

# Продвинутое использование git

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29 августа, 2024, Москва, Россия

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# Цели и задачи работы

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# Цель лабораторной работы

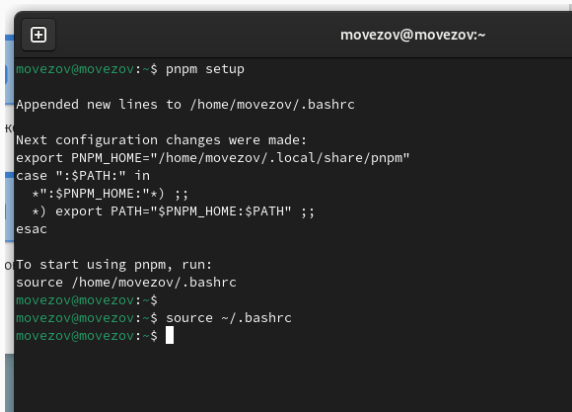
Получение навыков правильной работы с репозиториями git.

# 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**

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```
movezov@movezov:~$ pnpm setup

Appended new lines to /home/movezov/.bashrc

Next configuration changes were made:
export Pnpm_HOME="/home/movezov/.local/share/pnpm"
case ":$PATH:" in
  *:$Pnpm_HOME:*) ;;
  *) export PATH="$Pnpm_HOME:$PATH" ;;
esac

To start using pnpm, run:
source /home/movezov/.bashrc
movezov@movezov:~$
movezov@movezov:~$ source ~/.bashrc
movezov@movezov:~$
```

Рис. 1: Node.js

```
movezov@movezov:~$ pnpm add -g commitizen
```

Update available! 8.12.0 → 9.9.0.  
Changelog: <https://github.com/pnpm/pnpm/releases/tag/v9.9.0>  
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: +152
Progress: resolved 152, reused 0, downloaded 152, added 152, done

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

Done in 6.3s
movezov@movezov:~$
```

Рис. 2: установка commitizen

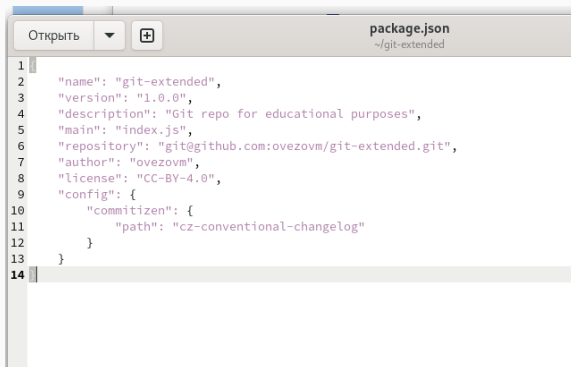
```
movezov@movezov:~$ pnpm add -g standard-changelog
WARN 2 deprecated subdependencies found: glob@7.2.3, inflight@1.0.6
Packages: +39
*****
Progress: resolved 191, reused 152, downloaded 39, added 39, done

/home/movezov/.local/share/pnpm/global/5:
+ standard-changelog 6.0.0

Done in 5.3s
movezov@movezov:~$
```

Рис. 3: установка standard-changelog





**Рис. 4:** package.json

# Использование commitizen

```
movezov@movezov:~/git-extended$ git add .
movezov@movezov:~/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 enter to skip)

? Are there any breaking changes? No
? Does this change affect any open issues? No
[master 8ce5086] chore: test
 1 file changed, 14 insertions(+)
 create mode 100644 package.json
movezov@movezov:~/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), 1.11 КиБ | 568.00 КиБ/с, готово.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:movezovm/git-extended.git
 eacc190..8ce5086 master -> master
movezov@movezov:~/git-extended$
```

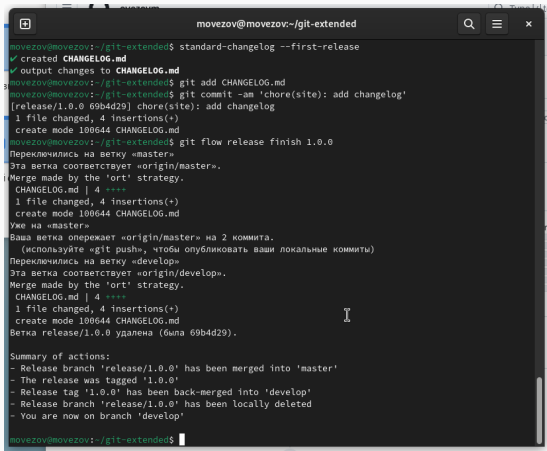
Рис. 5: Отправка

```
movezov@movezov:~/git-extended$
movezov@movezov:~/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/movezov/git-extended/.git/hooks]
movezov@movezov:~/git-extended$ git branch
* develop
  master
movezov@movezov:~/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/ovezovm/git-extended/pull/new/develop
remote:
To github.com:ovezovm/git-extended.git
+ [new branch]      develop -> develop
movezov@movezov:~/git-extended$
```

