МИНОБРНАУКИ РОССИИ

Федеральное государственное бюджетное образовательное учреждение

высшего образования

«МИРЭА – Российский технологический университет»

Институт кибербезопасности и цифровых технологий

Практическая работа № 3.2

по дисциплине

«Управление информационной безопасностью»

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«Зачтено» «__»_____2023 г. _____

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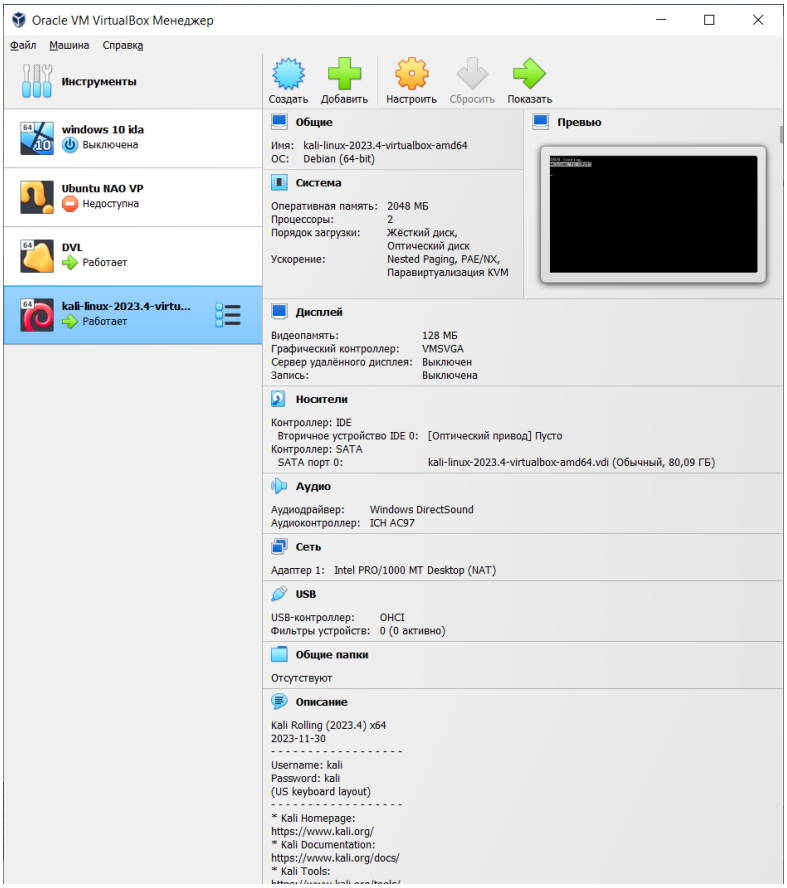
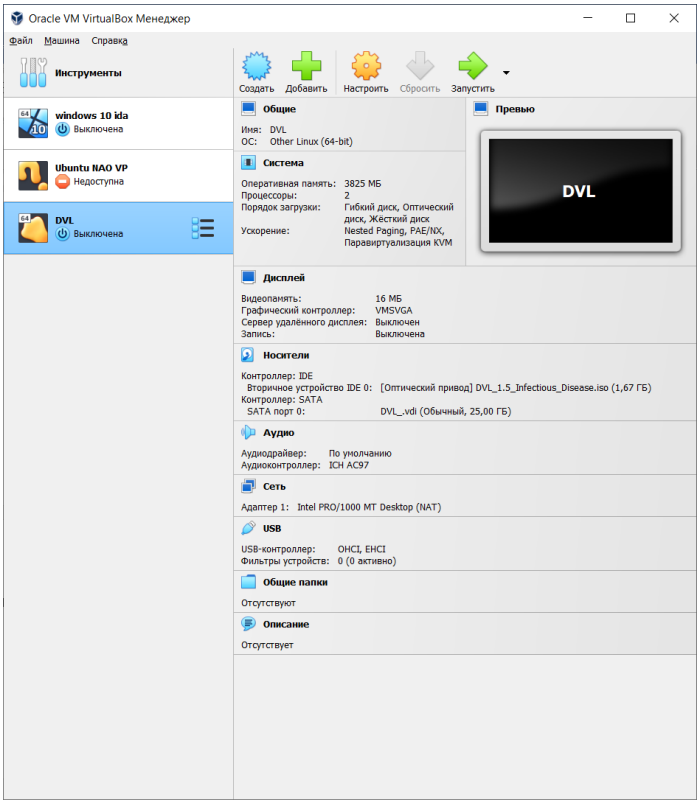
Содержание

