РОССИЙСКИЙ УНИВЕРСИТЕТ ДРУЖБЫ НАРОДОВ

Факультет физико-математических и естественных наук

Фундаментальная Информатика и Информационные технологии

ОТЧЕТ

ПО ЛАБОРАТОРНОЙ РАБОТЕ № 2

дисциплина: Операционные системы

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Задание

1. Создать базовую конфигурацию для работы с git.
2. Создать ключ SSH.
3. Создать ключ PGP.
4. Настроить подписи git.
5. Зарегистрироваться на Github.
6. Создать локальный каталог для выполнения заданий по предмету.

Ответы
Настройка github

Создали учётную запись на https://github.com и Заполнили основные данные на https://github.com.
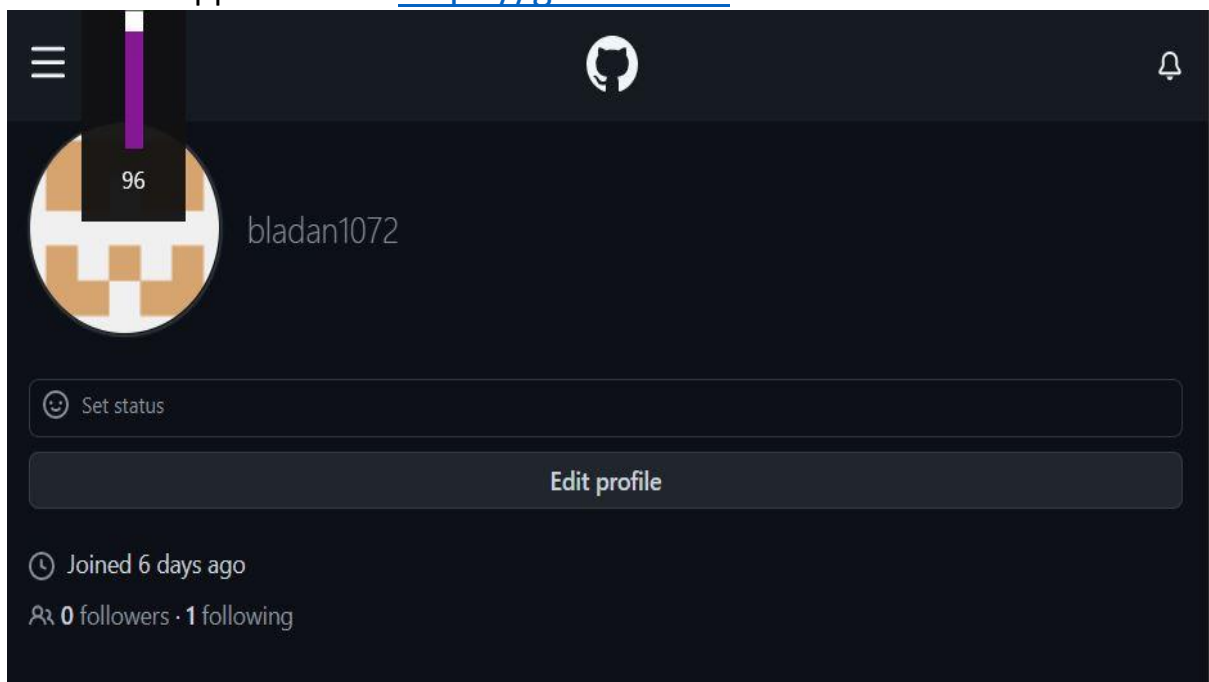
Установка gh в Fedora Linux


```
[cuzorezhikeme@fedora tmp]$ sudo apt-get update
[sudo] password for cuzorezhikeme:
sudo: apt-get: command not found
[cuzorezhikeme@fedora tmp]$ sudo dnf install gh
Last metadata expiration check: 1:33:28 ago on Wed 27 Apr 2022 22:21:28.
Dependencies resolved.
================================================================================
 Package        Architecture      Version               Repository        Size
================================================================================
Installing:
 gh             x86_64            2.7.0-1.fc35           updates          6.8 M

Transaction Summary
================================================================================
Install  1 Package

Total download size: 6.8 M
Installed size: 32 M
Is this ok [y/N]: y
Downloading Packages:
gh-2.7.0-1.fc35.x86_64.rpm                       2.2 MB/s | 6.8 MB     00:03
--------------------------------------------------------------------------------
Total                                            1.2 MB/s | 6.8 MB     00:05
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing        :                                                       1/1
  Installing       : gh-2.7.0-1.fc35.x86_64                                1/1
  Running scriptlet: gh-2.7.0-1.fc35.x86_64                                1/1
  Verifying        : gh-2.7.0-1.fc35.x86_64                                1/1

Installed:
  gh-2.7.0-1.fc35.x86_64

Complete!
```

