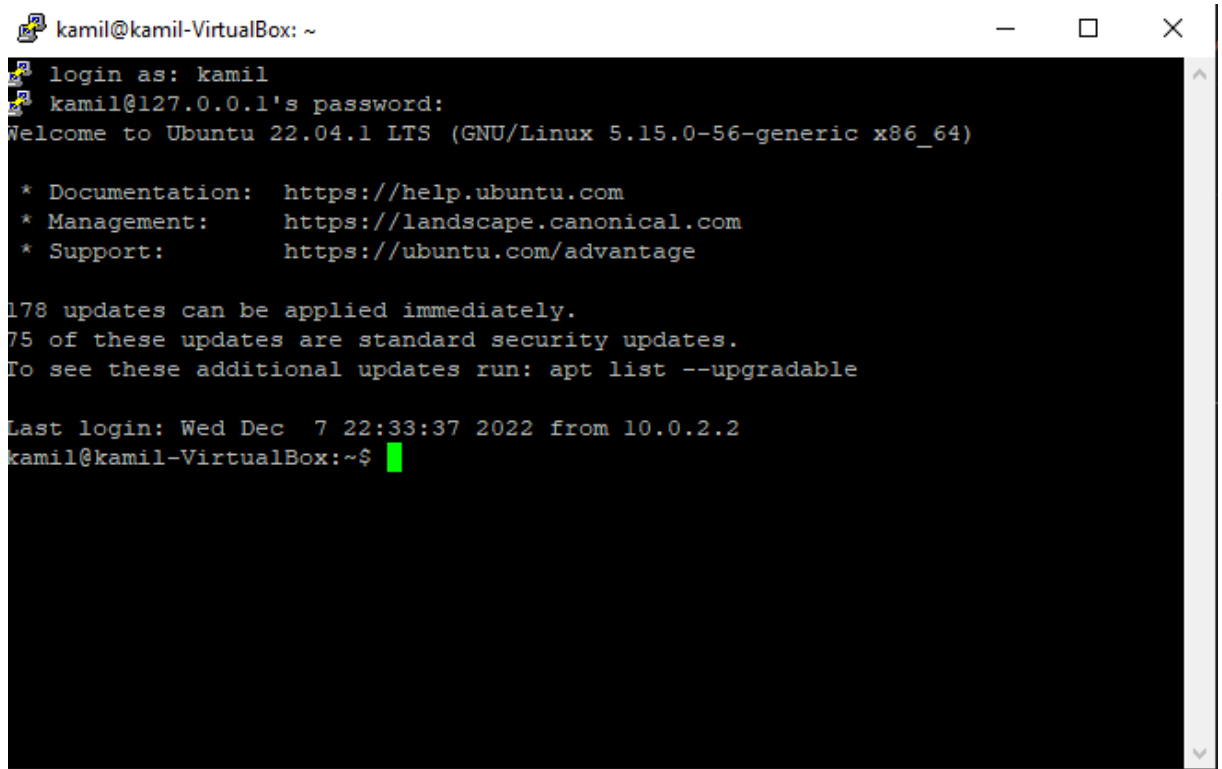# Sprawozdanie z lab 01

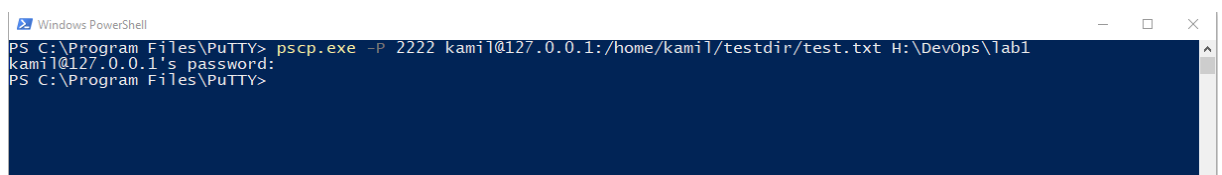## Weryfikacja sprawności środowiska UNIX

1. Sprawdzenie komunikacji pomiędzy hostem a maszyną wirtualną za pomocą protokołu SSH:
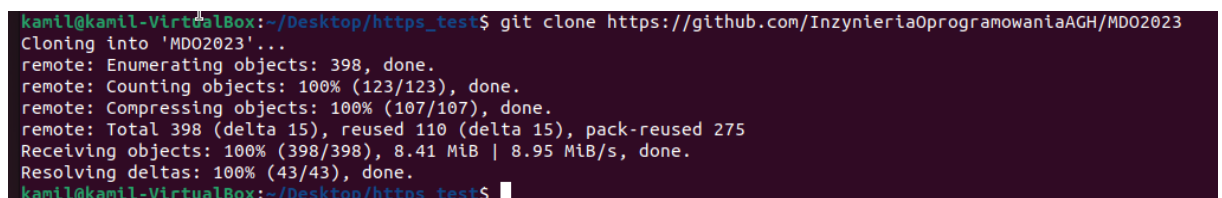


