## МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ

Федеральное государственное автономное образовательное учреждение высшего образования «КРЫМСКИЙ ФЕДЕРАЛЬНЫЙ УНИВЕРСИТЕТ им. В. И. ВЕРНАДСКОГО» ФИЗИКО-ТЕХНИЧЕСКИЙ ИНСТИТУТ

Кафедра компьютерной инженерии и моделирования

# ОТЧЕТ ПО ПРАКТИЧЕСКОМУ ЗАДАНИЮ №4 «Основы git»

Практическая работа по дисциплине «Современные технологии программирования» студента 1 курса группы ПИ-б-о-232 Халилов Асан Русланович

направления подготовки 09.03.04 «Программная инженерия»

## Цель:

Ознакомиться с базовыми возможностями утилиты git, сервисов GitHub, GitLab и возможностей CI/CD, которые они предоставляют.

## Ход выполнения задания.

## 1,2,3,4

```
asan@asan:~$ sudo apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.43.0-1ubuntu7).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upg
raded.
asan@asan:~$ git config --global user.name "Halilov Asan
"
asan@asan:~$ git config --global user.email "asan.khalil
ov.2005@mail.ru"
asan@asan:~$ git config --global --list
user.name=Halilov Asan
user.email=asan.khalilov.2005@mail.ru
asan@asan:~$ [
```

#### 5,6,7

```
asan@asan:~$ mkdir var_keeper
asan@asan:~$ cd var keeper/
asan@asan:~/var_keeper$ git init
hint: Using 'master' as the name for the initial branch. This default bra
nch name
hint: is subject to change. To configure the initial branch name to use i
hint: of your new repositories, which will suppress this warning, call:
hint:
        git config --global init.defaultBranch <name>
nint:
nint: Names commonly chosen instead of 'master' are 'main', 'trunk' and
nint: 'development'. The just-created branch can be renamed via this comm
hint:
       git branch -m <name>
hint:
Initialized empty Git repository in /home/asan/var_keeper/.git/
asan@asan:~/var keeper$ ls -al
total 12
drwxr-x--- 5 asan asan 4096 May 18 11:24 ...
drwxrwxr-x 7 asan asan 4096 May 18 11:24 .git
asan@asan:~/var_keeper$
```

## 8,9,10,11

```
asan@asan:~/var_keeper$ git config --list --show-origin
file:/home/asan/.gitconfig
file:/home/asan/.gitconfig
                                     user.name=Halilov Asan
                                      user.email=asan.khalilov.2005@mail.ru
file:.git/config core.repositoryformatversion=0
file:.git/config core.filemode=true
file:.git/config core.bare=false
file:.git/config core.logallrefupdates=true
asan@asan:~/var keeper$ git status
On branch master
No commits yet
nothing to commit (create/copy files and use "git add" to track)
asan@asan:~/var keeper$ nano ReadMe.md
asan@asan:~/var_keeper$ git status
On branch master
No commits yet
Untracked files:
nothing added to commit but untracked files present (use "git add" to tra
```

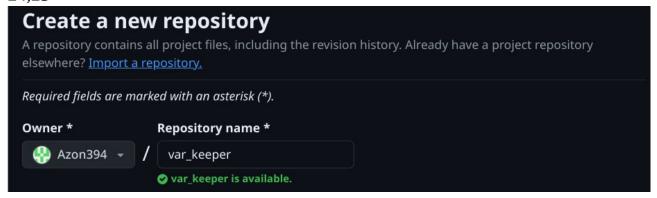
#### 12,13,14

```
asan@asan:~/var_keeper$ git add ReadMe.md
asan@asan:~/var_keeper$ git status
On branch master
No commits yet
Changes to be committed:
asan@asan:~/var_keeper$ nano ReadMe.md
asan@asan:~/var keeper$ git status
On branch master
No commits yet
Changes to be committed:
       new file: ReadMe.md
Changes not staged for commit:
asan@asan:~/var_keeper$ git restore ReadMe.md
asan@asan:~/var_keeper$ cat ReadMe.md
# Var_keeper
Приложение позволяет сохранить переменную и затем прочитать её значение п
ри помощи http запроса.
asan@asan:~/var keeper$ \Backslash
```

