Storage Classes and Ingress

Students, write your response!

Pear Deck Interactive Slide
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1 Storage Class

The interaction between PVs and PVCs

Provisioning

There are two ways PVs may be provisioned: statically or dynamically.

Static

A cluster administrator creates a number of PVs. They carry the details of the real storage, which is available for use by cluster users. They exist in the Kubernetes API and are available for consumption.

Dynamic

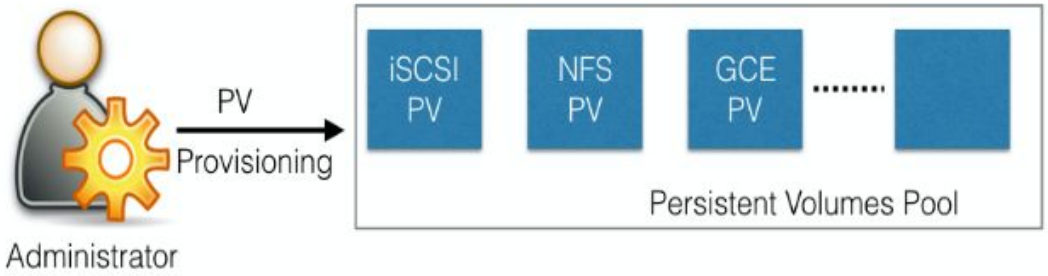
When none of the static PVs the administrator created match a user's PersistentVolumeClaim, the cluster may try to dynamically provision a volume specially for the PVC. This provisioning is based on **StorageClasses**.

