

Redis Queue Challenge

Size verilen json dosyalarındaki (users dizisinde bulabilirsiniz) user bilgilerini Http ile Json kullanarak, sunucuya taşınması sağlandı.. Sunucuda kuyruklama (redis queue) kullanılarak, postgresql veritabanına kaydedilmeleri sağlanmaktadır. Multiple worker kullanarak işlem süresinin azalması sağlanabilmektedir.

Tek bir dosya yollamak:

```
curl -X POST -H "Content-Type: application/json" -d @users.json http://localhost:5000/users
```

Tüm veriyi yollamak:

for i in {1..10}; do

```
curl -X POST -H "Content-Type: application/json" --data @users/$i.json
```

http://localhost:5000/process_users

done

Table oluşturmak:

```
CREATE TABLE users (
```

```
id INTEGER,
```

```
first_name TEXT,
```

```
last_name TEXT,
```

```
email TEXT,
```

```
gender TEXT,
```

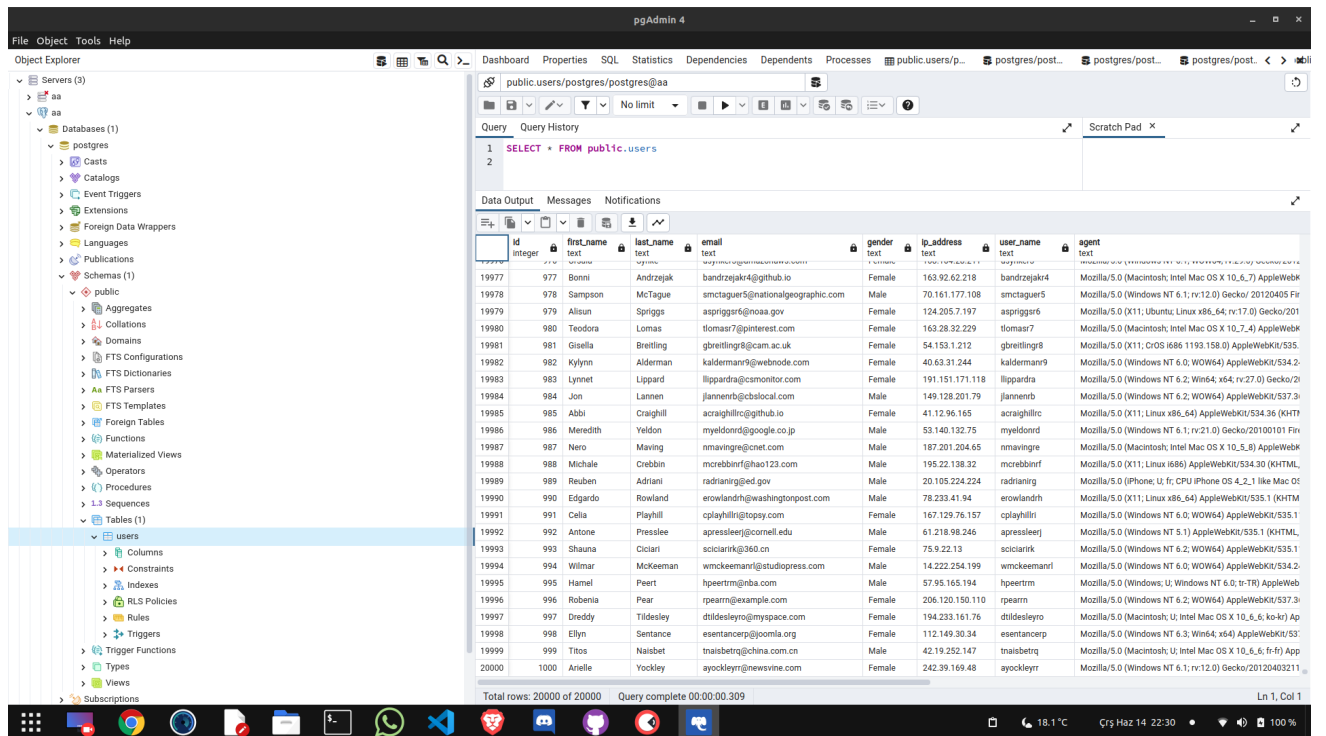
```
ip_address TEXT,
```

```
user_name TEXT,
```

```
agent TEXT,
```

```
country TEXT
```

```
);
```



