

Министерство образования Республики Беларусь
Учреждение образования

«Белорусский государственный университет
информатики и радиоэлектроники»

Факультет компьютерного проектирования
Кафедра инженерной психологии и эргономики

ТЕХНОЛОГИИ ПРОГРАММИРОВАНИЯ ПРИЛОЖЕНИЙ
ОТЧЁТ
по практической работе
«Основы Git»

Проверил:

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Минск 2024

Сначала был запущен Git-bash.exe

С помощью команды `$ git init` был создан репозиторий.

```
USER@DESKTOP-M51SG4K MINGW64 /  
$ git init  
Initialized empty Git repository in D:/GITT/Git/.git/
```

Далее я присвоил имя и эл.почту в git config

```
USER@DESKTOP-M51SG4K MINGW64 /  
$ git config --global user.name "Aleks"  
  
USER@DESKTOP-M51SG4K MINGW64 /  
$ git config --global user.email "oldscoperu@gmail.com"
```

Потом я создал поддиректорию work с файлом hello.html

```
USER@DESKTOP-M51SG4K MINGW64 / (main)  
$ git config --global init.defaultBranch main
```

```
USER@DESKTOP-M51SG4K MINGW64 / (main)  
$ git config --global core.autocrlf true  
  
USER@DESKTOP-M51SG4K MINGW64 / (main)  
$ git config --global core.safecrlf warn
```

Далее была создана и добавлена страница в репозиторий

```
USER@DESKTOP-M51SG4K MINGW64 / (main)  
$ mkdir work  
  
USER@DESKTOP-M51SG4K MINGW64 / (main)  
$ cd work  
  
USER@DESKTOP-M51SG4K MINGW64 /work (main)  
$ touch hello.html  
  
USER@DESKTOP-M51SG4K MINGW64 /work (main)  
$ git init  
Initialized empty Git repository in D:/GITT/Git/work/.git/  
  
USER@DESKTOP-M51SG4K MINGW64 /work (main)  
$ git add hello.html  
  
USER@DESKTOP-M51SG4K MINGW64 /work (main)  
$ git commit -m "Initial Commit"  
[main (root-commit) 6cba611] Initial Commit  
1 file changed, 0 insertions(+), 0 deletions(-)  
create mode 100644 hello.html
```

А также был проверен статус

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)  
$ git status  
On branch main  
nothing to commit, working tree clean
```

Затем были внесены и закомитены изменения в файле hello.html

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello.html

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

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add hello.html

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

А ещё позже был добавлен комит.

```
[main 6c823bb] Added h1 tag
1 file changed, 1 insertion(+), 1 deletion(-)

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
nothing to commit, working tree clean
```

Добавление стандартных тегов

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add hello.html

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
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
```

Сделан комит проиндексированного изменения

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git commit -m "Added standard HTML page tags"
[main 755ab3a] Added standard HTML page tags
1 file changed, 5 insertions(+), 1 deletion(-)

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello.html

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

Добавили второе изменение в индекс.

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add .

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

Коммит этого изменения.

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git commit -m "Added HTML header"
[main 553dfbc] Added HTML header
1 file changed, 2 insertions(+)
```

Отображение истории проекта в итоговом варианте

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log
553dfbc 2024-12-10 | Added HTML header (HEAD -> main) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

После осмотра хэша переключились на ветку main

```
USER@DESKTOP-M51SG4K MINGW64 /work ((6cba611...))
$ git switch main
Previous HEAD position was 6cba611 Initial Commit
Switched to branch 'main'

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ cat hello.html
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Добавили тег v1

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git tag v1

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log
553dfbc 2024-12-10 | Added HTML header (HEAD -> main, tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Назвали v1-beta прошлую версию

```
USER@DESKTOP-M51SG4K MINGW64 /work ((755ab3a...))
$ git tag v1-beta

USER@DESKTOP-M51SG4K MINGW64 /work ((v1-beta))
$ git log
755ab3a 2024-12-10 | Added standard HTML page tags (HEAD, tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Смотрим теги

```
USER@DESKTOP-M51SG4K MINGW64 /work ((v1-beta))
$ git tag
v1
v1-beta
```

Отмена изменений: ч1

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   hello.html

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

Избавились от красного текста)

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git checkout hello.html
Updated 1 path from the index

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
nothing to commit, working tree clean

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ cat hello.html
<html>
  <head>
  </head>
  <body>
    <h1>Hello, World!</h1>
  </body>
</html>
```

