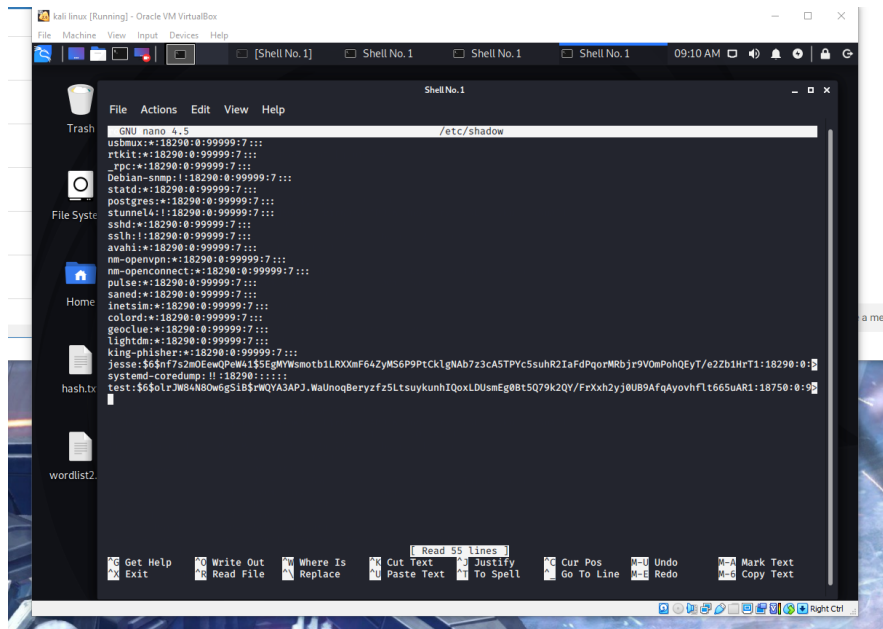


## Acquiring New Targets

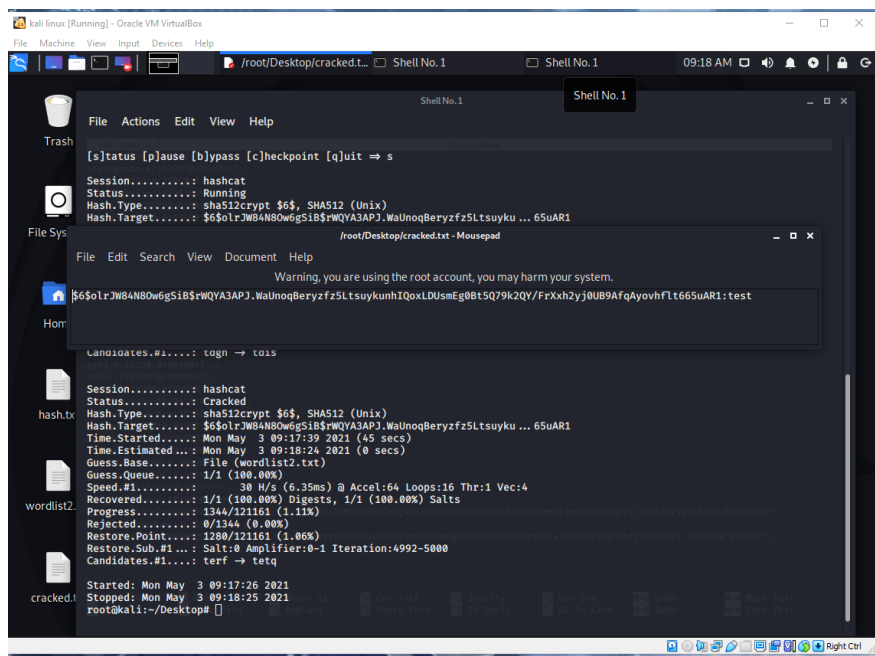
### Subtask 1

Create a new user. Give him a short 3-4 letter password. Use crunch to create a dictionary, and then use hashcat to recover the password. You should submit the following.

1. A screenshot of your shadow file showing your new user and his hashed password.



2. A screenshot showing hashcat recovering your password.



3. Assume your password is three letters long, and the symbols are only alphanumeric (A-Z 0-9). How many bits of entropy is the password?

Alpha-numeric (inc. upper and lower case) has a pool of 62 possible characters

$62^3 = 238\,328$  Possible passwords for a 3-character password

Entropy =  $\log_2(R)$

Entropy =  $\log_2(238328) = 17.8626$