

минобрнауки РОССИИ

федеральное государственное бюджетное образовательное учреждение высшего образования

«Московский государственный технологический университет «СТАНКИН» (ФГБОУ ВО «МГТУ «СТАНКИН»)

Институт цифровых интеллектуальных систем Кафедра компьютерных систем управления

Дисциплина «Основы системного программного обеспечения»

Отчет по лабораторной работе № 1_

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Цель работы: научиться работать со своим репозиторием GitHub, создавать и отправлять на сервер коммиты, подключаться к своему аккаунту и репозиторию через консоль GitBash. Восстанавливать файлы из других версий коммитов, создавать, удалять, соединять ветки репозитория, а также подключаться к чужим. Редактировать и создавать новые файлы в чужих репозиториях и отправлять на сервер.

Задачи работы: фиксация изменений в области заготовленных файлов, отправка коминат на сервер, запрос изменения с сервера, создание, слияние, удаление новой ветки, рросмотр изменений и разрешение конфликтов, возврат к предыдущему состоянию, исправление коммита.

Выполнение работы

```
MINGW64:/c/Users/hellsing/.git
 eval [arg ...]
exec [-cl] [-a name] [command [argument ...]] [r>
exit [n]
export [-fn] [name[=value] ...] or export -p
false
                                                                                              trap [-lp] [[arg] signal_spec ...]
                                                                                             true
type [-afptP] name [name ...]
typeset [-aAfFgiInrtux] name[=value] ... or ty>
ulimit [-SHabcdefiklmnpqrstuvxPRT] [limit]
umask [-p] [-S] [mode]
unalias [-a] name [name ...]
unset [-f] [-v] [-n] [name ...]
until COMMANDS; do COMMANDS-2; done
variables - Names and meanings of some shell va>
wait [-fn] [-p var] [id ...]
while COMMANDS; do COMMANDS-2; done
{ COMMANDS: }
                                                                                              true
 false
fc [-e ename] [-lnr] [first] [last] or fc -s [pa>
fg [job_spec]
for NAME [in WORDS ...]; do COMMANDS; done
for (( exp1; exp2; exp3 )); do COMMANDS; done
function name { COMMANDS ; } or name () { COMMAN>
getopts optstring name [arg ...]
hash [-lr] [-p pathname] [-dt] [name ...]
help [-dms] [pattern ...]
                                                                                              { COMMANDS ; }
$ cd
$ git init
Reinitialized existing Git repository in C:/Users/HELLSING/.git/
 HELLSING@HELLSING-PC MINGW64 /c/Users
$ cd .git
bash: cd: .git: No such file or directory
 HELLSING@HELLSING-PC MINGW64 /c/Users
$ cd hellsing
 HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing (master)
$ cd .git
 HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (GIT_DIR!)
$ git init
Initialized empty Git repository in C:/Users/HELLSING/.git/.git/
 HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
$ git status
On branch master
No commits yet
Untracked files:
(use "git add <file>..." to include in what will be committed)
              FETCH_HEAD
HEAD
config
description
hooks/
nothing added to commit but untracked files present (use "git add" to track)
 HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
```

