Collabora Online Operator

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Collabora Online

Technical Day
COOL days

LibreOffice Technology

Why Collabora Operator?

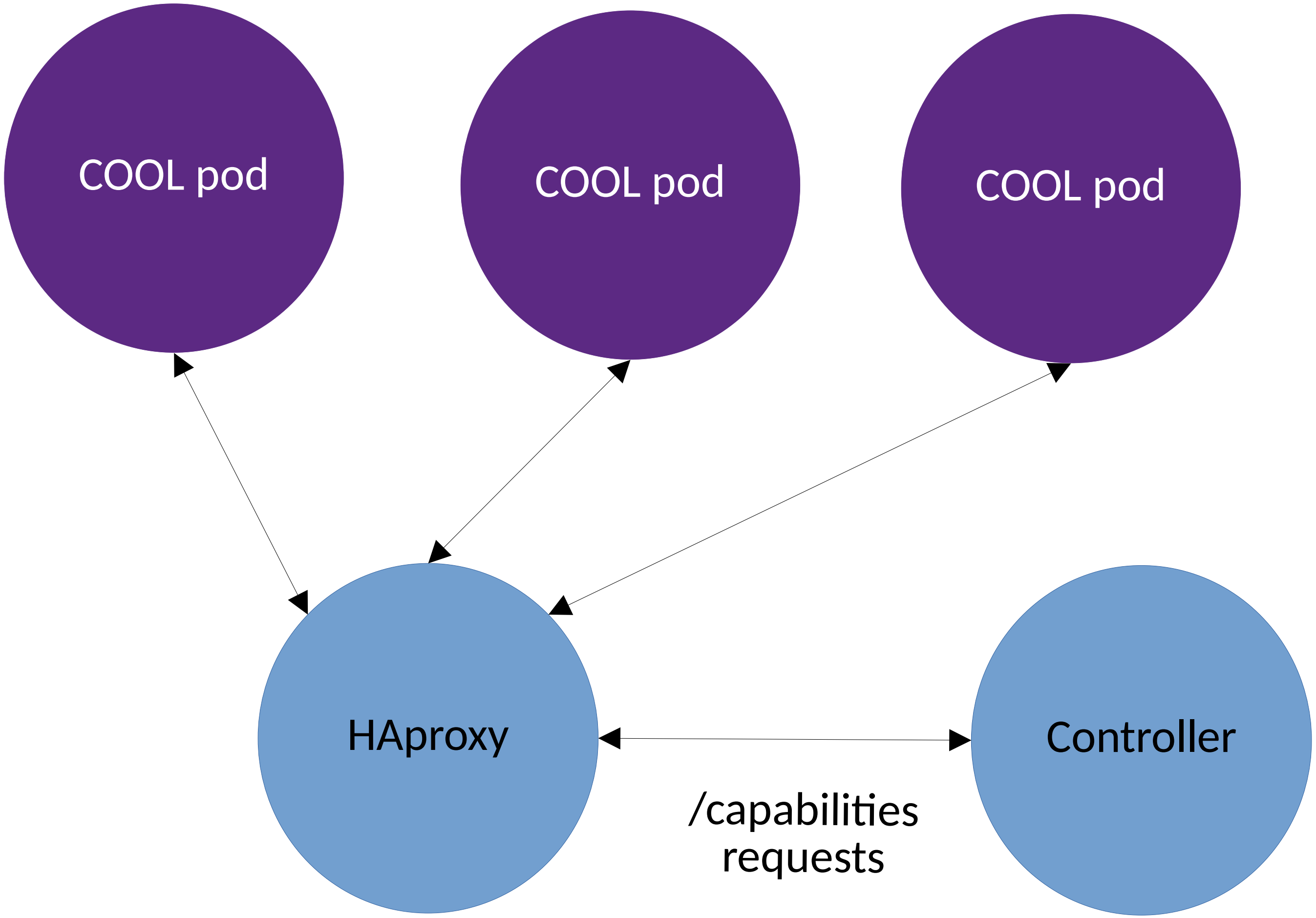
- Application can categorised into two types:
  1) Stateless Application - microservices apps
  2) Stateful Application - all the databases
- In Stateful Application, prior request history impacts the current state; hence, the server must access and hold onto state information generated during the processing of the earlier request
- For COOL, first request to open document can end up on any pod but after that to make collaborative editing works, copy paste etc to work all the requests related to that document needs to be ended on the same pod i.e. Collabora Online is Stateful Application
- Operator will make sure all the request for the same document ends up in same pod

