UNIVERSITY OF WEST LONDON

Introduction To Software Development: Using a Code Repository

Assignment 1

21223241 Hamza Bhatti

Contents

Introduction

This piece of documentation that I am presenting will show the use of an online code repository. Included in this document will be:

- Creating an online code repository (by using Bit bucket)
- The use of Ubuntu terminal to link files to Bit bucket(Bb)
- Editing files from the terminal where the changes will be viewed on Bb

But firstly I would like to outline what a code repository is.

What Is A Code Repository?

A code repository is a server or client which is used to store a user's code online. The user will be able to share this code to organisations for interviews or for general public to use to solve problems. As mentioned above, the code repository that I have used is Bit bucket (Bb).

Advantages and Disadvantages Of The Using a Repository

Advantages	Disadvantages
Some repositories will allow the user to set code as private.	Some repositories may always have a public setting.
A large group of individuals can edit code together. E.g. students completing a large project.	Code that is shared in a group may be overwritten and completely lost if copies are not made.
Can be used as evidence to organisation of programming experience.	
Most repositories will allow levels of access/ permissions to be set within a group. E.g., Read and Write.	

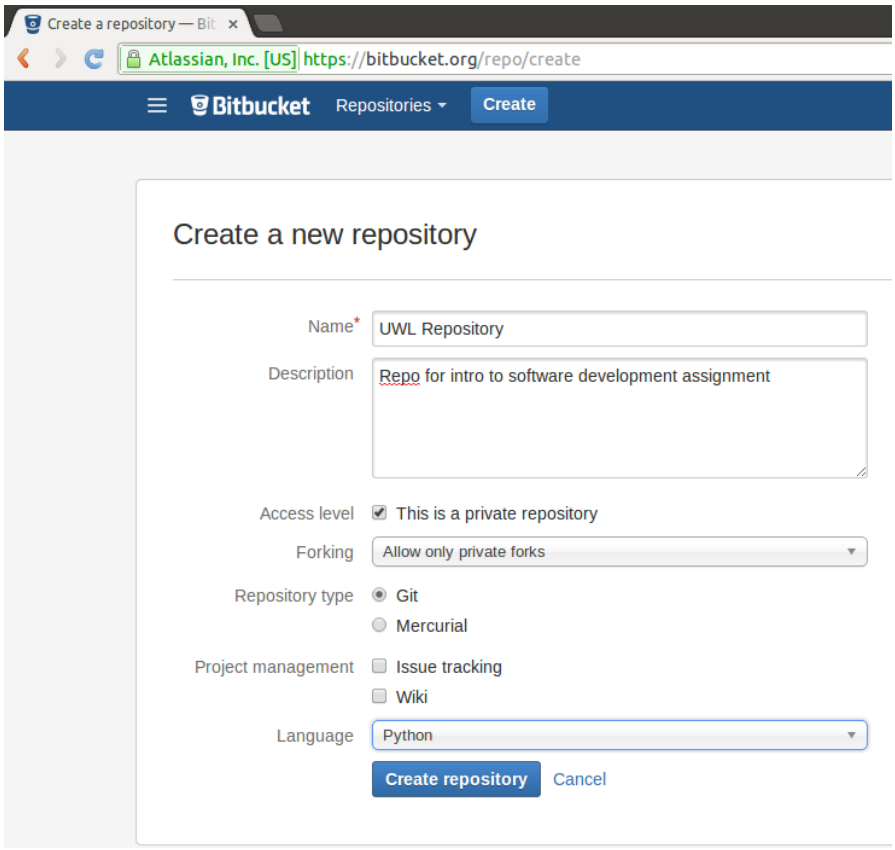
My Code Repository

In this section I will provide text and print screens, showing how the repository was created and used.

Creating The Code Repository

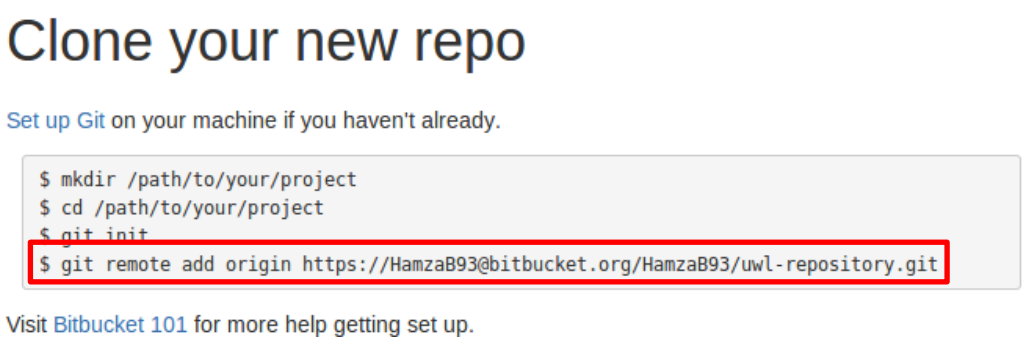
1 Making a repository on Bb.

I have simply created a repository (repo) on Bb. I had kept all the defaults the same and added a suitable title and description of the repo.



