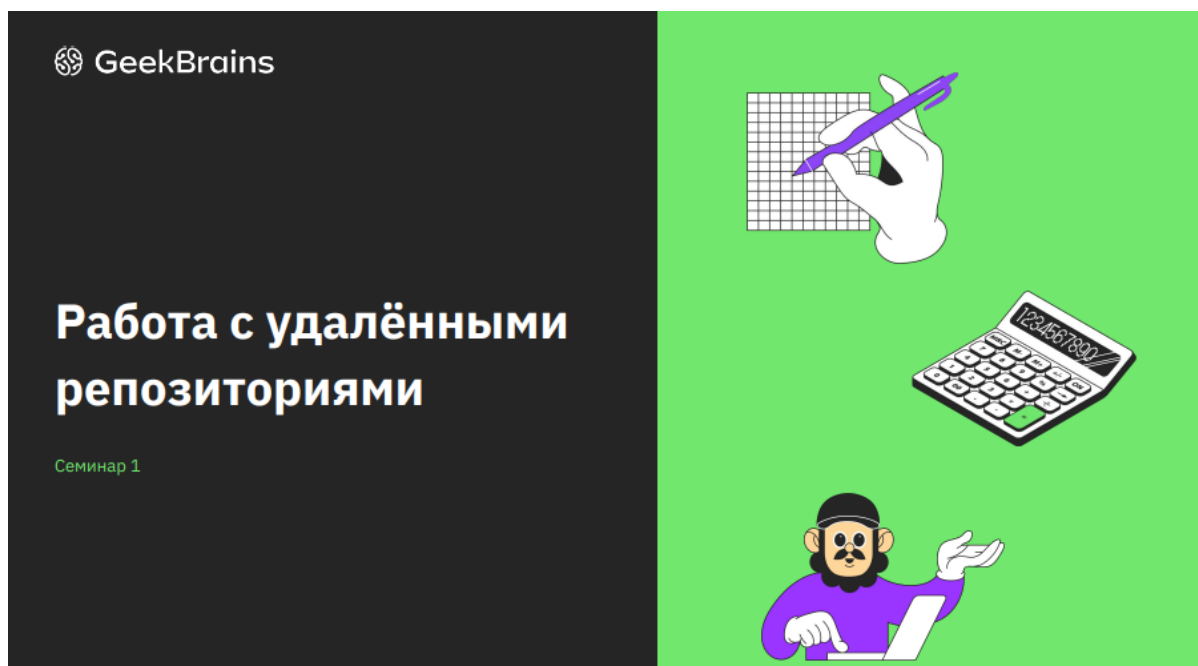


Контроль версий углублённо (GIT). Обучение в записи

Урок 2. Семинар: Работа с удалёнными репозиториями



Задание №1 (Тайминг 15 минут)

- 📌 Создайте удалённый репозиторий `remote-test-1` с файлом `README.md`
- 📌 Склонируйте его на свой рабочий стол командой `git clone`
- 📌 Посмотрите связи с удалённым репозиторием командой `git remote -v`
- 📌 Создайте новый **пустой** удалённый репозиторий `remote-test-2`
- 📌 Удалите связь с текущим репозиторием: `git remote remove origin`
- 📌 Подключите свой локальный репозиторий к новому удалённому:
`git remote add origin path`
- 📌 Отправьте изменения в новый удалённый репозиторий:
`git push -u origin master`

Ход выполнения задания 1.

```
user@DESKTOP-929P2AG MINGW64 ~  
$ cd Desktop/
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop  
$ pwd  
/c/Users/user/Desktop
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop  
$ git clone git@github.com:olgashenkel/remote-test-1.git  
Cloning into 'remote-test-1'...
```

remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (3/3), done.

