

PROJECT MODULE 2

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1) TRACCIA E REQUISITI

Traccia:

Nell'esercizio di oggi installeremo su Kali Linux un gioco per familiarizzare con i comandi della shell.

Installazione:

Per installare il gioco GameShell, eseguire in ordine i seguenti comandi, assicurarsi di avere connettività ad Internet prima e di aver eseguito il comando **sudo apt update**

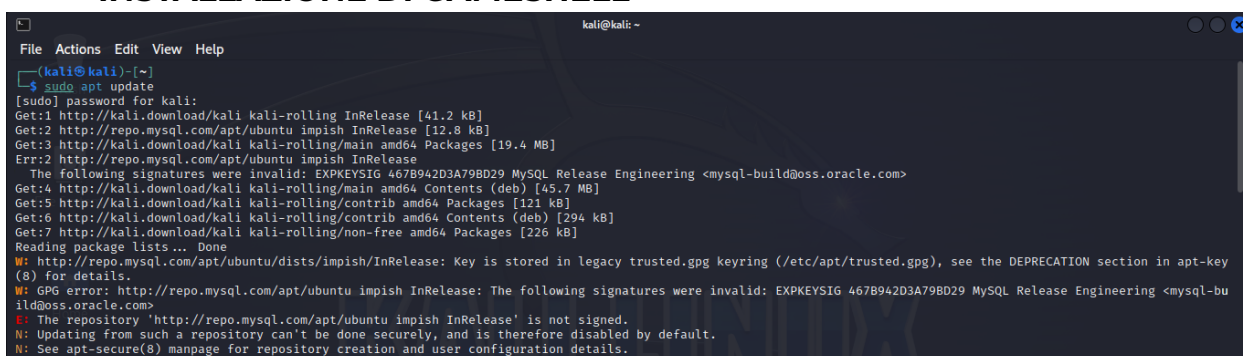
sudo apt install gettext man-db procs psmisc nano tree bsdmainutils x11-apps wget

wget <https://github.com/phyver/GameShell/releases/download/latest/gameshell.sh>

Una volta eseguiti i comandi, il gioco può essere lanciato con il comando bash **gameshell.sh**

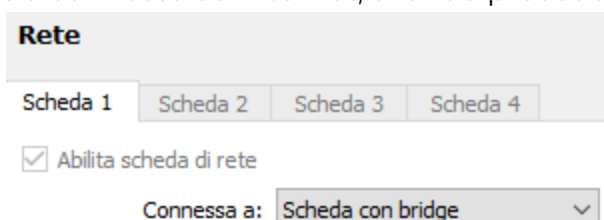
2) SVOLGIMENTO

● INSTALLAZIONE DI GAMESHELL



```
kali@kali: ~  
File Actions Edit View Help  
~(kali@kali)-[~]  
└─$ sudo apt update  
[sudo] password for kali:  
Get:1 http://kali.download/kali kali-rolling InRelease [41.2 kB]  
Get:2 http://repo.mysql.com/apt/ubuntu impish InRelease [12.8 kB]  
Get:3 http://kali.download/kali kali-rolling/main amd64 Packages [19.4 MB]  
Err:2 http://repo.mysql.com/apt/ubuntu impish InRelease  
  The following signatures were invalid: EXPKEYSIG 467B942D3A79BD29 MySQL Release Engineering <mysql-build@oss.oracle.com>  
Get:4 http://kali.download/kali kali-rolling/main amd64 Contents (deb) [45.7 MB]  
Get:5 http://kali.download/kali kali-rolling/contrib amd64 Packages [121 kB]  
Get:6 http://kali.download/kali kali-rolling/contrib amd64 Contents (deb) [294 kB]  
Get:7 http://kali.download/kali kali-rolling/non-free amd64 Packages [226 kB]  
Reading package lists... Done  
W: http://repo.mysql.com/apt/ubuntu/dists/impish/InRelease: Key is stored in legacy trusted.gpg keyring (/etc/apt/trusted.gpg), see the DEPRECATION section in apt-key  
(8) for details.  
W: GPG error: http://repo.mysql.com/apt/ubuntu impish InRelease: The following signatures were invalid: EXPKEYSIG 467B942D3A79BD29 MySQL Release Engineering <mysql-bu  
ild@oss.oracle.com>  
E: The repository 'http://repo.mysql.com/apt/ubuntu impish InRelease' is not signed.  
N: Updating from such a repository can't be done securely, and is therefore disabled by default.  
N: See apt-secure(8) manpage for repository creation and user configuration details.
```

