

Отчёт по лабораторной работе №1

Система контроля версий Git

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1 Цель работы

Изучить работу с системой контроля версий git.

2 Выполнение лабораторной работы

Созданы учетная запись и репозиторий на github.com

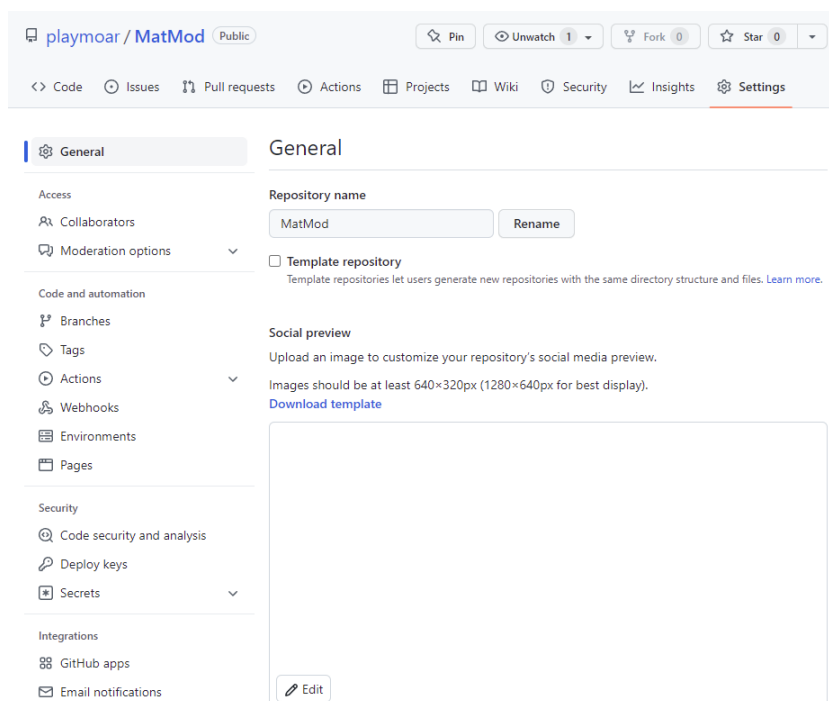


Figure 2.1: Создание репозитория

Инициализирован локальный репозиторий, создан файл README.md, установлены имя пользователя и e-mail, сделан первый commit.

```

PS F:\MatMod> git init
Initialized empty Git repository in F:/MatMod/.git/
PS F:\MatMod> echo "# MatMod labs" >> README.md
PS F:\MatMod> git add README.md
PS F:\MatMod> git config -- global user.name "playmoar"
error: key does not contain a section: global
PS F:\MatMod> git config -- global user.name playmoar
error: key does not contain a section: global
PS F:\MatMod> git config --global user.name playmoar
PS F:\MatMod> git config --global user.email "playmoar@icloud.com"
PS F:\MatMod> git commit -m "First commit"

```

Figure 2.2: Инициализация репозитория, README, commit

Создан SSH-ключ, созданный ключ добавлен в настройках пользователя github.com.

```

PS F:\MatMod> ssh-keygen -C "playmoar@icloud.com"
Generating public/private rsa key pair.
Enter file in which to save the key (C:\Users\Alexander\.ssh\id_rsa):
Created directory 'C:\Users\Alexander\.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in C:\Users\Alexander\.ssh\id_rsa.
Your public key has been saved in C:\Users\Alexander\.ssh\id_rsa.pub.
The key fingerprint is:
SHA256:5gEnFC0oAAwFkd4jGZFqMJa3XruhyepYbDkEXf8ZAg playmoar@icloud.com
The key's randomart image is:
+--[RSA 3072]-----+
|*.o.E.o|
|+oo+...|
|..B+...+|
|o+o+...B|
|+o= . S|
|.o+ . .o -|
| o oo o .|
| . = o|
|.o.+|
+-----[SHA256]-----+
PS F:\MatMod> cat ~/.ssh/id_rsa.pub
cat : Не удалось найти путь "F:\MatMod\~\.ssh\id_rsa.pub", так как он не существует.
строка:1 знак:1
+ cat ~/.ssh/id_rsa.pub
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (F:\MatMod\~\.ssh\id_rsa.pub:String) [Get-Content], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetContentCommand

PS F:\MatMod> cd C:\
PS C:\> cat ~/.ssh/id_rsa.pub
cat : Не удалось найти путь "C:\~\.ssh\id_rsa.pub", так как он не существует.
строка:1 знак:1
+ cat ~/.ssh/id_rsa.pub
+ ~~~~~
+ CategoryInfo          : ObjectNotFound: (C:\~\.ssh\id_rsa.pub:String) [Get-Content], ItemNotFoundException
+ FullyQualifiedErrorId : PathNotFound,Microsoft.PowerShell.Commands.GetContentCommand