## 15,16,17,18,19,20,21,22,23

```
asan@asan:~/var_keeper$ git commit -m "Добавлен ReadMe.md"
[master (root-commit) aaa6d32] Добавлен ReadMe.md
1 file changed, 3 insertions(+)
create mode 100644 ReadMe.md
asan@asan:~/var_keeper$ git status
On branch master
nothing to commit, working tree clean
asan@asan:~/var_keeper$ touch .gitignore
asan@asan:~/var keeper$ nano .gitignore
asan@asan:~/var keeper$ git add .gitignore
asan@asan:~/var_keeper$ git commit -m "Добавлен .gitiqnore"
[master 9a56e31] Добавлен .gitignore
1 file changed, 262 insertions(+)
create mode 100644 .gitignore
asan@asan:~/var keeper$ ls -al
total 24
drwxrwxr-x 3 asan asan 4096 May 18 11:36 .
drwxrwxr-x 8 asan asan 4096 May 18 11:36 .git
-rw-rw-r-- 1 asan asan 5813 May 18 11:36 .gitignore
-rw-rw-r-- 1 asan asan 190 May 18 11:29 ReadMe.md
asan@asan:~/var_keeper$ git log
commit 9a56e3105ccee841d862e6b997ff1325b8b304ce (HEAD -> master)
Author: Halilov Asan <asan.khalilov.2005@mail.ru>
Date:
       Sat May 18 11:36:44 2024 +0000
   Добавлен .gitignore
commit aaa6d321093bbc92699483e32f3bff2f059b8385
Author: Halilov Asan <asan.khalilov.2005@mail.ru>
        Sat May 18 11:32:47 2024 +0000
Date:
   Добавлен ReadMe.md
asan@asan:~/var keeper$
```

#### 24.25



#### 26,27,28,29,30,31,32,33

```
asan@asan:~/var_keeper$ git remote add origin https://github.com/Azon394/
var_keeper.git
asan@asan:~/var keeper$ git branch -M main
asan@asan:~/var_keeper$ git push -u origin main
Username for 'https://github.com': Azon394
Password for 'https://Azon394@github.com':
Counting objects: 100% (6/6), done.
Delta compression using up to 6 threads
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/Azon394/var keeper.git
* [new branch]
branch 'main' set up to track 'origin/main'.
asan@asan:~/var_keeper$ git config --global credential.helper store
asan@asan:~/var_keeper$ git branch
* main
asan@asan:~/var keeper$ git branch dev
asan@asan:~/var keeper$ git branch
 dev
asan@asan:~/var_keeper$ git checkout dev
Switched to branch 'dev'
asan@asan:~/var keeper$ git branch
 main
asan@asan:~/var keeper$
```

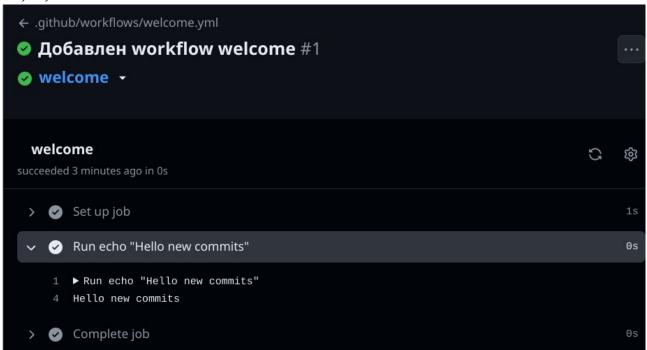
#### 34,35,36,37,38,39,40,41,42

```
asan@asan:~/var_keeper$ mkdir .github
asan@asan:~/var_keeper$ mkdir .github/workflows
asan@asan:~/var_keeper$ cd .github/workflows/
asan@asan:~/var keeper/.github/workflows$ nano welcome.yml
asan@asan:~/var_keeper/.github/workflows$ cd ../..
asan@asan:~/var_keeper$ ls -al
total 28
drwxrwxr-x 4 asan asan 4096 May 18 11:53 .
drwxrwxr-x 8 asan asan 4096 May 18 11:49 .git
drwxrwxr-x 3 asan asan 4096 May 18 11:53 .github -rw-rw-r-- 1 asan asan 5813 May 18 11:36 .gitignore
-rw-rw-r-- 1 asan asan 190 May 18 11:29 ReadMe.md
asan@asan:~/var_keeper$ git add .
asan@asan:~/var_keeper$ git commit -m "Добавлен workflow welcome"
[test f50190a] Добавлен workflow welcome
 1 file changed, 6 insertions(+)
asan@asan:~/var_keeper$ git checkout dev
Switched to branch 'dev'
asan@asan:~/var_keeper$ ls -al
total 24
drwxrwxr-x 3 asan asan 4096 May 18 11:56 .
drwxr-x--- 6 asan asan 4096 May 18 11:46 ..
drwxrwxr-x 8 asan asan 4096 May 18 11:56 .git
-rw-rw-r-- 1 asan asan 5813 May 18 11:36 .gitignore
-rw-rw-r-- 1 asan asan 190 May 18 11:29 ReadMe.md
asan@asan:~/var_keeper$
```

