OLD DOMINION UNIVERSITY

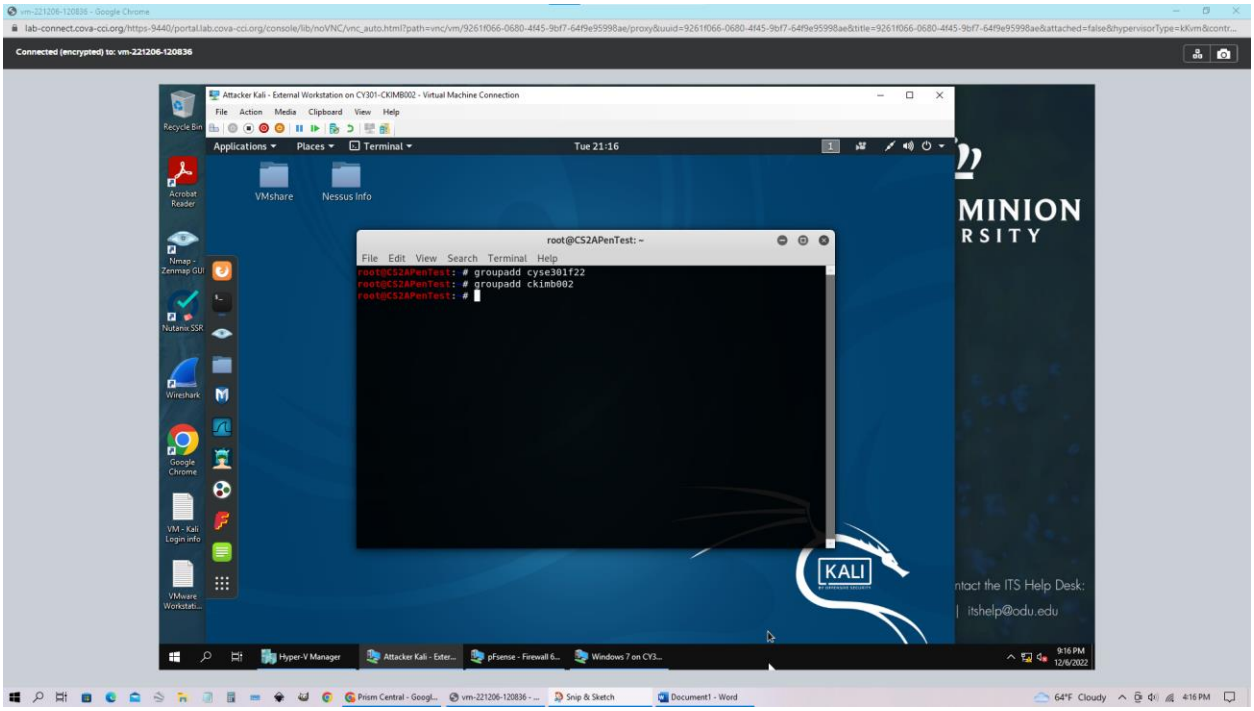
CYSE 301 CYBERSECURITY TECHNIQUES AND OPERATIONS

ASSIGNMENT #5 PASSWORD CRACKING

Clarence V. Kimbrell Jr.