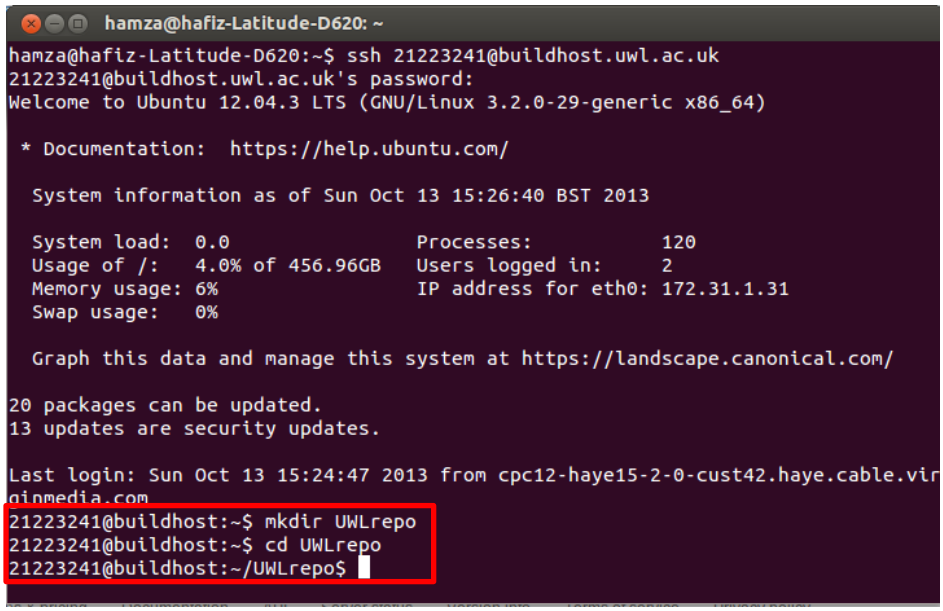
2 The repo is now created.

After creating the repo, Bb had provided a long line of code that will be used to link the repo to a directory that I had created.



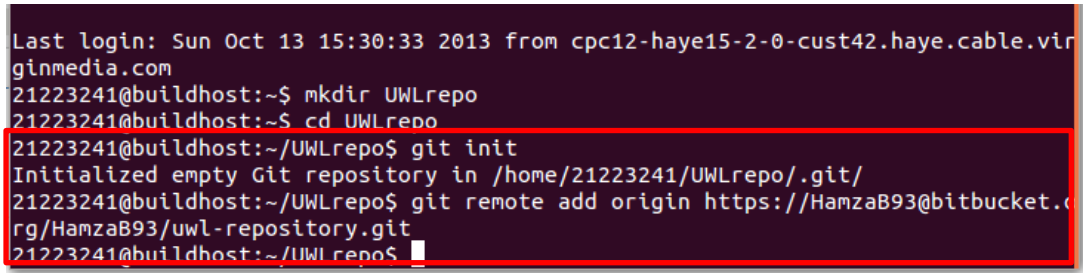
3 Creating a directory.

Here, I have shown that I have created a directory in terminal which will then be linked to my Bb repo. I had use $mkdir to create the directory and $cd to move to the directory.



4 Linking the directory to Bb.

As stated earlier in screen 2, Bb had provided a command, when used, will link my directory to Bb. I first typed $git init to ensure a link can be made. After this, I had simply copied and pasted the command to terminal.

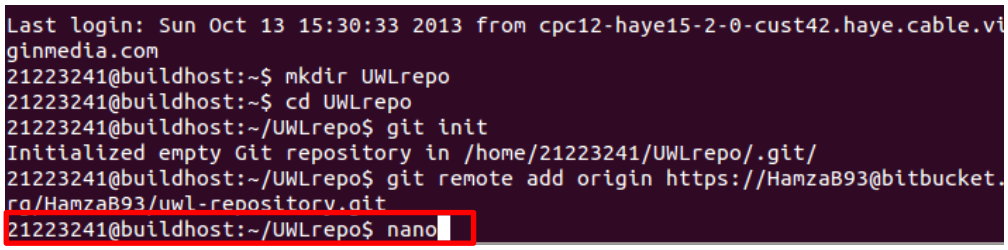


Now that the repository is created and linked to my directory, I was able to store files on Bb. This is demonstrated in the next section.

Using The Code Repository

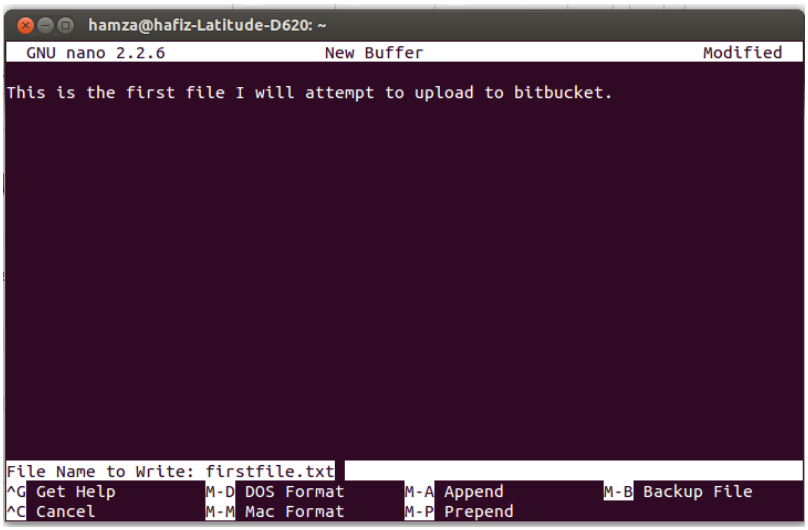
5 Using nano to create a file.

