Pharo TechTalk: Discord Demo

Tuesday, Nov 21, 2017
5:00 PM - 7:00 PM (UTC+01:00, Paris)
01:00 PM - 03:00 PM (UTC-03:00, Chilean Time)

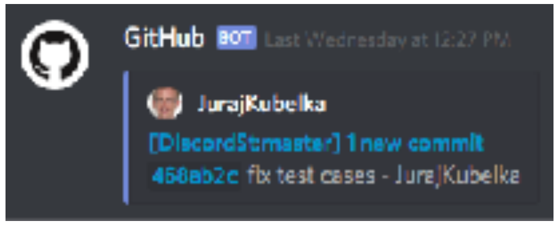
Pharo TechTalk: Discord Demo

Juraj Kubelka
https://github.com/JurajKubelka/DiscordSt

```
Metacello new
    baseline: #DiscordSt;
    repository: 'github://JurajKubelka/DiscordSt/src';
    load.
```

TechTalk Outline

1. **Webhook** is a low-effort way to **write messages** to channels in Discord using a secret URL. GitHub is supported directly.



GitHub BOT Last Wednesday at 12:27 PM

JurajKubelka

[DiscordSt:master] 1 new commit

458ab2c fix test cases - JurajKubelka

2. **Bot Application** is a “chatbot” that can **read and write messages** and manage servers and channels. E.g., Lighthouse by Kilon: “`what is pharo?`”

3. **Standard User** account with an email and password. *Notice that using such account to connect bots is strictly prohibited.*

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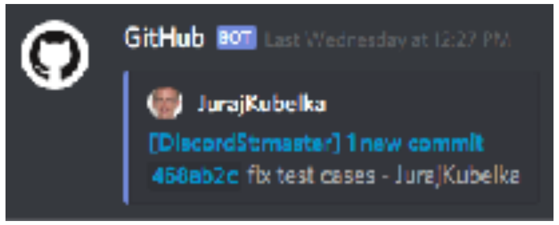

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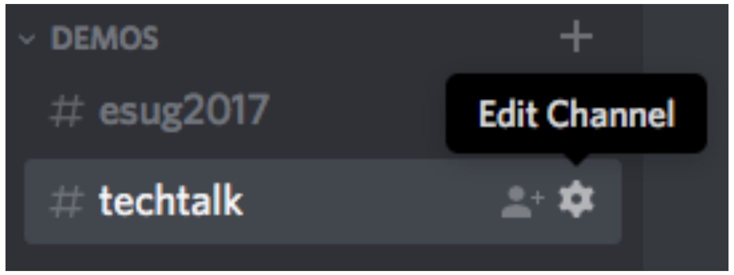
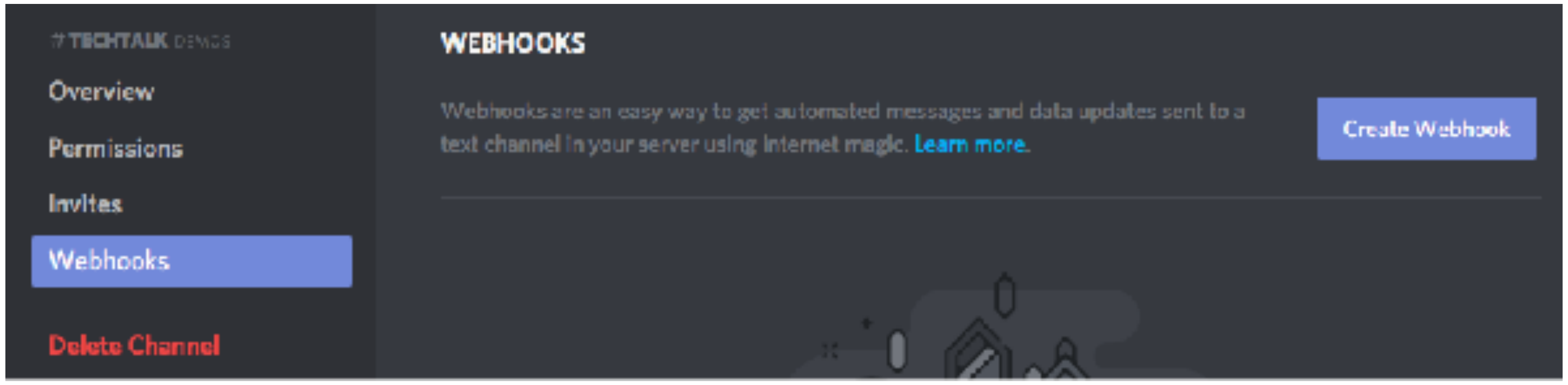
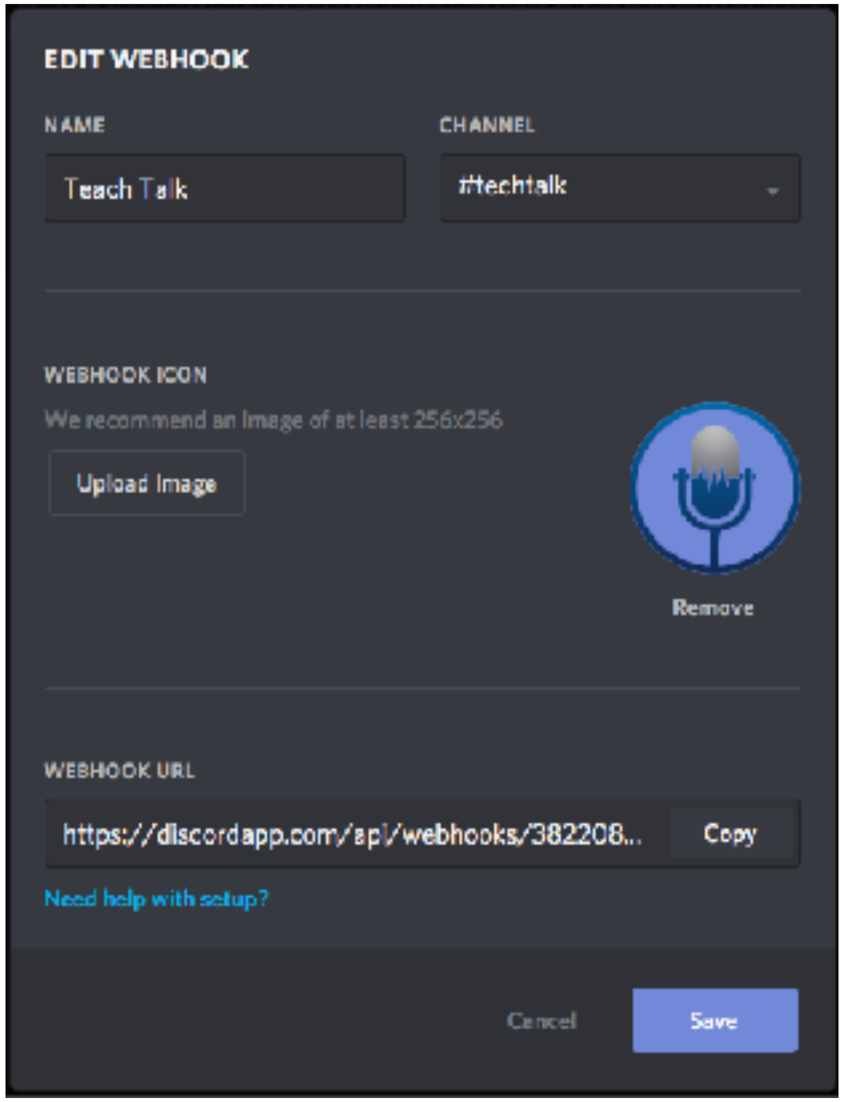
Webhook Configuration





Webhooks are an easy way to get automated messages and data updates sent to a text channel in your server using internet magic. Learn more.



NAME: Teach Talk

CHANNEL: #techtalk

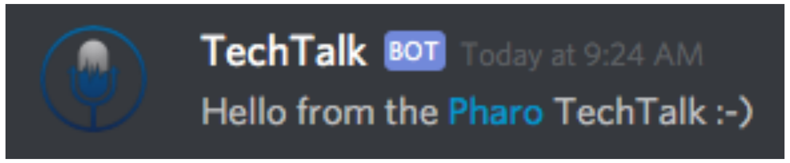
We recommend an image of at least 256x256

WEBHOOK URL: https://discordapp.com/api/webhooks/382208...

