LDOS 1.1.1 update and config

This article outlines the update and configuration process of the Lumada DataOps Suite 1.1.1 (GA).

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Before You Start

Prior to installing LDOS 1.1.1 you need to check the following requirements:

- Cluster with LDOS 1.1.0 previously successfully installed.

This guide will cover the update of:

- Foundry 2.2.1
- Metrics Add-On 1.0.0 for Foundry
- LDOS 1.1.1

You can find everything you need in: https://hcpanywhere.hitachivantara.com/a/PWPVYtZj1UovY9VO/e52a0db2-ad14-4673-941b-c304c2b108b2?l

> You'll need your Hitachi Vantara credentials or ask Customer Success.

Kubernetes Management

To properly access the kubernetes cluster, you need to configure your `kubeconfig`.

Know where your `kubeconfig` is located - this is a YAML file that determines which cluster your `kubectl` will talk to. It is usually located under `.kube/config` at your home user folder. **You will need the path later**.

Double check that your `kubectl` is talking to the correct kubernetes cluster by running:

```
kubectl config view --minify | grep 'server\|current-context'
```

Read more at: https://kubernetes.io/docs/tasks/access-application-cluster/configure-access-multiple-clusters/

Upgrade Foundry

To upgrade to 2.2.1 from 2.2.0 previous versions, please check Foundry documentation: http://docs.foundry.wal.hds.com/

Foundry Control Plane 2.2.1 is available in https://hcpanywhere.hitachivantara.com/a/PWPVYtZj1UovY9VO/e52a0db2-ad14-4673-941b-c304c2b108b2?l:

- `Foundry-Control-Plane-2.2.1.tgz`

Follow the official installation guide for Foundry

Please refer to the official Foundry documentation for details on how to upgrade the Solution Control Plane:

http://docs.foundry.wal.hds.com/docs/AdministeringSolutions/UpgradingTheControlPlane

For a standard 2.2.0 2.2.1 upgrade process, execute the following steps:

- Upgrade cluster services

```
(Having current context in ~/.kube/config pointing to this cluster)
$./bin/upgrade-cluster-services.sh
```

- Apply new CRDs

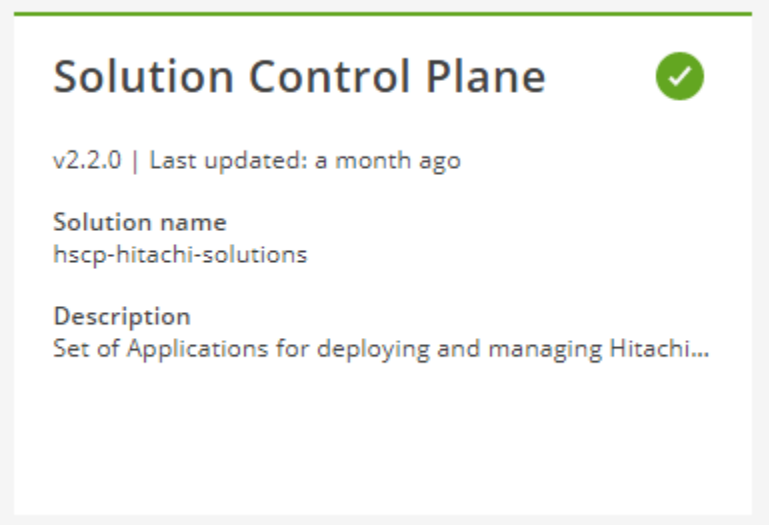
```
$./bin/apply-crds.sh -r <REGISTRY_URL>:<REGISTRY_PORT>[/optional
/registry/sub/path] -e
```

- Install Solution Control Plane

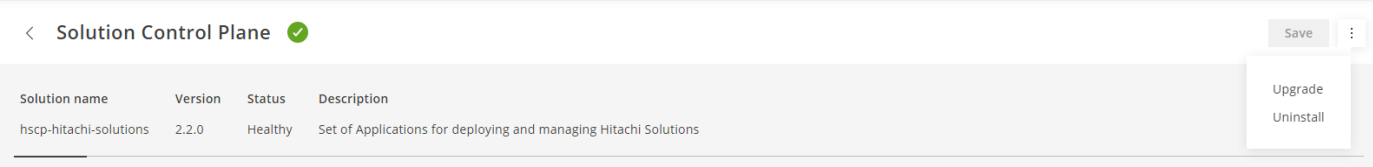
```
$./bin/install-control-plane.sh -r <REGISTRY_URL>:<REGISTRY_PORT>[
/optional/registry/sub/path] -c <HOSTNAME> -n <namespace_name> -s true -
U
```

- Upgrade the Solution Control Plane from the Admin UI

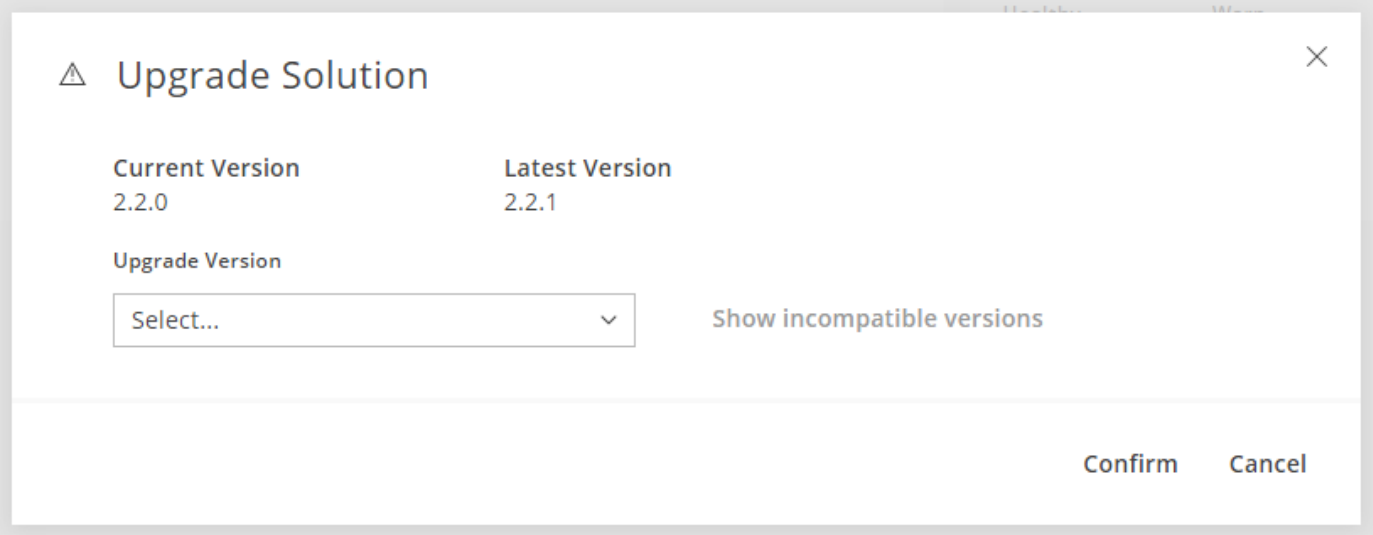
To upgrade Metadata Store, log to **Foundry Solution Management UI** and select **Solution Control Plane** card.



In the solution details, at the right top corner, you can find a menu with the **“Upgrade”** option that should be selected.

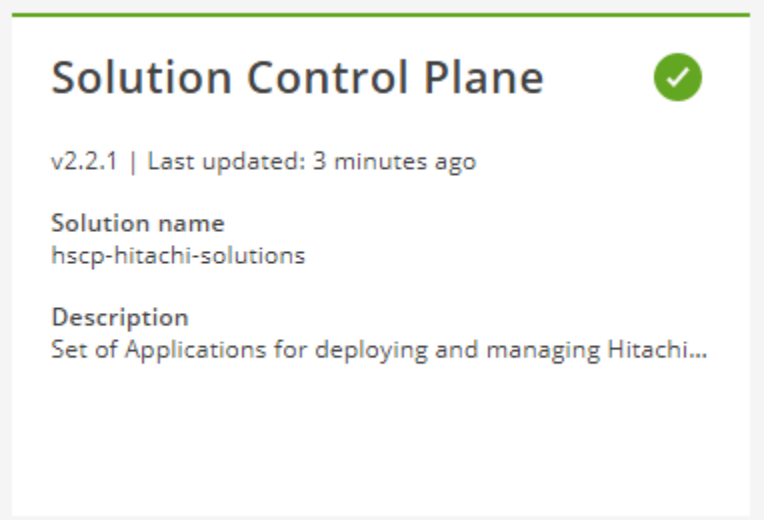


A new window is presented to allow the user to select the Upgrade Version to apply. Select version 2.2.1 and click **Confirm button** to trigger the upgrade.



Select 2.2.1 version, click **Confirm button** and then **Upgrade button** to finish.

Finished the upgrade process, solution card is now with the **Deployed** green mark and ready to be used.



