**Exercise 1: Managing Files with Shell Expansion**

mkdir -p exam/exercise1

touch season{1..9}\_episode{1..12}.ogg

**Exercise 2: Managing stdout; stderr**

su - student

mkdir -p exam/exercise2

-> fai la touch dei file

find ./ > exam/exercise2/find.txt 2> exam/exercise2/finderr.txt

**Exercise 3: User and Group**

groupadd -g 3000 marvel

groupadd -g 2000 dcleaisney

useradd -d /home/marvel/thor -u 2001 -p thor -g Marvel thor

chage -M 30 thor

useradd -u 2002 -p wolverine -g Marvel -G disney wolverine

usermod -aG disney wolverine

chage -d 0 wolverine //password al primo accesso

chage -M 90 wolverine

date -d "+365 days"

chage -E date wolverine // chage -d 0 -E 365 -M 90 wolverine

useradd -d /home/marvel/hulk -u 2010 -p hulk -g marvel hulk

usermod -L hulk

useradd bb-8

passwd bb-8

useradd yoda

passwd yoda

usermod -g disney bb-8

usermod -g disney yoda

usermod -G marvel bb-8 // secondary group

usermod -aG marvel yoda

chage -d 0 bb-8

...

id utente // visualizza i gruppi dell’utente  
getent group // vedi tutti i gruppi

**Exercise 4: File permission ?? non so se sia corretto**

mkdir -p /home/collaboration

groupadd collaboration

useradd mark

useradd nadine

useradd martin

usermod -G collaboration mark nadinne martin

chown :collaboration /home/collaboration

chmod 2770 /home/collaboration

chmod g+s /home/collaboration ??

**Exercise 5: File permission** ??

useradd murdoch -g a-team

passwd mudoch

usermod -g a-team mudoch

umask 2770

**Exercise 6: Alias**

vim ~/.bashrc

alias mycommand='echo "Hello" $(whoami)'

**Exercise 7: Bash script**

case $1 in

'postconf')

echo 'postroll'

;;

'postroll')

echo 'postconf'

;;

\*)

echo '/exam/exercise7/random postconf|postroll'

;;

esac

**Exercise 8: Bash script**

#! /bin/bash

NEWUSERSFILE=$1

cat $NEWUSERSFILE > /dev/null 2>&1

RESULT=$?

if [ $RESULT -ne 0 ]; then

echo "input file not found"

exit 2

fi

case "$1" in

testuser)

for ENTRY in $(cat $NEWUSERSFILE); do

USER\_NAME=$(echo $ENTRY | cut -f1) useradd $USER\_NAME  
useradd -s /bin/false $USERNAME

done

;;

\*)

echo "errore"

;;

esac

[root@server ~]# chmod u+x prova.sh

[root@server ~]# chmod u+x testuser

[root@server ~]# ./prova.sh testuser

**Exercise 9: Firewalld**

firewall-cmd --permanent --add-rich-rule='rule family=ipv4 forward-port port=8081 protocol=tcp to-port=22'  
firewall-cmd --reaload

ssh -l student 127.0.0.1 -p 8081

firewall-cmd --permanent --add-forward-port=port=8081:proto=tcp:to-port=22

**Exercise 10: Systemd**

yum install vsftpd

systemctl enable vsftpd

firewall-cmd --add-service=vsftpd --zone=dmz

**Exercise 11: Docker**

yum install -y docker

systemctl enable docker

systemctl start docker

curl -L

"https://github.com/docker/compose/releases/download/1.25.1/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose

chmod +x /usr/local/bin/docker-compose

--- index.html ---

<!DOCTYPE html>

<html>

<head>

</head>

<body>

<div class="center\_div">

<h1>Sara Gagliardi</h1>

</div>

</body>

</html>

--- Dockerfile ---

FROM httpd:2.4  
COPY .  /usr/local/apache2/htdocs/  
EXPOSE 80

docker build --tag sara/provaesame:1.0 .

docker run -d -p 80:80 sara/provaesame:1.0

docker (image) save -o exercise11.tar sara/provaesame:1.0

Exercise 12

Exercise 12: Docker compose

--- wordpress ---

--- docker-compose.yaml ---

version: "3.8"

services:

mysql:

image: mysql:latest

container\_name: mysql

environment:

- MYSQL\_ROOT\_PASSWORD="exam2"

- DB\_NAME=exercise11

- DB\_USER=student

- DB\_PASSWORD=stUdEnE2020

volumes:

- .:/exam2/exercise11/mysql

wordpress:

image: wordpress:latest

container\_name: wordpress

ports:

- "8081:80"

depends\_on:

- mysql

volumes:

- .:/exam2/exercise11/wordpress

restart: always

$ docker-compose up -d

--- maria.db ---

version: "3.8"

services:

mariadb:

image: mariadb:10

container\_name: mariadb

environment:

- MYSQL\_ROOT\_PASSWORD="exam5"

- DB\_PASSWORD=student

- DB\_NAME=exercise11

volumes:

- .:/exam2/exercise11/mariadb