

# Презентация по лабораторной работе №4

Операционные системы

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- [https://github.com/imadakrour/study\\_2024-2025\\_os-intro](https://github.com/imadakrour/study_2024-2025_os-intro)



## Цель работы

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Получение навыков правильной работы с репозиторием git

## Задание

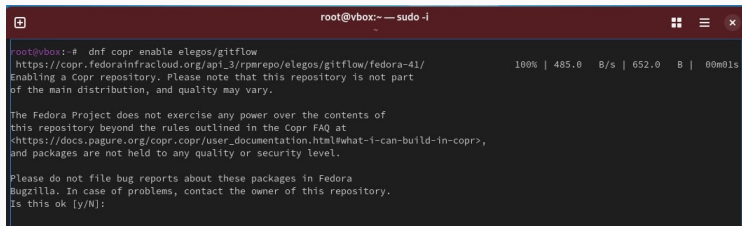
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Выполнить работу для тестового репозитория, преобразовать рабочий репозиторий в репозиторий с git-flow и conventional commits

## Выполнение лабораторной работы

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Устанавливаю git-flow из коллекции репозитория copr



```
root@vbox:~ — sudo -i
root@vbox:~# dnf copr enable elegos/gitflow
https://copr.fedorainfracloud.org/api_3/rpmrepo/elegos/gitflow/fedora-41/ 100% | 485.0 B/s | 652.0 B | 00m01s
Enabling a Copr repository. Please note that this repository is not part
of the main distribution, and quality may vary.

The Fedora Project does not exercise any power over the contents of
this repository beyond the rules outlined in the Copr FAQ at
<https://docs.pagure.org/copr.copr/user_documentation.html#what-i-can-build-in-copr>,
and packages are not held to any quality or security level.

Please do not file bug reports about these packages in Fedora
Bugzilla. In case of problems, contact the owner of this repository.
Is this ok [y/N]:
```

Рис. 1: Установка git-flow



## Устанавливаю node.js

```
root@vbox:~# dnf install nodejs
Updating and loading repositories:
Repositories loaded.
Package Arch Version Repository Size
Installing:
nodejs x86_64 1:22.14.0-2.fc41 updates 149.5 KiB
Installing dependencies:
nodejs-libs x86_64 1:22.14.0-2.fc41 updates 75.9 MiB
Installing weak dependencies:
nodejs-docs noarch 1:22.14.0-2.fc41 updates 93.7 MiB
nodejs-full-i18n x86_64 1:22.14.0-2.fc41 updates 30.4 MiB
nodejs-npm x86_64 1:10.9.2-1.22.14.0.2.fc41 updates 9.3 MiB

Transaction Summary:
Installing: 5 packages

Total size of inbound packages is 39 MiB. Need to download 39 MiB.
After this operation, 210 MiB extra will be used (install 210 MiB, remove 0 B).
```

Рис. 2: Устанавливаю node.js

## Обновляю пакеты системы

```
root@vbox:~# dnf update
Updating and loading repositories:
Repositories loaded.
Problem 1: package dnf5-plugin-automatic-5.2.10.0-2.fc41.x86_64 from updates requires libcurl-full(x86-64), but none of the providers can be installed
- installed package libcurl-minimal-8.9.1-3.fc41.x86_64 conflicts with libcurl(x86-64) provided by libcurl-8.9.1-2.fc41.x86_64 from fedora
- installed package libcurl-minimal-8.9.1-3.fc41.x86_64 conflicts with libcurl(x86-64) provided by libcurl-8.9.1-3.fc41.x86_64 from updates
- cannot install the best update candidate for package libcurl-minimal-8.9.1-3.fc41.x86_64
- cannot install the best update candidate for package dnf-automatic-4.21.1-1.fc41.noarch
Problem 2: installed package curl-8.9.1-3.fc41.x86_64 requires libcurl(x86-64) >= 8.9.1-3.fc41, but none of the providers can be installed
```

Рис. 3: Обновление

Скачиваю необходимое обеспечение для установки рпрт

```
root@vbox:~# dnf install gcc-c++ make dnf-plugins-core
```

Рис. 4: Скачивание

Скачиваю pnpm

```
Complete!  
root@vbox:~# dnf install pnpm  
Updating and loading repositories:  
Repositories loaded.  
Package Arch Version Repository Size  
Installing:  
pnpm noarch 9.13.0-1.fc41 updates 15.5 MiB
```

