下面最开始的原始文档是嘉哥给我的，还有一个是现在回归环境里面的配置文件。区别不大

一：有些配置文件的命令行选项和服务变量相同，有时候把选项和变量替换使用，但是有些例外，例如--memlock选项和lock\_in\_memory变量

二：还有就是有个设置是全局的，有的是会话级别的，注意区分这些不同的行为

     query\_cache\_size是全局的

     sort\_buffer\_size默认是全局的，但是每个线程也都是可以设置的

     join\_buffer\_size 每个查询可能有多个关联缓存

三：有些动态生效的，有些不是

     SET sort\_buffer\_size = <value>

     SET GLOBAL sort\_buffer\_size = <value>

     SET     @@sort\_buffer\_size := <value>

     SET     @@session.sort\_buffer\_size := <value>

四：还有就是注意变量的单位

五：再有就是注意不要通过名称推断一个变量的作用，例如max\_heap\_table\_size，听起来像是制定隐式内存临时表最大允许的大小，但是并不完全一样

六：注意设置变量的副作用

     有些连接级的设置，不要轻易的在全局增加他们的值。因为一些缓存会一次性分配全部的内存导致大量浪费

     例如排序缓存(sort buffer) 和读缓存(read buffer)的设置大小已经很专注自己的事情了，除非觉得默认值不够好，否则使用默认的既可以了

七：还有就是类似参数名的书写： default-storage或者default\_storage 最好使用同一种风格

下面，**红色为《HP MySQL》中推荐的配置文件,对照书上的第8章**，还有**一些例如二进制日志等配置在后面章节才有**。

下面主要分为：

server 段

logs段

replication段

innoDB段

MyISAM段

performance\_schema段

federated段

1. **[mysqld]**
2. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Server\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
3. #\*\*\*\*\*\*server start related
4. **user**=apps                                   #Run the mysqld server as the user having the name user\_name or the numeric user ID user\_id.
5. bind-address=0.0.0.0                              #Default 0.0.0.0;server listens on a single network socket which bound to a single address.
6. **port**=3306                                   #The port number to listen for TCP/IP connections,must be 1024 or higher unless run as root.
7. #port-open-timeout=                              #Default 0;indicates how many seconds the server should wait for the TCP/IP port to become free.
8. server-id=113                                   #used in replication to enable master and slave servers to identify themselves uniquely.
9. #chroot                                        #Put the mysqld server in a closed environment during startup by using the chroot() system call.
10. #init-file=file\_name                              #a file containing SQL statements that you want the server to execute when it starts.
11. #core-file=OFF                                   #Default OFF;Write a core file if mysqld dies.
12. #skip-grant-tables                              #This option causes the server to start without using the privilege system at all
13. #\*\*\*\*\*\*location
14. basedir=/apps/svr/mysql5                         #Default /;mysql installation directory
15. **pid-file=**/apps/dbdat/mysql5\_data/mysql.pid               #Default creates in data directory;The path name of the process ID file.
16. **socket**=/tmp/mysql.sock                              #Default /tmp/mysql.sock;specifies the Unix socket file to use when listening for local connections.
    * + 1. 这类文件最好明确的指定一下
17. **datadir=**/apps/dbdat/mysql5\_data                         #Default /var/lib/mysql;The path to the data directory
18. **tmpdir**=/tmp                                   #Default /tmp;The path of the directory to use for creating temporary files.
    * + 1. 对于blob和text类型的场景，因为服务器不能在内存临时表存储blob值，所以如果涉及blob值，又需要使用临时表，不管他有多小都会在磁盘上建表
        2. 最好的建议就是放在基于内存的文件系统，例如tmpfs，还可以使用多个地址，会轮询使用更加快速
19. #\*\*\*\*\*\*security
20. #secure-auth                                   #prevent old format password client connect
21. safe-user-create                              #This ensures that the user cannot change any privilege columns directly, but has to use the GRANT statement to give privileges to other users.
22. #skip-show-database                              #With this,SHOW DATABASES is permitted only to users have SHOW DATABASES privilege
23. #max\_user\_connections                              #Default 0;Range 0 .. 4294967295;The maximum number of simultaneous connections permitted to any given MySQL user account.
24. max\_connect\_errors=100000                         #If more than this many connection requests interrupted,the server blocks that host.
    * + 1. 超过这个数会被放入黑名单，如果可以抵御暴力破解可以设的大，
25. #secure-file-priv=path                              #limits LOAD\_FILE() and LOAD DATA and SELECT ... INTO OUTFILE statements to specified directory
26. #max\_prepared\_stmt\_count=                         #Default 16382;Range 0 .. 1048576;limits the total number of prepared statements in the server.
27. #skip-ssl                                   #indicate that SSL should not be used
28. #ssl-ca=file\_name                               #The path to a file in PEM format
29. #ssl-capath=directory\_name                         #The path to a directory that contains trusted SSL certificate authority certificates in PEM format
30. #ssl-cert=file\_name                               #The name of the SSL certificate file
31. #ssl-cipher=cipher\_list                          #A list of permissible ciphers to use for SSL encryption
32. #ssl-key=file\_name                              #The name of the SSL key file
33. #\*\*\*\*\*\*features
34. **default-storage-engine=InnoDB**                         #Default InnoDB since 5.5.5.The default storage engine.
35. #ansi                                        #Use standard (ANSI) SQL syntax instead of MySQL syntax;is the same as --transaction-isolation=SERIALIZABLE --sql-mode=ANSI
36. #sql\_mode=                                   #Default '';Valid Values ALLOW\_INVALID\_DATES,ANSI\_QUOTES,ERROR\_FOR\_DIVISION\_BY\_ZERO,HIGH\_NOT\_PRECEDENCE,IGNORE\_SPACE,NO\_AUTO\_CREATE\_USER,NO\_AUTO\_VALUE\_ON\_ZERO,NO\_BACKSLASH\_ESCAPES,NO\_DIR\_IN\_CREATE,NO\_ENGINE\_SUBSTITUTION,NO\_FIELD\_OPTIONS,NO\_KEY\_OPTIONS,NO\_TABLE\_OPTIONS,NO\_UNSIGNED\_SUBTRACTION,NO\_ZERO\_DATE,NO\_ZERO\_IN\_DATE,ONLY\_FULL\_GROUP\_BY,PAD\_CHAR\_TO\_FULL\_LENGTH,PIPES\_AS\_CONCAT,REAL\_AS\_FLOAT,STRICT\_ALL\_TABLES,STRICT\_TRANS\_TABLES
    * + 1. 一般不要改
37. #auto\_increment\_increment=1                         #Default 1;Range 1 .. 65535;control the operation of AUTO\_INCREMENT columns.
38. #auto\_increment\_offset=1                         #Default 1;Range 1 .. 65535;control the operation of AUTO\_INCREMENT columns.
    * 1. # http://blog.csdn.net/wanghai\_\_/article/details/6726724     关于这两个参数的详解
39. #div\_precision\_increment=4                         #Default 4;Range 0-30;This variable indicates the number of digits by which to increase the scale of the result of division operations performed with the / operator.
40. event-scheduler=on                              #Default OFF;Valid Values ON OFF DISABLED;This variable indicates the status of the Event Scheduler;
    * 1. event\_scheduler:     http://51runaway.blog.163.com/blog/static/240286882010366563573/     http://www.cnblogs.com/c840136/articles/2388512.html
41. #skip-event-scheduler                              #Turns the Event Scheduler OFF.
42. #flush                                        #Default off;after each SQL statement,server flushes all changes.when off,to filesystem,when on to disk.
43. #flush\_time=                                   #Default 1800;Min Value 0.If this is set to a nonzero value, all tables are closed every flush\_time seconds to free up resources and synchronize unflushed data to disk.
44. #old                                        #when old is enabled, it changes the default scope of index hints to that used prior to MySQL 5.1.17.
45. #old-alter-table                              #Default OFF;If given,server does not use optimized method of processing an ALTER TABLE.
46. #old-style-user-limits                              #Default FALSE ;Enable old-style user limits.Before MySQL 5.0.3, account resource limits were counted separately for each host.
47. partition                                   #Default ON ;Enables or disables user-defined partitioning support in the MySQL Server.
48. #skip-partition                                   #Disables user-defined partitioning.www.mysqlops.com
