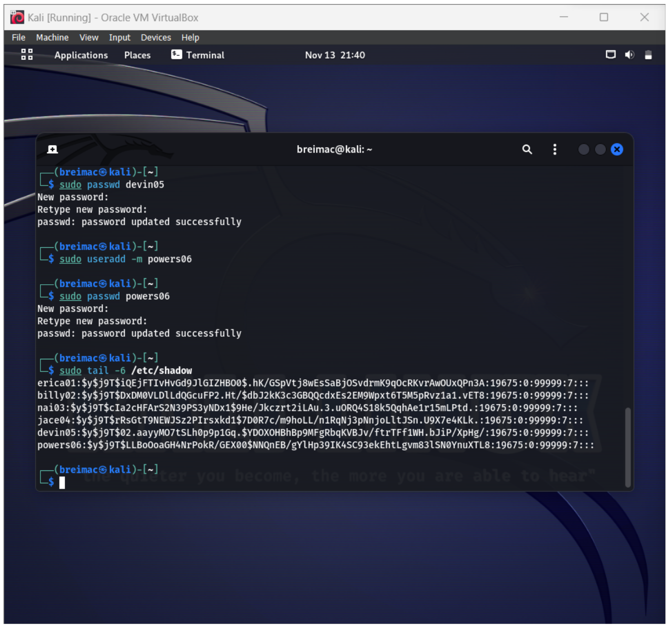
Assignment: Lab 3 – Password cracking
Brei White

Task A:

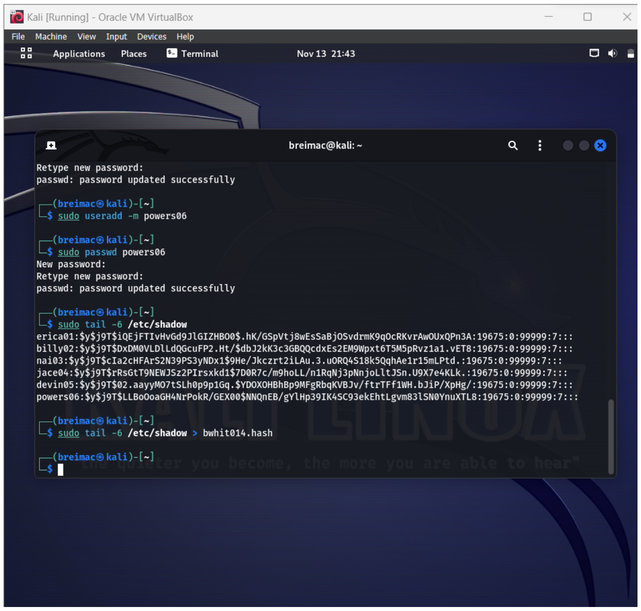
1


Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
Nov 13 21:40
breimac@kali: ~

```
┌──(breimac㉿kali)-[~]
└─$ sudo passwd devin05
New password:
Retype new password:
passwd: password updated successfully

┌──(breimac㉿kali)-[~]
└─$ sudo useradd -m powers06

┌──(breimac㉿kali)-[~]
└─$ sudo passwd powers06
New password:
Retype new password:
passwd: password updated successfully

┌──(breimac㉿kali)-[~]
└─$ sudo tail -6 /etc/shadow
erica01:$y$j9T$iQEjFTIvHvGd9JlGIZHBO0$.hK/GSpVtj8wEsSaBjOSvdrmK9qOcRKvrAwOUxQPn3A:19675:0:99999:7:::
billy02:$y$j9T$DxDM0VLDlLdQGcuFP2.Ht/$dbJ2kK3c3GBQQcdxEs2EM9Wpxt6T5M5pRvz1a1.vET8:19675:0:99999:7:::
nai03:$y$j9T$cIa2cHFArS2N39PS3yNDx1$9He/Jkczrt2iLAu.3.uORQ4S18k5QqhAe1r15mLPtd.:19675:0:99999:7:::
jace04:$y$j9T$rRsGtT9NEWJSz2PIrsxkd1$7D0R7c/m9hoLL/n1RqNj3pNnjoLltJSn.U9X7e4KLk.:19675:0:99999:7:::
devin05:$y$j9T$02.aayyMO7tSLh0p9p1Gq.$YDOXOHBhBp9MFgRbqKVBJv/ftrTFf1WH.bJiP/XpHg/:19675:0:99999:7:::
powers06:$y$j9T$LLBoOoaGH4NrPokR/GEX00$NNQnEB/gYlHp39IK4SC93ekEhtLgvm83lSN0YnuXTL8:19675:0:99999:7:::

┌──(breimac㉿kali)-[~]
└─$ 
```

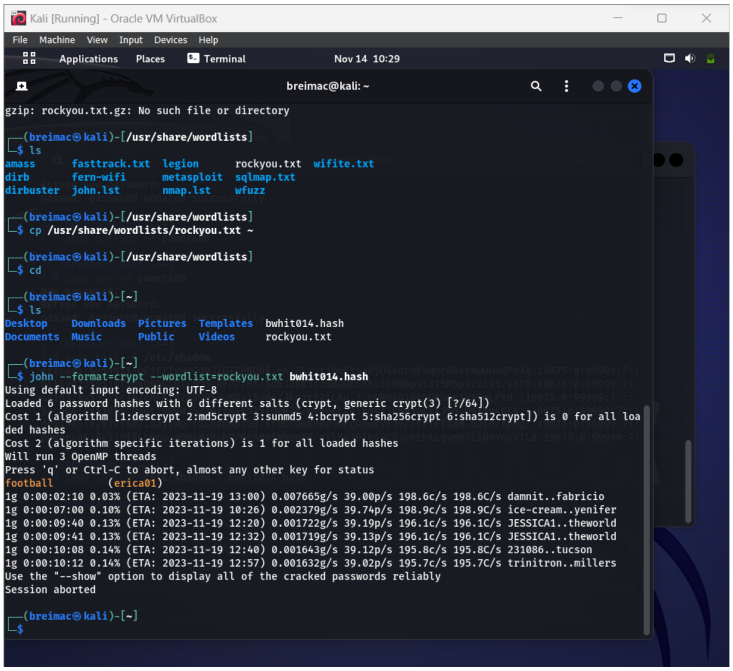
6 users were created with different password requirements. The users' passwords are listed by using the tail command.

2


Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal
Nov 13 21:43
breimac@kali: ~

```
Retype new password:
passwd: password updated successfully

┌──(breimac㉿kali)-[~]
└─$ sudo useradd -m powers06

┌──(breimac㉿kali)-[~]
└─$ sudo passwd powers06
New password:
Retype new password:
passwd: password updated successfully

┌──(breimac㉿kali)-[~]
└─$ sudo tail -6 /etc/shadow
erica01:$y$j9T$iQEjFTIvHvGd9JlGIZHBO0$.hK/GSpVtj8wEsSaBjOSvdrmK9qOcRKvrAwOUxQPn3A:19675:0:99999:7:::
billy02:$y$j9T$DxDM0VLDlLdQGcuFP2.Ht/$dbJ2kK3c3GBQQcdxEs2EM9Wpxt6T5M5pRvz1a1.vET8:19675:0:99999:7:::
nai03:$y$j9T$cIa2cHFArS2N39PS3yNDx1$9He/Jkczrt2iLAu.3.uORQ4S18k5QqhAe1r15mLPtd.:19675:0:99999:7:::
jace04:$y$j9T$rRsGtT9NEWJSz2PIrsxkd1$7D0R7c/m9hoLL/n1RqNj3pNnjoLltJSn.U9X7e4KLk.:19675:0:99999:7:::
devin05:$y$j9T$02.aayyMO7tSLh0p9p1Gq.$YDOXOHBhBp9MFgRbqKVBJv/ftrTFf1WH.bJiP/XpHg/:19675:0:99999:7:::
powers06:$y$j9T$LLBoOoaGH4NrPokR/GEX00$NNQnEB/gYlHp39IK4SC93ekEhtLgvm83lSN0YnuXTL8:19675:0:99999:7:::

┌──(breimac㉿kali)-[~]
└─$ sudo tail -6 /etc/shadow > bwhit014.hash

┌──(breimac㉿kali)-[~]
└─$ 
```

The list of users' passwords are sent into a file.

