Using Gitlab with openSUSE in the Cloud

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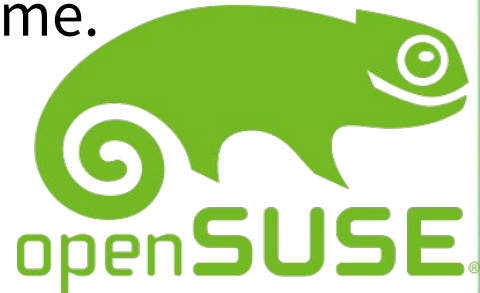
Introduce openSUSE

- openSUSE is a project that serves to promote the use of free and open-source software.
- openSUSE is well known for its Linux distributions
  - Leap
    - A distribution with long-term support.
  - Tumbleweed
    - A tested rolling release.
  - MicroOS and Kubic
    - New transactional, self-contained distributions for use as desktop or container runtime.



Introduce GitLab

- GitLab is a web-based DevOps lifecycle tool that provides a Git repository manager providing wiki, issue-tracking and continuous integration and deployment pipeline features, using an open-source license, developed by GitLab Inc.

Introduce Cloud Computing

- Cloud computing is the on-demand availability of computer system resources, without direct active management by the user.
- Azure
  - https://azure.microsoft.com/en-us/
- AWS
  - https://aws.amazon.com/?nc1=h_ls
- GCP
  - https://cloud.google.com/

Command Line Interface tools in Cloud

- Azure
  - Azure CLI: https://docs.microsoft.com/en-us/cli/azure/install-azure-cli?view=azure-cli-latest
- AWS
  - AWS CLI: https://aws.amazon.com/cli/?nc1=h_ls
- GCP
  - Google Cloud SDK https://cloud.google.com/sdk/docs/
- Ansible
  - https://www.ansible.com/integrations/cloud
- Container image with CLI tool
  - https://hub.docker.com/r/sakana/ansible_opensuse152
  - https://github.com/sakanamax/SA_dockerReading/blob/master/Dockerfile/ansible/opensuseLeap152_ansible_20210513_Dockerfile

Create openSUSE Leap 15.3 in Cloud

Demo in Azure

- Use ansible playbook to create openSUSE Leap 15.3 in Azure
- Playbook in github
  https://github.com/sakanamax/LearnAnsible/blob/master/playbook/azure_playbook/azure_create_vm.yml
- Find openSUSE image in Azure
  - $ az vm image list --all --offer openSUSE-Leap
- List VM size in Azure
  - $ az vm list-sizes --location "westus"

Your first cloud adventure - free account

- Azure
  - Popular services free for 12 months (with limit) + USD200 Azure credit in 30 days.
  - https://azure.microsoft.com/en-us/free/
- AWS
  - more than 100 products and start building on AW
  - S using the Free Tier. Three different types of free offers are available depending on the product used. https://aws.amazon.com/free/
- GCP
  - 20+ free products + USD 300 free credits in 90 days.
  - https://cloud.google.com/free

Your first cloud adventure - Doc and Learn

- Azure
  - Documents: https://docs.microsoft.com/en-us/azure/
  - Microsoft Learn: https://docs.microsoft.com/en-us/learn/azure/
- AWS
  - Documents: https://docs.aws.amazon.com/index.html
  - AWS Training: https://www.aws.training/Dashboard
  - QWIKLABS: https://amazon.qwiklabs.com/
  - Hands-on tutorials: https://aws.amazon.com/getting-started/hands-on/?nc1=h_ls
- GCP
  - Documents: https://cloud.google.com/docs/
  - QWIKLABS: https://google.qwiklabs.com/

GitLab Docker images

- Easy way to testing GitLab.
- https://docs.gitlab.com/ee/install/docker.html
- Demo in Azure
  - ssh to virtual machine
  - # systemctl start docker
  - # docker run -d --hostname gitlab.example.com -p 443:443 -p 80:80 --name gitlab --restart always gitlab/gitlab-ce:latest
  - Setting up Security Group for port 80 or 443
  - check the root password
    - # docker exec -it gitlab cat /etc/gitlab/initial_root_password
  - open the browser http://YOUR_IP
    - login with root and the password you get

Two ways to use GitLab

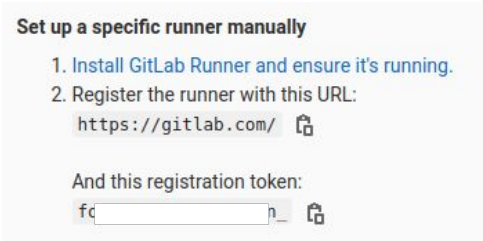
- GitLab self-hosted
  - Install, administer and maintain your own GitLab instance.
  - Container base
  - Virtual Machine / Bare metal base

- GitLab.com
  - GitLab's SaaS offering. Don't need to install anything but no administration.
  - https://about.gitlab.com/
  - https://about.gitlab.com/pricing/
    - Could start with Free (400 CI / CD minutes per month)

Which GitLab should we choose to install

- Installation requirements
  - https://docs.gitlab.com/ee/install/requirements.html
  - 4 cores / 4 GB memory required
- Enterprise Edition or Community Edition ?
  - Enterprise Edition install (only support to 15.2 now)
    - https://about.gitlab.com/install/#opensuse-leap-15-2
  - Community Edition install (only support to 15.2 now)
    - https://about.gitlab.com/install/?version=ce#opensuse-leap-15-2
  - Compare GitLab Features
    - https://about.gitlab.com/features/#compare
  - GitLab tiers
    - https://about.gitlab.com/handbook/marketing/strategic-marketing/tiers/

openSUSE Leap as GitLab runner - with docker executor



- Only to Leap 15.2 now
- Check Gitlab Server Settings -- > CI / CD -- > Expend Runners
- Add repo
  - # zypper ar -f https://download.opensuse.org/repositories/openSUSE:/infrastructure:/gitlab/openSUSE_Leap_15.2 gitlab
  - # zypper --gpg-auto-import-keys refresh
- Install gitlab-runner
  - # zypper install -y gitlab-runner
- Start docker
  - # systemctl start docker
- Register gitlab runner (use gitlab.com for example)
  - # gitlab-runner register --non-interactive --url https://gitlab.com --registration-token YOUR_TOKEN --executor docker --docker-image opensuse/leap:latest --name test-gitlab-runner-docker --tag-list "opensuse-docker"
- Start gitlab runner
  - # gitlab-runner start

Reference

- https://en.wikipedia.org/wiki/OpenSUSE
- Github https://github.com/sakanamax
- sakananote http://sakananote2.blogspot.com/

Thank You !!


openSUSE