user@DESKTOP-929P2AG MINGW64 ~/Desktop
\$ cd remote-test-1/

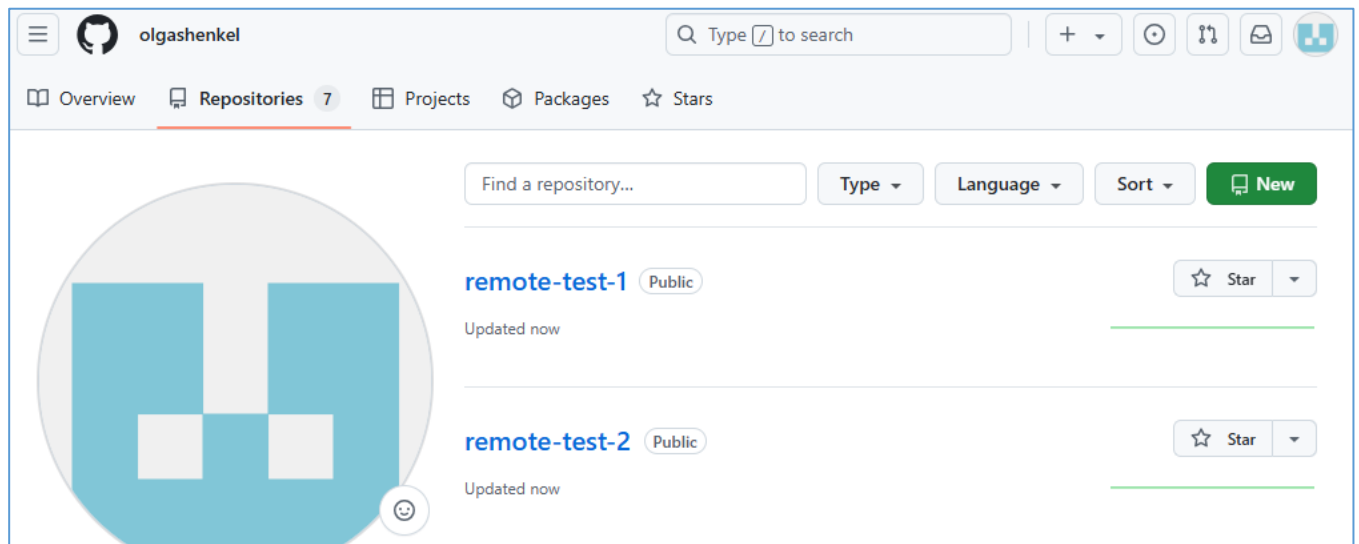
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
\$ git remote -v
origin git@github.com:olgashenkel/remote-test-1.git (fetch)
origin git@github.com:olgashenkel/remote-test-1.git (push)

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
\$ git remote remove origin

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
\$ git remote -v

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
\$ git remote add origin git@github.com:olgashenkel/remote-test-2.git

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
\$ git push -u origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 889 bytes | 889.00 KiB/s, done.
Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
To github.com:olgashenkel/remote-test-2.git
* [new branch] main -> main
branch 'main' set up to track 'origin/main'.



Задание №2 (Тайминг 15 минут)

- ✚ Создаём связь с исходным репозиторием: `git remote add source path`
- ✚ Просматриваем связи и убеждаемся, что все установились: `git remote -v`
- ✚ Вносим изменения в локальный код и отправляем в оба репозитория:
`git push -u origin master`
`git push -u source master`
- ✚ Просматриваем изменения в удалённых репозиториях
- ✚ Вносим в удалённых репозиториях изменения в разные файлы
- ✚ Затягиваем изменения: `git fetch --all`
- ✚ Просматриваем их:
`git log origin/master ^master`
`git log source/master ^master`
- ✚ Вливаем их:
`git merge origin/master`
`git merge source/master`

Ход выполнения задания 2.

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git remote add source git@github.com:olgashenkel/remote-test-1.git
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git remote -v
origin  git@github.com:olgashenkel/remote-test-2.git (fetch)
origin  git@github.com:olgashenkel/remote-test-2.git (push)
source  git@github.com:olgashenkel/remote-test-1.git (fetch)
source  git@github.com:olgashenkel/remote-test-1.git (push)
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.
```

```
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   README.md
```

no changes added to commit (use "git add" and/or "git commit -a")

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git add .
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git commit -m "update README.md"
[main e786c05] update README.md
1 file changed, 2 insertions(+), 1 deletion(-)
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git status
On branch main
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
```

nothing to commit, working tree clean

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)

\$ git push -u origin main

Enumerating objects: 5, done.

