

MySQL

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- [MySQL 备份与恢复](#)
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????

????a) ???

MySQL??

```
# MySQL 5.7????????????????????
select * from mysql.user where length(authentication_string) = 0 or authentication_string is
null;
```

mysql> select * from mysql.user where length(authentication_string)=0 or authentication_string is null;
Empty set (0.03 sec) 查询结果为空，表明不存在

MySQL???? validate_password??

??

```
# ?????????validate_passwordMySQL 5.7????
select * from information_schema.plugins where plugin_name = 'validate_password';
# ?????????validate_passwordMySQL 8.0.2????
select * from mysql.component;
# MySQL????????????????????????????
show variables LIKE 'validate_password%';
```

???????????? validate_passwordMySQL 5.7????

```
mysql> SELECT * FROM information_schema.plugins
-> WHERE plugin_name = 'validate_password';
```

PLUGIN_NAME	PLUGIN_VERSION	PLUGIN_STATUS	PLUGIN_TYPE	PLUGIN_TYPE_VERSION	PLUGIN_LIBRARY	PLUGIN_LIBRARY_VERSION	PLUGIN_AUTHOR	PLUGIN_DESCRIPTION	PLUGIN_LICENSE	LOAD_OPTION
validate_password	1.1	ACTIVE	VALIDATE PASSWORD	1.0	validate_password.so	1.10	Oracle Corporation	check password strength	GPL	ON

???????????? validate_passwordMySQL 8.0.2????

```
mysql> SELECT * FROM mysql.component;
+-----+-----+-----+
| component_id | component_group_id | component_urn |
+-----+-----+-----+
| 1 | 1 | file://component_validate_password |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> SHOW VARIABLES LIKE 'validate_password%';
+-----+-----+
| Variable_name | Value |
+-----+-----+
| validate_password.check_user_name | ON |
| validate_password.dictionary_file | |
| validate_password.length | 8 |
| validate_password.mixed_case_count | 1 |
| validate_password.number_count | 1 |
| validate_password.policy | MEDIUM |
| validate_password.special_char_count | 1 |
+-----+-----+
7 rows in set (0.01 sec)
```

MySQL

MySQL



```
# MySQL
show variables like 'default_password_lifetime';

# MySQL 5.7
select user, host, password_last_changed, password_lifetime from mysql.user;

# MySQL 8.0
select user, host, password_last_changed,
password_lifetime,password_expired,password_reuse_history,password_reuse_time from mysql.user;
```

```
mysql> show variables like 'default_password_lifetime';
+-----+-----+
| Variable_name | Value |
+-----+-----+
| default_password_lifetime | 0 |
+-----+-----+
1 row in set (0.00 sec)
```



MySQL 5.7

```
1 select user, host, password_last_changed, password_lifetime,password_expired from mysql.user;
```

信息	摘要	结果 1	剖析	状态	
	user	host	password_last_changed	password_lifetime	password_expired
	root	localhost	2025-07-30 09:44:01	(Null)	N
	mysql.session	localhost	2023-05-06 16:15:18	(Null)	N
	mysql.sys	localhost	2023-05-06 16:15:18	(Null)	N
			2024-08-20 17:24:30	(Null)	N
			2024-08-20 17:26:54	(Null)	N
	bookstack	localhost	2025-07-30 15:49:33	(Null)	N
➤	bookstack	43.	2025-07-30 16:08:53	(Null)	N
	bookstack		2025-07-30 16:08:53	(Null)	N
	bookstack		2025-07-30 16:08:53	(Null)	N
	bookstack		2025-07-30 16:08:53	(Null)	N

MySQL 8.0

```
1 select user, host, password_last_changed, password_lifetime,password_expired,password_reuse_history,password_reuse_time from mysql.user;
```

信息	摘要	结果 1	剖析	状态			
	user	host	password_last_changed	password_lifetime	password_expired	password_reuse_history	password_reuse_time
▶	demo1	127.0.0.1	2025-07-29 12:06:29	(Null)	N	(Null)	(Null)
	demo2	180.172.238.	2025-07-30 14:48:30	(Null)	N	(Null)	(Null)
	demo1	localhost	2025-07-29 12:06:29	(Null)	N	(Null)	(Null)
	demo2	localhost	2025-07-30 14:48:30	(Null)	N	(Null)	(Null)
	mysql.info	localhost	2025-07-26 20:41:19	(Null)	N	(Null)	(Null)
	mysql.sess	localhost	2025-07-26 20:41:19	(Null)	N	(Null)	(Null)
	mysql.sys	localhost	2025-07-26 20:41:19	(Null)	N	(Null)	(Null)
	root	localhost	2025-07-30 14:46:03	(Null)	N	(Null)	(Null)

????b) ???