Lanciamo il comando sudo apt update nel terminale per verificare che la macchina sia connessa ad internet, avendo precedentemente impostato la rete a:



Rete

Scheda 1 Scheda 2 Scheda 3 Scheda 4

☒ Abilita scheda di rete

Connessa a: Scheda con bridge

```

kali@kali:~$ sudo apt install gettext man-db procps psmisc nano tree bsdmainutils x11-apps wget
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
psmisc is already the newest version (23.6-1).
psmisc set to manually installed.
nano is already the newest version (7.2-1).
tree is already the newest version (2.1.1-1).
tree set to manually installed.
wget is already the newest version (1.21.4-1+b1).
The following additional packages will be installed:
  gettext-base libproc2-0 libx11-6 libx11-data libx11-dev libx11-xcb1 ncal
Suggested packages:
  calendar vacation utiluils autopoint gettext-doc libasprintf-dev libgettextpo-dev libx11-doc groff mesa-utils
The following NEW packages will be installed:
  bsdmainutils gettext ncal
The following packages will be upgraded:
  gettext-base libproc2-0 libx11-6 libx11-data libx11-dev libx11-xcb1 man-db procps x11-apps
9 upgraded, 3 newly installed, 0 to remove and 1217 not upgraded.
Need to get 6,731 kB of archives.
After this operation, 6,364 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://kali.download/kali kali-rolling/main amd64 libproc2-0 amd64 2:4.0.4-2 [64.6 kB]
Get:2 http://kali.download/kali kali-rolling/main amd64 procps amd64 2:4.0.4-2 [880 kB]
Get:3 http://kali.download/kali kali-rolling/main amd64 gettext-base amd64 0.21-14 [161 kB]
Get:4 http://kali.download/kali kali-rolling/main amd64 man-db amd64 2.12.0-1 [1,402 kB]
Get:5 http://kali.download/kali kali-rolling/main amd64 ncal amd64 12.1.1-8 [19.7 kB]
Get:6 http://kali.download/kali kali-rolling/main amd64 bsdmainutils all 12.4-2 [5,952 B]
Get:7 http://kali.download/kali kali-rolling/main amd64 gettext amd64 0.21-14 [1,300 kB]
Get:8 http://kali.download/kali kali-rolling/main amd64 libx11-dev amd64 2:1.8.7-1 [875 kB]
Get:9 http://kali.download/kali kali-rolling/main amd64 libx11-6 amd64 2:1.8.7-1 [802 kB]
Get:10 http://kali.download/kali kali-rolling/main amd64 libx11-xcb1 amd64 2:1.8.7-1 [232 kB]
Get:11 http://kali.download/kali kali-rolling/main amd64 libx11-data all 2:1.8.7-1 [328 kB]
Get:12 http://kali.org/kali kali-rolling/main amd64 x11-apps amd64 7.7+11 [661 kB]

