

Django Channels

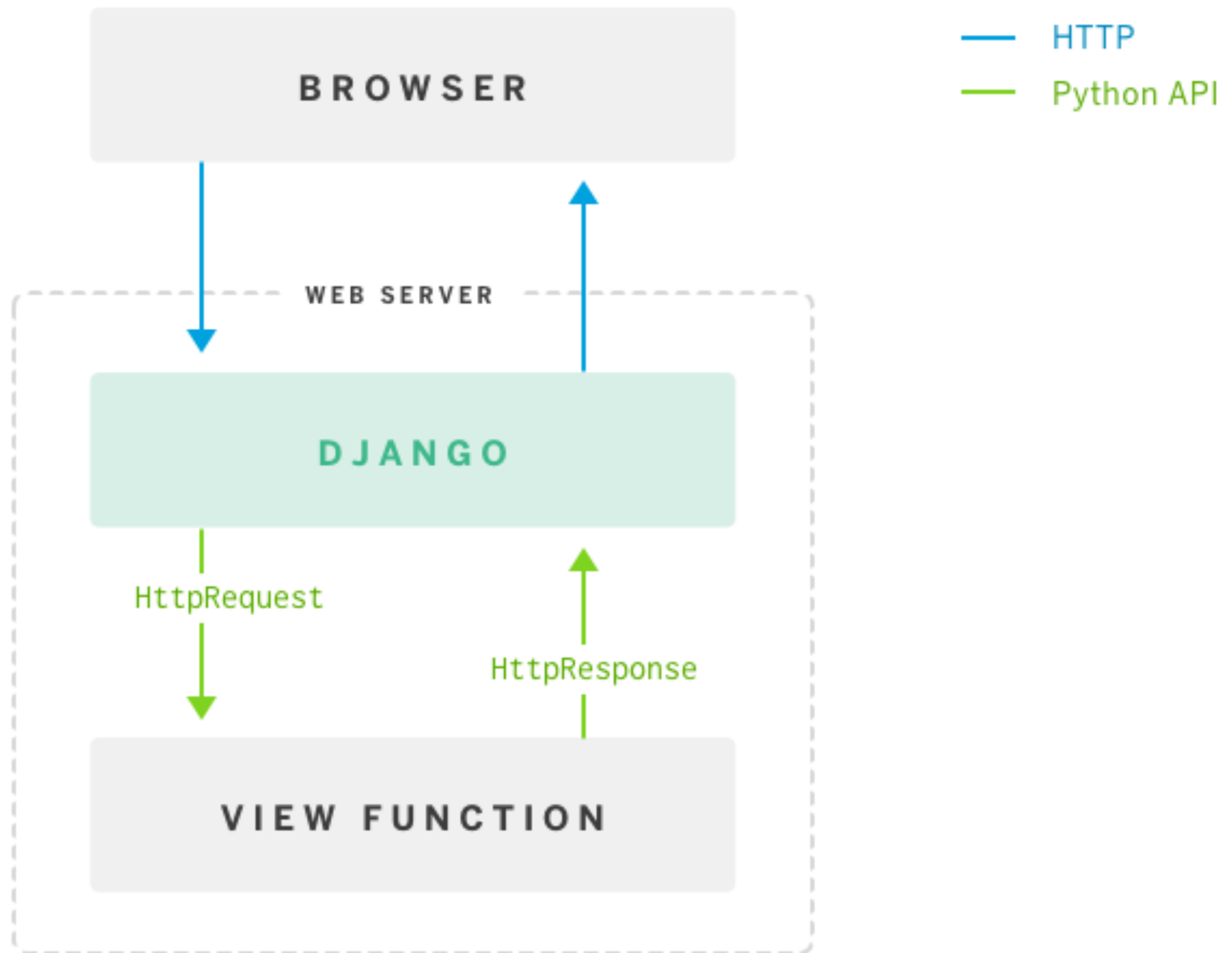
Leo Honkanen @hylje
Django-fi meetup, 31.3.2016

