

Лабораторная работа №1

Работа с Git

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Информация

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Приобрести практические навыки работы с системой управления версиями Git.

1. Создать репозиторий
2. Изменить его содержимое, изучить работу с коммитами, версиями и тегами
3. Поработать с объектами Git
4. Создать дополнительную ветку, провести слияние, разрешение конфликтов
5. Создать клон репозитория и слить его с оригинальным
6. Залить и извлечь изменения

Выполнение лабораторной работы

```
C:\Users\dasha>git config --global core.autocrlf true
C:\Users\dasha>git config --global core.safecrlf true
C:\Users\dasha>git config --global core.quotepath off
C:\Users\dasha>
```

Рис. 1: Настройка git

```
dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1
$ mkdir hello

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1
$ ls
l.png hello

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1
$ cd hello

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ touch hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ echo "hello, world" > hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: is subject to change. To configure the initial branch name to use in all
hint: of your new repositories, which will suppress this warning, call:
hint:     git config --global init.defaultBranch <name>
hint:
hint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:     git branch -m <name>
Initialized empty Git repository in /c/study/mat_mod_lab1/hello/.git/
```

Рис. 2: Создание репозитория

```
dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Добавление файла"
[master (root-commit) 3c0ef1a] Добавление файла
1 file changed, 1 insertion(+)
create mode 100644 hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
nothing to commit, working tree clean
```

Рис. 3: Добавление файла в репозиторий


```
dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
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:   hello.html

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

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git commit
[master 5a55106] Added h1 tag
1 file changed, 1 insertion(+), 1 deletion(-)

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
nothing to commit, working tree clean

dasha@DESKTOP-0358D70 MSYS /c/study/mat_mod_lab1/hello
```

Рис. 4: Внесение изменений в содержимое репозитория

Изменим страницу «Hello, World», чтобы она содержала стандартные теги

и

.

```
<html>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html

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:   hello.html
```

Рис. 5: Внесение нескольких изменений в содержимое репозитория

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Added standard HTML page tags"
[master c4c5eb1] Added standard HTML page tags
1 file changed, 5 insertions(+), 1 deletion(-)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
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:   hello.html

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

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add .

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Added HTML header"
[master cd7d088] Added HTML header
1 file changed, 2 insertions(+)
```

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log
commit cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c (HEAD -> master)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

commit c4c5eb1524c74262648408ca3b5d34e77df818a6
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:55:15 2024 +0300

    Added standard HTML page tags

commit 5a55106fde77a4948111168f6882abb3349e6614
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 01:50:40 2024 +0300

    Added h1 tag

commit 3c0ef1a864c21b7ef641b7947fa823b153fd46a9
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 01:43:04 2024 +0300

    Добавление файла

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log --pretty=oneline
cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c (HEAD -> master) Added HTML header
c4c5eb1524c74262648408ca3b5d34e77df818a6 Added standard HTML page tags
5a55106fde77a4948111168f6882abb3349e6614 Added h1 tag
3c0ef1a864c21b7ef641b7947fa823b153fd46a9 Добавление файла
```

Рис. 7: Просмотр истории

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout 3c0ef1a864
Note: switching to '3c0ef1a864'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

    git switch -c <new-branch-name>

Or undo this operation with:

    git switch -

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at 3c0ef1a Добавление файла

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat hello.html
Hello, World
```

Рис. 8: Просмотр разных версий репозитория

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git tag v1

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout v1^
Note: switching to 'v1^'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

    git switch -c <new-branch-name>

Or undo this operation with:

    git switch -

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at c4c5eb1 Added standard HTML page tags

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat hello.html
<html>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Отмена локальных изменений (до индексации)

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout master
Previous HEAD position was c4c5eb1 Added standard HTML page tags
Switched to branch 'master'

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
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:   hello.html

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

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout hello.html
Updated 1 path from the index

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
nothing to commit, working tree clean

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat hello.html
<html>
<head>
</head>
<body>
  <h1>Hello, world!</h1>
</body>
</html>
```

Рис. 10: Отмена локальных изменений (до индексации)

Отмена проиндексированных изменений (перед коммитом)

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git reset HEAD hello.html
Unstaged changes after reset:
M       hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
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:   hello.html

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

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat hello.html
<html>
<head>
<!-- This is an unwanted but staged comment -->
</head>
<body>
<h1>Hello, World!</h1>
</body>
</html>

