



Informatics Lab



kubernetes

Jacob Tomlinson

Senior Developer / Engineer

NETFLIX SIMIAN ARMY

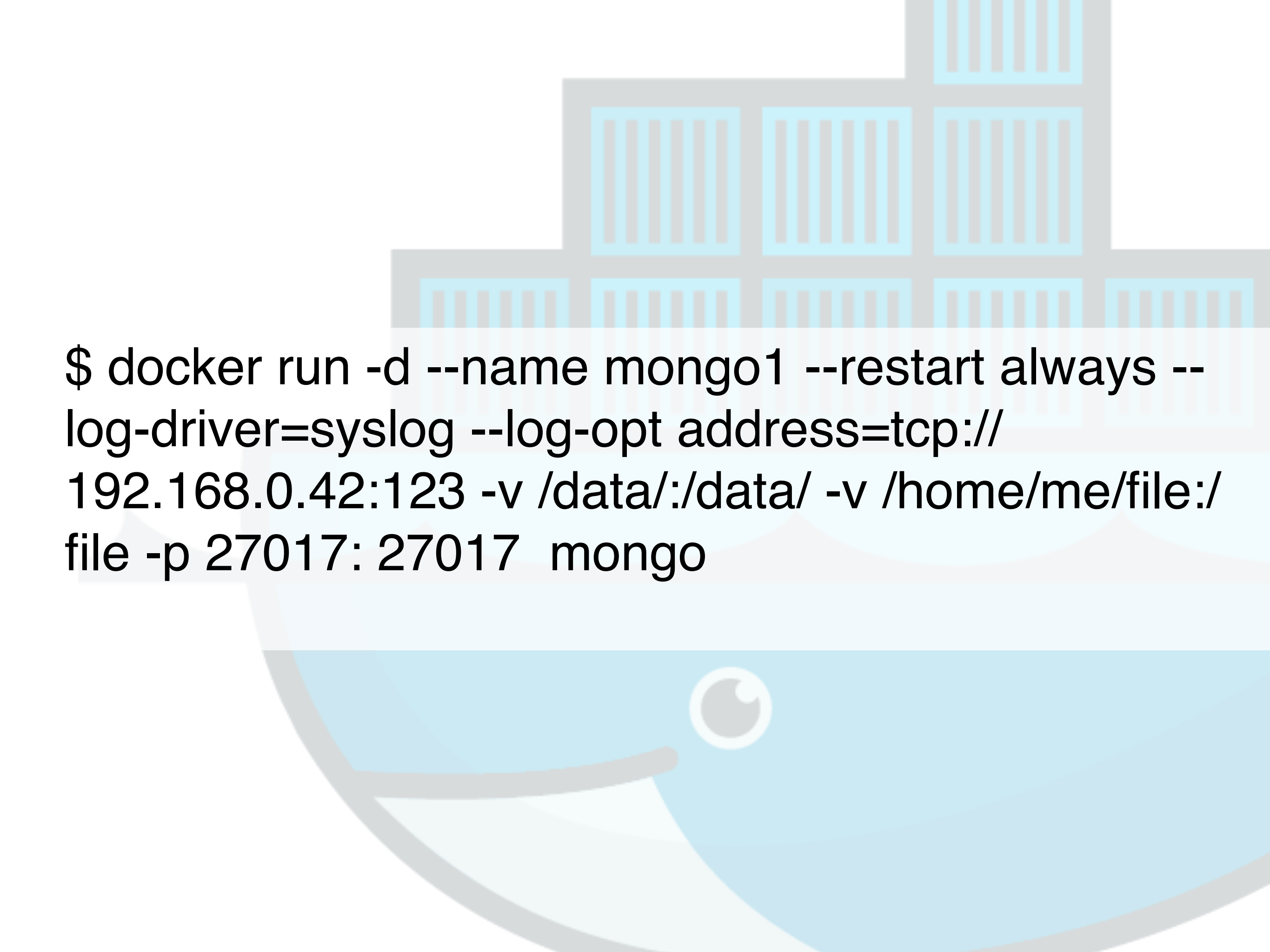


The background of the image is the Docker logo, which features a stylized blue and white ship's hull. The hull is light blue with a white stripe along the top. Above the stripe, there are several vertical blue bars of varying heights, resembling a ship's superstructure or a container stack. The word "Docker" is written in a large, bold, black serif font across the middle of the image, partially overlapping the ship's hull.