49. #plugin\_dir=                                   #Default BASEDIR/lib/plugin ;The path name of the plugin directory.
50. #plugin-load=plugin\_list                         #plugin-load=myplug1=myplug1.so;myplug2=myplug2.so;This option tells the server to load the named plugins at startup.
51. #symbolic-links                                   #you can link a MyISAM index file or data file to another directory with the INDEX DIRECTORY or DATA DIRECTORY options
52. #skip-symbolic-links                               #you can't link a MyISAM index file or data file to another directory with the INDEX DIRECTORY or DATA DIRECTORY options
53. lock\_wait\_timeout=600                              #Default 31536000;Range 1 .. 31536000;This variable specifies the timeout in seconds for attempts to acquire metadata locks.
54. #sync\_frm                                   #Default TRUE;when any nontemporary table is created its .frm file is synchronized to disk
55. #temp-pool                                   #Default TRUE;causes temporary files use a small set of names
56. #updatable\_views\_with\_limit                         #Default 1;controls whether updates to a view can be made when view does not contain all columns of the primary key and update statement contains a LIMIT clause.
57. #\*\*\*\*\*\*function
58. #allow-suspicious-udfs                              #Default FALSE; whether udf that have only an xxx symbol for the main function can be loaded
59. #des-key-file=file\_name                              #These keys are used by the DES\_ENCRYPT() and DES\_DECRYPT() functions.
60. group\_concat\_max\_len=10240                         #Default 1024;Range 4 .. 18446744073709547520;The maximum permitted result length in bytes for the GROUP\_CONCAT() function.
61. #max\_long\_data\_size=                              #Default 1048576;Range 1024 .. 4294967295;The maximum size of parameter values that can be sent with the mysql\_stmt\_send\_long\_data() C API function.
62. sysdate-is-now                                   #by default SYSDATE() returns the time it executes,not the time the statement begins executing.This differs from the behavior of NOW()
63. #default\_week\_format=                              #Default 0;Range 0 .. 7;The default mode value to use for the WEEK() function.
64. #\*\*\*\*\*\*character set&time zone etc..
65. character-set-server=utf8                         #The server's default character set. default-character-set is deprecated,use this.
66. collation-server=utf8\_general\_ci                    #The server's default collation.collation is deprecated,use this.
67. #character-set-client-handshake                         #Default TRUE;Do not ignore character set information sent by the client.
68. #skip-character-set-client-handshake                    #this makes MySQL behave like MySQL 4.0.
69. character-set-filesystem=utf8                         #Default binary;The file system character set.set the same as system's character set.
70. #character-sets-dir=                              #The directory where character sets are installed.
71. #lower\_case\_file\_system                              #On Linx OFF;On Windows ON;describes the case sensitivity of file names
72. lower\_case\_table\_names=1                         #Default 0;Range 0 .. 2;0 table name case sensitive,1 table name lowercase on disk and comparisons are not case sensitive,2 table name as given but compared in lowercase
73. #lc-messages=                                   #The locale to use for error messages.
74. #lc-messages-dir=                              #The directory where error messages are located.
75. #default-time-zone=                              #default system time zone;Set the default server time zone.
76. #\*\*\*\*\*\*buffer&cache
77. #memlock                                   #Default FALSE;Lock the mysqld process in memory.require root,or changing the limits.conf file
78. #large-pages                                   #Default FALSE;On Linux,due to reduced TLB misses,applications may obtain performance improvements by using large pages
    * 1. #TLB：Translation lookaside buffer,即旁路转换缓冲，或称为页表缓冲；里面存放的是一些页表文件（虚拟地址到物理地址的转换表）。
      2. 又称为快表技术。由于“页表”存储在主存储器中，查询页表所付出的代价很大，由此产生了TLB。
79. join\_buffer\_size=1m                              #Default The minimum size of the buffer that is used for plain index scans, range index scans, and joins that do not use indexes and thus perform full table scans.
80. **sort\_buffer\_size**=8m                              #Default 2097144;Max Value 18446744073709547520;**Each session** that needs to do a sort allocates a buffer of this size.
    * + 1. 只会在有查询需要的时候才会为该缓存分配内存，但是如果一旦需要就会分配全部指定大小的内存而不管是否需要这么多内存。应该是配置文件设置小一点，需要的话再连接中将他调大。还有就是：考虑通过索引和SQL写法避免排序，这比调优排序缓存要快的多
81. **table\_open\_cache**=1024                              #Default 400;Range 400-524288;The number of open tables for all threads,it requires file descriptors.
82. **table\_definition\_cache**=1024                         #Default 400,Range 400-524288;The number of table definitions can be cache,it does not use file descriptors.
    * + 1. 在mysql5.1之后表缓存被分解为两部分，一个是表的打开缓存**table\_open\_cache**，一个是表定义的缓存**table\_definition\_cache**
        2. 每个打开的表依然是每个线程、每个表用的，但是表的定义是全局的，可以被所有连接有效的共享。 通常可以把table\_definition\_cache设置的足够高 以缓存所有的表定义除非有上万张表
83. #range\_alloc\_block\_size=                         #Default 4096;Range 4096-4294967295;The size of blocks that are allocated when doing range optimization.
84. #query\_prealloc\_size=                              #Default 8192;Range 8192 .. 18446744073709547520;Block Size 1024;The size of the persistent buffer used for statement parsing and execution.
85. #query\_alloc\_block\_size=                         #Default 8192;Range 1024 .. 18446744073709547520;Block Size 1024;The allocation size of memory blocks that are allocated for objects created during statement parsing and execution.
86. #stored\_program\_cache=                              #Default 256;Range 256 .. 524288;Sets a soft upper limit for the number of cached stored routines per connection.
87. #\*\*\*\*\*query cache
88. **query\_cache\_type=0**                             #Default 1;Valid Values 0 1 2 OFF ON DEMAND;Set the query cache type.
89. **query\_cache\_size=0**                            #Default 0;Range 0 .. 18446744073709547520;The amount of memory allocated for caching query results.
    * + 1. 在MySQL启动前一次性默认分配这块内存，如果修改这个变量会立即删除所有缓存的查询，重新初始化和分配之块内存。费时长，因为是逐个清理查询缓存，并不是一次性清理掉，并且是在初始化之前无法提供服务。
90. #query\_cache\_min\_res\_unit=                         #Default 4096;Range 512 .. 18446744073709547520;The minimum size (in bytes) for blocks allocated by the query cache.
91. query\_cache\_limit=0                              #Default 1048576;Range 0 .. 18446744073709547520;Do not cache results that are larger than this number of bytes.
92. #query\_cache\_wlock\_invalidate                         #Default FALSE;Setting this variable to 1 causes acquisition of a WRITE lock for a table to invalidate any queries in the query cache that refer to the table.
93. #\*\*\*\*\*\*thread&connection
94. thread\_handling=one-thread-per-connection               #default one-thread-per-connection;The thread-handling model used by the server for connection threads.no-threads is useful for debugging.
95. #slow\_launch\_time=                              #Default 2;If creating a thread takes longer than this many seconds, the server increments the Slow\_launch\_threads status variable.
96. #init\_connect=                                   #A string to be executed by the server for each client that connects.
97. back\_log=300                                   #Default 50;Range 1-65535;The number of outstanding connection requests MySQL can have
