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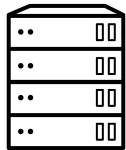
Test Better! Test Faster in CI!

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QE Test Process



Request VM



Environment
setup

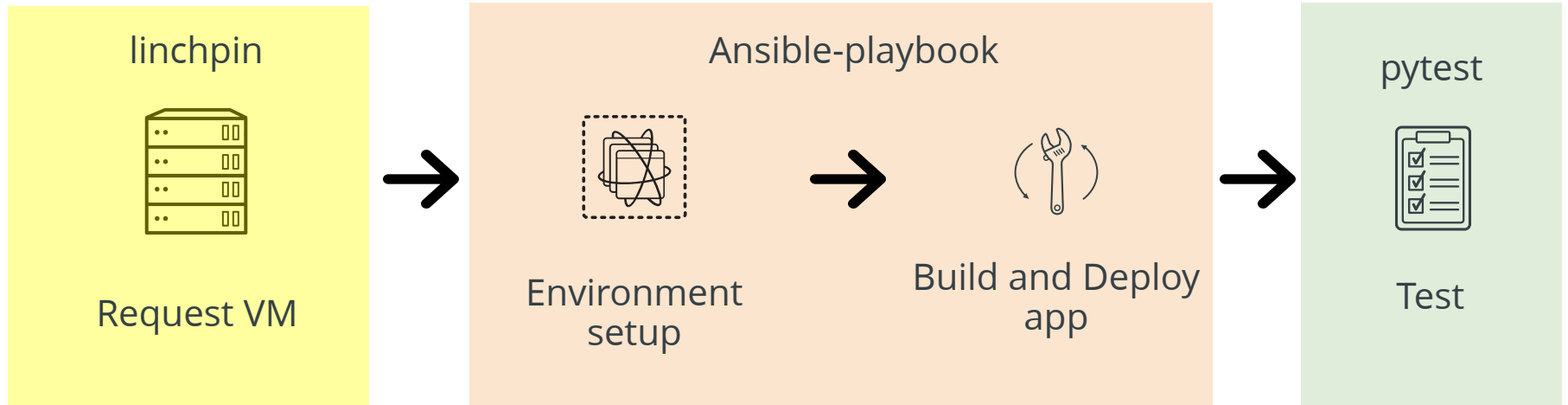


Build and Deploy
app



Test

Automating the process

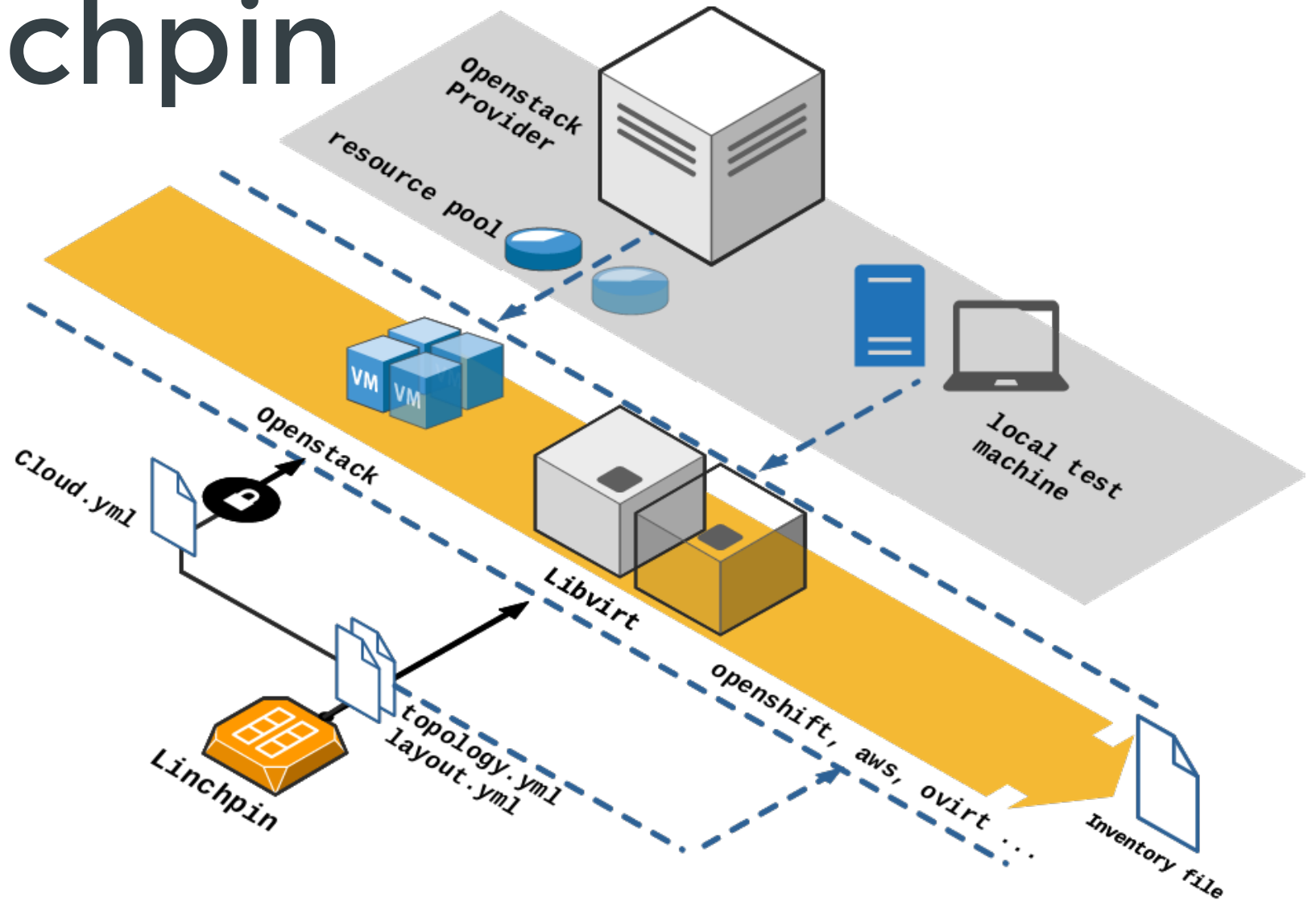


- openstack
- beaker
- libvirt KVM

pytest-ansible



Linchpin



Linchpin config files

example-topology.yml

```
resource_groups:
-
  credentials:
    filename: clouds.yaml
    profile: devstack
  resource_group_name: pki_linchpin
  resource_group_type: openstack
  resource_definitions:
  -
    name: server
    count: 1
    fip_pool: 10.8.240.0
    flavor: m1.small
    image: rhel-7.4-server-x86_64-updated
    keypair: idm-jenkins
    networks:
      - idm-jenkins
    type: os_server
  -
    name: client
    count: 1
    fip_pool: 10.8.240.0
    flavor: m1.small
    image: rhel-7.2-server-x86_64-updated
    keypair: idm-jenkins
    networks:
      - idm-jenkins
    type: os_server

topology_name: openstack_topo
```

example-layout.yml

```
---
inventory_layout:
  vars:
    hostname: __IP__
  hosts:
    server:
      count: 1
      host_groups:
        - server
    client:
      count: 1
      host_groups:
        - client
```



Linchpin config files

cloud.yml

```
clouds:  
  devstack:  
    auth:  
      username: "idm-jenkins"  
      password: "<password>"  
      project_name: "idm-jenkins"  
      auth_url: "https://local-openstack:13000/v2.0"
```

openstack_topo.inventory

```
[server]  
10.8.244.111 hostname=10.8.244.111  
  
[client]  
10.8.244.90 hostname=10.8.244.90  
  
[all]  
10.8.244.111 hostname=10.8.244.111  
10.8.244.90 hostname=10.8.244.90
```

Pytest-ansible

- Client server tests can utilize same inventory file created by linchpin.
- Utilize any ansible module in your test.
- Write your own ansible modules which can be included in your test.
- Much cleaner test code, simple to write and also can be parameterized

Pytest-ansible

sample test with py-test ansible

```
@pytest.mark.ansible(host_pattern="server")
def test_server_cmd(ansible_module):

    #using expect ansible module
    expect = ansible_module.expect(command="/bin/passwd", responses={"New password:":

    #running command on server
    output = ansible_module.command("hostname")
    print output.values()
    for result in output.values():

        # basic assert checks from the values in output
        assert 'failed' not in result
        assert result['rc'] == 0
```

