

Automated Deployment on Red Hat OpenShift with the Joget Operator

Red Hat OpenShift is the industry's most comprehensive enterprise Kubernetes platform, and operators are the modern way to automate infrastructure management tasks. A new Joget DX Operator has now been released to further simplify and accelerate app development on Red Hat OpenShift. It has achieved Red Hat OpenShift Operator Certification, and is now available in the OpenShift Embedded OperatorHub.

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- Tutorial Part 1: Install Joget DX Operator from the OperatorHub
 - 1.1 Install Joget DX Operator as Cluster Admin
- Tutorial Part 2: Create a Joget Cluster with the Joget DX Operator
 - 2.1 Create New Project and Deploy Database
 - 2.2 Deploy Joget DX using the Joget DX Operator
 - 2.3 Complete One-Time Joget Database Setup

Tutorial Part 1: Install Joget DX Operator from the OperatorHub

The Joget DX Operator enables customers to rapidly deploy, manage and scale a Joget DX cluster on Red Hat OpenShift. As a certified Operator, it is listed in the OpenShift Embedded OperatorHub catalog. Joget DX is a development platform as well as an application runtime, so the Joget DX Operator is listed under both the Application Runtime and Developer Tools categories.

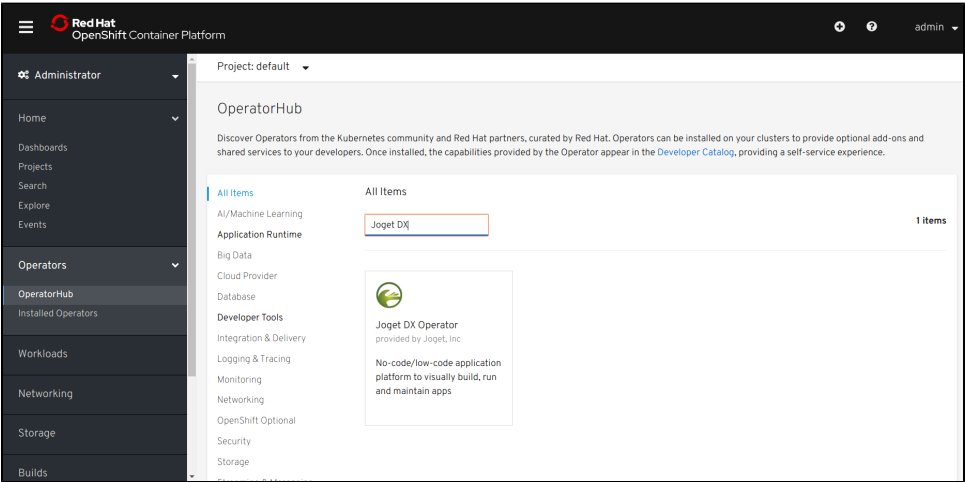
These steps assume that you already have a running OpenShift 4 cluster. You can access <https://try.openshift.com/> and select OpenShift 4 playground to setup a new cluster.

1.1 Install Joget DX Operator as Cluster Admin

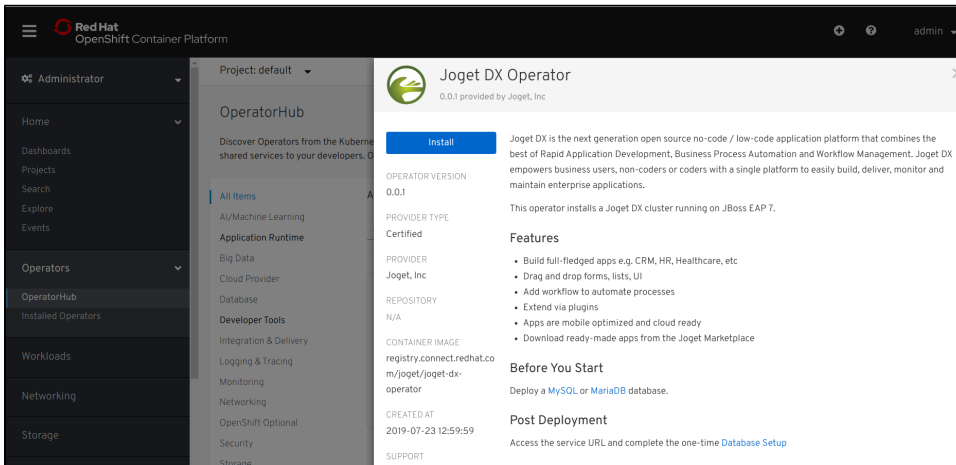
1. Login to the OpenShift console as the cluster admin