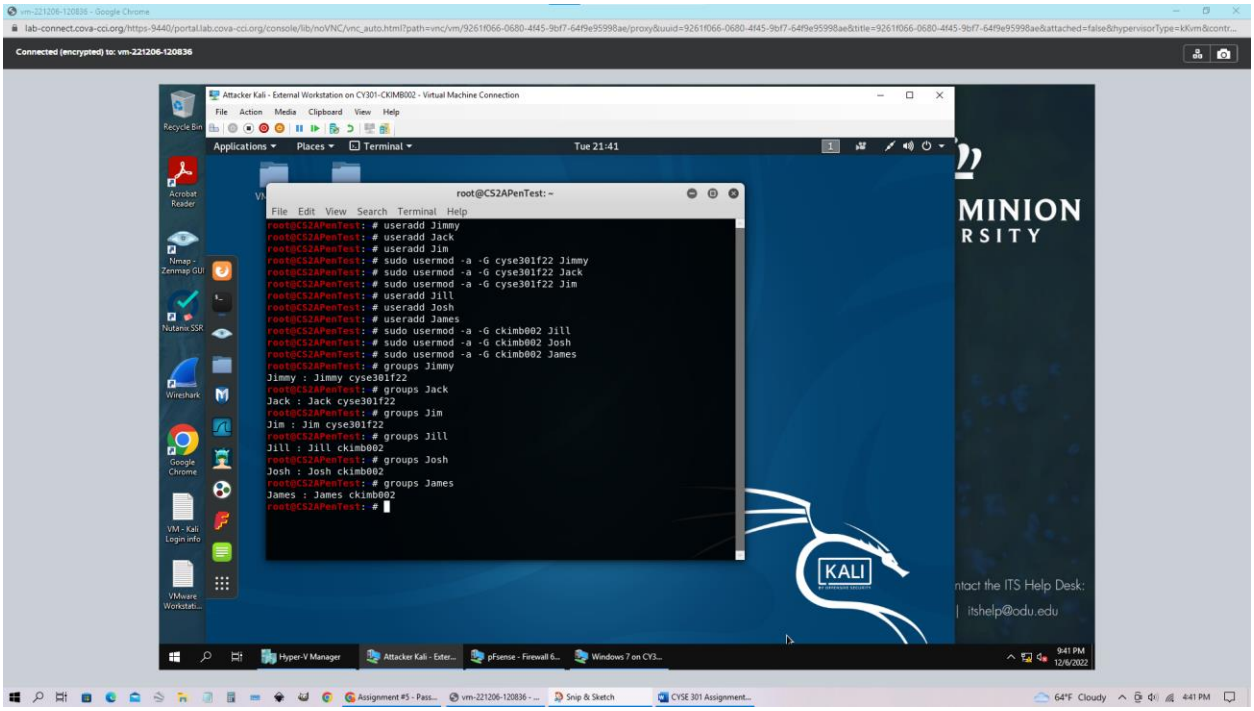
UIN 01207106

Task A Step 1.



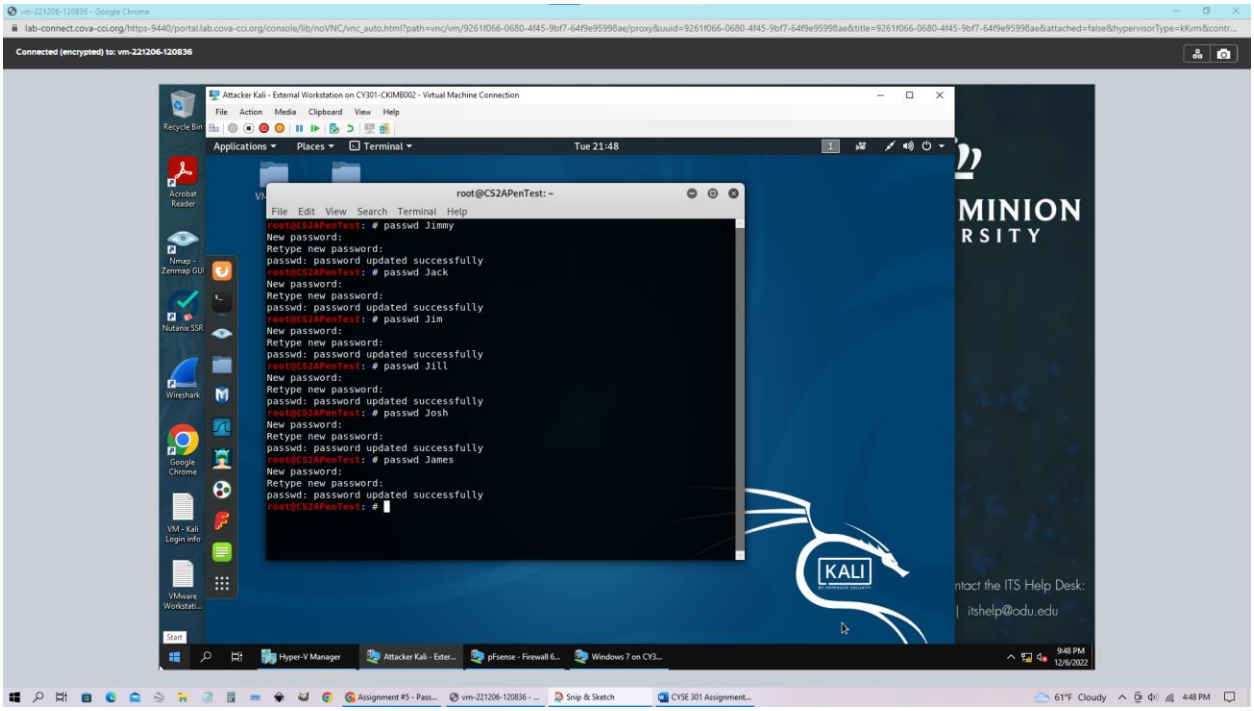
These groups were added by using the groupadd command. Then followed what the group named selected for the assignment. Many additions can be added following the initial groupadd command. For this assignment the first group needed to be called cyse301f22 then the second one was then our own Midas ID which is ckimb002.

