

### 1. Deploy a new container of SuperSet application (<https://hub.docker.com/r/amancevice/superset>)

```
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl run superset --image=amancevice/superset
pod/superset created
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl get po
```

NAME	READY	STATUS	RESTARTS	AGE
alpine-deployment-5956b7fbf9-zv7kt	1/1	Running	53 (5m2s ago)	44d
aws-registry-credential-cron-27780481-zpzip	0/1	Completed	0	2d16h
aws-registry-credential-cron-27784321-gflv	0/1	Completed	0	4m34s
backend-5d7b98b44-tfh19	0/1	CrashLoopBackOff	4 (94s ago)	2d20h
frontend-f7d9c57d4-6qj8t	1/1	Running	1 (5m2s ago)	2d22h
frontend-f7d9c57d4-9rb2l	1/1	Running	1 (5m2s ago)	2d22h
frontend-f7d9c57d4-jr998	1/1	Running	1 (5m2s ago)	2d22h
redis-master-857d99cc8-lpm4x	1/1	Running	1 (5m2s ago)	2d22h
redis-slave-9dc7f6964-7gq9b	1/1	Running	1 (5m2s ago)	2d22h
redis-slave-9dc7f6964-nw5c8	1/1	Running	1 (5m2s ago)	2d22h
superset	0/1	ContainerCreating	0	12s

superset	1/1	Running	0	119s
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### 2. Create service for it and expose it.

```
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl expose pod superset --port=8088 --name=superset-service
service/superset-service exposed
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl get services
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
backend	NodePort	10.105.83.171	<none>	3001:30257/TCP	2d20h
frontend	NodePort	10.97.129.66	<none>	80:32337/TCP	2d22h
kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	47d
redis-master	ClusterIP	10.110.149.57	<none>	6379/TCP	2d22h
redis-slave	ClusterIP	10.100.133.64	<none>	6379/TCP	2d22h
superset-service	ClusterIP	10.105.60.207	<none>	8088/TCP	3s

### 3. Do it with YAML and with scripted way

```
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ vim superset-pod.yaml
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl apply -f superset-pod.yaml
error: error parsing superset-pod.yaml: error converting YAML to JSON: yaml: line 10: could not find expected ':'
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl apply -f superset-pod.yaml
pod/superset-pod created
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ vim superset-service.yaml
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl get po
```

NAME	READY	STATUS	RESTARTS	AGE
alpine-deployment-5956b7fbf9-zv7kt	1/1	Running	54 (51m ago)	44d
aws-registry-credential-cron-27780481-zpzip	0/1	Completed	0	2d17h
aws-registry-credential-cron-27784321-gflv	0/1	Completed	0	111m
backend-5d7b98b44-tfh19	0/1	CrashLoopBackOff	25 (2m40s ago)	2d22h
frontend-f7d9c57d4-6qj8t	1/1	Running	1 (111m ago)	2d23h
frontend-f7d9c57d4-9rb2l	1/1	Running	1 (111m ago)	2d23h
frontend-f7d9c57d4-jr998	1/1	Running	1 (111m ago)	2d23h
redis-master-857d99cc8-lpm4x	1/1	Running	1 (111m ago)	2d23h
redis-slave-9dc7f6964-7gq9b	1/1	Running	1 (111m ago)	2d23h
redis-slave-9dc7f6964-nw5c8	1/1	Running	1 (111m ago)	2d23h
superset-pod	1/1	Running	0	2m17s

```
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ vim superset-service.yaml
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl apply -f superset-service.yaml
service/superset-service created
sarahkossmann@Sarahs-MacBook-Pro:~/Desktop $ kubectl get services
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
backend	NodePort	10.105.83.171	<none>	3001:30257/TCP	2d22h
frontend	NodePort	10.97.129.66	<none>	80:32337/TCP	3d
kubernetes	ClusterIP	10.96.0.1	<none>	443/TCP	47d
redis-master	ClusterIP	10.110.149.57	<none>	6379/TCP	3d
redis-slave	ClusterIP	10.100.133.64	<none>	6379/TCP	3d
superset-service	NodePort	10.106.80.52	<none>	8088:31116/TCP	9s

4. Deploy also Airflow application and expose it  
(<https://hub.docker.com/r/puckel/docker-airflow/>)

```
sarahkossmann@SaraHS-MacBook-Pro:~/Desktop $ kubectl run airflow --image=puckel/docker-airflow
pod/airflow created
sarahkossmann@SaraHS-MacBook-Pro:~/Desktop $ kubectl expose pod/airflow --port 8080 --type NodePort
service/airflow exposed
sarahkossmann@SaraHS-MacBook-Pro:~/Desktop $ kubectl get po
NAME                                READY   STATUS              RESTARTS   AGE
airflow                             0/1     ContainerCreating   0           30s
alpine-deployment-5956b7fbf9-zv7kt  1/1     Running             55 (6m2s ago)  44d
aws-registry-credential-cron-27780481-zpzip  0/1     Completed           0           2d18h
aws-registry-credential-cron-27784321-gfllv  0/1     Completed           0           126m
backend-5d7b98b44-tfh19             0/1     ImagePullBackOff    27 (6m59s ago)  2d22h
frontend-f7d9c57d4-6qj8t           1/1     Running             1 (126m ago)   3d
frontend-f7d9c57d4-9rb2l           1/1     Running             1 (126m ago)   3d
frontend-f7d9c57d4-jr998           1/1     Running             1 (126m ago)   3d
redis-master-857d99cc8-lpm4x        1/1     Running             1 (126m ago)   3d
redis-slave-9dc7f6964-7gq9b         1/1     Running             1 (126m ago)   3d
redis-slave-9dc7f6964-nw5c8         1/1     Running             1 (126m ago)   3d
superset-pod                        1/1     Running             0           17m
sarahkossmann@SaraHS-MacBook-Pro:~/Desktop $ kubectl get services
zsh: command not found: kubectl
sarahkossmann@SaraHS-MacBook-Pro:~/Desktop $ kubectl get services
NAME                TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
airflow             NodePort    10.101.90.82  <none>         8080:30662/TCP   21s
backend             NodePort    10.105.83.171 <none>         3001:30257/TCP   2d22h
frontend            NodePort    10.97.129.66  <none>         80:32337/TCP     3d
kubernetes           ClusterIP   10.96.0.1     <none>         443/TCP          47d
redis-master         ClusterIP   10.110.149.57 <none>         6379/TCP         3d
redis-slave          ClusterIP   10.100.133.64 <none>         6379/TCP         3d
superset-service     NodePort    10.106.80.52  <none>         8088:31116/TCP   5m
sarahkossmann@SaraHS-MacBook-Pro:~/Desktop $
```

## Bonus

1. Configure and Deploy the applications with containerized databases
2. Pass the following environment variable to Airflow:  
LOAD\_EX=y