

YAMLine Specification

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Аннотация

This paper presents general YAML pipeline syntax ... Мягкие булочки ☺☺☺

1. Elements specifications

YAML Pipeline is a set of YAML mappings that specify workflow. There are following types of YAML elements:

- stage:

```
{
  "[name]": "str",
  "try": [],
  "[except]": [],
  "[else]": [],
  "[finally]": [],
  "[when]": "str"
}
```

- step:

```
{
  "[name]": "str",
  "strategy": "str",
  "[sets]": "str",
  "[args]": [],
  "[kwargs]": {"str": object},
  "[when]": "str"
}
```

- pipeline:

```
{
  "[aliases]": "str",
  "[import]": ["str"],
  "[metadata]": {"str": object},
  "[values]": {"str": object},
  "[name]": "str",
  "try": [],
  "[except]": [],
  "[else]": [],
  "[finally]": [],
  "[when]": "str"
}
```

```
[] = ["stage", "step"]
```

2. General YAML Pipeline info

pipeline variables Pipeline element manages variables that were setted in steps via `sets: str` key value pair. `str` represented in special variable syntax `{{ variable name }}` strictly matching folowing regexp `(?<={{}}.*(?:=))`. Pipeline variables may be sent to executing step as a `args` and `kwargs` fields. All variables are have a global pipeline scope. If two steps set same variable name then the last step will override value that was set before.

name Every YAML pipeline element has the optional `name: str` mapping. This field is intednet to be used as an identifier for import or as a description.

when Every YAML pipeline element has the optional `when: str` mapping. An element containig `when: str` key value pair will only be executed if Python call `bool(eval(str))` call will return `True`. `refpipeline` variables may be used in evaluation e. g.: `when: len({{ var_name }}) > 10`. Variables name will be changed by parsing mechanism that above expression will be evaluated as: `len(var_name) > 10` strictly matching folowing regexp `{{.*}}`.

3. Step

strategy A string in URI syntax that specifies function (callable) e.g.: `strategy://strategies/database/experience_ids`

strategy A string in URI syntax: `strategy://strategies/database/experi`

sets Single variable name in pipeline varibales syntax e.g.: `{{ var_name }}`

args An array of values and/or pipeline variables e.g.:

```
args:
- {{ var_name1 }}
- {{ var_name2 }}
- 543
- Hallo World
```

kwargs A mapping of key values pairs and values may be concrete values and/or pipeline variables e.g.:

```
kwargs:
  db_columns_to_match: {{ var_name }}
  db_metadata_to_match:
    bots_count: 24
    arenas: 2
    pvp_bots: false
    groups: 1
```

4. Stage

try

except

else

finally

5. Pipeline

aliases

import

metadata

values

6. Aliases system

There is a possibility to assign an alias for any YAML element. To specify an alias for the YAML element one should create .yaml file with following mappings:

7. Results

In this section we describe the results.

8. Conclusions

We worked hard, and achieved very little.