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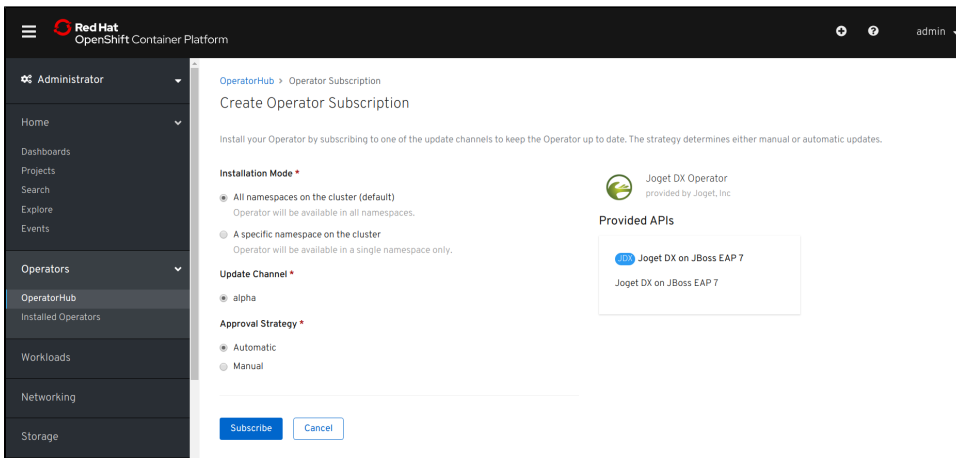
2. Browse to Catalog > OperatorHub and search for Joget DX



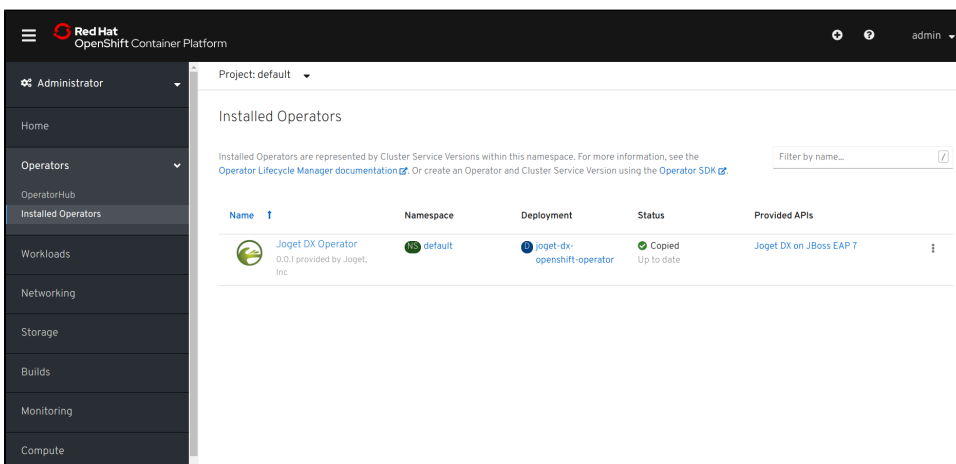
3. Select the Joget DX Operator, and click on the Install button



- Click on the Subscribe button to install the Joget DX Operator.



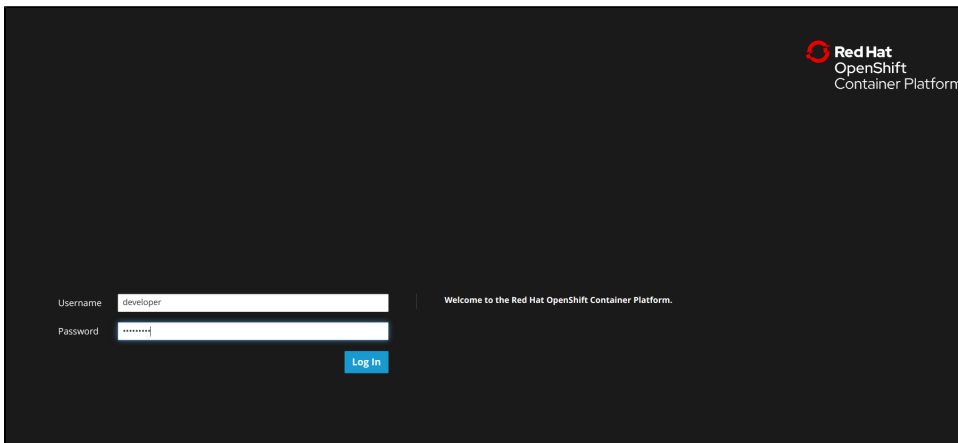
- Browse to Catalog > Installed Operators and select Joget DX Operator to confirm that the operator has been installed successfully.