Docker



\$ docker run mongo



```
$ docker run -d --name mongo1 --restart always --  
log-driver=syslog --log-opt address=tcp://  
192.168.0.42:123 -v /data:/data/ -v /home/me/file:/  
file -p 27017: 27017  mongo
```

```
#!/bin/bash
```

```
docker run -d --name mongo1 --restart always --log-driver=syslog --log-opt address=tcp://192.168.0.42:123 -v /data:/data/ -v /home/me/file:/file -p 27017: 27017 mongo
```

```
docker run -d --name webapp1 --restart always --log-driver=syslog --log-opt address=tcp://192.168.0.42:123 -v /home/me/file:/file -p 8000: 8000 myorg/webapp
```

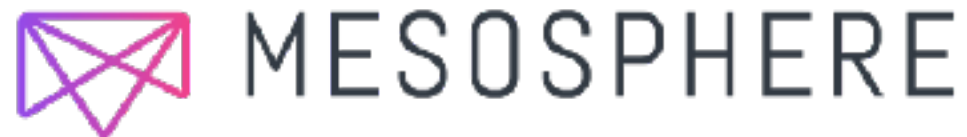
```
docker run -d --name webapp2 --restart always --log-driver=syslog --log-opt address=tcp://192.168.0.42:123 -v /home/me/file:/file -p 8001: 8000 myorg/webapp
```

```
docker run -d --name webapp3 --restart always --log-driver=syslog --log-opt address=tcp://192.168.0.42:123 -v /home/me/file:/file -p 8002: 8000 myorg/webapp
```

```
docker run -d --name nginx --restart always --log-driver=syslog --log-opt address=tcp://192.168.0.42:123 -p 80: 80 nginx
```



