Работа с Git

1.1

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ git config --global user.name "Boris Osovitsky"

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ git config --global user.email "007boris05@gmail.com"
```

Рисунок 1 - Установка имени и электронной почты

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ git config --global core.autocrlf true

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ git config --global core.safecrlf true
```

Рисунок 2 - Параметры окончаний строк

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ git config --global core.quotepath off
```

Рисунок 3 - Установка отображения unicode

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ mkdir hello

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ cd hello

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello
$ touch hello.html
```

Рисунок 4 - Создание каталога и файла

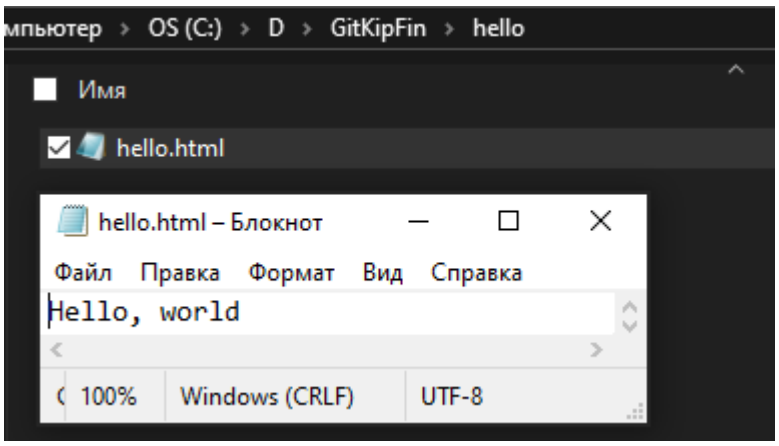


Рисунок 5 - Содержание файла

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello
$ git init
Initialized empty Git repository in C:/D/GitKipFin/hello/.git/
```

Рисунок 6 - Создание репозитория

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "First Commit"
[master (root-commit) b44c776] First Commit
 1 file changed, 1 insertion(+)
 create mode 100644 hello.html
```

Рисунок 7 - Добавление в репозиторий

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git status
On branch master
nothing to commit, working tree clean
```

Рисунок 8 - Проверка состояния репозиторияс

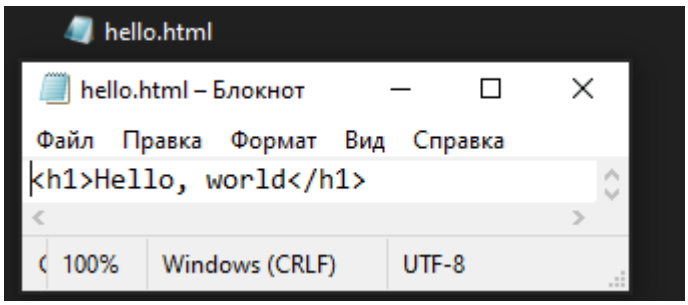


Рисунок 9 - Внесение изменений в файл

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/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")
```

Рисунок 10 - Сообщение о незафиксированных изменениях

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

Рисунок 11 - Команды для индексации изменений

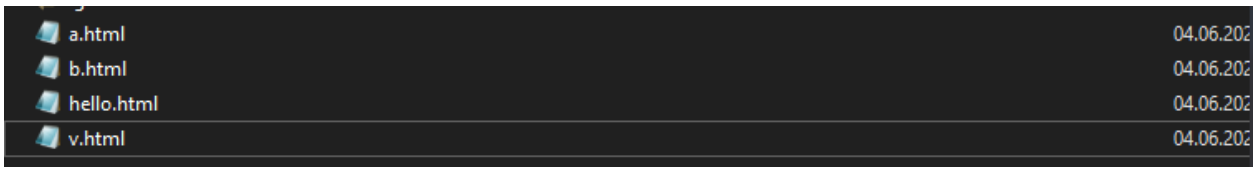


Рис Рисунок 12 - Создано 3 файла

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add a.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add b.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Changes for a and b"
[master 3839ded] Changes for a and b
 3 files changed, 3 insertions(+), 1 deletion(-)
 create mode 100644 a.html
 create mode 100644 b.html
```

Рисунок 13 - Индексация и коммит для 2 файлов

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add v.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Unrelated change for v"
[master 1b80f9a] Unrelated change for v
 1 file changed, 1 insertion(+)
 create mode 100644 v.html
```

Рисунок 14 - Индексация и коммит для третьего файла

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ cd hello

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add .

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit --m "Hello"
[master 3242edf] Hello
 1 file changed, 1 insertion(+), 1 deletion(-)
```

Рисунок 15 - Коммит изменений

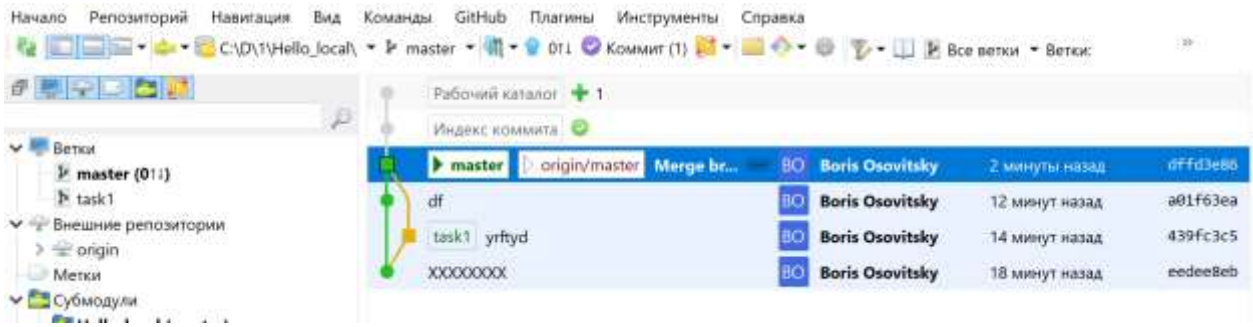


Рисунок 8-24 – Полученный результат

1.2

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git log
commit 3242edf165ded8b5799f517b832b4ffd530c134b (HEAD -> master)
Author: Boris Osovitsky <007boris05@gmail.com>
Date:   Wed Jun 4 16:53:45 2025 +0300

    Hello

commit 1b80f9a49d99fb441107dea349702ecf484816b3
Author: Boris Osovitsky <007boris05@gmail.com>
Date:   Wed Jun 4 16:35:10 2025 +0300

    Unrelated change for v

commit 3839ded3c127bb642191c4db709981dc8441f1c5
Author: Boris Osovitsky <007boris05@gmail.com>
Date:   Wed Jun 4 16:32:44 2025 +0300

    Changes for a and b

commit b44c77610a42e6a7fbbb2770365917deb3210603
Author: Boris Osovitsky <007boris05@gmail.com>
Date:   Wed Jun 4 16:22:22 2025 +0300
```

Рисунок 16 - Просмотр истории изменений

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git log --pretty=oneline --all
3242edf165ded8b5799f517b832b4ffd530c134b (HEAD -> master) Hello
1b80f9a49d99fb441107dea349702ecf484816b3 Unrelated change for v
3839ded3c127bb642191c4db709981dc8441f1c5 Changes for a and b
b44c77610a42e6a7fbbb2770365917deb3210603 First Commit
```

Рисунок 17 - Однострочный формат вывода

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git log --pretty=oneline --until='5 minutes ago'
3242edf165ded8b5799f517b832b4ffd530c134b (HEAD -> master) Hello
1b80f9a49d99fb441107dea349702ecf484816b3 Unrelated change for v
3839ded3c127bb642191c4db709981dc8441f1c5 Changes for a and b
b44c77610a42e6a7fbbb2770365917deb3210603 First Commit
```