Upload LDOS solutions

Download and unpack the LDOS package

> All packages required for LDOS 1.1.1 upgrade are available at https://hcpanywhere.hitachivantara.com/a/PWPVYtZj1UovY9VO/e52a0db2-ad14-4673-941b-c304c2b108b2?l:

Download and unpack the content of `/Lumada DataOps Suite Package 1.1.1/Lumada-DataOps-Suite-1.1.1.gz`:

```
7z e Lumada-DataOps-Suite-1.1.1.gz
tar -xf lumada-dataops-suite.tar
```

Download and unpack LDOS Installer `/Lumada DataOps Suite Package 1.1.1/Lumada-DataOps-Suite-1.1.1-installer-1.1.1.zip`

```
unzip Lumada-DataOps-Suite-1.1.1-installer.zip
```

At the end you will have two directories: `/lumada-dataops-suite` and `/installer` folders:

- `/lumada-dataops-suite` Includes
  - `/images`
  - `/charts` with all the solution artifacts, and
  - `/control-plane` folder with scripts for uploading solutions to Foundry.
- `/installer` - Includes scripts required to prepare the upload and install LDOS solutions.

Patch the LDOS solutions charts

Some LDOS Solutions need to be patched to inject the hostname in the helm charts prior to be uploaded to Foundry.

> ⚠ Have caution with this step because it will modify helm charts and it will only work once. If for some reason, the hostname is not correct, you will have to go back, unpack the `lumada-dataops-suite.tar` to restore default helm charts and only then run `update-hostname.sh` again.

Run the following command replacing `<HOSTNAME>` with the cluster hostname:

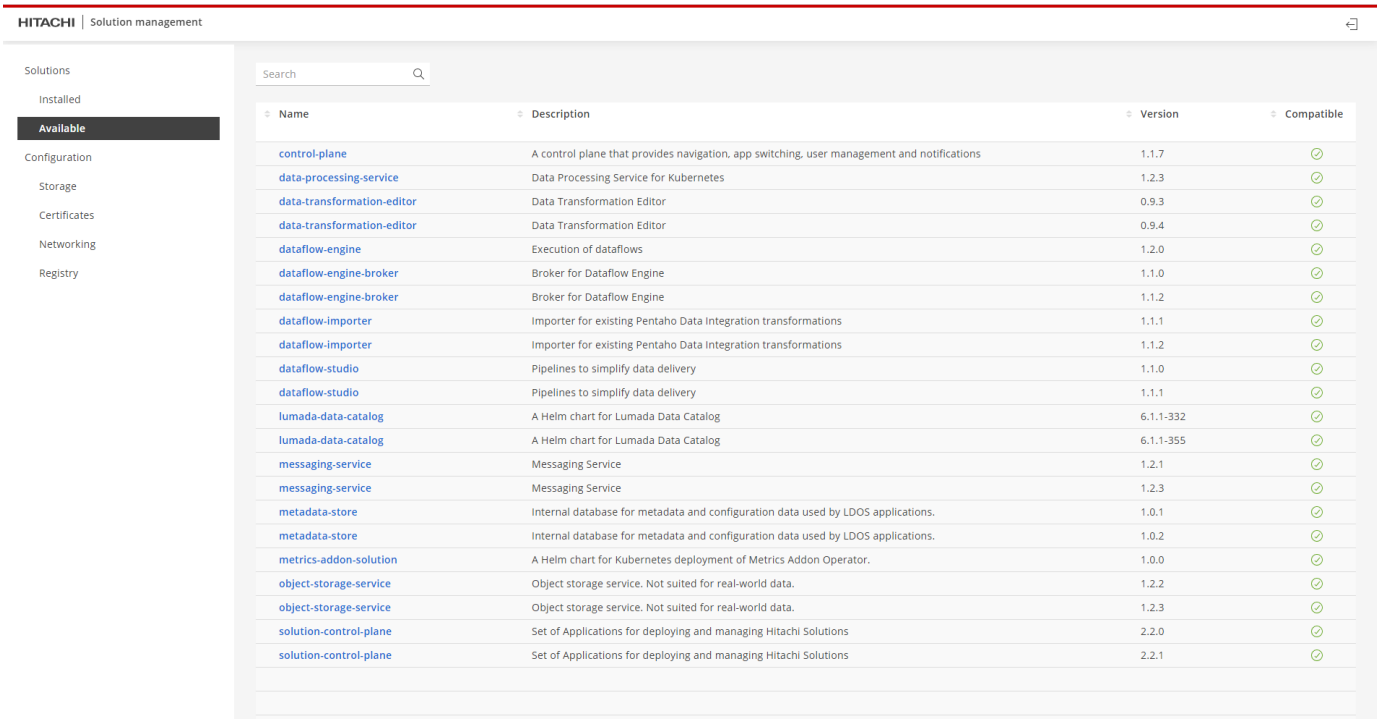
```
./installer/update-hostname.sh -c=lumada-dataops-suite/charts -
h=<HOSTNAME>
```

Upload LDOS solutions packages to Foundry

Upload the charts and images to the registry using `upload-solutions.sh`, replacing `KUBECONFIG` by the kubeconfig for the cluster:

```
./lumada-dataops-suite/control-plane/bin/upload-solutions.sh -C lumada-
dataops-suite/charts/ -I lumada-dataops-suite/images/ -k <KUBECONFIG> -
n <NAMESPACE>
```

After running this command, you can validate that you have the solutions available in the **Solution management** UI:



Update Metrics Add-On

To update metrics add-on installed solution, go to solution details, select **Configuration** tab and replace existing values with new values:

```
metricsCollector:
  ...
  extraConfig: |-
    retention: 60d
    retentionSize: 9GB
```

and

```
metricsaddon:
  ...
  clusterMonitoring: >
    kubeStateMetrics:
      enabled: true
      serviceMonitor:
        metricRelabelings:
          - sourceLabels: [ __name__ ]
            action: keep
            regex:
'(kube_pod_container_resource_limits_cpu_cores|kube_pod_container_resour
ce_limits_memory_bytes)'
    kubelet:
      enabled: true
      serviceMonitor:
        probes: false
        cAdvisorMetricRelabelings:
          - sourceLabels: [ __name__ ]
            action: keep
            regex: 'container_memory_usage_bytes'
        metricRelabelings:
          - sourceLabels: [ __name__ ]
            action: drop
            regex: '.*'
        resourceMetricRelabelings:
          - sourceLabels: [ __name__ ]
            action: keep
            regex: 'container_cpu_usage_seconds_total'
    prometheusOperator:
      kubeletService:
        enabled: true
  ...
```

Upgrade and Configure LDOS

Solutions upgrade procedure are identical to the one previously executed during the **Foundry Control Plane Upgrade** section, selecting the desired solution and version to upgrade *(exception for Dataflow Importer and Data Transformation Editor).*

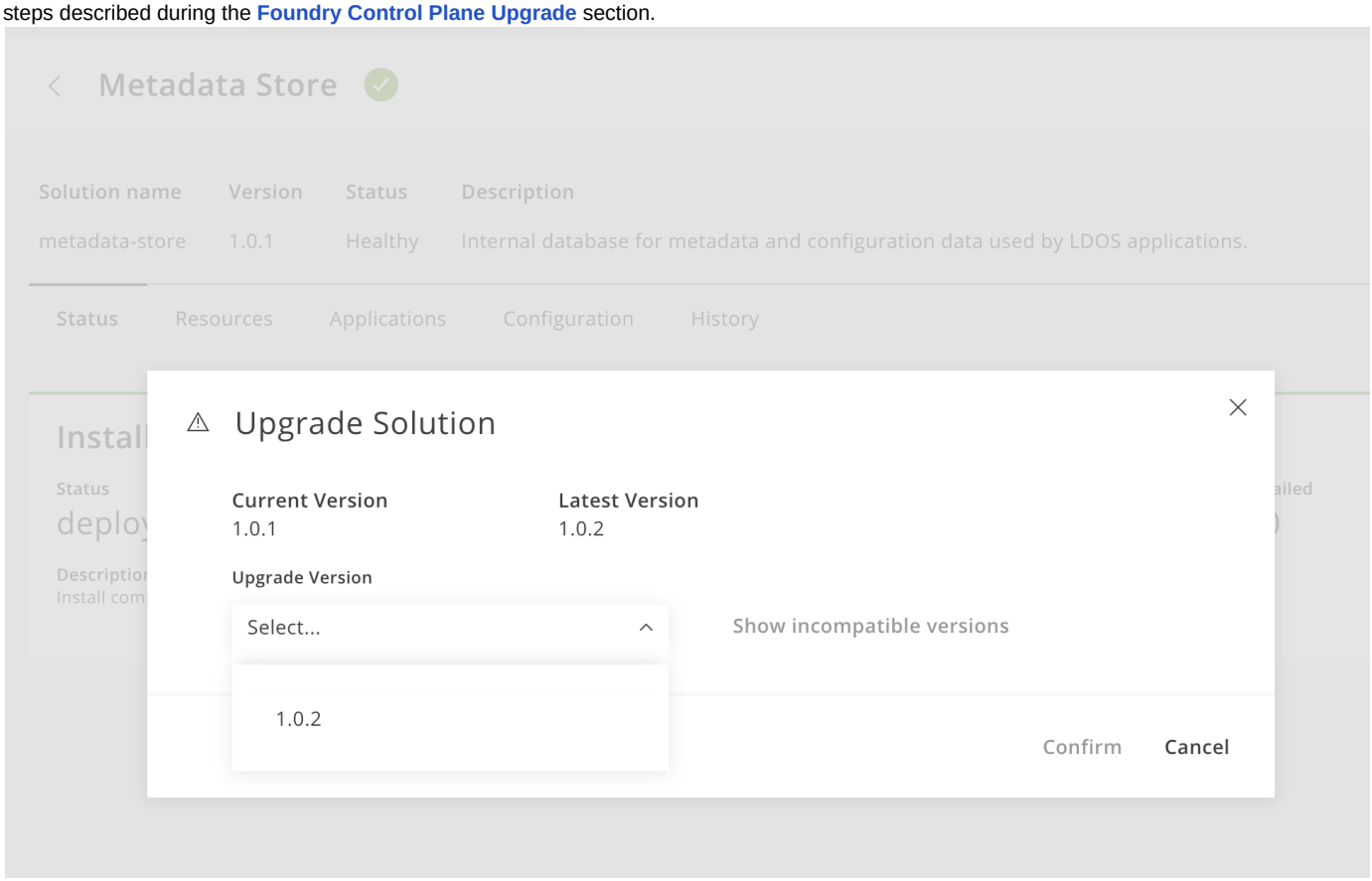
Lumada DataOps Suite 1.1.1 includes newer version of the following solutions:

- Metadata Store
- Messaging Service
- Dataflow Studio
- Dataflow Engine Broker
- Dataflow Importer
- Data Transformation Editor
- Object Storage Service
- Lumada Data Catalog

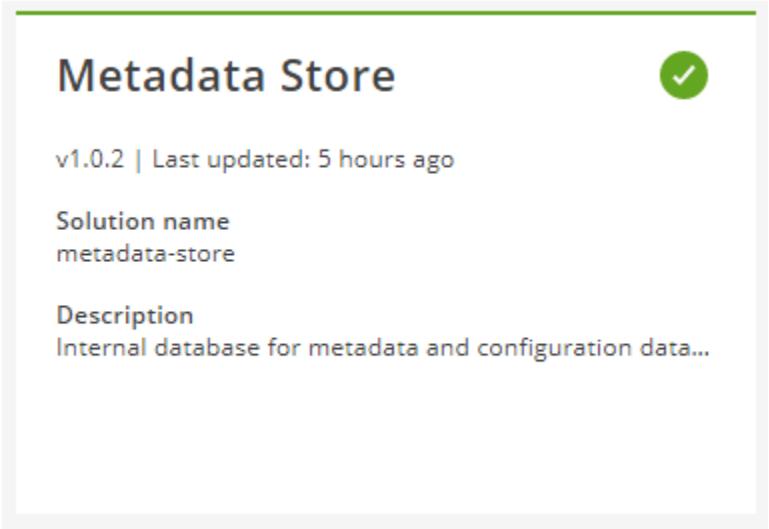
All the solution upgrade process will be executed using **Foundry Solution Management UI.**

Upgrade Metadata Store

This LDOS release, includes version 1.0.2 of **Metadata Store** that should be selected as upgrade version. To upgrade the solution, follow the steps described during the **Foundry Control Plane Upgrade** section.

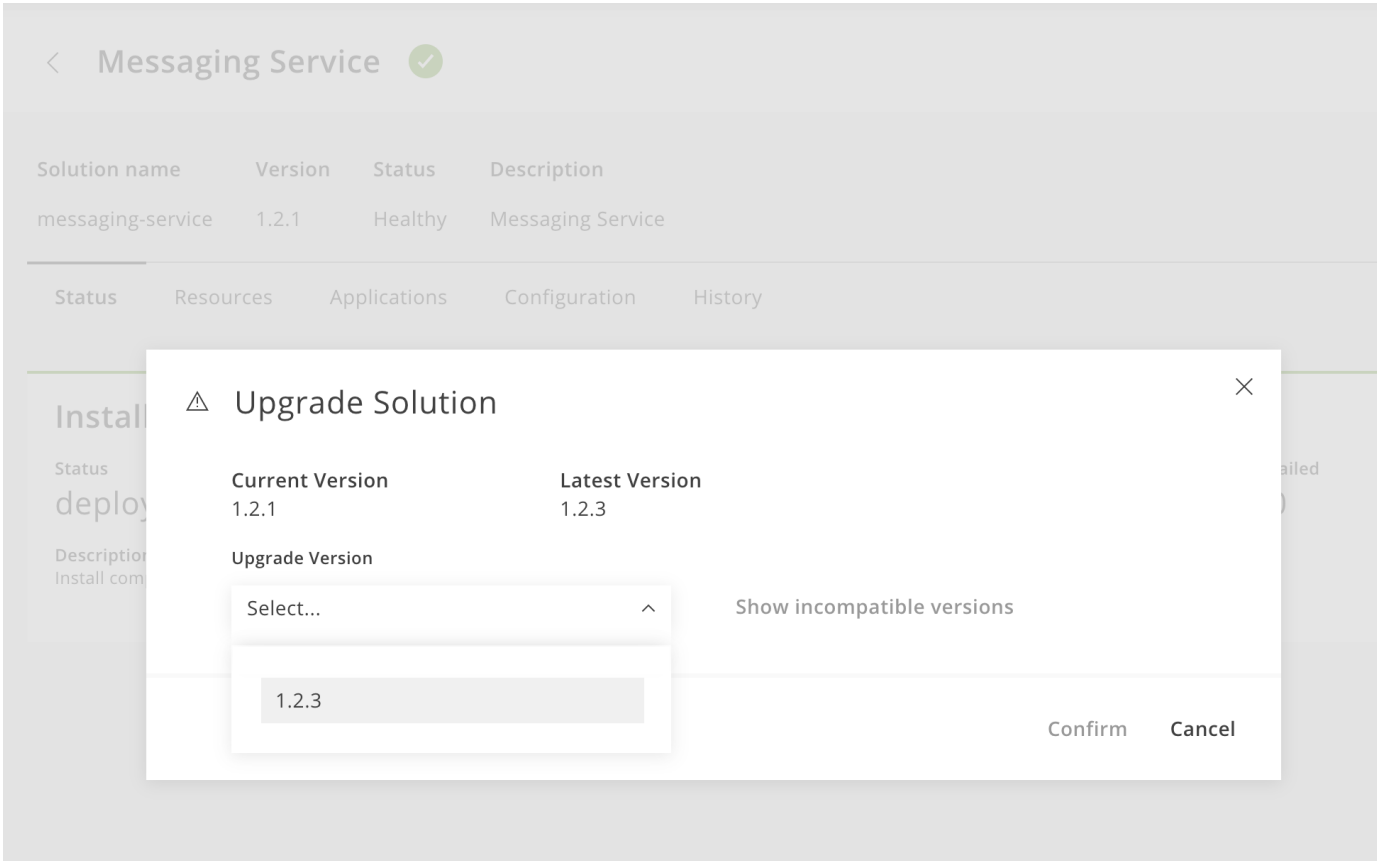


Finished the upgrade process, solution card is now with the **Deployed** green mark and ready to be used.

