

# Submission from RadianceTeam for HTTP Notification Provider Contest

<b>Motivation</b>	<b>1</b>
<b>General architecture</b>	<b>1</b>
<b>System Requirements</b>	<b>2</b>
<b>Evaluation criteria</b>	<b>2</b>
<b>Solution 1 (Simple notifications provider)</b>	<b>4</b>
Description of General Architecture	4
Test case	4
Example	7
<b>Solution 2 (Advanced notifications provider)</b>	<b>12</b>
Description of General Architecture	12
Test case	13
<b>Contacts</b>	<b>15</b>

# Motivation

Free TON holders need a module that provides notifications transmission via the HTTP protocol for interactive applications, online stores, IOT and other consumers. At the same time, anonymity of the blockchain users must be ensured.

## General architecture

In order to ensure the anonymity of blockchain users, a separation has been made between the blockchain data and the addresses of the recipients of this data. For this, the following modules are introduced:

- **Queue Provider** - knows what to send (data itself). It doesn't have any information about the real world address of the recipient. It allows the user to configure an event source based on the following parameters: "Account address" and its message types: internal / external In / external Out.

Queue provider forwards prepared and encrypted messages to *Notification provider*. Each message contains a key by which the *Notification* provider can match the corresponding recipient.

- **Notification Providers** - knows where to send (HTTP REST API). It doesn't have any information about the data. It receives and sends the data encrypted.

## System Requirements

Platform: MS Windows, Mac OS, Linux GUI or compatible

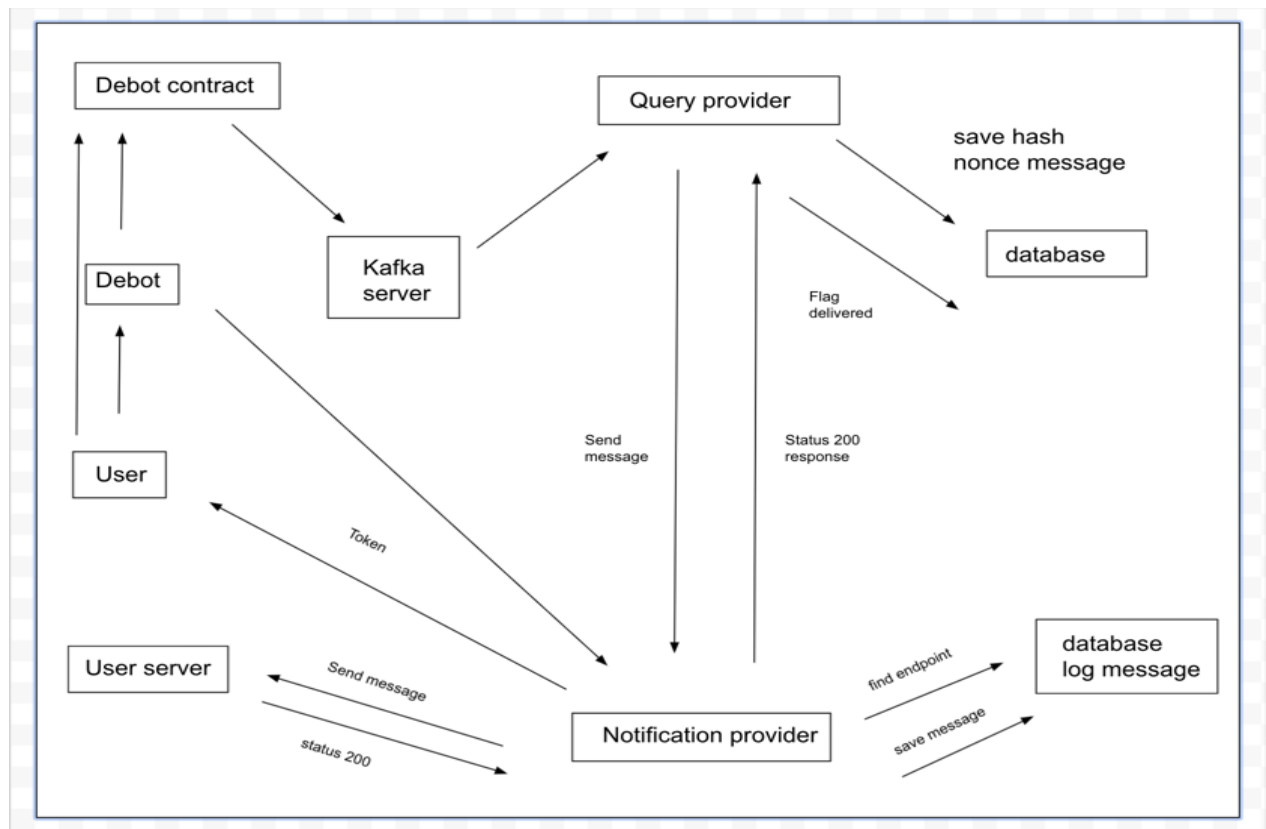
Web-browser: Google Chrome or compatible, desktop and mobile