Базовая настройка git
– Установленный имя и отправлено по электронной почте мой
репозиторий, настроен utf-8 при выводе сообщений git, настроил
проверку и подписание git commit, установил имя начальной
ветки, параметр autocrlf и параметр safecrlf.

Создайте ключи ssh
– Использовался алгоритм rsa с размером ключа 4096 бит и
алгоритм ed25519

```
[cuzorezhikeme@fedora tmp]$ git config --global user.name "Chinechelum Uzor-Ejikeme"
[cuzorezhikeme@fedora tmp]$ git config --global user.email "nechejikeme@gmail.com"
[cuzorezhikeme@fedora tmp]$ git config --global core.quotepath false
[cuzorezhikeme@fedora tmp]$ git config --global init.defaultBranch master
[cuzorezhikeme@fedora tmp]$ git config --global core.autocrlf input
[cuzorezhikeme@fedora tmp]$ git config --global core.safecrlf warn
[cuzorezhikeme@fedora tmp]$ ssh-keygen -C "Chinechelum Uzor-Ejikeme <nechejikeme@gmail.com>"
Generating public/private rsa key pair.
Enter file in which to save the key (/home/cuzorezhikeme/.ssh/id_rsa):
Created directory '/home/cuzorezhikeme/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/cuzorezhikeme/.ssh/id_rsa
Your public key has been saved in /home/cuzorezhikeme/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:75x8M2LtdvX2Jy0ZNpdDt7I0GV83csfBne+zFAyg5pU Chinechelum Uzor-Ejikeme <nechejikeme@gmail.com>
The key's randomart image is:
+---[RSA 3072]----+
|          .. . o|
|         . .. +.|
|        o E  o.o|
|       o .  o *B|
|        S.   B.X|
|         .  =+B+|
|          ....=B=|
|         +o.*.=.=|
|          .==.+ ++|
+----[SHA256]-----+
[cuzorezhikeme@fedora tmp]$ cat ~/.ssh/id_rsa.pub | xclip -sel clip
bash: xclip: command not found...
Install package 'xclip' to provide command 'xclip'? [N/y] y


 * Waiting in queue...
 * Loading list of packages....
The following packages have to be installed:
 xclip-0.13-15.git11cba61.fc35.x86_64   Command line clipboard grabber
Proceed with changes? [N/y] y


 * Waiting in queue...
 * Waiting for authentication...
 * Waiting in queue...
 * Downloading packages...
 * Requesting data...
 * Testing changes...
 * Installing packages...
```

```
[cuzorezhikeme@fedora tmp]$ cat ~/.ssh/id_rsa.pub
ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABgQCwkPGyaeibgLPsuDZxAcmQSsdX6fX76LLPh98mQYQh96j31eN29bjBzvaKadfFN
worjiKN9fUFBRX1cvIMScKjTk4gPvnwL7MehEx+6cj1vwgKzJ3CZF1woofBsWmUH+3zuW/swWpcv5oF7372xOE1kmgHRVfJf1FbQs
XVEPYyv3+gglYH/O2RXQbW0QpgQga4E6Ic0oKlXVhWpXkaXLYWPqwVIlm6Tb3Tlq4kxNsyn5ysT4jr+GlZUadiNMXKY58WesdnNxr
/UQJeqlI+YynxwotrsIEqof5RS971g35qBFuwuFKD6dcqcX9FziOtNdO7u3qZxyHYsguaZmX+ZXlCG93iy5RqI/JgHF7LiDoTRZh9
KC60+HxeNSnUbAACYawvD7N1g36zdrWDuqsHU9SNalyDcKloeVYZdnLfCvy465hn2Er1S+DCoDDbs97+nYeYZfMfzcV+FEqmBXtyM
xW+ecgGOYRkntCYyoPupbpACUeXyOKaV04aTB5+5YZMjVk= Chinechelum Uzor-Ejikeme <nechejikeme@gmail.com>
```