Task A Step 2.



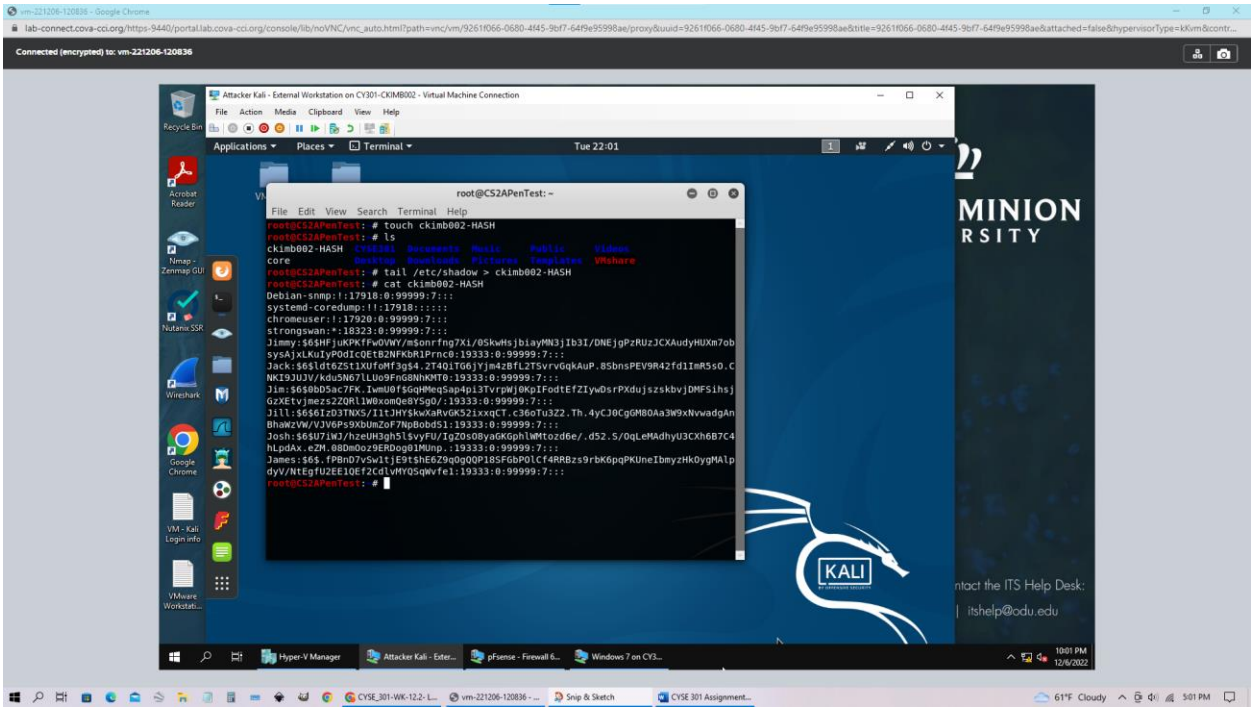
In the next part of our assignment, we are instructed to add users. This can be done by using the useradd command. For my convenience, I created six users with names that start with the letter “J”. After I created the users then added them to the groups created in the previous step. This was done by using the usermod command followed by which group I would like them to join and their name.