Рис.1 Поиск сторонних файлов в .git

```
MINGW64:/c/Users/hellsing/.git
 warning: in the working copy of 'hooks/pre-applypatch.sample', LF will be replaced by CRLF the next tim
warning: In the working copy of 'hooks/pre-apprypatch.sample', LF will be replaced by CRLF the next time Gi t touches it warning: in the working copy of 'hooks/pre-commit.sample', LF will be replaced by CRLF the next time Gi t touches it warning: in the working copy of 'hooks/pre-merge-commit.sample', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'hooks/pre-push.sample', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'hooks/pre-rebase.sample', LF will be replaced by CRLF the next time Gi
t touches it
   arning: in the working copy of 'hooks/pre-receive.sample', LF will be replaced by CRLF the next time G
it touches it
warning: in the working copy of 'hooks/prepare-commit-msg.sample', LF will be replaced by CRLF the next
time Git touches it
warning: in the working copy of 'hooks/push-to-checkout.sample', LF will be replaced by CRLF the next
time Git touches it
warning: in the working copy of 'hooks/sendemail-validate.sample', LF will be replaced by CRLF the next
time Git touches it
warning: in the working copy of 'hooks/sendemail-validate.sample', LF will be replaced by CRLF the next
time Git touches it
warning: in the working copy of 'hooks/update.sample', LF will be replaced by CRLF the next time Git to
uches it
HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
$ git add info/
 warning: in the working copy of 'info/exclude', LF will be replaced by CRLF the next time Git touches i
  HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
$ git status
 On branch master
  No commits yet
Changes to be committed:

(use "git rm --cached <file>..." to unstage)

new file: 1.txt

new file: FETCH_HEAD

new file: HEAD

new file: config

new file: description
                                       config
description
hooks/applypatch-msg.sample
                new file:
new file:
new file:
new file:
                                         hooks/commit-msg.sample
hooks/fsmonitor-watchman.sample
                                        hooks/fsmonitor-watchman.sample
hooks/post-update.sample
hooks/pre-applypatch.sample
hooks/pre-commit.sample
hooks/pre-merge-commit.sample
hooks/pre-push.sample
hooks/pre-receive.sample
hooks/pre-receive.sample
                new file:
new file:
                new file:
new file:
                                         hooks/prepare-commit-msg.sample
hooks/push-to-checkout.sample
hooks/sendemail-validate.sample
hooks/update.sample
                new file:
new file:
                new file:
  ELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
```

Рис. 2. Добавление новых файлов

```
MINGW64:/c/Users/hellsing/.git
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          X
        No commits yet
       Changes to be committed:
              (use "git rm --cached <file>..." to unstage)
new file: 1.txt
new file: FETCH_HEAD
                                          new file:
new file:
                                                                                                      config
                                                                                                      description
hooks/applypatch-msg.sample
hooks/commit-msg.sample
hooks/fsmonitor-watchman.sample
                                         new file:
                                           new file:
                                                                                                      hooks/post-update.sample
hooks/pre-applypatch.sample
hooks/pre-commit.sample
hooks/pre-merge-commit.sample
hooks/pre-push.sample
hooks/pre-receive.sample
hooks/prepare-commit-msg.sample
hooks/prepare-commit-msg.sample
                                                                                                      hooks/push-to-checkout.sample
hooks/sendemail-validate.sample
hooks/update.sample
info/exclude
HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)

§ git commit -m "first commit"

[master (root-commit) 5bac796] first commit

20 files changed, 883 insertions(+)
create mode 100644 1.txt
create mode 100644 FETCH_HEAD
create mode 100644 config
create mode 100644 description
create mode 100644 hooks/applypatch-msg.sample
create mode 100644 hooks/fsmonitor-watchman.sample
create mode 100644 hooks/fsmonitor-watchman.sample
create mode 100644 hooks/pre-applypatch.sample
create mode 100644 hooks/pre-commit.sample
create mode 100644 hooks/pre-commit.sample
create mode 100644 hooks/pre-push.sample
create mode 100644 hooks/pre-push.sample
create mode 100644 hooks/pre-rebase.sample
create mode 100644 hooks/pre-receive.sample
create mode 100644 hooks/pre-receive.sample
create mode 100644 hooks/prepare-commit-msg.sample
create mode 100644 hooks/prepare-commit-msg.sample
create mode 100644 hooks/prepare-commit-msg.sample
create mode 100644 hooks/push-to-checkout.sample
create mode 100644 hooks/push-to-checkout.sample
create mode 100644 hooks/sendemail-validate.sample
       HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
   $ git status
   On branch master
   nothing to commit, working tree clean
       HELLSING@HELLSING-PC MINGW64 /c/Users/hellsing/.git (master)
```

