**NIFI—Setup**

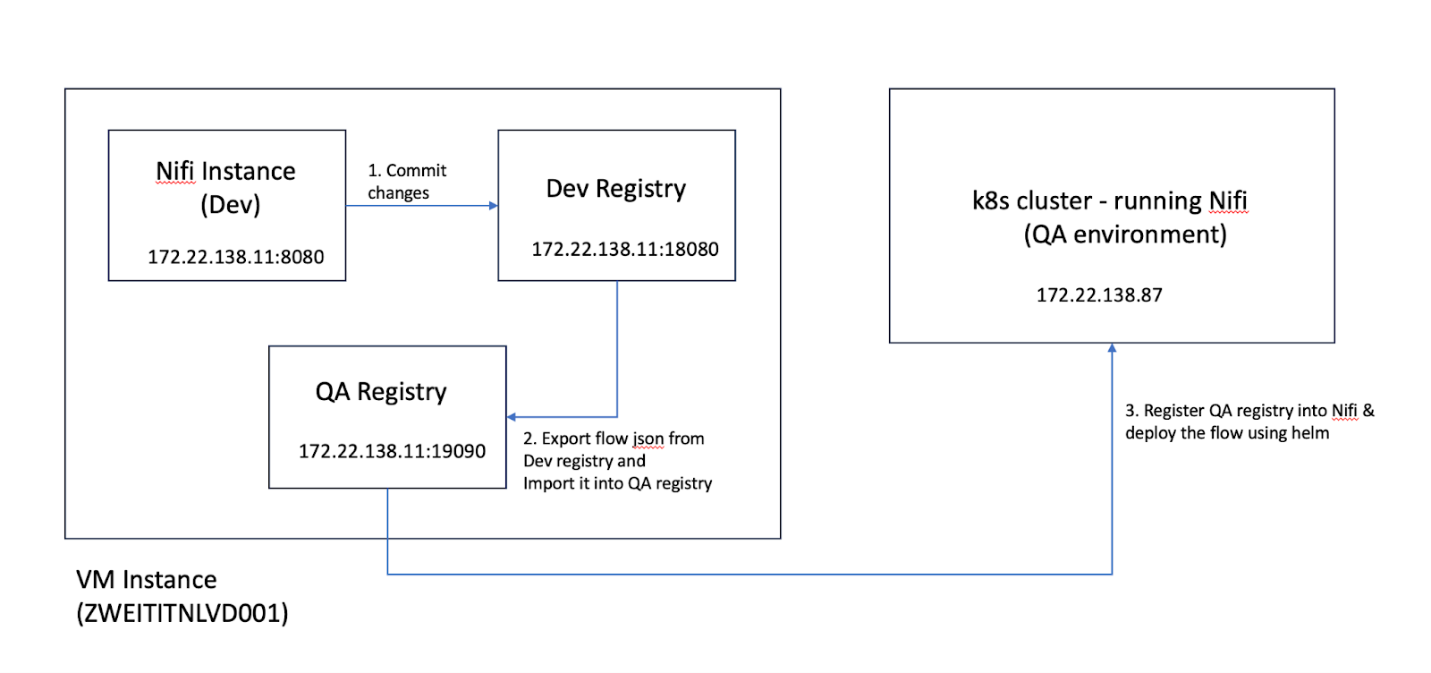
[NiFi Registry (vialtointernal.com)](http://titan-nifiregistry.vialtointernal.com/nifi-registry/)

<http://titan-nifiregistry-qa.vialtointernal.com/nifi-registry>

**Goal**:

    To set up nifi in k8s and also move a nifi flow from lower environment to higher environment (dev to QA or QA to stage)

**Set up**

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**Steps**

1. Spin up Nifi in VM (Linux) in docker instance, mount tiger cert path in docker.

|  |
| --- |
| docker run --name nifi-nonsssl -e NIFI\_WEB\_HTTP\_PORT='8080' -p 8080:8080 -d -v /root/ssl:/nifimount/ apache/nifi:1.19.0 --restart=always  We have already placed an image in ACR that contains certs, we can pull that image as well instead of providing an ssl mount path. |

1. Spin up Nifi dev registry in VM

|  |
| --- |
| docker run --name nifi-registry-dev -p 18080:18080  -d  apache/nifi-registry:latest |

1. Spin up Nifi qa registry in VM

|  |
| --- |
| docker run --name nifi-registry -p 19090:19090  -e 'NIFI\_REGISTRY\_WEB\_HTTP\_PORT=19090' -d  michalklempa/nifi-registry:latest |

1. Spin up Nifi in k8s

            Using helm repo and clone is code into the test directory on VM.

