pytest-remote-response

Release 2.1.2

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CONTENTS

CHAPTER

ONE

GETTING STARTED

1.1 Installation

1.1.1 PyPI

```
$ pip install pytest-remote-response
```

1.1.2 GitHub

```
$ git clone https://github.com/devanshshukla99/pytest-remote-response
$ cd pytest-remote-response
$ pip install .
```

or

```
$ pip install -e git+git://github.com/devanshshukla99/pytest-remote-response.git
↪#egg=pytest-remote-response
```

1.2 Usage

Table 1: Supported interceptors:

Library	Interceptors
urllib	*urllib* *_urllib*
urllib3	*urllib3* *_urllib3*
requests	*requests*
aiohttp	*aiohttp*

1.2.1 pytest plugin

Once, installed the plugin will register automatically with pytest with its configuration options available via `pytest --help`.

```
$ pytest --help
```

The plugin is only applicable to function wrapped with the *pytest_response.app.Response.activate()* decorator.

Handling connection requests

- **Block remote connections:**

```
$ pytest --remote-block
```

- **Capture remote requests:**

```
$ pytest --remote-capture
```

- **Mock remote requests:**

```
$ pytest --remote-response
```

- **Database dump:**

The database dump file can be specified using the `remote_response_database` ini-config option with pytest. These config options can be set through `pytest.ini`, `pyproject.toml`, `tox.ini` or `setup.cfg`. Follow the pytest_config docs for more info.

Examples

```
$ pytest --remote-block
$ pytest --remote-capture
$ pytest --remote-response
```

1.2.2 Standalone package

The tools implemented in this package can be easily ported to any other application, with mimial config required:

Basic usage:

```
from pytest_response import response

# Setup the database file
response.setup_database("database.json")

# Block outgoing connections
response.configure(remote=False, capture=False, response=False)
```

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```
# Capture outgoing connections
response.configure(remote=True, capture=True, response=False)

# Mock outgoing connections
response.configure(remote=True, capture=False, response=True)

# Applies the interceptor
response.post({INTERCEPTOR})

...
...

# Cleanup
response.unpost()
```

Note: Here {INTERCEPTORS} can be *str* or *list*

Examples:

Block connections in urllib

```
# Block outgoing connections for `urllib` library

from pytest_response import response

# Setting up a clean database
response.setup_database("database.json")

# Block outgoing connections
response.configure(remote=False, capture=False, response=False)

# Applies the `urllib` interceptor
response.post("urllib")

# It's important to import the function after setting up `response`,
# to make sure the monkey patched version is used
from urllib.request import urlopen  # noqa

# Since the connections are blocked, this request will
# error out with :class:`~pytest_response.exceptions.RemoteBlockedError`
r = urlopen("https://www.python.org")

# Cleanup
response.unpost()
```

Capture connections in requests

```
# Capture outgoing connections for `requests` library

from pytest_response import response

# Setting up a clean database
response.setup_database("database.json")

# Capture outgoing connections
response.configure(remote=True, capture=True, response=False)

# Applies the `requests` interceptor
response.post("requests")

# It's important to import the function after setting up `response`,
# to make sure the monkey patched version is used
import requests  # noqa

# Since the interceptors are in capture mode, the response data and headers
# will be dumped in the database file, i.e. database.json
r = requests.get("https://www.python.org")

# Cleanup
response.unpost()
```

Mock connections in urllib3

```
# Mock outgoing connections for `urllib3` library

from pytest_response import response

# Spoof outgoing connections
response.configure(remote=True, capture=False, response=True)

# Applies the `urllib3` interceptor
response.post("urllib3")

# It's important to import the function after setting up `response`,
# to make sure the monkey patched version is used
import urllib3  # noqa

http = urllib3.PoolManager()
url = "https://www.python.org"

# Since the interceptors are in response mode, the response data and headers
# will be spoofed with saved data in the database;
# if the query comes back empty, this request will
# error out with :class:`pytest_response.exceptions.ResponseNotFound`
res = http.request("GET", url)
assert res.status == 200
```

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```
# Cleanup
response.unpost()
```

Mock connections in urllib3 using decorator

```
import urllib3  # noqa

from pytest_response import response

response.configure(remote=True, capture=True, response=False)


@response.activate("urllib3")
def get_url():
    http = urllib3.PoolManager()
    url = "https://www.python.org"

    # Since the interceptors are in response mode, the response data and headers
    # will be spoofed with saved data in the database;
    # if the query comes back empty, this request will
    # error out with :class:`pytest_response.exceptions.ResponseNotFound`
    res = http.request("GET", url)
    assert res.status == 200
    assert res.data


get_url()
```