id	first_name	last_name	email	gender	ip_address	user_name	agent
19977	Bonni	Andzejak	bandrzejak4@github.io	Female	163.92.62.218	bandrzejak4	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_6_7) AppleWebKit/...
19978	Sampson	McTague	smctague5@nationalgeographic.com	Male	70.161.177.108	smctague5	Mozilla/5.0 (Windows NT 6.1; rv:12.0) Gecko/ 20120405 Firefox/...
19979	Alisun	Spriggs	aspriggs6@noaa.gov	Female	124.205.7.197	aspriggs6	Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:17.0) Gecko/201...
19980	Teodora	Lomas	tlomas7@pinterest.com	Female	163.28.32.229	tlomas7	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_7_4) AppleWebKit/...
19981	Gisella	Bretling	gbretling8@cam.ac.uk	Female	54.153.1.212	gbretling8	Mozilla/5.0 (X11; CrOS 686 1193.158.0) AppleWebKit/535...
19982	Kylyn	Alderman	kalderman9@webnode.com	Female	40.63.31.244	kalderman9	Mozilla/5.0 (Windows NT 6.0; WOW64) AppleWebKit/534.2...
19983	Lynnet	Lippard	llippard@csmonitor.com	Female	191.151.171.118	llippard	Mozilla/5.0 (Windows NT 6.0; Win64; x64; rv:27.0) Gecko/2...
19984	Jon	Lannen	jlananb@cbslocal.com	Male	149.128.201.79	jlananb	Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.3...
19985	Abbi	Craighill	acraighillc@github.io	Female	41.12.96.165	acraighillc	Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/534.36 (KHTML...
19986	Meredith	Yeldon	myeldond@google.co.jp	Male	53.140.132.75	myeldond	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_5_8) AppleWebKit/...
19987	Nero	Maving	nmavingre@gnet.com	Male	187.201.204.65	nmavingre	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_5_8) AppleWebKit/...
19988	Michale	Crebbin	mcrebbinrf@hao123.com	Male	195.22.138.32	mcrebbinrf	Mozilla/5.0 (X11; Linux i686) AppleWebKit/534.30 (KHTML...
19989	Reuben	Adriani	radrianing@ed.gov	Male	20.105.224.224	radrianing	Mozilla/5.0 (iPhone; U; fr; CPU iPhone OS 4_2_1 like Mac OS...
19990	Edgardo	Rowlandh	erowlandh@washingtonpost.com	Male	78.233.41.94	erowlandh	Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/535.1 (KHTML...
19991	Celia	Playhill	cplayhill@topsy.com	Female	167.129.76.157	cplayhill	Mozilla/5.0 (Windows NT 6.0; WOW64) AppleWebKit/535.1 (KHTML...
19992	Antone	Presslee	apressleej@cornell.edu	Male	61.218.98.246	apressleej	Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/535.1 (KHTML...
19993	Shauna	Ciclaric	sciclarick@360.cn	Female	75.9.22.13	sciclarick	Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/535.1 (KHTML...
19994	Wilmar	McKeeman	wmckeemamf@studiopress.com	Male	14.222.254.199	wmckeemamf	Mozilla/5.0 (Windows NT 6.0; WOW64) AppleWebKit/534.2...
19995	Hamel	Peeft	hpeeftm@nba.com	Male	57.95.165.194	hpeeftm	Mozilla/5.0 (Windows; U; Windows NT 6.0; it-IT) AppleWebKit/...
19996	Robenia	Pear	rpear@esample.com	Female	206.120.150.110	rpear	Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.3...
19997	Dreddy	Tildesley	dtildesleyro@myspace.com	Female	194.233.161.76	dtildesleyro	Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10_6_6; ko-kr) App...
19998	Elynn	Sentance	esentancerp@icommia.org	Female	112.149.30.34	esentancerp	Mozilla/5.0 (Windows NT 6.3; Win64; x64) AppleWebKit/53...
19999	Titos	Naisbet	tnaisbetq@china.com.cn	Male	42.19.252.147	tnaisbetq	Mozilla/5.0 (Macintosh; U; Intel Mac OS X 10_6_6; fr-fr) App...
20000	Anelle	Yockley	ayockleyr@newsvine.com	Female	242.39.169.48	ayockleyr	Mozilla/5.0 (Windows NT 6.1; rv:12.0) Gecko/20120403211...

Adminer ile db işlemleri takibi

```

app.py > ...
1  from flask import Flask, request
2  import json
3  from redis import Redis
4
5  app = Flask(__name__)
6  redis = Redis(host='redis', port=6379)
7
8  @app.route('/users', methods=['POST'])
9  def receive_user_data():
10     user_data = request.get_json()
11     json_data = json.dumps(user_data)
12     redis.rpush('user_queue', json_data.encode())
13     return 'User data received and added to the queue.'
14
15 if __name__ == '__main__':
16     app.run(host='0.0.0.0', port=5000)
17

```

Json datayı redise geçirecek servis

```

redis = Redis(host='redis', port=6379)

def process_user_data(user):
    try:
        conn = psycopg2.connect(
            host="db",
            port=5432,
            database="postgres",
            user="postgres",
            password="postgres"
        )
        cursor = conn.cursor()

        cursor.execute("""
            INSERT INTO users (id, first_name, last_name, email, gender, ip_address, user_name, agent, country)
            VALUES (%s, %s, %s, %s, %s, %s, %s, %s, %s)
            """, (
                user['id'],
                user['first_name'],
                user['last_name'],
                user['email'],
                user['gender'],
                user['ip_address'],
                user['user_name'],
                user['agent'],
                user['country']
            ))

        conn.commit()
        cursor.close()
        conn.close()
    except psycopg2.Error as e:
        print("Error inserting user:", e)

```

Worker'ların db işlemlerini gerçekleştirmesi

```

def process_user_queue():
    while True:
        _, user_data = redis.blpop('user_queue')
        user_list = json.loads(user_data)
        for user in user_list:
            process_user_data(user)

if __name__ == '__main__':
    process_user_queue()

```

Redis dinleme ve işlem yapma kodu

```

10
17     worker:
18         build:
19             context: .
20             dockerfile: Dockerfile-worker
21         depends_on:
22             - db
23             - redis
24         volumes:
25             - ./app-data:/app/data15
26         networks:
27             - omer-network
28     scale: 4

```

Çoklu worker oluşturmak

```

omer@ubuntulaptop:~/Documents/GitHub/flask-redis-docker-compose-project$ sudo docker-compose up
Starting flask-redis-docker-compose-project_redis_1 ... done
Starting flask-redis-docker-compose-project_db_1 ... done
Starting flask-redis-docker-compose-project_app_1 ... done
Starting flask-redis-docker-compose-project_worker_1 ... done
Starting flask-redis-docker-compose-project_worker_2 ... done
Starting flask-redis-docker-compose-project_worker_3 ... done
Starting flask-redis-docker-compose-project_worker_4 ... done
Starting flask-redis-docker-compose-project_pgadmin_1 ... done

```

Worker sayısı artırılarak işlem süresi sistem performansı dahilinde kılacaktır.

ÖMER FARUK EREN