```

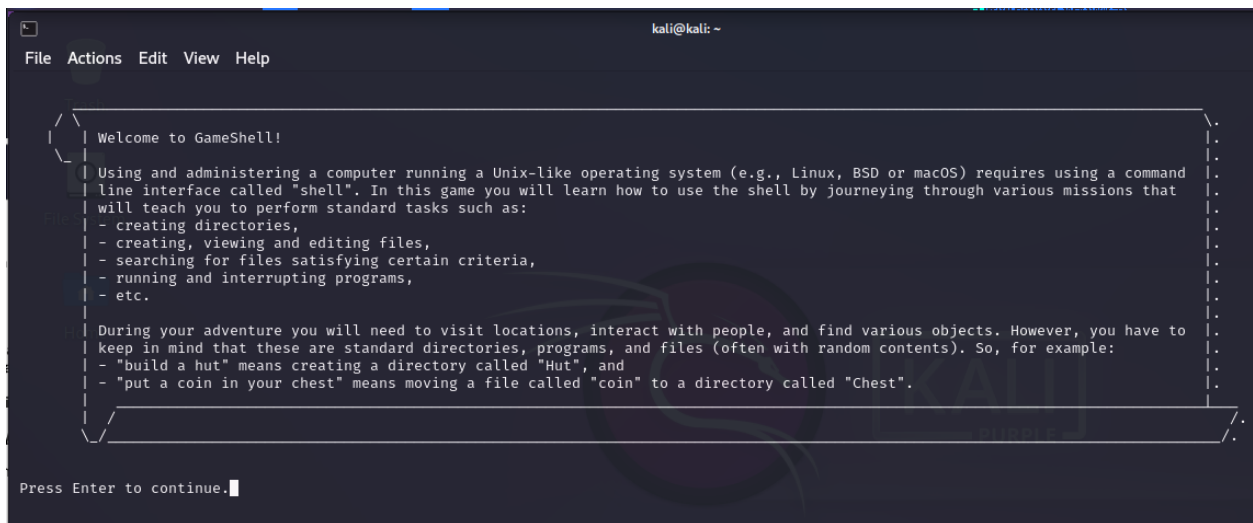
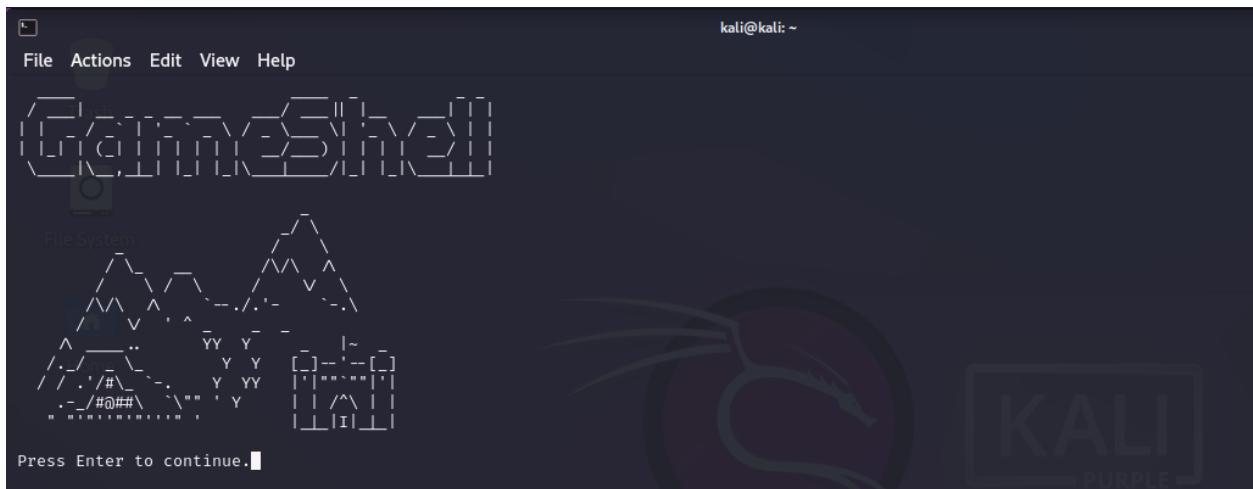
```
(kali@kali)~$ wget https://github.com/pyhwer/GameShell/releases/download/latest/gameshell.sh
--2023-12-15 04:19:19-- https://github.com/pyhwer/GameShell/releases/download/latest/gameshell.sh
Resolving github.com (github.com)... 140.82.121.4
Connecting to github.com (github.com)|140.82.121.4|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://objects.githubusercontent.com/github-production-release-asset-2e65be/94422621/68f28a34-dcd3-4e48-8ae8-5327da6d546e?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53AK2F20231215&X-Amz-Date=20231215T09192126&X-Amz-Expires=3006&X-Amz-Signature=446549166c473cd86dbdae2d499d99c07162b40dddb7e110e2707824eb92f4a8&X-Amz-SignedHeaders=host&actor_id=0&key_id=0&repo_id=0&repo_id=944226216response-content-disposition=attachment%3B%20filename%3Dgameshell.shresponse-content-type=application%2Foctet-stream [following]
--2023-12-15 04:19:19-- https://objects.githubusercontent.com/github-production-release-asset-2e65be/94422621/68f28a34-dcd3-4e48-8ae8-5327da6d546e?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIWNJYAX4CSVEH53AK2F20231215&X-Amz-Date=20231215T09192126&X-Amz-Expires=3006&X-Amz-Signature=446549166c473cd86dbdae2d499d99c07162b40dddb7e110e2707824eb92f4a8&X-Amz-SignedHeaders=host&actor_id=0&key_id=0&repo_id=944226216response-content-disposition=attachment%3B%20filename%3Dgameshell.shresponse-content-type=application%2Foctet-stream
Resolving objects.githubusercontent.com (objects.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.110.133, ...
Connecting to objects.githubusercontent.com (objects.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 203144 (198K) [application/octet-stream]
Saving to: 'gameshell.sh'

gameshell.sh          100%[=====] 198.38K  631KB/s   in 0.3s

2023-12-15 04:19:21 (631 KB/s) - 'gameshell.sh' saved [203144/203144]
```