Task A Step 3.

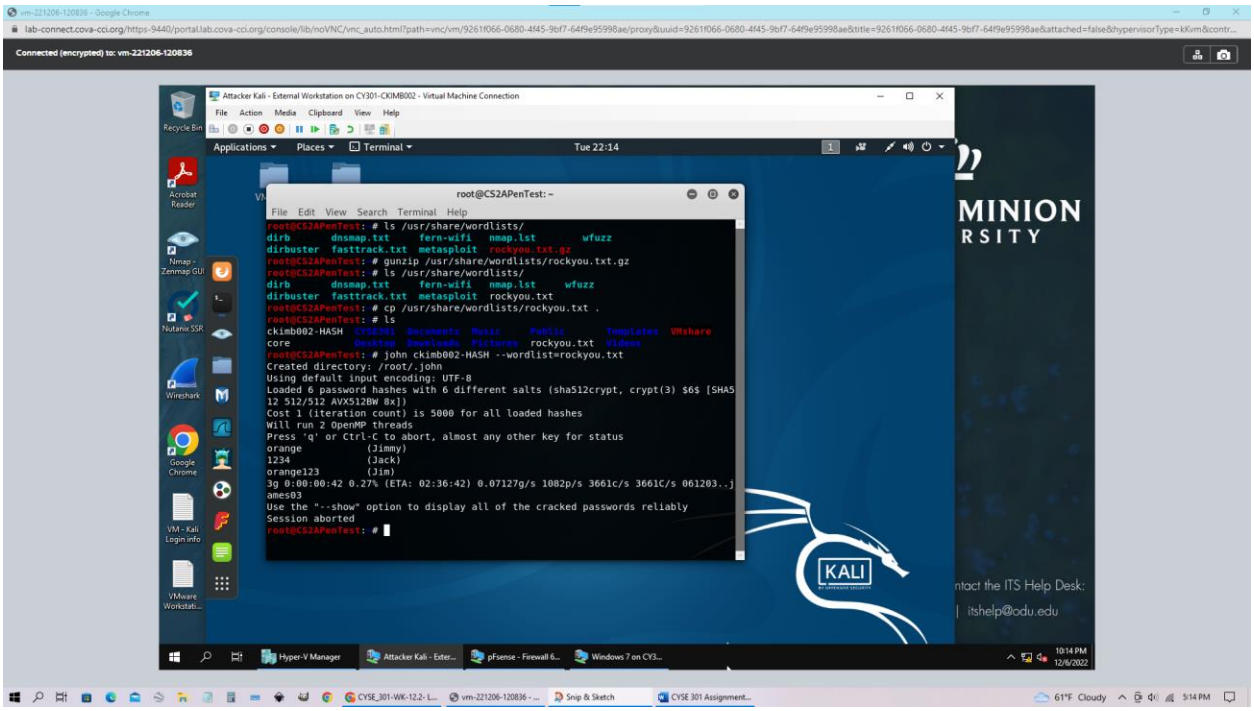


Then in step three, we are assigned to create a password for each user. This was accomplished by using the passwd command. For Jimmy, the password is “orange”. For Jack, the password is “1234”. For Jim, the password is “orange123”. For Jill, the password is “orange123!”. For Josh, the password is “pear123” For James, the password is “Pear123!”. I created these passwords with increasing difficulty and assigned them down the list of users.