Counting objects: 100% (5/5), done.

Delta compression using up to 20 threads

Compressing objects: 100% (2/2), done.

Writing objects: 100% (3/3), 347 bytes | 347.00 KiB/s, done.

Total 3 (delta 0), reused 0 (delta 0), pack-reused 0

To github.com:olgashenkel/remote-test-2.git

efa0c36..e786c05 main -> main

branch 'main' set up to track 'origin/main'.

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)

\$ git push -u source main

Enumerating objects: 5, done.

Counting objects: 100% (5/5), done.

Delta compression using up to 20 threads

Compressing objects: 100% (2/2), done.

Writing objects: 100% (3/3), 347 bytes | 347.00 KiB/s, done.

Total 3 (delta 0), reused 0 (delta 0), pack-reused 0

To github.com:olgashenkel/remote-test-1.git

efa0c36..e786c05 main -> main

branch 'main' set up to track 'source/main'.

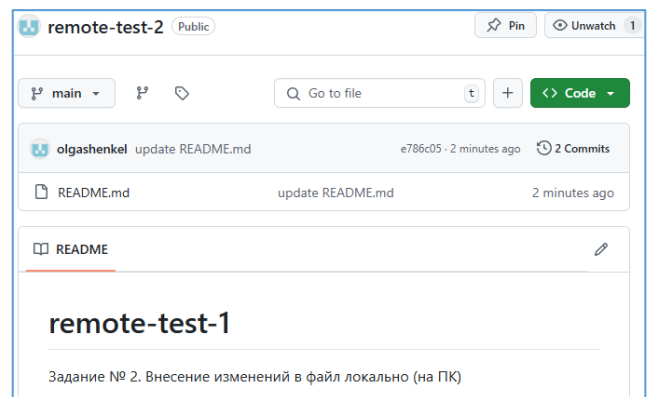
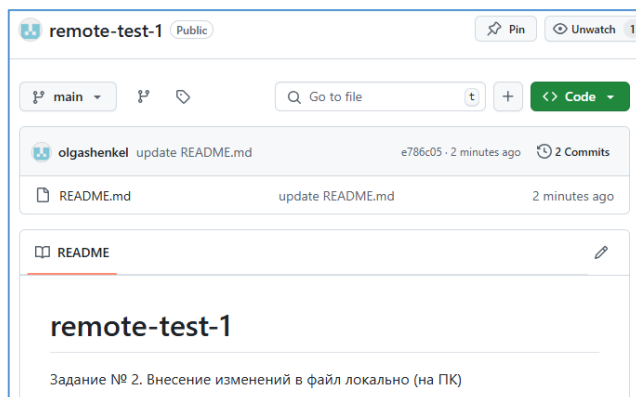
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)

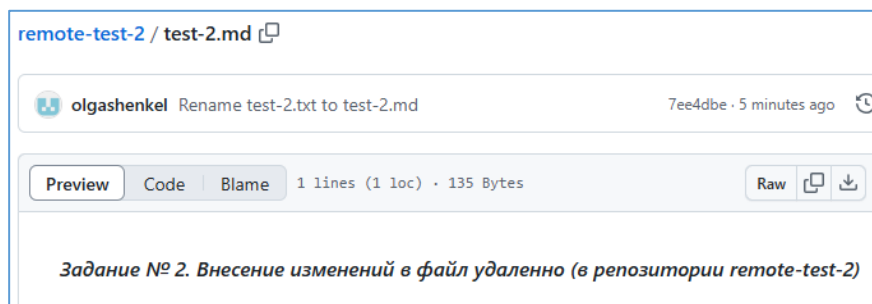
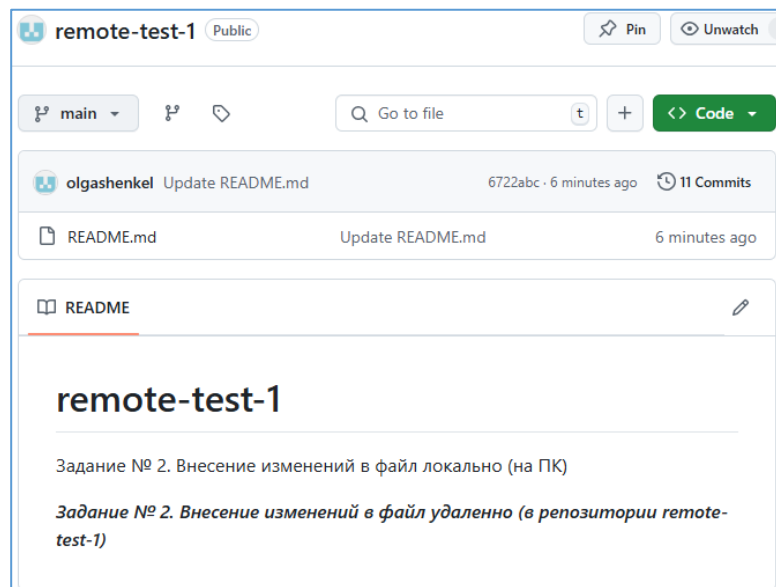
\$ git status