## Evaluation criteria

Compliance with the technical requirements provided in this contest description.	<input checked="" type="checkbox"/>
The quality of the documentation description for the module.	<input checked="" type="checkbox"/>
Easy to set up and simulate.	<input checked="" type="checkbox"/>
Operates in accordance with the terms of reference and the declared functions.	<input checked="" type="checkbox"/>
Cross-platform.	<input checked="" type="checkbox"/>
Source code (open source, Free Software licence). <a href="https://github.com/radianceteam/http-notification-query-provider">https://github.com/radianceteam/http-notification-query-provider</a>	<input checked="" type="checkbox"/>
Apart from uploading a submission, a code should be submitted in accordance with <a href="https://github.com/freeton-org/readme">https://github.com/freeton-org/readme</a> .	<input checked="" type="checkbox"/>

We present two different solutions for this contest. The main differences between solutions in the way of verification of the ability to setup URL should be performed by the person requesting to send notifications to this address.

## Solution 1 (Simple notifications provider)

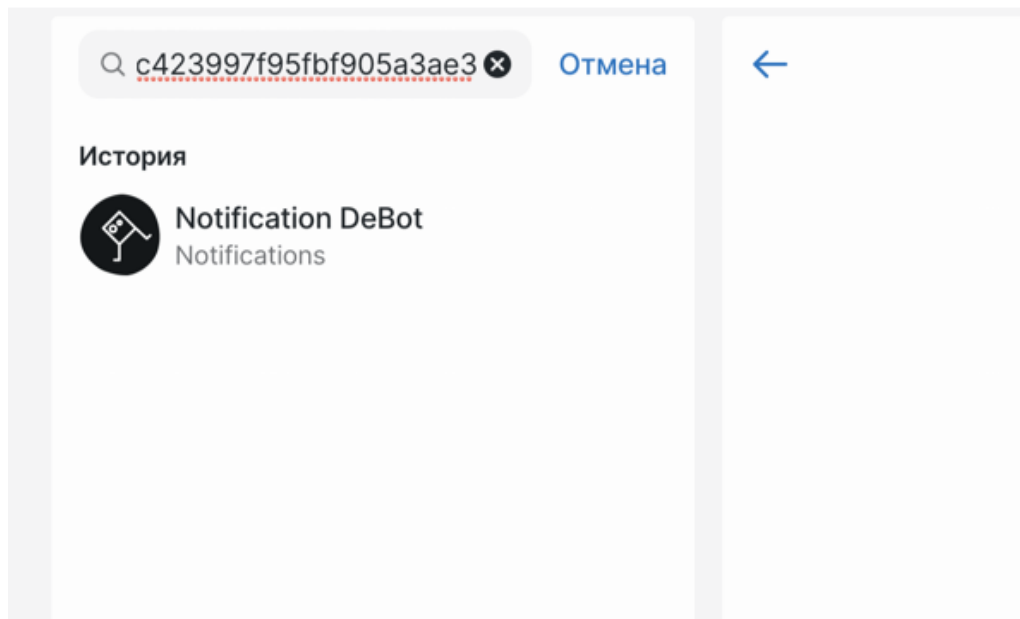


## Description of General Architecture

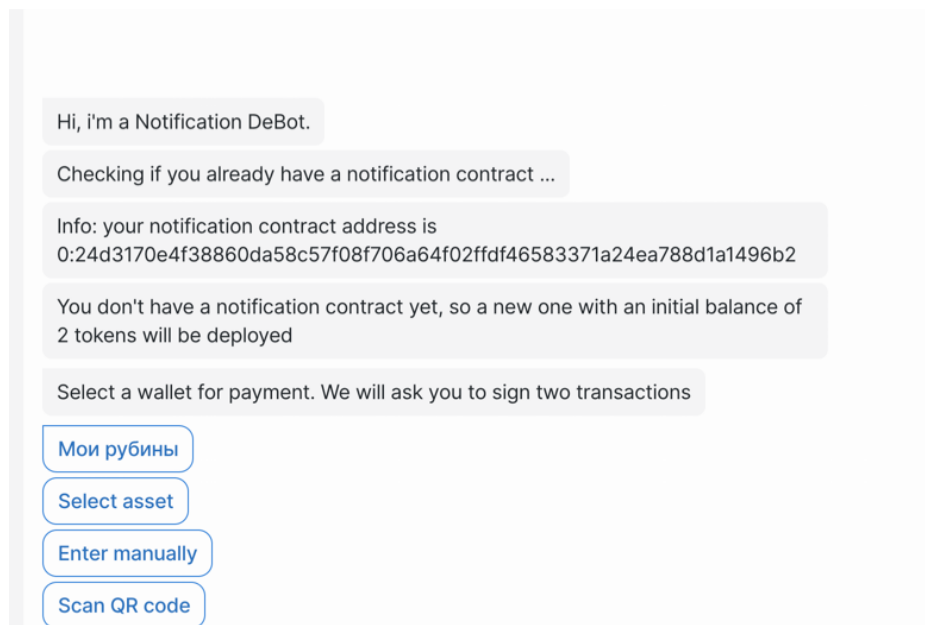
All events on the servers are saved to the database for the possibility of logging and re-sending the message.