MySQL 8.1   MySQL 8.0  MySQL 

```
select host,user,User_attributes from mysql.user;

# interactive_timeout

show variables like '%timeout';
```

```
1 select host,user,User_attributes from mysql.user;
```

信息 摘要 结果 1 剖析 状态

host	user	User_attributes
%	secure_user	{"Password_locking": {"failed_login_attempts": 5, "password_lock_time_days": 1}}
127.0.0.1	demo1	(Null)
180.172.238.55	demo2	(Null)
localhost	demo1	(Null)
localhost	demo2	(Null)
localhost	mysql.infoschema	(Null)
localhost	mysql.session	(Null)
localhost	mysql.sys	(Null)
localhost	root	(Null)

```
mysql> show variables like '%timeout';
```

Variable_name	Value
connect_timeout	10
delayed_insert_timeout	300
have_statement_timeout	YES
innodb_flush_log_at_timeout	1
innodb_lock_wait_timeout	50
innodb_rollback_on_timeout	OFF
interactive_timeout	28800
lock_wait_timeout	31536000
mysqlx_connect_timeout	30
mysqlx_idle_worker_thread_timeout	60
mysqlx_interactive_timeout	28800
mysqlx_port_open_timeout	0
mysqlx_read_timeout	30
mysqlx_wait_timeout	28800
mysqlx_write_timeout	60
net_read_timeout	30
net_write_timeout	60
rpl_stop_slave_timeout	31536000
slave_net_timeout	60
wait_timeout	28800

```
20 rows in set (0.00 sec)
```

????c) ?????????????????????????????????



```
# ?????root????TLS
select user, host, ssl_type from mysql.user where user = 'root';
# ?????TLS
show variables like 'require_secure_transport';
# MySQL????TLS
show variables like 'have_ssl';
# MySQLTLS
show global variables like 'ssl_cipher';
show global variables like 'ssl_ca';
show global variables like 'ssl_cert';
show global variables like 'ssl_key';
# ?????????TLS
show session status like 'ssl_cipher';
show session status LIKE 'Ssl_cipher_list';
show session status like 'ssl_version';
# MySQL????TLS
show variables like 'tls_version';
```

```
mysql> # 查看指定用户名（如root）是否强制使用TLS传输
mysql> select user, host, ssl_type from mysql.user where user = 'root';
+-----+-----+-----+
| user | host      | ssl_type |
+-----+-----+-----+
| root | localhost |          |
+-----+-----+-----+
1 row in set (0.00 sec)

mysql> # 查看是否全局开启强制TLS传输
mysql> show variables like 'require_secure_transport';

show variables like 'have_ssl';
# 查看MySQL当前支持的TLS版本
show variables like 'ssl_cipher';
show variables like 'tls_version';
# 查看MySQL当前TLS相关配置信息
show global variables like 'ssl_cipher';
show global variables like 'require_secure_transport';
+-----+-----+-----+
| Variable_name | Value |
+-----+-----+-----+
| require_secure_transport | ON |
+-----+-----+-----+
1 row in set (0.01 sec)

mysql> # 查看MySQL是否已开启TLS传输
mysql> show variables like 'have_ssl';
+-----+-----+
| Variable_name | Value |
+-----+-----+
| have_ssl      | YES   |
+-----+-----+
1 row in set (0.00 sec)
```


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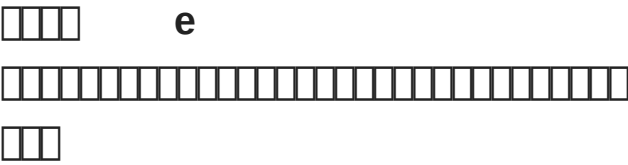
--	--	--	--

[illegible]

```
select Host,Db,User,Insert_priv,Delete_priv,Alter_priv,Drop_priv,Grant_priv from mysql.db;
```

Host	Db	User	Insert_priv	Delete_priv	Alter_priv	Drop_priv	Grant_priv
127.0.0.1	demo1	demo1	Y	Y	Y	Y	N
localhost	demo1	demo1	Y	Y	Y	Y	N
localhost	demo2	demo2	Y	Y	Y	Y	N
localhost	performance_schema	mysql.session	N	N	N	N	N
localhost	sys	mysql.sys	N	N	N	N	N

安全管理



information_schema.user_privileges

mysql.role_edges

role_edges

root

```
-- show grants for 'root'@'root';  
SELECT * FROM `role_edges`;  
SELECT * FROM `USER_PRIVILEGES`;
```