Отмена изменений: ч2

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add hello.html

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   hello.html
```

Сбросили область подготовки

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git reset HEAD hello.html
Unstaged changes after reset:
M      hello.html

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git checkout hello.html
Updated 1 path from the index

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git status
On branch main
nothing to commit, working tree clean
```

Отмена изменений: ч3 (отмена через реверт)

```
[main 2f382b4] Revert "Oops, we didn't want this commit"
1 file changed, 1 deletion(-)

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$
```

Чекаем лог

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log
2f382b4 2024-12-10 | Revert "Oops, we didn't want this commit" (HEAD -> main) [Aleks]
164cdb2 2024-12-10 | Oops, we didn't want this commit [Aleks]
553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Чистим логи через reset:

Сначала тегнем

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log
2f382b4 2024-12-10 | Revert "Oops, we didn't want this commit" (HEAD -> main, tag: oops) [Aleks]
164cdb2 2024-12-10 | Oops, we didn't want this commit [Aleks]
553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Сброс к пред.комиту

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git reset --hard v1
HEAD is now at 553dfbc Added HTML header

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log
553dfbc 2024-12-10 | Added HTML header (HEAD -> main, tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Ликвидировали тег oops

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git tag -d oops
Deleted tag 'oops' (was 2f382b4)

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log --all
553dfbc 2024-12-10 | Added HTML header (HEAD -> main, tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Копируйте комит

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add hello.html
git commit -m "Added copyright statement"
git log
[main 756615f] Added copyright statement
1 file changed, 1 insertion(+)
756615f 2024-12-10 | Added copyright statement (HEAD -> main) [Aleks]
553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add hello.html
git commit --amend -m "Added copyright statement with email"
[main 5c9b88c] Added copyright statement with email
Date: Tue Dec 10 04:05:38 2024 +0300
1 file changed, 1 insertion(+)
```

C-ветка

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git switch -c style
Switched to a new branch 'style'

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git status
On branch style
nothing to commit, working tree clean
```

Создано и ...

```
USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git add style.css
git commit -m "Added css stylesheet"
[style dab6bdb] Added css stylesheet
1 file changed, 3 insertions(+)
create mode 100644 style.css

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git add hello.html
git commit -m "Included stylesheet into hello.html"
[style 06d432d] Included stylesheet into hello.html
1 file changed, 1 insertion(+)
```

O

Опять обрабатываем комит после изменений...

```
USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ mv hello.html index.html

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git status
On branch style
Changes not staged for commit:
  (use "git add/rm <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        deleted:    hello.html

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        index.html

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

Создадим и переместим style в нашу папку


```

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git add .
git status
On branch style
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        renamed:    hello.html -> index.html

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ mkdir css
git mv style.css css/style.css
git status
On branch style
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        renamed:    style.css -> css/style.css
        renamed:    hello.html -> index.html

```

Добавляем два вида логов.

```

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git commit -m "Renamed hello.html; moved style.css"
git log css/style.css
git log --follow css/style.css
[style 9a4e1a6] Renamed hello.html; moved style.css
2 files changed, 0 insertions(+), 0 deletions(-)
rename style.css => css/style.css (100%)
rename hello.html => index.html (100%)
9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> style) [Aleks]
9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> style) [Aleks]
dab6bdb 2024-12-10 | Added css stylesheet [Aleks]

```

Создал файл readme и добавил его в ветку main + комит

```

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git switch main
Already on 'main'

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add README.md

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git commit -m "Added README"
[main 6a902e6] Added README
1 file changed, 1 insertion(+)
create mode 100644 README.md

```

Теперь посмотрим на ветки (расхождение)

```

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log --all --graph
* 6a902e6 2024-12-10 | Added README (HEAD -> main) [Aleks]
| * 9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css (style) [Aleks]
| * 06d432d 2024-12-10 | Included stylesheet into hello.html [Aleks]
| * dab6bdb 2024-12-10 | Added css stylesheet [Aleks]
|/
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]

```

Замерзили мейн и другую ветку

```

Merge made by the 'ort' strategy.
 README.md | 1 +
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
*   dbbad7e 2024-12-10 | Merge branch 'main' into style (HEAD -> style) [Aleks]
| \
| * 6a902e6 2024-12-10 | Added README (main) [Aleks]
* | 9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css [Aleks]
* | 06d432d 2024-12-10 | Included stylesheet into hello.html [Aleks]
* | dab6bdb 2024-12-10 | Added css stylesheet [Aleks]
| /
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]

```

Конфликт (в зачатке)