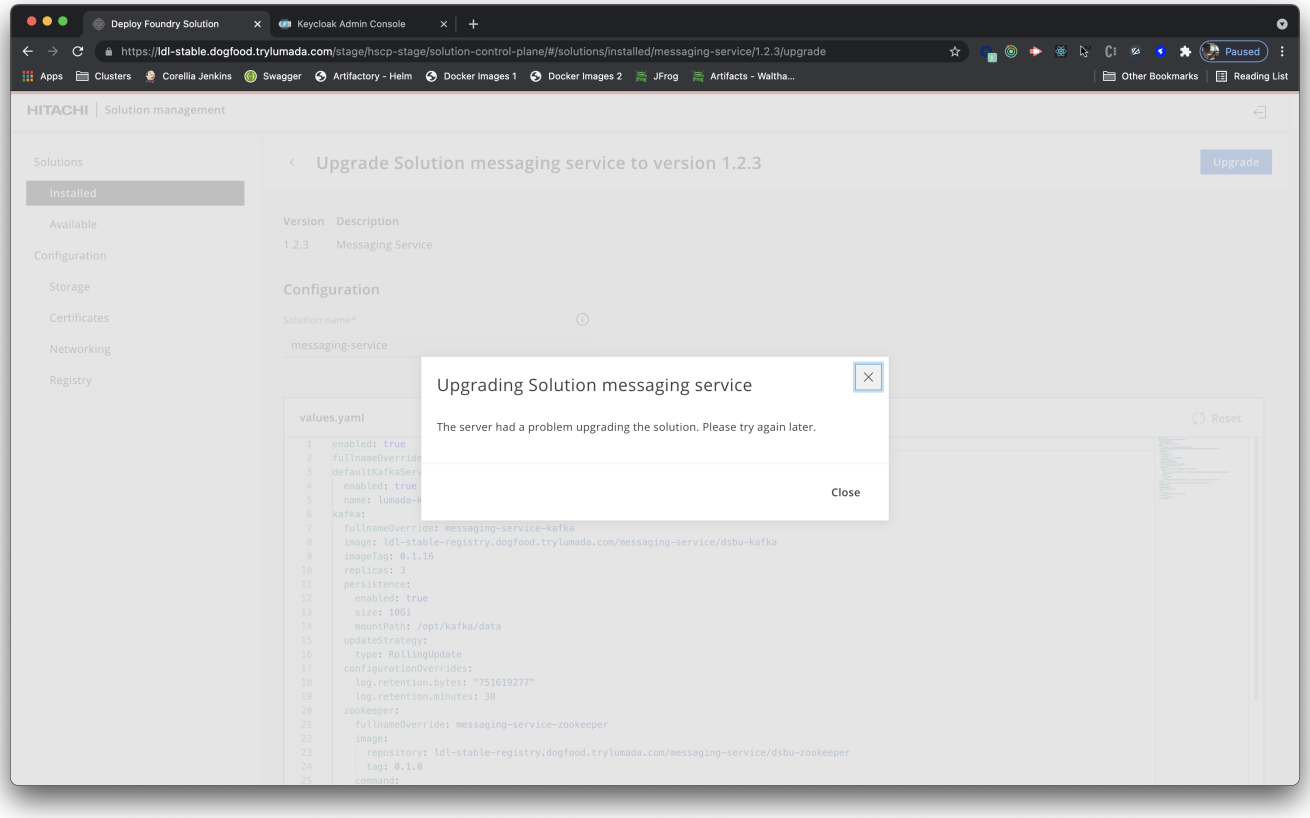


Upgrade Messaging Service

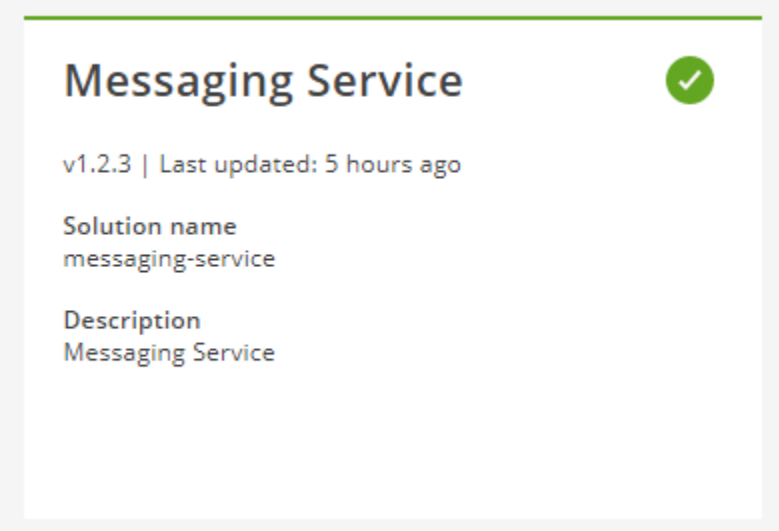
This LDOS release, includes version 1.2.3 of **Upgrade Messaging Service** that should be selected as upgrade version.



Messaging Service upgrade process might take a longer time to complete. Sometimes, during the process a message window with *server problems* is displayed. Please close it, and wait some moments for the upgrade process to conclude.

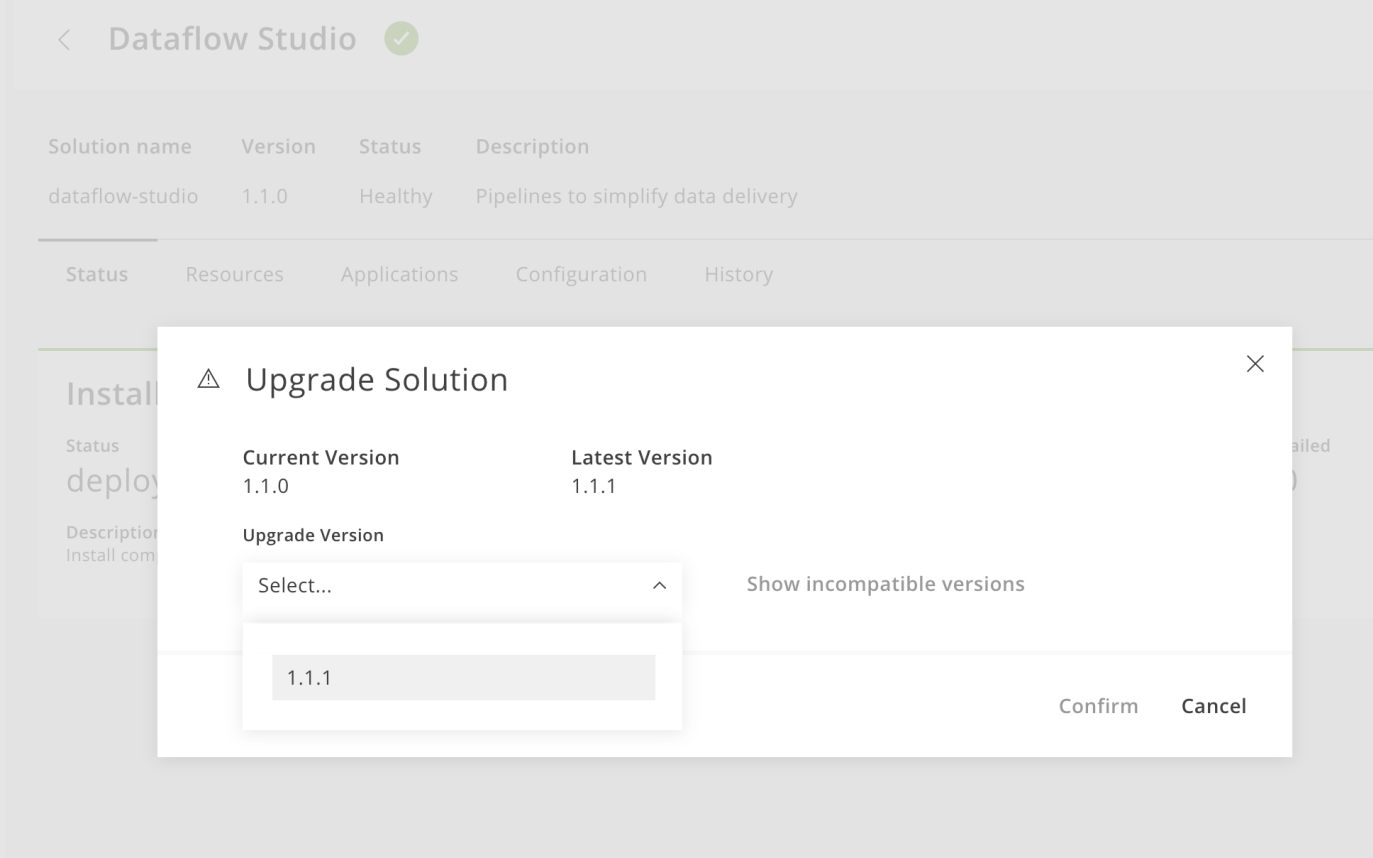


At the end of the wait time, the solution card is now with the **Deployed** green mark and ready to be used.