Создайте ключи pgp

– Сгенерировать ключ

```
[cuzorezhikeme@fedora tmp]$ gpg --full-generate-key
gpg (GnuPG) 2.3.2; Copyright (C) 2021 Free Software Foundation, Inc.
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.

gpg: directory '/home/cuzorezhikeme/.gnupg' created
gpg: keybox '/home/cuzorezhikeme/.gnupg/pubring.kbx' created
Please select what kind of key you want:
   (1) RSA and RSA
   (2) DSA and Elgamal
   (3) DSA (sign only)
   (4) RSA (sign only)
   (9) ECC (sign and encrypt) *default*
  (10) ECC (sign only)
  (14) Existing key from card
Your selection? 1
RSA keys may be between 1024 and 4096 bits long.
What keysize do you want? (3072) 2048
Requested keysize is 2048 bits
Please specify how long the key should be valid.
         0 = key does not expire
      <n>  = key expires in n days
      <n>w = key expires in n weeks
      <n>m = key expires in n months
      <n>y = key expires in n years
Key is valid for? (0) 0
Key does not expire at all
Is this correct? (y/N) y

GnuPG needs to construct a user ID to identify your key.

Real name: Chinechelum Uzor-Ejikeme
Email address: nechejikeme@gmail.com
Comment:
You selected this USER-ID:
    "Chinechelum Uzor-Ejikeme <nechejikeme@gmail.com>"

Change (N)ame, (C)omment, (E)mail or (O)kay/(Q)uit? O
We need to generate a lot of random bytes. It is a good idea to perform
some other action (type on the keyboard, move the mouse, utilize the
```