Copy the Webhook URL

Webhook Examples

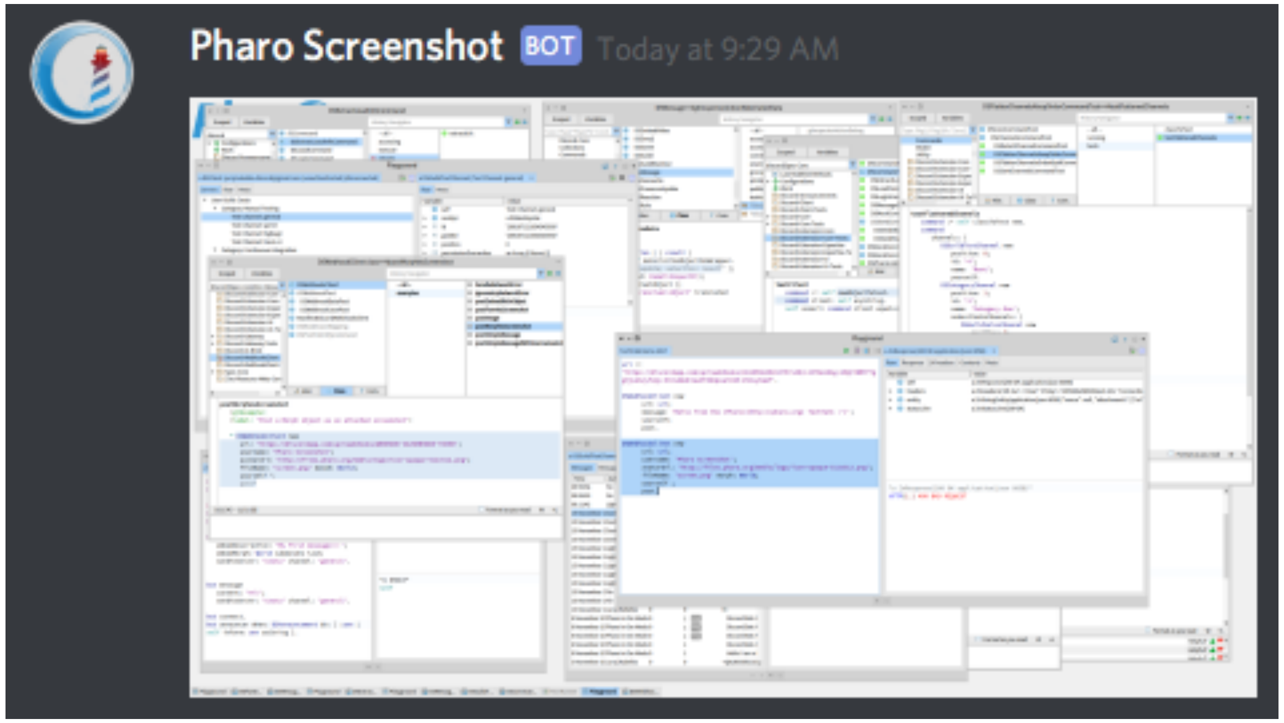
```
DSWebhookClient new
    url: 'https://discordapp.com/api/webhooks/WEBHOOK-ID/WEBHOOK-TOKEN';
    message: Hello from the [Pharo](http://pharo.org) TechTalk :-)';
    post
```



TechTalk BOT Today at 9:24 AM

Hello from the Pharo TechTalk :-)

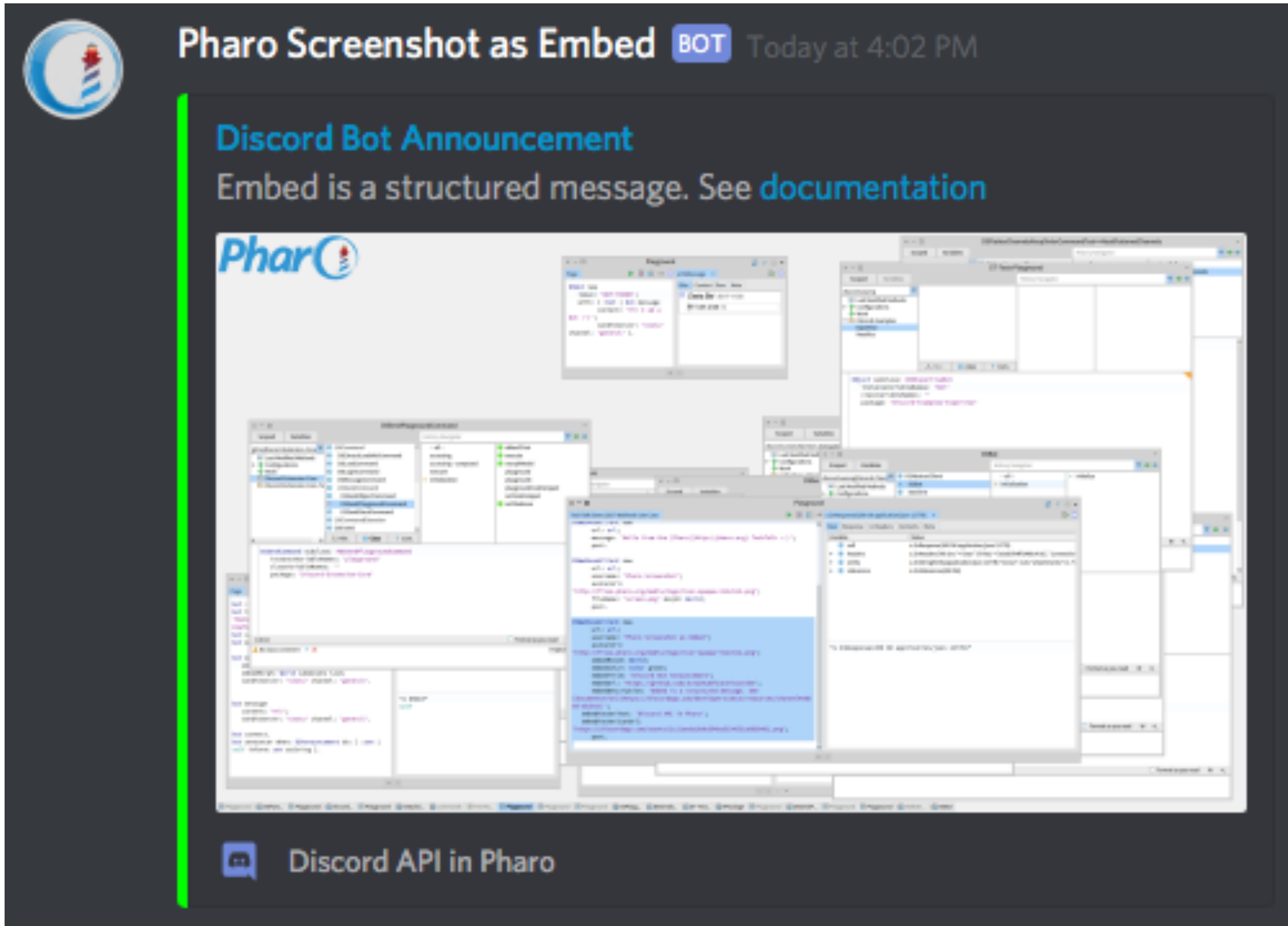
```
DSWebhookClient new
    url: 'https://discordapp.com/api/webhooks/WEBHOOK-ID/WEBHOOK-TOKEN';
    username: 'Pharo Screenshot';
    avatarUrl: 'http://files.pharo.org/media/logo/icon-opaque-512x512.png';
    fileName: 'screen.png' morph: World;
    post.
```



Pharo Screenshot BOT Today at 9:29 AM

Webhook Examples: Embed

```
DSWebhookClient new
    url: 'https://discordapp.com/api/webhooks/WEBHOOK-ID/WEBHOOK-TOKEN';
    username: 'Pharo Screenshot as Embed';
    avatarUrl: 'http://files.pharo.org/media/logo/icon-opaque-512x512.png';
    embedTitle: 'Discord Bot Announcement';
    embedDescription: 'Embed is a structured message. See [documentation](https://discordapp.com/developers/docs/
resources/channel#embed-object)';
    embedUrl: 'https://github.com/JurajKubelka/DiscordSt';
    embedMorph: World;
    embedColor: Color green;
    embedFooterText: 'Discord API in Pharo';
    embedFooterIconUrl: 'https://discordapp.com/assets/2c21aeda16de354ba5334551a883b481.png';
    post
```



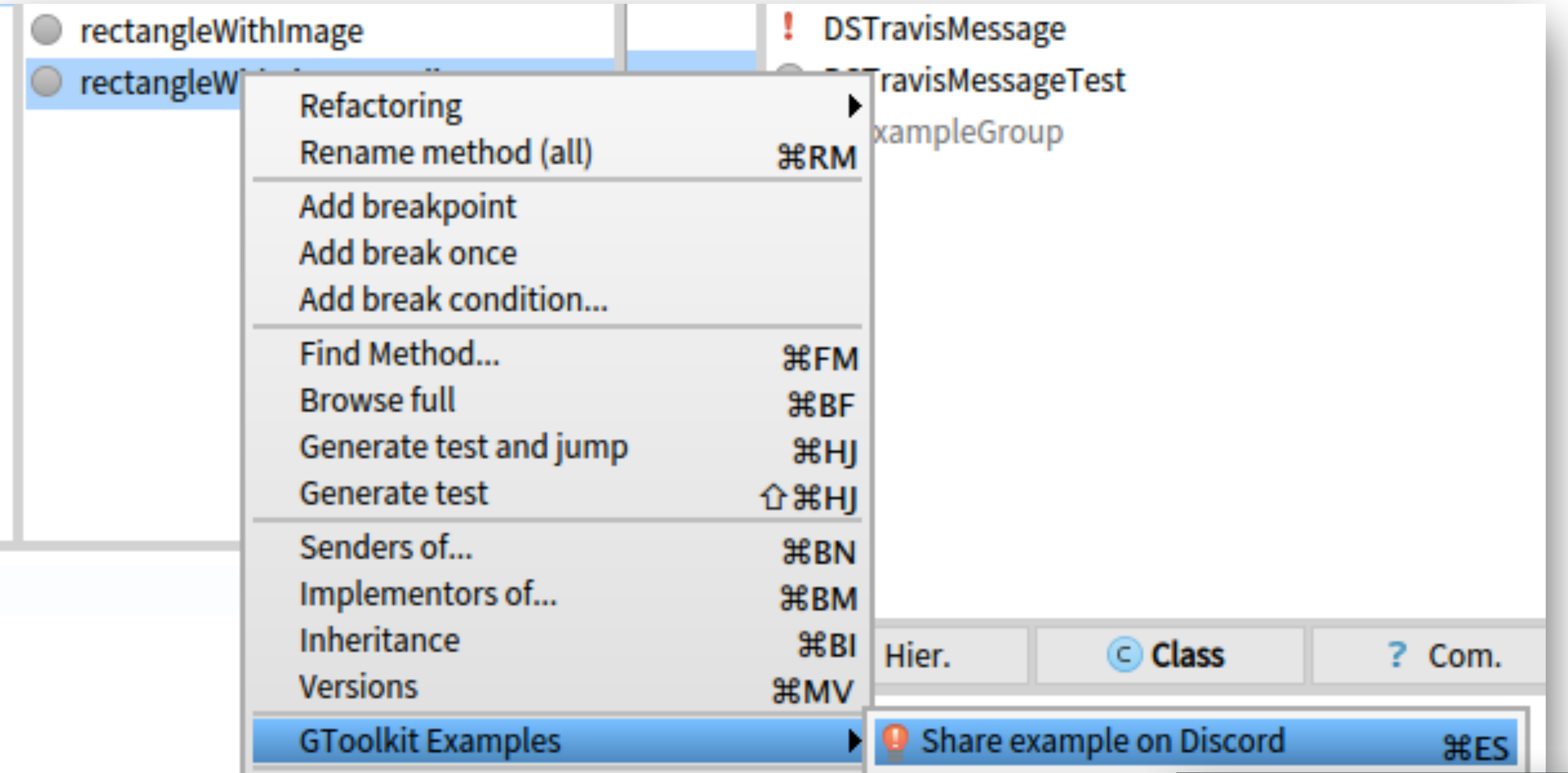
Pharo Screenshot as Embed BOT Today at 4:02 PM