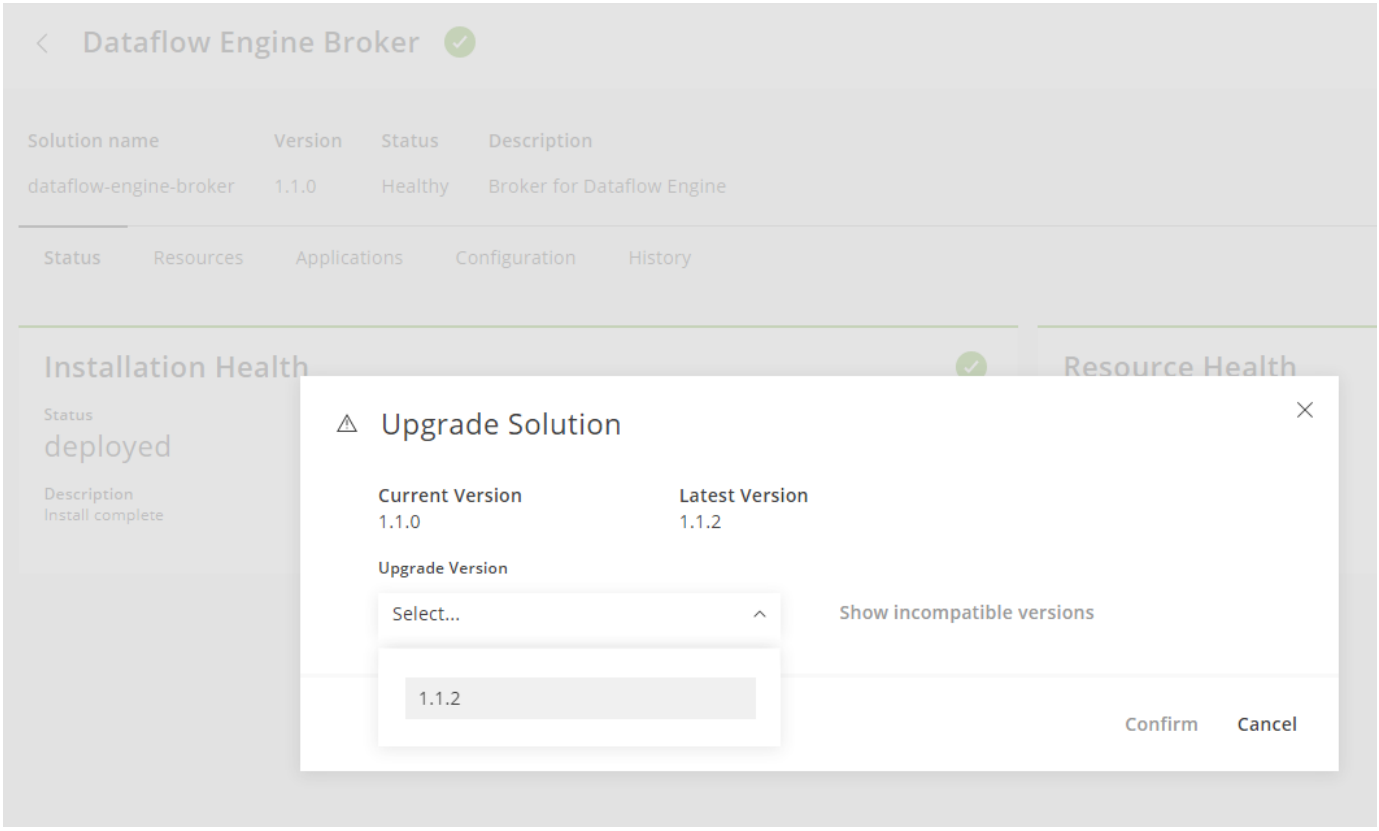
Upgrade Dataflow Studio

This LDOS release, includes version 1.1.1 of **Dataflow Studio** that should be selected as upgrade version.



Upgrade Dataflow Engine Broker

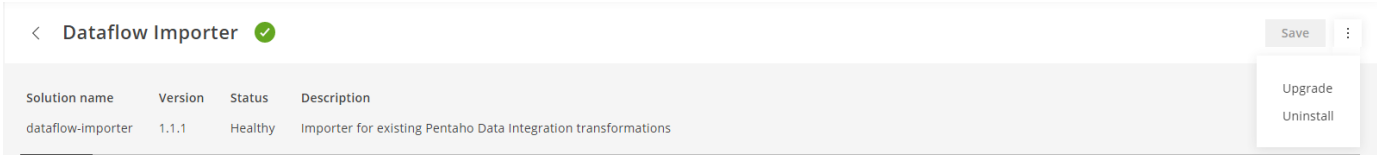
This LDOS release, includes version 1.1.2 of **Dataflow Engine Broker** that should be selected as upgrade version.



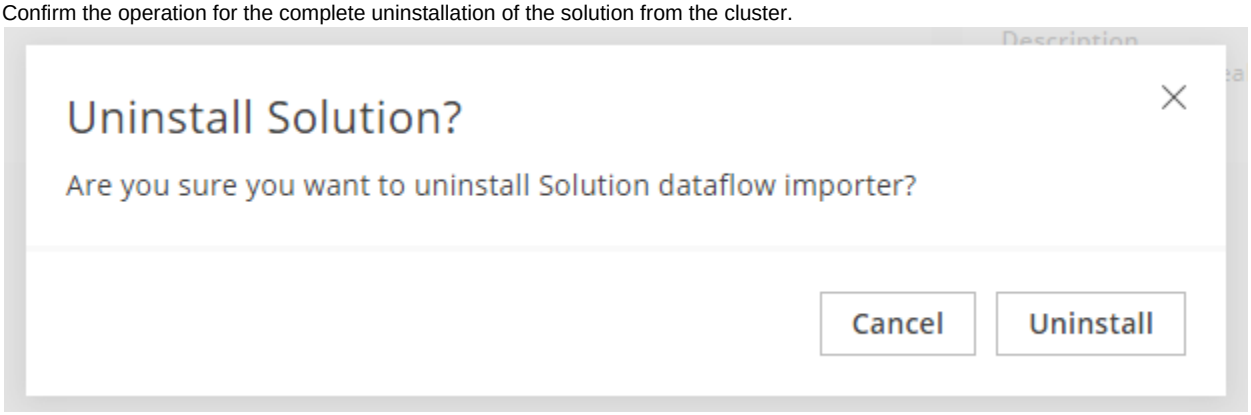
Upgrade/Reinstall Dataflow Importer

This LDOS release, includes version 1.1.2 of **Dataflow Importer**. However, to upgrade this solution a different process is required: *uninstall and install*.

After selecting the **Dataflow Importer** card, in the solution details, at the right top corner, you can find a menu with the **"Uninstall"** option that should be selected.

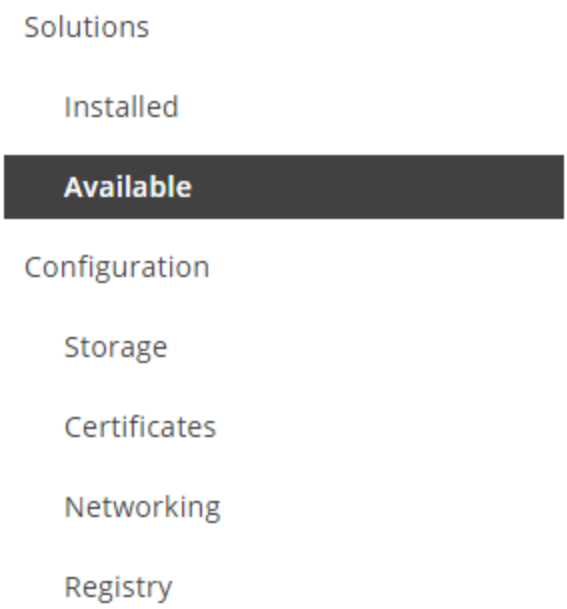


Confirm the operation for the complete uninstallation of the solution from the cluster.

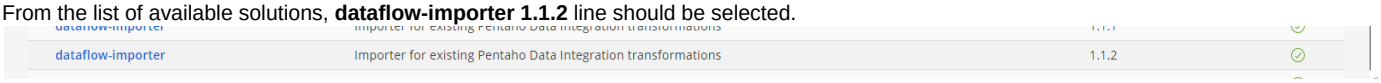


At the end, the card should no longer be available at the **Solution Management UI** page.

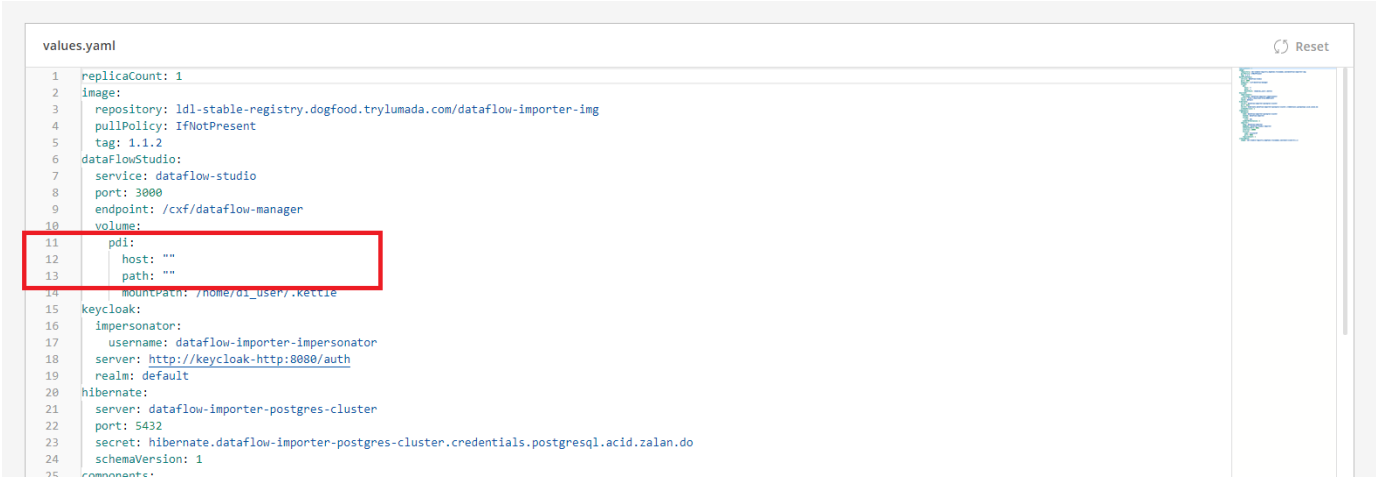
To install the new version (1.1.2), select the **Available** option at the left menu.