On branch main

Your branch is up to date with 'source/main'.

nothing to commit, working tree clean





```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git log source/main ^main
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git fetch --all
Fetching origin
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (7/7), done.
remote: Total 7 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (7/7), 2.80 KiB | 124.00 KiB/s, done.
From github.com:olgashenkel/remote-test-2
 669862c..7ee4dbe main    -> origin/main
Fetching source
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (4/4), done.
Unpacking objects: 100% (6/6), 1.80 KiB | 80.00 KiB/s, done.
remote: Total 6 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
From github.com:olgashenkel/remote-test-1
 fcd8b8..6722abc main    -> source/main
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git log origin/main ^main
commit 7ee4dbe2ef3e36f078ce233a9a9bfbf66e8a4e56 (origin/main)
Author: olgashenkel <158843723@users.noreply.github.com>
Date: Sun Jan 5 21:55:55 2025 +0200
```

```
Rename test-2.txt to test-2.md
```

Author: *olgashenkel <158843723+olgashenkel@users.noreply.github.com>*
Date: *Sun Jan 5 21:55:35 2025 +0200*

Author: *olgashenkel* <158843723+olgashenkel@users.noreply.github.com>
Date: *Sun Jan 5 21:54:59 2025 +0200*

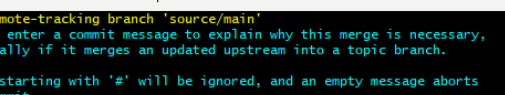
Author: olgashenkel <158843723+olgashenkel@users.noreply.github.com>
Date: Sun Jan 5 11:05:35 2025 +0200

Author: olgashenkel <158843723+olgashenkel@users.noreply.github.com>
Date: Sun Jan 5 21:54:27 2025 +0200

Author: olgashenkel <158843723+olgashenkel@users.noreply.github.com>
Date: Sun Jan 5 21:54:08 2025 +0200

```
create mode 100644 test-2.md
```

1 file changed, 2 insertions(+), 1 deletion(-)



The screenshot shows a Windows terminal window with the title bar "MINGW64/c/Users/user/Desktop/remote-test-1". The terminal content is as follows:

```
git merge --no-commit --no-edit --no-ff --no-verify --no-verify
Merge remote-tracking branch 'source/main'
# Please enter a commit message to explain why this merge is necessary,
# especially if it merges an updated upstream into a topic branch.
#
# Lines starting with '#' will be ignored, and an empty message aborts
# the commit.

```

The prompt ".git/MERGE_MSG [unix] (21:58 05/01/2025)" is visible at the bottom left, and "1,1 All" is at the bottom right.

