

# C Bootcamp

Day 00

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Summary: This document is the subject for Day00 of the C Bootcamp @ WeThinkCode.

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#### Chapter I

#### Instructions

- Only this page will serve as reference; do not trust rumors.
- Watch out! This document could potentially change up to an hour before submission.
- These exercises are carefully laid out by order of difficulty from easiest to hardest. We will not take into account a successfully completed harder exercise if an easier one is not perfectly functional.
- Make sure you have the appropriate permissions on your files and directories.
- You have to follow the submission procedures for 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. So if you want to avoid bad surprises, be as thorough as possible.
- Exercises in Shell must be executable with /bin/sh.
- You <u>cannot</u> leave <u>any</u> additional file in your directory than those specified in the subject.
- Got a question? Ask your peer on the right. Otherwise, try your peer on the left.
- Your reference guide is called Google / man / the Internet / ....
- Check out the "C Bootcamp" part of the forum on the intranet.
- Examine the examples thoroughly. They could very well call for details that are not explicitly mentioned in the subject...

• By Odin, by Thor! Use your brain!!!



The time and date displayed on the intra indicate the deadline for your submission. Past that deadline, you won't be able to hand in anything more. These time and date also indicate the start of the peer-evaluation period for the corresponding C-bootcamp date. This peer-evaluation period lasts exactly 24hrs. Once those 24hrs are up, your missing peer-grading will become Os and you'll receive Moulinette's grade.

#### Chapter II

#### 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 III

## Exercise 00: Pre-requisites

	Exercise: 00	
/	Pre-requisites	
Notes : n/a		

- Register to all projects for the next 4 weeks on the intranet.
- Write an e-mail to justinus@wethinkcode.co.za.
- The subject of that email should be:

[Sir general deputy director] [login] [let me flatter you]

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

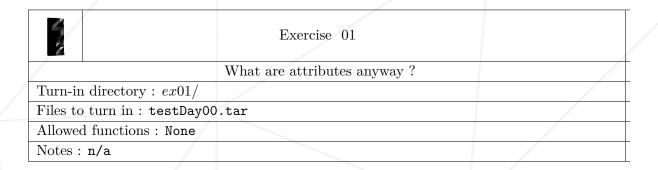
42; autograph; master of the Universe; handsome; strong; idol; huge; crank handle



Evidently "login" will be YOUR login.

#### Chapter IV

Exercise 01: testDay00



- 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 login wheel 40 Jun 1 23:42 testDay00
$>
```

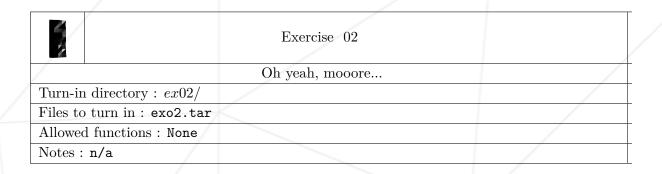
• Once you've achieved the previous steps, execute the following command to create the file to be submitted: tar -cf testDay00.tar testDay00.



"login" and "wheel" will be respectively replaced by your login and your group.

#### Chapter V

## Exercise 02: Oh yeah, mooore...



• 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 looks like this:

```
$> 1s -1
total 42
drwx--xr-x 2 login wheel XX Jun 1 20:47 test0
-rwx--xr-- 1 login wheel 4 Jun 1 21:46 test1
dr-x---r-- 2 login wheel XX Jun 1 22:45 test2
-r----r-- 2 login wheel 1 Jun 1 23:44 test3
-rw-r---x 1 login wheel 2 Jun 1 23:43 test4
-r----r-- 2 login wheel 1 Jun 1 23:44 test5
lrwxr-xr-x 1 login wheel 5 Jun 1 22:20 test6 -> test0
$>
```

• Once you've done that, run tar -cf exo2.tar \* to create the file to be submitted.



"login" & "wheel" will respectively be replaced by your login and your group.



You won't be able to have the same "total 42" line as shown in the example.



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

## Chapter VI

#### Exercise 03: Connect me!

	Exercise 03	
/	Kerberos	
Turn-in directory : $ex03/$		
Files to turn in : klist.txt		
Allowed functions : None		
Notes : n/a		

- 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 VII

#### Exercise 04: Who am I?

	Exercise 04	
7	Who am I?	/
Turn-in directory : $ex04/$		
Files to turn in : who_am_i.	sh	
Allowed functions : None		
Notes : n/a		

- Now that you have a Kerkebos ticket, it's time to find out who you are!
- As you may already know, all users at the school are on LDAP: some sort of rudimentary digital phonebook for those who remember what a phonebook is...
- In a file called who\_am\_i.sh, type in the command that will return only the value of the distinguished name.
- For example, with a "test" Kerberos ticket :

