

Лабораторная работа №1

Математическое моделирование

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Цель работы

Научиться использовать систему управления версиями git, освоить основные команды, применить на практике полученные знания.

Выполнение лабораторной работы

```
D:\work\ioithenko>git config -l
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=openssl
http.sslcainfo=C:/Program Files/Git/mingw64/etc/ssl/certs/ca-bundle.crt
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager
credential.https://dev.azure.com/usehttppath=true
init.defaultbranch=master
user.email=iishchenko99@gmail.com
user.name=Irina
core.autocrlf=true
core.safecrlf=true
core.quotepath=off

D:\work\ioithenko>git config --global core.autocrlf true
D:\work\ioithenko>git config --global core.safecrlf true
D:\work\ioithenko>git config --global core.quotepath off
D:\work\ioithenko>mkdir hello
D:\work\ioithenko>cd hello
D:\work\ioithenko\hello>echo "Hello, world!" > hello.html
D:\work\ioithenko\hello>git init
Initialized empty Git repository in D:/work/ioithenko/hello/.git/
D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git commit -m "Initial commit"
[master (root-commit) f69efc3] Initial Commit
 1 file changed, 1 insertion(+)
 create mode 100644 hello.html

D:\work\ioithenko\hello>git status
On branch master
nothing to commit, working tree clean
D:\work\ioithenko\hello>
```

Рис. 1: Настройка основных параметров git. Создание репозитория

```
D:\work\ioithenko\hello>echo "<h1>Hello, world!</h1>" > hello.html
D:\work\ioithenko\hello>git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
    (use "git restore <file>..." to discard changes in working directory)
      modified:   hello.html

no changes added to commit (use "git add" and/or "git commit -a")
D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
      modified:   hello.html
```

Рис. 2: Изменение файла

```
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. 3: Название коммита

```
D:\work\ioithenko\hello>git commit  
[master 60b060b] Added h1 tag  
 1 file changed, 1 insertion(+), 1 deletion(-)  
  
D:\work\ioithenko\hello>git status  
On branch master  
nothing to commit, working tree clean  
  
D:\work\ioithenko\hello>-
```

Рис. 4: Внесение изменений и индексация, проверка статуса

```
Текущий проект: Текущий язык: Java  
<html>  
    <body>  
        <h1>Hello, World!</h1>  
    </body>  
</html>
```

Рис. 5: Добавление стандартных тегов

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

Рис. 6: Добавление заголовка

```
D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html

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

D:\work\ioithenko\hello>git commit -m "Added standard HTML page tags"
[master 5d821ba] Added standard HTML page tags
 1 file changed, 5 insertions(+), 1 deletion(-)

D:\work\ioithenko\hello>git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
    modified:   hello.html

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

D:\work\ioithenko\hello>git add .
D:\work\ioithenko\hello>git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html
```

Рис. 7: Внесение изменений, индексированние, коммит

```
D:\work\ioithenko\hello>git log
commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b078ac92f6f7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial Commit

D:\work\ioithenko\hello>git log --pretty=oneline
aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master) Added HTML header
5d821ba821383e77043d5642362fc86bb40eb338 Added standard HTML page tags
60b060b078ac92f6f7fd4f1b022f908bee09b1055 Added h1 tag
f69efc31c268c5b83102448c37c635240cbb05a0 Initial Commit

D:\work\ioithenko\hello>git log --pretty=oneline --max-count=2
aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master) Added HTML header
5d821ba821383e77043d5642362fc86bb40eb338 Added standard HTML page tags

D:\work\ioithenko\hello>git log --pretty=oneline --since='5 minutes ago'
fatal: ambiguous argument 'minutes': unknown revision or path not in the working
tree.
Use '--' to separate paths from revisions, like this:
'git <command> [<revision>...] -- [<file>...]'

D:\work\ioithenko\hello>git log --pretty=oneline --until="5 minutes ago"
60b060b078ac92f6f7fd4f1b022f908bee09b1055 Added h1 tag
f69efc31c268c5b83102448c37c635240cbb05a0 Initial Commit

D:\work\ioithenko\hello>git log --pretty=oneline --author=Irina
aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master) Added HTML header
5d821ba821383e77043d5642362fc86bb40eb338 Added standard HTML page tags
60b060b078ac92f6f7fd4f1b022f908bee09b1055 Added h1 tag
f69efc31c268c5b83102448c37c635240cbb05a0 Initial Commit
```

Рис. 8: Просмотр истории

```
D:\work\ioithenko\hello>git log
commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master)
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821388e77043d5642362fc86bb40eb338
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f6f7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:49:39 2025 +0300

    Initial Commit

D:\work\ioithenko\hello>git checkout f69efc31c268c5
Note: switching to 'f69efc31c268c5'.

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 f69efc3 Initial Commit

D:\work\ioithenko\hello>type hello.html
"Hello, world!"

