



Exam Next Friday (08/10/2021)

Revise the last this TD correct and the previous one
Revise Ruby Courses

Setup

1. launch the VM
2. launch Sublime Editor
3. launch a terminal
4. Use IRB to test some snippets of code

```
→ hugues$ irb
irb(main):001:0> puts "Hello, world!"
Hello, world!
=> nil
irb(main):002:0> exit
→ hugues $
```

Write the class in a file

```
# user.rb
class User
  # class constants
  ME_NAME = 'Hugues'
  ME_LASTNAME = 'Bernet-Rollande'

  # instance variables
  attr_accessor :firstname, :lastname

  # initialize
  def initialize(firstname:, lastname:)
    self.firstname = firstname
    self.lastname = lastname
  end

  # instance method
  def name
    "#{firstname} #{lastname}"
  end

  # class method
  def self.me
    new(firstname: ME_NAME, lastname: ME_LASTNAME)
  end
end
```

Use it in IRB

```
→ hugues$ irb
irb(main):001:0> load 'user.rb'
=> true
irb(main):002:0> User.new(firstname: "Steve", lastname: "Jobs").name
→ "Steve Jobs"
irb(main):002:0> User.me.name
→ "Steve Jobs"
```

!! You can redo `load 'user.rb'`
to reload the file

HTTParty

Terminal

```
gem install httparty  
irb
```

IRB

```
require 'httparty'  
result = HTTParty.get(  
  'https://slack.com/api/conversations.list?limit=50',  
  headers: {  
    Authorization: "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"  
  }  
)  
channels = result.parsed_response['channels']
```

Given the following code blocks

Fetch a list of channels

```
require 'httparty'
authorization = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
response = HTTParty.get(
  'https://slack.com/api/conversations.list?limit=50',
  headers: {
    Authorization: authorization
  }
)
channels = response.parsed_response['channels']
for channel in channels
  puts "#{channel['id']}: #{channel['name']}"
end
# => C02E24403SB: general
# ...
```

Fetch a list of messages

```
# require 'httparty' # no need to re-include if already loaded
# authorization = ... # no need to redefine if already defined
channel = 'C02E24403SB'
response = HTTParty.get(
  "https://slack.com/api/conversations.history?limit=50&channel=#{channel}",
  headers: {
    Authorization: authorization
  }
)
messages = response.parsed_response['messages']
for message in messages
  puts "#{message['ts']}: #{message['text']}"
end
# => 1632912974.000500: Hello
# ...
```


Post a message

```
# require 'httparty' # no need to re-include if already loaded
# authorization = ... # no need to redefine if already defined
# channel = ... # no need to redefine if already defined
text = "Hello World"
response = HTTParty.post(
  "https://slack.com/api/chat.postMessage?channel=#{channel}&text=#{CGI.escape(text)}",
  headers: { Authorization: authorization }
)
message = response.parsed_response['message']
puts "#{message['ts']}: #{message['text']}"
# => 1632912974.000500: Hello World
```

Update a message

```
ts = '1632920336.000100'
text = "Hello World, again!"
response = HTTParty.put(
    "https://slack.com/api/chat.update?channel=#{channel}&text=#{CGI.escape(text)}&ts=#{ts}",
    headers: { Authorization: authorization }
)
message = response.parsed_response['message']
puts "#{message['ts']}: #{message['text']}"
# => 1632920410.000300: Hello World
```

Delete a message

```
ts = '1631695747.001300'
response = HTTParty.delete(
    "https://slack.com/api/chat.delete?channel=#{channel}&ts=#{ts}",
    headers: { Authorization: authorization }
)
success = response.parsed_response['ok']
puts success
# => true
```

A. Write a slack client Class in a file `slack_client.rb` which allow to access the list of conversation

```
load 'slack_client.rb' # load the class written in the slack_client.rb
authorization = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
client = Slack::Client.new(authorization: authorization)
conversations = client.get_conversations
# puts conversations.inspect # optional to "inspect" the content of conversations
conversations.each do |conversation|
  puts "#{conversation['id']}: #{conversation['name']}"
end
# => C02E24403SB: general
# ...
```

A. Correction

```
# slack_client.rb
require 'httparty'
module Slack
  class Client
    attr_accessor :authorization

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      response.parsed_response['channels']
    end
  end
end
```

B. Add a default client initialize with the correct authorization.

```
load 'slack_client.rb'
client = Slack::Client.default_client
conversations = client.get_conversations
conversations.each do |conversation|
  puts "#{conversation['id']}: #{conversation['name']}"
end
# => C02E24403SB: general
# ...
```

