

Отчет по Лабораторной работе 5

Комольцевой Дианы Группа 3

Код python

```
import psycopg2
import redis
import json
import random
import string
import time

def create_token(length=16):
    alphabet = string.printable
    token = "".join([*map(lambda _:
random.choice(alphabet),range(length))])
    return token

psql_data = []

with open("C:/Users/andre/OneDrive/Рабочий стол/Схемы БД/лаба
3/conf2.json", "r") as file:
    psql_data = json.load(file)

redis_host = '169.254.10.60'
redis_port = 6379
redis_db = 0

connection = psycopg2.connect(**psql_data['server'][0])

cursor = connection.cursor()

r_connection = redis.StrictRedis(host=redis_host,
                                port= redis_port,
                                username = 'client',
                                password = '1234',
                                charset='utf-8',
                                decode_responses=True,)

def signup(email: str, password: str):
    cursor.execute('SELECT * from personal_data where email=%s',
(email,))
    if cursor.fetchone():
        raise Exception('Email is already registered')
    cursor.execute('insert into personal_data (email, password)
values (%s, %s)', (email, password))
    connection.commit()

def signin(email: str, password: str):
    cursor.execute("select * from personal_data where email=%s
and password= %s", (email, password))
```

```

    auth_user = cursor.fetchone()
    if not auth_user:
        raise Exception('Invalid Email or Password')

    token = create_token()
    timestamp = time.time()
    r_connection.hmset(token, {'email': email, 'timestamp':
timestamp})
    return token

def verify_token(token)-> bool:
    return r_connection.exists(token)

def signout(token: str):
    if not r_connection.exists(token):
        raise Exception('invalid token')
    r_connection.delete(token)

def add_account_data(token: str, **kwargs) -> None:
    if not r_connection.exists(token):
        raise Exception('invalid token')
    r_connection.hmset(token, kwargs)

def get_account_data(token: str) -> str:
    if not r_connection.exists(token):
        raise Exception('invalid token')
    data = r_connection.hgetall(token)
    data.pop('password', None)
    return json.dumps(data)

#signup('alel', '1234')

a = signin('alal', '1234')

print(verify_token(a))

add_account_data(a, name = 'Alexey', sex = 'male', age = 15)

print(get_account_data(a))

```

SQL запрос

```

create table if not exists personal_data(
    id serial primary key,
    email text,
    password text
);

```

Примеры выполнения функций

Signup function

Exception ввел существующий email

External Libraries

Scratches and Console

72

73

signup(email: 'alal', password: 1234)

Run

Server

Traceback (most recent call last):

File "D:\Projects\ЦК\Server\Server.py", line 73, in <module>

signup('alal',1234)

File "D:\Projects\ЦК\Server\Server.py", line 37, in signup

raise Exception('Email is already registered')

Exception: Email is already registered

Server.py

External Libraries

Scratches and Console

72

73

74

signup(email: 'alvl', password: 12345)

Run

Server

D:\Projects\ЦК\Server\.venv\Scripts\python.exe D:\Projects\ЦК\Server\Server.py

Process finished with exit code 0

id	email	password	
1	alal	1234	
2	alel	1234	
3	alvl	12345	

Signin function

Exception ввел несуществующий email

```

Server.py
External Libraries
Scratches and Console

Server
D:\Projects\UK\Server\.venv\Scripts\python.exe D:\Projects\UK\Server\Server.py
Traceback (most recent call last):
  File "D:\Projects\UK\Server\Server.py", line 73, in <module>
    signin('alvla','12345')
  File "D:\Projects\UK\Server\Server.py", line 45, in signin
    raise Exception('Invalid Email or Password')
Exception: Invalid Email or Password

```

```

a = signin( email: 'alvl', password: '12345')

print(a)

print(r_connection.hgetall(a))

```

Verify token

```

Scripts
.gitignore
pyvenv.cfg
Server.py
External Libraries
Scratches and Console

Run
Server
D:\Projects\UK\Server\.venv\Scripts\python.exe D:\Projects\UK\Server\Server.p
D:\Projects\UK\Server\Server.py:49: DeprecationWarning: Redis.hmset() is depr
    r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
jZz
1

```

The screenshot shows a code editor with a file explorer on the left. The file explorer contains a folder named 'Scripts' and files named '.gitignore', 'pyenv.cfg', and 'Server.py'. The 'Server.py' file is open in the editor. The code in the editor is as follows:

```

71
72
73 a = signin(email: 'alvl', password: '12345')
74
75 print(a)
76 print(verify_token(a+'s'))
77
78