Рисунок 18 - Вывод изменений до определенного времени

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git log --all --pretty=format:"%h %cd %s (%an)" --since='12 days ago'
3242edf Wed Jun 4 16:53:45 2025 +0300 Hello (Boris Osovitsky)
1b80f9a Wed Jun 4 16:35:10 2025 +0300 Unrelated change for v (Boris Osovitsky)
3839ded Wed Jun 4 16:32:44 2025 +0300 Changes for a and b (Boris Osovitsky)
b44c776 Wed Jun 4 16:22:22 2025 +0300 First Commit (Boris Osovitsky)
```

Рисунок 4 - Использование нескольких параметров

Рисунок 5 - Настройка алиасов для некоторых команд

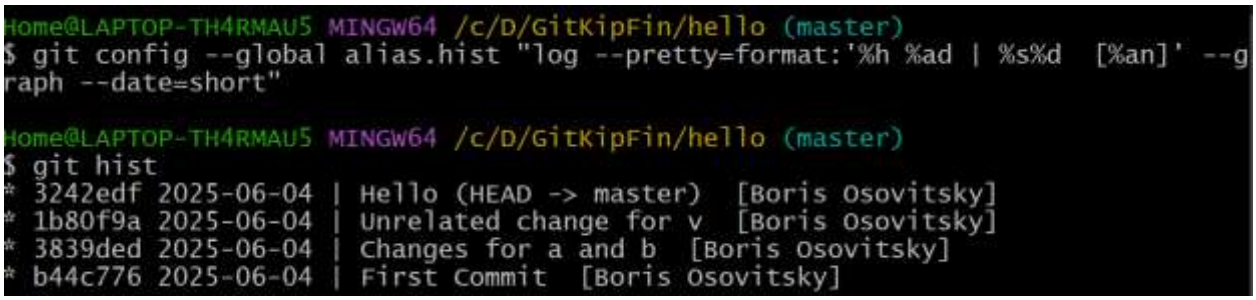


Рисунок 6 - Выполнение алиаса hist

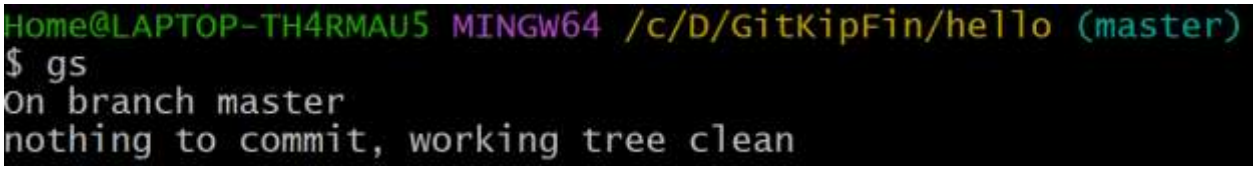


Рисунок 7 - Установка и выполнение алиаса gs

Рисунок 8 - Просмотр хэшей предыдущих версий

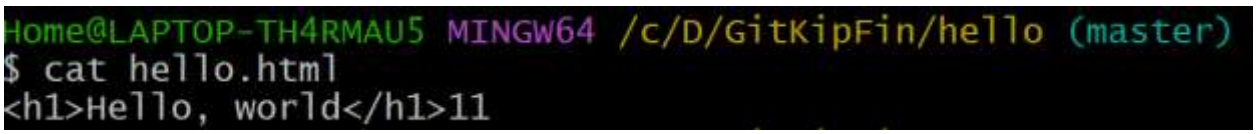


Рисунок 9 - Возвращение к последней версии в ветке master

Рисунок 10 - Задание тега

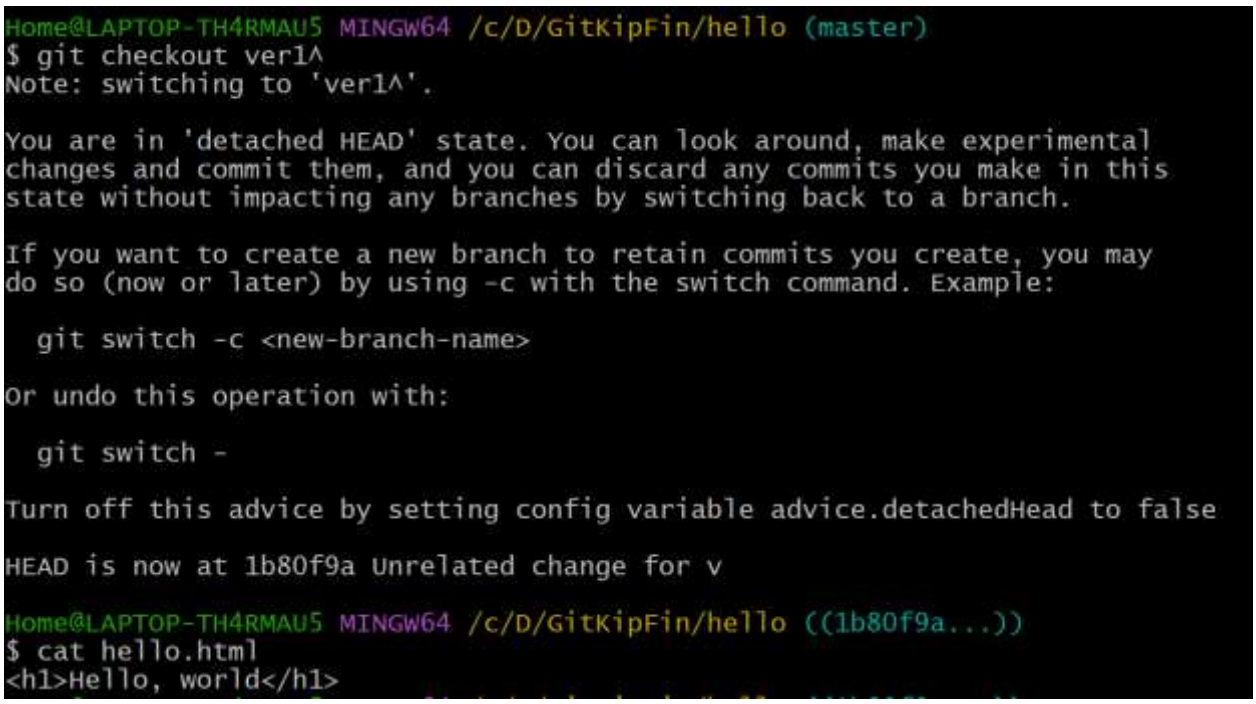


Рисунок 11 – Переход к предыдущей версии с помощью тега

Рисунок 12 - Задание тега предыдущей версии

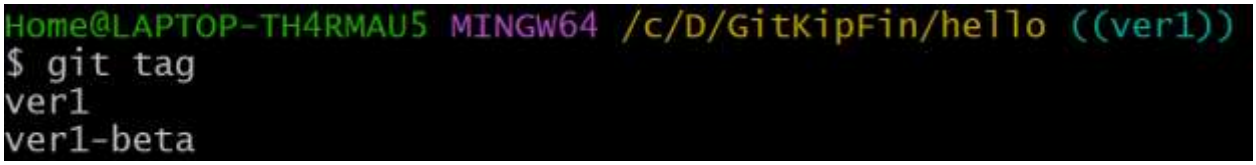


Рисунок 13 - Просмотр тегов

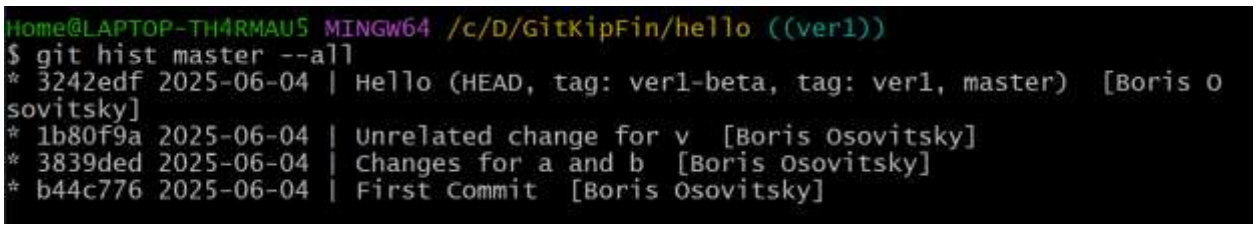


Рисунок 14 - Просмотр тегов в логе

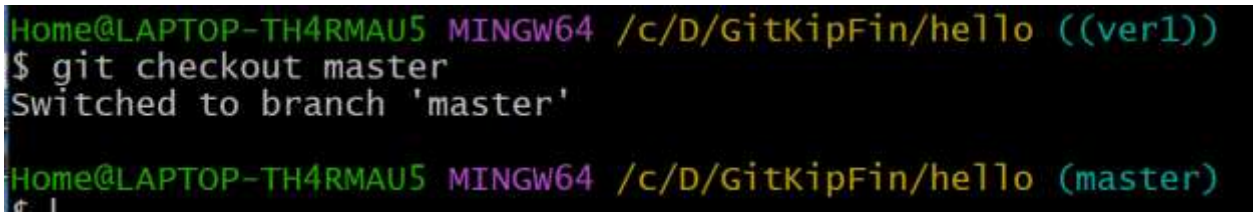


Рисунок 15 - Переключение на последний коммит

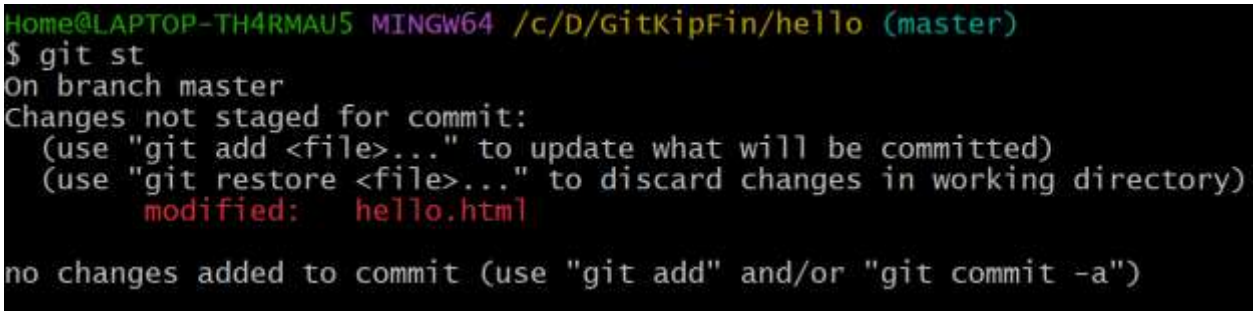


Рисунок 16 - Не проиндексированное изменение

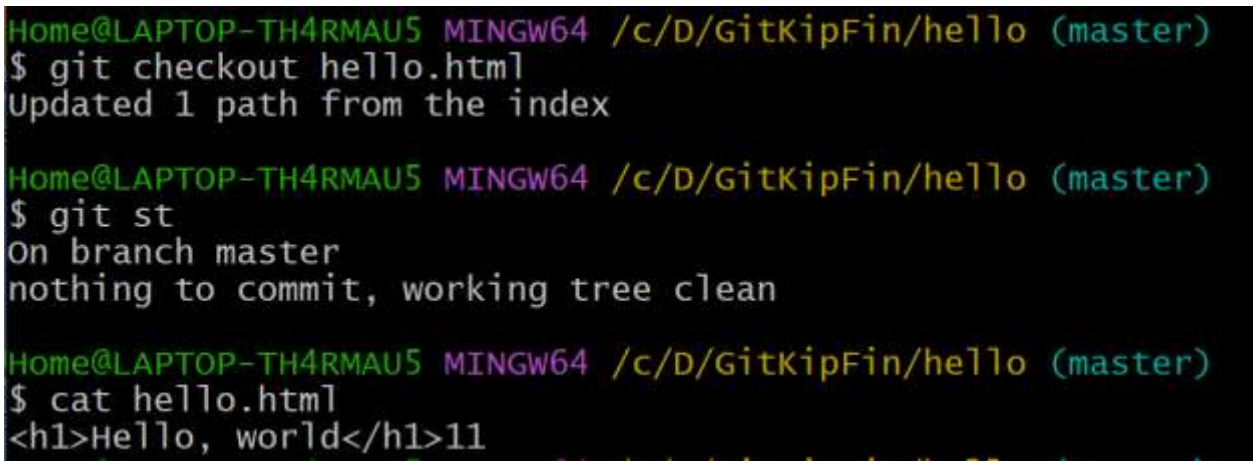


Рисунок 17 - Возвращение к версии

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git st
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

Рисунок 18 - Индексация изменения

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git reset HEAD hello.html
Unstaged changes after reset:
M       hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git st
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")
```

Рисунок 19 - Очистка буферной зоны

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git checkout hello.html
Updated 1 path from the index

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git st
On branch master
nothing to commit, working tree clean
```

Рисунок 20 - Удаление ненужных изменений

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Oops, this is bad commit"
[master 9bb271b] Oops, this is bad commit
 1 file changed, 3 insertions(+), 1 deletion(-)
```

