

Synnefo - Bug # 3492

Status:	Closed	Priority:	High
Author:	Georgios Tsoukalas	Category:	pooling
Created:	03/22/2013	Assignee:	Georgios Tsoukalas
Updated:	04/09/2013	Due date:	
Subject:	get_http_connection() patches .close() which gets called from httplib itself causing gevent AssertionError		
Description			
<p>psomas used cstavr's method of reproducing the elusive AssertionError and tracked the cause in a call to self.close() inside httplib itself.</p> <ol style="list-style-type: none">1. get_http_connection() patches httplib's HTTPConnection's .close() to a version that would just return the connection to the pool.2. resp = conn.getresponse() calls self.close() which puts the connection back in the pool.3. body = resp.read() uses the now pooled connection4. Another greenlet gets the connection from the pool and fails to use it because sockets cannot be shared among greenlets			
Notes:			
<ul style="list-style-type: none">- httplib closes calls self.close() because sometimes the HTTP Protocol says it should (e.g. Connection: close header)- The choice to patch .close() instead of providing a distinct method .pool_release() was done so that no change would be made to the connection API. Clearly this was a wrong choice, not only because of this problem, but also since the API has been already severely breached since all pooled connection users are required to never let the connection objects fall out of scope without calling .close() within appropriate try statements.- Since our real pooling target is sockets, not httplib connections, it would be better if we pooled sockets instead. However, since we don't directly handle sockets we must rely on the libraries themselves for socket pooling (httplib3?)- It seems that renaming the patched method from .close() to another name, and using it as such will solve the problem.			
Related issues:			
related to Synnefo - Bug # 3414: AssertionError in Astakos gunicorn		Closed	03/08/2013

Associated revisions

Revision 1bce7b1f - 03/27/2013 04:34 pm - Georgios D. Tsoukalas

pool context manager, http pool AssertionError fix

Refs #3492

- 1 Introduce a generic PooledObject class to act both as a context manager for getting and putting back an object from a pool.
- 2 Implement a class PooledHTTPConnection(PooledObject) as a subclass of the one in (1)
- 3 Eliminate httplib.HTTPConnection patching of close().
Eliminate put/get_http_connection.
The httplib.HTTPConnection object is no longer released back to the pool via a method on it.
One must explicitly put it to the pool,
or use the PooledObject context manager in (2) above.
- 4 Update lib.astakos, lib.quotaholder.http, synnefo.api.delegate, pithos.api.delegate to use PooledHTTPConnection.
- 5 Update tests

Revision 4ab1af1a - 03/27/2013 06:59 pm - Georgios D. Tsoukalas

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History

#1 - 03/28/2013 11:54 am - Georgios Tsoukalas

- Status changed from Assigned to Resolved

#2 - 04/09/2013 11:38 am - Georgios Tsoukalas

- Status changed from Resolved to Closed