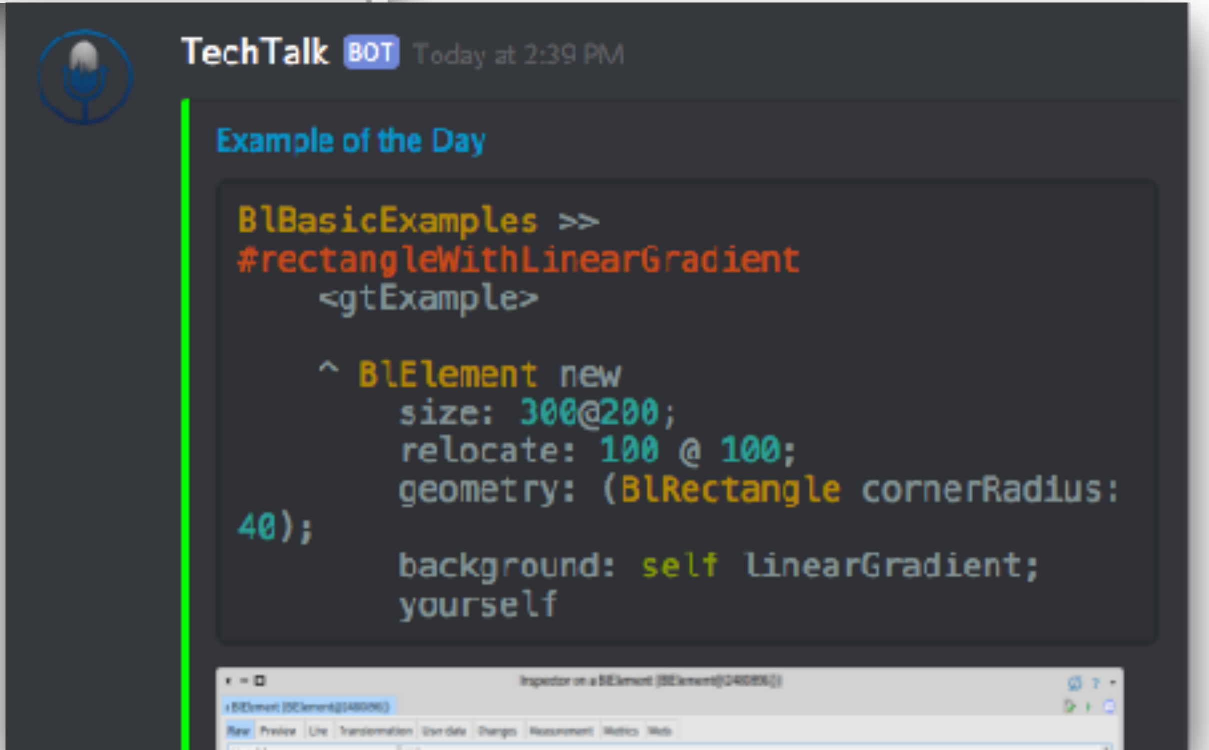
Discord Bot Announcement

Embed is a structured message. See documentation

Discord API in Pharo

Webhook Use Case #1





TechTalk BOT Today at 2:39 PM

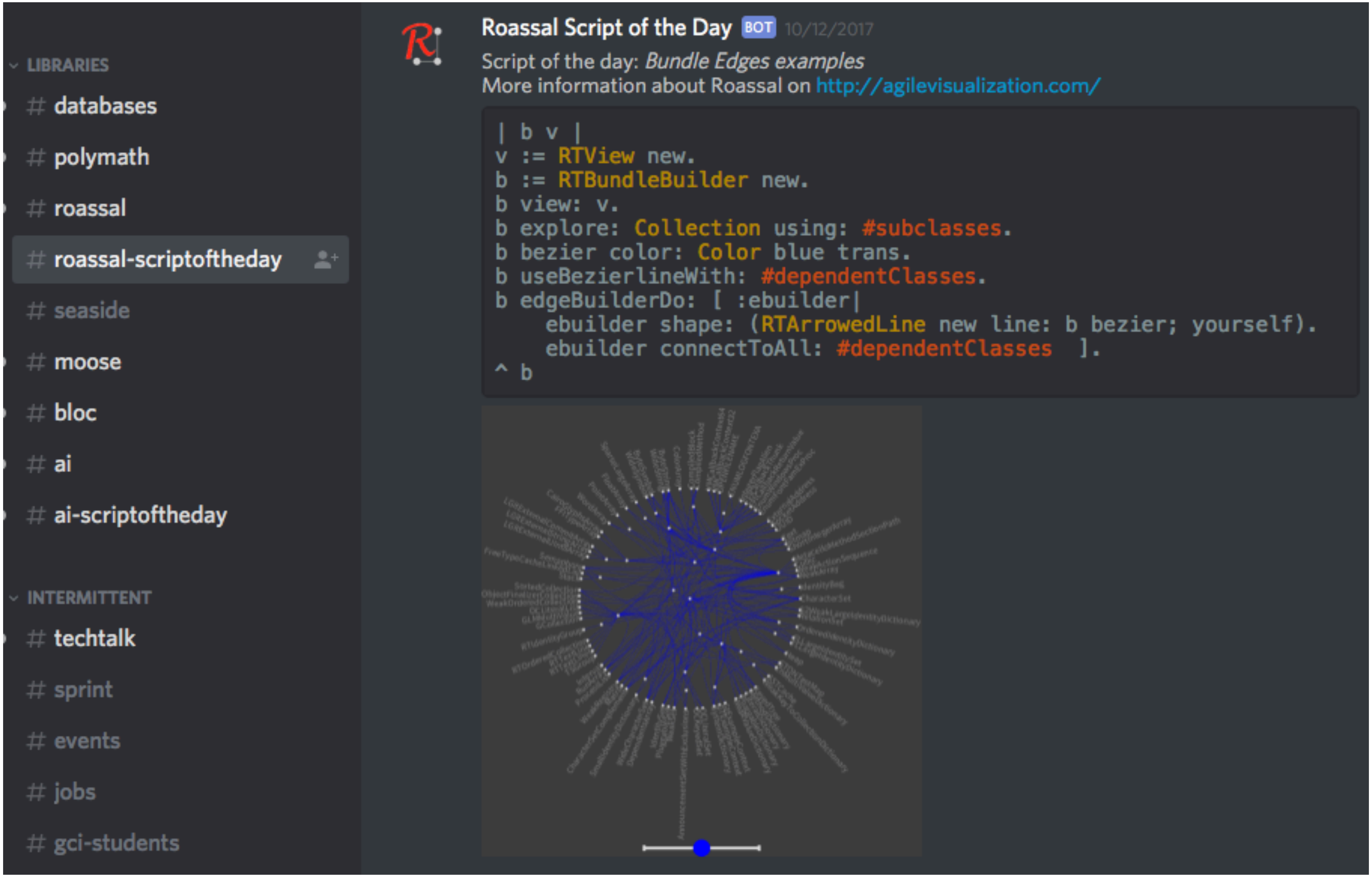
Example of the Day

```
BlBasicExamples >>
#rectangleWithLinearGradient
    <gtExample>

    ^ BlElement new
        size: 300@200;
        relocate: 100 @ 100;
        geometry: (BlRectangle cornerRadius:
40);
        background: self linearGradient;
        yourself
```

