



Hacettepe University

Computer Engineering Department

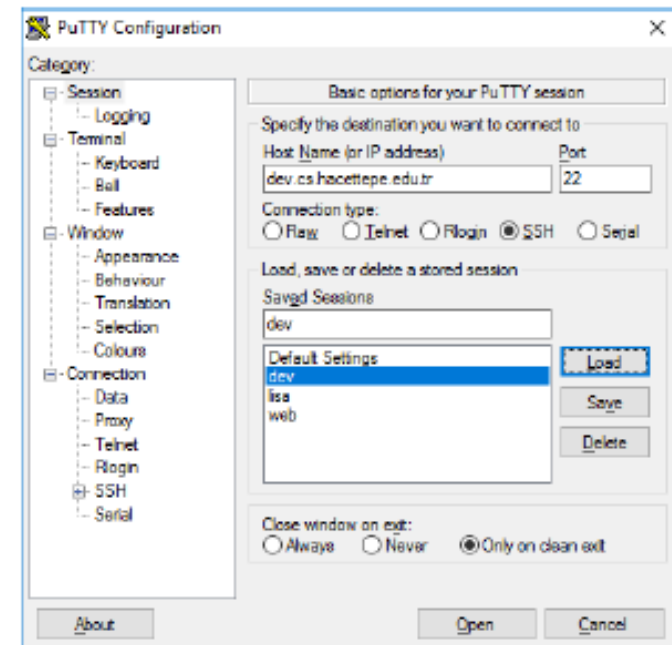
# How to Use the Linux Command Line & Submit System

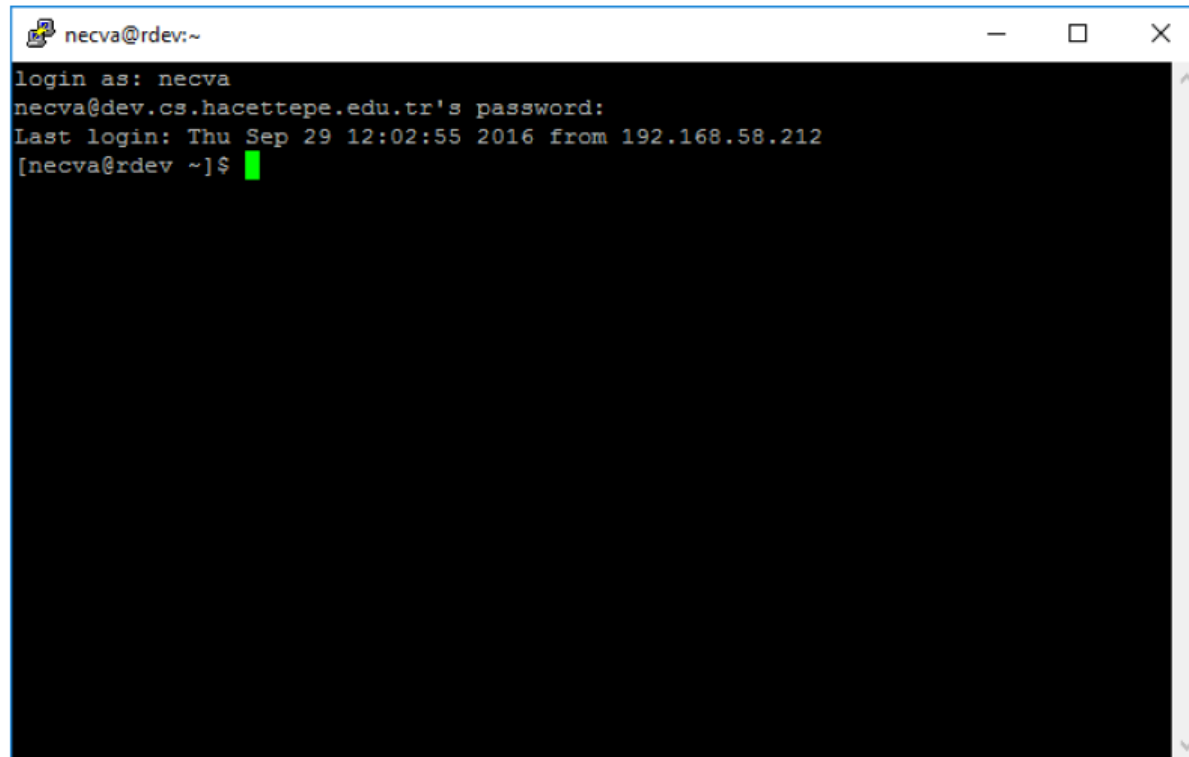
BBM103 Introduction to Programming Lab 1

Fall 2016

# Last Week...

- Download Putty from <http://the.earth.li/~sgtatham/putty/latest/x86/putty.exe>
- Connect dev.cs.hacettepe.edu.tr server and enter your department account from console.

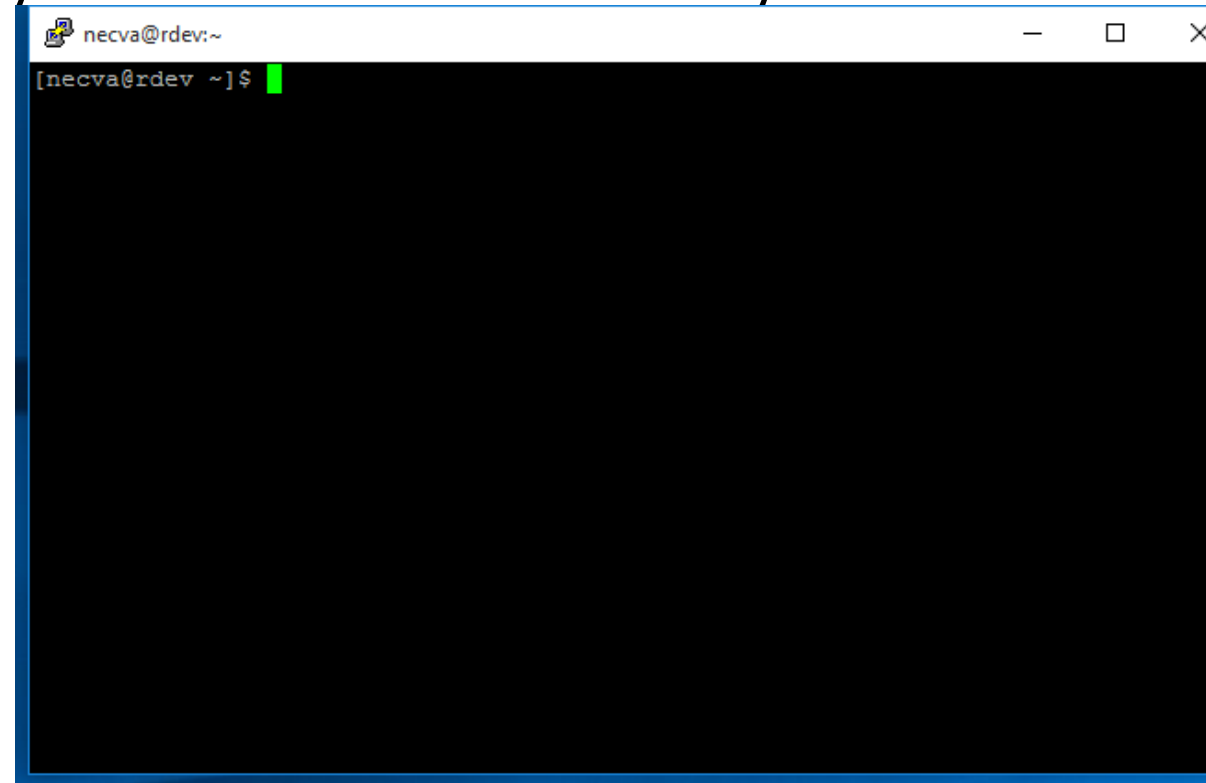




```
necva@rdev:~  
login as: necva  
necva@dev.cs.hacettepe.edu.tr's password:  
Last login: Thu Sep 29 12:02:55 2016 from 192.168.58.212  
[necva@rdev ~]$
```

