Министерство науки и высшего образования Российской Федерации

Федеральное государственное автономное образовательное учреждение высшего образования

«Национальный исследовательский университет ИТМО»

Факультет информационных технологий и программирования

Цифровая Культура
Лабораторная работа №1

Git+GitHub

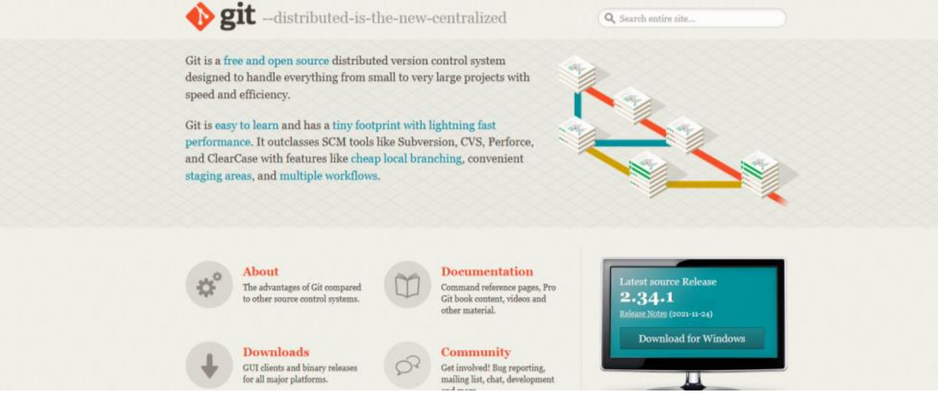
Выполнил студент группы № M3111

Акберов Рустам Ханкишиевич

Подпись:

Санкт-Петербург
2021

Цель работы: Лабораторная работа предназначена для углубленного ознакомления с возможностями Git. Подразумевается, что у студента уже есть собственный GitHub аккаунт и репозиторий по предмету - программирование. Задача студента произвести клонирование репозитория и выполнить задания на копии репозитория.
Ход работы:



Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Git is easy to learn and has a tiny footprint with lightning fast performance. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like cheap local branching, convenient staging areas, and multiple workflows.

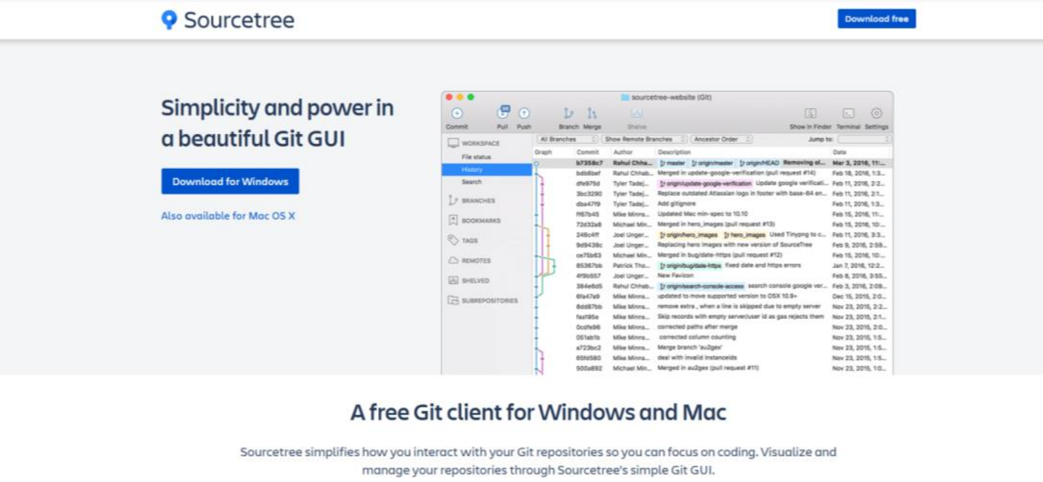
About
The advantages of Git compared to other source control systems.

Documentation
Command reference pages, Pro Git book content, videos and other material.

Downloads
GUI clients and binary releases for all major platforms.

