Github worker scaler for AWS EC2 workers

Purpose

This solution is designed to automatically spawn (and kill) AWS workers for GitHub Actions workflows. EC2 workers can be used when access to resources unavailable for GH workers is required.

Repos

 https://github.com/AmwayACS/lynx-iac/tree/master/terraform-eu/github-actions/scale-agent-v2 Can't find link
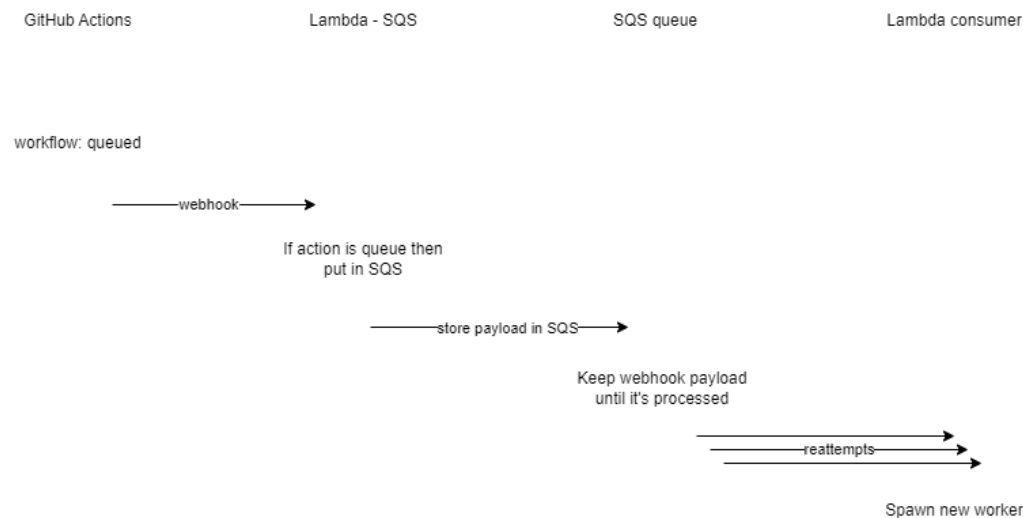
 https://github.com/AmwayACS/lynx-provision/tree/master/ansible-eu/roles/github-actions/github-runner Can't find link

Worker AMI

Worker image has to be created, with all tools embedded in it. To register such machine as a GitHub worker apply Ansible role mentioned in a link above.

Control flows

New job is queued

GitHub Actions	Lambda - SQS	SQS queue	Lambda consumer

workflow: queued

————webhook————▶

If action is queue then
put in SQS

————store payload in SQS————▶

Keep webhook payload
until it's processed

————reattempts————▶

Spawn new worker

Job in progress or completed

GitHub Actions	Lambda - SQS	SQS queue	Lambda consumer

workflow: inprogress
or completed

————webhook————▶

Process it here   not involved   not involved
(no reattempts needed)

Scaling up and down

 GitHub Actions: Ephemeral self-hosted runners & new webhooks for auto-scaling · GitHub Changelog

Scale up: spawn new machine when webhook is sent. Configure worker as ephemeral.

Scale down: use AWS magic. When machine is spawned, AWS is notified that it should be terminated when turned off. So, just simply turn it off after worker has done the job (shutdown -h now), and it will be terminated by AWS.

For old-fashioned, non-ephemeral runners, we can just ensure that machine is "properly dead" in a webhook with action: completed handler.