98. **thread\_cache\_size**=512                              #Default 0;Range 0-16384;How many threads the server should cache for reuse.
    * + - 1. 这个变量不会立即生效，在下次所有连接被关闭时产生效果，。当有连接被关闭时，mysql检查缓存中是否还有空间来缓存线程。如果有缓存该线程以下次重用，没有空间的话销毁该线程不再缓存   新的里面好像是只有thread\_cache
          2. 指定了mysql可以保持在缓存中的线程数。一般不需要配置。检查是否足够大可以查看threads\_created状态变量。
          3. 如果threads\_connected通常保持在100-120，则可以设置缓存大小为20.如果他保持在500-700,200的线程缓存应该足够大了.一般设置为波动范围的三倍也没有问题
          4. 把线程缓存设置的非常大没有什么必要，但是设置很小也不能节省太多内存，所以也没有什么好处。如果线程缓存足够大，可能需要把thread\_cache\_size设置的小点。
          5. 还有一个相关的变量是slow\_launch\_threads
99. **max\_connections**=3000                              #Default 151;Range 1-100000;The maximum permitted number of simultaneous client connections.
    * + - 1. 像一个紧急刹车，以保证服务器不会因应用程序激增的连接而不堪重负。默认是100，一般不够。注意观察Max\_used\_connections状态量随时间的变化
100. #\*\*\*\*\*\*temptable
101. #big-tables                                   #Enable large result sets by saving all temporary sets in files
102. **tmp\_table\_size=32m**                              #Default system dependent;Range 1024-4294967295;The maximum size of internal in-memory temporary tables.max\_tmp\_tables is unused.
     * + - 1. 控制使用memory引擎的内存临时表能使用多大的内存。如果隐式内存临时表超过两个设置的值会转换为磁盘myisam表，所以他的大小可以继续增长
103. **max\_heap\_table\_size=32m**                              #Default 16777216;Range 16384-1844674407370954752; the maximum size user-created MEMORY tables are permitted to grow.
     * + - 1. 应该和上面的选项设为相同的值，32M可能不够，但是一定要谨防太大，临时表最好待到内存，但是如果撑得太大最好还是使用磁盘
104. #\*\*\*\*\*\*network
105. #skip-networking                              #Do not listen for TCP/IP connections at all.
106. skip\_name\_resolve                              #Do not resolve host names when checking client connections.
     * + - 1. 禁止DNS的正向反响解析，**强烈建议禁止**
107. #skip-host-cache                              #Disable internal host cache,server performs a DNS lookup every time a client connects.
108. net\_buffer\_length=8k                              #Default 16384;Range 1024-1048576;connection buffer and result buffer begin with a size given by net\_buffer\_length,dynamically enlarged up to max\_allowed\_packet bytes as needed.The result buffer shrinks to net\_buffer\_length after each SQL statement.
109. max\_allowed\_packet=8m                              #Default 1048576;Range 1024-1073741824;The maximum size of one packet or any generated/intermediate string.
     * + - 1. 防止服务器发送过大的包，一般增加到16M 如果需要非常大的变量要小心，因为超过会被截断
110. connect\_timeout=10                              #Default 10;The number of seconds that the mysqld server waits for a connect packet before responding with Bad handshake.
111. wait\_timeout=120                              #Default 28800;Range 1 .. 2147483; waits for activity on a noninteractive connection before closing it
112. interactive\_timeout=120                              #Default 28800;fits client that uses the CLIENT\_INTERACTIVE;
113. net\_read\_timeout=3                              #Default 30;Min Value 1;The number of seconds to wait for more data from a connection before aborting the read.
114. net\_write\_timeout=6                              #Default 60;Min Value 1;The number of seconds to wait for a block to be written to a connection before aborting the write.
115. net\_retry\_count=2                              #Default 10;Range 1 .. 18446744073709547520;If a read or write on a communication port is interrupted, retry this many times before giving up.
116. #\*\*\*\*\*profile&optimizer
117. #profiling                                   #Default OFF;statement profiling,you can use SHOW PROFILES and SHOW PROFILE if this enabled.
118. profiling\_history\_size=5                         #Default 15;Maximum 100;The number of statements for which to maintain profiling information.
119. #optimizer\_prune\_level=                              #Default 1;Controls the heuristics applied during query optimization.
120. #optimizer\_search\_depth=                         #Default 62;Range 0 .. 63;The maximum depth of search performed by the query optimizer.If set to 63, the optimizer switches to the algorithm used in MySQL 5.0.0.
121. #optimizer\_switch=                              #Valid Values engine\_condition\_pushdown={on|off} index\_merge={on|off} index\_merge\_intersection={on|off} index\_merge\_sort\_union={on|off} index\_merge\_union={on|off}
122. #max\_seeks\_for\_key=1000                              #Default 18446744073709547520;Range 1 .. 18446744073709547520;Limit the assumed maximum number of seeks when looking up rows based on a key.
123. max\_length\_for\_sort\_data=4096                         #Default 1024;Range 4-8388608;determines which filesort algorithm to use.
     * + - 1. 如果查询中所有需要的列和ORDER BY列总大小超过max\_length\_for\_sort\_data 字节，则采用two-pass算法
124. #\*\*\*\*\*\*limitation
125. #max\_error\_count=                              #Default 64;Range 0 .. 65535;The maximum number of  messages to be stored for display by the SHOW ERRORS and SHOW WARNINGS statements.
126. #max\_join\_size=                                   #Default 18446744073709551615;Range 1 .. 18446744073709551615;Do not permit SELECT statements that probably need to examine many rows.
127. #max\_sort\_length=                              #Default 1024;Range 4 .. 8388608; use when sorting data values. Only the first max\_sort\_length bytes are used
128. #max\_sp\_recursion\_depth=                         #Default 0;Max Value 255;The number of times that any given stored procedure may be called recursively.
129. open-files-limit=8192                              #Default 0;Range 0 .. 65535;the number of file descriptors available to mysqld
130. #thread\_stack=512k                              #Default 262144;Range 131072-18446744073709547520;The stack size for each thread.
131. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Logs\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
132. log-output=FILE                                   #Default FILE;Valid Values TABLE FILE NONE;This option determines the destination for general query log and slow query log output.
133. #\*\*\*\*\*error log
134. **log\_error**=/apps/logs/mysql/error.log                    #Default host\_name.err;Log errors and startup messages to this file.
135. log-warnings                                   #Default 1;Range 0,1,greater than 1;Whether to produce additional warning messages to the error log.
136. #skip-log-warnings                              #Disable log-warnings
137. #\*\*\*\*\*slow log
138. **slow\_query\_log=/xxx**                                   #Default OFF;Whether the slow query log is enabled
139. slow\_query\_log\_file=/apps/logs/mysql/slow.log               #default value host\_name-slow.log;The name of the slow query log file.
140. long\_query\_time=0.300                              #Default 10;query longer than long\_query\_time seconds will be log to slow log and slow\_queries status variable.
141. log-queries-not-using-indexes                         #Default OFF;queries that are expected to retrieve all rows are logged.
142. log-slow-admin-statements                         #Default FALSE;Log slow administrative statements such as OPTIMIZE TABLE, ANALYZE TABLE, and ALTER TABLE to the slow query log.
143. log-slow-slave-statements                         #Default off;enables logging for queries that have taken more than long\_query\_time seconds to execute on the slave.
144. min-examined-row-limit=10                         #Default 0;Range 0-18446744073709547520;Queries that examine fewer than this number of rows are not logged to the slow query log.
145. #\*\*\*\*\*general log
146. #general-log                                   #Default OFF;Specify the initial general query log state.
147. #general\_log\_file=/apps/logs/mysql/query.log               #Default host\_name.log;The name of the general query log file.
148. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Replication\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
149. **skip\_slave\_start**                           #Default FALSE;Tells the slave server not to start the slave threads when the server starts
     * + 1. 阻止mysql启动试图自动复制
150. #**read\_only**                                   #Default false;When it is enabled, the server permits no updates except from users have SUPER privilege or slave threads.
     * + 1. **强烈建议备库设置**只读模式
151. #init\_slave=                                   #a string to be executed by a slave server each time the SQL thread starts.
152. master-info-file=master.info                         #Default master.info锛汿he name to use for the file in which the slave records information about the master.
153. #sync\_master\_info=1000                              #default 0;If greater than 0,slave synchronizes master.info file to disk after every sync\_master\_info events
154. #slave\_type\_conversions=                         #Valid Values ALL\_LOSSY ALL\_NON\_LOSSY ALL\_LOSSY,ALL\_NON\_LOSSY; when using row-based replication
155. #slave\_transaction\_retries=                         #Default 10;Range 0 .. 18446744073709547520;If a replication slave SQL thread fails to execute a transaction because of lock block, it automatically retries slave\_transaction\_retries times before stopping with an error.
156. #slave\_exec\_mode=                              #Default STRICT (ALL);Default IDEMPOTENT (NDB);Controls IDEMPOTENT or STRICT mode in replication conflict resolution and error checking.
157. #slave-skip-errors=                              #Default OFF;Valid Values [list of error codes] all ddl\_exist\_errors;tells the slave SQL thread to continue replication when a statement returns any of the errors listed in the variable value
158. slave-load-tmpdir=/apps/dbdat/mysql5\_data               #Default /tmp;by default equal to tmpdir system variable;directory where slave creates temporary files for replicating LOAD DATA INFILE statements.
159. #\*\*\*\*\*\*network
160. #slave\_compressed\_protocol                         #Default OFF;Whether to use compression of the slave/master protocol
161. #slave-max-allowed-packet=                         #Default 1073741824;Range 1024 .. 1073741824;In MySQL 5.5.26 and later,this option sets the maximum packet size in bytes for the slave SQL and I/O threads
162. slave-net-timeout=30                              #Default 3600;The number of seconds to wait for more data from a master/slave connection before aborting the read.
     * + 1. 备库与主库失败的重试时间。默认一个小时太长，一般是一分钟或者更短
163. #master-retry-count=                              #Default 86400;Range 0 .. 18446744073709551615;The number of times that the slave tries to connect to the master before giving up.
164. #\*\*\*\*\*\*report
165. #show-slave-auth-info                              #Default FALSE;Display slave user names and passwords in the output of SHOW SLAVE HOSTS on the master server
166. #report-host=                                   #host name or IP address to be reported to the master
167. #report-password=                              #account password to be reported to the master
168. #report-port=                                   #TCP/IP port number to be reported to the master
169. #report-user=                                   #account user name to be reported to the master
170. #\*\*\*\*\*binlog
171. log-bin=/apps/dbdat/mysql5\_data                         #Default OFF;The option value, if given, is the basename for the log sequence.Otherwise, MySQL uses host\_name-bin as the basename.
172. log-bin-index=/apps/dbdat/mysql5\_data/mysql-bin.index          #Default OFF;The index file for binary log file names.If you omit the file name, and if you did not specify one with --log-bin, MySQL uses host\_name-bin.index as the file name.
173. **sync\_binlog**=100                                   #Default 0;Range 0-18446744073709547520;If greater than 0,server synchronizes binary log to disk after every sync\_binlog writes to the binary log.
     * + 1. 控制MySQL如何刷新二进制日志到磁盘，默认值是0，意味着MySQL并不刷新，由操作系统决定什么时候持久化到设备。如果大于0，指定两次刷新到磁盘的动作之间间隔多少个二进制日志写操作，**一般0或者1外的值很不常见**
         2. 如果不是1的话，崩溃后会造成二进制日志没有同步事物数据，会导致复制中断，并且导致及时回复变得不可能。
         3. 无论如何可以设置为1来获得安全的保证。这**要求MySQL同步把二进制日志和事物日志这两个文件刷新到两个不同的位置**。
         4. 和InnoDB日志文件一样，把二进制日志放到一个带电池保护的RAID中可以提升性能。事实上写和刷新二进制日志缓存其实比InnoDB事物日志要昂贵的多，因为不像InnoDB事物日志，每次写二进制日志都会增加他的大小。设置**sync\_binlog=1的代价比innodb\_flush\_log\_at\_trx\_commit=1对性能的损害要大得多！**
174. binlog-format=STATEMENT                              #Default STATEMENT;Valid Values ROW,STATEMENT,MIXED;sets the binary logging format,this option affect many other behavior,be cautious.
175. max\_binlog\_size=512m                              #Default 1073741824;If a write causes current log file size exceed this value, the server rotates the binary logs
176. **expire\_logs\_days**=7                              #Default 0;Range 0-99;The number of days for automatic binary log file removal.
     * + 1. 自动清理二进制日志，不要使用rm命令，使用了服务器会拒绝自动删除，而且PURGE MASTER LOGS也将停止工作
         2. 如果开启了二进制日志最好开启这个选项。不启用会造成服务器的空间会被耗尽。建议选项设置得足够两个备份之前恢复，即使每天备份也建议留下7-14天的二进制日志
177. binlog\_cache\_size=256K                              #Default 32768;Range 4096-18446744073709547520;The size of the cache to hold changes to the binary log during a transaction.
178. max\_binlog\_cache\_size=256m                         #Default 18446744073709547520;Range 4096 .. 18446744073709547520;If a transaction requires more than this many bytes of memory, the server generates a error
179. binlog\_stmt\_cache\_size=32k                         #Default 32768;Range 4096-18446744073709547520.It is a binary log statement cache for non-transaction table since 5.5.9.
180. max\_binlog\_stmt\_cache\_size=256m                         #Default 18446744073709547520;Range 4096 .. 18446744073709547520;If nontransactional statements within a transaction require more than this many bytes of memory, the server generates an error.
181. binlog-row-event-max-size=256m                         #default is 1024;maximum size of a row-based binary log event, in bytes.The value should be a multiple of 256.
182. #log-short-format                              #Default FALSE;Log less information to the binary log and slow query log;www.mysqlops.com
183. log\_slave\_updates                              #Default FALSE:tells the slave to log the updates performed by its SQL thread to its own binary log
184. #log-bin-trust-function-creators                    #Default FALSE;affects how MySQL enforces restrictions on stored function and trigger creation.
185. #binlog\_direct\_non\_transactional\_updates               #Default OFF;About transaction on non transaction table problem.
186. #\*\*\*\*\*relaylog
187. relay-log=relay-bin                              #default basename is host\_name-relay-bin.;The basename for the relay log.
188. relay-log-index=relay-bin.index                         #The default name is host\_name-relay-bin.index;The name to use for the relay log index file.
189. relay-log-info-file=relay-log.info                    #Default relay-log.info;The name to use for the file in which the slave records information about the relay logs.
190. #**sync\_relay\_log**=1000                              #Default 0;If greater than 0,server synchronizes relay log to disk after every sync\_relay\_log writes to the relay log
191. #**sync\_relay\_log\_info**=1000                         #Default 0;If greater than 0,slave synchronizes relay-log.info file to disk after every sync\_relay\_log\_info transactions
192. #**sync\_master\_info**=1000                              #default 0;If greater than 0,slave synchronizes master.info file to disk after every sync\_master\_info events