Task A Step 4

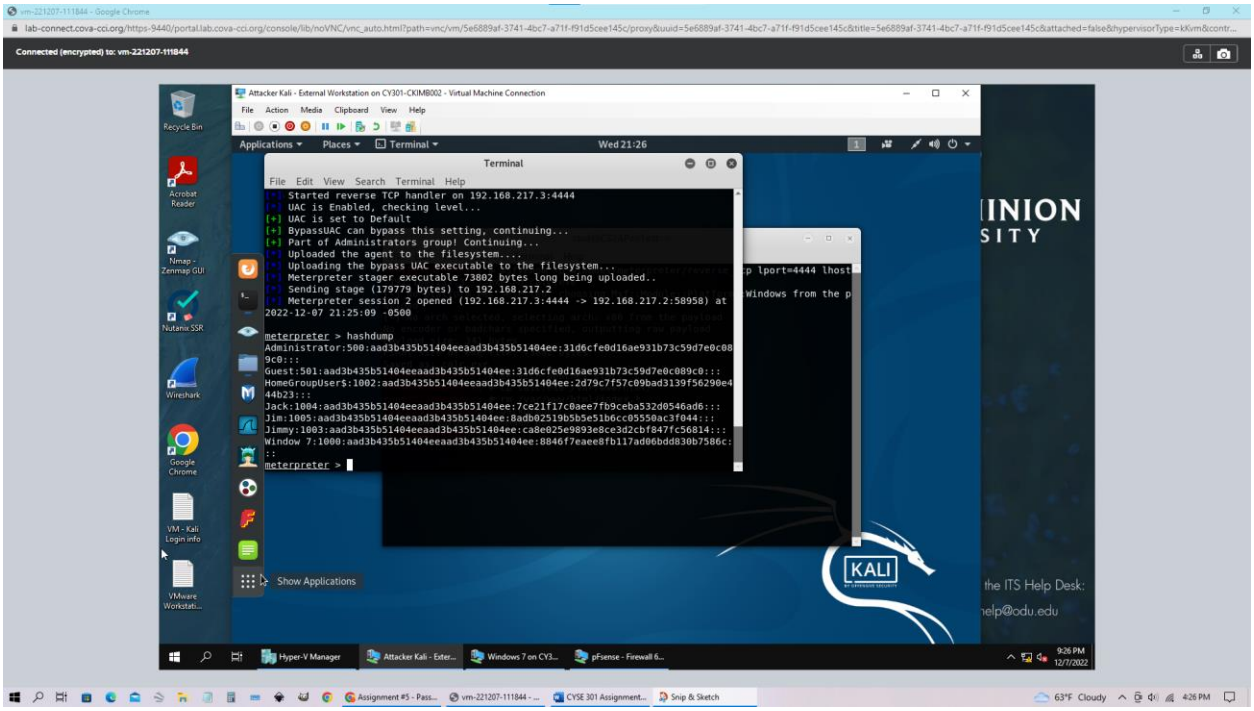


To export all six users' password hashes, we need to create a file for them to be stored. First, we start with the touch command to create a file name our Midas which is ckimb002 then followed by "-HASH". Now we have a file that we can export the password hashes. This is done by using the tail command which reads off the last few lines in the file and the /etc/shadow command this is to display the hashes in the first place. Then we add the redirect ">" to the file of our choice which is ckimb002-HASH.



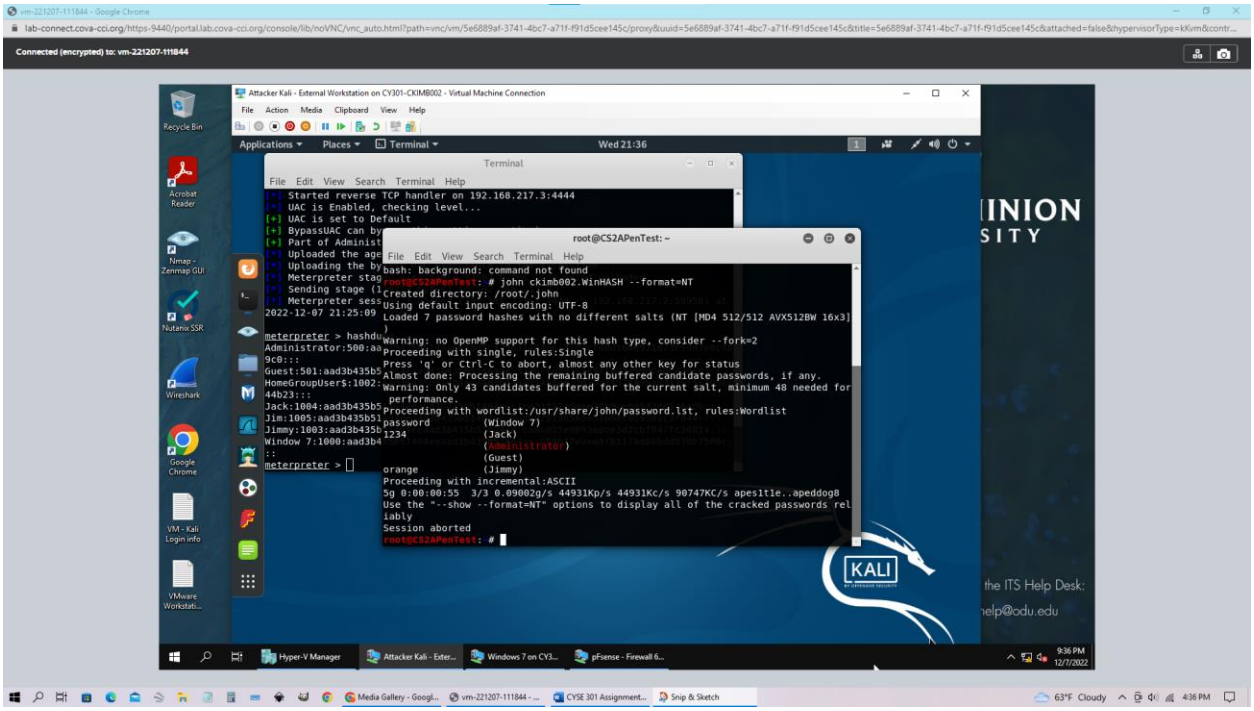
In this part of step 4 we had to unzip a word list file, this file contains thousands of commonly used passwords. Then we copied this file to our home directory to be able to access it much easier. Then we used the john the ripper program in the command line with the file we want to attack and with the wordlist file. Within seconds it was able to reveal three passwords.