B. Correction

```
# slack_client.rb
require 'httparty'
module Slack
  class Client
    DEFAULT_AUTHORIZATION = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
    attr_accessor :authorization

    def self.default_client
      new(authorization: DEFAULT_AUTHORIZATION)
    end

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      response.parsed_response['channels']
    end
  end
end
```

C. Add messages fetching to your Slack Client

```
load 'slack_client.rb'
client = Slack::Client.default_client
conversations = client.get_conversations
conversation_id = conversations.first['id']
messages = client.get_messages(
  conversation_id: conversation_id
)
# puts messages.inspect
messages.each do |message|
  puts "#{message['ts']}: #{message['text']}"
end
# => 1632912974.000500: Hello
# => 1632912975.000500: World
```


C. Correction

```
# slack_client.rb
require 'httparty'
module Slack
  class Client
    DEFAULT_AUTHORIZATION = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
    attr_accessor :authorization

    def self.default_client
      new(authorization: DEFAULT_AUTHORIZATION)
    end

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      response.parsed_response['channels']
    end

    def get_messages(conversation_id:)
      response = HTTParty.get(
        "https://slack.com/api/conversations.history?limit=50&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['messages']
    end
  end
end
```

D. Add message posting to your slack client

```
load 'slack_client.rb'
client = Slack::Client.default_client
conversations = client.get_conversations
conversation_id = conversations.first['id']
message = client.post_message(
  conversation_id: conversation_id,
  text: 'Hello'
)
puts "#{message['ts']}: #{message['text']}"
# => 1632912974.000500: Hello
```

D. Correction

```
# slack_client.rb
require 'httparty'
module Slack
  class Client
    DEFAULT_AUTHORIZATION = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
    attr_accessor :authorization

    def self.default_client
      new(authorization: DEFAULT_AUTHORIZATION)
    end

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      response.parsed_response['channels']
    end

    def get_messages(conversation_id:)
      response = HTTParty.get(
        "https://slack.com/api/conversations.history?limit=50&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['messages']
    end

    def post_message(conversation_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.post(
        "https://slack.com/api/chat.postMessage?limit=50&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['message']
    end
  end
end
```

E. Add message updating to your slack client

```
load 'slack_client.rb'
client = Slack::Client.default_client
conversations = client.get_conversations
conversation_id = conversations.first['id']
message = client.post_message(
  conversation_id: conversation_id,
  text: 'Hello'
)
puts message.inspect
puts "#{message['ts']}: #{message['text']}"
# => 1632912974.000500: Hello
message = client.update_message(
  conversation_id: conversation_id,
  message_id: message['ts'],
  text: 'World'
)
puts message.inspect
puts "#{message['ts']}: #{message['text']}"
# => 1632912974.000500: World
```

E. Correction

```
# slack_client.rb
require 'httparty'
module Slack
  class Client
    DEFAULT_AUTHORIZATION = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
    attr_accessor :authorization

    def self.default_client
      new(authorization: DEFAULT_AUTHORIZATION)
    end

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      response.parsed_response['channels']
    end

    def get_messages(conversation_id:)
      response = HTTParty.get(
        "https://slack.com/api/conversations.history?limit=50&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['messages']
    end

    def post_message(conversation_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.post(
        "https://slack.com/api/chat.postMessage?limit=50&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['message']
    end

    def update_message(conversation_id:, message_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.post(
        "https://slack.com/api/chat.update?limit=50&ts=#{message_id}&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['message']
    end
  end
end
```

F. Add message deleting to your slack client

```
load 'slack_client.rb'
client = Slack::Client.default_client
conversations = client.get_conversations
conversation_id = conversations.first['id']
message = client.post_message(
  conversation_id: conversation_id,
  text: 'Hello'
)
puts message.inspect
puts "#{message['ts']}: #{message['text']}"
# => 1632912974.000500: Hello
success = client.delete_message(
  conversation_id: conversation_id,
  message_id: message['ts']
)
puts success
```

F. Correction

```
# slack_client.rb
require 'httparty'
module Slack
  class Client
    DEFAULT_AUTHORIZATION = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
    attr_accessor :authorization

    def self.default_client
      new(authorization: DEFAULT_AUTHORIZATION)
    end

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      response.parsed_response['channels']
    end

    def get_messages(conversation_id:)
      response = HTTParty.get(
        "https://slack.com/api/conversations.history?limit=50&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['messages']
    end

    def post_message(conversation_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.post(
        "https://slack.com/api/chat.postMessage?limit=50&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['message']
    end

    def update_message(conversation_id:, message_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.put(
        "https://slack.com/api/chat.update?limit=50&ts=#{message_id}&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['message']
    end

    def delete_message(conversation_id:, message_id:)
      response = HTTParty.delete(
        "https://slack.com/api/chat.delete?limit=50&ts=#{message_id}&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['ok']
    end
  end
end
```