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout hello.html
Updated 1 path from the index

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch master
nothing to commit, working tree clean
```

Рис. 11: Отмена проиндексированных изменений (перед коммитом)

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Oops, we didn't want this commit"
[master 73054e4] Oops, we didn't want this commit
1 file changed, 1 insertion(+)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git revert HEAD
[master 444d852] Revert "Oops, we wanted this commit"
1 file changed, 1 deletion(-)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log
commit 444d852d4b577405faa498076ace620db9a008a0 (HEAD -> master)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 03:28:19 2024 +0300

    Revert "Oops, we wanted this commit"

    This reverts commit 73054e4ea57534720499c9d9bccdd8fd27848bdd.

commit 73054e4ea57534720499c9d9bccdd8fd27848bdd
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 03:27:53 2024 +0300

    Oops, we didn't want this commit
```

Рис. 12: Отмена коммитов

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git tag oops

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git reset --hard v1
HEAD is now at cd7d088 Added HTML header

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log
commit cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c (HEAD -> master, tag: v1)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

commit c4c5eb1524c74262648408ca3b5d34e77df818a6 (tag: v1-beta)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:55:15 2024 +0300

    Added standard HTML page tags

commit 5a55106fde77a4948111168f6882abb3349e6614
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 01:50:40 2024 +0300
```

Рис. 13: Удаление коммиттов из ветки

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log --all
commit 444d852d4b577405faa498076ace620db9a008a0 (tag: oops)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 03:28:19 2024 +0300

    Revert "Oops, we wanted this commit"

    This reverts commit 73054e4ea57534720499c9d9bccdd8fd27848bdd.

commit 73054e4ea57534720499c9d9bccdd8fd27848bdd
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 03:27:53 2024 +0300

    Oops, we didn't want this commit

commit cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c (HEAD -> master, tag: v1)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

commit c4c5eb1524c74262648408ca3b5d34e77df818a6 (tag: v1-beta)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:55:15 2024 +0300
```

Рис. 14: Ничего никогда не теряется

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git tag -d oops
Deleted tag 'oops' (was 444d852)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log --all
commit cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c (HEAD -> master, tag: v1)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

commit c4c5eb1524c74262648408ca3b5d34e77df818a6 (tag: v1-beta)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:55:15 2024 +0300

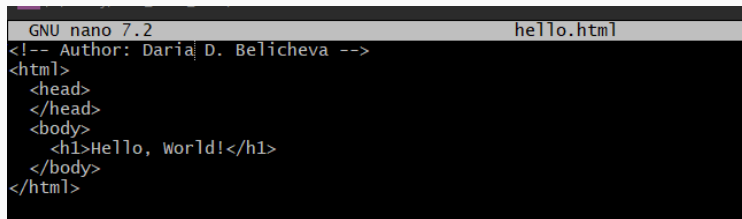
    Added standard HTML page tags

commit 5a55106fde77a4948111168f6882abb3349e6614
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 01:50:40 2024 +0300

    Added h1 tag

commit 3c0ef1a864c21b7ef641b7947fa823b153fd46a9
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 01:43:04 2024 +0300
```

Рис. 15: Удаление тега oops



```
GNU nano 7.2 hello.html
<!-- Author: Daria D. Belicheva -->
<html>
  <head>
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>
```

Рис. 16: Изменение предыдущего коммита

Изменение предыдущего коммита

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Add an author comment"
[master f701288] Add an author comment
1 file changed, 1 insertion(+)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ nano hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add hello.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git commit --amend -m "Add an author/email comment"
[master 83bad91] Add an author/email comment
Date: Sat Feb 10 04:22:51 2024 +0300
1 file changed, 1 insertion(+)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log
commit 83bad911a02dbafbb6682e90c75c022ac214cc6d (HEAD -> master)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 04:22:51 2024 +0300

    Add an author/email comment

commit cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c (tag: v1)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 02:57:23 2024 +0300

    Add a new file
```

Рис. 17: Изменение предыдущего коммита

Переместим наш файл в каталог `lib`. Для этого создадим его и используем команду `git mv`, сделаем коммит этого перемещения.