Рис.3. Создание коммита

```
MINGW64:/c/Users/HELLSING/.git
                                                                                                                                                                                                                      nothing added to commit but untracked files present (use "git add" to track)
 $ cd .git
  HELLSING@HELLSING-PC MINGW64 ~/.git (master)
 $ git status
 On branch master
 nothing to commit, working tree clean
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git remote add origin https://github.com/ilysha-228/Lab1-Stankin-ADB2107
error: remote origin already exists.
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git remote add origin https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git
error: remote origin already exists.
$ git remote -v
origin https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git (fetch)
origin https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git (push)
 $ git pull origin master
From https://github.com/ilysha-228/Lab1-Stankin-ADB2107
* branch master -> FETCH_HEAD
 Already up to date.
 $ git push origin master
remote: Support for password authentication was removed on August 13, 2021.
remote: Please see https://docs.github.com/get-started/getting-started-with-git/about-remote-repositori
es#cloning-with-https-urls for information on currently recommended modes of authentication.
fatal: Authentication failed for 'https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git/'
 $ AC
  HELLSING@HELLSING-PC MINGW64 ~/.git (master)
HELLSING@HELLSING-PC MINGW64 ~/.git (master)

§ git push origin master
Enumerating objects: 27, done.
Counting objects: 100% (27/27), done.
Delta compression using up to 8 threads
Compressing objects: 100% (22/22), done.
Writing objects: 100% (26/26), 12.55 KiB | 6.27 MiB/s, done.
Total 26 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), done.
To https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git
c40837c..1952303 master -> master
   HELLSING@HELLSING-PC MINGW64 ~/.git (master)
```

Рис.4 Отправка коммита на сервер

```
MINGW64:/c/Users/HELLSING/.git
 fatal: Authentication failed for 'https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git/'
HELLSING@HELLSING-PC MINGW64 ~/.git (master)

§ git push origin master
Enumerating objects: 27, done.
Counting objects: 100% (27/27), done.
Delta compression using up to 8 threads
Compressing objects: 100% (22/22), done.
Writing objects: 100% (26/26), 12.55 KiB | 6.27 MiB/s, done.
Total 26 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), done.
To https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git
    c40837c..1952303 master -> master
  HELLSING@HELLSING-PC MINGW64 ~/.git (master)
 $ git log
Tog tog commit 1952303ca507bb25459a9d509e5fda51db52c567 (HEAD -> master, origin/master)
Merge: 5bac796 c40837c
Author: ilysha-228 <ilya_kudymov@mail.ru>
Date: Sun May 19 22:18:04 2024 +0300
        Merge branch 'master' of https://github.com/ilysha-228/Lab1-Stankin-ADB2107
commit 5bac79658960e5095776c35e661be6c21b509b69
Author: ilysha-228 <ilya_kudymov@mail.ru>
Date: Sun May 19 22:14:23 2024 +0300
         first commit
commit c40837c816026dc60692c068714e33d26651d48c
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 11:11:07 2024 +0300
         Update README.md
 commit 89dcc5e208719ba0d107505a5fed88ac0b65248b
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
                 Tue Apr 9 09:33:26 2024 +0300
        Rename mb truth lab to mb truth lab.txt
commit b726188b7054191c2f2359634e529aab270dea94
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:33:05 2024 +0300
         Create mb truth lab
commit 0d26eda28f88767547c26e11f7b1969cfc719243
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:22:54 2024 +0300
         README.md
```

