

Pre-employment screening (2025)

In the context of this screening test, we kindly ask you to complete the following tasks, which will help us better understand your experience with the Python and TypeScript programming languages. For solving the tasks, you may use the official documentation of the programming languages as well as other online resources (for example, discussion forums like StackOverflow). Please complete the tasks using Python version 3 and the latest stable version of TypeScript and React framework. We kindly ask that you include the exact version of the interpreter used in the comments at the beginning of your code and provide a "requirements.txt" file with a list of all dependencies and their versions.

Structure of the tasks

- a) Task 1 is mandatory task,
- b) Task 2 is optional

1. Task – Metadata mining

Write a program to extract all issues from the Github project, e.g. <https://github.com/cloudnative-pg/cloudnative-pg>, process all issue comments into a Markdown text string and skip all robot messages. Explicitly store initial message (definition of the problem), also in Markdown. Assign the issue with it's state on Github, use 'no reaction' if only initial message and/or robot messages are present.

Example of resulting JSON file

```
$ python3 issuer.py --output json
[
  {
    "title": "", // issue name
    "id": 0, // issue id
    "state": "", // open, closed, no reaction
    "first": "", // first issue message
    "messages": ""
  },
]
```

Example of "messages" string:

```
$ python3 issuer.py -output json | jq -r '.[0].messages'
Hello, I have issue with...
---
This is a comment. Does it help?
---
Yes, thanks.
```

2. Task – Simple issue visualizer

Visualize issues collected in the previous task on a simple web application. You should create responsive design capable of displaying number of issues. Style of the visualization is intentionally not defined.