akill：LSF 增强型 job kill 工具

一、工具简介

akill 是 lsfMonitor 自带的一个工具，是 bkill 的增强型工具，可以根据如下维度来便捷地 kill job。

维度	作用	特殊支持
jobid	按照 jobid kill job，可以指定一个或多个。	支持模糊匹配（比如"100*"会尝试 kill 所有以 100 开头的 jobid） 支持按照范围 kill（比如 10200-10450 会尝试 kill 这连续 251 个 job）
job_name	按照 job_name kill job，可以指定一个或多个。	支持模糊匹配（比如"reg_*"会尝试 kill 所有 job_name 以"reg_"开头的 job）
command	按照 command kill job，可以指定一个或多个。	支持模糊匹配（比如"verdi *"会尝试 kill 所有 command 以"verdi"开头的 job）
submit_time	按照 submit_time kill job，可以指定一个或多个。 完整的时间样式需要符合"Sep 18 09:32"这样的样式。	支持模糊匹配（比如"Sep 18 *"会尝试 kill 所有 submit_time 以"Sep 18"开头的 job）
execute_host	按照 execute_host kill job，可以指定一个或多个。	
queue	按照 queue kill job，可以指定一个或多个。	

user	按照 queue kill job,可以指定一个或多个。	

　　但是 akill 并非 bkill 功能的全集,而是仅囊括了 bkill 一部分功能,两者可以配合使用。

　　另外需要注意,普通用户只能 kill 自己的 job,对其他人 job kill 的行为是不生效的。

二、工具载入

　　akill 位于 lsfMonitor 安装目录下的 monitor/tools/akill 下,建议在 LSF 安装目录下的 bin 路径中创建一个软链接,可以方便用户直接调用。

```Plaintext
[liyanqing.1987@n232-134-070 ~]$ which akill
/ic/software/tools/lsf/10.1/linux3.10-glibc2.17-x86_64/bin/akill
```

三、帮助信息

```Plaintext
[liyanqing.1987@n232-134-070 ~]$ akill -h
usage: akill.py [-h] [-j JOBID [JOBID ...]] [-J JOB_NAME
[JOB_NAME ...]] [-c COMMAND [COMMAND ...]] [-s SUBMIT_TIME
[SUBMIT_TIME ...]] [-m EXECUTE_HOST [EXECUTE_HOST ...]]
                [-q QUEUE [QUEUE ...]] [-u USER [USER ...]]


optional arguments:
  -h, --help            show this help message and exit
  -j JOBID [JOBID ...], --jobid JOBID [JOBID ...]
                        kill specified job(s) based on jobid(s),
support fuzzy matching, also support jobid range like "10200-
10450".
  -J JOB_NAME [JOB_NAME ...], --job_name JOB_NAME [JOB_NAME ...]
                        kill specified job(s) based on
job_name(s), support fuzzy matching.
  -c COMMAND [COMMAND ...], --command COMMAND [COMMAND ...]
                        kill specified job(s) based on command(s),
```

```
support fuzzy matching.
  -s SUBMIT_TIME [SUBMIT_TIME ...], --submit_time SUBMIT_TIME
[SUBMIT_TIME ...]
                        kill specified job(s) based on
submit_time(s), support fuzzy matching.
  -m EXECUTE_HOST [EXECUTE_HOST ...], --execute_host EXECUTE_HOST
[EXECUTE_HOST ...]
                        kill specified job(s) based on execute
host(s).
  -q QUEUE [QUEUE ...], --queue QUEUE [QUEUE ...]
                        kill specified job(s) based on queue(s).
  -u USER [USER ...], --user USER [USER ...]
                        kill specified job(s) based on user(s).
```

-j JOBID: 指定一个或多个 jobid。

可以指定模糊 jobid，比如 102*，它会 kill 以 102 开头的所有 job；

可以指定一个范围段的 job，比如 10200-10450。

-J JOB_NAME: 指定一个或多个 job_name。

可以指定模糊 job_name，比如"reg_*"，它会 kill job_name 以"reg_"
开头的所有 job。

-c COMMAND: 指定一个或多个 command。

可以指定模糊 command，比如"verdi *"，它会 kill command 以"verdi"
开头的所有 job。

-s SUBMIT_TIME: 指定一个或多个 job 的 submit_time。

可以指定部分 submit_time，比如"Sep 18*"，它会 kill
submit_time 以"Sep 18"开头的所有 job。

-m EXECUTE_HOST: 指定一个或多个 host_name。

它会 kill 当前用户在这些机器上的所有 job。

-q QUEUE: 指定一个或多个 queue_name。

它会 kill 当前用户在这些队列上的所有 job。

-u USER: 指定一个或多个用户。

它会 kill 指定用户的所有 job。（当然，只有普通用户只能 kill 自己的 job）

四、使用举例

1. 按照 jobid kill

1.1 同时 kill 多个 job

```
[liyanqing.1987@n232-134-070 ~]$ bjobs
JOBID      USER     STAT   QUEUE       FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2480903    liyanqi PEND   normal      n232-134-07                sleep
1000 Sep 18 10:00
2480904    liyanqi PEND   normal      n232-134-07                sleep
1000 Sep 18 10:00
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -j 2480903 2480904
* bkill 2480903
  Job <2480903> is being terminated
* bkill 2480904
  Job <2480904> is being terminated
```

