

Продвинутое использование git

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Цели и задачи работы

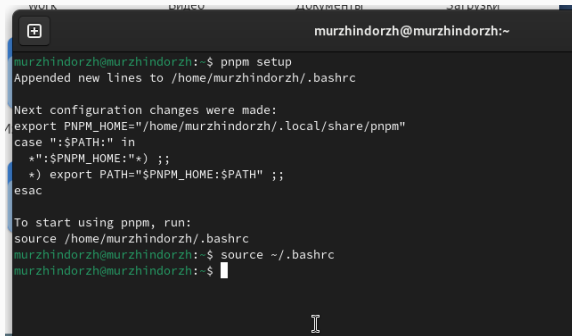
Цель лабораторной работы

Получение навыков правильной работы с репозиториями git.

Задачи лабораторной работы

- 1 Выполнить работу для тестового репозитория.
- 2 Преобразовать рабочий репозиторий в репозиторий с git-flow и conventional commits.

Процесс выполнения лабораторной работы

A terminal window with a dark background and light text. The window title is 'murzhindorzh@murzhindorzh:~'. The user has entered 'pnpm setup'. The output shows that new lines were appended to the .bashrc file and lists the configuration changes made to the PATH variable. It then instructs the user to source the .bashrc file to start using pnpm. The user has entered 'source ~/.bashrc' and the prompt has changed to a new shell.

```
murzhindorzh@murzhindorzh:~  
murzhindorzh@murzhindorzh:~$ pnpm setup  
Appended new lines to /home/murzhindorzh/.bashrc  
  
Next configuration changes were made:  
export PNPM_HOME="/home/murzhindorzh/.local/share/pnpm"  
case ":$PATH:" in  
  *:$PNPM_HOME:*) ;;  
  *) export PATH="$PNPM_HOME:$PATH" ;;  
esac  
  
To start using pnpm, run:  
source /home/murzhindorzh/.bashrc  
murzhindorzh@murzhindorzh:~$ source ~/.bashrc  
murzhindorzh@murzhindorzh:~$
```

Рис. 1: Node.js

```
murzhindorzh@murzhindorzh:~$ source ~/.bashrc
murzhindorzh@murzhindorzh:~$ pnpm add -g commitizen
```

Update available! 8.12.0 → 9.4.0.
Changelog: <https://github.com/pnpm/pnpm/releases/tag/v9.4.0>
Run "pnpm add -g pnpm" to update.

Follow @pnpmjs for updates: <https://twitter.com/pnpmjs>

```
WARN  2 deprecated subdependencies found: glob@7.2.3, inflight@1.0.6
Packages: +153
+-----+
Downloading registry.npmjs.org/typescript/5.4.5: 5.83 MB/5.83 MB, done
Progress: resolved 153, reused 0, downloaded 153, added 153, done

/home/murzhindorzh/.local/share/pnpm/global/5:
+ commitizen 4.3.0

Done in 7.1s
murzhindorzh@murzhindorzh:~$
```

Рис. 2: установка commitizen

standard-changelog

```
murzhindorzh@murzhindorzh:~$  
murzhindorzh@murzhindorzh:~$ pnpm add -g standard-changelog  
WARN 2 deprecated subdependencies found: glob@7.2.3, inflight@1.0.6  
Packages: +42  
+-----+  
Progress: resolved 195, reused 153, downloaded 42, added 42, done  
  
/home/murzhindorzh/.local/share/pnpm/global/5:  
+ standard-changelog 6.0.0  
  
Done in 5.8s  
murzhindorzh@murzhindorzh:~$
```