Sharing Experience within Pharo

Roassal Script of the Day

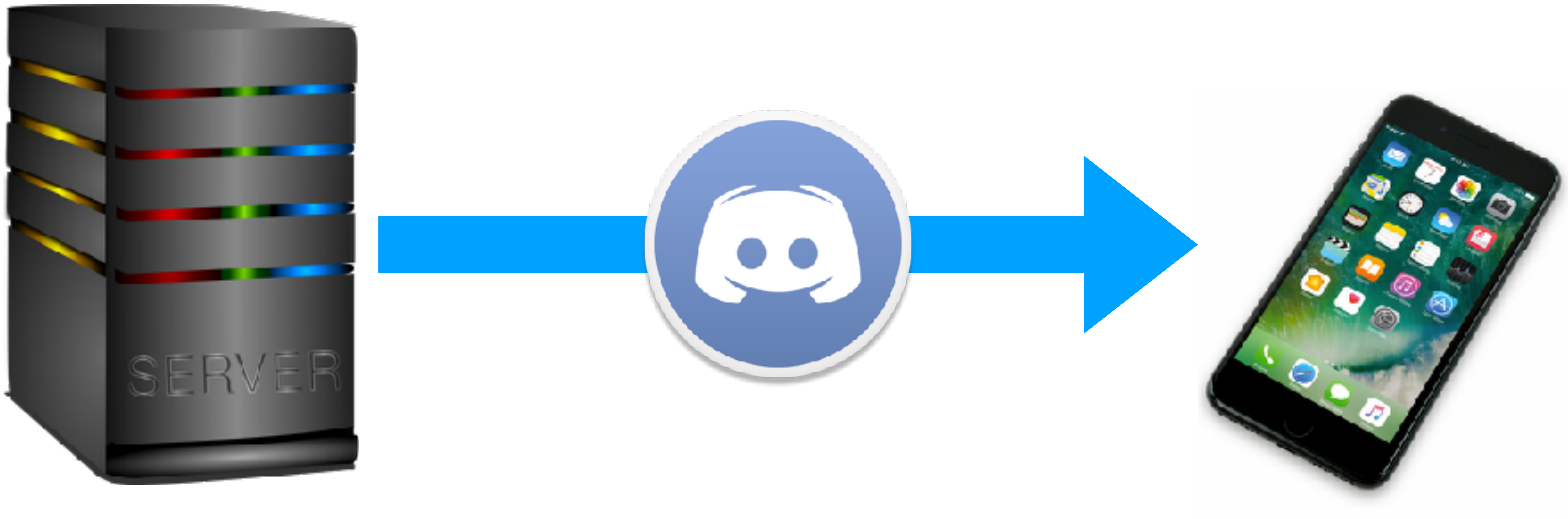


Roassal Script of the Day BOT 10/12/2017

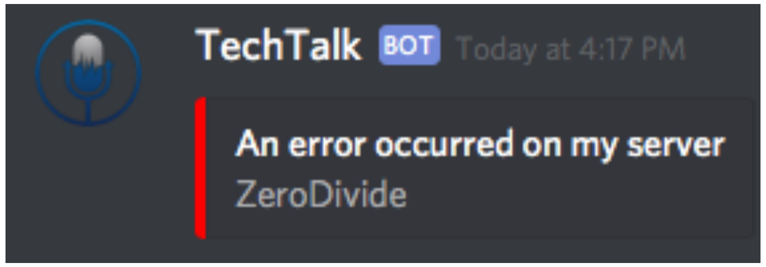
Script of the day: *Bundle Edges examples*
More information about Roassal on http://agilevisualization.com/

```
| b v |
v := RTView new.
b := RTBundleBuilder new.
b view: v.
b explore: Collection using: #subclasses.
b bezier color: Color blue trans.
b useBezierlineWith: #dependentClasses.
b edgeBuilderDo: [ :ebuilder|
    ebuilder shape: (RTArrowedLine new line: b bezier; yourself).
    ebuilder connectToAll: #dependentClasses  ].
^ b
```

Webhook Use Case #2



Be informed about strange behavior on my server



TechTalk BOT Today at 4:17 PM

An error occurred on my server

ZeroDivide

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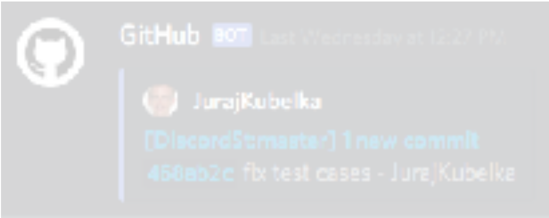

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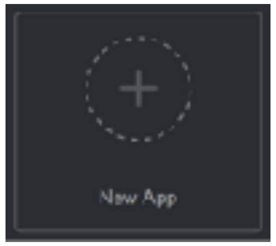
2. **Bot Application** is a “chatbot” that can **read and write messages** and manage servers and channels. E.g., Lighthouse by Kilon: “`what is pharo?`”

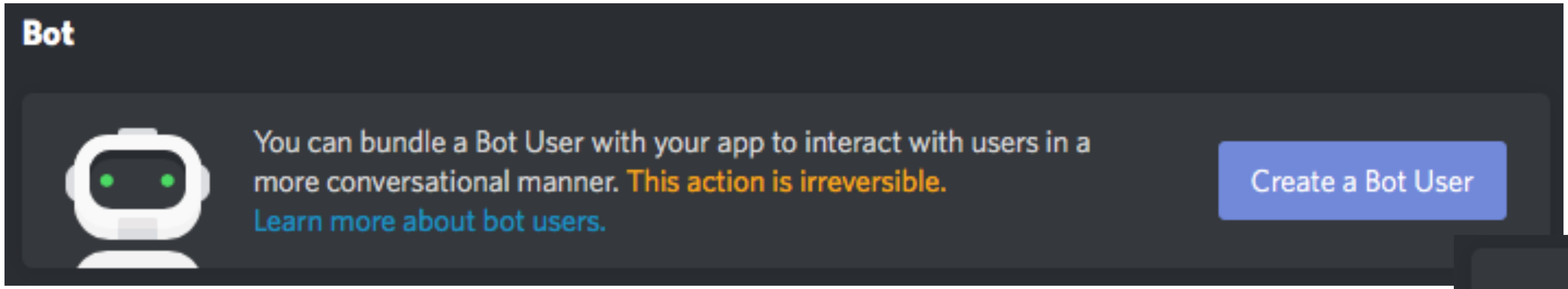
3. **Standard User** account with an email and password. *Notice that using such account to connect bots is strictly prohibited.*

Bot App Configuration

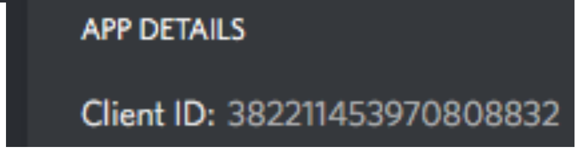
Create Bot App

https://discordapp.com/developers/applications/me





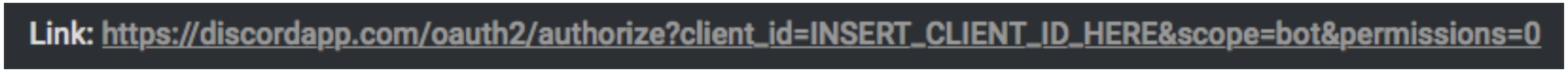
You can bundle a Bot User with your app to interact with users in a more conversational manner. This action is irreversible. Learn more about bot users.


APP DETAILS

Client ID: 382211453970808832

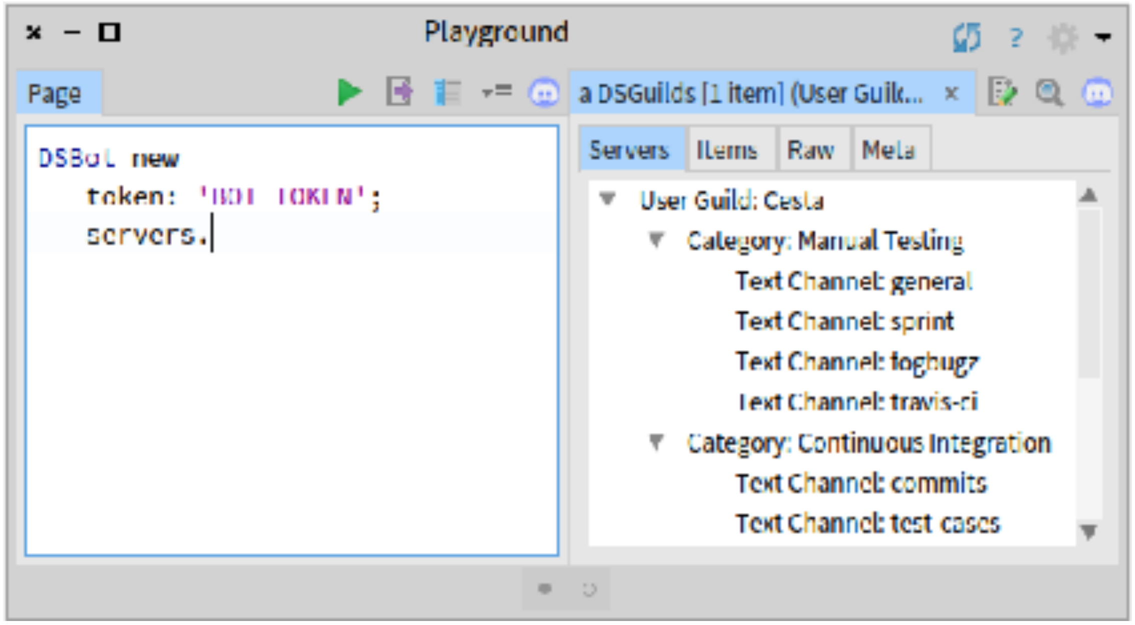
Generate Permissions and Authorize the Bot

https://discordapi.com/permissions.html


Link: https://discordapp.com/oauth2/authorize?client_id=INSERT_CLIENT_ID_HERE&scope=bot&permissions=0

Bot App Examples

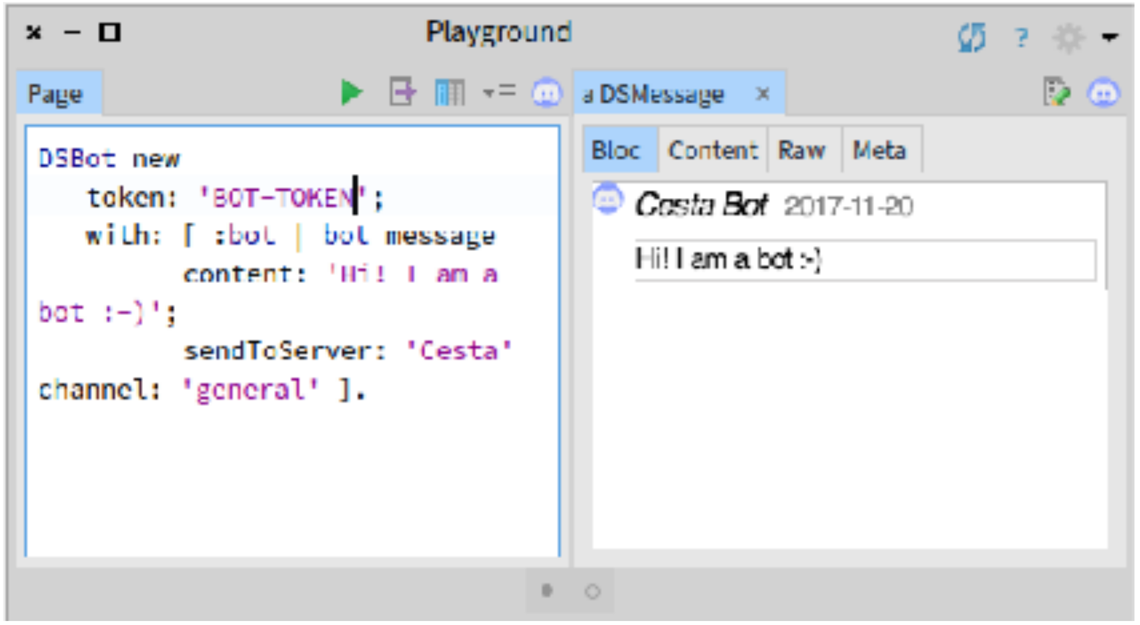
```
DSBot new
    token: 'BOT-TOKEN';
    servers.
```



```
DSBot new
    token: 'BOT-TOKEN';
    servers.
```

```
User Guild: Cesta
    Category: Manual Testing
        Text Channel: general
        Text Channel: sprint
        Text Channel: fogbugz
        Text Channel: travis-ci
    Category: Continuous Integration
        Text Channel: commits
        Text Channel: test cases
```