Рисунок 21 - Индексация и коммит

Рисунок 22 - Все коммиты при просмотре лога

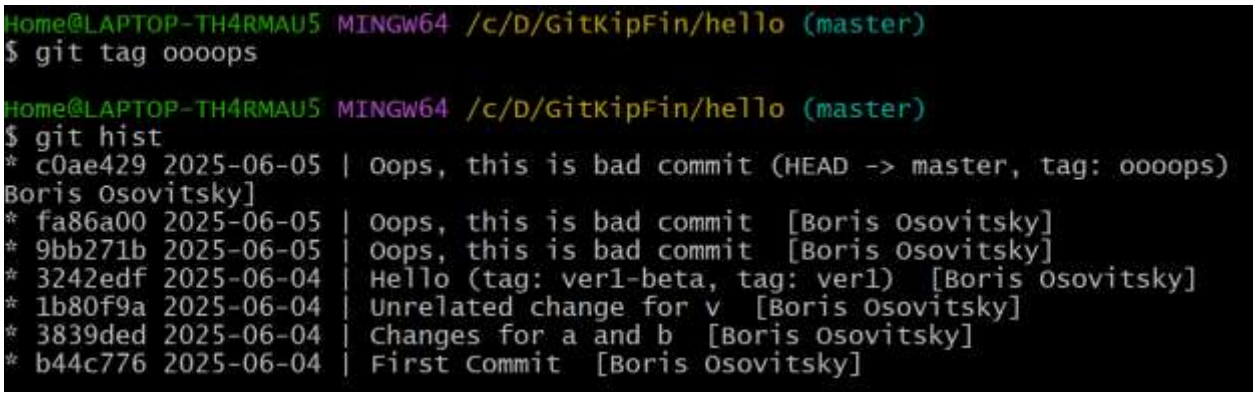


Рисунок 23 - Отметка тегом коммита

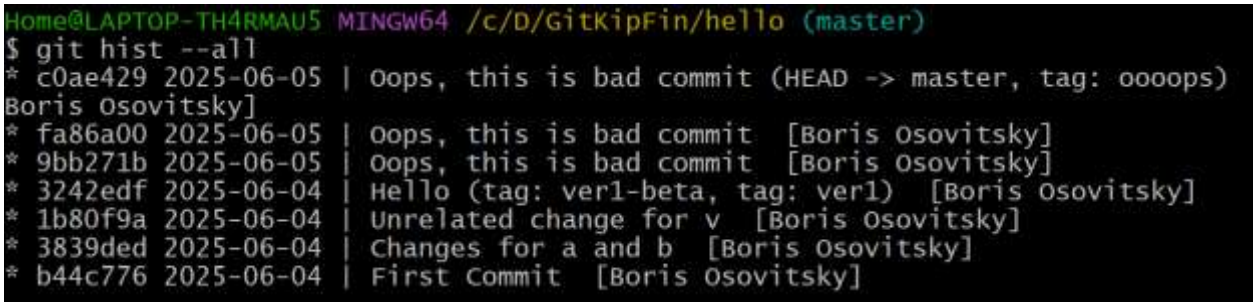


Рисунок 24 - Сброшенные коммиты находятся по-прежнему в репозитории

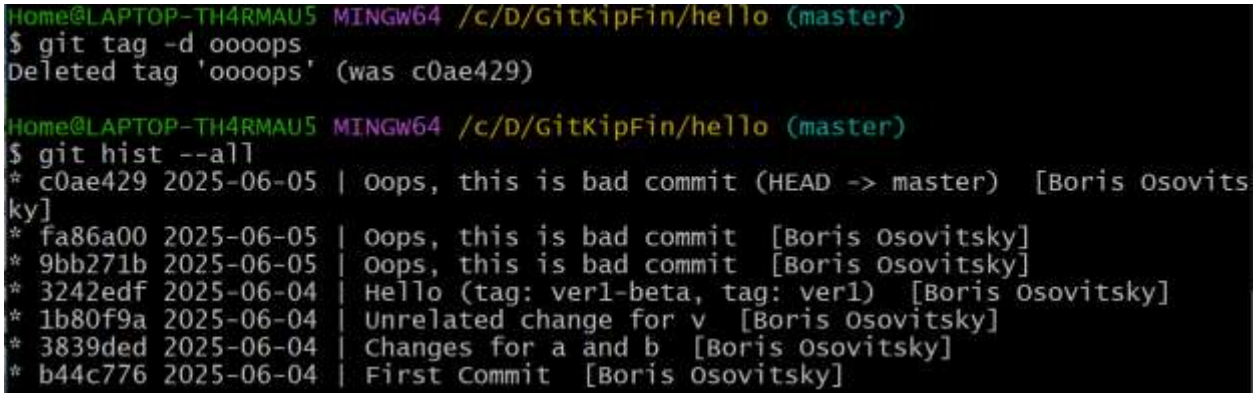


Рисунок 25 - Удаление тега

1.3

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Add an author comment"
[master a3e99ee] Add an author comment
 1 file changed, 3 insertions(+), 2 deletions(-)
```

Рисунок 1 - Индексация и коммит

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit --amend -m "Add an author/email comment"
[master ca18956] Add an author/email comment
 Date: Thu Jun 5 16:08:40 2025 +0300
 1 file changed, 3 insertions(+), 2 deletions(-)
```

Рисунок 2 - Индексация и изменение коммита

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git hist
* ca18956 2025-06-05 | Add an author/email comment (HEAD -> master)  [Boris Osov
itsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 3 - Последний коммит изменен

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ mkdir lib

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git mv hello.html lib

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        renamed:    hello.html -> lib/hello.html
```

Рисунок 4 - Перемещение файла

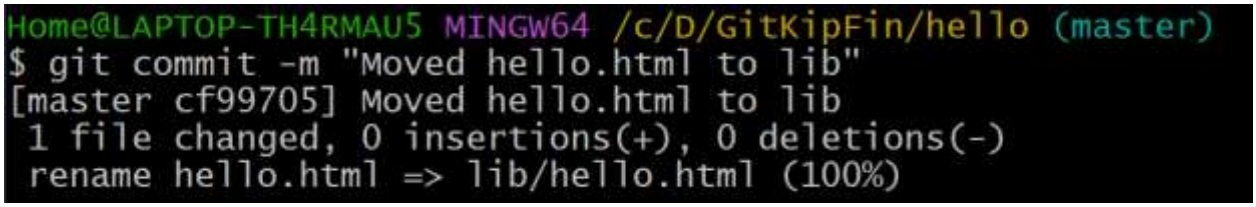


Рисунок 5 – Коммит перемещения

Рисунок 6 - Индексация и коммит

Рисунок 7 - Содержание каталога. git

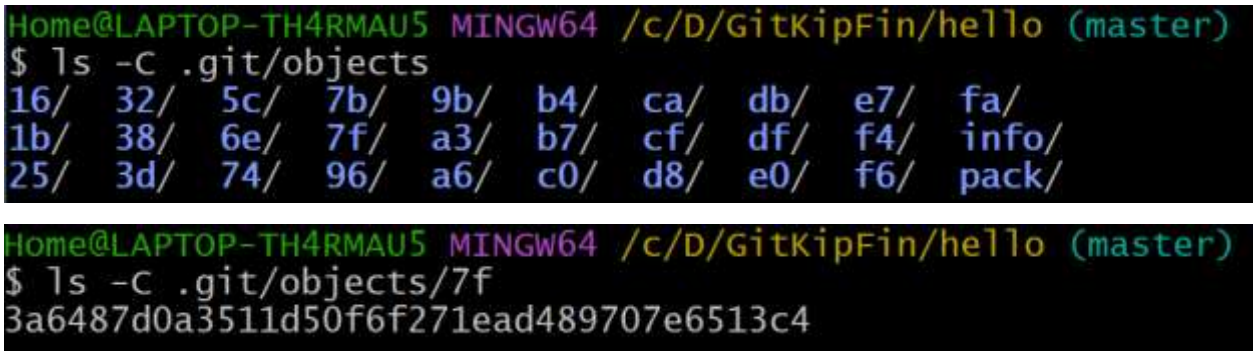


Рисунок 8 - Содержание каталога objects

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ cat .git/config
[core]
        repositoryformatversion = 0
        filemode = false
        bare = false
        logallrefupdates = true
        symlinks = false
        ignorecase = true
```

Рисунок 9 - Просмотр файла конфигурации

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ ls .git/refs
heads/  tags/

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ ls .git/refs/heads
master

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ ls .git/refs/tags
ver1  ver1-beta

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ cat .git/refs/tags/ver1
3242edf165ded8b5799f517b832b4ffd530c134b
```

Рисунок 10 - Просмотр файлов и веток

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ cat .git/HEAD
ref: refs/heads/master
```

Рисунок 11 - Содержимое файла HEAD

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git hist --max-count=1
* e003ca7 2025-06-05 | Added index.html (HEAD -> master)  [Boris Osovit
sky]
```

Рисунок 12 - Последний коммит

Рисунок 13 - Просмотр объекта коммита

Рисунок 14 - Использование алиасов

Рисунок 15 - Просмотр дерева каталогов

Рисунок 16 - Просмотр каталога lib

Рисунок 17 - Вывод содержимого файла hello.html

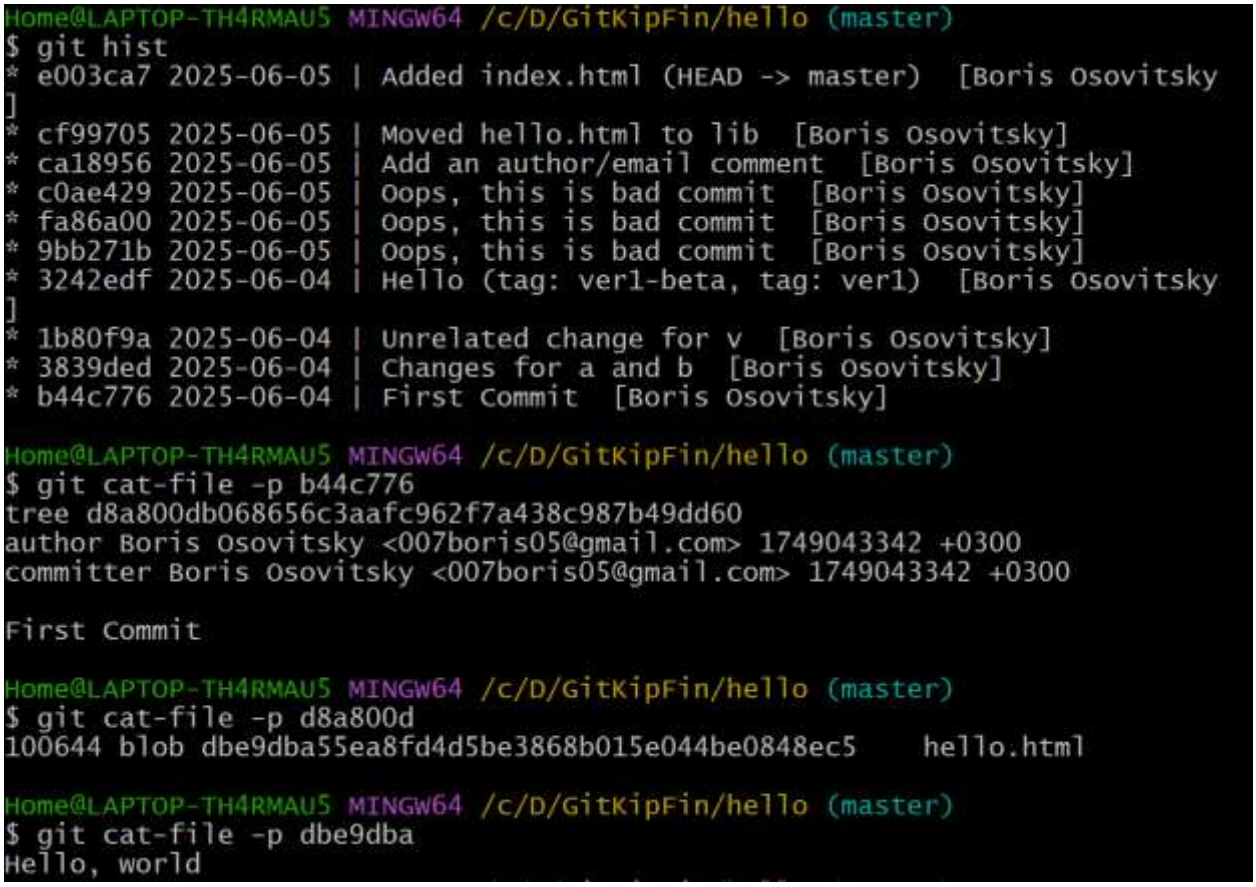


Рисунок 18 - Просмотр содержимого файла при первом коммите

1.4

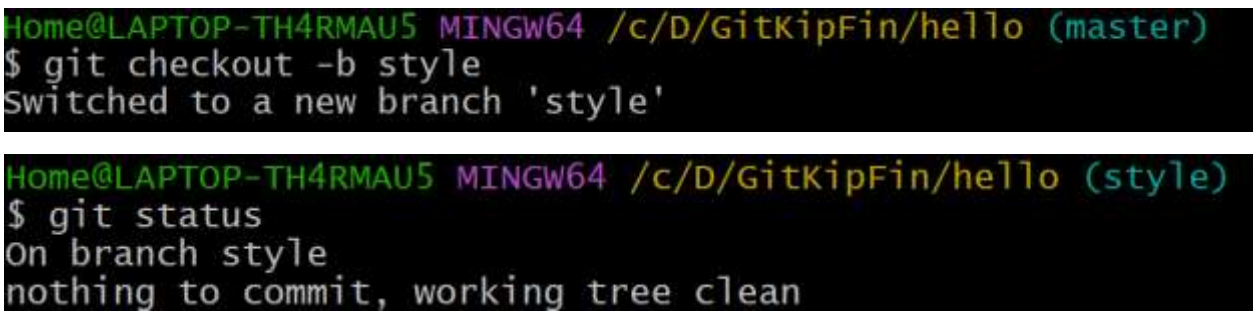


Рисунок 19 - Создание новой ветки style

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ touch lib/style.css
```

