

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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Obiectivele lucrarii

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

Sarcina lucrarii

Advanced level:

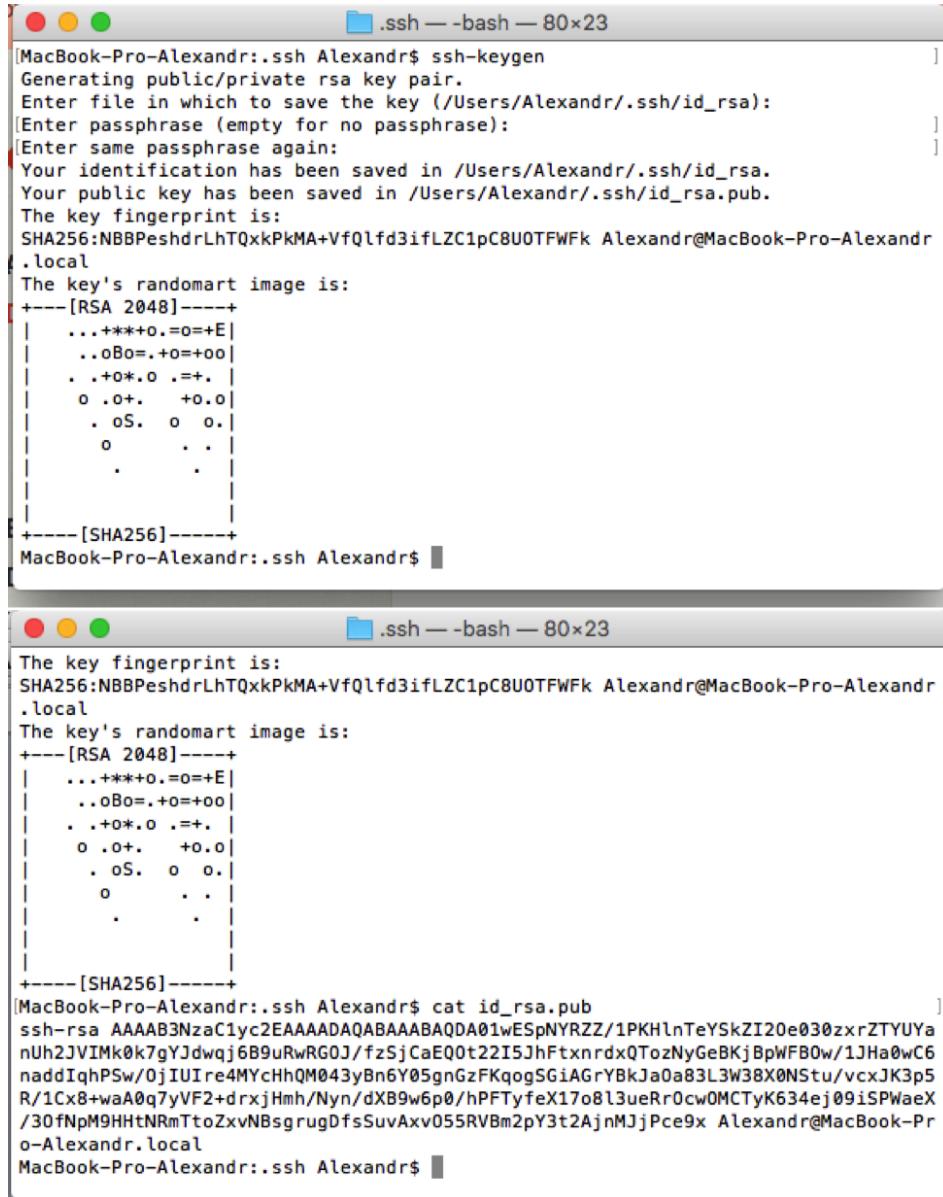
- seteaza un branch to track a remote origin pe care vei putea sa faci push (ex. Github, Bitbucket or custom server)
- reseteaza un branch la commit-ul anterior
- merge 2 branches
- conflict solving between 2 branches

Bonus Point

- Scrie un script care va compila HelloWolrdPrograms projects.

1 Indeplinirea task-urilor

1.1 Configurarea autentificarii ssh



The image shows two terminal windows side-by-side. Both windows have a title bar ".ssh — -bash — 80x23".

The top window displays the command `ssh-keygen` being run. The output shows the generation of an RSA key pair:

```
[MacBook-Pro-Alexandr:.ssh Alexandre$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/Users/Alexandr/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /Users/Alexandr/.ssh/id_rsa.
Your public key has been saved in /Users/Alexandr/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:NBBPeshdrLhTQxkPkMA+VfQld3ifLZC1pC8U0TFWFk Alexandre@MacBook-Pro-Alexandr
.local
The key's randomart image is:
+---[RSA 2048]---+
|...+**+o.=o==+E|
|..oBo=.=+o==oo|
|..+o*.o .+=. |
|o .o+. +o.o|
|.oS. o o.|
|o . . . |
|. . . . |
+---[SHA256]---+
MacBook-Pro-Alexandr:.ssh Alexandre$ ]
```

