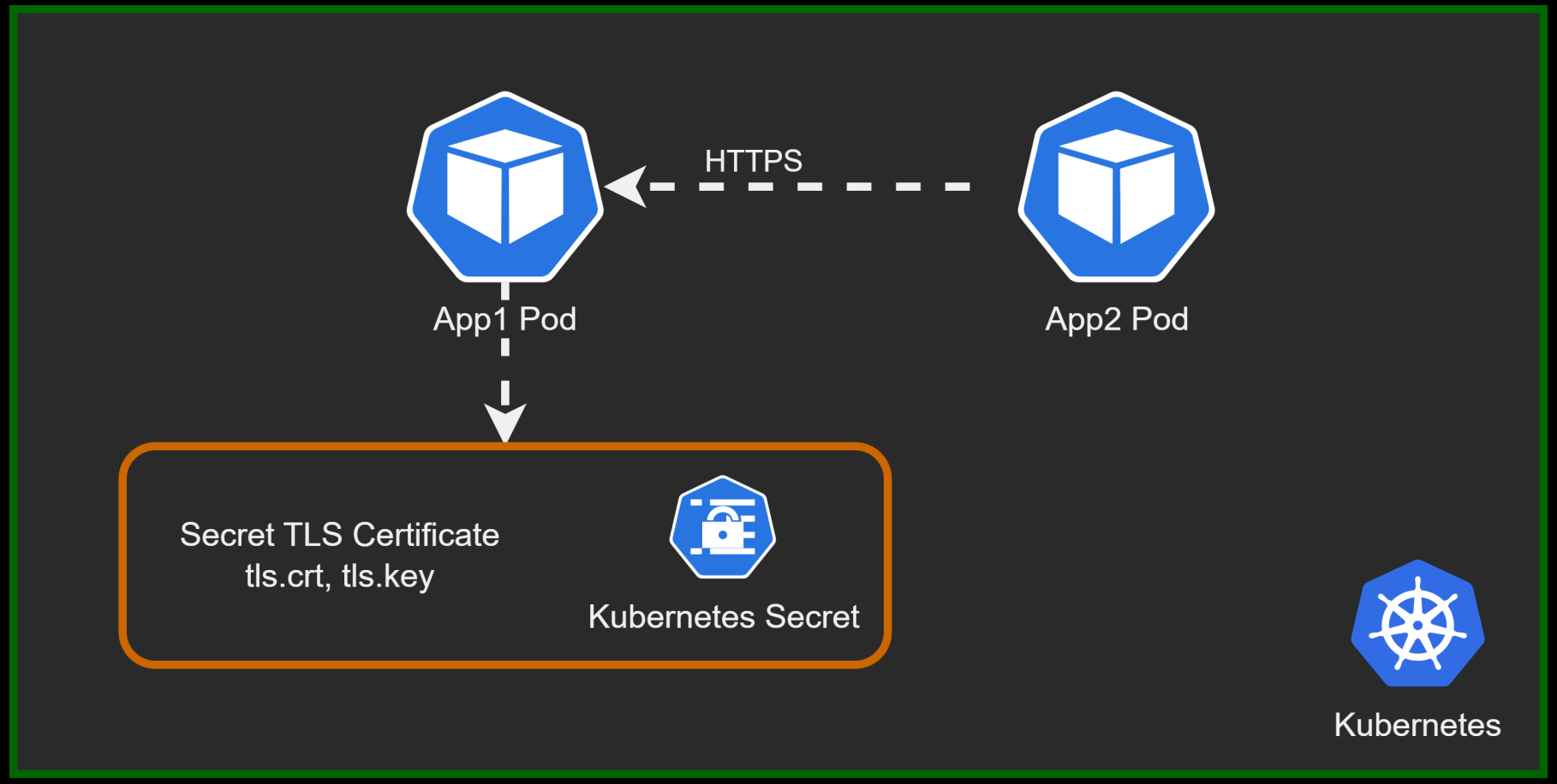
Securing Kubernetes Pods with TLS certificates

Houssem Dellai

Secure Pod with HTTPS using TLS certificate



```yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  name: demo-app
  namespace: $NAMESPACE_APP
spec:
  template:
    spec:
      volumes:
      - name: demo-app-tls
        secret:
          secretName: $APP_SECRET_TLS
      containers:
      - image: mcr.microsoft.com/dotnet/samples:aspnetapp
        ports:
        - containerPort: 443
        volumeMounts:
        - name: demo-app-tls
          mountPath: /secrets/tls-cert
          readOnly: true
        env:
        - name: ASPNETCORE_Kestrel__Certificates__Default__Password
          value: ""
        - name: ASPNETCORE_Kestrel__Certificates__Default__Path
          value: /secrets/tls-cert/$APP_CERT_NAME.pfx
        - name: ASPNETCORE_URLS
          value: "https://+;http://+"
        - name: ASPNETCORE_HTTPS_PORT
          value: "443"
```

```
kubectl create secret generic $APP_SECRET_TLS
        --from-file="$APP_CERT_NAME.pfx"
        --namespace $NAMESPACE_APP
```

```
kubectl run nginx --image=nginx kubectl exec -it nginx
# curl -v -k https://app-svc.dotnet-app.svc.cluster.local
# * Server certificate: # * subject: CN=app-svc..svc.cluster.local;
# * issuer: CN=app-svc..svc.cluster.local; O=aks-ingress-tls
```