My next step was to create a file. This was done by using an editor in the terminal called nano. To enter nano, I had to simply type $nano.



6 Using nano.

The screen shot below shows the nano editor within the terminal. I had just typed a sentence and saved the file as “firstfile.txt”.



7 LS showing new file.

To ensure that the file that I had created was within the directory that I created, I entered the list command $ls. The file was in the correct directory.

8 Git commands to ready for uploading.

For my file to be uploaded to Bb, I had to enter git commands. The first was $git add, which readied the file. I then entered a commit command which gives a summary of what I am uploading. This command was $git commit –m “small description.”

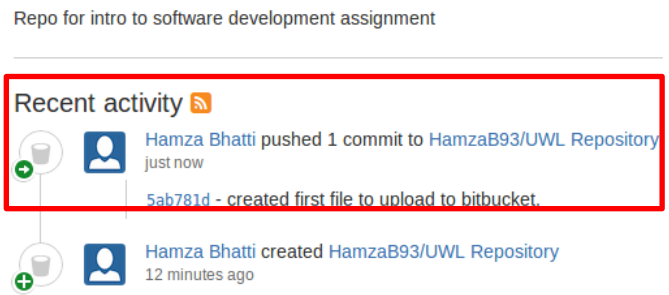
```
1223241@buildhost:~/UWLrepo$ nano
1223241@buildhost:~/UWLrepo$ ls
irstfile.txt
1223241@buildhost:~/UWLrepo$ git add firstfile.txt
1223241@buildhost:~/UWLrepo$ git commit -m "created first file to upload to bit
ucket."
master (root-commit) 5ab781d] created first file to upload to bitbucket.
1 file changed, 1 insertion(+)
create mode 100644 firstfile.txt
1223241@buildhost:~/UWLrepo$
```

9 Pushing my file.

After the file was added and committed to, I had to enter a push command which uploaded the file created to my Bb account. The command entered was $ git push origin master.

```
1223241@buildhost:~/UWLrepo$ git add firstfile.txt
1223241@buildhost:~/UWLrepo$ git commit -m "created first file to upload to bit
ucket."
master (root-commit) 5ab781d] created first file to upload to bitbucket.
1 file changed, 1 insertion(+)
create mode 100644 firstfile.txt
1223241@buildhost:~/UWLrepo$ git push origin master
assword for 'https://HamzaB93@bitbucket.org':
 https://HamzaB93@bitbucket.org/HamzaB93/uwl-repository.git
 [new branch]      master -> master
1223241@buildhost:~/UWLrepo$
```

As seen in the screenshot below, recent activity showed that my firstfile.txt had been uploaded to Bb successfully. The activity also showed the description that I had entered in my commit.



10 Editing firstfile.txt

Next, I used nano edit my firstfile.txt. To do this, I had entered $nano firstfile.txt.

```
21223241@buildhost:~/UWLrepo$ git add firstfile.txt
21223241@buildhost:~/UWLrepo$ git commit -m "created first file to upload to bit
bucket."
[master (root-commit) 5ab781d] created first file to upload to bitbucket.
 1 file changed, 1 insertion(+)
 create mode 100644 firstfile.txt
21223241@buildhost:~/UWLrepo$ git push origin master
Password for 'https://HamzaB93@bitbucket.org':
To https://HamzaB93@bitbucket.org/HamzaB93/uwl-repository.git
 * [new branch]      master -> master
21223241@buildhost:~/UWLrepo$ nano firstfile.txt
```

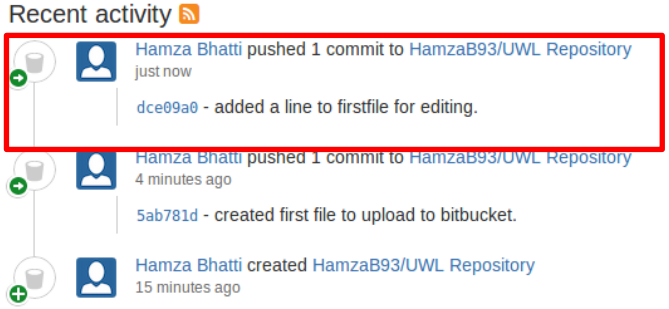
Below, I have shown that I have added a new line of text to firstfile.txt and saved it.