Using `ResponseDB`

```
# Import the database interface :class:`pytest_response.database.ResponseDB`
from base64 import b64encode

from pytest_response.database import ResponseDB

# Setup the database
db = ResponseDB(path="database.json")

# Insert new element
url = "https://www.python.org"
status = 200
headers = {}
data = b""
db.insert(url=url, status=status, response=data, headers=headers)

# Verify the index
assert b64encode(url.encode()).decode() in db.index()
```

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```
# Query for an URL
url = "https://www.python.org"
get_status, get_data, get_headers = db.get(url)

# Verify the data is unchanged
assert status == get_status
assert data == get_data
assert headers == get_headers
```

CHAPTER

TWO

WHY PYTEST-REMOTE-RESPONSE?

Nowadays, many of our tests fetch some data or are in some way connected to an online service.

But, what if the service is down? or modified its response?

? It's a lot more challenging to ascertain the fault in such cases.

This package attempts to mock some external requests to make the tests more self-contained and reduce the requests to the outside world!

Perhaps solve some HTTP 429's too.

Note: Due to some limitations, it is not advisible to run the tests in completely offline-environments.

Get in touch if interested in testing such cases!

CHAPTER

THREE

HOW IT WORKS?

pytest-remote-response works on top of interceptors specific for each library.

In a nutshell, interceptors wrap the library calls, thereby attaching additional mock/capture logic.

Note: For some nerds, interceptors uses `MonkeyPatch` to monkey patch the original library with a wrapped one.

This approach certainly has some benefits and limitations; for instance, it's surprisingly easy to write new interceptors as it's only a wrapper method but it's only applicable when that method is called explicitly; for countering this, *pytest-remote-response* ships with two more deep interceptors *_urllib* and *_urllib3*.

Warning: *_urllib* and *_urllib3* are more low-level but are plagued with threading issues; use them carefully!

3.1 Interceptor

Note: Any custom intercept must have at-least `install` and `uninstall` methods and should return a *BaseMockResponse*

3.1.1 Example

```
from functools import warps

# Import `response` instance to get access to :class:`~pytest.MonkeyPatch` and
# :class:`~pytest_response.database.ResponseDB`
from pytest_response import response

# Library wrapper
def wrapper(func):
    @wraps(func)
    def inner_func(url, *args, **kwargs):
        # Check if response is `True`, if `True` spoof the request from the database
        if response.response:
            status, data, headers = response.get(url=url)
            return MockResponse(status, data, headers)
```

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```
        # Actual library call
        lib_response = func(url, *args, **kwargs)

        # Check if capture is `True`, if `True` then extract and dump the response into␣
↪the database.
        if not response.capture:
            return _

        # Extract data, headers and status from `lib_response`

        response.insert(url=url, response=data, headers=dict(headers), status=_.status)
        return _
    return inner_func

class MockResponse(BaseMockResponse):
    # A basic Mock Response for spoofing data, headers and status
    def __init__(self, status, data, headers={}):
        super().__init__(status, data, headers)
    pass


def install():
    # A basic install method for Monkey Patching the library
    lib_call = library.call
    wrapped_lib_call = urlopen_wrapper(lib_call)
    response.mpatch.setattr("library.call", wrapped_lib_call)
    return


def uninstall():
    # A basic uninstall method
    response.mpatch.undo()
```

3.2 Database

`pytest-remote-response` has *ResponseDB* to facilitate talking to the database. Internally, its actually a wrapper for `sqlite3`.

Primary communication methods are *insert()* and *get()*.

Note: Some fields such as `headers` and `data` are compressed using `zlib` to reduce the over-all footprint.

Table 1: Database fields

Fields	Dumped as
url	`str` – `base64.b64encode()` serialized
cache_date	`str`
status	`str`
headers	`str` – `base64.b64encode()` serialized after `zlib.compress()`
response	`str` – `base64.b64encode()` serialized after `zlib.compress()`

3.2.1 Example

```
# Import the database interface :class:`pytest_response.database.ResponseDB`
from base64 import b64encode

from pytest_response.database import ResponseDB

# Setup the database
db = ResponseDB(path="database.json")

# Insert new element
url = "https://www.python.org"
status = 200
headers = {}
data = b""
db.insert(url=url, status=status, response=data, headers=headers)

# Verify the index
assert b64encode(url.encode()).decode() in db.index()

# Query for an URL
url = "https://www.python.org"
get_status, get_data, get_headers = db.get(url)

# Verify the data is unchanged
assert status == get_status
assert data == get_data
assert headers == get_headers
```

CHAPTER

FOUR

API DOCUMENTATION

4.1 pytest plugin

pytest_response.plugin.**pytest_addoption**(*parser*)
Pytest hook for adding cmd-line options.

