



C Piscine

Day 00

Staff 42 pedago@42.fr

Summary: This document is the subject for Day00 of the C Piscine @ 42.

Contents

1	Instructions	2
2	Topics	4
3	Foreword	5
4	Exercise 00 : Pre-requisites	7
5	Exercise 01 : Z	8
6	Exercise 02 : testDay00	9
7	Exercise 03 : Oh yeah, mooore...	10
8	Exercise 04 : Connect me!	11
9	Exercise 05 : midLS	12
10	Exercise 06 : git commit	13
11	Exercise 07 : gitignore	14
12	Exercise 08 : diff	15
13	Exercise 09 : clean	16
14	Exercise 10 : Illusions, not tricks, Michael...	17

Chapter 1

Instructions

Welcome to the Piscine! Every day, you will get a new subject containing several exercises. In order to solve them, you should research the topics they are about. You are free [and encouraged!] to use any and all reference you want, be it books, Unix manual pages, guides on the web, tutorials, etc. It is also a good idea to share your findings with your peers. The right combination of learning by yourself and learning with your fellow swimmers is the key to success!

Whenever you have a question, first try to see if you can answer it by yourself. If your research was not successful, ask your peers to put you on the right path! The staff is there only a last resort in case of technical issue, and will not help you with the content or to solve the exercises. When in doubt, you can assume the subjects are correct :)

Good luck!

- The exercises are carefully laid out in order of difficulty, from easiest to hardest. An exercise is only graded if all previous ones are correct. In other words: the grading for a day stops at the first mistake.
- Be mindful of the submission procedures indicated at the start of every exercise.
- Your exercises will be checked and graded by your fellow classmates.
- On top of that, your exercises will be checked and graded by a program called Moulinette.
- Moulinette is very meticulous and strict in its evaluation of your work. It is entirely automated and there is no way to negotiate with it. Be as thorough as possible!
- You should not leave any additional file in your directory than those specified in the subject.
- Examine the examples thoroughly. They often contain details that are not explicitly mentioned in the subject.
- All shell scripts and commands must be executable with `/bin/sh`



The intra page for the day's project indicate the deadline for your submission. Past that deadline, you will not be able to hand in anything anymore. The deadline for submission is also the start of the peer-evaluation period for that project. This peer-evaluation period lasts exactly 24 hours. Once those 24 hours are up, any missing peer evaluation will receive the grade 0. In any case, you will then receive Moulinette's evaluation.



The forewords are entirely unrelated to the subjects and can safely be ignored.

Chapter 2

Topics

Today, you will have to learn about:

- The Unix shell
- Various Unix command line commands and utilities [including, but not limited to: `ls`, `cd`, `mv`, `mkdir`, `rm`, `cat`, `tar`, `patch`, ...]
- The Kerberos authentication protocol
- The git version control system

Chapter 3

Foreword

Here are the lyrics for City Hunter's theme song "Moonlight Shadow":

The last time ever she saw him
Carried away by a moonlight shadow
He passed on worried and warning
Carried away by a moonlight shadow.
Lost in a riddle that Saturday night
Far away on the other side.
He was caught in the middle of a desperate fight
And she couldn't find how to push through

The trees that whisper in the evening
Carried away by a moonlight shadow
Sing a song of sorrow and grieving
Carried away by a moonlight shadow
All she saw was a silhouette of a gun
Far away on the other side.
He was shot six times by a man on the run
And she couldn't find how to push through

[Chorus]

I stay, I pray
See you in Heaven far away...
I stay, I pray
See you in Heaven one day.

Four A.M. in the morning
Carried away by a moonlight shadow
I watched your vision forming
Carried away by a moonlight shadow
A star was glowing in the silvery night
Far away on the other side
Will you come to talk to me this night
But she couldn't find how to push through

[Chorus]

Far away on the other side.
Caught in the middle of a hundred and five
The night was heavy and the air was alive
But she couldn't find how to push through
Carried away by a moonlight shadow
Carried away by a moonlight shadow
Far away on the other side.

Unfortunately, this topic has nothing to do with **City Hunter**.

Chapter 4

Exercise 00 : Pre-requisites

42 <small>42 school</small>	Exercise : 00
Pre-requisites	

- Write an e-mail to `norminet@42.fr`.
- The subject of that email should be:

```
[Most awesome cat in the world][login][let me flatter you]
```

- Write nice things in the e-mail, using at least the following words:

```
42; autograph; master of the Universe; handsome; strong; idol; huge;  
crank handle
```



Replace "login" with YOUR login.

Chapter 5

Exercise 01 : Z

Turn-in directory : `ex01/`

Files to turn in: `z`

Allowed functions: `None`

- Create a file called `z`, so that using the command `cat` on it prints out "Z", followed by a new line.

```
?>cat z
Z
?>
```

Chapter 6

Exercise 02 : testDay00

Turn-in directory : `ex02/`

Files to turn in: `testDay00.tar`

Allowed functions: `None`

- Create a file called `testDay00` in your submission directory.
- Figure out a way for the output to look like this [except for the "total 1" line]:

```
%> ls -l
total 1
-r--r-xr-x  1 XX XX  40 Jun  1 23:42 testDay00
%>
```

- Once you've achieved the previous steps, execute the following command to create the file to be submitted: `tar -cf testDay00.tar testDay00`.