11 Git, commit and push

Like the previous upload, I had to enter git add, a commit and push command.

```
21223241@buildhost:~/UWLrepo$ nano firstfile.txt
21223241@buildhost:~/UWLrepo$ git add firstfile.txt
21223241@buildhost:~/UWLrepo$ git commit -m "added a line to firstfile for editi
ng."
[master dce09a0] added a line to firstfile for editing.
 1 file changed, 2 insertions(+)
21223241@buildhost:~/UWLrepo$ git push origin master
Password for 'https://HamzaB93@bitbucket.org':
To https://HamzaB93@bitbucket.org/HamzaB93/uwl-repository.git
   5ab781d..dce09a0  master -> master
21223241@buildhost:~/UWLrepo$
```

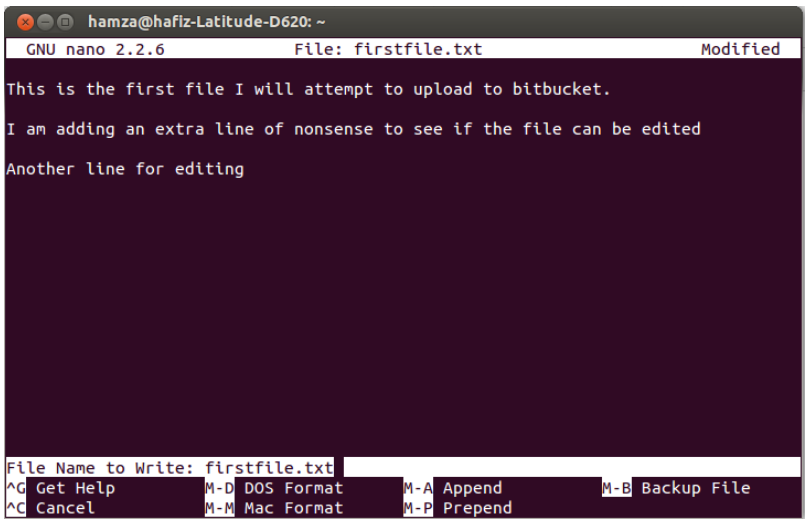
The next screenshot shows that firstfile.txt has been edited and uploaded to Bb.



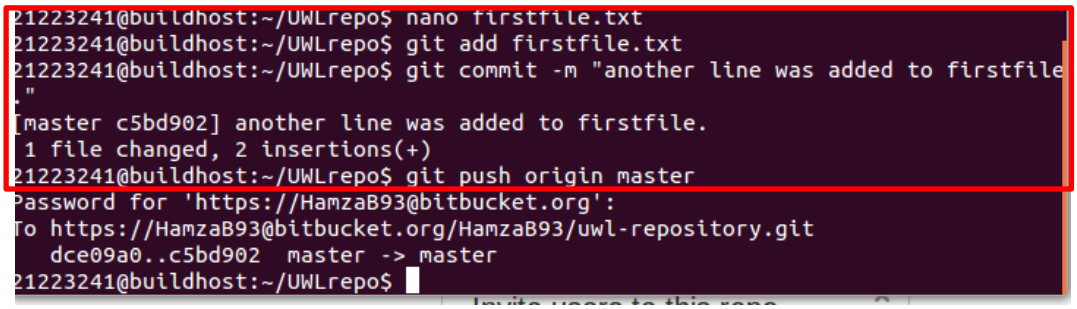
12 More editing for firstfile.txt, add commit and push commands

I once again used nano to edit firstfile.txt. This was again followed by using add, commit and push commands. The firstfile.txt successfully uploaded to my Bb account.

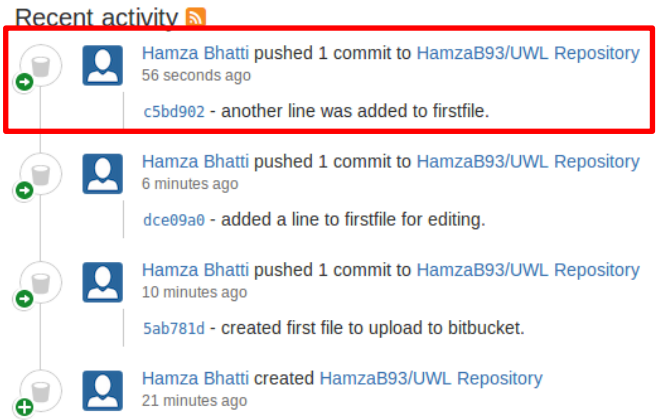
Using nano.



Git add, commit and push

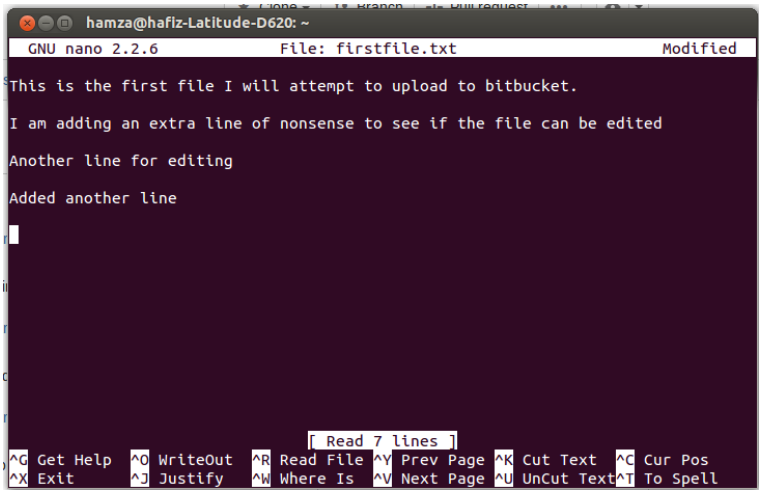


Recent activity on Bb showing firstfie.txt was edited.