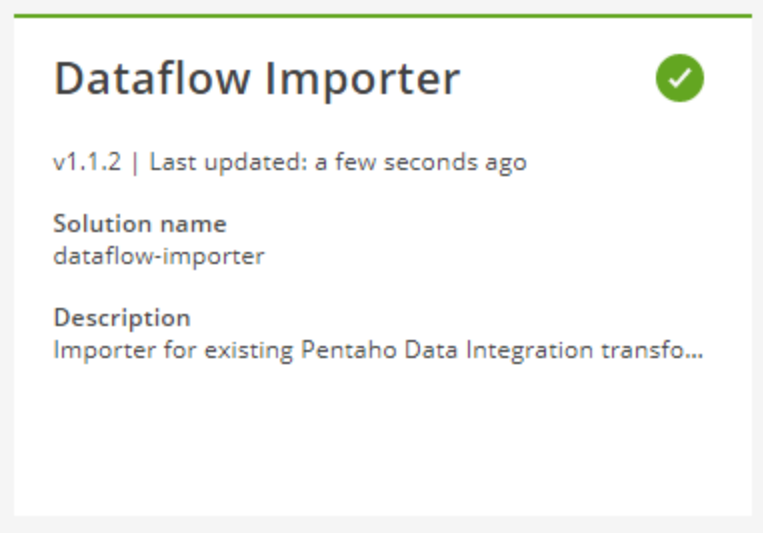
From the list of available solutions, **dataflow-importer 1.1.2** line should be selected.



You can select a new value for the **Solution name** value (e.g. *dataflow-importer*) and in the **values.yaml** section, modify the **configure host** and **path** with the correct values for the existent NFS server.



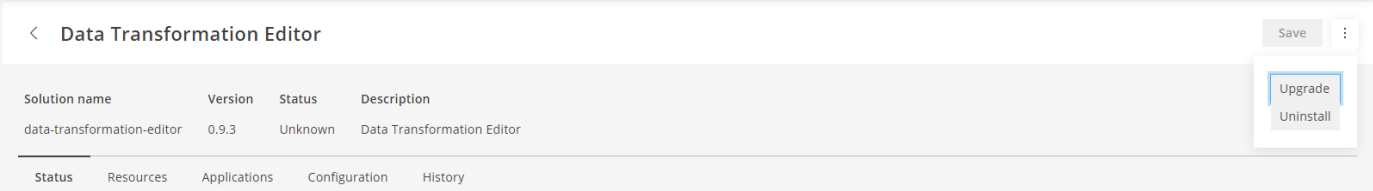
Click **Install button** to confirm the installation of this version. At the end of the process, the solution card is now with the **Deployed** green mark and ready to be used.



Upgrade/Reinstall Data Transformation Editor

This LDOS release, includes version 0.9.4 of **Data Transformation Editor**. The upgrade process for this solution is similar to the **Dataflow Importer**: *uninstall and install.*

Start by uninstalling the previous version



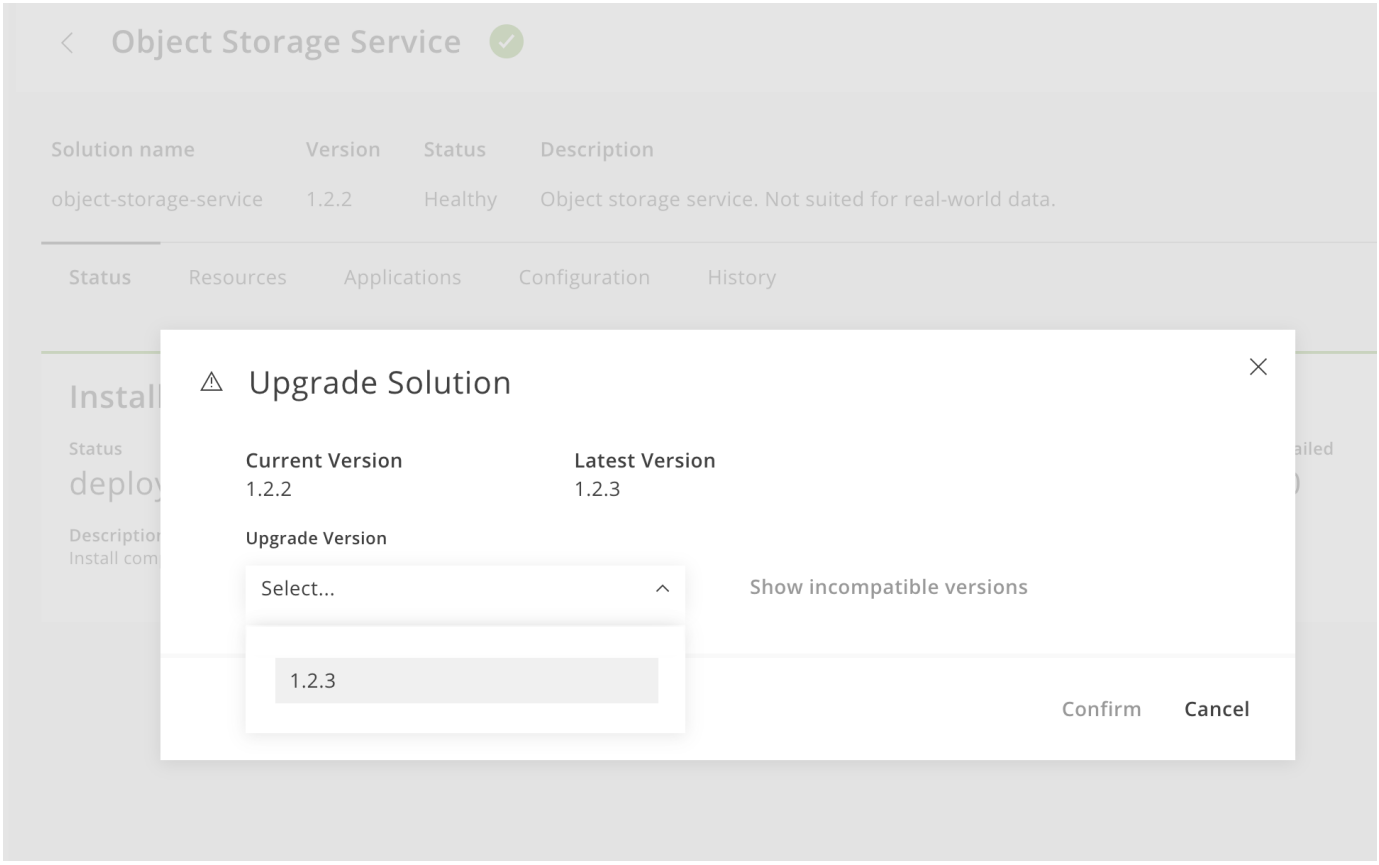
After the successfully uninstallation, install version **data-transformation-editor 0.9.4** version.

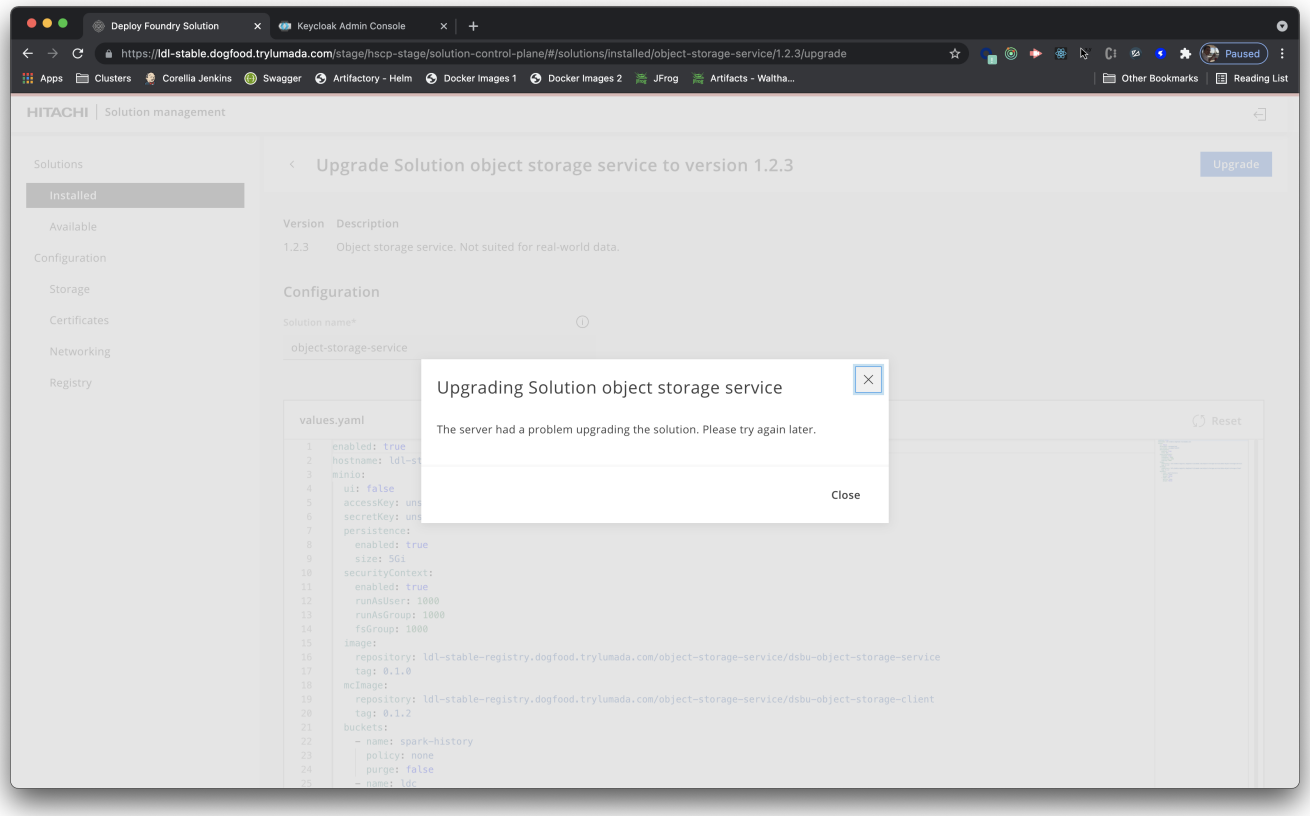
You can select a new name for the solution (*e.g. data-transformation-editor*) and in the **values.yaml** section, add the correctly configure host and path with the correct values for the existent NFS server.

