



### **TOPICS**

- 1. INTRODUCTION TO KALI LINUX
- 2. DOWNLOADING & INSTALLING KALI
- 3. UNDERSTANDING KALI LINUX INTERFACE
- 4. BASIC COMMANDS AND OPERATIONS
- 5. DIRECTORY TREE HIERARCHY IN LINUX
- 6. TYPES OF USERS IN KALI LINUX
- 7. FILES PERMISSIONS AND USERS GROUPS
- 8. HOW TO INSTALL PACKAGES IN LINUX
- 9. TRYING PHISHING (HIDDENEYE) IN KALI
- 10. TRYING DATA HIDING (STEGHIDE) IN KALI
- 11. TRYING KEYLOGGER (BEELOGGER) IN KALI
- 12. TRYING NMAP (NETWORK MAPPER) IN KALI
- 13. BASH SCRIPTING BASICS







1. Introduction to KALI LINUX

#### Kali Linux?

**Kali Linux** is a Debian-derived Linux distribution that is maintained by Offensive Security. It was developed by Mati Aharoni and Devon Kearns. Kali Linux is a specially designed OS for network analysts, Penetration testers, or in simple words, it is for those who work under the umbrella of cybersecurity and analysis. The official website of Kali Linux is Kali.org.





#### **Advantages:**

- •It has 600+ Penetration testing and network security tools pre-installed.
- •It is completely free and open source. So you can use it for free and even contribute for its development.
- •It supports many laguages.
- •Great for those who are intermediate in linux and have their hands on Linux commands.
- •Could be easily used with Rasberry Pi.

#### **Disadvanatges:**

- •It is not recommended for those who are new to linux and want to learn linux.
- •It is a bit slower.
- •It is Quite unfamiliar

•Kernel: The kernel is a computer program that is the core of a computer's operating system, with complete control over everything in the system. It manages following resources of the Linux like File management, Process management, I/O management, Memory management, Device management

•Shell: A shell is special user program which provide an interface to user to use operating system services. Shell accept human readable commands from user and convert them into something which kernel can understand. It is a command language interpreter that execute commands read from input devices such as keyboards or from files. Shell gets started when the user logs in or start the terminal.

•Terminal: We can say the terminal is a dumb thing so it does not know what to do with the input, so it needs another program to process it. The terminal is a program that provides the user with a simple command-line interface.

•Console: In the case of Windows OS, the "Console" performs the same operations performed by the terminal, so we can say for Windows OS, the Console is the alias name for the Terminal.

Shell Scripting: As shell can also take commands as input from file we can write these commands in a file and can execute them in shell to avoid this repetitive work. These files are called **Shell**Scripts or Shell Programs. Shell scripts are similar to the <a href="https://batch.nile">batch file</a> in MS-DOS. Each shell script is saved with .sh file extension eg. myscript.sh





2. Downloading & Installing Kali Linux



## Let's Get Started





3. Understanding Kali Linux Interface



## Let's Get Started





4. Basic Commands and Operations



## Let's Get Started





5. Directory Tree Hierarchy in Linux

### **Tree Hierarchy**



# Let's Verify it!





6. Types of Users in kali Linux

### **Types of Users**



# Let's Verify it!





7. Files Permissions and Users Groups



### **Users & Groups**

**Users and groups** are used on GNU/**Linux** for access control—that is, to control access to the system's files, directories, and peripherals. **Linux** offers relatively simple/coarse access control mechanisms by default.

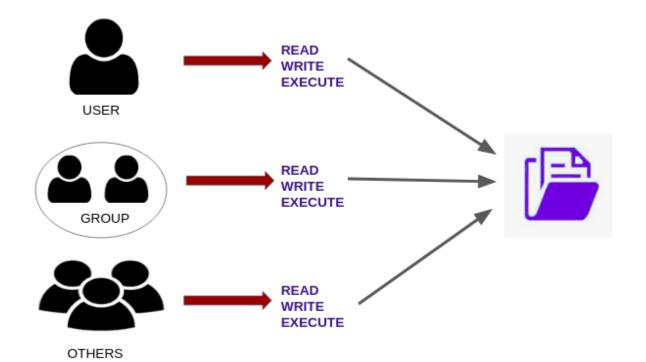
```
File Edit View Search Terminal Help

root@kali:~#

root@kali:~#
```

#### **Files Permissions**

On a **Linux** system, each **file** and directory is assigned access rights for the owner of the **file**, the members of a group of related users, and everybody else. Rights can be assigned to read a **file**, to write a **file**, and to execute a **file** (i.e., run the **file** as a program).