Добавление PGP ключа в GitHub

```
pub   rsa2048 2022-04-27 [SC]
      FAC581E2211DCF27129108E4E1414E35A654B431
uid                      Chinechelum Uzor-Ejikeme <nechejikeme@gmail.com>
sub   rsa2048 2022-04-27 [E]

[cuzorezhikeme@fedora tmp]$ gpg --list-secret-keys --keyid-format LONG
gpg: checking the trustdb
gpg: marginals needed: 3  completes needed: 1  trust model: pgp
gpg: depth: 0  valid:   1  signed:   0  trust: 0-, 0q, 0n, 0m, 0f, 1u
/home/cuzorezhikeme/.gnupg/pubring.kbx
------------------------------------
sec   rsa2048/E1414E35A654B431 2022-04-27 [SC]
      FAC581E2211DCF27129108E4E1414E35A654B431
uid                [ultimate] Chinechelum Uzor-Ejikeme <nechejikeme@gmail.com>
ssb   rsa2048/CA369901522D3B19 2022-04-27 [E]

[cuzorezhikeme@fedora tmp]$ gpg --armor --export E1414E35A654B431
-----BEGIN PGP PUBLIC KEY BLOCK-----
```

```
mQENBGJptUMBCADvqro4Hg3Egok1Ja2D9ApZPhQOSWG8G7UNn/cEixtKR8qYiheT
0jKHYogHBivKo8EW+ir3a8u0PRekcaZEu09ijzZD3q4iJqIa3PDV0PmZjcyxfhAc
TTwoGEKcuaA9x06qn99aMWIpOtdGnC85L54jx4NopaJPOKC5443wFAezXiJY8t37
Y45PHR51wTSZU+epOkC5QpCjl2odSxhpRoy/HqxsY42Ux44nE7LAIUr4CSDfULVZ
n3cjIF61/n8aMCyrGkjtNCZTpZs15716t6vR8OiQdJYmNrf4xhfRTsOa59yi0m81
WQQMb/dSHFeZGShmSKP458GGovmIsVlRyv1fABEBAAG0MENoaW5lY2hlbHVtIFV6
b3ItRWppa2VtZSA8bmVjaGVqaWtlbWVAZ21haWwuY29tPokBUgQTAQgAPBYhBPrF
geIhHc8nEpEI5OFBTjWmVLQxBQJiabVDAhsDBQsJCAcCAyICAQYVCgkICwIEFgID
AQIeBwIXgAAKCRDhQU41plS0McR6CACCLoPHlps8+A4uXSeMa3W/TWVyyOj9R7kT
lbLlwBvm6DOargahe5g475VquI8e/m7AOtkd9Mzcr9JfhksIkW0cP8x3Qc5tirec
Rx4r8mkqc2bLedtVINebRztgBVL7uSaCovU8e6A7r6WPY/lmAx8C9ReyLZM8Uo4L
DrwHyu/lpN9fjBLCQavMNwO6AgYsNecNTUbVQs0gk96/nwGYUSNZO3DkVevs9iCn
107xEYuRcUI0tLNREJfOHOFGeyPI1ki9472xw25j4toUSCLP3ajGGl3MhnNnpnQW
pI3H5I2K+9Ylju0IycNrlrYXZhjQdMVk6zveGlalAZvfMIQILKTTuQENBGJptUMB
CAC2zYl1MDgce/K7B1JhxV6RZVaCfmVsTgXQPiFNyiMBtqlUNge/EfPELmg6wQVB
BYRy/IJCM7GHFdbCk+txT9Xh+uoaDgEfnuIbQ4SFD+Wnf+MrzGJgnCa/LsMMobaQ
OER7avMlppznC2zZvbyeGCyBJdW/kSogflIMqGfGcJGf1zO5DCdFLCwpN48CHTmf
NPDoMv7als7SjO8eGbxfaKxMBFjY/+EBYVKP83EkLCH5paz2+ehkC+XTUsG7kV40
8FrEC9N4q1VYTZmWdYouAuyI/0AoYWZ/ke4lrOyLvvzFbnwOW5acpq18Lgb0vvlf
CrKxz/ynKPcZHlz7yWGX+rZbABEBAAGJATYEGAEIACAWIQT6xYHiIR3PJxKRCOTh
QU41plS0MQUCYmm1QwIbDAAKCRDhQU41plS0MXL2CACyAMwlSavtN3num915ooSE
4yXfNcne6Ts7INmZXib4J4llzoqX3yUK2DmvJSCiY6MZ9YLgYocMyeZFZS5ZpNmD
fjR/scjveLkwKL4D2FjEN6XRinmmtOBUVZAkjGaH+qiJ21RNHn2x8QsjIU/mmFfg
qvF+qhsh0CneNr6unhBMHK6oGKC7VtNDIbO62XeIKMbP23zx1yWVcTa2S17Z/FHK
Ltr3EfNSOw0VduTKbZQ4N8Qhre37372s/zK0ViYf0KzaSSDO97gK2X0MyjyZdxOd
dRgWVV7vmhhCQe56uYLjae52k3GycwTAcFisWpK8D3h+qP2xBWGUujS0nhUIP9c3
=wJ/h
-----END PGP PUBLIC KEY BLOCK-----
```

Настройка автоматических подписей коммитов git

Используется для указания git использовать адрес электронной почты, введенный при подписании коммитов.

Настройка gh

После входа в систему утилита задаст несколько наводящих вопросов, и пользователь войдет в систему через браузер.

