

# Лабораторная работа №1

Система контроля версий

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Хохлачева Яна Дмитриевна, НПМмд-02-22

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Российский университет дружбы народов, Москва, Россия

## Цели и задачи

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- Изучить идеологию и применение средств контроля версий.
- Освоить умения по работе с git.

- Создать базовую конфигурацию для работы с git.
- Создать ключ SSH.
- Создать ключ PGP.
- Настроить подписи git.
- Зарегистрироваться на Github.
- Создать локальный каталог для выполнения заданий по предмету

## Выполнение лабораторной работы

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```
Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop
$ git config --global user.name "Kyna1201"

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop
$ git config --global user.email "khokhlachevayana@gmail.com"
```

Figure 1: Username и email

```
Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop
$ git config --global core.quotepath false

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop
$ git config --global init.defaultBranch master

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop
$ git config --global core.autocrlf input

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop
$ git config --global core.safecrlf warn
```

Figure 2: Дополнительные параметры

## Создайте ключи ssh

```
$ ssh-keygen -t rsa -C "Yana Khokhlacheva"
Generating public/private rsa key pair.
Enter file in which to save the key (/c/Users/Yana/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /c/Users/Yana/.ssh/id_rsa
Your public key has been saved in /c/Users/Yana/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:IFDtw+UKSFNKMNN6kBdnZHwyYhDgEOwE5WSBaAXHeDA Yana Khokhlacheva
The key's randomart image is:
+---[RSA 3072]---+
|/E#XB.          |
|B%XO+ o .       |
|+B++.*.o        |
|..O ..+..       |
|. . .oS         |
|                 |
|                 |
+-----[SHA256]-----+

Yana@LAPTOP-BBI48HQD MINGW64 ~/.ssh
$
```

Figure 3: RSA SSH

## Создайте ключи ргр

```
Yana@LAPTOP-BB148HJD MINGW64 ~/./ssh
$ gpg --full-generate-key
gpg (GnuPG) 2.2.29-unknown; 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.

Please select what kind of key you want:
  (1) RSA and RSA (default)
  (2) DSA and ElGamal
  (3) DSA (sign only)
  (4) RSA (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) 4096
Requested keysize is 4096 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: Yana Khokhlacheva
Email address: khokhlachevayana@gmail.com
Comment:
You selected this USER-ID:
  "Yana khokhlacheva <khokhlachevayana@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
disks) during the prime generation; this gives the random number
generator a better chance to gain enough entropy.
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
disks) during the prime generation; this gives the random number
generator a better chance to gain enough entropy.
gpg: key 6E7ECA97C6E55CA marked as ultimately trusted
gpg: revocation certificate stored as '/c/Users/Yana/.gnupg/openpgp-revocs.d/E054C0827134C55E8C4CCDF76E7ECA97C6E55CA.rev'
public and secret key created and signed.

pub   rsa4096 2022-09-17 [SC]
      E054C0827134C55E8C4CCDF76E7ECA97C6E55CA
uid   Yana Khokhlacheva <khokhlachevayana@gmail.com>
sub   rsa4096 2022-09-17 [E]
```

Figure 4: GPG Key



# Добавление PGP ключа в GitHub

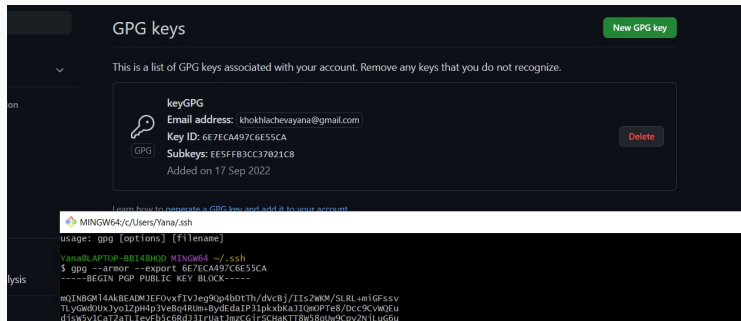


Figure 5: PGP ключ в GitHub

