Lab Assignment

Cybersecurity Professional Program

Network Security

Practical Cryptography

NS-05-L2
Rainbow Table Hash Cracking

Lab Objective

Become familiar with the tools and concepts involved in cracking hashes.

Lab Mission

Crack the provided hash using a rainbow table.

Lab Duration

30–45 minutes

Requirements

- Basic working knowledge of Kali Linux
- Basic Bash command line usage
- Familiarity with basic encryption methods

Resources

- Environment & Tools
  - VirtualBox
    - Kali Linux 2019
      - ***rtgen***
      - ***rtsort***
      - ***rcrack***
- Extra Files
  - ***Kali 2019.ova***

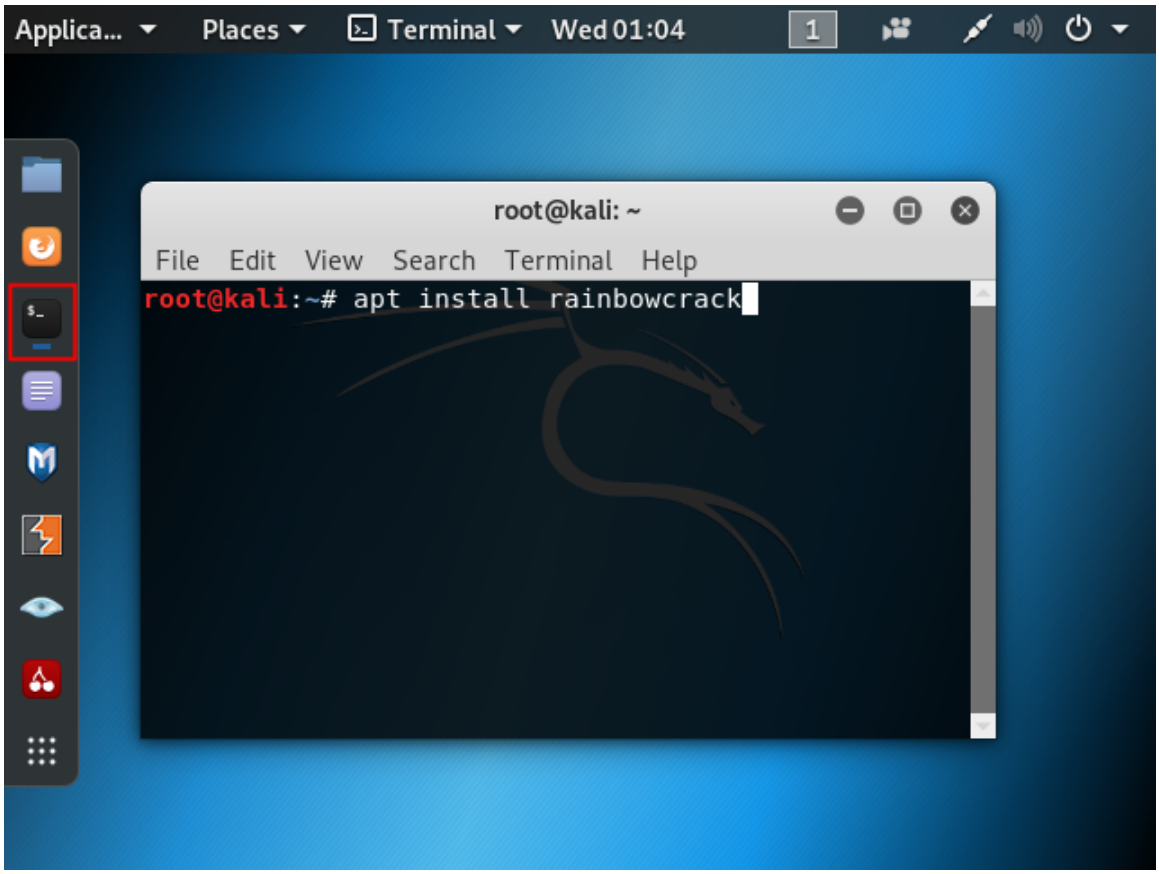
Lab Task 1: Kali Linux Virtual Machine

Import Kali Linux **2019.3** OVA to VirtualBox that will be used in this course.