D:\work\ioithenko\hello>git checkout master
Previous HEAD position was f69efc3 Initial commit
Switched to branch 'master'

D:\work\ioithenko\hello>type hello.html
<html>
  <head>
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>

D:\work\ioithenko\hello>git tag v1
D:\work\ioithenko\hello>_
```

Рис. 9: Получение старых версий

```
D:\work\ioithenko\hello>git checkout v1~1
Note: switching to 'v1~1'.

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 5d821ba Added standard HTML page tags

D:\work\ioithenko\hello>type hello.html
<html>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>

D:\work\ioithenko\hello>
D:\work\ioithenko\hello>git tag v1-beta

D:\work\ioithenko\hello>git checkout v1
Previous HEAD position was 5d821ba Added standard HTML page tags
HEAD is now at aee289a Added HTML header

D:\work\ioithenko\hello>git checkout v1-beta
Previous HEAD position was aee289a Added HTML header
HEAD is now at 5d821ba Added standard HTML page tags

D:\work\ioithenko\hello>git tag
v1
v1-beta
```

Рис. 10: Создание тега

```
D:\work\ioithenko\hello>git log master --all
commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (tag: v1, master)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (HEAD, tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f67fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial commit

D:\work\ioithenko\hello>git checkout master
Previous HEAD position was 5d821ba Added standard HTML page tags
Switched to branch 'master'

D:\work\ioithenko\hello>
```

Рис. 11: Просмотр тегов



Файл Правка Формат Вид Справка

```
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
    <!-- This is a bad comment. We want to revert it. -->
  </body>
</html>
```

Рис. 12: Изменение файла

```
D:\work\ioithenko\hello>git checkout hello.html
Updated 1 path from the index

D:\work\ioithenko\hello>git status
on branch master
nothing to commit, working tree clean

D:\work\ioithenko\hello>type hello.html
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>

D:\work\ioithenko\hello>
```

Рис. 13: Отмена изменений до индексации

```
<html>
  <head>
    <!-- This is an unwanted but staged comment -->
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Рис. 14: Изменение файла

```
D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   hello.html

D:\work\ioithenko\hello>git reset HEAD hello.html
Unstaged changes after reset:
M       hello.html

D:\work\ioithenko\hello>git checkout hello.html
Updated 1 path from the index

D:\work\ioithenko\hello>git status
On branch master
nothing to commit, working tree clean
```

Рис. 15: Отмена изменений после индексации

```
Текущий файл содержит следующий код:  
<html>  
    <head>  
    </head>  
    <body>  
        <h1>Hello, World!</h1>  
        <!-- This is an unwanted but committed change -->  
    </body>  
</html>
```

Рис. 16: Отмена изменений после индексации

```
D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git commit -m "Oops, we didn't want this commit"
[master 9ed2381] Oops, we didn't want this commit
 1 file changed, 1 insertion(+)

D:\work\ioithenko\hello>git revert HEAD
[master 469350f] Revert "Oops, we didn't want this commit"
 1 file changed, 1 deletion(-)

D:\work\ioithenko\hello>git log
commit 469350ff88f6dfc780b04a1174b0c6da3375dd22 (HEAD -> master)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:13:22 2025 +0300

    Revert "Oops, we didn't want this commit"

    This reverts commit 9ed238115bd9633ec539fa35352cb0e97e74f6a5.

commit 9ed238115bd9633ec539fa35352cb0e97e74f6a5
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:13:01 2025 +0300

    Oops, we didn't want this commit

commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (tag: v1)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f6f7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial commit

D:\work\ioithenko\hello>
```

Рис. 17: Отмена изменений после коммита и проверка лога

```
D:\work\ioithenko\hello>git tag oops
D:\work\ioithenko\hello>git reset --hard v1
HEAD is now at aee289a Added HTML header

D:\work\ioithenko\hello>git log
commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master, tag: v1)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f6f7fd4fib022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial commit

D:\work\ioithenko\hello>
```

Рис. 18: Сброс коммитов

```
D:\work\ioithenko\hello>git log --all
commit 469350ff88f6dfc780b04a1174b0c6da3375dd22 (tag: oops)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:13:22 2025 +0300

    Revert "Oops, we didn't want this commit"

    This reverts commit 9ed238115bd9633ec539fa35352cb0e97e74f6a5.

commit 9ed238115bd9633ec539fa35352cb0e97e74f6a5
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:13:01 2025 +0300

    Oops, we didn't want this commit

commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master, tag: v1)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f6f7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial commit
```

Рис. 19: Просмотр лога

```
D:\work\ioithenko\hello>git tag -d oops
Deleted tag 'oops' (was 469350f)

D:\work\ioithenko\hello>tag log --all
>tag" не является внутренней или внешней
командой, исполняемой программой или пакетным файлом.

D:\work\ioithenko\hello>git log --all
commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (HEAD -> master, tag: v1)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f6f7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240ccb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial Commit

D:\work\ioithenko\hello>
```

Рис. 20: Удаление тега и коммитов

```
<!-- Author: Irina O. Ishchenko -->
<html>
    <head>
    </head>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

Рис. 21: Добавление имени