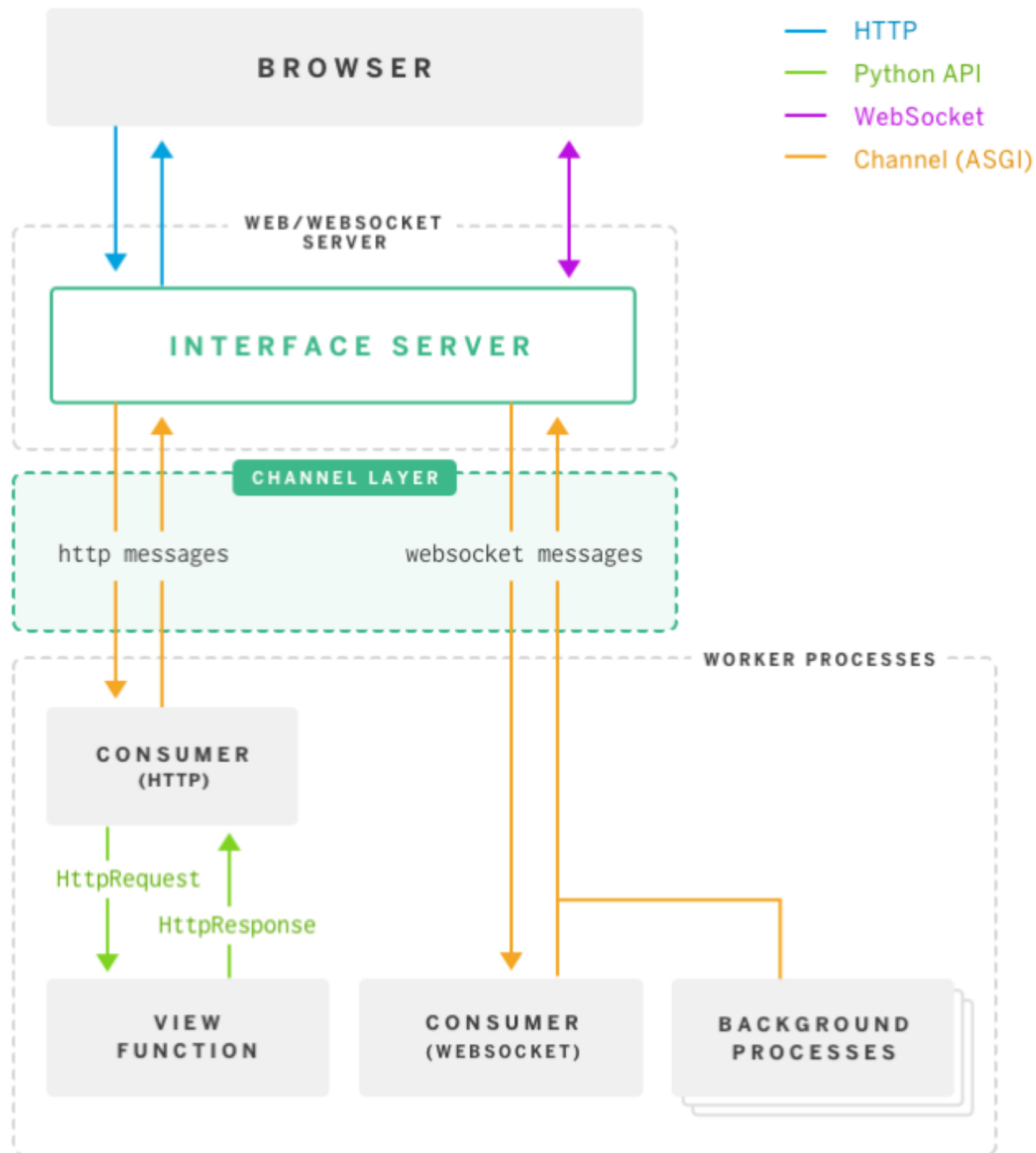
Channels

Channels Is

- Django + Workers
- Not just request / response
- WebSockets too
- Independent background consumers

- Following graphics from Jacob Kaplan-Moss's blog post (search "django channels jacob")





Channels Is Not

- No Task Scheduler like Celery (celerybeat)

Demo: Channels Board

- Channels-enabled Imageboard
- New posts by anyone are instantly added to threads being browsed using WebSockets
- Thread index updates are pushed over another WebSocket as notifications to all forum browsers