FROM_HOST	FROM_USER	TO_HOST	TO_USER	WITH_ADMIN_OPTION
▶ (N/A)	(N/A)	(N/A)	(N/A)	(N/A)
GRANTEE	TABLE_CATALOG	PRIVILEGE_TYPE	IS_GRANTABLE	
'root'@'localhost'	def	CREATE VIEW	YES	
'root'@'localhost'	def	SHOW VIEW	YES	
'root'@'localhost'	def	CREATE ROUTINE	YES	
'root'@'localhost'	def	ALTER ROUTINE	YES	
'root'@'localhost'	def	CREATE USER	YES	
'root'@'localhost'	def	EVENT	YES	
'root'@'localhost'	def	TRIGGER	YES	
'root'@'localhost'	def	CREATE TABLESPACE	YES	
'root'@'localhost'	def	CREATE ROLE	YES	
'root'@'localhost'	def	DROP ROLE	YES	
'root'@'localhost'	def	XA_RECOVER_ADMIN	YES	
'root'@'localhost'	def	TABLE_ENCRYPTION_AD	YES	
'root'@'localhost'	def	SYSTEM_VARIABLES_AD	YES	
'root'@'localhost'	def	SYSTEM_USER	YES	
'root'@'localhost'	def	SHOW_ROUTINE	YES	
'root'@'localhost'	def	SET_USER_ID	YES	
'root'@'localhost'	def	SESSION_VARIABLES_AD	YES	
'root'@'localhost'	def	SERVICE_CONNECTION_	YES	
'root'@'localhost'	def	ROLE_ADMIN	YES	
'root'@'localhost'	def	RESOURCE_GROUP_USE	YES	
'root'@'localhost'	def	RESOURCE_GROUP_ADM	YES	
'root'@'localhost'	def	REPLICATION_SLAVE_AD	YES	
'root'@'localhost'	def	REPLICATION_APPLIER	YES	
'root'@'localhost'	def	PERSIST_RO_VARIABLES	YES	
'root'@'localhost'	def	INNODB_REDO_LOG_EN	YES	
'root'@'localhost'	def	INNODB_REDO_LOG_AR	YES	
'root'@'localhost'	def	GROUP_REPLICATION_A	YES	
'root'@'localhost'	def	FLUSH_USER_RESOURCE	YES	
'root'@'localhost'	def	FLUSH_TABLES	YES	
'root'@'localhost'	def	FLUSH_STATUS	YES	
'root'@'localhost'	def	FLUSH_OPTIMIZER_COS	YES	
'root'@'localhost'	def	ENCRYPTION_KEY_ADMI	YES	
'root'@'localhost'	def	CONNECTION_ADMIN	YES	
'root'@'localhost'	def	CLONE_ADMIN	YES	
'root'@'localhost'	def	BINLOG_ENCRYPTION_A	YES	
'root'@'localhost'	def	BINLOG_ADMIN	YES	
'root'@'localhost'	def	BACKUP_ADMIN	YES	
'root'@'localhost'	def	AUDIT_ADMIN	YES	
'root'@'localhost'	def	APPLICATION_PASSWOI	YES	
▶ 'secure_user'@'%'	def	USAGE	NO	

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[illegible]

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g

[illegible]

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MySQL

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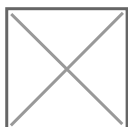
[illegible]

general_log MySQL

--	--	--	--

```
show variables like 'log%';
```

--	--	--	--



 b)

[illegible]

--	--	--	--

```
1 mysql>show variables like 'log_%'
```

2 MySQL

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1

① show variables like 'log %';

log_bin_basename	
log_bin_index	
log_bin_trust_function_creators	OFF
log_bin_use_vl_row_events	OFF
log_builtin_as_identified_by_password	OFF
log_error	/var/log/mysqld.log
log_error_verbosity	3
log_output	FILE
log_queries_not_using_indexes	OFF
log_slave_updates	OFF
log_slow_admin_statements	OFF
log_slow_slave_statements	OFF
log_statements_unsafe_for_binlog	ON
log_syslog	OFF
log_syslog_facility	daemon
log_syslog_include_pid	ON
log_syslog_tag	
log_throttle_queries_not_using_indexes	0
log_timestamps	UTC
log_warnings	2

+-----+-----+

21 rows in set (0.01 sec)

② show global variables like '%general%';

mysql> show global variables like '%general%';

```

+-----+-----+
| Variable_name | Value |
+-----+-----+
| log_bin       | 1     |
+-----+-----+

```

mysql> show global variables like '%general%';

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

mysql> show global variables like '%general%';

```

+-----+-----+
| Variable_name | Value |
+-----+-----+

```

```
set global expire_logs_days = 180;
```

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□ 1

mysql> set global log_bin= off';
ERROR 1238 (HY000): Variable 'log_bin' is a read only variable
mysql> █

无法中断

□ 2

????

 a) 

