
mimerender Documentation

Release 0.5.1

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January 29, 2013

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mimerender is a Python module for RESTful resource variant selection using the HTTP Accept header

It acts as a decorator that wraps a HTTP request handler to select the correct render function for a given HTTP Accept header. It uses [mimeparse](#) to parse the accept string and select the best available representation.

Support for [webapp2](#) ([Google App Engine](#)), [web.py](#), [Flask](#) and [Bottle](#) is available out of the box and it's easy to add support for your favourite framework, just extend the `MimeRenderBase` class.

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1.1 Usage Examples

1.1.1 Content-Type selection

A few examples on how to use `mimerender` with the different supported frameworks. Any of these will behave this way:

```
$ curl -iH "Accept: application/html" localhost:8080/x
...
Content-Type: text/html
...
<html><body>Hello, x!</body></html>

$ curl -iH "Accept: application/xml" localhost:8080/x
...
Content-Type: application/xml
...
<message>Hello, x!</message>

$ curl -iH "Accept: application/json" localhost:8080/x
...
Content-Type: application/json
...
{"message": "Hello, x!"}

$ curl -iH "Accept: text/plain" localhost:8080/x
...
Content-Type: text/plain
...
Hello, x!
```

Bottle

```
from bottle import Bottle, run
try:
    import simplejson as json
except ImportError:
    import json
import mimerender
```

```
mimerender = mimerender.BottleMimeRender()

render_xml = lambda message: '<message>%s</message>' % message
render_json = lambda **args: json.dumps(args)
render_html = lambda message: '<html><body>%s</body></html>' % message
render_txt = lambda message: message

app = Bottle()

@app.route('/')
@app.route('/<name>')
@mimerender(
    default = 'html',
    html = render_html,
    xml = render_xml,
    json = render_json,
    txt = render_txt
)
def greet(name='world'):
    return {'message': 'Hello, ' + name + '!'}

if __name__ == "__main__":
    run(app, host='localhost', port=8080)
```

Flask

```
from flask import Flask
try:
    import simplejson as json
except ImportError:
    import json
import mimerender

mimerender = mimerender.FlaskMimeRender()

render_xml = lambda message: '<message>%s</message>' % message
render_json = lambda **args: json.dumps(args)
render_html = lambda message: '<html><body>%s</body></html>' % message
render_txt = lambda message: message

app = Flask(__name__)

@app.route('/')
@app.route('/<name>')
@mimerender(
    default = 'html',
    html = render_html,
    xml = render_xml,
    json = render_json,
    txt = render_txt
)
def greet(name='world'):
    return {'message': 'Hello, ' + name + '!'}

if __name__ == "__main__":
    app.run(port=8080)
```


Webapp2

```

import webapp2
try:
    import simplejson as json
except ImportError:
    import json
import mimerender

mimerender = mimerender.Webapp2MimeRender()

render_xml = lambda message: '<message>%s</message>' % message
render_json = lambda **args: json.dumps(args)
render_html = lambda message: '<html><body>%s</body></html>' % message
render_txt = lambda message: message

class Greet(webapp2.RequestHandler):
    @mimerender(
        default = 'html',
        html = render_html,
        xml = render_xml,
        json = render_json,
        txt = render_txt
    )
    def get(self, name):
        if not name:
            name = 'world'
        return {'message': 'Hello, ' + name + '!'}

app = webapp2.WSGIApplication([
    ('/(.*)', Greet),
], debug=True)

def main():
    from paste import httpserver
    httpserver.serve(app, host='127.0.0.1', port='8080')

if __name__ == '__main__':
    main()

```

web.py

```

import web
try:
    import simplejson as json
except ImportError:
    import json
import mimerender

mimerender = mimerender.WebPyMimeRender()

render_xml = lambda message: '<message>%s</message>' % message
render_json = lambda **args: json.dumps(args)
render_html = lambda message: '<html><body>%s</body></html>' % message
render_txt = lambda message: message

urls = (

```

```
    '/(.*)', 'greet'
)
app = web.application(urls, globals())

class greet:
    @mimerender(
        default = 'html',
        html = render_html,
        xml = render_xml,
        json = render_json,
        txt = render_txt
    )
    def GET(self, name):
        if not name:
            name = 'world'
        return {'message': 'Hello, ' + name + '!'}

if __name__ == "__main__":
    app.run()
```

