

# **Отчёт по лабораторной работе №1**

**Система контроля версий Git**

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# 1 Цель работы

Целью данной работы является изучение идеологии и применения средств контроля версий.

## 2 Выполнение лабораторной работы

Создаем учетную запись на github.com и репозиторий

Owner \* Repository name \*

Ornel1 / MatMod ✓

Great repository names are short and memorable. Need inspiration? How about [fluffy-fortnight?](#)

Description (optional)

☒ Public  
Anyone on the internet can see this repository. You choose who can commit.

☐ Private  
You choose who can see and commit to this repository.

Initialize this repository with:  
Skip this step if you're importing an existing repository.

☒ Add a README file  
This is where you can write a long description for your project. [Learn more.](#)

☐ Add .gitignore  
Choose which files not to track from a list of templates. [Learn more.](#)

☐ Choose a license  
A license tells others what they can and can't do with your code. [Learn more.](#)

Create repository

Figure 2.1: Создание репозитория

Инициализируем локальный репозиторий и создаю в нем файл README.md

```
PS C:\MatMod> git init
Initialized empty Git repository in C:/MatMod/.git/
PS C:\MatMod> echo "# лабораторные работы" >> README.md
PS C:\MatMod> git add README.md
PS C:\MatMod>
```

Figure 2.2: Инициализация репозитория

Создаем SSH-ключ и прописываем его в настройках на github.com

```
PS C:\MatMod> git init
Initialized empty Git repository in C:/MatMod/.git/
PS C:\MatMod> echo "# лабораторные работы" >> README.md
PS C:\MatMod> git add README.md
PS C:\MatMod> git config --global user.name Ornell
PS C:\MatMod> git config --global user.email "1032189185@pfur.ru"
PS C:\MatMod> git commit -m "first commit"
[master (root-commit) fa0674] first commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 README.md
PS C:\MatMod> ssh-keygen -C "Ornell 1032189185@pfur.ru"
Generating public/private rsa key pair.
Enter file in which to save the key (C:\Users\User/.ssh/id_rsa):
Created directory 'C:\Users\User/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in C:\Users\User/.ssh/id_rsa.
Your public key has been saved in C:\Users\User/.ssh/id_rsa.pub.
The key fingerprint is:
SHA256:T6kxxAervQFRQ5w4SzMddIpGNvXss11bjo0R1FkA4 Ornell 1032189185@pfur.ru
The key's randomart image is:
----[RSA 2048]-----
      .+..o=  .+..
      .++XE=..+
      =B00B.+
      .+..+..+
      S=.
      .o.
      .o.
      .
----[SHA256]-----
PS C:\MatMod> cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDAQ8G8mKNwiPFbx9Upl9ZMnNf0kKf5XfNtIPKk61dli8oWYUOdW4ipZcowvG+a9wo+5TmcD1YBvoZMk1yv
wHPUGwKYNcsKKx3qbe/OrderdSyrch/CCIIISP1V59Omns/O+pH9yZFE3p8v3M/x2hRvA44lyG
/gN3TT6/ARr9TAUWGeZPHFsIAaUvIEbdfiysz28eEffdoq+tdaapLUzd71rL6SMHrZQRDefrkk2V05StoJeqrGxv/JkwKBEGwliVv+y+qTXdsppfRVdYvtq0
o2jP/Nlm8rzhOJ3yxAv5 Ornell 1032189185@pfur.ru
PS C:\MatMod>
```

Figure 2.3: Создание SSH-ключа

## SSH keys / Add new

Title

MatMod

Key

ssh-rsa  
AAAAB3NzaC1yc2EAAAADAQABAAQDAQ8G8mKNwiPFbx9Upl9ZMnNf0kKf5XfNtIPKk61dli8oWYUOdW4ipZcowvG+a9wo+5TmcD1YBvoZMk1yv  
wHPUGwKYNcsKKx3qbe/OrderdSyrch/CCIIISP1V59Omns/O+pH9yZFE3p8v3M/x2hRvA44lyG  
/gN3TT6/ARr9TAUWGeZPHFsIAaUvIEbdfiysz28eEffdoq+tdaapLUzd71rL6SMHrZQRDefrkk2V05StoJeqrGxv/JkwKBEGwliVv+y+qTXdsppfRVdYvtq0  
o2jP/Nlm8rzhOJ3yxAv5 Ornell 1032189185@pfur.ru