PS C:\> cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAQGCzjdo3UySN1xrtb6GwP70c77pDv+BCRDyYj4qpxr71sEIoC70Fdp02o30wV4W/jdKh8R4jDwTuVP921L2j/RmrrVShDIy0
VT+DBTMQopeOa+eVbpuaCO9jTRsy/IYFuwD9rUzQr7UfewcR3KpRAnukT15G1Eb2A/Kdg33z1HPmc3/NwUQzVpT4zyEcPo9JGtBcgv5n8PmnXr211278dLeUImXsAq98ETSh
5AQE1F5MYtzQb1Mhok1R15ZVM1s6FRrGs:3abMtMpvUsKPrapK84aUQOkWdHhfz8:Q6VP5OGdKwgl1mICNLmYmFpZpzy16tR17opE4JKUuvM400+Kp873WzXepZdcF7uL
np+J3LI18ahATMcBch/+Jae1lhgaf6b6Ccp5ZYNrCtraNmGIQZG321Mgg41aHyWxh3Ln1KgTspAHCIXr47qGCUeaq8KvN3LcchFvmJAz+56tGT1qNqwbX7+udIQr0pP+65B5
j3wc1I77SnubF0e playmoar@icloud.com

```

Figure 2.3: Создание SSH-ключа на устройстве

Загружены файлы лицензионного соглашения и gitignore. Получен доступ к сетевому репозиторию, загруженные файлы отправлены в репозиторий.

```

PS F:\MatMod> git remote add origin git@github.com:playmoar/MatMod.git
PS F:\MatMod> wget https://creativecommons.org/licenses/by/4.0/legalcode.txt -O LICENSE
PS F:\MatMod> wget https://www.toptal.com/developers/gitignore/api/python -O .gitignore
PS F:\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 F:\MatMod> git commit -am "added license and gitignore"
[master fbec9b1] added license and gitignore
2 files changed, 563 insertions(+)
create mode 100644 .gitignore
create mode 100644 LICENSE
PS F:\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])? y
Please type 'yes', 'no' or the 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 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (7/7), 7.80 KiB | 1.95 MiB/s, done.
Total 7 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:playmoar/MatMod.git
 * [new branch] master -> master
branch 'master' set up to track 'origin/master'.
PS F:\MatMod> git push
Everything up-to-date

```

Figure 2.4: Загрузка файлов

Создана тестовая ветка, начат и завершён тестовый релиз.

```

PS F:\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? [F:\MatMod\.git\hooks]
PS F:\MatMod> git branch
* develop
  master
PS F:\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 F:\MatMod> echo "1.0.0" >> version
PS F:\MatMod> git add
Nothing specified, nothing added.
hint: Maybe you wanted to say 'git add .'
hint: Turn this message off by running
hint: "git config advice.addEmptyPathsSpec false"
PS F:\MatMod> git add .
PS F:\MatMod> git commit -am "main: added version 1.0.0"
[release/1.0.0 cb4ef30] main: added version 1.0.0
 1 file changed, 0 insertions(+), 0 deletions(-)
   create mode 100644 version
PS F:\MatMod> git flow release finish -m "v 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 -> 10 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 -> 10 bytes
 1 file changed, 0 insertions(+), 0 deletions(-)
   create mode 100644 version
Deleted branch release/1.0.0 (was cb4ef30).

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'

```

Figure 2.5: Инициализация git-flow, тестовый релиз

Внесённые изменения отправлены в репозиторий.


```
PS F:\MatMod> git push --all
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 495 bytes | 495.00 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:playmoar/MatMod.git
   fbec9b1..158ac55  master -> master
   * [new branch]      develop -> develop
PS F:\MatMod> git push --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 153 bytes | 153.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:playmoar/MatMod.git
   * [new tag]         v1.0.0 -> v1.0.0
PS F:\MatMod>
```

Figure 2.6: Отправка изменений в репозиторий

3 Вывод

Изучена работа с системой контроля версий git, приобретены навыки создания и управления репозиторием, ветками и релизами.

Список литературы

1. Документация по системе git – Режим доступа: <https://git-scm.com/book/ru/v2>