

Лабораторная работа №1

Работа с git

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Информация

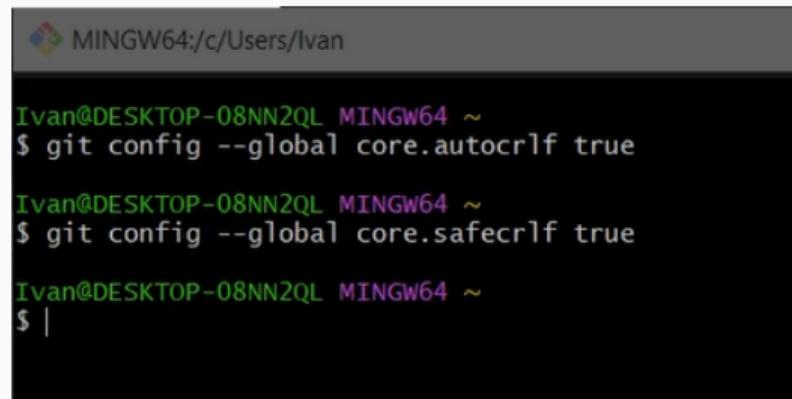
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Вводная часть

- Научиться полному взаимодействию с git и разобрать основные его особенности.

Основная часть

Подготовка



The screenshot shows a terminal window titled 'MINGW64:/c/Users/Ivan'. It contains the following command-line session:

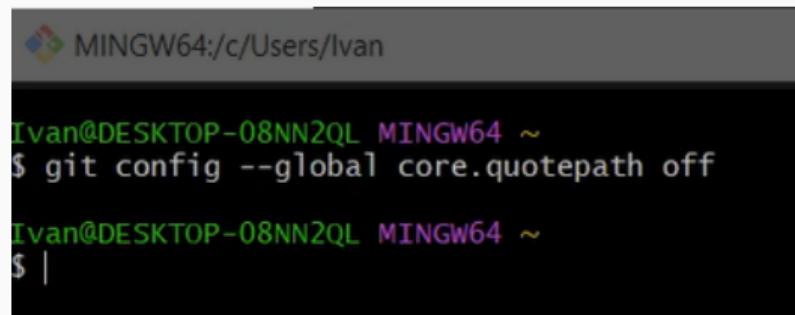
```
Ivan@DESKTOP-08NN2QL MINGW64 ~
$ git config --global core.autocrlf true

Ivan@DESKTOP-08NN2QL MINGW64 ~
$ git config --global core.safecrlf true

Ivan@DESKTOP-08NN2QL MINGW64 ~
$ |
```

Рис. 1: Параметры установки окончаний строк

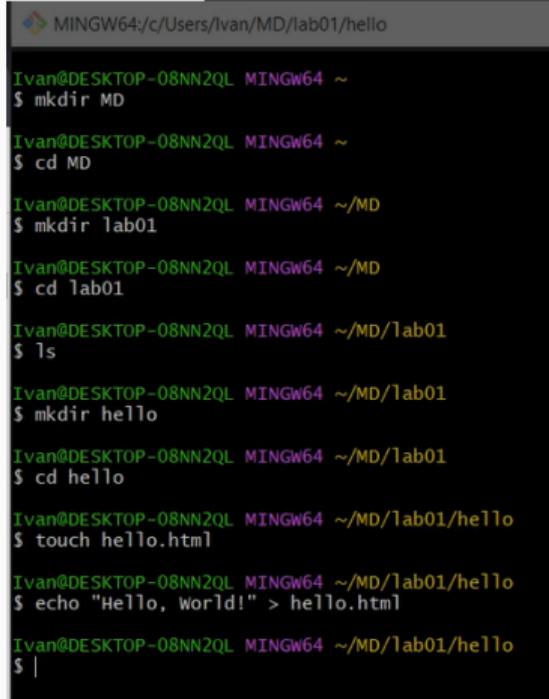
Подготовка



```
MINGW64:/c/Users/Ivan
Ivan@DESKTOP-08NN2QL MINGW64 ~
$ git config --global core.quotepath off
Ivan@DESKTOP-08NN2QL MINGW64 ~
$ |
```

Рис. 2: Установка отображения unicode

Создание проекта



```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~
$ mkdir MD
Ivan@DESKTOP-08NN2QL MINGW64 ~
$ cd MD
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD
$ mkdir lab01
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ ls
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ mkdir hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello
$ cd hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello
$ touch hello.html
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello
$ echo "Hello, world!" > hello.html
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello
$ |
```

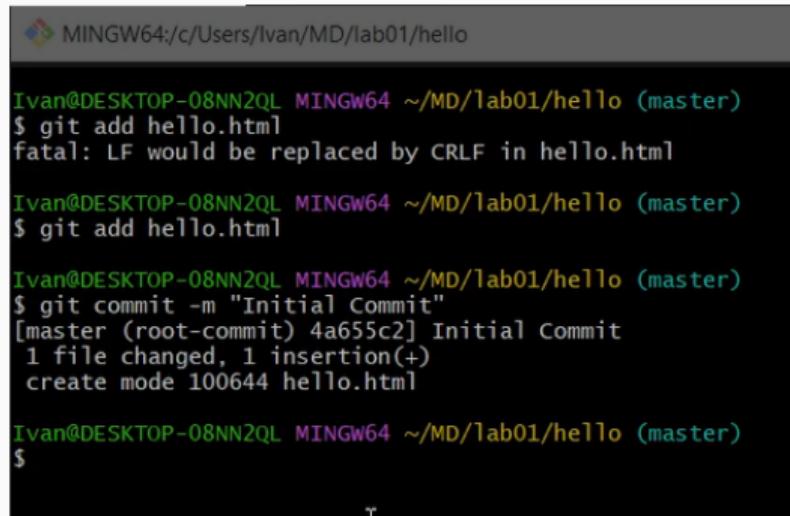
Рис. 3: Создание страницы «Hello, World»

Создание проекта

```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello
$ git init
Initialized empty Git repository in C:/Users/Ivan/MD/lab01/hello/.git/
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 4: Создание репозитория

Создание проекта



```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html
fatal: LF would be replaced by CRLF in hello.html

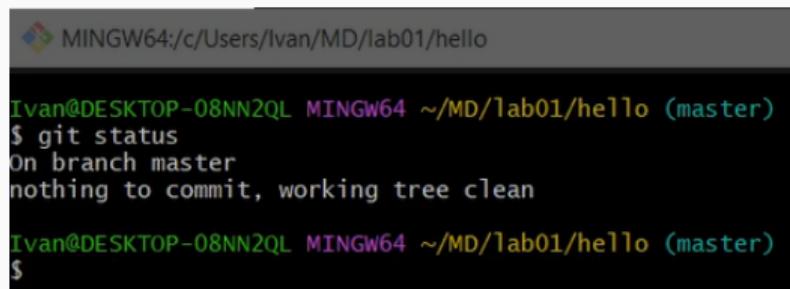
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Initial Commit"
[master (root-commit) 4a655c2] Initial Commit
 1 file changed, 1 insertion(+)
 create mode 100644 hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 5: Добавление файла в репозиторий

Создание проекта

A screenshot of a terminal window titled "MINGW64:c/Users/Ivan/MD/lab01/hello". The window shows the command \$ git status being run, which outputs "On branch master" and "nothing to commit, working tree clean".