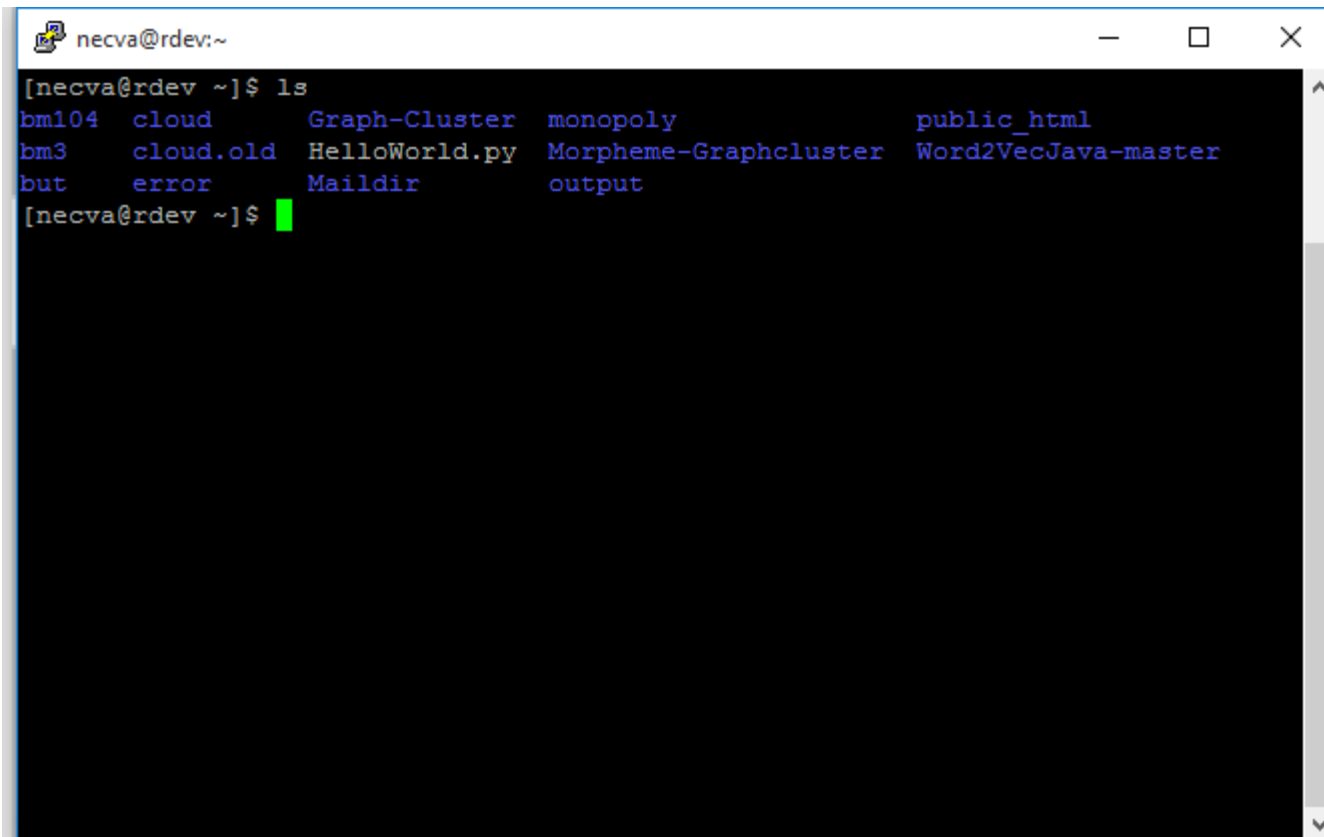
# Basic Commands

- When you open a terminal emulator, by default you are in the home directory of the logged in user.
- You will see the name of the logged in user followed by the hostname.
  - **\$** means you are logged in as a regular user
  - **#** means you are logged in as root.

A screenshot of a terminal window. The title bar shows 'necva@rdev:~'. The terminal content shows the prompt '[necva@rdev ~]\$' followed by a green cursor. The terminal background is black, and the text is white. The window has standard Linux window controls (minimize, maximize, close) in the top right corner.

```
necva@rdev:~  
[necva@rdev ~]$
```

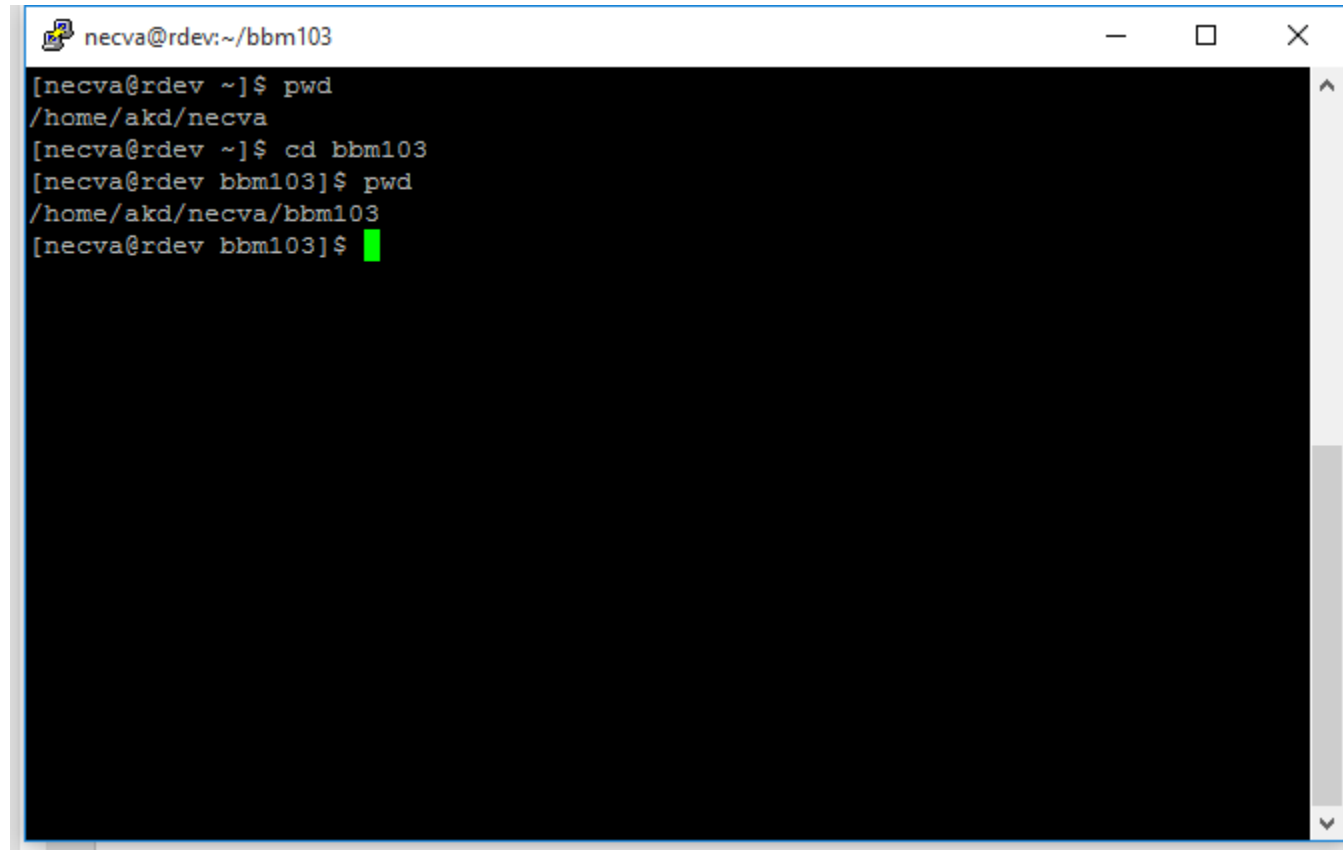
- You can list all directories and files inside the current directory by using the **ls** command.