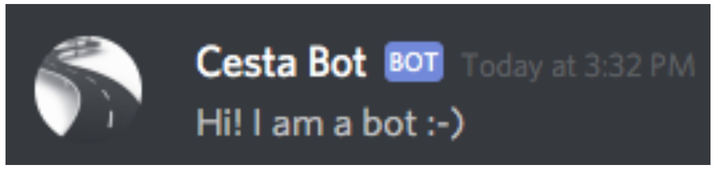
```
DSBot new
    token: 'BOT-TOKEN';
    with: [ :bot | bot message
        content: 'Hi! I am a bot :-)';
        sendToServer: 'Pharo' channel: 'general' ].
```



```
DSBot new
    token: 'BOT-TOKEN';
    with: [ :bot | bot message
        content: 'Hi! I am a
bot :-)';
        sendToServer: 'Cesta'
channel: 'general' ].
```

Costa Bot 2017-11-20

Hi! I am a bot :-)



Cesta Bot Today at 3:32 PM

Hi! I am a bot :-)

Bot Application

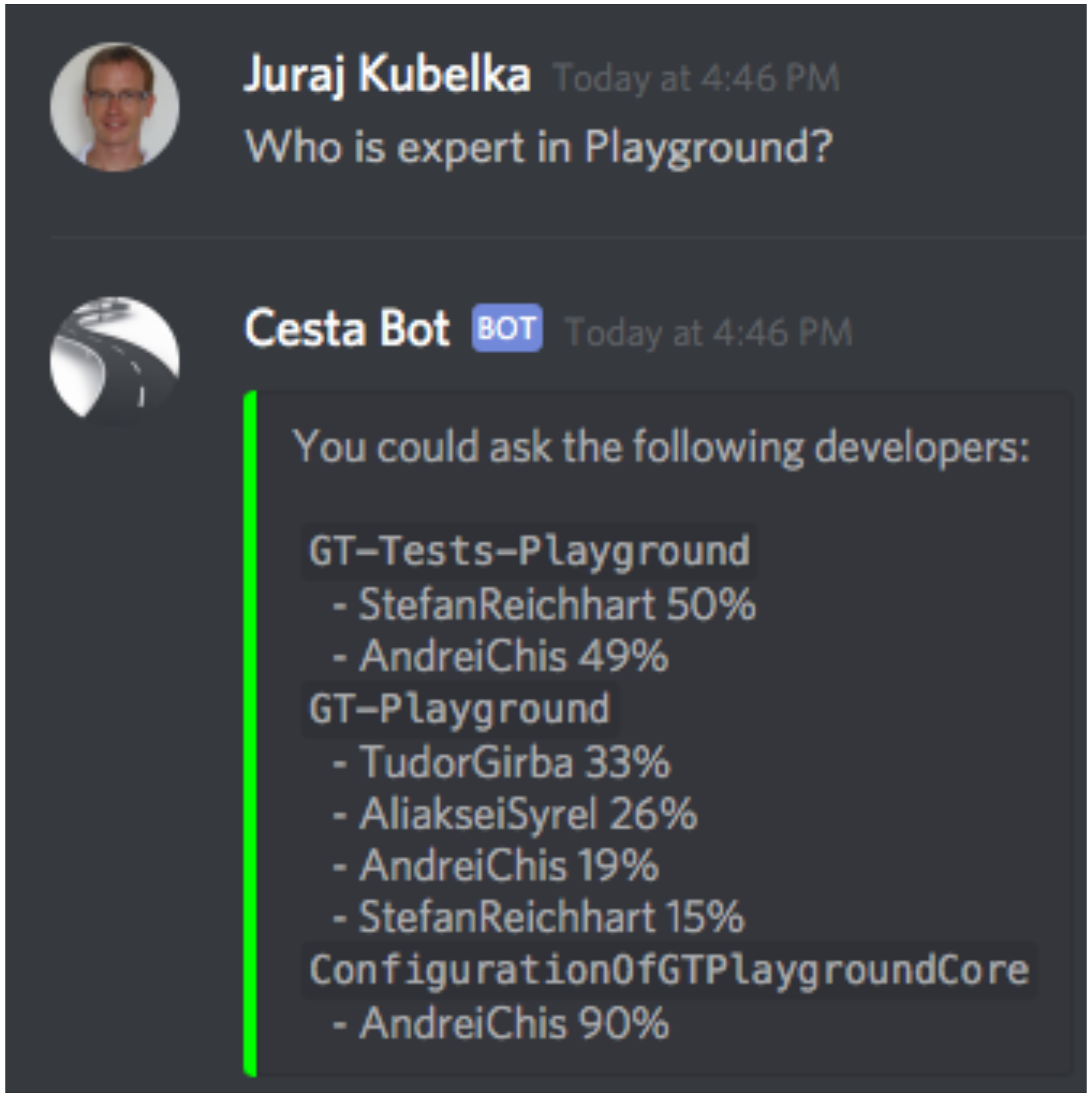
How can I install Bloc?

Is there a documentation about Spec?

Do we have a library to parse JSON?

Siri

Bot Use Case: Expertise



Juraj Kubelka Today at 4:46 PM

Who is expert in Playground?

Cesta Bot Today at 4:46 PM

You could ask the following developers:

`GT-Tests-Playground`
- StefanReichhart 50%
- AndreiChis 49%

`GT-Playground`
- TudorGirba 33%
- AliakseiSyrel 26%
- AndreiChis 19%
- StefanReichhart 15%

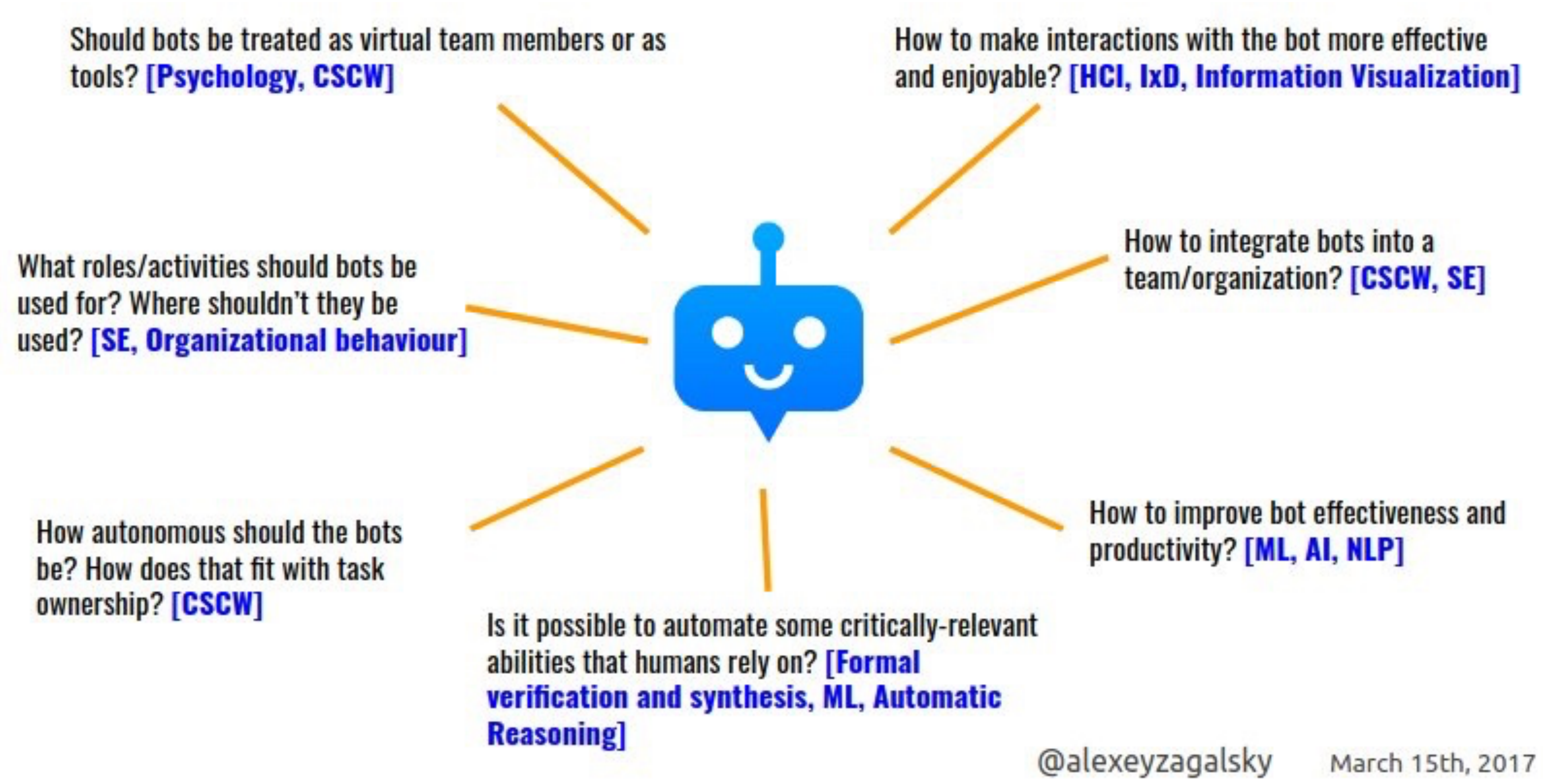
`ConfigurationOfGTPlaygroundCore`
- AndreiChis 90%

```
bot := DSBot new.
bot token: 'BOT-TOKEN'.
bot connect.

answer := DSExpertiseAnswer new bot: bot; yourself.

bot announcer
    when: DSGatewayMessageAnnouncement
    do: [ :ann |
        DSExpertiseQuestion
            message: ann message
            answer: answer ].
```