#### 43,44

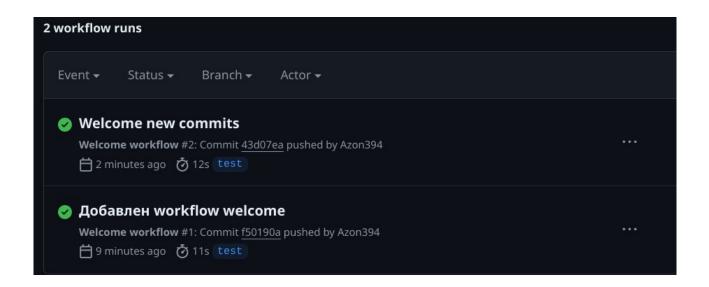
```
asan@asan:~/var_keeper$ git checkout test
asan@asan:~/var keeper$ ls -al
drwxr-x--- 6 asan asan 4096 May 18 11:46 ..
drwxrwxr-x 8 asan asan 4096 May 18 11:58 .git
drwxrwxr-x 3 asan asan 4096 May 18 11:58 .github
-rw-rw-r-- 1 asan asan 190 May 18 11:29 ReadMe.md
asan@asan:~/var_keeper$ git push -u origin test
Username for 'https://github.com': Azon394
Password for 'https://Azon394@github.com':
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 6 threads
remote:
remote: Create a pull request for 'test' on GitHub by visiting:
             https://github.com/Azon394/var_keeper/pull/new/test
remote:
remote:
To https://github.com/Azon394/var_keeper.git
* [new branch]
branch 'test' set up to track 'origin/test'.
asan@asan:~/var_keeper$ [
```

#### 45,46,47

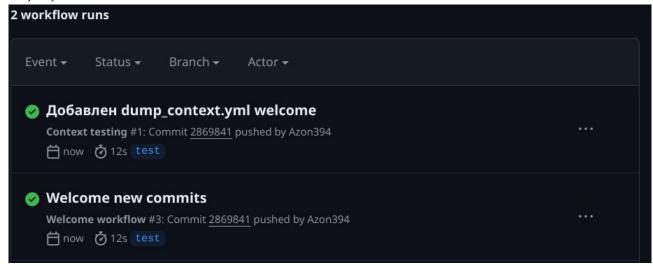


### 48,49

```
asan@asan:~/var_keeper$ nano .github/workflows/welcome.yml
asan@asan:~/var_keeper$ git add .
asan@asan:~/var_keeper$ git commit -m "Обновлён workflow welcome"
[test 43d07ea] Обновлён workflow welcome
1 file changed, 2 insertions(+)
asan@asan:~/var_keeper$ git push
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (5/5), 545 bytes | 545.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Azon394/var_keeper.git
f50190a..43d07ea test -> test
asan@asan:~/var_keeper$ []
```



#### 50,51,52



## 53,54,55,56,57,58,59,60

```
asan@asan:~/var_keeper$ git branch template
asan@asan:~/var_keeper$ git checkout template
Switched to branch 'template'
asan@asan:~/var_keeper$ python3 -m venv venv
asan@asan:~/var keeper$ source venv/bin/activate
(venv) asan@asan:~/var_keeper$ pip install flask
Collecting flask
Collecting Werkzeug>=3.0.0 (from flask)
 Downloading werkzeug-3.0.3-py3-none-any.whl.metadata (3.7 kB)
Collecting Jinja2>=3.1.2 (from flask)
Downloading jinja2-3.1.4-py3-none-any.whl.metadata (2.6 kB)
Collecting itsdangerous>=2.1.2 (from flask)
 Downloading itsdangerous-2.2.0-py3-none-any.whl.metadata (1.9 kB)
Collecting click>=8.1.3 (from flask)
Collecting blinker>=1.6.2 (from flask)

Downloading blinker-1.8.2-py3-none-any.whl.metadata (1.6 kB)
Collecting MarkupSafe>=2.0 (from Jinja2>=3.1.2->flask)
x2014 x86 64.whl.metadata (3.0 kB)
Downloading flask-3.0.3-py3-none-any.whl (101 kB)
Downloading blinker-1.8.2-py3-none-any.whl (9.5 kB)
                                        - 97.9/97.9 kB 2.0 MB/s eta 0:00:00
Downloading itsdangerous-2.2.0-py3-none-any.whl (16 kB)
Downloading jinja2-3.1.4-py3-none-any.whl (133 kB)
                                       - 133.3/133.3 kB <mark>5.3 MB/s</mark> eta 0:00:00
Downloading werkzeug-3.0.3-py3-none-any.whl (227 kB)
                                      - 227.3/227.3 kB 6.7 MB/s eta 0:00:00
Downloading MarkupSafe-2.1.5-cp312-cp312-manylinux 2 17 x86 64.manylinux2
```