```
<!-- Author: Irina O. Ishchenko (iishchenko99@gmail.com) -->
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Рис. 22: Добавление почты

```
D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git commit -m "Add an author comment"
[master 1f863d7] Add an author comment
 1 file changed, 1 insertion(+)

D:\work\ioithenko\hello>git add hello.html
D:\work\ioithenko\hello>git commit --amend -m "Add an author/email comment"
[master 7804f9a] Add an author/email comment
  Date: Tue Feb 18 19:18:49 2025 +0300
  1 file changed, 1 insertion(+)

D:\work\ioithenko\hello>git log
commit 7804f9a078081dd8f4ba41a8dd5a36ddf65d25f5 (HEAD -> master)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:18:49 2025 +0300

    Add an author/email comment

commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (tag: v1)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92fb7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 18:49:39 2025 +0300

    Initial commit
```

Рис. 23: Изменение коммита

```
D:\work\ioithenko\hello>mkdir lib
D:\work\ioithenko\hello>git mv hello.html lib
D:\work\ioithenko\hello>git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    renamed:    hello.html -> lib/hello.html

D:\work\ioithenko\hello>mkdir lib
Подпапка или файл lib уже существует.

D:\work\ioithenko\hello>git commit -m "Moved hello.html to lib"
[master c89e0e4] Moved hello.html to lib
 1 file changed, 0 insertions(+), 0 deletions(-)
 rename hello.html => lib/hello.html (100%)
D:\work\ioithenko\hello>
```

Рис. 24: Перемещение файла

```
<html>
  <body>
    <iframe src="lib/hello.html" width="200" height="200" />
  </body>
</html>
```

Рис. 25: index.html

```
D:\work\ioithenko\hello>git add index.html
fatal: pathspec 'index.html' did not match any files
D:\work\ioithenko\hello>git add index.html
D:\work\ioithenko\hello>git commit -m "Added index.html."
[master 00bcac6] Added index.html.
 1 file changed, 5 insertions(+)
 create mode 100644 index.html
D:\work\ioithenko\hello>
```

Рис. 26: Коммит

```
D:\work\ioithenko\hello>dir -c .git
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello

Файл не найден

Содержимое папки D:\work\ioithenko\hello\.git

18.02.2025 19:26           18 COMMIT_EDITMSG
18.02.2025 18:49          130 config
18.02.2025 18:49           73 description
18.02.2025 19:01          216 gitk.cache
18.02.2025 19:08           23 HEAD
18.02.2025 18:49          hooks
18.02.2025 19:26          253 index
18.02.2025 18:49          info
18.02.2025 18:49          logs
18.02.2025 19:24          objects
18.02.2025 19:25           41 ORIG_HEAD
18.02.2025 19:17          46 packed-refs
18.02.2025 18:49          refs
                           8 файлов      800 байт
                           5 папок   188 584 247 296 байт свободно
```

Рис. 27: Просмотр .git

```

D:\work\ioithenko\hello\.git>dir -C objects
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello\.git

файл не найден

Содержимое папки D:\work\ioithenko\hello\.git\objects

18.02.2025 19:26 <DIR> .
18.02.2025 19:26 <DIR> ..
18.02.2025 19:26 <DIR> 00
18.02.2025 19:24 <DIR> 0b
18.02.2025 19:10 <DIR> 14
18.02.2025 19:24 <DIR> 1f
18.02.2025 18:49 <DIR> 21
18.02.2025 19:13 <DIR> 23
18.02.2025 18:54 <DIR> 27
18.02.2025 19:22 <DIR> 34
18.02.2025 19:13 <DIR> 46
18.02.2025 18:57 <DIR> 5a
18.02.2025 18:57 <DIR> 5d
18.02.2025 18:54 <DIR> 60
18.02.2025 19:13 <DIR> 65
18.02.2025 19:19 <DIR> 6d
18.02.2025 19:19 <DIR> 78
18.02.2025 18:56 <DIR> 93
18.02.2025 19:13 <DIR> 9e
18.02.2025 18:58 <DIR> a4
18.02.2025 18:58 <DIR> ae
18.02.2025 19:18 <DIR> be
18.02.2025 19:22 <DIR> c8
18.02.2025 19:24 <DIR> cf
18.02.2025 18:58 <DIR> d0
18.02.2025 19:18 <DIR> e3
18.02.2025 18:49 <DIR> ea
18.02.2025 18:49 <DIR> f6
18.02.2025 18:52 <DIR> fb
18.02.2025 18:49 <DIR> info
18.02.2025 18:49 <DIR> pack
0 файлов 0 байт
31 папок 188 578 414 592 байт свободно

D:\work\ioithenko\hello\.git>cd objects
D:\work\ioithenko\hello\.git\objects>dir -c fb
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello\.git\objects

файл не найден

Содержимое папки D:\work\ioithenko\hello\.git\objects\fb

18.02.2025 18:52 <DIR> .
18.02.2025 18:52 <DIR> ..
18.02.2025 18:52 41 e1c680aee237a258d375f1afbae935273a06dc
1 файлов 41 байт
2 папок 188 569 305 088 байт свободно