Lab Task 2: Use a Rainbow Table to Crack a Hash

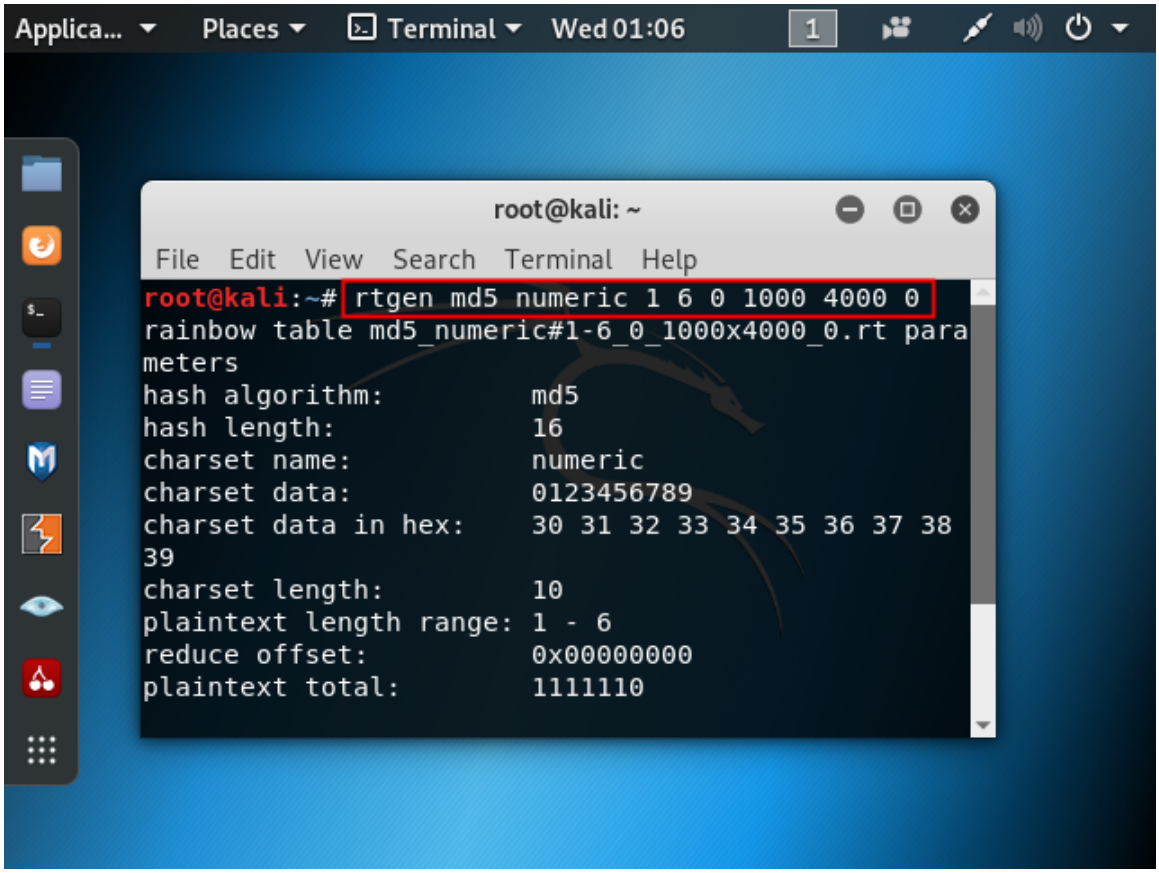
Crack the following hash using a Rainbow Table attack:
74765968c67007219b197f4d9aafb4e2

