1.版本

1)操作系统

cat /etc/issue  
CentOS release 6.6 (Final)  
Kernel \r on an \m

cat /proc/version  
Linux version 2.6.32-504.el6.x86\_64 (mockbuild@c6b9.bsys.dev.centos.org) (gcc version 4.4.7 20120313 (Red Hat 4.4.7-11) (GCC) ) #1 SMP Wed Oct 15 04:27:16 UTC 2014

2)[mysql](http://lib.csdn.net/base/14)数据库版本

[MySQL](http://lib.csdn.net/base/14) --version

[MySQL](http://lib.csdn.net/base/14)  Ver 14.14 Distrib 5.6.26, for linux-glibc2.5 (x86\_64) using  EditLine wrapper

2. 问题描述

2.1 发现问题

  今天研发跟我反映他们有一套测试库，mysql 的binlog删除不了(他使用的是purge命令做日志删除)。登录发现binlog  占了将近70个G，保存了最近一周的日志：

1. ls -rlt 3306-bin\*
2. -rw-rw---- 1 mysql mysql 1074477734 Jan 9 19:55 3306-bin.000049
3. -rw-rw---- 1 mysql mysql 1074023126 Jan 9 21:15 3306-bin.000050
4. ......
5. ......
6. -rw-rw---- 1 mysql mysql 859308032 Jan 16 19:49 3306-bin.000107
7. -rw-rw---- 1 mysql mysql 2478 Jan 17 09:19 3306-bin.index

查看数据库的expire\_logs\_days参数，发现是7，然后我设置该参数为1，并进行 flush logs操作(正常情况下，会删除1天以前的所有binlog)

1. mysql> set global expire\_logs\_days=1;
2. Query OK, 0 rows affected (0.00 sec)
4. mysql> show variables like 'expire\_logs\_days';
5. +------------------+-------+
6. | Variable\_name | Value |
7. +------------------+-------+
8. | expire\_logs\_days | 1 |
9. +------------------+-------+
10. 1 row in set (0.00 sec)
12. mysql> flush logs;
13. Query OK, 0 rows affected (0.00 sec)

但是执行后我发现，结果并未像我预想的那样，所有的binlog都还在，这是怎么回事？难道这些binlog没有记录在该实例中？查看了3306-bin.index文件，发现这些binlog文件都是记录在 binlog 的index 文件中的，然后在实例上执行showbinary logs; 发现报如下错误：

1. mysql> show binary logs;
2. ERROR 1381 (HY000): You are not using binary logging

报错说我没有使用 binlog，但是我查看参数，该实例确实是打开了binlog：

1. mysql> show variables like '%log\_bin%';
2. +---------------------------------+------------------------------------------+
3. | Variable\_name | Value |
4. +---------------------------------+------------------------------------------+
5. | log\_bin | ON |
6. | log\_bin\_basename | /data/mysql/mysql3306/log/3306-bin |
7. | log\_bin\_index | /data/mysql/mysql3306/log/3306-bin.index |
8. | log\_bin\_trust\_function\_creators | ON |
9. | log\_bin\_use\_v1\_row\_events | OFF |
10. | sql\_log\_bin | ON |
11. +---------------------------------+------------------------------------------+
12. 6 rows in set (0.00 sec)

看看error 日志有没有什么信息：

1. 2018-01-16 19:15:41 6886 [Warning] Disk is full writing '/data/mysql/mysql3306/log/3306-bin.000107' (Errcode: 28 - No space left on device). Waiting for someone to free space...
2. 2018-01-16 19:15:41 6886 [Warning] Retry in 60 secs. Message reprinted in 600 secs
3. 2018-01-16 19:15:44 6886 [ERROR] Error writing file '/data/mysql/mysql3306/log/slow3306.log' (errno: 1 - No space left on device)
4. 2018-01-16 19:25:41 6886 [Warning] Disk is full writing '/data/mysql/mysql3306/log/3306-bin.000107' (Errcode: 28 - No space left on device). Waiting for someone to free space...
5. 2018-01-16 19:25:41 6886 [Warning] Retry in 60 secs. Message reprinted in 600 secs
6. 2018-01-16 19:35:41 6886 [Warning] Disk is full writing '/data/mysql/mysql3306/log/3306-bin.000107' (Errcode: 28 - No space left on device). Waiting for someone to free space...
7. 2018-01-16 19:35:41 6886 [Warning] Retry in 60 secs. Message reprinted in 600 secs
8. 2018-01-16 19:36:41 6886 [Warning] Disk is full writing '/data/mysql/mysql3306/log/3306-bin.000107' (Errcode: 28 - No space left on device). Waiting for someone to free space...
9. 2018-01-16 19:36:41 6886 [Warning] Retry in 60 secs. Message reprinted in 600 secs
10. 2018-01-16 19:46:41 6886 [Warning] Disk is full writing '/data/mysql/mysql3306/log/3306-bin.000107' (Errcode: 28 - No space left on device). Waiting for someone to free space...
11. 2018-01-16 19:46:41 6886 [Warning] Retry in 60 secs. Message reprinted in 600 secs
12. 2018-01-16 19:49:41 6886 [ERROR] An error occured during flushing cache to file. 'binlog\_error\_action' is set to 'IGNORE\_ERROR'. Hence turning logging off for the whole duration of the MySQL server process. To turn it on again: fix the cause, shutdown the MySQL server and restart it.