The bottom window shows the command `cat id_rsa.pub` being run to display the public key:

```
The key fingerprint is:
SHA256:NBBPeshdrLhTQxkPkMA+VfQld3ifLZC1pC8U0TFWFk Alexandre@MacBook-Pro-Alexandr
.local
The key's randomart image is:
+---[RSA 2048]---+
|...+**+o.=o==+E|
|..oBo=.=+o==oo|
|..+o*.o .+=. |
|o .o+. +o.o|
|.oS. o o.|
|o . . . |
|. . . . |
+---[SHA256]---+
[MacBook-Pro-Alexandr:.ssh Alexandre$ cat id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDA01wESpNYRZZ/1PKHlnTeYSkZI20e030zxrZTYUYanUh2JVIMk0k7gYJdwqj6B9uRwRG0J/fz5jCaEQ0t22I5jhFtxnrdxQTozNyGeBKjBpWFB0w/1JHa0wC6naddIqhPSw/OjIUIre4MYChHQM043yBn6Y05gnGzFKqogSGiAGrYBkJa0a83L3W38X0NStu/vcxJK3p5R/1Cx8+waA0q7yVF2+drxjHmh/Nyn/dXB9w6p0/hPTTyfeX17o8l3ueRr0cwQMCTyK634ej09iSPWaeX/30fNpM9HhtNRmTtoZxvNBsgrugDfsSuvAxv055RVBm2pY3t2AjnMJjPce9x Alexandre@MacBook-Pro-Alexandr.local
MacBook-Pro-Alexandr:.ssh Alexandre$ ]
```

The screenshot shows the GitHub 'Personal settings' page with the 'SSH keys' section selected. A new SSH key has been added, titled 'MIDPS_key'. The key's content is displayed as a long string of characters.

Personal settings

- Profile
- Account settings
- Emails
- Notification center
- Billing
- SSH keys**
- Security
- OAuth applications
- Personal access tokens
- Repositories
- Organizations

SSH keys

New SSH key

Title: MIDPS_key

Key:

```
ssh-rsa AAAAB3NzaC1yc2EAAAQABAAQDA01wESpNYRZZ/1PKHlnTeYSkZl2Oe030zxZTYUyanUh2JVIMk0k7gYJd wqj6B9uRwRGOU/fzSjCaEOt2215JfFrxndrQTozNyGeBKjBpWFBow/1Jh0wC6naddlhpSw/OjlJlre4MYChhQM043 yBn6Y105gnGzFKqogSGIAGr/YBkjJaOa83L3W38X0NStuvcxJk3p5F/1Cx8+waA0q7yVF2+drxjImh/Vny/dXB9w6p0/hPF TyefX17o8l3ueRrOcwOMCTyK634ej09jSPWaeX3OfNpM9HHNRmTlcZxvNBsgrugDfsSuvAvxO55RVBm2pY3l2AjnMJj Pce9x
```

Add SSH key

Check out our guide to [generating SSH keys](#) or [troubleshoot common SSH Problems](#).

The screenshot shows the GitHub 'SSH keys' list page. The previously added key, 'MIDPS_key', is listed. It includes the key's title, SHA-1 fingerprint, and the date it was added.

SSH keys

New SSH key

This is a list of SSH keys associated with your account. Remove any keys that you do not recognize.

	MIDPS_key ca:fe:fa:e3:59:15:c0:66:4e:74:58:55:2e:9c:76:8b Added on Mar 3, 2016 — Never used	Delete
--	---	--------

