

Functest K8s Hunter

README.md (source from Functest-Xtesting)

Xtesting in a nutshell

Xtesting is a simple framework to assemble sparse test cases and to accelerate the adoption of continuous integration best practices. By managing all the interactions with the components (test scheduler, test results database, artifact repository), it allows the developer to work only on the test suites without diving into CI/CD.

It asks for a few low constraints [quickly achievable](#) to verify multiple components in the same CI/CD toolchain. Even more, it brings the capability to run third-party test cases in our CI toolchains and then to also rate network functions by the coverage.

Please see [the Katacoda scenarios](#) to try Xtesting. You will love them!

Write your own Xtesting driver

dump all the following files in an empty dir

weather.py

```
#!/usr/bin/env python

# pylint: disable=missing-docstring

import json
import os
import sys
import time

import requests

from xtesting.core import testcase

class Weather(testcase.TestCase):

    url = "https://samples.openweathermap.org/data/2.5/weather"
    city_name = "London,uk"
    app_key = "439d4b804bc8187953eb36d2a8c26a02"

    def run(self, **kwargs):
        try:
            self.start_time = time.time()
            req = requests.get("{}?q={}&appid={}".format(
                self.url, self.city_name, self.app_key))
            req.raise_for_status()
            data = req.json()
            os.makedirs(self.res_dir, exist_ok=True)
            with open('{}dump.txt'.format(self.res_dir), 'w+') as report:
                json.dump(data, report, indent=4, sort_keys=True)
            for key in kwargs:
                if data["main"][key] > kwargs[key]:
                    self.result = self.result + 100/len(kwargs)
            self.stop_time = time.time()
        except Exception: # pylint: disable=broad-except
            print("Unexpected error:", sys.exc_info()[0])
            self.result = 0
            self.stop_time = time.time()
```

setup.py

```
#!/usr/bin/env python

# pylint: disable=missing-docstring

import setuptools

setuptools.setup(
    setup_requires=['pbr>=2.0.0'],
    pbr=True)
```

setup.cfg

```
[metadata]
name = weather
version = 1

[files]
packages = .

[entry_points]
xtesting.testcase =
    weather = weather:Weather
```

requirements.txt

```
xtesting
requests!=2.20.0,!=2.24.0 # Apache-2.0
```

testcases.yaml

```

---
tiers:
  -
    name: simple
    order: 0
    description: ''
    testcases:
      -
        case_name: humidity
        project_name: weather
        criteria: 100
        blocking: true
        clean_flag: false
        description: ''
        run:
          name: weather
          args:
            humidity: 80
      -
        case_name: pressure
        project_name: weather
        criteria: 100
        blocking: true
        clean_flag: false
        description: ''
        run:
          name: weather
          args:
            pressure: 1000
      -
        case_name: temp
        project_name: weather
        criteria: 100
        blocking: true
        clean_flag: false
        description: ''
        run:
          name: weather
          args:
            temp: 280
    -
      name: combined
      order: 1
      description: ''
      testcases:
        -
          case_name: half
          project_name: weather
          criteria: 50
          blocking: true
          clean_flag: false
          description: ''
          run:
            name: weather
            args:
              humidity: 90
              pressure: 1000
              temp: 280

```

Dockerfile

```
FROM alpine:3.12

ADD . /src/
RUN apk --no-cache add --update python3 py3-pip py3-wheel git && \
    git init /src && pip3 install /src
COPY testcases.yaml /usr/lib/python3.8/site-packages/xtesting/ci/testcases.yaml
CMD ["run_tests", "-t", "all"]
```

make world

Deploy your own Xtesting toolchain

```
virtualenv xtesting
. xtesting/bin/activate
pip install ansible
ansible-galaxy install collivier.xtesting
ansible-galaxy collection install ansible.posix community.general community.grafana community.kubernetes
ansible-playbook site.yml
deactivate
rm -r xtesting
```

Build your container

```
sudo docker build -t 127.0.0.1:5000/weather .
```

Publish your container on your local repository

```
sudo docker push 127.0.0.1:5000/weather
```

That's all folks!