Adds relevent cmd-line and ini-config options.

pytest_response.plugin.**pytest_configure**(*config*)
Pytest hook for setting up *pytest_response.app.Response*

pytest_response.plugin.**pytest_unconfigure**(*config*)
Pytest hook for cleaning up.

4.2 Response

class pytest_response.app.**BaseMockResponse**(*status: int*, *data: bytes*, *headers: dict = {}*)
Bases: object

Basic response for mocking requests.

Parameters

- **status** (*int*) – Status code of the response.
- **data** (*bytes*) – Response data.
- **headers** (*dict*, optional) – Default to *{}*.

close() → None

flush()

getcode() → int

info() → dict

read(**args*, ***kwargs*) → bytes
Wrapper for _io.BytesIO.read

readinto(**args*, ***kwargs*) → bytes
Wrapper for _io.BytesIO.readinto

readline(**args*, ***kwargs*) → bytes
Wrapper for _io.BytesIO.readline

class pytest_response.app.**Response**(*path: str = 'interceptors'*, *capture: bool = False*, *remote: bool = False*, *response: bool = False*, *log_level: str = 'debug'*, *database: str = 'database.db'*)

Bases: object

Controlling and configuration application for `pytest-remote-response`

Parameters

- **path** (*str*, optional) – Path for the interceptors. Defaults to *pytest_response.interceptors*
- **capture** (*bool*, optional) – if *True* captures data and headers in the database. Defaults to *False*
- **remote** (*bool*, optional) – if *False* blocks connection requests. Defaults to *False*
- **response** (*bool*, optional) – if *True* responds with data and headers from the database. Defaults to *False*
- **log_level** (*str*, optional) – Log level. Defaults to *debug*

Examples

```
>>> from pytest_response import response
>>> response.setup_database({{ Path to the database}})
>>> response.post({{ Interceptor }})
>>> ...
>>> response.unpost()
```

activate(*interceptors: Union[str, list]*)

Wrapper to apply the interceptor decorator.

Parameters **interceptor** (*str*, *list*) – interceptors to apply

Examples

```
>>> @response.activate("urllib_quick")
>>> def test_urllib():
>>>     url = "https://www.python.org"
>>>     r = urlopen(url)
>>>     assert r.status == 200
```

apply(*mock: Optional[Union[str, list]] = None*) → bool

Activates intercepter module provided in *mock* otherwise activates all.

Parameters **mock** (*str*, optional) – Applies the mock.

property available: List[str]

property capture: bool

configure(*remote: bool = False*, *capture: bool = False*, *response: bool = False*) → None

Helper method for configuring interceptors.

Parameters

- **remote** (*bool*, optional) – If *False* blocks connection requests. Defaults to *False*.
- **capture** (*bool*, optional) – If *True* captures data and headers in the database. Defaults to *False*.

- **response** (*bool*, optional) – If *True* responds with data and headers from the database. Defaults to *False*.

get(*url: str*, **args*, ***kwargs*)
Wrapper function for *pytest_response.database.ResponseDB.get()*

Parameters **url** (*str*) – URL to be queried.

Returns

- **status** (*int*) – Status code
- **data** (*bytes*) – Response data.
- **headers** (*dict*) – Response header.

insert(*url: str*, *response: bytes*, *headers: str*, *status: int*, **args*, ***kwargs*) → bool
Wrapper function for *pytest_response.database.ResponseDB.insert()*

Parameters

- **url** (*str*) – URL of the dump.
- **response** (*bytes*) – Data captured.
- **headers** (*str*) – Headers captured.
- **status** (*int*) – Status code of the response.
- ****kwargs** (*dict*) – Any additional parameter to be dumped.

post(*mock: Union[str, list]*) → None
Registers and applies the mock under the same hood.

Internally uses *Response.register()* followed by *Response.apply()*

Parameters **mock** (*str*) – Registers and applies the mock.

register(*mock: Union[str, list]*) → None
Registers interceptor modules; applies using *Response.apply()*

Parameters **mock** (*str*, *list*) – Interceptor; check *Response.available()* for more info.

registered() → Dict[str, module]
Returns registered modules.