Click **Install button** to confirm the installation of this version.

Upgrade Object Storage Service

This LDOS release, includes version 1.2.3 of **Object Storage Service** that should be selected as upgrade version.

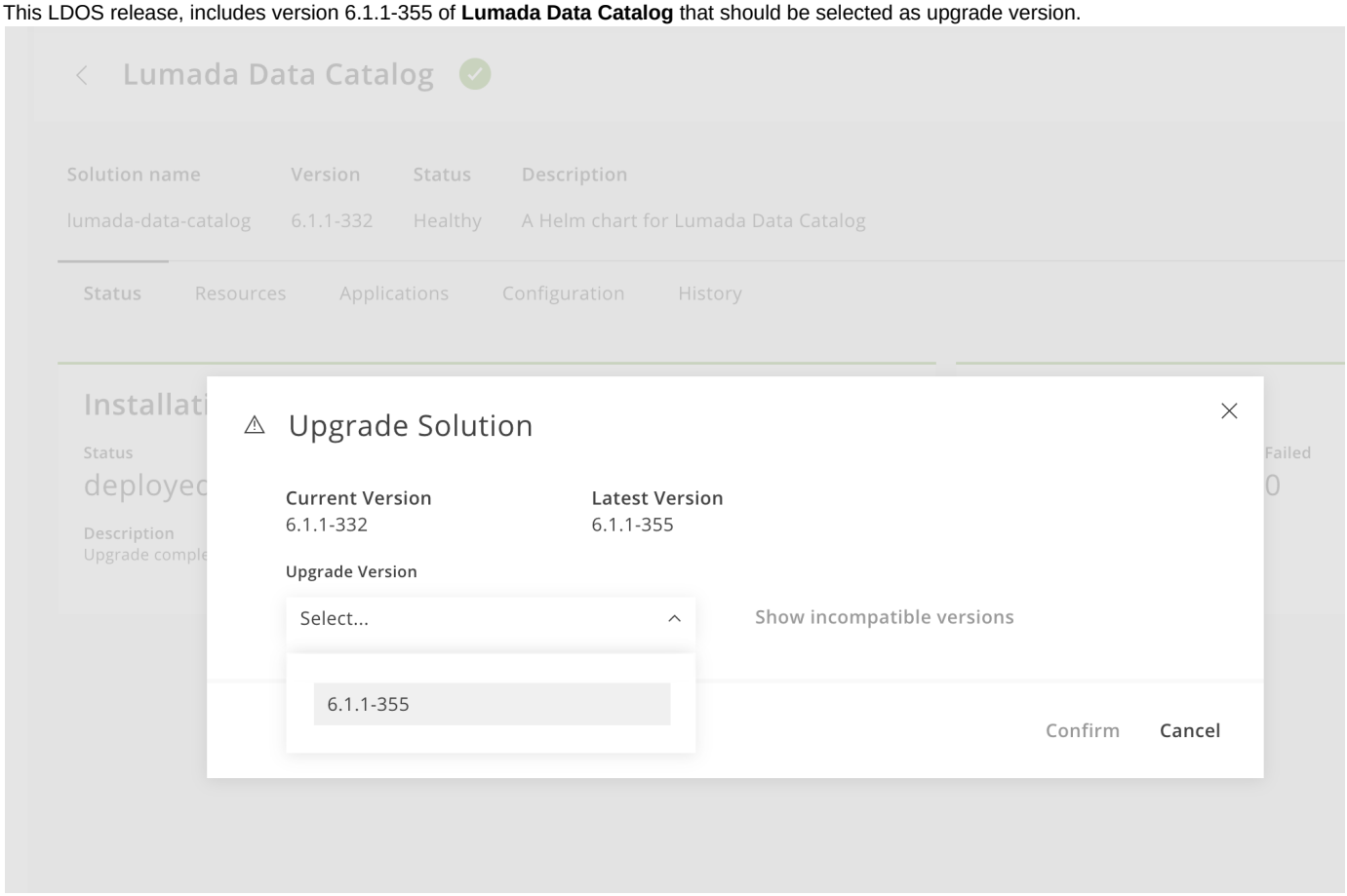


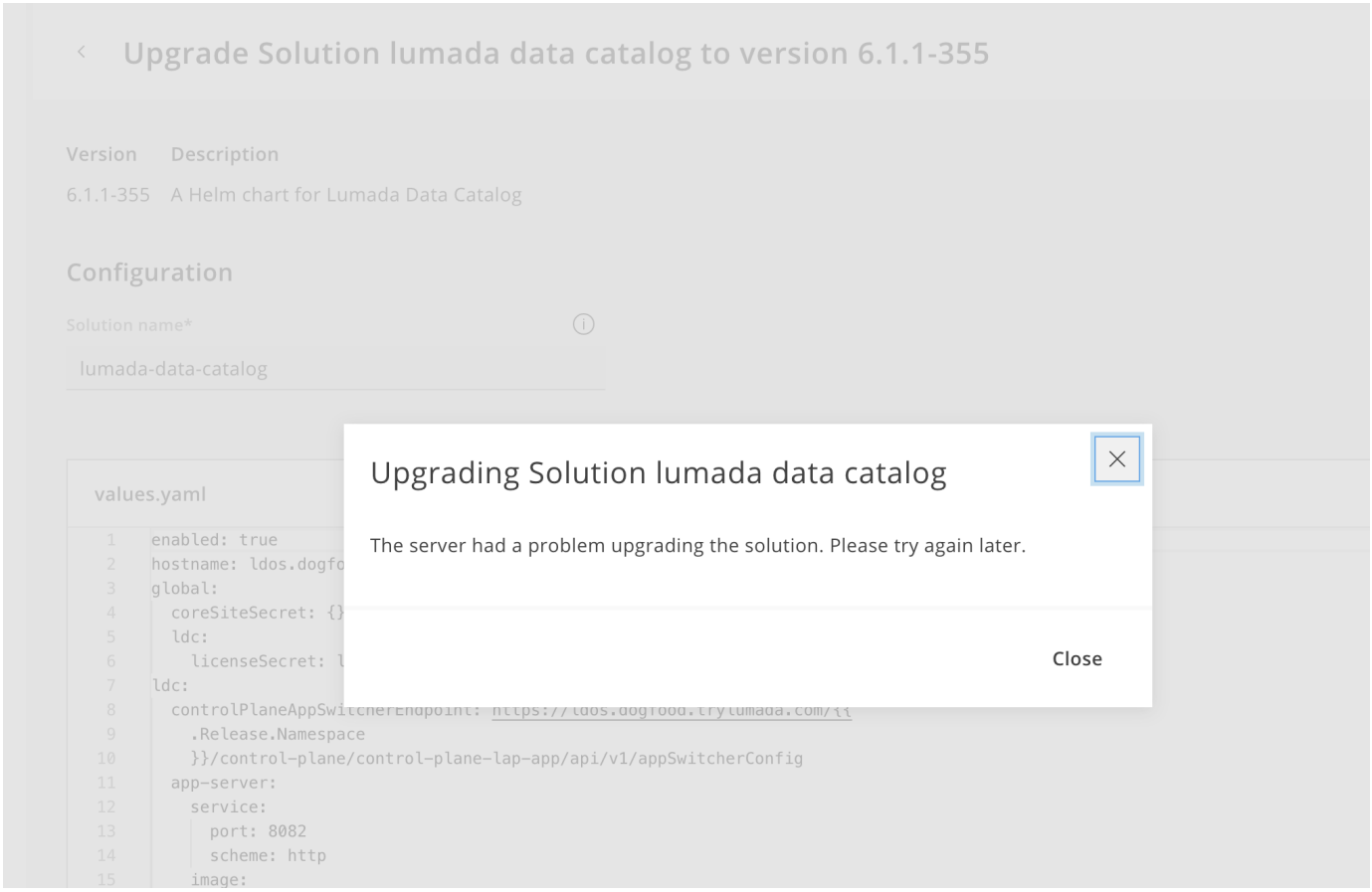


Similarly to **Messaging Service**, upgrade process for this solution might take a longer time to complete. Wait some extra moments for the upgrade process to conclude.

Upgrade Lumada Data Catalog

This LDOS release, includes version 6.1.1-355 of **Lumada Data Catalog** that should be selected as upgrade version.