Рис.5 Проверка через git log

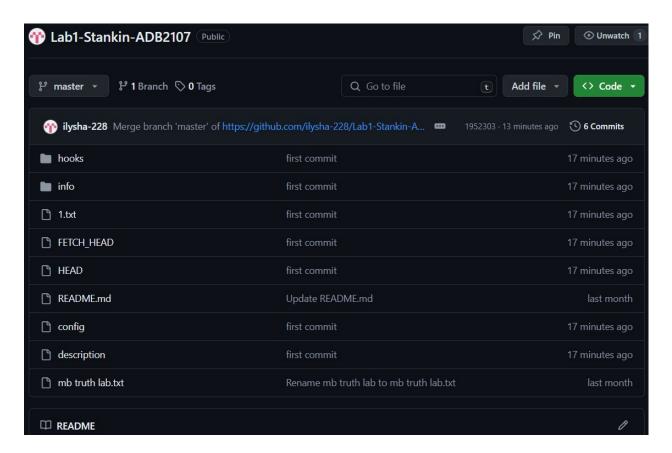


Рис. 6. Результат отправки

```
NINGW64:/c/Users/HELLSING/.git
                                                                                                                                             commit b726188b7054191c2f2359634e529aab270dea94
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:33:05 2024 +0300
      Create mb truth lab
commit 0d26eda28f88767547c26e11f7b1969cfc719243
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:22:54 2024 +0300
     README. md
$ git branch second
$ git branch
  second
$ git checkout second
Switched to branch 'second'
$ git status
On branch second
Untracked files:
(use "git add <file>..." to include in what will be committed)
nothing added to commit but untracked files present (use "git add" to track)
 HELLSING@HELLSING-PC MINGW64 ~/.git (second)
$ git add Kudymov.txt
$ git status
On branch second
Changes to be committed:
(use "git restore --staged <file>..." to unstage)
new file: Kudymov.txt
HELLSING@HELLSING-PC MINGW64 ~/.git (second)
$ git commit -m "second commit for second branch"
[second 705d034] second commit for second branch
1 file changed, 1 insertion(+)
create mode 100644 Kudymov.txt
 HELLSING@HELLSING-PC MINGW64 ~/.git (second)
$ git status
On branch second
nothing to commit, working tree clean
```

Рис. 7. Создание новой ветки, подключение

```
MINGW64:/c/Users/HELLSING/.git
Author: ilysha-228 <ilya_kudymov@mail.ru>
Date: Sun May 19 22:18:04 2024 +0300
        Merge branch 'master' of https://github.com/ilysha-228/Lab1-Stankin-ADB2107
commit 5bac79658960e5095776c35e661be6c21b509b69
Author: ilysha-228 <ilya_kudymov@mail.ru>
Date: Sun May 19 22:14:23 2024 +0300
        first commit
commit c40837c816026dc60692c068714e33d26651d48c
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 11:11:07 2024 +0300
       Update README.md
commit 89dcc5e208719ba0d107505a5fed88ac0b65248b
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:33:26 2024 +0300
        Rename mb truth lab to mb truth lab.txt
commit b726188b7054191c2f2359634e529aab270dea94
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:33:05 2024 +0300
       Create mb truth lab
commit 0d26eda28f88767547c26e11f7b1969cfc719243
Author: Лера Язагит <128056452+ilysha-228@users.noreply.github.com>
Date: Tue Apr 9 09:22:54 2024 +0300
       README.md
$ git branch
    master
HELLSING@HELLSING-PC MINGW64 ~/.git (second)

§ git push origin second
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 296 bytes | 296.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
 remote: Create a pull request for 'second' on GitHub by visiting: remote: https://github.com/ilysha-228/Lab1-Stankin-ADB2107/pull/new/second
 To https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git
      [new branch]
                                        second -> second
  HELLSING@HELLSING-PC MINGW64 ~/.git (second)
```

Рис. 8. Отправка нового коммита на новую ветку second

```
MINGW64:/c/Users/HELLSING/.git
                                                                                                                                                  Writing objects: 100% (3/3), 296 bytes | 296.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote: Create a pull request for 'second' on GitHub by visiting: remote: https://github.com/ilysha-228/Lab1-Stankin-ADB2107/pull/new/second
To https://github.com/ilysha-228/Lab1-Stankin-ADB2107.git
    [new branch]
                                second -> second
HELLSING@HELLSING-PC MINGW64 ~/.git (second)
$ git checkout master
Switched to branch 'master'
 HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git merge second
Updating 1952303..705d034
 ast-forward
 Kudymov.txt | 1 +
1 file changed, 1 insertion(+)
create mode 100644 Kudymov.txt
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git branch -d second
Deleted branch second (was 705d034).
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git branch newdev
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git checkout newdev
Switched to branch 'newdev'
 HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git status
On branch newdev
Untracked files:
(use "git add <file>..." to include in what will be committed)
nothing added to commit but untracked files present (use "git add" to track)
HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git add otches.txt
HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git commit -m "three commit"
[newdev d5a20be] three commit
1 file changed, 1 insertion(+)
create mode 100644 otches.txt
 HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git status
On branch newdev
nothing to commit, working tree clean
```