## Test case

1. User registers with Debot 0:  
433f7b97e4e613397175a2d9d1094643b5b90d1f095c423997f95fbf905a3ae3



2. Debot creates a contract for which you need to set rules in Debot.



Hi, i'm a Notification DeBot.

Checking if you already have a notification contract ...

Info: your notification contract address is  
0:24d3170e4f38860da58c57f08f706a64f02ffdf46583371a24ea788d1a1496b2

You don't have a notification contract yet, so a new one with an initial balance of 2 tokens will be deployed

Select a wallet for payment. We will ask you to sign two transactions

Мои рубины

Select asset

Enter manually

Scan QR code

Hi, i'm a Notification DeBot.

Checking if you already have a notification contract ...

Info: your notification contract address is  
0:24d3170e4f38860da58c57f08f706a64f02ffdf46583371a24ea788d1a1496b2

You don't have a notification contract yet, so a new one with an initial balance of 2 tokens will be deployed

Select a wallet for payment. We will ask you to sign two transactions

Мои рубины

0:571a68eb01d76ad56c4132a400881d753ea1eacee1b2a7825324138cb5ccf26e

How would you like to sign?

Подписаться Surf

Enter Key

Transaction confirmation

Total

2,000 000 000 ♦

Fees

0,011 898 257 ♦

Signature

Подписать Surf

Confirm

Cancel

Confirm

Sending message

a2921e706fdca5e2cde38aee6ad2d37fc498bb21de265dc264fc49dcea0ec975

ATTENTION: ENCRYPTION KEYS ARE SHOWN ONLY ONCE, COPY THEM!