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 6: Проверка состояния репозитория

Внесение изменений

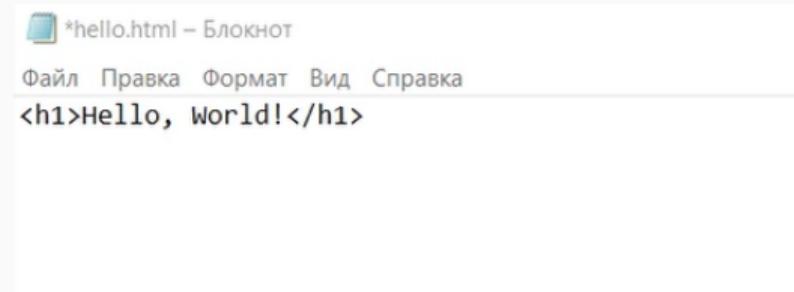


Рис. 7: Изменение содержимого файла hello.html

Внесение изменений

```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ 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")

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 8: Проверка состояния рабочего каталога

Индексация изменений

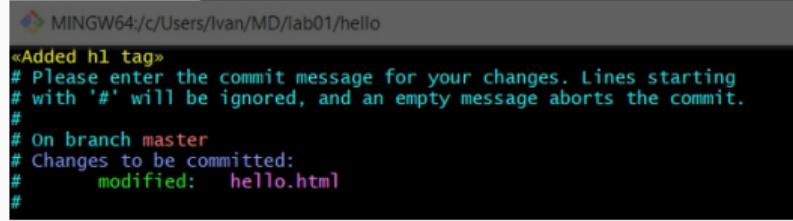
```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 9: Индексация изменений

Индексация изменений



MINGW64:/c/Users/Ivan/MD/lab01/hello

```
«Added h1 tag»
# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# On branch master
# Changes to be committed:
#       modified:   hello.html
#
```

Рис. 10: Добавление комментария, сохранение файла и выход из редактора

Индексация изменений

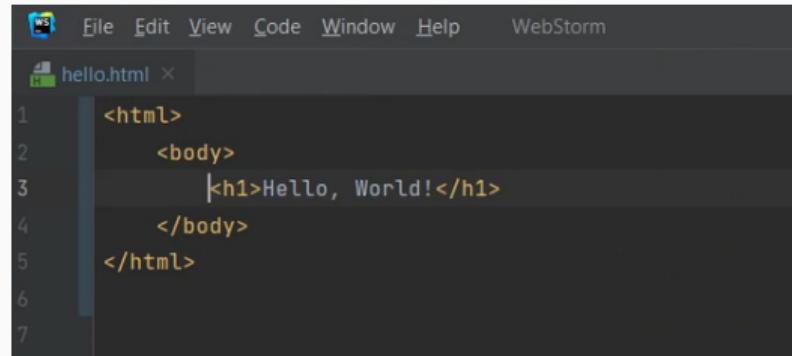
```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit
[master 6e27f33] «Added h1 tag»
  1 file changed, 1 insertion(+), 1 deletion(-)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 11: Повторная проверка состояния

Индексация изменений



The screenshot shows the WebStorm IDE interface with a dark theme. The menu bar includes File, Edit, View, Code, Window, Help, and WebStorm. A tab labeled 'hello.html' is open. The code editor displays the following HTML file:

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

Рис. 12: Изменение страницы «Hello, World»

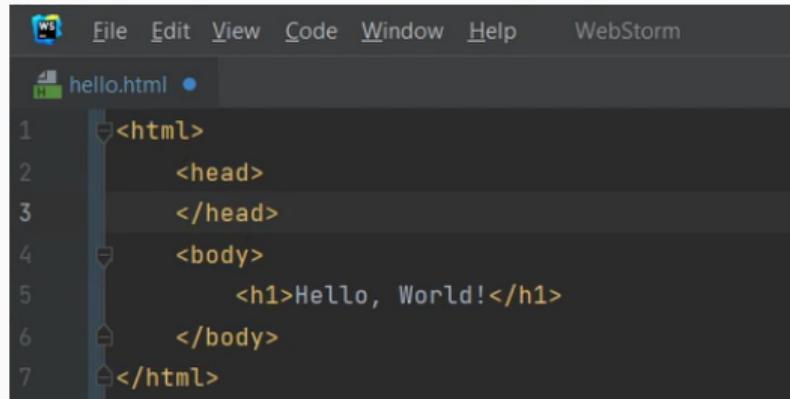
Индексация изменений



```
MINGW64:/c/Users/Ivan/MD/lab01/hello
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 13: Добавление изменения в индекс git

Индексация изменений



```
File Edit View Code Window Help WebStorm
hello.html •
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Рис. 14: Добавление заголовков HTML к странице «Hello, World»

Индексация изменений

```
Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ 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

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added standard HTML page tags"
[master 866efe5] Added standard HTML page tags
 1 file changed, 6 insertions(+), 1 deletion(-)

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ 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")

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git add .

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:  hello.html

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added HTML header"
[master e9e7ae5] Added HTML header
 1 file changed, 2 insertions(+)

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 15: Добавление стандартных тегов страницы

Индексация изменений

```
Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ 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

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added standard HTML page tags"
[master 866efe5] Added standard HTML page tags
 1 file changed, 6 insertions(+), 1 deletion(-)

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ 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")

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git add .

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:  hello.html

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added HTML header"
[master e9e7ae5] Added HTML header
 1 file changed, 2 insertions(+)

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 16: История

Индексация изменений

```
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    <Added h1 tag>

commit 4a655c202e8ab1fb0bc945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

Initial Commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout 4a655c2
Note: switching to '4a655c2'.

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 4a655c2 Initial Commit
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((4a655c2...))
$ cat hello.html
Hello, World!
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((4a655c2...))
$ git checkout master
Previous HEAD position was 4a655c2 Initial Commit
Switched to branch 'master'
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cat hello.html
<html>
  <head>
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>
```

Рис. 17: Получение старых версий

Индексация изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ 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 866efe5 Added standard HTML page tags

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((866efe5...))
$ cat hello.html
<html>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((866efe5...))
$ git tag v1-beta

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$
```

Рис. 18: Создание тегов версий

Индексация изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$ git checkout v1
Previous HEAD position was 866efe5 Added standard HTML page tags
HEAD is now at e9e7ae5 Added HTML header

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1))
$ git checkout v1-beta
Previous HEAD position was e9e7ae5 Added HTML header
HEAD is now at 866efe5 Added standard HTML page tags

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$ |
```

Рис. 19: Переключение по имени тега

Индексация изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$ git tag
v1
v1-beta

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$ git log master --all
commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (tag: v1, master)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866efe5a303de974263c42fdbe695c6f349e0c1b (HEAD, tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300

    Added standard HTML page tags

commit 6e27f33880a0bf50ff296626e508f84dafc31ee4
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    «Added h1 tag»

commit 4a655c202e8ab1fbcc0bca945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

    Initial Commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$
```