Установка и настройка виртуальных машин

Добавим и запустим Kali linux

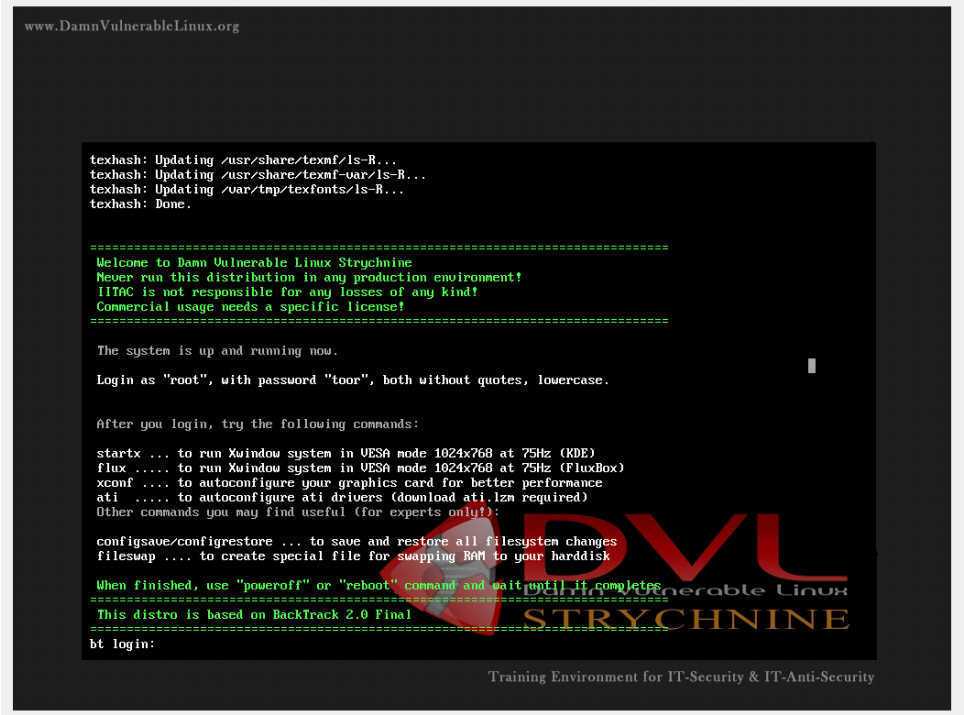


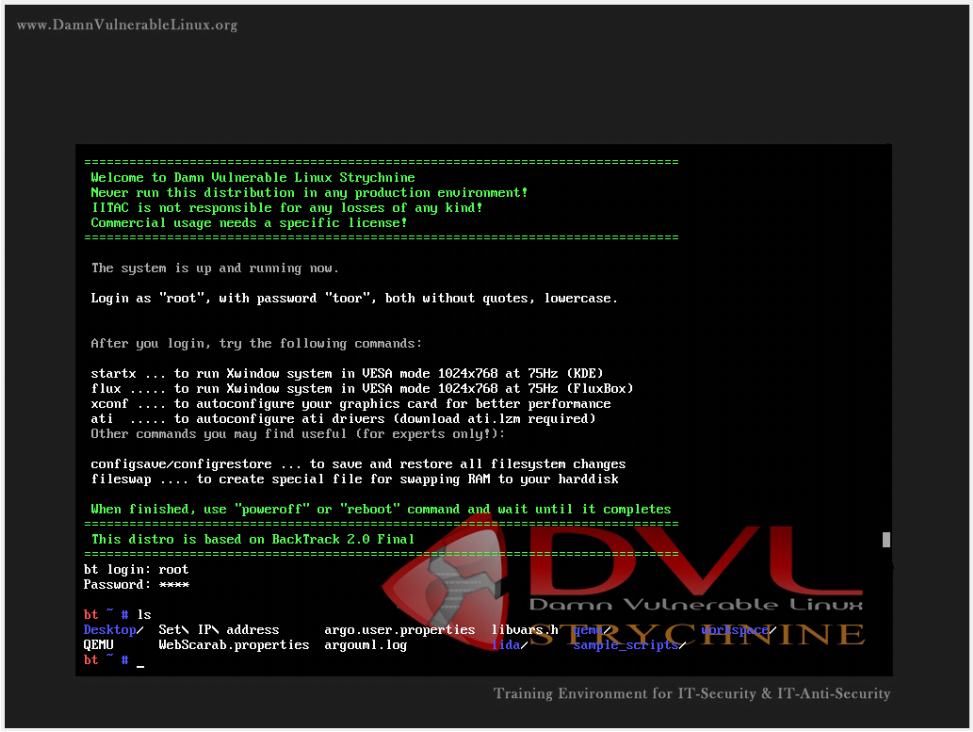
Создадим вм с DamnVulnerableLinux



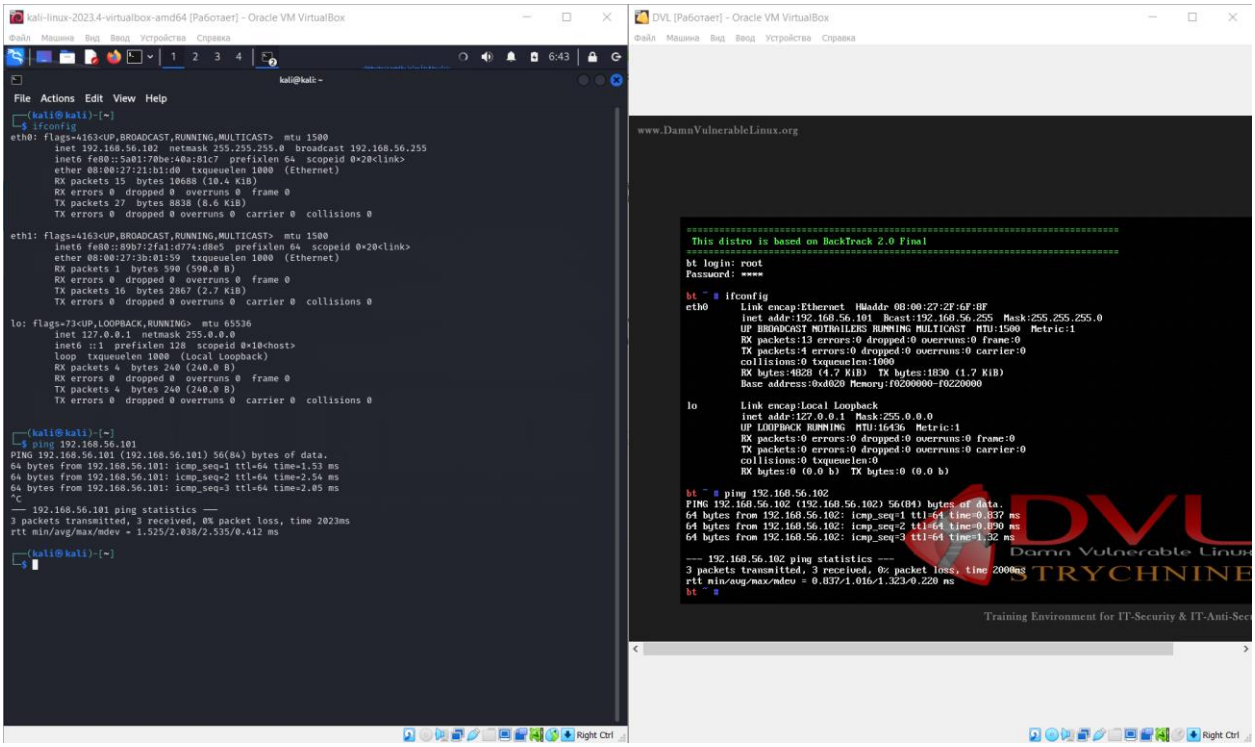
Установим все необходимое для dvl. Используя туториал для настройки https://www.computersecuritystudent.com/SECURITY_TOOLS/DVL/lesson1/.

Требуется авторизация root/toor





Проверим что у вм есть доступ к сети и друг другу



Настроим DVL, выведем fdisk -l и видим отсутствие таблицы разделов, создадим новую

```
bt ~ # fdisk -l

Disk /dev/sda: 22.2 GB, 22283698176 bytes
255 heads, 63 sectors/track, 2709 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes

Disk /dev/sda doesn't contain a valid partition table
```

```
bt ~ # fdisk /dev/sda
Device contains neither a valid DOS partition table, nor Sun, SGI or OSF disklabel
Building a new DOS disklabel. Changes will remain in memory only,
until you decide to write them. After that, of course, the previous
content won't be recoverable.
```

```
Command (m for help): m
Command action
   a   toggle a bootable flag
   b   edit bsd disklabel
   c   toggle the dos compatibility flag
   d   delete a partition
   l   list known partition types
   m   print this menu
   n   add a new partition
   o   create a new empty DOS partition table
   p   print the partition table
   q   quit without saving changes
   s   create a new empty Sun disklabel
   t   change a partition's system id
   u   change display/entry units
   v   verify the partition table
   w   write table to disk and exit
   x   extra functionality (experts only)
```

```
Command (m for help): n
Command action
   e   extended
   p   primary partition (1-4)
1
Invalid partition number for type `1'
Command action
   e   extended
   p   primary partition (1-4)
p
Partition number (1-4): 1
First cylinder (1-2709, default 1):
Using default value 1
Last cylinder or +size or +sizeM or +sizeK (1-2709, default 2709):
Using default value 2709
```

Видим новую таблицу разделов

```
bt ~ # fdisk -l

Disk /dev/sda: 22.2 GB, 22283698176 bytes
255 heads, 63 sectors/track, 2709 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1               1        2709    21760011   83  Linux
```

Отформатируем диск

```
bt ~ # mkfs.ext3 /dev/sda1
mke2fs 1.38 (30-Jun-2005)
warning: 514 blocks unused.

Filesystem label=
OS type: Linux
Block size=4096 (log=2)
Fragment size=4096 (log=2)
2725056 inodes, 5439488 blocks
272000 blocks (5.00%) reserved for the super user
First data block=0
166 block groups
32768 blocks per group, 32768 fragments per group
16416 inodes per group
Superblock backups stored on blocks:
        32768, 98304, 163840, 229376, 294912, 819200, 884736, 1605632, 2654208,
        4096000

Writing inode tables: done
Creating journal (32768 blocks): done
Writing superblocks and filesystem accounting information: done

This filesystem will be automatically checked every 28 mounts or
180 days, whichever comes first.  Use tune2fs -c or -i to override.
```