1

--	--	--	--	--

```
show plugins;
```

```
mysql> show plugins;
```

Name	Status	Type	Library	License
binlog	ACTIVE	STORAGE ENGINE	NULL	GPL
mysql_native_password	ACTIVE	AUTHENTICATION	NULL	GPL
sha256_password	ACTIVE	AUTHENTICATION	NULL	GPL
CSV	ACTIVE	STORAGE ENGINE	NULL	GPL
MEMORY	ACTIVE	STORAGE ENGINE	NULL	GPL
InnoDB	ACTIVE	STORAGE ENGINE	NULL	GPL
INNODB_TRX	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_LOCKS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_LOCK_WAITS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_CMP	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_CMP_RESET	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_CMPMEM	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_CMPMEM_RESET	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_CMP_PER_INDEX	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_CMP_PER_INDEX_RESET	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_BUFFER_PAGE	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_BUFFER_PAGE_LRU	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_BUFFER_POOL_STATS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_TEMP_TABLE_INFO	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_METRICS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_FT_DEFAULT_STOPWORD	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_FT_DELETED	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_FT_BEING_DELETED	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_FT_CONFIG	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_FT_INDEX_CACHE	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_FT_INDEX_TABLE	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_TABLES	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_TABLESTATS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_INDEXES	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_COLUMNS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_FIELDS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_FOREIGN	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_FOREIGN_COLS	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_TABLESPACES	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_DATAFILES	ACTIVE	INFORMATION SCHEMA	NULL	GPL
INNODB_SYS_VIRTUAL	ACTIVE	INFORMATION SCHEMA	NULL	GPL
MyISAM	ACTIVE	STORAGE ENGINE	NULL	GPL
MRG_MYISAM	ACTIVE	STORAGE ENGINE	NULL	GPL
PERFORMANCE_SCHEMA	ACTIVE	STORAGE ENGINE	NULL	GPL
ARCHIVE	ACTIVE	STORAGE ENGINE	NULL	GPL
BLACKHOLE	ACTIVE	STORAGE ENGINE	NULL	GPL
FEDERATED	DISABLED	STORAGE ENGINE	NULL	GPL
partition	ACTIVE	STORAGE ENGINE	NULL	GPL
ngram	ACTIVE	FTPARSER	NULL	GPL

b)

1 “show grants for root@localhost” IP IP

user Host IP IP “ %” user
 Host host

&####

□ 1□ ##### IP#####

```
mysql> show grants for root@localhost;
```

```
+-----+
| Grants for root@localhost |
+-----+
| GRANT ALL PRIVILEGES ON *.* TO 'root'@'localhost' WITH GRANT OPTION |
| GRANT PROXY ON ''@' TO 'root'@'localhost' WITH GRANT OPTION |
+-----+
2 rows in set (0.00 sec)
```

c) □

####

□ 1□ □ MySQL##### show variables where variable_name
like "version"#####

□ 2□

□

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□ 1□ MySQL#####

```
mysql> show variables like 'version';
```

```
+-----+-----+
| Variable_name | Value |
+-----+-----+
| version      | 5.7.44 |
+-----+-----+
1 row in set (0.01 sec)
```