1. Register dev registry in docker instance

Need to add a registry client with  <http://172.22.138.11:18080/> ip and ensure we have bucket create with respect to the Environment.

1. Register qa registry in k8s nifi instance

Updated registry client in helm values.yml file and re-deployed nifi. Able to see   [http://172.22.138.11:1](http://172.22.138.11:18080/)9090 in nifi k8s.

1. Import flow template in dev nifi

One sample flow already exists in the downloads folder, we need to import from Nifi UI.

1. Update the flow to have parameters for
   1. Tiger cert path

/nifimount/

1. Tiger trust store path

/nifimount/

1. Update the flow to have secrets for (updated)
   1. Tiger cert password
   2. Tiger trust store password
2. Commit the flow into dev registry

 Right click process group and select version control to commit.

1. Export the flow from dev registry

|  |
| --- |
| registry list-buckets -u http://172.22.138.11:18080  registry list-flows -b &1 -u http://172.22.138.11:18080  registry export-flow-version -f &1 -fv 2 -o /tmp/my-flow.json -ot json -u http://172.22.138.11:18080 |

1. Import the flow to qa registry

registry create-bucket -bn "qa-bucket" -u  http://172.22.138.11[:19090](http://registry-prod:19090) (If bucket is not created)

registry list-buckets -u <http://172.22.138.11:19090>

registry create-flow -b &1 -fn "qa-flow" -u <http://172.22.138.11:19090> (if flow is not present)

registry list-flows -b &1 -u <http://172.22.138.11:19090>

registry import-flow-version -f &1 -i /tmp/my-flow.json -u http://172.22.138.11:19090

  Skipped 13th step and added password in values.yml file.

1. Create a secret in k8s with tiger cert password and trust store password

|  |
| --- |
| kubectl create secret generic tiger-certs-secrets --from-literal=tiger-cert-password=’Wm\_E;9Rtb1$j‘  --from-literal=tiger-truststore-password=’ndsieufhw48wlfohHWh’ --namespace=nifi |

Immigration: Dev

kubectl create secret generic tiger-certs-secrets-immigration --from-literal=tiger-cert-password='FvFl(ntTt0c7' --from-literal=tiger-truststore-password='ndsieufhw48wlfohHWh' --from-literal=eventhub-sharedaccesskey-pandora='HVLnrXQsdKo03BfLWkwlYmTZhgz4s9uMuth8Kecqbkw=' --from-literal=eventhub-sharedaccesskey-tigerauthz='JoDvjYcVy+FmL2Rjog9CQvPvrCXtZ4WYtltNt1S07Ao=' --namespace=nifi

           Immigration: QA

kubectl create secret generic tiger-certs-secrets-immigration-qa --from-literal=tiger-cert-password='FvFl(ntTt0c7' --from-literal=tiger-truststore-password='ndsieufhw48wlfohHWh' --from-literal=eventhub-sharedaccesskey-pandora='HVLnrXQsdKo03BfLWkwlYmTZhgz4s9uMuth8Kecqbkw=' --from-literal=eventhub-sharedaccesskey-tigerauthz='JoDvjYcVy+FmL2Rjog9CQvPvrCXtZ4WYtltNt1S07Ao=' --namespace=nifi

    Immigration: PROD

kubectl create secret generic tiger-certs-secrets-immigration-prod --from-literal=tiger-cert-password=’JuUe.3fvas0G’