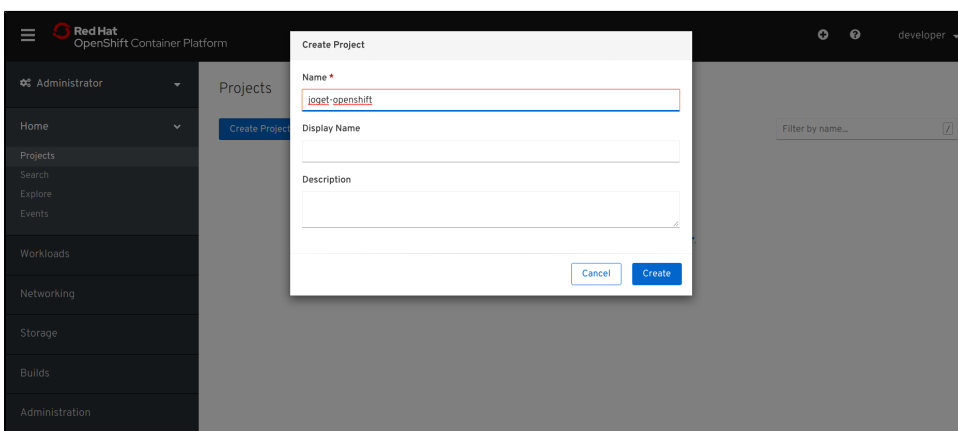
Tutorial Part 2: Create a Joget Cluster with the Joget DX Operator

2.1 Create New Project and Deploy Database

1. Now that the Joget Operator has been installed, login to the OpenShift console as a normal user.



2. Browse to Projects and click on the Create Project button. Enter a name and click on Create.

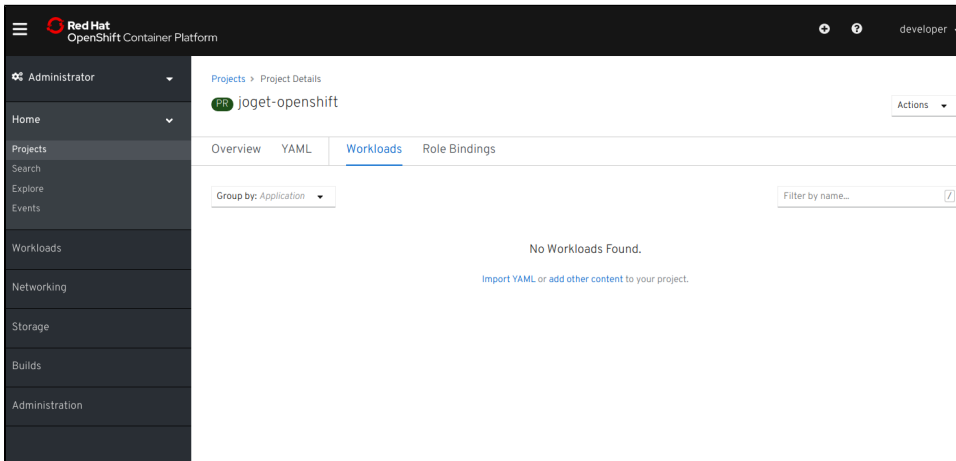


3. As a prerequisite, you will need to deploy either a [MySQL](#) or [MariaDB](#) database in the project.
4. The fastest way to deploy MySQL would be to use the OpenShift CLI e.g.:

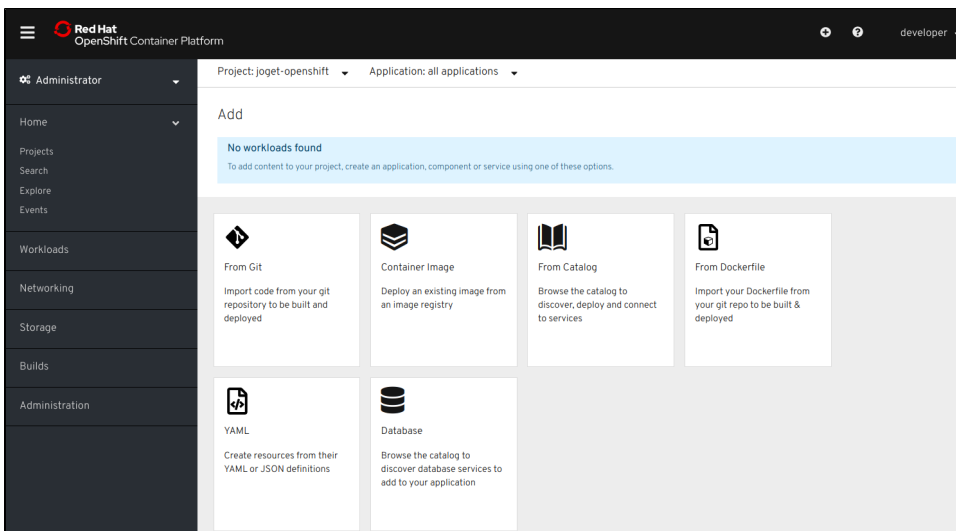
```
# deploy persistent mysql
export DB_APP_NAME=jogetdb
export MYSQL_DATABASE=jwdb
export MYSQL_USER=joget
export MYSQL_PASSWORD=joget

oc new-app openshift/mysql-persistent --name $DB_APP_NAME -p DATABASE_SERVICE_NAME=$DB_APP_NAME -p
MYSQL_USER=$MYSQL_USER -p MYSQL_PASSWORD=$MYSQL_PASSWORD -p MYSQL_DATABASE=$MYSQL_DATABASE
```