Returns Returns the list of registered interceptors.

Return type *list* of *pathlib.Path*

property remote: bool

property response: bool

setup_database(*path: str*) → bool
Method to setup-up database.

Parameters **path** (*str*) – Path for the database.

unapply(**args*, ***kwargs*) → bool
Un-applies interceptor modules.

unpost() → bool
Unapplied and unregisters mocks under the same hood.

Internally uses *Response.unapply()* followed by *Response.unregister()*

unregister() → bool
Deactivates interceptor modules.

4.3 Database

class pytest_response.database.**ResponseDB**(*path: str*)
Bases: object

Wrapper class for sqlite3

Parameters **path** (*str*) – Path for the database

Examples

```
>>> db = ResponseDB("database.db")
```

all() → dict
Method to return all records in the database.

Returns

Return type Return list of all elements.

close() → None

get(*url: str*, ***kwargs*) → Tuple[int, bytes, dict]
Method for getting response and header for a perticular query *url*. Currently working by locating *url* only; multi-query to be implemented later.

Parameters **url** (*str*) – URL to be queried.

Returns

- **status** (*int*) – Status code
- **data** (*bytes*) – Response data.
- **headers** (*dict*) – Response header.

index(*index: Optional[str] = 'url'*) → List[str]
Returns all occurances of the column *index*.

Parameters **index** (*str*) – Defaults to *url*.

Returns **_occurances** – All occurances of the selected column *index*.

Return type *list*

insert(*url: str*, *response: bytes*, *headers: dict*, *status: Optional[int] = 200*, ***kwargs*) → None
Method for dumping url, headers and responses to the database. All additonal kwargs are dumped as well.

Parameters

- **url** (*str*) – URL of the dump.
- **response** (*bytes*) – Data captured.
- **headers** (*str*) – Headers captured.
- **status** (*int*) – Status code of the response.

- **kwargs** (*dict*) – Any additional parameter to be dumped.

setup() → bool
Function to setup the database table.

today = '2023-04-27'

truncate() → bool
Method to purge all records in the database.

4.4 Interceptors

4.4.1 *urllib* Interceptor module

Functions

urlopen_wrapper(func)	Wrapper for urllib.request
install()	Method to monkey patch the library call with the wrapped one.
uninstall()	Method to undo all monkey patches.

urlopen_wrapper

pytest_response.interceptors.urllib.**urlopen_wrapper**(*func*)
Wrapper for urllib.request

install

pytest_response.interceptors.urllib.**install**()
Method to monkey patch the library call with the wrapped one.

uninstall

pytest_response.interceptors.urllib.**uninstall**()
Method to undo all monkey patches.

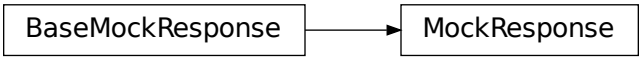
Classes

MockResponse(status, data[, headers])	

MockResponse

class pytest_response.interceptors.urllib.**MockResponse**(*status*, *data*, *headers={}*)
Bases: *pytest_response.app.BaseMockResponse*

Class Inheritance Diagram



4.4.2 *urllib* Interceptor module (*unstable*)

Functions

install()	
uninstall()	

install

pytest_response.interceptors._urllib.**install**()

uninstall

pytest_response.interceptors._urllib.**uninstall**()

Classes

ResponseSocketIO(sock, mode)	Provides a method to write the value of the buffer into another var for dumping.
ResponseSocket(host, port, *args, **kwargs)	Socket implementation of Pytest-Response
Response_SSLSocket(*args, **kwargs)	SSLSocket implementation of Pytest-Response
ResponseHTTPConnection(host[, port, ...])	Wrapper for *~http.client.HTTPConnection*
ResponseHTTPHandler([debuglevel])	Override the default HTTPHandler class with one that uses the ResponseHTTPConnection class to open HTTP URLs.
ResponseHTTPResponse(sock[, debuglevel, ...])	Provides a way to capture or respond with a saved response.

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Table 4 – continued from previous page

ResponseHTTPSConnection(host[, port, ...])	Override the default *~HTTPSConnection* to use *~ResponseSocket*
ResponseHTTPSHandler([debuglevel, context, ...])	Override the default HTTPSHandler class with one that uses the ResponseHTTPSConnection class to open HTTP URLs.

ResponseSocketIO

class pytest_response.interceptors._urllib.**ResponseSocketIO**(*sock*, *mode*)

Bases: socket.SocketIO

Provides a method to write the value of the buffer into another var for dumping. Wrapper for *~socket.SocketIO*.