Рисунок 20 - Создание файла стилей

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

Рисунок 21 - Код style.css

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git add lib/style.css

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git commit -m "Added css stylesheet"
[style e46bde3] Added css stylesheet
 1 file changed, 3 insertions(+)
 create mode 100644 lib/style.css
```

Рисунок 22 - Индексация и коммит нового файла

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git add lib/hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git commit -m "Hello.html uses style.css"
[style 0f3f10a] Hello.html uses style.css
 1 file changed, 10 insertions(+), 4 deletions(-)
```

Рисунок 5 - Индексация и коммит

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git add index.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git commit -m "Update index.html"
[style 3d21450] Update index.html
 1 file changed, 8 insertions(+), 2 deletions(-)
```

Рисунок 6 - Индексация и коммит

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git hist --all
* 3d21450 2025-06-05 | Update index.html (HEAD -> style)  [Boris Osovitsky]
* 0f3f10a 2025-06-05 | Hello.html uses style.css  [Boris Osovitsky]
* e46bde3 2025-06-05 | Added css stylesheet  [Boris Osovitsky]
* e003ca7 2025-06-05 | Added index.html (master)  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 7 - Просмотр истории

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ cat lib/hello.html
<!-- Author: Osovitsky Boris (007boris05@gmail.com) -->
<html>
    <head>

    </head>
    <body>
        <h1>Hello, world</h1>
        <h2>The cake is a lie.</h2>
    </body>
</html>
```

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ cat lib/hello.html
<!-- Author: Osovitsky Boris (007boris05@gmail.com) -->
<html>
    <head>
        <link rel="stylesheet" type="text/css" media="all" href="style.css">
    </head>
    <body>
        <h1>Hello, world</h1>
        <h2>The cake is a lie.</h2>
    </body>
</html>
```

Рисунок 8 – Разница в видах

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add README

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Added README"
[master 8177b81] Added README
 1 file changed, 1 insertion(+)
 create mode 100644 README
```

Рисунок 9 - Индексация и коммит

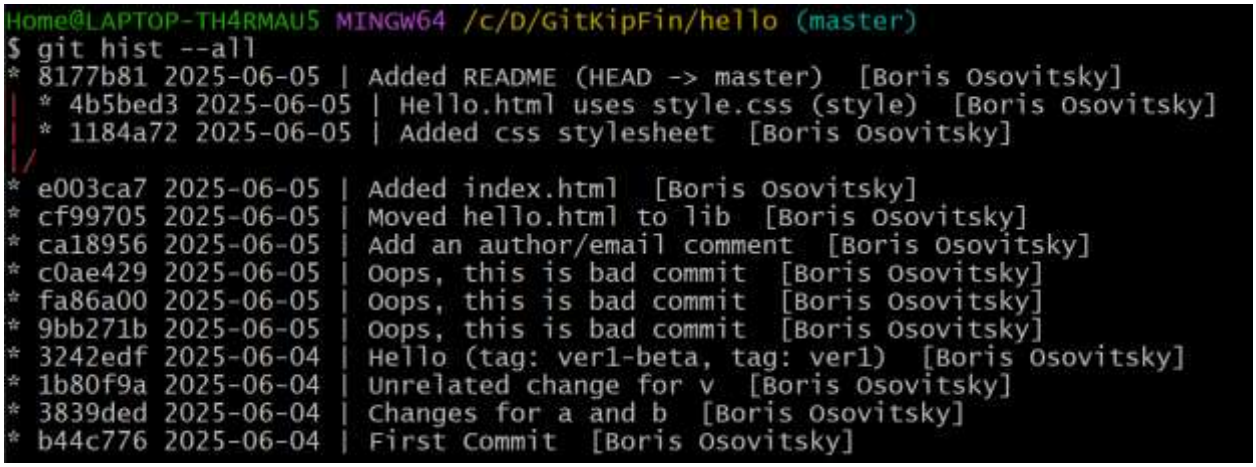
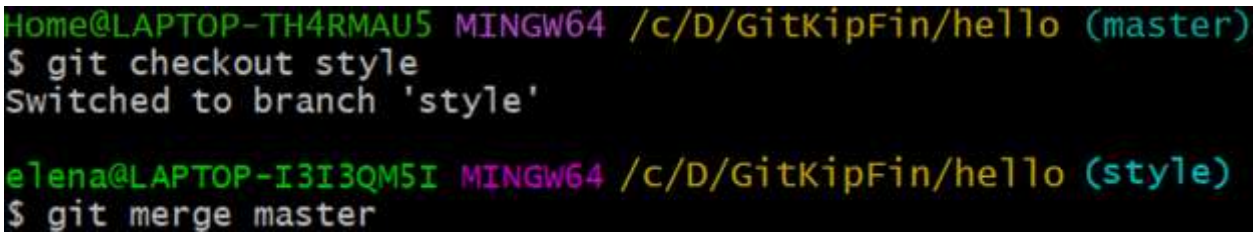
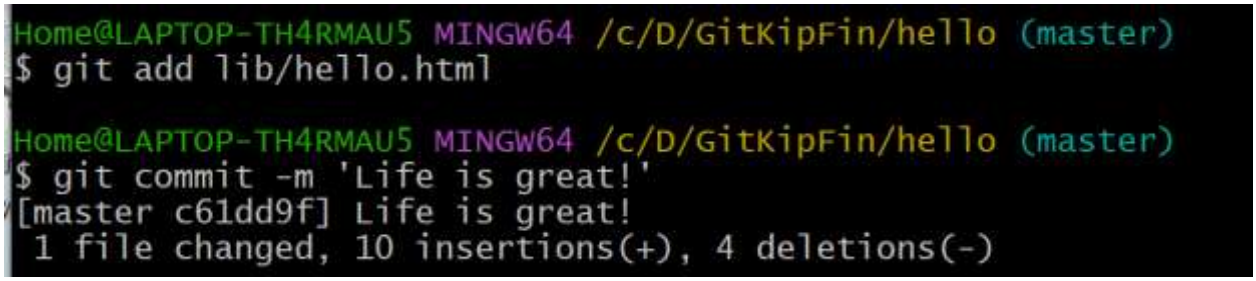


Рисунок 10 - Дерево коммитов





```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git hist --all
* c61dd9f 2025-06-05 | Life is great! (HEAD -> master)  [Boris Osovitsky]
* 8177b81 2025-06-05 | Added README  [Boris Osovitsky]
| * 4b5bed3 2025-06-05 | Hello.html uses style.css (style)  [Boris Osovitsky]
| * 1184a72 2025-06-05 | Added css stylesheet  [Boris Osovitsky]
|/
* e003ca7 2025-06-05 | Added index.html  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git checkout style
Switched to branch 'style'

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/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.
```

hello.html

C: > D > GitKipFin > hello > lib > hello.html > ...

```
1   <!-- Author: Osovitsky Boris (007boris05@gmail.com) -->
2   <html>
3       <head>
4           <link rel="stylesheet" type="text/css" media="all" href="style.css">
5       </head>
6       <body>
        Принять текущее изменение | Принять входящее изменение | Принять оба изменения | Сравнить изменения
7   <<<<<<< HEAD (текущее изменение)
8           <h1>Hello, world</h1>
9   =======
10          <h1>Hello, world. Life is great</h1>
11  >>>>>>> master (входящее изменение)
12          <h2>The cake is a lie.</h2>
13      </body>
14  </html>
```