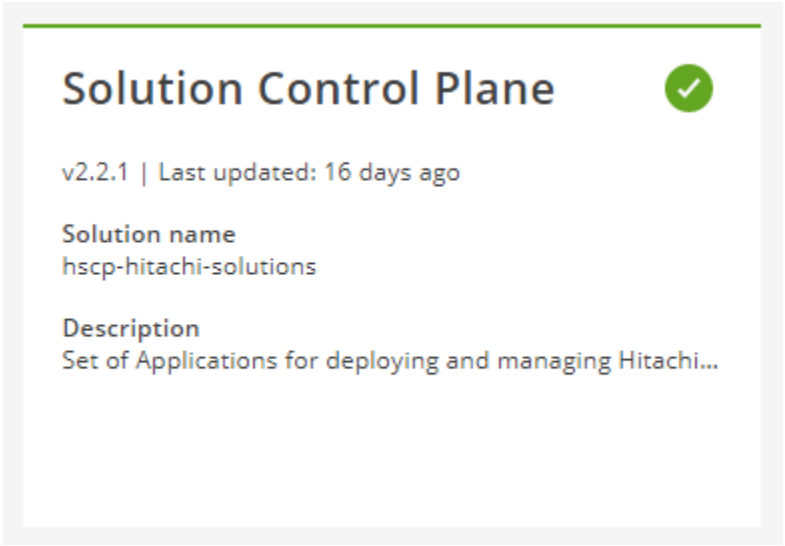


Lumada Data Catalog upgrade process might also take a longer time to complete. Wait some moments for the upgrade process to conclude successfully.

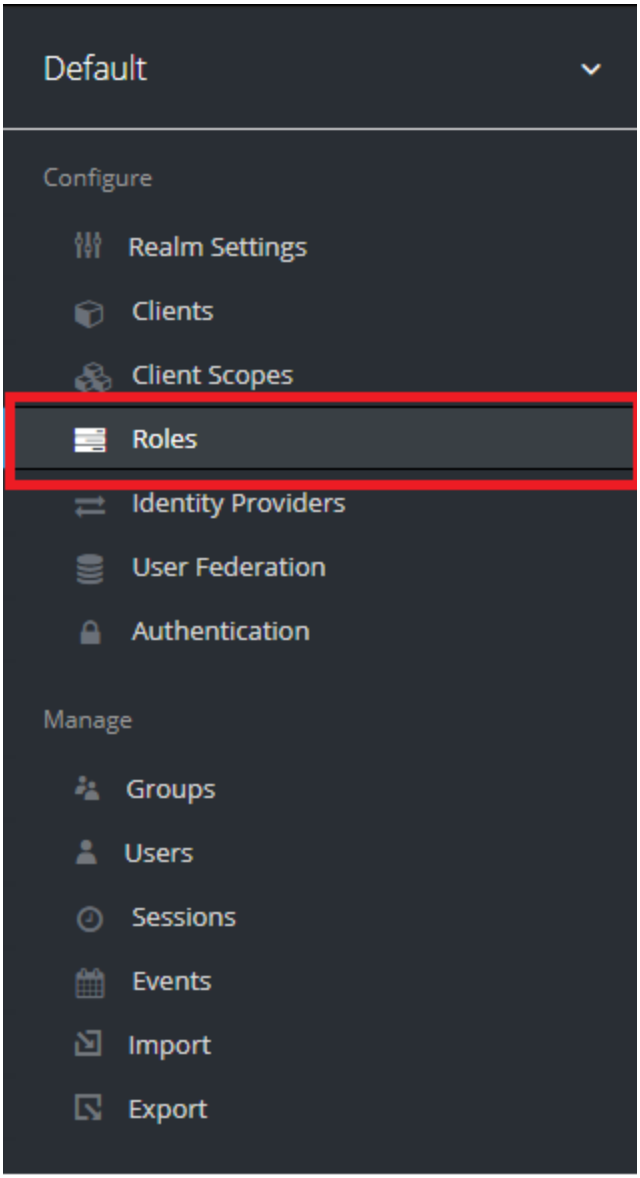
Update keycloak users roles

Administrator role

To update Keycloak's *Administrator and Data Engineer* roles, go to **Solution management** UI and select the **Solution Control Plane** solution:



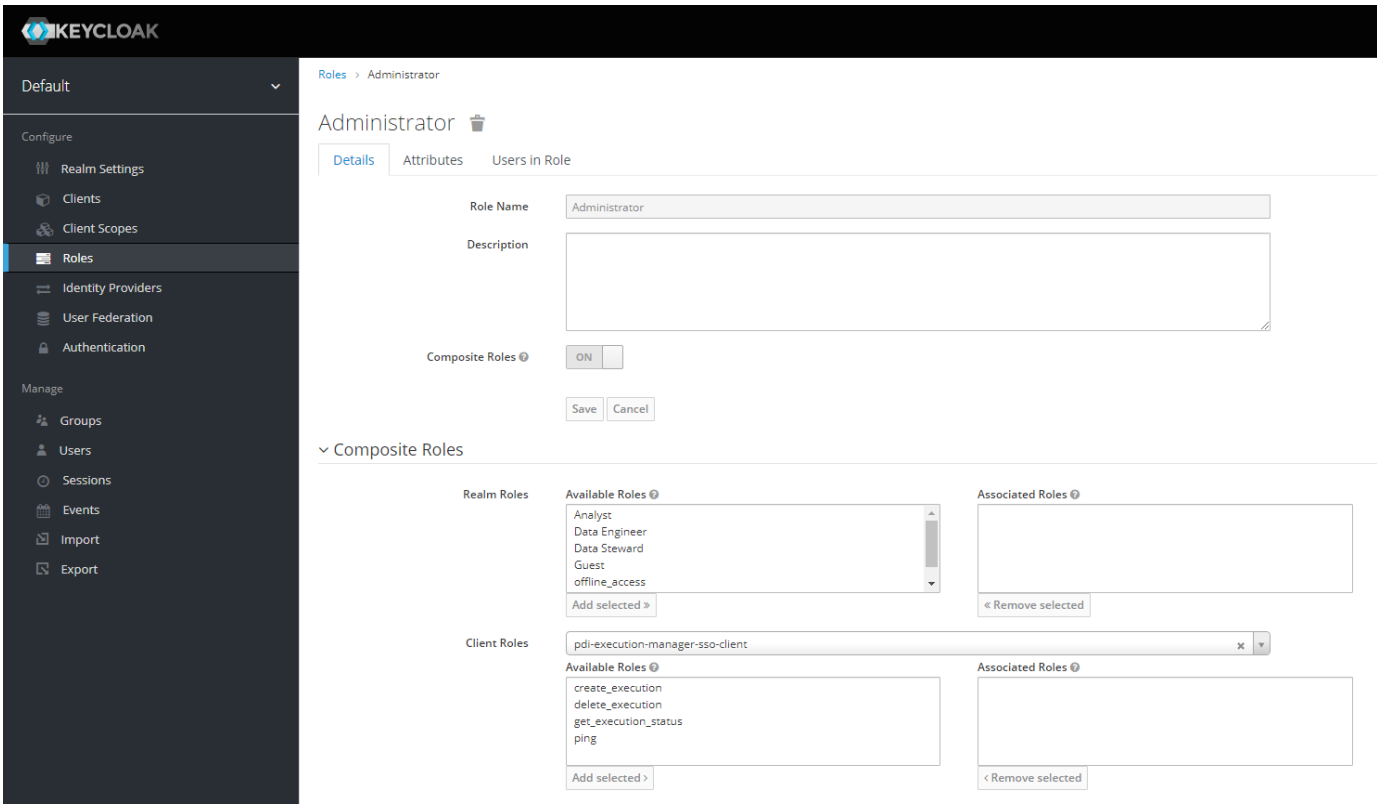
Select the **Applications** tab, and click at the **Keycloak Default Realm Console** link, to access Keycloak admin page. In the left menu, click at the **Roles** link and edit **Administrator** role.



Dataflow Engine

In the **Composite Roles** section, select the Dataflow Engine client role *(e.g. pdi-execution-manager-sso-client)* and add the available roles:

- create_execution
- delete_execution
- get_execution_status
- ping



Dataflow Studio

Following the previous step, select the Dataflow Studio client role (e.g. *dataflow-studio-sso-client*) and add the available roles:

- cancel_execution
- create_data_flow
- edit_schedule
- execute_data_flow
- pause_schedule
- remove_data_flow
- remove_schedule
- resume_schedule
- schedule_data_flow
- update_data_flow

Data Transformation Editor

Following the previous step, select the Data Transformation Editor client role (e.g. *data-transformation-editor-sso-client*) and add the available roles:

- api
- executespoon

> *All the associations are immediately applied, and because of that, it is not needed to click at **Save** button to apply role changes.*

Data Engineer role

For *Data Engineer* roles, repeat the previous steps to select the role.

Data Transformation Editor

Select the Data Transformation Editor client role (e.g. *data-transformation-editor-sso-client*) and add the available roles:

- api
- executespoon

Login

After the installation is completed, you can log into the **Lumada DataOps Suite** using a browser, replacing <HOSTNAME> and <NAMESPACE> by the cluster hostname and Foundry namespace respectively:

https://<HOSTNAME>**/**<NAMESPACE>**/control-plane/control-plane-lcp-app/**