

Objective

The objective of this workshop is to use Kubernetes to

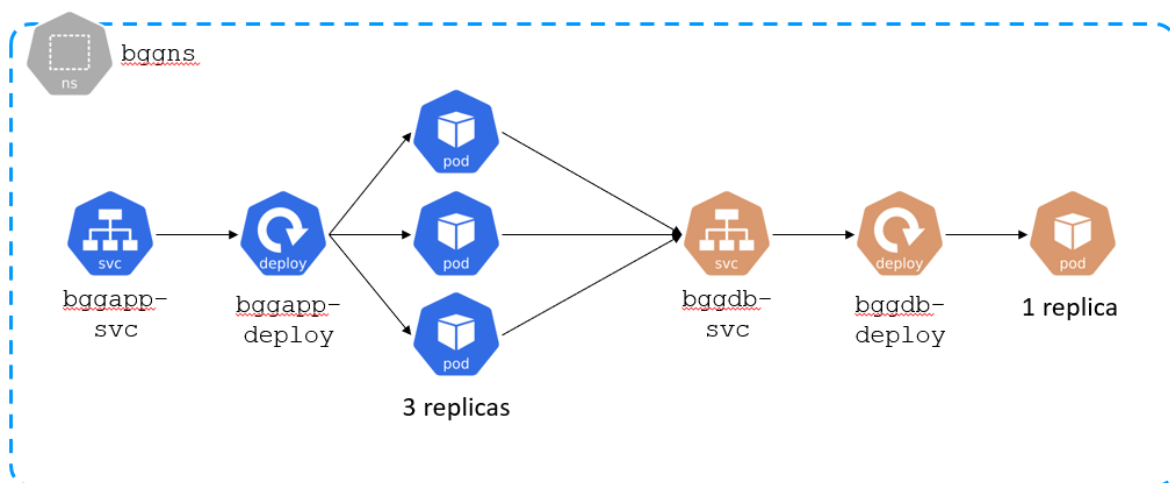
- Create deployments for 2 different types of images
- Create a service that is accessible from outside of the cluster
- Perform rolling upgrades the application to the latest version

Setup

- Create a DockerHub account at <https://hub.docker.com> if you do not have one
- Clone the repository <https://github.com/stackupiss/cfdsa.git>.

Workshop

Create and deploy the following setup in a Kubernetes namespace called bggns.



- Create a deployment for the database with the following settings:
 - Image name is `stackupiss/bgg-database:v1`
 - 1 Pod instance

- b. Create a deployment for `bggapp-deploy` with the following settings:
 - i. Image to use is `stackupiss/bgg-backend:v1`
 - ii. 3 initial Pod instances
 - iii. Add the following environment variables to the container
 - `BGG_DB_USER` – set the value to `root`
 - `BGG_DB_HOST` – set the value to the FQDN for the database service `mydb-svc`
 - `BGG_DB_PASSWORD` – create and inject a secret containing the database root password. The default root password is `changeit`
 - iv. The readiness and liveness checks are as follows
 - Readiness – `GET /healthz`
 - Liveness – `GET /healthz`
- c. Create the following 2 services
 - i. `bggdb-svc` which exposes the database deployment. This service is not accessible from outside of the cluster
 - ii. `bggapp-svc` exposes `bggapp-deploy` deployment so that it is accessible from outside of the cluster
- d. Upgrade `bggapp-deploy`'s image to `stackupiss/bgg-backend:v2`.

Hard requirement: the application (`bggapp-deploy`) must be available throughout the upgrade.

Submission

Create a Git repo for this course if you have not done so. Clone the Git repo. This repo will be used for all the assignment for this course. This should be the same repo as you used for previous workshops.

Email the repo's URL to your instructor. Email will be provided.

Create a directory called `workshop02` inside your repo. Place all the files for this workshop inside `workshop02` directory.

Submit the following files in `workshop02` directory:

- a. Kubernetes deployment and service files
- b. Any other files