{  
"pub":"87cbd82356ad092fd851174ef92a5e4f2bf2f35a0c2fcd4fae7e94da3493  
ed74",  
"sec":"12711e4a5fe3f129d4e58c74d5bff06831878339ec69fa46c1d1286ba  
1a7dbf8"}  
}

Available actions:

Show provider list

Send callbackUrl | deviceToken to provider

Get rules

Set rules

Reset rules

Example (with spaces between strings):

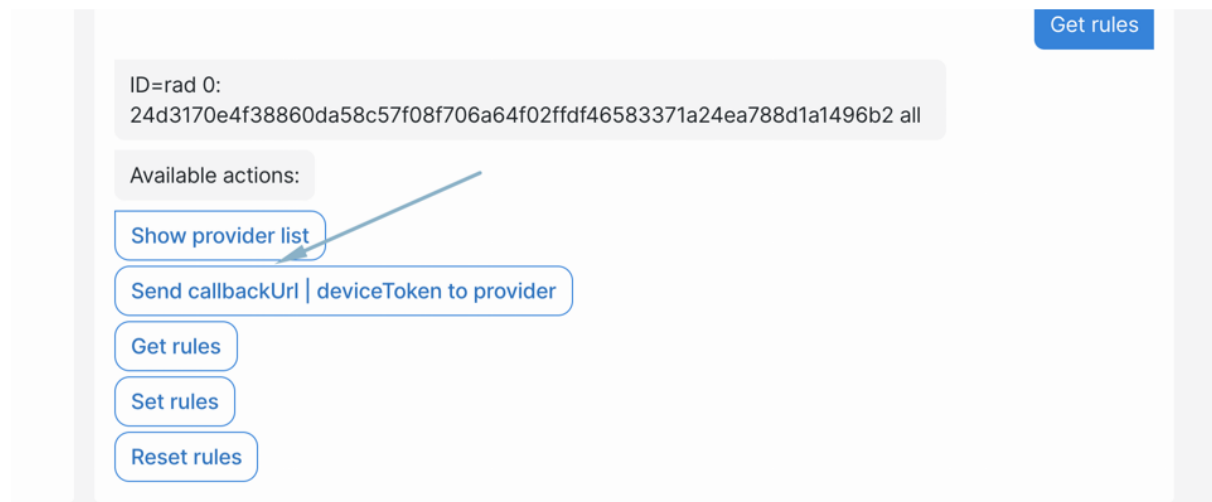
ID = rad

0:24d3170e4f38860da58c57f08f706a64f02ffdf46583371a24ea788d1a1496b2

all

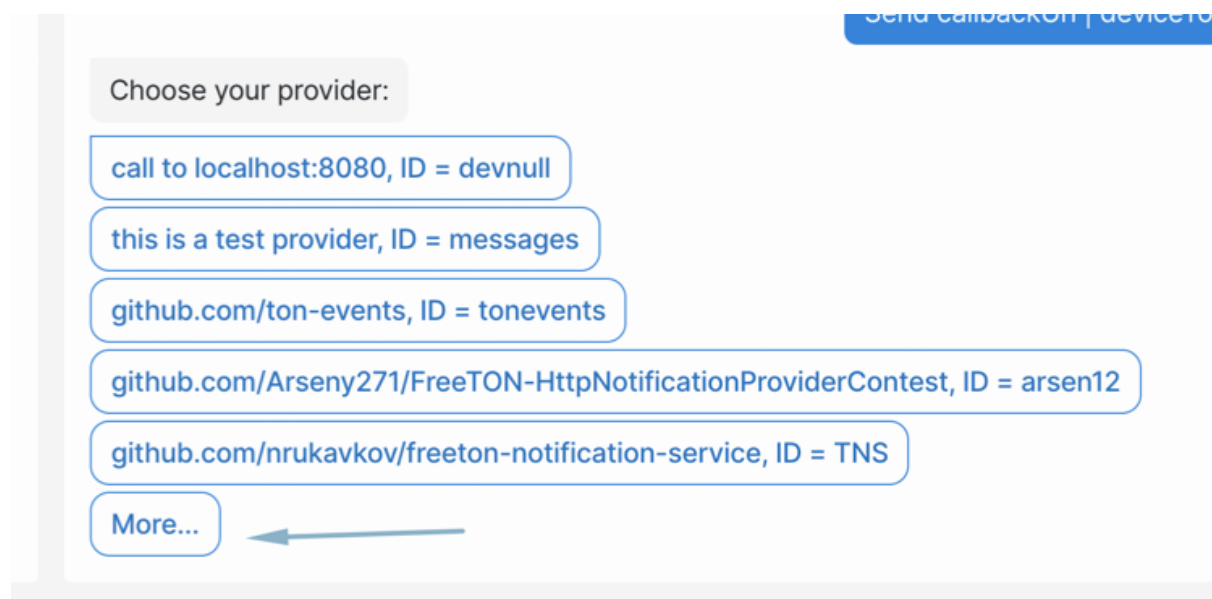
3. After that, any interactions with the contract are fixed in the Query provider and sent to the Notification provider.