Working

- There are two main component
  1) Controller
  2) HTTP Server

Controller

- It is a control loops that watch the state of the cluster
- In this case, continuously watch for any changes to the deployment object of Collabora Online
- If there are any changes to the deployment (for example – scaling up or down). It creates/updates map ServerId ↔ RouteToken
  - ServerId – Id of the Collabora Online Pod
  - RouteToken – It is a random token. Based on this HAproxy Ingress Controller will decide to which pod the request will go

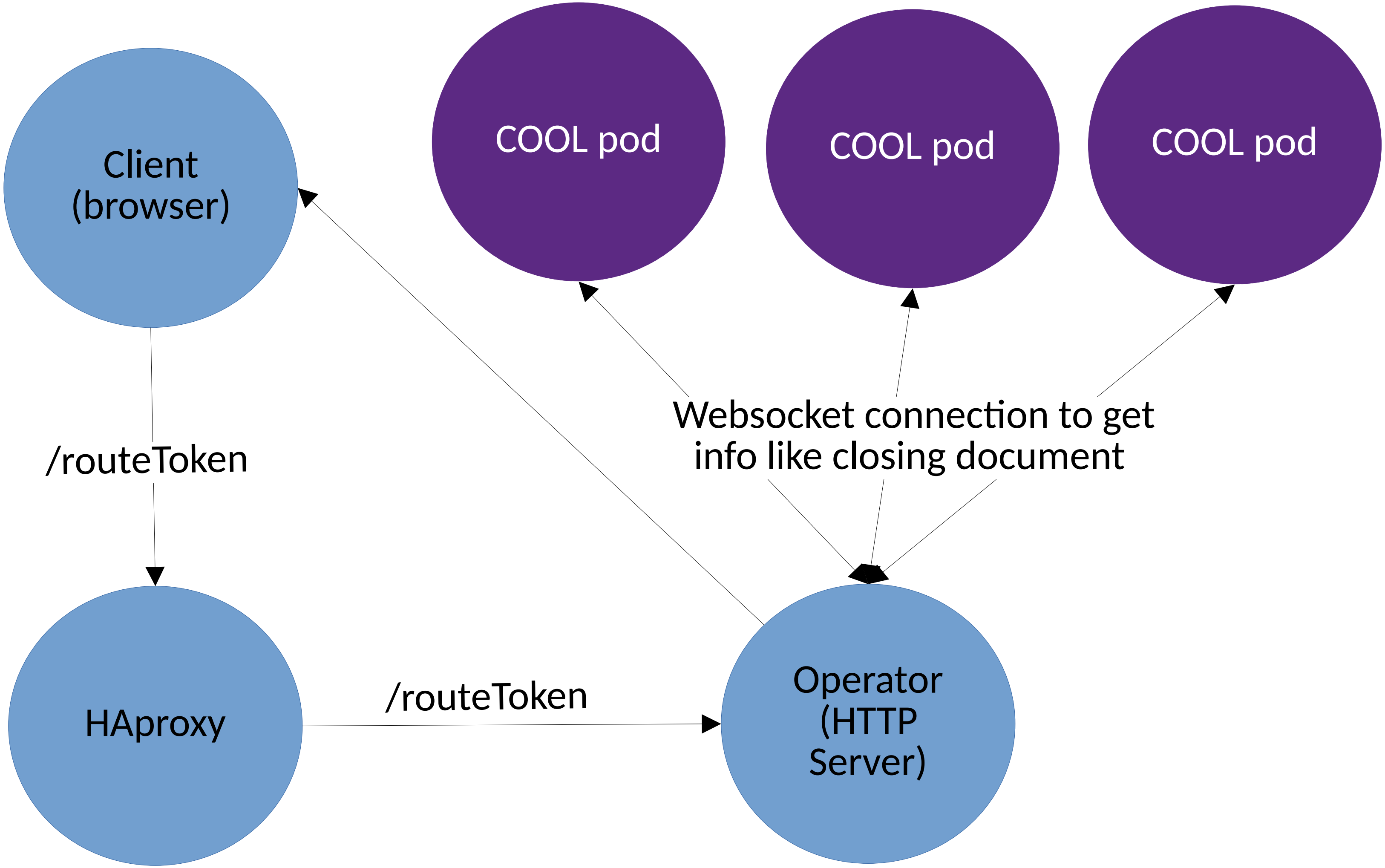

COOL pod
COOL pod
COOL pod
HAproxy
Controller
/capabilities
requests

HTTP Server

- There is a request from client side(browser) every-time the document is getting open to HTTP server for full URI with additional RouteToken parameter.
- It selects pod with least load and based on serverId fetches the RouteToken from the ServerId ↔ RouteToken map
- Client opens up the websocket using this URI, As it includes the RouteToken parameter HAproxy can decides which pod the request should end up
- Every time client contructs a URI to communicate with pod it will add RouteToken parameter in that URI for example copy paste
- There is also websocket connection between the http server and pod which gives the server information about which documents are getting closed, load on each pods.

HTTP Server

- It also creates/maintains a map of WOPISrc ↔ RouteToken
  - When a new document opens, server gets the request for full URI with RouteToken parameter, it adds a new entry to this map
  - Based on this map collaborative editing works correctly as all the request for same WOPISrc will get same RouteToken value in URI which will lead to same pod
  - It also deletes the entry from map when it gets message from the admin socket of the pod if document gets closed


Client
(browser)
COOL pod
COOL pod
COOL pod
/routeToken
Websocket connection to get
info like closing document
HAproxy
/routeToken
Operator
(HTTP