## 61,62

```
asan@asan:*$
asan@
```

#### 63,64,65,66,67,68

```
(venv) asan@asan:~/var_keeper$ pip freeze > requirements.txt
(venv) asan@asan:~/var keeper$ git status
On branch template
Untracked files:
nothing added to commit but untracked files present (use "git add" to tra
ck)
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Добавлен шаблон приложения"
[template 825135f] Добавлен шаблон приложения
2 files changed, 17 insertions(+)
create mode 100644 requirements.txt
create mode 100644 src/app/app.py
(venv) asan@asan:~/var keeper$ mkdir test
(venv) asan@asan:~/var_keeper$ nano unit-tests.sh
(venv) asan@asan:~/var_keeper$ git add .
(venv) <mark>asan@asan:~/var_keeper</mark>$ git commit -m "Добавлены unit тесты"
[template 24c607e] Добавлены unit тесты
(venv) asan@asan:~/var_keeper$ 🗌
```

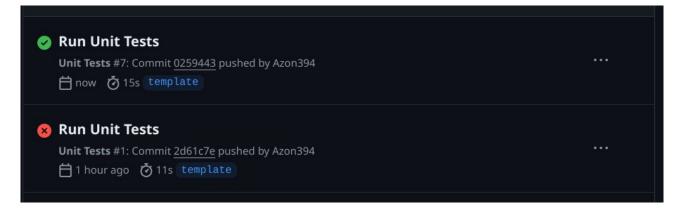
69,70,71,72

```
(venv) asan@asan:~/var_keeper$ mkdir .github
(venv) asan@asan:~/var keeper$ mkdir .github/workflows
(venv) asan@asan:~/var keeper$ nano .github//workflows/unit tests.yml
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Добавлены unit_tests.yml"
[template 2d61c7e] Добавлены unit_tests.yml
create mode 100644 .github/workflows/unit tests.yml
(venv) asan@asan:~/var_keeper$ git push
fatal: The current branch template has no upstream branch.
To push the current branch and set the remote as upstream, use
    git push --set-upstream origin template
To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.
(venv) asan@asan:~/var keeper$ git branch
 dev
 main
* template
(venv) asan@asan:~/var_keeper$ git push -u origin template
Enumerating objects: 15, done.
Counting objects: 100% (15/15), done.
Compressing objects: 100% (9/9), done.
Writing objects: 100% (14/14), 1.47 KiB | 751.00 KiB/s, done.
Total 14 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), done.
remote:
remote: Create a pull request for 'template' on GitHub by visiting:
            https://github.com/Azon394/var_keeper/pull/new/template
remote:
remote:
To https://github.com/Azon394/var_keeper.git
                    template -> template
* [new branch]
branch 'template' set up to track 'origin/template'.
(venv) asan@asan:~/var keeper$ □
```



```
(venv) asan@asan:~/var_keeper$ nano .github/workflows/unit_tests.yml
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Исправлен unit_tests.yml"
[template 0259443] Исправлен unit_tests.yml
2 files changed, 6 insertions(+), 6 deletions(-)
    rename unit-tests.sh => test/unit-tests.sh (100%)
(venv) asan@asan:~/var_keeper$ git push
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 6 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (6/6), 546 bytes | 546.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Azon394/var_keeper.git
    0a9fc3c..0259443 template -> template
(venv) asan@asan:~/var_keeper$ []
```

