Facultatea Calculatoare, Informatica si Microelectronica

Universitatea Tehnica a Moldovei

Medii Interactive de Dezvoltare a Produselor Soft

Lucrarea de laborator#2

Version Control Systems si modul de setare a unui server

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Laboratory work #2

1 Scopul lucrarii de laborator

Version Control Systems si modul de setare a unui server

2 Obiective

– 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

3 Realizarea lucrarii de laborator

3.1 Tasks and Points

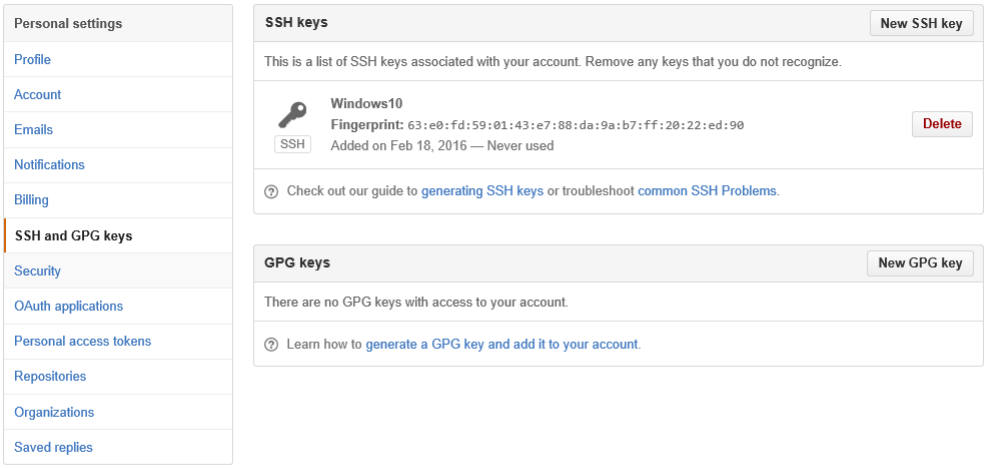
- Basic Level (nota 5 —— 6) :
  - conecteaza-te la server folosind SSH
  - compileaza cel putin 2 sample programs din setul HelloWolrdPrograms folosind CLI
  - executa primul commit folosind VCS
- Normal Level (nota 7 —— 8):
  - initializeaza un nou repositoriu
  - configureaza-ti VCS
  - crearea branch-urilor (creeaza cel putin 2 branches)
  - commit pe ambele branch-uri (cel putin 1 commit per branch)
- Advanced Level (nota 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
  - rezolvarea conflictelor a 2 branches

3.2 Analiza lucrarii de laborator

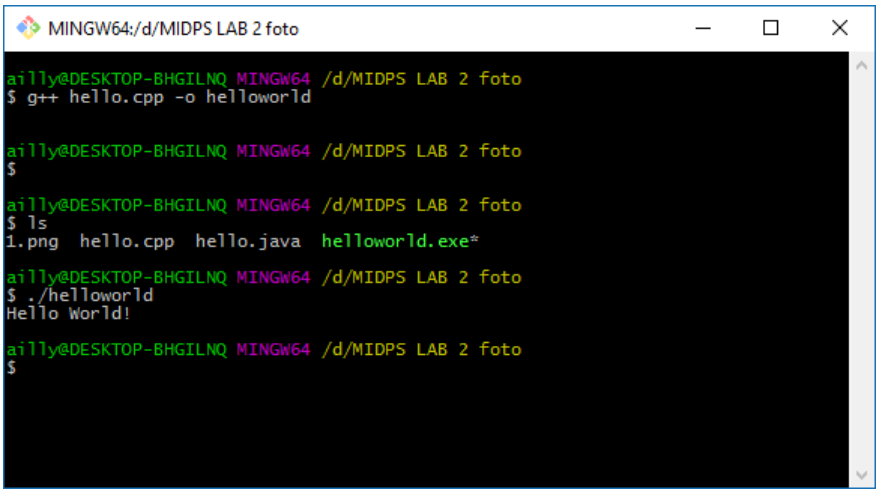
Linkul la repozitoriul GITHUB:

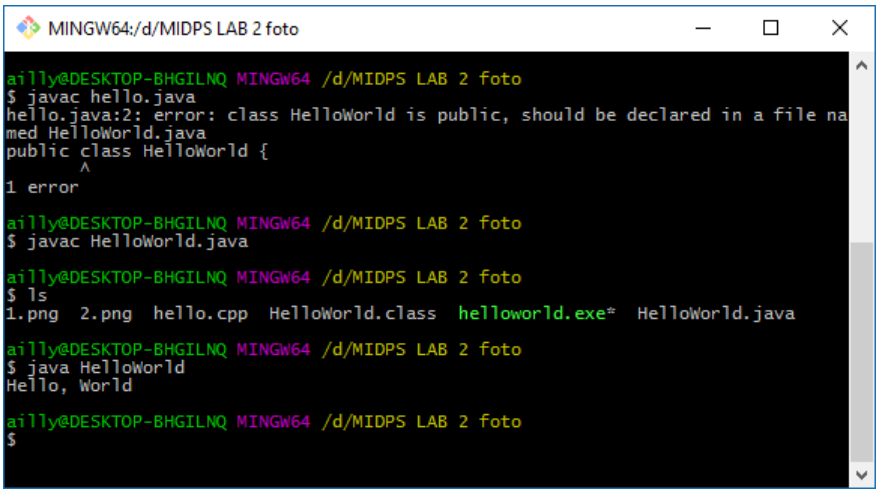
`https://github.com/aillyroredshi/MIDPS`

Pentru a realiza aceasta lucrare de laborator $m-am$ inregistrat pe github.com si am instalat $git-bash$, am generat o cheie SSH si am adaugat aceasta cheie publica pe github pentru a identifica acest calculator.



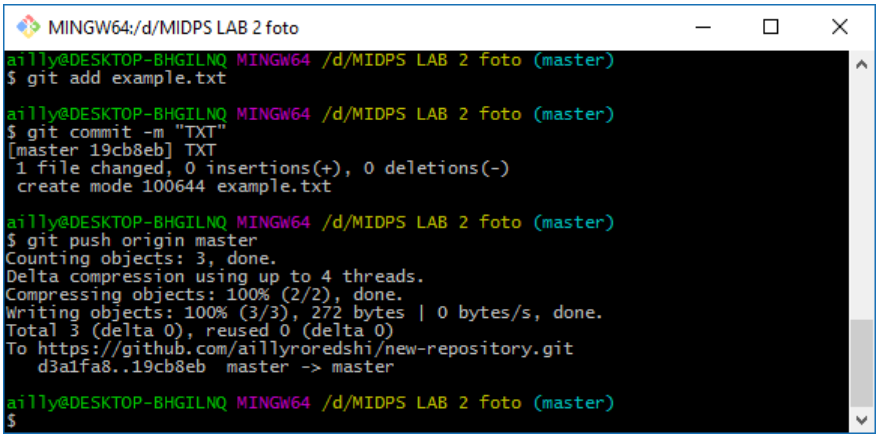
Pentru a compila programe scrise in $C++$, $Java$ avem nevoie de a seta directiile spre $g++$, $javac$ in fisierul bash_profile din directoriul unde este instalat $Git - Bash$.Pentru a compila programul scris in Java utilizam javac pentru compilare si java HelloGITHUB pentru a rula programul nostru,in cazul programuli $C++$ utilizam comanda $g++$ hello.cpp -o hello, si ./hello.



