metasploit

Introduction about Metasploite

Metasploit is a popular and powerful framework used for penetration testing, exploiting vulnerabilities, and security research. It contains a wide range of tools and modules for various tasks in the security testing process. Below are some of the main components and contents of the Metasploit Framework

History of Metasploite :

The Metasploit Framework is a popular open-source tool for developing and executing exploits against a target system. It was first developed by HD Moore in 2003 as a portable network tool using Perl, and has since evolved into a full-featured exploit development platform written in Ruby.

Metasploit Content

Modules :-

1. **Exploit Modules:** These modules are used to take advantage of vulnerabilities in target systems. Each exploit module is designed for a specific vulnerability in software or hardware.

2. **Payload Modules:** Payloads are the code that is executed after a successful exploit. These can range from simple commands to complex shells and reverse shells.

3. **Auxiliary Modules:** These modules are used for various tasks other than exploitation, such as scanning, fuzzing, DoS (Denial of Service), and enumeration.

4. **Post-Exploitation Modules:** These modules are used after successfully exploiting a target, helping gather information, escalate privileges, and maintain access.

5. **Encoders**: Used to modify payloads to bypass security mechanisms, like antivirus software, by encoding them in different ways.

6. **Nops**: Used to insert "no-op" (NOP) instructions in the payload to ensure it runs successfully, especially when dealing with buffer overflow exploits.

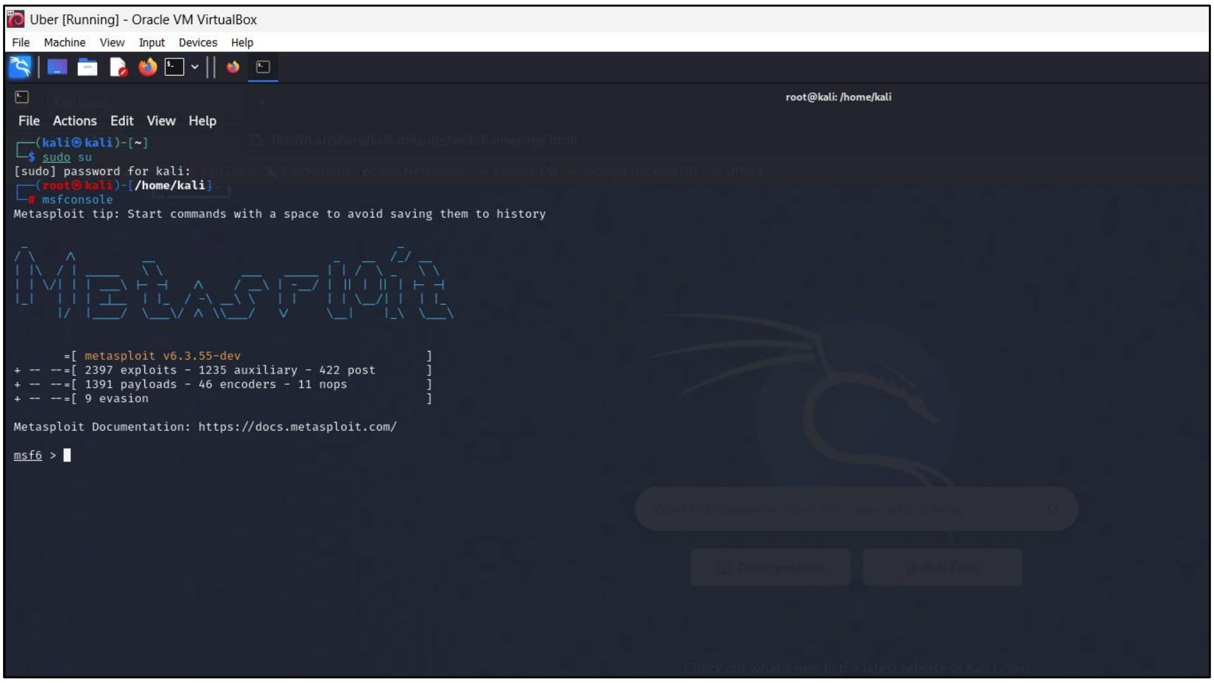
7. **Evasion:** A category used to avoid detection by firewalls, intrusion detection systems (IDS), and antivirus software.