A terminal window titled 'necva@rdev:~' with standard window controls. The terminal shows the command 'ls' being executed, resulting in a multi-column listing of files and directories. The output is as follows:

```
[necva@rdev ~]$ ls
bm104  cloud      Graph-Cluster  monopoly          public_html
bm3    cloud.old  HelloWorld.py   Morpheme-Graphcluster  Word2VecJava-master
but    error     Maildir         output
```

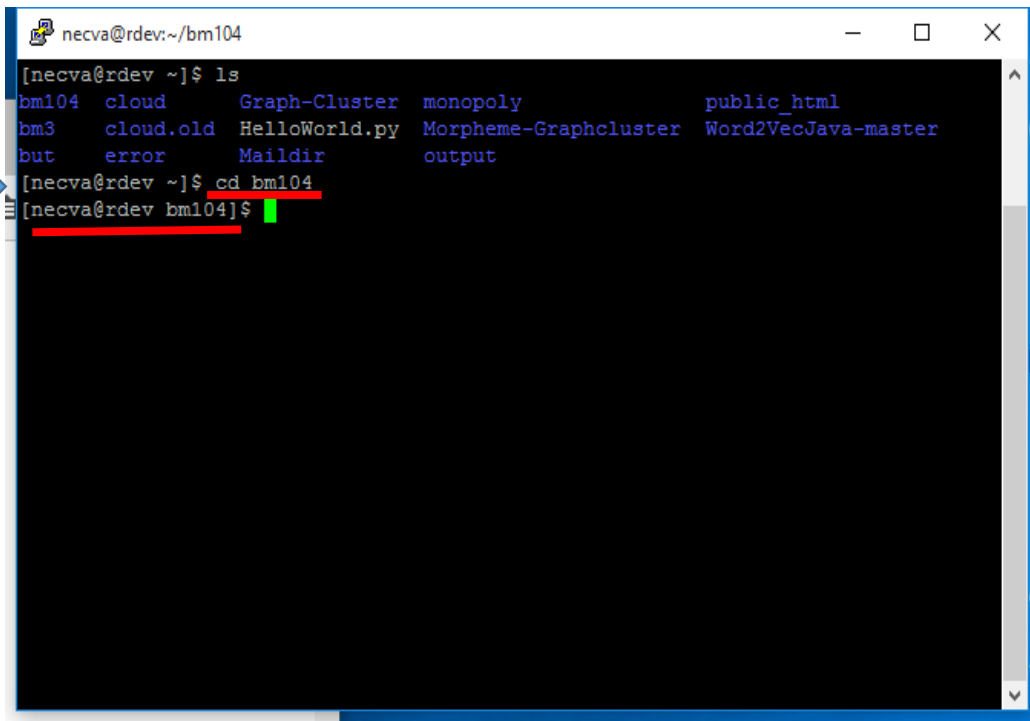
The prompt returns to '[necva@rdev ~]\$' with a green cursor.

The directory you are standing in is called the *working directory*. To find the name of the working directory, use the **pwd** command.

A terminal window titled 'necva@rdev:~/bbm103' with standard window controls. The terminal shows the following sequence of commands and outputs:

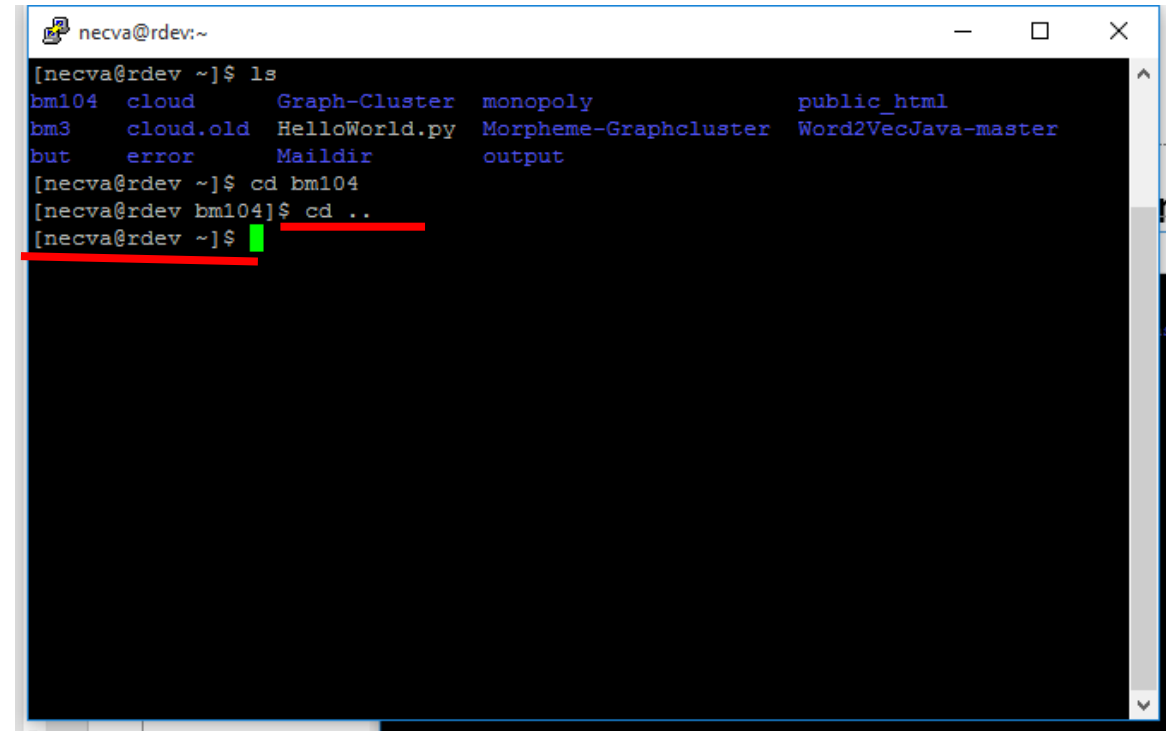
```
[necva@rdev ~]$ pwd
/home/akd/necva
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ pwd
/home/akd/necva/bbm103
[necva@rdev bbm103]$ █
```

- To change to any directory, use the **cd** command.
- if you want to get out of the current directory and go back to home, simply type **cd**.



```
necva@rdev:~/bm104
[necva@rdev ~]$ ls
bm104  cloud      Graph-Cluster  monopoly      public_html
bm3    cloud.old  HelloWorld.py   Morpheme-Graphcluster  Word2VecJava-master
but    error      Maildir        output
[necva@rdev ~]$ cd bm104
[necva@rdev bm104]$
```