Bot (Chatbot) Research



Should bots be treated as virtual team members or as tools? **[Psychology, CSCW]**

How to make interactions with the bot more effective and enjoyable? **[HCI, IxD, Information Visualization]**

What roles/activities should bots be used for? Where shouldn't they be used? **[SE, Organizational behaviour]**

How to integrate bots into a team/organization? **[CSCW, SE]**

How autonomous should the bots be? How does that fit with task ownership? **[CSCW]**

How to improve bot effectiveness and productivity? **[ML, AI, NLP]**

Is it possible to automate some critically-relevant abilities that humans rely on? **[Formal verification and synthesis, ML, Automatic Reasoning]**

@alexeyzagalsky March 15th, 2017

https://twitter.com/alexeyzagalsky/status/927661437350060032

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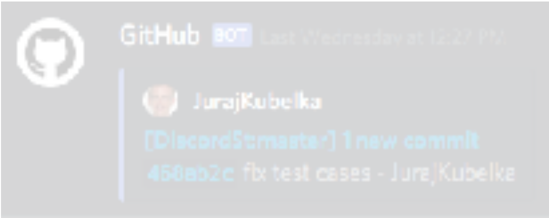

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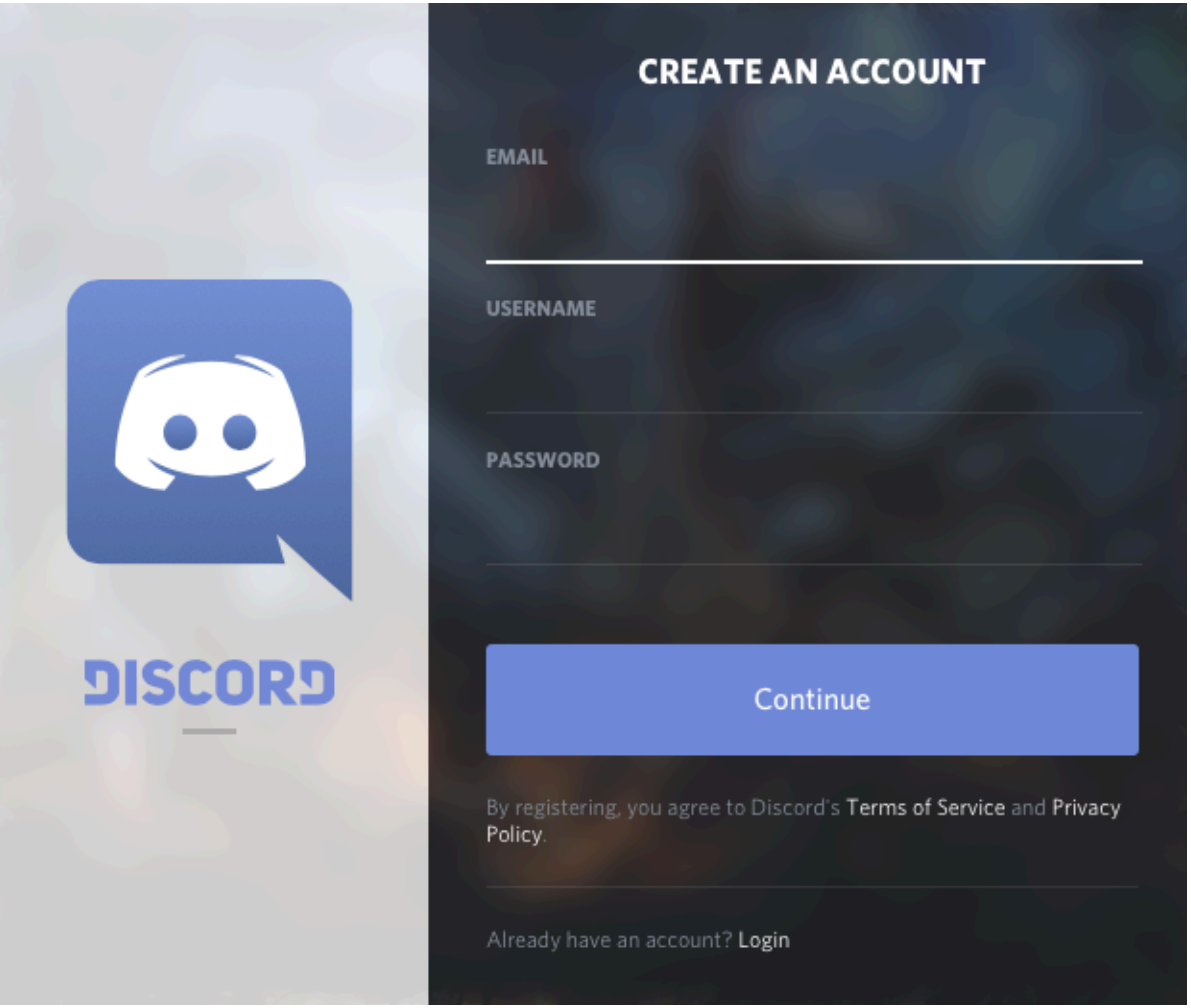
Client Configuration



DISCORD

CREATE AN ACCOUNT

EMAIL

USERNAME

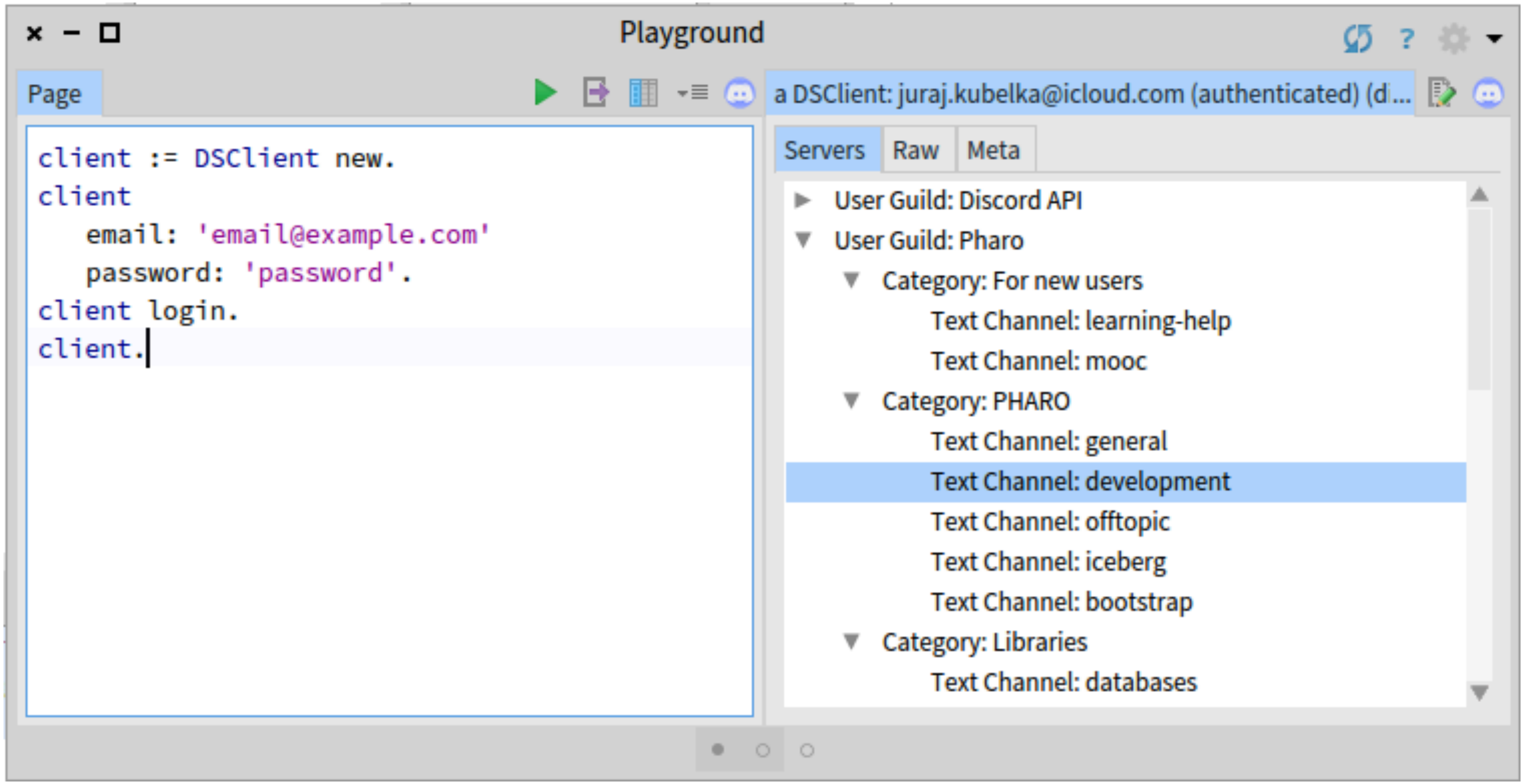
PASSWORD

Continue

By registering, you agree to Discord's Terms of Service and Privacy Policy.

