

Rally – a leisurely drive down the testing road

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This work has been done within the Nordic Glennaz project



CSC – Finnish research, education, culture and public administration ICT knowledge center

Why?



Why?

“If it’s not tested, it’s broken”
- OpenStack keynotes

Rally

Rally is a testing tool that answers the question: “How does OpenStack work at scale?”

Tempest has a set of integration tests to be run against a live OpenStack cluster. Tempest has batteries of tests for OpenStack API validation, scenarios, and other specific tests useful in validating an OpenStack deployment.

Sounds good! That should be doable!





Common CSC cloud platform / CCCP-42

Implement testing with Rally for test & devel

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Details

Type:	 Story	Status:	WAITING FOR OTHE...
Priority:	 Major	Resolution:	Unresolved
Affects Version/s:	None	Fix Version/s:	None
Component/s:	None		
Labels:	None		
Rank (Obsolete):	13865		
Epic Link:	Create a Jenkins workflow		

Description

Rally (<https://wiki.openstack.org/wiki/Rally> & <http://www.mirantis.com/blog/rally-openstack-tempest-testing-made-simpler/>) is a

Dates

Created:	19.06.2014 14:01
Updated:	01.10.2018 16:51

Problem 1: How do you deploy it?

Mostly solved:

<http://www.9bitwizard.eu/rally-and-tempest>
(Spoilers: ansible roles were written)

- Behaves like an OpenStack client
- Needs admin privileges – use Domains

Problem 2: Yes, let's run tests!

```
(rally) [rally@rally ~]$ rally verify list-verifier-tests |head
tempest.api.network.test_routers.RoutersIPv6Test.test_update_router_admin_state[id-a8902683-c788-4246-95c7-ad9c6d63a4d9]
tempest.api.compute.servers.test_server_metadata_negative.ServerMetadataNegativeTestJSON.test_update_metadata_with_blank_key[id-a452f38c-05c2-4b47-bd4-a4f0bf5a5e48,negative]
tempest.api.compute.servers.test_server_tags.ServerTagsTestJSON.test_create_delete_tag[id-8d95abe2-c658-4c42-9a44-c0258500306b]
tempest.api.compute.keypairs.test_keypairs.KeyPairsV2TestJSON.test_keypair_create_delete[id-6c1d3123-4519-4742-9194-622cb1714b7d]
tempest.api.image.v2.test_images_metadefs_namespaces.MetadataNamespacesTest.test_basic_metadata_definition_namespaces[id-319b765e-7f3d-4b3d-8b37-3ca376ee768]
tempest.api.compute.admin.test_migrations.MigrationsAdminTest.test_resize_server_revert_deleted_flavor[id-33f1fec3-ba18-4470-8e4e-1d888e7c3593]
tempest.api.network.test_tags.TagsExtTest.test_update_and_delete_all_tags[id-663a90f5-f334-4b44-afe0-c5fc1d408791]
tempest.api.identity.admin.v3.test_endpoints_negative.EndpointsNegativeTestJSON.test_update_with_enabled_True[id-faba3587-f066-4757-a48e-b4a3f01803bb,negative]
tempest.api.compute.images.test_images.ImagesTestJSON.test_create_image_from_suspended_server[id-8ca07fec-0262-11e7-907e-fa163e4fa634]
tempest.api.compute.servers.test_servers_negative.ServersNegativeTestJSON.test_suspend_non_existent_server[id-d1f032d5-7b6e-48aa-b252-d5f16dd994ca,negative]
(rally) [rally@rally ~]$ rally verify list-verifier-tests |wc
 1507    1507   223923
```

Problem 2: Ok.. not ALL tests

```
(rally) [rally@rally ~]$ head cpouta-test-skip-list.yml
---
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_add_host_create_server_with_az[id-96be03c7-570d-409c-90f8-e4db3c646996]: "Cannot add host to aggregate 881. Reason: One or more hosts already in availability zone(s) nova."
tempest.api.object_storage.test_container_acl.ObjectTestACLs.test_write_object_with_rights[id-aa58bfa5-40d9-4bc3-82b4-d07f4a9e392a]: "Skipped, not supported in Ceph RadosGW or unexpected return codes not supported by OpenStack Swift"
tempest.api.identity.admin.v2.test_users_negative.UsersNegativeTestJSON.test_get_users_by_unauthorized_user[id-284192ce-fb7c-4909-a63b-9a502e0ddd11,negative]: "Keystonev2 can't be used from service domain"
tempest.scenario.test_security_groups_basic_ops.TestSecurityGroupsBasicOps.test_port_update_new_security_group[compute,id-f4d556d7-1526-42ad-bafb-6beb-f48568f6,network,slow]: "Cannot SSH into the VM because rally server has no routes or ACL permissions there."
tempest.api.identity.admin.v3.test_list_users.UsersV3TestJSON.test_list_user_domains[id-08f9aabb-dcfe-41d0-8172-82b5fa0bd73d]: "No httpd caching of LDAP breaks every second domain command?"
tempest.api.network.test_routers.RoutersTest.test_update_delete_extra_route[id-c86ac3a8-50bd-4b00-a6b8-62af84a0765c]: "This test succeeds if it is run alone."
tempest.api.identity.admin.v3.test_roles.RolesV3TestJSON.test_assignments_for_domain_roles[id-3859df7e-5b78-4e4d-b10e-214c8953842a]: "No httpd caching of LDAP breaks every second domain command?"
tempest.api.compute.admin.test_migrations.MigrationsAdminTest.test_resize_server_revert_deleted_flavor[id-33f1fec3-ba18-4470-8e4e-1d888e7c3593]: "Only one Hypervisor in Dev and Test, these can be skipped"
tempest.api.object_storage.test_account_bulk.BulkTest.test_extract_archive[id-a407de51-1983-47cc-9f14-47c2b059413c]: "fails because tempest tries to use 'extract-archive=format' to upload an auto-extracting archive which is not supported in CEPH RGW Jewel"
(rally) [rally@rally ~]$ wc cpouta-test-skip-list.yml
  226  2342 46684 cpouta-test-skip-list.yml
(rally) [rally@rally ~]$
```