Methods Summary

readinto(b)	Wrapper function for *socket.SocketIO.readinto*

Methods Documentation

readinto(*b*)

Wrapper function for *socket.SocketIO.readinto*

ResponseSocket

class pytest_response.interceptors._urllib.**ResponseSocket**(*host*, *port*, **args*, ***kwargs*)

Bases: _socket.socket

Socket implementation of Pytest-Response

Provides *ResponseSocket.makefile* method to return a buffer built with *ResponseSocketIO*

Methods Summary

close()	Close the socket.
connect(*args, **kwargs)	Connects to host in capturing mode otherwise passes.
makefile([mode, buffering, encoding, ...])	Provides makefile() method which returns a Buffered IO built with *ResponseSocketIO*
sendall(data, *args, **kwargs)	Wrapper for *_socket.socket.sendall*

Methods Documentation

close()
Close the socket. It cannot be used after this call.

connect(**args*, ***kwargs*)
Connects to host in capturing mode otherwise passes.

Wrapper for *_socket.socket.connect*

makefile(*mode='r'*, *buffering=None*, *encoding=None*, *errors=None*, *newline=None*, **args*, ***kwargs*)
Provides makefile() method which returns a Buffered IO built with *ResponseSocketIO*

sendall(*data*, **args*, ***kwargs*)
Wrapper for *_socket.socket.sendall*

Response_SSLSocket

class pytest_response.interceptors._urllib.**Response_SSLSocket**(**args*, ***kwargs*)
Bases: ssl.SSLSocket

SSLSocket implementation of Pytest-Response

Provides a wrapper *recv_into* for capturing the response.

ResponseHTTPConnection

class pytest_response.interceptors._urllib.**ResponseHTTPConnection**(*host*, *port=None*, *timeout=<object object>*, *source_address=None*, *blocksize=8192*)
Bases: http.client.HTTPConnection

Wrapper for *~http.client.HTTPConnection*

Methods Summary

connect()	Override the connect() function to intercept calls.
request(method, url[, body, headers, ...])	Send a complete request to the server.

Methods Documentation

connect()
Override the connect() function to intercept calls.

request(*method*, *url*, *body=None*, *headers={}*, ***, *encode_chunked=False*)
Send a complete request to the server.

ResponseHTTPHandler

class pytest_response.interceptors._urllib.**ResponseHTTPHandler**(*debuglevel=0*)

Bases: urllib.request.HTTPHandler

Override the default HTTPHandler class with one that uses the ResponseHTTPConnection class to open HTTP URLs.

Methods Summary

http_open(req)

Methods Documentation

http_open(*req*)

ResponseHTTPResponse

class pytest_response.interceptors._urllib.**ResponseHTTPResponse**(*sock*, *debuglevel=0*, *method=None*, *headers=None*)

Bases: http.client.HTTPResponse

Provides a way to capture or respond with a saved response.

Methods Summary

begin(*args, **kwargs)

Methods Documentation

begin(**args*, ***kwargs*)

ResponseHTTPSConnection

class pytest_response.interceptors._urllib.**ResponseHTTPSConnection**(*host*, *port=None*, *key_file=None*, *cert_file=None*, *timeout=<object object>*, *source_address=None*, ***, *context=None*, *check_hostname=None*, *blocksize=8192*)

Bases: http.client.HTTPSConnection, *pytest_response.interceptors._urllib.ResponseHTTPConnection*

Override the default *~HTTPSConnection* to use *~ResponseSocket*

Methods Summary

connect()	Connect to a host on a given (SSL) port.
request(method, url[, body, headers, ...])	Send a complete request to the server.

Methods Documentation

connect()
Connect to a host on a given (SSL) port.

request(*method*, *url*, *body=None*, *headers={}*, ***, *encode_chunked=False*)
Send a complete request to the server.

ResponseHTTPSHandler

class pytest_response.interceptors._urllib.**ResponseHTTPSHandler**(*debuglevel=0*, *context=None*, *check_hostname=None*)

Bases: urllib.request.HTTPSHandler

Override the default HTTPSHandler class with one that uses the ResponseHTTPSConnection class to open HTTP URLs.