Сознание репозитория курса на основе шаблона

```
[cuzorezhikeme@fedora tmp]$ gh auth login
? What account do you want to log into? GitHub.com
? What is your preferred protocol for Git operations? HTTPS
? Authenticate Git with your GitHub credentials? Yes
? How would you like to authenticate GitHub CLI? Login with a web browser

! First copy your one-time code: FEDA-A7E7
Press Enter to open github.com in your browser...
✓ Authentication complete.
- gh config set -h github.com git_protocol https
✓ Configured git protocol
✓ Logged in as bladan1072
[cuzorezhikeme@fedora tmp]$ mkdir -p ~/work/study/2021-2022/"Операционные системы"
[cuzorezhikeme@fedora tmp]$ cd ~/work/study/2021-2022/"Операционные системы"
[cuzorezhikeme@fedora Операционные системы]$ gh repo create study_2021-2022_os-intro --template=yamad
harma/course-directory-student-template --public
✓ Created repository bladan1072/study_2021-2022_os-intro on GitHub
[cuzorezhikeme@fedora Операционные системы]$ git clone --recursive git@github.com:<owner>/study_2021-
2022_os-intro.git os-intro
bash: owner: No such file or directory
[cuzorezhikeme@fedora Операционные системы]$ git clone --recursive git@github.com:cuzorezhikeme/study
_2021-2022_os-intro.git os-intro
Cloning into 'os-intro'...
The authenticity of host 'github.com (140.82.121.4)' can't be established.
ED25519 key fingerprint is SHA256:+DiY3wvvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvCOqU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'github.com' (ED25519) to the list of known hosts.
ERROR: Repository not found.
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.
[cuzorezhikeme@fedora Операционные системы]$ git clone --recursive git@github.com:bladan1072/study_20
21-2022_os-intro.git os-intro
Cloning into 'os-intro'...
remote: Enumerating objects: 20, done.
remote: Counting objects: 100% (20/20), done.
remote: Compressing objects: 100% (18/18), done.
remote: Total 20 (delta 2), reused 15 (delta 2), pack-reused 0
Receiving objects: 100% (20/20), 12.49 KiB | 49.00 KiB/s, done.
```

