

Objective

The objective of this workshop is to

- a. Deploy the following to a Kubernetes cluster: metrics-server and Ingress Nginx controller
- b. Provision a volume for a database service
- c. Provision an Ingress controller

Setup

- a. Assumed that you have a Docker Hub account. If not create one at <https://hub.docker.com>
- b. Clone the repository <https://github.com/stackupiss/cfdsa.git>.

Workshop

Deploying Additional Kubernetes Resources

In the first part of the workshop, you will be deploying the following additional resources:

- Metrics server – a cluster wide service to aggregate metrics
- Ingress Nginx controller

See <https://github.com/stackupiss/cfdsa> for instructions

Provision a Persistent Volume

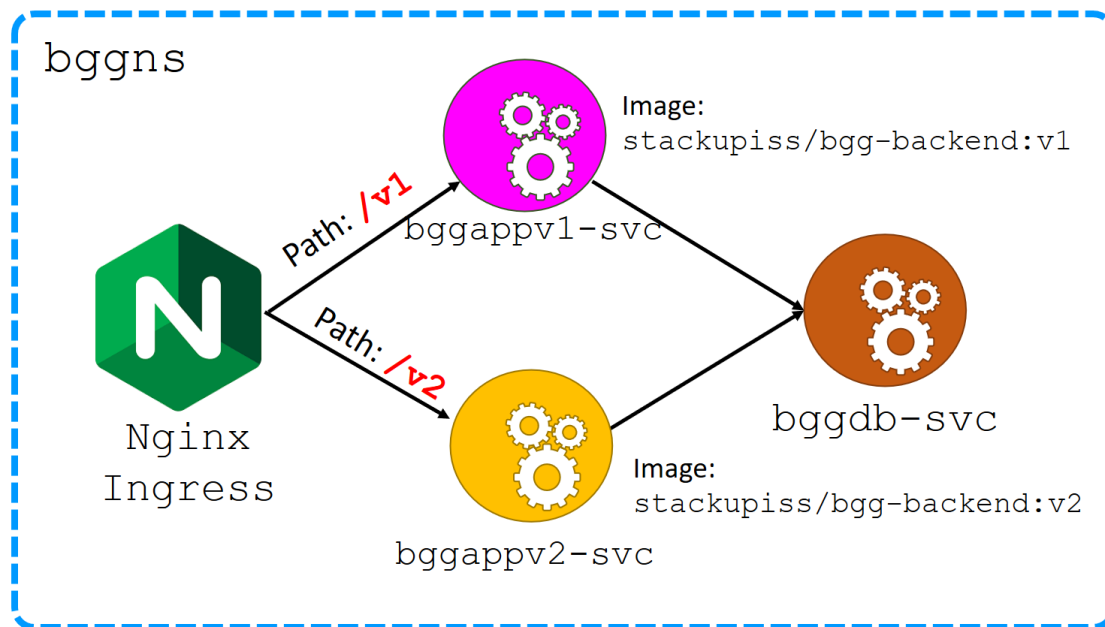
Attach a 1GB persistent disk to the database Pod (`stackupiss/bgg-database:v1`). Provision the disk from a storage class of the cloud provider.

Mount the volume to `/var/lib/mysql`.

Note: you will have to use an `initContainer` to scrub the volume before mounting to the database Pod.

Provision an Ingress Controller

Add a Nginx Ingress to the service according to the following setup.



Created 2 deployments (and their corresponding services) based on the Docker image `stackupiss/db-backend` (v1 and v2 tags). Both of these 2 deployments accesses the `bggdb-svc` as their database.

Add the following arguments for starting the container

```
stackupiss/bgg-backend:v1
--prefix /v1
```

```
stackupiss/bgg-backend:v2
--prefix /v2
```

The prefix is required by the `bgg-backend` application to remap all HTTP resources from `/` to `/v1` or `/v2`

Deploy an Nginx Ingress. The Ingress will route `bgg-<loadbalancer-ip>.nip.io/v1` and `bgg-<loadbalancer-ip>.nip.io/v2` to `bggappv1-svc` and `bggappv2-svc` respectively (see above diagram).

Set the minimum required resource for `bgg-backend` to the following:

- CPU - 100m
- Memory - 128Mi

Define horizontal scaling for both the `bgg-backend` deployment. Set minimum and maximum replicas to 1 and 4 respectively.

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 repos as you used for previous workshops.

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

Create a directory called `workshop03` inside your repo. Place all the files for this workshop inside `workshop03` directory.