我们看到昨天下午7点/data 目录下磁盘满了，然后刷数据到磁盘的操作失败，并且binlog\_error\_action参数使用的默认值(IGNORE\_ERROR)。所以自动关闭了binlog(所以 我们上面执行 show binary logs时报错说 你没有使用binlog)。

3.解决方案  
解决方案其实上面error log中已经给我们，我们需要重启实例，来重新启用binlog，然后再删除binlog(purge 或者 flush logs)。当然做这些操作时我们数据目录磁盘是不能被占满的，需要有一定的空间(可以通过删除或者清空一些无关紧要的文件来释放一些空间)，否则数据库实例可能停不掉(因为没有空间写日志)

重启实例后我们执行 show binary logs; ，我们看到此时能够正常看到当前实例下所有未被删除的binlog

1. mysql> show binary logs;
2. +-----------------+------------+
3. | Log\_name | File\_size |
4. +-----------------+------------+
5. | 3306-bin.000054 | 1073745018 |
6. | 3306-bin.000055 | 1073741931 |
7. | 3306-bin.000056 | 1073742629 |
8. | 3306-bin.000057 | 1073742391 |
9. | 3306-bin.000058 | 1073741974 |
10. | 3306-bin.000059 | 1073742197 |
11. | 3306-bin.000060 | 1074293707 |
12. | 3306-bin.000061 | 1074318524 |
13. | 3306-bin.000062 | 1074196194 |
14. | 3306-bin.000063 | 1073957987 |
15. | 3306-bin.000064 | 1074045715 |
16. | 3306-bin.000065 | 1074456116 |
17. | 3306-bin.000066 | 1074352906 |
18. | 3306-bin.000067 | 1073745429 |
19. | 3306-bin.000068 | 1089211613 |
20. | 3306-bin.000069 | 3264774138 |
21. | 3306-bin.000070 | 1073743716 |
22. | 3306-bin.000071 | 1074132057 |
23. | 3306-bin.000072 | 1074296041 |
24. | 3306-bin.000073 | 1073865674 |
25. | 3306-bin.000074 | 1074128306 |
26. | 3306-bin.000075 | 1693579796 |
27. | 3306-bin.000076 | 1073918285 |
28. | 3306-bin.000077 | 1074052487 |
29. | 3306-bin.000078 | 1074118960 |
30. | 3306-bin.000079 | 1074426059 |
31. | 3306-bin.000080 | 1092942370 |
32. | 3306-bin.000081 | 1073817857 |
33. | 3306-bin.000082 | 1074191946 |
34. | 3306-bin.000083 | 1074310368 |
35. | 3306-bin.000084 | 1073810038 |
36. | 3306-bin.000085 | 1074093671 |
37. | 3306-bin.000086 | 1074359248 |
38. | 3306-bin.000087 | 1073741978 |
39. | 3306-bin.000088 | 1074433324 |
40. | 3306-bin.000089 | 1073839559 |
41. | 3306-bin.000090 | 1074001883 |
42. | 3306-bin.000091 | 1074115966 |
43. | 3306-bin.000092 | 1074141865 |
44. | 3306-bin.000093 | 1074028550 |
45. | 3306-bin.000094 | 1074057515 |
46. | 3306-bin.000095 | 1074384113 |
47. | 3306-bin.000096 | 1073786087 |
48. | 3306-bin.000097 | 1074062101 |
49. | 3306-bin.000098 | 1074039304 |
50. | 3306-bin.000099 | 1073871663 |
51. | 3306-bin.000100 | 1074377569 |
52. | 3306-bin.000101 | 1367597993 |
53. | 3306-bin.000102 | 3076703855 |
54. | 3306-bin.000103 | 2959674341 |
55. | 3306-bin.000104 | 2960788209 |
56. | 3306-bin.000105 | 2960786610 |
57. | 3306-bin.000106 | 1073742076 |
58. | 3306-bin.000107 | 859308032 |
59. | 3306-bin.000108 | 120 |
60. +-----------------+------------+

执行 purge logs 或者 flush logs(要先设置expire\_logs\_days参数)命令删除日志