Ministerul Educaţiei al Republicii Moldova

Universitatea Tehnică a Moldovei

Catedra Tehnologii Informaționale

RAPORT

Lucrarea de laborator#2

la Medii Interactive de Dezvoltare a Produselor Soft

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Chişinău 2016

Tema: Version Control Systems si modul de setare a unui server

Scopul lucrării:

- Intelegerea si folosirea CLI (basic level)
- Administrarea remote a masinilor linux machine folosind SSH (remote code editing)
- Version Control Systems (git || mercurial || svn)
- Compileaza codul C/C++/Java/Python prin intermediul CLI, folosind compilatoarele gcc/g++/javac/python

Formularea condiţiei problemei (sarcina de lucru):
Advanced Level (grade 9 || 10):

- seteaza un branch to track a remote origin pe care vei putea sa faci push (ex. Github, Bitbucket or custom server)
- reseteaza un branch la commit-ul anterior
- merge 2 branches
- conflict solving between 2 branches

Bonus Point:

- Scrie un script care va compila HelloWolrdPrograms projects.

Implimentare task-uri:
- *Advanced Level* (grade 9 || 10):
  - seteaza un branch to track a remote origin pe care vei putea sa faci push (ex. Github, Bitbucket or custom server)

```
Cristian@Cristian MINGW64 /d/MIDPS (master)
$ git checkout -b track origin/master
Branch track set up to track remote branch master from origin.
Switched to a new branch 'track'

Cristian@Cristian MINGW64 /d/MIDPS (track)
$ echo "#MIDPS - track Branch" >> track-file.md

Cristian@Cristian MINGW64 /d/MIDPS (track)
$ git add track-file.md
warning: LF will be replaced by CRLF in track-file.md.
The file will have its original line endings in your working directory.

Cristian@Cristian MINGW64 /d/MIDPS (track)
$ git commit -m "commit for track branch"
[track b44392f] commit for track branch
warning: LF will be replaced by CRLF in track-file.md.
The file will have its original line endings in your working directory.
 1 file changed, 1 insertion(+)
 create mode 100644 track-file.md

Cristian@Cristian MINGW64 /d/MIDPS (track)
$ git push -u origin track
Counting objects: 3, done.
Delta compression using up to 2 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 310 bytes | 0 bytes/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To git@github.com:AngheleniciCristian/MIDPS.git
 * [new branch]      track -> track
Branch track set up to track remote branch track from origin.
```

- o reseteaza un branch la commit-ul anterior


```
Cristian@Cristian MINGW64 /d/MIDPS (firstBranch)
$ git log
commit c5987d35f6376d3e9bacf6910818489131078a51
Author: AngheleniciCristian <an.cris@mail.ru>
Date:   Tue Apr 5 09:53:41 2016 +0300

    firstBranch, add file.d

commit b44392f3953a8ee70f40c64dda691194f44b7712
Author: AngheleniciCristian <an.cris@mail.ru>
Date:   Tue Apr 5 09:48:35 2016 +0300

    commit for track branch

commit 73f71be3185c472ebc809abc4283f76297915e22
Author: AngheleniciCristian <an.cris@mail.ru>
Date:   Tue Apr 5 09:45:58 2016 +0300

    first Commit

Cristian@Cristian MINGW64 /d/MIDPS (firstBranch)
$ git reset --hard HEAD^
HEAD is now at b44392f commit for track branch
```

- o merge 2 branches


```
Cristian@Cristian MINGW64 /d/MIDPS (secondBranch)
$ git checkout master
Switched to branch 'master'
Your branch is up-to-date with 'origin/master'.

Cristian@Cristian MINGW64 /d/MIDPS (master)
$ git merge track
Updating 73f71be..b44392f
Fast-forward
 track-file.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 track-file.md

Cristian@Cristian MINGW64 /d/MIDPS (master)
$
```

- o conflict solving between 2 branches


```
MINGW64:/d/MIDPS

Cristian@Cristian MINGW64 /d/MIDPS (secondBranch)
$ echo "# secondBranch" >> conf.txt

Cristian@Cristian MINGW64 /d/MIDPS (secondBranch)
$ git add conf.txt
warning: LF will be replaced by CRLF in conf.txt.
The file will have its original line endings in your working directory.

Cristian@Cristian MINGW64 /d/MIDPS (secondBranch)
$ git commit -m "second"
[secondBranch 09abba7] second
warning: LF will be replaced by CRLF in conf.txt.
The file will have its original line endings in your working directory.
 1 file changed, 1 insertion(+)
 create mode 100644 conf.txt

Cristian@Cristian MINGW64 /d/MIDPS (secondBranch)
$ git status
On branch secondBranch
nothing to commit, working directory clean

Cristian@Cristian MINGW64 /d/MIDPS (secondBranch)
$ git checkout firstBranch
Switched to branch 'firstBranch'

Cristian@Cristian MINGW64 /d/MIDPS (firstBranch)
$ echo "#firstBranch" >> conf.txt

Cristian@Cristian MINGW64 /d/MIDPS (firstBranch)
$ git add conf.txt
warning: LF will be replaced by CRLF in conf.txt.
The file will have its original line endings in your working directory.
```
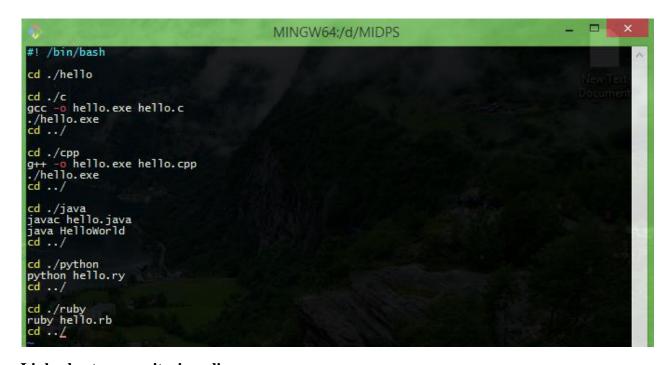
- *Bonus Point*:
  - Scrie un script care va compila HelloWolrdPrograms projects.

Link-ul catre repozitoriu online:

https://github.com/AngheleniciCristian/MIDPS/tree/track

Concluzie:

In urma efectuarii acestei lucrari de laborator au fost capatate primele deprinderi de baza in lucrul cu un VCS. In aceasta lucrare de laborator a fost folosit GIT ca fiind unul dintre cele mai populare DVCS si unul dintre cele mai comode in lucru.

Am capatat deprinderi in lucrul cu repozitoriul atit online cit si local. M-am invatat sa initializez un repozitoriu sa-l clonez s.a. Pe linga aceste doua manipulari cu repozitoriul am folosit si alte posibilitati asa cum: crearea unui nou branch, am facut unirea a doua branch-uri, am invatat cum sa hotarim unele conflicte care pot aparea cind facem "merge" la branch-uri.

De asemenea am invatat cum sa compilez cod sursa in diferite limbaje atit direct din CLI cit si prin intermediul unui script creat anterior. Evident ca prin intermediul scriptului este mult mai usor din cauza ca scriptul o data creat nu necesita o multime de comenzi pentru a face ceea ce deha a fost facut o data.