

WERYFIKACJA DZIAŁANIA ŚRODOWISKA LINUXOWEGO

- 1) Wykazanie komunikacji ze środowiskiem linuxowym na maszynie wirtualnej

```
login as: piotr
piotr@192.168.0.144's password:
Welcome to Ubuntu 22.04 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

339 updates can be applied immediately.
170 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

piotr@piotr-VirtualBox:~$
```

- 2) Instalacja klienta Git w środowisku linuxowym

```
piotr@piotr-VirtualBox:~/Desktop$ sudo apt-get install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
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:
  git-man liberror-perl
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-email git-gui gitk gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git git-man liberror-perl
0 upgraded, 3 newly installed, 0 to remove and 341 not upgraded.
Need to get 4 112 kB of archives.
After this operation, 20,9 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://pl.archive.ubuntu.com/ubuntu jammy/main amd64 liberror-perl all 0.17029-1 [26,5 kB]
Get:2 http://pl.archive.ubuntu.com/ubuntu jammy-updates/main amd64 git-man all 1:2.34.1-1ubuntu1.5 [953 kB]
Get:3 http://pl.archive.ubuntu.com/ubuntu jammy-updates/main amd64 git amd64 1:2.34.1-1ubuntu1.5 [3 132 kB]
57% [3 git 1 264 kB/3 132 kB 40%]
```

- 3) Klonowanie repozytorium za pomocą HTTPS

```
piotr@piotr-VirtualBox:~/Desktop$ git clone https://github.com/Inzynieria0programowaniaAGH/MDO2023.git
Cloning into 'MDO2023'...
remote: Enumerating objects: 54, done.
remote: Counting objects: 100% (54/54), done.
remote: Compressing objects: 100% (47/47), done.
remote: Total 54 (delta 4), reused 45 (delta 2), pack-reused 0
Receiving objects: 100% (54/54), 664.20 KiB | 4.37 MiB/s, done.
Resolving deltas: 100% (4/4), done.
piotr@piotr-VirtualBox:~/Desktop$
```

4)

- Utworzenie dwóch kluczy SSH - ed25519:

Bez hasła

```
piotr@piotr-VirtualBox:~/Desktop$ ssh-keygen -t ed25519 -C "mazur1993@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/piotr/.ssh/id_ed25519):
Created directory '/home/piotr/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/piotr/.ssh/id_ed25519
Your public key has been saved in /home/piotr/.ssh/id_ed25519.pub
The key fingerprint is:
SHA256:gahx0c5f0c3v0jatlnXR98GCwC+38kaVFY7xVQT5GY8 mazur1993@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|      ..  ..=*|
|    o . o.o. Boo|
| . = . o o.ooo0*|
| * .   + o +E.O|
| . o   S o o . +|
|   . . . o o + |
|   .   + . B . |
|       o + o   |
|       . . .   |
+-----[SHA256]-----+
piotr@piotr-VirtualBox:~/Desktop$
```

Oraz z hasłem

```
piotr@piotr-VirtualBox:~/Desktop$ ssh-keygen -t ed25519 -C "mazur1993@gmail.com"
Generating public/private ed25519 key pair.
Enter file in which to save the key (/home/piotr/.ssh/id_ed25519): PasswordKey
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in PasswordKey
Your public key has been saved in PasswordKey.pub
The key fingerprint is:
SHA256:Urji+i+ENzGPaYzu33Dla+AFNaA3A7zFA3jmDdLhHpU mazur1993@gmail.com
The key's randomart image is:
+--[ED25519 256]--+
|  ++++oo      |
| o.*+E.o      |
| +=+=o..      |
| .oo=         |
| +o*o.S       |
| o.O.o+.      |
| . +oo.o.     |
| ...+.  ..    |
| .ooooo..     |
+-----[SHA256]-----+
piotr@piotr-VirtualBox:~/Desktop$
```

- Konfiguracja klucza SSH, jako metody dostępu

Włączenie agenta SSH

```
piotr@piotr-VirtualBox:~/Desktop$ eval "$(ssh-agent -s)"  
Agent pid 7190
```

Dodanie klucza do agenta SSH

```
piotr@piotr-VirtualBox:~/Desktop$ ssh-add ~/.ssh/id_ed25519  
Identity added: /home/piotr/.ssh/id_ed25519 (mazur1993@gmail.com)
```

Przeczytanie klucza, który został dodany do githuba

```
piotr@piotr-VirtualBox:~/Desktop$ cat ~/.ssh/id_ed25519.pub  
ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIFZN56I4YXhPUav5tL748F+boHxPIzqRWIkWfgio9RtH mazur1993@gmail.com
```

The screenshot shows the GitHub 'SSH keys / Add new' page. On the left is a sidebar with navigation links: Public profile, Account, Appearance, Accessibility, Notifications, Access, Billing and plans, Emails, Password and authentication, Sessions, SSH and GPG keys (highlighted), Organizations, and Moderation. The main content area has a title 'SSH keys / Add new' and a form with the following fields: 'Title' (containing 'SSHKEY'), 'Key type' (set to 'Authentication Key'), and 'Key' (containing the public key 'ssh-ed25519 AAAAC3NzaC1lZDI1NTE5AAAAIFZN56I4YXhPUav5tL748F+boHxPIzqRWIkWfgio9RtH mazur1993@gmail.com'). A green 'Add SSH key' button is at the bottom of the form.

- klonowanie repozytorium za pomocą protokołu SSH

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo$ git clone git@github.com:Inzynieria0programowaniaAGH/MD02023.git  
Cloning into 'MD02023'...  
The authenticity of host 'github.com (140.82.121.4)' can't be established.  
ED25519 key fingerprint is SHA256:+DiY3wvvV6TuJJhbpZisF/zLDA0zPMSvHdkr4UvC0qU.  
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.  
remote: Enumerating objects: 54, done.  
remote: Counting objects: 100% (54/54), done.  
remote: Compressing objects: 100% (47/47), done.  
remote: Total 54 (delta 4), reused 45 (delta 2), pack-reused 0  
Receiving objects: 100% (54/54), 664.20 KiB | 1.54 MiB/s, done.  
Resolving deltas: 100% (4/4), done.
```

5) Przełączenie się na gałąź swojej grupy (GCL1)

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo$ cd MD02023/
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023$ git branch -a
* main
  remotes/origin/GCL1
  remotes/origin/GCL2
  remotes/origin/GCL3
  remotes/origin/HEAD -> origin/main
  remotes/origin/WS307534
  remotes/origin/main
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023$ git checkout remotes/origin/GCL1
Note: switching to 'remotes/origin/GCL1'.

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 96055b2 GCL1
```

6) Utworzenie gałęzi o nazwie inicjałów i numeru indeksu

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023$ git switch -c PM260220
Switched to a new branch 'PM260220'
```

7)

- Utworzenie katalogu składającego się z inicjałów i numeru albumu

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023$ ls
GCL1 README.md READMEs
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023$ cd GCL1/
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ ls
GCL
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ mkdir PM260220
```

- Wysłanie zmian do zdalnego źródła

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1/PM260220$ git status
On branch PM260220
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)
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1/PM260220$ git add lab1.docx
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1/PM260220$ git status
On branch PM260220
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   lab1.docx
```

Zrobienie pierwszego commita

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git commit -m "dodanie sprawozdania po raz pierwszy"
[PM260220 a1b770b] dodanie sprawozdania po raz pierwszy
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 GCL1/PM260220/lab1.docx
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git status
On branch PM260220
nothing to commit, working tree clean
```

Oraz wrzucenie go na githuba na swojego brancha

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git push origin PM260220
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 632.95 KiB | 4.87 MiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'PM260220' on GitHub by visiting:
remote:   https://github.com/Inzynieria0programowaniaAGH/MD02023/pull/new/PM260220
remote:
To github.com:Inzynieria0programowaniaAGH/MD02023.git
 * [new branch]      PM260220 -> PM260220
```

- Wciągnięcie swojej gałęzi do gałęzi grupowej

```
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git branch -a
* PM260220
  main
  remotes/origin/GCL1
  remotes/origin/GCL2
  remotes/origin/GCL3
  remotes/origin/HEAD -> origin/main
  remotes/origin/PM260220
  remotes/origin/WS307534
  remotes/origin/main
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git checkout remotes/origin/GCL1
Note: switching to 'remotes/origin/GCL1'.

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 96055b2 GCL1
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git merge remote/origin/PM260220
merge: remote/origin/PM260220 - not something we can merge
piotr@piotr-VirtualBox:~/Desktop/SSHRepo/MD02023/GCL1$ git merge remotes/origin/PM260220
Updating 96055b2..a1b770b
Fast-forward
 GCL1/PM260220/lab1.docx | Bin 0 -> 707164 bytes
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 GCL1/PM260220/lab1.docx
```

WERYFIKACJA DZIAŁANIA ŚRODOWISKA DOCKEROWEGO

1) Zapewnienie dostępu do maszyny wirtualnej przez PUTTY

```
piotr@piotr-VirtualBox: ~  
login as: piotr  
piotr@192.168.0.144's password:  
Welcome to Ubuntu 22.04 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  
  
339 updates can be applied immediately.  
170 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
  
Last login: Fri Dec  2 19:42:33 2022 from 192.168.0.103  
piotr@piotr-VirtualBox:~$
```

- Instalacja Środowiska dockerowego w systemie Linuxowym

```
piotr@piotr-VirtualBox:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io docker-compose-plugin  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
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:  
  docker-ce-rootless-extras docker-scan-plugin libslirp0 pigz slirp4netns  
Suggested packages:  
  aufs-tools cgroupfs-mount | cgroup-lite  
The following NEW packages will be installed:  
  containerd.io docker-ce docker-ce-cli docker-ce-rootless-extras  
  docker-compose-plugin docker-scan-plugin libslirp0 pigz slirp4netns  
0 upgraded, 9 newly installed, 0 to remove and 329 not upgraded.  
Need to get 111 MB of archives.  
After this operation, 428 MB of additional disk space will be used.  
Do you want to continue? [Y/n]
```

- Wykazanie działania środowiska dockerowego

```
piotr@piotr-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:faa03e786c97f07ef34423fccceec2398ec8a5759259f94d99078f264e9d7af
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.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/
```


- Ściągnięcie obrazu Debiana

```
piotr@piotr-VirtualBox:~$ docker pull debian
Using default tag: latest
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://%2Fvar%2Frun%2Fdocker.sock": dial unix /var/run/docker.sock: connect: permission denied
piotr@piotr-VirtualBox:~$ sudo docker pull debian
Using default tag: latest
latest: Pulling from library/debian
a8ca11554fce: Pull complete
Digest: sha256:3066ef83131c678999ce82e8473e8d017345a30f5573ad3e44f62e5c9c46442b
Status: Downloaded newer image for debian:latest
docker.io/library/debian:latest
```

- Wyświetlenie numeru wersji Debiana

```
piotr@piotr-VirtualBox:~$ sudo docker run debian cat /etc/*release*
PRETTY_NAME="Debian GNU/Linux 11 (bullseye)"
NAME="Debian GNU/Linux"
VERSION_ID="11"
VERSION="11 (bullseye)"
VERSION_CODENAME=bullseye
ID=debian
HOME_URL="https://www.debian.org/"
SUPPORT_URL="https://www.debian.org/support"
BUG_REPORT_URL="https://bugs.debian.org/"
cat: /etc/lsb-release: No such file or directory
```


- Założenie konta na dockerhubie i uruchomienie two-factor authentication



pimazur
User Joined December 4, 2022

General

Security


Default Privacy

Notifications

Convert Account

Deactivate Account

Access Tokens

 Need to sign in from the Docker CLI? Create an access token, then use it in place of your password.

Docker Hub lets you create tokens to authenticate access. Treat personal access tokens as alternatives to your password. [Learn more](#)

New Access Token

Two-Factor Authentication

Two-factor authentication is enabled.

If you want to switch to a new device, disable two-factor authentication, then enable it again using the new device. [Learn more](#)

View Recovery Code

Disable 2FA