Add SSH key

Figure 2.4: Добавление ключа на github.com

Загружаем файлы лицензионного соглашения и gitignore. Отправляем все файлы в сетевой репозиторий.

```
PS C:\MatMod> git remote add origin git@github.com:Ornell/MatMod.git
PS C:\MatMod> wget https://creativecommons.org/licenses/by/4.0/legalcode.txt -O LICENSE
PS C:\MatMod> wget https://www.toptal.com/developers/gitignore/api/python -O .gitignore
PS C:\MatMod> git add .
warning: LF will be replaced by CRLF in .gitignore.
The file will have its original line endings in your working directory
warning: LF will be replaced by CRLF in LICENSE.
The file will have its original line endings in your working directory
PS C:\MatMod> git commit -am "add license"
[master 3be27a1] add license
2 files changed, 555 insertions(+)
create mode 100644 .gitignore
create mode 100644 LICENSE
PS C:\MatMod> git push -u origin master
The authenticity of host 'github.com (140.82.121.4)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCoQu.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (7/7), 7.70 KiB | 1.92 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:Ornell/MatMod.git
 * [new branch] master -> master
branch 'master' set up to track 'origin/master'.
PS C:\MatMod> git push
Everything up-to-date
PS C:\MatMod>
```

Figure 2.5: Загрузка файлов

Использование системы управления версиями. Создаем ветку, начинаем и завершаем в ней релиз.

```
PS C:\MatMod> git flow init
which branch should be used for bringing forth production releases?
- master
Branch name for production releases: [master]
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:/MatMod/.git/hooks]
PS C:\MatMod> git branch
* develop
master
PS C:\MatMod> 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'

PS C:\MatMod> echo "1.0.0" >> version
PS C:\MatMod> git add .
PS C:\MatMod> git commit -am "main: add version"
[release/1.0.0 df15369] main: add version
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 version
PS C:\MatMod> git flow release finish -m "ver 1" 1.0.0
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Merge made by the 'ort' strategy.
version | Bin 0 -> 16 bytes
```

Figure 2.6: Инициализация git-flow и начало релиза

```

PS C:\MatMod>
PS C:\MatMod> git push --all
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 467 bytes | 233.00 KiB/s, done.
Total 5 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To github.com:Ornell/MatMod.git
   3be37a1..ebaeeb3  master -> master
   * [new branch]      develop -> develop
PS C:\MatMod> git push --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 159 bytes | 159.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:Ornell/MatMod.git
   * [new tag]         v1.0.0 -> v1.0.0
PS C:\MatMod>

```

Figure 2.7: Завершение релиза и отправка изменений в сетевой репозиторий

Выполним объединение веток

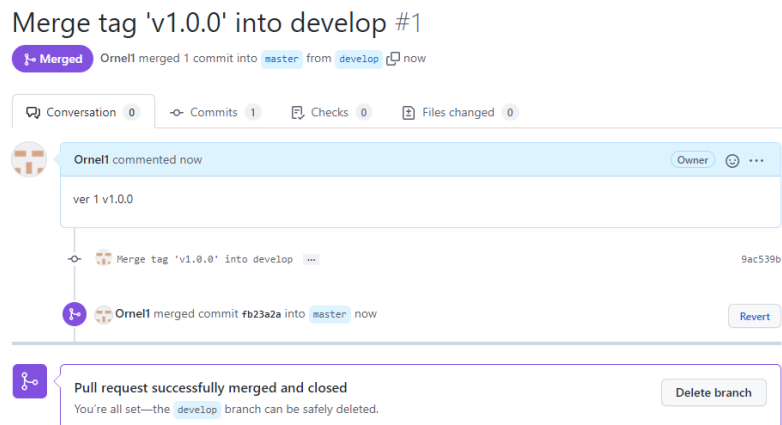


Figure 2.8: Объединение веток в сетевом репозитории



## 3 Вывод

Мы приобрели практические навыки работы с системой контроля версий git и создали свой репозиторий

# Список литературы

1. Git для новичков
2. Основы Git
3. Руководство по оформлению Markdown файлов