Рис. 20: Просмотр тегов с помощью команды tag

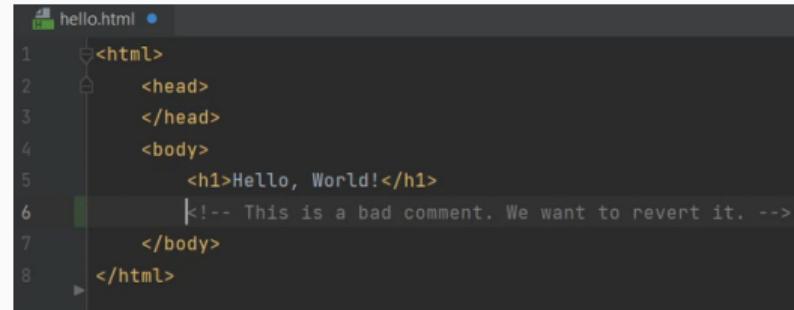
Отмена локальных изменений (до индексации)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello ((v1-beta))
$ git checkout master
Previous HEAD position was 866efe5 Added standard HTML page tags
Switched to branch 'master'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 21: Переключитесь на ветку master

Отмена локальных изменений (до индексации)



The screenshot shows a code editor window with a dark theme. The file being edited is 'hello.html'. The code content is as follows:

```
1 <html>
2   <head>
3     </head>
4   <body>
5     <h1>Hello, World!</h1>
6     <!-- This is a bad comment. We want to revert it. --&gt;
7   &lt;/body&gt;
8 &lt;/html&gt;</pre>

A cursor is visible at the start of line 6. A green vertical bar highlights the entire line 6, indicating it is selected or being edited.


```

Рис. 22: Изменение hello.html

Отмена локальных изменений (до индексации)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ 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")

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 23: Проверка состояния

Отмена локальных изменений (до индексации)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout hello.html
Updated 1 path from the index

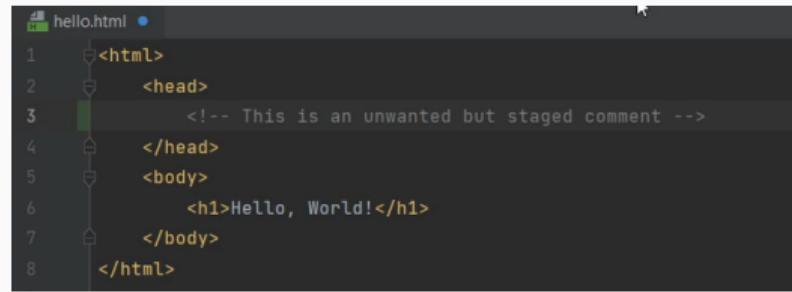
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cat hello.html
<html>
  <head>
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 24: Отмена изменений в рабочем каталоге

Отмена проиндексированных изменений (перед коммитом)



```
hello.html •
1 <html>
2   <head>
3     
4   </head>
5   <body>
6     <h1>Hello, World!</h1>
7   </body>
8 </html>
```

Рис. 25: Внесение изменения в файл hello.html

Отмена проиндексированных изменений (перед коммитом)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 26: Индексация изменения

Отмена проиндексированных изменений (перед коммитом)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html
```

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 27: Проверка состояния

Отмена проиндексированных изменений (перед коммитом)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git reset HEAD hello.html
Unstaged changes after reset:
M      hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 28: Выполнение сброса буферной зоны

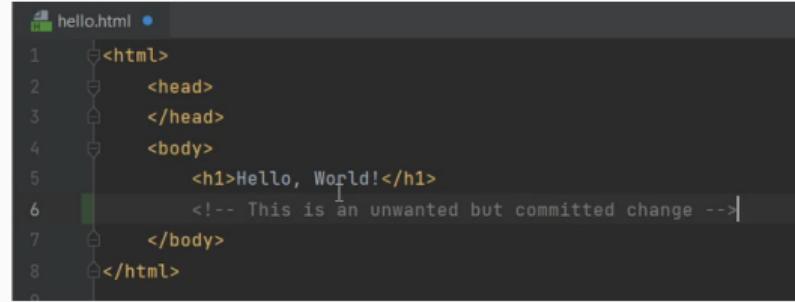
Отмена проиндексированных изменений (перед коммитом)

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout hello.html
Updated 1 path from the index

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
nothing to commit, working tree clean
```

Рис. 29: Переключение на версию коммита

Отмена коммитов



```
hello.html •
1 <html>
2   <head>
3   </head>
4   <body>
5     <h1>Hello, World!</h1>
6     <!-- This is an unwanted but committed change -->
7   </body>
8 </html>
```

A screenshot of a terminal window showing the file 'hello.html'. The file contains an HTML document with a single h1 tag. A commit message 'This is an unwanted but committed change' is present in the body. The terminal interface shows line numbers from 1 to 8.

Рис. 30: Изменение файла hello.html

Отмена коммитов

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Oops, we didn't want this commit"
[master 565fc35] Oops, we didn't want this commit
 1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 31: Коммит

Отмена коммитов

```
Revert "Ooops, we didn't want this commit"
This reverts commit 565fc350291180ff43455ee58a96e123d915130a.

# Please enter the commit message for your changes. Lines starting
# with '#' will be ignored, and an empty message aborts the commit.
#
# On branch master
#Changes to be committed:
#       modified:   hello.html
#
```

Рис. 32: Создание коммита с новыми изменениями, отменяющими предыдущие

Отмена коммитов

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log
commit 2186257364056cd83d183bebe216f24c9c1713ea (HEAD -> master)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:15:05 2024 +0300

    Revert "Ooops, we didn't want this commit"
    This reverts commit 565fc350291180ff43455ee58a96e123d915130a.

commit 565fc350291180ff43455ee58a96e123d915130a
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:14:53 2024 +0300

    Oops, we didn't want this commit

commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (tag: v1)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866efe5a303de974263c42fdb695c6f349e0c1b (tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300

    Added standard HTML page tags

commit 6e27f33880a0bf50ff296626e508f84dafc31ee4
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    «Added h1 tag»

commit 4a655c202e8ab1fbcc0bca945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

    Initial Commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
```

Рис. 33: Проверка лога

Удаление коммиттов из ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log
commit 2186257364056cd83d183bebe216f24c9c1713ea (HEAD -> master)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:15:05 2024 +0300

    Revert "Ooops, we didn't want this commit"
    This reverts commit 565fc350291180ff43455ee58a96e123d915130a.

commit 565fc350291180ff43455ee58a96e123d915130a
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:14:53 2024 +0300

    Oops, we didn't want this commit

commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (tag: v1)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866efef5a303de974263c42fdbe695c6f349e0c1b (tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300

    Added standard HTML page tags

commit 6e27f33880a0bf50ff296626e508f84dafc31ee4
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    «Added h1 tag»

commit 4a655c202e8ab1fbbc0bca945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

    Initial commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
```

Рис. 34: Проверка нашей истории

Удаление коммиттов из ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ git tag oops