A blue arrow points to the `cd bm104` command in the terminal.



```
necva@rdev:~
[necva@rdev ~]$ ls
bm104  cloud      Graph-Cluster  monopoly      public_html
bm3    cloud.old  HelloWorld.py   Morpheme-Graphcluster  Word2VecJava-master
but    error      Maildir        output
[necva@rdev ~]$ cd bm104
[necva@rdev bm104]$ cd ..
[necva@rdev ~]$
```

# Manipulating Files

- [cp](#) - copy files and directories
- [mv](#) - move or rename files and directories
- [mkdir](#) - create directories
- [rm](#) - remove files and directories

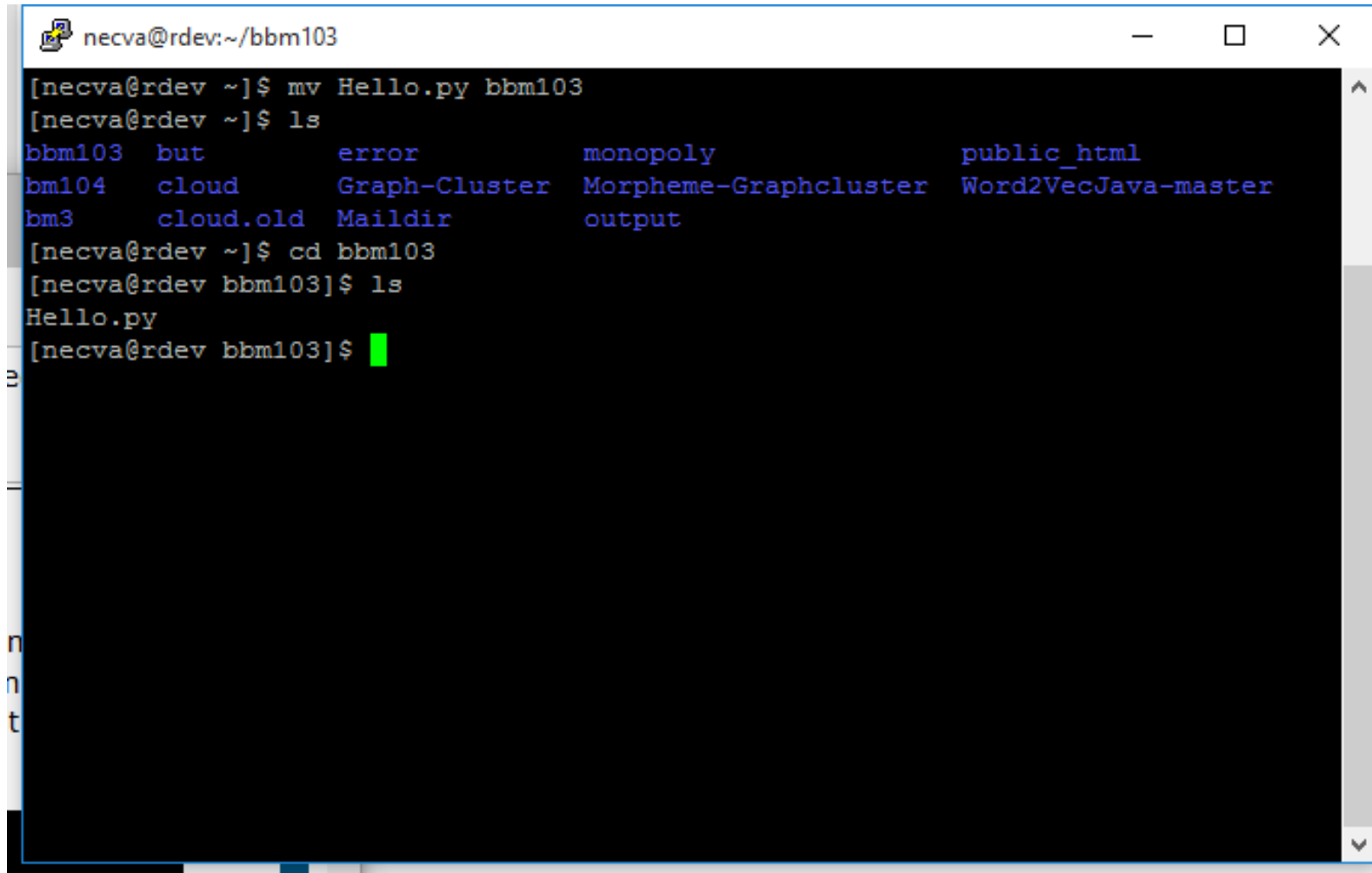


- The **cp** program copies files and directories. In its simplest form, it copies a single file:

```
necva@rdev:~  
[necva@rdev ~]$ ls  
bbm103  but      error      Maildir      output  
bm104   cloud    Graph-Cluster  monopoly     cloud        public_html  
bm3     cloud.old HelloWorld.py  Morpheme-Graphcluster  Word2VecJava-master  
[necva@rdev ~]$ cp HelloWorld.py Hello.py  
[necva@rdev ~]$ ls  
bbm103  cloud      Hello.py      Morpheme-Graphcluster  
bm104   cloud.old  HelloWorld.py  output  
bm3     error      Maildir       public_html  
but     Graph-Cluster  monopoly      Word2VecJava-master  
[necva@rdev ~]$
```

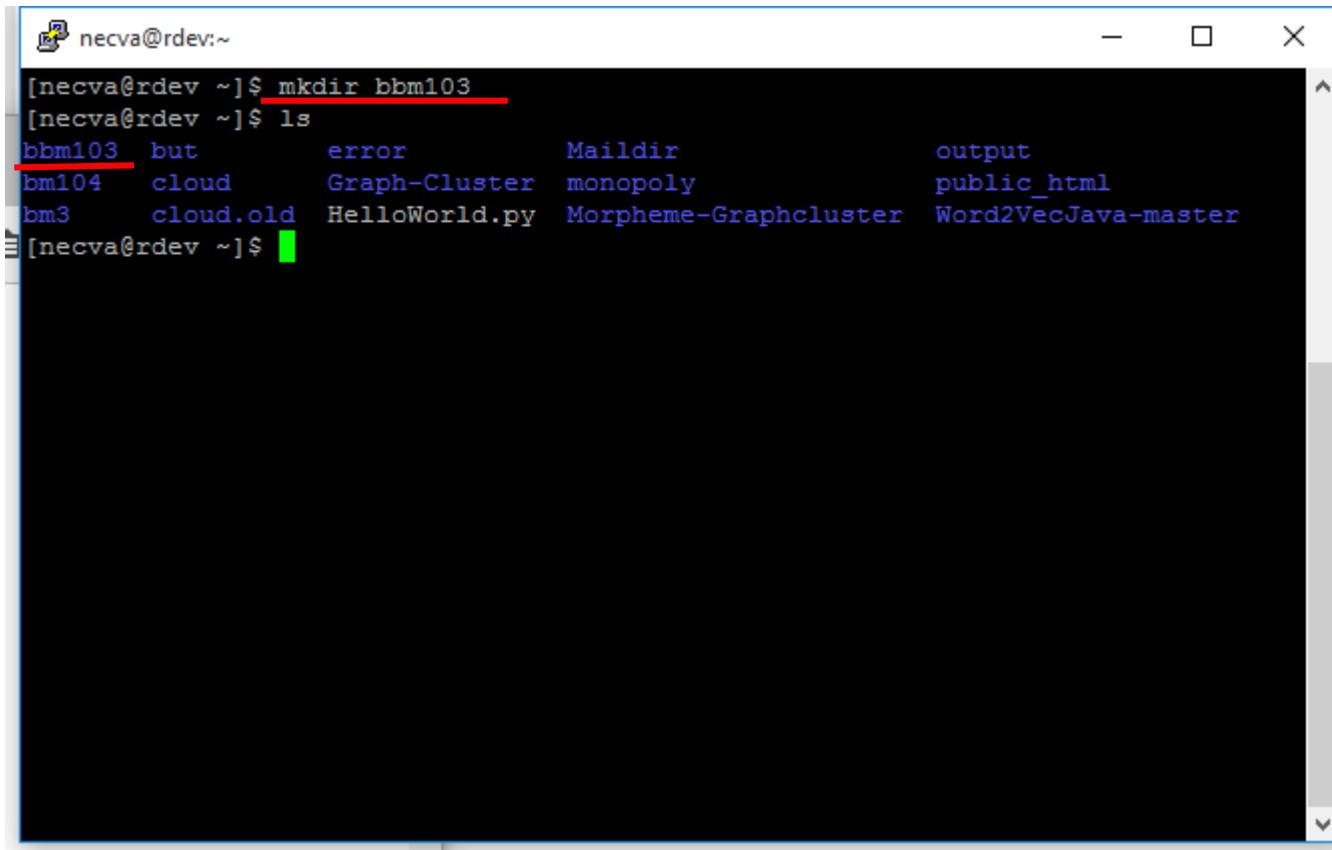
```
necva@rdev:~/bbm103  
[necva@rdev ~]$ ls  
bbm103  but      error      Maildir      output  
bm104   cloud    Graph-Cluster  monopoly     cloud        public_html  
bm3     cloud.old HelloWorld.py  Morpheme-Graphcluster  Word2VecJava-master  
[necva@rdev ~]$ cp HelloWorld.py Hello.py  
[necva@rdev ~]$ ls  
bbm103  cloud      Hello.py      Morpheme-Graphcluster  
bm104   cloud.old  HelloWorld.py  output  
bm3     error      Maildir       public_html  
but     Graph-Cluster  monopoly      Word2VecJava-master  
[necva@rdev ~]$ cp HelloWorld.py bbm103/HelloWorld.py  
[necva@rdev ~]$ cd bbm103  
[necva@rdev bbm103]$ ls  
HelloWorld.py  
[necva@rdev bbm103]$
```

