**Zuul Gateway in Kubernetes**

**Prerequisites:**

1. Kubectl/minikube installation.
2. An existing docker image in hub or private registry (here it is techmid/crudoperations).

**Steps:**

1. Deploy an application in kubectl/minikube and expose that application as a service using NodePort.

Deployment:

|  |
| --- |
| **kubectl run crud --image=techmid/crudoperations --port=8089** |

Exposing as service:

|  |
| --- |
| **kubectl expose deployment/crud --port=8089 --target-port=8089 --type=NodePort** |

Internally within kubectl/minikube our application is accessible with the service name (crud) and the port (8089), i.e. <http://crud:8089>. But, if we want to access our application through browser we want to expose it as a service or configure a gateway to access our application and it can then be accessed with NodePort.

http://<machine\_ip>:<NodePort> .

1. Now, configure zuul gateway in kubectl/minikube to handle our request and access our application.

Download zuul server and in the bootstrap.yml file of the zuul server add route configuration as shown below

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| --- |
| zuul:  routes:  crud:  path: /crud/\*\* 🡪context to call our crud application  url: <http://crud:8089> 🡪crud application  spring:  application:  name: zuul-gateway  cloud:  config:  enabled: false  eureka:  instance:  nonSecurePort: ${server.port:9090}  client:  serviceUrl:  defaultZone: http://${eureka.host:localhost}:${eureka.port:8761}/eureka/ |

**bootstarp.yml**

1. Convert the zuul server into a docker image using dockerfile or maven plugin and push to a private registry (here it is techmid/zuul-server).
2. Deploy zuul server and expose it as a service using NodePort

Deployment:

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| --- |
| **kubectl run zuul --image=techmid/zuul-server --port=9090** |

Exposing zuul as a service:

|  |
| --- |
| **kubectl expose deployment/zuul --port=9090 --target-port=9090 --type=NodePort** |

1. Now both our application and gateway is deployed and can be accessible using the NodePort externally through browser.

Here, suppose zuul is exposed in NodePort 30323. So if we want to access zuul browse for http://<machine\_ip>:30323

Zuul is just a gateway and does not have any ui/frontend.

1. Next if we want to access our application directly we can use the NodePort similarly as zuul server.

But, if we want to access via our gateway, use the context/path to call our crud application.

http://<machine\_ip>:30323/crud .

So, likewise we can configure any number of services in zuul-server and each of these services can be accessed via zuul (single point of entry).