Создадим директорию /mnt/dvl и примонтируем туда созданный раздел /dev/sda1

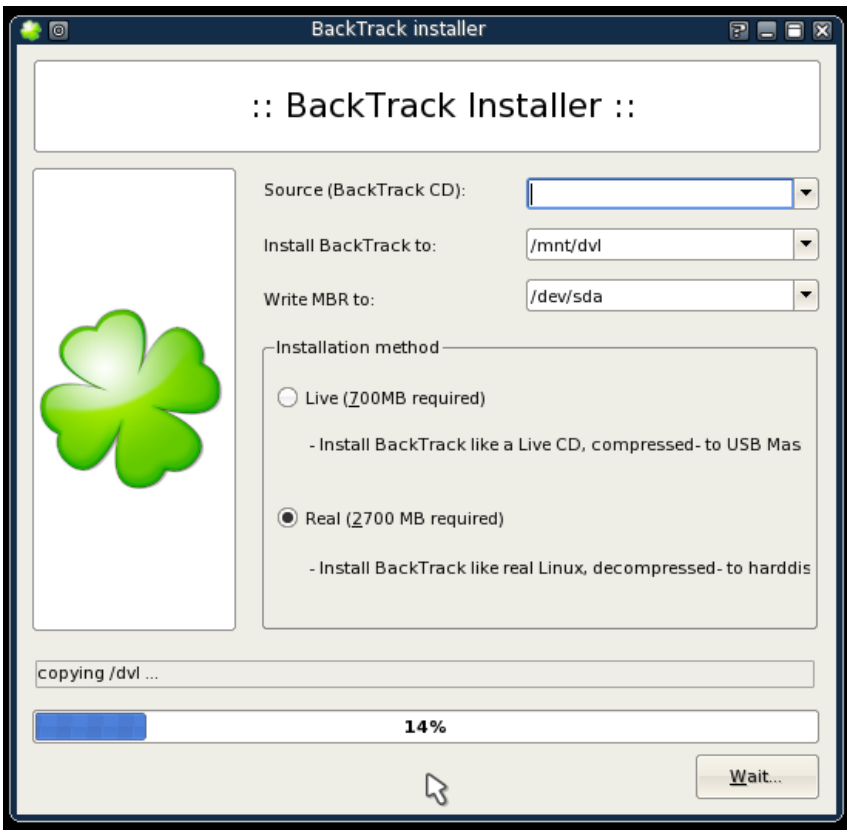
```
bt ~ # mkdir /mnt/dvl
bt ~ # mount /dev/sda1 /mnt/dvl
bt ~ # df -hT
Filesystem     Type    Size  Used Avail Use% Mounted on
tmpfs         tmpfs    1.8G  7.8M  1.8G   1% /
none          tmpfs    144M     0  144M   0% /dev/shm
/dev/sda1      ext3     21G  129M   20G   1% /mnt/dvl
```

Запустим графическую оболочку

```
bt ~ # startx &_
```

Запустим BackTrack Installer

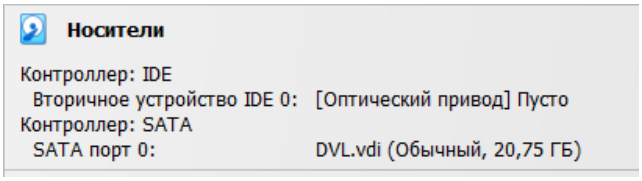
Установим с параметрами как на картинке



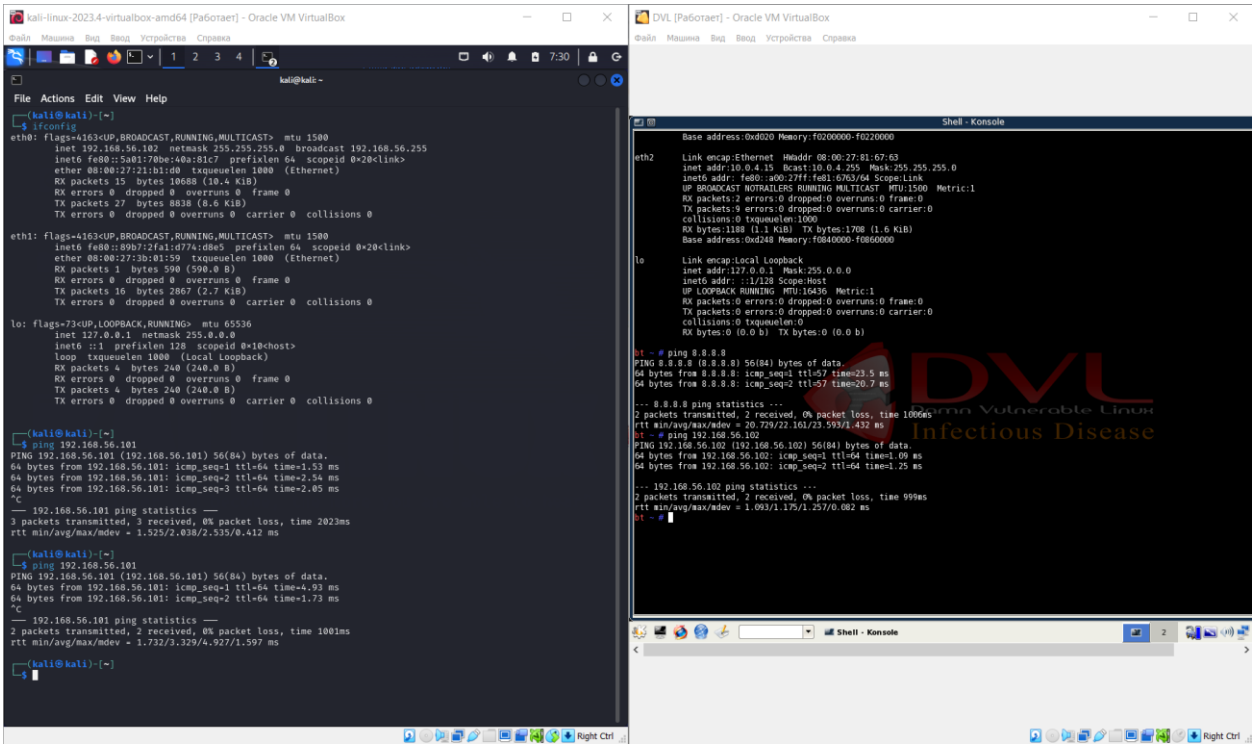
Также подправим сломавшуюся раскладку клавиатуры только на US

Установим boot loader при помощи lilo

Перезапустим вм и отключим iso файл



Повторно проверим соединение и подключение к интернету



Установим openvas для kali linux

```
sudo apt update
sudo apt upgrade -y
sudo apt dist-upgrade -y
sudo apt install openvas
```

```
┌──(kali㉿kali)-[~]
└─$ systemctl start redis-server.service

┌──(kali㉿kali)-[~]
└─$ systemctl enable redis-server.service
Synchronizing state of redis-server.service with SysV service script with /usr/lib/systemd/systemd-sysv-insta
ll.
Executing: /usr/lib/systemd/systemd-sysv-install enable redis-server
Failed to enable unit: Access denied

┌──(kali㉿kali)-[~]
└─$ sudo systemctl enable redis-server.service
Synchronizing state of redis-server.service with SysV service script with /usr/lib/systemd/systemd-sysv-insta
ll.
Executing: /usr/lib/systemd/systemd-sysv-install enable redis-server
Created symlink /etc/systemd/system/redis.service → /usr/lib/systemd/system/redis-server.service.
Created symlink /etc/systemd/system/multi-user.target.wants/redis-server.service → /usr/lib/systemd/system/re
dis-server.service.

┌──(kali㉿kali)-[~]
└─$ sudo systemctl status redis-server.service
● redis-server.service - Advanced key-value store
     Loaded: loaded (/usr/lib/systemd/system/redis-server.service; enabled; preset: disabled)
     Active: active (running) since Tue 2024-01-23 07:57:42 EST; 36s ago
       Docs: http://redis.io/documentation,
             man:redis-server(1)
   Main PID: 61878 (redis-server)
     Status: "Ready to accept connections"
      Tasks: 5 (limit: 2260)
     Memory: 11.3M (peak: 11.8M)
        CPU: 100ms
     CGroup: /system.slice/redis-server.service
             └─61878 "/usr/bin/redis-server 127.0.0.1:6379"

Jan 23 07:57:42 kali systemd[1]: Starting redis-server.service - Advanced key-value store ...
Jan 23 07:57:42 kali systemd[1]: Started redis-server.service - Advanced key-value store.
```

```
┌──(kali㉿kali)-[~]
└─$ sudo gvm-setup

[>] Starting PostgreSQL service

[>] Creating GVM's certificate files

[>] Creating PostgreSQL database

[*] Creating database user

[*] Creating database

[*] Creating permissions
CREATE ROLE

[*] Applying permissions
GRANT ROLE

[*] Creating extension uuid-ossp
CREATE EXTENSION

[*] Creating extension pgcrypto
CREATE EXTENSION

[*] Creating extension pg-gvm
CREATE EXTENSION
[>] Migrating database
[>] Checking for GVM admin user
[*] Creating user admin for gvm
[*] Please note the generated admin password
[*] User created with password 'c63797dc-dee1-4408-a572-a18ed871315f'.
[*] Configure Feed Import Owner
[*] Define Feed Import Owner
[*] Update GVM feeds
Running as root. Switching to user '_gvm' and group '_gvm'.
Trying to acquire lock on /var/lib/openvas/feed-update.lock
Acquired lock on /var/lib/openvas/feed-update.lock
' Downloading Notus files from
rsync://feed.community.greenbone.net/community/vulnerability-feed/22.04/vt-data/notus/ to /var/lib/notus
```