- The **mv** command moves or renames files and directories depending on how it is used.



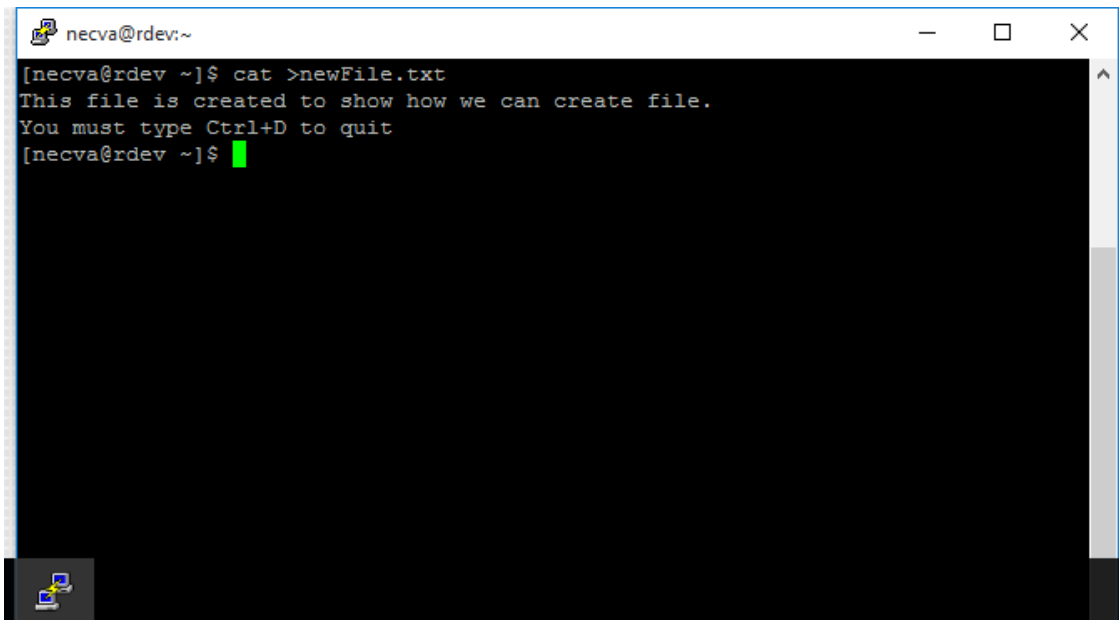
```
necva@rdev:~/bbm103
[necva@rdev ~]$ mv Hello.py bbm103
[necva@rdev ~]$ ls
bbm103  but      error      monopoly    public_html
bm104   cloud    Graph-Cluster  Morpheme-Graphcluster  Word2VecJava-master
bm3     cloud.old  Maildir      output
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
Hello.py
[necva@rdev bbm103]$
```

- If you want to create new directories the command is **mkdir**.

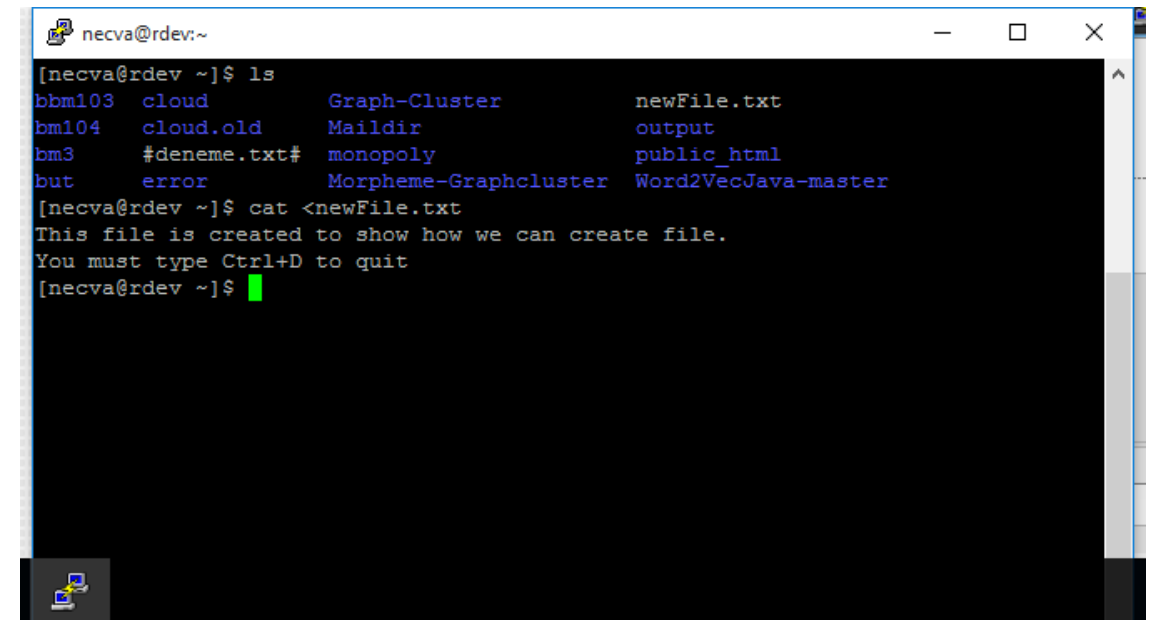


```
necva@rdev:~  
[necva@rdev ~]$ mkdir bbm103  
[necva@rdev ~]$ ls  
bbm103  but      error      Maildir      output  
bm104   cloud    Graph-Cluster  monopoly      public_html  
bm3     cloud.old HelloWorld.py  Morpheme-Graphcluster  Word2VecJava-master  
[necva@rdev ~]$
```

