

# Лабораторная работа 1

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Ашуров Азимжон НФИбд-01-19

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Российский Университет Дружбы Народов

# Цели и задачи работы

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# Цель лабораторной работы

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

# Задачи лабораторной работы

1. Создать учетную запись на [github.com](https://github.com)
2. Настроить репозиторий
3. Изучить механизм управления версиями

# **Процесс выполнения лабораторной работы**

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# Создаем учетную запись на github.com и репозиторий

1032184368 / mat\_model ✓

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

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.](#)

.gitignore template: None

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

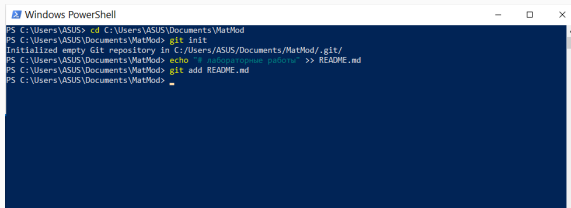
License: None

① You are creating a public repository in your personal account.

**Create repository**

**Figure 1:** Создание репозитория

# Инициализируем локальный репозиторий



```
Windows PowerShell
PS C:\Users\ASUS> cd C:\Users\ASUS\Documents\MatMod
PS C:\Users\ASUS\Documents\MatMod> git init
Initialized empty Git repository in C:\Users\ASUS\Documents\MatMod\.git\
PS C:\Users\ASUS\Documents\MatMod> echo "яблочко" >> README.md
PS C:\Users\ASUS\Documents\MatMod> git add README.md
PS C:\Users\ASUS\Documents\MatMod>
```

Figure 2: Инициализация репозитория

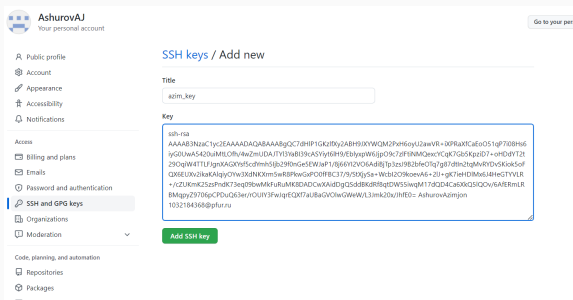
# Создаем SSH-ключ

```
Windows PowerShell
PS C:\Users\ASUS\Documents\MatMod> git add README.md
PS C:\Users\ASUS\Documents\MatMod> git config --global user.name AshurovAzimjon
PS C:\Users\ASUS\Documents\MatMod> git config --global user.email "1032184368@pfur.ru"
PS C:\Users\ASUS\Documents\MatMod> git commit -m "first commit"
[master (root-commit) a0982c1] first commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 README.md
PS C:\Users\ASUS\Documents\MatMod> ssh-keygen -C "AshurovAzimjon 1032184368@pfur.ru"
generating public/private rsa key pair.
Enter file in which to save the key (C:\Users\ASUS/./ssh/id_rsa):
C:\Users\ASUS/./ssh/id_rsa already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Passphrases do not match. Try again.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in C:\Users\ASUS/./ssh/id_rsa.
Your public key has been saved in C:\Users\ASUS/./ssh/id_rsa.pub.
The key fingerprint is:
SHA256:ubzaEKEX8VF0VxtInqJMuBKOtYzEFS3BUk1saHT+F8 AshurovAzimjon 1032184368@pfur.ru
The key's randomart image is:
+--[RSA 3072]-----
|.++oB+o .+++.|
|.X * . +*|
|. / = o .ooo|
|+ @ . o |
|. + S . E |
|. o o . |
|. o . |
|. o . |
|. o . |
+-----[SHA256]-----
PS C:\Users\ASUS\Documents\MatMod> cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAQAQABAAQgAC7dh1P1QXz1Cx2ABH9JXVwQM2P+H6cyI2wVR+1XPRaXfCaEo51p710BHs61yG0UwA5420u1MtLOfr/
k6ZmLDAJTY13YvAb139cASy1yt61H9/EblypW63jp09:7z1Ft1NW0xcYQk76b5Kpz:ID7+oIdDYT2t290q1W4TTLF3gnXAGXy5F5cdYwh51jb29f8nGe5EM
IzP1/8j6GY12W06Ad18jTp3z39B2bfe0Tq7g87dtIn2tgMvRYDvSK1ok5oFQX6EUXv21kakA1qiyOYv3XdNWXr+u5uR8PlwGxP08fBC37/9/StXjySa+Wcb
I20KoevA6+213+gK7iEHDIH63J4HeGTVVL8v/cZUKmK25zsPndK73eq09buWkFufuMK8DADcwXA1dDgQ5ddBkDRfqtDw55iwqM17dQ04Ca6XkQ51Q0v/6A
FERMLRBWpPyZ9706pCPOUQ3e+/OUY3FwJgrEQXF7aUBaGV01wGleW/L33mk20x/3hFE= AshurovAzimjon 1032184368@pfur.ru
PS C:\Users\ASUS\Documents\MatMod>
```