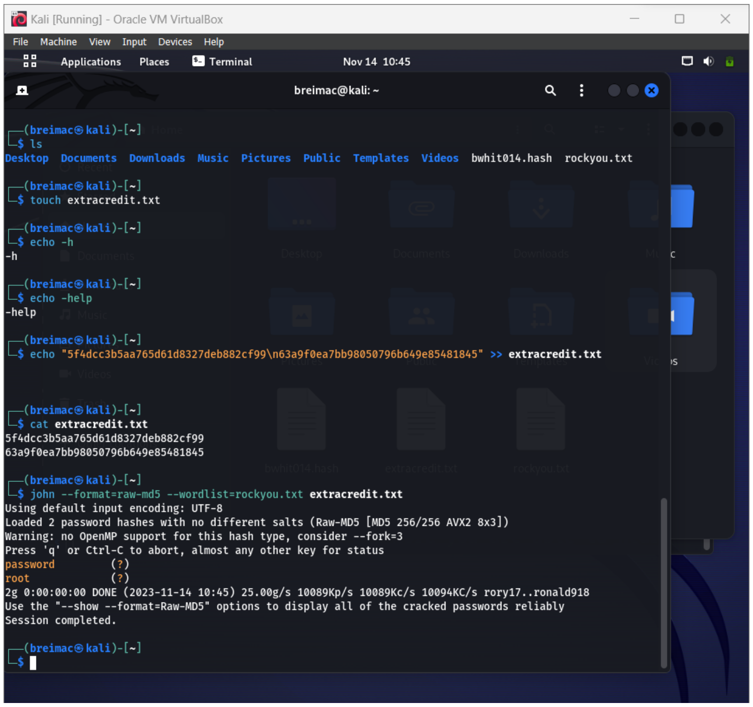


Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Nov 14 10:29
breimac@kali: ~

```
gzip: rockyou.txt.gz: No such file or directory

┌──(breimac㉿kali)-[/usr/share/wordlists]
└─$ ls
amass      fasttrack.txt  legion      rockyou.txt  wifite.txt
dirb       fern-wifi      metasploit  sqlmap.txt
dirbuster  john.lst       nmap.lst    wfuzz

┌──(breimac㉿kali)-[/usr/share/wordlists]
└─$ cp /usr/share/wordlists/rockyou.txt ~

┌──(breimac㉿kali)-[/usr/share/wordlists]
└─$ cd

┌──(breimac㉿kali)-[~]
└─$ ls
Desktop    Downloads  Pictures  Templates  bwhit014.hash
Documents  Music      Public    Videos     rockyou.txt

┌──(breimac㉿kali)-[~]
└─$ john --format=crypt --wordlist=rockyou.txt bwhit014.hash
Using default input encoding: UTF-8
Loaded 6 password hashes with 6 different salts (crypt, generic crypt(3) [?/64])
Cost 1 (algorithm [1:descrypt 2:md5crypt 3:sunmd5 4:bcrypt 5:sha256crypt 6:sha512crypt]) is 0 for all loa
ded hashes
Cost 2 (algorithm specific iterations) is 1 for all loaded hashes
Will run 3 OpenMP threads
Press 'q' or Ctrl-C to abort, almost any other key for status
football         (erica01)
1g 0:00:02:10 0.03% (ETA: 2023-11-19 13:00) 0.007665g/s 39.00p/s 198.6c/s 198.6C/s damnit..fabricio
1g 0:00:07:00 0.10% (ETA: 2023-11-19 10:26) 0.002379g/s 39.74p/s 198.9c/s 198.9C/s ice-cream..yenifer
1g 0:00:09:40 0.13% (ETA: 2023-11-19 12:20) 0.001722g/s 39.19p/s 196.1c/s 196.1C/s JESSICA1..theworld
1g 0:00:09:41 0.13% (ETA: 2023-11-19 12:32) 0.001719g/s 39.13p/s 196.1c/s 196.1C/s JESSICA1..theworld
1g 0:00:10:08 0.14% (ETA: 2023-11-19 12:40) 0.001643g/s 39.12p/s 195.8c/s 195.8C/s 231086..tucson
1g 0:00:10:12 0.14% (ETA: 2023-11-19 12:57) 0.001632g/s 39.02p/s 195.7c/s 195.7C/s trinitron..millers
Use the "--show" option to display all of the cracked passwords reliably
Session aborted

┌──(breimac㉿kali)-[~]
└─$
```

I started John the ripper and let it run for 10 minutes. It only cracked 1 password.

Extra Credit



Kali [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Applications Places Terminal Nov 14 10:45
breimac@kali: ~

```
┌──(breimac㉿kali)-[~]
└─$ ls
Desktop  Documents  Downloads  Music  Pictures  Public  Templates  Videos  bwhit014.hash  rockyou.txt

┌──(breimac㉿kali)-[~]
└─$ touch extracredit.txt

┌──(breimac㉿kali)-[~]
└─$ echo -h
-h

┌──(breimac㉿kali)-[~]
└─$ echo -help
-help

┌──(breimac㉿kali)-[~]
└─$ echo "5f4dcc3b5aa765d61d8327deb882cf99\n63a9f0ea7bb98050796b649e85481845" >> extracredit.txt


┌──(breimac㉿kali)-[~]
└─$ cat extracredit.txt
5f4dcc3b5aa765d61d8327deb882cf99
63a9f0ea7bb98050796b649e85481845

┌──(breimac㉿kali)-[~]
└─$ john --format=raw-md5 --wordlist=rockyou.txt extracredit.txt
Using default input encoding: UTF-8
Loaded 2 password hashes with no different salts (Raw-MD5 [MD5 256/256 AVX2 8x3])
Warning: no OpenMP support for this hash type, consider --fork=3
Press 'q' or Ctrl-C to abort, almost any other key for status
password         (?)
root             (?)
2g 0:00:00:00 DONE (2023-11-14 10:45) 25.00g/s 10089Kp/s 10089Kc/s 10094KC/s rory17..ronald918
Use the "--show --format=Raw-MD5" options to display all of the cracked passwords reliably
Session completed.

┌──(breimac㉿kali)-[~]
└─$
```

I added the hashed passwords into a file that I named extracredit.txt. In order to crack the MD5 hash, I changed the format to "raw-md5" and input the extracredit.txt.