Community
Get involved! Bug reporting, mailing list, chat, development

Latest source Release
2.34.1
Release Notes (2021-11-24)
Download for Windows



Simplicity and power in a beautiful Git GUI

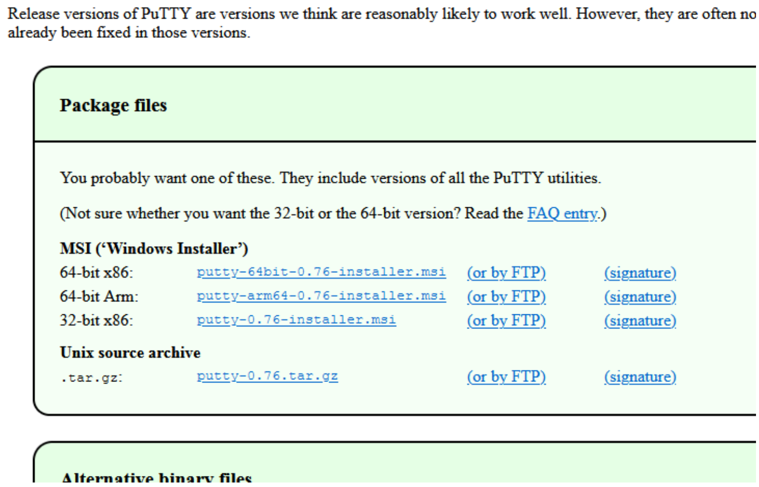
Download for Windows

Also available for Mac OS X

Commit	Author	Description	Date
b7358c7	Rahul Chha...	master origin/master origin/HEAD Removing ol...	Mar 3, 2016, 11:...
bdb8bef	Rahul Chhab...	Merged in update-google-verification (pull request #14)	Feb 18, 2016, 1:3...
dfe975d	Tyler Tadej...	origin/update-google-verification Update google verificati...	Feb 11, 2016, 2:2...
3bc3290	Tyler Tadej...	Replace outdated Atlassian logo in footer with base-64 en...	Feb 11, 2016, 2:1...
dba47f9	Tyler Tadej...	Add gitignore	Feb 11, 2016, 1:3...
ff67b45	Mike Minns...	Updated Mac min-spec to 10.10	Feb 15, 2016, 11:...
72d32a8	Michael Min...	Merged in hero_images (pull request #13)	Feb 15, 2016, 10:...
246c4ff	Joel Unger...	origin/hero_images hero_images Used Tinypng to c...	Feb 11, 2016, 3:3...
9d9438c	Joel Unger...	Replacing hero images with new version of SourceTree	Feb 9, 2016, 2:59...
ce75b63	Michael Min...	Merged in bug/date-https (pull request #12)	Feb 15, 2016, 10:...
85367bb	Patrick Tho...	origin/bug/date-https fixed date and https errors	Jan 7, 2016, 12:2...
4f9b557	Joel Unger...	New Favicon	Feb 8, 2016, 3:55...
384e6d5	Rahul Chhab...	origin/search-console-access search console google ver...	Feb 3, 2016, 2:09...
6fa47a9	Mike Minns...	updated to move supported version to OSX 10.9+	Dec 15, 2015, 2:0...
8dd87bb	Mike Minns...	remove extra , when a line is skipped due to empty server	Nov 23, 2015, 2:2...
faa195e	Mike Minns...	Skip records with empty server/user id as gas rejects them	Nov 23, 2015, 2:1...
0cdfe96	Mike Minns...	corrected paths after merge	Nov 23, 2015, 2:0...
051ab1b	Mike Minns...	corrected column counting	Nov 23, 2015, 1:5...
a723bc2	Mike Minns...	Merge branch 'au2gex'	Nov 23, 2015, 1:5...
65fd580	Mike Minns...	deal with invalid instanceids	Nov 23, 2015, 1:5...
500a892	Michael Min...	Merged in au2gex (pull request #11)	Nov 23, 2015, 1:0...

A free Git client for Windows and Mac

Sourcetree simplifies how you interact with your Git repositories so you can focus on coding. Visualize and manage your repositories through Sourcetree's simple Git GUI.



Release versions of PuTTY are versions we think are reasonably likely to work well. However, they are often no already been fixed in those versions.

Package files

You probably want one of these. They include versions of all the PuTTY utilities.

(Not sure whether you want the 32-bit or the 64-bit version? Read the FAQ entry.)

MSI ('Windows Installer')

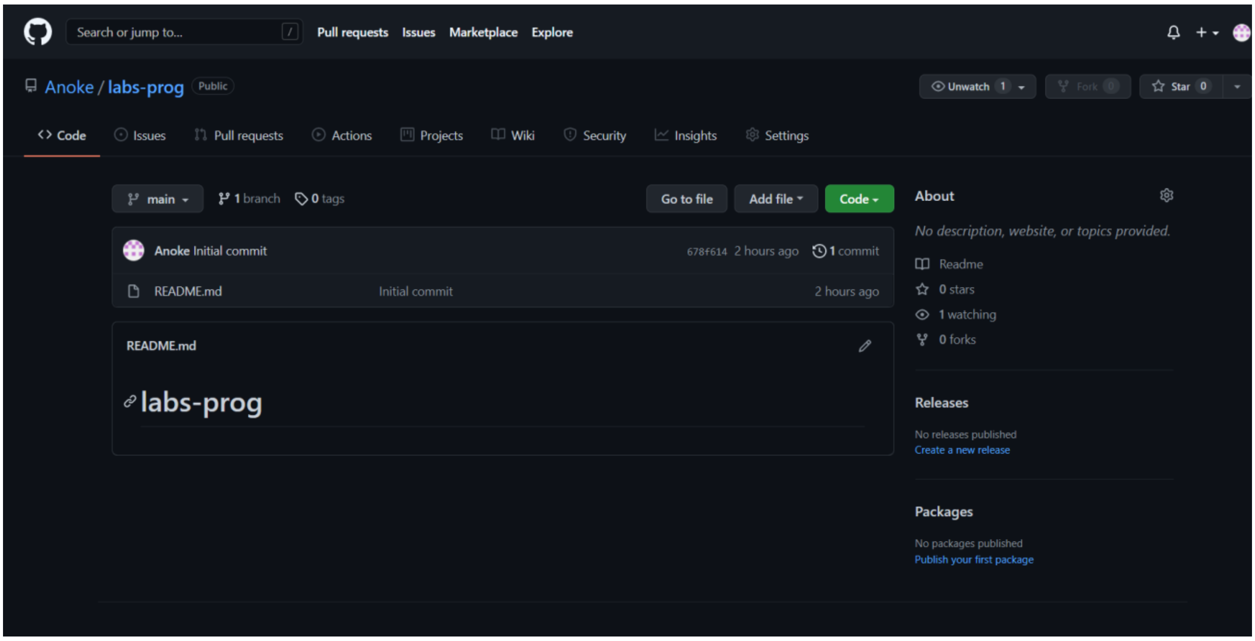
64-bit x86:	putty-64bit-0.76-installer.msi	(or by FTP)	(signature)
64-bit Arm:	putty-arm64-0.76-installer.msi	(or by FTP)	(signature)
32-bit x86:	putty-0.76-installer.msi	(or by FTP)	(signature)