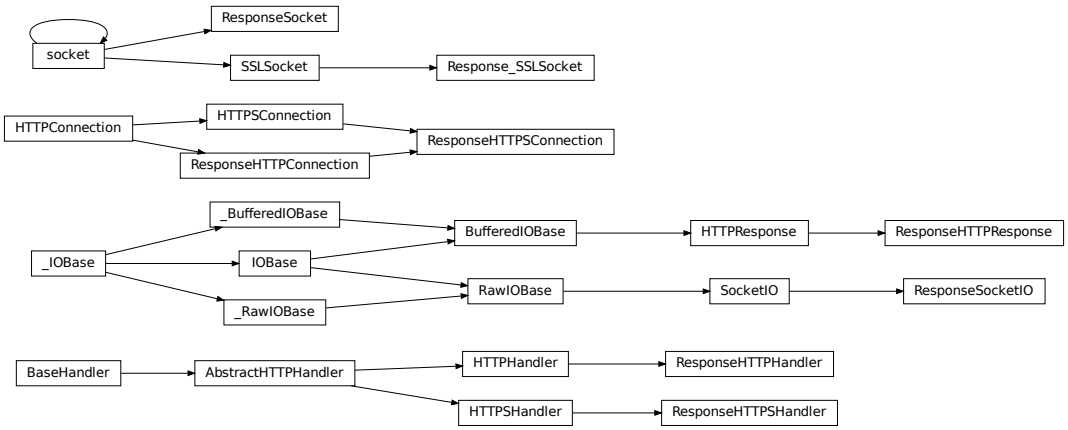
Methods Summary

https_open(req)

Methods Documentation

https_open(*req*)

Class Inheritance Diagram



4.4.3 *urllib3* Interceptor module

Functions

urlopen_wrapper(func)	Wrapper for urllib3.HTTPConnectionPool.urlopen()
install()	Method to monkey patch the library call with the wrapped one.
uninstall()	Method to undo all monkey patches.

urlopen_wrapper

pytest_response.interceptors.urllib3.**urlopen_wrapper**(*func*)

Wrapper for urllib3.HTTPConnectionPool.urlopen()

install

pytest_response.interceptors.urllib3.**install**()
Method to monkey patch the library call with the wrapped one.

uninstall

pytest_response.interceptors.urllib3.**uninstall**()
Method to undo all monkey patches.

Classes

MockResponse(status, data[, headers])	

MockResponse

class pytest_response.interceptors.urllib3.**MockResponse**(*status*, *data*, *headers={}*)
Bases: *pytest_response.app.BaseMockResponse*

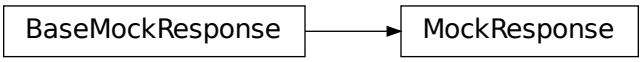
Methods Summary

get_redirect_location(*args, **kwargs)	

Methods Documentation

get_redirect_location(**args*, ***kwargs*)

Class Inheritance Diagram



4.4.4 *urllib3* Interceptor module (*unstable*)

Functions

install()	
uninstall()	

install

pytest_response.interceptors._urllib3.**install**()

uninstall

pytest_response.interceptors._urllib3.**uninstall**()

Classes

Response_HTTPU3_Intercepter(*args, **kwargs)	
Response_HTTPSU3_Intercepter(*args, **kwargs)	

Response_HTTPU3_Intercepter

class pytest_response.interceptors._urllib3.**Response_HTTPU3_Intercepter**(**args*, ***kwargs*)

Bases: *pytest_response.interceptors._urllib.ResponseHTTPConnection*, urllib3.connection.HTTPConnection

Response_HTTPSU3_Intercepter

class pytest_response.interceptors._urllib3.**Response_HTTPSU3_Intercepter**(**args*, ***kwargs*)

Bases: *pytest_response.interceptors._urllib.ResponseHTTPSConnection*, urllib3.connection.HTTPSConnection

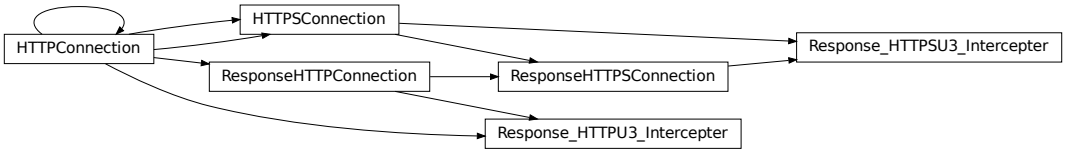
Attributes Summary

is_verified	Whether this connection verifies the host's certificate.

Attributes Documentation

is_verified = True
Whether this connection verifies the host's certificate.