□ 2□ MySQL#####

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MySQL

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c

TLS

```
# root TLS
select user, host, ssl_type from mysql.user where user = 'root';

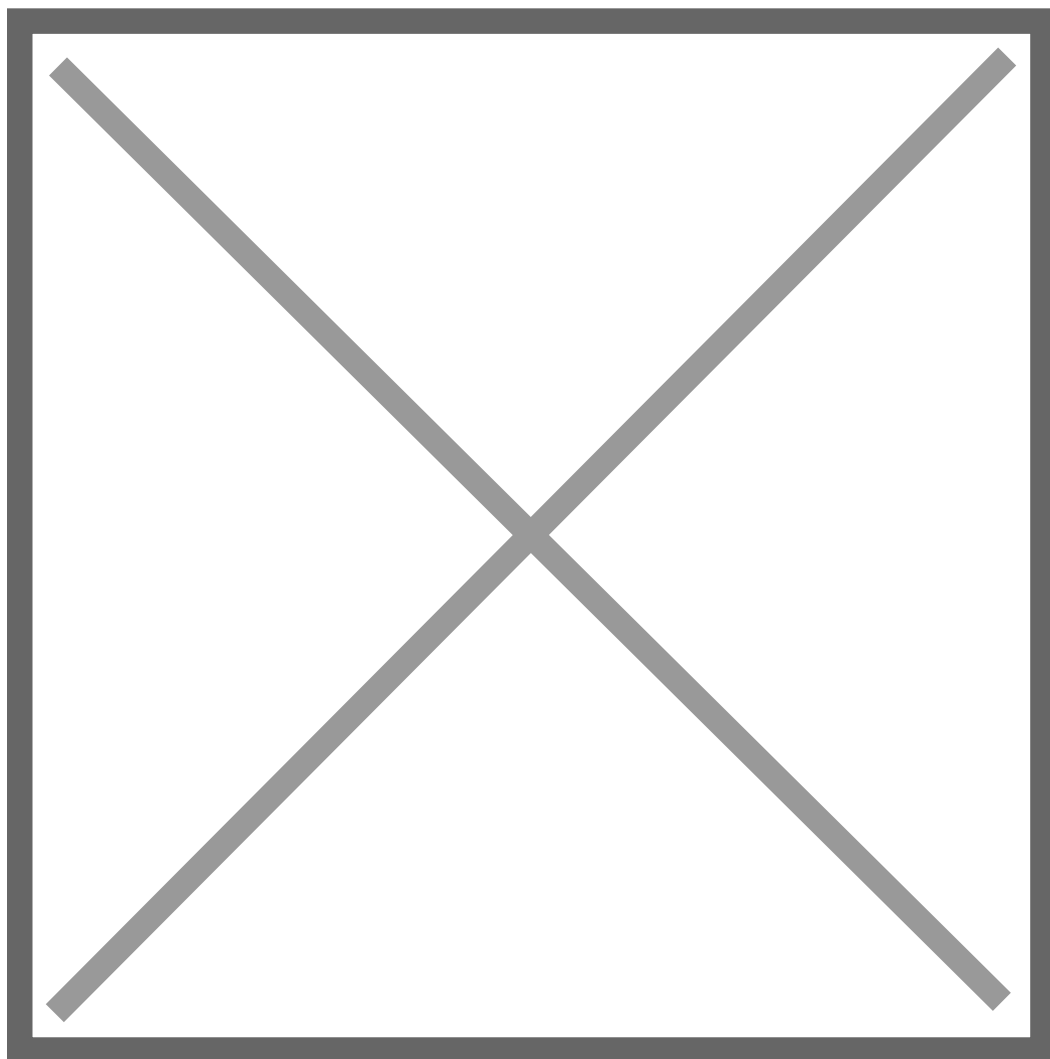
# TLS
show variables like 'require_secure_transport';

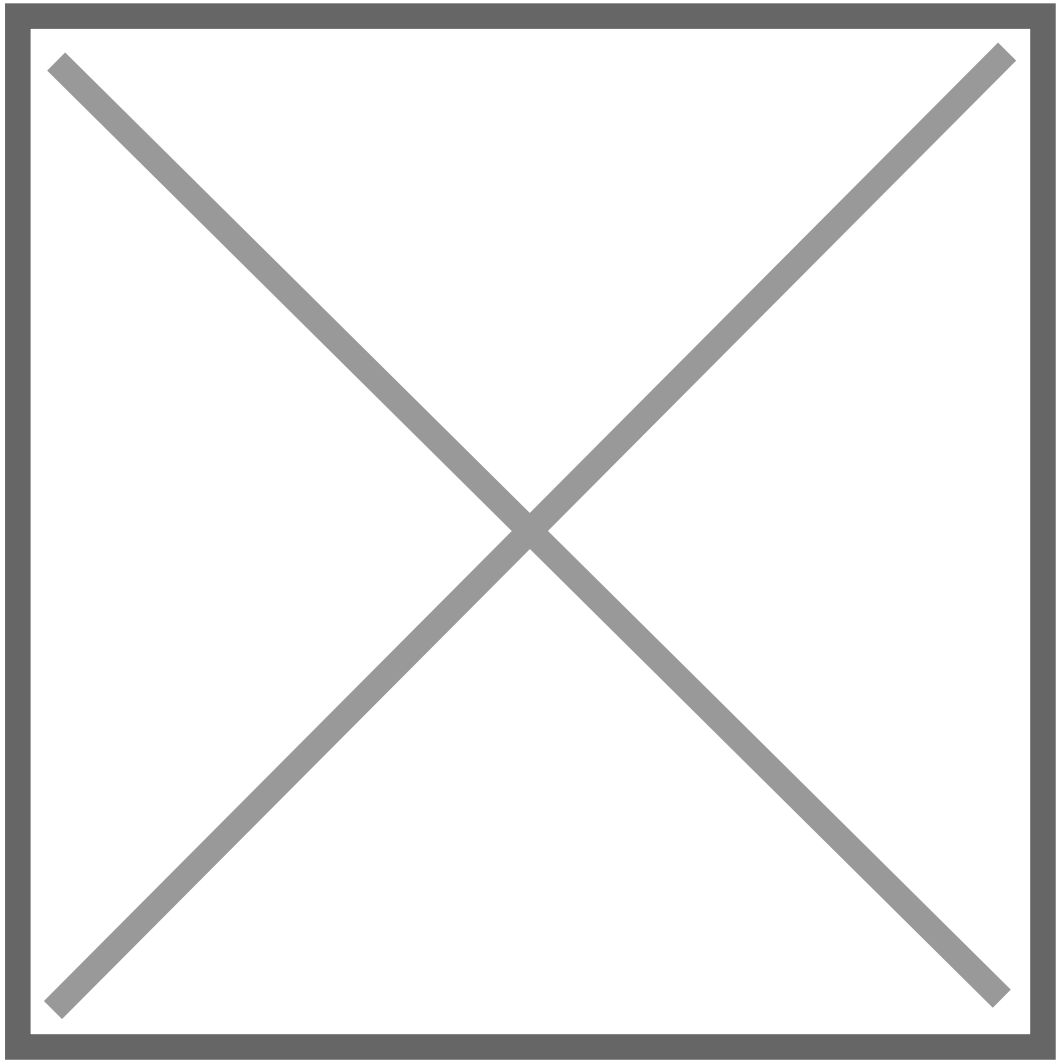
# MySQL TLS
show variables like 'have_ssl';

# MySQL TLS
show global variables like 'ssl_cipher';
show global variables like 'ssl_ca';
show global variables like 'ssl_cert';
show global variables like 'ssl_key';

# TLS
show session status like 'ssl_cipher';
show session status LIKE 'Ssl_cipher_list';
show session status like 'ssl_version';

# MySQL TLS
show variables like 'tls_version';
```





????b
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????????????????????????
????b??

