

CloudSEK Task Documentation

Introduction:

Aim: Build random number generator API and add a rate limiting service on top of it.

Ambiguities and Assumptions Made:

(Note: If any of the assumptions are wrong and the code needs to be modified, please let me know so that I can modify it appropriately)

1. **Ambiguity:** In the given problem statement, there existed mentions of both, a 5 requests/minute limit as well as “number of requests per hour”.

Assumption: The solution assumes that both rate limits exist and has been made while taking into consideration both: a short “burst” limit (5/min) as well as a per hour limit (assumed as 100/hour)

2. **Ambiguity:** Was not clear if the rate limit had to be built from scratch or if an existing library can be used.

Assumption: Burst limit has been executed by using Django-ratelimit package and hour limit has been built from scratch

3. **Ambiguity:** Authentication methodology unclear

Assumption: Authentication method is a simple token based authentication. If required, OAuth or OAuth 2.0 can be implemented as well.

Endpoints and sample requests

Endpoint	Method	Headers	Body	Example
/register/	POST	N/A	username:<value>, password:<value>	https://cloudsekrandomnumber.herokuapp.com/register/
/authenticate/	POST	N/A	username:<value>, password:<value>	https://cloudsekrandomnumber.herokuapp.com/authenticate/
/call_api/	GET	Authorization: “token <tokenvalue> ”	N/A	https://cloudsekrandomnumber.herokuapp.com/call_api/
/see_remaining_limits/	GET	Authorization: “token <tokenvalue> ”	N/A	https://cloudsekrandomnumber.herokuapp.com/see_remaining_limits/

1. Registration:


POST ▼ <https://cloudsekrandomnumber.herokuapp.com/register/>

Params Authorization Headers (10) **Body** ● Pre-request Script Tests Settings

☐ none ☒ form-data ☐ x-www-form-urlencoded ☐ raw ☐ binary ☐ GraphQL

<input type="checkbox"/>	document	Select Files
<input type="checkbox"/>	case_id	1005
<input type="checkbox"/>	user_id	Test
<input checked="" type="checkbox"/>	username	test2
<input checked="" type="checkbox"/>	password	test@123
	Key	Value

Body Cookies Headers (10) Test Results

Pretty Raw Preview Visualize HTML ▼ 

```
1 Registration Successful for user test2
```

2. Authentication:


POST ▼ <https://cloudsekrandomnumber.herokuapp.com/authenticate/>

Params Authorization Headers (9) **Body** ● Pre-request Script Tests Settings

☐ none ☒ form-data ☐ x-www-form-urlencoded ☐ raw ☐ binary ☐ GraphQL

KEY	VALUE
<input checked="" type="checkbox"/> username	test2
<input checked="" type="checkbox"/> password	test@123
Key	Value

Body Cookies Headers (9) Test Results

Pretty Raw Preview Visualize JSON ▼ 

```
1 {
2   "token": "17c8e0308736184b2768ba647d1d8ba6c46a2255"
3 }
```

3. Call_api:

GET https://cloudsekrandomnumber.herokuapp.com/call_api/

Params Authorization **Headers (8)** Body Pre-request Script Tests Settings

<input checked="" type="checkbox"/>	Postman-Token	<calciuated when request is sent>
<input checked="" type="checkbox"/>	Host	<calculated when request is sent>
<input checked="" type="checkbox"/>	User-Agent	PostmanRuntime/7.26.2
<input checked="" type="checkbox"/>	Accept	*/*
<input checked="" type="checkbox"/>	Accept-Encoding	gzip, deflate, br
<input checked="" type="checkbox"/>	Connection	keep-alive
<input checked="" type="checkbox"/>	Authorization	token 17c8e0308736184b2768ba647d1d8ba6c46a2255
	Key	Value

Body Cookies Headers (10) Test Results

Pretty Raw Preview Visualize HTML

```
1 243083560910977982
```

4. See_remaining_limits:

GET https://cloudsekrandomnumber.herokuapp.com/see_remaining_limits/

Params Authorization **Headers (8)** Body Pre-request Script Tests Settings

<input checked="" type="checkbox"/>	Postman-Token	<calculated when request is sent>
<input checked="" type="checkbox"/>	Host	<calculated when request is sent>
<input checked="" type="checkbox"/>	User-Agent	PostmanRuntime/7.26.2
<input checked="" type="checkbox"/>	Accept	*/*
<input checked="" type="checkbox"/>	Accept-Encoding	gzip, deflate, br
<input checked="" type="checkbox"/>	Connection	keep-alive
<input checked="" type="checkbox"/>	Authorization	token 17c8e0308736184b2768ba647d1d8ba6c46a2255
	Key	Value

Body Cookies Headers (10) Test Results

Pretty Raw Preview Visualize JSON

```
1 {
2   "Remaining_Requests": 79
3 }
```

Hosting Information:

Django Rate Limiter (Hosted on Heroku):

<https://cloudsekrandomnumber.herokuapp.com>

FastAPI Random Number Generator (Hosted on Heroku):

(Note: This is accessed directly by the Django api and this URL isn't publicly visible)

<https://cloudsekfastapi.herokuapp.com/91ba2c3f3dd5241218d2f24a3b1bfe4ce84923cb>

Project Files (Github Public Repo):

<https://github.com/vibhusiva98/vibcloudsek/tree/master>