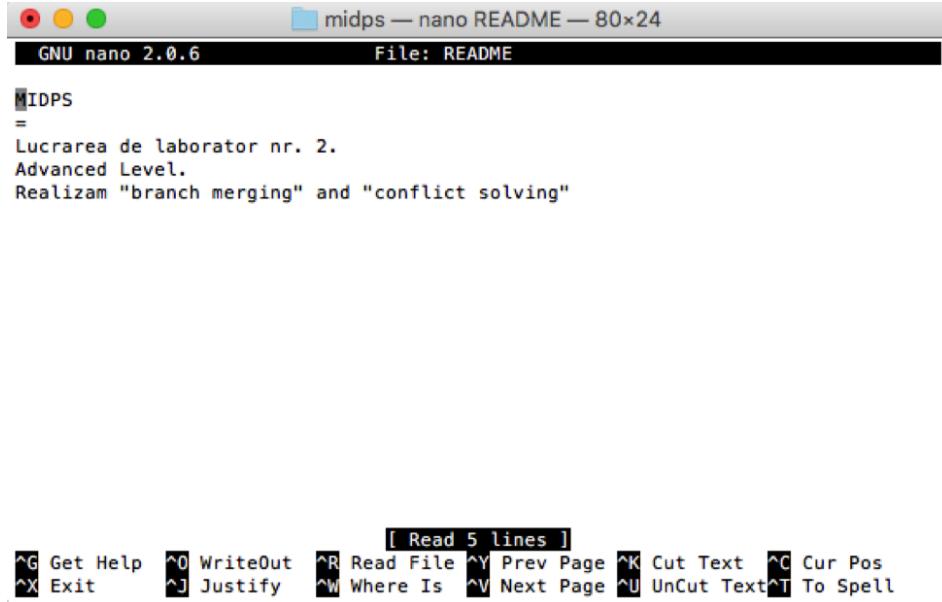
Check out our guide to [generating SSH keys](#) or [troubleshoot common SSH Problems](#).

```
nUh2JVIMk0k7gYJdwqj6B9uRwRG0J/fz5jCaEQ0t22I5jhFtxnr dxQTozNyGeBKjBpWFB0w/1JHa0wC6  
naddIqhPSw/OjIUIre4MYcHhQM043yBn6Y05gnGzFKqogSGiAGrYBkJa0a83L3W38X0NStu/vcxJK3p5  
R/1Cx8+waA0q7yVF2+drxjHmh/Nyn/dXB9w6p0/hPFTyfeX17o8l3ueRr0cw0MCTyK634ej09iSPWaeX  
/30fNpM9HhtNRmTtoZxvNBsgrugDfsSuvAxv055RVBm2pY3t2AjnMJjPce9x Alexandr@MacBook-Pro  
o-Alexandr.local  
[MacBook-Pro-Alexandr:~ ssh Alexandr$ ssh -T  
usage: ssh [-1246AacfGgKkMNnqsTtVvXxYy] [-b bind_address] [-c cipher_spec]  
          [-D [bind_address:]port] [-E log_file] [-e escape_char]  
          [-F configfile] [-I pkcs11] [-i identity_file]  
          [-L [bind_address:]port:host:hostport] [-l login_name] [-m mac_spec]  
          [-O ctl_cmd] [-o option] [-p port]  
          [-Q cipher | cipher-auth | mac | kex | key]  
          [-R [bind_address:]port:host:hostport] [-S ctl_path] [-W host:port]  
          [-w local_tun[:remote_tun]] [user@]hostname [command]  
[MacBook-Pro-Alexandr:~ ssh Alexandr$ ssh -T git@github.com  
The authenticity of host 'github.com (192.30.252.131)' can't be established.  
RSA key fingerprint is SHA256:nThbg6kXUpJWG17E1IG0CspRomTxdCARLviKw6E5SY8.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added 'github.com,192.30.252.131' (RSA) to the list of known hosts.  
Hi AlexandrYaltychenko! You've successfully authenticated, but GitHub does not provide shell access.  
MacBook-Pro-Alexandr:~ ssh Alexandr$
```

1.2 Clonarea reポzitoriului gol creat pe github.com

```
Last login: Wed Mar 16 15:43:33 on ttys000  
[MacBook-Pro-Alexandr:~ Alexandr$ git clone https://github.com/AlexandrYaltychenko/midps.git  
Cloning into 'midps'...  
warning: You appear to have cloned an empty repository.  
Checking connectivity... done.  
MacBook-Pro-Alexandr:~ Alexandr$
```

1.3 Crearea fierului README in nano



The screenshot shows a terminal window titled "midps — nano README — 80x24". The title bar also displays "GNU nano 2.0.6" and "File: README". The main text area contains the following content:

```
MIDPS
=
Lucrarea de laborator nr. 2.
Advanced Level.
Realizam "branch merging" and "conflict solving"
```

At the bottom of the screen, there is a command-line interface with various keyboard shortcuts:

```
[ Read 5 lines ]
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

1.4 Crearea fisierului .gitignore in nano (ca sa fie ignorat fisierul .DS_Store generat de OS X)



The screenshot shows a terminal window titled "midps — nano .gitignore — 80x24". The title bar also displays "GNU nano 2.0.6" and "File: .gitignore". The main text area contains the following content:

```
.DS_Store
```

At the bottom of the screen, there is a command-line interface with various keyboard shortcuts:

```
[ Read 2 lines ]
^G Get Help ^O WriteOut ^R Read File ^Y Prev Page ^K Cut Text ^C Cur Pos
^X Exit ^J Justify ^W Where Is ^V Next Page ^U UnCut Text ^T To Spell
```

1.5 Desfurarea primului add .

```
midps — bash — 80x24
On branch master
Initial commit

Untracked files:
  (use "git add <file>..." to include in what will be committed)

  .gitignore
  README

nothing added to commit but untracked files present (use "git add" to track)
[MacBook-Pro-Alexandr:midps Alexandr$ git add .]
[MacBook-Pro-Alexandr:midps Alexandr$ git status]
On branch master

Initial commit

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

  new file:  .gitignore
  new file:  README

MacBook-Pro-Alexandr:midps Alexandr$
```

1.6 Desfasurarea primului commit

```
midps — bash — 80x24
(use "git add <file>..." to include in what will be committed)

  .gitignore
  README

nothing added to commit but untracked files present (use "git add" to track)
[MacBook-Pro-Alexandr:midps Alexandr$ git add .]
[MacBook-Pro-Alexandr:midps Alexandr$ git status]
On branch master

