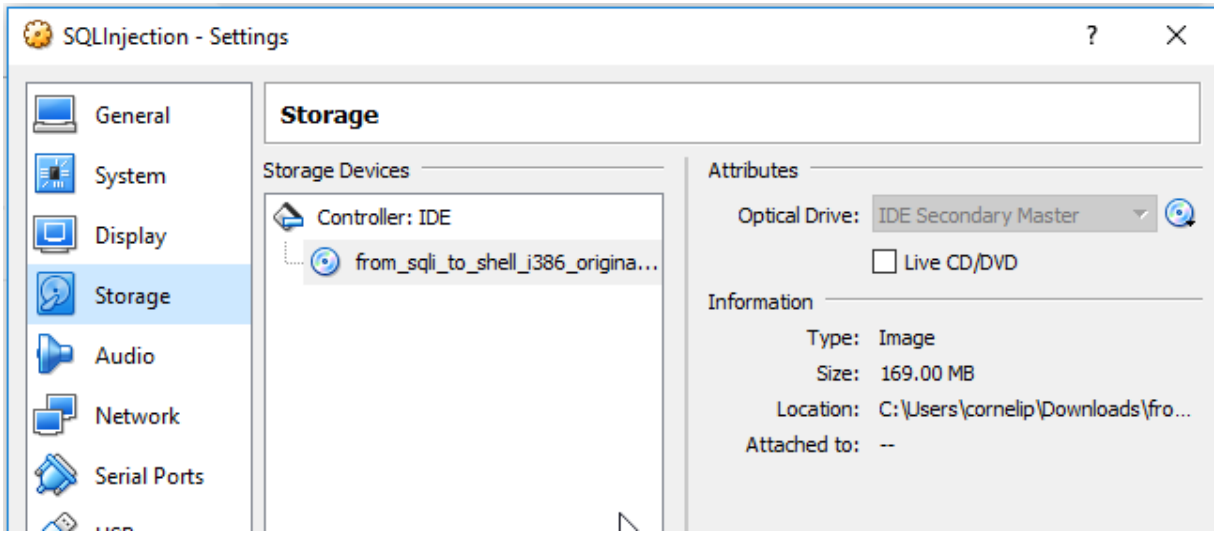
CYBERSECURITY

EXPLOITATION: SQL INJECTION

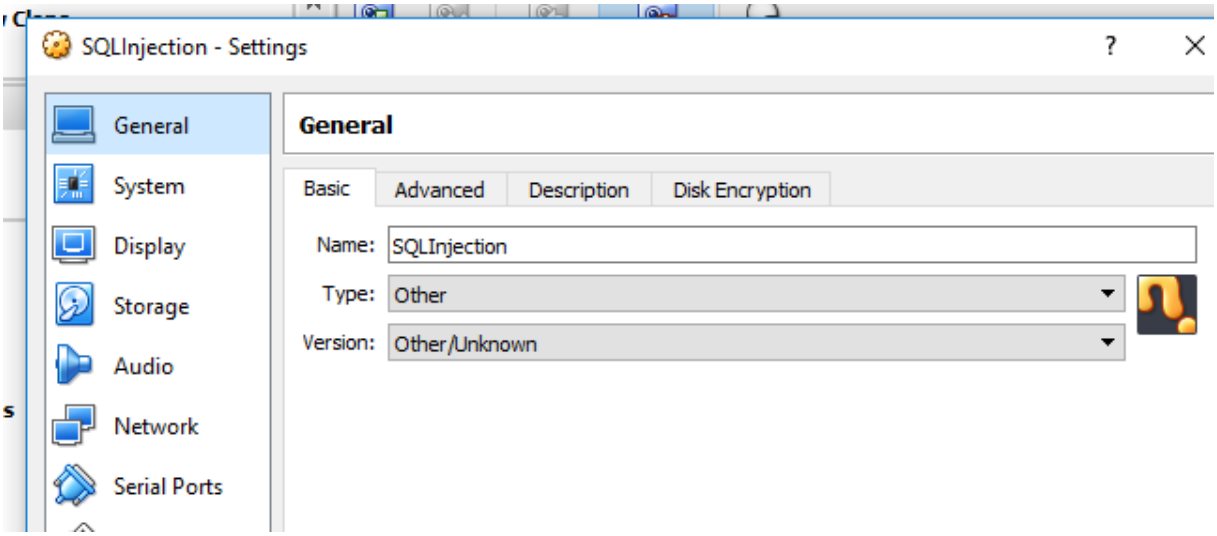
Purpose is to get remote shell access to a webserver.