The interaction between PVs and PVCs

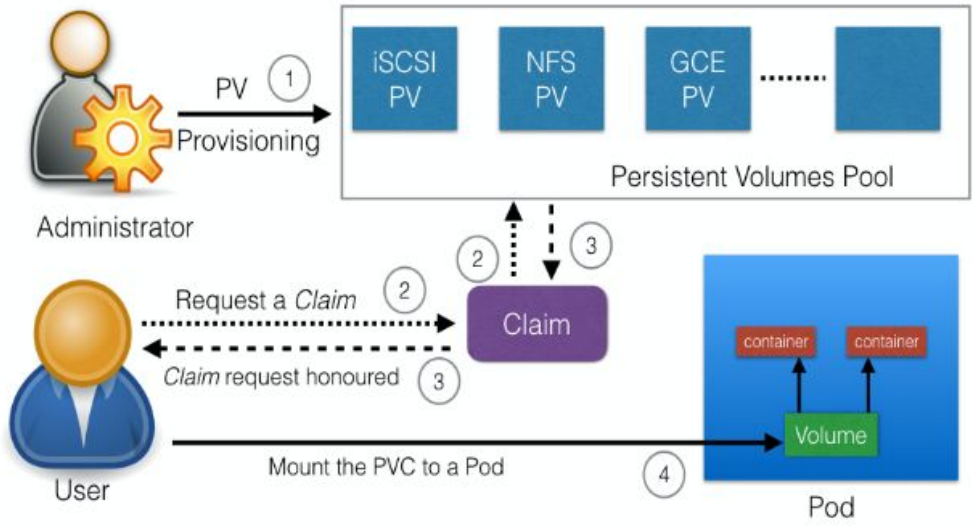
Static

Dynamic

Static PV Provisioning

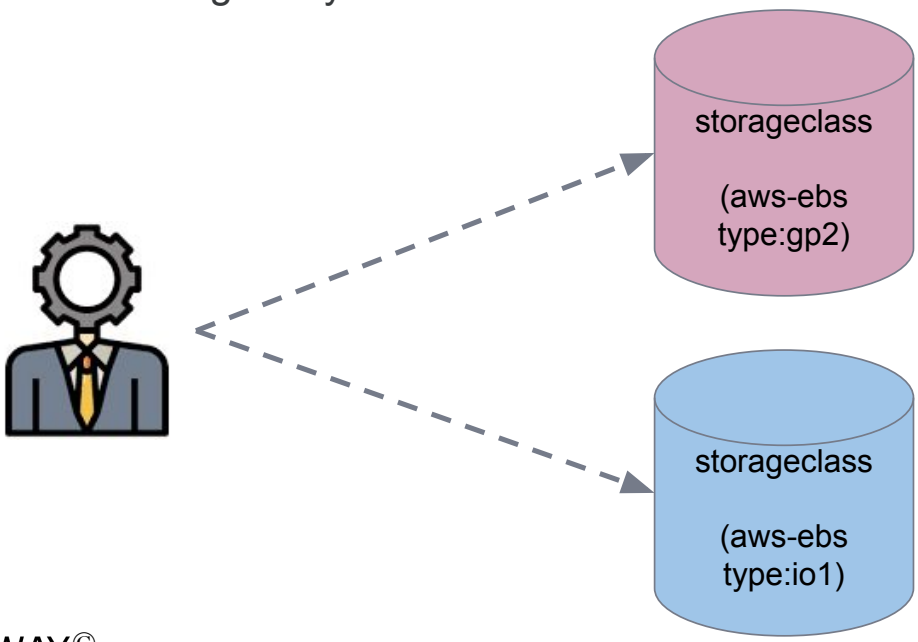


Static PV Provisioning

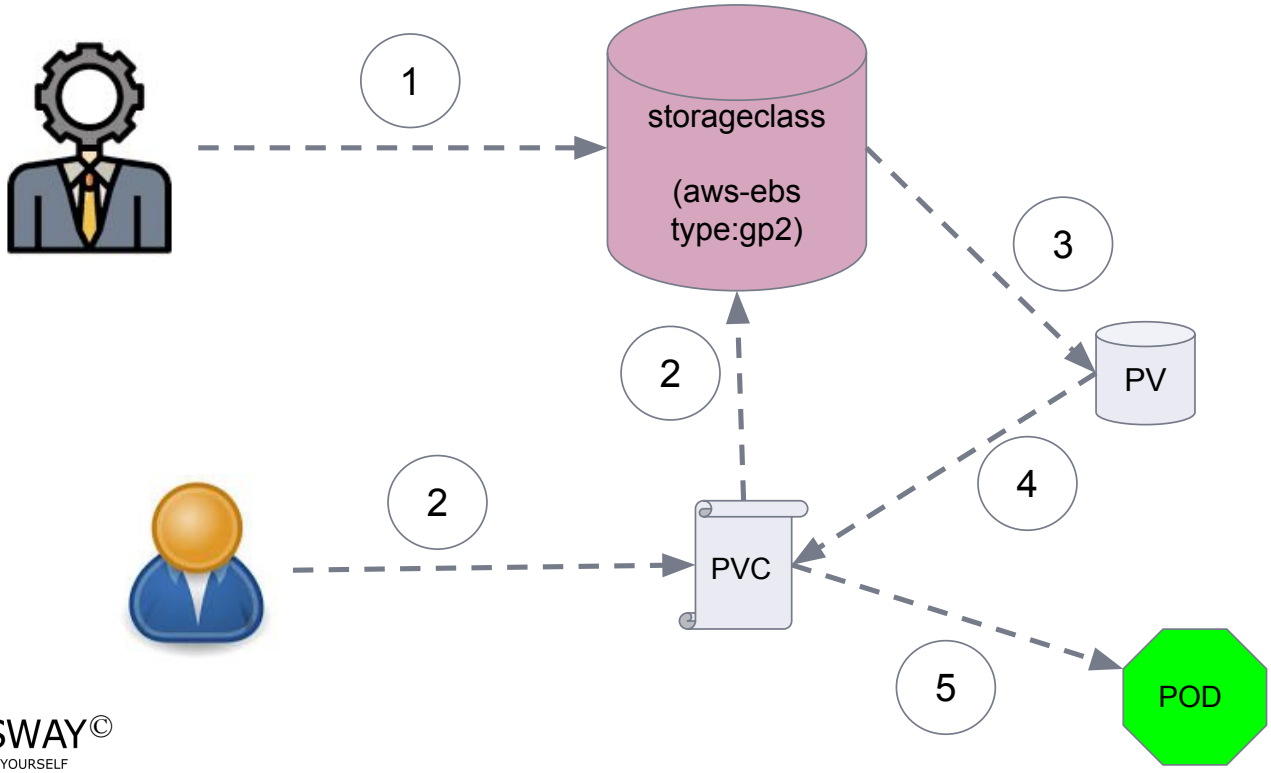


Dynamic PV Provisioning

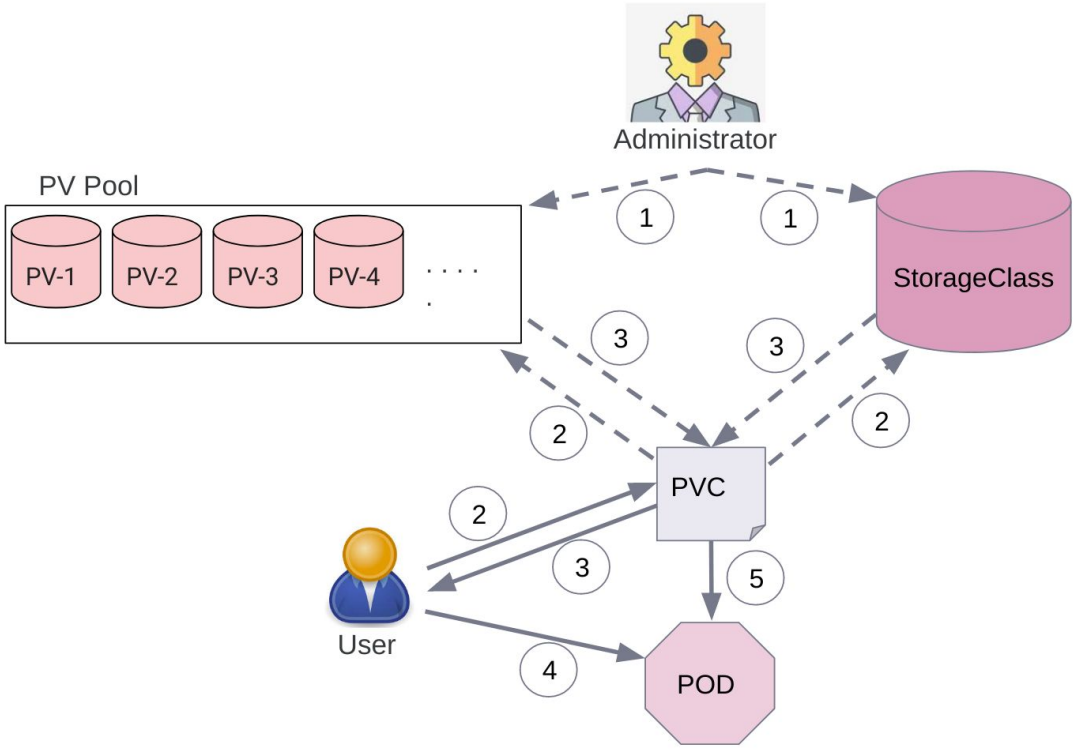
A **StorageClass** provides a way for administrators to describe the "classes" of storage they offer.



Dynamic PV Provisioning



PV Provisioning



Storage Class

```
kind: StorageClass
apiVersion: storage.k8s.io/v1
metadata:
 name: aws-standard
 annotations:
   storageclass.kubernetes.io/is-default-class:
"true"
provisioner: kubernetes.io/aws-ebs
parameters:
 type: gp2
 fsType: ext4
```

Provisioner: Each StorageClass has a provisioner that determines what volume plugin is used for provisioning PVs.

Parameters: Storage Classes have parameters that describe volumes belonging to the storage class. Different parameters may be accepted depending on the provisioner