Рис. 18: Результат открытия index.html

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls -C .git
COMMIT_EDITMSG  ORIG_HEAD  config      hooks      info      objects      refs
HEAD           branches  description index      logs      packed-refs

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls -C .git/objects
06 0d 14 2c 3c 3f 44 58 5a 62 6d 73 79 82 83 ae b3 bd c3 c4 cd

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls -C .git/objects/<dir>
-bash: syntax error near unexpected token `newline'

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls -C .git/objects/hello
ls: cannot access '.git/objects/hello': No such file or directory

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls -C .git/objects/06
098b8c832f8cf3794c16897e25272c482ba890

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat .git/config
[core]
    repositoryformatversion = 0
    filemode = false
    bare = false
    logallrefupdates = true
    symlinks = false
    ignorecase = true

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls .git/refs
heads  tags

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls .git/refs/heads
master

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ ls .git/refs/tags
v1  v1-beta

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat .git/refs/tags/v1
cd7d088784b9db0907bcf0ebf4ebe2caf83deb2c

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat .git/HEAD
ref: refs/heads/master

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$
```

Работа непосредственно с объектами git

```
jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git log --max-count=1
commit 3c8aba8712936f4b4d96494b481b6c784f0ba53b (HEAD -> master)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html.

jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git cat-file -t 3c8aba87
commit

jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git cat-file -p 3c8aba87
tree 58ed7734526b3cb0215817d5a19dbe40badd21e0
parent b33227a589112febbf5973bc82569e3eaaa493a5
author Daria Belicheva <dari.belicheva@yandex.ru> 1707528573 +0300
committer Daria Belicheva <dari.belicheva@yandex.ru> 1707528573 +0300

Added index.html.

jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git cat-file -p 58ed773452
100644 blob aeeb538cd0610f43516914c29faaae04e80a870d    index.html
040000 tree c373b6d3c5d872564a1578afc35be3c9957c2f06    lib

jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git cat-file -p c377b6d3c
fatal: Not a valid object name c377b6d3c

jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git cat-file -p c373b6d3c
100644 blob e14428d474f1e5be5c4780cc1cfbfa8638fb3712    hello.html

jasha@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git cat-file -p e14428d47
<!-- Author: Daria D. Belicheva (dari.belicheva@yandex.ru) -->
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Рис. 20: Работа непосредственно с объектами git

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout -b style
Switched to a new branch 'style'

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git status
On branch style
nothing to commit, working tree clean

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ touch lib/style.css

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
```

Рис. 21: Создание ветки

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git add lib/style.css

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Added css stylesheet"
[style 74d4b40] Added css stylesheet
1 file changed, 3 insertions(+)
create mode 100644 lib/style.css

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
```

Рис. 22: Создание ветки

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log --all
commit f8250024fa20dbe3dc8f3bd90192bd81caf0de68 (HEAD -> style)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:27:18 2024 +0300

    Updated index.html

commit 1cee8efa20f909f81e74f5ba8ab63209ab6550c1
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:25:44 2024 +0300

    Hello uses style.css

commit 74d4b40a3ba23fe3f9b3d84fe40062dee49416ed
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

commit 3c8aba8712936f4b4d96494b481b6c784f0ba53b (master)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html.

commit b33227a589112febbf5973bc82569e3eaaa493a5
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 04:28:08 2024 +0300
```

Рис. 23: Просмотр логов новой ветки

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout master
Switched to branch 'master'

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ cat lib/hello.html
<!-- Author: Daria D. Belicheva (dari.belicheva@yandex.ru) -->
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$
```

