CAPTURE FLAGS-ENCRYPTION CRYPTO 101

EXP.NO: 3 **DATE: 01-02-2025**

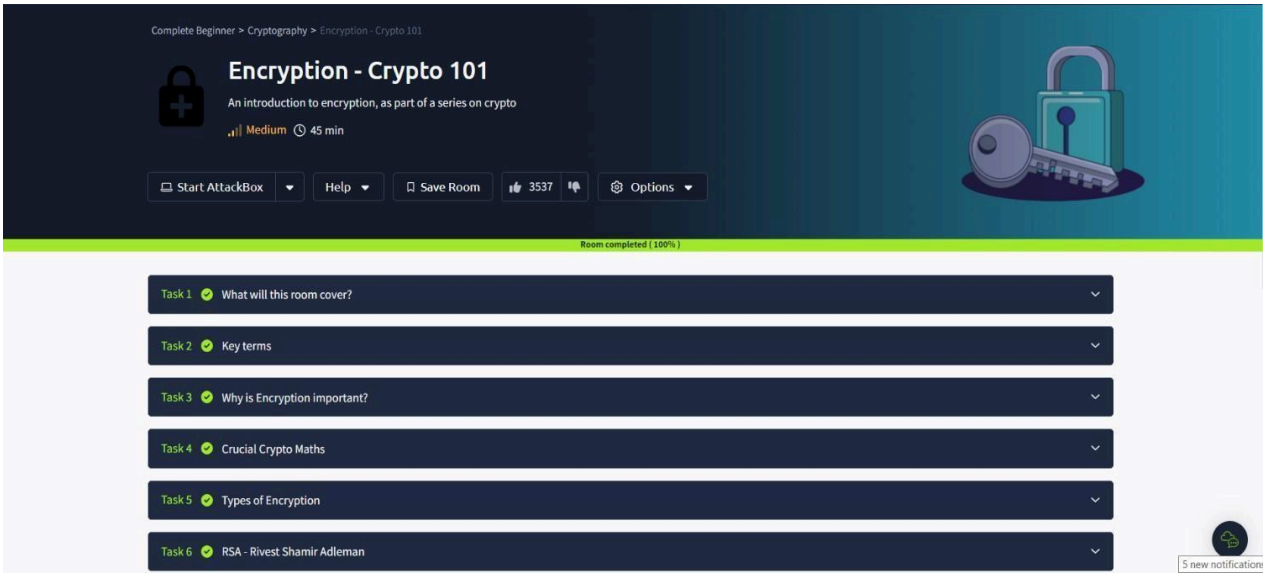
AIM:

To capture the various flags in Encryption Crypto 101 in TryHackMe platform.

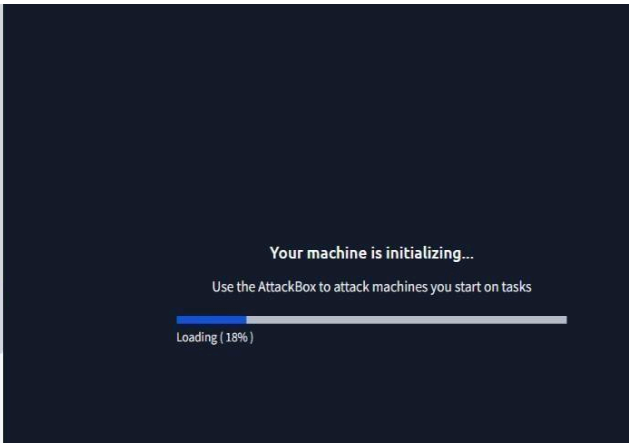
ALGORITHM:

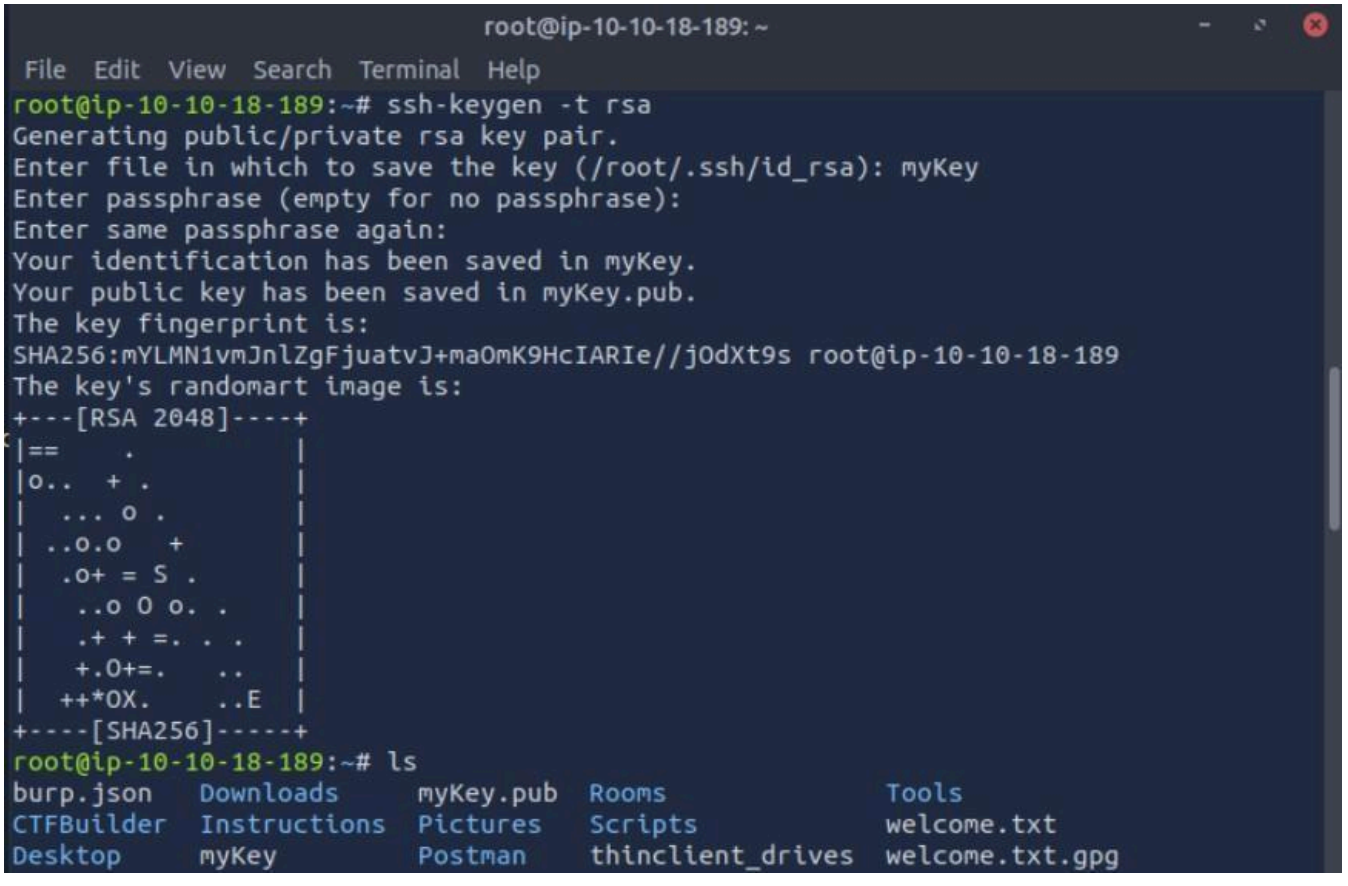
1. Access the Passive reconnaissance lab in TryHackMe platform using the link below https://tryhackme.com/r/room/encryptioncrypto101
2. Click Start AttackBox to run the instance of Kali Linux distribution.
3. Solve the crypto math used in RSA.
4. Find out who issued the HTTPS Certificate to tryhackme.com
5. Perform SSH Authentication by generating public and private key pair using ssh-keygen
6. Perform decryption of the gpg encrypted file and find out the secret word.

OUTPUT:



Complete Beginner > Cryptography > Encryption - Crypto 101
Encryption - Crypto 101
An introduction to encryption, as part of a series on crypto
Medium
45 min
Help
Save Room
3537
Options
Room completed (100%)
Task 1
What will this room cover?
Task 2
Key terms


Your machine is initializing...
Use the AttackBox to attack machines you start on tasks
Loading (18%)

