

Отчёт по лабораторной работе №1

Система контроля версий Git

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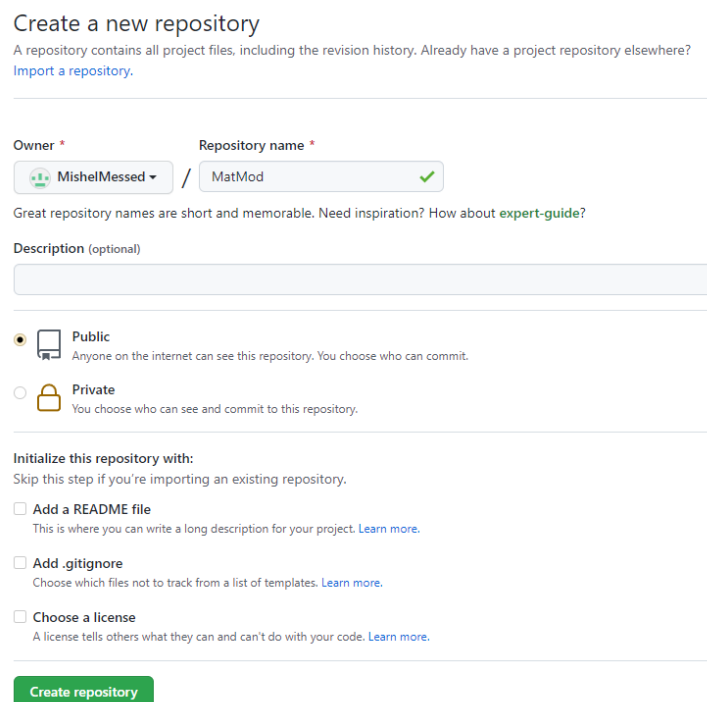
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1 Цель работы

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

2 Выполнение лабораторной работы

Создаем учетную запись на github.com и репозиторий



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner ^{*} Repository name ^{*}

MishelMessed / MatMod ✓

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

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:\Users\User\Desktop\University\labs> git init
Initialized empty Git repository in C:/Users/User/Desktop/University/labs/.git/
PS C:\Users\User\Desktop\University\labs> echo "# лабораторные работы" >> README.md
PS C:\Users\User\Desktop\University\labs> git add README.md
PS C:\Users\User\Desktop\University\labs> echo "# лабораторные работы" >> README.md
PS C:\Users\User\Desktop\University\labs> git add README.md
PS C:\Users\User\Desktop\University\labs>
```

Figure 2.2: Инициализация репозитория

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

```
PS C:\Users\User\Desktop\University\labs> git add README.md
PS C:\Users\User\Desktop\University\labs> git config --global user.name MisheIMessed
PS C:\Users\User\Desktop\University\labs> git config --global user.email "1032189125@pfur.ru"
PS C:\Users\User\Desktop\University\labs> git commit -m "first commit"
[master (root-commit) ac851e1] first commit
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 README.md
PS C:\Users\User\Desktop\University\labs>
PS C:\Users\User\Desktop\University\labs> ssh-keygen -C "MisheIMessed 1032189125@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:c24/F8uD4ZMUV8w6RZEiNt9ggnH7YeIRbwDAtF4oEU MisheIMessed 1032189125@pfur.ru
The key's randomart image is:
----[RSA 2048]-----
      E*..+==
      o..o+==
      .o+==+
      .o+==+
      S . .oo
      * o
      . B +
      o .o |
      +o|
----[SHA256]-----
PS C:\Users\User\Desktop\University\labs> cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQDnRko5Q3o3JJZ9RoHcDSWlq8GtwThXp5W3nxAzLrYpttbQrvPKLAjdXripMjHP
UO447+DNCLM0gPm2mjge7ONFX9alrMi+LhrY+CwhJfnUqnLCaAWkt3aMqG4SDmJIEopqagGNBODamYAjQDhBVKvFCT
urodTTC04no+mozyu7gxMORb8lx3oqPhwHLOQkzTYhpm8mZsPAodL/lmfWR2F3R+jtL5QWQjIO6ZpUEAuG+K7Z/Sfxkhp
BxOX6KgMsqs6OOnTAPUJHJlqKVP2eVPXlZCTVdltiFWwJTP3mepcCipKMERYQAShsjaYh1isT7bGRKPYG7fxy1T9lvuS8Zx
MisheIMessed 1032189125@pfur.ru
PS C:\Users\User\Desktop\University\labs>
```

Figure 2.3: Создание SSH-ключа

SSH keys / Add new

Title

ssh

Key

ssh-rsa

AAAAB3NzaC1yc2EAAAADAQABAAQDnRko5Q3o3JJZ9RoHcDSWlq8GtwThXp5W3nxAzLrYpttbQrvPKLAjdXripMjHP
UO447+DNCLM0gPm2mjge7ONFX9alrMi+LhrY+CwhJfnUqnLCaAWkt3aMqG4SDmJIEopqagGNBODamYAjQDhBVKvFCT
urodTTC04no+mozyu7gxMORb8lx3oqPhwHLOQkzTYhpm8mZsPAodL/lmfWR2F3R+jtL5QWQjIO6ZpUEAuG+K7Z/Sfxkhp
BxOX6KgMsqs6OOnTAPUJHJlqKVP2eVPXlZCTVdltiFWwJTP3mepcCipKMERYQAShsjaYh1isT7bGRKPYG7fxy1T9lvuS8Zx
MisheIMessed 1032189125@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:\Users\User\Desktop\University\labs> git remote add origin git@github.com:MissheMessed/MatMod.git
PS C:\Users\User\Desktop\University\labs> wget https://creativecommons.org/licenses/by/4.0/legalcode.txt -O LICENSE
PS C:\Users\User\Desktop\University\labs> wget https://www.toptal.com/developers/gitignore/api/python -O .gitignore
PS C:\Users\User\Desktop\University\labs> 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\Desktop\University\labs> git commit -m "add license"
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
[master 256327d] add license
2 files changed, 355 insertions(+)
create mode 100644 .gitignore
create mode 100644 LICENSE
PS C:\Users\User\Desktop\University\labs> git push -u origin master
The authenticity of host 'github.com (140.82.121.3)' can't be established.
ED25519 key fingerprint is SHA256:+DIY3wvvv6Tuj3hbpZisF/zLDA0zPMSvHdkr4UvC0qu.
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% (6/6), done.
Writing objects: 100% (7/7), 7.72 KiB | 12.57 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:MissheMessed/MatMod.git
 * (new branch) master -> master
branch 'master' set up to track 'origin/master'.
PS C:\Users\User\Desktop\University\labs> git push
everything up-to-date
PS C:\Users\User\Desktop\University\labs>