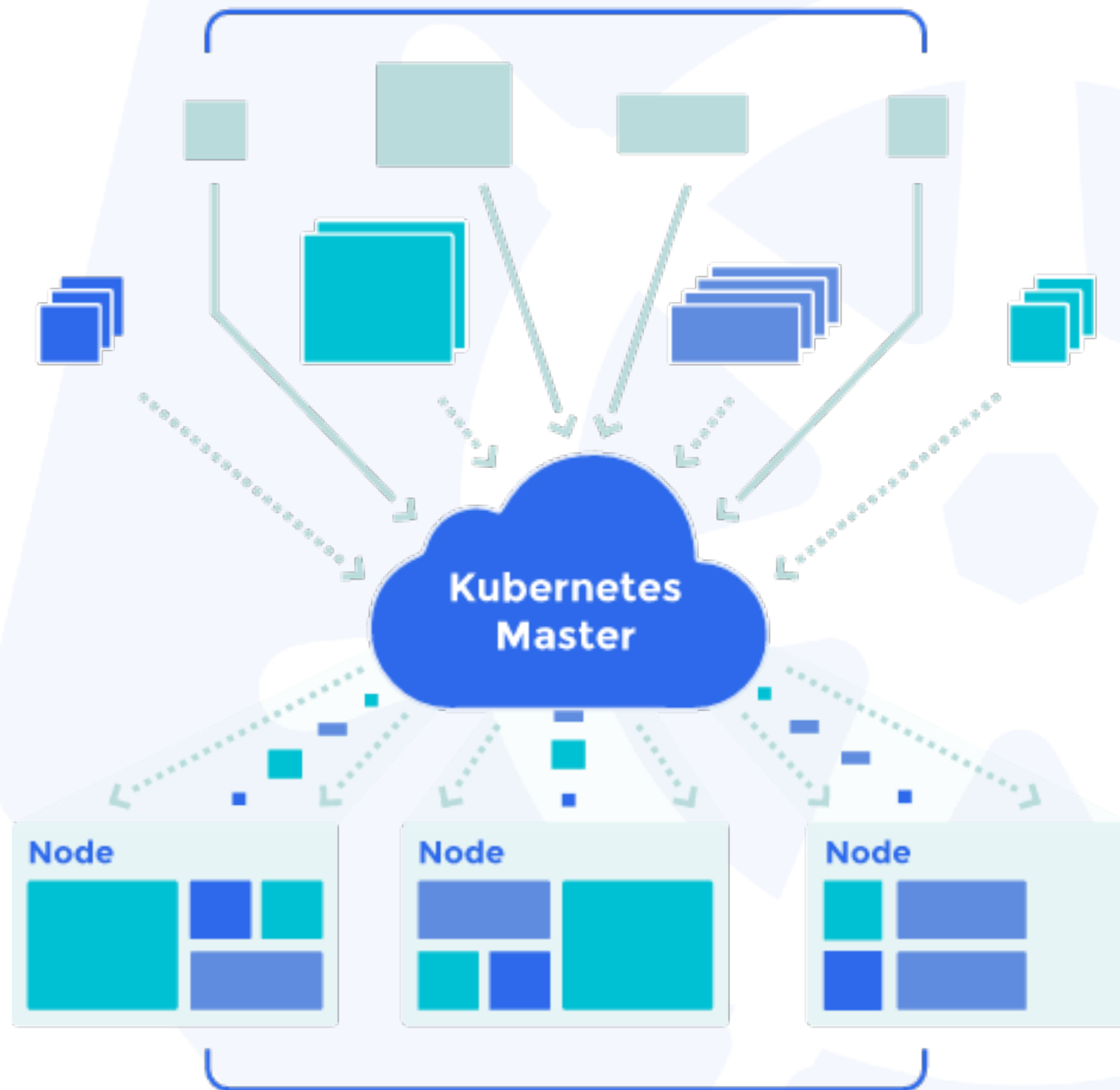
Shipyard





kubernetes
by Google

**An ocean of
user containers**



**Scheduled and packed
dynamically onto nodes**



Describe

The background features a large, light blue hexagon with rounded corners. Overlaid on this hexagon is a white ship's steering wheel. The wheel has eight spokes and a central hub with a small octagonal detail. The word "Pods" is written in a bold, dark grey sans-serif font, centered horizontally and partially overlapping the wheel's spokes.

Pods



apiVersion: v1

kind: Pod

metadata:

name: mongo

spec:

containers:

- name: mongo

image: mongo

ports:

- containerPort: 27017



apiVersion: v1

kind: Pod

metadata:

name: mongo

spec:

containers:

- name: mongo

image: mongo

ports:


- **containerPort: 27017**

Replication






```
apiVersion: v1
kind: ReplicationController
metadata:
  name: webapp
spec:
  replicas: 3
  managing
  selector:
    app: webapp
  template:
    metadata:
      labels:
        app: webapp
    spec:
      containers:
        - name: webapp
          image: myorg/webapp
          ports:
            - containerPort: 8000
```



```
apiVersion: v1
kind: ReplicationController
metadata:
  name: webapp
spec:
  replicas: 3
  managing
  selector:
    app: webapp
  template:
    metadata:
      labels:
        app: webapp
    spec:
      containers:
      - name: webapp
        image: myorg/webapp
        ports:
        - containerPort: 8000
```