2. Test przesyłu plików:



3. Klonowanie repozytorium za pomocą HTTPS (zapomniałem zrobić screen z instalacji gita):

4. Utworzenie klucza SSH bez hasła:

```
kamil@kamil-VirtualBox:~/Desktop$ ssh-keygen -t ed25519 -C "kamilwolski99@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/kamil/.ssh/id_ed25519):
/home/kamil/.ssh/id_ed25519 already exists.
Overwrite (y/n)? y
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/kamil/.ssh/id_ed25519
Your public key has been saved in /home/kamil/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:IzMWAIBi8QACXfgnsi1MF4qAUgqergMHH5Vh9XR+qFw kamilwolski99@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|@*++*+. . .      |
|Xo*oo. o o .     |
|B+.+ .. . E .    |
|oo+.+ .o o .     |
|.+o= o= S        |
|o.+ .. + .       |
|o  .             |
| .               |
|                 |
+----[SHA256]-----+
```

5. Utworzenie klucza SSH z hasłem:
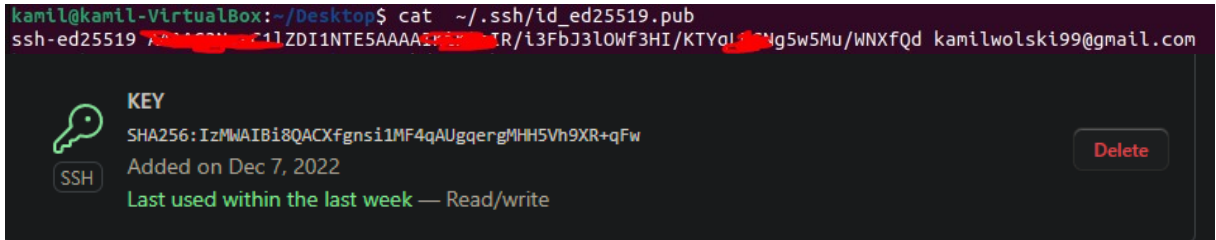
```
kamil@kamil-VirtualBox:~/Desktop$ ssh-keygen -t ed25519 -C "kamilwolski99@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/kamil/.ssh/id_ed25519): Key
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in Key
Your public key has been saved in Key.pub
The key fingerprint is:
SHA256:aCgnWjywy/2cBmb+RndX6jM4dafOQ6pHkXVeta8zdfc kamilwolski99@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|               o|
|            . .o|
|.          o o..|
|                 ..|
VBox_GAs_6.0.24    =|
|.+.0 o . . = o ++|
|o.+.o . . * + * E|
|   .oo.  o *.o o  |
|    +=    .+ +o.  |
+----[SHA256]-----+
```

6. Dodanie klucza do Agenta:

```
kamil@kamil-VirtualBox:~/Desktop$ ssh-add ~/.ssh/id_ed25519
Identity added: /home/kamil/.ssh/id_ed25519 (kamilwolski99@gmail.com)
```

7. Odczytanie klucza oraz dodanie do Githuba:

```
kamil@kamil-VirtualBox:~/Desktop$ cat  ~/.ssh/id_ed25519.pub
ssh-ed25519 ████████████ZDI1NTE5AAAA████████R/i3FbJ3lOWf3HI/KTYo███Ng5w5Mu/WNXfQd kamilwolski99@gmail.com
```

```
     KEY
     SHA256:IzMWAIBi8QACXfgnsi1MF4qAUgqergMHH5Vh9XR+qFw
SSH  Added on Dec 7, 2022                                    Delete
     Last used within the last week — Read/write
```

8. Sklonowanie repozytorium za pomocą SSH:

```
kamil@kamil-VirtualBox:~/Desktop/lab01$ git clone git@github.com:InzynieriaOprogramowaniaAGH/MDO2023.git
Cloning into 'MDO2023'...
remote: Enumerating objects: 394, done.
remote: Counting objects: 100% (119/119), done.
remote: Compressing objects: 100% (104/104), done.
remote: Total 394 (delta 15), reused 106 (delta 15), pack-reused 275
Receiving objects: 100% (394/394), 8.41 MiB | 6.05 MiB/s, done.
Resolving deltas: 100% (43/43), done.
```

9. Przełączenie na gałąź grupy:

```
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023$ git branch -a
* main
  remotes/origin/DR301184
  remotes/origin/DS402810
  remotes/origin/GCL1
  remotes/origin/GCL2
  remotes/origin/GCL3
  remotes/origin/HEAD -> origin/main
  remotes/origin/JH301164
  remotes/origin/ML403713
  remotes/origin/PM260220
  remotes/origin/SG287586
  remotes/origin/SM404665
  remotes/origin/WS307534
  remotes/origin/asz404367
  remotes/origin/main
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023$ git checkout remotes/origin/GCL3
Note: switching to 'remotes/origin/GCL3'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

  git switch -c <new-branch-name>

Or undo this operation with:

  git switch -

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at d9bb0ce GCL
```