Рис. 3: установка standard-changelog

package.json

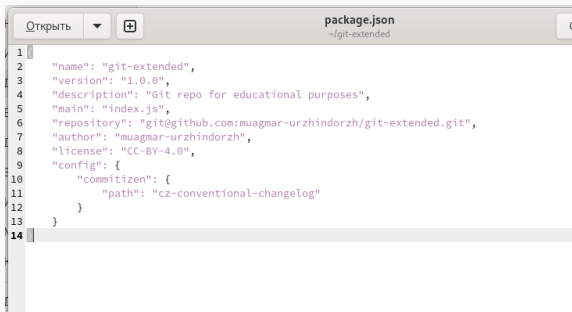


Рис. 4: package.json

Использование commitizen

```
murzhindorzh@murzhindorzh:~/git-extended$ gedit package.json
murzhindorzh@murzhindorzh:~/git-extended$ git add .
murzhindorzh@murzhindorzh:~/git-extended$ git cz
cz-cli@4.3.0, cz-conventional-changelog@3.3.0

? Select the type of change that you're committing: chore:   Other changes that don't modify src or test
files
? What is the scope of this change (e.g. component or file name): (press enter to skip)
? Write a short, imperative tense description of the change (max 93 chars):
(4) test
? Provide a longer description of the change: (press Tenter to skip)

? Are there any breaking changes? No
? Does this change affect any open issues? No
[master ea755e4] chore: test
1 file changed, 14 insertions(+)
create mode 100644 package.json
murzhindorzh@murzhindorzh:~/git-extended$ git push
Перечисление объектов: 4, готово.
Подсчет объектов: 100% (4/4), готово.
При сжатии изменений используется до 6 потоков
Сжатие объектов: 100% (3/3), готово.
Запись объектов: 100% (3/3), 1.13 КиБ | 579.00 КиБ/с, готово.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:muagmar-urzhindorzh/git-extended.git
 a254eab..ea755e4 master -> master
murzhindorzh@murzhindorzh:~/git-extended$
```

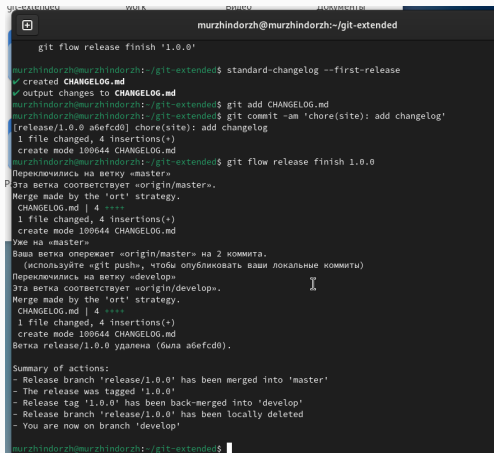
Рис. 5: Отправка

```
murzhindorzh@murzhindorzh: ~/git-extended$
murzhindorzh@murzhindorzh:~/git-extended$ git flow init

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

How to name your supporting branch prefixes?
Feature branches? [feature/]
Bugfix branches? [bugfix/]
Release branches? [release/]
Hotfix branches? [hotfix/]
Support branches? [support/]
Version tag prefix? []
Hooks and filters directory? [/home/murzhindorzh/git-extended/.git/hooks]
murzhindorzh@murzhindorzh:~/git-extended$ git branch
* develop
  master
murzhindorzh@murzhindorzh:~/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/muagmar-urzhindorzh/git-extended/pull/new/develop
remote:
To github.com:muagmar-urzhindorzh/git-extended.git
 * [new branch]    develop -> develop
murzhindorzh@murzhindorzh:~/git-extended$
```

Рис. 6: Инициализация и загрузка изменений



```
murzhindorzh@murzhindorzh:~/git-extended$ git flow release finish '1.0.0'

murzhindorzh@murzhindorzh:~/git-extended$ standard-changelog --first-release
✓ created CHANGELOG.md
✓ output changes to CHANGELOG.md
murzhindorzh@murzhindorzh:~/git-extended$ git add CHANGELOG.md
murzhindorzh@murzhindorzh:~/git-extended$ git commit -am 'chore(site): add changelog'
[release/1.0.0 a6efcd0] chore(site): add changelog
1 file changed, 4 insertions(+)
create mode 100644 CHANGELOG.md
murzhindorzh@murzhindorzh:~/git-extended$ git flow release finish 1.0.0
Переключились на ветку «master»
Эта ветка соответствует «origin/master».
Merge made by the 'ort' strategy.
CHANGELOG.md | 4 +++
1 file changed, 4 insertions(+)
create mode 100644 CHANGELOG.md
Уже на «master»
Ваша ветка опережает «origin/master» на 2 коммита.
(используйте «git push», чтобы опубликовать ваши локальные коммиты)
Переключились на ветку «develop»
Эта ветка соответствует «origin/develop».
Merge made by the 'ort' strategy.
CHANGELOG.md | 4 +++
1 file changed, 4 insertions(+)
create mode 100644 CHANGELOG.md
Ветка release/1.0.0 удалена (была a6efcd0).

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'

murzhindorzh@murzhindorzh:~/git-extended$
```