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style|MERGING)
$ git add lib/hello.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style|MERGING)
$ git commit -m "Merged master fixed conflict."
[style 3813bd7] Merged master fixed conflict.
```

1.5

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git reset  --hard e003ca7
HEAD is now at e003ca7 Added index.html

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git hist --all
* c61dd9f 2025-06-05 | Life is great! (master)  [Boris Osovitsky]
* 8177b81 2025-06-05 | Added README  [Boris Osovitsky]
* e003ca7 2025-06-05 | Added index.html (HEAD -> style)  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 1 - Сброс ветки style

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git checkout master
Switched to branch 'master'

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git hist
* c61dd9f 2025-06-05 | Life is great! (HEAD -> master)  [Boris Osovitsky]
* 8177b81 2025-06-05 | Added README  [Boris Osovitsky]
* e003ca7 2025-06-05 | Added index.html (style)  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 2 - Переключение на master и просмотр истории

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git reset --hard c61dd9f
HEAD is now at c61dd9f Life is great!

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git hist --all
* c61dd9f 2025-06-05 | Life is great! (HEAD -> master)  [Boris Osovitsky]
* 8177b81 2025-06-05 | Added README  [Boris Osovitsky]
* e003ca7 2025-06-05 | Added index.html (style)  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 3 - Сброс ветки master

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git checkout style
Switched to branch 'style'

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git rebase master
Successfully rebased and updated refs/heads/style.

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (style)
$ git hist
* c61dd9f 2025-06-05 | Life is great! (HEAD -> style, master)  [Boris Osovits
* 8177b81 2025-06-05 | Added README  [Boris Osovitsky]
* e003ca7 2025-06-05 | Added index.html  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 4 - Перебазирование веток

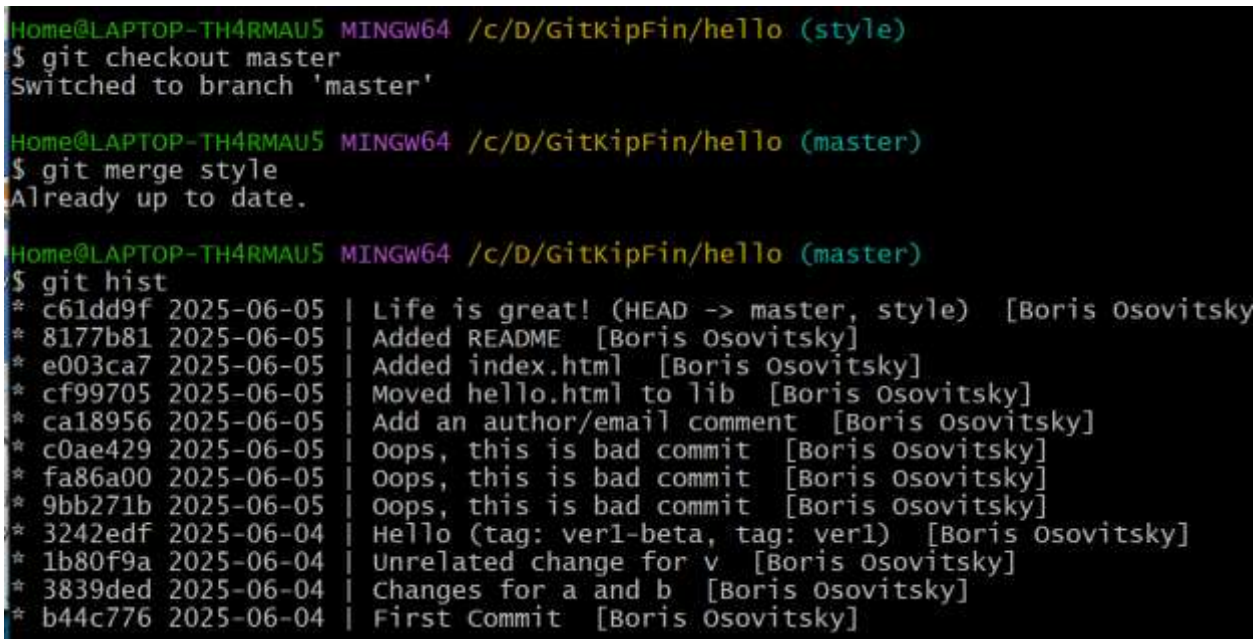


Рисунок 5 - Слияние веток

Рисунок 6 - Переход в рабочий каталог и его клонирование

Рисунок 7 - Просмотр содержимого клонированного репозитория

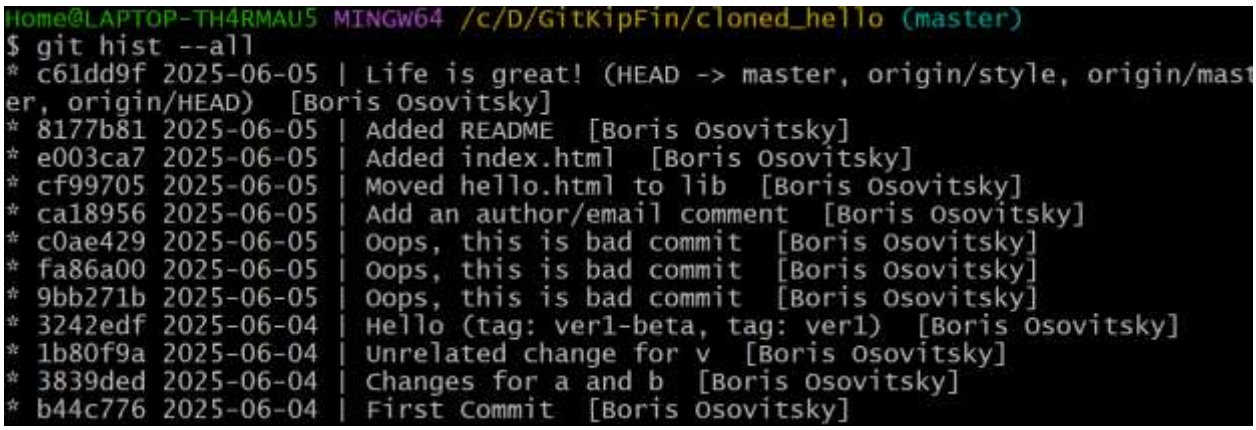


Рисунок 8 - Просмотр логов клонированного каталога

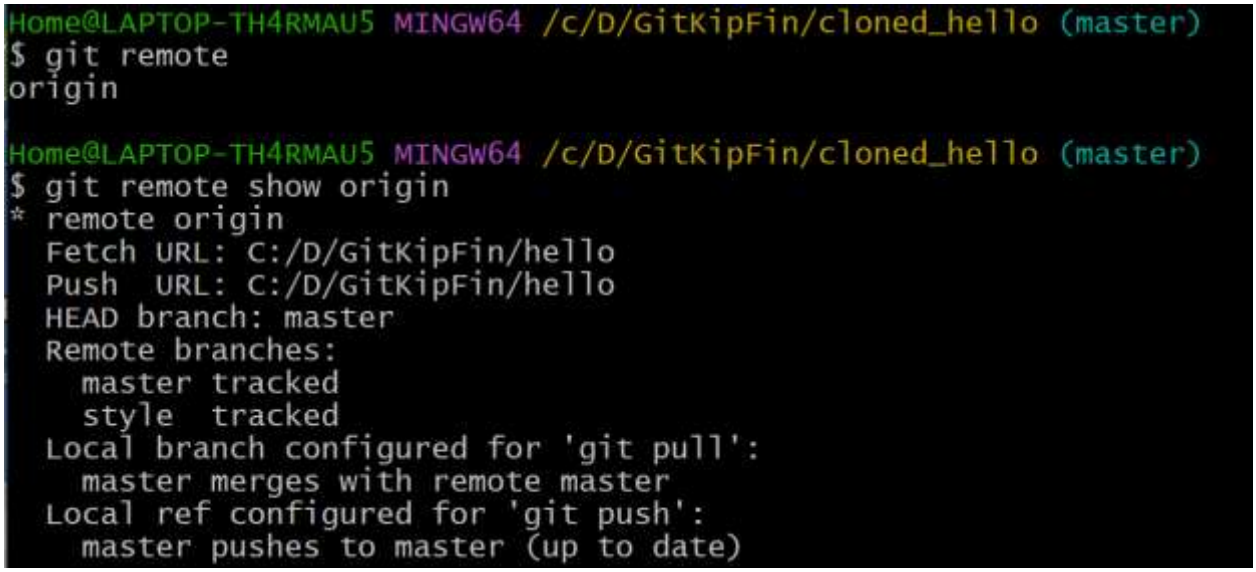


Рисунок 9 - Просмотр данных об origin

Рисунок 10 - Просмотр удаленных веток

1.6

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/cloned_hello (master)
$ cd ../hello
```

Рисунок 23 - Переход в оригинальный репозиторий

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add README

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Changed README in original repo"
[master 1a0c6ef] Changed README in original repo
 1 file changed, 2 insertions(+), 1 deletion(-)
```

Рисунок 2 - Индексация и коммит новых изменений

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ cd ../cloned_hello

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/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 1), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 349 bytes | 21.00 KiB/s, done.
From C:/D/GitKipFin/hello
   c61dd9f..1a0c6ef  master     -> origin/master
```

Рисунок 3 - Извлечение изменений

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/cloned_hello (master)
$ git hist --all
* 1a0c6ef 2025-06-05 | Changed README in original repo (origin/master, origin/HEAD)
Boris Osovitsky]
* c61dd9f 2025-06-05 | Life is great! (HEAD -> master, origin/style)  [Boris Osovitsk
]
* 8177b81 2025-06-05 | Added README  [Boris Osovitsky]
* e003ca7 2025-06-05 | Added index.html  [Boris Osovitsky]
* cf99705 2025-06-05 | Moved hello.html to lib  [Boris Osovitsky]
* ca18956 2025-06-05 | Add an author/email comment  [Boris Osovitsky]
* c0ae429 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* fa86a00 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 9bb271b 2025-06-05 | Oops, this is bad commit  [Boris Osovitsky]
* 3242edf 2025-06-04 | Hello (tag: ver1-beta, tag: ver1)  [Boris Osovitsky]
* 1b80f9a 2025-06-04 | Unrelated change for v  [Boris Osovitsky]
* 3839ded 2025-06-04 | Changes for a and b  [Boris Osovitsky]
* b44c776 2025-06-04 | First Commit  [Boris Osovitsky]
```

Рисунок 4 - Просмотр истории

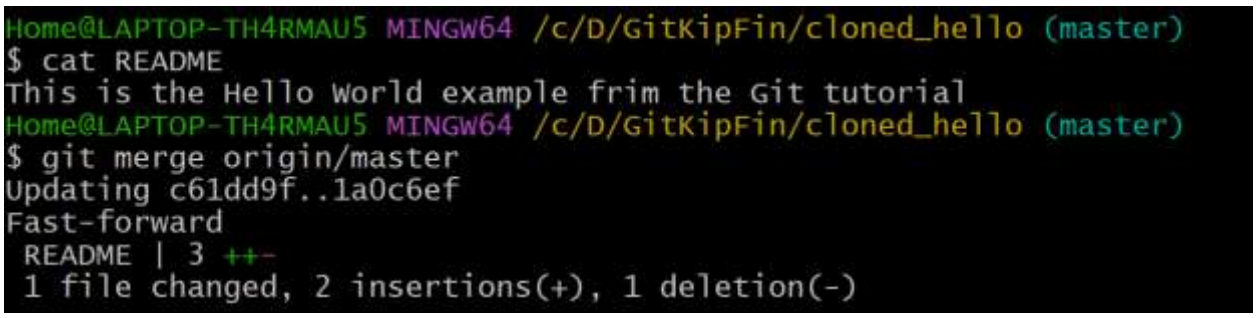


Рисунок 5 - Вывод содержимого файла README, Слияние изменений

Рисунок 6 - Вывод содержимого файла README, Команда git pull

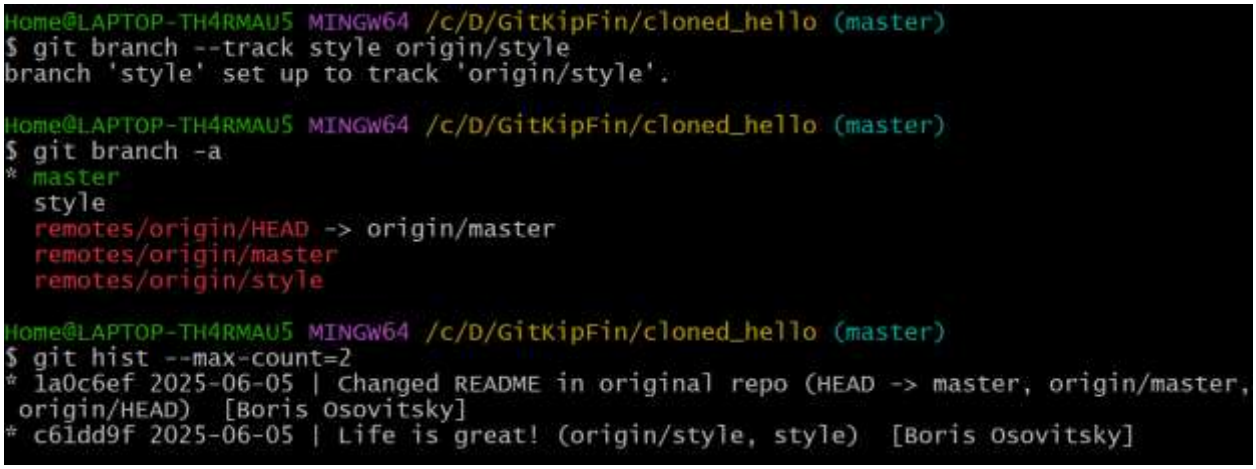


Рисунок 7 - Добавление локальной ветки

Рисунок 8 - Создание чистого репозитория

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ cd hello

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git remote add shared ../hello.git
```

Рисунок 9 - Добавление удаленного репозитория

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git checkout master
M       README
Already on 'master'

