№ 2   *:*

:   :   -02-20   2021   .   ######   : >   . ######   : 1.   github

2.   git,   c   github

```
Activities          Terminal ▾                    мая 6  14:18

                              marc@ismael: ~

marc@ismael:~$ ssh-keygen -C "ismael saint amour <ismaelsaintamour@gmail.com>"
Generating public/private rsa key pair.
Enter file in which to save the key (/home/marc/.ssh/id_rsa): /home/marc/.ssh/i
d_rsa
/home/marc/.ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/marc/.ssh/id_rsa
Your public key has been saved in /home/marc/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:pU320IFQYWc0PS5wgLarAd7l+pjBxI5zsmfJSbv2w9Y ismael saint amour <ismaelsa
intamour@gmail.com>
The key's randomart image is:
+---[RSA 3072]----+
|       .+==*.    |
|       o.o+.oo   |
|      . .=o.. .  |
|    ..  o* o. .  |
|   . oooS.. ..   |
|    .=+ o        |
|    +o=O .       |
|     =@++ E      |
|     .++=o.      |
+----[SHA256]-----+
marc@ismael:~$ cat /home/marc/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQDAMAMV0BElN5THLMIFxVx+Yd5m0z75VWRHgHpwpOF
Oa+RDsaUESDaL8grvOh7jBduMb2rs2f+dGA5Hp6gyArbrbgXfJCG9SP/XLi47+3n119bACiYEbNJ2NZ
m1Yrf5jVGQ7jPvzczFqivRvmXtEpenb38vxE3rrgY2L3udu26n3guc9vHxrBUtgIaSJXM1gWDKR7KrE
```


Ismaelesn
Your personal account

Account settings

Profile

Account

Appearance   (New)

Account security

Billing & plans

Security log

9-12-39 security analysis

Emails

Notifications

SSH and GPG keys

Repositories

SSH keys / Add new

Title

keys

Key

```
3kbfL1u5UmJe+TUILAtI1EvQ5AW8WXKGhAf+52DTbrOU6iyNWCsOjyWHwBSyr
/E9P7ZkrYf+jc2fJ+fAXCo8o0DM9L8DmOkTk665ke6xI+FbHgEkzdE81n2zfH7abjHpn7yeDOBk
qL6HCk5Yx+9jMG0zrHAe/xib1V2m2rtt00WY6sl1F4SY
/ETuM+5drlz8+wzyUmCBARuzuEH7zFucD4UPOL+pa0rrhUfGKJGjif8WvyiYkZ5CNL/KFH+C6
/85IXqn2dj5raqhTUXjCWSa/mgFyt
/KjYbTBgzpgzYbHlDk0AZ5OMMb6TYexA4QGipEqmaHdmaybOsTLOw9OM6nxwmAndSHZP
/4dCft3GcQALC8VXQWbBoBXX/wE4gxHcKhL149Hw6px4jhK3PnxVJrgL1
/9/E4N7yFPpjeYryuw0iQm00glZ838THS8= Ismael Saint Amour <ismaelsaintamour@gmail.co
```
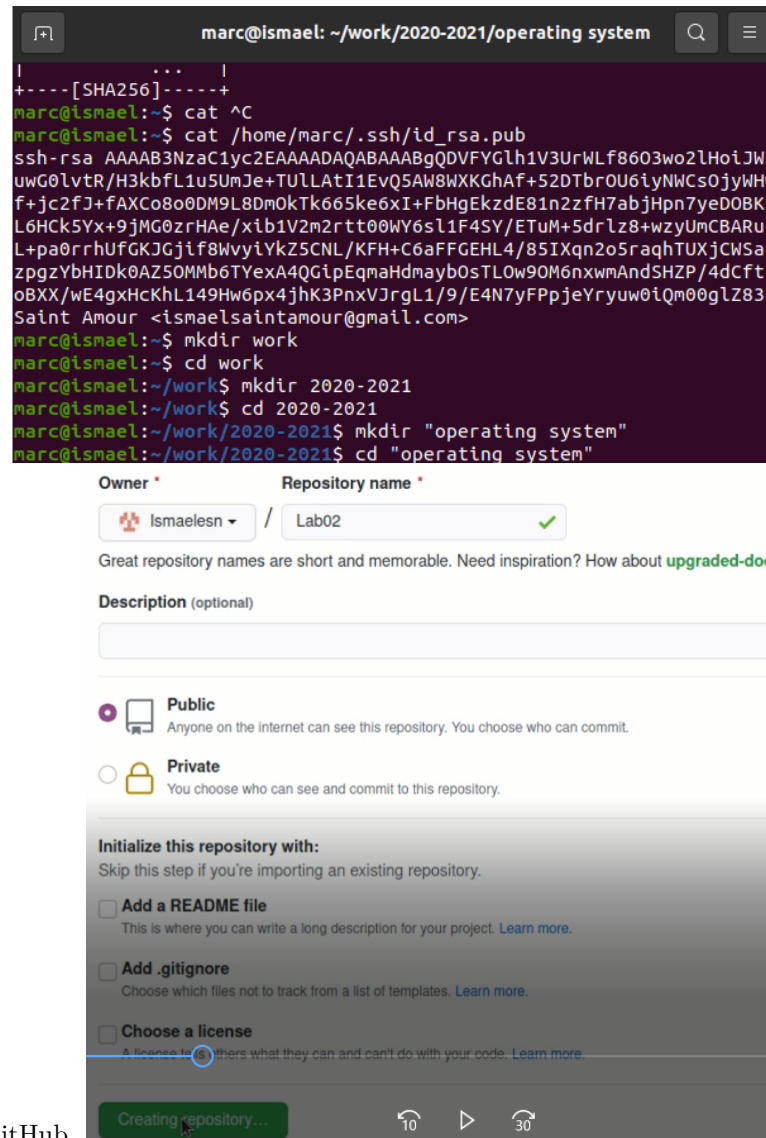
Add SSH key