Also, the user needs to set the address for receiving notifications from the http server in debot.



After installing the host, the user receives in response a verification token that the domain belongs to him. By adding a txt to the domain:

<https://tonlabs.notion.site/Notification-DeBot-User-s-Manual-cbd9f3e1aab74c83850a91335894a2c8>







Interface to test the simple solution:

<http://simplenotifs.defispace.com>

4. After installing the host, the user receives in response a verification token that the domain belongs to him. By adding a txt to the domain instruction:

<https://www.reg.ru/support/dns/Nastroika-zony/chto-takoe-resursnye-zapisi-dns>

github.com/radianceteam/http-notification-query-provider, ID = rad

Enter data for this provider

You token t925s8ufxq8x  
add txt token record to domain.  
More info <https://www.reg.ru/nettools/dig>

Available actions:

Show provider list

Send callbackUrl | deviceToken to provider

Get rules

Set rules

Reset rules

<http://testuser.defispace.com:5050/>

After receiving a token the user should make a transaction on a deployed contract.

×

Отправить токены

От

Мои рубины 48,001 019 569 ♦

Кому

0:24 ..... 96b2 ✕

Сумма

1

Сообщение или памятка

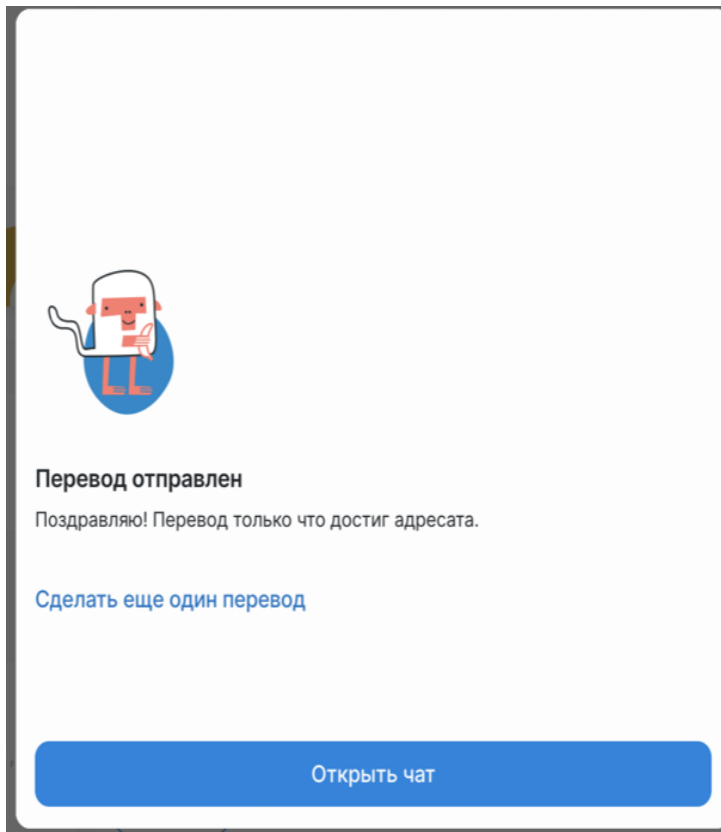
Network fees

≈ 0,01

Время операции

Мгновенно

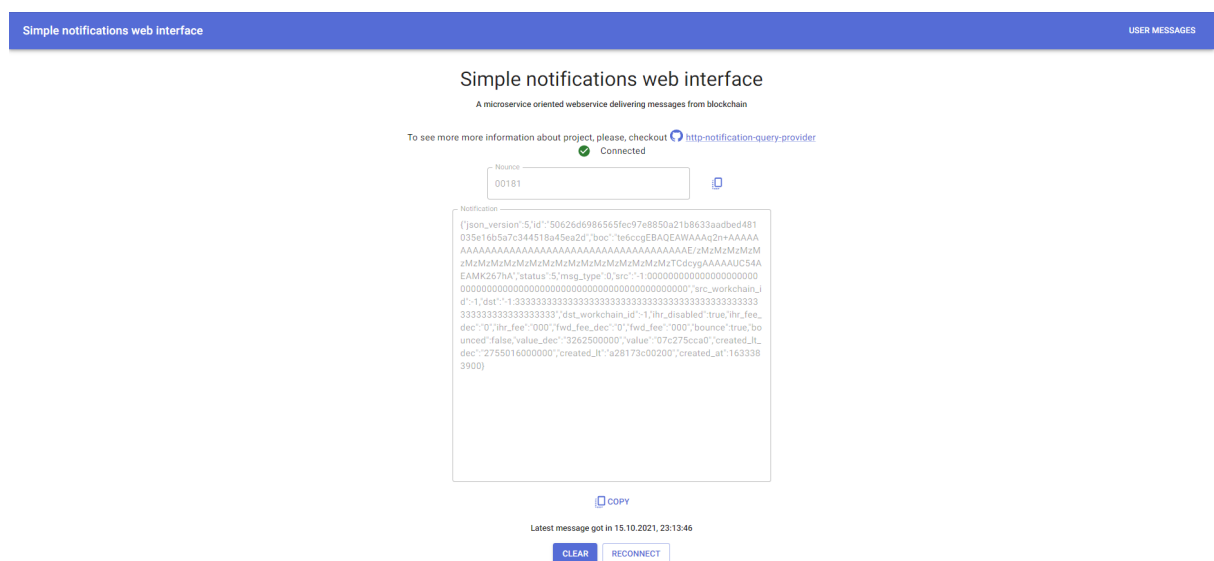
Подтвердить и отправить



Перевод отправлен

Сделать еще один перевод

5. After that, the user is sent POST messages to the set endPoint in the body of which "<nonce> <encodedMessage>" is stored, after which the message can be decoded according to the instruction:



## USER MESSAGES

## Simple notifications web interface

A microservice oriented webservice delivering messages from blockchain

To see more more information about project, please, checkout <http://notification-query-provider>

[illegible]