Unix source archive

.tar.gz:	putty-0.76.tar.gz	(or by FTP)	(signature)

Alternative binary files

4)



Anoke / labs-prog Public

Code · Issues · Pull requests · Actions · Projects · Wiki · Security · Insights · Settings

main · 1 branch · 0 tags · Go to file · Add file · Code

Anoke Initial commit · 678f614 2 hours ago · 1 commit

README.md · Initial commit · 2 hours ago

README.md

labs-prog

About

No description, website, or topics provided.

Readme · 0 stars · 1 watching · 0 forks

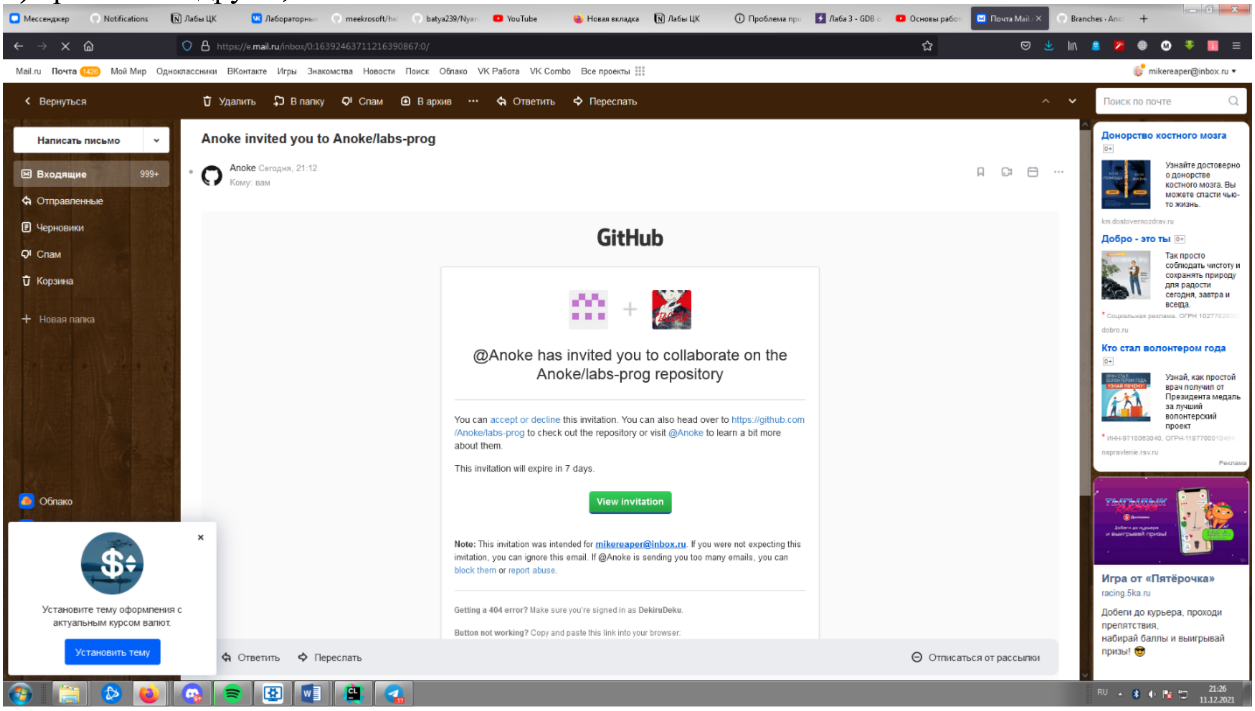
Releases

No releases published
Create a new release

Packages

No packages published
Publish your first package

5)Пригласить друга ;3



Anoke invited you to Anoke/labs-prog

Anoke Сегодня, 21:12
Кому: вам

GitHub

@Anoke has invited you to collaborate on the Anoke/labs-prog repository

You can accept or decline this invitation. You can also head over to https://github.com/Anoke/labs-prog to check out the repository or visit @Anoke to learn a bit more about them.

This invitation will expire in 7 days.

View invitation

Note: This invitation was intended for mikereaper@inbox.ru. If you were not expecting this invitation, you can ignore this email. If @Anoke is sending you too many emails, you can block them or report abuse.

Getting a 404 error? Make sure you're signed in as DekiruDeku.