2.1

| ... |
+----[SHA256]-----+
marc@ismael:~$ cat ^C
marc@ismael:~$ cat /home/marc/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQDVFYGlh1V3UrWLf86O3wo2lHoiJW
uwG0lvtR/H3kbfL1u5UmJe+TUlLAtI1EvQ5AW8WXKGhAf+52DTbrOU6iyNWCsOjyWH
f+jc2fJ+fAXCo8o0DM9L8DmOkTk665ke6xI+FbHgEkzdE81n2zfH7abjHpn7yeDOBK
L6HCk5Yx+9jMG0zrHAe/xib1V2m2rtt00WY6sl1F4SY/ETuM+5drlz8+wzyUmCBARu
L+pa0rrhUfGKJGjif8WvyiYkZ5CNL/KFH+C6aFFGEHL4/85IXqn2o5raqhTUXjCWSa
zpgzYbHIDk0AZ5OMMb6TYexA4QGipEqmaHdmaybOsTLOw9OM6nxwmAndSHZP/4dCft
oBXX/wE4gxHcKhL149Hw6px4jhK3PnxVJrgL1/9/E4N7yFPpjeYryuw0iQm00glZ83
Saint Amour <ismaelsaintamour@gmail.com>
marc@ismael:~$ mkdir work
marc@ismael:~$ cd work
marc@ismael:~/work$ mkdir 2020-2021
marc@ismael:~/work$ cd 2020-2021
marc@ismael:~/work/2020-2021$ mkdir "operating system"
marc@ismael:~/work/2020-2021$ cd "operating system"

3.   .2.

4-   github –   GitHub.
   –   git: git init –   README echo "# Lab02" >>
README.md   git add README.md –   github: git com-
mit -m "first commit" git remote add origin git@github.com:/sciproc-intro.git

```
marc@ismael:~$ mkdir work
marc@ismael:~$ cd work
marc@ismael:~/work$ mkdir 2020-2021
marc@ismael:~/work$ cd 2020-2021
marc@ismael:~/work/2020-2021$ mkdir "operating system"
marc@ismael:~/work/2020-2021$ cd "operating system"
marc@ismael:~/work/2020-2021/operating system$ echo "# Lab02" >> README.md
marc@ismael:~/work/2020-2021/operating system$ git init
Initialized empty Git repository in /home/marc/work/2020-2021/operating system/.
git/
marc@ismael:~/work/2020-2021/operating system$ git add README.md
marc@ismael:~/work/2020-2021/operating system$ git commit -m "first commit"
```

git push u origin master

```
marc@ismael:~/work/2020-2021/operating system$ git commit -m "first commit"
[master (root-commit) 2f94422] first commit
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
marc@ismael:~/work/2020-2021/operating system$ git branch -M main
marc@ismael:~/work/2020-2021/operating system$ git remote add origin https://git
hub.com/Ismaelesn/Lab02.git
fatal: remote origin already exists.
marc@ismael:~/work/2020-2021/operating system$ git push -u origin main
Username for 'https://github.com':
Password for 'https://github.com':
remote: No anonymous write access.
fatal: Authentication failed for 'https://github.com/Ismaelesn/Lab02.git/'
marc@ismael:~/work/2020-2021/operating system$ git push -u origin main
Username for 'https://github.com': Ismaelesn
Password for 'https://Ismaelesn@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 227 bytes | 45.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Ismaelesn/Lab02.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
```