Problem 3: Great! Working testset!

```
| cpouta-test | 2018-11-09T01:00:00 | 2018-11-09T02:02:01 | 1:01:55 | failed |
0105c758-6935-4ddc-863d-6683c916362a | cron_2018_11_10_00
| cpouta-devel | 2018-11-09T22:00:06 | 2018-11-09T23:25:48 | 1:25:42 | finished |
387b63a1-66d4-41b7-8c13-f154f388f444 | cron_2018_11_10_03
| cpouta-test | 2018-11-10T01:00:06 | 2018-11-10T01:56:03 | 0:55:57 | failed |
6ef4445e-0d77-47b2-b9e4-84d6c50347c5 | cron_2018_11_11_00
| cpouta-devel | 2018-11-10T22:00:06 | 2018-11-10T23:27:05 | 1:26:59 | finished |
3ba897a3-4a9b-4eee-b312-8ba3abb0282e | cron_2018_11_11_03
| cpouta-test | 2018-11-11T01:00:06 | 2018-11-11T03:09:46 | 2:09:40 | failed |
6299e7ee-4c84-4dc7-9176-83ff98a02e91 | cron_2018_11_12_00
| cpouta-devel | 2018-11-11T22:00:05 | 2018-11-11T23:27:39 | 1:27:34 | failed |
85ca2f0c-4b18-4aa3-aa67-a7dd2b6afdc1 | cron_2018_11_12_03
| cpouta-test | 2018-11-12T01:00:06 | 2018-11-12T02:58:25 | 1:58:19 | failed |
719f67f2-5059-422a-878c-7e9217272b1c | cron_2018_11_13_00
| cpouta-devel | 2018-11-12T22:00:06 | 2018-11-12T23:26:23 | 1:26:17 | finished |
8elb9fa1-5249-44c2-a68f-1e4ea95c631a | cron_2018_11_13_03
| cpouta-test | 2018-11-13T01:00:07 | 2018-11-13T02:01:12 | 1:01:05 | finished |
c8e0713a-f3bc-4ab7-a636-38cb6da295c9 | cron_2018_11_14_00
| cpouta-devel | 2018-11-13T22:00:06 | 2018-11-13T23:25:03 | 1:24:57 | finished |
09966edd-458c-4ddf-956a-0b210a36d09e | cron_2018_11_14_03
| cpouta-test | 2018-11-14T01:00:06 | 2018-11-14T01:54:47 | 0:54:41 | finished |
ddba5b07-7132-49f2-a414-781dd8ce3cd9 | cron_2018_11_15_00
| cpouta-devel | 2018-11-14T22:00:07 | 2018-11-14T23:25:48 | 1:25:41 | failed |
6b74ccb1-51f0-4cd2-ae0d-f2969aaec1f5 | cron_2018_11_15_03
| cpouta-test | 2018-11-15T01:00:06 | 2018-11-15T01:56:55 | 0:56:49 | finished |
-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
rally) [rally@rally ~]$
```

Problem 3: Great! Working testset!

Rally verification result

Verification UUID	Status	Started at	Finished at	Tests count	Tests duration, sec	success	skipped	expected failures	unexpected success	failures
ddba5b07-7132-49f2-a414-781dd8ce3cd9	failed	2018-11-14T22:00:07	2018-11-14T23:25:48	1508	5134.166	1021	486	0	0	1
Filter tests by status:						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Toggle Header

Toggle Tags

Toggle All Filters

Test name (shown 1508) ▾

ddba5b07-7132-49f2-a414-781dd8ce3cd9

tempest.api.compute.admin.test_agents.AgentsAdminTestJSON.test_create_agent	success 1.082
tempest.api.compute.admin.test_agents.AgentsAdminTestJSON.test_delete_agent	success 2.487
tempest.api.compute.admin.test_agents.AgentsAdminTestJSON.test_list_agents	success 3.372
tempest.api.compute.admin.test_agents.AgentsAdminTestJSON.test_list_agents_with_filter	success 1.155
tempest.api.compute.admin.test_agents.AgentsAdminTestJSON.test_update_agent	success 0.796
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_add_host_create_server_with_az	skip
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_add_host_get_details	success 4.831
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_add_host_list	success 3.834
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_add_remove_host	success 0.720
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_create_delete	success 0.566
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_create_delete_with_az	success 0.721
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_create_update_metadata_get_details	success 0.838
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_create_update_with_az	success 0.695
tempest.api.compute.admin.test_aggregates.AggregatesAdminTestJSON.test_aggregate_create_verify_entry_in_list	success 0.386

Summing up experiences

- It's been a long ride
- It has exposed actual problems already
- Getting a consistently working testset is hard

Future

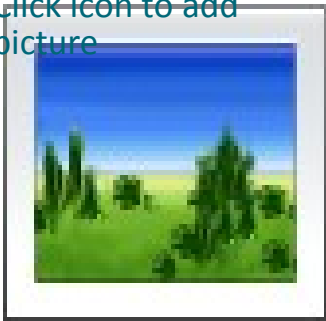
- Soon we'll have a consistent set of tests.



AUTOMATION!
(or at least simpler upgrade testing)



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