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

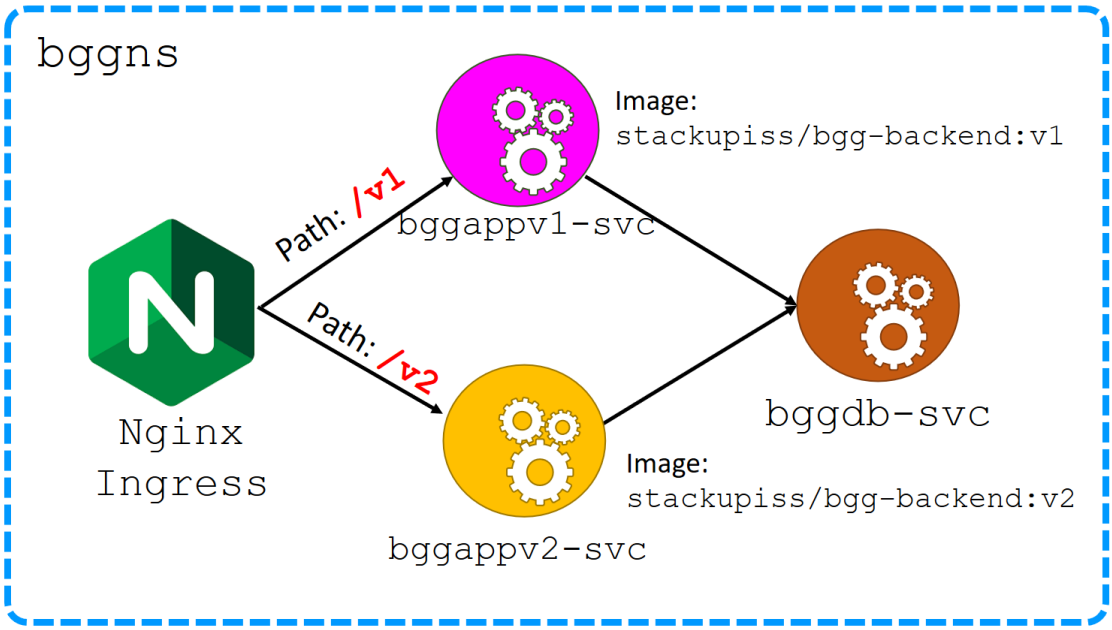
Attach a 1GB persistent disk to the database Pod (`stackupiss/bgg-database:v1`). Provision the disk from a storage class of the cloud provider.

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

Note: you may need to use an `initContainer` to scrub the volume if the volume contains files 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 Ngnix 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 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. Placed all the file for this workshop inside `workshop03` directory.