Initial commit

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)

  new file:  .gitignore
  new file:  README

[MacBook-Pro-Alexandr:midps Alexandr$ git commit -m "Primul commit"]
[master (root-commit) 01f9ec2] Primul commit
  2 files changed, 7 insertions(+)
  create mode 100644 .gitignore
  create mode 100644 README
MacBook-Pro-Alexandr:midps Alexandr$
```

1.7 Desfasurarea primului push (Deci branch-ul to track a remote origin a fost setat cu succes)

```
[MacBook-Pro-Alexandr:midps Alexandr$ git commit -m "Primul commit"
[master (root-commit) 01f9ec2] Primul commit
 2 files changed, 7 insertions(+)
  create mode 100644 .gitignore
  create mode 100644 README
[MacBook-Pro-Alexandr:midps Alexandr$ git push
warning: push.default is unset; its implicit value has changed in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the traditional behavior, use:

  git config --global push.default matching

To squelch this message and adopt the new behavior now, use:

  git config --global push.default simple

When push.default is set to 'matching', git will push local branches
to the remote branches that already exist with the same name.

Since Git 2.0, Git defaults to the more conservative 'simple'
behavior, which only pushes the current branch to the corresponding
remote branch that 'git pull' uses to update the current branch.

See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)

Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 362 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To https://github.com/AlexandrYaltychenko/midps.git
 * [new branch]      master -> master
MacBook-Pro-Alexandr:midps Alexandr$
MacBook-Pro-Alexandr:midps Alexandr$ ]
```

1.8 Adaugarea unui nou fisier hello.java la repozitoriuul github

The screenshot shows two terminal windows side-by-side. Both windows have a title bar 'midps — bash — 80x26' and a red, yellow, and green window control button.

Terminal Window 1 (Left):

```
(use "git add <file>..." to include in what will be committed)
[MacBook-Pro-Alexandr:midps Alexandr$ git add .
[MacBook-Pro-Alexandr:midps Alexandr$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

    new file:   java/hello.java

[MacBook-Pro-Alexandr:midps Alexandr$ git commit -m "Am adaugat fisierul hello.java"
[master 80b3552] Am adaugat fisierul hello.java
 1 file changed, 5 insertions(+)
 create mode 100644 java/hello.java
[MacBook-Pro-Alexandr:midps Alexandr$ git push
warning: push.default is unset; its implicit value has changed in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the traditional behavior, use:

  git config --global push.default matching
```

Terminal Window 2 (Right):

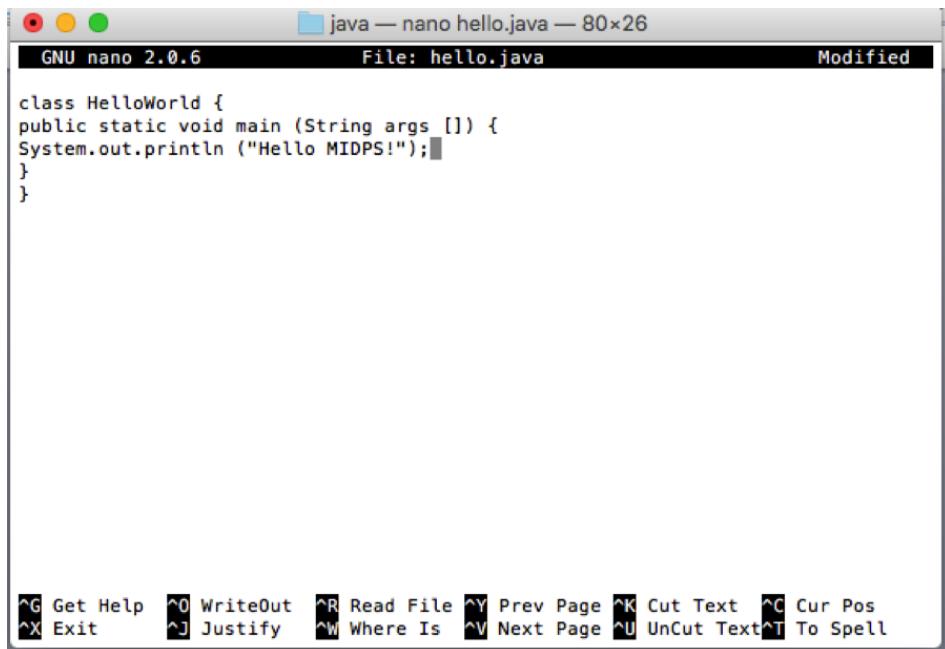
```
git config --global push.default matching
To squelch this message and adopt the new behavior now, use:
  git config --global push.default simple
When push.default is set to 'matching', git will push local branches
to the remote branches that already exist with the same name.

Since Git 2.0, Git defaults to the more conservative 'simple'
behavior, which only pushes the current branch to the corresponding
remote branch that 'git pull' uses to update the current branch.