1.2 kill 一个范围的 job

```
[liyanqing.1987@n232-134-070 ~]$ bjobs
JOBID      USER     STAT   QUEUE       FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2480925    liyanqi RUN    normal      n232-134-07 n232-135-06 sleep
1000 Sep 18 10:01
2480926    liyanqi RUN    normal      n232-134-07 n232-135-06 sleep
1000 Sep 18 10:01
2480927    liyanqi RUN    normal      n232-134-07 n232-135-06 sleep
1000 Sep 18 10:01
2480928    liyanqi RUN    normal      n232-134-07 n232-135-07 sleep
1000 Sep 18 10:01
2480929    liyanqi RUN    normal      n232-134-07 n232-135-07 sleep
1000 Sep 18 10:01
2480930    liyanqi RUN    normal      n232-134-07 n232-135-07 sleep
1000 Sep 18 10:01
2480931    liyanqi RUN    normal      n232-134-07 n232-135-07 sleep
```

```
1000 Sep 18 10:01
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -j 2480925-2480931
* bkill 2480925
  Job <2480925> is being terminated
* bkill 2480926
  Job <2480926> is being terminated
* bkill 2480927
  Job <2480927> is being terminated
* bkill 2480928
  Job <2480928> is being terminated
* bkill 2480929
  Job <2480929> is being terminated
* bkill 2480930
  Job <2480930> is being terminated
* bkill 2480931
  Job <2480931> is being terminated
```

1.3 按照模糊匹配 kill jobid

```Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs
JOBID      USER     STAT  QUEUE     FROM_HOST     EXEC_HOST
JOB_NAME    SUBMIT_TIME
2480940    liyanqi RUN   normal     n232-134-07 n232-135-06 sleep
1000 Sep 18 10:02
2480941    liyanqi RUN   normal     n232-134-07 n232-135-06 sleep
1000 Sep 18 10:02
2480942    liyanqi RUN   normal     n232-134-07 n232-135-07 sleep
1000 Sep 18 10:02
2480943    liyanqi RUN   normal     n232-134-07 n232-135-07 sleep
1000 Sep 18 10:02
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -j 248094*
* bkill 2480940
  Job <2480940> is being terminated
* bkill 2480941
  Job <2480941> is being terminated
* bkill 2480942
  Job <2480942> is being terminated
* bkill 2480943
```

```
  Job <2480943> is being terminated
```

2. 按照 job_name kill

2.1 同时 kill 多个 job_name 的 job

```
Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER     STAT  QUEUE       FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2481013 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
dc shell   Sep 18 10:08
2481016 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
pt shell   Sep 18 10:08
2481017 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
pt shell   Sep 18 10:08
2481015 liyanqing.1987 RUN   normal     n232-134-070 n232-135-077
dc shell   Sep 18 10:08
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -J "dc shell" "pt shell"
* bkill 2481013
  Job <2481013> is being terminated
* bkill 2481016
  Job <2481016> is being terminated
* bkill 2481017
  Job <2481017> is being terminated
* bkill 2481015
  Job <2481015> is being terminated
```

2.2 按照模糊匹配 kill job_name 的 job

```
Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER     STAT  QUEUE       FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2481065 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
dc shell   Sep 18 10:11
2481027 liyanqing.1987 RUN   normal     n232-134-070 n232-135-077
pt shell   Sep 18 10:09
```

```
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -J "* shell"
* bkill 2481065
  Job <2481065> is being terminated
* bkill 2481027
  Job <2481027> is being terminated
```

3. 按照 command kill

3.1 同时 kill 多个 command 的 job

```
Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER    STAT  QUEUE      FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2481079 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
sleep 1000 Sep 18 10:13
2481081 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
sleep 2000 Sep 18 10:13
2481083 liyanqing.1987 RUN   normal     n232-134-070 n232-135-077
sleep 3000 Sep 18 10:13
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -c "sleep 1000" "sleep
2000"
* bkill 2481079
  Job <2481079> is being terminated
* bkill 2481081
  Job <2481081> is being terminated
```

3.2 按照模糊匹配 kill command 的 job

```
Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER    STAT  QUEUE      FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2481128 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
sleep 2000 Sep 18 10:15
2481083 liyanqing.1987 RUN   normal     n232-134-070 n232-135-077
sleep 3000 Sep 18 10:13
```

```
2481127 liyanqing.1987 RUN    normal      n232-134-070 n232-135-077
sleep 1000 Sep 18 10:15
2481130 liyanqing.1987 RUN    normal      n232-134-070 n232-135-077
sleep 3001 Sep 18 10:15
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -c "sleep 3*"
* bkill 2481083
  Job <2481083> is being terminated
* bkill 2481130
  Job <2481130> is being terminated
```