```

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log --all --graph
* d0e314d 2024-12-10 | Added meta title (HEAD -> main) [Aleks]
| *   dbbad7e 2024-12-10 | Merge branch 'main' into style (style) [Aleks]
| \
| |
| | /
| /
| * 6a902e6 2024-12-10 | Added README [Aleks]
| * 9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css [Aleks]
| * 06d432d 2024-12-10 | Included stylesheet into hello.html [Aleks]
| * dab6bdb 2024-12-10 | Added css stylesheet [Aleks]
| /
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]

```

Сообщение про конфликт

```

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git switch style
git merge main
Switched to branch 'style'
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.

```

Откатали конфликт до нужного состояния

```

USER@DESKTOP-M51SG4K MINGW64 /work (style|MERGING)
$ git merge --abort
git status
On branch style
nothing to commit, working tree clean

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git merge main
Auto-merging index.html
CONFLICT (content): Merge conflict in index.html
Automatic merge failed; fix conflicts and then commit the result.

```

Итог конфликта: мир

```
$ git add index.html
git commit -m "Resolved merge conflict"
git status
git log --all --graph
[style d001ba0] Resolved merge conflict
On branch style
nothing to commit, working tree clean
*   d001ba0 2024-12-10 | Resolved merge conflict (HEAD -> style) [Aleks]
| \
| * d0e314d 2024-12-10 | Added meta title (main) [Aleks]
* | ddbad7e 2024-12-10 | Merge branch 'main' into style [Aleks]
| \
| * 6a902e6 2024-12-10 | Added README [Aleks]
* | 9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css [Aleks]
* | 06d432d 2024-12-10 | Included stylesheet into hello.html [Aleks]
* | dab6bdb 2024-12-10 | Added css stylesheet [Aleks]
|/
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]
```

Сбрасываем ветку стайлов до последнего комита

```
USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git reset --hard HEAD~2
HEAD is now at 9a4e1a6 Renamed hello.html; moved style.css

USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git log --graph
* 9a4e1a6 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> style) [Aleks]
* 06d432d 2024-12-10 | Included stylesheet into hello.html [Aleks]
* dab6bdb 2024-12-10 | Added css stylesheet [Aleks]
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]
```

Начал делать слияние через rebase. Решаем конфликт без коммитов

```
[detached HEAD be0768f] Included stylesheet into hello.html
1 file changed, 1 insertion(+)
Successfully rebased and updated refs/heads/style.

USER@DESKTOP-M51SG4K MINGW64 /work (style)
```

Проверяем нет ли чего-то ещё

```
USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git status
git log --all --graph
On branch style
nothing to commit, working tree clean
* b29eda4 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> style) [Aleks]
* be0768f 2024-12-10 | Included stylesheet into hello.html [Aleks]
* 4e95263 2024-12-10 | Added css stylesheet [Aleks]
* d0e314d 2024-12-10 | Added meta title (main) [Aleks]
* 6a902e6 2024-12-10 | Added README [Aleks]
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]
```

Мержим style в мейн

```
USER@DESKTOP-M51SG4K MINGW64 /work (style)
$ git switch main
git merge style
Switched to branch 'main'
Updating d0e314d..b29eda4
Fast-forward
 css/style.css      | 3 +++
 hello.html => index.html | 1 +
 2 files changed, 4 insertions(+)
 create mode 100644 css/style.css
 rename hello.html => index.html (73%)
```

Ветки замержены

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git log --all --graph
* b29eda4 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> main, style) [Aleks]
* be0768f 2024-12-10 | Included stylesheet into hello.html [Aleks]
* 4e95263 2024-12-10 | Added css stylesheet [Aleks]
* d0e314d 2024-12-10 | Added meta title [Aleks]
* 6a902e6 2024-12-10 | Added README [Aleks]
* 5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
* 553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
* 755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
* 6c823bb 2024-12-10 | Added h1 tag [Aleks]
* 68aedd4 2024-12-10 | Added h1 tag [Aleks]
* 6cba611 2024-12-10 | Initial Commit [Aleks]
```

Клонируем репозиторий

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ cd ..
pwd
ls
/
LICENSE.txt      cmd/  git-bash.exe*  proc/  unins000.dat  usr/
ReleaseNotes.html dev/  git-cmd.exe*   repositories/  unins000.exe*  work/
bin/             etc/  mingw64/       tmp/       unins000.msg

USER@DESKTOP-M51SG4K MINGW64 / (main)
$ git clone work home
ls
Cloning into 'home'...
done.
LICENSE.txt      cmd/  git-bash.exe*  mingw64/  tmp/  unins000.msg
ReleaseNotes.html dev/  git-cmd.exe*   proc/     unins000.dat  usr/
bin/             etc/  home/          repositories/  unins000.exe*  work/
```

Смотрим на результат и историю репозитория