```

Рис. 28: Просмотр .git

```
D:\work\ioithenko\hello\.git>type config
[core]
    repositoryformatversion = 0
    filemode = false
    bare = false
    logallrefupdates = true
    symlinks = false
    ignorecase = true

D:\work\ioithenko\hello\.git>dir refs
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello\.git\refs

18.02.2025 18:49    <DIR>      .
18.02.2025 18:49    <DIR>      ..
18.02.2025 19:26    <DIR>      heads
18.02.2025 19:17    <DIR>      tags
          0 файлов        0 байт
          4 папок   188 558 753 792 байт свободно

D:\work\ioithenko\hello\.git>cd refs
D:\work\ioithenko\hello\.git\refs>dir heads
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello\.git\refs\heads

18.02.2025 19:26    <DIR>      .
18.02.2025 19:26    <DIR>      ..
18.02.2025 19:26            41 master
          1 файлов        41 байт
          2 папок   188 554 559 488 байт свободно

D:\work\ioithenko\hello\.git\refs>dir tags
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello\.git\refs\tags

18.02.2025 19:17    <DIR>      .
18.02.2025 19:17    <DIR>      ..
18.02.2025 19:04            41 v1
18.02.2025 19:06            41 v1-beta
          2 файлов        82 байт
          2 папок   188 554 559 488 байт свободно

D:\work\ioithenko\hello\.git\refs>cd tags
D:\work\ioithenko\hello\.git\refs\tags>dir v1
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello\.git\refs\tags

18.02.2025 19:04            41 v1
          1 файлов        41 байт
          0 папок   188 546 105 344 байт свободно
```

Рис. 29: Просмотр .git

```
D:\work\ioithenko\hello\.git>type HEAD
ref: refs/heads/master

D:\work\ioithenko\hello\.git>cd ..

D:\work\ioithenko\hello>git log --max-count=1
commit 00bcac64d234627caad784237fbf9e04012ebc96 (HEAD -> master)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:26:45 2025 +0300

    Added index.html.

D:\work\ioithenko\hello>git cat-file -t 00bcac64d234627caad784237fbf9e04012ebc96
commit

D:\work\ioithenko\hello>git cat-file -p 00bcac64d234627caad784237fbf9e04012ebc96
tree 0bd86b246a458b2430fa4503a2132fc2bfd43ea0
parent c89e0e4e38a1239b25c7c3fb5a2f2d572b832516
author Irina <iishchenko99@gmail.com> 1739896005 +0300
committer Irina <iishchenko99@gmail.com> 1739896005 +0300

    Added index.html.

D:\work\ioithenko\hello>git cat-file -p 0bd86b246a458b2430fa4503a2132fc2bfd43ea0
100644 blob cf5bc0ea78289c0be141b578ca407f1159bd25bc    index.html
040000 tree 6d75bc8bdc99bd543185c7005fa273f9d62c3673    lib
D:\work\ioithenko\hello>git cat-file -p 6d75bc8bdc99bd543185c7005fa273f9d62c3673
100644 blob c8aa600a93e6e157f5e67c483cb239818145dc40    hello.html
```

Рис. 30: Просмотр по хэшу

```
D:\work\ioithenko\hello>git checkout -b style
Switched to a new branch 'style'

D:\work\ioithenko\hello>git status
On branch style
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    lib/index.html

nothing added to commit but untracked files present (use "git add" to track)

D:\work\ioithenko\hello>git status
On branch style
nothing to commit, working tree clean

D:\work\ioithenko\hello>git add lib/style.css

D:\work\ioithenko\hello>git commit -m "Added css stylesheet"
[style 8415f96] Added css stylesheet
 1 file changed, 3 insertions(+)
 create mode 100644 lib/style.css

D:\work\ioithenko\hello>git add lib/hello.html

D:\work\ioithenko\hello>git commit -m "Hello uses style.css"
On branch style
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    hello.html

nothing added to commit but untracked files present (use "git add" to track)

D:\work\ioithenko\hello>git status
On branch style
nothing to commit, working tree clean

D:\work\ioithenko\hello>
```