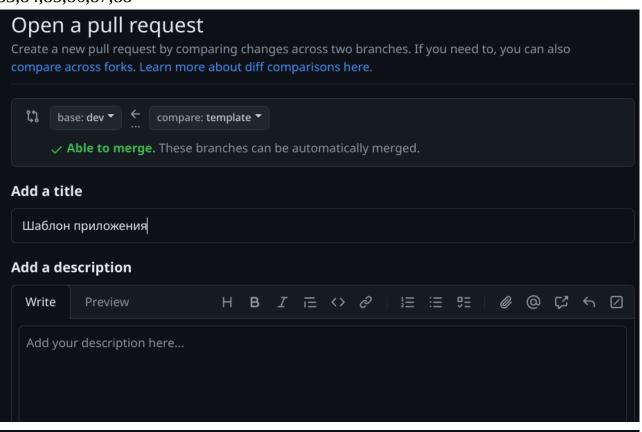
#### 

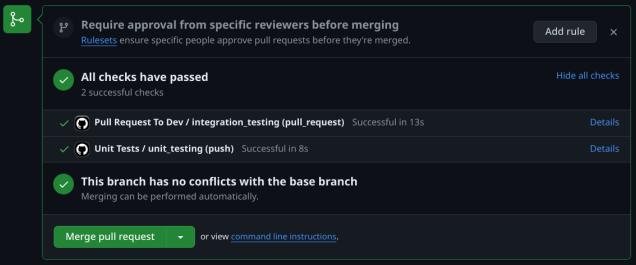


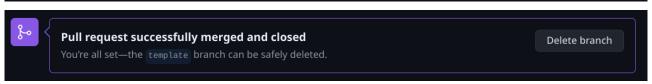
## 76,77,78,79,80,81,82

```
venv) asan@asan:~/var_keeper$ nano .github/workflows/pull-request-to-dev.yml
(venv) asan@asan:~/var_keeper$ git add .
(venv) <mark>asan@asan:~/var_keeper</mark>$ git commit -m "Добавлен pull-request-to-dev.yml"
[template ba81124] Добавлен pull-request-to-dev.yml
create mode 100644 .github/workflows/pull-request-to-dev.yml
(venv) asan@asan:~/var_keeper$ git push
Counting objects: 100% (8/8), done.
Delta compression using up to 6 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 772 bytes | 772.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0
(venv) asan@asan:~/var_keeper$ git push -u origin dev
remote: Create a pull request for 'dev' on GitHub by visiting:
               https://github.com/Azon394/var_keeper/pull/new/dev
remote:
remote:
* [new branch]
(venv) asan@asan:~/var_keeper$ 🗍
```

## 83,84,85,86,87,88

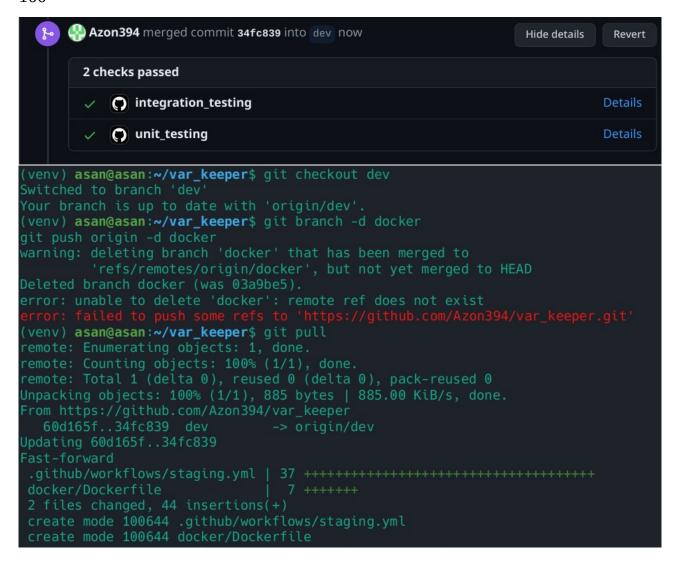






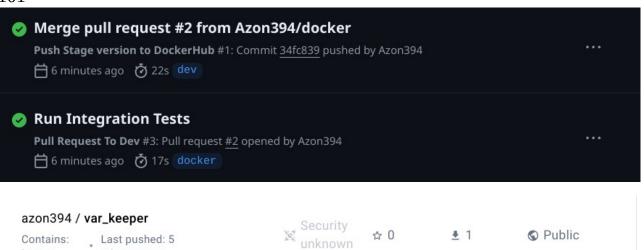
#### 91,92,93,94,95,96,97,98,99

```
(venv) asan@asan:~/var_keeper$ git branch docker
(venv) asan@asan:~/var_keeper$ git checkout docker
Switched to branch 'docker
(venv) asan@asan:~/var_keeper$ nano .github/workflows/staging.yml
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Добавлен staging.yml"
[docker f38ccb0] Добавлен staging.yml
1 file changed, 37 insertions(+) create mode 100644 .github/workflows/staging.yml
(venv) asan@asan:~/var keeper$ mkdir docker
(venv) asan@asan:~/var_keeper$ nano docker/Dockerfile
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Добавлен Dockerfile"
create mode 100644 docker/Dockerfile
(venv) asan@asan:~/var_keeper$ git push
fatal: The current branch docker has no upstream branch.
    git push --set-upstream origin docker
To have this happen automatically for branches without a tracking
(venv) asan@asan:~/var_keeper$ git push -u origin docker
Compressing objects: 100% (7/7), done.
remote:
remote:
             https://github.com/Azon394/var_keeper/pull/new/docker
remote:
To https://github.com/Azon394/var_keeper.git
(venv) asan@asan:~/var_keeper$ □
```