```
%>sh who_am_i.sh
uid=test,ou=2013,ou=people,dc=42,dc=fr
%>
```



All commands to communicate with LDAP start with ... ldap.



The first four lines (starting with SASL) will never be taken into account for mysterious reasons you'll understand later on.

## Chapter VIII

#### Exercise 05: Who's with me?

Exercise 05	
Who's with me?	/
Turn-in directory : $ex05/$	
Files to turn in : people.sh	
Allowed functions: None	
Notes: n/a	

- Now that you understand the basics of LDAP (sort of), you can start looking for people.
- In a file called people.sh, type in the command that will list the cn list for all accounts that have a uid starting with 'z'. This list will only show the cn, in reverse alphabetical order, and NOT case-sensitive. There shouldn't be any unecessary empty lines.



LDAP search-filters have a specific syntax.

## Chapter IX

Exercise 06: Hello!

		Exercise 06	
	/	Phone number	
1	Turn-in directory : $ex06/$		
	Files to turn in : mobile-phone.ldif		
	Allowed functions : None		
	Notes : n/a		

• Now that you're LDAP experts, you are going to be able to add your phone number into the mobile field.



Add your real number: your future teammates will be happy to know how to reach you!

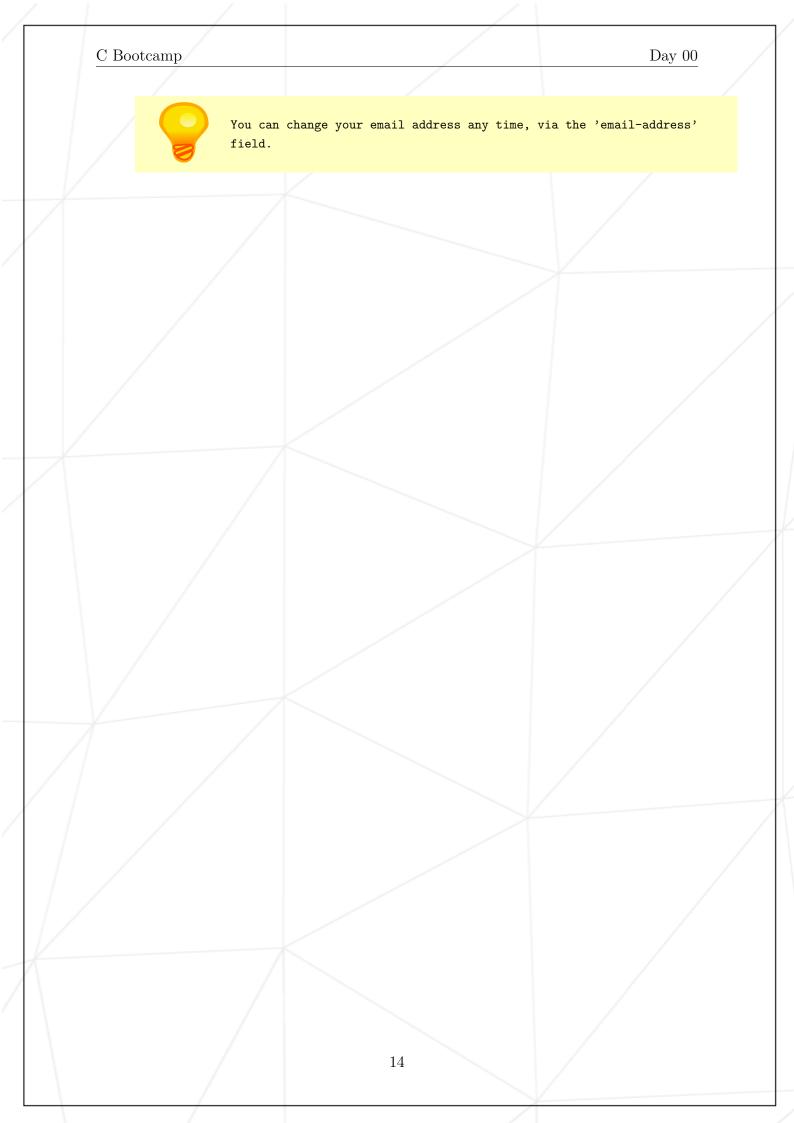
• Here's an LDIF file template:

dn: uid=pnom,ou=people,dc=42,dc=fr
changetype: modify
delete: pouette

• To check if your command has worked, try to look yourself up on LDAP!



Don't hesitate to fill in other fields if you're up for it. However, you don't have all the permissions, we're not idiots;)



## Chapter X

Exercise 07: midLS

	Exercise 07	
/	midLS	
Turn-in directory : $ex07/$		
Files to turn in: midLS		
Allowed functions : None		
Notes : n/a		

• 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.



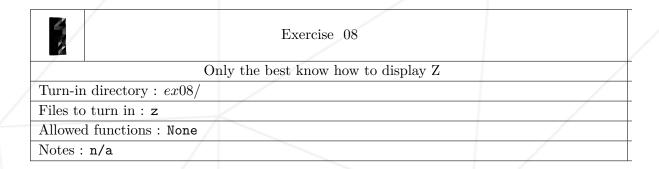
What has not been asked for should not be done!



RTFM

## Chapter XI

Exercise 08: Z

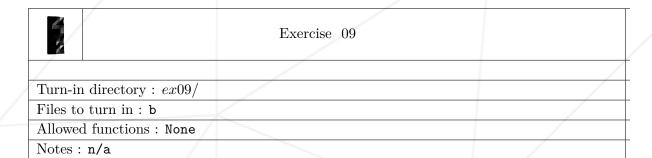


 $\bullet$  Create a file called z that returns "Z", followed by a new line, whenever the command cat is used on it.

?>cat z
Z
?>

#### Chapter XII

Exercise 09: diff



• Create a file b, so that:

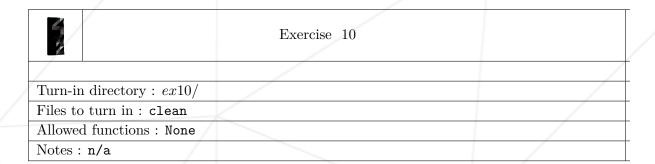
%>diff a b > sw.diff



man patch

## Chapter XIII

Exercise 10: clean



- 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 ending by  $\sim$ , and/or all files that start or 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 XIV

# Exercise 11: Illusions, not tricks, Michael...

	Exercise 11	
	Illusions, not tricks, Michael	
Turn-in directory : $ex11/$		
Files to turn in : ft_magic		
Allowed functions: None		
Notes : n/a		

• 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