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ |
```

Рис. 35: Отметка этой ветки для начала

Удаление коммитов из ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git reset --hard v1
HEAD is now at e9e7ae5 Added HTML header

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log
commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (HEAD -> master, tag: v1)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866eфе5а303de974263с42fdbe695c6f349e0c1b (tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300
```

Рис. 36: Сброс коммитов к предшествующим коммиту Oops

Удаление коммиттов из ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log --all
commit 2186257364056cd83d183bebe216f24c9c1713ea (tag: oops)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:15:05 2024 +0300

    Revert "Ooops, we didn't want this commit"
    This reverts commit 565fc350291180ff43455ee58a96e123d915130a.

commit 565fc350291180ff43455ee58a96e123d915130a
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:14:53 2024 +0300

    Oops, we didn't want this commit

commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (HEAD -> master, tag: v1)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866efe5a303de974263c42fdb695c6f349e0c1b (tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300

    Added standard HTML page tags

commit 6e27f33880a0bf50ff296626e508f84dafc31ee4
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    «Added h1 tag»

commit 4a655c202e8ab1fbcb0bc945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

    Initial Commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
```

Рис. 37: Просмотр всех коммитов

Удаление тега oops

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git tag -d oops
Deleted tag 'oops' (was 2186257)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log --all
commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (HEAD -> master, tag: v1)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866efe5a303de974263c42fbe695c6f349e0c1b (tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300

    Added standard HTML page tags

commit 6e27f33880a0bf50ff296626e508f84dafc31ee4
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    «Added h1 tag»

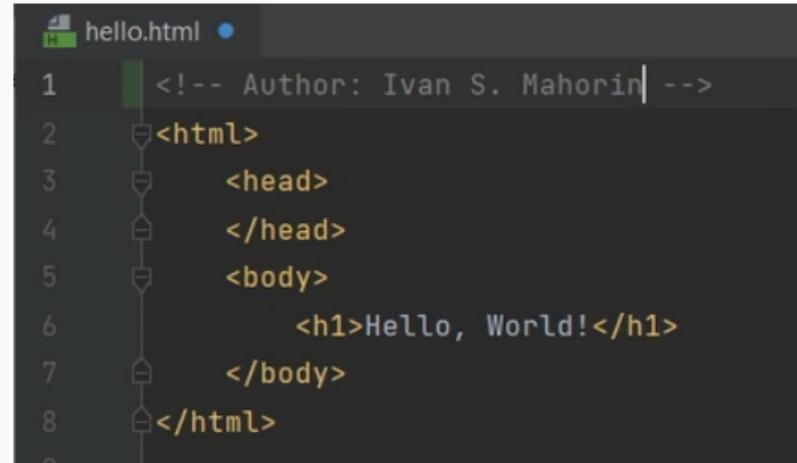
commit 4a655c202e8ab1fbcc0bc945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

    Initial Commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 38: Удаление тега oops

Внесение изменений в коммиты



The screenshot shows a code editor window with a dark theme. The file is named 'hello.html'. The code is as follows:

```
1 <!-- Author: Ivan S. Mahorin -->
2 <html>
3   <head>
4     </head>
5   <body>
6     <h1>Hello, World!</h1>
7   </body>
8 </html>
```

Рис. 39: Добавление в страницу комментария автора

Внесение изменений в коммиты

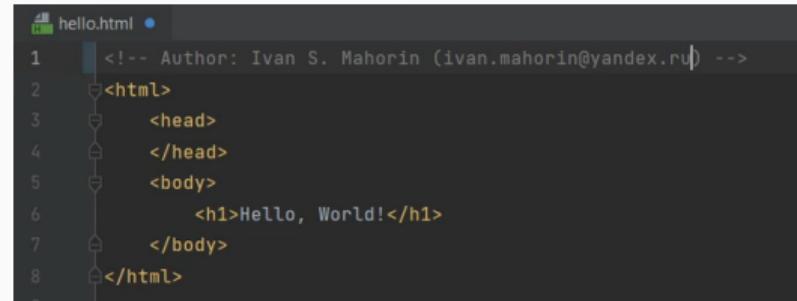
```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Add an author comment"
[master 184beed] Add an author comment
 1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 40: Коммит

Внесение изменений в коммиты



The screenshot shows a code editor displaying a file named 'hello.html'. The code is a simple HTML document with the following structure:

```
1  <!-- Author: Ivan S. Mahorin (ivan.mahorin@yandex.ru) -->
2  <html>
3      <head>
4          </head>
5      <body>
6          <h1>Hello, World!</h1>
7      </body>
8  </html>
```

The code editor uses syntax highlighting and indentation to make the structure clear. The file is currently at line 1, indicated by a blue vertical bar on the left.

Рис. 41: Добавление email

Внесение изменений в коммиты

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit --amend -m "Add an author/email comment"
[master ef99883] Add an author/email comment
  Date: Sat Feb 10 08:20:43 2024 +0300
  1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 42: Изменение предыдущего коммита

Внесение изменений в коммиты

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log
commit ef99883e2934a668eb2705b88302bc7dfe54b5dd (HEAD -> master)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:20:43 2024 +0300

    Add an author/email comment

commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (tag: v1)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300

    Added HTML header

commit 866efe5a303de974263c42fdb695c6f349e0c1b (tag: v1-beta)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:05:27 2024 +0300

    Added standard HTML page tags

commit 6e27f33880a0bf50ff296626e508f84dafc31ee4
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:02:23 2024 +0300

    «Added h1 tag»

commit 4a655c202e8ab1fbcc0bca945f888b540bf10b20
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:00:11 2024 +0300

    Initial Commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 43: Просмотр истории

Перемещение файлов

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ mkdir lib

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git mv hello.html lib

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:    hello.html -> lib/hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
```

Рис. 44: Перемещение файла hello.html в каталог lib

Перемещение файлов

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Moved hello.html to lib"
[master dfef41c] Moved hello.html to lib
 1 file changed, 0 insertions(+), 0 deletions(-)
 rename hello.html => lib/hello.html (100%)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 45: Коммит в новом каталоге

Подробнее о структуре

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ touch index.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add index.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added index.html."
[master aa60c28] Added index.html.
 1 file changed, 5 insertions(+)
 create mode 100644 index.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 46: Добавление index.html

Git внутри: Каталог .git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cd .git

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ ls
COMMIT_EDITMSG  ORIG_HEAD  description  index  logs/  packed-refs
HEAD           config     hooks/      info/  objects/ refs/
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ .l
```

Рис. 47: Каталог .git

Git внутри: Каталог .git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/Tab01/hello/.git (GIT_DIR!)
$ ls objects
0a/ 17/ 1f/ 3a/ 52/ 61/ 6e/ 86/ aa/ b8/ ca/ df/ ef/ f7/ pack/
0e/ 18/ 21/ 4a/ 56/ 62/ 7f/ 8a/ b4/ b9/ d2/ e9/ f3/ info/
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/Tab01/hello/.git (GIT_DIR!)
$
```

Рис. 48: Просмотр базы данных объектов

Git внутри: Каталог .git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ ls objects/0a
cf493dc314e50480cd41ec306b7eb64e48a5bc
```