2.5.3.   –   : wget https://creativecommons.org/licenses/by/4.0/legalcode.txt
-O LICENSE —   .   :   curl
-L -s https://www.gitignore.io/api/list   ,   ,   C: curl -L -s

```
Password for 'https://Ismaelesn@github.com':
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 227 bytes | 45.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To https://github.com/Ismaelesn/Lab02.git
 * [new branch]      main -> main
Branch 'main' set up to track remote branch 'main' from 'origin'.
marc@ismael:~/work/2020-2021/operating system$ wget https://creati
licenses/by/4.0/legalcode.txt-O LICENSE
--2021-05-06 19:51:04--  https://creativecommons.org/licenses/by/4
xt-O
Resolving creativecommons.org (creativecommons.org)... 172.67.34.1
.16, 104.20.151.16, ...
Connecting to creativecommons.org (creativecommons.org)|172.67.34.
nnected.
HTTP request sent, awaiting response... 404 Not Found
2021-05-06 19:51:04 ERROR 404: Not Found.


--2021-05-06 19:51:04--  http://license/
Resolving license (license)... failed: Temporary failure in name r
wget: unable to resolve host address 'license'
marc@ismael:~/work/2020-2021/operating system$ curl -L -s https://
io/api/list
```

https://www.gitignore.io/api/c >> .gitignore

```
Activities      Terminal ▼                                  мая 6 20:49

                     marc@ismael: ~/work/2020-2021/operating system

marc@ismael:~/work/2020-2021/operating system$ curl -L -s https://www.gitignore.
io/api/list
1c,1c-bitrix,a-frame,actionscript,ada
adobe,advancedinstaller,adventuregamestudio,agda,al
alteraquartusii,altium,amplify,android,androidstudio
angular,anjuta,ansible,ansibletower,apachecordova
apachehadoop,appbuilder,appceleratortitanium,appcode,appcode+all
appcode+iml,appengine,aptanastudio,arcanist,archive
archives,archlinuxpackages,aspnetcore,assembler,ate
atmelstudio,ats,audio,automationstudio,autotools
autotools+strict,awr,azurefunctions,backup,ballerina
basercms,basic,batch,bazaar,bazel
bitrise,bitrix,bittorrent,blackbox,bloop
bluej,bookdown,bower,bricxcc,buck
c,c++,cake,cakephp,cakephp2
cakephp3,calabash,carthage,certificates,ceylon
cfwheels,chefcookbook,chocolatey,clean,clion
clion+all,clion+iml,clojure,cloud9,cmake
cocoapods,cocos2dx,cocoscreator,code-java,codeblocks
codecomposerstudio,codeigniter,codeio,codekit,codesniffer
coffeescript,commonlisp,compodoc,composer,compressed
compressedarchive,compression,conan,concrete5,coq
cordova,craftcms,crashlytics,crbasic,crossbar
crystal,cs-cart,csharp,cuda,cvs
```

```
seamgen,sencnatoucn,serverless,shopware,silverstripe
sketchup,slickedit,smalltalk,snap,snapcraft
solidity,soliditytruffle,sonar,sonarqube,sourcepawn
spark,splunk,spreadsheet,ssh,standardml
stata,stdlib,stella,stellar,storybookjs
strapi,stylus,sublimetext,sugarcrm,svn
swift,swiftpackagemanager,swiftpm,symfony,symphonycms
synology,synopsysvcs,tags,tarmainstallmate,terraform
terragrunt,test,testcomplete,testinfra,tex
text,textmate,textpattern,theos-tweak,thinkphp
tla+,tortoisegit,tower,turbogears2,twincat3
tye,typings,typo3,typo3-composer,umbraco
unity,unrealengine,vaadin,vagrant,valgrind
vapor,venv,vertx,video,vim
virtualenv,virtuoso,visualstudio,visualstudiocode,vivado
vlab,vs,vue,vuejs,vvvv
waf,wakanda,web,webmethods,webstorm
webstorm+all,webstorm+iml,werckercli,windows,wintersmith
wordpress,wyam,xamarinstudio,xcode,xcodeinjection
xilinx,xilinxise,xilinxvivado,xill,xojo
xtext,y86,yarn,yeoman,yii
yii2,zendframework,zephir,zig,zsh
zukencr8000marc@ismael:~/work/2020-2021/operating system$ curl -L -s https://www
.gitignore.io/api/c >> .gitignore
```