Задание №3 (Тайминг 15 минут)

- ✚ Удалите связь с репозиторием `source: git remote remove source`
- ✚ Создайте ветку в локальном репозитории: `git checkout -b 24-issue`
- ✚ Создайте в интерфейсе GitHub такую же ветку в удалённом репозитории
- ✚ Внесите изменения в один из файлов в локальном репозитории и в какой-нибудь другой файл в удалённом репозитории (origin) в этих ветках
- ✚ Выполните команду `git push -u origin 24-issue`
- ✚ Ознакомьтесь с возникшей ошибкой, выполните `git pull 24-issue`
- ✚ Сохраните сообщение коммита и выйдите из редактора Vim (<ESC> + :wq)
- ✚ Убедитесь, что автоматическое слияние произошло: `git status`
- ✚ Отправьте изменения в удалённый репозиторий
- ✚ Просмотрите изменения в удалённом репозитории

Ход выполнения задания 3.

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git remote remove source
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git remote -v
origin  git@github.com:olgashenkel/remote-test-2.git (fetch)
origin  git@github.com:olgashenkel/remote-test-2.git (push)
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (main)
$ git checkout -b 24-issue
Switched to a new branch '24-issue'
```

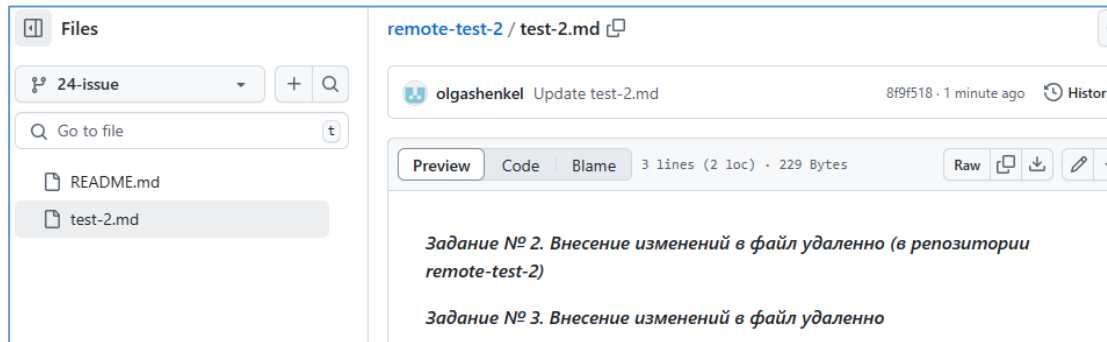
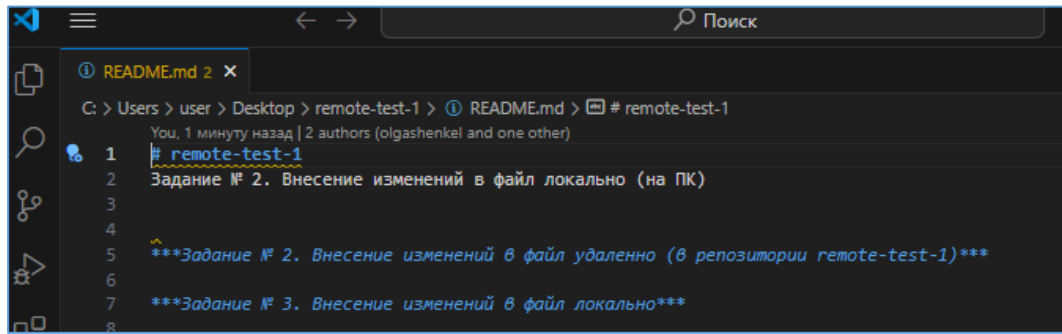
```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)
$ git branch
* 24-issue
main
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)
$ git status
On branch 24-issue
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   README.md
```

no changes added to commit (use "git add" and/or "git commit -a")

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)
$ git add .
```

```
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)
$ git commit -m "update README.md"
[24-issue 79cbb52] update README.md
1 file changed, 2 insertions(+)
```



user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git push -u origin 24-issue

To github.com:olgashenkel/remote-test-2.git

! [rejected] 24-issue -> 24-issue (fetch first)

error: failed to push some refs to 'github.com:olgashenkel/remote-test-2.git'

hint: Updates were rejected because the remote contains work that you do not

hint: have locally. This is usually caused by another repository pushing to

hint: the same ref. If you want to integrate the remote changes, use

hint: 'git pull' before pushing again.