Рис. 49: Углубление в базу данных объектов

Git внутри: Каталог .git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ cat config
[core]
    repositoryformatversion = 0
    filemode = false
    bare = false
    logallrefupdates = true
    symlinks = false
    ignorecase = true

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ |
```

Рис. 50: Просмотр Config File

Git внутри: Каталог .git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ ls refs
heads/  tags/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ ls refs/heads
master

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ ls refs/tags
v1  v1-beta

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ cat refs/tags/v1
e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ |
```

Рис. 51: Изучение веток и тегов

Git внутри: Каталог .git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ cat HEAD
ref: refs/heads/master

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$
```

Рис. 52: Файл HEAD

Работа непосредственно с объектами git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ git log --max-count=1
commit aa60c28a292591cd94484ec7f92482ed0e68e31e (HEAD -> master)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:26:24 2024 +0300

    Added index.html.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$
```

Рис. 53: Поиск последнего коммита

Работа непосредственно с объектами git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ git cat-file -t aa60c28a
commit

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ git cat-file -p aa60c28a
tree d258ffb922ff63ca6284dd57fd46683a1232728b
parent dfef41cf40f8b3b62cf6a239f85c81721a33008c
author Ivan-Mahorin <ivan.mahorin@yandex.ru> 1707542784 +0300
committer Ivan-Mahorin <ivan.mahorin@yandex.ru> 1707542784 +0300

Added index.html.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$
```

Рис. 54: Вывод последнего коммита с помощью SHA1 хэша

Работа непосредственно с объектами git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ git cat-file -p d258ffb922
100644 blob 8a3df81da2627a7b77bae3a87ae886120c9fb021    index.html
040000 tree b431c448abe9f899cd21c0598317b9502922a851    lib
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$
```

Рис. 55: Поиск дерева

Работа непосредственно с объектами git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$ git cat-file -p b431c448abe
100644 blob 7f3d585f31fbf2f37cb7876e0b534fbe4fe6060c    hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello/.git (GIT_DIR!)
$
```

Рис. 56: Вывод каталога lib

Работа непосредственно с объектами git

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ git cat-file -p 7f3d585f
<!-- Author: Ivan S. Mahorin (ivan.maho
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ |
```

Рис. 57: Вывод файла hello.html

Создание ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout -b style
Switched to a new branch 'style'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git status
On branch style
nothing to commit, working tree clean

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$
```

Рис. 58: Создание ветки

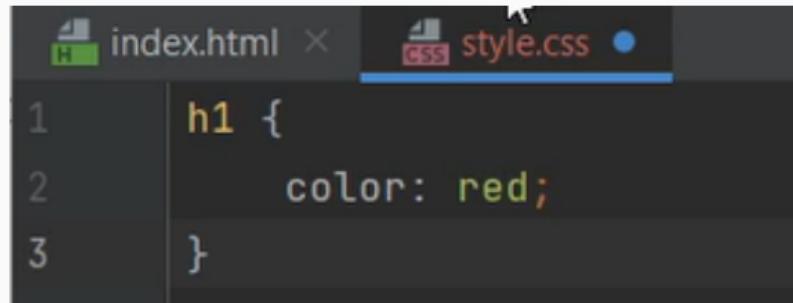
Создание ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ touch lib/style.css

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$
```

Рис. 59: Создание файла css

Создание ветки



The screenshot shows a code editor interface with two tabs: 'index.html' and 'style.css'. The 'style.css' tab is active, indicated by a blue underline and a blue dot in the tab bar. The code in the editor is:

```
1 h1 {  
2     color: red;  
3 }
```

Рис. 60: Добавление содержимого в файл

Создание ветки

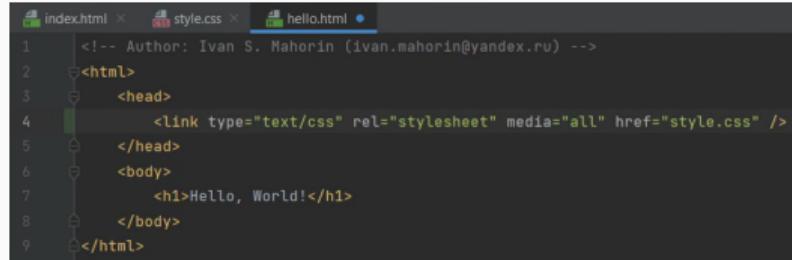
```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git add lib/style.css

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git commit -m "Added css stylesheet"
[style 91bc742] Added css stylesheet
 1 file changed, 3 insertions(+)
 create mode 100644 lib/style.css

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$
```

Рис. 61: Коммит

Создание ветки



```
index.html × style.css × hello.html ●
1  <!-- Author: Ivan S. Mahorin (ivan.mahorin@yandex.ru) -->
2  <html>
3   <head>
4    <link type="text/css" rel="stylesheet" media="all" href="style.css" />
5   </head>
6   <body>
7    <h1>Hello, World!</h1>
8   </body>
9  </html>
```

Рис. 62: Обновление файла hello.html

Создание ветки

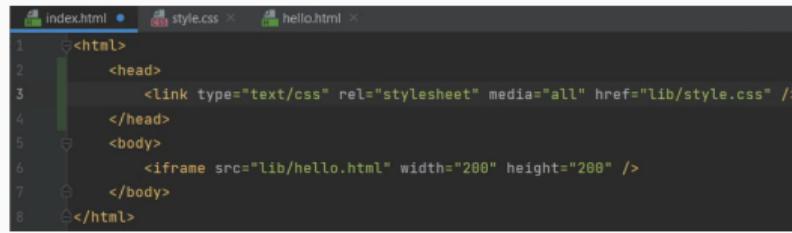
```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git add lib/hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git commit -m "Hello uses style.css"
[style 9fd3d10] Hello uses style.css
 1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$
```

Рис. 63: Коммит

Создание ветки



```
index.html • style.css × hello.html ×
1 <html>
2   <head>
3     <link type="text/css" rel="stylesheet" media="all" href="lib/style.css" />
4   </head>
5   <body>
6     <iframe src="lib/hello.html" width="200" height="200" />
7   </body>
8 </html>
```

Рис. 64: Обновление файла index.html

Создание ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git add index.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git commit -m "Updated index.html"
[style 429b594] Updated index.html
 1 file changed, 3 insertions(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$
```

Рис. 65: Коммит

Навигация по веткам

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git log --all
commit 429b59467712a57b6e8a487b5a3a645aafe429d5 (HEAD -> style)
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:36:36 2024 +0300
        I
        Updated index.html

commit 9fd3d1044e344c7b66b54e1c96443d5b52ba5e39
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:35:34 2024 +0300
        Hello uses style.css

commit 91bc742955e40067933109a44dc9f1eac193523a
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:34:17 2024 +0300
        Added css stylesheet

commit aa60c28a292591cd94484ec7f92482ed0e68e31e (master)
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:26:24 2024 +0300
        Added index.html.

commit ddef41cf40f8b3b62cf6a239f85c81721a33008c
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:23:04 2024 +0300
        Moved hello.html to lib

commit ef99883e2934a668eb2705b88302bc7dfe54b5dd
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:20:43 2024 +0300
        Add an author/email comment

commit e9e7ae5e45ced4b85256116d4467ee7b0e86c4e3 (tag: v1)
Author: Ivan-Mahorin <iwan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:06:02 2024 +0300
```