Class Inheritance Diagram



4.4.5 *requests* Interceptor Module

Functions

requests_wrapper(func)	Wrapper for `requests.get()`
install()	Method to monkey patch the library call with the wrapped one.
uninstall()	Method to undo all monkey patches.

requests_wrapper

pytest_response.interceptors.requests.**requests_wrapper**(*func*)
Wrapper for `requests.get()`

install

pytest_response.interceptors.requests.**install**()
Method to monkey patch the library call with the wrapped one.

uninstall

pytest_response.interceptors.requests.**uninstall**()
Method to undo all monkey patches.

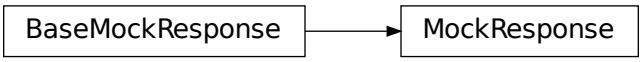
Classes

MockResponse(status, data[, headers])	

MockResponse

class pytest_response.interceptors.requests.**MockResponse**(*status*, *data*, *headers={}*)
Bases: *pytest_response.app.BaseMockResponse*

Class Inheritance Diagram



4.4.6 *aiohttp* Interceptor Module

Functions

create_wrapper(func)	Wrapper for `aiohttp.ClientResponse.text()`
get_wrapper(func)	Wrapper for `aiohttp.ClientSession.get()`
install()	Method to monkey patch the library call with the wrapped one.
uninstall()	Method to undo all monkey patches.

create_wrapper

pytest_response.interceptors.aiohttp.**create_wrapper**(*func*)
Wrapper for aiohttp.ClientResponse.text()

get_wrapper

pytest_response.interceptors.aiohttp.**get_wrapper**(*func*)
Wrapper for aiohttp.ClientSession.get()

install

pytest_response.interceptors.aiohttp.**install**()
Method to monkey patch the library call with the wrapped one.

uninstall

pytest_response.interceptors.aiohttp.**uninstall**()
Method to undo all monkey patches.

Classes

MockResponse(status, data[, headers])

MockResponse

class pytest_response.interceptors.aiohttp.**MockResponse**(*status*, *data*, *headers={}*)
Bases: *pytest_response.app.BaseMockResponse*

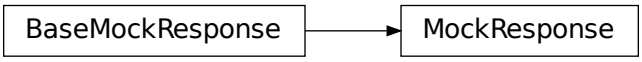
Methods Summary

text()

Methods Documentation

async text()

Class Inheritance Diagram



4.5 Exceptions

RemoteBlockedError([reason])	Exception raised when Remote connections are blocked.
ResponseNotFound([reason])	Exception raised when response is not locally available.
MalformedUrl([reason])	Exception raised when a malformed URL is encountered.
InterceptorNotFound([reason])	Exception raised when the requested interceptor is not available.
DatabaseNotFound([reason])	Exception raised when database is not initialized properly.

4.5.1 RemoteBlockedError

exception pytest_response.exceptions.**RemoteBlockedError**(*reason='A test tried to connect to internet.'*, **args*, ***kwargs*)

Exception raised when Remote connections are blocked.

4.5.2 ResponseNotFound

exception pytest_response.exceptions.**ResponseNotFound**(*reason='Response is not available; try capturing first.'*, **args*, ***kwargs*)

Exception raised when response is not locally available.

4.5.3 MalformedUrl

exception pytest_response.exceptions.**MalformedUrl**(*reason='Malformed URL encountered'*, **args*, ***kwargs*)

Exception raised when a malformed URL is encountered.

4.5.4 InterceptorNotFound

exception pytest_response.exceptions.**InterceptorNotFound**(*reason='Interceptor not available; check `Response.available `'*, **args*, ***kwargs*)

Exception raised when the requested interceptor is not available.

4.5.5 DatabaseNotFound

exception pytest_response.exceptions.**DatabaseNotFound**(*reason='Database not initialized; use ``Response.setup_database ``'*, **args*, ***kwargs*)

Exception raised when database is not initialized properly.

CHAPTER

FIVE

CHANGELOG

5.1 2.1 (2023-03-27)

5.1.1 Trivial/Internal Changes

- Migrating to towncrier for changelogs and added a workflow to check changelog entry for consistency in pull requests. (#33)

5.2 2.0.0 (2022-06-04)

5.2.1 Added/Improved Documentation

- Added documentation and examples for `activate()`. (#16)

5.2.2 Backwards Incompatible Changes

- Renamed `urllib_full` to `_urllib` and `urllib3_full` to `_urllib3`, to indicate their threading instability. (#16)
- Moving away from commandline arguments `--remote-db` / `--remote-database` in favour of ini-config option `remote_response_database` set through pytest with default value `database.db`. (#30)