2 Ingress

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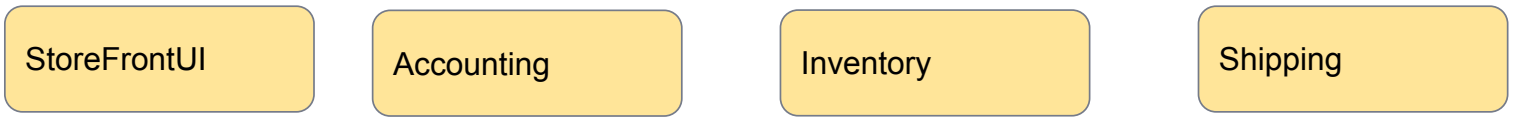
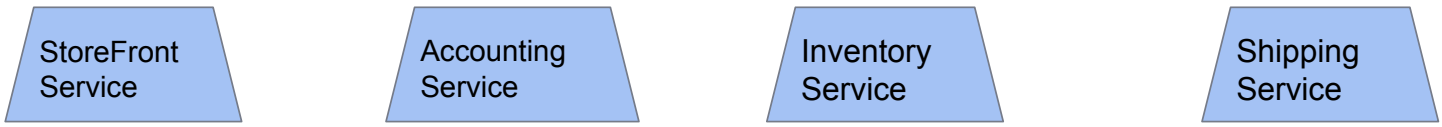
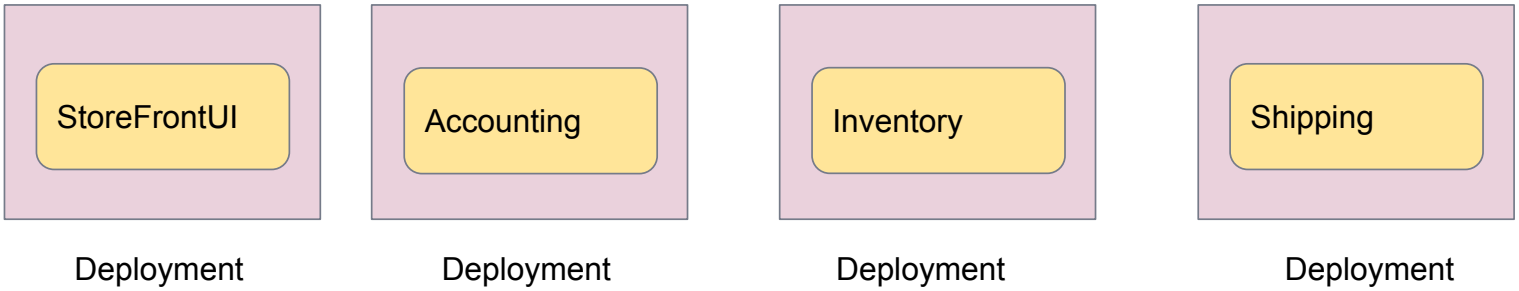
Ingress