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git add README

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git commit -m "Added shared commit to README"
[master 0c9e360] Added shared commit to README
 1 file changed, 1 insertion(+), 1 deletion(-)
```

Рисунок 10 - Индексация и коммит

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git push shared master
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 381 bytes | 381.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
To ../hello.git
   1a0c6ef..0c9e360  master -> master
```

Рисунок 11 - Отправка изменений в общий репозиторий

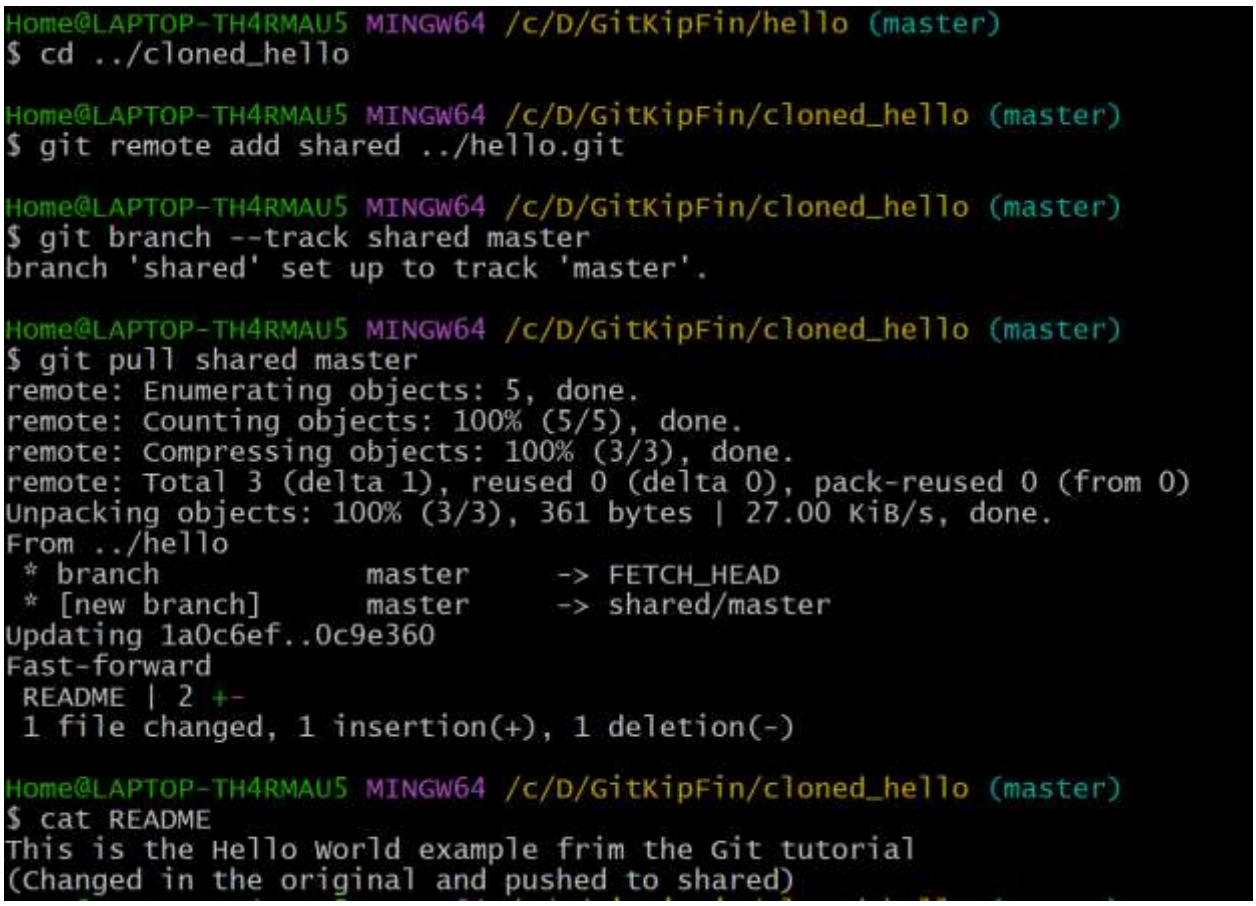


Рисунок 12 - Команды, извлекающие общие изменения

Рисунок 13 - Настройка сервера

Рисунок 14 - Клонирование проекта

1.7

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ git clone https://github.com/schacon/ticgit
Cloning into 'ticgit'...
remote: Enumerating objects: 1857, done.
remote: Total 1857 (delta 0), reused 0 (delta 0), pack-reused 1857 (from 1)
Receiving objects: 100% (1857/1857), 334.06 KiB | 1.26 MiB/s, done.
Resolving deltas: 100% (837/837), done.

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin
$ cd ticgit

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote
origin
```

Рисунок 24 – Клонирование репозитория и просмотр удаленных репозиториев

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote -v
origin  https://github.com/schacon/ticgit (fetch)
origin  https://github.com/schacon/ticgit (push)
```

Рисунок 25 - Просмотр удаленных репозиториев с ключом -v

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote add pb https://github.com/paulboone/ticgit

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote -v
origin  https://github.com/schacon/ticgit (fetch)
origin  https://github.com/schacon/ticgit (push)
pb      https://github.com/paulboone/ticgit (fetch)
pb      https://github.com/paulboone/ticgit (push)
```

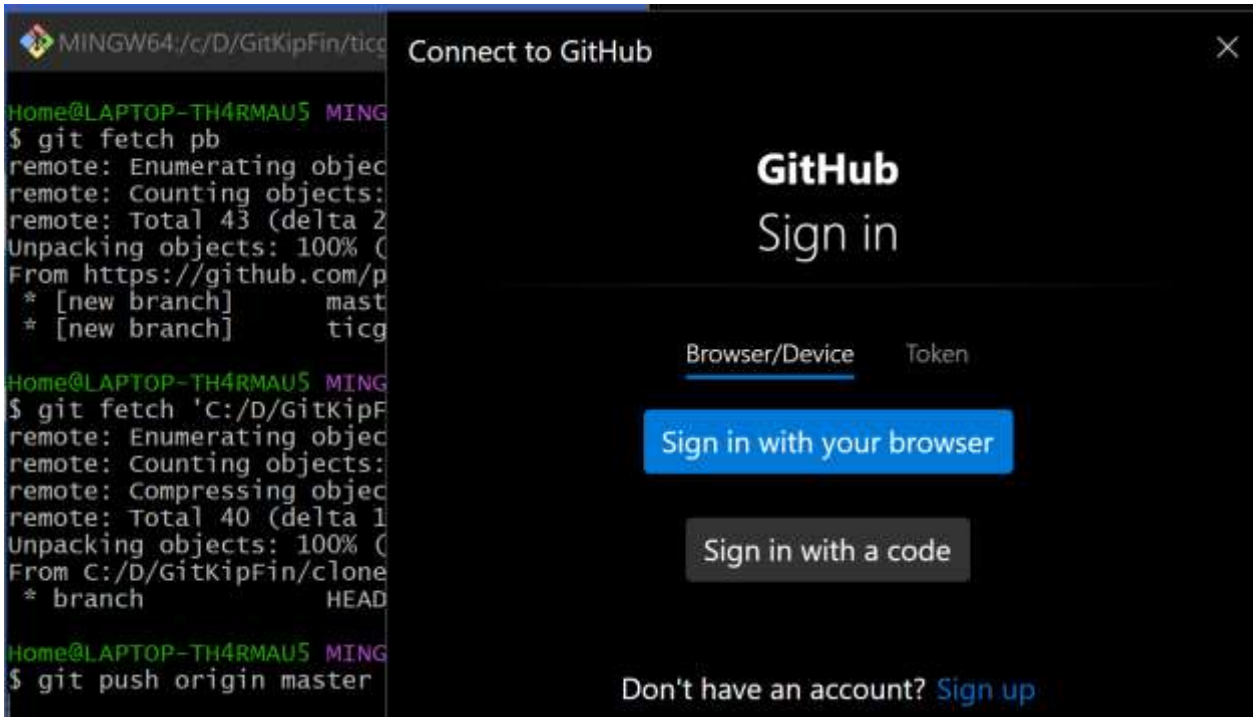
Рисунок 26 - Добавление удаленного репозитория

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git fetch pb
remote: Enumerating objects: 43, done.
remote: Counting objects: 100% (22/22), done.
remote: Total 43 (delta 22), reused 22 (delta 22), pack-reused 21 (from 1)
Unpacking objects: 100% (43/43), 5.99 KiB | 31.00 KiB/s, done.
From https://github.com/paulboone/ticgit
 * [new branch]      master     -> pb/master
 * [new branch]      ticgit     -> pb/ticgit
```

Рисунок 27 - Использование имени вместо пути

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git fetch 'C:/D/GitKipFin/cloned_hello'
remote: Enumerating objects: 40, done.
remote: Counting objects: 100% (40/40), done.
remote: Compressing objects: 100% (31/31), done.
remote: Total 40 (delta 12), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (40/40), 3.58 KiB | 19.00 KiB/s, done.
From C:/D/GitKipFin/cloned_hello
 * branch            HEAD       -> FETCH_HEAD
```

Рисунок 28 - Получение данных из удаленных проектов




```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git push origin master
info: please complete authentication in your browser...
remote: Permission to schacon/ticgit.git denied to XNotBorisX.
fatal: unable to access 'https://github.com/schacon/ticgit/': The requested URL
returned error: 403
```

Рисунок 29 - Отправка изменений в удаленный репозиторий

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote show origin
fatal: unable to access 'https://github.com/schacon/ticgit/': Recv failure: Conn
ection was reset

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote rename pb paul
Renaming remote references: 100% (4/4), done.

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/ticgit (master)
$ git remote
origin
paul
```