Рис. 24: Переключение на ветку master

Изменения в ветке master

```
dash@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout master
Switched to branch 'master'

dash@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ echo "This is the Hello World example from the git tutorial." > README.md

dash@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git add README.md

dash@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git commit -m "Added README"
[master 5855364] Added README
1 file changed, 1 insertion(+)
create mode 100644 README.md

dash@DESKTOP-0358D0 MSYS /c/study/mat_mod_lab1/hello
$ git log --graph --all
* commit 5855364d21b1a3328b5f4f5b36c99089e6840542 (HEAD -> master)
| Author: Daria Belicheva <dari.belicheva@yandex.ru>
| Date: Sat Feb 10 16:41:13 2024 +0300
|
| Added README
|
* commit f8250024fa20dbe3dc8f3bd90192bd81caf0de68 (style)
| Author: Daria Belicheva <dari.belicheva@yandex.ru>
| Date: Sat Feb 10 16:27:18 2024 +0300
|
| Updated index.html
|
* commit 1cee8efa20f909f81e74f5ba8ab63209ab6550c1
| Author: Daria Belicheva <dari.belicheva@yandex.ru>
| Date: Sat Feb 10 16:25:44 2024 +0300
|
| Hello uses style.css
|
* commit 74d4b40a3ba23fa3f9b3d84fe40062dee49416ed
| Author: Daria Belicheva <dari.belicheva@yandex.ru>
| Date: Sat Feb 10 16:20:28 2024 +0300
|
| Added css stylesheet
|
* commit 3c8aba8712936f4b4d96494b481b6c784f0ba53b
| Author: Daria Belicheva <dari.belicheva@yandex.ru>
| Date: Sat Feb 10 04:29:33 2024 +0300
|
| Added index.html.
```

Рис. 25: Изменения в ветке master


```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git checkout style
Switched to branch 'style'

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git merge master
Merge made by the 'ort' strategy.
 README.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/hello
$ git log --graph --all
*   commit 3f9fdb91fd209bce1fe320e5725ac518e86165b (HEAD -> style)
|\  Merge: f825002 5855364
| | Author: Daria Belicheva <dari.belicheva@yandex.ru>
| | Date:   Sat Feb 10 16:43:50 2024 +0300
| |
| |     Merge branch 'master' into style
| |
| *   commit 5855364d21b1a3328b5f4f5b36c99089e6840542 (master)
| | Author: Daria Belicheva <dari.belicheva@yandex.ru>
| | Date:   Sat Feb 10 16:41:13 2024 +0300
| |
| |     Added README
| |
| *   commit f8250024fa20dbe3dc8f3bd90192bd81caf0de68
| | Author: Daria Belicheva <dari.belicheva@yandex.ru>
| | Date:   Sat Feb 10 16:27:18 2024 +0300
| |
| |     Updated index.html
| |
| *   commit 1cee8efa20f909f81e74f5ba8ab63209ab6550c1
| | Author: Daria Belicheva <dari.belicheva@yandex.ru>
| | Date:   Sat Feb 10 16:25:44 2024 +0300
| |
| |     Hello uses style.css
| |
| *   commit 74d4b40a3ba23fe3f9b3d84fe40062dee49416ed
| | Author: Daria Belicheva <dari.belicheva@yandex.ru>
| | Date:   Sat Feb 10 16:20:28 2024 +0300
| |
| |     Added css stylesheet
| |
| *   commit 3c8aba8712936f4b4d96494b481b6c784f0ba53b
| | Author: Daria Belicheva <dari.belicheva@yandex.ru>
| | Date:   Sat Feb 10 04:29:33 2024 +0300
```

Рис. 26: Слияние веток

Создание конфликта

```
dash@DESKTOP-0158070 MSYS /c:/study/mat_mod_lab1/hello
$ git checkout master
Switched to branch 'master'

dash@DESKTOP-0158070 MSYS /c:/study/mat_mod_lab1/hello
$ nano 11b/hello.html

dash@DESKTOP-0158070 MSYS /c:/study/mat_mod_lab1/hello
$ git add 11b/hello.html

dash@DESKTOP-0158070 MSYS /c:/study/mat_mod_lab1/hello
$ git commit -m 'Life is great'
[master c3ffe6b] Life is great
1 file changed, 1 insertion(+)

dash@DESKTOP-0158070 MSYS /c:/study/mat_mod_lab1/hello
$ git log --graph --all
* commit c3ffe6b4175c22f6e650a00ec78dc602dfab765 (HEAD -> master)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:50:31 2024 +0300

    Life is great

* merge 3f9fbdb91fd209bce1fe320e5725ac518e86165b (style)
  \ Merge: f825002 5855364
  / Author: Daria Belicheva <dari.belicheva@yandex.ru>
  / Date: Sat Feb 10 16:43:50 2024 +0300

    Merge branch 'master' into style

* commit 5855364d21b1a3328b5f4f5b36c99089e6840542
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

* commit f8250024fa20db3dc8f3bd90192bd81cafd0de68
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:27:18 2024 +0300

    Updated index.html

* commit 1cee8fa20f909f81e74f5ba8ab63209ab6550c1
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:25:44 2024 +0300

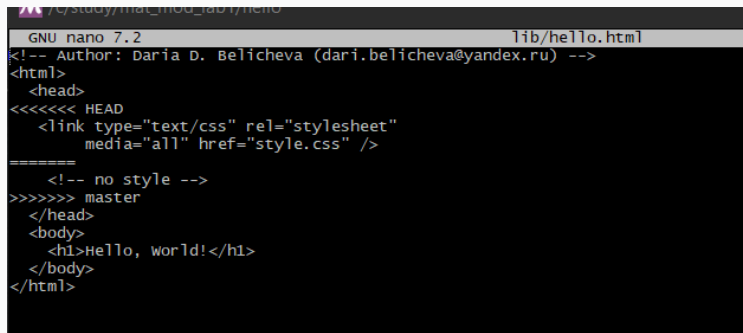
    Hello uses style.css

* commit 74d4b40a3ba23fe3f9b3d84fe40062dee49416d
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

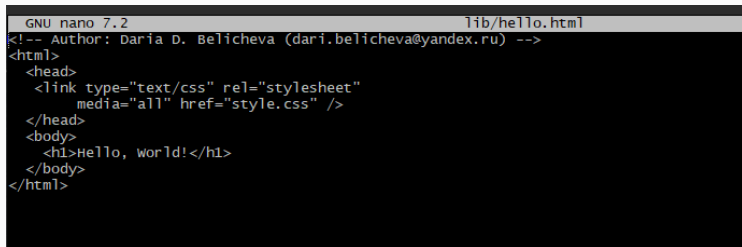
* commit 3c5aba87129b6f4bd96484b481b6c784f9ba53b
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:29:33 2024 +0300
```

Рис. 27: Создание конфликта



```
GNU nano 7.2 lib/hello.html
<!-- Author: Daria D. Belicheva (dari.belicheva@yandex.ru) -->
<html>
  <head>
<<<<<<< HEAD
    <link type="text/css" rel="stylesheet"
      media="all" href="style.css" />
=====
    <!-- no style -->
>>>>>>> master
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>
```

Рис. 28: Конфликт



```
GNU nano 7.2 lib/hello.html
<!-- Author: Daria D. Belicheva (dari.belicheva@yandex.ru) -->
<html>
<head>
  <link type="text/css" rel="stylesheet"
        media="all" href="style.css" />
</head>
<body>
  <h1>Hello, world!</h1>
</body>
</html>
```

Рис. 29: Разрешение конфликта

Сброс ветки style

```
dashba@dashba:~/study/mat_mod_lab1$ git log --graph
* commit f14a773ae7858ffa81c81b05a4d4f3e9b2369e65 (HEAD -> style)
  Merge: 3f9fbdb c3ffebb
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:56:22 2024 +0300

    Merged master fixed conflict.

* commit c3ffebb4175c22face660a02ec78dc602df4b765 (master)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:50:31 2024 +0300

    Life is great

* commit 3f9fbdb91fd20bce1fe320e5725ac51e86165b
  Merge: f825002 5855364
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:43:50 2024 +0300

    Merge branch 'master' into style

* commit 5855364d21b1a3328b5f4f5b36c9089e6840542
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

* commit f8250024fa20dbe3dc8f3bd90192bd81caf0de68
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:27:18 2024 +0300

    Updated index.html

* commit 1cee8efa20f909f81e74f5ba8ab63209ab6550c1
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:25:44 2024 +0300

    Hello uses style.css

* commit 744db10a2ba23fe2f9b3d84fed0062dex4841fed
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

* commit 3c8aba8712936f4bd96494b481b6c784f0ba53b
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html

* commit b33227a589112febbf9973bc8250e9e3eaaa493a5
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:28:08 2024 +0300

    Moved hello.html to lib
```

Рис. 30: Поиск коммита перед слиянием

Сброс ветки style

```
dash@DESKTOP-G358U10:~/SYS /c/study/mat_mod_lab1/hello
$ git log --graph --all
* commit c3ff4eb4175c22fccc660a02ec78dc602df4b765 (master)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:50:31 2024 +0300

    Life is great

* commit 5855364d21b1a3328b5f4f5b36c99089e6840542
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

* commit f8250024fa20d8e3dc8f3bd90192bdd1cafd0de68 (HEAD -> style)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:27:18 2024 +0300

    updated index.html

* commit 1cee8eFa20f909f81e74f3ba8ab63209ab6550c1
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:25:44 2024 +0300

    Hello uses style.css

* commit 74d4b40a3ba23fe3f0b3d84Fe40062dee9416ed
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

* commit 3c8aba8712930f4b4d96494b481b6c784f0ba53b
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html.

* commit b33227a589112f6bbf5973bc82560e3eaaa493a5
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:28:08 2024 +0300

    Moved hello.html to lib

* commit 83bad911a02dafbb66682e90c75c022ac214cc6d
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:22:51 2024 +0300

    Add an author/email comment

* commit cd7d088784b9db0907bcf0ebf4ebe2caf83deh2c (tag: v1)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

* commit c4c5eb1524c74262648408ca3bd34e77df818a6 (tag: v1-beta)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:55:15 2024 +0300
```

Рис. 31: Сброс ветки style

Сброс ветки master

```
dasha@DESKTOP-0358DPT0 MYSYS /c/study/nat_mod_lab1/hello
$ git checkout master
Switched to branch 'master'

dasha@DESKTOP-0358DPT0 MYSYS /c/study/nat_mod_lab1/hello
$ git log --graph
* commit c3ffeb04175c22f9ce66d402ec78dc602df4b765 (HEAD -> master)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:50:31 2024 +0300

    Life is great

* commit 5855364d21b1a3328b5f4f5b36c90089e6840542
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

* commit 3c8aba8712936f4b4d96494b481b6c784f0ba53b
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html.

* commit b32227a589112f6bbf5973bc82569e3eaaa493a5
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:28:08 2024 +0300

    Moved hello.html to 11b

* commit 83ba091a02dbafbb6682e90c75c022ac214cc6d
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:22:51 2024 +0300

    Add an author/email comment

* commit cd7d088784b9db0907bcf0ebf4e6e2caf83deb2c (tag: v1)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

* commit c4c5eb1524c74262648408ca3b5d14e77df818a6 (tag: v1-beta)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:55:15 2024 +0300

    Added standard HTML page tags

* commit 5a55106fde77a4948111168f0882abb3349e6614
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 01:50:40 2024 +0300

    Added h1 tag

* commit 3c0ef1a864c21b7ef641b7947fa823b153fd46a9
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 01:43:04 2024 +0300

    добавление файла
```

Рис. 32: Поиск коммита перед конфликтом

Сброс ветки master

```
dash@DESKTOP-03580T0 MYSYS /c/study/mat_mod_lab1/hello
$ git reset --hard 5855364d21b1a3328b3f4f5b36c99089e6840542
HEAD is now at 5855364 Added README

dash@DESKTOP-03580T0 MYSYS /c/study/mat_mod_lab1/hello
$ git log --graph --all
* commit 5855364d21b1a3328b3f4f5b36c99089e6840542 (HEAD -> master)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

* commit f8250024fa20dbe3dc8f3bd90192bdd81caf0de08 (style)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:27:18 2024 +0300

    updated index.html

* commit 1cee8efa20f909f81e74f5ba8ab63209ab6510c1
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:25:44 2024 +0300

    Hello uses style.css

* commit 74d4b40a3ba23fe3f903d84fe40062dee49416ed
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

* commit 3c8aba8712930f4bd96494b481bec784f0ba53b
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html.

* commit b33227a589112feb0f5973bc82569e3eaaa493a5
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:28:08 2024 +0300

    Moved hello.html to 1tb

* commit 83bad911a02dbafbb6682e90c75c022ac214cc6d
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:22:51 2024 +0300

    Add an author/email comment

* commit cd7d08874b9db0907bcb0ebf4ebc2caf83deb2c (tag: v1)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

* commit c4c5eb1524c74262648408ca3b5d34e770f818a6 (tag: v1-beta)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:55:13 2024 +0300

    Added standard HTML page tags

* commit 5a55106fde77a494811168f6882abb3349e6614
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 01:50:40 2024 +0300

    Added HTML
```

Рис. 33: Сброс ветки master


```
dasha@DESKTOP-0358D70 MSYS /c/study/nat_mod_lab1/hello
$ git checkout style
Switched to branch 'style'

dasha@DESKTOP-0358D70 MSYS /c/study/nat_mod_lab1/hello
$ git rebase master
Successfully rebased and updated refs/heads/style.

dasha@DESKTOP-0358D70 MSYS /c/study/nat_mod_lab1/hello
$ git log --graph
* commit e8e0acb9dba205c4b97529c0a8b0fcd8f9934a (HEAD -> style)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:27:18 2024 +0300

    updated index.html

* commit 8f8a396a78804aaf9fda15d1786d7345159df160
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:23:44 2024 +0300

    Hello uses style.css

* commit 8c7aee3ad0822ebb3dbdd3266c20402c7cf4aedc
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

* commit 5855364d21ba3328b5f4f5b36c99089e6840542 (master)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

* commit 3c8aba8712930f4b4d96494b481b6c784f0ba53b
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html.

* commit b33227a589112febbf5973bc82569e3eaaa493a5
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:28:08 2024 +0300

    Moved hello.html to lib

* commit 83bad911a02dbafbb0682e09c75c022ac234cc6d
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 04:22:51 2024 +0300

    Add an author/email comment

* commit cd7d088784b9db0907bcf0ebf4e2cafa83deb2c (tag: v1)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:57:23 2024 +0300

    Added HTML header

* commit c4c5eb1524c74262648408ca3b5d34e77df818a6 (tag: v1-beta)
  Author: Daria Belicheva <dari.belicheva@yandex.ru>
  Date: Sat Feb 10 02:55:15 2024 +0300

    Added standard HTML page tags
```

Слияние в ветку master

```
dasha@DESKTOP-03580T0 MSYS /c:/study/mat_mod_lab1/hello
$ git checkout master
Switched to branch 'master'

dasha@DESKTOP-03580T0 MSYS /c:/study/mat_mod_lab1/hello
$ git merge style
Updating 3855364..e8e0acb
Fast-forward
 index.html | 4 ++++
 1/b/hello.html | 2 ++
 1/b/style.css | 3 +++
 3 files changed, 9 insertions(+)
 create mode 100644 1/b/style.css

dasha@DESKTOP-03580T0 MSYS /c:/study/mat_mod_lab1/hello
$ git log
commit e8e0acb9dba205c4b97529c0a8b0fcd8fe9934a (HEAD -> master, style)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:27:18 2024 +0300

    updated index.html

commit 8f8a396a78804aaf9fda15d1786d7345159df160
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:25:44 2024 +0300

    Hello uses style.css

commit 8c7aec3ad6822ebb3dbda3266e20402c7cf4aedc
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

commit 5855364d21b1a3228b5f4f5b36c90d89e6840542
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:41:13 2024 +0300

    Added README

commit 3c8aba8712936f4bd96494b481b6c784f0ba53b
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 04:29:33 2024 +0300

    Added index.html

commit b33227a580112febf5973bc82569e3aaaa493a5
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 04:28:08 2024 +0300

    Moved hello.html to 1/b
```

Рис. 35: Слияние style в master

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1
$ cd work

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ pwd
/c/study/mat_mod_lab1/work

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ ls
hello

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ git clone hello cloned_hello
Cloning into 'cloned_hello'...
done.

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ ls
cloned_hello  hello

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$
```

Рис. 36: Клонирование репозиториев

Клонирование репозиториев

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ cd cloned_hello

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ ls
README.md  index.html  lib

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git log --all
commit e8e0acb9dba205c4b97529c0a8b0fcdcd8fe9934a (HEAD -> master, origin/style, origin/master, origin/HEAD)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:27:18 2024 +0300

    updated index.html

commit 8f8a396a78804aaf9fda15d1786d7345159df160
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:25:44 2024 +0300

    Hello uses style.css

commit 8c7aec3ad6822ebb3dbda3266e20402c7cf4aedc
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

commit 5855364d21b1a3328b5f4f5b36c99089e6840542
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:41:13 2024 +0300
```

Рис. 37: Клонирование репозиториев

Что такое origin?