See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)

Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 458 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To https://github.com/AlexandrYaltychenko/midps.git
  01f9ec2..80b3552  master -> master
MacBook-Pro-Alexandr:midps Alexandr$
```

1.9 Editarea mesajului afisat in hello.java



The screenshot shows a terminal window titled "java — nano hello.java — 80x26". The title bar also displays "File: hello.java" and "Modified". The main area of the window contains the following Java code:

```
class HelloWorld {  
    public static void main (String args []) {  
        System.out.println ("Hello MIDPS!");  
    }  
}
```

At the bottom of the window, there is a menu of keyboard shortcuts:

- ^G Get Help
- ^O WriteOut
- ^R Read File
- ^Y Prev Page
- ^K Cut Text
- ^C Cur Pos
- ^X Exit
- ^J Justify
- ^W Where Is
- ^V Next Page
- ^U Uncut Text
- ^T To Spell

1.10 Înca un commit și push

```
java — bash — 80x34
MacBook-Pro-Alexandr$ git add .
MacBook-Pro-Alexandr$ git commit -m "Am schimbat textul salutarii"
[master 957ce69] Am schimbat textul salutarii
 1 file changed, 1 insertion(+), 1 deletion(-)
MacBook-Pro-Alexandr$ git push
warning: push.default is unset; its implicit value has changed in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the traditional behavior, use:

  git config --global push.default matching

To squelch this message and adopt the new behavior now, use:

  git config --global push.default simple

When push.default is set to 'matching', git will push local branches
to the remote branches that already exist with the same name.

Since Git 2.0, Git defaults to the more conservative 'simple'
behavior, which only pushes the current branch to the corresponding
remote branch that 'git pull' uses to update the current branch.

See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)

Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 348 bytes | 0 bytes/s, done.
Total 4 (delta 2), reused 0 (delta 0)
To https://github.com/AlexandrYaltychenko/midps.git
 80b3552..957ce69  master -> master
MacBook-Pro-Alexandr$
```

1.11 Implementarea recomandarilor lui git pentru ca warning-urile sa nu fie afisate

```
java — bash — 80x34
[master 957ce69] Am schimbat textul salutarii
 1 file changed, 1 insertion(+), 1 deletion(-)
[MacBook-Pro-Alexandr:java Alexandr$ git push
warning: push.default is unset; its implicit value has changed in
Git 2.0 from 'matching' to 'simple'. To squelch this message
and maintain the traditional behavior, use:

  git config --global push.default matching

To squelch this message and adopt the new behavior now, use:

  git config --global push.default simple

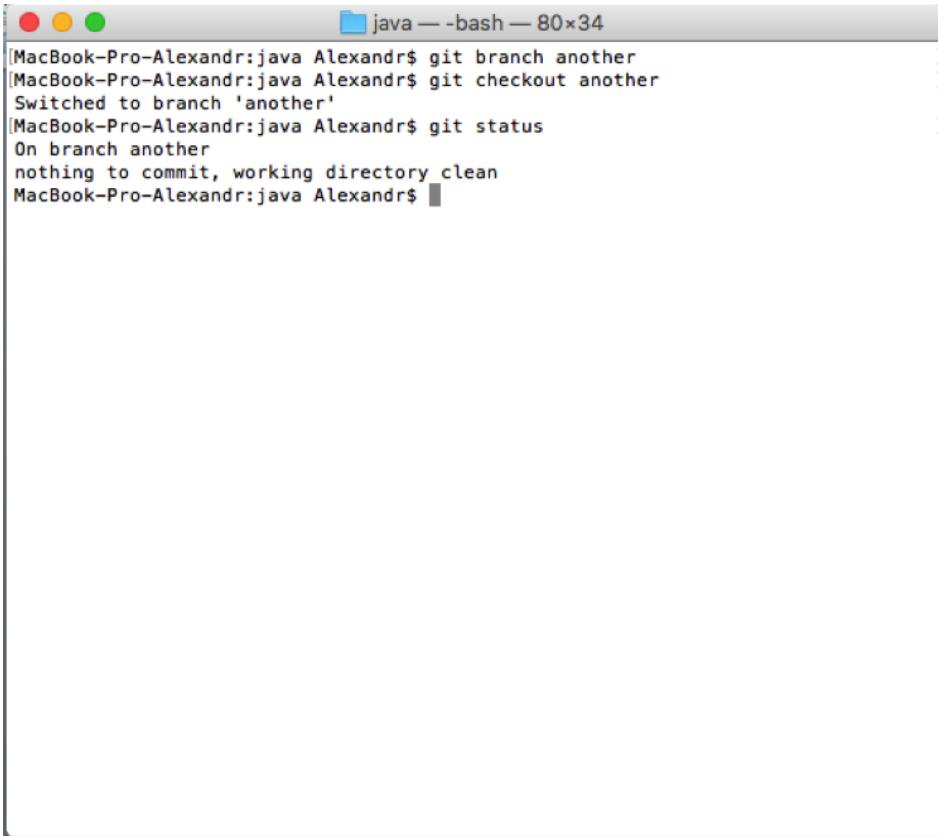
When push.default is set to 'matching', git will push local branches
to the remote branches that already exist with the same name.

Since Git 2.0, Git defaults to the more conservative 'simple'
behavior, which only pushes the current branch to the corresponding
remote branch that 'git pull' uses to update the current branch.