MySQL 5.6 □ MySQL 5.7 □ MySQL 8.0.0 ~8.0.33 □ MySQL□□□
mysql_native_password □□□□□□□□□□ SHA1□□

MySQL 5.6 ~ MySQL 8.0.3 □□ sha256_password □ MySQL 8.0.4 □□□□
caching_sha2_password □□ RSA□□□□□□□□□□□□ SHA256
□□□□□□□□□□□□□□□□□□□□

The SHA-2 family consists of six hash functions with digests (hash values) that are 224, 256, 384 or 512 bits: SHA-224, SHA-256, SHA-384, SHA-512, SHA-512/224, SHA-512/256.

🔗 <https://security.stackexchange.com/questions/87154/what-is-the-relationship-between-sha-2-and-sha-256>

📄 SHA2📄 SHA224📄 SHA256📄 SHA384📄 SHA512📄

```
-- 👤@👤👤👤👤👤👤👤👤
select user, host, plugin, authentication_string from mysql.user;
-- 👤👤👤👤👤 caching_sha2_password📄
show variables like 'caching_sha2_password_private_key_path';
-- 👤👤👤👤👤 caching_sha2_password📄
show variables like 'caching_sha2_password_public_key_path';
-- 👤👤👤👤👤👤👤👤
show status like 'caching_sha2_password_rsa_public_key';
-- 👤👤👤👤👤 sha256_password📄
SHOW VARIABLES LIKE 'sha256_password_public_key_path';
-- 👤👤👤👤👤 sha256_password📄
SHOW VARIABLES LIKE 'sha256_password_private_key_path';
-- 👤👤👤👤👤👤👤👤
show status like 'rsa_public_key';
```



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??????mysql?

MySQL 5.6 ~ MySQL 8.4 ???????

```
-- 验证validate_passwordMySQL 5.7
select * from information_schema.plugins where plugin_name = 'validate_password';
-- MySQL
show variables LIKE 'validate_password%';
-- MySQL
show variables like 'default_password_lifetime';
-- MySQL 5.7
select user, host, password_last_changed, password_lifetime from mysql.user;
-- 交互超时
show variables like '%timeout';
-- rootTLS
select user, host, ssl_type from mysql.user where user = 'root';
-- TLS
show variables like 'require_secure_transport';
-- MySQLTLS
show variables like 'have_ssl';
-- MySQLTLS
show global variables like 'ssl_cipher';
-- TLS
show session status like 'ssl_cipher';
show session status LIKE 'Ssl_cipher_list';
show session status like 'ssl_version';
-- MySQLTLS
show variables like 'tls_version';
--
select
Host,Account_locked,User,Insert_priv,Delete_priv,Alter_priv,Drop_priv,Grant_priv,Super_priv
from mysql.user;
--
SELECT * FROM `role_edges`;
SELECT * FROM `USER_PRIVILEGES`;
--
show variables like 'log%';
--
```

```
-- root@localhost
select user, host, plugin, authentication_string from mysql.user;

-- root@localhost
SHOW VARIABLES LIKE 'sha256_password_public_key_path';

-- root@localhost
SHOW VARIABLES LIKE 'sha256_password_private_key_path';

-- root@localhost
show status like 'rsa_public_key';
```

MySQL 8.0 ~MySQL 8.4????

```
-- MySQL 5.7root@localhost
select * from mysql.user where length(authentication_string) = 0 or authentication_string is null;

-- root@localhost
select * from mysql.component;

-- root@localhost
select user, host, password_last_changed,
password_lifetime,password_expired,password_reuse_history,password_reuse_time from mysql.user;

-- root@localhost
select host,user,User_attributes from mysql.user;

-- root@localhost
show variables like 'caching_sha2_password_private_key_path';

-- root@localhost
show variables like 'caching_sha2_password_public_key_path';

-- root@localhost
show status like 'caching_sha2_password_rsa_public_key';
```