Demo is over

- Code is at: github.com/hylje/channelsdemo
- Channels doesn't have a lot of documentation yet! Even with a simple app like this, some trial and error was needed to make pieces fit.
- The error messages look like this:

```
[2016/03/31 12:53:21] WebSocket DISCONNECT /board/ [127.0.0.1:65486]
[2016/03/31 12:53:21] HTTP GET /files/res/2/thisisbait_MG5x68a.png.200x200_q85.png 304 [0.01, 127.0.0.1:65483]
[2016/03/31 12:53:21] HTTP GET /files/res/2/thisisbait_AfLtSzu.png.200x200_q85.png 304 [0.01, 127.0.0.1:65484]
[2016/03/31 12:53:21] HTTP GET /files/res/2/thisisbait.png.200x200_q85.png 304 [0.02, 127.0.0.1:65479]
[2016/03/31 12:53:21] WebSocket CONNECT /board/ [127.0.0.1:65507]
[2016/03/31 12:53:21] WebSocket CONNECT /thread/2/ [127.0.0.1:65508]
[2016/03/31 12:53:50] HTTP POST /post/2/ 302 [0.05, 127.0.0.1:65479]
```

Unhandled Error

Traceback (most recent call last):

```
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/channels/management/commands/runserver.py", line 82, in inner_run
    http_timeout=60, # Shorter timeout than normal as it's dev
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/server.py", line 49, in run
    reactor.run(installSignalHandlers=self.signal_handlers)
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/twisted/internet/base.py", line 1194, in run
    self.mainLoop()
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/twisted/internet/base.py", line 1203, in mainLoop
    self.runUntilCurrent()
--- <exception caught here> ---
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/twisted/internet/base.py", line 825, in runUntilCurrent
    call.func(*call.args, **call.kw)
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/server.py", line 69, in backend_reader
    self.factory.dispatch_reply(channel, message)
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/http_protocol.py", line 246, in dispatch_reply
    self.reply_protocols[channel].serverSend(message["text"], False)
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/ws_protocol.py", line 97, in serverSend
    self.sendMessage(content.encode("utf8"), binary)
File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/autobahn/websocket/protocol.py", line 2142, in sendMessage
    assert(type(payload) == bytes)
exceptions.AssertionError:
```

```
[2016/03/31 12:58:32] HTTP GET /files/res/2/1450817677461_gtp504f.jpg.200x200_q85.jpg 304 [0.01, 127.0.0.1:49217]
[2016/03/31 12:58:32] HTTP GET /files/res/2/thisisbait_MG5x68a.png.200x200_q85.png 304 [0.01, 127.0.0.1:49213]
[2016/03/31 12:58:32] HTTP GET /files/res/2/1450817677461.jpg.200x200_q85.jpg 304 [0.01, 127.0.0.1:49215]
[2016/03/31 12:58:32] HTTP GET /files/res/2/thisisbait_AfLtSzu.png.200x200_q85.png 304 [0.01, 127.0.0.1:49214]
[2016/03/31 12:58:32] WebSocket CONNECT /thread/2/ [127.0.0.1:49224]
[2016/03/31 12:58:32] WebSocket CONNECT /board/ [127.0.0.1:49223]
[2016/03/31 12:58:39] HTTP POST /post/2/ 302 [0.07, 127.0.0.1:49212]
Unhandled Error
Traceback (most recent call last):
  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/channels/management/commands/runserver.py", line 82, in inner_run
    http_timeout=60, # Shorter timeout than normal as it's dev
  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/server.py", line 49, in run
    reactor.run(installSignalHandlers=self.signal_handlers)
  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/twisted/internet/base.py", line 1194, in run
    self.mainLoop()
  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/twisted/internet/base.py", line 1203, in mainLoop
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  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/twisted/internet/base.py", line 825, in runUntilCurrent
    call.func(*call.args, **call.kw)
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  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/http_protocol.py", line 246, in dispatch_reply
    self.reply_protocols[channel].serverSend(message["text"], False)
  File "/Users/hylje/.virtualenvs/channels/lib/python2.7/site-packages/daphne/ws_protocol.py", line 97, in serverSend
    self.sendMessage(content.encode("utf8"), binary)
exceptions.UnicodeDecodeError: 'ascii' codec can't decode byte 0xc2 in position 61: ordinal not in range(128)
```

Questions and Discussion

- Thank you for coming!
- #django-fi @ Freenode
- Django-fi @ Facebook