

YAMLine Specification

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Abstract

This paper presents general YAML pipeline syntax ...

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 intended 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**. Pipeline 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 following 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/experience_ids`

sets Single variable name in pipeline variables 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 mapings:

7 Results

In this section we describe the results.

8 Conclusions

We worked hard, and achieved very little.