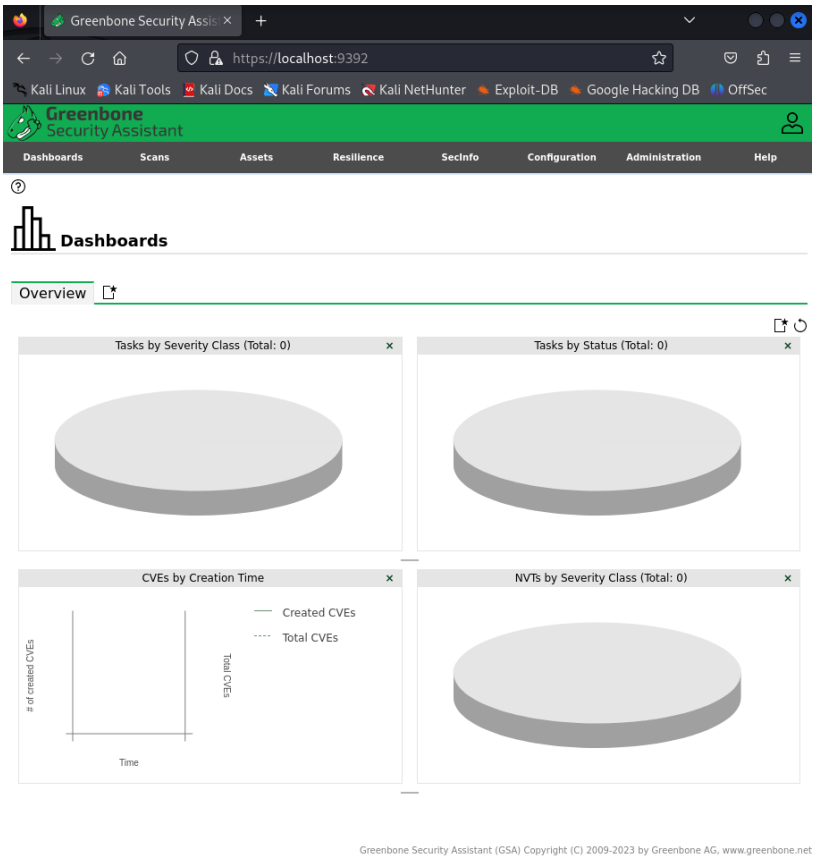
```
[*] Checking Default scanner
[*] Modifying Default Scanner
Scanner modified.

[+] Done
[*] Please note the password for the admin user
[*] User created with password 'c63797dc-dee1-4408-a572-a18ed871315f'.

[>] You can now run gvm-check-setup to make sure everything is correctly configured
```

c63797dc-dee1-4408-a572-a18ed871315f

Проверим корректность установки

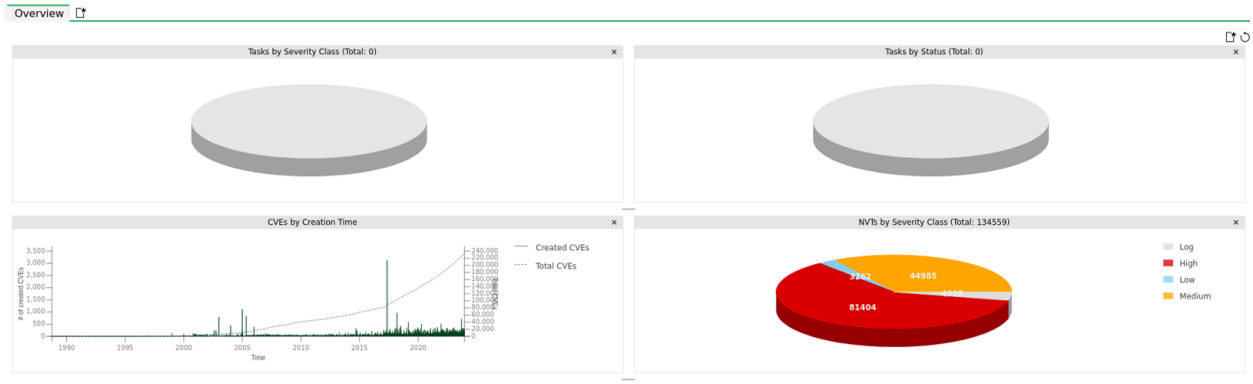
```
┌──(kali㉿kali)-[~]
└─$ sudo gvm-check-setup
[sudo] password for kali:
gvm-check-setup 23.11.0
  Test completeness and readiness of GVM-23.11.0
Step 1: Checking OpenVAS (Scanner)...
        OK: OpenVAS Scanner is present in version 22.7.9.
        OK: Notus Scanner is present in version 22.6.2.
        OK: Server CA Certificate is present as /var/lib/gvm/CA/servercert.pem.
Checking permissions of /var/lib/openvas/gnupg/*
        OK: _gvm owns all files in /var/lib/openvas/gnupg
        OK: redis-server is present.
        OK: scanner (db_address setting) is configured properly using the redis-server socket: /var/run/redis-
openvas/redis-server.sock
        OK: the mqtt_server_uri is defined in /etc/openvas/openvas.conf
        OK: _gvm owns all files in /var/lib/openvas/plugins
        OK: NVT collection in /var/lib/openvas/plugins contains 88018 NVTs.
        OK: The notus directory /var/lib/notus/products contains 453 NVTs.
Checking that the obsolete redis database has been removed
Could not connect to Redis at /var/run/redis-openvas/redis-server.sock: No such file or directory
        OK: No old Redis DB
        Starting ospd-openvas service
        Waiting for ospd-openvas service
        OK: ospd-openvas service is active.
        OK: ospd-OpenVAS is present in version 22.6.2.
Step 2: Checking GVMD Manager ...
        OK: GVM Manager (gvmd) is present in version 23.1.0.
Step 3: Checking Certificates ...
        OK: GVM client certificate is valid and present as /var/lib/gvm/CA/clientcert.pem.
        OK: Your GVM certificate infrastructure passed validation.
Step 4: Checking data ...
        OK: SCAP data found in /var/lib/gvm/scap-data.
        OK: CERT data found in /var/lib/gvm/cert-data.
Step 5: Checking Postgresql DB and user ...
        OK: Postgresql version and default port are OK.
 gvmd      | _gvm     | UTF8     | libc            | en_US.UTF-8 | en_US.UTF-8 |            |           |
16436|pg-gvm|10|2200|f|22.6||
        OK: At least one user exists.
Step 6: Checking Greenbone Security Assistant (GSA) ...
        OK: Greenbone Security Assistant is present in version 22.08.0~git.
Step 7: Checking if GVM services are up and running ...
        Starting gvmd service
        Waiting for gvmd service
```