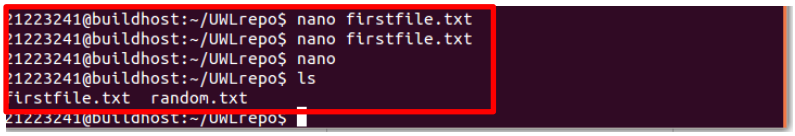


13 Adding another line to firstfile.txt.

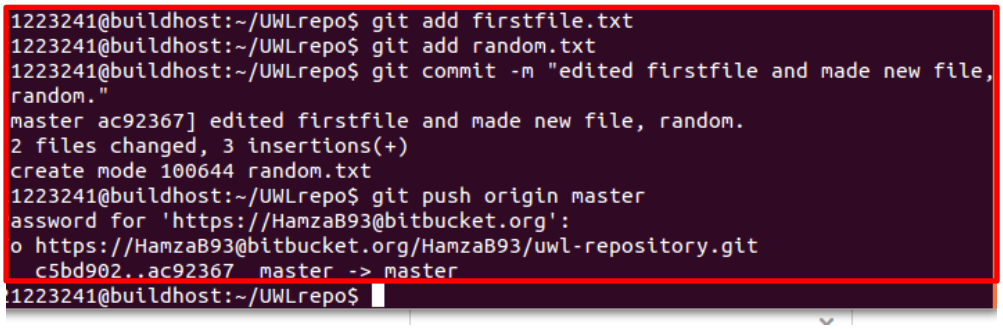
I again added a line to firstfile.txt through nano.

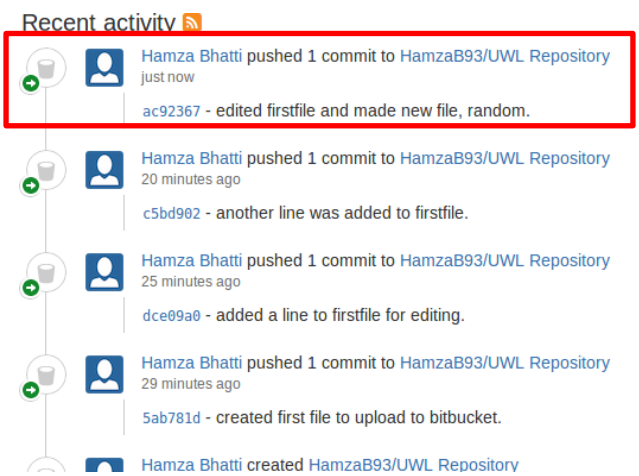


After editing firstfile.txt I then created a file called random.txt. To prove that this file was made, I entered $ls. This showed the new file.



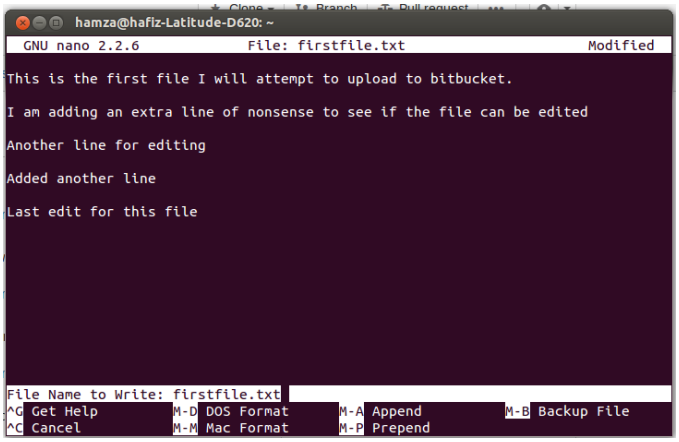
After I had edited firstfile.txt and created random.txt, this was followed by add, commit and push command. This uploaded both the files to Bb.



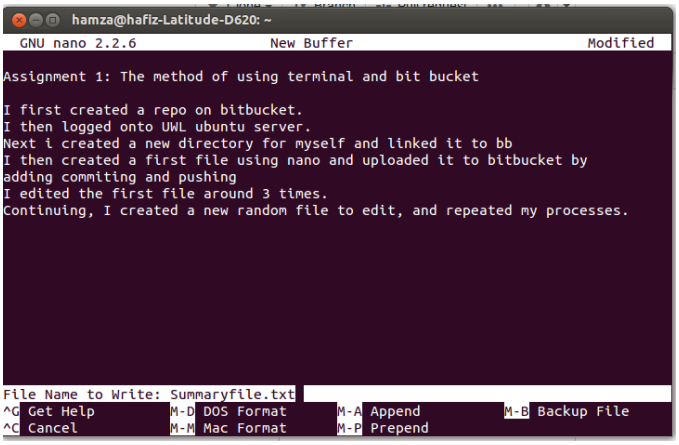


14 More editing and creating a new file.

I have added yet another line to first file. This was then followed by creation of a new file called summary. This file was created in nano like the former. This summarised the method of creating the repo and uploading files.