How to run

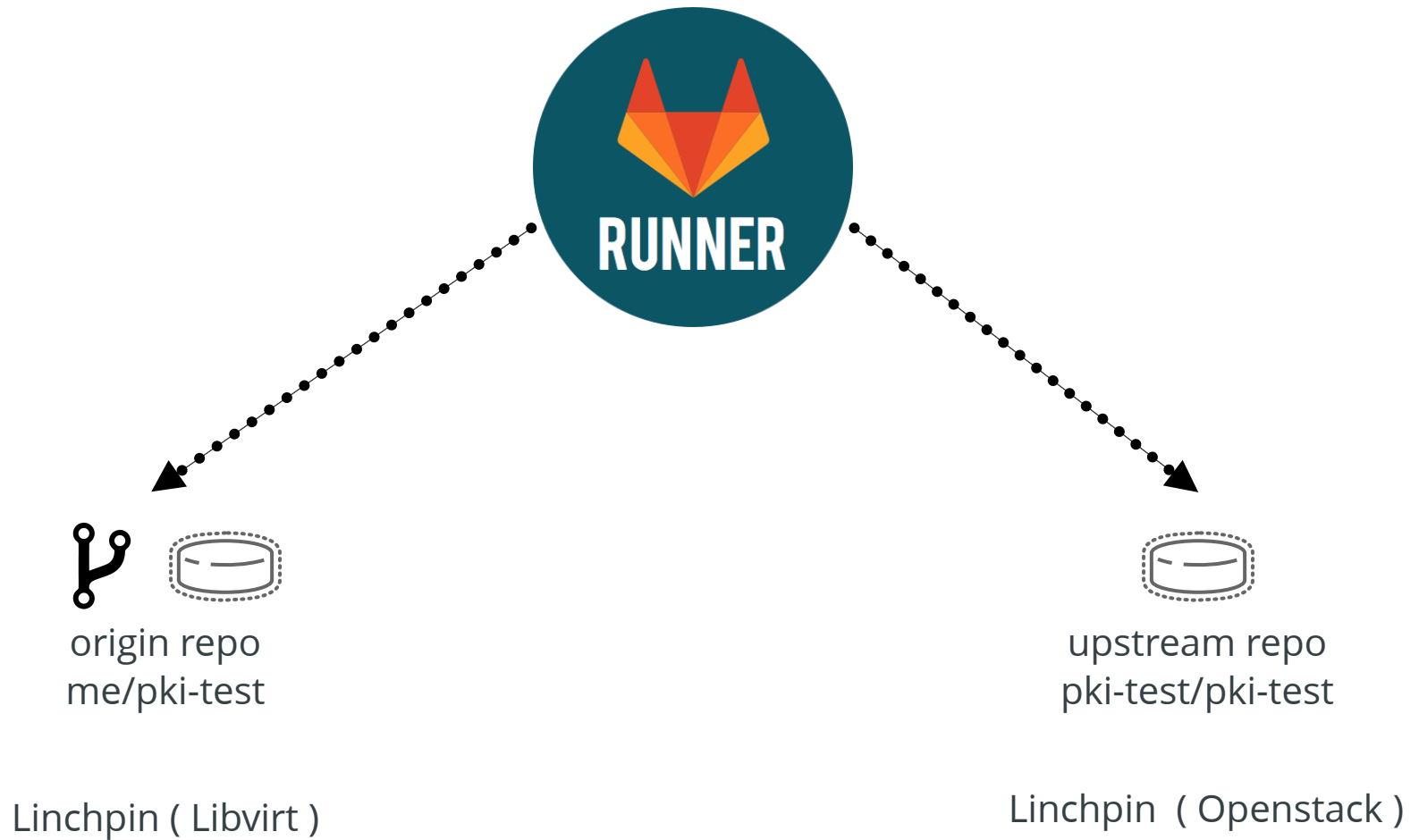
```
py.test sample-test.py --ansible-inventory host --ansible-host-pattern server -s -v
```


Gitlab-CI: Registering runner

The screenshot shows the GitLab CI Runners settings page for a project. The page is divided into several sections:

- Runners activated for this project:** A single runner is listed with ID `25c780b3`, name `Angelos-MacBook-Pro.local`, and tags `gitlab-ci-for-ios`. A green arrow points from this section to the "Runners activated for" callout.
- Runners activated for (Callout):** A circular callout highlights the runner details: ID `25c780b3`, name `Angelos-MacBook-Pro.local`, and tags `gitlab-ci-for-ios`.
- How to setup a new project specific runner:** A section with a numbered list: 1. Install GitLab Runner software. 2. Specify following URL during runner setup: `https://gitlab.com/ci`. 3. Use the following registration token during setup: `s8B...wvdyxp1yykZ`. 4. Start runner!
- Shared runners:** A section titled "Available shared runners - 25" listing runners like `public-runner-4.gitlab.com` and `public-runner-18.gitlab.com` with their respective tags.

Gitlab-CI



Gitlab-CI

.gitlab-ci.yml

```
image: bbhavsar/linchpin_container
stages:
- tier0
sanity:
  variables:
    linchpin_dir: single_instance
  stage: tier0
  before_script:
  - linchpin -v -w $linchpin_dir --creds-path $linchpin_dir/credentials up
  - cat $linchpin_dir/inventories/openstack_topo.inventory
  - chmod 0600 ssh-priv-key
  script:
  - ansible-playbook --private-key=ssh-priv-key -i $linchpin_dir/inventories/openstack_topo.
  after_script:
  - linchpin -v -w $linchpin_dir --creds-path $linchpin_dir/credentials destroy
tags:
- shared
```

References

1. http://linchpin.readthedocs.io/en/develop/getting_started.html
2. <https://pypi.python.org/pypi/pytest-ansible>
3. <https://mojo.redhat.com/people/bbhavsar/blog/2017/08/03/ansible-pytest-howto>
4. <https://www.ansible.com/>
5. <https://docs.gitlab.com/ee/ci/>
6. https://hub.docker.com/r/bbhavsar/linchpin_container/
7. <https://mojo.redhat.com/docs/DOC-1150048> - Linchpin libvirt howto

Thank You