Already have an account? Login

Client Examples

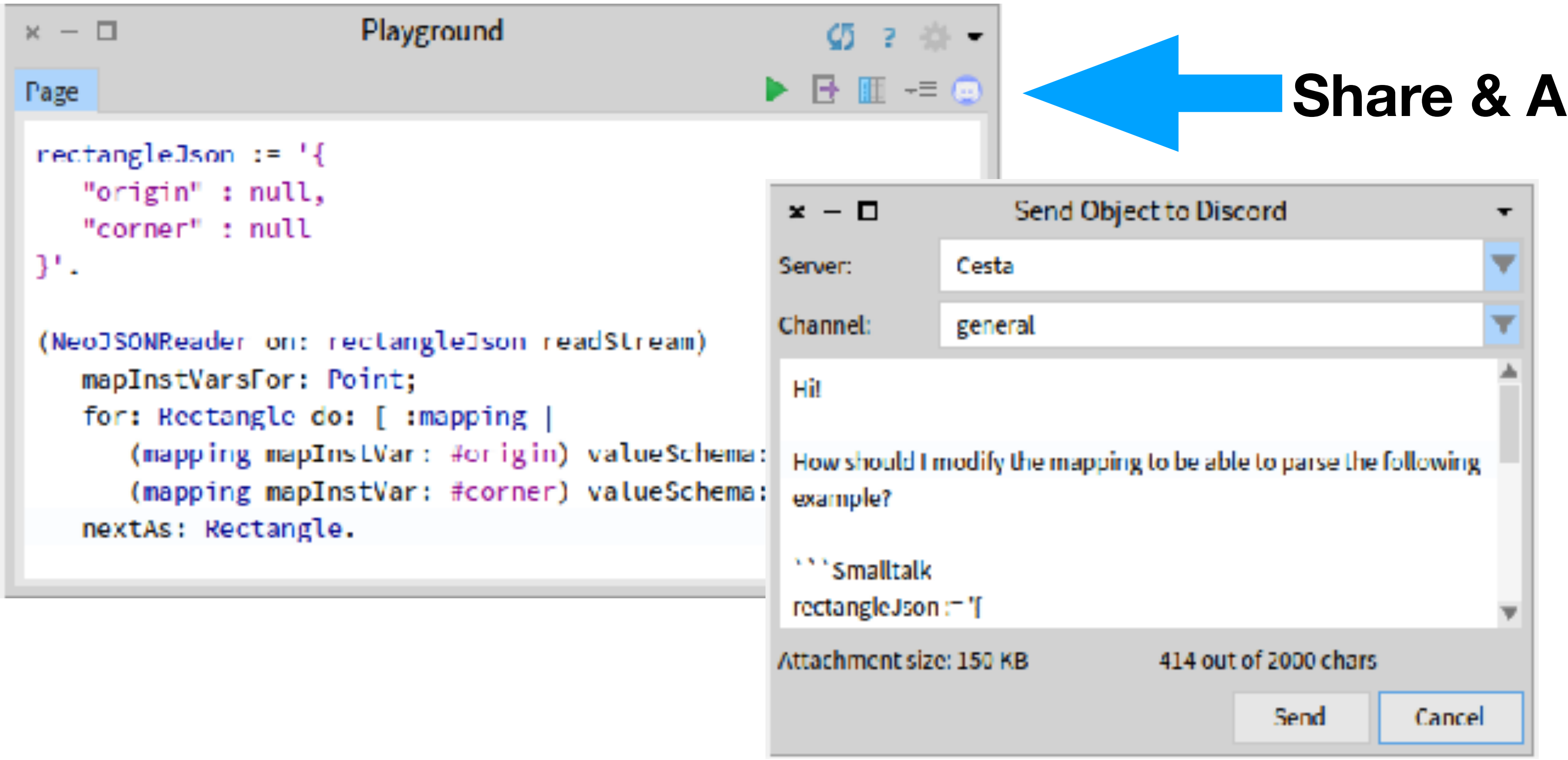


```
client := DSClient new.
client
   email: 'email@example.com'
   password: 'password'.
client login.
client.
```

▶ User Guild: Discord API
▼ User Guild: Pharo
  ▼ Category: For new users
    Text Channel: learning-help
    Text Channel: mooc
  ▼ Category: PHARO
    Text Channel: general
    Text Channel: development
    Text Channel: offtopic
    Text Channel: iceberg
    Text Channel: bootstrap
  ▼ Category: Libraries
    Text Channel: databases

Client Use Case: Ask

Don’t you know how to solve your task? Ask!



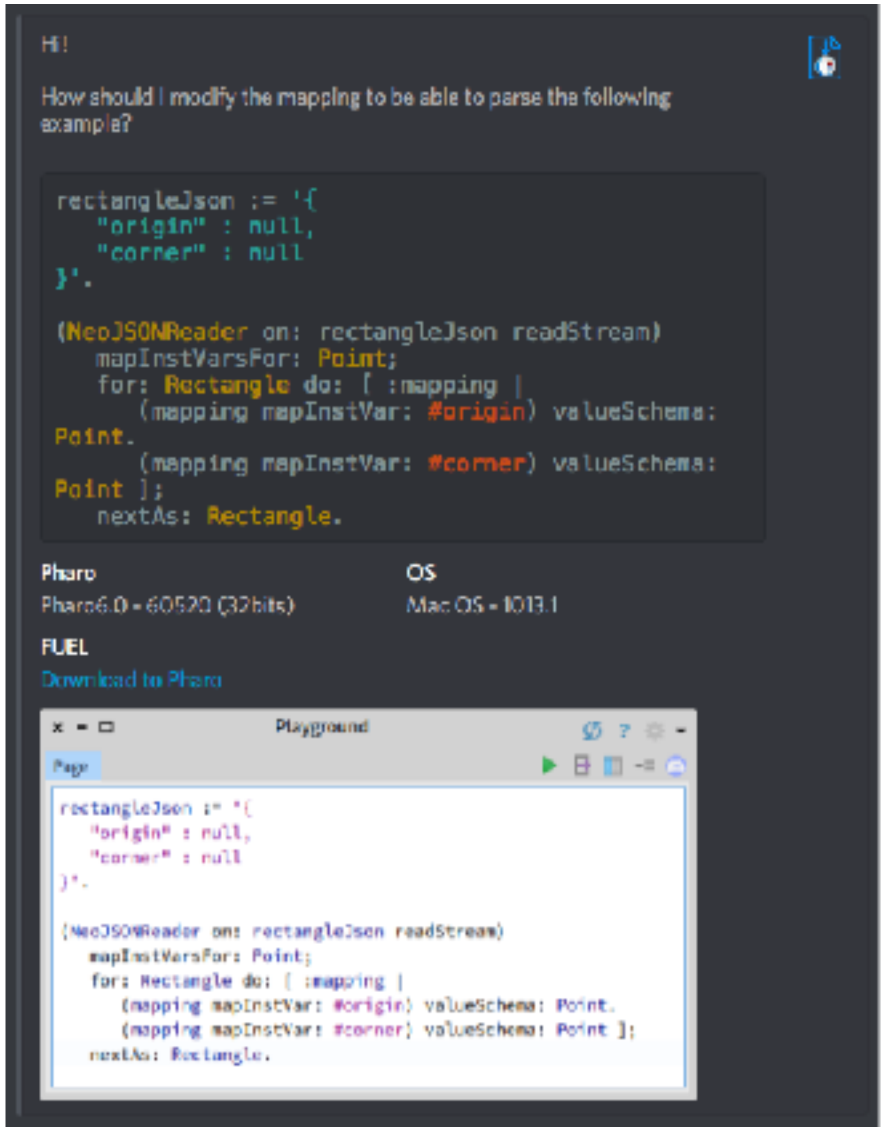
```
rectangleJson := '{
   "origin" : null,
   "corner" : null
}'.

(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Rectangle do: [ :mapping |
      (mapping mapInstVar: #origin) valueSchema:
      (mapping mapInstVar: #corner) valueSchema:
   nextAs: Rectangle.
```

Server: Cesta

Channel: general

Hi!

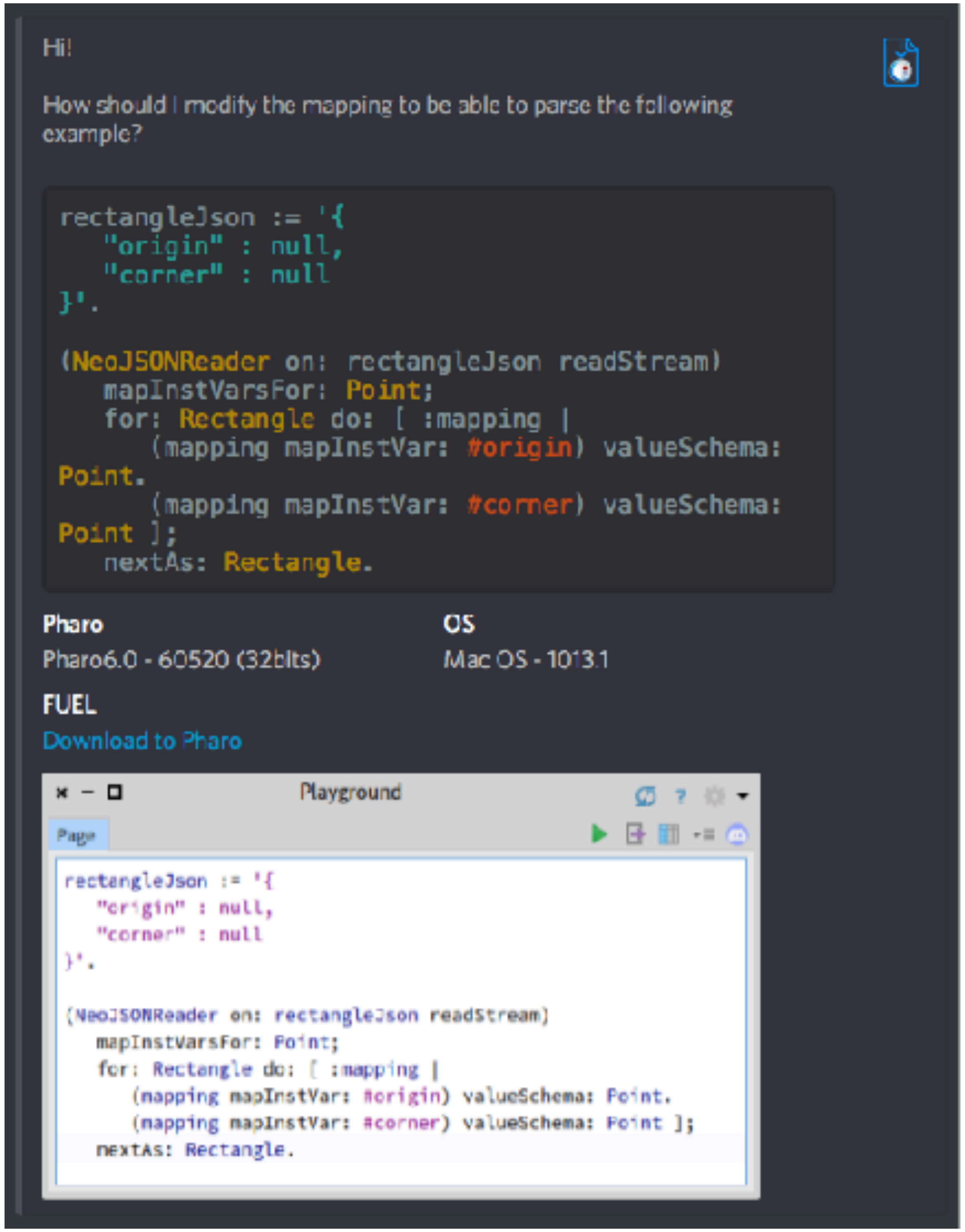
How should I modify the mapping to be able to parse the following example?

```Smalltalk
rectangleJson := '{

Attachment size: 150 KB    414 out of 2000 chars

Send
Cancel

**Share & Ask**


Hi!

How should I modify the mapping to be able to parse the following example?