4. 按照 submit_time kill

4.1 同时 kill 多个 submit_time 的 job

```Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER    STAT  QUEUE       FROM_HOST    EXEC_HOST
JOB_NAME    SUBMIT_TIME
2481128 liyanqing.1987 RUN    normal      n232-134-070 n232-135-068
sleep 2000 Sep 18 10:15
2481137 liyanqing.1987 RUN    normal      n232-134-070 n232-135-068
sleep 3001 Sep 18 10:16
2481142 liyanqing.1987 RUN    normal      n232-134-070 n232-135-068
sleep 3001 Sep 18 10:17
2481127 liyanqing.1987 RUN    normal      n232-134-070 n232-135-077
sleep 1000 Sep 18 10:15
2481136 liyanqing.1987 RUN    normal      n232-134-070 n232-135-077
sleep 3001 Sep 18 10:16
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -s "Sep 18 10:16" "Sep 18
10:17"
* bkill 2481137
  Job <2481137> is being terminated
* bkill 2481142
  Job <2481142> is being terminated
* bkill 2481136
  Job <2481136> is being terminated
```

4.2 按照模糊匹配 kill submit_time 的 job （submit_time 比较特殊，不带*本身也是模糊匹配模式）

```
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER     STAT  QUEUE      FROM_HOST    EXEC_HOST
JOB_NAME   SUBMIT_TIME
2481128 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
sleep 2000 Sep 18 10:15
2481127 liyanqing.1987 RUN   normal     n232-134-070 n232-135-077
sleep 1000 Sep 18 10:15
2481152 liyanqing.1987 PEND  normal     n232-134-070   -
sleep 3001 Sep 18 10:17
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -s "* 10:15"
* bkill 2481128
  Job <2481128> is being terminated
* bkill 2481127
  Job <2481127> is being terminated
```

5. 按照 execute_host kill

5.1 同时 kill 多个 execute_host 上的 job

```
[liyanqing.1987@n232-134-070 ~]$ bjobs -w
JOBID      USER     STAT  QUEUE      FROM_HOST    EXEC_HOST
JOB_NAME   SUBMIT_TIME
2481499 liyanqing.1987 RUN   normal     n232-134-070 n232-135-070
sleep 1000 Sep 18 10:30
2481460 liyanqing.1987 RUN   normal     n232-134-070 n232-135-068
sleep 1000 Sep 18 10:29
2481458 liyanqing.1987 RUN   normal     n232-134-070 n232-135-077
sleep 1000 Sep 18 10:29
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -m n232-135-068 n232-135-
070 n232-135-077
* bkill -m n232-135-068 0
  Job <2481460> is being terminated
* bkill -m n232-135-070 0
```

```
  Job <2481499> is being terminated
* bkill -m n232-135-077 0
  Job <2481458> is being terminated
```

6. 按照 queue kill

6.1 同时 kill 多个 queue 的 job

```Plaintext
[liyanqing.1987@n232-134-070 ~]$ bjobs
JOBID      USER    STAT  QUEUE      FROM_HOST    EXEC_HOST
JOB_NAME   SUBMIT_TIME
2481518    liyanqi RUN   bw         n232-134-07 n212-206-22 sleep
1000 Sep 18 10:31
2481517    liyanqi RUN   ada        n232-134-07 n232-134-20 sleep
1000 Sep 18 10:31
2481516    liyanqi RUN   normal     n232-134-07 n232-135-07 sleep
1000 Sep 18 10:31
[liyanqing.1987@n232-134-070 ~]$
[liyanqing.1987@n232-134-070 ~]$ akill -q normal ada bw
* bkill -q normal 0
  Job <2481516> is being terminated
* bkill -q ada 0
  Job <2481517> is being terminated
* bkill -q bw 0
  Job <2481518> is being terminated
```

7. 按照 user kill

7.1 kill 指定用户的 job

注意，普通用户只能 kill 自己的 job，只有管理员才能 kill 其他用户的 job。

```Plaintext
[root@n232-135-012 ~]# bjobs -u ic_admin
JOBID      USER    STAT  QUEUE      FROM_HOST    EXEC_HOST
JOB_NAME   SUBMIT_TIME
2481529    ic_admi RUN   normal     n232-134-13 n232-135-07 sleep
```

```
1000 Sep 18 10:33
2481530    ic_admi RUN    normal      n232-134-13 n232-135-07 sleep
1000 Sep 18 10:33
[root@n232-135-012 ~]# bjobs -u liyanqing.1987
JOBID      USER    STAT  QUEUE       FROM_HOST   EXEC_HOST
JOB_NAME    SUBMIT_TIME
2481531    liyanqi RUN    normal      n232-134-07 n232-135-07 sleep
1000 Sep 18 10:33
2481532    liyanqi RUN    normal      n232-134-07 n232-135-07 sleep
1000 Sep 18 10:33
[root@n232-135-012 ~]#
[root@n232-135-012 ~]# akill -u liyanqing.1987 ic_admin
* bkill -u liyanqing.1987 0
  Job <2481531> is being terminated
  Job <2481532> is being terminated
* bkill -u ic_admin 0
  Job <2481529> is being terminated
  Job <2481530> is being terminated
```