

ZServer Reloaded with HTTP/2 and WebSocket Support

Plone Conference 2019

Asko Soukka

25.10.2019



JYVÄSKYLÄN YLIOPISTO
UNIVERSITY OF JYVÄSKYLÄ



Demo

Status

Drop-in Replacement

HTTP and WebDAV

- Twisted HTTP Server
- Twisted thread pool w/ async FileSender
- AsyncIO/uvloop loop when available
- ZConfig configuration and logging
- WSGI ZPublisher request handler

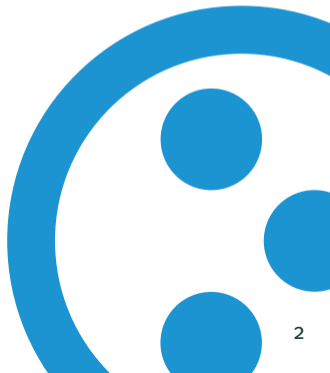
HTTP/2

- Twisted + OpenSSL + H2



WebSockets with PubSub-messaging

- Autobahn Twisted WebSocket protocol
- ZMQ PubSub-socket using IPC-socket
- Connection upgradeable at all paths
- Connection autosubscribes to local events



Client subscribes to events

```
{"method": "SUBSCRIBE": "path": "/"}
```

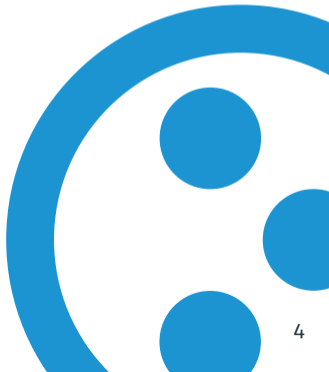
Client unsubscribes events

```
{"method": "UNSUBSCRIBE": "path": "/"}
```



Server publishes guarded event

```
{
  "guards": [{
    "allowedRolesAndUsers": {
      "method": "/Plone/@@wsevents-guard",
      "tokens": ["Editor"]
    }
  }],
  "payload": {}
}
```



Guard Response

Server responses to guard check once for each subscriber

```
{  
  "allowedRolesAndUsers": {  
    "tokens": ["Reviewer", "Editor"],  
    "expires": 1571723078  
  }  
}
```



github.com/datakurre/ZServer

- Rebased on top of the latest ZServer release
- Python 3 syntax update + new code
- Used in GSOC 2019 for gatsby-source-plone
- WebDAV tested manually at PLOG 2019
- Dead code not removed yet and tests are failing...



State of Friends

Complete experience

[sources]

```
ZServer = git git@github.com:datakurre/ZServer branch=datakurre/master
plone.recipe.zope2instance = git git@github.com:plone/plone.recipe.zope2instance
                                branch=datakurre/zserver
collective.wsevents = git git@github.com:datakurre/collective.wsevents

# Optional pip-installable control scripts:
plonectl = git git@github.com:datakurre/plonectl
# Optional collective.taskqueue upgrade branch:
collective.taskqueue = git git@github.com:collective/collective.taskqueue
                        branch=python3_compatibility
```

Next



Zope 4

- WebDAV made dependent on ZServer (by mistake?)

Zope 5

- Assumes ZServer (and WebDAV?) to no longer exist



Remaining steps

- Upstream or not?
- Eliminate dead code
- QA (tests, documentation, ...)
- Release
- Restore `wsgi=off` on Python 3





datakurre.github.io/ploneconf2019/zserver