# 上面的 这三个选项在MySQL5.5及更新版本中可用，解决了复制中备库长期存在的问题：不把他们的状态文件同步到磁盘，所以服务器崩溃后可能需要人为的猜测复制的位置实际上是在主库的哪个位置，并且可能在中继日志(relay log)里有损坏。这些选项使得备库崩溃后更加容易恢复。默认不打开，打卡会造成额外的fsync()操作，可能会降低性能。如果硬件性能可以建议打开

1. #max\_relay\_log\_size=                              #Default 0;Range 0 .. 1073741824;If a write causes current log file size exceed this value,the slave rotates the relay logs.
2. relay\_log\_space\_limit=100G                         #Default 0;Range 0 .. 18446744073709547520;The maximum amount of space to use for all relay logs.
3. relay\_log\_purge=1                              #Default 1;Range 0,1;automatic purging of relay log files
4. #relay\_log\_recovery                              #Default FALSE;slave discards all unprocessed relay logs and retrieves them from the master.
5. #\*\*\*\*\*\*filter
6. #binlog-do-db=                                   #different action when difference setting in binlog-format.
7. #binlog-ignore-db=                              #refer binlog-do-db
8. #replicate-do-db=                              #different behavior under different binlog format
9. #replicate-ignore-db=                              #different behavior under different binlog format
10. #replicate-do-table=                              #restrict replication to the specified table
11. #replicate-ignore-table=                         #not to replicate any statement that updates the specified table
12. #replicate-wild-do-table=                         #Patterns can contain the 鈥?鈥?and 鈥淿鈥?wildcard
13. #replicate-wild-ignore-table=                         #Patterns can contain the 鈥?鈥?and 鈥淿鈥?wildcard
14. #replicate-same-server-id                         #Default FALSE;Cannot be set to 1 if --log-slave-updates is used
15. #replicate-rewrite-db=                              #translate the default database to to\_name
16. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*InnoDB\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
17. innodb #看似平淡的设置，如果设为FORCE只有在innodb可以启动的时候才会启动
18. **innodb\_data\_home\_dir**=/apps/dbdat/mysql5\_data               #The default value is the MySQL data directory;The common part of the directory path for all InnoDB data files in the shared tablespace.
    * + - 1. 表空间都在指定的目录下
19. **innodb\_data\_file\_path**=ibdata1:256M:autoextend:max:2G               #default behavior is to create a single 10MB auto-extending data file named ibdata1;The paths to individual data files and their sizes.;innodb\_data\_file\_path=datafile\_spec1[;datafile\_spec2]...;datafile\_spec=file\_name:file\_size[:autoextend[:max:max\_file\_size]]
    * + - 1. 不同文件中创建不同的表空间。先填满一个再填另一个。**可以设置自动拓展但是最好设置一个上限，**因为一旦拓展了就收缩不会来了。
20. innodb\_log\_group\_home\_dir=/apps/dbdat/mysql5\_data          #default is to create two 5MB files named ib\_logfile0 and ib\_logfile1 in the MySQL data directory. ;The directory path to the InnoDB redo log files
21. **innodb\_log\_files\_in\_group**=4                         #Default 2;Range 2-100;The size in bytes of each log file in a log group.
22. **innodb\_log\_file\_size**=1000M                              #Default 5242880;Range 108576-4294967295;The size in bytes of each log file in a log group.
    * + - 1. 最关键的innodb配置之一
          2. 整体日志的文件大小受控于**innodblog\_log\_file\_size和innodb\_log\_file\_in\_group两个参数**，这对写性能很重要！默认只有两个5M的文件
          3. 通常不需要更改默认的日志数量，只需要修改每个日志文件的大小即可。要修改文件的大小需要完全关闭mysql将旧的日志文件移走保存再重新配置然后重启
          4. 必需要衡量好数据开销和崩溃恢复需要的时间。 太小需要更多的检查点导致更多的写操作，太大导致更长的恢复时间
23. #\*\*\*\*\*feature
24. **innodb\_open\_files**=4096                              #Default 300;Range 10-4294967295;specifies the maximum number of .ibd files that MySQL can keep open at one time.independent from --open-files-limit and table cache.
    * + - 1. **《HP MySQL》P349  一般设置的足够大，来使服务器能保持所有的.ibd文件同时打开**
25. innodb\_change\_buffering=inserts                         #Default all;Valid Values inserts,deletes,purges,changes,all,none.Whether InnoDB performs change buffering.
26. innodb\_adaptive\_hash\_index=ON                         #Default On;Valid Values ON,OFF.the same old way to control build-in hash index,,but now you can trun off it if you want.
27. **innodb\_autoinc\_lock\_mode**=1                         #Default 1;Valid Values 0,1,2;The locking mode to use for generating auto-increment values.
    * 1. 控制innode如何生成自增主键值，在某些情况例如高并发的情况下自增主键值可能是一个瓶颈。如果有很多事物在等待自增锁(SHOW ENGINE INNODB STATUS里可以看到)，那么应该审视这个值，具体的行为手册上有
28. #innodb\_large\_prefix                              #Default OFF;Enable to allow index key prefixes longer than 767 bytes for DYNAMIC and COMPRESSED tables.requires innodb\_file\_format=barracuda and innodb\_file\_per\_table=true
29. #innodb\_strict\_mode                              #Default OFF;Whether InnoDB returns errors rather than warnings for certain conditions.
    * 1. mysql把某些情况下的警告改成抛错，有些过于严格了，但是在尝试恢复备份的时候不会要打开
30. #innodb\_use\_sys\_malloc=                              #Default ON;Whether InnoDB uses the operating system memory allocator (ON) or its own (OFF).
31. #\*\*\*\*\*\*buffer&cache
32. **innodb\_buffer\_pool\_size=**32G                         #Default 128m;Range 1048576-2\*\*64-1;The size of the memory buffer InnoDB uses to cache data and indexes of its tables.
    * + 1. 最关键的innodb配置之二
33. **innodb\_buffer\_pool\_instances**=8                         #Default 1;Range 1-64;The number of regions that the InnoDB buffer pool is divided into.the manual recommend each buffer pool instance is at least 1 gigabyte.
    * 1. 这个是在5.5之后出现的新参数，可以将缓冲池分为多个部分，这可能是在高负载多核机器上提升性能的最重要的 一个方式了。多个缓冲区分散了工作压力，所以一些全局的Mutex锁竞争就没有那么大了。**目前尚不清楚**什么情况下应该选择多个缓冲池实例。他们运行过8个的，但是还不明白微妙之处。
      2. percona是采用的不同的方法解决innodb的互斥锁争用问题。相对于把缓冲池分为多个，他们选择把mutex分为更细更专用的metux
34. innodb\_max\_dirty\_pages\_pct=50                         #Default 75;Range 0-99;InnoDB tries to write pages so that the percentage of dirty pages will not exceed this value.
35. innodb\_old\_blocks\_pct=25                         #Default 37;Range 5-95;Specifies the approximate percentage of the InnoDB buffer pool used for the old block sublist.
36. innodb\_old\_blocks\_time=3000                         #Default 0;Range 0-2\*\*32-1;Non-zero values protect against the buffer pool being filled up by data that is referenced only for a brief period, such as during a full table scan.
    * 1. innodb有个两段缓冲池LRU链表，为了防止换出长期使用很多次的页面。这个值指的是从年轻链表到年老链表需要经过的毫秒数