Настройка каталога курса

```
Receiving objects: 100% (78/78), 292.27 KiB | 700.00 KiB/s, done.
Resolving deltas: 100% (31/31), done.
Submodule path 'template/presentation': checked out '3eaebb7586f8a9aded2b506cd1018e625b228b93'
Submodule path 'template/report': checked out 'df7b2ef80f8def3b9a496f8695277469a1a7842a'
[cuzorezhikeme@fedora Операционные системы]$ cd ~/work/study/2021-2022/"Операционные системы"/os-intr
o
[cuzorezhikeme@fedora os-intro]$ rm package.json
[cuzorezhikeme@fedora os-intro]$ make COURSE=os-intro
[cuzorezhikeme@fedora os-intro]$ git add .
[cuzorezhikeme@fedora os-intro]$ git commit -am 'feat(main): make course structure'
[master dc8675e] feat(main): make course structure
 149 files changed, 16590 insertions(+), 14 deletions(-)
 create mode 100644 labs/lab01/presentation/Makefile
 create mode 100644 labs/lab01/presentation/presentation.md
 create mode 100644 labs/lab01/report/Makefile
 create mode 100644 labs/lab01/report/bib/cite.bib
 create mode 100644 labs/lab01/report/image/placeimg_800_600_tech.jpg
 create mode 100644 labs/lab01/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
 create mode 100644 labs/lab01/report/report.md
 create mode 100644 labs/lab02/presentation/Makefile
 create mode 100644 labs/lab02/presentation/presentation.md
 create mode 100644 labs/lab02/report/Makefile
 create mode 100644 labs/lab02/report/bib/cite.bib
 create mode 100644 labs/lab02/report/image/placeimg_800_600_tech.jpg
 create mode 100644 labs/lab02/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
 create mode 100644 labs/lab02/report/report.md
 create mode 100644 labs/lab03/presentation/Makefile
 create mode 100644 labs/lab03/presentation/presentation.md
 create mode 100644 labs/lab03/report/Makefile
 create mode 100644 labs/lab03/report/bib/cite.bib
 create mode 100644 labs/lab03/report/image/placeimg_800_600_tech.jpg
 create mode 100644 labs/lab03/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
 create mode 100644 labs/lab03/report/report.md
 create mode 100644 labs/lab04/presentation/Makefile
 create mode 100644 labs/lab04/presentation/presentation.md
 create mode 100644 labs/lab04/report/Makefile
 create mode 100644 labs/lab04/report/bib/cite.bib
 create mode 100644 labs/lab04/report/image/placeimg_800_600_tech.jpg
 create mode 100644 labs/lab04/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
 create mode 100644 labs/lab04/report/report.md
 create mode 100644 labs/lab05/presentation/Makefile
 create mode 100644 labs/lab05/presentation/presentation.md
 create mode 100644 labs/lab05/report/Makefile
 create mode 100644 labs/lab05/report/bib/cite.bib
 create mode 100644 labs/lab05/report/image/placeimg_800_600_tech.jpg
 create mode 100644 labs/lab05/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
 create mode 100644 labs/lab05/report/report.md
 create mode 100644 labs/lab06/presentation/Makefile
```

```
create mode 100644 project-personal/stage1/report/report.md
create mode 100644 project-personal/stage2/presentation/Makefile
create mode 100644 project-personal/stage2/presentation/presentation.md
create mode 100644 project-personal/stage2/report/Makefile
create mode 100644 project-personal/stage2/report/bib/cite.bib
create mode 100644 project-personal/stage2/report/image/placeimg_800_600_tech.jpg
create mode 100644 project-personal/stage2/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
create mode 100644 project-personal/stage2/report/report.md
create mode 100644 project-personal/stage3/presentation/Makefile
create mode 100644 project-personal/stage3/presentation/presentation.md
create mode 100644 project-personal/stage3/report/Makefile
create mode 100644 project-personal/stage3/report/bib/cite.bib
create mode 100644 project-personal/stage3/report/image/placeimg_800_600_tech.jpg
create mode 100644 project-personal/stage3/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
create mode 100644 project-personal/stage3/report/report.md
create mode 100644 project-personal/stage4/presentation/Makefile
create mode 100644 project-personal/stage4/presentation/presentation.md
create mode 100644 project-personal/stage4/report/Makefile
create mode 100644 project-personal/stage4/report/bib/cite.bib
create mode 100644 project-personal/stage4/report/image/placeimg_800_600_tech.jpg
create mode 100644 project-personal/stage4/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
create mode 100644 project-personal/stage4/report/report.md
create mode 100644 project-personal/stage5/presentation/Makefile
create mode 100644 project-personal/stage5/presentation/presentation.md
create mode 100644 project-personal/stage5/report/Makefile
create mode 100644 project-personal/stage5/report/bib/cite.bib
create mode 100644 project-personal/stage5/report/image/placeimg_800_600_tech.jpg
create mode 100644 project-personal/stage5/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
create mode 100644 project-personal/stage5/report/report.md
create mode 100644 project-personal/stage6/presentation/Makefile
create mode 100644 project-personal/stage6/presentation/presentation.md
create mode 100644 project-personal/stage6/report/Makefile
create mode 100644 project-personal/stage6/report/bib/cite.bib
create mode 100644 project-personal/stage6/report/image/placeimg_800_600_tech.jpg
create mode 100644 project-personal/stage6/report/pandoc/csl/gost-r-7-0-5-2008-numeric.csl
create mode 100644 project-personal/stage6/report/report.md
create mode 100644 structure
[cuzorezhikeme@fedora os-intro]$ git push
Enumerating objects: 20, done.
Counting objects: 100% (20/20), done.
Compressing objects: 100% (16/16), done.
Writing objects: 100% (19/19), 266.27 KiB | 140.00 KiB/s, done.
Total 19 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 1 local object.
To github.com:bladan1072/study_2021-2022_os-intro.git
   935cef3..dc8675e  master -> master
[cuzorezhikeme@fedora os-intro]$
```