Рис. 5: Скачиваю pnpm

Запускаю каталог с исполняемыми файлами, включаю функцию форматирования коммитов, создания логов

```
root@vbox:~# pnpm setup
Appended new lines to /root/.bashrc

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

To start using pnpm, run:
source /root/.bashrc
root@vbox:~# source /root/.bashrc
root@vbox:~# pnpm add -g standard-changelog
```

```
Update available! 9.13.0 → 10.6.1.
Changelog: https://github.com/pnpm/pnpm/releases/tag/v10.6.1
Run "pnpm self-update" to update.
```

```
Follow @pnpmjs for updates: https://x.com/pnpmjs
```

# Создание временного репозитория

## Создаю новый репозиторий

### Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

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*Required fields are marked with an asterisk (\*).*


**Repository template**

No template ▾

Start your repository with a template repository's contents.

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**Owner \***      **Repository name \***


 imadakraur ▾ /


✔ git-extended is available.

Great repository names are short and memorable. Need inspiration? How about [friendly-octo-computing-machine ?](#)

**Description (optional)**

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☒  **Public**  
Anyone on the Internet can see this repository. You choose who can commit.

☐  **Private**  
You choose who can see and commit to this repository.

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**Initialize this repository with:**

☐ Add a README file  
This is where you can write a long description for your project. [Learn more about READMEs.](#)

**Add .gitignore**

.gitignore template: None ▾

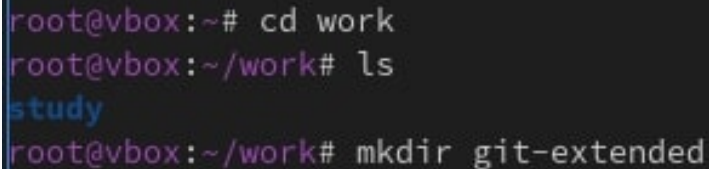
Choose which files not to track from a list of templates. [Learn more about ignoring files.](#)

**Choose a license**

License: None ▾

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

Создаю каталог для работы с этим репозиторием и перехожу в него (всю настройку надо было выполнять в нём, я сделала это на видео)

A terminal window with a dark background and light-colored text. The text shows a sequence of commands and their output: 'cd work' is executed, the prompt changes to '~/work', 'ls' is executed, and the output 'study' is shown. Finally, 'mkdir git-extended' is executed.

```
root@vbox:~# cd work
root@vbox:~/work# ls
study
root@vbox:~/work# mkdir git-extended
```

Рис. 8: Создание каталога

Подключаюсь к этому репозиторию

```
root@vbox:~/git-extended# git init
Initialized empty Git repository in /root/git-extended/.git/
root@vbox:~/git-extended# git remote add origin git@github.com:imadakrour/git-extended.git
root@vbox:~/git-extended# echo "# git-extended" >> README.md
```

Рис. 9: Подключение к репозиторию



## Создание временного репозитория

Конфигурация пакетов node.js. Теперь в этом репозитории можно работать с этим пакетом

```
root@vbox:~/git-extended# pnpm init
Wrote to /root/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"
}
```

Рис. 10: Конфигурация пакетов

Открываю и редактирую файл так, как написано



The image shows a code editor window with the title 'package.json' and the path '~/git-extended'. The editor contains the following JSON content:

```
1 {  
2   "name": "git-extended",  
3   "version": "1.0.0",  
4   "description": "Git repo for educational purposes",  
5   "main": "index.js",  
6   "repository": "git@github.com:imadakrour/git-extended.git",  
7   "author": "Akrouir Imad <1032239342@pfur.ru>",  
8   "license": "CC-BY-4.0",  
9   "config": {  
10     "commitizen": {  
11       "path": "cz-conventional-changelog"  
12     }  
13   }  
14 }
```

Рис. 11: Отредактированный файл

## Создание временного репозитория

Добавляю файлы, выполняю коммит, отправляю на github

```
root@vbox:~/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
? 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 94 chars):
  (6) adding
? 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 (root-commit) 7baldf0] feat: adding
4 files changed, 1193 insertions(+)
create mode 100644 .gitignore
create mode 100644 README.md
create mode 100644 package.json
create mode 100644 pnpm-lock.yaml
root@vbox:~/git-extended# git push
fatal: The current branch master has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin master

To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.
```

## Создание временного репозитория

Инициализирую git-flow, проверяю, на какой я ветке

```
root@vbox:~/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? [/root/git-extended/.git/hooks]
root@vbox:~/git-extended# git branch
* develop
master
```