37. innodb\_additional\_mem\_pool\_size=32m                    #Default 8388608;Range 2097152-4294967295;The size of a memory pool InnoDB uses to store data dictionary information and other internal data structures.
38. innodb\_log\_buffer\_size=8m                         #Default 8388608;Range 262144-4294967295;The size of the buffer that InnoDB uses to write to the log files on disk.
39. #\*\*\*\*\*\*IO
40. **innodb\_flush\_method=O\_DIRECT**                         #Default fdatasync;Valid Values O\_DSYNC,O\_DIRECT;specify the way to open and flush files.
    * + 1. 这个选项配置InnoDB如何与文件系统相互作用，不仅影响写数据还影响读数据。
        2. 默认的是fdatasync，改变这个IO执行方式会显著的影响性能，但是要确定自己在干什么然后再去修改。
        3. 可选项是fdatasync;Values O\_DSYNC,O\_DIRECT
        4. 《HP MySQL》P355 有详细的内容分析，过程很长
        5. 结论就是：**unix类且采用带电池保护的RAID建议使用0\_DIRECT,如果不是建议采用默认值或者0\_DIRECT**
41. innodb\_use\_native\_aio                              #Default ON;Specifies whether to use the Linux asynchronous I/O subsystem.
42. innodb\_adaptive\_flushing                         #Default On;Valid Values ON,OFF.the same old way to flush dirty page,but now you can trun off it if you want.
43. **innodb\_flush\_log\_at\_trx\_commit**=2                    #Default 1;Valid Values 0,1,2;you should read manual for details
    * + 1. 日志缓冲必须要刷新到持久化存储，以确保提交的事物被完全持久化了。这个参数就是来控制日志缓冲的频繁程度。
        2. 0 每秒刷新一次
        3. 1 日志缓冲写到日志文件，并且每次事物提交都刷新到持久化存储，默认的最安全的级别，除非磁盘或者OS是伪刷新
        4. 2 每次提交把日志缓冲写到日志文件，但是不刷**新。InnoDB每秒刷新一次，0与2最重要的不同就是(2更合适)如果mysql服务进程挂了，2不会丢失任何事物，但是整个服务器挂了还是会丢失一些事物的**
        5. 如果os或者硬盘控制器是伪装做了刷新，这时断电可能会造成数据损坏，比事物丢失还要糟糕
        6. **最佳配置是设为1**并且将日志文件放到一个带电池保护的**RAID**卷中
        7. percona拓展了这个参数变成了一个会话级变量而不是一个全局变量
44. **innodb\_io\_capacity**=450                              #Default 200;Range 100-2\*\*64-1.An upper limit on the I/O activity performed by the InnoDB background tasks,set this value to system's IOPS.
    * 1. innodb曾经在代码里写死了假设工作在每秒100个IO能力的单硬盘上，默认很糟糕。现在可以告诉innoodb服务器你有多大的IO能力。**有时需要设置的相当高才能稳定的刷新脏页(PCIE ssd需要设置上万**！)
45. **innodb\_read\_io\_threads**=4                         #Default 4;Range 1-64;The number of I/O threads for read operations in InnoDB.
46. **innodb\_write\_io\_threads**=4                         #Default 4;Range 1-64;The number of I/O threads for write operations in InnoDB.
    * 1. 控制有多少后台线程可以被IO操作使用。最新版的默认是4个读4个写。对大多数够用了，尤其是5.5可以用操作系统原生的异步IO之后。或者可以简单的设置为提供IO能力的磁盘数量。
47. innodb\_read\_ahead\_threshold=56                         #Default 56;Range 0-64;Controls the sensitivity of linear read-ahead
48. **innodb\_doublewrite=0**#Default ON;If enabled (the default),stores all data twice, first to doublewrite buffer,then to data files.
    * + 1. InnoDB使用**双写缓冲**来避免页没写完整导致的数据损坏。当一个磁盘写操作不能完整的完成时，不完整的页写入就可能发生，16K的页可能只有一部分被写到磁盘上，双写就是在这种情况下保证数据的完整性
        2. 双写缓冲是表空间的一个特殊保留区域，在一些连续的页中能保存100个页。本质是一个最近写回的页面的备份拷贝。当InnoDb从缓冲池刷新页面到磁盘时，首先把他的写到双写缓冲，然后再把他们写到所属的数据区域中。这样保证每个页面的写入都是原子并且持久化的
        3. 这意味着每个页都要写两遍，但是因为InnoDB写页面到双写缓存是顺序的，并且只调用一次fsync()刷新到磁盘，实际上对性能的冲击较小，通常只有百分之几。
        4. 有些场景例如ZFS或者例如备库上不需要双写缓冲，不需要innodb再做一次了
        5. =0关闭
49. innodb\_purge\_threads=1                              #Default 0;set 1 can reduce internal contention within InnoDB, improving scalability.but now the performance gain might be minimal.
50. innodb\_purge\_batch\_size=20                         #Default 20;Range 1 .. 5000;tuning performance in combination with the setting innodb\_purge\_threads=1.
51. #innodb\_max\_purge\_lag=                              #Default 0;Range 0 .. 4294967295; controls how to delay DML operations when purge operations are lagging
52. #\*\*\*\*\*fileformat
53. **innodb\_file\_per\_table=1**                    #If disabled (the default),tables created in the system tablespace.If enabled,each new table create its own .ibd file.
    * + 1. 每个表用一个文件，删除表时回收空间方便，可以不同表分散到不同的磁盘上。但是这样可能会浪费空间。最好关闭自动增长
        2. 不好的一面：**更差的DROP性能，足以导致整个服务器端阻塞**，因为删除需要去文件系统层面删除，在EXT3上可能会很慢。而且每个 表都在InnoDB中使用自己的表空间，结果是移除表空间实际上需要InnoDB锁定和扫描缓冲区，查找属于这个表空间的页面，在一个具有大的缓冲池的服务器上操作非常慢
        3. 最终建议：使用它并且给共享表空间设置大小范围。
        4. 还有就是不必使用裸设备
54. innodb\_autoextend\_increment=32                         #Default 8;Range 1-1000;increment size (in MB) for extending an auto-extending shared tablespace.per-table tablespace use another way.
55. innodb\_file\_format=Antelope                         #Default Antelope;Valid Values Antelope Barracuda;The file format to use for new per-table tablespace InnoDB tables.
56. #innodb\_file\_format\_check=                         #Default ON;enable or disable whether InnoDB checks the file format tag in the shared tablespace
57. #innodb\_file\_format\_max=                         #Default Antelope;Valid Values Antelope,Barracuda; sets the value of innodb\_file\_format\_max to the file format tag in the shared tablespace
58. #\*\*\*\*\*\*static&status
59. innodb\_stats\_on\_metadata                         #Default ON.if on InnoDB updates statistics when SHOW TABLE STATUS,SHOW INDEX,access INFORMATION\_SCHEMA.TABLES,INFORMATION\_SCHEMA.STATISTICS.
60. innodb\_stats\_sample\_pages=32                         #Default 8;Range 1-2\*\*64-1.The number of index pages to sample for index distribution statistics.
61. innodb\_stats\_method=nulls\_unequal                    #Default nulls\_equal;Valid Values nulls\_equal nulls\_unequal nulls\_ignored;How the server treats NULL values when collecting statistics.
62. #timed\_mutexes                                   #Default OFF;When enabled, the os\_wait\_times indicates time spent in operating system waits.
63. #innodb-status-file                              #Default OFF;innodb\_status.<pid> in data directory.
64. #\*\*\*\*\*\*recovery&related
65. innodb\_fast\_shutdown=1                              #Default 1;Valid Values 0,1,2.means slow shutdown,fast shutdown,flush logs and then abort respectively
66. #innodb\_force\_load\_corrupted                         #Use only during troubleshooting
67. #innodb\_force\_recovery=                              #Only set this variable greater than 0 in an emergency situation
68. innodb\_checksums                              #Default ON;validation all pages read from disk
69. #\*\*\*\*\*\*transaction,lock,concurrency,rollback
70. autocommit=1                                   #default 1;Range 1,0;If 1,all changes take effect immediately.If 0,you must use COMMIT or ROLLBACK.this option affect many other behavior,be cautious.
71. transaction-isolation=REPEATABLE-READ                    #Default REPEATABLE-READ;Valid Values READ-UNCOMMITTED,READ-COMMITTED,REPEATABLE-READ,SERIALIZABLE