See 'git help config' and search for 'push.default' for further information.
(the 'simple' mode was introduced in Git 1.7.11. Use the similar mode
'current' instead of 'simple' if you sometimes use older versions of Git)

Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 348 bytes | 0 bytes/s, done.
Total 4 (delta 2), reused 0 (delta 0)
To https://github.com/AlexandrYaltychenko/midps.git
 80b3552..957ce69  master -> master
[MacBook-Pro-Alexandr:java Alexandr$ git config --global push.default matching
[MacBook-Pro-Alexandr:java Alexandr$ git config --global push.default simple
[MacBook-Pro-Alexandr:java Alexandr$ ]
```

1.12 Crearea branch-ului another și selectarea acestuia



```
MacBook-Pro-Alexandr:java Alexandr$ git branch another
MacBook-Pro-Alexandr:java Alexandr$ git checkout another
Switched to branch 'another'
MacBook-Pro-Alexandr:java Alexandr$ git status
On branch another
nothing to commit, working directory clean
MacBook-Pro-Alexandr:java Alexandr$
```

1.13 Gasirea solutiei pe Stack Overflow cum poate fi usor indeplinita resetarea ultimului commit

7 Answers

active oldest votes



```
git reset --hard HEAD~1
git push -f <remote> <branch>
```



(Example push: `git push -f origin bugfix/bug123`)



This will undo the last commit and push the updated history to the remote. You need to pass the `-f` because you're replacing upstream history in the remote.

[share](#) [improve this answer](#)

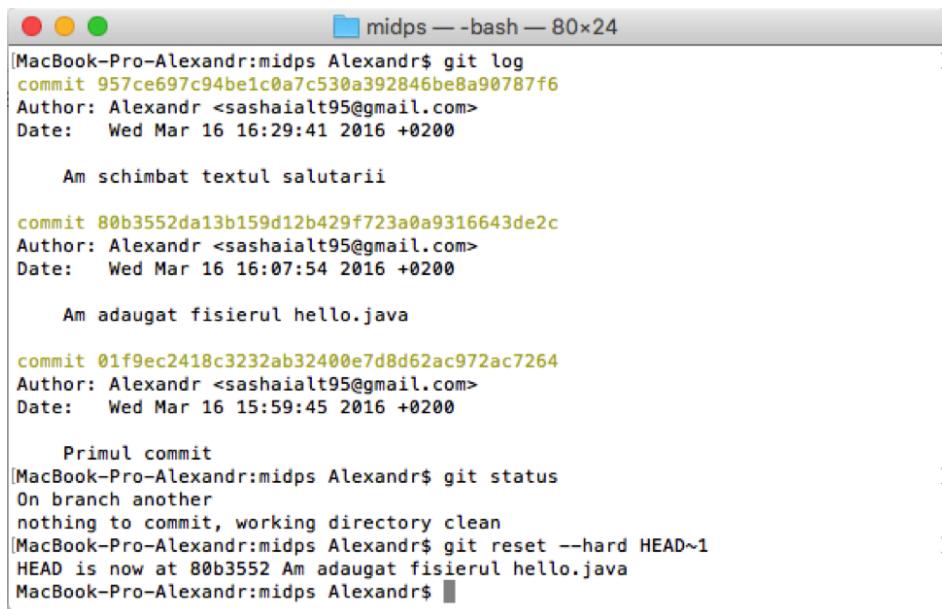
edited Jan 13 at 8:59

 **Steve Chambers**
8,135 ● 6 □ 36 □ 71

answered Jun 23 '11 at 18:51

 **Alexander Groß**
6,432 ● 1 □ 17 □ 25

1.14 Verificarea git-log-ului al branch-ului another si resetarea ultimului commit



```
midps — bash — 80x24
[MacBook-Pro-Alexandr:midps Alexandr$ git log
commit 957ce697c94be1c0a7c530a392846be8a90787f6
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 16:29:41 2016 +0200

    Am schimbat textul salutarii

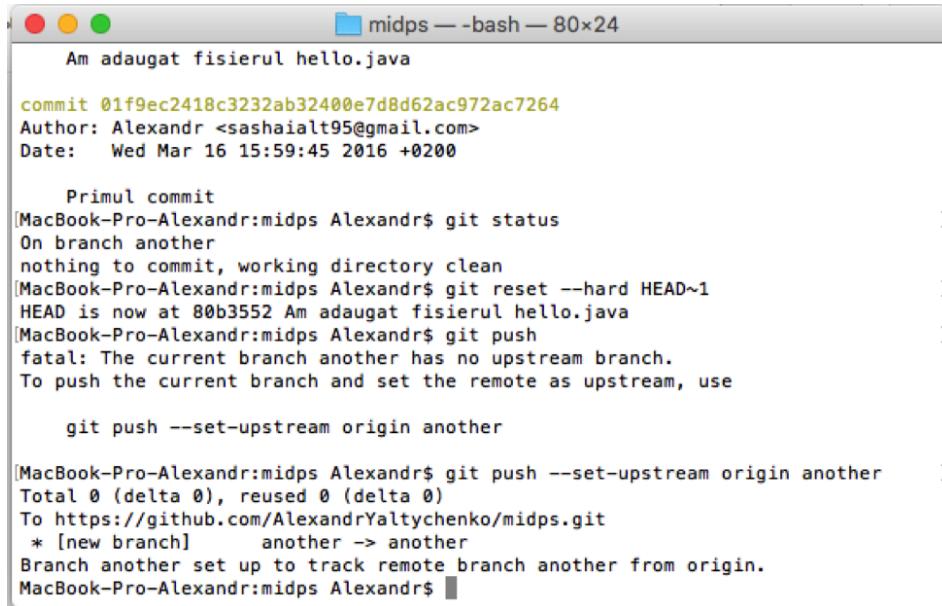
commit 80b3552da13b159d12b429f723a0a9316643de2c
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 16:07:54 2016 +0200