- **cat** stands for **Concatenate**. Cat is the basic command when we start learning Linux/Unix, as the name suggest it is used to create new file ,concatenate files and display the output of files on the standard output.



```
necva@rdev:~  
[necva@rdev ~]$ cat >newFile.txt  
This file is created to show how we can create file.  
You must type Ctrl+D to quit  
[necva@rdev ~]$
```



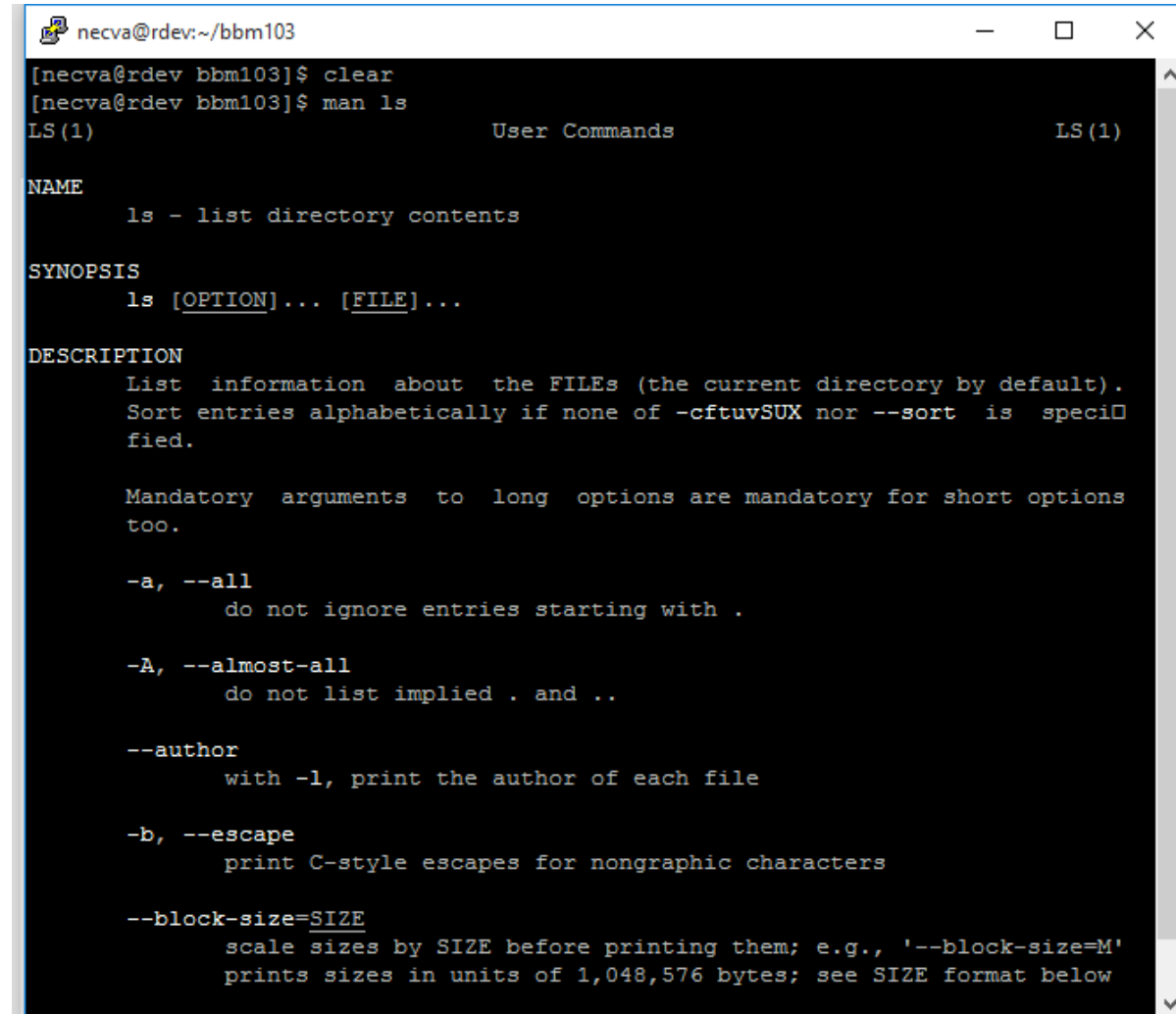
```
necva@rdev:~  
[necva@rdev ~]$ ls  
bbm103  cloud      Graph-Cluster      newFile.txt  
bm104   cloud.old  Maildir            output  
bm3     #deneme.txt# monopoly          public_html  
but     error     Morpheme-Graphcluster Word2VecJava-master  
[necva@rdev ~]$ cat <newFile.txt  
This file is created to show how we can create file.  
You must type Ctrl+D to quit  
[necva@rdev ~]$
```

- If you want to delete any file or directory the command is '**rm**' (for files) and '**rm -r**' (for directories).

```
necva@rdev:~  
[necva@rdev ~]$ ls  
bbm103  but      error      Maildir      output  
bm104   cloud    Graph-Cluster  monopoly     public_html  
bm3     cloud.old HelloWorld.py  Morpheme-Graphcluster  Word2VecJava-master  
[necva@rdev ~]$
```

```
necva@rdev:~  
[necva@rdev ~]$ ls  
bbm103  but      error      Maildir      output  
bm104   cloud    Graph-Cluster  monopoly     public_html  
bm3     cloud.old HelloWorld.py  Morpheme-Graphcluster  Word2VecJava-master  
[necva@rdev ~]$ rm -r bbm103  
[necva@rdev ~]$ ls  
bm104   cloud    Graph-Cluster  monopoly     public_html  
bm3     cloud.old HelloWorld.py  Morpheme-Graphcluster  Word2VecJava-master  
but     error    Maildir        output  
[necva@rdev ~]$
```