Figure 3: Создание SSH-ключа



# Создаем SSH-ключ



**Figure 4:** Добавление ключа на github.com

# Загружаем служебные файлы

```
PS C:\Users\User\Documents\MatMod> git remote add origin git@github.com:IskanderAbdullaev/MatMod.git
PS C:\Users\User\Documents\MatMod> wget https://creativecommons.org/licenses/by/4.0/legalcode.txt -O LICENSE
PS C:\Users\User\Documents\MatMod> wget https://www.topical.com/developers/gitignore/api/python -O .gitignore
PS C:\Users\User\Documents\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:\Users\User\Documents\MatMod> git commit -am "add license"
[master 383ed9b] add license
 2 files changed, 555 insertions(+)
 create mode 100644 .gitignore
 create mode 100644 LICENSE
PS C:\Users\User\Documents\MatMod> git push -u origin master
The authenticity of host 'github.com (140.82.121.3)' can't be established.
ED25519 key fingerprint is SHA256:4d13evvv6tu3jhpz1sf/zLDA02PMSvHdkr4UvCoQU.
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: 2, 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), 7.72 KiB | 1.93 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com: IskanderAbdullaev/MatMod.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
PS C:\Users\User\Documents\MatMod> git push
Everything up-to-date
PS C:\Users\User\Documents\MatMod>
```

Figure 5: Загрузка файлов лицензии и gitignore

# Использование системы управления версиями

```
PS C:\Users\User\Documents\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? [] v
Hooks and filters directory? [C:/Users/User/Documents/MatMod/.git/hooks]
PS C:\Users\User\Documents\MatMod> git branch
* develop
  master
PS C:\Users\User\Documents\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:\Users\User\Documents\MatMod> echo "1.0.0" >> version
PS C:\Users\User\Documents\MatMod> git add .
PS C:\Users\User\Documents\MatMod> git commit -am "main: add version"
[release/1.0.0 ddd9alb] main: add version
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 version
PS C:\Users\User\Documents\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
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 version
Already on 'master'
Your branch is ahead of 'origin/master' by 2 commits.
(use "git push" to publish your local commits)
```

Figure 6: Инициализация git-flow и создание релиза

# Использование системы управления версиями

```
PS C:\Users\User\Documents\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), 476 bytes | 158.00 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:IskanderAbdullaev/MatMod.git
 * 383ed8b..3649317 master -> master
 * [new branch]      develop -> develop
PS C:\Users\User\Documents\MatMod> git push --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 167 bytes | 167.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:IskanderAbdullaev/MatMod.git
 * [new tag]         v1.0.0 -> v1.0.0
PS C:\Users\User\Documents\MatMod>
```

Figure 7: Отправка изменений в сетевой репозиторий

# Выполним объединение веток

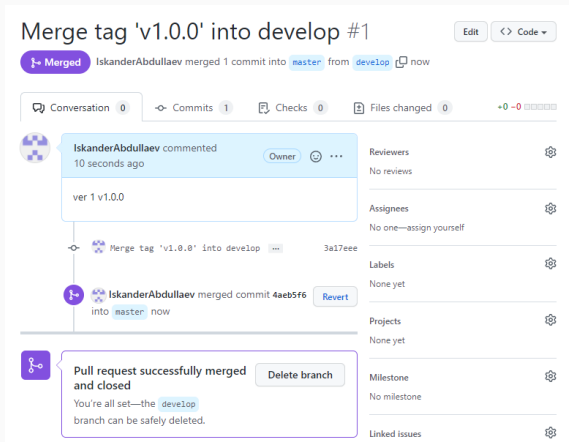


Figure 8: Объединение веток в сетевом репозитории

## **Выводы по проделанной работе**

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