How to send API request with RabbitMQ

Description

In this article, you will learn how to send API requests using RabbitMQ.

A unique parameter **request_id** is sent to identify requests.

Queues

When working with API in RabbitMQ, two queues are used:

1. **api_req** - queue for incoming requests;
2. **api_resp** - the queue that receives responses to requests (only if **request_id** is specified).

Structure of the sent JSON message

Parameter	Type	Example	Required	Required
request_id	string	"abcd1234"	Yes, if the response to the request is necessary	Request ID
request	string	api/v1.1/campaigns/triggers/import_and_start_batch	Yes	API request path

body	JSON object	<pre>"body": {
		"data":
		{
		"_fname": "Fname1",
		"_lname": "Lname1",
		"email": "profile1@example.com"
		},
		"email": "profile1@example.com",
		"db_id": 1,
		"detect_geo": true,
		"token": "abcdefghijklmnopqrstuvwxyzABCD"
		}</pre>
			Yes	API request body

Structure of the received JSON message

Parameter	Type	Example	Required

body	JSON object	<pre>"body":
		{
		"error":0,
		"error_text":"Successful operation",
		"profile_id":"60f039e830b8bcb28392f8eb"
		}</pre>
			Request response body

request_id	string	"abcd1234"	Request ID

How to send API requests in Go

You can send an API request using a script that calls RabbitMQ:

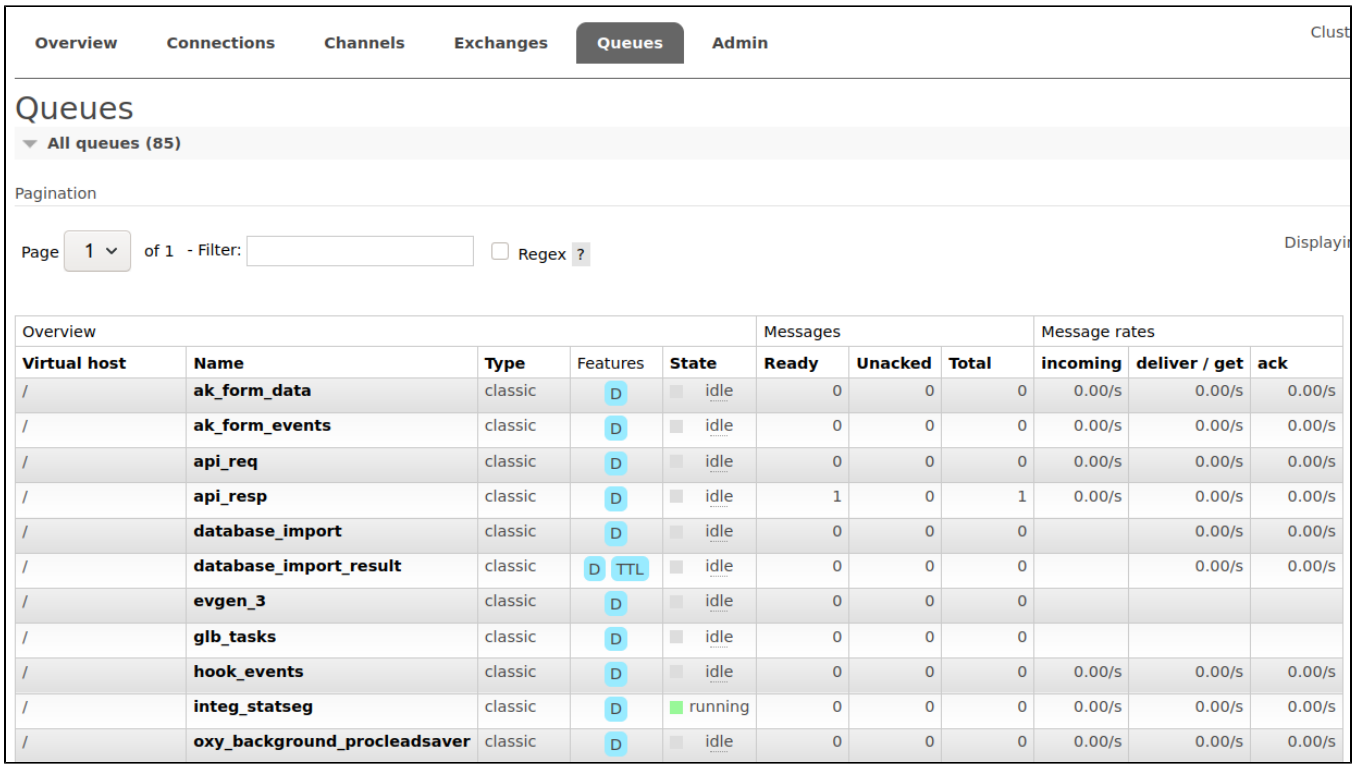
- Write and execute a script

Example

```
package main

import (
        "encoding/json"
        "log"

        "github.com/streadway/amqp"
)

const accID = 1
const resourceID = 3
const dbID = 23
const msgID = 17
const segmentID = 85
const amountOfPushMsgs = 1
const emailDomain = "example.com"

const req = `{
        "account_id": 1,
        "request_id": "db1894e4-1a2c-4021-8233-9cca0b96b79e",
        "request": "api/v1.1/campaigns/triggers/import_and_start_batch",
    "body": {
                "token": "abcdefghijklmnopqrstuvwxyzABC"
                "format": "json",
                "trigger_id": 240,
                "skip_triggers": false,
                "detect_geo": true,
                "matching": "custom",
                "field_name":"CustomF",

                "custom_data":{
                        "some":"some0"
                },
                "content":{
                        "someCont":"someCont0"
                },
                "data": [
                        {
                                "data":{
                                        "_fname":"NUMBER13",
                                        "_lname":"Lambert",
                                        "phones":"790000000013",
                                        "email": "profile1@example.com",
                                        "CustomF":18
                                },
                                "custom_data":{
                                        "some":"some1"
                                },
                                "content":{
                                        "someCont":"someCont1"
                                }
                        },
                        {
                                "data":{
                                        "_fname":"NUMBER14",
                                        "_lname":"Hard",
                                        "phones":"790000000014",
                                        "email": "profile2@example.com",
                                        "CustomF":14
```