2

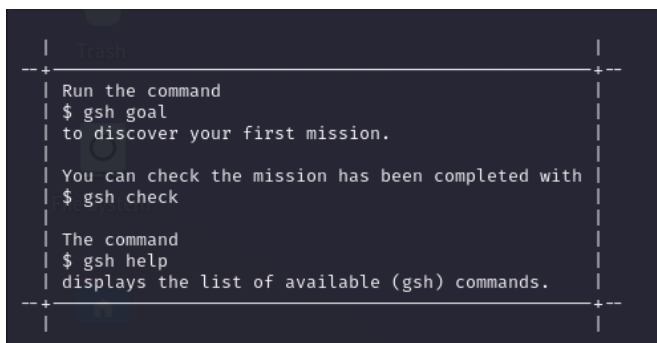
• WELCOME TO GAMESHELL



Gameshell è un gioco che mira all'insegnamento, attraverso missioni, dei comandi della shell; si può imparare a:

- ☐ creare directories;
- ☐ creare, visualizzare o editare files;
- ☐ trovare files secondo dei determinati criteri;
- ☐ eseguire e interrompere programmi;

e molto altro.



Per scoprire la nostra prima missione, lanciamo il comando gsh goal

```
Use one of the following commands: check, goal, help, reset
[mission 1] $ gsh goal

(0)=====
Mission goal
Go to the top of the main tower of the castle.

Useful commands
cd LOCATION
Move to the given location.
Remark: ``cd`` is an abbreviation for "change directory".

pwd
Show the path to your current location.
Remark: ``pwd`` is an abbreviation for "print working directory".

ls
Show a list of locations that are currently accessible.
Remark: ``ls`` is an abbreviation of "list".

gsh check
Check if the mission objective has been achieved.

gsh reset
Restart the mission from the beginning.

Remarks
UPPERCASE words appearing in commands are meta-variables: you need to replace them by appropriate (string) values.
Most filesystems treat uppercase and lowercase characters differently. Make sure you use the correct path.

[Press space to continue, q to quit.] ... skipping ...
```