Server)

Setup

1) Install collaboraonline-operator helm chart

-
  ```
  helm install --create-namespace --namespace collaboraonline-operator collaboraonline-operator /path/to/collaboraonline-operator/helm-chart -f my_values.yaml
  ```

Setup

- my_values.yaml

```
ingress:
  enabled: true
  hosts:
  - host: test.collabora.online
    paths:
    - path: "/routeToken"
      pathType: Exact
    - path: "/websocket"
      pathType: Exact

operatorImage:
  repository: rash419/collaboraonline-operator
  pullPolicy: IfNotPresent
  tag: "10.1.0"

watchNamespaces: "collabora"
```

Setup

2) Apply Collabora Online Custom Resource:

- kubectl apply -f config/samples/collaboraonline_cr.yaml

Setup

- colloboraonline_cr.yaml

```yaml
apiVersion: online.collaboraoffice.com/v1alpha1
kind: CollaboraOnline
metadata:
  labels:
    app.kubernetes.io/name: collaboraonline-operator
    app.kubernetes.io/instance: collaboraonline
    app.kubernetes.io/part-of: collaboraonline-operator
    app.kubernetes.io/managed-by: kustomize
    app.kubernetes.io/created-by: collaboraonline-operator
  name: collabora-online
  namespace: collabora
spec:
  ingressControllerUrl: http://test.collabora.online:32144
```

Setup

3) Install Collabora Online helm chart

- helm install --namespace collabora collabora-online /path/to/helm-chart/collabora-online -f collabora_values.yaml

Setup

- collabora_values.yaml

```yaml
ingress:
  enabled: true
  annotations:
    haproxy.org/timeout-tunnel: "3600s"
    haproxy.org/backend-config-snippet: |
      balance url_param RouteToken check_post
  hosts:
    - host: test.collabora.online
      paths:
      - path: /
        pathType: Prefix
```

Setup

- extra_params:
  --o:indirection_endpoint.url=http://test.collabora.online:32144/routeToken
  --o:monitors.monitor[0]=ws://test.collabora.online:32144/websocket

Thank you!

By Rashesh Padia

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T S P D

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