Войдем в интерфейс приложения



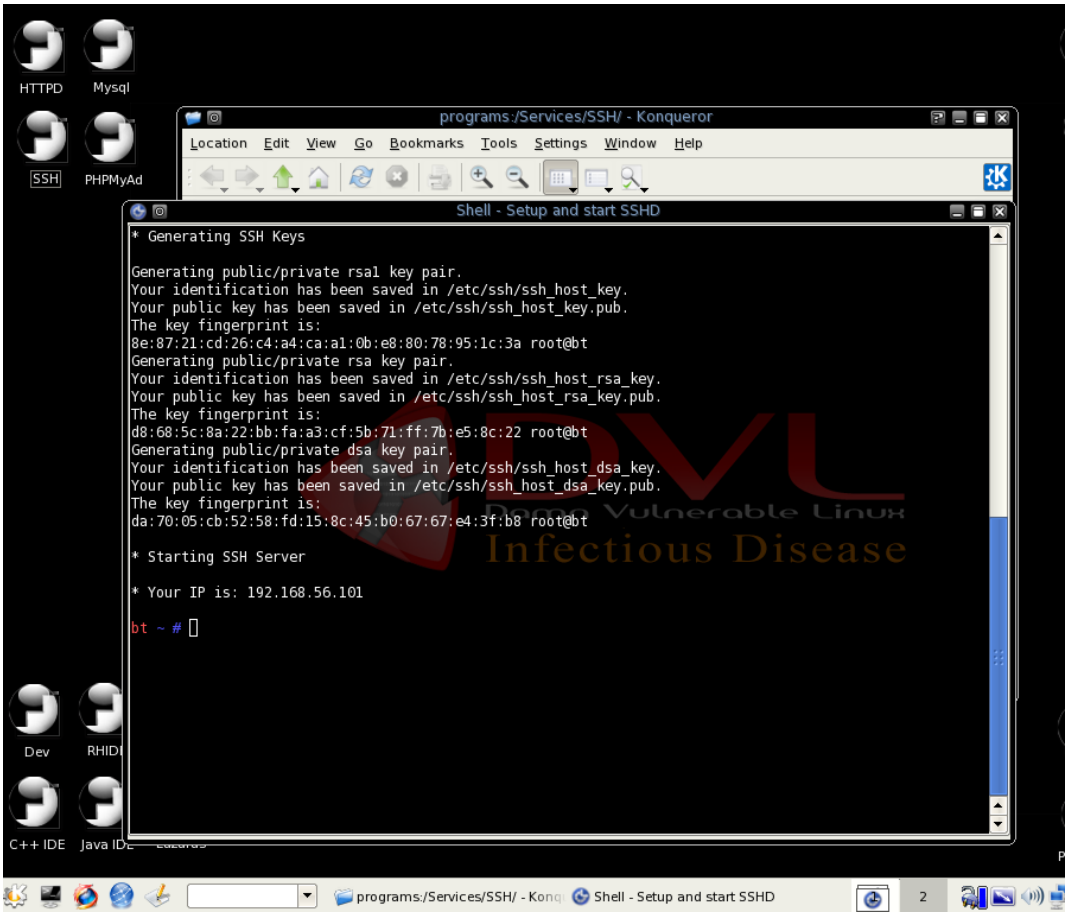
Обновим базы данных openvas

```
┌──(kali㉿kali)-[~]
└─$ sudo greenbone-feed-sync
Running as root. Switching to user '_gvm' and group '_gvm'.
Trying to acquire lock on /var/lib/openvas/feed-update.lock
Acquired lock on /var/lib/openvas/feed-update.lock
Downloading Notus files from rsync://feed.community.greenbone.net/community/vulnerability-feed/22.04/vt-data/notus/ to /var/lib/notus
Downloading NASL files from rsync://feed.community.greenbone.net/community/vulnerability-feed/22.04/vt-data/nasl/ to /var/lib/openvas/plugins
Releasing lock on /var/lib/openvas/feed-update.lock

Trying to acquire lock on /var/lib/gvm/feed-update.lock
Acquired lock on /var/lib/gvm/feed-update.lock
Downloading SCAP data from rsync://feed.community.greenbone.net/community/vulnerability-feed/22.04/scap-data/ to /var/lib/gvm/scap-data
Downloading CERT-Bund data from rsync://feed.community.greenbone.net/community/vulnerability-feed/22.04/cert-data/ to /var/lib/gvm/cert-data
Downloading gvmd data from rsync://feed.community.greenbone.net/community/data-feed/22.04/ to /var/lib/gvm/data-objects/gvmd/22.04
Releasing lock on /var/lib/gvm/feed-update.lock
```



Использование инструментов анализа защищенности

Запустим ssh server на dvl



Просканируем dvl через nmap, видим открытые порты

```
┌──(kali㉿kali)-[~]
└─$ nmap 192.168.56.101/24
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-01-23 09:22 EST
Nmap scan report for 192.168.56.101
Host is up (0.00043s latency).
Not shown: 996 closed tcp ports (conn-refused)
PORT     STATE SERVICE
22/tcp   open  ssh
631/tcp  open  ipp
3306/tcp open  mysql
6000/tcp open  X11

Nmap scan report for 192.168.56.102
Host is up (0.00053s latency).
All 1000 scanned ports on 192.168.56.102 are in ignored states.
Not shown: 1000 closed tcp ports (conn-refused)

Nmap done: 256 IP addresses (2 hosts up) scanned in 19.88 seconds
```

