Workbook for Exam LPIC-1 - 102

Task 1:
View all system environment variables. Then start the shell sh without
Environment variables. Check if it worked.

Task 2:
Create a file called "variables" and assign 3 variables to it. Save the
File and make sure that the variables are made known to the system. Check if it
had worked.

Task 3:
Run the following two commands. The second command should only be executed if the
first was successful.
ls -la
echo "This was successful!"

Task 4:
Create a new user name "testuser" with the user ID 1500. Define the home directory and the shell (bash).
You can add "Testuser Account" as a comment.
Then assign any password for "testuser". Then log in as a testuser and check if you are in your new home
directory.

Task 5:
Change the testuser shell from bash to sh. Try three different options.

Task 6:
Forbid the user "testuser" to log in. Try three different options.

Task 7:
Rename the user "testuser" to "thomas".

Task 8:
Determine that the user "thomas" has to change his password every 60 days and then after 50 days you will be warned that your password will expire in 10 days.

Task 9:
Create a new group with the group name "new_group" and assign it the group ID 2000.

Task 10:
Change the group ID from "new_group" to 2100.

Task 11:
Rename the group "new_group" to "test_group".

Task 12:
Make sure that in 5 minutes a directory called "auto-directory" is automatically created by the system in your home directory.

Task 13:
Check your current personal cron configuration and then delete it.
Now make sure that you can no longer use cron yourself. Check if it worked.

Task 14:
Make sure that nobody is allowed to use cron on the system.

Task 15:
Create a simple text file with the following content: "We convert the following letters: ö, ä
and above ".
Then check which character set is used for the file.
Now convert the character set to ASCII and make sure that unknown characters
converted automatically.

Task 16:
Synchronize the time of your system once with an NTP server. Beforehand display the table of the available NTP servers.

Task 17:
Adjust the hardware time to the system time

Task 18:
View all your network interfaces and their status.
Then disconnect your active connection and check whether it worked.
Then reconnect.

Task 19:
Turn off your entire network connection.
Then turn it on again.

Task 20:
Display your host name.
Then change it to any other host name.

Task 21:
Find out the IP address of linux-kurse.com and check 3 times whether this address can be reached.

Task 22:
View your computer's local IP address. Try 3 different options.

Task 23:
Set the IP address 192.168.10.1 as the default gateway. Then check whether this appears in the routing table.
Delete the default gateway again.

Task 24:
Get the route that your data package is going through when you visit linux-kurse.com
want to access. Make sure you don't have host names, only IP addresses are displayed.

Task 25:
Open port 1234 on your system. Then open a new terminal and connect via
the port 1234 with the first terminal. Check via terminal inputs whether a connection exists.

Task 26:
Start a second virtual Linux system and connect to the other system via the console,
so that you can work on the remote console.

Task 27:
Create a file called "ssh-test-file". Copy this file to the other virtual
Linux system in the home directory of your standard user.

Task 28:
Create a GPG key pair on your system.
Create a file called "key file" and encrypt it.
Then decrypt it again.

Solutions

Task 1:
env
env -i sh
env

Task 2:
vi variables

e.g.
VARIABLE1=15
VARIABLE2=30
VARIABLE3=50

source variables or *. variables*

Task 3:
ls -la && echo "This was successful!"

Task 4:
First we create the user:
sudo useradd -u 1500 -d /home/testuser -m -s /bin/bash -c "Testuser Account" testuser

Then we set the password:
passwd testuser

Now become root ...
sudo su -

... and then testuser.
su - testuser

With *pwd* we check which directory we are in, i.e. whether we are in our own home directory.

Task 5:
1. Possibility:
chsh -s /bin/sh testuser

2. Possibility:
usermod -s /bin/sh testuser

3. Possibility:
Editiere die Datei /etc/passwd und ändere dort die Shell beim User "testuser" von /bin/bash in /bin/sh

Task 6:
1. Possibility:
chsh -s /bin/false testuser

2. Possibility:
usermod -s /bin/false testuser

3. Möglichkeit:
Editiere die Datei /etc/passwd und ändere dort die Shell beim User "testuser" von /bin/bash oder /bin/sh in /bin/false oder /usr/sbin/nologin

Task 7:
usermod -l thomas testuser

Task 8:
chage -M 60 thomas - Specifies that the password must be changed every 60 days.
chage -W 10 thomas - Specifies that thomas will be warned 10 days before the 60 days expire.

Task 9:
groupadd -g 2000 new_group

Task 10:
groupmod -g 2100 new_group

Task 11:
groupmod -n testgroup new_testgroup

Task 12:
*crontab -e 30 11 * * * mkdir /home/yourname/autodirectory*

Task 13:
crontab -l
crontab -r
vi /etc/cron.deny -> Only your username has to be present as content
crontab -e

Task 14:
Create an empty file cron.allow.
touch /etc/cron.allow

Task 15:
Create file with vi.
file filename - Displays the character set of the file.
iconv -f UTF-8 -t ASCII//TRANSLIT filename >file_ascii

Task 16:
ntpq -p
ntpdate 0.ubuntu.pool.ntp.org

Task 17:
hwclock --hctosys / hwclock -s

Task 18:
nmcli device
nmcli device disconnect wlo1 or *nmcli connection down SSID*
nmcli device
nmcli device connect wlo1 or *nmcli connection up SSID*
(When it is a WIFI connection)

Task 19:
ifdown eth0 or *ifconfig eth0 down* or *ip link set down eth0*
ifup eth0 or *ifconfig eth0 up* or *ip link set up eth0*

Task 20:
Ways to display the host name:
hostname
hostnamectl
cat /etc/hostname

Was to change the host name:
hostname <new hostname>
hostnamectl set-hostname <new hostname>

Task 21:
nslookup linux-kurse.com
host linux-kurse.com
dig linux-kurse.com

ping -c 3 85.13.164.98

Task 22:
ifconfig
ip address show
hostname -I

Task 23:
route add default gw 192.168.10.1
route or *route -n* or *netstat -r* or *ip route show*
route del default gw 192.168.10.1

Task 24:
traceroute -n linux-kurse.com
tracepath -n linux-kurse.com

Task 25:
Terminal 1:
nc -l -p 1234 - Opens the port 1234

Terminal 2 or other Virtual Machine:
nc <ip address> 1234 - Connect to the open port

Task 26:
Install a second Linux system via Virtualbox.
Install the openssh server with: *sudo apt install openssh-server.*
Establish a connection with the command: *ssh <hostname>*
The user must also be present on the other system for it to work.

Task 27:
touch ssh-testfile
scp ssh-testfile <user>@<hostname>:/home/<user>

Task 28:
gpg --full-generate-key
gpg --encrypt keyfile
gpg --decrypt keyfile.gpg > keyfile2