Interfaces:

➢ **Metasploite has different interfaces to ease our tasks**

1. MSFconsole :

msfconsole is the primary command-line interface (CLI) for interacting with the **Metasploit Framework**. It is the most commonly used interface for penetration testers and ethical hackers when performing penetration testing, exploiting vulnerabilities, and post-exploitation activities.


Uber [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
File Actions Edit View Help
root@kali: /home/kali

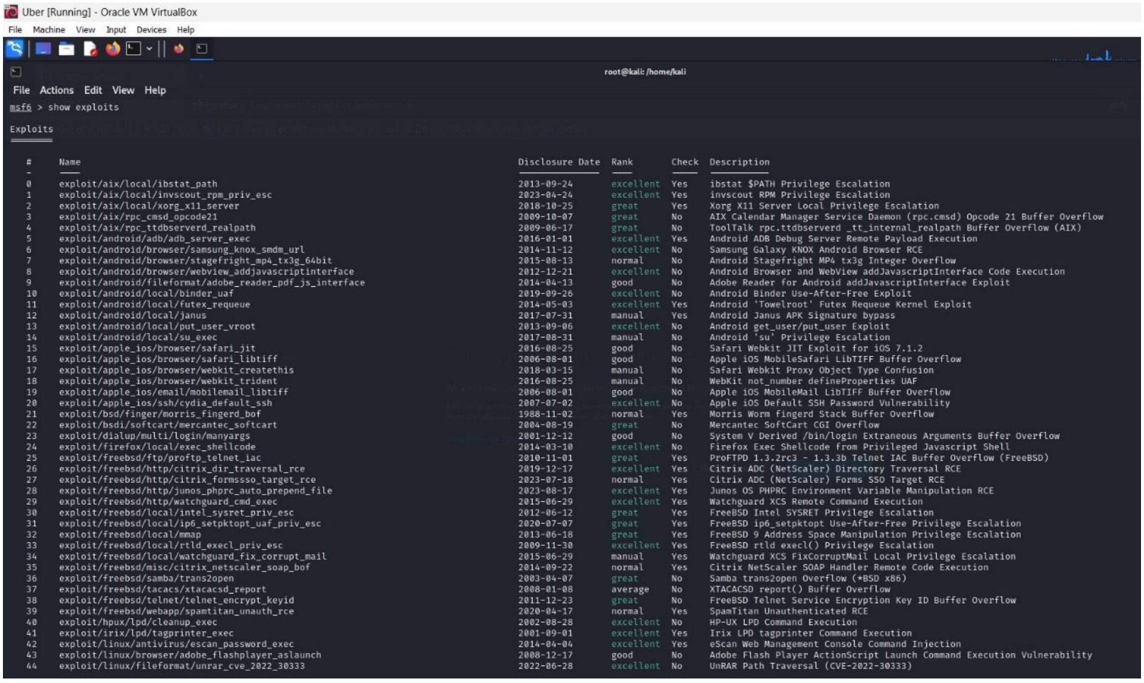
```
┌──(kali㉿kali)-[~]
└─$ sudo su
[sudo] password for kali:
┌──(root㉿kali)-[/home/kali]
└─# msfconsole
Metasploit tip: Start commands with a space to avoid saving them to history


       =[ metasploit v6.3.55-dev                          ]
+ -- --=[ 2397 exploits - 1235 auxiliary - 422 post       ]
+ -- --=[ 1391 payloads - 46 encoders - 11 nops           ]
+ -- --=[ 9 evasion                                       ]

Metasploit Documentation: https://docs.metasploit.com/

msf6 > 
```