Рис. 31: Создание новой ветки и изменение файлов

```
D:\work\ioithenko\hello>git add index.html
D:\work\ioithenko\hello>git commit -m "Updated index.html"
[style e47fa72] Updated index.html
 1 file changed, 4 insertions(+)

D:\work\ioithenko\hello>git log --all
commit e47fa720c22e76136ea3aa5faca6c21ddac3c3d (HEAD -> style)
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 19:47:01 2025 +0300

    Updated index.html

commit 8415f96400c78211fb5077109de13fbe43da57b9
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 19:44:29 2025 +0300

    Added css stylesheet

commit 00bcac64d234627caad784237fbf9e04012ebc96 (master)
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 19:26:45 2025 +0300

    Added index.html.

commit c89e0e4e38a1239b25c7c3fb5a2f2d572b832516
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 19:22:35 2025 +0300

    Moved hello.html to lib

commit 7804f9a078081dd8f4ba41a8dd5a36ddf65d25f5
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 19:18:49 2025 +0300

    Add an author/email comment

commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (tag: v1)
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:58:36 2025 +0300

    Added HTML header

commit 5d821ba821383e77043d5642362fc86bb40eb338 (tag: v1-beta)
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:57:38 2025 +0300

    Added standard HTML page tags

commit 60b060b78ac92f6f7fd4f1b022f908bee09b1055
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:54:05 2025 +0300

    Added h1 tag

commit f69efc31c268c5b83102448c37c635240cbb05a0
Author: Irina <iishchenko99@gmail.com>
Date: Tue Feb 18 18:49:39 2025 +0300

    Initial Commit

D:\work\ioithenko\hello>
```

Рис. 32: Просмотр файлов на двух ветках

```
D:\work\ioithenko\hello>git checkout master
Switched to branch 'master'

D:\work\ioithenko\hello>cd lib
D:\work\ioithenko\hello\lib>type hello.html
<!-- Author: Irina O. Ishchenko (iishchenko99@gmail.com) -->
<html>
  <head>
  </head>
  <body>
    <h1>Hello, world!</h1>
  </body>
</html>
D:\work\ioithenko\hello\lib>cd ..
```

Рис. 33: Просмотр файлов на двух ветках

```
D:\work\ioithenko\hello\lib>git checkout style
switched to branch 'style'

D:\work\ioithenko\hello\lib>gitk

D:\work\ioithenko\hello\lib>type hello.html
<!-- Author: Irina O. Ishchenko (iishchenko99@gmail.com) -->
<html>
  <head>
    <link type="text/css" rel="stylesheet"
          media="all" href="style.css" />
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>

D:\work\ioithenko\hello\lib>_
```

Рис. 34: Просмотр файлов на двух ветках

```
D:\work\ioithenko\hello>git checkout master
Switched to branch 'master'

D:\work\ioithenko\hello>echo "This is the Hello World example from the git tutorial." > README.md

D:\work\ioithenko\hello>git add README.md

D:\work\ioithenko\hello>git commit -m "Added README"
[master f989a91] Added README
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

D:\work\ioithenko\hello>git log --graph --all
* commit f989a915e7311d8b046b45d918b87a37955f31fb (HEAD -> master)
| Author: Irina <iishchenko99@gmail.com>
| Date:  Tue Feb 18 20:12:43 2025 +0300
|
|       Added README
|
| * commit d82249ac663c4838ce6717f14927754ae6237102 (style)
| | Author: Irina <iishchenko99@gmail.com>
| | Date:  Tue Feb 18 20:10:16 2025 +0300
| |
| |       Hello uses style.css right
|
| * commit e47fa720c22e76136ea3aa5facda6c21ddac3c3d
| | Author: Irina <iishchenko99@gmail.com>
| | Date:  Tue Feb 18 19:47:01 2025 +0300
| |
| |       Updated index.html
|
| * commit 8415f96400c78211fb5077109de13fbe43da57b9
| | Author: Irina <iishchenko99@gmail.com>
| | Date:  Tue Feb 18 19:44:29 2025 +0300
| |
| |       Added css stylesheet
|
| * commit 00bcac64d234627caad784237fbf9e04012ebc96
| | Author: Irina <iishchenko99@gmail.com>
| | Date:  Tue Feb 18 19:26:45 2025 +0300
| |
| |       Added index.html.
|
| * commit c89e0e4e38a1239b25c7c3fb5a2f2d572b832516
| | Author: Irina <iishchenko99@gmail.com>
| | Date:  Tue Feb 18 19:22:35 2025 +0300
| |
| |       Moved hello.html to lib
```

Рис. 35: Создание README.md в master

```
D:\work\ioithenko\hello>git checkout style
Switched to branch 'style'

D:\work\ioithenko\hello>git merge master
Merge made by the 'ort' strategy.
 README.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 README.md

D:\work\ioithenko\hello>git log --graph --all
* commit 696a6ec28d4ff81e40b9626d92decf3e5dc2c7c0 (HEAD -> style)
| Merge: d82249a f989a91
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 20:14:02 2025 +0300
|     Merge branch 'master' into style
|
* commit f989a915e7311d8b046b45d918b87a37955f31fb (master)
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 20:12:43 2025 +0300
|     Added README
|
* commit d82249ac663c4838ca6717f14927754ae6237102
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 20:10:16 2025 +0300
|     Hello uses style.css right
|
* commit e47fa720c22e76136ea3aa5facda6c21ddac3c3d
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:47:01 2025 +0300
|     Updated index.html
|
* commit 8415f96400c78211fb5077109de13fbe43da57b9
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:44:29 2025 +0300
|     Added css stylesheet
```

Рис. 36: Слияние master c style

```
<!-- Author: Irina O. Ishchenko (iishchenko99@gmail.com) -->
<html>
    <head>
        <!-- no style -->
    </head>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

Рис. 37: Изменение файла

```
D:\work\ioithenko\hello>git checkout style
Switched to branch 'style'
D:\work\ioithenko\hello>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.
D:\work\ioithenko\hello>
```

Рис. 38: Создание конфликта

```
<!-- Author: Irina O. Ishchenko (iishchenko99@gmail.com) -->
<html>
    <head>
<<<<< HEAD
`    <link type="text/css" rel="stylesheet"
          media="all" href="style.css" />
=====
    <!-- no style -->
>>>>> master
    </head>
    <body>
        <h1>Hello, World!</h1>
    </body>
</html>
```

Рис. 39: Конфликт в файле

```
<!-- Author: Irina O. Ishchenko (iishchenko99@gmail.com) -->
<html>
  <head>
    <link type="text/css" rel="stylesheet"
          media="all" href="style.css" />
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Рис. 40: Разрешение конфликта

```
D:\work\ioithenko\hello>git add lib/hello.html
D:\work\ioithenko\hello>git commit -m "Merged master fixed conflict."
[style e788d85] Merged master fixed conflict.
D:\work\ioithenko\hello>_
```

Рис. 41: Слияние

```
D:\work\ioithenko\hello>git reset --hard d82249ac663c4838ca6717f14927754ae62
2
HEAD is now at d82249a Hello uses style.css right

D:\work\ioithenko\hello>git log --graph --all
* commit 99994c1459d7d15cb28a960ce9895a7d754f0e7e (master)
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 20:16:18 2025 +0300

    Life is great

* commit f989a915e7311d8b046b45d918b87a37955f31fb
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 20:12:43 2025 +0300

    Added README

* commit d82249ac663c4838ca6717f14927754ae6237102 (HEAD -> style)
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 20:10:16 2025 +0300

    Hello uses style.css right

* commit e47fa720c22e76136ea3aa5facda6c21ddac3c3d
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 19:47:01 2025 +0300

    Updated index.html

* commit 8415f96400c78211fb5077109de13fbe43da57b9
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 19:44:29 2025 +0300

    Added css stylesheet

* commit 00bcac64d234627caad784237fbf9e04012ebc96
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 19:26:45 2025 +0300

    Added index.html.

* commit c89e0e4e38a1239b25c7c3fb5a2f2d572b832516
  Author: Irina <iishchenko99@gmail.com>
  Date:   Tue Feb 18 19:22:35 2025 +0300
```

Рис. 42: Сброс ветки style по хэшу

```
D:\work\ioithenko\hello>git reset --hard f989a915e7311d8b046b45d918b87a37955f31fb
b
HEAD is now at f989a91 Added README

D:\work\ioithenko\hello>git log --graph --all
* commit f989a915e7311d8b046b45d918b87a37955f31fb (HEAD -> master)
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 20:12:43 2025 +0300
|
|     Added README
|
* commit d82249ac663c4838ca6717f14927754ae6237102 (style)
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 20:10:16 2025 +0300
|
|     Hello uses style.css right
|
* commit e47fa720c22e76136ea3aa5facda6c21ddac3c3d
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:47:01 2025 +0300
|
|     Updated index.html
|
* commit 8415f96400c78211fb5077109de13fbe43da57b9
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:44:29 2025 +0300
|
|     Added css stylesheet
|
* commit 00bcac64d234627caad784237fb9e04012ebc96
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:26:45 2025 +0300
|
|     Added index.html.
|
* commit c89e0e4e38a1239b25c7c3fb5a2f2d572b832516
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:22:35 2025 +0300
|
|     Moved hello.html to lib
|
* commit 7804f9a078081dd8f4ba41a8dd5a36ddf65d25f5
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 19:18:49 2025 +0300
|
|     Add an author/email comment
|
* commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (tag: v1)
| Author: Irina <iishchenko99@gmail.com>
| Date: Tue Feb 18 18:58:36 2025 +0300
```

Рис. 43: Сброс ветки master по хэшу

```
D:\work\ioithenko\hello>git checkout style
Switched to branch 'style'

D:\work\ioithenko\hello>git rebase master
Successfully rebased and updated refs/heads/style.

D:\work\ioithenko\hello>git log --graph
* commit 5f71a319619e5c6cafde3f796b92dc293148c25 (HEAD -> style)
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 20:10:16 2025 +0300

    Hello uses style.css right

* commit d8c699124c31fdab60b9c52411fb321d5ed4ef2
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 19:47:01 2025 +0300

    Updated index.html

* commit cc78646380071b4df423ce6f3e2644e05985ee4e
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 19:44:29 2025 +0300

    Added css stylesheet

* commit f989a915e7311d8b046b45d918b87a37955f31fb (master)
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 20:12:43 2025 +0300

    Added README

* commit 00bcac64d234627caad784237fbf9e04012ebc96
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 19:26:45 2025 +0300

    Added index.html.

* commit c89e0e4e38a1239b25c7c3fb5a2f2d572b832516
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 19:22:35 2025 +0300

    Moved hello.html to lib

* commit 7804f9a078081dd8f4ba41a8dd5a36ddf65d25f5
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 19:18:49 2025 +0300

    Add an author/email comment

* commit aee289ac6c0866ac46b386c3b73e3f5ac2a285a7 (tag: v1)
  Author: Irina <iishchenko99@gmail.com>
  Date:  Tue Feb 18 18:58:36 2025 +0300
```

Рис. 44: Перебазирование

```
D:\work\ioithenko\hello>git checkout master
Switched to branch 'master'

D:\work\ioithenko\hello>git merge style
Updating f989a91..5f71a31
Fast-forward
  index.html    |  4 +++
  lib/hello.html |  2 ++
  lib/style.css  |  3 +++
  3 files changed, 9 insertions(+)
  create mode 100644 lib/style.css
```

Рис. 45: Слияние style в master

```
D:\work\ioithenko>cd ..  
D:\work\ioithenko>dir  
Том в устройстве D имеет метку Data  
Серийный номер тома: AA4F-4540  
Содержимое папки D:\work\ioithenko  
18.02.2025 18:48 <DIR> .  
18.02.2025 18:48 <DIR> ..  
18.02.2025 20:22 <DIR> hello  
05.09.2024 18:09 <DIR> packer  
05.09.2024 18:11 <DIR> vagrant  
17.02.2025 10:44 <DIR> vbox  
0 файлов 0 байт  
6 папок 188 253 143 040 байт свободно  
D:\work\ioithenko>git clone hello cloned_hello  
Cloning into 'cloned_hello'...  
done.  
D:\work\ioithenko>dir  
Том в устройстве D имеет метку Data  
Серийный номер тома: AA4F-4540  
Содержимое папки D:\work\ioithenko  
18.02.2025 20:24 <DIR> .  
18.02.2025 20:24 <DIR> ..  
18.02.2025 20:24 <DIR> cloned_hello  
18.02.2025 20:22 <DIR> hello  
05.09.2024 18:09 <DIR> packer  
05.09.2024 18:11 <DIR> vagrant  
17.02.2025 10:44 <DIR> vbox  
0 файлов 0 байт  
7 папок 188 246 265 856 байт свободно  
D:\work\ioithenko>cd cloned_hello  
D:\work\ioithenko\cloned_hello>dir  
Том в устройстве D имеет метку Data  
Серийный номер тома: AA4F-4540  
Содержимое папки D:\work\ioithenko\cloned_hello  
18.02.2025 20:24 <DIR> .  
18.02.2025 20:24 <DIR> ..  
18.02.2025 20:24 195 index.html  
18.02.2025 20:24 <DIR> lib  
18.02.2025 20:24 59 README.md  
2 файла 254 байт  
3 папок 188 246 265 856 байт свободно
```

Рис. 46: Создание клона репозитория, просмотр файлов и коммитов

```
D:\work\ioithenko\cloned_hello>git log --all
commit 5f71a319619e5c6caf4e3f796b92dc293148c25 (HEAD -> master, origin/style, origin/master, origin/HEAD)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:10:16 2025 +0300

    Hello uses style.css right

commit d8c699124c31fdab60b9c52411fb321d5ed4a5f2
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:47:01 2025 +0300

    Updated index.html

commit cc78646380071b4df423ce6f3e2644e05985ee4e
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:44:29 2025 +0300

    Added css stylesheet

commit f989a915e7311d8b046b45d918b87a37955f31fb
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:12:43 2025 +0300

    Added README

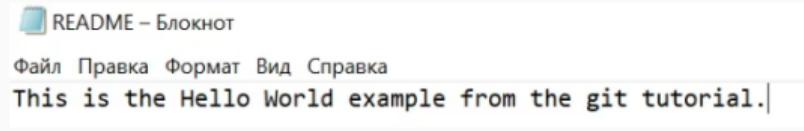
commit 00bcac64d234627caad784237fbf9e04012ebc96
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:26:45 2025 +0300

    Added index.html.
```

Рис. 47: Просмотр лога

```
D:\work\ioithenko\cloned_hello>git remote  
origin  
D:\work\ioithenko\cloned_hello>git remote show origin  
* remote origin  
  Fetch URL: D:/work/ioithenko/hello  
  Push URL: D:/work/ioithenko/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)  
D:\work\ioithenko\cloned_hello>git branch  
* master  
D:\work\ioithenko\cloned_hello>git branch -a  
* master  
  remotes/origin/HEAD -> origin/master  
  remotes/origin/master  
  remotes/origin/style  
D:\work\ioithenko\cloned_hello>cd ..  
D:\work\ioithenko>cd hello  
D:\work\ioithenko\hello>
```

Рис. 48: Просмотр веток в клоне



Screenshot of a Windows Notepad window titled "README – Блокнот". The menu bar includes "Файл", "Правка", "Формат", "Вид", and "Справка". The main text area contains the following text:

```
This is the Hello World example from the git tutorial.|
```