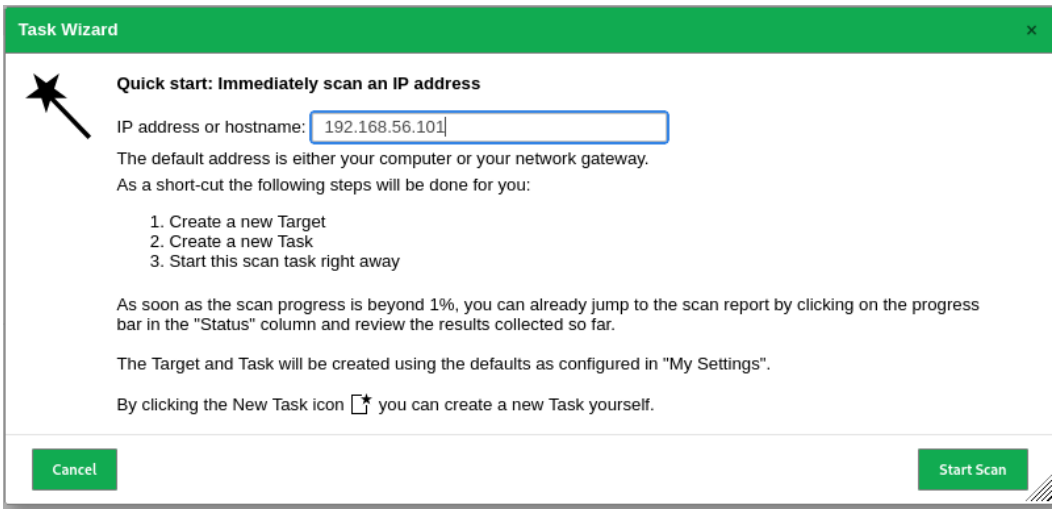
Просканируем при помощи скрипта vulners, уязвимости найденные nmap

```
┌──(kali㉿kali)-[~]
└─$ nmap -sV --script vulners 192.168.56.101/24
Starting Nmap 7.94SVN ( https://nmap.org ) at 2024-01-23 09:24 EST
Nmap scan report for 192.168.56.101
Host is up (0.0020s latency).
Not shown: 996 closed tcp ports (conn-refused)
PORT     STATE SERVICE VERSION
22/tcp   open  ssh     OpenSSH 4.4 (protocol 1.99)
| vulners:
|   cpe:/a:openbsd:openssh:4.4:
|       SSV:78173       7.8     https://vulners.com/seebug/SSV:78173    *EXPLOIT*
|       SSV:69983       7.8     https://vulners.com/seebug/SSV:69983    *EXPLOIT*
|       PRION:CVE-2009-0687     7.8     https://vulners.com/prion/PRION:CVE-2009-0687
|       EDB-ID:24450    7.8     https://vulners.com/exploitdb/EDB-ID:24450      *EXPLOIT*
|       EDB-ID:15215    7.8     https://vulners.com/exploitdb/EDB-ID:15215      *EXPLOIT*
|       PRION:CVE-2010-4478     7.5     https://vulners.com/prion/PRION:CVE-2010-4478
|       PRION:CVE-2007-4752     7.5     https://vulners.com/prion/PRION:CVE-2007-4752
|       CVE-2010-4478   7.5     https://vulners.com/cve/CVE-2010-4478
|       CVE-2007-4752   7.5     https://vulners.com/cve/CVE-2007-4752
|       CVE-2006-5794   7.5     https://vulners.com/cve/CVE-2006-5794
|       SSV:20512       7.2     https://vulners.com/seebug/SSV:20512    *EXPLOIT*
|       PRION:CVE-2011-1013     7.2     https://vulners.com/prion/PRION:CVE-2011-1013
|       PRION:CVE-2008-1657     6.5     https://vulners.com/prion/PRION:CVE-2008-1657
|       CVE-2008-1657   6.5     https://vulners.com/cve/CVE-2008-1657
|       SSV:60656       5.0     https://vulners.com/seebug/SSV:60656    *EXPLOIT*
|       PRION:CVE-2011-2168     5.0     https://vulners.com/prion/PRION:CVE-2011-2168
|       PRION:CVE-2010-5107     5.0     https://vulners.com/prion/PRION:CVE-2010-5107
|       PRION:CVE-2009-0780     5.0     https://vulners.com/prion/PRION:CVE-2009-0780
|       PRION:CVE-2008-4109     5.0     https://vulners.com/prion/PRION:CVE-2008-4109
|       PRION:CVE-2007-2243     5.0     https://vulners.com/prion/PRION:CVE-2007-2243
|       PACKETSTORM:73600       5.0     https://vulners.com/packetstorm/PACKETSTORM:73600       *EXPLOIT*
|       CVE-2010-5107   5.0     https://vulners.com/cve/CVE-2010-5107
|       CVE-2007-2243   5.0     https://vulners.com/cve/CVE-2007-2243
|       SSV:66339       4.9     https://vulners.com/seebug/SSV:66339    *EXPLOIT*
|       SSV:10777       4.9     https://vulners.com/seebug/SSV:10777    *EXPLOIT*
|       SECURITYVULNS:VULN:9724 4.9     https://vulners.com/securityvulns/SECURITYVULNS:VULN:9724
|       PRION:CVE-2009-3572     4.9     https://vulners.com/prion/PRION:CVE-2009-3572
|       PRION:CVE-2009-0537     4.9     https://vulners.com/prion/PRION:CVE-2009-0537
|       EXPLOITPACK:B5E7D30E7583980F37EF6DBC0B05FBC3    4.9     https://vulners.com/exploitpack/EXPLOITPACK:B5
E7D30E7583980F37EF6DBC0B05FBC3  *EXPLOIT*
|       EDB-ID:8163     4.9     https://vulners.com/exploitdb/EDB-ID:8163       *EXPLOIT*
|       CVE-2009-0537   4.9     https://vulners.com/cve/CVE-2009-0537
|       PRION:CVE-2010-4755     4.0     https://vulners.com/prion/PRION:CVE-2010-4755
|       PRION:CVE-2012-0814     3.5     https://vulners.com/prion/PRION:CVE-2012-0814
|       PRION:CVE-2011-5000     3.5     https://vulners.com/prion/PRION:CVE-2011-5000
|       CVE-2012-0814   3.5     https://vulners.com/cve/CVE-2012-0814
|       CVE-2011-5000   3.5     https://vulners.com/cve/CVE-2011-5000
|       PRION:CVE-2011-4327     2.1     https://vulners.com/prion/PRION:CVE-2011-4327
|       CVE-2011-4327   2.1     https://vulners.com/cve/CVE-2011-4327
```

```
|       SSV:60656       5.0     https://vulners.com/seebug/SSV:60656    *EXPLOIT*
|       PRION:CVE-2011-2168     5.0     https://vulners.com/prion/PRION:CVE-2011-2168
|       PRION:CVE-2010-5107     5.0     https://vulners.com/prion/PRION:CVE-2010-5107
|       PRION:CVE-2009-0780     5.0     https://vulners.com/prion/PRION:CVE-2009-0780
|       PRION:CVE-2008-4109     5.0     https://vulners.com/prion/PRION:CVE-2008-4109
|       PRION:CVE-2007-2243     5.0     https://vulners.com/prion/PRION:CVE-2007-2243
|       PACKETSTORM:73600       5.0     https://vulners.com/packetstorm/PACKETSTORM:73600       *EXPLOIT*
|       CVE-2010-5107   5.0     https://vulners.com/cve/CVE-2010-5107
|       CVE-2007-2243   5.0     https://vulners.com/cve/CVE-2007-2243
|       SSV:66339       4.9     https://vulners.com/seebug/SSV:66339    *EXPLOIT*
|       SSV:10777       4.9     https://vulners.com/seebug/SSV:10777    *EXPLOIT*
|       SECURITYVULNS:VULN:9724 4.9     https://vulners.com/securityvulns/SECURITYVULNS:VULN:9724
|       PRION:CVE-2009-3572     4.9     https://vulners.com/prion/PRION:CVE-2009-3572
|       PRION:CVE-2009-0537     4.9     https://vulners.com/prion/PRION:CVE-2009-0537
|       EXPLOITPACK:B5E7D30E7583980F37EF6DBC0B05FBC3    4.9     https://vulners.com/exploitpack/EXPLOITPACK:B5
E7D30E7583980F37EF6DBC0B05FBC3  *EXPLOIT*
|       EDB-ID:8163     4.9     https://vulners.com/exploitdb/EDB-ID:8163       *EXPLOIT*
|       CVE-2009-0537   4.9     https://vulners.com/cve/CVE-2009-0537
|       PRION:CVE-2010-4755     4.0     https://vulners.com/prion/PRION:CVE-2010-4755
|       PRION:CVE-2012-0814     3.5     https://vulners.com/prion/PRION:CVE-2012-0814
|       PRION:CVE-2011-5000     3.5     https://vulners.com/prion/PRION:CVE-2011-5000
|       CVE-2012-0814   3.5     https://vulners.com/cve/CVE-2012-0814
|       CVE-2011-5000   3.5     https://vulners.com/cve/CVE-2011-5000
|       PRION:CVE-2011-4327     2.1     https://vulners.com/prion/PRION:CVE-2011-4327
|       CVE-2011-4327   2.1     https://vulners.com/cve/CVE-2011-4327
|       PRION:CVE-2008-3259     1.2     https://vulners.com/prion/PRION:CVE-2008-3259
|       CVE-2008-3259   1.2     https://vulners.com/cve/CVE-2008-3259
|_      SECURITYVULNS:VULN:9830 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:9830
631/tcp  open  ipp     CUPS 1.1
|_http-server-header: CUPS/1.1
| vulners:
|   cpe:/a:apple:cups:1.1:
|       SSV:3063        10.0    https://vulners.com/seebug/SSV:3063     *EXPLOIT*
|       SSV:2375        10.0    https://vulners.com/seebug/SSV:2375     *EXPLOIT*
|       SECURITYVULNS:VULN:8724 10.0    https://vulners.com/securityvulns/SECURITYVULNS:VULN:8724
|       PRION:CVE-2008-5184     10.0    https://vulners.com/prion/PRION:CVE-2008-5184
|       PRION:CVE-2008-3641     10.0    https://vulners.com/prion/PRION:CVE-2008-3641
|       PRION:CVE-2008-0053     10.0    https://vulners.com/prion/PRION:CVE-2008-0053
|       PRION:CVE-2007-4351     10.0    https://vulners.com/prion/PRION:CVE-2007-4351
|       CVE-2008-5184   10.0    https://vulners.com/cve/CVE-2008-5184
|       CVE-2008-3641   10.0    https://vulners.com/cve/CVE-2008-3641
|       CVE-2008-0053   10.0    https://vulners.com/cve/CVE-2008-0053
|       CVE-2007-4351   10.0    https://vulners.com/cve/CVE-2007-4351
|       SSV:2771        9.4     https://vulners.com/seebug/SSV:2771     *EXPLOIT*
|       SSV:3058        9.3     https://vulners.com/seebug/SSV:3058     *EXPLOIT*
|       SECURITYVULNS:VULN:10333        9.3     https://vulners.com/securityvulns/SECURITYVULNS:VULN:10333
|       PRION:CVE-2010-2941     7.9     https://vulners.com/prion/PRION:CVE-2010-2941
|       CVE-2010-2941   7.9     https://vulners.com/cve/CVE-2010-2941
|       SSV:5067        7.5     https://vulners.com/seebug/SSV:5067     *EXPLOIT*
|       PRION:CVE-2010-3702     7.5     https://vulners.com/prion/PRION:CVE-2010-3702
|       PRION:CVE-2009-1182     7.5     https://vulners.com/prion/PRION:CVE-2009-1182
|       PRION:CVE-2008-3639     7.5     https://vulners.com/prion/PRION:CVE-2008-3639
|       CVE-2010-3702   7.5     https://vulners.com/cve/CVE-2010-3702
|       CVE-2009-1182   7.5     https://vulners.com/cve/CVE-2009-1182
|       CVE-2008-3639   7.5     https://vulners.com/cve/CVE-2008-3639
|       CVE-2012-5519   7.2     https://vulners.com/cve/CVE-2012-5519
```

```
CVE-2009-0164   6.4     https://vulners.com/cve/CVE-2009-0164
PRION:CVE-2014-8166     5.1     https://vulners.com/prion/PRION:CVE-2014-8166
PRION:CVE-2011-3170     5.1     https://vulners.com/prion/PRION:CVE-2011-3170
PRION:CVE-2011-2896     5.1     https://vulners.com/prion/PRION:CVE-2011-2896
CVE-2014-8166   5.1     https://vulners.com/cve/CVE-2014-8166
CVE-2011-3170   5.1     https://vulners.com/cve/CVE-2011-3170
CVE-2011-2896   5.1     https://vulners.com/cve/CVE-2011-2896
SSV:2958        5.0     https://vulners.com/seebug/SSV:2958     *EXPLOIT*
SSV:11523       5.0     https://vulners.com/seebug/SSV:11523    *EXPLOIT*
SECURITYVULNS:VULN:9962 5.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:9962
PRION:CVE-2014-5031     5.0     https://vulners.com/prion/PRION:CVE-2014-5031
PRION:CVE-2010-2432     5.0     https://vulners.com/prion/PRION:CVE-2010-2432
PRION:CVE-2009-0949     5.0     https://vulners.com/prion/PRION:CVE-2009-0949
PRION:CVE-2007-4045     5.0     https://vulners.com/prion/PRION:CVE-2007-4045
PRION:CVE-2007-0720     5.0     https://vulners.com/prion/PRION:CVE-2007-0720
PACKETSTORM:78040       5.0     https://vulners.com/packetstorm/PACKETSTORM:78040       *EXPLOIT*
CVE-2014-5031   5.0     https://vulners.com/cve/CVE-2014-5031
CVE-2010-2432   5.0     https://vulners.com/cve/CVE-2010-2432
CVE-2009-0949   5.0     https://vulners.com/cve/CVE-2009-0949
CVE-2007-4045   5.0     https://vulners.com/cve/CVE-2007-4045
CVE-2007-0720   5.0     https://vulners.com/cve/CVE-2007-0720
SSV:4583        4.3     https://vulners.com/seebug/SSV:4583     *EXPLOIT*
SSV:19826       4.3     https://vulners.com/seebug/SSV:19826    *EXPLOIT*
PRION:CVE-2014-2856     4.3     https://vulners.com/prion/PRION:CVE-2014-2856
PRION:CVE-2010-1748     4.3     https://vulners.com/prion/PRION:CVE-2010-1748
PRION:CVE-2009-1183     4.3     https://vulners.com/prion/PRION:CVE-2009-1183
PRION:CVE-2009-1181     4.3     https://vulners.com/prion/PRION:CVE-2009-1181
PRION:CVE-2009-0799     4.3     https://vulners.com/prion/PRION:CVE-2009-0799
PRION:CVE-2009-0166     4.3     https://vulners.com/prion/PRION:CVE-2009-0166
PRION:CVE-2009-0147     4.3     https://vulners.com/prion/PRION:CVE-2009-0147
PRION:CVE-2009-0146     4.3     https://vulners.com/prion/PRION:CVE-2009-0146
PRION:CVE-2008-5183     4.3     https://vulners.com/prion/PRION:CVE-2008-5183
CVE-2014-2856   4.3     https://vulners.com/cve/CVE-2014-2856
CVE-2009-1183   4.3     https://vulners.com/cve/CVE-2009-1183
CVE-2009-1181   4.3     https://vulners.com/cve/CVE-2009-1181
CVE-2009-0799   4.3     https://vulners.com/cve/CVE-2009-0799
CVE-2009-0166   4.3     https://vulners.com/cve/CVE-2009-0166
CVE-2009-0147   4.3     https://vulners.com/cve/CVE-2009-0147
CVE-2009-0146   4.3     https://vulners.com/cve/CVE-2009-0146
CVE-2008-5183   4.3     https://vulners.com/cve/CVE-2008-5183
PRION:CVE-2010-2431     2.6     https://vulners.com/prion/PRION:CVE-2010-2431
CVE-2010-2431   2.6     https://vulners.com/cve/CVE-2010-2431
PRION:CVE-2014-5030     1.9     https://vulners.com/prion/PRION:CVE-2014-5030
CVE-2014-5030   1.9     https://vulners.com/cve/CVE-2014-5030
PRION:CVE-2021-25317    1.7     https://vulners.com/prion/PRION:CVE-2021-25317
PRION:CVE-2014-3537     1.2     https://vulners.com/prion/PRION:CVE-2014-3537
PRION:CVE-2013-6891     1.2     https://vulners.com/prion/PRION:CVE-2013-6891
CVE-2014-3537   1.2     https://vulners.com/cve/CVE-2014-3537
CVE-2013-6891   1.2     https://vulners.com/cve/CVE-2013-6891
SECURITYVULNS:VULN:5184 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:5184
SECURITYVULNS:VULN:4277 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:4277
SECURITYVULNS:VULN:4109 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:4109
SECURITYVULNS:VULN:4010 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:4010
SECURITYVULNS:VULN:293  0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:293
SECURITYVULNS:VULN:2888 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:2888
SECURITYVULNS:VULN:2490 0.0     https://vulners.com/securityvulns/SECURITYVULNS:VULN:2490
```