1. **Exploit Module:**


Uber [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
root@kali: /home/kali
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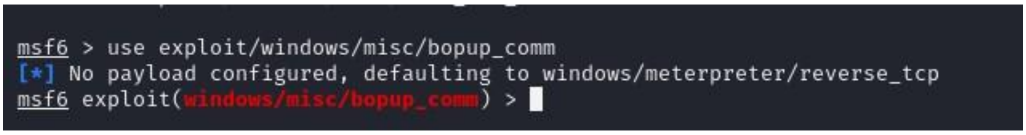
```
msf6 > show exploits

Exploits
========

   #   Name                                                        Disclosure Date  Rank       Check  Description
   -   ----                                                        ---------------  ----       -----  -----------
   0   exploit/aix/local/ibstat_path                               2013-09-24       excellent  Yes    ibstat $PATH Privilege Escalation
   1   exploit/aix/local/invscout_rpm_priv_esc                     2023-04-24       excellent  Yes    invscout RPM Privilege Escalation
   2   exploit/aix/local/xorg_x11_server                           2018-10-25       great      Yes    Xorg X11 Server Local Privilege Escalation
   3   exploit/aix/rpc_cmsd_opcode21                               2009-10-07       great      No     AIX Calendar Manager Service Daemon (rpc.cmsd) Opcode 21 Buffer Overflow
   4   exploit/aix/rpc_ttdbserverd_realpath                        2009-06-17       great      No     ToolTalk rpc.ttdbserverd _tt_internal_realpath Buffer Overflow (AIX)
   5   exploit/android/adb/adb_server_exec                         2016-01-01       excellent  Yes    Android ADB Debug Server Remote Payload Execution
   6   exploit/android/browser/samsung_knox_smdm_url               2014-11-12       excellent  No     Samsung Galaxy KNOX Android Browser RCE
   7   exploit/android/browser/stagefright_mp4_tx3g_64bit          2015-08-13       normal     No     Android Stagefright MP4 tx3g Integer Overflow
   8   exploit/android/browser/webview_addjavascriptinterface      2012-12-21       excellent  No     Android Browser and WebView addJavascriptInterface Code Execution
   9   exploit/android/fileformat/adobe_reader_pdf_js_interface    2014-04-13       good       No     Adobe Reader for Android addJavascriptInterface Exploit
   10  exploit/android/local/binder_uaf                            2019-09-26       excellent  No     Android Binder Use-After-Free Exploit
   11  exploit/android/local/futex_requeue                         2014-05-03       excellent  Yes    Android 'Towelroot' Futex Requeue Kernel Exploit
   12  exploit/android/local/janus                                 2017-07-31       manual     Yes    Android Janus APK Signature bypass
   13  exploit/android/local/put_user_vroot                        2013-09-06       excellent  No     Android get_user/put_user Exploit
   14  exploit/android/local/su_exec                               2017-08-31       manual     No     Android 'su' Privilege Escalation
   15  exploit/apple_ios/browser/safari_jit                        2016-08-25       good       No     Safari Webkit JIT Exploit for iOS 7.1.2
   16  exploit/apple_ios/browser/safari_libtiff                    2006-08-01       good       No     Apple iOS MobileSafari LibTIFF Buffer Overflow
   17  exploit/apple_ios/browser/webkit_createthis                 2018-03-15       manual     No     Safari Webkit Proxy Object Type Confusion
   18  exploit/apple_ios/browser/webkit_trident                    2016-08-25       manual     No     WebKit not_number defineProperties UAF
   19  exploit/apple_ios/email/mobilemail_libtiff                  2006-08-01       good       No     Apple iOS MobileMail LibTIFF Buffer Overflow
   20  exploit/apple_ios/ssh/cydia_default_ssh                     2007-07-02       excellent  No     Apple iOS Default SSH Password Vulnerability
   21  exploit/bsd/finger/morris_fingerd_bof                       1988-11-02       normal     Yes    Morris Worm fingerd Stack Buffer Overflow
   22  exploit/bsdi/softcart/mercantec_softcart                    2004-08-19       great      No     Mercantec SoftCart CGI Overflow
   23  exploit/dialup/multi/login/manyargs                         2001-12-12       good       No     System V Derived /bin/login Extraneous Arguments Buffer Overflow
   24  exploit/firefox/local/exec_shellcode                        2014-03-10       excellent  No     Firefox Exec Shellcode from Privileged Javascript Shell
   25  exploit/freebsd/ftp/proftp_telnet_iac                       2010-11-01       great      Yes    ProFTPD 1.3.2rc3 - 1.3.3b Telnet IAC Buffer Overflow (FreeBSD)
   26  exploit/freebsd/http/citrix_dir_traversal_rce               2019-12-17       excellent  Yes    Citrix ADC (NetScaler) Directory Traversal RCE
   27  exploit/freebsd/http/citrix_formssso_target_rce             2023-07-18       normal     Yes    Citrix ADC (NetScaler) Forms SSO Target RCE
   28  exploit/freebsd/http/junos_phprc_auto_prepend_file          2023-08-17       excellent  Yes    Junos OS PHPRC Environment Variable Manipulation RCE
   29  exploit/freebsd/http/watchguard_cmd_exec                    2015-06-29       excellent  Yes    Watchguard XCS Remote Command Execution
   30  exploit/freebsd/local/intel_sysret_priv_esc                 2012-06-12       great      Yes    FreeBSD Intel SYSRET Privilege Escalation
   31  exploit/freebsd/local/ip6_setpktopt_uaf_priv_esc            2020-07-07       great      Yes    FreeBSD ip6_setpktopt Use-After-Free Privilege Escalation
   32  exploit/freebsd/local/mmap                                  2013-06-18       great      Yes    FreeBSD 9 Address Space Manipulation Privilege Escalation
   33  exploit/freebsd/local/rtld_execl_priv_esc                   2009-11-30       excellent  Yes    FreeBSD rtld execl() Privilege Escalation
   34  exploit/freebsd/local/watchguard_fix_corrupt_mail           2015-06-29       manual     Yes    Watchguard XCS FixCorruptMail Local Privilege Escalation
   35  exploit/freebsd/misc/citrix_netscaler_soap_bof              2014-09-22       normal     Yes    Citrix NetScaler SOAP Handler Remote Code Execution
   36  exploit/freebsd/samba/trans2open                            2003-04-07       great      No     Samba trans2open Overflow (*BSD x86)
   37  exploit/freebsd/tacacs/xtacacsd_report                      2008-01-08       average    No     XTACACSD report() Buffer Overflow
   38  exploit/freebsd/telnet/telnet_encrypt_keyid                 2011-12-23       great      No     FreeBSD Telnet Service Encryption Key ID Buffer Overflow
   39  exploit/freebsd/webapp/spamtitan_unauth_rce                 2020-04-17       normal     Yes    SpamTitan Unauthenticated RCE
   40  exploit/hpux/lpd/cleanup_exec                               2002-08-28       excellent  No     HP-UX LPD Command Execution
   41  exploit/irix/lpd/tagprinter_exec                            2001-09-01       excellent  Yes    Irix LPD tagprinter Command Execution
   42  exploit/linux/antivirus/escan_password_exec                 2014-04-04       excellent  Yes    eScan Web Management Console Command Injection
   43  exploit/linux/browser/adobe_flashplayer_aslaunch            2008-12-17       good       No     Adobe Flash Player ActionScript Launch Command Execution Vulnerability
   44  exploit/linux/fileformat/unrar_cve_2022_30333               2022-06-28       excellent  No     UnRAR Path Traversal (CVE-2022-30333)
```