Рис. 7: Завершение релиза

Отправим данные на github

```
murzhindorzh@murzhindorzh:~/git-extended$ git push --all
Перечисление объектов: 6, готово.
Подсчет объектов: 100% (6/6), готово.
При сжатии изменений используется до 6 потоков
Сжатие объектов: 100% (4/4), готово.
Запись объектов: 100% (5/5), 2.70 КиБ | 690.00 КиБ/с, готово.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:muagmar-urzhindorzh/git-extended.git
   ea755e4..0d71aa6  develop -> develop
   ea755e4..000d402  master -> master
murzhindorzh@murzhindorzh:~/git-extended$ git push --tags
Перечисление объектов: 1, готово.
Подсчет объектов: 100% (1/1), готово.
Запись объектов: 100% (1/1), 160 байтов | 160.00 КиБ/с, готово.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:muagmar-urzhindorzh/git-extended.git
 * [new tag]         1.0.0 -> 1.0.0
murzhindorzh@murzhindorzh:~/git-extended$ gh release create v1.0.0 -F CHANGELOG.md
https://github.com/muagmar-urzhindorzh/git-extended/releases/tag/v1.0.0
murzhindorzh@murzhindorzh:~/git-extended$
```

Рис. 8: Отправка

Объединение веток

```
ea755e4..000d402 master -> master
murzhindorzh@murzhindorzh:~/git-extended$ git push --tags
Перечисление объектов: 1, готово.
Подсчет объектов: 100% (1/1), готово.
Запись объектов: 100% (1/1), 160 байтов | 160.00 КиБ/с, готово.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:muagmar-urzhindorzh/git-extended.git
 * [new tag]      1.0.0 -> 1.0.0
murzhindorzh@murzhindorzh:~/git-extended$ gh release create v1.0.0 -F CHANGELOG.md
https://github.com/muagmar-urzhindorzh/git-extended/releases/tag/v1.0.0
murzhindorzh@murzhindorzh:~/git-extended$
P murzhindorzh@murzhindorzh:~/git-extended$ git flow feature start feature_branch
Переключились на новую ветку «feature/feature_branch»

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

Now, start committing on your feature. When done, use:

git flow feature finish feature_branch

murzhindorzh@murzhindorzh:~/git-extended$ touch test2
murzhindorzh@murzhindorzh:~/git-extended$ git flow feature finish feature_branch
Переключились на ветку «develop»
Эта ветка соответствует «origin/develop».
Уже актуально.
Ветка feature/feature_branch удалена (6yna 0d71aa6).

Summary of actions:
- The feature branch 'feature/feature_branch' was merged into 'develop'
- Feature branch 'feature/feature_branch' has been locally deleted
- You are now on branch 'develop'

murzhindorzh@murzhindorzh:~/git-extended$
```

Рис. 9: Объединение веток

```

git-extended      work      Видео      Документы
murzhindorzh@murzhindorzh:~/git-extended

Переключились на ветку «develop»
Эта ветка соответствует «origin/develop».
Merge made by the 'ort' strategy.
  CHANGELOG.md | 4 +---
  package.json | 2 +-
  2 files changed, 5 insertions(+), 1 deletion(-)
Ветка release/1.2.3 удалена (6b9a c5357f9).

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'

murzhindorzh@murzhindorzh:~/git-extended$ git push --all
Перечисление объектов: 9, готово.
Подсчет объектов: 100% (9/9), готово.
При сжатии изменений используется до 6 потоков
Сжатие объектов: 100% (6/6), готово.
Запись объектов: 100% (6/6), 2.81 КиБ | 1.41 МБ/с, готово.
Total 6 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:muagmar-urzhindorzh/git-extended.git
  0d71aa6..5e34184  develop -> develop
  000d402..c0fd956  master -> master
murzhindorzh@murzhindorzh:~/git-extended$ git push --tags
Перечисление объектов: 1, готово.
Подсчет объектов: 100% (1/1), готово.
Запись объектов: 100% (1/1), 160 байтов | 160.00 КиБ/с, готово.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:muagmar-urzhindorzh/git-extended.git
  * [new tag]      1.2.3 -> 1.2.3
murzhindorzh@murzhindorzh:~/git-extended$ gh release create v1.2.3 -F CHANGELOG.md
https://github.com/muagmar-urzhindorzh/git-extended/releases/tag/v1.2.3
murzhindorzh@murzhindorzh:~/git-extended$

```

Рис. 10: Завершение релиза

Подготовка рабочего репозитория

```
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro
"keywords": [],
"author": "",
"license": "ISC"
}
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$ git add package.json
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$ git commit -m "Добавление файла package.json"
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$ git cz
cz-cli@4.3.0, cz-conventional-changelog@3.3.0

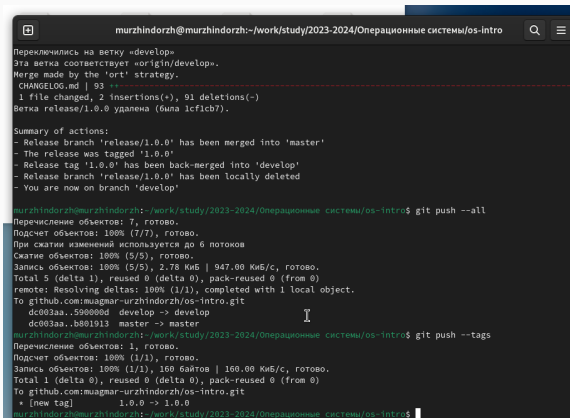
? Select the type of change you're committing: chore: Other changes that don't modify src or test files
? What is the scope of this change (e.g. component or file name): (press enter to skip)
? Write a short, imperative tense description of the change (max 93 chars):
(4) test
? Provide a longer description of the change: (press enter to skip)

? Are there any breaking changes? No
? Does this change affect any open issues? No

[master dc083aa] chore: test
1 file changed, 14 insertions(+)
create mode 100644 package.json
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$ git push
Перечисление объектов: 4, готово.
Подсчет объектов: 100% (4/4), готово.
Сжатие объектов: 100% (3/3), готово.
Запись объектов: 100% (3/3), 1.12 Киб | 573.00 Киб/с, готово.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Compressing deltas: 100% (1/1), completed with 1 local object.
To github.com:muagmar-urzhindorzh/os-intro.git
41a17b4..dc083aa master -> master
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$
```

Рис. 11: package.json и коммит

Подготовка рабочего репозитория



```
murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro
Переключились на ветку «develop»
Эта ветка соответствует «origin/develop».
Merge made by the 'ort' strategy.
CHANGELOG.md | 93 ++
1 file changed, 2 insertions(+), 91 deletions(-)
Ветка release/1.0.0 удалена (была lcfcib7).

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'

murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$ git push --all
Перечисление объектов: 7, готово.
Подсчет объектов: 100% (7/7), готово.
При сжатии изменений используется до 6 потоков
Сжатие объектов: 100% (5/5), готово.
Запись объектов: 100% (5/5), 2.78 КиБ | 947.00 КиБ/с, готово.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:muagmar-urzhindorzh/os-intro.git
   dc003aa..590000d  develop -> develop
   dc003aa..b801913  master -> master

murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$ git push --tags
Перечисление объектов: 1, готово.
Подсчет объектов: 100% (1/1), готово.
Запись объектов: 100% (1/1), 160 байтов | 160.00 КиБ/с, готово.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:muagmar-urzhindorzh/os-intro.git
 * [new tag]         1.0.0 -> 1.0.0

murzhindorzh@murzhindorzh:~/work/study/2023-2024/Операционные системы/os-intro$
```

Рис. 12: Завершение релиза

Выводы по проделанной работе

Мы приобрели практические навыки взаимодействия с дополнительными функциями гитхаб.