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git remote
origin

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git remote show origin
* remote origin
  Fetch URL: /c/study/mat_mod_lab1/work/hello
  Push URL: /c/study/mat_mod_lab1/work/hello
  HEAD branch: master
  Remote branches:
    master tracked
    style tracked
  Local branch configured for 'git pull':
    master merges with remote master
  Local ref configured for 'git push':
    master pushes to master (up to date)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ !
```

Рис. 38: Просмотр имени по умолчанию удаленного репозитория

Посмотрим на ветки, доступные в нашем клонированном репозитории. Можно увидеть, что в списке только ветка master.

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ nano README.md

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ git add README.md

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ git commit -m "Changed README in original repo"
[master c1cea0e] Changed README in original repo
1 file changed, 1 insertion(+), 1 deletion(-)
```

Рис. 39: Изменение оригинального репозитория

Изменение оригинального репозитория

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ cd ../cloned_hello

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 365 bytes | 30.00 KiB/s, done.
From /c/study/mat_mod_lab1/work/hello
   e8e0acb..c1cea0e  master       -> origin/master

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git log --all
commit c1cea0e6f67d82b552554287dc2bf0fa205b49fa (origin/master, origin/HEAD)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date:   Sat Feb 10 17:46:33 2024 +0300

    changed README in original repo

commit e8e0acb9dba205c4b97529c0a8b0fdcd8fe9934a (HEAD -> master, origin/style)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date:   Sat Feb 10 16:27:18 2024 +0300

    updated index.html

commit 8f8a396a78804aaf9fda15d1786d7345159df160
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date:   Sat Feb 10 16:25:44 2024 +0300

    hello uses style.css

commit 8c7aec3ad6822ebb3dbda3266e20402c7cf4aedc
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date:   Sat Feb 10 16:20:28 2024 +0300

    Added css stylesheet

commit 5855364d21b1a3328b5f4f5b36c99089e6840542
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date:   Sat Feb 10 16:41:13 2024 +0300
```

Рис. 40: Извлечение изменений

Слияние извлеченных изменений

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ cat README.md
This is the Hello world example from the git tutorial.

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git merge origin/master
Updating e8e0acb..c1cea0e
Fast-forward
 README.md | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ cat README.md
This is the Hello world example from the git tutorial!!!

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git pull
Already up to date.

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
```

Рис. 41: Слияние извлеченных изменений

Добавление ветки наблюдения

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git branch --track style origin/style
branch 'style' set up to track 'origin/style'.

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git branch -a
* master
  style
  remotes/origin/HEAD -> origin/master
  remotes/origin/master
  remotes/origin/style

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git log --max-count=2
commit c1cea0e6f67d82b552554287dc2bf0fa205b49fa (HEAD -> master, origin/master, origin/HEAD)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 17:46:33 2024 +0300

    changed README in original repo

commit e8e0acb9dba205c4b97529c0a8b0fdcd8fe9934a (origin/style, style)
Author: Daria Belicheva <dari.belicheva@yandex.ru>
Date: Sat Feb 10 16:27:18 2024 +0300

    updated index.html

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
```

Рис. 42: Добавление ветки наблюдения

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ cd ..

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ git clone --bare hello hello.git
Cloning into bare repository 'hello.git'...
done.

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$ ls hello.git
HEAD branches config description hooks info objects packed-refs refs

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work
$
```

Рис. 43: Создание чистого репозитория

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ nano README.md

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ git checkout master
M      README.md
Already on 'master'

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ git add README.md

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ git commit -m "Added shared comment to readme"
[master b87a6eb] Added shared comment to readme
1 file changed, 1 insertion(+)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ git push shared master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 411 bytes | 51.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To ../hello.git
c1cea0e..b87a6eb  master -> master
```

Рис. 44: Отправка изменений

```
dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/hello
$ cd ../cloned_hello

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git remote add shared ../hello.git

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git branch --track shared master
branch 'shared' set up to track 'master'.

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ git pull shared master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 391 bytes | 21.00 KiB/s, done.
From ../hello
 * branch                master       -> FETCH_HEAD
 * [new branch]          master       -> shared/master
Updating c1cea0e..b87a6eb
Fast-Forward
 README.md | 1 +
 1 file changed, 1 insertion(+)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ cat README.md
This is the Hello world example from the git tutorial!!!
(Changed in the original and pushed to shared)

dasha@DESKTOP-0358DT0 MSYS /c/study/mat_mod_lab1/work/cloned_hello
$ |
```

Рис. 45: Извлечение изменений

Выводы

В процессе выполнения данной лабораторной работы я приобрела практические навыки работы с Git.