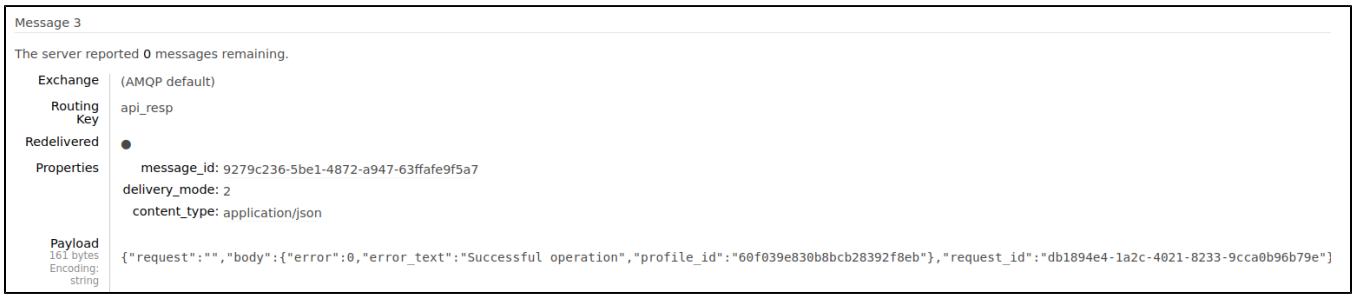
```
                                }
                        }
                ]
        }
}`

func failOnError(err error, msg string) {
        if err != nil {
                log.Fatalf("%s: %s", msg, err)
        }
}

func main() {
        var err error

        var conn *amqp.Connection
        conn, err = amqp.Dial("amqp://example:abcdefghijklmnopqrstuvwxyz127.0.0.1:5672/")
        failOnError(err, "Failed to connect to RabbitMQ")
        defer conn.Close()

        var ch *amqp.Channel
        ch, err = conn.Channel()
        failOnError(err, "Failed to open RabbitMQ channel")
        defer ch.Close()

        qUeueImport, err := ch.QueueDeclare(
                "api_req", // name
                true,      // durable
                false,     // delete when unused
                false,     // exclusive
                false,     // no-wait
                nil,       // arguments
        )
        failOnError(err, "Failed to declare RabbitMQ queue")

        for i := 0; i < amountOfPushMsgs; i++ {
                var bodyMap = make(map[string]interface{})
                err = json.Unmarshal([]byte(req), &bodyMap)
                failOnError(err, "Failed json.Unmarshal to bodyMap")

                for k, v := range bodyMap {
                        log.Println(k, v)
                }

                body, err := json.Marshal(bodyMap)
                failOnError(err, "Failed to json.Marshal bodyMap")

                err = ch.Publish(
                        "",               // exchange
                        qUeueImport.Name, // routing key
                        false,            // mandatory
                        false,            // immediate
                        amqp.Publishing{
                                ContentType: "text/plain",
                                Body:        []byte(body),
                        })
                failOnError(err, "Failed to publish a message")
        }

        log.Printf("[v] Sended %d requests to %s", amountOfPushMsgs, qUeueImport.Name)
}
```

- After executing the script, go to RabbitMQ → **Queues**



Overview					Messages			Message rates		
Virtual host	**Name**	**Type**	Features	**State**	**Ready**	**Unacked**	**Total**	**incoming**	**deliver / get**	**ack**
/	**ak_form_data**	classic	D	idle	0	0	0	0.00/s	0.00/s	0.00/s
/	**ak_form_events**	classic	D	idle	0	0	0	0.00/s	0.00/s	0.00/s
/	**api_req**	classic	D	idle	0	0	0	0.00/s	0.00/s	0.00/s
/	**api_resp**	classic	D	idle	1	0	1	0.00/s	0.00/s	0.00/s
/	**database_import**	classic	D	idle	0	0	0		0.00/s	0.00/s
/	**database_import_result**	classic	D TTL	idle	0	0	0		0.00/s	0.00/s
/	**evgen_3**	classic	D	idle	0	0	0			
/	**glb_tasks**	classic	D	idle	0	0	0			
/	**hook_events**	classic	D	idle	0	0	0	0.00/s	0.00/s	0.00/s
/	**integ_statseg**	classic	D	running	0	0	0	0.00/s	0.00/s	0.00/s
/	**oxy_background_procleadsaver**	classic	D	idle	0	0	0	0.00/s	0.00/s	0.00/s

- Choose **api_resp** and get a response to the API request



How to send API requests via RabbitMQ Management Plugin

You can send an API request directly to RabbitMQ via **api_req**:

- Go to RabbitMQ → the **Queues** tab. Then select **api_req** and **Publish message**.

- After the request is sent, you can see its result in the same way as in the first method.