```
USER@DESKTOP-M51SG4K MINGW64 / (main)
$ cd home
ls
README.md  css/  index.html

USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git log --all
b29eda4 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> main, origin/style, origin/main,
origin/HEAD) [Aleks]
be0768f 2024-12-10 | Included stylesheet into hello.html [Aleks]
4e95263 2024-12-10 | Added css stylesheet [Aleks]
d0e314d 2024-12-10 | Added meta title [Aleks]
6a902e6 2024-12-10 | Added README [Aleks]
5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]
```

Узнаём об именах удаленных репозиториях.

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git remote
origin

USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git remote show origin
* remote origin
  Fetch URL: D:/GITT/Git/work
  Push URL: D:/GITT/Git/work
  HEAD branch: main
  Remote branches:
    main tracked
    style tracked
  Local branch configured for 'git pull':
    main merges with remote main
  Local ref configured for 'git push':
    main pushes to main (up to date)
```

Ищем ветку стайла

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git branch
* main

USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git branch -a
* main
  remotes/origin/HEAD -> origin/main
  remotes/origin/main
  remotes/origin/style
```

Изменяем оригинальный репозиторий

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git add README.md
git commit -m "Changed README in original repo"
[main 8a1f0a9] Changed README in original repo
1 file changed, 2 insertions(+), 1 deletion(-)
```

Подтянули изменения в другую папку:

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ cd ../home
git fetch
git log --all
8a1f0a9 2024-12-10 | Changed README in original repo (origin/main, origin/HEAD) [Aleks]
b29eda4 2024-12-10 | Renamed hello.html; moved style.css (HEAD -> main, origin/style) [Aleks]
be0768f 2024-12-10 | Included stylesheet into hello.html [Aleks]
4e95263 2024-12-10 | Added css stylesheet [Aleks]
d0e314d 2024-12-10 | Added meta title [Aleks]
6a902e6 2024-12-10 | Added README [Aleks]
5c9b88c 2024-12-10 | Added copyright statement with email [Aleks]
553dfbc 2024-12-10 | Added HTML header (tag: v1) [Aleks]
755ab3a 2024-12-10 | Added standard HTML page tags (tag: v1-beta) [Aleks]
6c823bb 2024-12-10 | Added h1 tag [Aleks]
68aedd4 2024-12-10 | Added h1 tag [Aleks]
6cba611 2024-12-10 | Initial Commit [Aleks]

USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ cat README.md
This is the Hello World example from the GitHowTo tutorial.
```

Сливаем подтянутые изменения в локальную ветку

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git merge origin/main
Updating b29eda4..8a1f0a9
Fast-forward
 README.md | 3 ++-
 1 file changed, 2 insertions(+), 1 deletion(-)

USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ cat README.md
This is the Hello World example from the Git tutorial.
(changed in origin)
```

Добавил ветку наблюдения

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git branch --track style origin/style
git branch -a
git log --max-count=2
branch 'style' set up to track 'origin/style'.
* main
  style
  remotes/origin/HEAD -> origin/main
  remotes/origin/main
  remotes/origin/style
8a1f0a9 2024-12-10 | Changed README in original repo (HEAD -> main, origin/main, origin/HEAD) [Aleks]
b29eda4 2024-12-10 | Renamed hello.html; moved style.css (origin/style, style) [Aleks]
```

Создали чистый репозиторий

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ cd ..
git clone --bare work work.git
ls work.git
Cloning into bare repository 'work.git'...
done.
HEAD config description hooks/ info/ objects/ packed-refs refs/
```


Запустили изменения

```
USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git switch main
git add README.md
git commit -m "Added shared comment to readme"
M       README.md
Already on 'main'
[main 2b18244] Added shared comment to readme
 1 file changed, 1 insertion(+), 1 deletion(-)

USER@DESKTOP-M51SG4K MINGW64 /work (main)
$ git push shared main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 401 bytes | 401.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To ../work.git
   8a1f0a9..2b18244  main -> main
```

Подтянули общие изменения

```
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$ git remote add shared ../work.git
git branch --track shared main
git pull shared main
cat README.md
error: remote shared already exists.
fatal: a branch named 'shared' already exists
From ../work
 * branch          main          -> FETCH_HEAD
Already up to date.
This is the Hello World example from the Git tutorial.
(changed in the origin and pushed to shared)
USER@DESKTOP-M51SG4K MINGW64 /home (main)
$
```