hint: See the 'Note about fast-forwards' in 'git push --help' for details.

user@DESKTOP-929P2AG MINGW64

~/Desktop/remote-test-1 (24-issue)

\$ git pull origin 24-issue

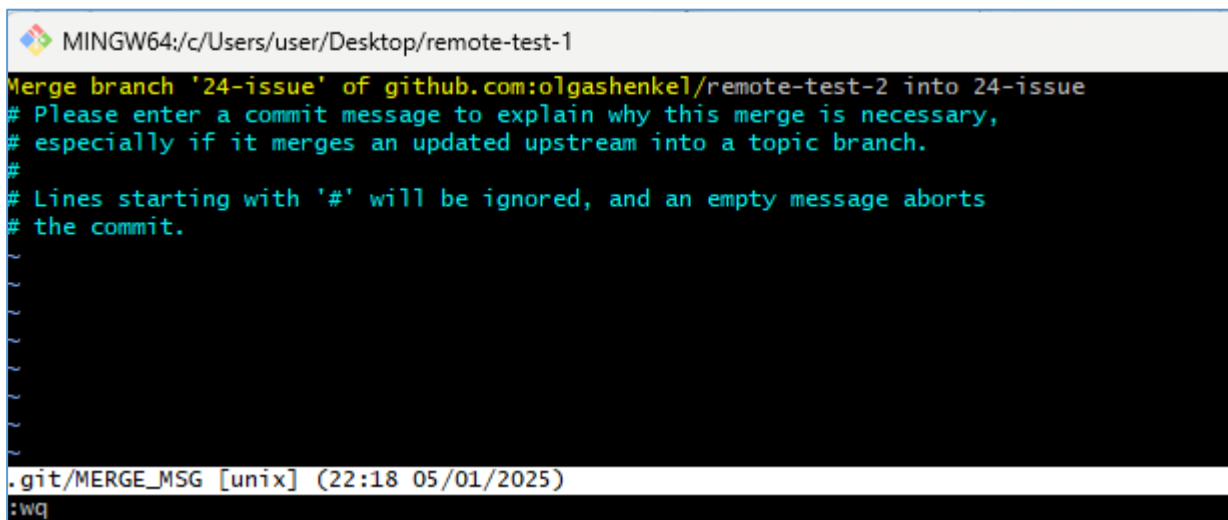
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git status

Merge made by the 'ort' strategy.

test-2.md | 2 ++

1 file changed, 2 insertions(+)



user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git push origin 24-issue

Enumerating objects: 37, done.

Counting objects: 100% (35/35), done.

Delta compression using up to 20 threads

Compressing objects: 100% (23/23), done.

Writing objects: 100% (29/29), 7.54 KiB | 7.54 MiB/s, done.







Total 29 (delta 6), reused 0 (delta 0), pack-reused 0

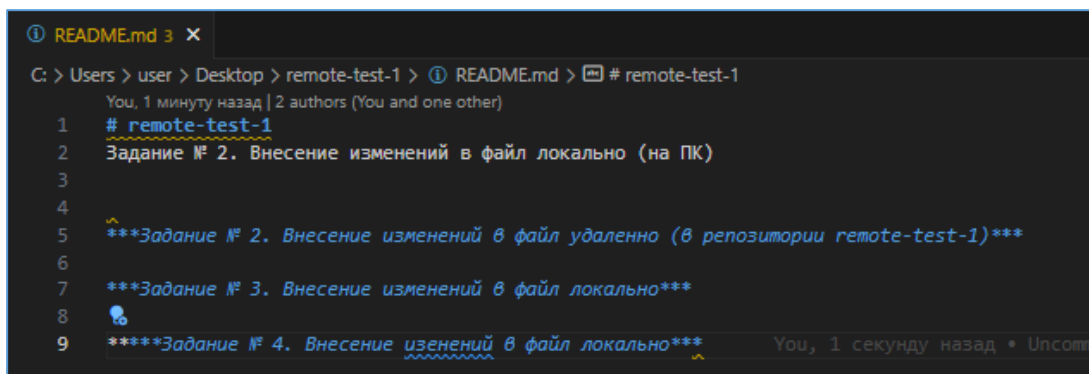
remote: Resolving deltas: 100% (6/6), done.