Рис. 9. Слияние веток, удаление second, создание новой ветки и отправка нового коммита на сервер в ветку newdev

```
MINGW64:/c/Users/HELLSING/.git
                                                                                                                                                 $ git status
On branch newdev
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: otches.txt
no changes added to commit (use "git add" and/or "git commit -a")
$ git add otches.txt
HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git commit -m "three commit"
[newdev 28a7522] three commit
1 file changed, 1 insertion(+), 1 deletion(-)
HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git status
On branch newdev
nothing to commit, working tree clean
 HELLSING@HELLSING-PC MINGW64 ~/.git (newdev)
$ git checkout master
Switched to branch 'master'
 HELLSING@HELLSING-PC MINGW64 ~/.git (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)
no changes added to commit (use "git add" and/or "git commit -a")
$ git add otches.txt
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git commit -m "three commit"
[master 03dfa3f] three commit
1 file changed, 1 insertion(+), 1 deletion(-)
$ git status
On branch master
nothing to commit, working tree clean
$ git merge newdev
Auto-merging otches.txt
CONFLICT (content): Merge conflict in otches.txt
Automatic merge failed; fix conflicts and then commit the result.
 HELLSING@HELLSING-PC MINGW64 ~/.git (master|MERGING)
```

Рис. 10 Работа с файлом в ветке newdev

```
MINGW64:/c/Users/HELLSING/.git
                                                                                                                                                                              [newdev 28a7522] three commit
1 file changed, 1 insertion(+), 1 deletion(-)
$ git status
On branch newdev
nothing to commit, working tree clean
$ git checkout master
Switched to branch 'master'
 HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git status
On branch master
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: otches.txt
no changes added to commit (use "git add" and/or "git commit -a")
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git add otches.txt
HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git commit -m "three commit"
[master 03dfa3f] three commit
1 file changed, 1 insertion(+), 1 deletion(-)
 HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git status
On branch master nothing to commit, working tree clean
 HELLSING@HELLSING-PC MINGW64 ~/.git (master)
$ git merge newdev
Auto-merging otches.txt
CONFLICT (content): Merge conflict in otches.txt
Automatic merge failed; fix conflicts and then commit the result.
HELLSING@HELLSING-PC MINGW64 ~/

$ git diff

diff --cc otches.txt

index 33920bc,0b0f053..0000000

--- a/otches.txt

+++ b/otches.txt

@@ -1,1 -1,1 +1,5 @@

- Илья Геннадьевиччч

-Илья Геннадь
```

Рис. 11. Попытка слияния веток с разными файлами

```
MINGW64:/c/Users/HELLSING/.git/clone
$ cd .git
 HELLSING@HELLSING-PC MINGW64 ~/.git ((dcc6143...))
$ git status
nothing to commit, working tree clean
   (HEAD detached from 705d034)
   master
 HELLSING@HELLSING-PC MINGW64 ~/.git ((dcc6143...))
$ git checkout master
Warning: you are leaving 2 commits behind, not connected to
any of your branches:
   dcc6143 Merge branch 'master' of https://github.com/ilysha-228/Lab1-Stankin-ADB2107 into HEAD 1381c03 hz commit
If you want to keep them by creating a new branch, this may be a good time to do so with:
  git branch <new-branch-name> dcc6143
Switched to branch 'master'
$ git branch
$ cd clone
HELLSING@HELLSING-PC MINGW64 ~/.git/clone (master)
$ git clone https://github.com/ilysha-228/laboratornaia1.git
Cloning into 'laboratornaia1'...
remote: Enumerating objects: 18, done.
remote: Counting objects: 100% (18/18), done.
remote: Compressing objects: 100% (10/10), done.
remote: Total 18 (delta 1), reused 18 (delta 1), pack-reused 0
Receiving objects: 100% (18/18), done.
Resolving deltas: 100% (1/1), done.
 HELLSING@HELLSING-PC MINGW64 ~/.git/clone (master)
```

Рис.12 Подключение к чужому репозиторию и отправка туда своего файла