Рис. 49: Изменение файла

```
D:\work\ioithenko\cloned_hello>git fetch
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3) done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 358 bytes | 16.00 KiB/s, done.
From D:/work/ioithenko/hello
      5f71a31..cc0efe8 master      -> origin/master

D:\work\ioithenko\cloned_hello>git log --all
commit cc0efe8e7fcf23e7ac1a9fb0c1489ca13fb07e (origin/master, origin/HEAD)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:28:48 2025 +0300

    Changed README in original repo

commit 5f71a319619e5c6caf4e3f796b92dc293148c25 (HEAD -> master, origin/style)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:10:16 2025 +0300

    Hello uses style.css right

commit d8c699124c31fdab60b9c52411fb321d5ed4a5f2
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:47:01 2025 +0300

    Updated index.html

commit cc78646380071b4df423ce6f3e2644e05985ee4e
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 19:44:29 2025 +0300

    Added css stylesheet

commit f989a915e7311d8b046b45d918b87a37955f31fb
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:12:43 2025 +0300
```

Рис. 50: Извлечение изменений из оригинального репозитория

```
D:\work\ioithenko\cloned_hello>type README.md
"This is the Hello World example from the git tutorial."
D:\work\ioithenko\cloned_hello>git merge origin/master
Updating 5f71a31..cc0efe8
Fast-forward
 README.md | 2 ++
 1 file changed, 1 insertion(+), 1 deletion(-)
D:\work\ioithenko\cloned_hello>type README.md
This is the Hello World example from the git tutorial.
D:\work\ioithenko\cloned_hello>git pull
Already up to date.
D:\work\ioithenko\cloned_hello>git branch --track style origin/style
branch 'style' set up to track 'origin/style'.
D:\work\ioithenko\cloned_hello>git branch -a
* master
  style
    remotes/origin/HEAD -> origin/master
    remotes/origin/master
    remotes/origin/style
D:\work\ioithenko\cloned_hello>git log --max-count=2
commit cc0efe8e7cfca7ac1a9fb9bb0c1489ca13fb07e (HEAD -> master, origin/master,
origin/HEAD)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:28:48 2025 +0300

    Changed README in original repo

commit 5f71a319619e5c6caf4e3f796b92dc293148c25 (origin/style, style)
Author: Irina <iishchenko99@gmail.com>
Date:   Tue Feb 18 20:10:16 2025 +0300

    Hello uses style.css right
```

Рис. 51: Слияние извлеченных изменений. Ветка наблюдения

```
D:\work\ioithenko>git clone --bare hello hello.git
Cloning into bare repository 'hello.git'...
done.

D:\work\ioithenko>dir hello.git
Том в устройстве D имеет метку Data
Серийный номер тома: AA4F-4540

Содержимое папки D:\work\ioithenko\hello.git

18.02.2025 20:32    <DIR>        .
18.02.2025 20:32    <DIR>        ..
18.02.2025 20:32            153 config
18.02.2025 20:32            73 description
18.02.2025 20:32            23 HEAD
18.02.2025 20:32    <DIR>        hooks
18.02.2025 20:32    <DIR>        info
18.02.2025 20:32    <DIR>        objects
18.02.2025 20:32            276 packed-refs
18.02.2025 20:32    <DIR>        refs
18.02.2025 20:32            4 файлов      525 байт
18.02.2025 20:32            6 папок   188 154 454 016 байт свободно

D:\work\ioithenko>cd hello
D:\work\ioithenko\hello>git remote add shared ../hello.git
D:\work\ioithenko\hello>
```

Рис. 52: Чистый репозиторий

```
D:\work\ioithenko\hello>git add README.md
D:\work\ioithenko\hello>git commit -m "Added shared comment to readme"
[master 8c95562] Added shared comment to readme
 1 file changed, 2 insertions(+), 1 deletion(-)

D:\work\ioithenko\hello>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), 402 bytes | 402.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To ..../hello.git
  cc0efe8..8c95562  master -> master

D:\work\ioithenko\hello>cd ..

D:\work\ioithenko>cd cloned_hello

D:\work\ioithenko\cloned_hello>git remote add shared ..../hello.git
D:\work\ioithenko\cloned_hello>git branch --track shared master
branch 'shared' set up to track 'master'.

D:\work\ioithenko\cloned_hello>git pull shared master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 382 bytes | 16.00 KiB/s, done.
From ..../hello
 * branch           master      -> FETCH_HEAD
 * [new branch]     master      -> shared/master
Updating cc0efe8..8c95562
Fast-forward
 README.md | 3 +-+
 1 file changed, 2 insertions(+), 1 deletion(-)

D:\work\ioithenko\cloned_hello>type README.md
This is the Hello World example from the git tutorial.
(Changed in the original and pushed to shared)
D:\work\ioithenko\cloned_hello>
```

Рис. 53: Чистый репозиторий. Добавление в оригиналный, отправка изменений в общий

Выводы

В ходе выполнения работы я получила практические навыки использования системы управления версиями git.