```
rectangleJson := '{
   "origin" : null,
   "corner" : null
}'.

(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Rectangle do: [ :mapping |
      (mapping mapInstVar: #origin) valueSchema:
Point.
      (mapping mapInstVar: #corner) valueSchema:
Point ];
   nextAs: Rectangle.
```

Pharo
Pharo6.0 - 60520 (32bits)

OS
Mac OS - 1013.1

FUEL
Download to Pharo

Playground
Page

```
rectangleJson := '{
   "origin" : null,
   "corner" : null
}'.

(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Rectangle do: [ :mapping |
      (mapping mapInstVar: #origin) valueSchema: Point.
      (mapping mapInstVar: #corner) valueSchema: Point ];
   nextAs: Rectangle.
```

```
"Require:
GT-Playground-JurajKubelka.151
GT-Tests-Playground-JurajKubelka.5"
Gofer it
	smalltalkhubUser: 'Moose' project: 'GToolkit';
	package: 'GT-Playground';
	package: 'GT-Tests-Playground';
	load.
```
```

Client Use Case: Answer



Hi!

How should I modify the mapping to be able to parse the following example?

```
rectangleJson := '{
   "origin" : null,
   "corner" : null
}'.

(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Rectangle do: [ :mapping |
      (mapping mapInstVar: #origin) valueSchema:
Point.
      (mapping mapInstVar: #corner) valueSchema:
Point ];
   nextAs: Rectangle.
```

Pharo	OS
Pharo6.0 - 60520 (32bits)	Mac OS - 1013.1

FUEL

Download to Pharo

```
rectangleJson := '{
   "origin" : null,
   "corner" : null
}'.

(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Rectangle do: [ :mapping |
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      (mapping mapInstVar: #corner) valueSchema: Point ];
   nextAs: Rectangle.
```
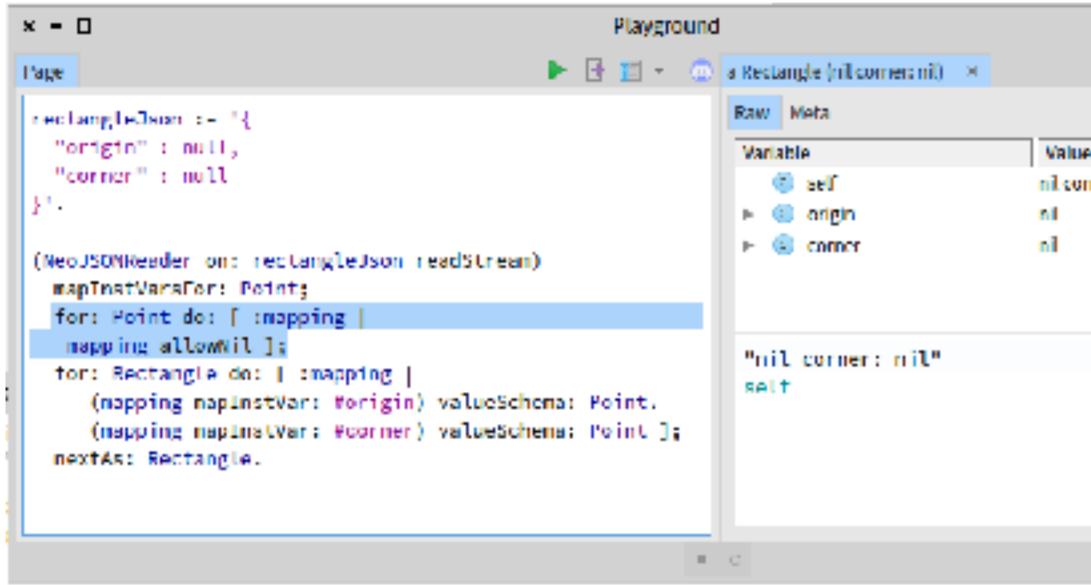

Download

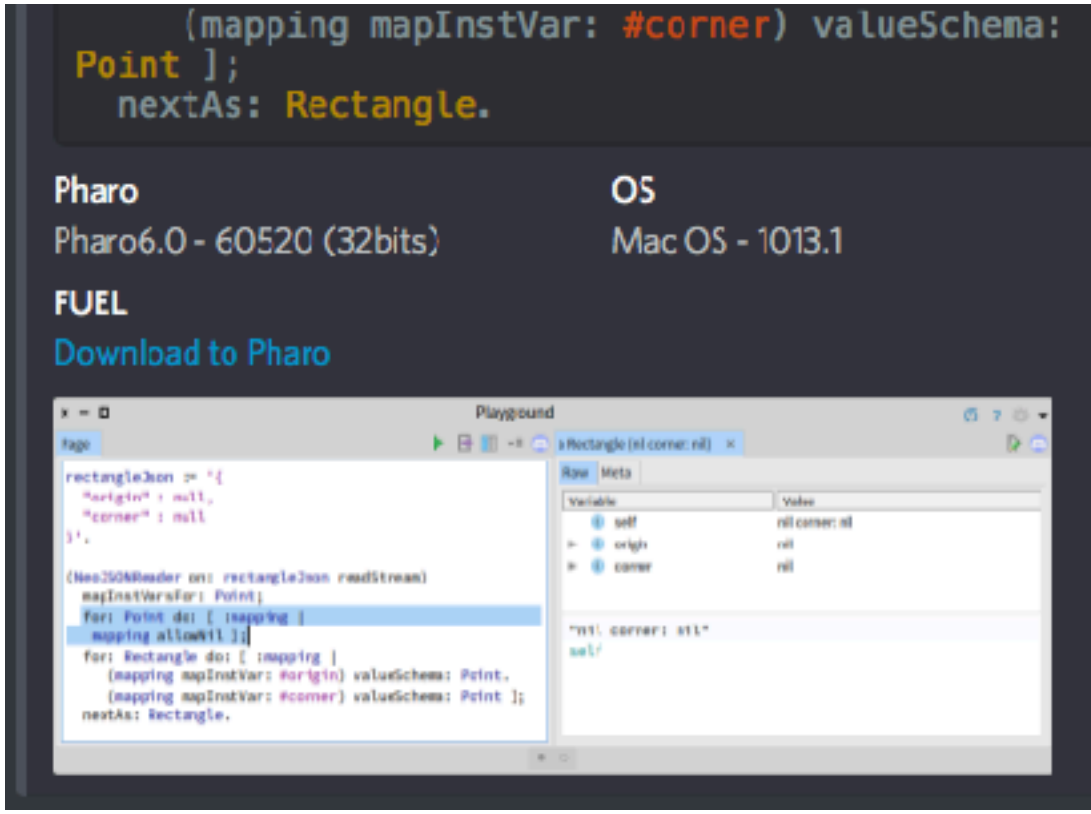
Edit & Share



```
rectangleJson := '{
   "origin" : null,
   "corner" : null
}'.

(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Point do: [ :mapping |
   mapping allowNil ];
   for: Rectangle do: [ :mapping |
      (mapping mapInstVar: #origin) valueSchema: Point.
      (mapping mapInstVar: #corner) valueSchema: Point ];
   nextAs: Rectangle.
```

Variable	Value
self	nil corner: nil
origin	nil
corner	nil

```
"nil corner: nil"
self
```



```
      (mapping mapInstVar: #corner) valueSchema:
Point ];
   nextAs: Rectangle.
```

Pharo	OS
Pharo6.0 - 60520 (32bits)	Mac OS - 1013.1

FUEL

Download to Pharo

```
rectangleJson := '{
   "origin" : null,
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(NeoJSONReader on: rectangleJson readStream)
   mapInstVarsFor: Point;
   for: Point do: [ :mapping |
   mapping allowNil ];
   for: Rectangle do: [ :mapping |
      (mapping mapInstVar: #origin) valueSchema: Point.
      (mapping mapInstVar: #corner) valueSchema: Point ];
   nextAs: Rectangle.
```

Variable	Value
self	nil corner: nil
origin	nil
corner	nil

"nil corner: nil"
self

Discussion

What other use cases would you like to try?

What would you like to discuss directly from Pharo?