Рисунок 30 - Информация об удаленном репозитории

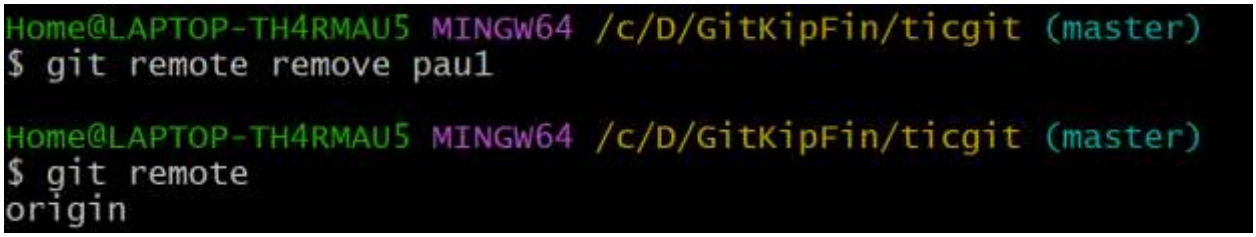


Рисунок 31 - Переименование удаленного репозитория

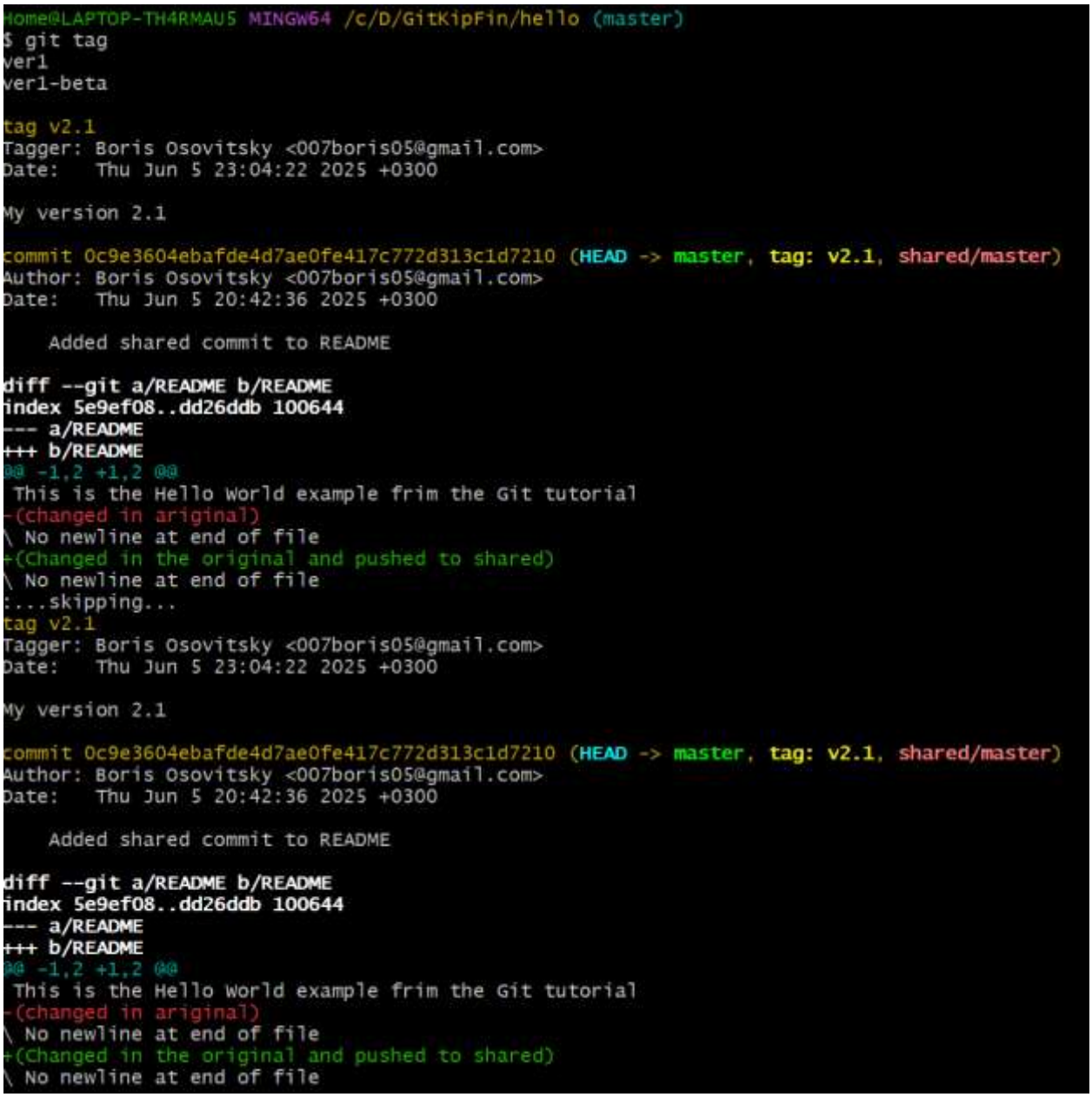


Рисунок 9-12 - Просмотр тегов, Создание аннотированной метки, Просмотр данных тега

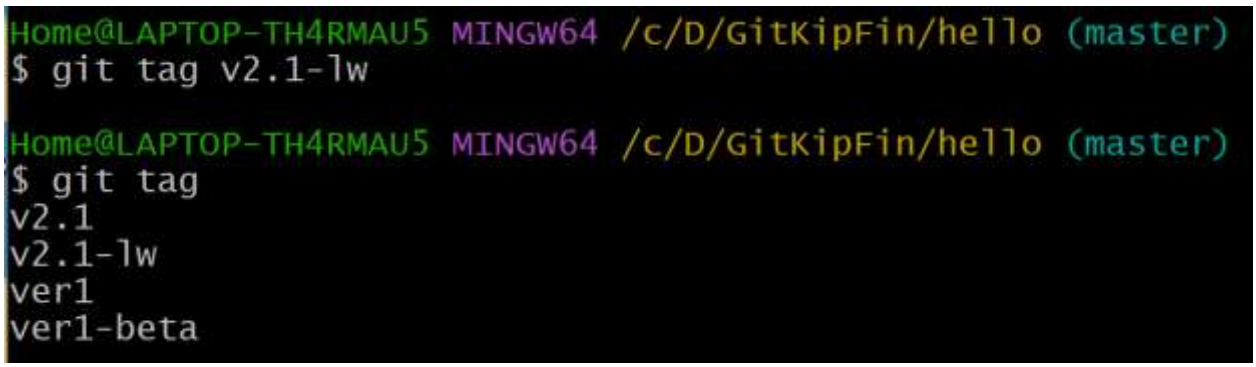


Рисунок 32 - Создание легковесной метки

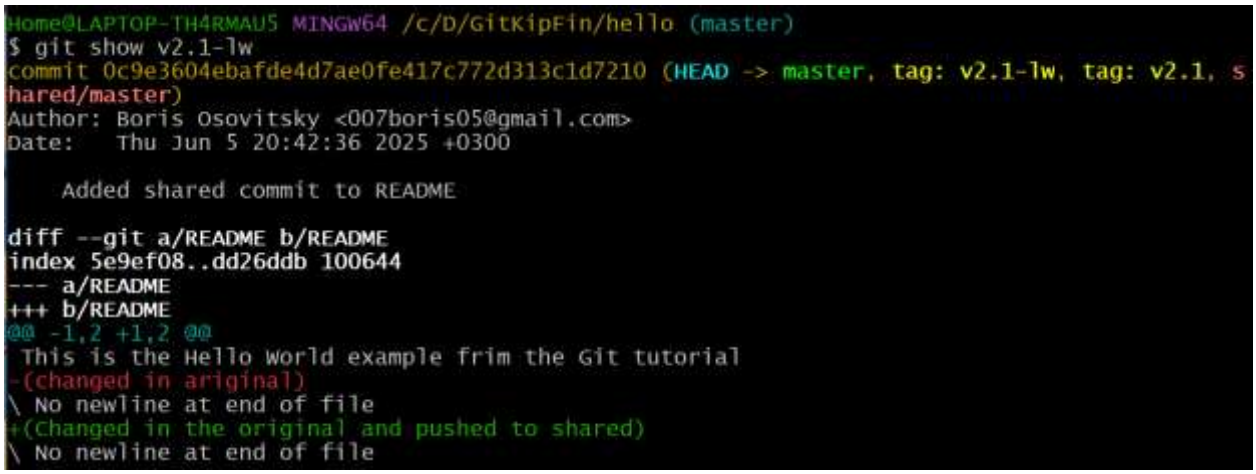


Рисунок 33 - Просмотр данных тега

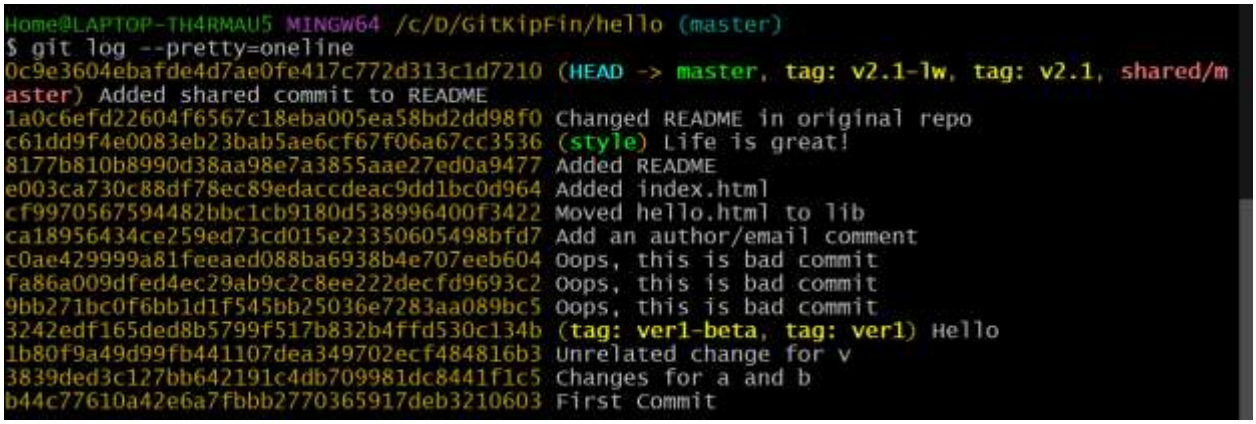


Рисунок 34 - Просмотр истории

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git show ver3
tag ver3
Tagger: Boris Osovitsky <007boris05@gmail.com>
Date:   Thu Jun 5 23:19:22 2025 +0300

Tag message1

commit 1a0c6efd22604f6567c18eba005ea58bd2dd98f0 (tag: ver3)
Author: Boris Osovitsky <007boris05@gmail.com>
Date:   Thu Jun 5 20:30:48 2025 +0300

    Changed README in original repo

diff --git a/README b/README
index 93fad1b..5e9ef08 100644
--- a/README
+++ b/README
@@ -1 +1,2 @@
-This is the Hello World example frim the Git tutorial
\ No newline at end of file
+This is the Hello World example frim the Git tutorial
+(changed in ariginal)
\ No newline at end of file
```

Рисунок 16 - Просмотр данных тега

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git push shared v2.1
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 168 bytes | 168.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To ../hello.git
 * [new tag]         v2.1 -> v2.1
```