Image

minutes ago

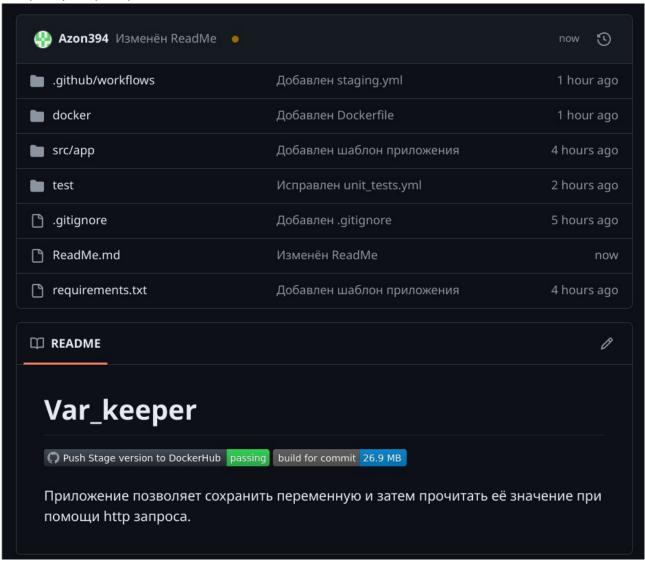


```
sudo docker run --rm -p 80:5000 azon394/var_keeper
[sudo] password for asan:
Connection to db:Failure 2003: Can't connect to MySQL server on '%-.100s:%u' (%s)
(Warning: %u format: a real number is required, not str)
 * Serving Flask app 'app'
 * Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. U
se a production WSGI server instead.
 * Running on all addresses (0.0.0.0)
 * Running on http://127.0.0.1:5000
 * Running on http://172.17.0.2:5000
Press CTRL+C to quit
 * Restarting with stat
 * Debugger is active!
 * Debugger PIN: 105-957-610
192.168.0.112 - [18/May/2024 16:22:10] "GET / HTTP/1.1" 404 -
192.168.0.112 - [18/May/2024 16:22:10] "GET / favicon.ico HTTP/1.1" 404 -
192.168.0.112 - [18/May/2024 16:22:27] "GET / HTTP/1.1" 404 -
```

```
(venv) asan@asan:~/var_keeper$ git checkout dev
Already on 'dev'
Your branch is up to date with 'origin/dev'.
(venv) asan@asan:~/var_keeper$ git pull
Already up to date.
(venv) asan@asan:~/var_keeper$ git branch -d docker
error: branch 'docker' not found
(venv) asan@asan:~/var_keeper$ git push origin -d docker
error: unable to delete 'docker': remote ref does not exist
error: failed to push some refs to 'https://github.com/Azon394/var_keeper.git'
(venv) asan@asan:~/var_keeper$ []
```