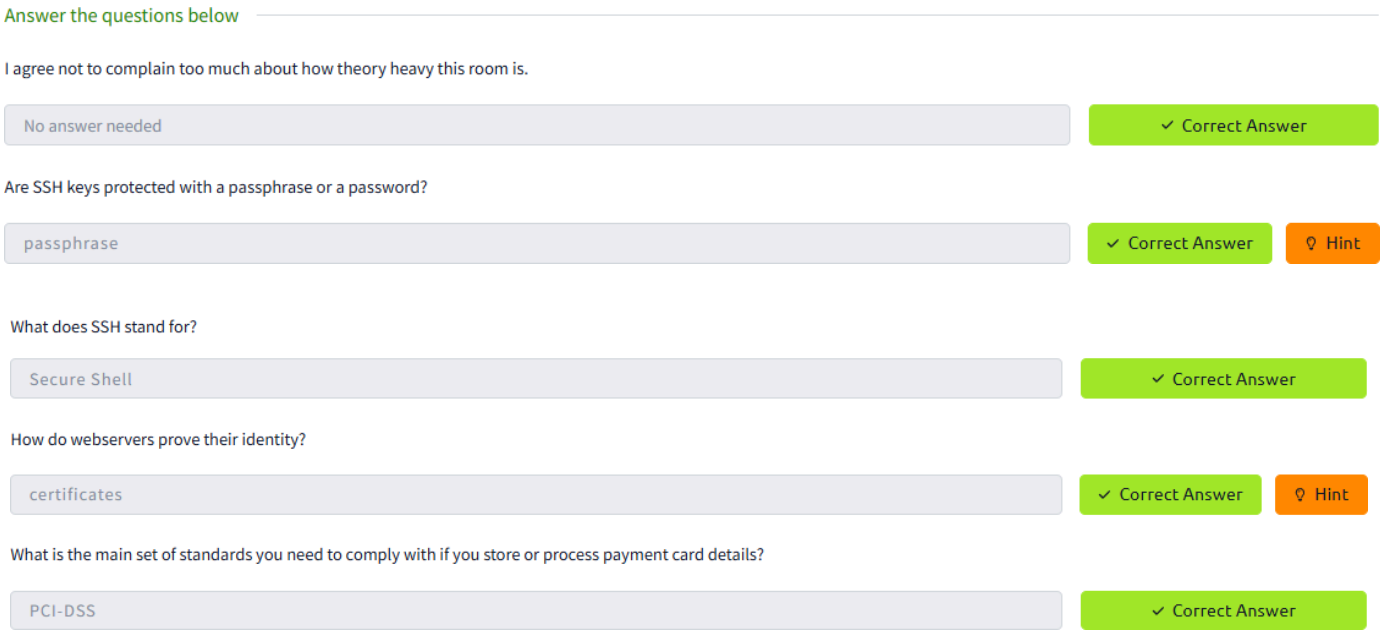

root@ip-10-10-18-189: ~
File Edit View Search Terminal Help
root@ip-10-10-18-189:~# ssh-keygen -t rsa
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa): myKey
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in myKey.
Your public key has been saved in myKey.pub.
The key fingerprint is:
SHA256:mYLMN1vmJnlZgFjuatvJ+maOmK9HcIARIe//jOdXt9s root@ip-10-10-18-189
The key's randomart image is:
+---[RSA 2048]----+
|== . |
|o.. + . |
| ... o . |
| ..o.o + |
| .o+ = S . |
| ..o O o. . |
| .+ + =. . . |
| +.O+=. .. |
| ++*OX.   ..E |
+----[SHA256]-----+
root@ip-10-10-18-189:~# ls
burp.json Downloads myKey.pub Rooms Tools
CTFBuilder Instructions Pictures Scripts welcome.txt
Desktop myKey Postman thinclient_drives welcome.txt.gpg

```
root@ip-10-10-18-189:~# gpg --import tryhackme.key
gpg: /root/.gnupg/trustdb.gpg: trustdb created
gpg: key FFA4B5252BAEB2E6: public key "TryHackMe (Example Key)" imported
gpg: key FFA4B5252BAEB2E6: secret key imported
gpg: Total number processed:
1 gpg:            imported: 1
gpg:       secret keys read: 1
gpg: secret keys imported: 1

root@ip-10-10-18-189:~# gpg message.gpg

gpg: WARNING: no command supplied. Trying to guess what you mean ...
gpg: encrypted with 1024-bit RSA key, ID 2A0A5FDC5081B1C5, created 2020-06-30
      "TryHackMe (Example Key)"

gpg: WARNING: no command supplied. Trying to guess what you mean ...
gpg: encrypted with 1024-bit RSA key, ID 2A0A5FDC5081B1C5, created 2020-06-30
      "TryHackMe (Example Key)"
```



What's 30 % 5?

0 ✓ Correct Answer

What's 25 % 7

4 ✓ Correct Answer

What's 118613842 % 9091

3565 ✓ Correct Answer Hint

Should you trust DES? Yea/Nay

Nay ✓ Correct Answer Hint

What was the result of the attempt to make DES more secure so that it could be used for longer?

Triple DES ✓ Correct Answer Hint

Is it ok to share your public key? Yea/Nay

Yea ✓ Correct Answer

p = 4391, q = 6659. What is n?

29239669 ✓ Correct Answer Hint

I understand enough about RSA to move on, and I know where to look to learn more if I want to.

No answer needed ✓ Correct Answer

What can you use to verify that a file has not been modified and is the authentic file as the author intended?

Digital Signature ✓ Correct Answer

I recommend giving this a go yourself. Deploy a VM, like Linux Fundamentals 2 and try to add an SSH key and log in with the private key.

No answer needed ✓ Correct Answer Hint

Download the SSH Private Key attached to this room.

No answer needed ✓ Correct Answer

What algorithm does the key use?

RSA ✓ Correct Answer Hint

Crack the password with John The Ripper and rockyou, what's the passphrase for the key?

delicious ✓ Correct Answer Hint

Time to try some GPG. Download the archive attached and extract it somewhere sensible.

No answer needed ✓ Correct Answer

You have the private key, and a file encrypted with the public key. Decrypt the file. What's the secret word?

Pineapple ✓ Correct Answer Hint

RESULT:

Thus, the various flags have been captured in Encryption Crypto 101 in TryHackMe platform.