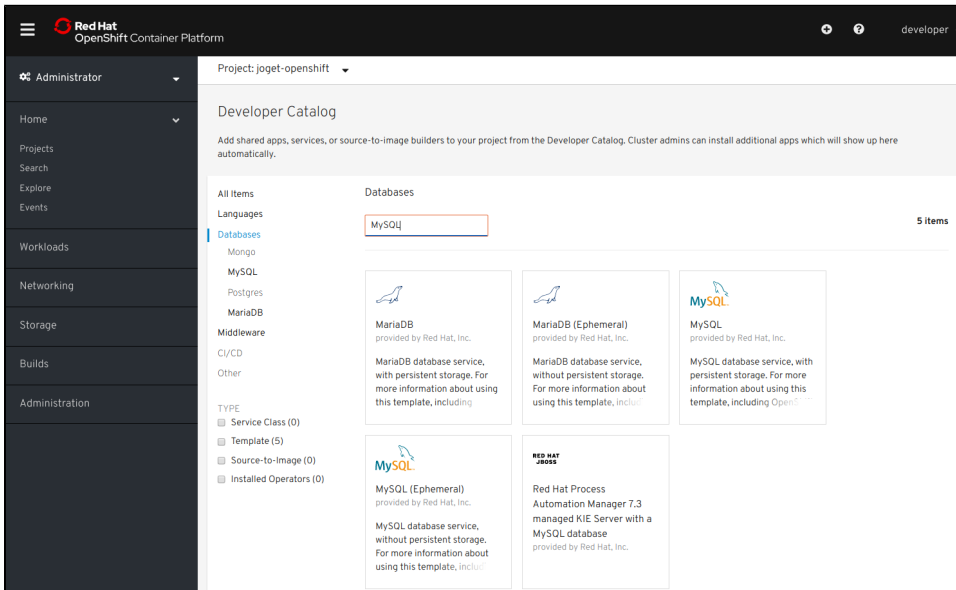
5. Alternatively, you can deploy using the OpenShift Console.
6. Browse to the project, go to Workloads and click on add other content.



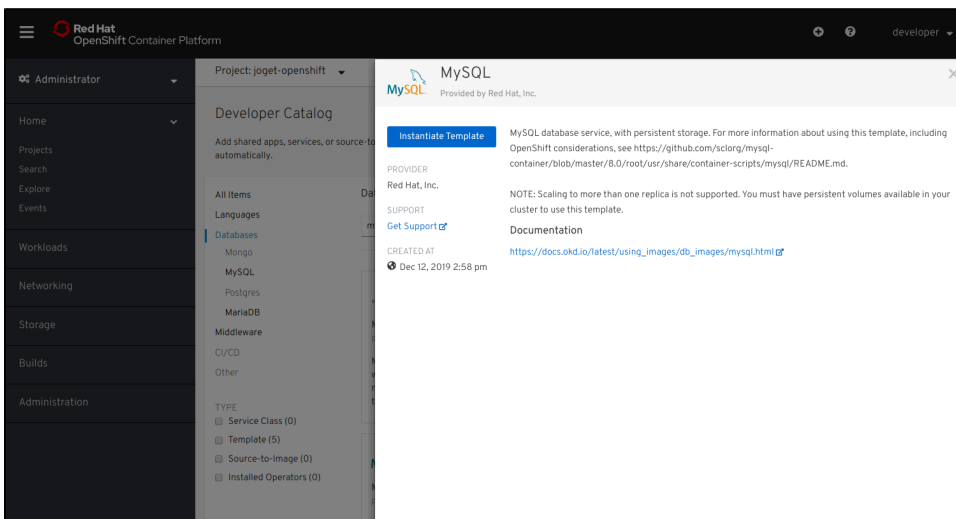
7. Select Database.