Ветку докер удалил случайно до этого

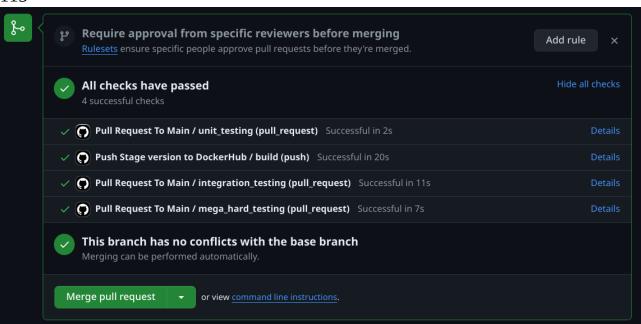
## 104,105,106,107,108109

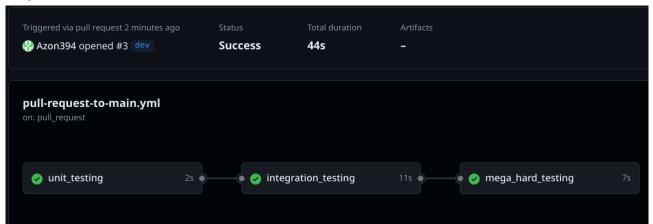


#### 110,111,112,113,114

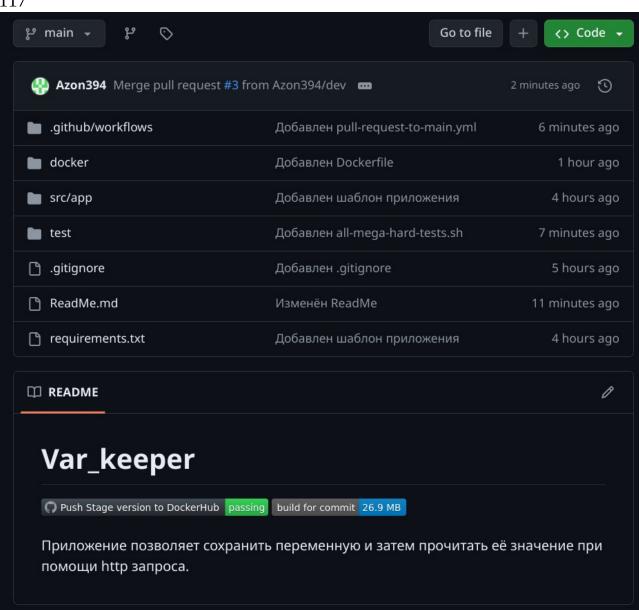
```
(venv) asan@asan:~/var_keeper$ nano test/all-mega-hard-tests.sh
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Добавлен all-mega-hard-tests.sh"
[dev c2c6200] Добавлен all-mega-hard-tests.sh
1 file changed, 1 insertion(+)
create mode 100644 test/all-mega-hard-tests.sh
(venv) asan@asan:~/var_keeper$ nano .github/workflows/pull-request-to-main.yml
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Добавлен pull-request-to-main.yml"
[dev 34c7e99] Добавлен pull-request-to-main.yml
1 file changed, 46 insertions(+)
create mode 100644 .github/workflows/pull-request-to-main.yml
(venv) asan@asan:~/var_keeper$ git push
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
Delta compression using up to 6 threads
Compressing objects: 100% (7/7), done.
Writing objects: 100% (9/9), 1.22 KiB | 624.00 KiB/s, done.
Total 9 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 2 local objects.
To https://github.com/Azon394/var_keeper.git
b25cf20..34c7e99 dev -> dev
(venv) asan@asan:~/var_keeper$ □
```

#### 115





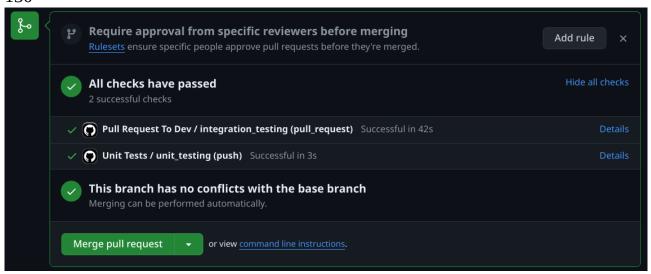
#### 



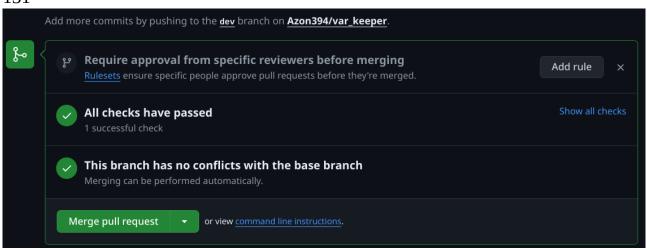
#### 119,120,121,122,123,124,125,126,127,128,129

```
venv) asan@asan:~/var_keeper$ git checkout d
          docker
(venv) asan@asan:~/var_keeper$ git checkout dev
Switched to branch 'dev'
Your branch is up to date with 'origin/dev'.
(venv) asan@asan:~/var_keeper$ git branch add_data_base
venv) asan@asan:~/var_keeper$ git checkout add_data_base
Switched to branch 'add_data_base'
(venv) asan@asan:~/var_keeper$ nano src/app/app.py
venv) asan@asan:~/var_keeper$ git add .
venv) asan@asan:~/var_keeper$ git commit -m "Изменён арр.ру"
venv) asan@asan:~/var_keeper$ pip install mysql-connector-python
Collecting mysql-connector-python
                                              -- 19.5/19.5 MB 547.8 kB/s eta 0:00:00
Installing collected packages: mysql-connector-python
Successfully installed mysgl-connector-python-8.4.0
venv) asan@asan:~/var_keeper$ pip freeze > requirements.txt
venv) asan@asan:~/var_keeper$ git add .
venv) asan@asan:~/var_keeper$ git commit -m "Изменён requirements.txt"
add_data_base e0a326b] Изменён requirements.txt
venv) asan@asan:~/var_keeper$ nano .github/workflows/pull-request-to-dev.yml
venv) asan@asan:~/var_keeper$ git add .
venv) asan@asan:~/var_keeper$ git commit -m "Изменён pull-request-to-dev.yml"
[add_data_base ba58a2f] Изменён pull-request-to-dev.yml
venv) asan@asan:~/var_keeper$ nano .github/workflows/pull-request-to-main.yml
venv) asan@asan:~/var_keeper$ nano .github/workflows/pull-request-to-main.yml
(venv) asan@asan:~/var_keeper$ git add .
(venv) asan@asan:~/var_keeper$ git commit -m "Изменён pull-request-to-main.yml"
[add_data_base 53912ae] Изменён pull-request-to-main.yml
(venv) asan@asan:~/var keeper$ git push -u origin add data base
Compressing objects: 100% (14/14), done.

Writing objects: 100% (18/18), 3.22 KiB | 659.00 KiB/s, done.
remote:
remote:
              https://github.com/Azon394/var keeper/pull/new/add data base
remote:
To https://github.com/Azon394/var keeper.git
 * [new branch]
                       add data base -> add data base
branch 'add data base' set up to track 'origin/add data base'.
(venv) asan@asan:~/var_keeper$ □
```