- Most executable programs intended for command line use provide a formal piece of documentation called a *manual* or *man page*. A special paging program called **man** is used to view them.



```
necva@rdev:~/bbm103
[necva@rdev bbm103]$ clear
[necva@rdev bbm103]$ man ls
LS(1)                                User Commands                                LS(1)

NAME
  ls - list directory contents

SYNOPSIS
  ls [OPTION]... [FILE]...

DESCRIPTION
  List information about the FILES (the current directory by default).
  Sort entries alphabetically if none of -cftuvSUX nor --sort is speci-
  fied.

  Mandatory arguments to long options are mandatory for short options
  too.

  -a, --all
        do not ignore entries starting with .

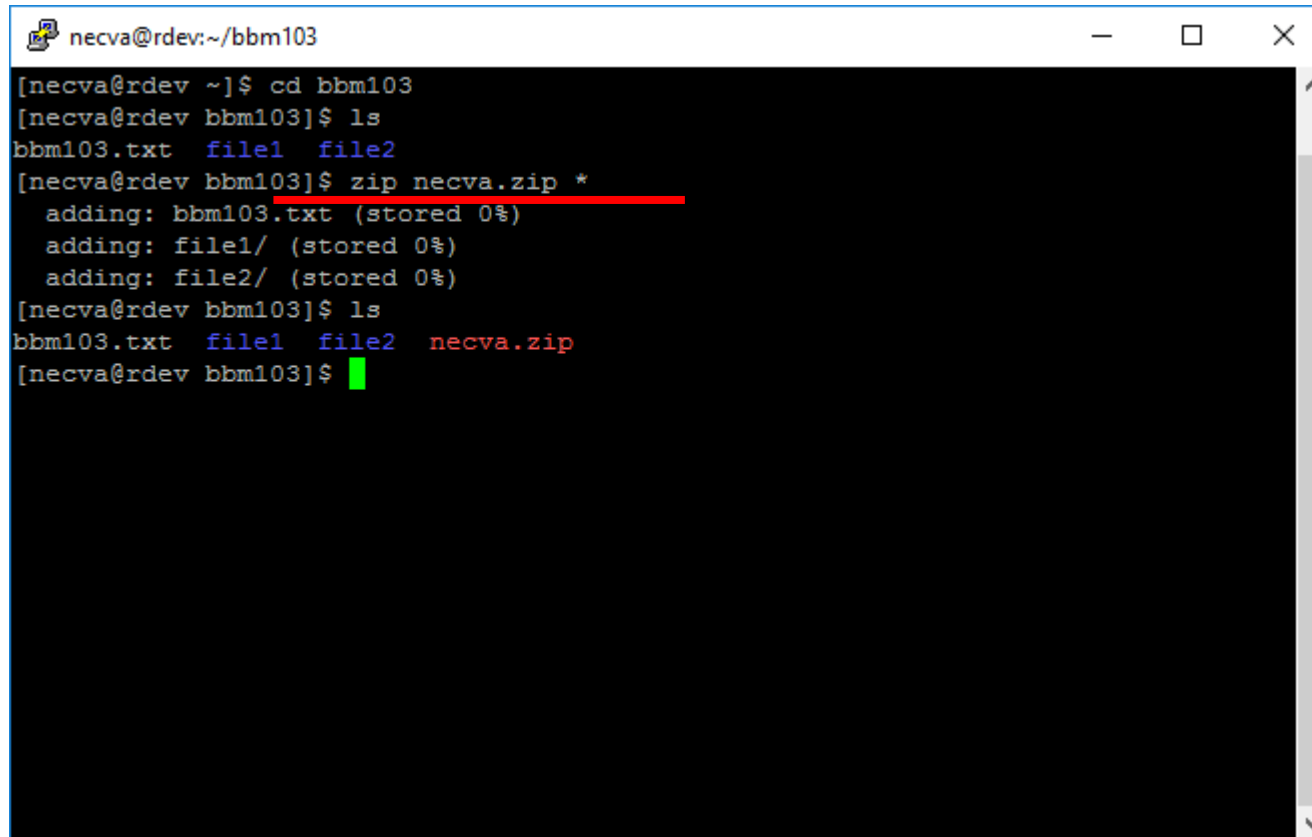
  -A, --almost-all
        do not list implied . and ..

  --author
        with -l, print the author of each file

  -b, --escape
        print C-style escapes for nongraphic characters

  --block-size=SIZE
        scale sizes by SIZE before printing them; e.g., '--block-size=M'
        prints sizes in units of 1,048,576 bytes; see SIZE format below
```

- How can I create and extract zip archives from the command line?

A terminal window titled 'necva@rdev:~/bbm103' with standard window controls. The terminal shows a sequence of commands and their outputs. The user navigates to the 'bbm103' directory, lists its contents, and then creates a zip archive named 'necva.zip' containing all files in the directory. The output shows the files being added to the archive.

```
necva@rdev ~]$ cd bbm103
necva@rdev bbm103]$ ls
bbm103.txt  file1  file2
necva@rdev bbm103]$ zip necva.zip *
  adding: bbm103.txt (stored 0%)
  adding: file1/ (stored 0%)
  adding: file2/ (stored 0%)
necva@rdev bbm103]$ ls
bbm103.txt  file1  file2  necva.zip
necva@rdev bbm103]$
```

# What is Secure Copy?

- **scp** allows files to be copied to, from, or between different hosts. It uses **ssh** for data transfer and provides the same authentication and same level of security as **ssh**.

```
scp <localfile> <username>@dev.cs.hacettepe.edu.tr:/home/ogr/b****/<directory>
```

```
selim@selim-PC:~$ scp DPS0.pdf selimy@dev.cs.hacettepe.edu.tr:/home/akd/selimy/  
selimy@dev.cs.hacettepe.edu.tr's password:
```



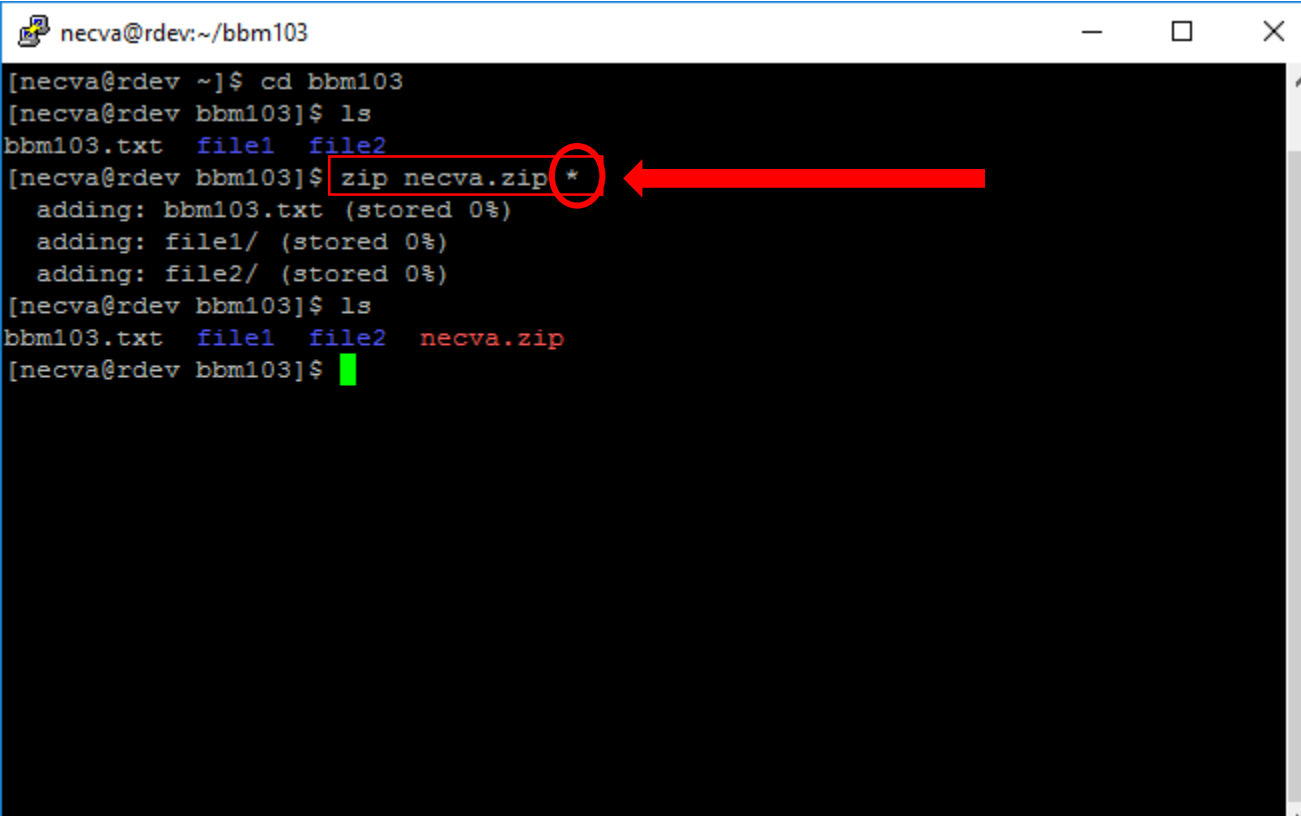
# About chmod

- **chmod** is used to change the permissions of files or directories.
- Example: `chmod 777 myFile`