8. Search for MySQL.



9. Select MySQL then click on Instantiate Template.



10. Key in the following configuration and click on Create.

The screenshot shows the 'Instantiate Template' page for the MySQL database service in the Red Hat OpenShift Container Platform. The left sidebar contains navigation links: Administrator, Home, Projects, Search, Explore, Events, Workloads, Networking, Storage, Builds, and Administration. The main content area is titled 'Instantiate Template' and includes the following fields:

- Namespace ***: joget-openshift
- Memory Limit ***: 512Mi
- Database Service Name ***: jogetdb
- MySQL Connection Username**: joget
- MySQL Connection Password**: joget
- MySQL root user Password**: (generated if empty)
- MySQL Database Name ***: jwdb

On the right, there is a 'MySQL' logo, a description of the service, and a list of resources that will be created: DeploymentConfig, PersistentVolumeClaim, Secret, and Service.

- Database Service Name: jogetdb
- MySQL Connection Username: joget
- MySQL Connection Password: joget
- MySQL Database Name: jwdb

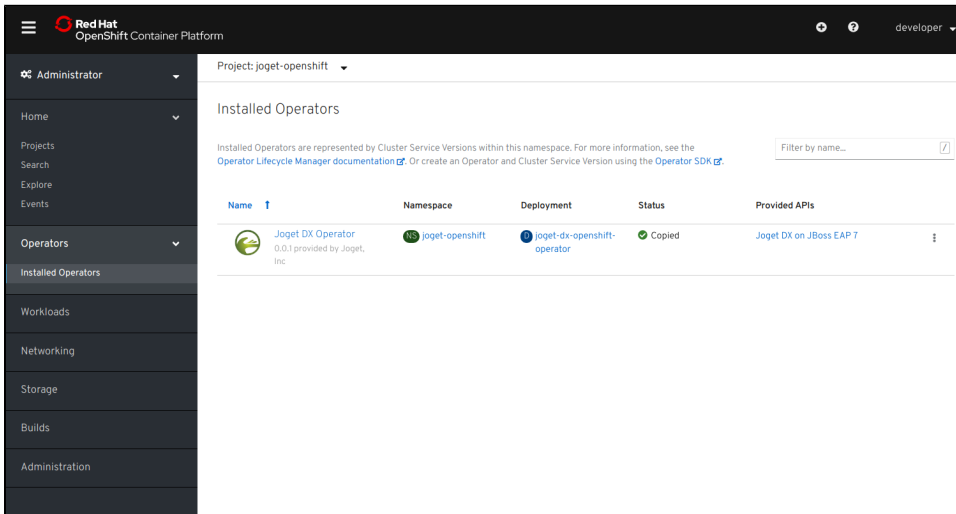
11. Go to Workloads > Deployment Configs to verify that the MySQL database has been deployed successfully.

The screenshot shows the 'Deployment Config Overview' page for the 'jogetdb' service in the Red Hat OpenShift Container Platform. The left sidebar contains navigation links: Administrator, Home, Workloads, Pods, Deployments, Deployment Configs, Stateful Sets, Secrets, Config Maps, Cron Jobs, Jobs, Daemon Sets, Replica Sets, Replication Controllers, Horizontal Pod Autoscalers, Networking, Storage, Builds, and Administration. The main content area is titled 'Deployment Config Overview' and includes the following information:

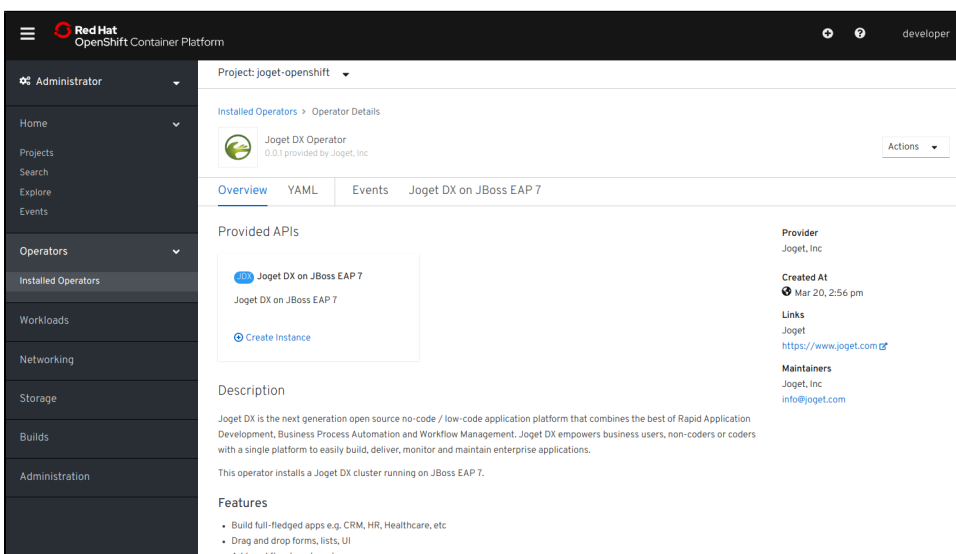
- Name**: jogetdb
- Namespace**: joget-openshift
- Labels**: template=mysql-persistent-template, template.openshift.io/template-instance...=2e5adcc0-6a7b-11ea-bc6c-0a580a...
- Pod Selector**: name=jogetdb
- Node Selector**: No selector
- Latest Version**: 1
- Reason**: config change
- Update Strategy**: Recreate
- Min Ready Seconds**: Not Configured
- Triggers**: ImageChange, ConfigChange