INSTALL TARGET

Download the SQLi2Shell image from Canvas. (Or find it on the vulnhub website.)
The image comes in the .iso format. This iso file will become your IDE disk:

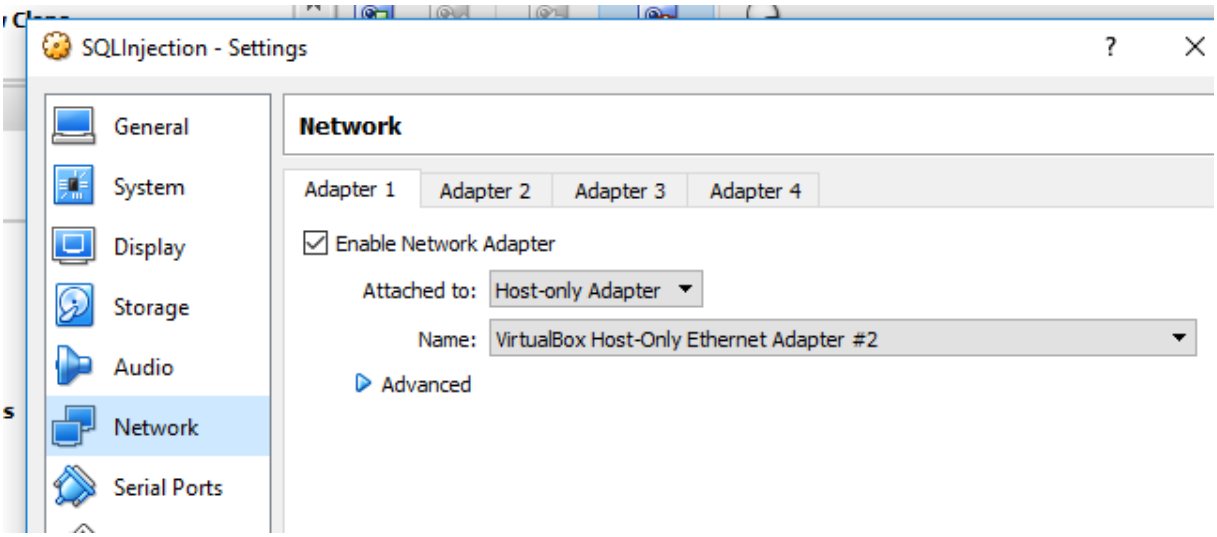


The other settings of the machine are those of a standard machine: (actually it's a Debian…)

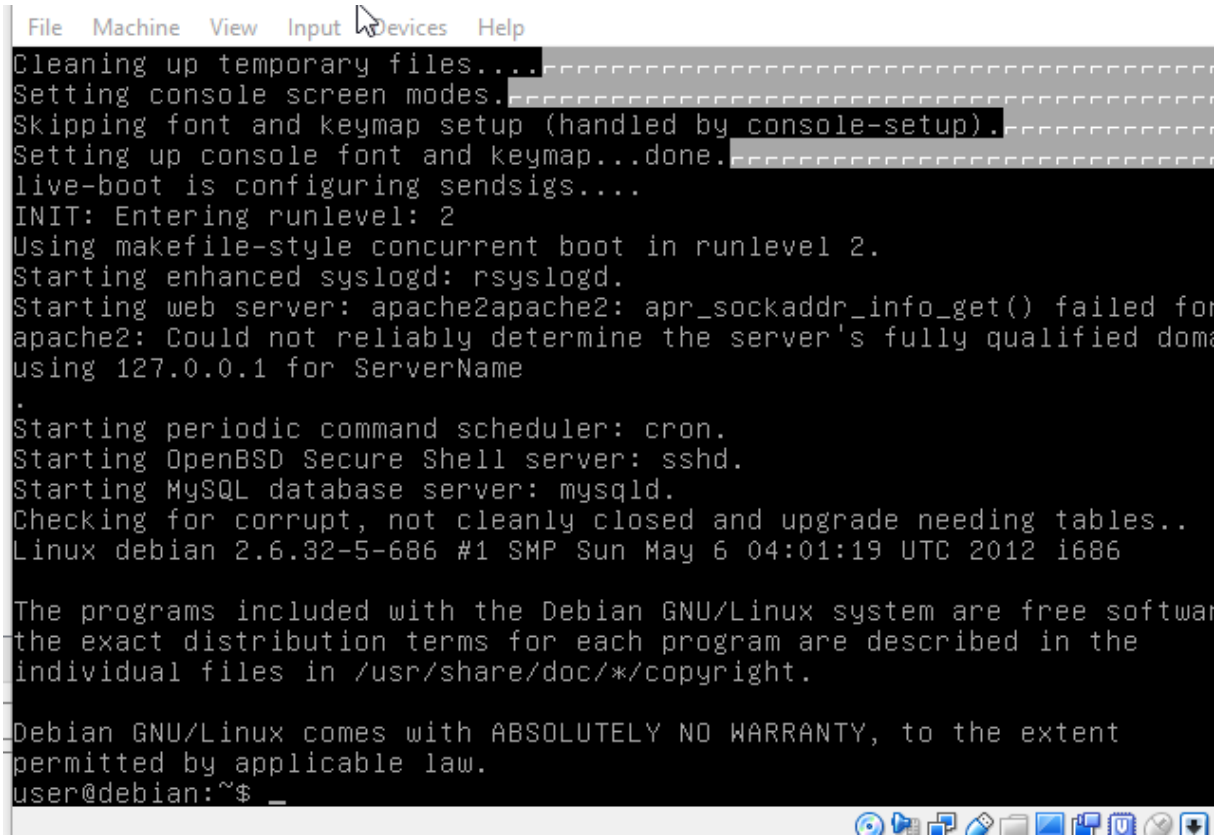


With 1GB of memory and 1 processor.