    Am adaugat fisierul hello.java

commit 01f9ec2418c3232ab32400e7d8d62ac972ac7264
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 15:59:45 2016 +0200

    Primul commit
[MacBook-Pro-Alexandr:midps Alexandr$ git status
On branch another
nothing to commit, working directory clean
[MacBook-Pro-Alexandr:midps Alexandr$ git reset --hard HEAD~1
HEAD is now at 80b3552 Am adaugat fisierul hello.java
MacBook-Pro-Alexandr:midps Alexandr$ ]
```

1.15 Inca un push



```
midps — bash — 80x24
Am adaugat fisierul hello.java

commit 01f9ec2418c3232ab32400e7d8d62ac972ac7264
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 15:59:45 2016 +0200

    Primul commit
[MacBook-Pro-Alexandr:midps Alexandr$ git status
On branch another
nothing to commit, working directory clean
[MacBook-Pro-Alexandr:midps Alexandr$ git reset --hard HEAD~1
HEAD is now at 80b3552 Am adaugat fisierul hello.java
[MacBook-Pro-Alexandr:midps Alexandr$ git push
fatal: The current branch another has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin another

[MacBook-Pro-Alexandr:midps Alexandr$ git push --set-upstream origin another
Total 0 (delta 0), reused 0 (delta 0)
To https://github.com/AlexandrYaltychenko/midps.git
 * [new branch]      another -> another
Branch another set up to track remote branch another from origin.
MacBook-Pro-Alexandr:midps Alexandr$ ]
```

1.16 Înca o editare a fisierului hello.java (branch-ul another)

```
[MacBook-Pro-Alexandr:java Alexandr$ cat hello.java
class HelloWorld {
public static void main (String args []) {
System.out.println ("Hello World");
}
}

[MacBook-Pro-Alexandr:java Alexandr$ nano hello.java
[MacBook-Pro-Alexandr:java Alexandr$ cd..
-bash: cd..: command not found
[MacBook-Pro-Alexandr:java Alexandr$ cd ..
[MacBook-Pro-Alexandr:midps Alexandr$ git status
On branch another
Your branch is up-to-date with 'origin/another'.
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

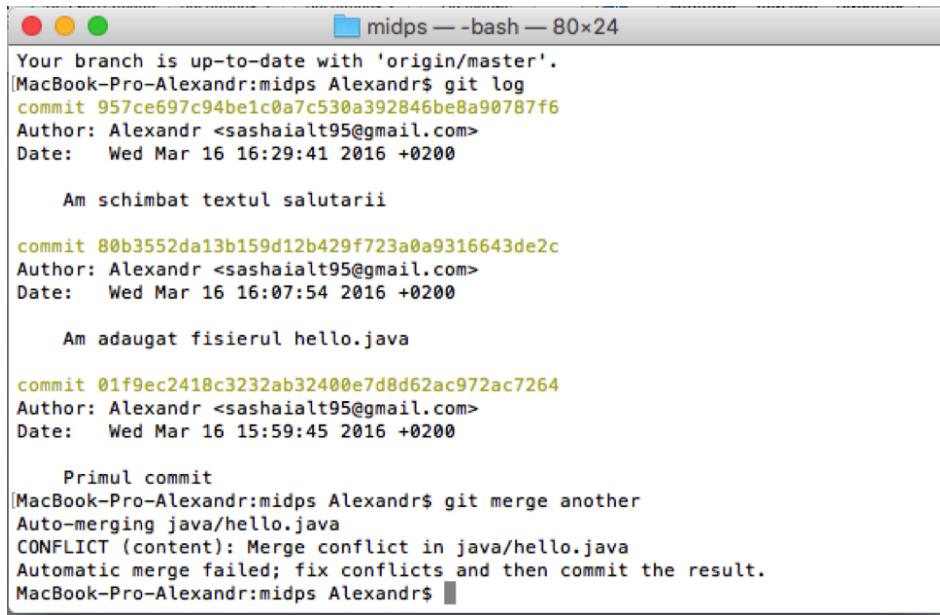
    modified:   java/hello.java

no changes added to commit (use "git add" and/or "git commit -a")
[MacBook-Pro-Alexandr:midps Alexandr$ git add .
[MacBook-Pro-Alexandr:midps Alexandr$ git commit -m "Am adaugat in salutare cuvintul Chisinau"
[another 99aebfa] Am adaugat in salutare cuvintul Chisinau
```

1.17 Selectarea branch-ului master