2.2 Deploy Joget DX using the Joget DX Operator

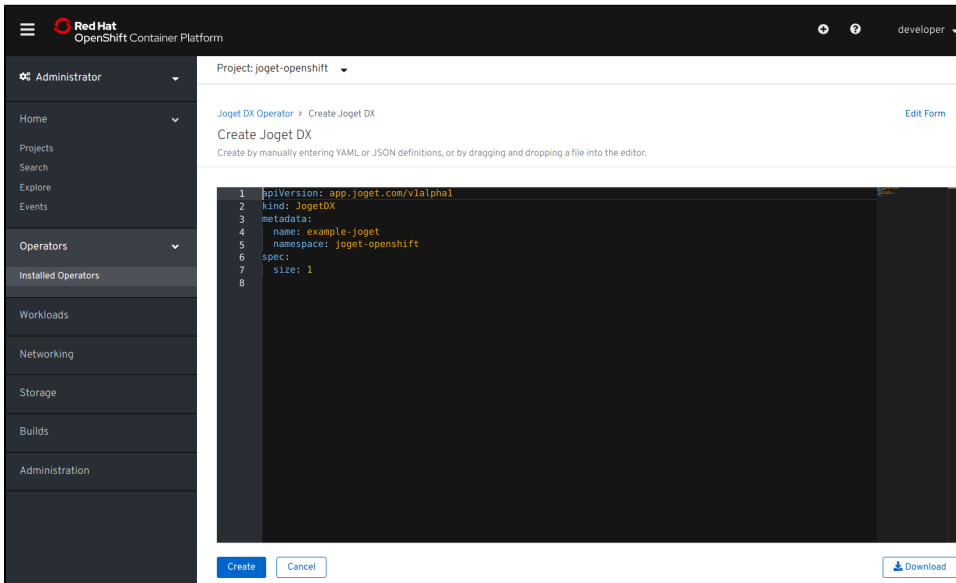
- Browse to Operators > Installed Operators.



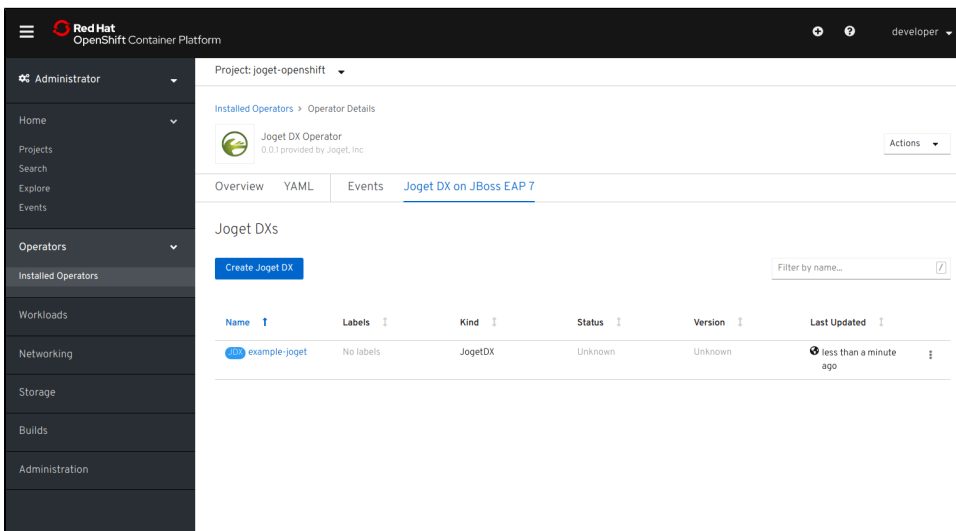
2. Select the Joget DX Operator, and click on Create Instance.



