# path(disk or mount point) count, default value is 1
# must same as storage.conf
-- 插入 --
```

继续修改 #指定文件存储路径

```
# store_path#, based 0, if store_path0 not exists, it's value is base_path
# the paths must be exist
# must same as storage.conf
store_path0=/opt/fastdfs/fdfs_storage
store_path1=/home/yuqing/fastdfs1
```

将 libfdfsclient.so 拷贝至/usr/lib 下

```
[root@localhost src]# cp /usr/lib64/libfdfsclient.so /usr/lib/
```

2 安装 fastdfs-nginx-module

创建 nginx/client 目录

```
[root@localhost src]# mkdir -p /var/temp/nginx/client
```

cd nginx 的原始程序目录

```
./configure \
--prefix=/usr/local/nginx \
--pid-path=/var/run/nginx/nginx.pid \
--lock-path=/var/lock/nginx.lock \
--error-log-path=/var/log/nginx/error.log \
--http-log-path=/var/log/nginx/access.log \
--with-http_gzip_static_module \
--http-client-body-temp-path=/var/temp/nginx/client \
--http-proxy-temp-path=/var/temp/nginx/proxy \
--http-fastcgi-temp-path=/var/temp/nginx/fastcgi \
--http-uwsgi-temp-path=/var/temp/nginx/uwsgi \
```

```
--http-scgi-temp-path=/var/temp/nginx/scgi \  
--add-module=/opt/fastdfs-nginx-module/src
```

```
./configure --add-module=/opt/fastdfs-nginx-module/src
```

配置成功

```
Configuration summary  
+ using system PCRE library  
+ OpenSSL library is not used  
+ using builtin md5 code  
+ sha1 library is not found  
+ using system zlib library  
  
nginx path prefix: "/usr/local/nginx"  
nginx binary file: "/usr/local/nginx/sbin/nginx"  
nginx configuration prefix: "/usr/local/nginx/conf"  
nginx configuration file: "/usr/local/nginx/conf/nginx.conf"  
nginx pid file: "/var/run/nginx/nginx.pid"  
nginx error log file: "/var/log/nginx/error.log"  
nginx http access log file: "/var/log/nginx/access.log"  
nginx http client request body temporary files: "/var/temp/nginx/client"  
nginx http proxy temporary files: "/var/temp/nginx/proxy"  
nginx http fastcgi temporary files: "/var/temp/nginx/fastcgi"  
nginx http uwsgi temporary files: "/var/temp/nginx/uwsgi"  
nginx http scgi temporary files: "/var/temp/nginx/scgi"  
  
[root@localhost nginx-1.8.0]#
```

编译

```
[root@localhost nginx-1.12.2]# make
```

安装

```
[root@localhost nginx-1.12.2]# make install
```

3 编辑 nginx.conf

```
vim /usr/local/nginx/conf/nginx.conf
```

```
server {  
    listen      80;  
    server_name file.gmall.com;  
    #charset koi8-r;
```

```
#access_log logs/host.access.log main;
location / {
    root html;
    index index.html index.htm;
}
location /group1/M00/ {
    ngx_fastdfs_module;
}
```

启动 nginx

/usr/local/nginx/sbin/nginx

设置开机启动

[root@i2Zzednyjxxq7k3i2dwsfZ nginx-1.12.2]# vim /etc/rc.d/rc.local

```
touch /var/lock/subsys/loca
/usr/bin/fdfs_trackerd /etc/fdfs/tracker.conf restart
/usr/bin/fdfs_storaged /etc/fdfs/storage.conf restart
/usr/local/nginx/sbin/nginx
```

需要关闭防火墙

service iptables stop

永久关闭 chkconfig iptables off

测试

/usr/bin/fdfs_test /etc/fdfs/client.conf upload /root/ty.jpg

```
[root@localhost nginx-1.8.0]# /usr/bin/fdfs_test /etc/fdfs/client.conf upload /root/ty.jpg
This is FastDFS client test program v5.05