Octal	Binary	File Mode	
0	000		
1	001	x	
2	010	-W-	
3	011	-wx	
4	100	r	
5	101	r-x	
6	110	rw-	
7	111	rwx	





8. How to Install Packages in Linux

### Packages ???



# Let's Try it!





9. Trying Phishing in Kali Linux



**Phishing** is a type of social engineering attack often used to steal user data, including login credentials and credit card numbers. It occurs when an attacker, masquerading as a trusted entity, dupes a victim into opening an email, instant message, or text message.





### **Hidden Eye?**

**HiddenEye** is an advanced phishing tool that has some additional features like keylogging and location tracking. The tool supports almost all major social media, ecommerce, and business pages to be used as an attack vector against online targets.





# Let's Try it!





10. Trying Steghide in Kali Linux



### Stenography?

Cybercriminals now tunnel their malicious data to your devices in a different way. It's called "**steganography**"—and it involves hiding a document, video, or photograph inside another file that seems legit. ... The technique makes it easy for criminals to surreptitiously transmit data-stealing malware

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Fayet	t	P	9	1	v	1	1	y	,	4	1	(	1	-	4	1		p	1	1	1	1			4	1
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### StegHide?

**Steghide** is a **steganography** program that is able to hide data in various kinds of image- and audio-files. The color- respectivly sample-frequencies are not changed thus making the embedding resistant against first-order statistical tests.

```
root@netdragon: ~/tutorial/steghide# steghide info image2.jpeg
"image2.jpeg":
    format: jpeg
    capacity: 300.0 Byte
Try to get information about embedded data ? (y/n) y
Enter passphrase:
    embedded file "rio-secret.txt":
        size: 11.0 Byte
        encrypted: rijndael-128, cbc
        compressed: yes
root@netdragon:~/tutorial/steghide#
```



# Let's Try it!





11. Trying Keylogger in Kali Linux

### Keylogger?

**Keyloggers** or keystroke loggers are software programs or hardware devices that track the activities (keys pressed) of a keyboard. ... **Keylogger** software typically stores your keystrokes in a small file, which is either accessed later or automatically emailed to the person monitoring your actions.





### **BEELOGGER?**

**Beelogger** is a tool which works like Keylogger in Kali Linux. It records your activities, strokes & Steps and mail all the logs to hackers given destination email address.



# Let's Try it!





12. Trying NMAP in Kali Linux



#### NMAP?

**Nmap** ("Network Mapper") is a free and open source (license) utility for network discovery and security auditing. Many systems and network administrators also find it useful for tasks such as network inventory, managing service upgrade schedules, and monitoring host or service uptime.

```
nmap --script=ftp-vsftpd-backdoor.nse 192.168.56.102 -p 21
Starting Nmap 7.30 ( https://nmap.org ) at 2016-11-02 21:45 EDT
  ap scan report for 192.168.56.102
  st is up (0.00038s latency).
     STATE SERVICE
   tp-vsftpd-backdoor:
   VULNERABLE:
   vsFTPd version 2.3.4 backdoor
     State: VULNERABLE (Exploitable)
     IDs: CVE:CVE-2011-2523 OSVDB:73573
       vsFTPd version 2.3.4 backdoor, this was reported on 2011-07-04.
     Disclosure date: 2011-07-03
     Exploit results:
       Shell command: id
       Results: uid=0(root) gid=0(root)
       https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2011-2523
       http://scarybeastsecurity.blogspot.com/2011/07/alert-vsftpd-download-backdoored.html
       http://osvdb.org/73573
       https://github.com/rapid7/metasploit-framework/blob/master/modules/exploits/unix/ftp/vsftpd 234 backdoor.rk
MAC Address: 08:00:27:34:58:53 (Oracle VirtualBox virtual NIC)
     done: 1 IP address (1 host up) scanned in 1.32 second
```



# Let's Try it!





13. BASH Scripting in Kali Linux



#### **BASH SCRIPTING?**

**Bash** is a Unix **shell**, which is a command line interface (CLI) for interacting with an operating system (OS). Any command that you can run from the command line can be used in a **bash script**. **Scripts** are used to run a series of commands. **Bash** is available by default on **Linux** and macOS operating systems.



- 1. Variables (with Datatypes)
- 2. Comments
- 3. If-else Statement
- 4. Switch case Statement
- 5. Taking input
- 6. Showing output
- 7. Operators
- 8. Arrays
- 9. Loops
- 10.Functions



# Let's do it!



### Hope Guys You got the point of the Video