```

Figure 2.5: Загрузка файлов

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

```

PS C:\Users\User\Desktop\University\labs> 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\Desktop\University\labs> echo "1.0.0" >> VERSION
PS C:\Users\User\Desktop\University\labs> git add .
PS C:\Users\User\Desktop\University\labs> git commit -am "chore(main): add version"
[release/1.0.0 ce85d79] chore(main): add version
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 VERSION
PS C:\Users\User\Desktop\University\labs> 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)
Switched to branch 'develop'
Merge made by the 'ort' strategy.
VERSION | Bin 0 -> 16 bytes
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 VERSION
Deleted branch release/1.0.0 (was ce85d79).

Summary of actions:
- Release branch 'release/1.0.0' has been merged into 'master'
- The release was tagged 'v1.0.0'
- Release tag 'v1.0.0' has been back-merged into 'develop'
- Release branch 'release/1.0.0' has been locally deleted
- You are now on branch 'develop'
PS C:\Users\User\Desktop\University\labs>

```

Figure 2.6: Инициализация git-flow и начало релиза

```

PS C:\Users\User\Desktop\University\labs> 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), 479 bytes | 239.00 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:MisheIMessed/MatMod.git
 3ed1ba6..4e57295 master -> master
 * [new branch]      develop -> develop
PS C:\Users\User\Desktop\University\labs> git push --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 164 bytes | 164.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:MisheIMessed/MatMod.git
 * [new tag]         v1.0.0 -> v1.0.0
PS C:\Users\User\Desktop\University\labs>

```

Figure 2.7: Завершение релиза и отправка изменений в сетевой репозиторий

Выполним объединение веток

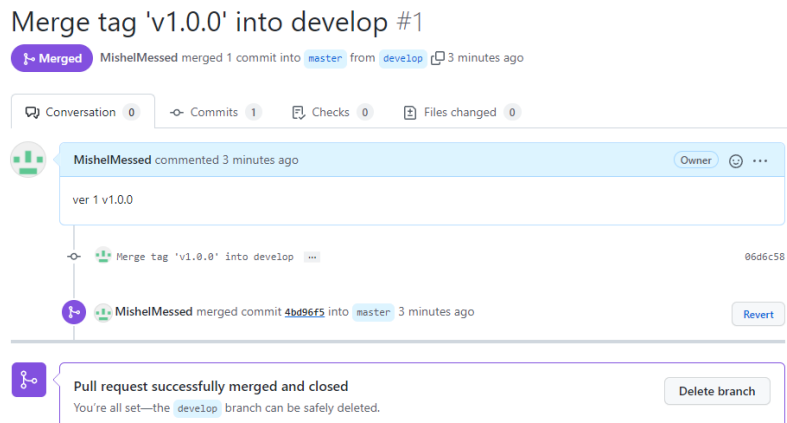


Figure 2.8: Объединение веток в сетевом репозитории

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