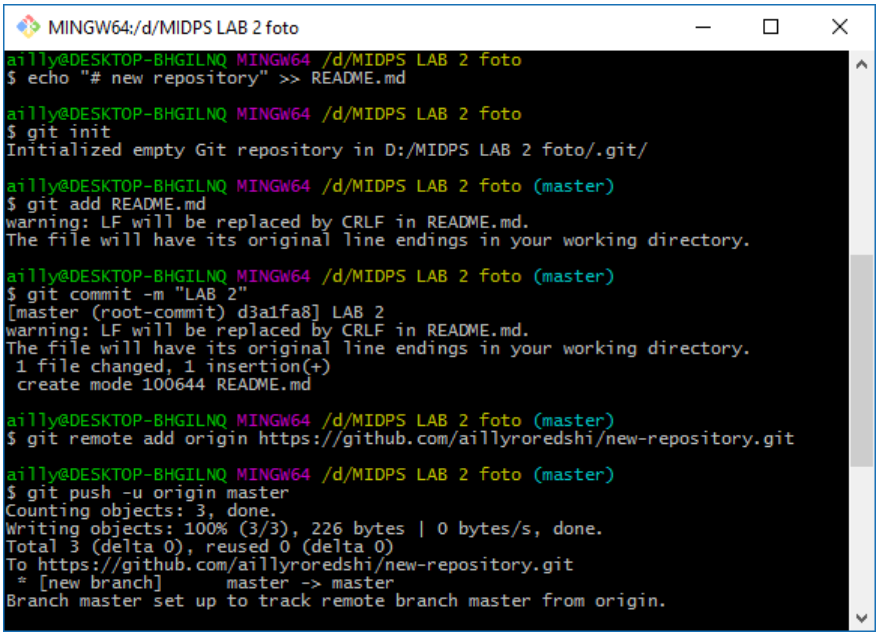


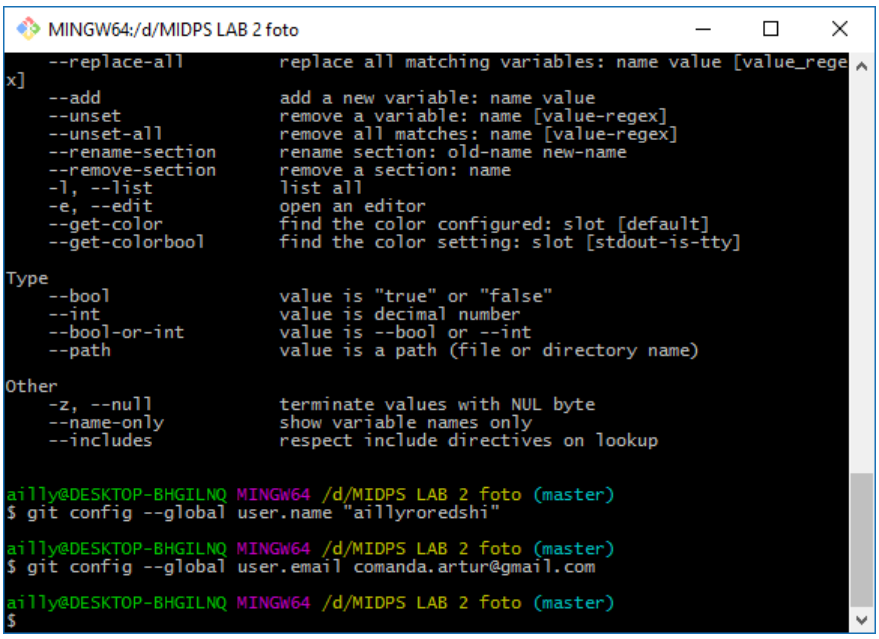
Pentru fiecare schimbare pe care o facem pe repozitoriu putem lasa un mesaj folosind comanda git commit -m ”mesaj” astfel organizam mai bine repozitoriul si putem vedea ce schimbari au avut

loc. Pentru a facea primul add, commit si push am utilizat urmatoarele comenzi necesare.

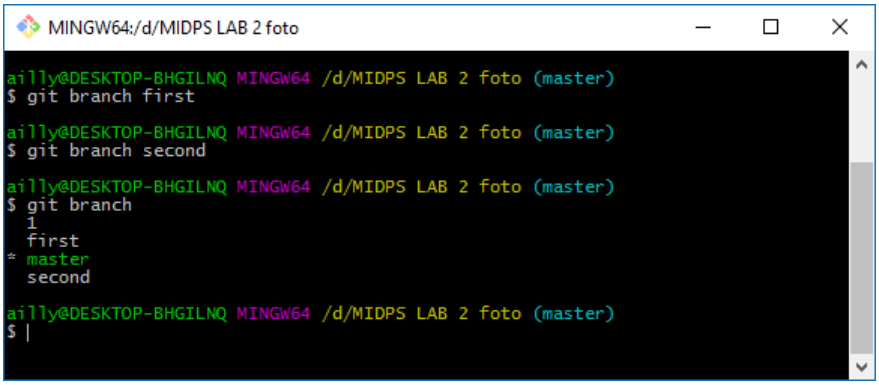


Am initializat un nou repozitoriu cu numele NewRepository cu git init,si am configurat acest repozitoriu cu git config -global user.name si user.email.