```

Below the code editor is a 'Run' panel. It shows the command used to run the script: `D:\Projects\ЦК\Server\.venv\Scripts\python.exe D:\Projects\ЦК\Server\Server.py`. The output of the script is displayed below the command:

```

D:\Projects\ЦК\Server\Server.py:49: DeprecationWarning: Redis.hmset() is deprecated
r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
}%\%]kAugm`}\MJ:
0

```

Signout

The screenshot shows a code editor with a file explorer on the left. The file explorer contains a folder named 'Scripts' and files named '.gitignore', 'pyenv.cfg', and 'Server.py'. The 'Server.py' file is open in the editor. The code in the editor is as follows:

```

73 a = signin(email: 'alvl', password: '12345')
74
75 signout(a)
76 print(verify_token(a))
77
78

```

Below the code editor is a 'Run' panel. It shows the command used to run the script: `D:\Projects\ЦК\Server\.venv\Scripts\python.exe D:\Projects\ЦК\Server\Server.py`. The output of the script is displayed below the command:

```

D:\Projects\ЦК\Server\Server.py:49: DeprecationWarning: Redis.hmset() is deprecated
r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
0

```

Exception испортил токен, чтобы проверить как реагирует программа на

несуществующий токен

```

gitignore 72
yvenv.cfg 73 a = signin(email: 'alvl', password: '12345')
er.py      74
l Libraries 75 signout(a+'s')
es and Consc 76
77
server x
D:\Projects\QK\Server\.venv\Scripts\python.exe D:\Projects\QK\Server\Server.py
D:\Projects\QK\Server\Server.py:49: DeprecationWarning: Redis.hmset() is deprecated. Use Redis.hset() instead.
r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
ack (most recent call last):
  "D:\Projects\QK\Server\Server.py", line 75, in <module>
    signout(a+'s')
  "D:\Projects\QK\Server\Server.py", line 57, in signout
    raise Exception('invalid token')
Exception: invalid token

```

add_account_data/get_account_data

```

> External Libraries 72
Scratches and Consc 73 a = signin(email: 'alvl', password: '12345')
74
75 add_account_data(a, age=18, sex='male', birthday='01/01/1990')
76 print(get_account_data(a))
77
78
Run Server x
D:\Projects\QK\Server\.venv\Scripts\python.exe D:\Projects\QK\Server\Server.py
D:\Projects\QK\Server\Server.py:49: DeprecationWarning: Redis.hmset() is deprecated. Use Redis.hset() instead.
r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
{"email": "alvl", "timestamp": "1710691512.4130158", "age": "18", "sex": "male", "birthday": "01/01/1990"}

```

Exception

```

74
75 add_account_data(a+'s', age = 18, sex = 'male', birthday = '01/01/1990')
76 print(get_account_data(a))
77
78

```

Server x

```

:
D:\Projects\UK\Server\.venv\Scripts\python.exe D:\Projects\UK\Server\Server.py
D:\Projects\UK\Server\Server.py:49: DeprecationWarning: Redis.hmset() is deprecated. Use Redis.hset() inst
r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
Traceback (most recent call last):
  File "D:\Projects\UK\Server\Server.py", line 75, in <module>
    add_account_data(a+'s', age = 18, sex = 'male', birthday = '01/01/1990')
  File "D:\Projects\UK\Server\Server.py", line 62, in add_account_data
    raise Exception('invalid token')
Exception: invalid token

```

```

75 add_account_data(a, age = 18, sex = 'male', birthday = '01/01/1990')
76 print(get_account_data(a+'s'))
77
78

```

Server x

```

:
r_connection.hmset(token, {'email': email, 'timestamp': timestamp})
D:\Projects\UK\Server\Server.py:63: DeprecationWarning: Redis.hmset() is deprecated. Use Redis.h
r_connection.hmset(token, kwargs)
Traceback (most recent call last):
  File "D:\Projects\UK\Server\Server.py", line 76, in <module>
    print(get_account_data(a+'s'))
    ^^^^^^^^^^^^^^^^^^^^^^^^^^^^^
  File "D:\Projects\UK\Server\Server.py", line 67, in get_account_data
    raise Exception('invalid token')
Exception: invalid token

```