Kubernetes Workshop

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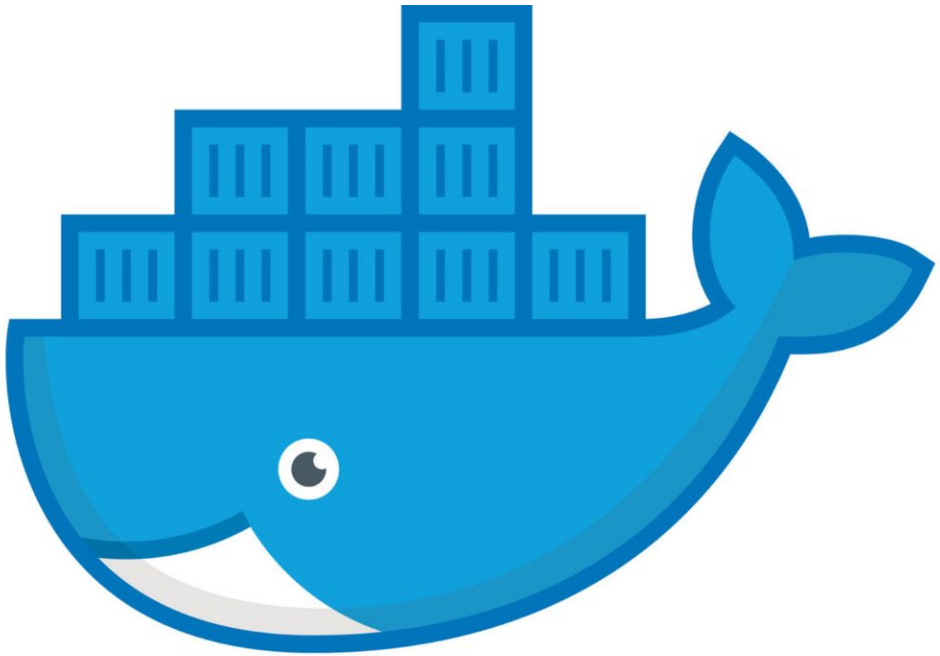
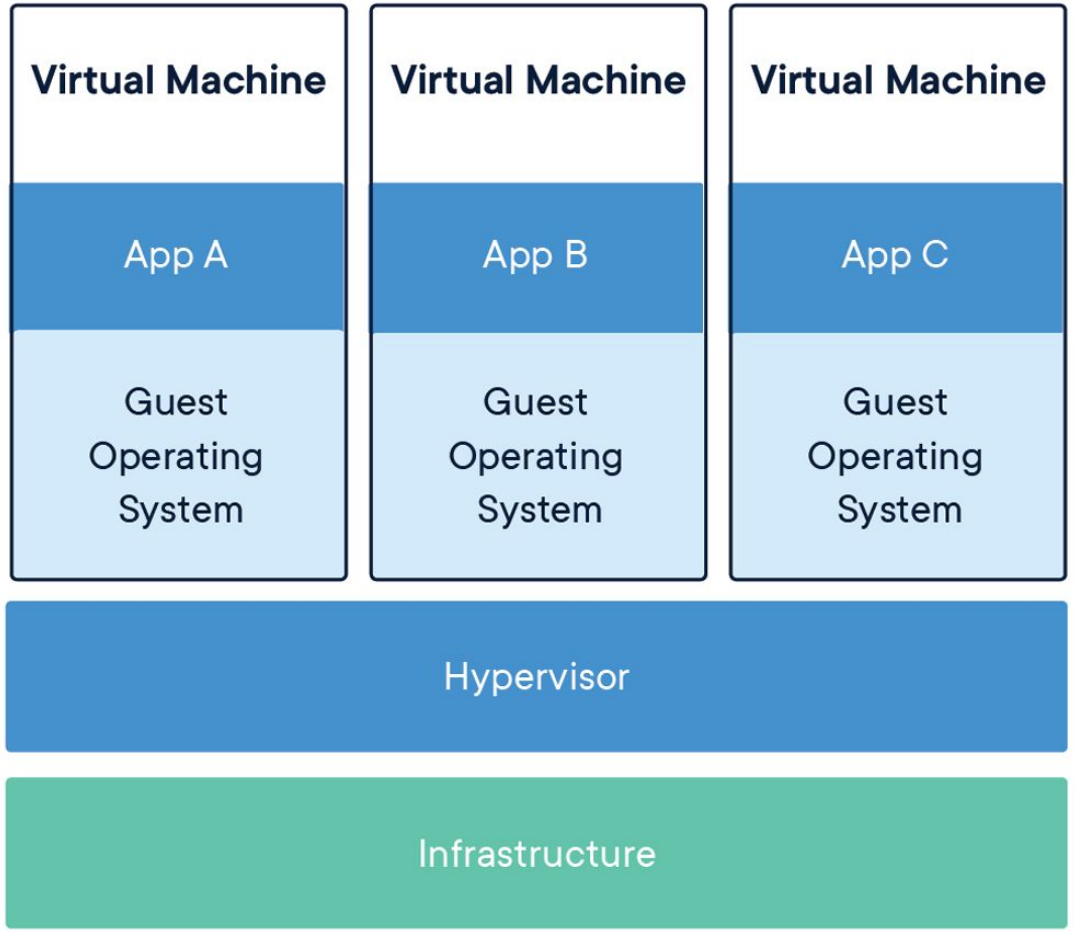
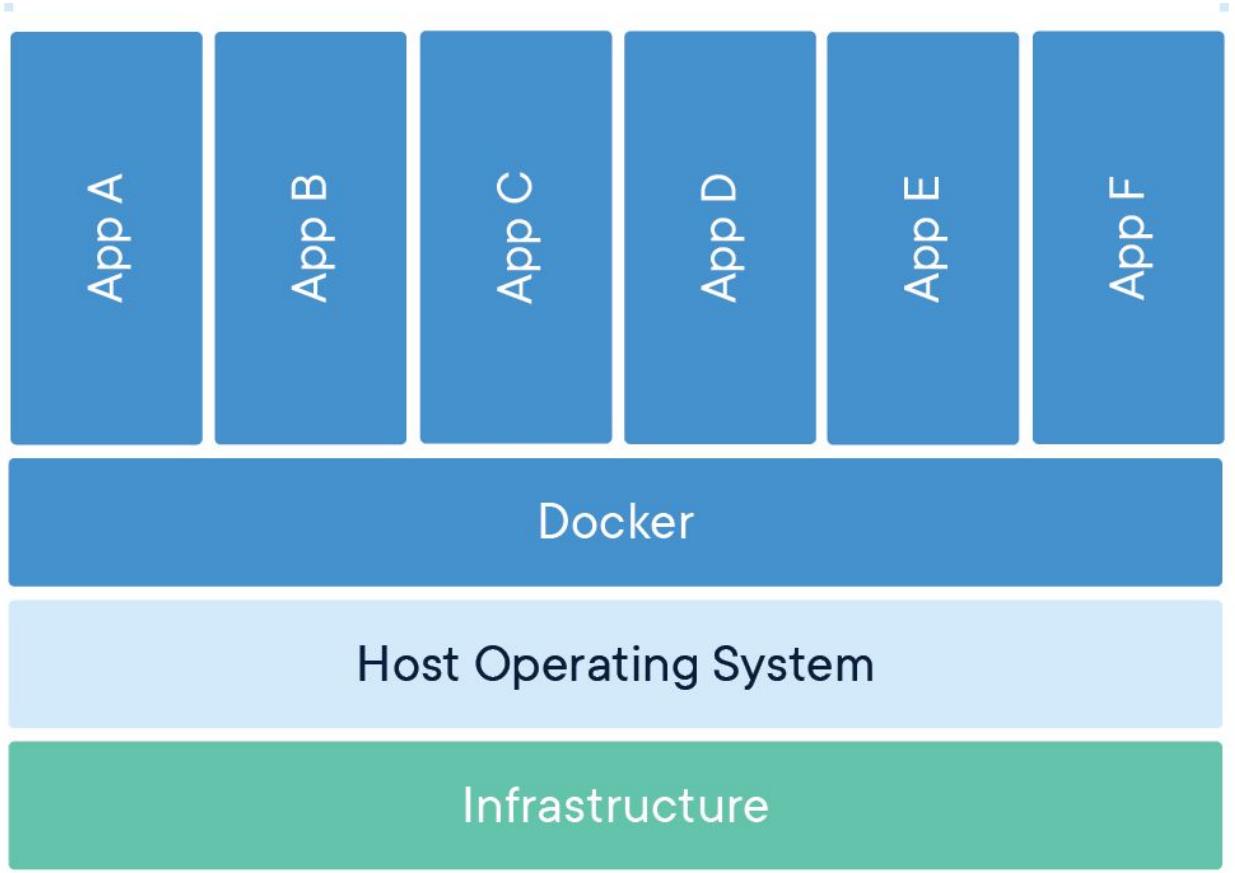


docker

The Virtual Machine World



The Container World



Dockerfiles

```
¹sample.dockerfile+
21 FROM golang:1.17.0-buster AS builder
20
19 WORKDIR /app
18
17 COPY go.mod .
16 COPY go.sum .
15 RUN go mod download
14
13 COPY main.go .
12 RUN CGO_ENABLED=0 GOOS=linux go build -o server -ldflags "-s -w"
11
10
 9 FROM scratch
 8
 7 USER 1000
 6
 5 COPY --from=builder --chown=1000:1000 /app/server /server
 4
 3 ENTRYPOINT [ ./server ]
```

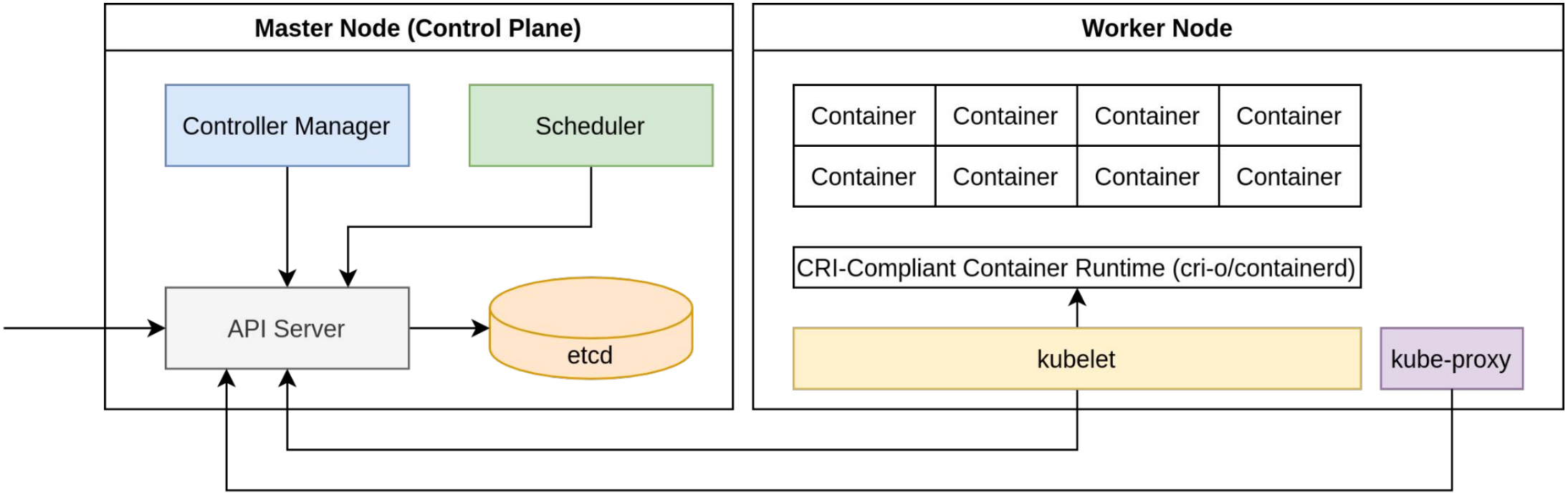
Best Practices

- Smaller is better.
- Root is evil.
- Images are not secure bank vaults.
- Scan, scan, and scan again.
- Immutability is king.
- Stateful containers will complicate your life … a lot

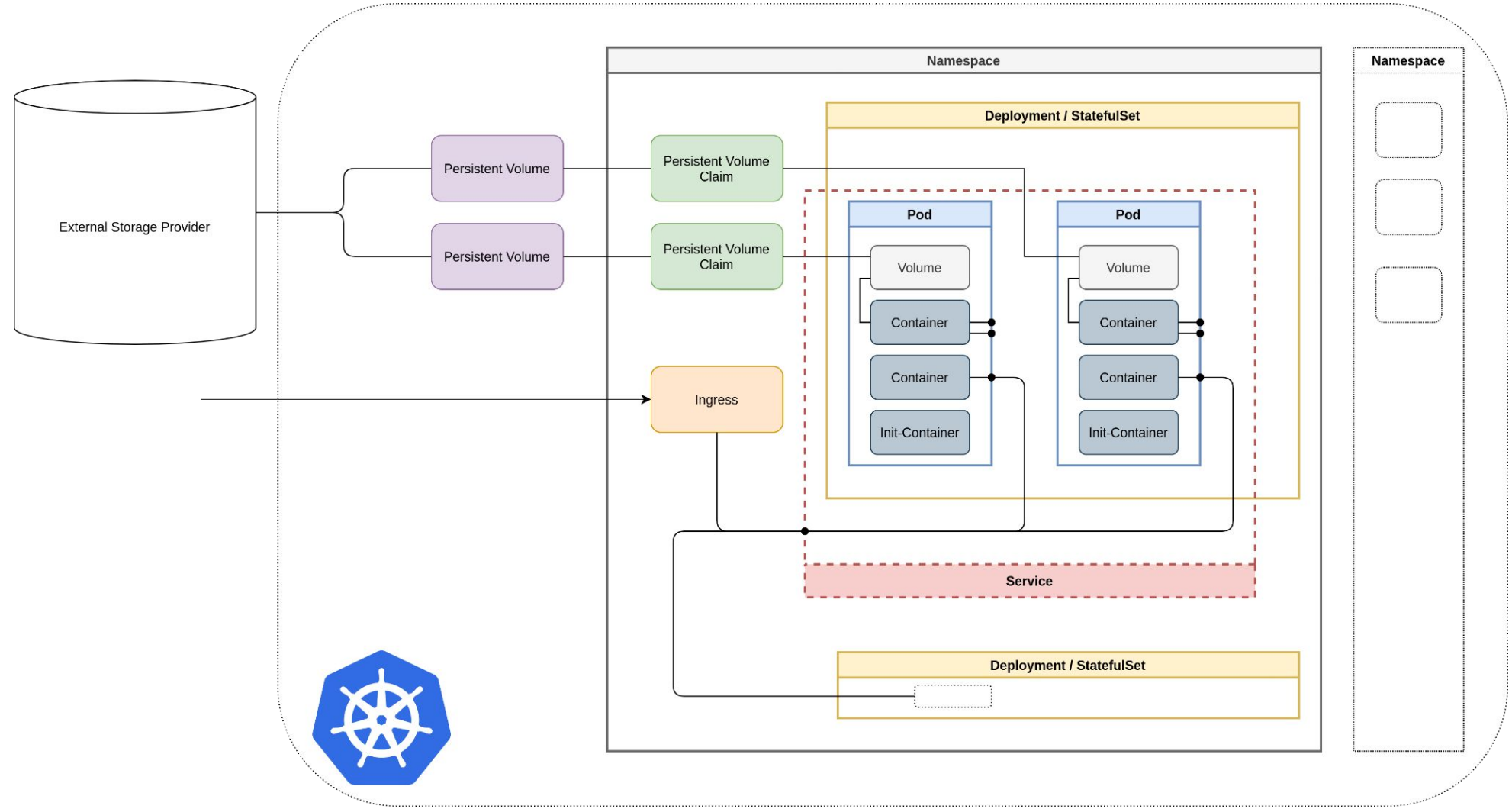
Solved all your problems. You're welcome.

kubernetes

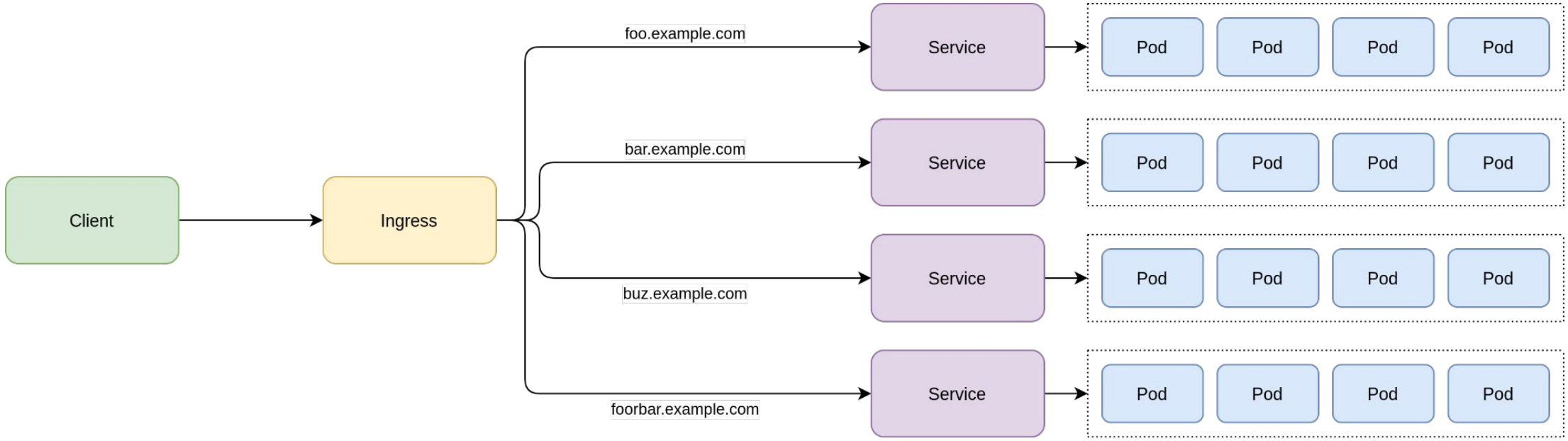
Architecture



Core Concepts



Ingress


Client
Ingress
foo.example.com
bar.example.com
buz.example.com
foorbar.example.com
Service
Service
Service
Service
Pod
Pod
Pod
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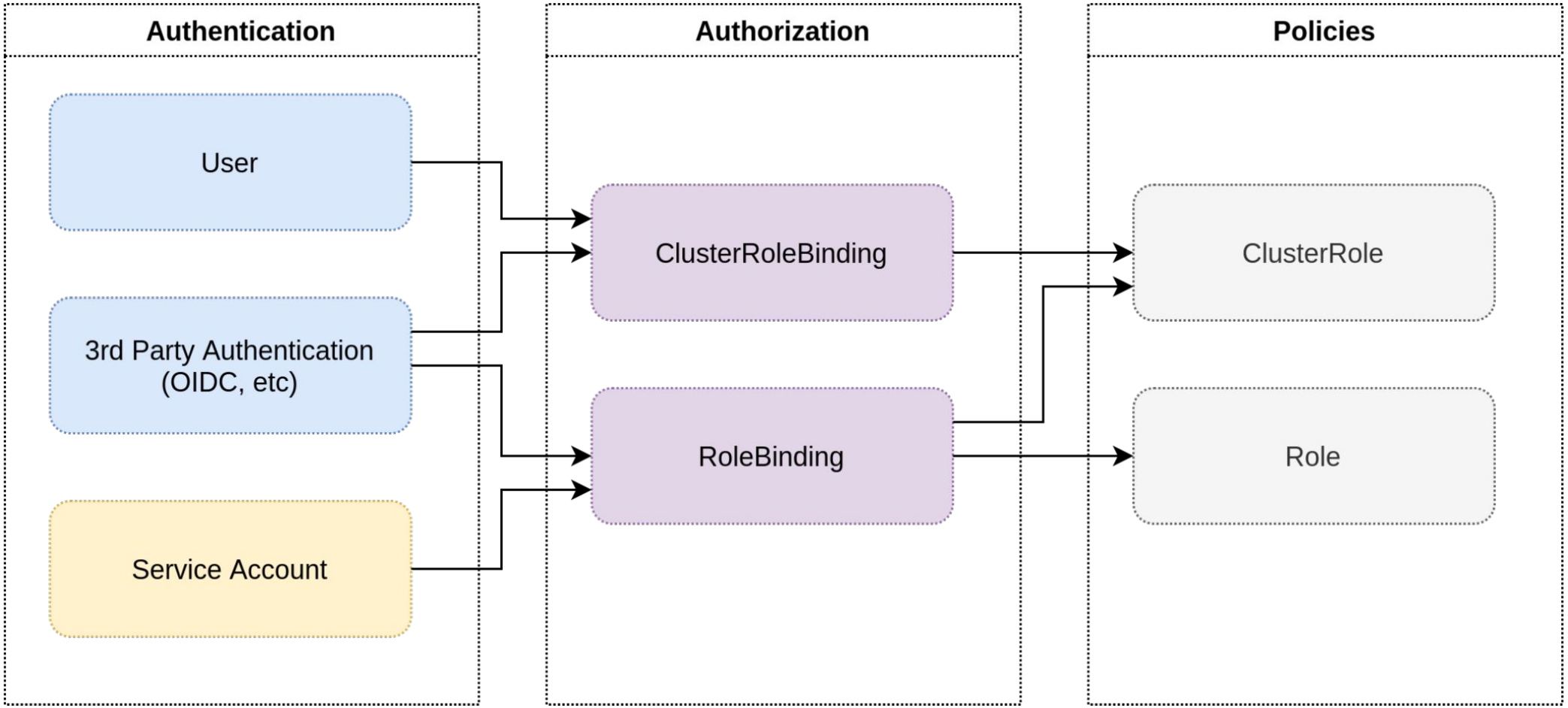
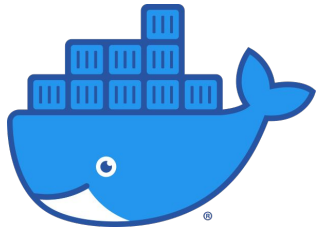
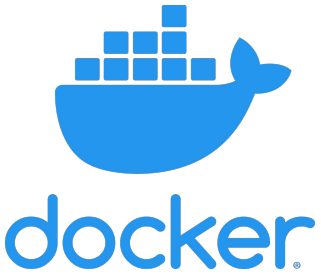
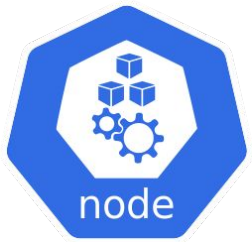
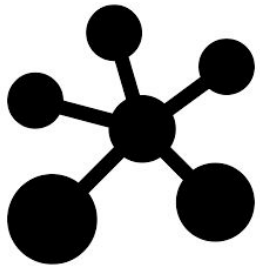
RBAC


Authentication
Authorization
Policies
User
3rd Party Authentication
(OIDC, etc)
Service Account
ClusterRoleBinding
RoleBinding
ClusterRole
Role

K8s & Docker Icons