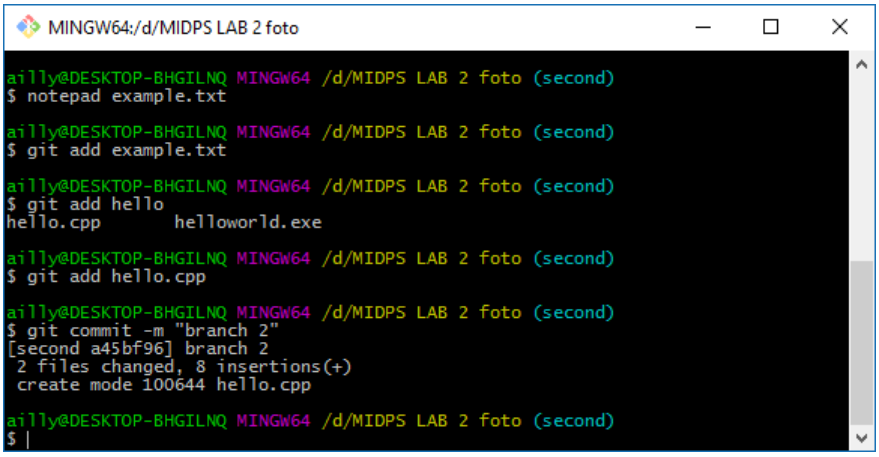




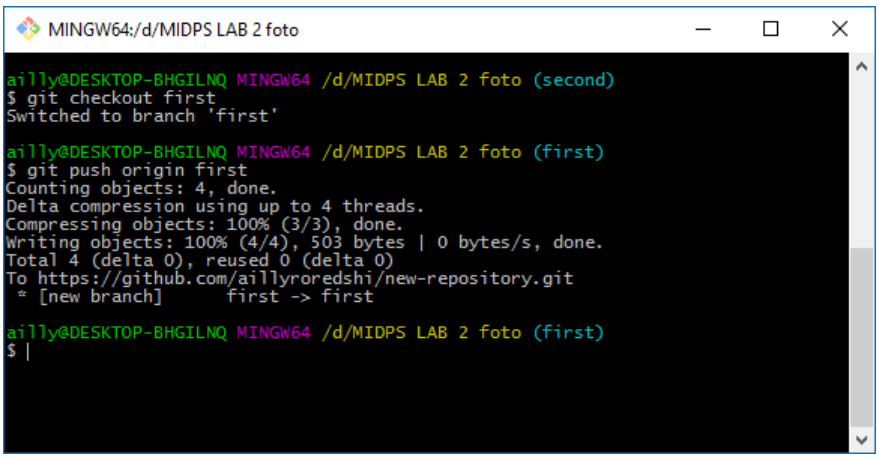
Am creat doua branch-uri cu numele 1 si 2 folosind comanda git branch "numele".