COPY

Latest message got in 15.10.2021, 23:13:46

CLEAR

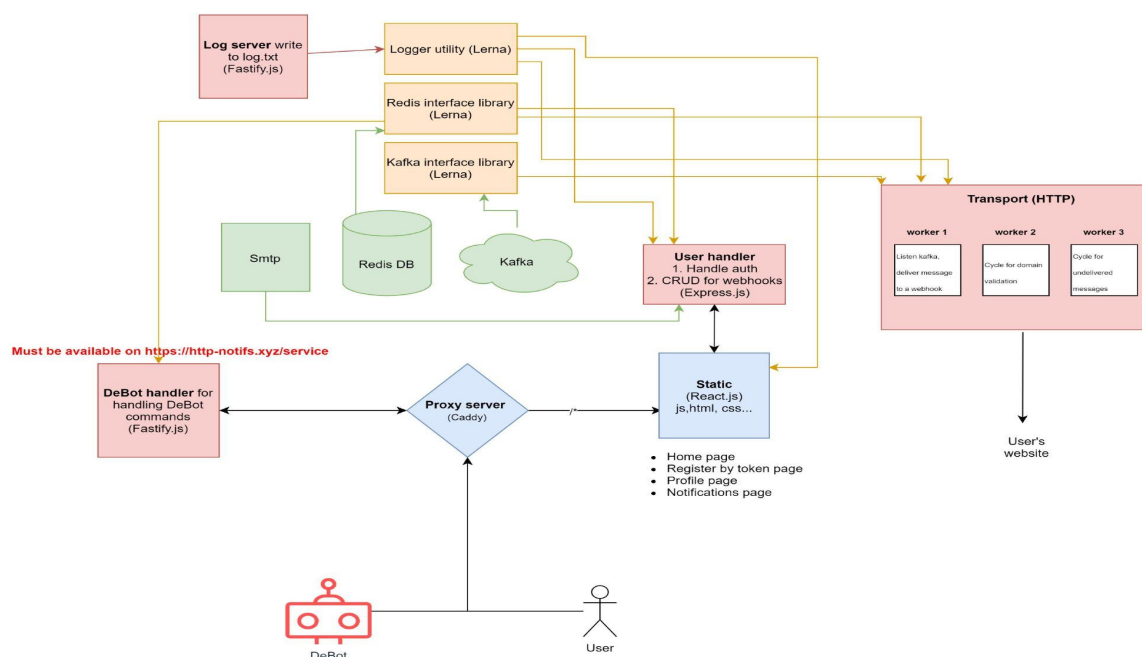
RECONNECT

## Solution 2 (Advanced notifications provider)

Advanced notification service verifies users twice - first using e-mail, then using debot. This allows it to connect multiple transports to deliver notifications such as e-mail, http, telegram and other in any numbers. This approach provides better scalability and flexibility.

In practice this means that a domain owner can connect his application to this notification service and all the users of the application can get their own notifications privately.

### Description of General Architecture



<https://github.com/radianceteam/http-notification-query-provider/blob/main/Solution2Architect.jpg>

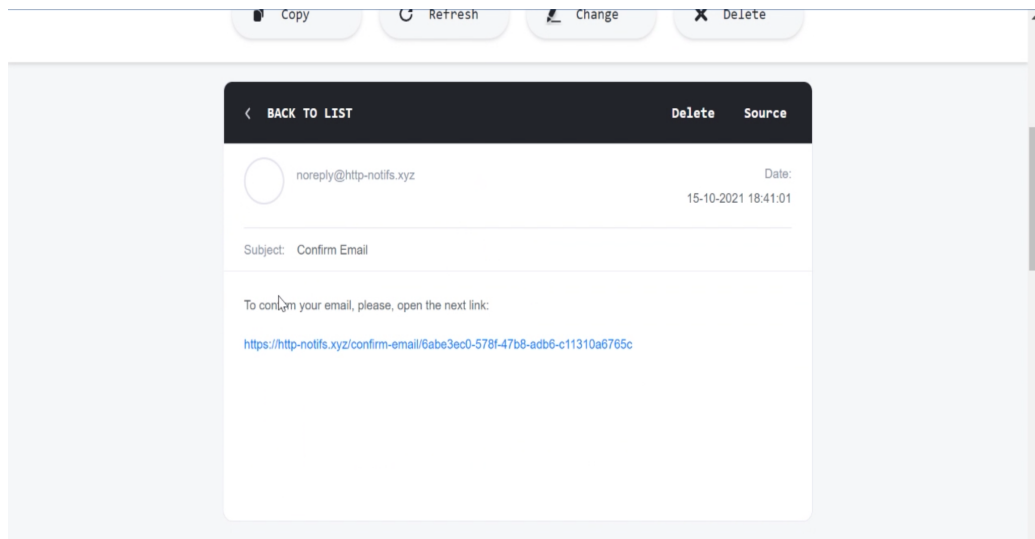
### Test case

1. User goes to <https://http-notifs.xyz/> and signs up in Notification Service.

# Sign Up

SUBMIT

2. You will get a confirmation link in your mail.



3. Follow the link, you will be redirected to the instructions page:

### You email successfully confirmed

Now, please, follow instructions below

#### Step 1

Go to <https://web.ton surf/debot?address=0%3A433f7b97e4e613397175a2d9d1094643b5b90d1f095c423997f95fb905a3ae3&net=devnet>