To github.com:olgashenkel/remote-test-2.git

8f9f518..46941f8 24-issue -> 24-issue

Задание №4 (Тайминг 15 минут)

-  Внесите изменения в один из файлов в локальном репозитории
-  Внесите иные изменения в те же строки того файла в удалённом репозитории
-  Выполните команду `git pull` и ознакомьтесь с возникшей ошибкой
-  Выполните команду `git status` и откройте в редакторе файлы с конфликтами
-  Разрешите конфликты в этих файлах вручную, не оставляйте в них служебные отметки, сделанные Git-ом
-  Закоммитьте изменения и отправьте их в удалённый репозиторий



user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git status

On branch 24-issue

Changes not staged for commit:

(use "git add <file>..." to update what will be committed)

(use "git restore <file>..." to discard changes in working directory)

modified: README.md

no changes added to commit (use "git add" and/or "git commit -a")

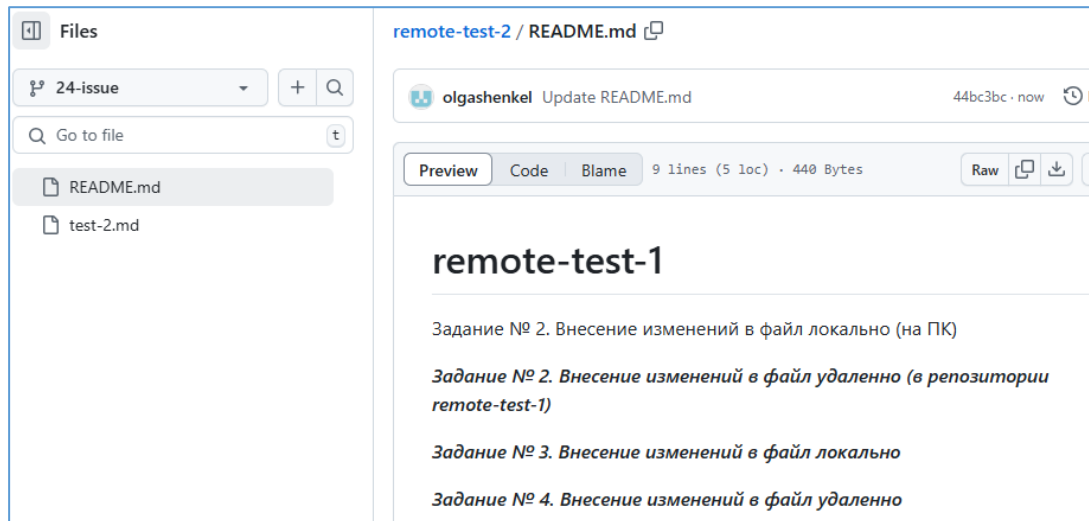
user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git add .

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git commit -m "update README.md"

[24-issue 3751506] update README.md
1 file changed, 1 insertion(+), 1 deletion(-)



user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git pull origin 24-issue

From github.com:olgashenkel/remote-test-2

** branch 24-issue -> FETCH_HEAD*

Auto-merging README.md

CONFLICT (content): Merge conflict in README.md

Automatic merge failed; fix conflicts and then commit the result.

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue/MERGING)

\$ git status

On branch 24-issue

You have unmerged paths.