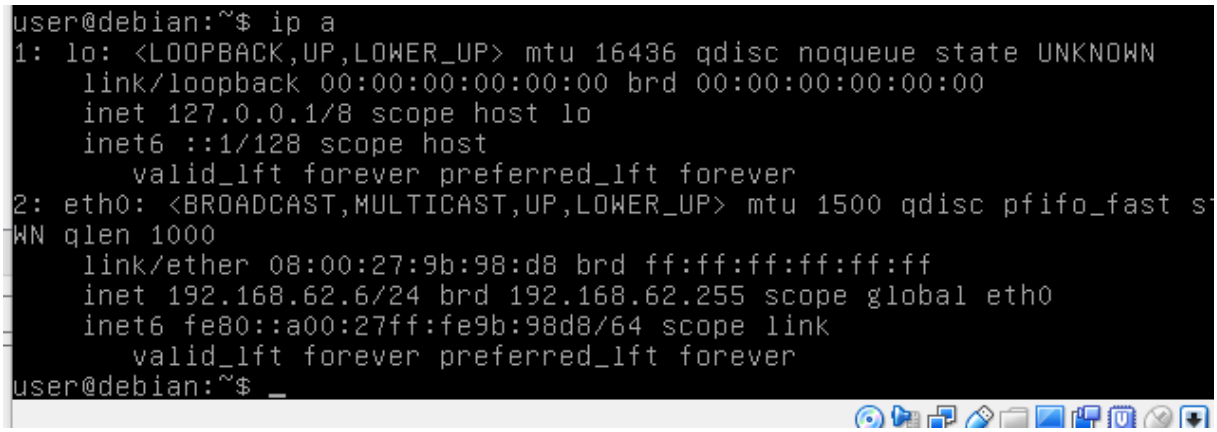
Make sure that the image is connected to your "host-only" network.



After startup, it should show:



We have a shell so we can check the ip address:



SCAN

NETDISCOVER

Perform “netdiscover -r yourIPrange”
You should see the IP of your target.
Document your findings.

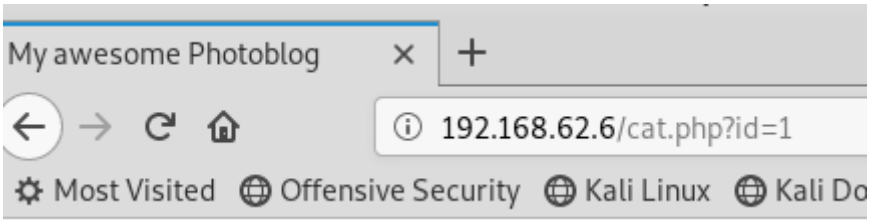
NMAP

We do a quick nmap of our target.
You should find that it has an open port 80.
So we should be able to connect to the webserver.
Document the webpage it gives you.

Have a browse through the pages.

ENUMERATE

The enumeration here is “manual”.
Browsing through the webpages we see that here are php scripts with options/parameters.



So these scripts probably get their information from a database.
This means we can use a database exploitation tool.

EXPLOITATION

We will use sqlmap.
More information: https://tools.kali.org/vulnerability-analysis/sqlmap

This tool will try to query the existing database.
You can see the queries it executes within the tool.

We'll use sqlmap with the link we found in the browser:
Type: sqlmap -u http://192.168.62.6/cat.php?id=1 --dbs

Answer the following questions:

What do the options -u and –dbs stand for?
What type of database is it?
Which databases are present?
Which db entries are vulnerable to injection?

Type: sqlmap -u http://192.168.62.6/cat.php?id=1 --tables -D photoblog
Document the tables.

The "users" table looks interesting to see what's in there.
Try to "dump" this column.

Type: sqlmap -u http://192.168.62.3/cat.php?id=1 --columns -D photoblog -T users –dump
Document the output, you should see that the table has a login and a password.

SQLmap asks if we want to try to crack the password and hash. We choose to do this & the default answers.

We get the admin password. (Unhased = leek format)

We try to login to the admin page and get access.
Document this.

We can now create a "backdoor" program with the "weevely" application that's included in KALI.
More information: https://tools.kali.org/maintaining-access/weevely
Type: weevely generate rooT /root/Desktop/shell.PHP

This generates a php script that will act as a backdoor. The password we set is "rooT".
We now upload this file from KALI to our webserver by choosing the "New Picture" on the admin page.

Since the /admin/uploads directory is readable, you can see that the upload succeeded.
Document this.

We can now connect to the shell.
Type: weevely http://192.168.62.3/admin/uploads/shell.PHP rooT

This should give you a shell on your target machine.
Document this.

RESULT

Our objective = reach to shell is OK. Through the commands like pwd, ls etc… we can now further explore the machine. We dan type “whoami” and we see that we are www-data. We can type “uname -a” and this gives us system-information we could use in our further attack.