Button not working? Copy and paste this link into your browser:

6) Работа с консолью git

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)

$ git checkout -b master

Switched to a new branch ' master '

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)

$ git status

On branch master

Untracked files:

```
(use "git add <file>..." to include in what will be committed)
ProgLab1.c
ProgProgLabs2.c
ProgProgLabs3.c
nothing added to commit but untracked files present (use "git add" to track)
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)
$
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)
$ git add master.c
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)
$ git commit -m "created a master branch"
[master 5e6122f] created a master branch
1 file changed, 10 insertions(+)
create mode 100644 master.c
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)
$ git push -u origin master
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 391 bytes | 39FirstLabs0 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'master' on GitHub by visiting:
remote: https://github.com/Anoke/LABSOS/pull/new/master
remote:
```

```
To https://github.com/Anoke/LABSOS.git
* [new branch] master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (master)
$ git checkout -b lab2
Switched to a new branch 'lab2'
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab2)
$ git add ProgLabs2.c
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab2)
$ git commit -m "created a lab2 branch"
[lab2 6e7ed22] created a lab2 branch
1 file changed, 15 insertions(+)
create mode 100644 ProgLabs2.c
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab2)
$ git push -u origin lab2
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 478 bytes | 478.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'lab2' on GitHub by visiting:
remote: https://github.com/Anoke/LABSOS/pull/new/lab2
remote:
To https://github.com/Anoke/LABSOS.git
```

```
* [new branch] lab2 -> lab2
Branch 'lab2' set up to track remote branch 'lab2' from 'origin'.
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab2)
$ git checkout -b lab3
Switched to a new branch 'lab3'
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git add ProgLabs3.c
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git commit -m "created a lab3 branch"
[lab3 645687a] created a lab3 branch
1 file changed, 22 insertions(+)
create mode 100644 ProgLabs3.c
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git status
On branch lab3
nothing to commit, working tree clean
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git push -u origin lab3
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 497 bytes | 497.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
```

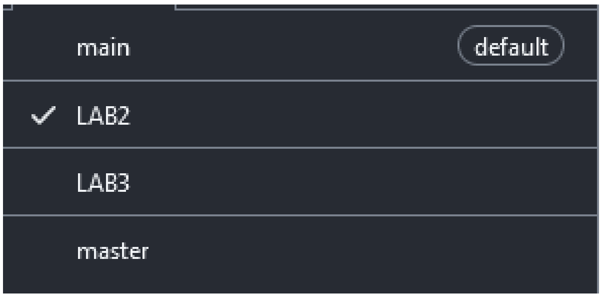
remote: Create a pull request for 'lab3' on GitHub by visiting:

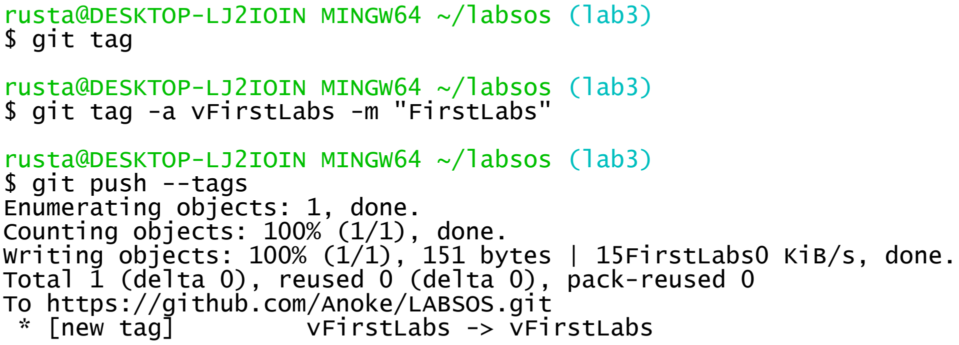
remote: https://github.com/Anoke/LABSOS/pull/new/lab3

remote:

To https://github.com/Anoke/LABSOS.git

* [new branch] lab3 -> lab3
Branch 'lab3' set up to track remote branch 'lab3' from 'origin'.