Task B Step 1



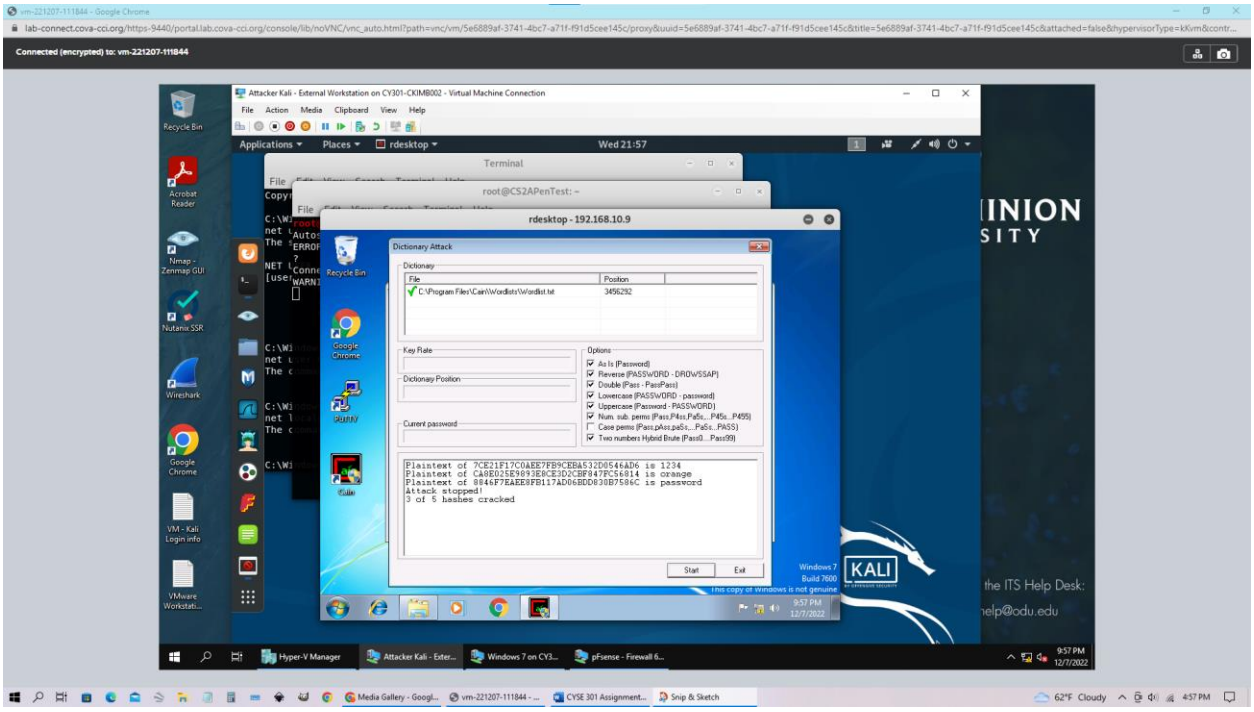
When using meterpreter we can use the hashdump command to see the list of hashes on the target windows. These were the accounts created in the prerequisites to step 1. This was only available by establishing a reverse shell connection with admin privilege on the target windows.