Просканируем через openvas



Видим критическую уязвимость ssh

Deprecated SSH-1 Protocol Detection — 7.5 (High)

Summary

The host is running SSH and is providing / accepting one or more deprecated versions of the SSH protocol which have known cryptographic flaws.

Detection Result

The service is providing / accepting the following deprecated versions of the SSH protocol which have known cryptographic flaws:

1.33
1.5

Detection Method

Details: Deprecated SSH-1 Protocol Detection OID: 1.3.6.1.4.1.25623.1.0.801993
Version used: 2023-03-24T10:19:42Z

Affected Software/OS

Services providing / accepting the SSH protocol version SSH-1 (1.33 and 1.5).

Impact

Successful exploitation could allows remote attackers to bypass security restrictions and to obtain a client's public host key during a connection attempt and use it to open and authenticate an SSH session to another server with the same access.

Solution

Solution Type: Vendorfix
Reconfigure the SSH service to only provide / accept the SSH protocol version SSH-2.

References

CVE CVE-2001-0361
CVE-2001-0572
CVE-2001-1473

CERT DFN-CERT-2015-1619
CB-K15/1534

Other http://www.kb.cert.org/vuls/id/684820
http://www.securityfocus.com/bid/2344
http://xforce.iss.net/xforce/xfdb/6603

Weak Host Key Algorithm(s) (SSH) — 5.3 (Medium)
Weak Key Exchange (KEX) Algorithm(s) Supported (SSH) — 5.3 (Medium)

Запустим Metasploit

```
┌──(kali㉿kali)-[~]
└─$ sudo msfdb init && msfconsole
[i] Database already started
[+] Creating database user 'msf'
[+] Creating databases 'msf'
[+] Creating databases 'msf_test'
[+] Creating configuration file '/usr/share/metasploit-framework/config/database.yml'
[+] Creating initial database schema
Metasploit tip: Enable verbose logging with set VERBOSE true

IIIIII    dTb.dTb        _.---._
  II     4'  v  'B    .'"".'/|\`.""'.
  II     6.     .P  :  .' / | \ `.  :
  II     'T;. .;P'  '.'  /  |  \  `.'
  II      'T; ;P'    `. /   |   \ .'
IIIIII     'YvP'       `-.__|__.-'

I love shells --egypt


       =[ metasploit v6.3.51-dev                          ]
+ -- --=[ 2384 exploits - 1235 auxiliary - 418 post       ]
+ -- --=[ 1388 payloads - 46 encoders - 11 nops           ]
+ -- --=[ 9 evasion                                       ]

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

msf6 > 
```

Отобразим информацию по выбранной уязвимости и выполним настройку

```
msf6 > use auxiliary/scanner/ssh/ssh_enumusers
msf6 auxiliary(scanner/ssh/ssh_enumusers) > show info

       Name: SSH Username Enumeration
     Module: auxiliary/scanner/ssh/ssh_enumusers
    License: Metasploit Framework License (BSD)
       Rank: Normal

Provided by:
  kenkeiras
  Dariusz Tytko
  Michal Sajdak
  Qualys
  wvu <wvu@metasploit.com>

Module side effects:
 ioc-in-logs
 account-lockouts

Module stability:
 crash-service-down

Available actions:
    Name              Description
    ----              -----------
⇒   Malformed Packet  Use a malformed packet
    Timing Attack     Use a timing attack

Check supported:
  No

Basic options:
  Name          Current Setting  Required  Description
  ----          ---------------  --------  -----------
  CHECK_FALSE   true             no        Check for false positives (random username)
  DB_ALL_USERS  false            no        Add all users in the current database to the list
  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-me
                                           tasploit/basics/using-metasploit.html
  RPORT         22               yes       The target port
  THREADS       1                yes       The number of concurrent threads (max one per host)
  THRESHOLD     10               yes       Amount of seconds needed before a user is considered found (timin
                                           g attack only)
  USERNAME                       no        Single username to test (username spray)
  USER_FILE                      no        File containing usernames, one per line

Description:
  This module uses a malformed packet or timing attack to enumerate users on
  an OpenSSH server.

  The default action sends a malformed (corrupted) SSH_MSG_USERAUTH_REQUEST
  packet using public key authentication (must be enabled) to enumerate users.

  On some versions of OpenSSH under some configurations, OpenSSH will return a
```

```
  On some versions of OpenSSH under some configurations, OpenSSH will return a
  "permission denied" error for an invalid user faster than for a valid user,
  creating an opportunity for a timing attack to enumerate users.

  Testing note: invalid users were logged, while valid users were not. YMMV.

References:
  https://nvd.nist.gov/vuln/detail/CVE-2003-0190
  https://nvd.nist.gov/vuln/detail/CVE-2006-5229
  https://nvd.nist.gov/vuln/detail/CVE-2016-6210
  https://nvd.nist.gov/vuln/detail/CVE-2018-15473
  OSVDB (32721)
  http://www.securityfocus.com/bid/20418
  https://seclists.org/oss-sec/2018/q3/124
  https://sekurak.pl/openssh-users-enumeration-cve-2018-15473/


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

msf6 auxiliary(scanner/ssh/ssh_enumusers) > set rhosts 192.168.56.101
rhosts => 192.168.56.101
msf6 auxiliary(scanner/ssh/ssh_enumusers) > set user_file /usr/share/wordlists/metasploit/piata_ssh_userpass.t
xt
user_file => /usr/share/wordlists/metasploit/piata_ssh_userpass.txt
```

Результат выполнения эксплойта – список пользователей ssh dvl.

Рекомендация по исправлению – обновить OpenSSH до последней версии.

```
- SSH - Using malformed packet technique
- SSH - Checking for false positives
- SSH - Starting scan
- SSH - User 'root' found
- SSH - User 'mysql' found
- SSH - User 'ftp' found
- SSH - User 'nobody' found
- SSH - User 'news' found
- SSH - User 'games' found
- SSH - User 'mail' found
- SSH - User 'adm' found
- SSH - User 'operator' found
- SSH - User 'daemon' found
- SSH - User 'uucp' found
```

Анализ полученных результатов

OpenVAS и Nmap - это инструменты для обнаружения уязвимостей в сети, но они имеют разные подходы и функциональность.

OpenVAS - это полноценная система управления уязвимостями, которая включает в себя OpenVAS-manager, OpenVAS-scanner и Greenbone-security-assistant. OpenVAS предлагает широкий спектр функций, таких как:

- Поиск уязвимостей на основе базы данных CVE
- Поиск уязвимостей с использованием скриптов NSE (Nmap Scripting Engine)
- Создание детальных отчетов о сети
- Поддержка различных политик сканирования

В то же время, OpenVAS является более сложным и глубоким инструментом, который может быть более уязвим к ошибкам и проблемам в сравнении с Nmap.

Nmap - это инструмент для обнаружения уязвимостей, который предоставляет более ограниченный набор функций, но может быть использоваться в сочетании с другими инструментами, такими как Vulners. Nmap может использоваться для обнаружения уязвимостей с помощью скриптов NSE, но его основная сила заключается в сканировании сети и обнаружении открытых портов и уязвимостей.

В нашем конкретном случае Nmap нашла значительно больше уязвимостей, однако основная причина в OpenvVAS включен скудный набор параметров сканирования по умолчанию.

Как OpenVAS, так и Nmap являются инструментами с открытым исходным кодом, что позволяет пользователям свободно использовать их для обнаружения уязвимостей.

В целом, OpenVAS предлагает более полную функциональность для управления уязвимостями, включая создание детальных отчетов и поддержку

различных политик сканирования. В то же время, Nmap может быть использоваться для обнаружения уязвимостей с помощью скриптов NSE, но его функциональность ограничена сканированием сети и обнаружением открытых портов. Также Nmap значительно более быстра, что дает ей преимущество при поиске уязвимостей в большой сети.

В итоге, оба инструмента лучше использовать вместе для более полного обнаружения уязвимостей. Например, результаты, полученные с помощью Nmap, могут быть использованы в OpenVAS для более глубокого анализа уязвимостей.

Metasploit — это мощный фреймворк для исследования уязвимостей в сетях и приложениях, который может быть использован как киберпреступниками, так и специалистами по информационной безопасности. Он предоставляет широкий спектр инструментов для сканирования, обнаружения уязвимостей, эксплуатации и управления безопасностью. Metasploit Framework является открытым исходным кодом и может быть легко настроен и использован на большинстве операционных систем. Он также предлагает готовые модули и возможность создания собственных надстроек. Metasploit широко используется специалистами по безопасности для проверки уровня защиты сетей и приложений.