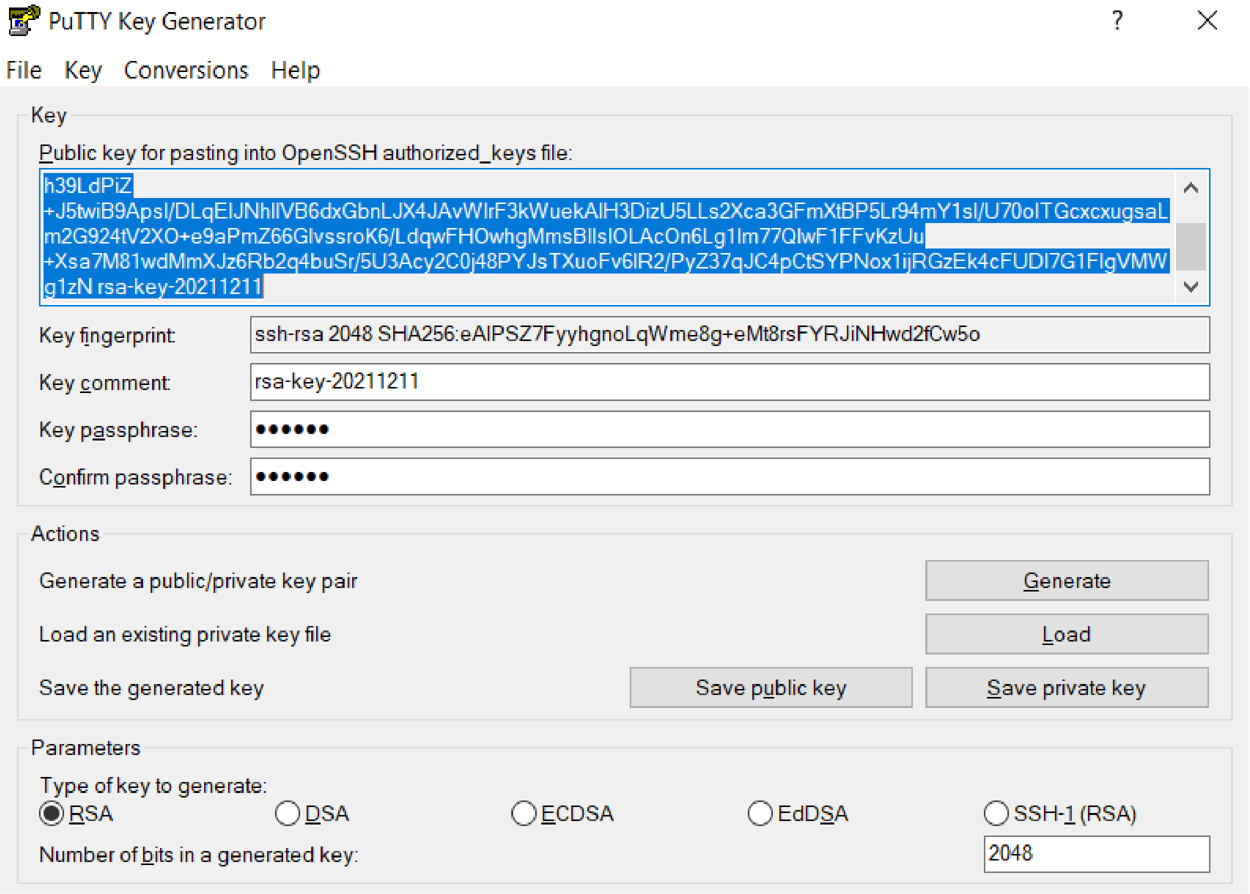


```
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git tag

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git tag -a vFirstLabs -m "FirstLabs"

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (lab3)
$ git push --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 151 bytes | 15FirstLabs0 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Anoke/LABSOS.git
 * [new tag]         vFirstLabs -> vFirstLabs
```

7)Дальше нам понадобиться сгенирировать SSH key, чтобы синхронизировать GitHub & SourceTree



Key

Public key for pasting into OpenSSH authorized_keys file:

```
h39LdPiZ
+J5twiB9ApsI/DLqEIJNhllVB6dxGbnLJX4JAvWIrF3kWuekAIH3DizU5LLs2Xca3GFmXtBP5Lr94mY1sI/U70oITGcxcxugsaL
m2G924tV2XO+e9aPmZ66GlvssroK6/LdqwFHOwhgMmsBIlsIOLAcOn6Lg1Im77QIwF1FFvKzUu
+Xsa7M81wdMmXJz6Rb2q4buSr/5U3Acy2C0j48PYJsTXuoFv6lR2/PyZ37qJC4pCtSYPNox1ijRGzEk4cFUDI7G1FlgVMW
g1zN rsa-key-20211211
```

Key fingerprint: ssh-rsa 2048 SHA256:eAIPSZ7FyyhgnoLqWme8g+eMt8rsFYRJiNHwd2fCw5o

Key comment: rsa-key-20211211

Key passphrase: ●●●●●●

Confirm passphrase: ●●●●●●

Actions

Generate a public/private key pair

Load an existing private key file

Save the generated key

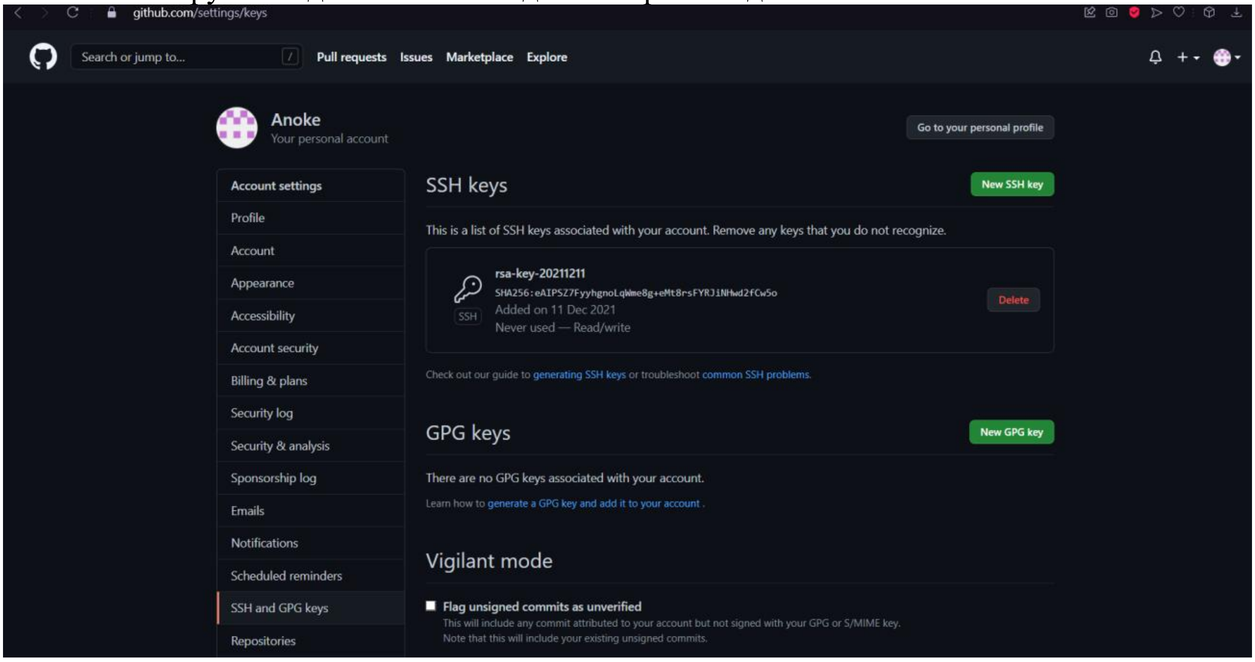
Parameters

Type of key to generate:

● RSA ○ DSA ○ ECDSA ○ EdDSA ○ SSH-1 (RSA)

Number of bits in a generated key: 2048

После Сохраняем на компьютере Private Key
А Public копируем и идем на GitHub где в настройках добавляем его.



SSH keys

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

rsa-key-20211211
SHA256:eAIPSZ7FyyhgnoLqWme8g+eMt8rsFYRJiNHwd2fCw5o
Added on 11 Dec 2021
Never used — Read/write

Check out our guide to generating SSH keys or troubleshoot common SSH problems.

GPG keys

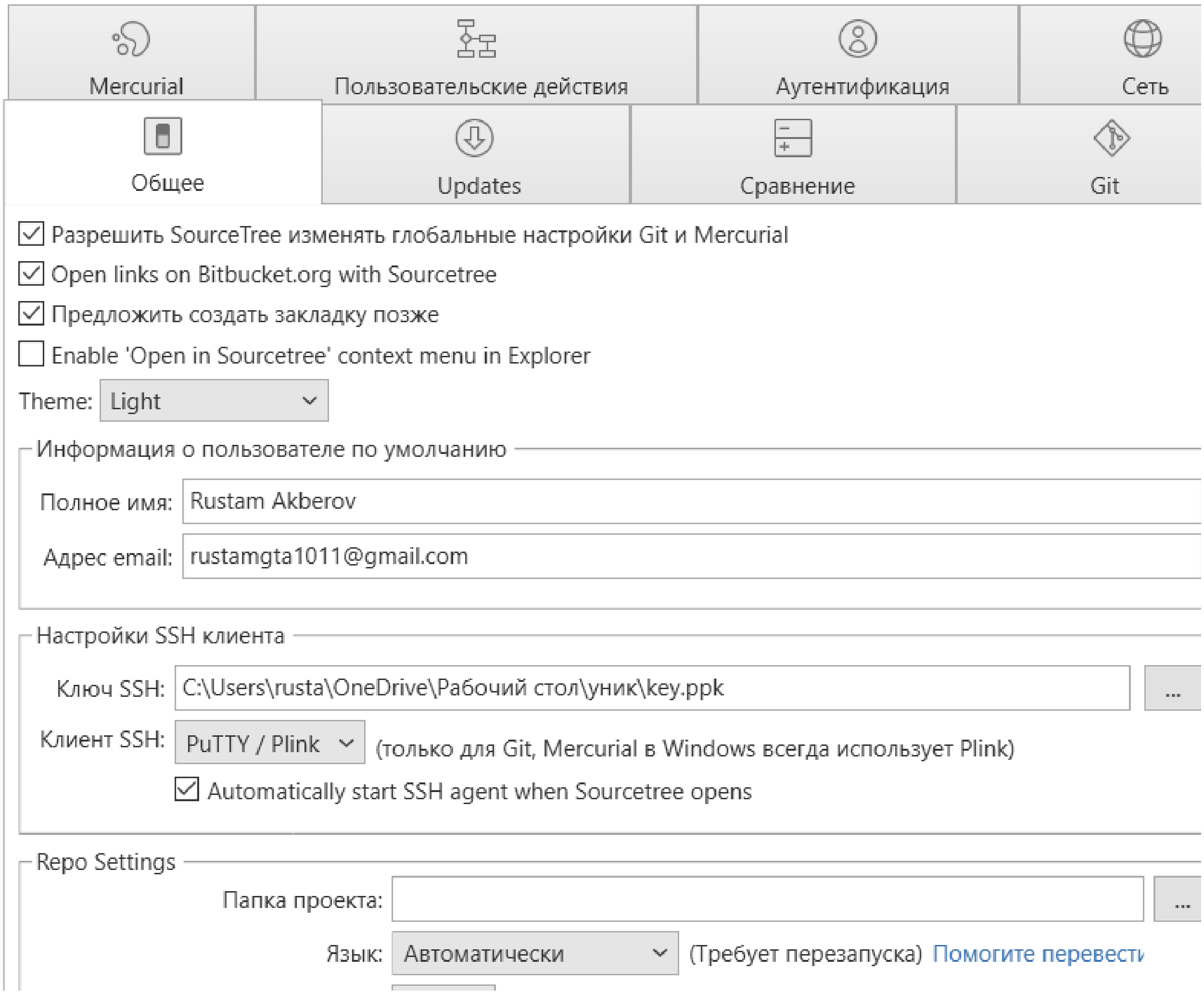
There are no GPG keys associated with your account.

Learn how to generate a GPG key and add it to your account .

Vigilant mode

□ Flag unsigned commits as unverified
This will include any commit attributed to your account but not signed with your GPG or S/MIME key.
Note that this will include your existing unsigned commits.