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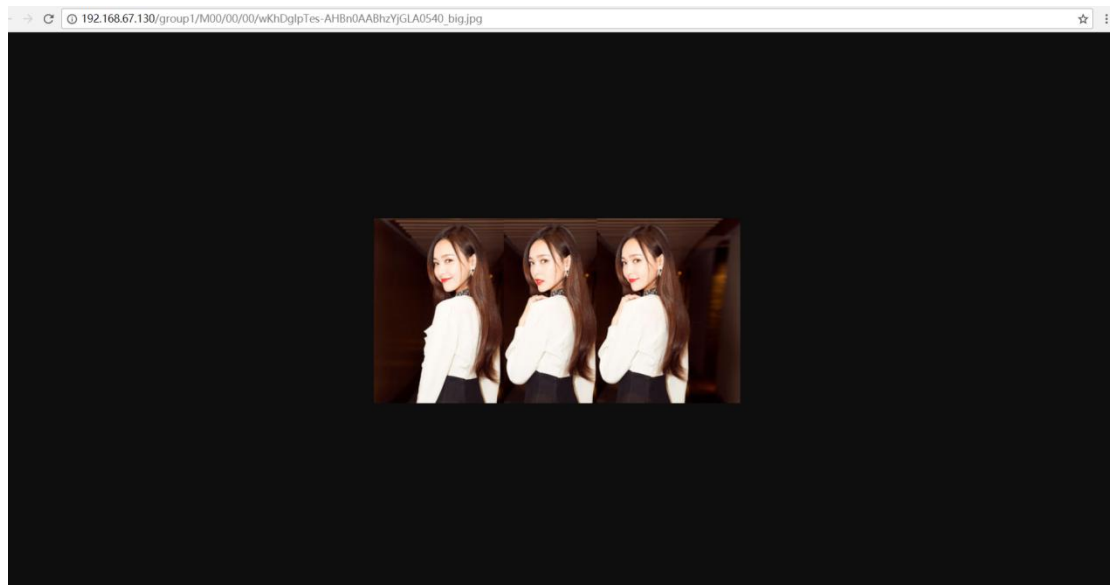
FastDFS may be copied only under the terms of the GNU General
Public License V3, which may be found in the FastDFS source kit.
Please visit the FastDFS Home Page http://www.csource.org/
for more detail.

[2018-01-08 22:06:07] DEBUG - base_path=/home/fastdfs, connect_timeout=30, network_timeout=60, tracker_server_count=1, anti_steal_token=0, anti_steal_secret_key_length=0, use_connection_pool=0, g_connection_pool_max_idle_time=3600s, use_storage_id=0, storage_server id count: 0

tracker_query_storage_store_list_without_group:
server 1. group_name=, ip_addr=192.168.67.130, port=23000

group_name=group1, ip_addr=192.168.67.130, port=23000
storage_upload_by_filename
group_name=group1, remote_filename=M00/00/00/wKhDglpTes-AHBn0AABhzYjGLA0540.jpg
source ip address: 192.168.67.130
file timestamp=2018-01-08 22:06:07
file size=25037
file crc32=2294688781
example file url: http://192.168.67.130/group1/M00/00/00/wKhDglpTes-AHBn0AABhzYjGLA0540.jpg
storage_upload_slave_by_filename
group_name=group1, remote_filename=M00/00/00/wKhDglpTes-AHBn0AABhzYjGLA0540_big.jpg
source ip address: 192.168.67.130
file timestamp=2018-01-08 22:06:07
file size=25037
file crc32=2294688781
example file url: http://192.168.67.130/group1/M00/00/00/wKhDglpTes-AHBn0AABhzYjGLA0540_big.jpg
[root@localhost nginx-1.8.0]#
```

显示结果:



4 问题排查

打开 vim /usr/local/nginx/conf/nginx.conf

```
#user nobody;  
worker_processes 1;  
error_log logs/error.log;  
#error_log logs/error.log notice;  
#error_log logs/error.log info;  
#pid logs/nginx.pid;  
  
events {  
    worker_connections 1024;  
}  
  
http {  
    include mime.types;  
    default_type application/octet-stream;
```

然后去 logs/error.log 查看报错。

四、 附： nginx 注册服务脚本

```
#!/bin/bash  
#chkconfig:2345 21 91  
#decription: nginx-server
```

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```
nginx=/usr/local/nginx/sbin/nginx
case "$1" in
    start)
        netstat -anlpt | grep nginx
        if
            [ $? -eq 0 ]
        then
            echo " the nginx-server is already running"
        else
            echo " ther nginx-server is starting to run"
            $nginx
        fi
        ;;
    stop)
        netstat -anlpt | grep nginx
        if
            [ $? -eq 0 ]
        then
            $nginx -s stop
            if [ $? -eq 0 ]
            then
                echo " the nginx-server is stopped "
            else
                echo " failed to stop the nginx-server"
            fi
        else
            echo " the nginx-server has stopped you needn't to stop it "
        fi
        ;;
    restart)
        $nginx -s reload
        if
            [ $? -eq 0 ]
        then
            echo "the nginx-server is restarting "
        else
            echo " the nginx-server failed to restart"
        fi
        ;;
    status)
        netstat -anlpt | grep nginx
```

```
        if
            [ $? -eq 0 ]
        then
            echo " the nginx-server is running "
        else
            echo " the nginx-server is not running ,please try again"
        fi
    ;;

    status)
        netstat -anlpt | grep nginx
        if
            [ $? -eq 0 ]
        then
            echo " the nginx-server is running "
        else
            echo " the nginx-server is not running ,please try again"
        fi
    ;;
    *)
        echo "please enter { start|stop|status|restart}"
    ;;
esac
```