主机管理系统作业：

开发一个由数据库管理的主机管理系统，主机分组，分用户权限

1.数据库结构

MariaDB [mydb]> show tables;

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

| Tables\_in\_mydb |

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

| audit\_log |

| host |

| host2hostuser |

| host\_user |

| user\_profile |

| userprofile\_2\_hostuser |

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

**6 rows in set (0.00 sec)**

MariaDB [mydb]> describe audit\_log;

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

| Field | Type | Null | Key | Default | Extra |

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

| id | int(11) | NO | PRI | NULL | auto\_increment |

| userprofile\_id | int(11) | YES | MUL | NULL | |

| hostuser\_id | int(11) | YES | MUL | NULL | |

| host\_id | int(11) | YES | MUL | NULL | |

| cmd | varchar(255) | YES | | NULL | |

| date | datetime | YES | | NULL | |

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

**6 rows in set (0.01 sec)**

MariaDB [mydb]> describe host;

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

| Field | Type | Null | Key | Default | Extra |

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

| id | int(11) | NO | PRI | NULL | auto\_increment |

| hostname | varchar(64) | NO | UNI | NULL | |

| ip\_addr | varchar(128) | NO | UNI | NULL | |

| port | int(11) | YES | | NULL | |

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

**4 rows in set (0.00 sec)**

MariaDB [mydb]> describe host2hostuser;

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

| Field | Type | Null | Key | Default | Extra |

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

| id | int(11) | NO | PRI | NULL | auto\_increment |

| host\_id | int(11) | NO | MUL | NULL | |

| hostuser\_id | int(11) | NO | MUL | NULL | |

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

**3 rows in set (0.00 sec)**

MariaDB [mydb]> describe host\_user;

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

| Field | Type | Null | Key | Default | Extra |

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

| id | int(11) | NO | PRI | NULL | auto\_increment |

| username | varchar(64) | NO | | NULL | |

| password | varchar(255) | YES | | NULL | |

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

**3 rows in set (0.00 sec)**

MariaDB [mydb]> describe user\_profile;

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

| Field | Type | Null | Key | Default | Extra |

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

| id | int(11) | NO | PRI | NULL | auto\_increment |

| username | varchar(64) | NO | UNI | NULL | |

| password | varchar(255) | NO | | NULL | |

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

**3 rows in set (0.01 sec)**

MariaDB [mydb]> describe userprofile\_2\_hostuser;

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

| Field | Type | Null | Key | Default | Extra |

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

| id | int(11) | NO | PRI | NULL | auto\_increment |

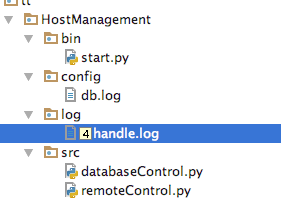
| userprofile\_id | int(11) | NO | MUL | NULL | |

| hostuser\_id | int(11) | NO | MUL | NULL | |

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

**3 rows in set (0.00 sec)**

2. 代码结构

.

bin：入口文件处

config：数据库配置文件处

log：日志文件处（日志同步写入数据库保存）

src: databaseControl主要是数据库相关的操作；remoteControl主要是通过paramiko对远程主机的ssh操作

操作示范：

1. 用户主机操作

2. 管理员操作

3. 退出

请输入选项2

1.添加主机

2.添加主机账户

3.绑定主机和主机账户

4.添加堡垒机用户

5.绑定堡垒机用户和主机账户

6.查看日志

7.退出

请输入选项7

1. 用户主机操作

2. 管理员操作

3. 退出

请输入选项1

Name: yli

Pwd: yli

(1, {'pwd': 'Got22015', 'hostuserid': 1, 'userprofileid': 1, 'hostid': 1, 'username': 'root', 'host': '10.2.1.107', 'hostname': 'sydnagios'})

(2, {'pwd': 'Got24015', 'hostuserid': 1, 'userprofileid': 1, 'hostid': 6, 'username': 'root', 'host': '10.1.1.100', 'hostname': 'testserver'})

(3, {'pwd': 'Got22015', 'hostuserid': 2, 'userprofileid': 1, 'hostid': 1, 'username': 'yli', 'host': '10.2.1.107', 'hostname': 'sydnagios'})

(4, {'pwd': 'D02e55', 'hostuserid': 3, 'userprofileid': 1, 'hostid': 3, 'username': 'administrator', 'host': '10.2.2.39', 'hostname': 'jwood-ise'})

(5, {'pwd': 'D0ue55', 'hostuserid': 3, 'userprofileid': 1, 'hostid': 4, 'username': 'administrator', 'host': '10.2.2.138', 'hostname': 'jip-ise'})

(6, {'pwd': 'D0nue55', 'hostuserid': 3, 'userprofileid': 1, 'hostid': 5, 'username': 'administrator', 'host': '10.2.2.46', 'hostname': 'cdaley-ise'})

(7, {'pwd': 1122, 'hostuserid': 4, 'userprofileid': 1, 'hostid': 2, 'username': 'administrator', 'host': '10.2.1.247', 'hostname': 'sydapp01'})

输入序号：1

10.2.1.107 root Goat2015

Line-buffered terminal emulation. Press F6 or ^Z to send EOF.

[root@sydnagios ~]# ls

ls

aa jkdjsf redis-3.0.6.tar.gz test.py

anaconda-ks.cfg passwd s7-s2.py

index.html perl5 Site24x7\_Linux\_64bit.install

initial-setup-ks.cfg redis-3.0.6 Site24x7\_Linux\_64bit.install.1

[root@sydnagios ~]# df -hT

df -hT

Filesystem Type Size Used Avail Use% Mounted on

/dev/mapper/centos-root xfs 28G 6.5G 22G 24% /

devtmpfs devtmpfs 988M 0 988M 0% /dev

tmpfs tmpfs 998M 80K 998M 1% /dev/shm

tmpfs tmpfs 998M 113M 885M 12% /run

tmpfs tmpfs 998M 0 998M 0% /sys/fs/cgroup

/dev/sda1 xfs 497M 169M 329M 34% /boot

tmpfs tmpfs 200M 12K 200M 1% /run/user/42

tmpfs tmpfs 200M 0 200M 0% /run/user/0

[root@sydnagios ~]# exit

exit

logout

1. 用户主机操作

2. 管理员操作

3. 退出

请输入选项2

1.添加主机

2.添加主机账户

3.绑定主机和主机账户

4.添加堡垒机用户

5.绑定堡垒机用户和主机账户

6.查看日志

7.退出

请输入选项6

…

时间2016-12-01 09:08:55 堡垒机用户id:1 主机用户id:1 主机id:1 命令:df -hT

时间2016-12-01 09:08:58 堡垒机用户id:1 主机用户id:1 主机id:1 命令:exit