```
[MacBook-Pro-Alexandr:midps Alexandr$ git checkout master
Switched to branch 'master'
Your branch is up-to-date with 'origin/master'.
MacBook-Pro-Alexandr:midps Alexandr$
```

1.18 Verificarea log-ului si branch merging (apare conflictul)



The screenshot shows a terminal window titled "midps — bash — 80x24". The window displays the following content:

```
Your branch is up-to-date with 'origin/master'.
[MacBook-Pro-Alexandr:midps Alexandr$ git log
commit 957ce697c94be1c0a7c530a392846be8a90787f6
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 16:29:41 2016 +0200

    Am schimbat textul salutarii

commit 80b3552da13b159d12b429f723a0a9316643de2c
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 16:07:54 2016 +0200

    Am adaugat fisierul hello.java

commit 01f9ec2418c3232ab32400e7d8d62ac972ac7264
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 15:59:45 2016 +0200

    Primul commit
[MacBook-Pro-Alexandr:midps Alexandr$ git merge another
Auto-merging java/hello.java
CONFLICT (content): Merge conflict in java/hello.java
Automatic merge failed; fix conflicts and then commit the result.
MacBook-Pro-Alexandr:midps Alexandr$ ]
```

1.19 Solutionarea conflictului prin editarea fisierului hello.java

The image shows two terminal windows side-by-side, both running the nano text editor on a file named `hello.java`.

Top Terminal Window:

- Title bar: midps — nano java/hello.java — 80x24
- Header: GNU nano 2.0.6 File: java/hello.java
- Text content:

```
class HelloWorld {  
    public static void main (String args []) {  
        <<<<< HEAD  
        System.out.println ("Hello MIDPS!");  
        =====  
        System.out.println ("Hello Chisinau!");  
        >>>>> another  
    }  
}
```
- Bottom status bar:
 - [Read 9 lines]
 - Keyboard shortcuts: ^G Get Help, ^O WriteOut, ^R Read File, ^Y Prev Page, ^K Cut Text, ^C Cur Pos, ^X Exit, ^J Justify, ^W Where Is, ^V Next Page, ^U Uncut Text, ^T To Spell

Bottom Terminal Window:

- Title bar: midps — nano java/hello.java — 80x24
- Header: GNU nano 2.0.6 File: java/hello.java Modified
- Text content:

```
class HelloWorld {  
    public static void main (String args []) {  
        System.out.println ("Hello Chisinau!");  
    }  
}
```
- Bottom status bar:
 - File Name to Write: java/hello.java
 - Keyboard shortcuts: ^G Get Help, ^T To Files, M-M Mac Format, M-P Prepend, ^C Cancel, M-D DOS Format, M-A Append, M-B Backup File

1.20 Terminarea procesului de branch merging

The image shows two terminal windows side-by-side. Both windows have a title bar 'midps — bash — 80x24' and a red, yellow, and green close button.

Terminal 1 (Left):

```
commit 01f9ec2418c3232ab32400e7d8d62ac972ac7264
Author: Alexandr <sashaialt95@gmail.com>
Date:   Wed Mar 16 15:59:45 2016 +0200

    Primul commit
[MacBook-Pro-Alexandr:midps Alexandr$ git merge another
Auto-merging java/hello.java
CONFLICT (content): Merge conflict in java/hello.java
Automatic merge failed; fix conflicts and then commit the result.
[MacBook-Pro-Alexandr:midps Alexandr$ nano java/hello.java
[MacBook-Pro-Alexandr:midps Alexandr$ git status
On branch master
Your branch is up-to-date with 'origin/master'.
You have unmerged paths.
  (fix conflicts and run "git commit")

Unmerged paths:
  (use "git add <file>..." to mark resolution)

    both modified:  java/hello.java

no changes added to commit (use "git add" and/or "git commit -a")
MacBook-Pro-Alexandr:midps Alexandr$ ]
```

Terminal 2 (Right):

```
[MacBook-Pro-Alexandr:midps Alexandr$ git add .
[MacBook-Pro-Alexandr:midps Alexandr$ git commit -m "Conflict rezolvat"
[master 97fed2c] Conflict rezolvat
MacBook-Pro-Alexandr:midps Alexandr$ ]]
```

2 Bonus Point

Bash-script-ul pentru compilarea hello-world-urilor in limbaje C, Java, C++, Python:

```
#!/bin/bash
gcc hello_c.c -o hello_c
javac hello_java.java
g++ hello_c++.cpp -o hello_c++
python -m py_compile hello_python.py
```

Concluzii

In cadrul acestei lucrari de laborator am studiat principiile si modul de utilizare a sistemului de control al versiunilor Git. Prin intermediul CLI am configurat SSH autentificarea, am facut primul git commit i am sincronizat dispozitoriu local cu cel remote, plasat pe server. Mai departe am reusit sa fac branch merging si solutionez conflictul care a aparut. Cunotintele, obtinute pe parcursul desfasurarii lucrarii de laborator vor fi foarte utile pentru realizarea proiectelor, ce urmeaza.

Bibliografie

1. <https://training.github.com/kit/downloads/github-git-cheat-sheet.pdf> - **Git Cheat Sheet**