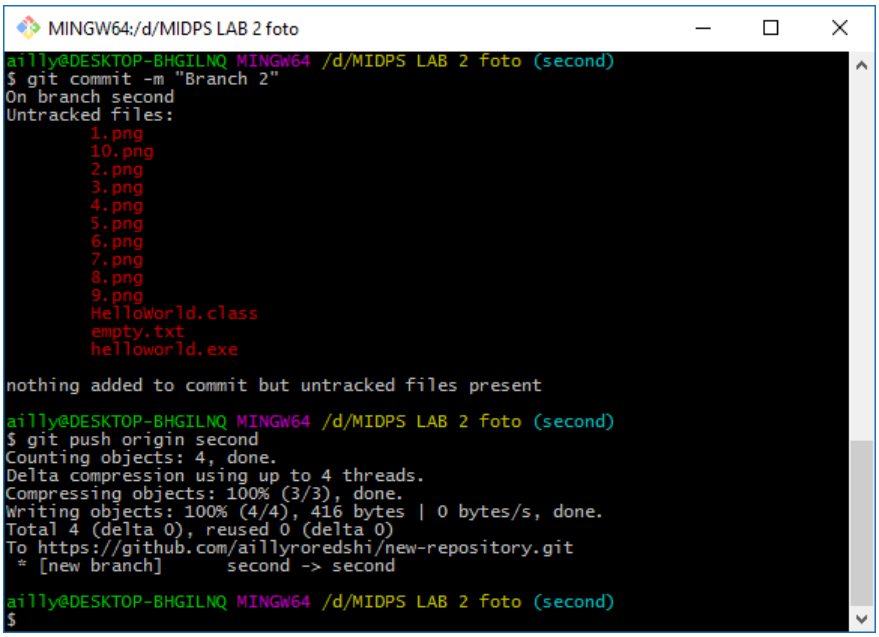
Am adaugat un fisier pe branch-ul 1.



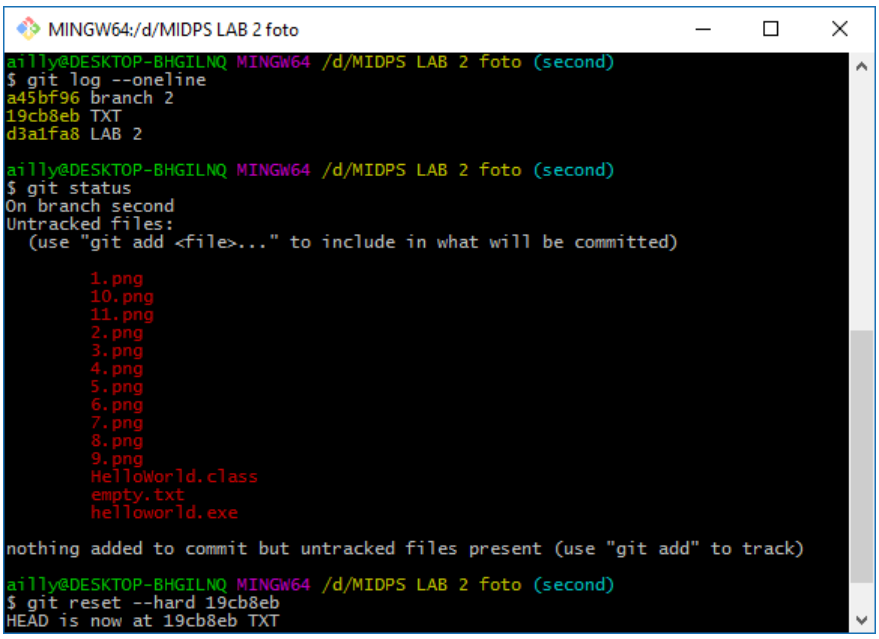
Am adaugat si un fisier pe branch-ul 2.