72. #transaction\_prealloc\_size=64k                         #Default 4096;Range 1024-18446744073709547520. a per-transaction memory pool for various transaction-related allocations.use it can avoid many malloc() calls.
73. #transaction\_alloc\_block\_size=64k                    #Default 8192;Range 1024-18446744073709547520.when per-transaction memory pool is not enough ,the pool is increased by transaction\_alloc\_block\_size bytes.
74. completion\_type=NO\_CHAIN                         #Default NO\_CHAIN;Valid Values NO\_CHAIN CHAIN RELEASE 0 1 2;Only affects transactions that begin with START TRANSACTION or BEGIN and end with COMMIT or ROLLBACK.
75. innodb\_support\_xa                              #Default TRUE;Enables InnoDB support for two-phase commit in XA transactions
76. innodb\_table\_locks                              #Default TRUE;The default value means LOCK TABLES causes InnoDB to lock a table internally if autocommit = 0.
77. innodb\_lock\_wait\_timeout=120                         #Default 50;Range 1-1073741824;The timeout in seconds an InnoDB transaction waits for a row lock before giving up.
78. #innodb\_locks\_unsafe\_for\_binlog                         #Default OFF;affects how InnoDB uses gap locking for searches and index scans.
79. #innodb\_spin\_wait\_delay=6                         #Default 6;Range 0-4294967295;The maximum delay between polls for a spin lock.
80. #innodb\_sync\_spin\_loops=30                         #Default 30;Range 0-4294967295;The number of times a thread waits for an InnoDB mutex.
81. innodb\_commit\_concurrency=0                         #Default 500;Range 1-4294967295;The number of threads that can commit at the same time.
    * + 1. 限制一次有多少个线程可以同时提交       这个和下面的几个配置是innodb的并发配置
82. innodb\_thread\_concurrency=0                         #Default 0;Range 0-1000;InnoDB tries to keep threads concurrently inside InnoDB less than this limit.
    * + 1. 限制一次性可以有多少个线程进入内核，以前的版本可以限制innodb的并发问题
        2. 还有新的解决方案 **线程池**解决并发问题，pracle的商业插件，fb内部分支的准入控制特殊功能来限制并发
83. #innodb\_concurrency\_tickets=500                         #Default 500;Range 1-4294967295.when innodb\_thread\_concurrency=0,there is no need to set.
    * + 1. 控制票据的数量
84. #innodb\_replication\_delay=0                         #Default 0;Range 0 .. 4294967295;The replication thread delay (in ms) on a slave server if innodb\_thread\_concurrency is reached
85. #innodb\_thread\_sleep\_delay=                         #Default 10000;How long InnoDB threads sleep before joining the InnoDB queue, in microseconds.
86. #innodb\_rollback\_on\_timeout                         #Default OFF;only rolls back the last statement by default. If innodb\_rollback\_on\_timeout is specified, entire transaction
87. #innodb\_rollback\_segments=128                         #Default 128;Range 1-128.reduce this value to a smaller number might performs better for your workload.
88. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*MyISAM\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
89. #\*\*\*\*\*\*feature
90. #myisam\_data\_pointer\_size=                         #Default 6;Range 2 .. 7;The default pointer size,used when no MAX\_ROWS specified.
91. #myisam\_use\_mmap                              #Default OFF;Use memory mapping for reading and writing MyISAM tables.
92. #keep\_files\_on\_create                              #Default OFF;By default,MyISAM overwrites an existing .MYD file if no DATA DIRECTORY option given.
93. myisam-block-size=4096                              #Default 1024;Range 1024 .. 16384 ;The block size to be used for MyISAM index pages.
    * + 1. 索引块大小 要和OS块大小相同，一般为4K?
94. delay\_key\_write=on                              #Default ON;Valid Values ON,OFF,ALL;causes key buffers not flush between writes for MyISAM tables.
    * + 1. 可以**延迟索引的写入**。这样做修改的键缓冲块直到表被关闭才会刷新
        2. **可能的配置如下：OFF ON ALL   P362待补充**
        3. 这都是myisam的io 个人感觉不重要
95. #preload\_buffer\_size                              #Default 32768;Range 1024 .. 1073741824锛汿he size of the buffer that is allocated when preloading indexes.
96. myisam\_stats\_method=nulls\_unequal                    #Valid Values nulls\_equal,nulls\_unequal,nulls\_ignored;How the server treats NULL values when collecting statistics
97. #myisam\_recover\_options=OFF                         #Default OFF; Valid Values OFF DEFAULT BACKUP FORCE QUICK;Set the MyISAM storage engine recovery mode.
    * + 1. 控制myisam怎么尝试从损坏中恢复
           1. 有三种方式 P363 还是myisam的选项个人感觉不重要
98. myisam\_repair\_threads=1                              #Note:it is still beta-quality code.Default 1;Range 1-18446744073709547520;If greater than 1,indexes are created in parallel.
99. #\*\*\*\*\*\*buffer&cache
100. **key\_buffer\_size**=2048M                              #Default 8M;Range 8-4294967295;the size of the buffer used for MyISAM index blocks,shared by all threads.
     * + 1. 设置这个变量可以一次性为键缓冲区(key buffer,也叫key cache)分配所有制定的空间。然而OS不会立即分配而是在真正使用的时候分配。。。。然后HP MySQL上写的就看不懂了。。等下查下别的资料。主要是myisam用的，但是即便没有myisam表也要最起码保留一个32M的空间因为服务器内部可能会使用到或者GROUP BY 来使用MYISAM做临时表。
101. key\_cache\_block\_size=4096                         #Default 1024;Range 512-16384;The size of blocks in the key cache.
102. key\_cache\_age\_threshold=300                         #Default 300;Range 100-18446744073709547520;controls the demotion of buffers from hot sublist to warm sublist.
103. key\_cache\_division\_limit=20                         #Default 100;Range 1 .. 100;The division between hot and warm sublists.
104. **read\_buffer\_size**=1m                              #Default 131072;Range 8200-2147479552;Each thread that does a sequential scan for a MyISAM table allocates a buffer of this size (in bytes) for each table it scans
     * + 1. 只会在有查询需要使用时才会为该缓存分配内存，并且一次性分配
105. read\_rnd\_buffer\_size=2m                              #Default Default 262144;Range 8200-4294967295;When reading rows from a MyISAM table in sorted order following a key-sorting operation, the rows are read through this buffer to avoid disk seeks.
     * + 1. 只会在有查询需要使用时才会为该缓存分配内存，并且只会分配需要的内存而不是指定的全部大小
106. myisam\_sort\_buffer\_size=32m                         #Default 8m;Range 4-18446744073709547520;when sorting MyISAM indexes
107. **table\_cache= <value>**
108. **open\_files\_limit = 65535**
109. **table\_cache\_size**
     * + 1. 应该设置的足够大，可以通过观察open\_tables的值以及在一段时间的变化量来检查该变量，如果变化量很大那么可能不够大
         2. mysql没有一个很有效的方法的检查缓存，有些工作负载是不能缓存的