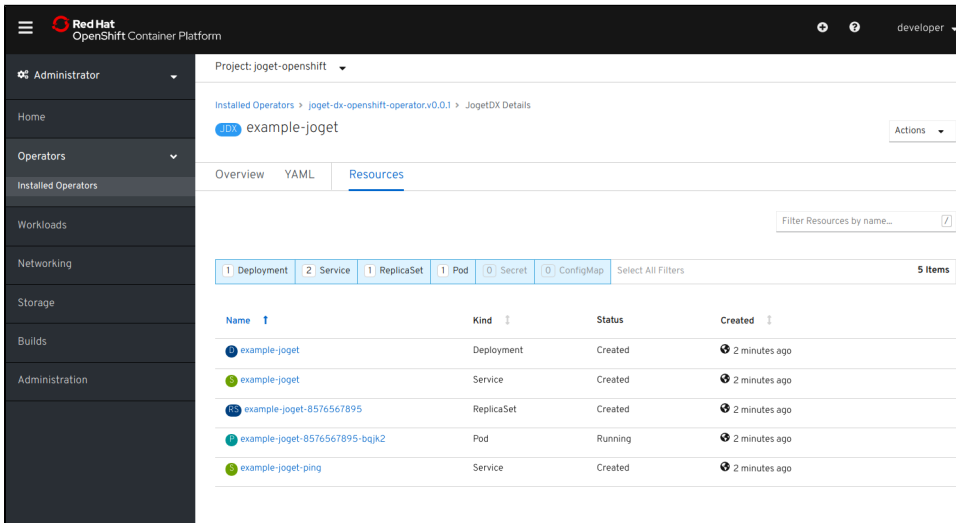
3. By default the configuration for "name" is "example-joget" and "size" is 1 (the number of required Joget instances). Modify the values as required, click Create.



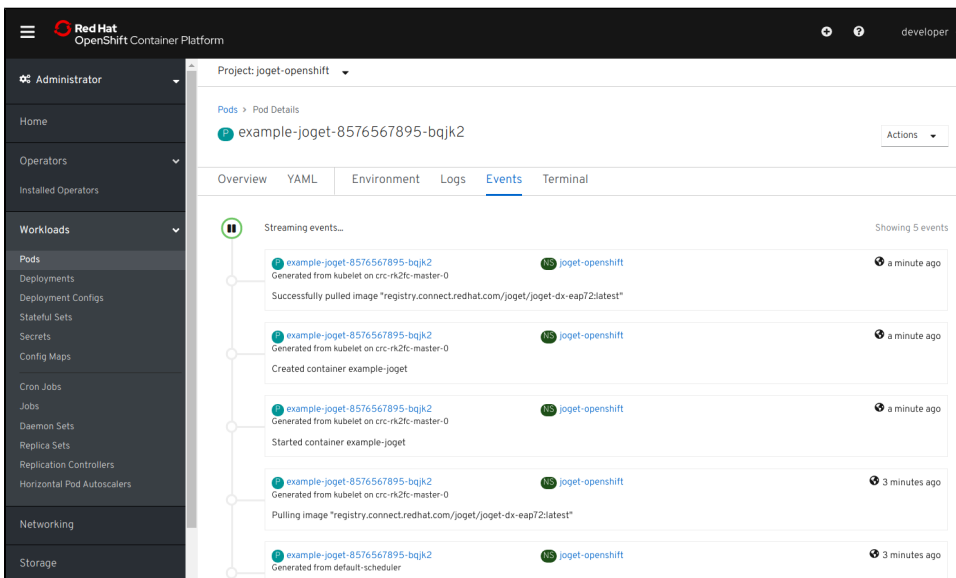
4. The Joget DX Operator will automatically start to deploy the required number of Joget DX instances along with all the required resources, which should take a few minutes.



5. Select the created Joget name, and click on Resources to see the resources automatically created and managed by the Joget DX Operator.