10. Utworzenie swojej gałęzi:

```
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023$ git switch -c KW403352
Switched to a new branch 'KW403352'
```

11. Utworzenie własnego katalogu:

```
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023$ cd GCL3
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3$ ls
GCL
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3$ mkdir KW403352
```

12. Przesłanie zmian do remote:

```
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3/KW403352$ git status
On branch KW403352
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    ./

nothing added to commit but untracked files present (use "git add" to track)
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3/KW403352$ git add test.tx
fatal: pathspec 'test.tx' did not match any files
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3/KW403352$ git add test.txt
```

13. Commit:

```
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3/KW403352$ git commit -m "przeslanie pliku testowego"
[KW403352 41039bd] przeslanie pliku testowego
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 GCL3/KW403352/test.txt
kamil@kamil-VirtualBox:~/Desktop/lab01/MD02023/GCL3/KW403352$ git status
On branch KW403352
nothing to commit, working tree clean
```

14. Przerzucenie commitu na własną gałąź oraz wciągnięcie jej do gałęzi grupowej:

```
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023/GCL3/KW403352$ git push origin KW403352
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 429 bytes | 429.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'KW403352' on GitHub by visiting:
remote:      https://github.com/InzynieriaOprogramowaniaAGH/MDO2023/pull/new/KW403352
remote:
To github.com:InzynieriaOprogramowaniaAGH/MDO2023.git
 * [new branch]      KW403352 -> KW403352
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023/GCL3/KW403352$ git checkout remotes/origin/GCL3
Note: switching to 'remotes/origin/GCL3'.

You are in 'detached HEAD' state. You can look around, make experimental
changes and commit them, and you can discard any commits you make in this
state without impacting any branches by switching back to a branch.

If you want to create a new branch to retain commits you create, you may
do so (now or later) by using -c with the switch command. Example:

  git switch -c <new-branch-name>

Or undo this operation with:

  git switch -

Turn off this advice by setting config variable advice.detachedHead to false

HEAD is now at d9bb0ce GCL
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023/GCL3/KW403352$ git merge remotes/origin/KW403352
fatal: Unable to read current working directory: No such file or directory
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023/GCL3/KW403352$ cd ..
kamil@kamil-VirtualBox:~/Desktop/lab01/MDO2023/GCL3$ git merge remotes/origin/KW403352
Updating d9bb0ce..41039bd
Fast-forward
 GCL3/KW403352/test.txt | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 GCL3/KW403352/test.txt
```

## Weryfikacja działania środowiska konteneryzacji

1. Zalogowanie się przez SSH do maszyny z hosta:

```
kamil@kamil-VirtualBox: ~                                             —    □    
 login as: kamil
 kamil@127.0.0.1's password:
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-56-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage


11 updates can be applied immediately.
To see these additional updates run: apt list --upgradable


*** System restart required ***
Last login: Thu Dec  8 00:14:29 2022 from 10.0.2.2
```

2. Instalacja środowiska dockerowego:

```
kamil@kamil-VirtualBox:~$ sudo apt install apt-transport-https ca-certificates c
url software-properties-common
curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add -
sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubun
tu `lsb_release -cs` test"
sudo apt update
sudo apt install docker-ce
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ca-certificates is already the newest version (20211016ubuntu0.22.04.1).
ca-certificates set to manually installed.
The following package was automatically installed and is no longer required:
  systemd-hwe-hwdb
Use 'sudo apt autoremove' to remove it.
The following additional packages will be installed:
  python3-software-properties software-properties-gtk
The following NEW packages will be installed:
  apt-transport-https curl
The following packages will be upgraded:
  python3-software-properties software-properties-common
  software-properties-gtk
3 upgraded, 2 newly installed, 0 to remove and 115 not upgraded.
Need to get 196 kB/304 kB of archives.
After this operation, 622 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
```

3. Test działania środowiska (z definicji):

```
kamil@kamil-VirtualBox:~$ sudo docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
2db29710123e: Pull complete
Digest: sha256:faa03e786c97f07ef34423fccceeec2398ec8a5759259f94d99078f264e9d7af
Status: Downloaded newer image for hello-world:latest

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.
```

4. Test działania (pobranie obrazu Ubuntu):

```
kamil@kamil-VirtualBox:~$ sudo docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
e96e057aae67: Pull complete
Digest: sha256:4b1d0c4a2d2aaf63b371l1f34eb9fa89falbf53dd6e4ca954d47caebca4005c2
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
```

5. Wyświetlenie numeru wersji pobranego obrazu:



6. Utworzenie konta na dockerhub i włączenie 2FA: