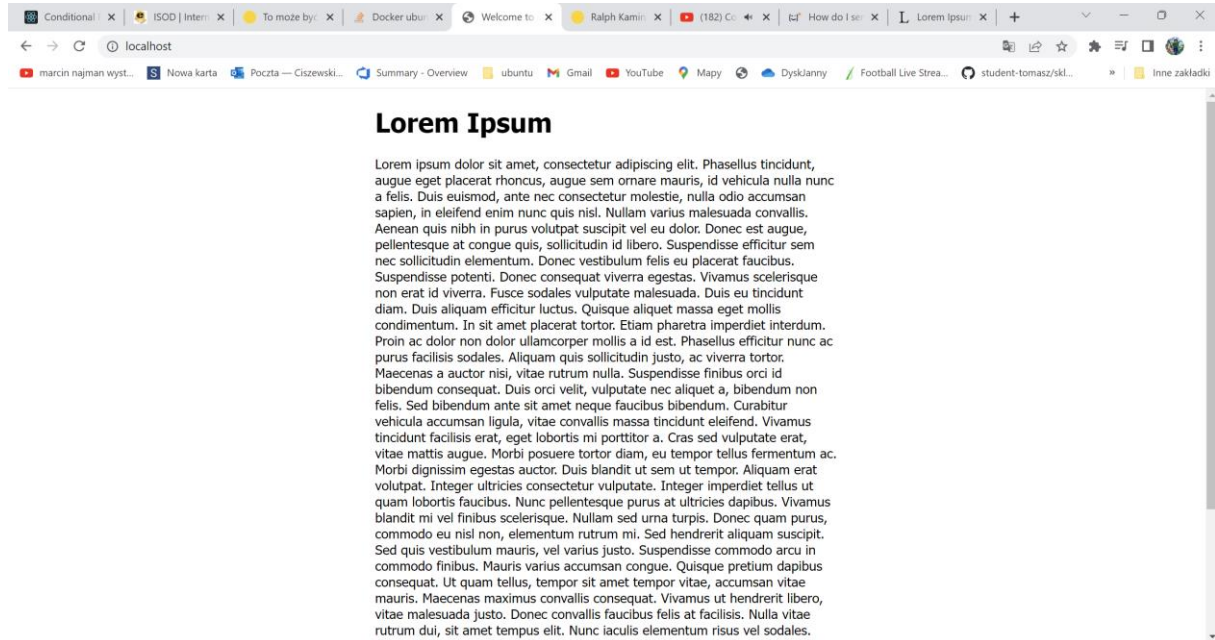
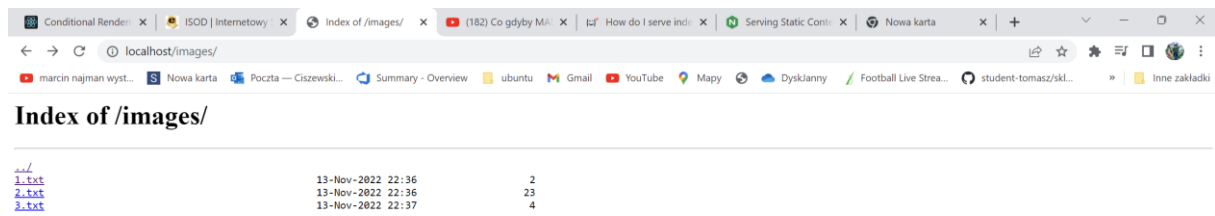


Sprawozdanie ćw 4.

1. Uruchomienie serwera nginx, zmiana strony głównej, stworzenie katalogów:

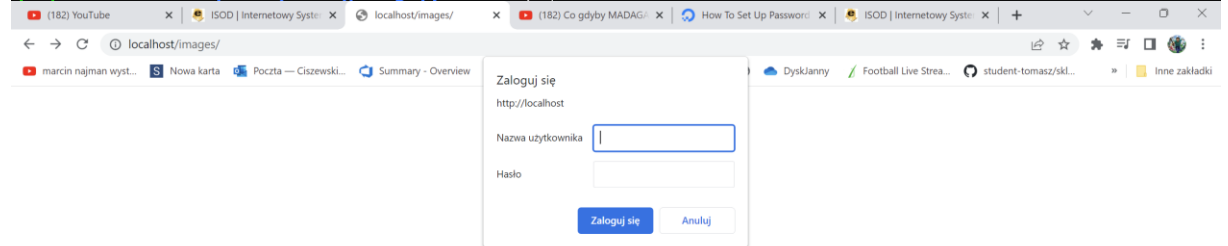


•z włączonym indeksowaniem,

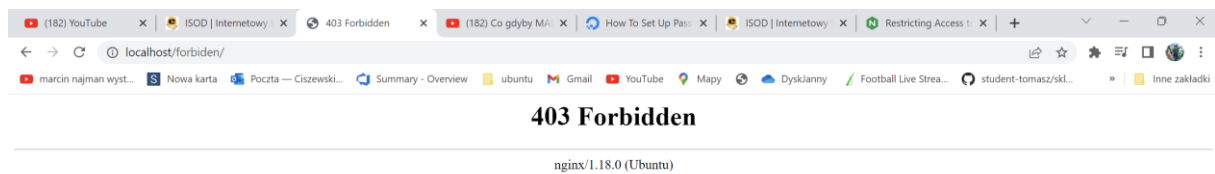
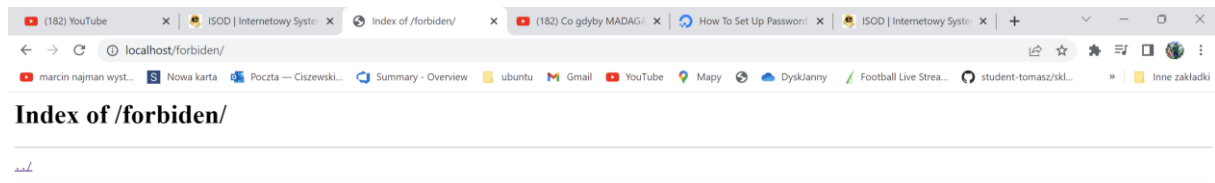


- z ochroną dostępu na hasło (użycie htpasswd)

```
kuba@Harnas:/var/www/html/images$ sudo htpasswd -c /etc/nginx/.htpasswd admin
New password:
Re-type new password:
Adding password for user admin
kuba@Harnas:/var/www/html/images$ cat /etc/nginx/.htpasswd
admin:$apr1$p342pWor$sdSws0ctCi7EMACHcswTD/
```



- należy zabronić dostępu do dowolnego (stworzonego) pliku w którymś z powyższych katalogów dla wszystkich adresów IP.



Użytkownik www-data; permisje „nieuprawniony” jest ok.

```

kuba@Harnas:/etc/php/8.1/fcli %
php_admin_value[memory_limit] = 32M
kuba@Harnas:/etc/php/8.1/fpm/pool.d$ ps aux
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.1 175360 14292 ?        Ss   Nov13   0:02 /lib/systemd/systemd --unit=basic.target
root          43  0.0  0.2 51452 18696 ?        S<s  Nov13   0:00 /lib/systemd/systemd-journald
root          61  0.0  0.0 21616 5476 ?        Ss   Nov13   0:00 /lib/systemd/systemd-udev
systemd+      72  0.0  0.0 18384 7624 ?        Ss   Nov13   0:00 /lib/systemd/systemd-networkd
root         246  0.0  0.0 3512 184 ?         Ss   Nov13   0:00 snapfuse /var/lib/snaps/Lxd_22526.snap /snap/Lxmessage+ 253 0.0 0.0 7580 4
484 ?         Ss   Nov13   0:00 /usr/bin/dbus-daemon --system --address=systemd: --noroot 361 0.0 0.0 16760 7308 ? Ss   Nov13   0:00 /lib/
systemd/systemd-logind
kuba          372  0.0  0.1 18284 9364 ?        Ss   Nov13   0:00 /lib/systemd/systemd --user
kuba          373  0.0  0.0 175508 3224 ?        S   Nov13   0:00 (sd-pam)
root          672  0.2  0.8 2083808 66188 ?       Ssl  Nov13   0:16 /usr/bin/containerd
root          688  0.0  1.5 2129636 117604 ?      Ssl  Nov13   0:02 /usr/bin/dockerd -H fd: --containerd=/run/containerroot 1799 0.0 0.0 10592 4
584 pts/1      S    Nov13   0:00 /bin/login -p -f 'DISPLAY=:0' 'HOSTTYPE=x86_64'
root          1854  0.0  0.2 24828 20164 pts/1    S    Nov13   0:01 -bash
root          3437  0.0  0.1 236424 11128 ?       Ssl  Nov13   0:00 /usr/lib/policykit-1/polkitd --no-debug
root          12507  0.0  0.2 198524 21376 ?       Ss   00:08   0:00 php-fpm: master process /etc/php/8.1/fpm/php-fpm.confwww-data 12508 0.0 0.1 198928 14
068 ?         S    00:08   0:00 php-fpm: pool www
www-data      12509  0.0  0.2 198928 15960 ?       S    00:08   0:00 php-fpm: pool www
root          16457  0.0  0.0 55280 1540 ?       Ss   00:40   0:00 nginx: master process /usr/sbin/nginx -g daemon on; mwww-data 16458 0.0 0.0 56180 6
584 ?         S    00:40   0:00 nginx: worker process
www-data      16459  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16460  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16461  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16462  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16463  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16464  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16465  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16466  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16467  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16468  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16469  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16470  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16471  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16472  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
www-data      16473  0.0  0.0 55888 5284 ?        S    00:40   0:00 nginx: worker process
kuba          16600  0.0  0.0 10620 3272 pts/1    R+   00:44   0:00 ps aux