#### Step 2

Select "Send callbackUrl | deviceToken to provider"

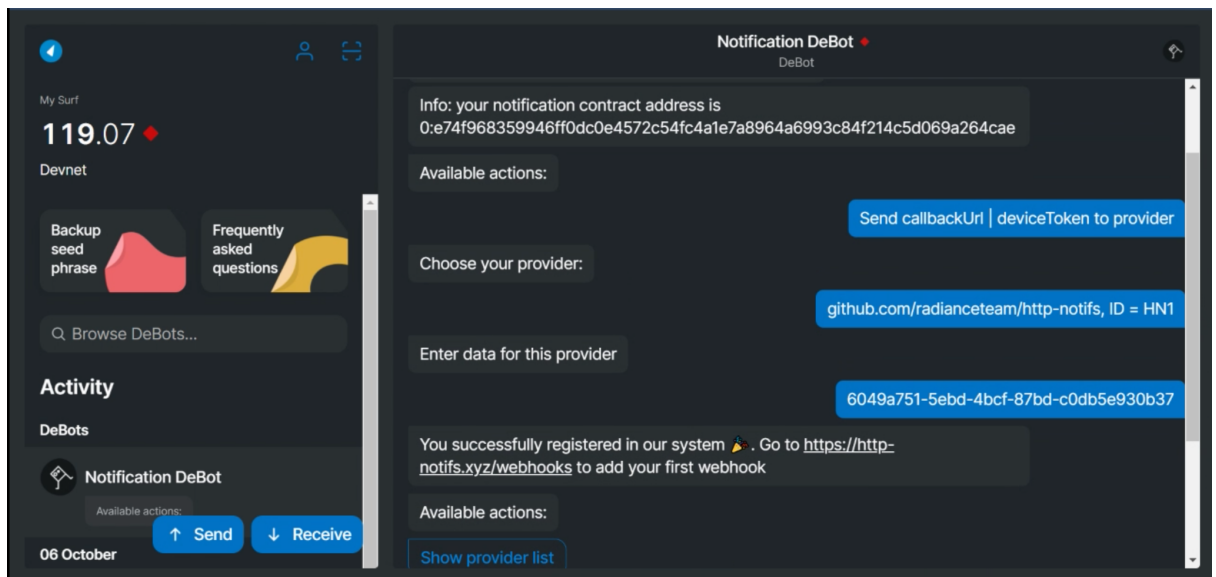
#### Step 3

Select "github.com/radianceteam/http-notifs, ID = HN1"

#### Step 4

Enter token: 6049a751-5ebd-4bcf-87bd-c0db5e930b37

4. After confirmations in debot you will be successfully registered in our system:



5. Follow the link from debot, and you will be redirected to our site.

The Home page works as a domain manager - here you can add any amount of domains, to receive notifications from our Notification System. Also in coming soon - we are going to add different types of transport on this page.

Notification test consumer web interface

HOMEUSER MESSAGES

ADD WEBHOOK

https://example.com

DELETE

http://localhost:3000/

DELETE

For the contest we registered our domain <https://http-notifs.xyz/> in Notifs Sys., to show how it works. In the messages page users can check the messages that they get from Notification Sys.

## Contacts

### Wallet:

0:835ebc5dc3b3370b77f15ecf4e62add730f67ef5605c9b2c976e38c0ec6ce3d6

### Contacts:

- <https://t.me/skaisy>
- [https://t.me/Gitte\\_S](https://t.me/Gitte_S)
- <https://t.me/UltraNihilist>
- <https://t.me/liketurbo>