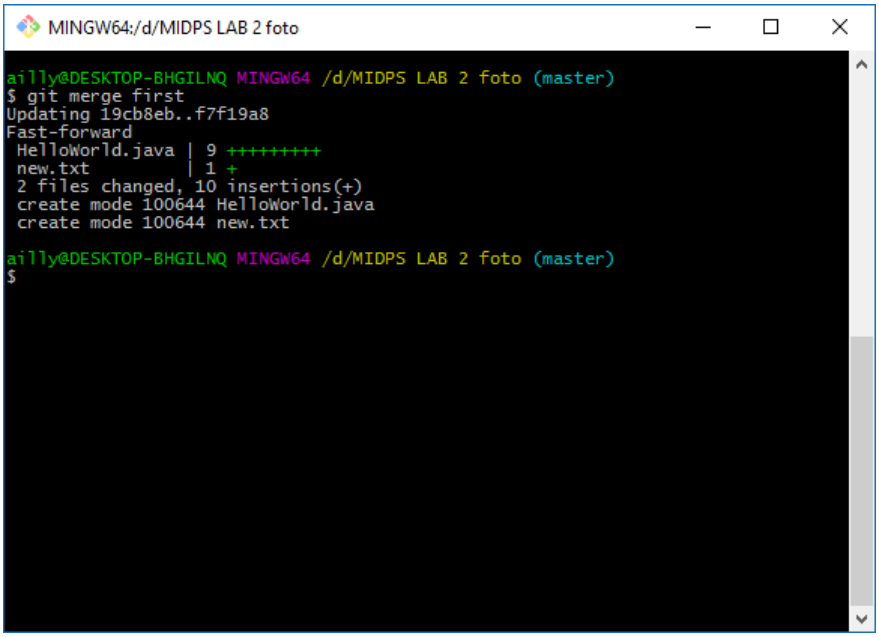
Cind accesam github.com ca master putem accepta schimbarile de pe celelalte branch-uri astfel fisierele vor fi adaugate pe master.La fel putem lasa si un comentariu pentru acel commit.



Am setat branch-ul 1 track a remote.

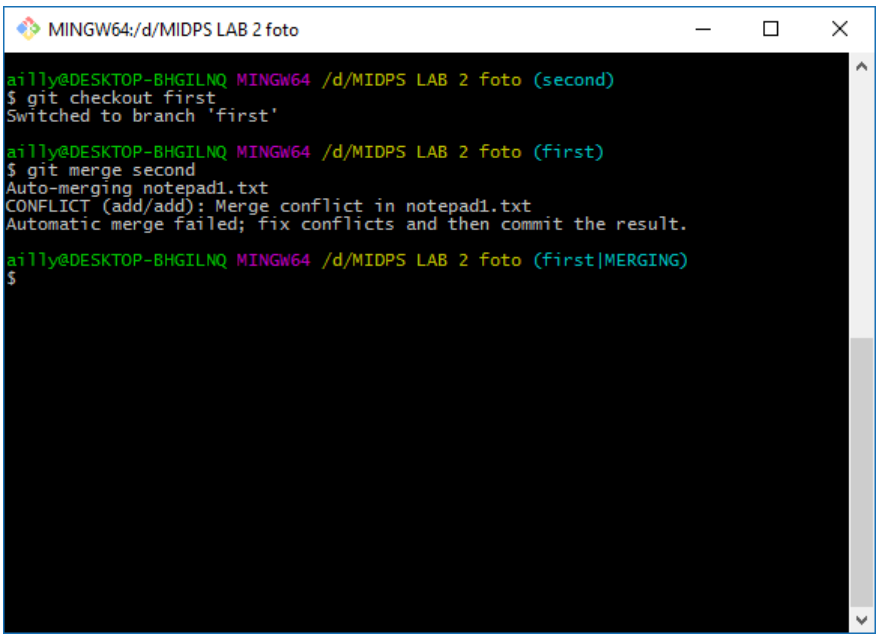


Am resetat branch-ul 1 la un commit anterior.



Am facut merge la branch-ul 1 cu master.

In cazul cind pe un branch avem un fisier cu un continut oarecare si pe al branch acelasi fisier dar cu continut diferit atunci cind incercam sa facem merge a acestor doua branch-uri atunci primim un mesaj de conflict.Daca deschidem fisierul acolo vor fi afisate problemele care trebuie inlaturate.



Pentru a rezolva aceasta problema putem modifica continutul fisierului si dupa care faceem din nou git add si commit astfel rezolvam acest conflict.

Concluzie

In lucrarea de laborator am studiat sistemul github.com.Github-ul ofera posibilitate de a tine proiectul online.Am efectuat task-urile propuse , compilarea unor mici programe C++,Java de tipul hello world,efectuare commiturilor,initializarea unui repozitoriu nou si altele.Pentru a efectua aceste op-eratii am utilizat Git-Bash care este un terminal cu comenzi asemanatoare cu cel din linux,comenzile sunt simple pentru utilizare.