1.1.2 Content-Type selection plus Exception Mapping

mimerender provides a helper decorator for mapping exceptions to HTTP Status Codes.

```
import webapp2
try:
    import simplejson as json
except ImportError:
    import json
import mimerender

mimerender = mimerender.Webapp2MimeRender()

render_xml = lambda message: '<message>%s</message>' % message
render_json = lambda **kwargs: json.dumps(kwargs)

render_xml_exception = lambda exception: '<exception>%s</exception>' % exception
render_json_exception = lambda exception: json.dumps(exception.args)

class NotFound(Exception): pass

class Greet(webapp2.RequestHandler):
    @mimerender.map_exceptions(
        mapping=(
            (ValueError, '500 Internal Server Error'),
            (NotFound, '404 Not Found')
        ),
        xml = render_xml_exception,
        json = render_json_exception,
    )
    @mimerender(
        xml = render_xml,
        json = render_json,
    )
    def get(self, id_):
        int_id = int(id_)
        if int_id != 1:
```

```

        raise NotFound('could not find item with id = %d' % int_id)
    return dict(message='found it!')

app = webapp2.WSGIApplication([
    ('/(.*)', Greet),
], debug=True)

def main():
    from paste import httpserver
    httpserver.serve(app, host='127.0.0.1', port='8080')

if __name__ == '__main__':
    main()

```

mimerender will take care of mapping `ValueError` and `NotFound` to the specified HTTP status codes, and it will serialize the exception with an acceptable Content-Type:

```

$ curl -iH "Accept: application/xml" localhost:8080/1
HTTP/1.0 200 OK
...
Content-Type: application/xml
...
<message>found it!</message>

$ curl -iH "Accept: application/xml" localhost:8080/2
HTTP/1.0 404 Not Found
...
Content-Type: application/xml
...
<exception>could not find item with id = 2</exception>

$ curl -iH "Accept: application/xml" localhost:8080/abc
HTTP/1.0 500 Internal Server Error
...
Content-Type: application/xml
...
<exception>invalid literal for int() with base 10: 'abc'</exception>

$ curl -iH "Accept: application/json" localhost:8080/1
HTTP/1.0 200 OK
...
Content-Type: application/json
...
{"message": "found it!"}

$ curl -iH "Accept: application/json" localhost:8080/2
HTTP/1.0 404 Not Found
...
Content-Type: application/json
...
["could not find item with id = 2"]

$ curl -iH "Accept: application/json" localhost:8080/abc
HTTP/1.0 500 Internal Server Error
...
Content-Type: application/json
...
["invalid literal for int() with base 10: 'abc'"]

```

1.2 API

```
class mimerender.MimeRenderBase (global_default=None,          global_override_arg_idx=None,
                                global_override_input_key=None, global_charset=None,
                                global_not_acceptable_callback=None)
```

```
__call__ (default=None, override_arg_idx=None, override_input_key=None, charset=None,
          not_acceptable_callback=None, **renderers)
```

Main mimerender decorator. Usage:

```
@mimerender(default='xml', override_arg_idx=-1, override_input_key='format', , <renderers>)
GET(self, ...) (or POST, etc.)
```

The decorated function must return a dict with the objects necessary to render the final result to the user. The selected renderer will be called with the dict contents as keyword arguments. If `override_arg_idx` isn't `None`, the wrapped function's positional argument at that index will be used instead of the Accept header. `override_input_key` works the same way, but with `web.input()`.

Example:

```
@mimerender (
    default = 'xml',
    override_arg_idx = -1,
    override_input_key = 'format',
    xhtml    = xhtml_templates.greet,
    html     = xhtml_templates.greet,
    xml      = xml_templates.greet,
    json     = json_render,
    yaml     = json_render,
    txt      = json_render,
)
def greet(self, param):
    message = 'Hello, %s!'%param
    return {'message':message}
```

```
map_exceptions (mapping, *args, **kwargs)
```

Exception mapping helper decorator. Takes the same arguments as the main decorator, plus `mapping`, which is a list of (`exception_class`, `status_line`) pairs.

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