Рис. 13: Инициализация git-flow

## Создание временного репозитория

Загружаю весь репозиторий в хранилище, устанавливаю внешнюю ветку как вышестоящую для этой ветки, создаю релиз с версией 1.0.0

```
root@vbox:~/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/imadakrour/git-extended/pull/new/develop
remote:
To github.com:imadakrour/git-extended.git
 * [new branch]      develop -> develop
root@vbox:~/git-extended# git branch --set-upstream-to=origin/develop develop
branch 'develop' set up to track 'origin/develop'.
root@vbox:~/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'
```

## Создание временного репозитория

Создаю журнал изменений, добавляю журнал изменений в индекс, выгружаю релизную ветку в основную

```
root@vbox:~/git-extended# standard-changelog --first-release
✓ created CHANGELOG.md
✓ output changes to CHANGELOG.md
root@vbox:~/git-extended# git add CHANGELOG.md
root@vbox:~/git-extended# git commit -am 'chore(site): add changelog'
[release/1.0.0 ab6e410] chore(site): add changelog
 1 file changed, 9 insertions(+)
 create mode 100644 CHANGELOG.md
root@vbox:~/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
```

Рис. 15: Завершение эту работу

Выполняю указания

```
Add files
#
# Введите сообщение для метки:
#   v1.0.0
# Строки, начинающиеся с «#» будут проигнорированы.
```

Рис. 16: Выполняю указания

## Создание временного репозитория

Отправляю данные на github, создаю релиз

```
root@vbox:~/git-extended# git push --all
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 531 bytes | 88.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To github.com:imadakrour/git-extended.git
   7baldf0..bc755ed  master -> master
   * [new branch]      release/1.0.0 -> release/1.0.0
root@vbox:~/git-extended# git push --tags
Everything up-to-date
root@vbox:~/git-extended# gh release create v1.0.0 -F CHANGELOG.md

https://github.com/imadakrour/git-extended/releases/tag/v1.0.0
```

Рис. 17: Отправка данных



Создаю ветку для новой функциональности, объединяю две ветки

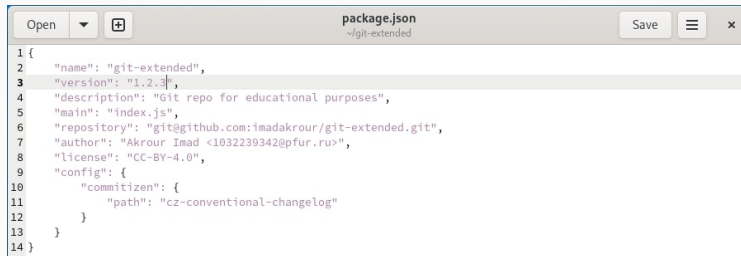
```
root@vbox:~/git-extended# git flow feature finish feature_branch
Switched to branch 'develop'
Your branch is up to date with 'origin/develop'.
Already up to date.
Deleted branch feature/feature_branch (was 7bald0f0).

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'

root@vbox:~/git-extended# git flow release start 1.2.3
```

Рис. 18: Создаю ветку для новой функциональности, объединяю две ветки

Изменяю номер версии



The screenshot shows a code editor window titled "package.json" with the file path "~/git-extended". The editor contains the following JSON content:

```
1 {  
2   "name": "git-extended",  
3   "version": "1.2.3",  
4   "description": "Git repo for educational purposes",  
5   "main": "index.js",  
6   "repository": "git@github.com:imadakrour/git-extended.git",  
7   "author": "Akrour Imad <1032239342@pfur.ru>",  
8   "license": "CC-BY-4.0",  
9   "config": {  
10     "commitizen": {  
11       "path": "cz-conventional-changelog"  
12     }  
13   }  
14 }
```

The line containing the "version" field is highlighted, indicating it is the focus of the edit.

Рис. 19: Изменяю номер версии

## Создание временного репозитория

Повторяю инструкции для добавления журнала изменений в индекс

```
root@vbox:~/git-extended# standard-changelog
✓ output changes to CHANGELOG.md
root@vbox:~/git-extended# gh release create v1.2.3 -F CHANGLOG.md
open CHANGLOG.md: no such file or directory
root@vbox:~/git-extended# gh release create v1.2.3 -F CHANGELOG.md
https://github.com/imadakrour/git-extended/releases/tag/v1.2.3
```

Рис. 20: Повторяю инструкции 1

```
root@vbox:~/git-extended# git push --all
Everything up-to-date
root@vbox:~/git-extended#
```

Рис. 21: Повторяю инструкции 2

## Выводы

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Я получил навыки правильной работы с репозиторием git

## Список литературы

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