MySQL 9.0 ~MySQL 9.5????

```
-- ===== 1. root@localhost =====
-- 1.1 root@localhost
-- root@localhost
SELECT * FROM mysql.component
WHERE component_urn = 'file://component_validate_password';

-- root@localhost
-- INSTALL COMPONENT 'file://component_validate_password';

-- 1.2 root@localhost
SHOW VARIABLES LIKE 'validate_password.%';

-- root@localhost
```

```
-- validate_password.length          - 密码长度至少8位
-- validate_password.policy          - 密码策略LOW/MEDIUM/STRONG
-- validate_password.mixed_case_count - 密码大小写字母个数
-- validate_password.number_count    - 密码数字个数
-- validate_password.special_char_count - 密码特殊字符个数
-- validate_password.dictionary_file - 密码字典文件
```

```
-- 1.3 查看MySQL密码策略
```

```
SHOW VARIABLES LIKE 'default_password_lifetime';
```

```
-- 密码策略0表示密码永不过期90表示
```

```
-- 1.4 查看用户密码策略
```

```
SELECT user, host,
       password_last_changed AS '密码最后修改时间',
       password_lifetime AS '密码有效期(天)',
       CASE
           WHEN password_lifetime IS NULL THEN '密码永不过期'
           WHEN password_lifetime = 0 THEN '密码永不过期'
           ELSE CONCAT(password_lifetime, '天')
       END AS '密码有效期'
FROM mysql.user
ORDER BY user, host;
```

```
-- ===== 2. 查看MySQL超时设置 =====
```

```
-- 2.1 查看MySQL超时设置
```

```
SHOW VARIABLES LIKE '%timeout';
```

```
-- 查看
```

```
-- interactive_timeout - 交互式超时时间28800秒/8小时
-- wait_timeout        - 连接超时时间
-- connect_timeout     - 连接超时时间
```

```
-- ===== 3. TLS/SSL 设置 =====
```

```
-- 3.1 查看MySQL root用户是否支持TLS
```

```
SELECT user, host, ssl_type,
       CASE ssl_type
           WHEN '' THEN '不支持TLS'
           WHEN 'ANY' THEN '支持TLS'
           WHEN 'X509' THEN '支持X509'
           WHEN 'SPECIFIED' THEN '指定证书'
       END AS 'TLS支持情况'
```

```
FROM mysql.user
WHERE user = 'root';
```

```
-- 3.2 检查MySQL的SSL支持
```

```
SELECT user, host, ssl_type
FROM mysql.user
WHERE ssl_type != ''
ORDER BY user, host;
```

```
-- 3.3 检查MySQL的SSL支持
```

```
SHOW VARIABLES LIKE 'require_secure_transport';
```

```
-- 检查ON和OFF
```

```
-- 3.4 检查MySQL的SSL支持
```

```
SHOW VARIABLES LIKE 'have_ssl';
```

```
-- 检查YES和DISABLED
```

```
-- 3.5 检查MySQL的SSL支持
```

```
SHOW GLOBAL VARIABLES LIKE 'ssl_%';
```

```
-- 检查
```

```
-- ssl_ca - CA证书
```

```
-- ssl_cert - 证书
```

```
-- ssl_key - 私钥
```

```
-- ssl_cipher - 加密算法
```

```
-- 3.6 检查MySQL的SSL支持
```

```
SHOW SESSION STATUS LIKE 'ssl_cipher';
```

```
SHOW SESSION STATUS LIKE 'Ssl_cipher_list';
```

```
SHOW SESSION STATUS LIKE 'ssl_version';
```

```
-- 检查ssl_cipher和SSL支持
```

```
-- 3.7 检查MySQL的SSL支持
```

```
SHOW VARIABLES LIKE 'tls_version';
```

```
-- 检查TLSv1.2, TLSv1.3和TLSv1/TLSv1.1
```

```
-- ===== 4. 检查MySQL的权限 =====
```

```
-- 4.1 检查MySQL 9.0 的权限
```

```
SELECT Host, User, Account_locked AS '是否锁定',
       Insert_priv AS '插入',
       Delete_priv AS '删除',
```

```

        Alter_priv AS 'Y',
        Drop_priv AS 'Y',
        Grant_priv AS 'Y',
        Super_priv AS 'Y',
        Create_role_priv AS 'Y',
        Drop_role_priv AS 'Y'
FROM mysql.user
ORDER BY User, Host;

-- Super_priv MySQL 8.0+
-- 4.2
SELECT FROM_HOST AS 'From Host',
       FROM_USER AS 'From User',
       TO_HOST AS 'To Host',
       TO_USER AS 'To User',
       WITH_ADMIN_OPTION AS 'With Admin Option'
FROM mysql.role_edges
ORDER BY FROM_USER, TO_USER;

-- 4.3
SELECT GRANTEE AS 'Grantee',
       PRIVILEGE_TYPE AS 'Privilege Type',
       IS_GRANTABLE AS 'Is Grantable'
FROM information_schema.USER_PRIVILEGES
ORDER BY GRANTEE, PRIVILEGE_TYPE;

-- 4.4
SELECT Host, User, Db AS 'Database',
       Select_priv, Insert_priv, Update_priv, Delete_priv,
       Create_priv, Drop_priv, Grant_priv
FROM mysql.db
ORDER BY Db, User;

-- ===== 5. =====

-- 5.1
SHOW VARIABLES LIKE 'log%';

--
-- log_error -