–   : gitadd –   : gitcommita –   github: git push


```
marc@ismael:~/work/2020-2021/operating system$ git add .
marc@ismael:~/work/2020-2021/operating system$ git commit -a
Aborting commit due to empty commit message.
marc@ismael:~/work/2020-2021/operating system$ git push
Username for 'https://github.com': Ismaelesn
Password for 'https://Ismaelesn@github.com':
Everything up-to-date
marc@ismael:~/work/2020-2021/operating system$ git push
Username for 'https://github.com': Ismaelesn
Password for 'https://Ismaelesn@github.com':
Everything up-to-date
```

2.5.4.   git-flow   git-flow git flow init
v.   ,   develop: git branch   1.0.0
   : echo "1.0.0" >> VERSION   : git add . git commit -am
'chore(main): add version'   git flow release fin-
ish 1.0.0   github git push –all git push –tags   github.

```
marc@ismael:~/work/2020-2021/operating system$ git flow init

Which branch should be used for bringing forth production releases?
   - main
Branch name for production releases: [main]
Branch name for "next release" development: [develop]

How to name your supporting branch prefixes?
Feature branches? [feature/]
Bugfix branches? [bugfix/]
Release branches? [release/]
Hotfix branches? [hotfix/]
Support branches? [support/]
Version tag prefix? []
Hooks and filters directory? [/home/marc/work/2020-2021/operating system/.git/ho
oks]
marc@ismael:~/work/2020-2021/operating system$ git branch
* develop
  main
marc@ismael:~/work/2020-2021/operating system$ git flow release start 1.0.0
Switched to a new branch 'release/1.0.0'
```

```
marc@ismael:~/work/2020-2021/operating system$ git flow release start 1.0.0
Switched to a new branch 'release/1.0.0'

Summary of actions:
- A new branch 'release/1.0.0' was created, based on 'develop'
- You are now on branch 'release/1.0.0'

Follow-up actions:
- Bump the version number now!
- Start committing last-minute fixes in preparing your release
- When done, run:

    git flow release finish '1.0.0'
```
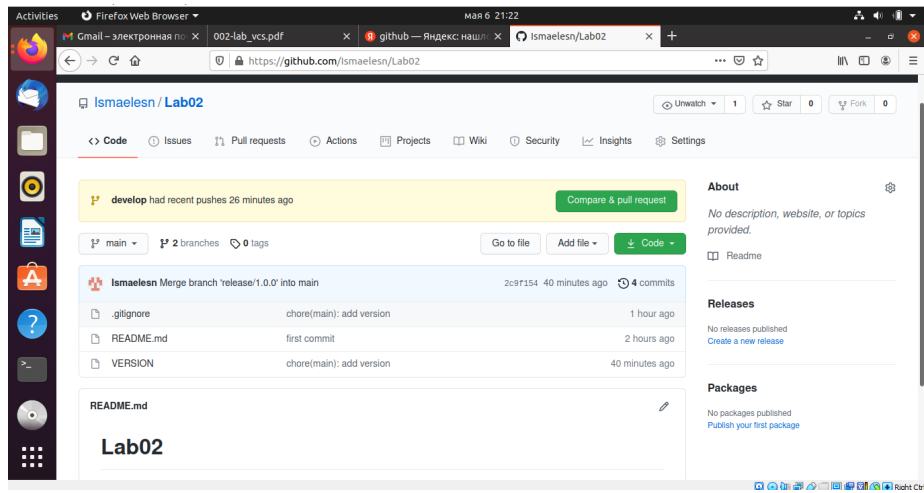
```
echo1.0.0: command not found
marc@ismael:~/work/2020-2021/operating system$ echo "1.0.0">> VERSION
marc@ismael:~/work/2020-2021/operating system$ git add .
marc@ismael:~/work/2020-2021/operating system$ git commit -am'chore(main): add v
ersion'
[release/1.0.0 160fcbf] chore(main): add version
 1 file changed, 1 insertion(+)
marc@ismael:~/work/2020-2021/operating system$ git flow release finish 1.0.0
Branches 'main' and 'origin/main' have diverged.
And local branch 'main' is ahead of 'origin/main'.
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
Merge made by the 'recursive' strategy.
 VERSION | 1 +
 1 file changed, 1 insertion(+)
Already on 'main'
Your branch is ahead of 'origin/main' by 3 commits.
  (use "git push" to publish your local commits)
fatal: no tag message?
Fatal: Tagging failed. Please run finish again to retry.
marc@ismael:~/work/2020-2021/operating system$ git flow release finish 1.0.0
Branches 'main' and 'origin/main' have diverged.
And local branch 'main' is ahead of 'origin/main'.
Already on 'main'
```