Рис. 6: Инициализация и загрузка изменений

A terminal window titled 'movezov@movezov:~/git-extended' showing the execution of 'git flow release finish 1.0.0'. The terminal output includes confirmation of changelog creation, commit of changes to 'CHANGELOG.md', and the final merge into 'master'. It also shows the back-merge into 'develop' and the local deletion of the 'release/1.0.0' branch. A summary of actions is provided at the end.

```
movezov@movezov:~/git-extended$ standard-changelog --first-release
✓ created CHANGELOG.md
✓ output changes to CHANGELOG.md
movezov@movezov:~/git-extended$ git add CHANGELOG.md
movezov@movezov:~/git-extended$ git commit -am 'chore(site): add changelog'
[release/1.0.0 69b4d29] chore(site): add changelog
1 file changed, 4 insertions(+)
 create mode 100644 CHANGELOG.md
movezov@movezov:~/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 69b4d29).

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'
movezov@movezov:~/git-extended$
```

Рис. 7: Завершение релиза

# Отправим данные на github

```
movezov@movezov: ~/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), 2.67 КиБ | 910.00 КиБ/с, готово.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:ovezovm/git-extended.git
   8ce5086..9333961  develop -> develop
   8ce5086..dc9e1b0  master -> master
movezov@movezov: ~/git-extended$ git push --tags
Перечисление объектов: 1, готово.
Подсчет объектов: 100% (1/1), готово.
Запись объектов: 100% (1/1), 153 байта | 153.00 КиБ/с, готово.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:ovezovm/git-extended.git
   * [new tag]         1.0.0 -> 1.0.0
movezov@movezov: ~/git-extended$ gh release create v1.0.0 -F CHANGELOG.md
https://github.com/ovezovm/git-extended/releases/tag/v1.0.0
movezov@movezov: ~/git-extended$
```

Рис. 8: Отправка

# Объединение веток

```
movezov@movezov:~/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 to your feature. When done, use:

    git flow feature finish feature_branch

movezov@movezov:~/git-extended$ touch test2
movezov@movezov:~/git-extended$ git flow feature finish feature_branch
Переключились на ветку «develop»
Эта ветка соответствует «origin/develop».
Уже актуально.
Ветка feature/feature_branch удалена (была 9333961).

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'

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

Рис. 9: Объединение веток

```

Merge made by the 'ort' strategy.
 CHANGES.md | 4 +
 package.json | 2 +-
 2 files changed, 5 insertions(+), 1 deletion(-)
Ветка release/1.2.3 удалена (была e9fb328).

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'

movezov@movezov:~/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), 2.77 КиБ | 710.00 КиБ/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:ovezovm/git-extended.git
  9333961..111e174 develop -> develop
  dc9e1b0..1bb9576 master -> master

movezov@movezov:~/git-extended$ git push --tags
Перечисление объектов: 1, готово.
Подсчет объектов: 100% (1/1), готово.
Запись объектов: 100% (1/1), 153 байта | 153.00 КиБ/с, готово.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To github.com:ovezovm/git-extended.git
 * [new tag]         1.2.3 -> 1.2.3

movezov@movezov:~/git-extended$ gh release create v1.2.3 -F CHANGES.md
https://github.com/ovezovm/git-extended/releases/tag/v1.2.3
movezov@movezov:~/git-extended$

```

Рис. 10: Завершение релиза

# Подготовка рабочего репозитория

```
movezov@movezov:~/work/study/2023-2024/Операционные системы/os-intro$ gedit package.json
movezov@movezov:~/work/study/2023-2024/Операционные системы/os-intro$ git add .
movezov@movezov:~/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 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 enter to skip)

? Are there any breaking changes? No
? Does this change affect any open issues? No
[master 11d0053] chore: test
 1 file changed, 14 insertions(+)
 create mode 100644 package.json
movezov@movezov:~/work/study/2023-2024/Операционные системы/os-intro$ 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), 1.11 КиБ | 567.00 КиБ/с, готово.
Total 3 (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:movezov/os-intro.git
 c1b7e18..11d0053 master -> master
movezov@movezov:~/work/study/2023-2024/Операционные системы/os-intro$
```

Рис. 11: package.json и коммит



Завершение релиза

**Рис. 12:** Завершение релиза

## **Выводы по проделанной работе**

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Мы приобрели практические навыки взаимодействия с дополнительными функциями гитхаб.