## 



## 132,133

```
venv) asan@asan:~/var_keeper$ git log --oneline --graph
   794d823 (HEAD -> dev, origin/dev) Merge pull request #4 from Azon394/add_data
 * 53912ae (origin/add_data_base) Изменён pull-request-to-main.yml
 * ba58a2f Изменён pull-request-to-dev.yml
 * e0a326b Изменён requirements.txt
 * 84efcc0 Изменён арр.ру
 34c7e99 Добавлен pull-request-to-main.yml
 c2c6200 Добавлен all-mega-hard-tests.sh
b25cf20 Изменён ReadMe
   34fc839 Merge pull request #2 from Azon394/docker
  03a9be5 (origin/docker) Добавлен Dockerfile
   60d165f Merge pull request #1 from Azon394/template
 ba81124 Добавлен pull-request-to-dev.yml
   0259443 Исправлен unit_tests.yml
  Oa9fc3c Исправлен unit_tests.yml
8995789 Исправлен unit_tests.yml
b117f43 Исправлен unit_tests.yml
 * 2d61c7e Добавлены unit_tests.yml
 * 825135f Добавлен шаблон приложения
9a56e31 Добавлен .gitignore
 aaa6d32 Добавлен ReadMe.md
venv) asan@asan:~/var_keeper$ □
```

## Ответы на вопросы.

1) События, триггерирующие рабочие процессы (workflow):

Изменения в репозитории (например, коммиты, создание или удаление веток) и события, связанные с защитой веток (branch protection rules).

Запросы на проверку (check runs) и события, связанные с ними.

Ручные запуски с помощью события workflow\_dispatch.

Запланированные выполнения по расписанию.

В файле .yml раздел on определяет, на какие события реагирует рабочий процесс.

2) Хранение секретной информации на GitHub:

Для безопасного хранения паролей, токенов и других секретов используйте GitHub Secrets. Вы можете создавать секреты на уровне организации, репозитория или окружения. Секреты доступны в рабочих процессах через переменные окружения или входные параметры.

3) Получение почты владельца репозитория во время выполнения рабочего процесса:

В рабочем процессе можно использовать контекстные переменные, такие как github.repository\_owner или github.event.repository.owner.email. Однако по умолчанию эти данные не доступны из-за конфиденциальности. Вам следует использовать собственные секреты для хранения такой информации.

4) Спецификации виртуальных машин для рабочих процессов:

GitHub предоставляет хостинг виртуальных машин для выполнения рабочих процессов. Спецификации зависят от операционной системы:

Linux: На данный момент используются виртуальные машины с 4 vCPU и 16 ГБ оперативной памяти.

Windows: Для точных характеристик виртуальных машин Windows рекомендуется обратиться к официальной документации GitHub.

5) Список установленного ПО на виртуальных машинах: GitHub предоставляет предустановленные инструменты и пакеты на хостинге виртуальных машин. Для полного списка инструментов, доступных на GitHubhosted runners, вы можете ознакомиться с документацией.

**Вывод:** Я ознакомился с базовыми возможностями утилиты git, сервисов GitHub и возможносями CI/CD, которые он предоставляет.