openstack.

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Senlin

Project Update

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What is Senlin?

- Clustering Service
- Senlin creates and operates clusters of homogeneous objects exposed by other OpenStack services.

SENLIN

an OpenStack Community Project

Project Background

- Founded during the Mitaka release of OpenStack
- 35 contributors in Rocky
- 159 Commits and 9404 LOC in Rocky

SENLIN

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Features Released in Rocky

- New detection mode in Health Policy
    - Node Poll URL allows health check to query a custom URL for node health

- Added support for more nova server operations

- Added option to stop a node before it is deleted

Node Poll URL

- Schema changes in Health policy:

detection	
type	*LIFECYCLE_EVENTS, NODE_STATUS_POLLING, NODE_STATUS_POLL_URL*
options	
interval	Number of seconds between polls
poll_url	URL to poll for health check
poll_url_healthy_response	Expected response indicating healthy node
poll_url_retry_limit	Number of tries when expected response was not received
poll_url_retry_interval	Number of seconds to delay between retries
node_update_timeout	Grace period in seconds before node is considered unhealthy
recovery	
actions	List of actions to try for node recovery
name	*REBOOT, REBUILD, RECREATE*
node_delete_timeout	Number of seconds to wait on node deletion for RECREATE
node_force_recreate	Recreate node if node deletion failed

Node Poll URL Example

- The node poll URL in the health policy can contain the placeholder `{nodename}`

- This placeholder will get replaced with the actual node name before the health check polls the URL.

```
type: senlin.policy.health
version: 1.0
properties:
  detection:
    type: NODE_STATUS_POLL_URL
    options:
      interval: 120
      poll_url: "http://{nodename}:9000"
      poll_url_healthy_response: "passing"
      poll_url_retry_limit: 3
      poll_url_retry_interval: 2
      node_update_timeout: 240
  recovery:
    actions:
      - name: RECREATE
    node_delete_timeout: 90
    node_force_recreate: True
```

Additional Nova Server Operations

- Operations on nodes are possible using node operation API:

```
POST /v1/nodes/{node_id}/ops
<operation_name>: {
  <param_1>: <value_1>
  <param_2>: <value_2>
  ...
}
```

- Support for the following operations were added for nova instances:
    - Suspend, resume, start, stop, lock, unlock, pause, unpause, rescue, unrescue, migrate, snapshot, restore

Stop Node Before Delete

- When nodes are deleted as part of other cluster operations (scale-in, cluster delete, etc.), a user might desire to have the node shutdown gracefully before it is deleted.
- `cluster.stop_node_before_delete` was added as cluster config option.
- If set to True, Senlin calls stop on a node before it is deleted by a cluster operation.

```
openstack cluster create --profile f28 --config
‘cluster.stop_node_before_delete=True’ testcluster
```

Microversion Changes

- Modified webhook_trigger API – 1.10
  - Inputs for the targeted action are now sent directly in the query body rather than in the params field.

https://docs.openstack.org/senlin/rocky/contributor/api_microversion.html#api-version-history

Senlin Support in Gophercloud

- Gophercloud is the OpenStack SDK for Go.
- While not part of the official Senlin project, the addition of Senlin support in Gophercloud broadens the Senlin user base to Go developers.
- Support for Senlin APIs were added starting in May 2018 and continues to this day.
- Currently about 85% of all Senlin APIs are supported in Gophercloud.

Features Planned for Stein

- Allow user to specify multiple detection modes in health policy.
  - If both node poll status and node poll URL are specified, the health check will try each detection mode in order.

- Add checks to validation step of every asynchronous API call:
  - Check for locked resource
  - Check for cooldown in progress

- Fixing bugs

Additional Fixes/Improvements

- Improve stability and fault tolerance of health checks and recovery.
- Add sphinx extension to autogenerate profile and policy documentation based on source code.

How to give feedback

- Report bugs
- Ask questions in newly combined openstack-discuss@ mailing list
- Attend Senlin meeting Fridays at 530 UTC in #senlin channel
- Attend Autoscaling Forum session:
  - Autoscaling Integration, improvement and feedback: Thursday Nov 15, 9:00am – 9:40am

How to contribute

- Help with code reviews
- Help with implementing community goals
- Improve documentation if things are unclear.
- Add more integration tests.

Reference Links

- Release notes
  - https://docs.openstack.org/releasenotes/senlin/rocky.html
- Launchpad
  - https://launchpad.net/senlin
- Senlin wiki
  - https://wiki.openstack.org/wiki/Senlin

THANKS.

Questions?

openstack @OpenStack openstack OpenStackFoundation