Don't worry about what you've got instead of "XX".



A year will be accepted instead of the time, on the timestamp of the file.

Chapter 7

Exercise 03 : Oh yeah, mooore...

Turn-in directory : `ex03/`

Files to turn in: `exo3.tar`

Allowed functions: `None`

- Create the following files and directories. Do what's necessary so that when you use the `ls -l` command in your directory, the output will look like this :

```
%> ls -l
total XX
drwx--xr-x  2 XX  XX  XX Jun  1 20:47 test0
-rwx--xr--  1 XX  XX   4 Jun  1 21:46 test1
dr-x---r--  2 XX  XX  XX Jun  1 22:45 test2
-r-----r-- 2 XX  XX   1 Jun  1 23:44 test3
-rw-r----- 1 XX  XX   2 Jun  1 23:43 test4
-r-----r-- 2 XX  XX   1 Jun  1 23:44 test5
lrwxr-xr-x  1 XX  XX   5 Jun  1 22:20 test6 -> test0
%>
```

- Once you've done that, run `tar -cf exo3.tar *` to create the file to be submitted.



Don't worry about what you've got instead of "XX".



A year will be accepted instead of the time, on the timestamp of the files.

Chapter 8

Exercise 04 : Connect me!

Turn-in directory : `ex04/`

Files to turn in: `klist.txt`

Allowed functions: `None`

- Make sure you have a valid [non-expired] Kerberos ticket. If you don't have one yet, get one.
- Once you've got at least one Kerberos ticket, write a list of all your tickets into a file named `klist.txt`



The file's name was not chosen randomly.



Those commands will be of use later in the day, so try not to forget them!

Chapter 9

Exercise 05 : midLS

Turn-in directory : `ex05/`

Files to turn in: `midLS`

Allowed functions: `None`

- In a `midLS` file, place the command line that will list all files and directories in your current directory [except for hidden files or any file that starts by a dot - yes, that includes double-dots], separated by a comma, by order of creation date. Make sure directories' names are followed by a slash character.

Chapter 10

Exercise 06 : git commit

Turn-in directory : ex06/

Files to turn in: git_commit.sh

Allowed functions: None

- Understanding and using git is a very important skill for a developer, may it be for your piscine, your formation or your professional life. In this exercise, you will have to list the 5 last commits' id. Example:

```
%> bash git_commit.sh | cat -e
baa23b54f0adb7bf42623d6d0a6ed4587e11412a$
2f52d74b1387fa80eea844969e8dc5483b531ac1$
905f53d98656771334f53f59bb984fc29774701f$
5ddc8474f4f15b3fcb72d08fcb333e19c3a27078$
e94d0b448c03ec633f16d84d63beaef9ae7e7be8$
%>
```



To test your script, we will use our own environment.

Chapter 11

Exercise 07 : gitignore

Turn-in directory : ex07/

Files to turn in: git_ignore.sh

Allowed functions: None

- In this exercise, you will write a short shell script that lists all the existing files ignored by your GiT repository. Example:

```
%> bash git_ignore.sh | cat -e
.DS_Store$
mywork.c~$
%>
```

To test your script, we will use our own environment.

Chapter 12

Exercise 08 : diff

Turn-in directory : ex08/

Files to turn in: b

Allowed functions: None

- Create a file **b**, so that :

```
%>cat -e a
STARWARS$
Episode IV, A NEW HOPE It is a period of civil war.$
$
Rebel spaceships, striking from a hidden base, have won their first victory
  against the evil Galactic Empire.$
During the battle, Rebel spies managed to steal secret plans to the Empire's
  ultimate weapon, the DEATH STAR,$
an armored space station with enough power to destroy an entire planet.$
$
Pursued by the Empire's sinister agents, Princess Leia races home aboard her
  starship, custodian of the stolen plans that can save her people and
  restore freedom to the galaxy...$
$

%>diff a b > sw.diff
```



man patch

Chapter 13

Exercise 09 : clean

Turn-in directory : `ex09/`

Files to turn in: `clean`

Allowed functions: `None`

- In a file called `clean` place the command line that will search for all files - in the current directory as well as in its sub-directories - with a name ending by `~`, or a name that start and end by `#`
- The command line will show and erase all files found.
- Only one command is allowed: no `';` or `'&&'` or other shenanigans.



`man find`

Chapter 14

Exercise 10 : Illusions, not tricks, Michael...

Turn-in directory : `ex10/`

Files to turn in: `ft_magic`

Allowed functions: `None`

- Create a magic file called `ft_magic` that will be formatted appropriately to detect files of `42 file` type, built with a `"42"` string at the 42nd byte.



`man file`