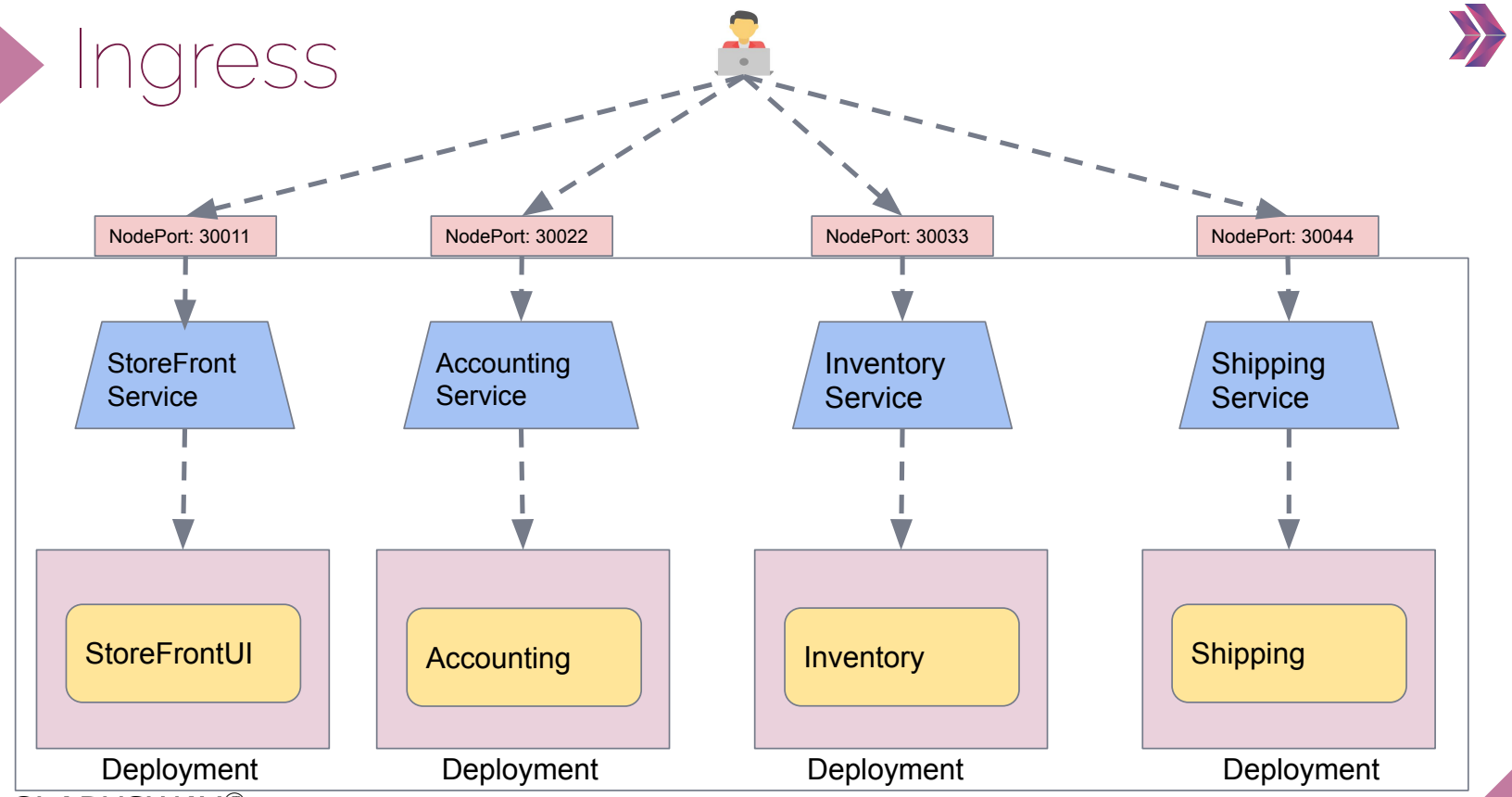


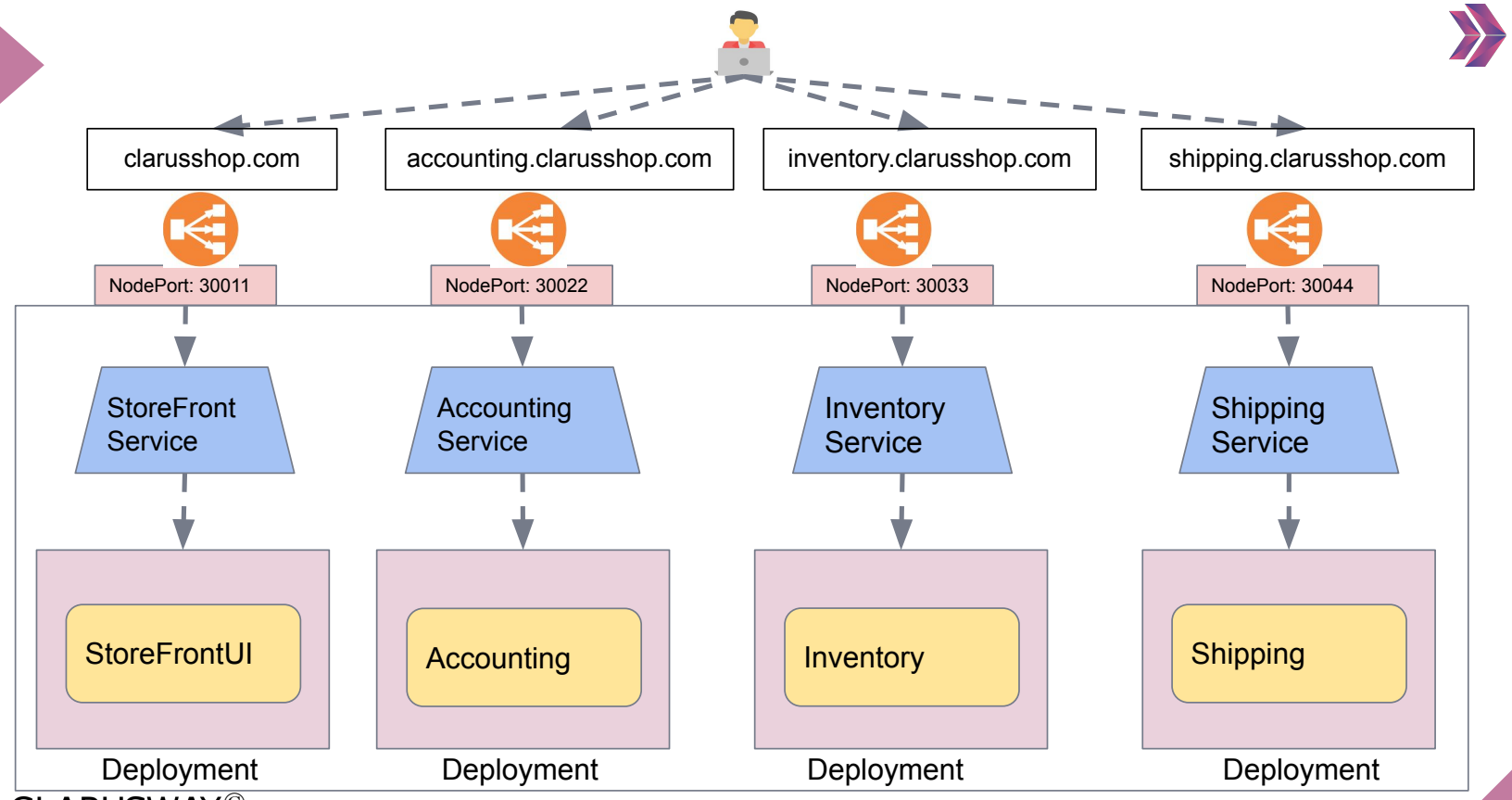
Ingress



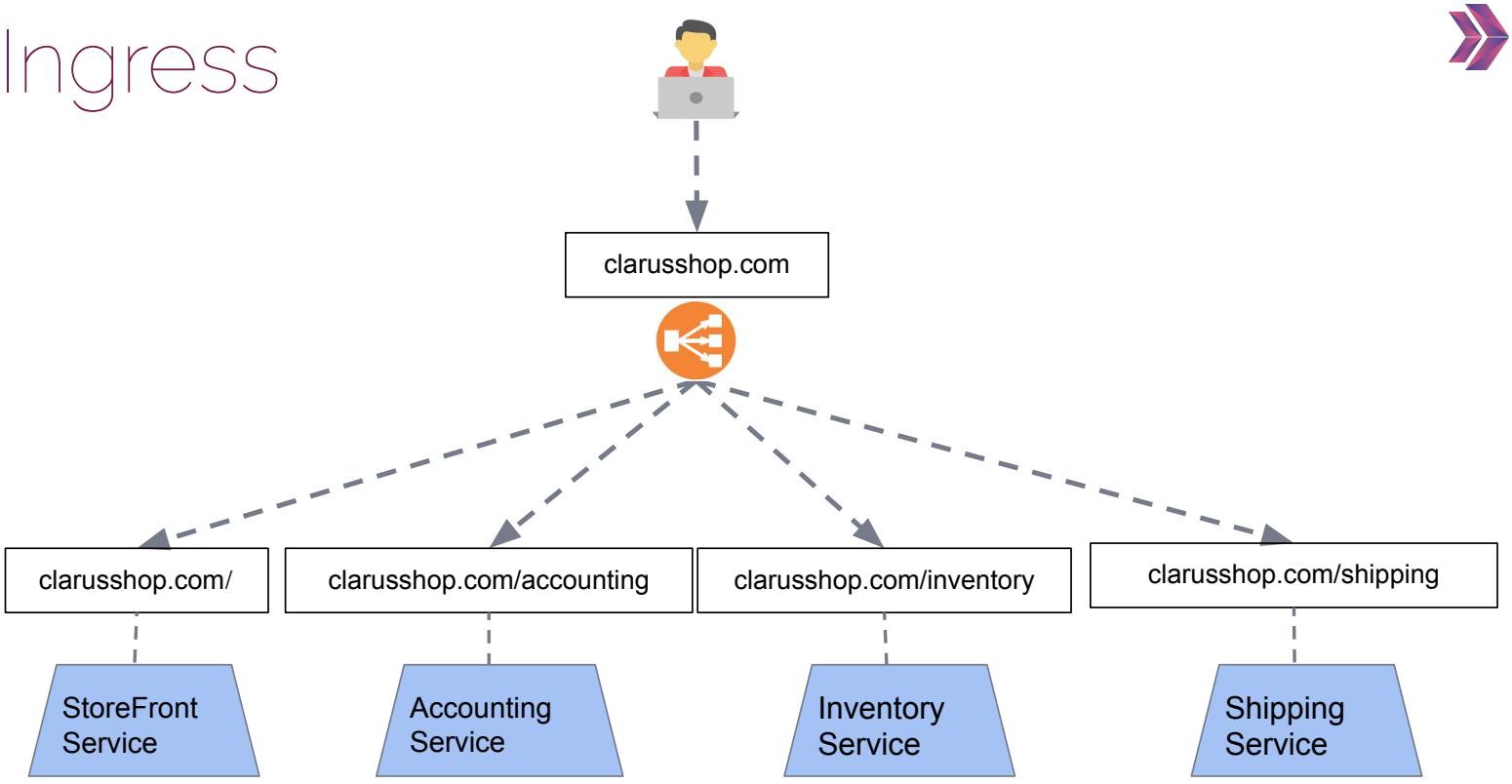


Ingress


NodePort: 30011
NodePort: 30022
NodePort: 30033
NodePort: 30044
StoreFront Service
Accounting Service
Inventory Service
Shipping Service
StoreFrontUI
Accounting
Inventory
Shipping
Deployment
Deployment
Deployment
Deployment

