***THIS ACTIVITY SHOULD ONLY BE PERFORMED WITH EXPLICIT CONSENT OF THE OWNER OF THE COMPUTER(S) YOU ARE USING. IF YOU DO NOT HAVE PERMISSION, YOU SHOULD NOT CONTINUE THIS ACTIVITY!***

All commands and information should be typed in as shown. If not, things just won’t work!

To start the activity, you will need to login to the computer:

1. Click the word Other

A flat screen tv sitting on top of a television

Description automatically generated

1. Type in the user id: ***root.*** Type in the password: ***toor*** (yes, we just talked about a good password and this is not one. For this one-time activity it would be easier than teaching you a special password based on what was presented.) and press the enter key or click Log In.

A picture containing video, monitor, sitting, remote

Description automatically generated

1. At this point you should see the desktop on the screen like the picture below. Raise your hand if you have problems.

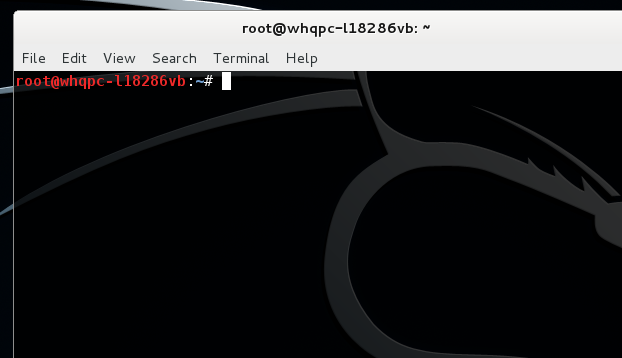
A flat screen tv sitting on top of a computer

Description automatically generated

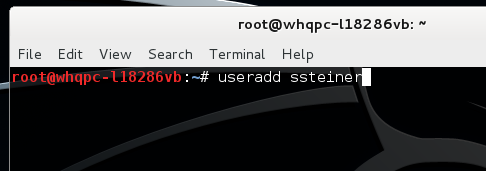
Now, let’s see your mad password creation skills. You will create a new user on the computer and set that user’s password with one you’ve created based on the good password

1. Start a terminal session by clicking the terminal icon in the Dock at the bottom of the screen.
2. A screen shot of a computer monitor

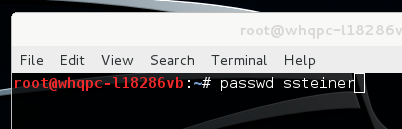
   Description automatically generated
3. This is how the screen should look once the terminal session open. The prompt (in red) as well as the background on the desktop may look different than what is shown and it’s okay if it does.



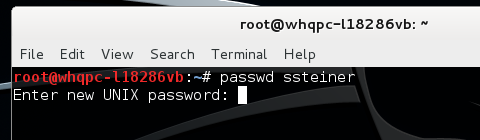
1. Here you will add a new user by typing ***useradd [username]*** (remember username is something you want to use, **please do not use ssteiner as a username!**) then press the enter key



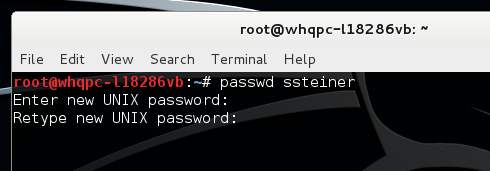
1. Now you will create a password for the user you just created. Remember the information presented when you create the password. To set the password for the user type ***passwd [username]***, then press the enter key.



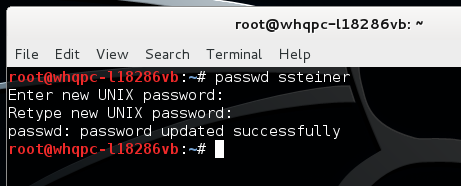
1. You will be asked to enter the new password. Enter the password exactly as you created, and press enter. As you are typing the password, you will not see any feedback from your typing.



1. Now that you’ve entered the password, you will be asked to verify (make sure it is the password you want) it. Retype the password and press the enter key. Again, you will not see any feedback from your typing.



1. If you’ve typed the password correctly twice, you should see *passwd: password updated successfully*. Once you get the screen below, continue to the next part of the activity.



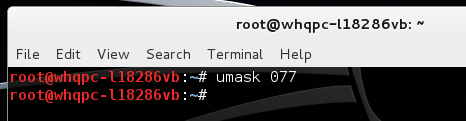
For this part of the activity, you will crack the password you just entered for your user. To perform this task, you will combine the two files that contain the user id information and the passwords for all users on the computer. One thing to note here, if you were to look at the resulting file you would not see the actual passwords.

You will also be using the same terminal session you started in the previous steps.

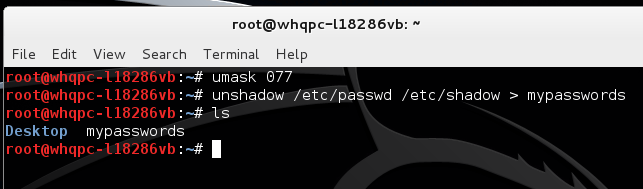
The first steps you will take are to combine the user file to the password file so the user id information in both files is matched and written to a new file.

The tool you will use to crack the password is called John the Ripper. It will take the information from the merged file and attempt to “crack” the passwords in your file. It may take a while depending on the password you have chosen for your user.

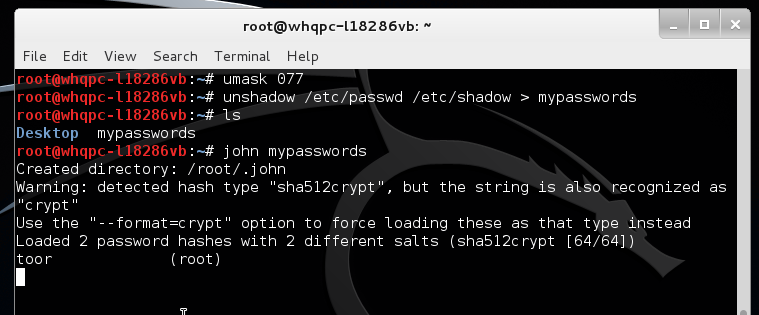
1. We first need to set the default permissions on any new files created. In the terminal session, type ***umask 077*** and press the enter key. There will not be any feedback after pressing the enter key.



1. To merge the two files mentioned above, in the terminal session, type ***unshadow /etc/passwd /etc/shadow > mypasswords*** and press the enter key. There will be no response from unshadow telling you what it did. To make sure your file is there, type ***ls*** and press the enter key.



1. Now you will run John the Ripper to crack your password (be patient it may take a while). To run John, in the terminal session, type ***john mypasswords*** and press the enter key. While John is processing, you will see some status information showing which passwords John has cracked.



1. If after 5 or 6 minutes of starting John the Ripper, if you do not see the user you created and the password you gave it, which means John has not yet cracked the password.
2. Ok, if after 6 minutes you did not see the user id and password for your user; it means John was not able to crack your password. This is a good thing! Great job on creating a good strong password. One thing to note, if we had let John run longer could takes hours or even days to crack your password.
3. If you did see the password for the user you created, that just means your password needs a bit more work to make it stronger and harder to crack.

At this point if you would like to see John the Ripper crack your user’s password ask me for a password, I’ve created just for this, and we can walk through the steps to change your user’s password and run John the Ripper again.