marc@ismael: ~/work/2020-2021/operating system

```
marc@ismael:~/work/2020-2021/operating system$ git flow release finish 1.0.0
Branches 'main' and 'origin/main' have diverged.
And local branch 'main' is ahead of 'origin/main'.
Already on 'main'
Your branch is ahead of 'origin/main' by 3 commits.
  (use "git push" to publish your local commits)
Switched to branch 'develop'
Merge made by the 'recursive' strategy.
 VERSION | 1 +
 1 file changed, 1 insertion(+)
Deleted branch release/1.0.0 (was 160fcbf).

Summary of actions:
- Release branch 'release/1.0.0' has been merged into 'main'
- The release was tagged '1.0.0'
- Release tag '1.0.0' has been back-merged into 'develop'
- Release branch 'release/1.0.0' has been locally deleted
- You are now on branch 'develop'

marc@ismael:~/work/2020-2021/operating system$ git push --all
Username for 'https://github.com': Ismaelesn
Password for 'https://Ismaelesn@github.com':
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
```

```
marc@ismael:~/work/2020-2021/operating system$ git push --all
Username for 'https://github.com': Ismaelesn
Password for 'https://Ismaelesn@github.com':
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Compressing objects: 100% (7/7), done.
Writing objects: 100% (9/9), 1.11 KiB | 94.00 KiB/s, done.
Total 9 (delta 3), reused 0 (delta 0)
remote: Resolving deltas: 100% (3/3), done.
To https://github.com/Ismaelesn/Lab02.git
   2f94422..2c9f154  main -> main
 * [new branch]      develop -> develop
marc@ismael:~/work/2020-2021/operating system$ git --tags
unknown option: --tags
usage: git [--version] [--help] [-C <path>] [-c <name>=<value>]
           [--exec-path[=<path>]] [--html-path] [--man-path] [--info-path]
           [-p | --paginate | -P | --no-pager] [--no-replace-objects] [--bare]
           [--git-dir=<path>] [--work-tree=<path>] [--namespace=<name>]
           <command> [<args>]
marc@ismael:~/work/2020-2021/operating system$
```

: > .

: 1. (VCS) ?
(Version Control System, VCS)

. ,
. ,
, , ,
2. VCS : , commit, , .
( ) – , . Commit
- . - . — ,
( ) , , .
, .
, . 3.
VCS? VCS . ,
. , (. .) VCS
, . CVS, Subversion, — Git, Bazaar, Mercurial. 4.
VCS . ( ),
, , ( ). 5.
VCS. ,
, , .
. 6. , git?
Git .
git . Git ,
. 7. git. 1)
: git init 2) ( ) : git
3) : 4)
: git status 5) : git diff 6) :)
/ / : git add .)
/ : git add __) / (/

9

): git rm _ 7) :)
: git commit -am ' ')
: git commit 8) , :
git checkout -b _ 9) : git checkout _ (
, ,) 10)
: git push origin _ 11) : git
merge –no-ff _ 12) :) : git
branch -d _) : git branch -D _)
: git push origin : _ 8.
. , file.txt
: git checkout last (last –) : git add
file.txt (,) : git commit –am "file.txt
was added" : git push 9.
(branches)? ,
.

, (,
). 10. commit?
,
. , , , .
.gitignore .
: curl -L -s https://www.gitignore.io/api/list
, , C C++: curl -L -s https://www.gitignore.io/api/c >>
.gitignore curl -L -s https://www.gitignore.io/api/c++ >> .gitignore