Unit Testing Your Web Application

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Acknowledgement of Country

Belmont (in San Francisco Bay Area Peninsula)

Ancestral homeland of the Ramaytush Ohlone people

I live in Belmont, in the San Francisco Bay Area Peninsula. I wish to acknowledge it as the ancestral homeland of the Ramaytush Ohlone people.

0.1 Pyramid Example

0.1.1 Static view

Static Value

```python
def empty(request):
    return pyramid.response.Response(
        json.dumps({}).encode("ascii"),
        content_type="application/json",
    )
with pyramid.config.Configurator() as config:
    config.add_route("root", "/")
    config.add_view(empty, route_name="root")
    app = config.make_wsgi_app()
```

Static View Retrieval

```python
request = client.get("/")
request.json()
```

```
{}
```

0.1.2 JSON Renderer

JSON View

```python
def json(request):
    return {}
with pyramid.config.Configurator() as config:
    config.add_route("root", "/")
    config.add_view(empty, route_name="root")
    config.add_route("json", "/json")
    config.add_view(json, route_name="json", renderer="json")
    app = config.make_wsgi_app()
```

JSON View Retrieval

```python
request = client.get("/json")
request.json()
```

```
{}
```

0.1.3 Using Parameters

Parameter View

```python
def params(request):
    return dict(thing=request.params["thing"])
with pyramid.config.Configurator() as config:
    config.add_route("root", "/")
    config.add_view(empty, route_name="root")
    config.add_route("json", "/json")
    config.add_view(json, route_name="json", renderer="json")
    config.add_route("params", "/params")
    config.add_view(params, route_name="params", renderer="json")
    app = config.make_wsgi_app()
```

Parameter View Retrieval

```python
request = client.get("/params?thing=hello")
request.json()
```

```
{'thing': 'hello'}
```

0.1.4 Using Route Matches

Parameter View

```python
def matches(request):
    return dict(name=request.matchdict["name"])
with pyramid.config.Configurator() as config:
    config.add_route("root", "/")
    config.add_view(empty, route_name="root")
    config.add_route("json", "/json")
    config.add_view(json, route_name="json", renderer="json")
    config.add_route("params", "/params")
    config.add_view(params, route_name="params", renderer="json")
    config.add_route("matches", "/matches/{name}")
    config.add_view(matches, route_name="matches", renderer="json")
    app = config.make_wsgi_app()
```

Parameter View Retrieval

```python
request = client.get("/matches/hello")
request.json()
```

```
{'name': 'hello'}
```

0.1.5 Using Request Body

Body View

```
def body(request):
    return dict(field=request.json_body["field"])
with pyramid.config.Configurator() as config:
    config.add_route("root", "/")
    config.add_view(empty, route_name="root")
    config.add_route("json", "/json")
    config.add_view(json, route_name="json", renderer="json")
    config.add_route("params", "/params")
    config.add_view(params, route_name="params", renderer="json")
    config.add_route("matches", "/matches/{name}")
    config.add_view(matches, route_name="matches", renderer="json")
    config.add_route("body", "/body")
    config.add_view(body, route_name="body", renderer="json")
    app = config.make_wsgi_app()
```

Body View Retrieval

```
request = client.post("/body", json=dict(field="hello"))
request.json()
```

```
{'field': 'hello'}
```

0.2 Pyramid Concepts

0.2.1 View

0.2.2 Route

0.2.3 Configurator

0.2.4 Registry

0.2.5 Scanning

0.3 Python Web Concepts

0.3.1 WSGI

0.3.2 `httpx`

0.4 Unit Testing

0.4.1 Mocking Functions

0.4.2 Mocking Request

0.4.3 Calling WSGI

0.4.4 Using `httpx`

0.5 Summary

0.5.1 Pyramid: Concepts

0.5.2 Unit Testing: Why?

0.5.3 Unit Testing: How?