#	Permission	rwX
7	read, write and execute	rwX
6	read and write	rw-
5	read and execute	r-X
4	read only	r--
3	write and execute	-wX
2	write only	-w-
1	execute only	--X
0	none	---

\*

- The \* character serves as a "wild card" for filename expansion in globbing. By itself, it matches every filename in a given directory

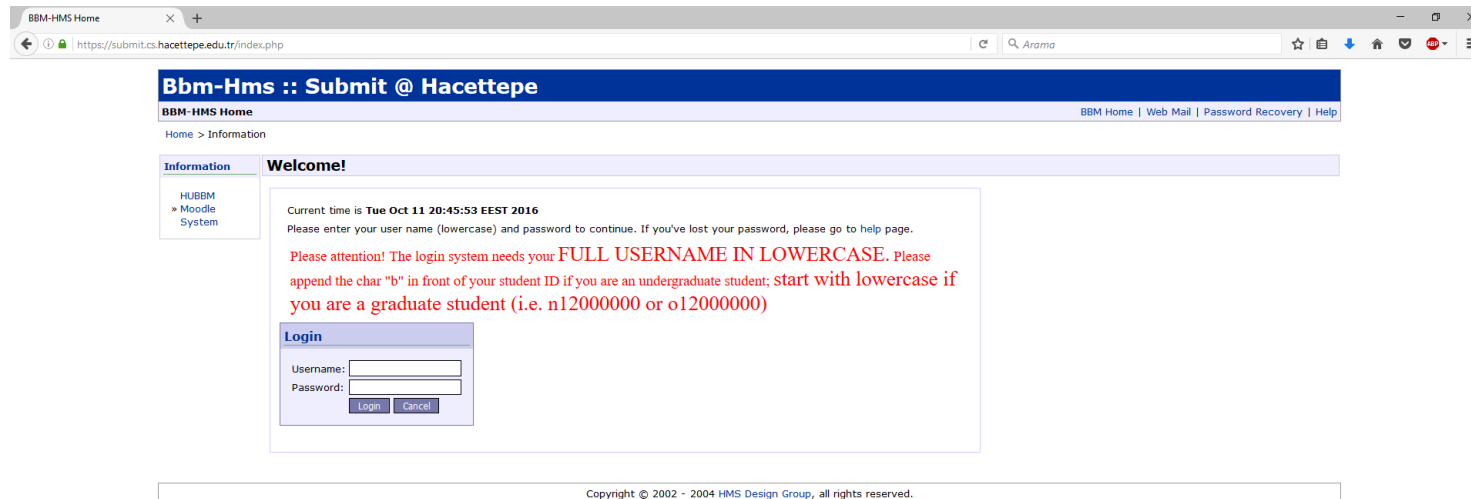


```
necva@rdev:~/bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
bbm103.txt  file1  file2
[necva@rdev bbm103]$ zip necva.zip *
  adding: bbm103.txt (stored 0%)
  adding: file1/ (stored 0%)
  adding: file2/ (stored 0%)
[necva@rdev bbm103]$ ls
bbm103.txt  file1  file2  necva.zip
[necva@rdev bbm103]$
```

The terminal window shows a user named necva at a machine named rdev in the directory ~/bbm103. The user navigates to the bbm103 directory and lists its contents, which are bbm103.txt, file1, and file2. Then, the user runs the command `zip necva.zip *`. A red circle highlights the asterisk in the command, and a red arrow points to it from the right. The terminal output shows the progress of zipping the files: "adding: bbm103.txt (stored 0%)", "adding: file1/ (stored 0%)", and "adding: file2/ (stored 0%)". Finally, the user lists the directory again, and the output now includes `necva.zip` in addition to the other files. The prompt is green.

# Submit System

- Enter <https://submit.cs.hacettepe.edu.tr/index.php>



The screenshot shows a web browser window with the address bar displaying <https://submit.cs.hacettepe.edu.tr/index.php>. The page title is "Bbm-Hms :: Submit @ Hacettepe". The main content area features a "Welcome!" message with the current time "Tue Oct 11 20:45:53 EEST 2016" and instructions to enter a lowercase username and password. A red warning message states: "Please attention! The login system needs your FULL USERNAME IN LOWERCASE. Please append the char 'b' in front of your student ID if you are an undergraduate student; start with lowercase if you are a graduate student (i.e. n12000000 or o12000000)". Below this is a "Login" form with fields for "Username:" and "Password:", and "Login" and "Cancel" buttons. The footer contains the copyright notice: "Copyright © 2002 - 2004 HMS Design Group, all rights reserved."

### Step 2 of 3: View Upload Results

**Full Name:** Selma Dilek

**School Id:** selma

**Assignment:** BBM103-16-G-1

**Your File:** selma.zip, 457 bytes

**Evaluation Output:**

```
checking bbm103.txt: OK  
checking file1/: OK  
checking file2/: OK  
Folder format is correct
```

**Score:** 1 Points (saved)



```
necva@rdev:~/bbm103
[necva@rdev ~]$ mkdir bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
[necva@rdev bbm103]$ mkdir file1
[necva@rdev bbm103]$ mkdir file2
[necva@rdev bbm103]$ cat >bbm103.txt
Necva Bölücü
[necva@rdev bbm103]$ ls
bbm103.txt file1 file2
[necva@rdev bbm103]$
```

```
necva@rdev:~
[necva@rdev ~]$ mkdir bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
[necva@rdev bbm103]$ mkdir file1
[necva@rdev bbm103]$ mkdir file2
[necva@rdev bbm103]$ cat >bbm103.txt
Necva Bölücü
[necva@rdev bbm103]$ ls
bbm103.txt file1 file2
```

```
necva@rdev:~/bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
bbm103.txt file1 file2
[necva@rdev bbm103]$ zip necva.zip *
  adding: bbm103.txt (stored 0%)
  adding: file1/ (stored 0%)
  adding: file2/ (stored 0%)
[necva@rdev bbm103]$ ls
bbm103.txt file1 file2 necva.zip
[necva@rdev bbm103]$
```

# Exercise

- **Submit Format**
- File hierarchy must be zipped before submitted (**Not .rar, only .zip files are supported by the system**)
- <student id>.zip
  - file1
  - file2
  - bbm103.txt

- Login <https://submit.cs.hacettepe.edu.tr/index.php>
- Upload zip file to sytem

```
necva@rdev:~/bbm103
[necva@rdev ~]$ mkdir bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
[necva@rdev bbm103]$ mkdir file1
[necva@rdev bbm103]$ mkdir file2
[necva@rdev bbm103]$ cat >bbm103.txt
Necva Bölücü
[necva@rdev bbm103]$ ls
bbm103.txt  file1  file2
[necva@rdev bbm103]$
```

```
necva@rdev:~
[necva@rdev ~]$ mkdir bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
[necva@rdev bbm103]$ mkdir file1
[necva@rdev bbm103]$ mkdir file2
[necva@rdev bbm103]$ cat >bbm103.txt
Necva Bölücü
[necva@rdev bbm103]$ ls
bbm103.txt  file1  file2
```

```
necva@rdev:~/bbm103
[necva@rdev ~]$ cd bbm103
[necva@rdev bbm103]$ ls
bbm103.txt  file1  file2
[necva@rdev bbm103]$ zip necva.zip *
  adding: bbm103.txt (stored 0%)
  adding: file1/ (stored 0%)
  adding: file2/ (stored 0%)
[necva@rdev bbm103]$ ls
bbm103.txt  file1  file2  necva.zip
[necva@rdev bbm103]$
```