Рис. 66: Навигация по веткам

Навигация по веткам

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cat lib/hello.html
<!-- Author: Ivan S. Mahorin (ivan.mahorin@yandex.ru) -->
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 67: Переключение на ветку master

Навигация по веткам

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout style
Switched to branch 'style'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ cat lib/hello.html
<!-- Author: Ivan S. Mahorin (ivan.mahorin@yandex.ru) -->
<html>
  <head>
    <link type="text/css" rel="stylesheet" media="all" href="style.css" />
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$
```

Рис. 68: Переключение на ветку style

Изменения в ветке master

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ echo "This is the Hello World example from the git tutorial." > README.md

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 69: Создание файла README.md

Сделайте коммит изменений README.md в ветку master

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add README.md

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added README"
[master 209871a] Added README
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 70: Коммит изменений README.md в ветку master

Сделайте коммит изменений README.md в ветку master

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git log --graph --all
* commit 209871a5ef3edsecc108f2361a92bc4f80dba2df (HEAD -> master)
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:38:38 2024 +0300
|
|     Added README
|
|* commit 429b59467712a57b6e8a487b5a3a645aafe429d5 (style)
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date:   Sat Feb 10 08:36:36 2024 +0300
| |
| |     Updated index.html
|
|* commit 9fd3d1044e344c7b66b54e1c96443d5b52ba5e39
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date:   Sat Feb 10 08:35:34 2024 +0300
| |
| |     Hello uses style.css
|
|* commit 91bc742955e40067933109a44dc9f1eac193523a
| / Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:34:17 2024 +0300
|
|     Added css stylesheet
|
* commit aa60c28a92591cd94484ec7f92482ed0e68e31e
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:26:24 2024 +0300
|
|     Added index.html.
|
* commit ddef41cf40f8b3b62cf6a239f85c81721a33008c
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:23:04 2024 +0300
|
|     Moved hello.html to lib
|
* commit ef99883e2934a668eb2705b88302bc7dfe54b5dd
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
```

Рис. 71: Просмотр текущих веток

Слияние

```
Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (style)
$ git merge master
Merge made by the 'ort' strategy.
 README.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (style)
$ git log --graph --all
* commit e311b7e3cfb3a0e5f51b34ff148ab95be64c896b (HEAD -> style)
|\ Merge: 429b594 209871a
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date: Sat Feb 10 08:39:16 2024 +0300
| |
| |     Merge branch 'master' into style
| |
* commit 209871a5ef3ed5ecc108f2361a92bc4f80dba2df (master)
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date: Sat Feb 10 08:38:38 2024 +0300
| |
| |     Added README
| |
* commit 429b59467712a57b6e8a487b5a3a645aafe429d5
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date: Sat Feb 10 08:36:36 2024 +0300
| |
| |     Updated index.html
| |
* commit 9fd3d1044e344c7b66b54e1c96443d5b52ba5e39
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date: Sat Feb 10 08:35:34 2024 +0300
| |
| |     Hello uses style.css
| |
* commit 91bc742955e40067933109a44dc9f1eac193523a
| | Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| | Date: Sat Feb 10 08:34:17 2024 +0300
| |
| |     Added css stylesheet
| |
* commit aa60c28a292591cd94484ec7f92482ed0e68e31e
```

Рис. 72: Слияние веток

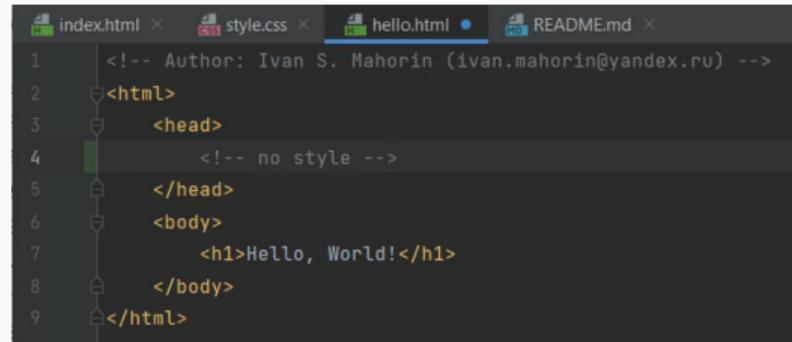
Создание конфликта

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 73: Возвращение в ветку master

Создание конфликта



The screenshot shows a code editor with four tabs at the top: index.html, style.css, hello.html (which is currently active), and README.md. The hello.html tab has a blue dot next to it, indicating it has changes. The editor displays the following HTML code:

```
<!-- Author: Ivan S. Mahorin (ivan.mahorin@yandex.ru) -->
<html>
  <head>
    <!-- no style -->
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

The line containing the comment '<!-- no style -->' is highlighted with a green background, and the cursor is positioned on the same line.

Рис. 74: Внесение изменений в файл

Создание конфликта

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add lib/hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m 'Life is great'
[master 01aabbd] Life is great
 1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 75: Коммит

Создание конфликта

```
* commit 01aab6128e50c2bbebbe9f487/e8ect9/bb6350 (HEAD -> master)
  Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
  Date:  Sat Feb 10 08:40:59 2024 +0300

    Life is great

* commit e311b7e3cfb3a0e5f51b34ff148ab95be64c896b (style)
| Merge: 429b594 209871a
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:  Sat Feb 10 08:39:16 2024 +0300
|
|       Merge branch 'master' into style

* commit 209871a5ef3ed5ecc108f2361a92bc4f80dba2df
  Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
  Date:  Sat Feb 10 08:38:38 2024 +0300

    Added README

* commit 429b59467712a57b6e8a487b5a3a645aafe429d5
  Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
  Date:  Sat Feb 10 08:36:36 2024 +0300

    Updated index.html

* commit 9fd3d1044e344c7b66b54e1c96443d5b52ba5e39
  Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
  Date:  Sat Feb 10 08:35:34 2024 +0300

    Hello uses style.css

* commit 91bc742955e40067933109a44dc9f1eac193523a
  Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
  Date:  Sat Feb 10 08:34:17 2024 +0300

    Added css stylesheet

* commit aa60c28a292591cd94484ec7f92482ed0e68e31e
  Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
  Date:  Sat Feb 10 08:26:24 2024 +0300
```

Рис. 76: Просмотр веток

Разрешение конфликтов

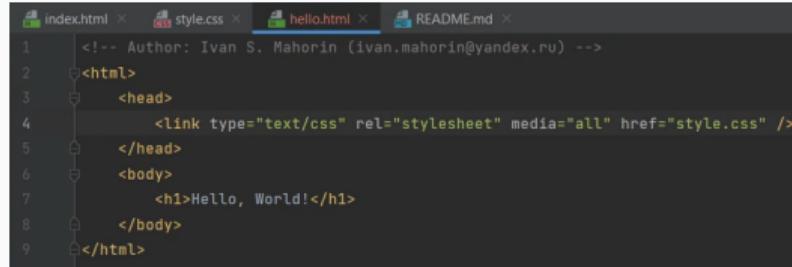
```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout style
Switched to branch 'style'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git merge master
Auto-merging lib/hello.html
CONFLICT (content): Merge conflict in lib/hello.html
Automatic merge failed; fix conflicts and then commit the result.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style|MERGING)
$ |
```

Рис. 77: Попытка объединения

Разрешение конфликтов



The screenshot shows a code editor with several tabs at the top: index.html, style.css, hello.html (which is the active tab), and README.md. The hello.html tab contains the following code:

```
1  <!-- Author: Ivan S. Mahorin (ivan.mahorin@yandex.ru) -->
2  <html>
3      <head>
4          <link type="text/css" rel="stylesheet" media="all" href="style.css" />
5      </head>
6      <body>
7          <h1>Hello, World!</h1>
8      </body>
9  </html>
```

Рис. 78: Решение конфликта

Разрешение конфликтов

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style|MERGING)
$ git add lib/hello.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style|MERGING)
$ git commit -m "Merged master fixed conflict."
[style cd51a6c] Merged master fixed conflict.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ |
```

Рис. 79: Коммит решения конфликта

Разрешение конфликтов

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git checkout style
Already on 'style'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git log --graph
* commit cd51a6c3836e94ff604259bc45a78755e79fba49 (HEAD -> style)
| Merge: e311b7e 0laabd6
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:43:29 2024 +0300
|
|     Merged master fixed conflict.
|
* commit 01aabbd6128e50c2bebbe9f4877e8ecf97bb6350 (master)
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:40:59 2024 +0300
|
|     Life is great
|
* commit e311b7e3cfb3a0e5f51b34ff148ab95be64c896b
| Merge: 429b594 209871a
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:39:16 2024 +0300
|
|     Merge branch 'master' into style
|
* commit 209871a5ef3ed5ecc108f2361a92bc4f80dba2df
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:38:38 2024 +0300
|
|     Added README
|
* commit 429b59467712a57b6e8a487b5a3a645aafe429d5
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:36:36 2024 +0300
|
|     Updated index.html
|
commit 9fd3d1044e344c7b66b54e1c96443d5b52ba5e39
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
```

Рис. 80: Возвращение на ветку style

Сброс ветки style

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git reset --hard 429b59467
HEAD is now at 429b594 Updated index.html
```

Рис. 81: Сброс ветки style к нужному коммиту

Сброс ветки style

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ git log --graph --all
* commit 01aabd6128e50c2bbebbe9f4877e8e
| Author: Ivan-Mahorin <ivan.mahorin@ya
| Date:   Sat Feb 10 08:40:59 2024 +030
|
|     Life is great
|
* commit 209871a5ef3ed5ecc108f2361a92bc
| Author: Ivan-Mahorin <ivan.mahorin@ya
| Date:   Sat Feb 10 08:38:38 2024 +030
|
|     Added README
|
* commit 429b59467712a57b6e8a487b5a3a
| Author: Ivan-Mahorin <ivan.mahorin@ya
| Date:   Sat Feb 10 08:36:36 2024 +0
|
|     Updated index.html
|
* commit 9fd3d1044e344c7b66b54e1c9644
| Author: Ivan-Mahorin <ivan.mahorin@ya
| Date:   Sat Feb 10 08:35:34 2024 +0
|
|     Hello uses style.css
|
* commit 91bc742955e40067933109a44dc9
| Author: Ivan-Mahorin <ivan.mahorin@ya
| Date:   Sat Feb 10 08:34:17 2024 +0
|
|     Added css stylesheet
|
* commit aa60c28a292591cd94484ec7f92482
| Author: Ivan-Mahorin <ivan.mahorin@ya
| Date:   Sat Feb 10 08:26:24 2024 +030
```

Сброс ветки master

```
* commit 209871a5ef3ed5ecc108f2361a92bc4f80dba2df (HEAD -> master)
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:38:38 2024 +0300
|
|       Added README
|
* commit 429b59467712a57b6e8a487b5a3a645aafe429d5 (style)
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:36:36 2024 +0300
|
|       Updated index.html
|
* commit 9fd3d1044e344c7b66b54e1c96443d5b52ba5e39
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:35:34 2024 +0300
|
|       Hello uses style.css
|
* commit 91bc742955e40067933109a44dc9f1eac193523a
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:34:17 2024 +0300
|
|       Added css stylesheet
|
* commit aa60c28a292591cd94484ec7f92482ed0e68e31e
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:26:24 2024 +0300
|
|       Added index.html.
|
* commit dfef41cf40f8b3b62cf6a239f85c81721a33008c
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:23:04 2024 +0300
|
|       Moved hello.html to lib
|
* commit ef99883e2934a668eb2705b88302bc7dfe54b5dd
| Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
| Date:   Sat Feb 10 08:20:43 2024 +0300
```

Рис. 83: Сброс ветки master

Перебазирование

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout style
Switched to branch 'style'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git rebase master
Successfully rebased and updated refs/heads/style.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ |
```

Рис. 84: Перебазирование

Слияние в ветку master

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (style)
$ git checkout master
Switched to branch 'master'

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git merge style
Updating 209871a..4cc9ddd
Fast-forward
  index.html    | 3 +++
  lib/hello.html | 1 +
  lib/style.css  | 3 +++
  3 files changed, 7 insertions(+)
  create mode 100644 lib/style.css

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 85: Слияние style в master

Слияние в ветку master

```
Ivan@DESKTOP-08NNZQL MINGW64 ~/MD/lab01/hello (master)
$ git log
commit 4cc9ddd70e4cce08f7996411bf4a3f8831dcc6c (HEAD -> master, style)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:36:36 2024 +0300

    Updated index.html

commit 31adfc75eff26b4921a4caabdb4487758f967f5e
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:35:34 2024 +0300

    Hello uses style.css

commit ba5d66da1d65fab7416559e73e403ed4e02ca940
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:34:17 2024 +0300

    Added css stylesheet

commit 209871a5ef3edSecc108f2361a92bc4f80dba2df
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:38:38 2024 +0300

    Added README

commit aa60c28a292591cd94484ec7f92482ed0e68e31e
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:26:24 2024 +0300

    Added index.html.

commit dfef41cf40f8b3b62cf6a239f85c81721a33008c
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
```

Рис. 86: Просмотр логов

Клонирование репозиториев

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cd

Ivan@DESKTOP-08NN2QL MINGW64 ~
$ cd MD/lab01

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ ls
hello/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ pwd
/c/Users/Ivan/MD/lab01

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ |
```

Рис. 87: Клонирование репозиториев

Клонирование репозиториев

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ git clone hello cloned_hello
Cloning into 'cloned_hello'...
done.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ ls
cloned_hello/  hello/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ |
```

Рис. 88: Создание клона репозитория hello

Просмотр клонированного репозитория

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ cd cloned_hello

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ ls
README.md  index.html  lib/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ |
```

Рис. 89: Просмотр клонированного репозитория

Просмотр клонированного репозитория