```

```

-- general_log          - 開啟一般查詢日誌
-- slow_query_log       - 開啟慢查詢日誌
-- log_bin              - 開啟二進位日誌
-- log_bin_trust_function_creators - 信任函數創建者

-- 5.2 查詢所有插件
SELECT PLUGIN_NAME, PLUGIN_STATUS, PLUGIN_TYPE, PLUGIN_LIBRARY
FROM information_schema.PLUGINS
WHERE PLUGIN_NAME LIKE '%audit%';

-- ===== 6. 查詢用戶 =====
-- 6.1 查詢用戶認證方式
SELECT user, host,
       plugin AS '認證方式',
       CASE plugin
         WHEN 'mysql_native_password' THEN 'MySQL 5.7 認證方式'
         WHEN 'caching_sha2_password' THEN 'MySQL 8.0+ 認證方式'
         WHEN 'sha256_password' THEN 'SHA256認證方式'
         WHEN 'auth_socket' THEN 'Socket認證方式'
         ELSE plugin
       END AS '認證方式',
       CHAR_LENGTH(authentication_string) AS '認證字符串'
FROM mysql.user
ORDER BY user, host;

-- 查詢MySQL 9.0 認證方式 caching_sha2_password

-- 6.2 查詢 sha256_password 認證方式
SHOW VARIABLES LIKE 'sha256_password_public_key_path';

-- 6.3 查詢 sha256_password 認證方式
SHOW VARIABLES LIKE 'sha256_password_private_key_path';

-- 6.4 查詢 RSA 認證方式
SHOW STATUS LIKE 'rsa_public_key';

-- ===== 7. 查詢MySQL 8.0+/9.0 認證方式 =====
-- 7.1 查詢MySQL 8.0+ 認證方式
SELECT component_id, component_group_id, component_urn
FROM mysql.component

```



```
ORDER BY component_id;
```

```
-- 7.2 查看 SHOW COMPONENTS 查看MySQL 8.0.17+
```

```
SELECT component_id AS '组件ID',  
       component_group_id AS '组件组ID',  
       component_urn AS '组件URN'
```

```
FROM mysql.component
```

```
ORDER BY component_id;
```

```
-- 7.3 查看插件
```

```
SELECT PLUGIN_NAME, PLUGIN_VERSION, PLUGIN_STATUS, PLUGIN_TYPE, PLUGIN_LIBRARY  
FROM information_schema.PLUGINS  
WHERE PLUGIN_STATUS = 'ACTIVE'  
ORDER BY PLUGIN_TYPE, PLUGIN_NAME;
```

```
-- ===== 8. 查看MySQL 8.0+/9.0 用户 =====
```

```
-- 8.1 查看Super_priv
```

```
SELECT USER AS '用户', HOST AS '主机', PRIV AS '权限'  
FROM mysql.global_grants  
ORDER BY USER, HOST, PRIV;
```

```
-- 查看角色
```

```
-- ROLE_ADMIN           - 角色  
-- BINLOG_ADMIN         - 二进制日志  
-- CONNECTION_ADMIN     - 连接  
-- REPLICATION_SLAVE_ADMIN - 复制从  
-- SYSTEM_VARIABLES_ADMIN - 系统变量  
-- BACKUP_ADMIN          - 备份
```

```
-- ===== 9. 查看系统变量 =====
```

```
SHOW VARIABLES WHERE Variable_name IN (  
    'local_infile',           -- 本地文件  
    'secure_file_priv',       -- 安全文件  
    'skip_name_resolve',      -- 跳过DNS  
    'sql_mode',               -- SQL模式  
    'max_connect_errors',     -- 最大连接错误  
    'max_connections',        -- 最大连接  
    'max_user_connections'
```

```
);
```

```
-- ===== 10. 权限测试 =====
```

```
-- 10.1 测试普通用户权限
```

```
SELECT user, host, '!!!测试!!!' AS '测试'
```

```
FROM mysql.user
```

```
WHERE authentication_string = '' OR authentication_string IS NULL;
```

```
-- 10.2 测试root用户权限
```

```
SELECT user, host, '测试测试' AS '测试'
```

```
FROM mysql.user
```

```
WHERE host = '%'
```

```
ORDER BY user;
```

```
-- =====
```

```
-- 测试
```

```
-- =====
```

```
SELECT '
```

```
=====
```

```
MySQL 9.0 测试
```

```
测试
```

```
1. 配置 caching_sha2_password 插件
```

```
2. 密码长度 >= 8 个字符
```

```
3. 密码复杂度 90-180天
```

```
4. 配置 TLS/SSL 证书
```

```
5. 配置安全策略
```

```
6. 配置审计日志
```

```
7. 配置备份策略
```

```
8. 配置 local_infile 和 secure_file_priv
```

```
9. 配置慢查询日志
```

```
10. MySQL 9.0 测试 Super_priv
```

```
=====
```

```
' AS '测试';
```