Turbine Upgrade Guide

1. Pre-Upgrade Health Check

Node Status

- Check that all Nodes are in Ready state

```
kubectl get nodes -owide
```

- If any nodes are in NotReady, SchedulingDisabled, etc then it would be recommended to review and fix them before upgrading.

Pod Status

- Check that all pods are in Running state and the pod values are matching 1/1, 3/3, etc.

```
kubectl get pods -A
```

- If any pods are not running i.e, 0/1, 2/3, CrashLoopBackoff, Error, etc then it would be advised to review the issue and fix it prior to upgrading

Cluster Status

- Check that Kubernetes is up and running and healthy.

```
kubectl cluster-info
```

- If Kubernetes indicates that it is not healthy then review and establish where the issue is prior to upgrading.

etcd health

- etcd needs to be in a stable state prior to upgrading any issues

```
for pod in $(kubectl get pods -l component=etcd -n kube-system \
                    -o jsonpath='{.items[*].metadata.name}')
do
    echo "### etcd pod : ${pod} ###"
    kubectl -n kube-system exec ${pod} -- /bin/sh \
            -c "ETCDCTL_API=3 etcdctl \
            --cert=/etc/kubernetes/pki/etcd/server.crt \
            --key=/etc/kubernetes/pki/etcd/server.key \
            --cacert=/etc/kubernetes/pki/etcd/ca.crt \
```

11. Turbine 25.3.1 Upgrade Instructions

Use these upgrade instructions to upgrade your instance of Turbine 25.3.1 The instructions are organized by subsections of this document that will help you upgrade by specific installation type, whether you have an embedded or existing cluster installation.

Upgrade Turbine on Embedded Cluster Installations

Use the following instructions to upgrade this version of Swimlane on an embedded cluster installation.

Prerequisites:

- Turbine version 25.1.2
- MongoDB 7.0.19

Important! Swimlane recommends that you perform a MongoDB backup prior to starting this update. For more information, see Backup and Restore on an Embedded Cluster with Snapshots.

Upgrade Instructions

1. SSH into any node in your deployment.
2. Scale down EKCO and kotsadm-rqlite.

   Note: EKCO and Kotsadm-rqlite will automatically scale back up after the script in Step 3 has completed.

   ```
   kubectl -n kurl scale deployment ekc-operator --replicas=0
   kubectl -n default scale statefulsets kotsadm-rqlite --replicas=0
   ```

3. Execute the following command to begin the Turbine Platform Installer component upgrade:

   ```
   curl -sSL https://kurl.sh/turbine-turbine-25-3-1 | sudo bash -s ha
   ```

   Note: If you have configured SELinux, firewall, or proxy add this to the end of the command above:

   ```
   installer-spec-file=ec.yaml
   ```

21. Turbine 25.0.6 Upgrade Instructions

Turbine Upgrade Instructions

Use these upgrade instructions to upgrade your instance of Turbine 25.x. The instructions are organized by subsections of this document that will help you upgrade by specific installation type, whether you have an embedded or existing cluster installation.

Upgrade Turbine on Embedded Cluster Installations

Use the following instructions to upgrade this version of Swimlane on an embedded cluster installation.

Prerequisites:

- Turbine version 24.3.2
- MongoDB 6.0.18

Important! Swimlane recommends that you perform a MongoDB backup prior to starting this update. For more information, see Backup and Restore on an Embedded Cluster with Snapshots.

Upgrade Instructions

1. SSH into any node in your deployment.
2. Scale down EKCO and kotsadm-rqlite.
   Note: EKCO and Kotsadm-rqlite will automatically scale back up after the script in Step 3 has completed.

   ```
   kubectl -n kurl scale deployment ekc-operator --replicas=0

   kubectl -n default scale statefulsets kotsadm-rqlite --replicas=0
   ```

3. Execute the following command to begin the Turbine Platform Installer component upgrade:

   ```
   curl -sSL https://kurl.sh/turbine-turbine-25-0-6 | sudo bash -s ha
   ```

   NOTE: If you have specified SELinux, add this to the end of the command above, or

31. Turbine 24.2.2 Upgrade Instructions

Use these upgrade instructions to upgrade your instance of Turbine 24.x. The instructions are organized by subsections of this document that will help you upgrade by specific installation type, whether you have an embedded or existing cluster installation.

Upgrade Turbine on Embedded Cluster Installations

Use the following instructions to upgrade this version of Swimlane on an embedded cluster installation.

Prerequisites:

- Turbine version 23.5.x+
- MongoDB 5.0.24

Important! Swimlane recommends that you perform a MongoDB backup prior to starting this update. For more information, see Backup and Restore on an Embedded Cluster with Snapshots.

Upgrade Instructions

1. SSH into any node in your deployment.
2. Scale down EKCO and kotsadm-rqlite.
   Note: EKCO and Kotsadm-rqlite will automatically scale back up after the script in Step 3 has completed.

   ```
   kubectl scale deployment ekc-operator --replicas=0 -n kurl

   kubectl scale statefulsets kotsadm-rqlite --replicas=0 -n default
   ```

   NOTE: If you have configured SELinux, add this to the end of the command above:

   ```
   installer-spec-file=se.yaml
   ```

2. Execute the following command to begin the Turbine Platform Installer component upgrade:

41. Node Maintenance on K8s Turbine Platform Installer (TPI) deployment

At some point, you'll need to carry out maintenance on a node (i.e. a kernel upgrade, apply a security patch, upgrade the operating system, perform hardware maintenance, take a snapshot) which may require a single node shutdown or reboot. It's critical that these events are handled gracefully in a Kubernetes (K8s) Turbine Platform Installer (TPI) environment.

Applies to: TPI Standalone and High Availability (HA) deployment type.

PIOTU9-ERWY3456780
Definitions:

- Node: a virtual machine or physical server
- Cluster: A group of interconnected nodes

NOTE: The steps below are supported for maintenance on one node at a time. Support for cluster-wide shutdown is currently NOT supported.

STEPS

1. Pick a node to be taken down for maintenance.

```
kubectl get nodes
```

2. Perform a health check of critical services:

```
# The namespace used is "default" in case of an embedded cluster
deployment
export NS=<swimlane namespace>

# The MONGO_PREFIX is either "swimlane-sw-" for SPI or empty for TPI
export MONGO_PREFIX=

export MONGO_ADMIN_PASSWORD=<DEFINE_PASSWORD>

#  The JSON response includes key of type list called "members", note
down the "name" and "stateStr" for each MongoDB server
# There should be 3 members with "stateStr" showing one "PRIMARY" and two
"SECONDARY"
```