G. Define a new class to encapsulate the conversations and messages Hashes

```
load 'slack_client.rb'
client = Slack::Client.default_client
conversations = client.get_conversations
conversations.each do |conversation|
  puts "#{conversation.id}: #{conversation.name}" # note the `.id` instead of conversation['id']
end
# => C02E24403SB: general
# ...
conversation = conversations.first
messages = conversation.get_messages
messages.each do |message|
  puts "#{message.id}: #{message.text}"
end
# => 1632912974.000500: Hello
# ...
message = conversation.create_message(text: 'Hello')
puts "#{message.id}: #{message.text}"
# => 1632912974.000500: Hello
message = message.update(text: 'World')
puts "#{message.id}: #{message.text}"
# => 1632912856.000300: World
message.delete
```


G. Correction 1/3

The correction is explode in 3 different files

```
# slack_client.rb
require 'httparty'
load 'slack_conversation.rb'
load 'slack_message.rb'
module Slack
  class Client
    DEFAULT_AUTHORIZATION = "Bearer xoxp-2486113197334-2492860403907-2492926538098-76ac2d6b0dcc5d6a24b3c72889355468"
    attr_accessor :authorization

    def self.default_client
      new(authorization: DEFAULT_AUTHORIZATION)
    end

    def initialize(authorization:)
      self.authorization = authorization
    end

    def get_conversations
      response = HTTParty.get(
        'https://slack.com/api/conversations.list?limit=50',
        headers: { Authorization: self.authorization }
      )
      conversations = response.parsed_response['channels']
      # convert the array of conversation hashes in an array of conversation objects
      conversations.map do |conversation|
        Conversation.new(id: conversation['id'], name: conversation['name'])
      end
    end

    def get_messages(conversation_id:)
      response = HTTParty.get(
        "https://slack.com/api/conversations.history?limit=50&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      # convert the array of messages hashes in an array of message objects
      messages = response.parsed_response['messages']
      messages.map do |message|
        Message.new(id: message['ts'], text: message['text'], conversation_id: conversation_id)
      end
    end

    def post_message(conversation_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.post(
        "https://slack.com/api/chat.postMessage?limit=50&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      message = response.parsed_response['message']
      Message.new(id: message['ts'], text: message['text'], conversation_id: conversation_id)
    end

    def update_message(conversation_id:, message_id:, text:)
      encoded_test = CGI.escape(text)
      response = HTTParty.put(
        "https://slack.com/api/chat.update?limit=50&ts=#{message_id}&channel=#{conversation_id}&text=#{encoded_test}",
        headers: { Authorization: authorization }
      )
      message = response.parsed_response['message']
      message = response.parsed_response['message']
      Message.new(id: message['ts'], text: message['text'], conversation_id: conversation_id)
    end

    def delete_message(conversation_id:, message_id:)
      response = HTTParty.delete(
        "https://slack.com/api/chat.delete?limit=50&ts=#{message_id}&channel=#{conversation_id}",
        headers: { Authorization: authorization }
      )
      response.parsed_response['ok']
    end
  end
end
```

G. Correction 2/3

```
# slack_conversation.rb
require 'httparty'
module Slack
  class Conversation
    attr_accessor :id, :name

    def initialize(id:, name:)
      self.id = id
      self.name = name
    end

    def get_messages
      client.get_messages(
        conversation_id: self.id
      )
    end

    def create_message(text:)
      client.post_message(
        conversation_id: self.id,
        text: text
      )
    end

    private

    def client
      Client.default_client
    end
  end
end
```

G. Correction 3/3

```
# slack_message.rb
require 'httparty'
module Slack
  class Message
    attr_accessor :id, :text, :conversation_id

    def initialize(id:, text:, conversation_id:)
      self.id = id
      self.text = text
      self.conversation_id = conversation_id
    end

    def update(text:)
      client.update_message(
        conversation_id: conversation_id,
        message_id: self.id,
        text: text
      )
    end

    def delete
      client.delete_message(
        conversation_id: conversation_id,
        message_id: self.id
      )
    end

    private

    def client
      Client.default_client
    end
  end
end
```