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**Github Repo Links: https://github.com/CodingCookieRookie/CS3219\_TASKA3**

* 1. Git clone ” <https://github.com/CodingCookieRookie/CS3219_TASKA3.git>” in desired folder
  2. Go to helm-deployment folder -> templates -> ingress.yaml
  3. Go to nginx-html folder and run command `docker build -t nginx-image .`
  4. Go to match folder and run command `docker build -t match-image .`
  5. Go to users folder and run command `docker build -t users-image .`
  6. Run `kubectl apply -f <https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-v0.49.0/deploy/static/provider/cloud/deploy.yaml>` to deploy ingress
  7. Go to A3 folder and run command `helm install a3 ./helm-deployment`
  8. Go to web browser and type ‘localhost’
  9. Set cookie by going to console and type for eg. `document.cookie="cs2107=2b17381a06d8b65a54a075089e8c5b7"`
  10. This will set cookie value to be cs2107=2b17381a06d8b65a54a075089e8c5b7
  11. Refresher browser and verify cookie to be the same by typing document.cookie

Overview of sticky session load-balancing

Diagram

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Set up nginx ingress controller: <https://platform9.com/blog/building-a-complete-stack-ingress-controllers/>

1. In the A3 folder
   1. Run command `kubectl apply -f [https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-v0.49.0/deploy/static/provider/cloud/deploy.yaml`](https://raw.githubusercontent.com/kubernetes/ingress-nginx/controller-v0.49.0/deploy/static/provider/cloud/deploy.yaml%60) to install ingress-nginx controller
   2. Run command ` kubectl get pods --all-namespaces -l app.kubernetes.io/name=ingress-nginx` to check if ingress-nginx controller running
   3. Run command `helm install a3 ./helm-deployment`
      1. Note if there is any errors with the api-service you might have to reset your Kubernetes cluster
      2. The rest of cluster for docker-desktop cluster is shown below
      3. Graphical user interface, text, application, email

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   4. Run command `kubectl get hpa` to ensure hpa is running
      1. Text

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   5. We shall try to increase cpu utilization for nginxhpa which runs on localhost:80
   6. Run command ` kubectl get hpa nginxhpa –watch` to watch how the cpu utilization for nginxhpa increases
   7. Go to Hey folder and run ` hey -n 10000 http://localhost` on linux environment
   8. CPU utilization Text

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   9. Replicas increase from 1 to 3

Text

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* 1. It will return back to normal after some time

Text

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