The new file Summary.txt



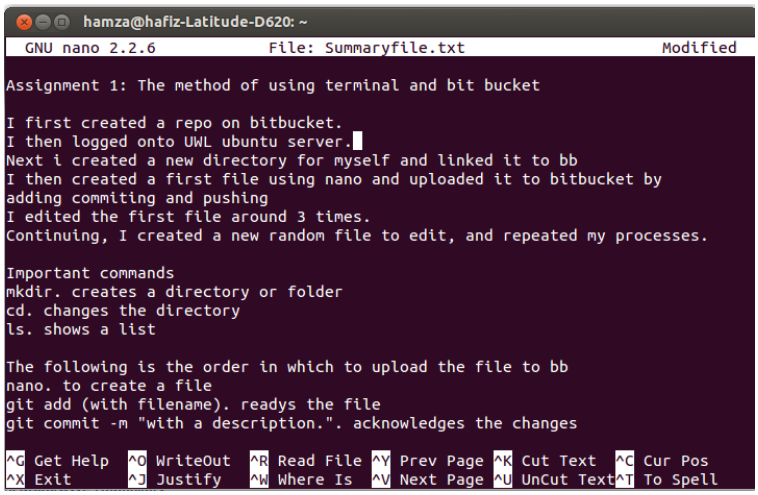
I then followed up by adding the firstfile.txt, random.txt and Summary.txt. The files were then committed to and pushed to Bb.

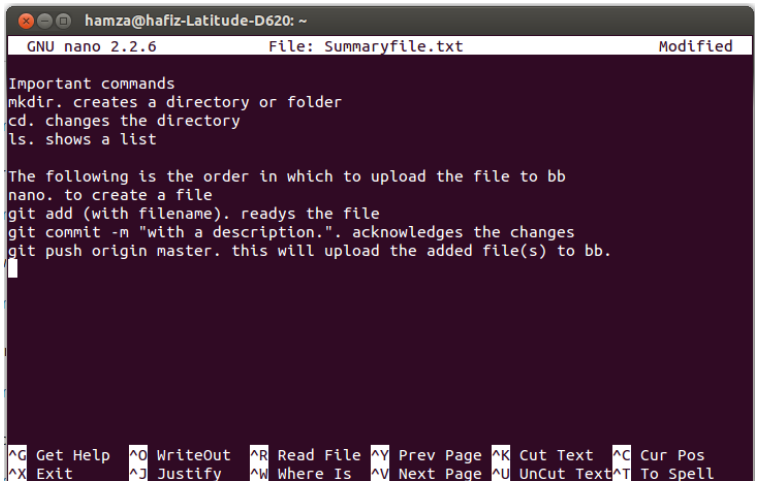
```
21223241@buildhost:~/UWLrepo$ nano firstfile.txt
21223241@buildhost:~/UWLrepo$ nano random.txt
21223241@buildhost:~/UWLrepo$ nano
21223241@buildhost:~/UWLrepo$ git add firstfile.txt
21223241@buildhost:~/UWLrepo$ git add random.txt
21223241@buildhost:~/UWLrepo$ ls
firstfile.txt  random.txt  Summaryfile.txt
21223241@buildhost:~/UWLrepo$ git add Summaryfile.txt
21223241@buildhost:~/UWLrepo$ git commit -m "edited firsfile random and created
a new summary file."
[master 60f0e27] edited firsfile random and created a new summary file.
 3 files changed, 14 insertions(+)
 create mode 100644 Summaryfile.txt
21223241@buildhost:~/UWLrepo$ git push origin master
Password for 'https://HamzaB93@bitbucket.org':
To https://HamzaB93@bitbucket.org/HamzaB93/uwl-repository.git
   ac92367..60f0e27  master -> master
21223241@buildhost:~/UWLrepo$
```

Like the previous stages, the files had successfully uploaded to Bb.

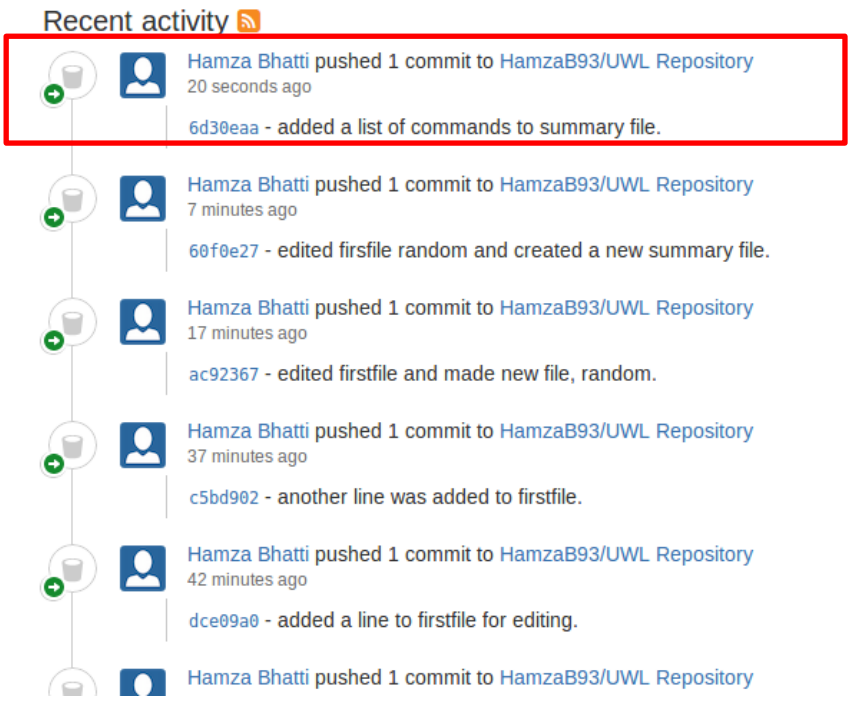
15 Further editing Summary.txt.