```

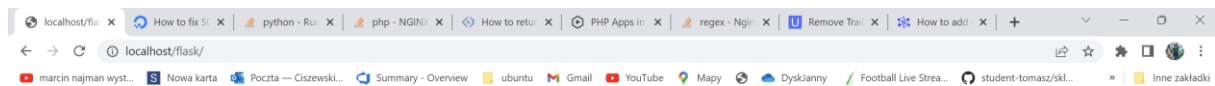
```
kuba@Harnas: /etc/php/8.1/fpm/pool.d$ cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog,kuba
tty:x:5:syslog
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:kuba
fax:x:21:
voice:x:22:
cdrom:x:24:kuba
floppy:x:25:kuba
tape:x:26:
sudo:x:27:kuba
audio:x:29:kuba
dip:x:30:kuba
www-data:x:33:
backup:x:34:
operator:x:37:
list:x:38:
irc:x:39:
src:x:40:
gnats:x:41:
shadow:x:42:
utmp:x:43:
video:x:44:kuba
sasl:x:45:
plugdev:x:46:kuba
staff:x:50:
games:x:60:
```

```
kuba@Harnas: /var$ sudo find . -group www-data
./lib/docker/overlay2/e97d0e7e59ca265e8994ab9a91066053b2774e1a1037e35fe6b9dfa0a725addb/diff/run/php
./lib/docker/overlay2/e97d0e7e59ca265e8994ab9a91066053b2774e1a1037e35fe6b9dfa0a725addb/diff/run/php/php8.1-fpm.sock
./cache/apache2/mod_cache_disk
kuba@Harnas: /var$
```

Takie rozwiązanie wydaje się być bezpieczne. Użytkownik może czytać pliki statyczne php, oraz ma dostęp do folderów php-a.

3. Uruchomienie aplikacji w Pythonie (np. Flask) z użyciem uwsgi i sprawdzenie z jakimi uprawnieniami działa. Należy zaproponować ewentualne poprawki i zweryfikować ich działanie.

Użytkownik zależny od tego jaki wystartował zadanie; najlepiej odpalić na jakimś o ograniczonych uprawnieniach.



Hello There!

```
kuba@Harnas: X kuba@Harnas: X kuba@Harnas: X + v - □ X
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 58/58] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:30 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 59/59] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 60/60] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 61/61] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 62/62] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 63/63] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 64/64] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 65/65] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 66/66] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 67/67] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 68/68] ::1 ( ) {66 vars in 1215 bytes} [Tue Nov 15 00:
23:34 2022] GET /flask => generated 233 bytes in 0 msecs (HTTP/1.1 308) 3 he
aders in 131 bytes (1 switches on core 0)
[pid: 1327|app: 0|req: 69/69] ::1 ( ) {66 vars in 1217 bytes} [Tue Nov 15 00:
26:50 2022] GET /flask/ => generated 40 bytes in 0 msecs (HTTP/1.1 200) 2 he
aders in 79 bytes (1 switches on core 0)
|
```

Default:

```
kuba@Harnas:/etc/nginx/sites-available$ cat default
```

```
upstream flask{
    server 127.0.0.1:29000;
}
server {
    listen 80 default_server;
    listen [::]:80 default_server;
    rewrite ^([.]*|^[^/])$ $1/ permanent;

    root /var/www/html;

    index index.html index.htm index.nginx-debian.html;

    server_name _;

    location / {
        include uwsgi_params;
        uwsgi_pass unix:/opt/flask/python/myproject.sock;
    }

    location /images/{
        autoindex on;
        auth_basic "Restricted Content";
        auth_basic_user_file /etc/nginx/.htpasswd;
    }
    location /forbidden/ {
        autoindex on;
```



```
        deny all;
    }
    location /flask {

        rewrite /flask/(.+) /$1 break;
        include uwsgi_params;
        uwsgi_pass flask;


        uwsgi_param Host $host;
        uwsgi_param X-Real-IP $remote_addr;
        uwsgi_param X-Forwarded-For $proxy_add_x_forwarded_for;
        uwsgi_param X-Forwarded_Proto $http_x_forwarded_proto;
    }


    location ~ \.php$ {
        include snippets/fastcgi-php.conf;

        fastcgi_pass unix:/var/run/php/php8.1-fpm.sock;

    }

}
```

Skrypt startowy uwsgi. Flask:

```
uwsgi --socket 127.0.0.1:29000 -w myproject:app
```

```
kuba@Harnas:/opt/flask/python$ cat myproject.py
```

```
from flask import Flask
```

```
app = Flask(__name__)
```

```
print("start")
```

```
@app.route("/")
```

```
def main():
```

```
    return "<h1>flask main</h1>"
```

```
@app.route("/flask/")
```

```
def hello():
```

```
    return "<h1 style='color:blue'>Hello There!</h1>"
```

```
if __name__ == "__main__":
```

```
    app.run(host='0.0.0.0')
```