После в настройках SourceTree Вставляем путь



☑ Разрешить SourceTree изменять глобальные настройки Git и Mercurial
☑ Open links on Bitbucket.org with Sourcetree
☑ Предложить создать закладку позже
□ Enable 'Open in Sourcetree' context menu in Explorer

Theme: Light

Информация о пользователе по умолчанию

Полное имя: Rustam Akberov

Адрес email: rustamgta1011@gmail.com

Настройки SSH клиента

Ключ SSH: C:\Users\rusta\OneDrive\Рабочий стол\уник\key.ppk

Клиент SSH: PuTTY / Plink (только для Git, Mercurial в Windows всегда использует Plink)

☑ Automatically start SSH agent when Sourcetree opens

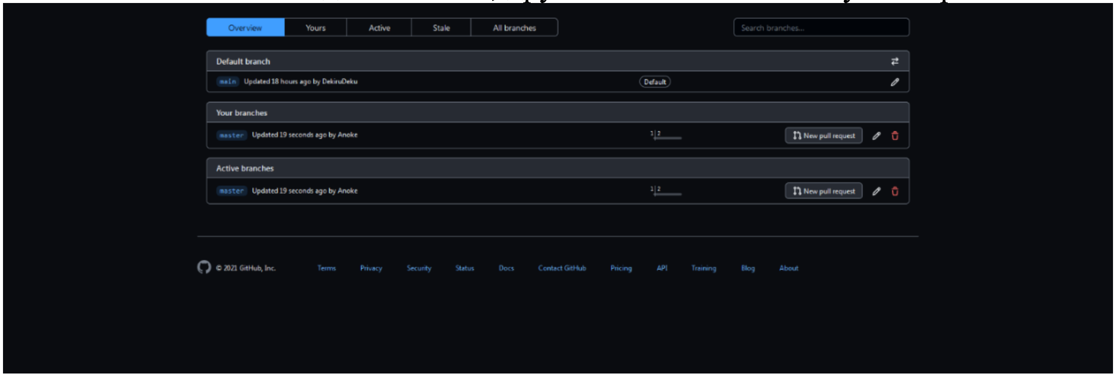
Repo Settings

Папка проекта:

Язык: Автоматически (Требует перезапуска) Помогите перевести

Дальше нажимаем “получить”

Как можно заметить код изменился, друг нашел в нем ошибку и исправил – Спасибо



Default branch

main Updated 18 hours ago by DekiruDeku Default

Your branches

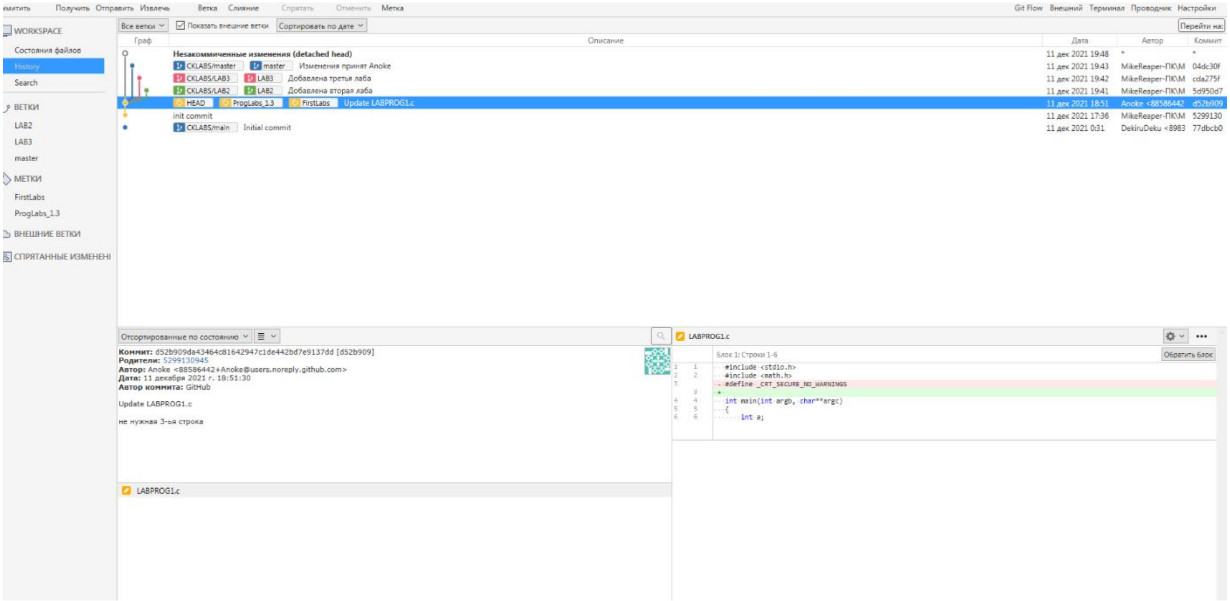
master Updated 19 seconds ago by Anoke 1 | 2 New pull request

Active branches

master Updated 19 seconds ago by Anoke 1 | 2 New pull request

Принимаем изменения коммитя их

Теперь нужно сделать ветки по модели GitFlow
И спустя немного времени и сил это:



Граф	Описание	Дата	Автор	Коммит
	Незакоммиченные изменения (detached head)	11 дек 2021 19:48	*	*
	CKLABS/master master Изменения принят Anoke	11 дек 2021 19:43	MikeReaper-ПК\M	04dc30f
	CKLABS/LAB3 LAB3 Добавлена третья лаба	11 дек 2021 19:42	MikeReaper-ПК\M	cda275f
	CKLABS/LAB2 LAB2 Добавлена вторая лаба	11 дек 2021 19:41	MikeReaper-ПК\M	5d950d7
	HEAD ProgLabs_1.3 FirstLabs Update LABPROG1.c	11 дек 2021 18:51	Anoke <88586442	d52b909
	init commit	11 дек 2021 17:36	MikeReaper-ПК\M	5299130
	CKLABS/main Initial commit	11 дек 2021 0:31	DekiruDeku <8983	77dbcb0

Коммит: d52b909da43464c81642947c1de442bd7e9137dd [d52b909]
Родители: 5299130945
Автор: Anoke <88586442+Anoke@users.noreply.github.com>
Дата: 11 декабря 2021 г. 18:51:30
Автор коммита: GitHub

Update LABPROG1.c

не нужная 3-ья строка

LABPROG1.c

LABPROG1.c

Блок 1: Строки 1-6

```
   #include <stdio.h>
   #include <math.h>
-  #define _CRT_SECURE_NO_WARNINGS
+
   int main(int argb, char**argc)
   {
       int a;
```

Получается

```
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (main)
$ git flow init
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (main)
$ 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? [C:/Users/pogra/Documents/LABSOS/.git/hooks]
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop)
$ git flow feature start lab1
Switched to a new branch 'feature/lab1'

Summary of actions:
- A new branch 'feature/lab1' was created, based on 'develop'
- You are now on branch 'feature/lab1'

Now, start committing on your feature. When done, use:

     git flow feature finish lab1
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (feature/lab1)
$ git add lab1.c

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (feature/lab1)
$ git commit -m "added lab1"
On branch feature/lab1
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        lab2.c
        lab3.c

nothing added to commit but untracked files present (use "git add" to track)

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (feature/lab1)
$ git flow feature finish lab1
Switched to branch 'develop'
Already up to date.
Deleted branch feature/lab1 (was 8c8ccd9).

Summary of actions:
- The feature branch 'feature/lab1' was merged into 'develop'
- Feature branch 'feature/lab1' has been locally deleted
- You are now on branch 'develop'
```

```
rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop)
$ git push --set-upstream origin develop
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'develop' on GitHub by visiting:
remote:      https://github.com/Anoke/LABSOS/pull/new/develop
remote:
To https://github.com/Anoke/LABSOS.git
 * [new branch]      develop -> develop
Branch 'develop' set up to track remote branch 'develop' from 'origin'.

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop)
$ git push origin

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop)
$ git flow release start 'FirstLabs'
Switched to a new branch 'release/FirstLabs'

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

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

     git flow release finish 'FirstLabs'


rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (release/FirstLabs)
$ git push --set-upstream origin release/FirstLabs
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'release/FirstLabs' on GitHub by visiting:
remote:      https://github.com/Anoke/LABSOS/pull/new/release/FirstLabs
remote:
To https://github.com/Anoke/LABSOS.git
 * [new branch]      release/FirstLabs -> release/FirstLabs
Branch 'release/FirstLabs' set up to track remote branch 'release/FirstLabs' from
'origin'.

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (release/FirstLabs)
$ git add .

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (release/FirstLabs)
$ git push origin
Everything up-to-date


rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop|MERGING)
$ git flow release finish 'FirstLabs'
Fatal: Index contains uncommited changes. Aborting.

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop|MERGING)
$ git status
On branch develop
Your branch is up to date with 'origin/develop'.

All conflicts fixed but you are still merging.
  (use "git commit" to conclude merge)

Changes to be committed:
        new file:   lab2.c
        new file:   lab3.c


rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop|MERGING)
$ git commit -m "commited"
[develop 07e426e] commited

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop)
$ git flow release finish 'FirstLabs'
Branches 'release/FirstLabs' and 'origin/release/FirstLabs' have diverged.
And local branch 'release/FirstLabs' is ahead of 'origin/release/FirstLabs'.
Branches 'main' and 'origin/main' have diverged.
And local branch 'main' is ahead of 'origin/main'.
Branches 'develop' and 'origin/develop' have diverged.
```

```
And local branch 'develop' is ahead of 'origin/develop'.
To https://github.com/Anoke/LABSOS.git
 - [deleted]         release/FirstLabs
Deleted branch release/FirstLabs (was 985b1b2).

Summary of actions:
- Release branch 'release/FirstLabs' has been merged into 'main'
- The release was tagged 'FirstLabs'
- Release branch 'release/FirstLabs' has been locally deleted; it has been remotely
deleted from 'origin'
- You are now on branch 'develop'


rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (develop)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 2 commits.
  (use "git push" to publish your local commits)

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (main)
$ git push origin
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 6 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 841 bytes | 84FirstLabs0 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/Anoke/LABSOS.git
   8c8ccd9..4e28615  main -> main

rusta@DESKTOP-LJ2IOIN MINGW64 ~/labsos (main)
$ git push --tags
Enumerating objects: 2, done.
Counting objects: 100% (2/2), done.
Delta compression using up to 6 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (2/2), 270 bytes | 270.00 KiB/s, done.
Total 2 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Anoke/LABSOS.git
 * [new tag]         FirstLabs -> FirstLabs
 * [new tag]         vProgLabs_1.3 -> vProgLabs_1.3
```