I added more information on the Summary.txt files, added, committed and pushed the file.





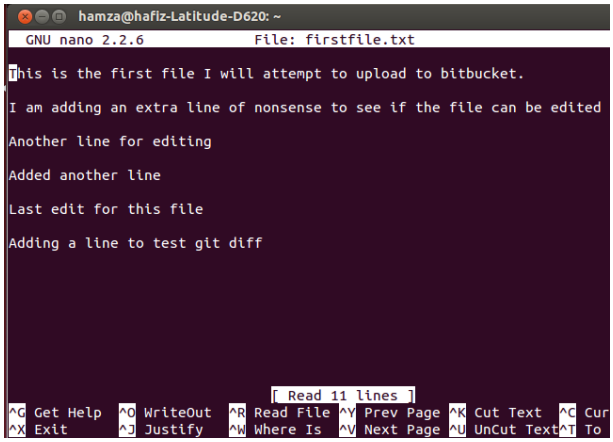
```
21223241@buildhost:~/UWLrepo$ nano Summary.txt
21223241@buildhost:~/UWLrepo$ nano Summaryfile.txt
21223241@buildhost:~/UWLrepo$ git add Summaryfile.txt
21223241@buildhost:~/UWLrepo$ git commit -m "added a list of commands to summary
 file."
[master 6d30eaa] added a list of commands to summary file.
 1 file changed, 10 insertions(+)
21223241@buildhost:~/UWLrepo$ git push origin master
Password for 'https://HamzaB93@bitbucket.org':
To https://HamzaB93@bitbucket.org/HamzaB93/uwl-repository.git
   60f0e27..6d30eaa  master -> master
21223241@buildhost:~/UWLrepo$
```

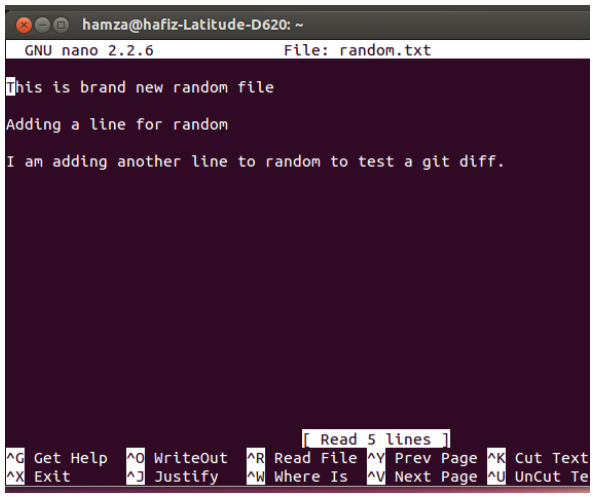


16 Using the git diff command.

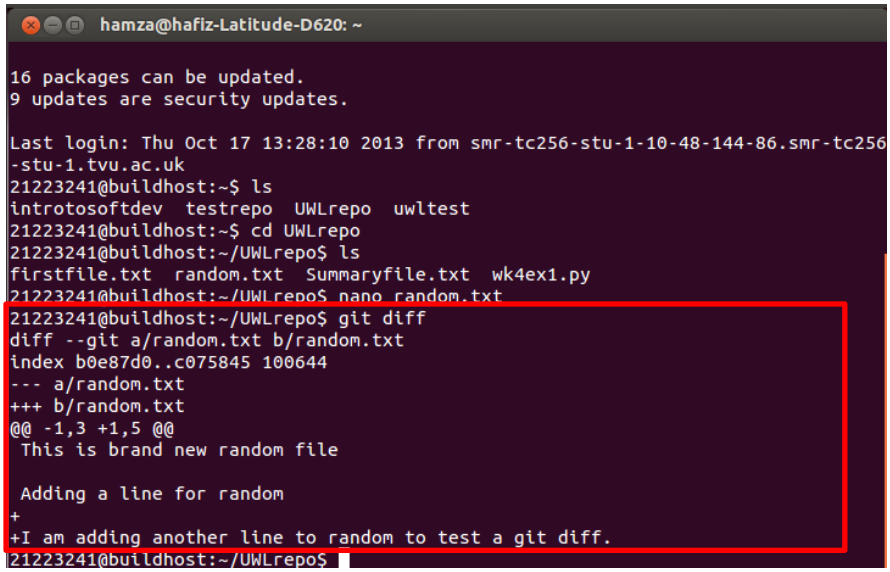
As an added proof of editing actually occurring within the terminal, I used the $git diff command. When this was entered after editing, the terminal showed what had been added to the files.