```
commit 4cc9ddd/0e4cceaa08f7996411bf4a3f8831dcc0c (HEAD -> master, origin/style, origin/master, origin/HE
AD)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:36:36 2024 +0300

    Updated index.html

commit 31adfc75eff26b4921a4caadb4487758f967f5e
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:35:34 2024 +0300

    Hello uses style.css

commit ba5d66dal0d65fab7416559e73e403ed4e02ca940
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:34:17 2024 +0300

    Added css stylesheet

commit 209871a5ef3ed5ecc108f2361a92bc4f80dba2df
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:38:38 2024 +0300

    Added README

commit aa60c28a292591cd94484ec7f92452ed0e68e31e
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:26:24 2024 +0300

    Added index.html.

commit dfef41cf40f8b3b62cf6a239f85c81721a33008c
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:23:04 2024 +0300

    Moved hello.html to lib

commit ef99883e2934a668eb2705b88302bc7dfe54b5dd
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:20:43 2024 +0300
```

Рис. 90: Просмотр истории репозитория

Что такое origin?

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git remote
origin

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git remote show origin
* remote origin
  Fetch URL: C:/Users/Ivan/MD/lab01/hello
  Push  URL: C:/Users/Ivan/MD/lab01/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)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ |
```

Рис. 91: Изучение origin

Удаленные ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git branch
* master

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ ...
```

Рис. 92: Просмотр доступных веток в клонированном репозитории

Удаленные ветки

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git branch -a
* master
  remotes/origin/HEAD -> origin/master
  remotes/origin/master
  remotes/origin/style

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ |
```

Рис. 93: Просмотр всех веток

Изменение оригинального репозитория

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ cd /c/Users/Ivan/MD/lab01/hello

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 94: Переход в репозиторий hello

Изменение оригинального репозитория

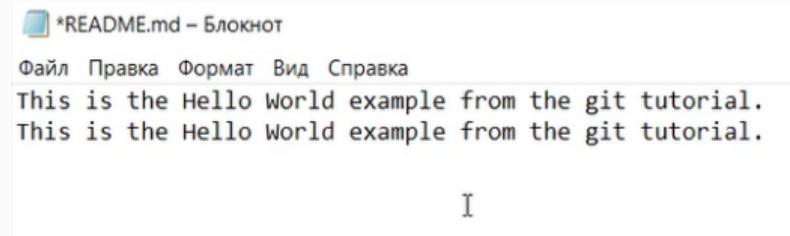


Рис. 95: Внесение изменения в файл README.md

Изменение оригинального репозитория

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add README.md

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Changed README in original repo"
[master 09a7f97] Changed README in original repo
 1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 96: Добавление изменения и создание коммита

Изменение оригинального репозитория

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cd /c/Users/Ivan/MD/lab01/cloned_hello

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ 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), 364 bytes | 19.00 KiB/s, done.
From C:/Users/Ivan/MD/lab01/hello
    4cc9ddd..09a7f97  master      -> origin/master

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ |
```

Рис. 97: Извлечение изменений

Изменение оригинального репозитория

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ cat README.md
This is the Hello World example from the git tutorial.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$
```

Рис. 98: Проверка README.md

Слияние извлеченных изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git merge origin/master
Updating 4cc9ddd..09a7f97
Fast-forward
 README.md | 1 +
 1 file changed, 1 insertion(+)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ |
```

Рис. 99: Слив извлеченных изменений в локальную ветку master

Слияние извлеченных изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ cat README.md
This is the Hello World example from the git tutorial.
This is the Hello World example from the git tutorial.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git pull
Already up to date.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$
```

Рис. 100: Объединение fetch и merge в одну команду

Добавление ветки наблюдения

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git branch --track style origin/style
branch 'style' set up to track 'origin/style'.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git branch -a
* master
  style
    remotes/origin/HEAD -> origin/master
    remotes/origin/master
    remotes/origin/style

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git log --max-count=2
commit 09a7f97a4944632d5766f32ba2caed6dac86be9b (HEAD -> master, origin/master, origin/HEAD)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:51:57 2024 +0300

    Changed README in original repo

commit 4cc9ddd70e4cea08f99641bf4a3f8831dcc6c (origin/style, style)
Author: Ivan-Mahorin <ivan.mahorin@yandex.ru>
Date:   Sat Feb 10 08:36:36 2024 +0300

    Updated index.html

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$
```

Рис. 101: Добавление локальной ветки, которая отслеживает удаленную ветку

Создайте чистый репозиторий

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ cd /c/Users/Ivan/MD/lab01

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ ls
cloned_hello/ hello/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ git clone --bare hello hello.git
Cloning into bare repository 'hello.git'...
done.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ ls
cloned_hello/ hello/ hello.git/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ ls hello.git
HEAD config description hooks/ info/ objects/ packed-refs refs/

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$
```

Рис. 102: Создание чистого репозитория

Добавление удаленного репозитория

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01
$ cd hello

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git remote add shared /c/Users/Ivan/MD/lab01/hello.git

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$
```

Рис. 103: Добавление удаленного репозитория

Отправка изменений

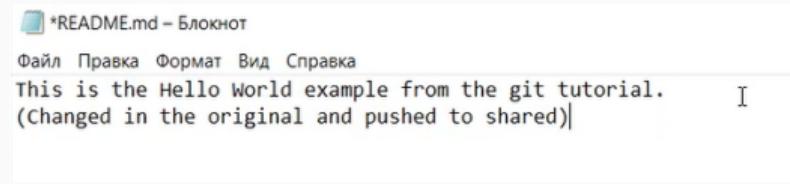


Рис. 104: Редактирование файла README.md

Отправка изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git checkout master
Already on 'master'
M      README.md

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add README
fatal: pathspec 'README' did not match any files

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git add README.md

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ git commit -m "Added shared comment to readme"
[master 8a566b6] Added shared comment to readme
 1 file changed, 1 insertion(+), 1 deletion(-)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ 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), 407 bytes | 407.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To C:/Users/Ivan/MD/lab01/hello.git
 09a7f97..8a566b6  master -> master

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ |
```

Рис. 105: Коммит и отправка изменений в общий репозиторий

Извлечение общих изменений

```
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/hello (master)
$ cd /c/Users/Ivan/MD/lab01/cloned_hello

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git remote add shared /c/Users/Ivan/MD/lab01/hello.git

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ git branch --track shared master
branch 'shared' set up to track 'master'.

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ 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), 387 bytes | 11.00 KiB/s, done.
From C:/Users/Ivan/MD/lab01/hello
 * branch           master      -> FETCH_HEAD
 * [new branch]     master      -> shared/master
Updating 09a7f97..8a566b6
Fast-forward
 README.md | 2 ++
 1 file changed, 1 insertion(+), 1 deletion(-)

Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ cat README.md
This is the Hello World example from the git tutorial.
(Changed in the original and pushed to shared)
Ivan@DESKTOP-08NN2QL MINGW64 ~/MD/lab01/cloned_hello (master)
$ |
```

Рис. 106: Извлечение общих изменений

- В результате выполнения лабораторной работы мы научились полному взаимодействию с git и разобрали основные его особенности.