Prima missione: raggiungere la cima della principale torre del castello.

```
[mission 1] $ ls
Castle Forest Garden Mountain Stall
[mission 1] $ cd Castle
[mission 1] $ ls
Cellar Great_hall Main_building Main_tower Observatory
[mission 1] $ cd Main_tower
[mission 1] $ ls
First_floor
[mission 1] $ cd First_floor
[mission 1] $ ls
Second_floor
[mission 1] $ cd Second_floor
[mission 1] $ ls
Top_of_the_tower
[mission 1] $ cd Top_of_the_tower
[mission 1] $ gsh check

Congratulations, mission 1 has been successfully completed!
```

Usando il comando ls, ho visualizzato le directories che sono nella mia location; dopo di ch , con cd (nome directory) ho cambiato directory fino ad arrivare alla cima della torre. Per verificare il completamento della missione, si lancia gsh check.

Obiettivo secondario: comprendere la differenza tra cd- e cd..

cd - viene usato per tornare alla directory dove ci si trova precedentemente;
cd.. viene usato invece per spostarsi nella directory “genitore” di quella in cui ci troviamo.

```
[mission 3] $ gsh goal
```

Mission goal

Go back to the starting location and then go to the throne room using only two commands.

Remark

You may experiment with as many commands as you want, but to validate the mission the following conditions need to be met:

- the second to last command takes you to the starting point,
- the last command takes you directly to the throne room.

Useful commands

cd
Move back to the starting location.

cd LOCATION1/LOCATION2/LOCATION3
Make several moves in one command.

Remark

UPPERCASE words appearing in commands are meta-variables: you need to replace them by appropriate (string) values.

Terza missione: torna alla luogo di partenza e poi vai alla sala del trono usando solo due comandi.


```
[mission 3] $ cd
[mission 3] $ cd Castle/Main_building/Throne_room
[mission 3] $ gsh check

Congratulations, mission 3 has been successfully completed!
```

Dopo essere tornato al luogo di partenza con cd, ho specificato il percorso da prendere per andare alla sala del trono, cd Castle/Main_building/Throne_Room, quindi usando meno comandi.

```
Well done!!!

From now on, the current location will be shown just before the command prompt.
```



Adesso mi verrà mostrata la mia posizione prima del command prompt.

```
~/Castle/Main_building/Throne_room
[mission 4] $ gsh goal
```

Mission goal

Build a "Hut" in the forest, and then build a "Chest" in the hut.

Useful commands

mkdir DIRECTORY
Create a new directory inside the current directory.
Remark: ``mkdir`` is an abbreviation for "make directory".

Quarta missione: costruisci una “capanna” nella foresta e poi un “baule” nella capanna.

```
~/Castle/Main_building/Throne_room
[mission 4] $ cd

~
[mission 4] $ ls
Castle  Forest  Garden  Mountain  Stall

~
[mission 4] $ cd Forest

~/Forest
[mission 4] $ mkdir Hut

~/Forest
[mission 4] $ cd Hut

~/Forest/Hut
[mission 4] $ mkdir Chest

~/Forest/Hut
[mission 4] $ gsh check

Congratulations, mission 4 has been successfully completed!
```

Usando il comando *mkdir*, ovvero *make directory*, ho creato Hut e poi Chest al suo interno.

```
~/Forest/Hut
[mission 5] $ gsh goal

{
  /8\ \_
  \_ \_

  Mission goal

  Go back to the cellar and get rid of all the spiders. Leave the bats alone: they appear on the castle's coat of arms and are said to confer luck.

  Useful commands

  rm FILE1 FILE2 ... FILEn
  Delete the files (permanently).
  Remark: 'rm' is an abbreviation for "remove".

  /8\ \_
  \_ \_
}
```