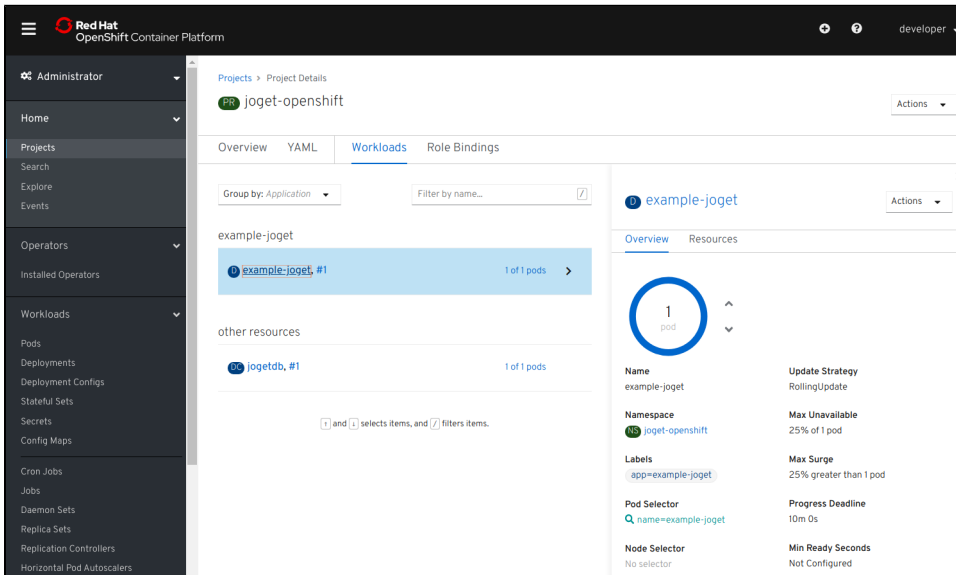


6. Click on Events to see the events as they happen

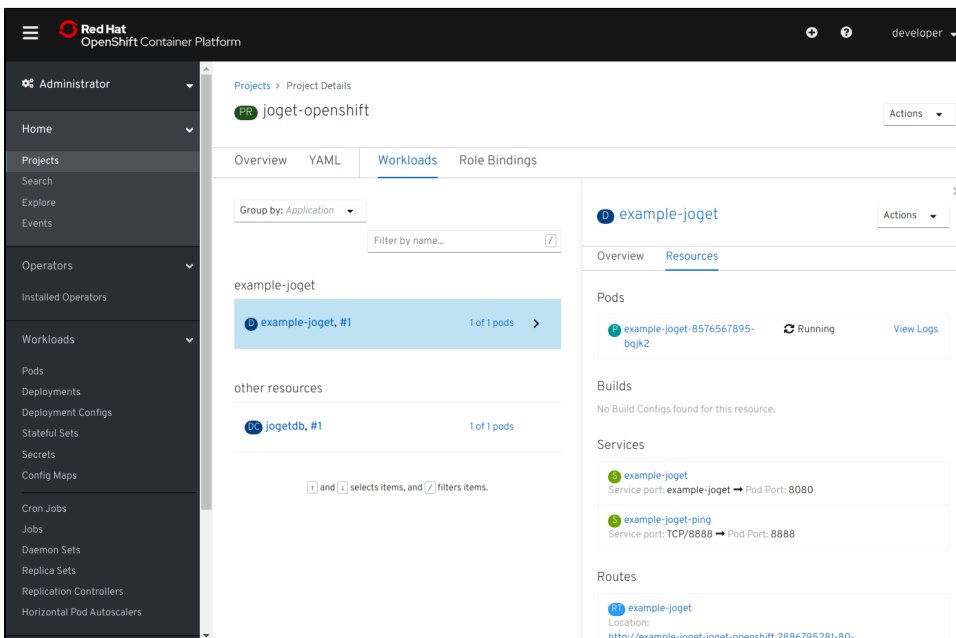


2.3 Complete One-Time Joget Database Setup


1. Browse to Home > Projects and select the Joget DX project. Click on Workloads tab and select Joget DX deployment. After a few minutes, you should see at least 1 available MATCHING PODS.



2. Select Resources to see the created Services and Routes. Copy the Location in the created Route. That is the URL to access Joget DX from an external browser.



3. Access the Joget DX URL and in the Database Setup page, key in the database configuration of the database deployed earlier and click on the Save button.


JOGET DX SETUP

DATABASE SETUP

No database configuration was detected, so please configure your database settings below.
Please ensure that the database server is installed and running first. [More Information](#)

Database Type	MySQL
Database Host	jogetdb
Database Port	3306
Database Name	jwdb
Database User	joget
Database Password	*****
Include Sample Apps	<input checked="" type="checkbox"/>
Include Sample Users	<input checked="" type="checkbox"/>

Save

- Database Type: MySQL
 - Database Host: the service name of the database e.g. jogetdb
 - Database Port: 3306
 - Database Name: the configured database name e.g. jwdb
 - Database User: the configured username e.g. joget
 - Database Password: the configured password e.g. joget
4. Once the setup is completed, click on Done and you will be brought to the Joget DX App Center.