```
Yana@LAPTOP-BBI48HQD MINGW64 ~/.ssh  
$ git config --global gpg.program "C:/Program Files (x86) /GnuPG/bin/gpg.exe"
```

Figure 6: Подписи коммитов

```
Yana@LAPTOP-BBI48HQD MINGW64 ~/.ssh  
$ git config --global gpg.program "C:/Program Files (x86) /GnuPG/bin/gpg.exe"
```

Figure 7: Указание параметров

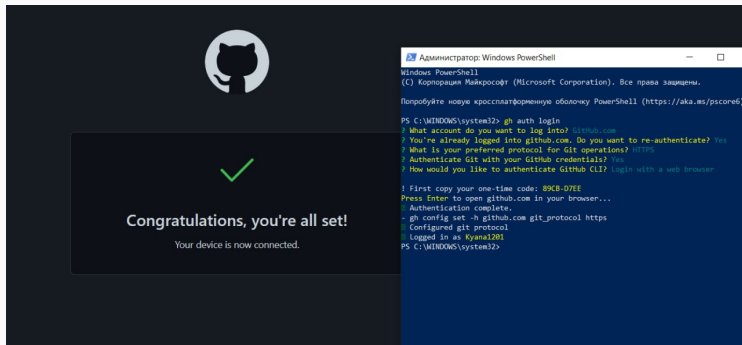


Figure 8: gh auth

# Создание репозитория курса на основе шаблона

```
Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop/2022-2023/NP
$ gh repo create 2022-2023 --template=yamadharma/course-directory-student-template --public
✓ Created repository Kyana1201/2022-2023 on GitHub

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop/2022-2023/NP
$ cd ..

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop/2022-2023
$ git clone --recursive git@github.com:Kyana1201/NP.git NP
Cloning into 'NP'...
ERROR: Repository not found.
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop/2022-2023
$ git clone --recursive git@github.com:Kyana1201/2022-2023.git NP
Cloning into 'NP'...
remote: Enumerating objects: 26, done.
remote: Counting objects: 100% (26/26), done.
remote: Compressing objects: 100% (25/25), done.
remote: Total 26 (delta 0), reused 17 (delta 0), pack-reused 0
Receiving objects: 100% (26/26), 16.02 KiB | 8.01 MiB/s, done.
Submodule 'template/presentation' (https://github.com/yamadharma/academic-presentation-markdown-template.git) registered for path 'template/presentation'
Submodule 'template/report' (https://github.com/yamadharma/academic-laboratory-report-template.git) registered for path 'template/report'
Cloning into 'C:/Users/Yana/Desktop/2022-2023/NP/template/presentation'...
remote: Enumerating objects: 71, done.
remote: Counting objects: 100% (71/71), done.
remote: Compressing objects: 100% (49/49), done.
remote: Total 71 (delta 23), reused 68 (delta 20), pack-reused 0
Receiving objects: 100% (71/71), 88.89 KiB | 1.08 MiB/s, done.
Resolving deltas: 100% (23/23), done.
Cloning into 'C:/Users/Yana/Desktop/2022-2023/NP/template/report'...
remote: Enumerating objects: 78, done.
remote: Counting objects: 100% (78/78), done.
remote: Compressing objects: 100% (52/52), done.
remote: Total 78 (delta 31), reused 69 (delta 22), pack-reused 0
Receiving objects: 100% (78/78), 292.27 KiB | 1.95 MiB/s, done.
Resolving deltas: 100% (31/31), done.
Submodule path 'template/presentation': checked out '2703b47423792d472694aaf7555a5626dce51a25'
Submodule path 'template/report': checked out 'df7b2ef80f8def3b9a496f8695277469a1a7842a'

Yana@LAPTOP-BBI48HQD MINGW64 ~/Desktop/2022-2023
$ |
```

Figure 9: Создание репозитория

## Выводы

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Таким образом в процессе лабораторной работы я изучила систему контроля версий git, ее идеологию и принципы.