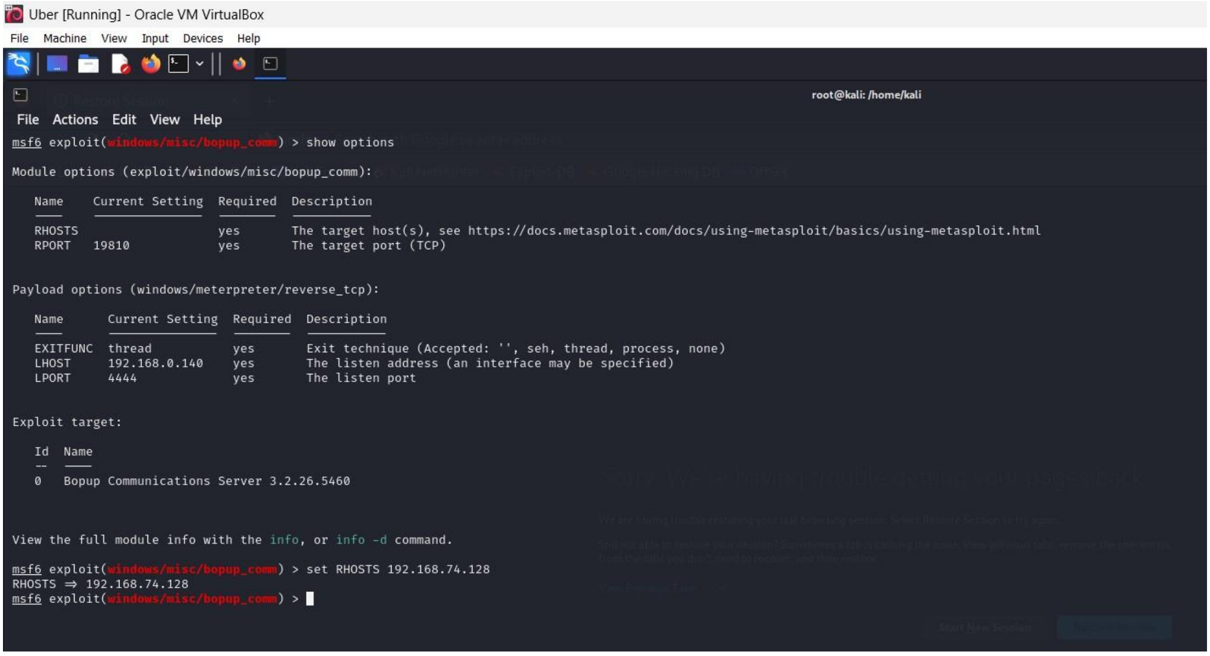
- **An exploit executes a sequence of commands that targe a specific vulnerability found in a system**