--from-literal=tiger-truststore-password=’ndsieufhw48wlfohHWh’ --from-literal=eventhub-sharedaccesskey-pandora=’g/FzXyE9QeiQDbs96nAPGLDvbyntcaGHp+AEhMfG4tk=’ --from-literal=eventhub-sharedaccesskey-tigerauthz=’g/FzXyE9QeiQDbs96nAPGLDvbyntcaGHp+AEhMfG4tk=’ --namespace=nifi

1. Deploy the flow to k8s nifi using helm command

|  |
| --- |
| helm install  nifi-cluster . -f values.yaml -n nifi (from helm charts folder) |
| helm install  nifi-cluster . -f values.yaml -n nifi (to update) |

1. Make sure sync frequency is set to Never (In Values.yaml file)
2. After deployment validate that parameters & secrets are updated successfully in k8s nifi

Open flow and check

1. Start the flow and validate successful run

**Flow update test**

Make some changes in the flow in dev (VM) environment and update the changes to qa (k8s nifi) environment

1. Update the flow in dev environment and commit to registry
2. Export flow from dev registry
3. Import flow into qa registry
4. Deploy the new version using helm
5. Validate that flow is updated in higher environment

**Parameter update test**

Test that a new parameter added in the flow gets reflected when we move the flow to higher environment

**Secret update test**

Test that a new secret added in the flow gets reflected when we move the flow to higher environment

**Flow update test - only after draining the queue**

If we have to drain all the entries in the queue before updating and only then deploy how to do it?

**Stop a process or entire process group on demand**

Need to check how to stop one process or entire process group in a nifi cluster on demand.

**Deploy multiple process group in nifi cluster**

Is it possible to deploy multiple process groups in nifi k8s cluster using nifikop? For example, one process group from Titan and one process group from Business Travel

**Run multiple Nifi clusters on same k8s cluster**

If deploying multiple process groups in one nifi cluster is not possible then need to check if running multiple nifi clusters on the same k8s cluster is possible or not. What challenges may come.

**Observations:**

* After deploying templates from the pipeline, sometimes we need to delete existing process workflows.
* Zookeeper pods are restarting multiple times.--  this is fixed after increasing cpu and ram limits.

DEV to QA

QA URL:  <http://titan-nifiregistry-qa.vialtointernal.com/>

Dev URL: <http://titan-nifiregistry-dev.vialtointernal.com/>

Dev Bucket Id :  56dd3db2-1a0b-40f3-8b02-0f8c5d8b64dd

QA Bucket Id:  d1ad0960-966d-4e66-8e99-860ce3a0e33d

cd /home/svsupervisor/nifi-toolkit-1.19.0/bin

./cli.sh registry list-buckets -u http://titan-nifiregistry-dev.vialtointernal.com/

./cli.sh registry list-flows -b &1 -u http://titan-nifiregistry-dev.vialtointernal.com

./cli.sh registry list-flows -b 56dd3db2-1a0b-40f3-8b02-0f8c5d8b64dd -u http://titan-nifiregistry-dev.vialtointernal.com

./cli.sh registry export-flow-version -f 45bbae59-b2d3-40c3-b580-c796908c930f -fv 5 -o /tmp/my-flow.json -ot json -u http://titan-nifiregistry-dev.vialtointernal.com/

Import the flow to qa registry

./cli.sh registry list-buckets -u http://titan-nifiregistry-qa.vialtointernal.com/

./cli.sh registry create-flow -b d1ad0960-966d-4e66-8e99-860ce3a0e33d -fn "qa-flow" -u http://titan-nifiregistry-qa.vialtointernal.com/

./cli.sh registry list-flows -b d1ad0960-966d-4e66-8e99-860ce3a0e33d -u http://titan-nifiregistry-qa.vialtointernal.com/

./cli.sh registry import-flow-version -f 26c92116-d823-4fae-9cc1-d26012d73bc6 -i /tmp/my-flow.json -u http://titan-nifiregistry-qa.vialtointernal.com/

Flow id  – from pipeline variable

Bucket id  - - from pipeline variable

Flow versions need to update each deployment from pipeline variables.