1 Install **RainbowCrack** using the ***apt install rainbowcrack*** command.

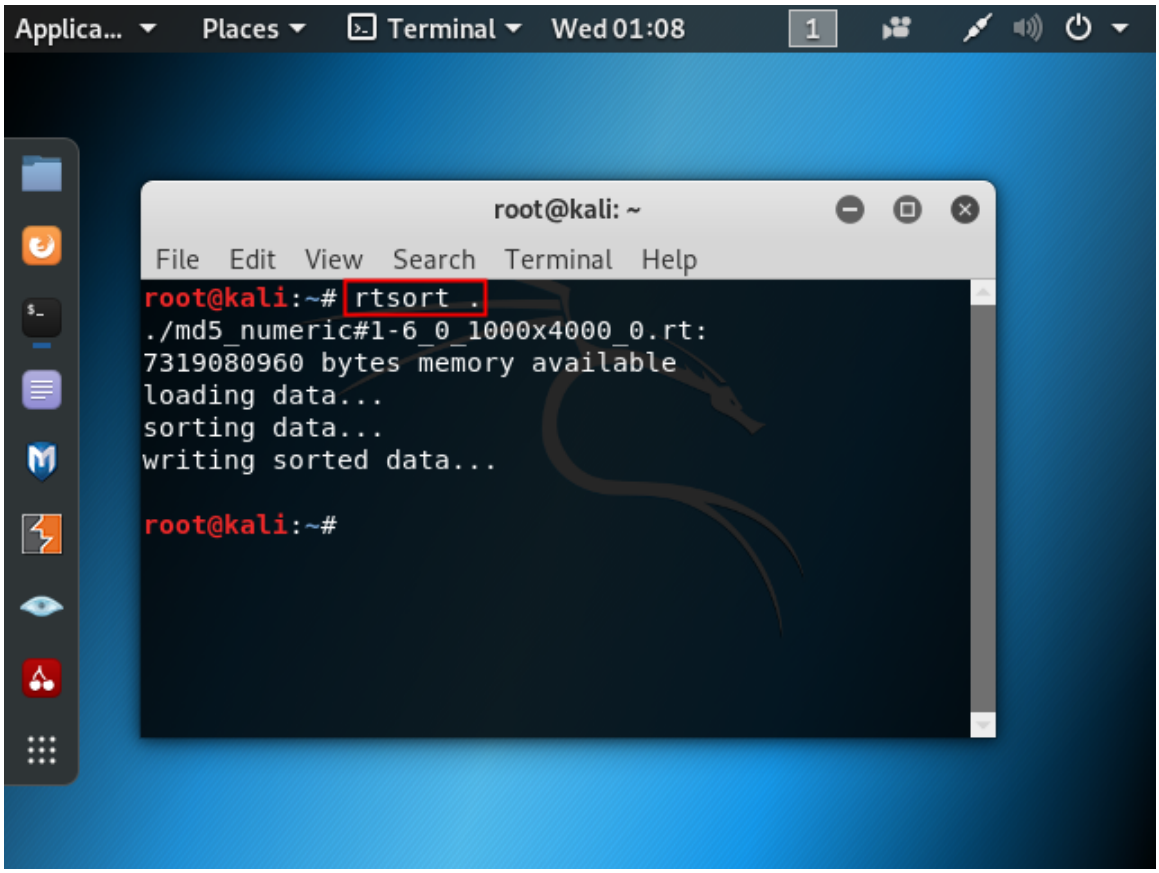


2 Create a six-number rainbow table of ***md5*** using the following command structure: ***rtgen md5 numeric 1 6 0 1000 4000 0***

rtgen: The binary used for rainbow table creation
md5: The hash type
numeric: The character set to be used, which in this case is numbers
1: The minimum length of the password
6: The maximum length of the password
0: The reduction function that maps hashed values to plain text values
1000: The length of the chain to generate
4000: The number of chains to generate
0: How many files the rainbow table will be divided into (in this case, 1)



3 Sort the rainbow table using the ***rtsort*** command.



4 Crack the hash using the ***rcrack*** tool.

Note: To copy the hash to the Kali Linux VM, use the shared clipboard presented in the Kali Linux Installation Guide.