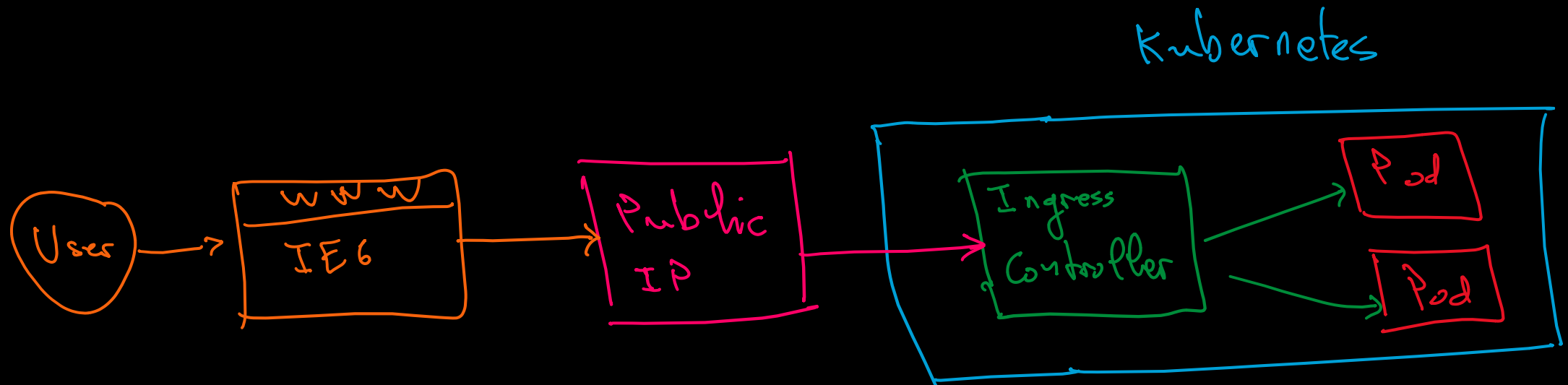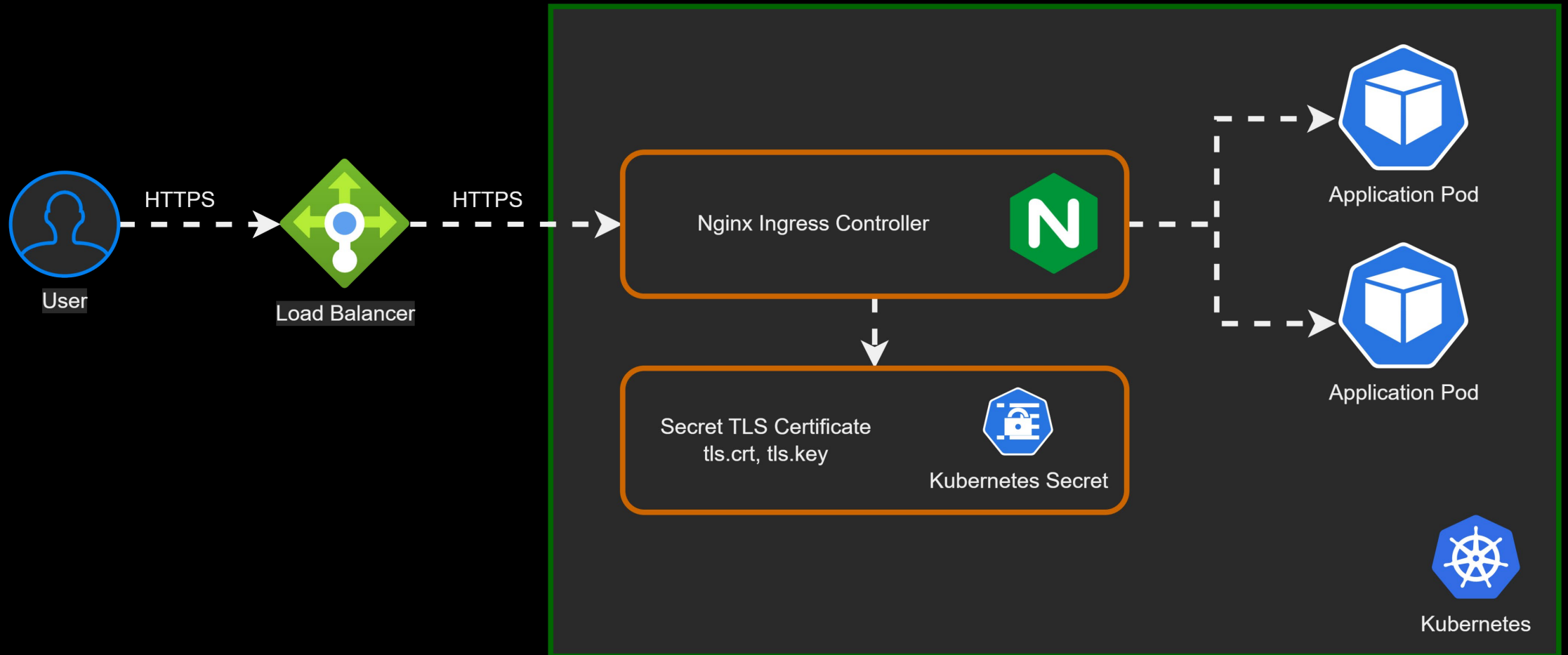# How to expose an application (Pods) in Kubernetes ?

Kubernetes defines the API (spec) for ingress resource.

But we need to install a tool that implements that spec; it is called ingress controller.

Ingress Controller using TLS - HTTPS

User

HTTPS

Load Balancer

HTTPS

Nginx Ingress Controller

Secret TLS Certificate
tls.crt, tls.key

Kubernetes Secret

Application Pod

Application Pod

Kubernetes

Ingress and TLS certificate

```yaml
apiVersion: v1
kind: Secret
metadata:
  name: tls-ingress-app-02-secret
  namespace: app-02
type: kubernetes.io/tls
data:
  tls.crt: >-
    LS0tLS1CRUdJTiBDRRVJUSUZJQ0FURS…
  tls.key: >-
    LS0tLS1CRUdJTiBBQUklWQVRFIEtFWS0…
```

```yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: hello-world-ingress
  namespace: app-02
spec:
  ingressClassName: nginx
  tls:
  - hosts:
    - aks-app-02.westeurope.cloudapp.azure.com
    secretName: tls-ingress-app-02-secret
  rules:
  - host: aks-app-02.westeurope.cloudapp.azure.com
    http:
      paths:
      - path: /hello-world-one(/|$)(.*)
        pathType: Prefix
        backend:
          service:
            name: aks-helloworld-one
            port:
              number: 80
      - path: /hello-world-two(/|$)(.*)
        pathType: Prefix
        backend:
          service:
            name: aks-helloworld-two
            port:
              number: 80
```