110. #\*\*\*\*\*\*\*delayed insert
111. #delayed\_queue\_size=                              #Default 1000;Range 1 .. 18446744073709547520;a per-table limit on the number of rows
112. #max\_delayed\_threads=                              #Default 20;Range 0 .. 16384;Do not start more than this number of threads to handle INSERT DELAYED statements.
113. #delayed\_insert\_limit=                              #Default 100;Range 1 .. 18446744073709547520;After inserting delayed\_insert\_limit delayed rows,permits pending SELECT to execute.
114. #delayed\_insert\_timeout=                         #Default 300;seconds wait for INSERT before terminating.
115. #\*\*\*\*\*\*fulltext
116. #ft\_boolean\_syntax=                              #Type string;Default +-><()~\*:""&;The list of operators supported by boolean full-text searches performed using IN BOOLEAN MODE.
117. #ft\_max\_word\_len=                              #Min Value 10;The maximum length of the word in FULLTEXT index.indexes must be rebuilt after changing this variable.
118. #ft\_min\_word\_len=                              #Default 4;Min Value 1;The minimum length of the word in FULLTEXT index.indexes must be rebuilt after changing this variable.
119. #ft\_query\_expansion\_limit=                         #Default 20;Range 0 .. 1000;The number of top matches to use for full-text searches performed using WITH QUERY EXPANSION.
120. #ft\_stopword\_file=file\_name                         #The file from which to read the list of stopwords for full-text searches.
121. #\*\*\*\*\*\*limitation
122. bulk\_insert\_buffer\_size=8m                         #Default 8388608;Range 0-18446744073709547520; limits the size of the cache tree in bytes per thread.
123. myisam\_max\_sort\_file\_size=10G                         #Default 2g;while re-creating a MyISAM index
124. #myisam\_mmap\_size=                              #Default 18446744073709547520;Range 7 .. 18446744073709547520; If many compressed MyISAM tables are used,decrease the value to reduce memory-swapping problems.
125. #\*\*\*\*\*\*lock&concurrency
126. #external-locking                              #Default FALSE;use this option on a system on which lockd does not fully work (such as Linux), it is easy for mysqld to deadlock.
127. skip-external-locking                              #Do not use external locking .This affects only MyISAM table access.
128. concurrent\_insert=AUTO                              #Default AUTO;Valid Values NEVER,AUTO,ALWAYS,0,1,2;control INSERT and SELECT concurrency;
     * + - 1. myisam的并发插入 0 不想允许 1 默认值，没有空洞就允许并发插入 2 新版本有效，强制并发插入到表的尾行。    这是myisam的并发配置
129. #skip-concurrent-insert                              #Turn off the ability to select and insert at the same time on MyISAM tables
130. max\_write\_lock\_count=10000                         #Default 18446744073709547520;Range 1 .. 18446744073709547520;After this many write locks, permit some pending read lock requests to be processed in between.
131. #low\_priority\_updates                              #Default FALSE;Give DML lower priority than selects.
     * + - 1. 设置insert replace delete以及update的优先级比select低
132. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*performance\_schema\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
133. performance\_schema=1                              #Default OFF;whether the Performance Schema is enabled
134. #performance\_schema\_events\_waits\_history\_long\_size=          #The number of rows in the events\_waits\_history\_long table
135. #performance\_schema\_events\_waits\_history\_size=               #The number of rows per thread in the events\_waits\_history table
136. #performance\_schema\_max\_cond\_classes=                    #Default 80;The maximum number of condition instruments
137. #performance\_schema\_max\_cond\_instances=                    #The maximum number of instrumented condition objects
138. #performance\_schema\_max\_file\_classes=                    #Default 50;The maximum number of file instruments
139. #performance\_schema\_max\_file\_handles=                    #Default 32768;The maximum number of opened file objects
140. #performance\_schema\_max\_file\_instances=                    #The maximum number of instrumented file objects
141. #performance\_schema\_max\_mutex\_classes=                    #Default 200;The maximum number of mutex instruments
142. #performance\_schema\_max\_mutex\_instances=               #The maximum number of instrumented mutex objects
143. #performance\_schema\_max\_rwlock\_classes=                    #Default 20;The maximum number of rwlock instruments
144. #performance\_schema\_max\_rwlock\_instances=               #The maximum number of instrumented rwlock objects
145. #performance\_schema\_max\_table\_handles=                    #The maximum number of opened table objects
146. #performance\_schema\_max\_table\_instances=               #The maximum number of instrumented table objects
147. #performance\_schema\_max\_thread\_classes=                    #Default 50;The maximum number of thread instruments
148. #performance\_schema\_max\_thread\_instances=               #The maximum number of instrumented thread objects
149. #\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*federated\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*
150. [mysqldump]
151. quick
152. max\_allowed\_packet = 2G
153. log-error=/apps/logs/mysql/dump.log
154. net\_buffer\_length=8k                              #ensure that the net\_buffer\_length variable in the MySQL server is at least this large.
155. **[client]**
156. no-auto-rehash
157. no-beep
158. default-character-set = utf8
159. prompt="\\U : \\d \\R:\\m:\\s> "
160. #tee="/apps/logs/mysql/audit.log"
161. #pager="less -i -n -S"
162. net\_buffer\_length=64K
163. unbuffered
164. **port = 3306**
165. **socket = /var/lib/mysql/mysql.sock**
166. [myisamchk]
167. key\_buffer = 512M
168. sort\_buffer\_size = 512M
169. read\_buffer = 8M
170. write\_buffer = 8M
171. [mysqlhotcopy]
172. interactive-timeout
173. [mysqld\_safe]
174. open-files-limit = 8192
175. ledir = /apps/svr/mysql5/bin
176. [mysqld\_multi]                       #mysql多实例，很古老的选项(《HP MySQL》 P327)
177. mysqld=/apps/svr/mysql5/bin/mysqld\_safe
178. mysqladmin=/apps/svr/mysql5/bin/mysqladmin
179. user=root
180. log=/apps/logs/mysql/multi.log

还有就是在《HP MySQL》上提到的table\_cache\_size在这个配置文件中没有见到，这个也不是很理解，还要再网上查查