5.2.3 Deprecations and Removals

- Ability to activate interceptors via command-line argument `--remote={INTERCEPTOR}` has been removed in favour of activating via `activate()` decorator. (#16)

5.2.4 Features

- pytest-remote-response now has a decorator `activate()` to apply interceptors on individual functions. It supports string, regex pattern or list of interceptors as argument. (#16)

5.2.5 Bug Fixes

- Fixed the documentation examples. (#26)

5.2.6 Trivial/Internal Changes

- Moving from `tinydb` to `sqlite3` for better threading support and reliability; no changes in public API. (#28)

5.3 1.0.0 (2021-06-30)

5.3.1 Bug Fixes

- Fixed *pytest_response.app.Response* and added another exception *DatabaseNotFound*. (#13)

5.3.2 Added/Improved Documentation

- More simplified `README.rst` page. (#7)
- Added more informative doc-strings. (#10)
- Added a supported clients list in the documentation. (#18)
- Documentation now hosts *Getting started*, *Why pytest-remote-response?* and *How it works?* pages! (#21)
- Added documentation and example usage of *ResponseDB* in the *How it works?* page. (#23)

5.3.3 Backwards Incompatible Changes

- Renamed package from `pytest-response` to `pytest-remote-response`. (#9)
- Renamed interceptors to a more clear norm. (#15)

5.3.4 Features

- Instead of moving through entire pipleline, now the interceptors will return a *pytest_response.app.BaseMockResponse* directly. (#1)
- Added a *pytest_response.app.Response.configure()* method for setting values of remote, capture and response. (#3)
- Added interceptor for `aiohttp` library. (#4)

5.3.5 Trivial/Internal Changes

- Similified `pytest_response.logger.log` use. (#3)
- Now the *pytest_response.database.ResponseDB.get()* method will automatically rstrip "/", useful in comparing URLs. (#4)
- Now `status` code will also be dumped/responded with along with `data` and `headers`. (#6)
- Simplified GitHub actions as a two step process. (#8)

CHAPTER

SIX

LICENSE

```
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```

CHAPTER

SEVEN

PYTEST-REMOTE-RESPONSE

This package provides a plugin for pytest framework for capturing and mocking connection requests during the test run.

Inspired by pook and pytest-responses.

Get started using the documentation and getting-started.

7.1 Installation

```
$ pip install pytest-remote-response
```

or

```
$ git clone https://github.com/devanshshukla99/pytest-remote-response
$ cd pytest-remote-response
$ pip install .
```

The plugin will register automatically with `pytest` framework and will be ready to use.

7.2 Supported Clients

Currently, *pytest-remote-response* supports,

- ✓ urllib
- ✓ urllib3
- ✓ requests
- ✓ aiohttp

7.3 Usage

7.3.1 Pytest plugin

The plugin works by applying monkeypatches of interceptors for different libraries using a wrapper `response.activate`. The interceptors when applied can capture, prevent or mock the connection request.

The available interceptors are listed in `response.available` method.

Example of using the decorator:

```
import urllib3
from pytest_response import response

response.configure(remote=True, capture=True, response=False)

@response.activate("urllib3")
def get_url():
    http = urllib3.PoolManager()
    url = "https://www.python.org"

    # Since the interceptors are in response mode, the response data and headers
    # will be spoofed with saved data in the database;
    # if the query comes back empty, this request will
    # error out with :class:`pytest_response.exceptions.ResponseNotFound`
    res = http.request("GET", url)
    assert res.status == 200
    assert res.data
```

Handling requests:

- **Block remote requests:** all requests are allowed by default; one can disable them using `--remote-block` flag

```
$ pytest --remote-block
```

- **Capture remote requests:** the requests can be captured in a `sqlite3` database using `--remote-capture` arg

```
$ pytest --remote-capture
```

- **Mock remote requests:** the requests can be mocked using `--remote-response`

```
$ pytest --remote-response
```

7.3.2 Standalone package

The tools implemented in this package can be easily ported to any other application, with mimial config required.

Configuration:

```
from pytest_response import response

response.setup_database({DUMP FILE})
response.post({INTERCEPTOR})
...
response.unpost()
```

7.4 Testing

Use `tox` to make sure the plugin is working:

```
$ git clone https://github.com/devanshshukla99/pytest-remote-response
$ cd pytest-remote-response
$ tox -e py38
```

See tox for more info.

7.5 Licence

This plugin is licenced under a MIT licence - see the `LICENCE` file.

CHAPTER

EIGHT

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- search

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