

# Kubernetes Ingress & Egress: Explained Simply

Imagine your apps as toys inside a house called a cluster.

Ingress is how friends from the internet visit to play with your toys.

Egress is how your toys go out to get batteries or snacks (internet).

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# What is Kubernetes? (The Toy House)

## Kubernetes Manager

Manages all your apps (toys) inside the cluster (the house).

## Ensures Smooth Running

Keeps your apps working and talking to each other well.

## Nicknamed K8s

Short name reflecting the 8 letters between K and s.



# What is Ingress? (The Front Door)

## Front Door

Allows people outside to visit specific toys (services) inside.

## Access Control

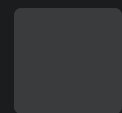
Uses rules to decide who gets to see which toy.





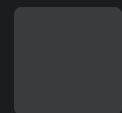


# Ingress Explained: The Simple Simple Way



## Traffic Controller

Directs internet traffic to the correct app inside the cluster.



## Essential for Access

Without it, nobody outside can reach your apps easily.

# Ingress Configuration (YAML Example)

```
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
  name: my-app-ingress
spec:
  rules:
  - host: myapp.example.com
    http:
      paths:
      - path: /
        pathType: Prefix
        backend:
          service:
            name: my-app-service
            port:
              number: 80
```



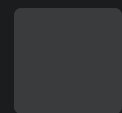
# Example Walkthrough

myapp.example.com	Path “/”	my-app-service	Port 80
Points to your Ingress, the entry to your apps.	All traffic on this path goes to your app's service.	The toy inside the house waiting for visitors.	The service listens here for incoming requests.



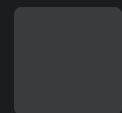


# What is Egress? (Leaving the House)



## Permission Slip

Allows toys (apps) to leave the house and talk to the internet.



## Control Outbound

Prevents apps from unauthorized access outside the cluster.

# Ingress vs. Egress

## Ingress

Lets outside visitors come into your cluster (north-south traffic).

## Egress

Controls apps leaving cluster to reach outside places.



# Why Do We Need Egress?



## Security

Blocks malicious outbound connections from your cluster.



## Compliance

Ensures only allowed services access external resources.



## Monitoring

Tracks which services connect outside, improving oversight.



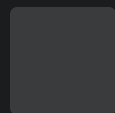


## Recap: Ingress & Egress



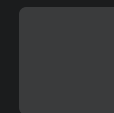
### Ingress

The front door letting visitors reach your apps safely.



### Egress

The permission slip for your apps to access the outside world.



### Security & Traffic

Both keep your toy house (cluster) organized and safe.