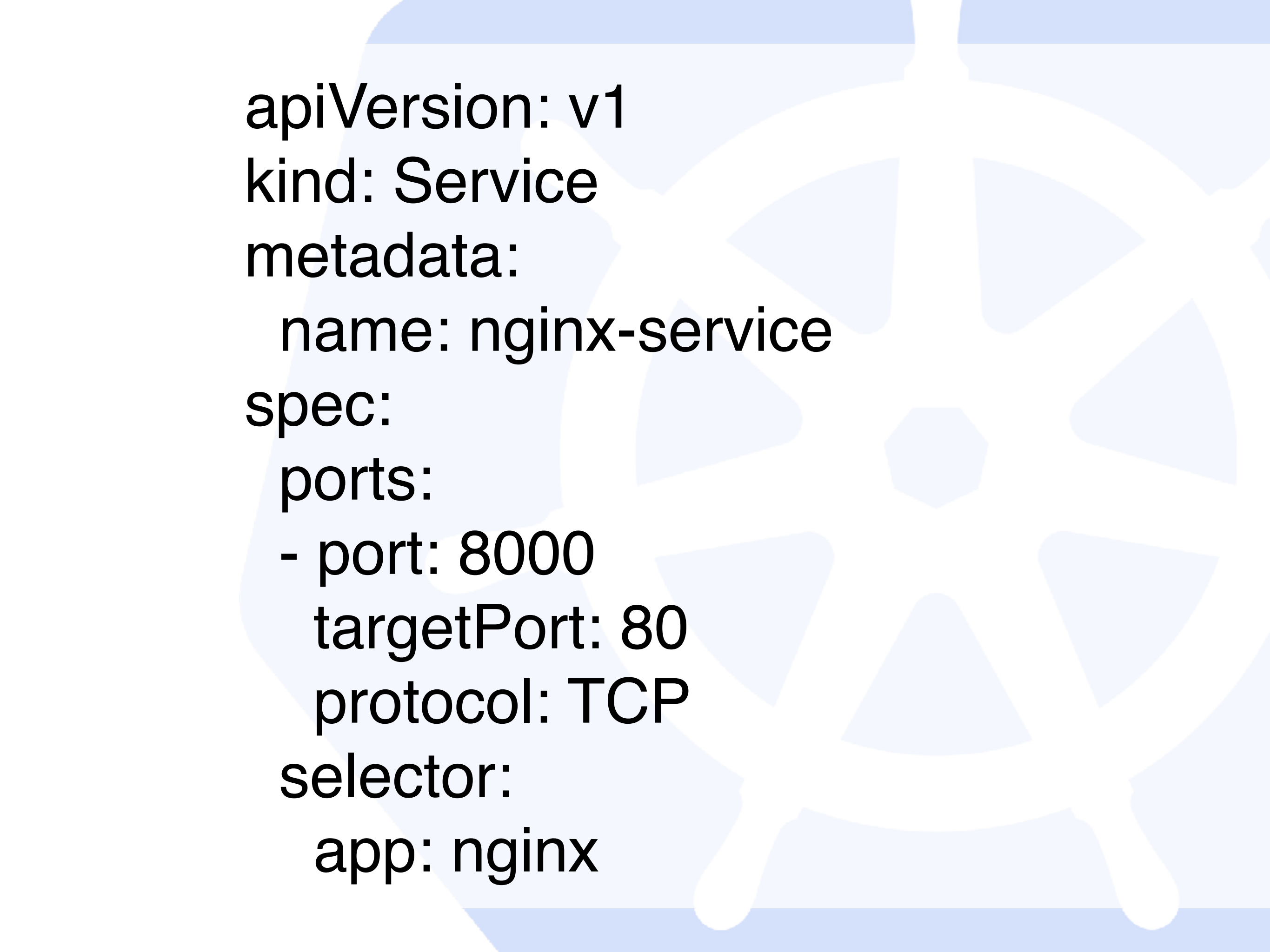
```
apiVersion: v1
kind: ReplicationController
metadata:
  name: webapp
spec:
  replicas: 3
  managing
  selector:
    app: webapp
  template:
    metadata:
      labels:
        app: webapp
    spec:
      containers:
      - name: webapp
        image: myorg/webapp
        ports:
        - containerPort: 8000
```



```
apiVersion: v1
kind: ReplicationController
metadata:
  name: webapp
spec:
  replicas: 3
  managing
  selector:
    app: webapp
  template:
    metadata:
      labels:
        app: webapp
    spec:
      containers:
        - name: webapp
          image: myorg/webapp
          ports:
            - containerPort: 8000
```

The background features a large, light blue abstract shape on the left and a white ship's wheel on the right. The word "Services" is centered in a dark grey, sans-serif font.

Services



```
apiVersion: v1
kind: Service
metadata:
  name: nginx-service
spec:
  ports:
    - port: 8000
      targetPort: 80
      protocol: TCP
  selector:
    app: nginx
```

apiVersion: v1

kind: Service

metadata:

name: nginx-service

spec:

ports:

- port: 8000

targetPort: 80

protocol: TCP

selector:

app: nginx



Fail Fast, Fail Cheap



Cattle Not Pets



Stateless Applications



Forced

The background features a large, light blue triangle on the left side. Overlaid on this is a white ship's wheel with eight spokes. The wheel's hub and spokes are white, while the segments between the spokes are a medium blue color. The word "Scalability" is centered horizontally across the middle of the image, in a dark gray, sans-serif font.

Scalability



Patching?
Host problems?





Embrace

Questions?

www.informaticslab.co.uk

www.jacobtomlinson.co.uk

@_jacobtomlinson