T5 - Systems and Networks Seminar

T-NSA-500

Day 01

Debian security key partition

1.0

Slug of the day: `nsapoold01`

Task 00 - Installation

Before anything else, if you do not already have them, you have to download prerequisites:

- VirtualBox
- An ISO of Debian 10 "Buster"

Task 01 - Debian (3pts)

Create a virtual machine with an 20 Go virtual hard drive and 1024 Mo of RAM.
Install Debian, without GUI, with separate partitions. Once installation is done. You should have following partitions:

- Swap
- /
- /home
- /var

You are free to choose the *root* password and create your user account.

Please be careful, logically choose the partition sizes.

About the auto-grader

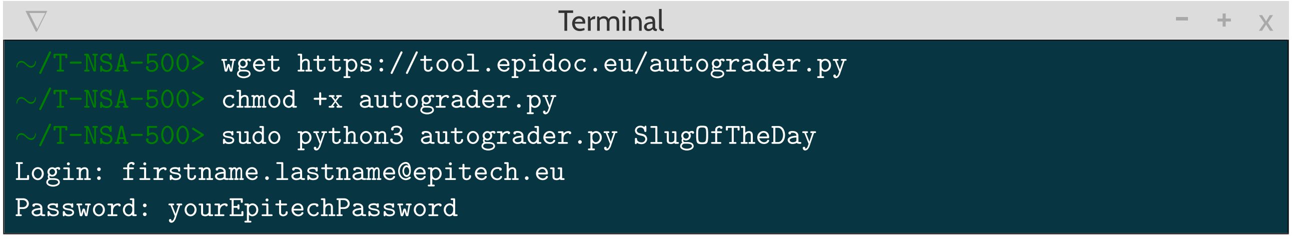
In order for you project to be evaluated, you have to use our auto-grader script.
This script will communicate with an external server (so you must assure that your virtual machine has access to internet).
You can freely use the auto-grader to check your progression **but beware** the number of run each day is limited (the script will tell you how many checks you have left for the day before running).

You have to use the auto-grader at least once per day, otherwise your project will have no evaluations.

On your virtual machine, download the autograder.

Be sure to use the autograder with administrator rights.

You must authenticate with your school login (email address) and password.



```
~/T-NSA-500> wget https://tool.epidoc.eu/autograder.py
~/T-NSA-500> chmod +x autograder.py
~/T-NSA-500> sudo python3 autograder.py SlugOfTheDay
Login: firstname.lastname@epitech.eu
Password: yourEpitechPassword
```

You result will be visible on my.epitech.eu.

Task 02 - User (2pts)

Create a user named *marvin* with the following characteristics:

- Password: toto42sh
- “home” directory: /home/marvin
- Description/Fullname: “Android Paranoid”
- UID: 4242

The passwords used in this pool are *NOT* good passwords in the real world.

Task 03 - Group (2pts)

Create a group named *H2G2* with GID 42400.
Add *marvin* to this group then create a *zaphod* user with the following characteristics:

- Password: ZappyBibicy
- “home” directory: /home/zaphod
- Description/Fullname: Zaphod Beeblebrox
- UID: 4200
- GID: 42400

Finally, create a /home/HeartOfGold folder that belongs to the *H2G2* group.

Task 04 - SSH (3pts)

Install and configure the SSH service so that users can connect to it
Configure the service to only allow connection via SSH key (not via password).

- Change the port by default to 4242
- Disable ssh access for root.

Task 05 - SSH: you are not allowed (2pts)

User *zaphod* can't be able to login via SSH.

Nothing must change for other users.

Task 06 - Fail to ban (3pts)

Install fail2ban to protect the ssh service.
Configure it for block IP address while 30 minutes if more than 3 connections attempts for any user in 5 minutes

Iptables

Task 07 - Filter (3pts)

Configure the firewall "iptables" with the following characteristics:

- rules have to be written in the /etc/iptables/rules.v4
- allow service ssh (input and output)
- allow HTTP protocol (output)
- allow HTTPS protocol (output)
- allow DNS protocol (output)

The other ports must be blocked and iptables configurations must not be wiped at reboot
For test, you must be able to update package (apt) after application of theses rules.

iptables-save, iptables persistent and system-config-firewall-tui is forbidden