(fix conflicts and run "git commit")

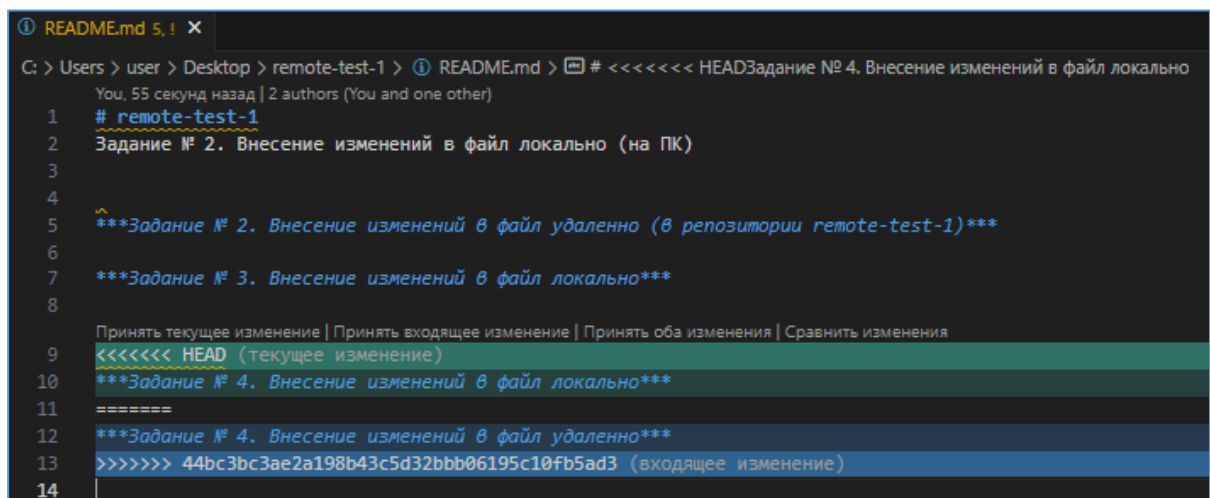
(use "git merge --abort" to abort the merge)

Unmerged paths:

(use "git add <file>..." to mark resolution)

both modified: README.md

no changes added to commit (use "git add" and/or "git commit -a")



```
① README.md 3.1 ✕
C: > Users > user > Desktop > remote-test-1 > ① README.md > # remote-test-1
You, 1 секунду назад | 2 authors (You and one other)
1 # remote-test-1
2 Задание № 2. Внесение изменений в файл локально (на ПК)
3
4
5 ***Задание № 2. Внесение изменений в файл удаленно (в репозитории remote-test-1)***
6
7 ***Задание № 3. Внесение изменений в файл локально***
8
9 ***Задание № 4. Внесение изменений в файл локально***
10
11 ***Задание № 4. Внесение изменений в файл удаленно*** | You, 1 секунду назад • Uncommitted changes
```

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue|MERGING)

\$ git status

On branch 24-issue

You have unmerged paths.

(fix conflicts and run "git commit")

(use "git merge --abort" to abort the merge)

Unmerged paths:

(use "git add <file>..." to mark resolution)

both modified: README.md

no changes added to commit (use "git add" and/or "git commit -a")

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue|MERGING)

\$ git add .

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue|MERGING)

\$ git commit -m "update README.md"

[24-issue f87e73c] update README.md

user@DESKTOP-929P2AG MINGW64 ~/Desktop/remote-test-1 (24-issue)

\$ git push origin 24-issue

Enumerating objects: 13, done.

Counting objects: 100% (13/13), done.

Delta compression using up to 20 threads

Compressing objects: 100% (9/9), done.

Writing objects: 100% (9/9), 897 bytes | 897.00 KiB/s, done.




Total 9 (delta 3), reused 0 (delta 0), pack-reused 0

remote: Resolving deltas: 100% (3/3), completed with 1 local object.

To github.com:olgashenkel/remote-test-2.git

44bc3bc..f87e73c 24-issue -> 24-issue

Домашнее задание

-  Выберите какой-нибудь проект на изучаемом вами языке программирования, с которым вы будете тренироваться работать в Git, и инициализируйте в папке этого проекта локальный репозиторий
-  Создайте непустой удалённый репозиторий (например, с файлом README.md) с именем, соответствующим имени этого проекта
-  Подключите свой проект к этому удалённому репозиторию и отправьте в него код этого проекта. Самостоятельно разрешите конфликты и проблемы, если они возникнут при выполнении данного задания

Ссылка на репозиторий GitHub:

<https://github.com/olgashenkel/GeekBrains-specialization-ELECTIVES>