- **Use a Particular exploits :**



```
msf6 > use exploit/windows/misc/bopup_comm
[*] No payload configured, defaulting to windows/meterpreter/reverse_tcp
msf6 exploit(windows/misc/bopup_comm) > 
```

- ### Show Options in Exploits :



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```
msf6 exploit(windows/misc/bopup_comm) > show options

Module options (exploit/windows/misc/bopup_comm):

   Name    Current Setting  Required  Description
   ----    ---------------  --------  -----------
   RHOSTS                   yes       The target host(s), see https://docs.metasploit.com/docs/using-metasploit/basics/using-metasploit.html
   RPORT   19810            yes       The target port (TCP)


Payload options (windows/meterpreter/reverse_tcp):

   Name      Current Setting  Required  Description
   ----      ---------------  --------  -----------
   EXITFUNC  thread           yes       Exit technique (Accepted: '', seh, thread, process, none)
   LHOST     192.168.0.140    yes       The listen address (an interface may be specified)
   LPORT     4444             yes       The listen port


Exploit target:

   Id  Name
   --  ----
   0   Bopup Communications Server 3.2.26.5460



View the full module info with the info, or info -d command.

msf6 exploit(windows/misc/bopup_comm) > set RHOSTS 192.168.74.128
RHOSTS ⇒ 192.168.74.128
msf6 exploit(windows/misc/bopup_comm) > █
```

Usage :

Open

1.Terminal – msfconsole -q

2. msf6 – show exploits (It displays various options)

3. msf6 > use exploit/windows/misc/bopup_comm

msf6 exploit (windows/misc/bopup_comm) > show options [It displays various option in this exploit]

4. msf6 exploit (windows/misc/bopup_comm) > set RHOSTS = 192.168.74.128

RHOSTS is a remote host , we should type the victim’s ip address