Презентация по лаблраторной работе №4

Архитектура Компьютеров и Операционные Системы

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Цель работы

Цель работы

Цель данной работы является получением навыков правильной работы с репозиториями git.

Выполнение лабораторной работы

Установка git-flow

Gitflow Workflow предполагает выстраивание строгой модели ветвления с учётом выпуска проекта. Сначала я включаю репозиторий copr:

```
ijalloh@ijalloh:~$ sudo dnf copr enable elegos/gitflow
[sudo] password for ijalloh:
 https://copr.fedorainfracloud.org/api 100% | 206.0   B/s | 652.0   B |  00m03s
Enabling a Copr repository. Please note that this repository is not part
```

Рис. 1: включение copr

Установка git-flow

Используя dnf install скачаю gitflow:

```
ijalloh@ijalloh:~$ sudo dnf install gitflow
Updating and loading repositories:
 Fedora 41 - x86_64 - Updates          100% |   7.3 KiB/s |  25.9 KiB |  00m04s
 Fedora 41 - x86_64 - Updates          100% | 112.9 KiB/s |   2.6 MiB |  00m24s
```

Рис. 2: dnf install gitflow

Установка Node.js

Для семантического версионирования и общепринятых коммитов я устанавливаю Nodejs и pnpm:

```
ijalloh@ijalloh:~$ sudo dnf install nodejs
Updating and loading repositories:
Repositories loaded.
```

Рис. 3: Установка Nodejs

Установка Node.js

```
ijalloh@ijalloh:~$ sudo dnf install pnpm
Updating and loading repositories:
Repositories loaded.
```

Рис. 4: Установка pnpm

Запуская pnpm setup я добавляю каталог с исполняемыми файлами, устанавливаемыми yarn для работы с Node.js в переменную PATH:

```
ijalloh@ijalloh:~$ pnpm setup
Appended new lines to /home/ijalloh/.bashrc
```

Рис. 5: Запуск pnpm

Далее перелогинуюсь и выполняю source ~/.bashrc:

Рис. 6: ~/.bashrc

Для помощи в форматировании коммитов добавляю программу commitizen:

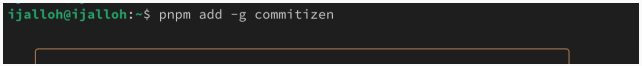

Рис. 7: добавление commitizen

Добавляю standard-changelog для помощи в создании логов:

```
ijalloh@ijalloh:~$ pnpm add -g standard-changelog
 WARN  2 deprecated subdependencies found: glob@7.2.3, inflight@1.0.6
Packages: +39
++++++++++++++++++++++++++++++++++++++++
Progress: resolved 190, reused 151, downloaded 39, added 39, done
```

Рис. 8: добавление standard-changelog

Создаю репозиторий на GitHub назову его git-extended:

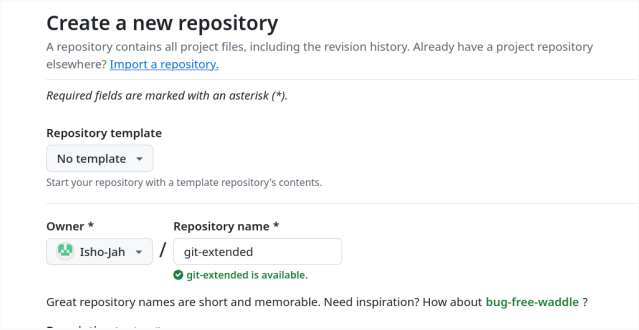

Рис. 9: Создание git-extended

Делаю первый коммит и выкладываю на github:

```
ijalloh@ijalloh:~/git-extended$ git commit -m "first commit"
[main (root-commit) ff6bc7a] first commit
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 README.md
ijalloh@ijalloh:~/git-extended$ git remote add origin git@github.com:Isho-Jah/g
it-extended.git
error: remote origin already exists.
ijalloh@ijalloh:~/git-extended$ git remote -v
origin  https://github.com/Isho-Jah/git-extended.git (fetch)
origin  https://github.com/Isho-Jah/git-extended.git (push)
ijalloh@ijalloh:~/git-extended$ git push -u origin master
```

Рис. 10: Первый коммит

Я инициализирую pnpm:

```
ijalloh@ijalloh:~/git-extended$ pnpm init
Wrote to /home/ijalloh/git-extended/package.json

{
  "name": "git-extended",
  "version": "1.0.0",
  "description": "",
  "main": "index.js",
  "scripts": {
    "test": "echo \"Error: no test specified\" && exit 1"
  },
  "keywords": [],
  "author": "",
  "license": "ISC"
}
ijalloh@ijalloh:~/git-extended$
```

Рис. 11: Инициализирование pnpm

Заполняю несколько параметров пакета (файл package.json):

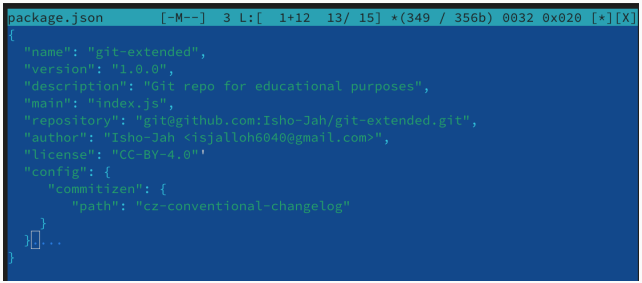

Рис. 12: Заполнение пакетов

Добавляю новые файлы и выполняю коммит (указиваю тип коммит (feat)) и отправляю на гит:

```
ijalloh@ijalloh:~/git-extended$ git add .
ijalloh@ijalloh:~/git-extended$ git cz
cz-cli@4.3.1, cz-conventional-changelog@3.3.0

? Select the type of change that you're committing: feat:     A new feature
```

Рис. 13: Добавление новых файлов

Инициализирую git-flow и указываю ветки:

```
ijalloh@ijalloh:~/git-extended$ git flow init
Already initialized for gitflow.
To force reinitialization, use: git flow init -f
ijalloh@ijalloh:~/git-extended$ git flow init -f

Which branch should be used for bringing forth production releases?
   - develop
   - master
Branch name for production releases: [master] master

Which branch should be used for integration of the "next release"?
   - develop
Branch name for "next release" development: [develop] develop

How to name your supporting branch prefixes?
Feature branches? [feature/] feature/
Bugfix branches? [bugfix/] bigfix/
Release branches? [release/] release/
Hotfix branches? [hotfix/] hotfix/
Support branches? [support/] suppoert/
Version tag prefix? []
Hooks and filters directory? [/home/ijalloh/git-extended/.git/hooks]
```

Рис. 14: Инициализирование git-flow

Преверяю что я на ветке develop с промощью git branch:

```
ijalloh@ijalloh:~/git-extended$ git branch
* develop
  master
```

Рис. 15: Проверка ветки

Загружаю весь репозиторий в хранилище с помощью git push –all:

```
ijalloh@ijalloh:~/git-extended$ git push --all
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'develop' on GitHub by visiting:
remote:      https://github.com/Isho-Jah/git-extended/pull/new/develop
remote:
To github.com:Isho-Jah/git-extended.git
 * [new branch]      develop -> develop
```

Рис. 16: Загрузка репозиторий

Установливаю внешнюю ветку как вышестоящую для этой ветки (develop):

```
ijalloh@ijalloh:~/git-extended$ git branch --set-upstream-to=origin/develop dev
elop
branch 'develop' set up to track 'origin/develop'.
```

Рис. 17: установка внешней ветки

Создаю релиз с версией 1.0.0 и журнал изменений (standard-changelog)::

```
ijalloh@ijalloh:~/git-extended$ git flow release start 1.0.0
Switched to a new branch 'release/1.0.0'

Summary of actions:
- A new branch 'release/1.0.0' was created, based on 'develop'
- You are now on branch 'release/1.0.0'

Follow-up actions:
- Bump the version number now!
- Start committing last-minute fixes in preparing your release
- When done, run:

     git flow release finish '1.0.0'

ijalloh@ijalloh:~/git-extended$ standard-changelog --first-release
✔ created CHANGELOG.md
✔ output changes to CHANGELOG.md
```

Рис. 18: Создание релиза

Добавляю журнал изменений в индекс:

```
ijalloh@ijalloh:~/git-extended$ git add CHANGELOG.md
ijalloh@ijalloh:~/git-extended$ git commit -am 'chore(site): add changelog'
[release/1.0.0 454a830] chore(site): add changelog
 1 file changed, 9 insertions(+)
 create mode 100644 CHANGELOG.md
```

Рис. 19: Добавление журнала изменений

Залью релизную ветку в основную ветку:

```
ijalloh@ijalloh:~/git-extended$ git flow release finish 1.0.0
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Merge made by the 'ort' strategy.
 CHANGELOG.md | 9 +++++++++
 1 file changed, 9 insertions(+)
 create mode 100644 CHANGELOG.md
Already on 'master'
Your branch is ahead of 'origin/master' by 2 commits.
  (use "git push" to publish your local commits)
Switched to branch 'develop'
Your branch is up to date with 'origin/develop'.
Merge made by the 'ort' strategy.
 CHANGELOG.md | 9 +++++++++
 1 file changed, 9 insertions(+)
 create mode 100644 CHANGELOG.md
Deleted branch release/1.0.0 (was 454a830).

Summary of actions:
- Release branch 'release/1.0.0' has been merged into 'master'
- The release was tagged '1.0.0'
- Release tag '1.0.0' has been back-merged into 'develop'
- Release branch 'release/1.0.0' has been locally deleted
- You are now on branch 'develop'
```

Рис. 20: Замена ветки

Общепринятые коммиты

Отправляю данные на github:

```
ijalloh@ijalloh:~/git-extended$ git push --all
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 2.80 KiB | 955.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:Isho-Jah/git-extended.git
   bd4b24b..8efc236  develop -> develop
   bd4b24b..be0a8e7  master -> master
```

Рис. 21: Отправка на гит

Создаю релиз на github. Для этого использую утилиты работы с github gh (gh release create):

```
ijalloh@ijalloh:~/git-extended$ gh release create v1.0.0 -F CHANGELOG.md
https://github.com/Isho-Jah/git-extended/releases/tag/v1.0.0
```

Рис. 22: Создание релиза

Создаю ветку для новой функциональности:

```
ijalloh@ijalloh:~/git-extended$ git flow release start feature_branch
Switched to a new branch 'release/feature_branch'

Summary of actions:
- A new branch 'release/feature_branch' was created, based on 'develop'
- You are now on branch 'release/feature_branch'

Follow-up actions:
- Bump the version number now!
- Start committing last-minute fixes in preparing your release
- When done, run:

     git flow release finish 'feature_branch'
```

Рис. 23: Создание ветки feature_branch

Далее, продолжаю работу с git как обычно. Создаю релиз с версией 1.2.3:

```
ijalloh@ijalloh:~/git-extended$ git flow release start 1.2.3
Branches 'develop' and 'origin/develop' have diverged.
And local branch 'develop' is ahead of 'origin/develop'.
Switched to a new branch 'release/1.2.3'

Summary of actions:
- A new branch 'release/1.2.3' was created, based on 'develop'
- You are now on branch 'release/1.2.3'

Follow-up actions:
- Bump the version number now!
- Start committing last-minute fixes in preparing your release
- When done, run:

     git flow release finish '1.2.3'
```

Рис. 24: Создание релиза с версией 1.2.3

Обновляю номер версии в файле package.json в 1.2.3:

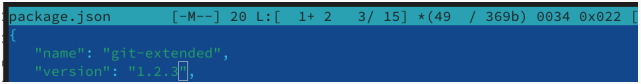

Рис. 25: Обновление номера версии

Создаю журнал изменений (standard-changelog):

```
^[[Aijalloh@ijalloh:~/git-extended$ standard-changelog
✔ output changes to CHANGELOG.md
```

Рис. 26: Создание нового журнала изменений

Добавляю журнал изменений в индекс:

```
ijalloh@ijalloh:~/git-extended$ git add CHANGELOG.md
ijalloh@ijalloh:~/git-extended$ git commit -am 'chore(site): update changelog'
[release/1.2.3 3656596] chore(site): update changelog
 2 files changed, 5 insertions(+), 1 deletion(-)
```

Рис. 27: Добавление журнала

Залью релизную ветку в основную ветку:

```
ijalloh@ijalloh:~/git-extended$ git flow release finish 1.2.3
Branches 'master' and 'origin/master' have diverged.
And local branch 'master' is ahead of 'origin/master'.
Branches 'develop' and 'origin/develop' have diverged.
And local branch 'develop' is ahead of 'origin/develop'.
Switched to branch 'master'
Your branch is ahead of 'origin/master' by 2 commits.
  (use "git push" to publish your local commits)
Merge made by the 'ort' strategy.
 CHANGELOG.md | 4 ++++
 package.json | 2 +-
 2 files changed, 5 insertions(+), 1 deletion(-)
Already on 'master'
Your branch is ahead of 'origin/master' by 5 commits.
  (use "git push" to publish your local commits)
Switched to branch 'develop'
Your branch is ahead of 'origin/develop' by 2 commits.
  (use "git push" to publish your local commits)
Merge made by the 'ort' strategy.
 CHANGELOG.md | 4 ++++
 package.json | 2 +-
 2 files changed, 5 insertions(+), 1 deletion(-)
Deleted branch release/1.2.3 (was 3656596).

Summary of actions:
- Release branch 'release/1.2.3' has been merged into 'master'
- The release was tagged '1.2.3'
- Release tag '1.2.3' has been back-merged into 'develop'
- Release branch 'release/1.2.3' has been locally deleted
- You are now on branch 'develop'
```

Отправляю данные на github:

```
ijalloh@ijalloh:~/git-extended$ git push --all
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 4 threads
Compressing objects: 100% (8/8), done.
Writing objects: 100% (8/8), 4.50 KiB | 4.50 MiB/s, done.
Total 8 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:Isho-Jah/git-extended.git
   8efc236..76ad4b9  develop -> develop
   be0a8e7..6e5ef2c  master -> master
ijalloh@ijalloh:~/git-extended$ git push --tags
```

Рис. 29: Отправка данных

Создаю релиз на github с комментарием из журнала изменений:

```
ijalloh@ijalloh:~/git-extended$ gh release create v1.2.3 -F CHANGELOG.md
https://github.com/Isho-Jah/git-extended/releases/tag/v1.2.3
```

Рис. 30: Создание релиза

Выводы

Выводы

При выполнение работы я получил навыки правильной работы с репозиториями git.