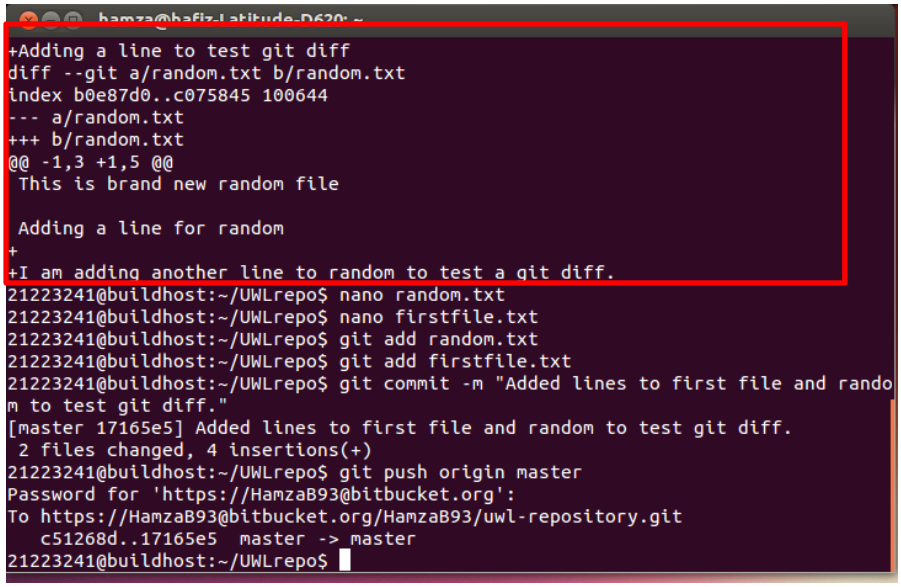
The first two print screens are showing what was being added to the firstfile.txt and random.txt files.



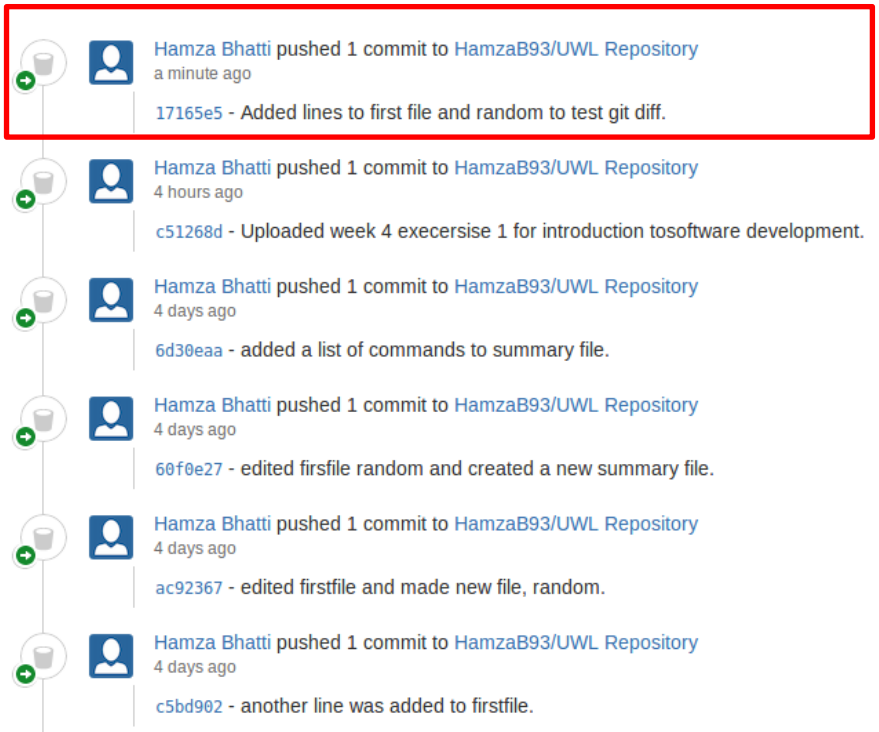


The next print screen shows that I entered the $git diff command do identify what I have changed in the files.





The files where then pushed onto Bb as shown below. The commit description identified that the files uploaded where to test the git diff function.



Summary of using the repository

As shown throughout this section of the document, I was able to create files within the terminal and upload them to my Bit bucket account.

Evaluation

The task that I had to complete for this assignment was to create a code repository and demonstrate that I can use it effectively.

Overall I felt that this was a simple task. The task was not over complicated in the sense that I needed to memorise a large amount of commands. The assignment required me to learn around 5 commands.

Although this was a simple task to complete, I did find myself making minor mistakes when I first attempted the task. As this was the case, I made multiple practice repos on Bit bucket. This was useful as I then knew when certain commands would be used and the stages they were needed.

Mistakes that I had made initially included me missing out an essential command which was $git init. This was needed to ensure that the directory that I had created could link to my Bit bucket account. I then revisited my notes and found that I had missed it.

I also missed out the $git diff command before committing the files that were edited. This function was used to identify what changes had actually been made to the files in the terminal.

While writing the commands in the terminal, I needed to print screen the commands as evidence that the repo was working. When doing this I found that typing the commands, seeing that it worked and making the screenshot was easier than compiling them into word document. When I had finished writing my commands, I had ended up with around 30 screenshots. Cropping the pictures was time consuming, along with drawing the red highlight box needed to be positioned to areas of interest.

In a future project, I feel that I will have to read up more about the task, from lecture notes etc. to better understand the processes of the task. This would allow me to know exactly what I am meant to enter into terminal beforehand, without making too many mistakes.

Overall I feel that I had performed well in the task and provided evidence that I can effectively use a code repository to store files online.