Quinta missione: Torna alla cantina e sbarazzati dei ragni. Lascia stare i pipistelli, si dice che portino fortuna.

```
~/Forest/Hut
[mission 5] $ cd

~
[mission 5] $ cd Castle/Cellar

~/Castle/Cellar
[mission 5] $ ls
barrel_of_apples  bat_1  bat_2  spider_1  spider_2  spider_3

~/Castle/Cellar
[mission 5] $ rm spider_1 spider_2 spider_3

~/Castle/Cellar
[mission 5] $ ls
barrel_of_apples  bat_1  bat_2

~/Castle/Cellar
[mission 5] $ gsh check

Congratulations, mission 5 has been successfully completed!
```

Sono tornata alla cantina con cd Castle/Cellar, dopo ho rimosso con rm i ragni che ho visualizzato con il comando ls.


```
~/Castle/Cellar
[mission 6] $ gsh goal

Mission goal

Collect all the coins that you can find in the garden in front of the castle, and put them in your chest in your hut in the forest.

Useful commands

mv FILE1 FILE2 ... FILEn DIRECTORY
Move the files to the directory.
Remark: ``mv`` is an abbreviation of "move".

~
The "~" symbol is an abbreviation for the initial directory.
Example: wherever you are, ``~/Tavern`` denotes the directory (or file) "Tavern" in the initial directory.
```

Sesta missione: Prendi tutte le monete che trovi nel giardino davanti al castello, e mettile dentro il tuo baule, nella tua capanna nella foresta.

```
~/Castle/Cellar
[mission 6] $ cd ~/Garden

~/Garden
[mission 6] $ ls
coin_1 coin_2 coin_3 Flower_garden Maze Shed

~/Garden
[mission 6] $ mv coin_1 coin_2 coin_3 ~/Forest/Hut/Chest

~/Garden
[mission 6] $ cd ~/Forest/Hut/Chest

~/Forest/Hut/Chest
[mission 6] $ ls
coin_1 coin_2 coin_3

~/Forest/Hut/Chest
[mission 6] $ gsh check

Congratulations, mission 6 has been successfully completed!
```

Con il comando `mv coin_1 coin_2 coin_3 ~/Forest/Hut/Chest` ho spostato le monete nella directory Chest.

```
~/Forest/Hut/Chest
[mission 7] $ gsh goal

Mission goal
Collect all the coins hidden in the garden in front of the castle, and put them in your chest (in your hut in the forest).

Secondary objective
Learn how to use the "Tab" key to go faster.

Useful commands

ls -A
List all the files of the current directory, including hidden files. (A file is "hidden" when its name starts with a dot.)

Tab
The tabulation key "completes" the name of a file or directory once you have typed the beginning of its name. This only works if there is only one possible completion.

Tab-Tab
Pressing tabulation twice successively shows a list of possible completions.
```

Settima missione: prendi tutte le monete nascoste nel giardino davanti al castello, e mettile nel tuo baule.

Obiettivo secondario: Impare come usare il tasto "Tab" per andare più veloce.

```
~/Forest/Hut/Chest
[mission 7] $ cd ~/Garden

~/Garden
[mission 7] $ ls -A
.13229_coin_2 .17207_coin_3 .56794_coin_1 Flower_garden Maze Shed

~/Garden
[mission 7] $ mv .13229_coin_2 .17207_coin_3 .56794_coin_1 ~/Forest/Hut/Chest

~/Garden
[mission 7] $ cd
Flower_garden/ Maze/ Shed/

~/Garden
[mission 7] $ cd ~/Forest/Hut/Chest

~/Forest/Hut/Chest
[mission 7] $ ls -A
.13229_coin_2 .17207_coin_3 .56794_coin_1 coin_1 coin_2 coin_3

~/Forest/Hut/Chest
[mission 7] $ gsh check

Congratulations, mission 7 has been successfully completed!
```

Le monete nel giardino, essendo file nascosti con un "." davanti, per visualizzarle ho usato il comando ls -A, e poi le ho spostate nel baule.