Task B Step 2

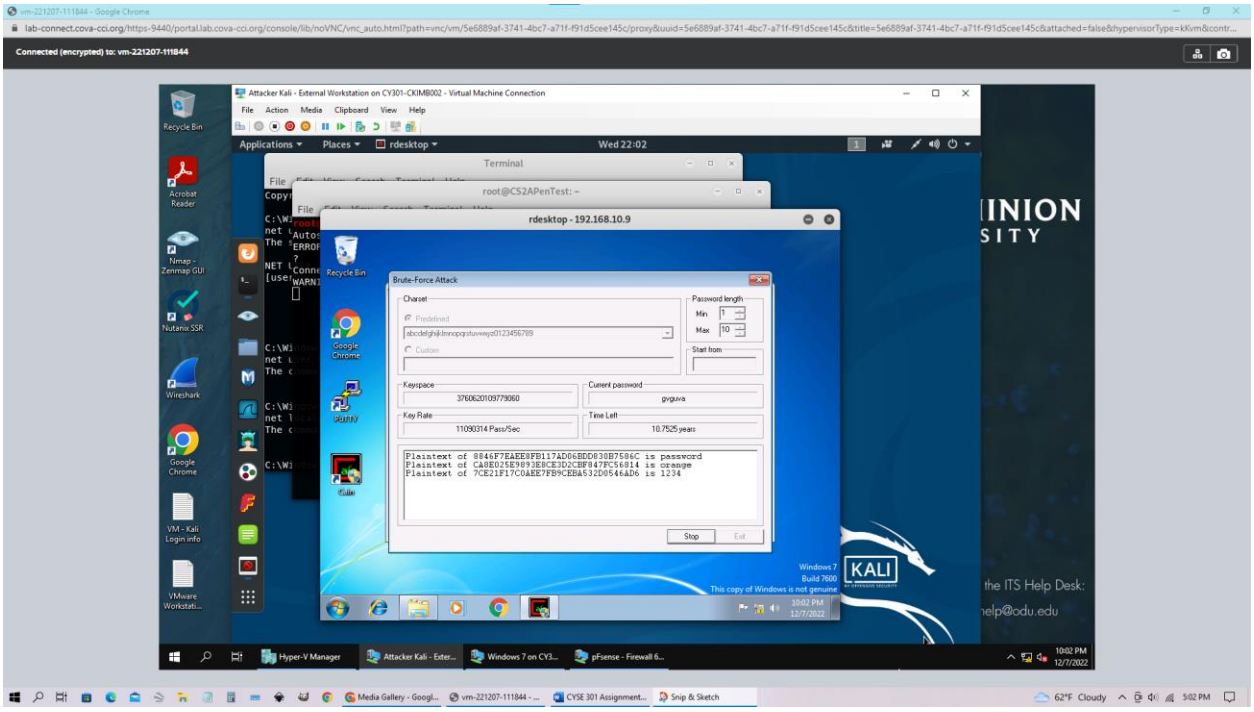


In step two we are using john the ripper. In this case, we are asking it to use the hashes that were copied from windows 7. Then for us to see what the passwords are we have to use the – -format=NT. After 10 minutes it was able to figure out the passwords used for the accounts created on the windows VM.

Task B Step 3



This first screenshot is using a dictionary attack using the cain and Abel program. We were able to complete this attack by using the default word list that is on the windows 7 VM. Within seconds it displays the passwords of the user accounts.



In this screenshot, we are using a brute force attack. This program allows for the customization of settings to allow quicker results. We selected the default letter and number choice and lowered the maximum number of characters to 10. Then nearly instantly found the passwords for the user accounts.