ZServer Reloaded with HTTP/2 and WebSocket Support

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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
Publish-Subscribe

Client subscribes to events

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

Client unsubscribes events

{"method": "UNSUBSCRIBE": "path": "/"}
Guarded Events

Server publishes guarded event

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

Server responses to guard check once for each subscriber

```json
{
  "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…
Complete experience

[sources]
ZServer = git git@github.com:datakurre/ZServer branch=datakurre/master
plone.recipe.zope2instance = git git@github.com:plone/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
State of Upstream

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 \texttt{wsgi=off} on Python 3