

Dashboard - Bug #44013

Feature # 40907 (New): mgr/dashboard: REST API improvements

mgr/dashboard: current REST API flaws

02/06/2020 12:24 PM - Ernesto Puerta

Status:	New	% Done:	78%
Priority:	Low	Spent time:	0.00 hour
Assignee:			
Category:	dashboard/backend		
Target version:			
Source:	Community (dev)	Affected Versions:	
Tags:		ceph-qa-suite:	
Backport:		Pull request ID:	
Regression:	No	Crash signature (v1):	
Severity:	3 - minor	Crash signature (v2):	
Reviewed:			

Description

Regardless the discussion on whether dashboard API should adhere more or less tightly to RESTful guidelines, it should at least try to keep internal consistency:

- Most API Endpoints lie beneath /api/
- However, a few are below /apiapi/, like Pools, Cephfs, ErasureCode, etc.

Currently we have some components with a REST API that diverges from the existing practices and general guidelines:

- Verbs in endpoints:
 - GET /cephfs/{fs_id}/get_quotas vs. the existing GET /rgw/user/{uid}/quota. Same for CephFS set_quota.
- Excess of endpoints and operations. REST APIs aim at being clear and concise interfaces.
 - We currently expose 191 different endpoints (only the /osd resource has 17, and that doesn't include the new ones for creating/deleting OSDs). This could be improved by aggregating endpoints (e.g.: /osd/{id}, body: {down, out, up, in, lost..} instead of /osd/{id}/mark_down, /osd/{id}/mark_out, /osd/{id}/mark_up, /osd/{id}/mark_in, /osd/{id}/mark_lost,...
 - That will also result in less redundant code to maintain and fix.
 - We should also hide what we call UI endpoints (helper endpoints for the front-end).
- Resources hidden in query params: REST APIs are great for exposing hierarchical resources, but Dashboard CephFS API has missed the chance to expose the CephFS filesystem hierarchy:
 - for making a new dir it requires POST /cephfs/{fs_id}/mk_dirs, body: {path: '/dirA/dirB/...}, when it'd be preferred the following POST /cephfs/{fs_id}/dirA/dirB, body: {name: 'dirC', type: 'dir'}
- HTTP Verbs are wrongly used (POST is used for everything):
 - POST /cephfs/{fs_id}/rm_dir vs DELETE /cephfs/{fs_id}/dirA/dirB/dir_to_delete.

The resources that seem best aligned to REST guidelines:

- /cluster_conf
- /host
- /iscsi
- /nfs-ganesha
- /pool
- /rgw

The ones that should be improved:

- /cephfs
- /osd/{id}/mark_{in,down,..}, uses POST and separate endpoints for setting individual flags, when that should be a single endpoint driven by a PUT /osd/{id}, body: {out: true|false|undefined, down:...}.
- Perf-counters (/perf_counter/{mgr,mon,osd,...}/{id}) should be moved under their corresponding resources

(/{mgr,mon,osd...}/{id}/perf_counter

- POST /mgr/module/{module_name}/{enable,disable} should be PUT /mgr/module/{name}, {enable: true|false}
- /prometheus/silence vs. /prometheus/silences
- /block/mirroring/pool/... using POST instead of PUT.

Subtasks:

Subtask # 45957: Fix broken UiApi documentation endpoints and add warning	Resolved
Subtask # 46160: Address API inconsistencies in cephfs endpoint	Resolved
Subtask # 46181: Consolidate OSD mark endpoints	Resolved
Subtask # 46236: Move performance counters to their corresponding resources	New

History

#1 - 02/06/2020 12:25 PM - Ernesto Puerta

- Description updated

#2 - 04/13/2020 12:17 PM - Ernesto Puerta

- Parent task set to #40907

#3 - 05/12/2020 03:25 PM - Ernesto Puerta

- Description updated

#4 - 05/12/2020 05:54 PM - Ernesto Puerta

- Description updated

#5 - 05/12/2020 05:55 PM - Ernesto Puerta

- Description updated

#6 - 06/09/2020 11:55 AM - Alfonso Martínez

Regarding /apiapi/ issue and after daily standup conversation, there is agreement on the following:

- 1) Fix the issue: in the API documentation these endpoints should appear correctly.
- 2) Ensure that every /ui-api/ endpoint has its /api/ counterpart.
- 3) Add a clear warning/notification that /ui-api/ endpoints are not part of public API.

They exist for UI (Dashboard) only purposes. See:

<https://github.com/ceph/ceph/blob/master/src/pybind/mgr/dashboard/HACKING.rst#how-to-create-a-dedicated-ui-endpoint-which-uses-the-public-api>

After that we should discuss if there is a more consistent approach than having different base_url API endpoints.

#7 - 04/15/2021 05:10 PM - Ernesto Puerta

- Project changed from mgr to Dashboard

- Category changed from dashboard/backend to dashboard/backend