Рисунок 17 - Отправка тега на удаленный сервер

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello (master)
$ git push shared --tags
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 168 bytes | 168.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To ../hello.git
 * [new tag]         v2.1-lw -> v2.1-lw
 * [new tag]         ver3 -> ver3
```

Рисунок 18 - Отправка всех тегов на сервер

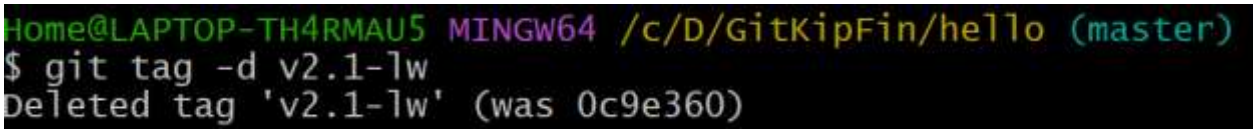


Рисунок 19 - Удаление тега

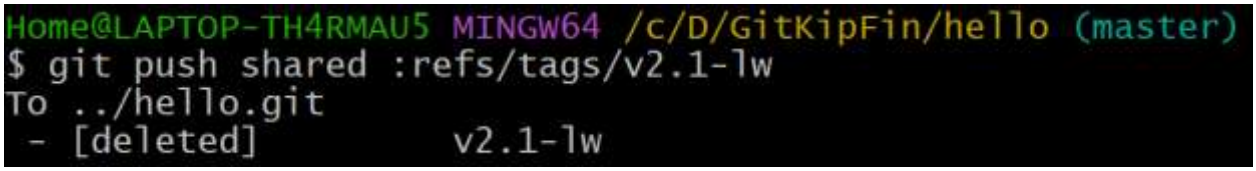


Рисунок 20 - Удаление тегов с сервера

Рисунок 21 - Переключение на метку

Рисунок 22 - Создание новой ветки

Рисунок 23 - Задание алиасов

Рисунок 24 - Создание псевдонима исключения файла из индекса

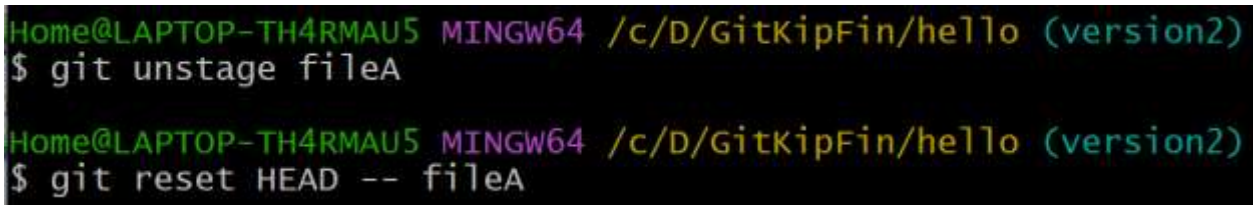


Рисунок 25 - Использование созданного псевдонима

Рисунок 26-29 - Создание алиаса для просмотра последнего коммита, Результат работы созданного алиаса

Рисунок 35 - Создание псевдонима внешней команды

1.8

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git add README test.rb LICENSE

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git commit -m 'Initial commit of my project'
[master 26a67d2] Initial commit of my project
 3 files changed, 3 insertions(+), 2 deletions(-)
 create mode 100644 LICENSE
 create mode 100644 test.rb
```

Рисунок 1 - Индексация и коммит 3 файлов

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch testing
```

Рисунок 2 - Создание ветки testing

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git checkout testing
Switched to branch 'testing'
```

Рисунок 3 - Переключение на ветку testing

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (testing)
$ git add test.rb

Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (testing)
$ git commit -m 'New changes'
[testing fd191e1] New changes
 1 file changed, 1 insertion(+), 1 deletion(-)
```

Рисунок 4 - Индексация и коммит файла test.rb

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (testing)
$ git checkout master
Switched to branch 'master'
```

Рисунок 5 - Переключение на ветку master

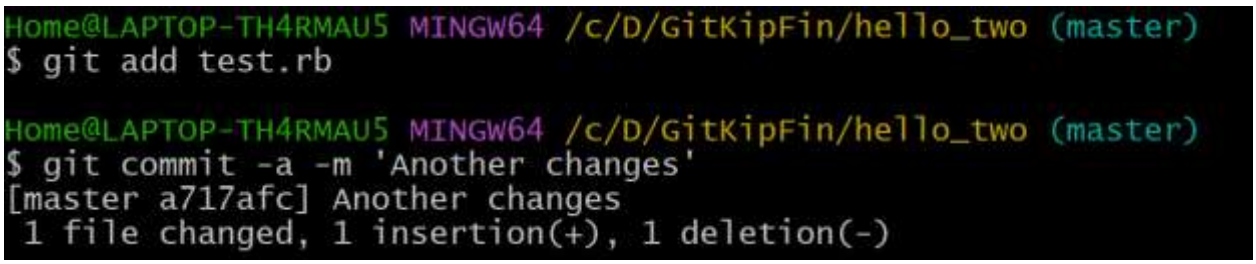


Рисунок 6 - Еще индексация и коммит test.rb

Рисунок 7 - Создание и переключение на ветку iss53

Рисунок 8 - Индексация и коммит файла index.html

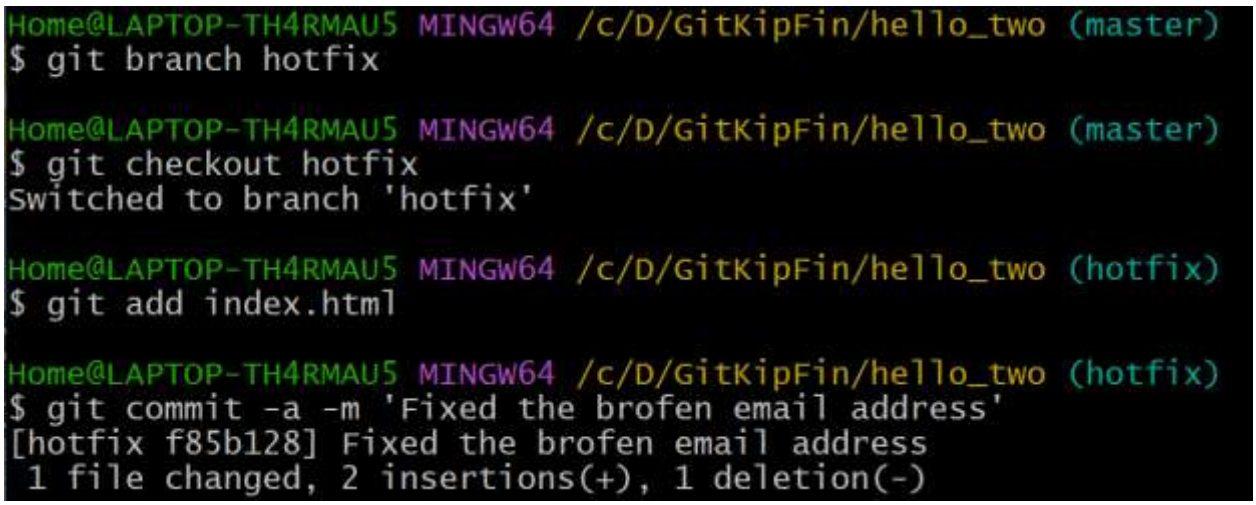


Рисунок 9-10 - Переключение на ветку master, Индексация и коммит index.html на ветке hotfix

Рисунок 11 - Переключение на ветку master и объединение с веткой hotfix

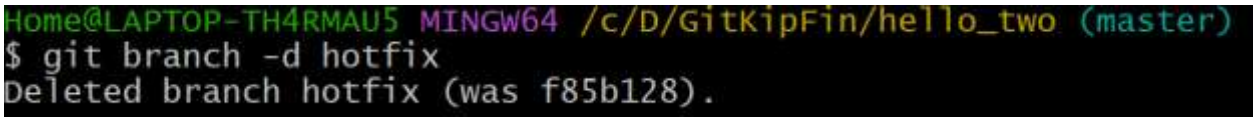


Рисунок 12 - Удаление ветки hotfix

Рисунок 13 - Индексация и коммит index.html на ветке iss53

Рисунок 14 - Слияние веток

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch -d iss53
Deleted branch iss53 (was c7b8fcf).
```

Рисунок 15 - Удаление ветки iss53

1.9

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch
* master
  style
  testing
  version2
```

Рисунок 36 - Список существующих веток

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch -v
* master   9600930 Merged master fixed conflict/
  style    c61dd9f Life is great!
  testing  fd191e1 New changes
  version2 0c9e360 Added shared commit to README
```

Рисунок 37 - Список веток с последними коммитами

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch --merged
* master
  style
  version2
```

Рисунок 38 - Список веток слитых с текущей

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch --no-merged
```

Рисунок 39 - Список веток не слитых с текущей

```
Home@LAPTOP-TH4RMAU5 MINGW64 /c/D/GitKipFin/hello_two (master)
$ git branch -D testing
Deleted branch testing (was fd191e1).
```

Рисунок 40 - Удаление ветки

Рисунок 41 - Просмотр удаленных веток

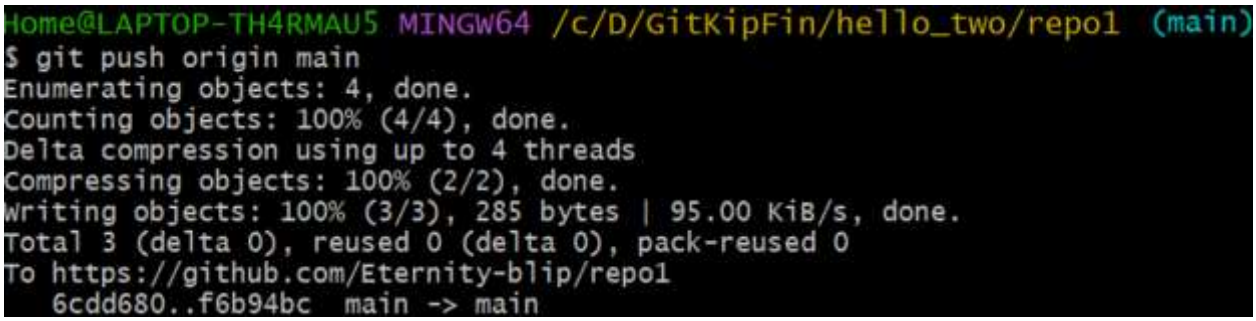


Рисунок 42 - Отправка изменений

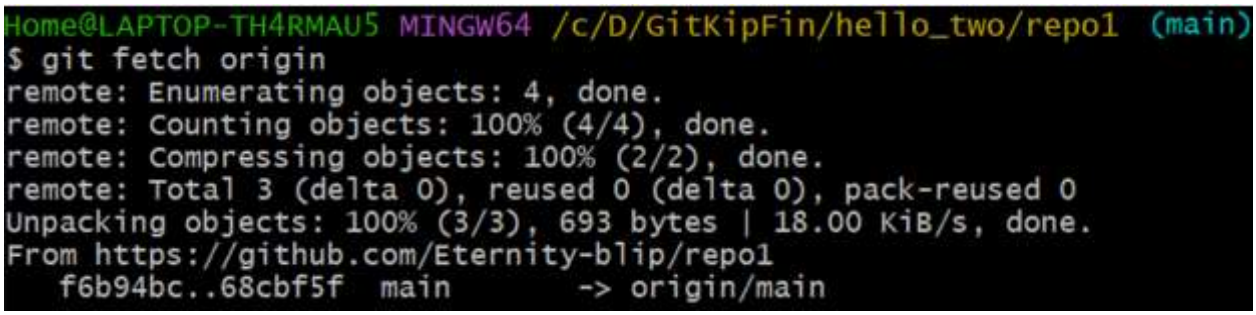


Рисунок 43 - Выполнение команды git fetch

Рисунок 44 - Создание ветки на основе удаленной ветки

Рисунок 45 - Удаление ветки на сервере

Рисунок 46 - Перемещение изменений

Рисунок 47 - Перемещение изменений с параметром onto

Рисунок 48 - Слияние веток master и cl

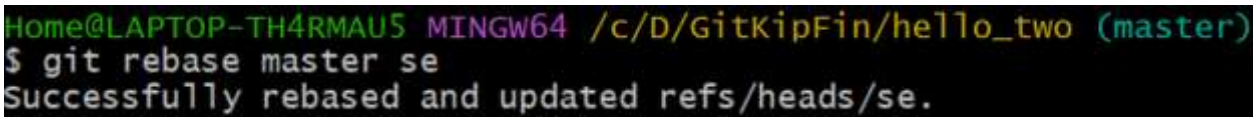


Рисунок 49 - Перемещение изменений

Рисунок 50 - Слияние веток master и se

Рисунок 51 - Удаление веток cl и se