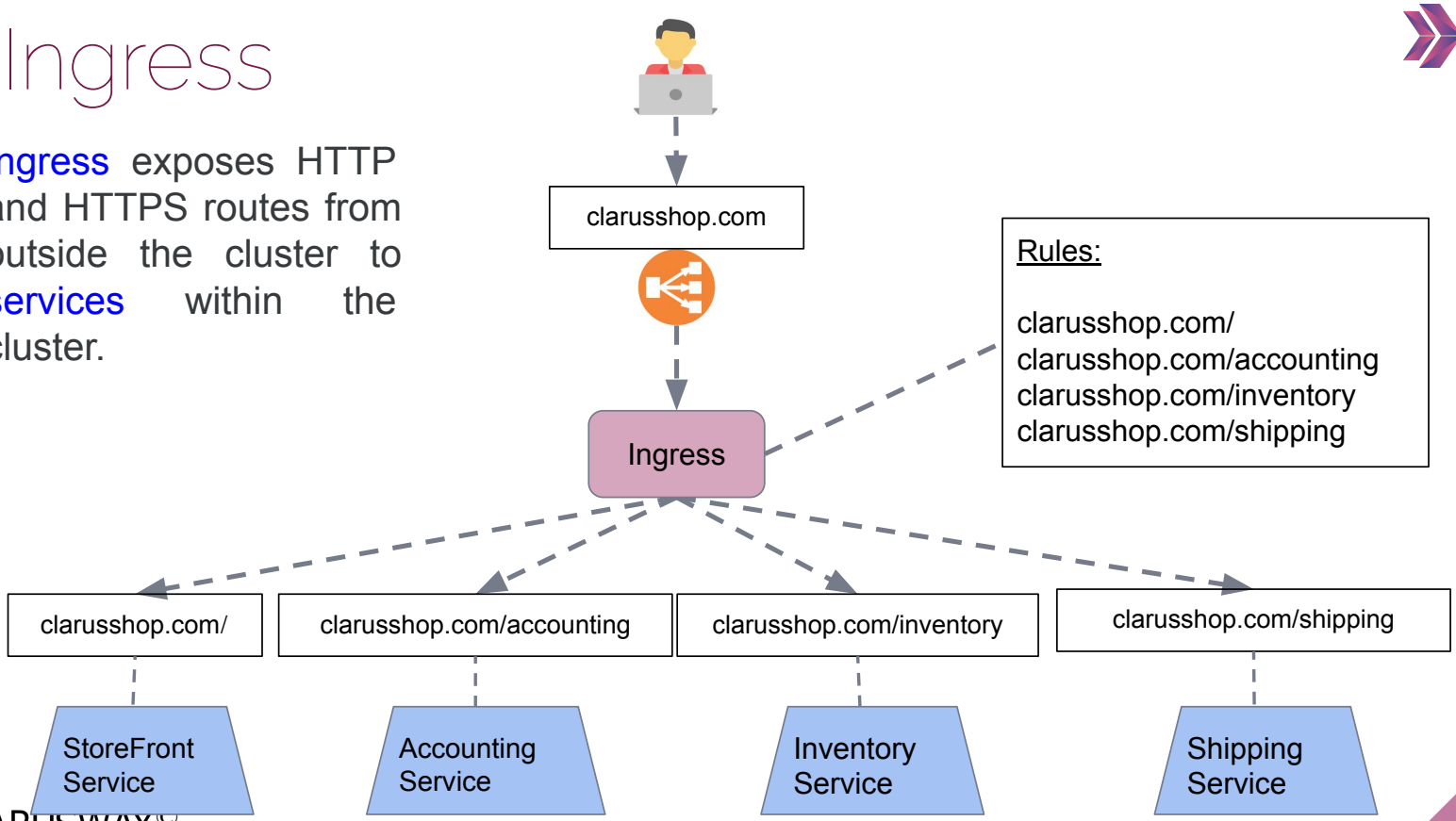

clarusshop.com
accounting.clarusshop.com
inventory.clarusshop.com
shipping.clarusshop.com
NodePort: 30011
NodePort: 30022
NodePort: 30033
NodePort: 30044
StoreFront Service
Accounting Service
Inventory Service
Shipping Service
StoreFrontUI
Accounting
Inventory
Shipping
Deployment
Deployment
Deployment
Deployment

Ingress



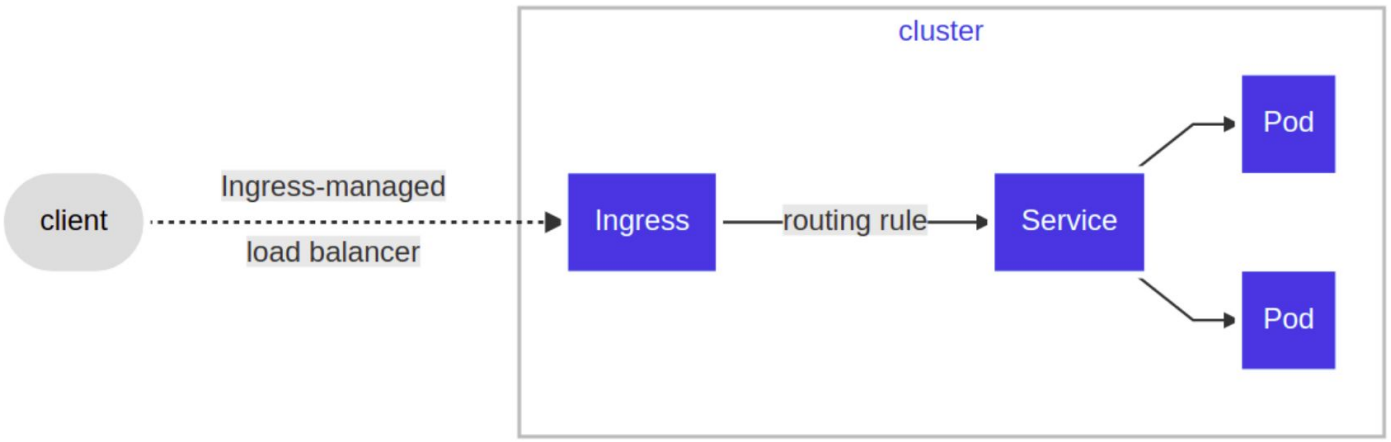
Ingress

Ingress exposes HTTP and HTTPS routes from outside the cluster to services within the cluster.



Ingress

"An Ingress is a collection of rules that allow inbound connections to reach the cluster Services."

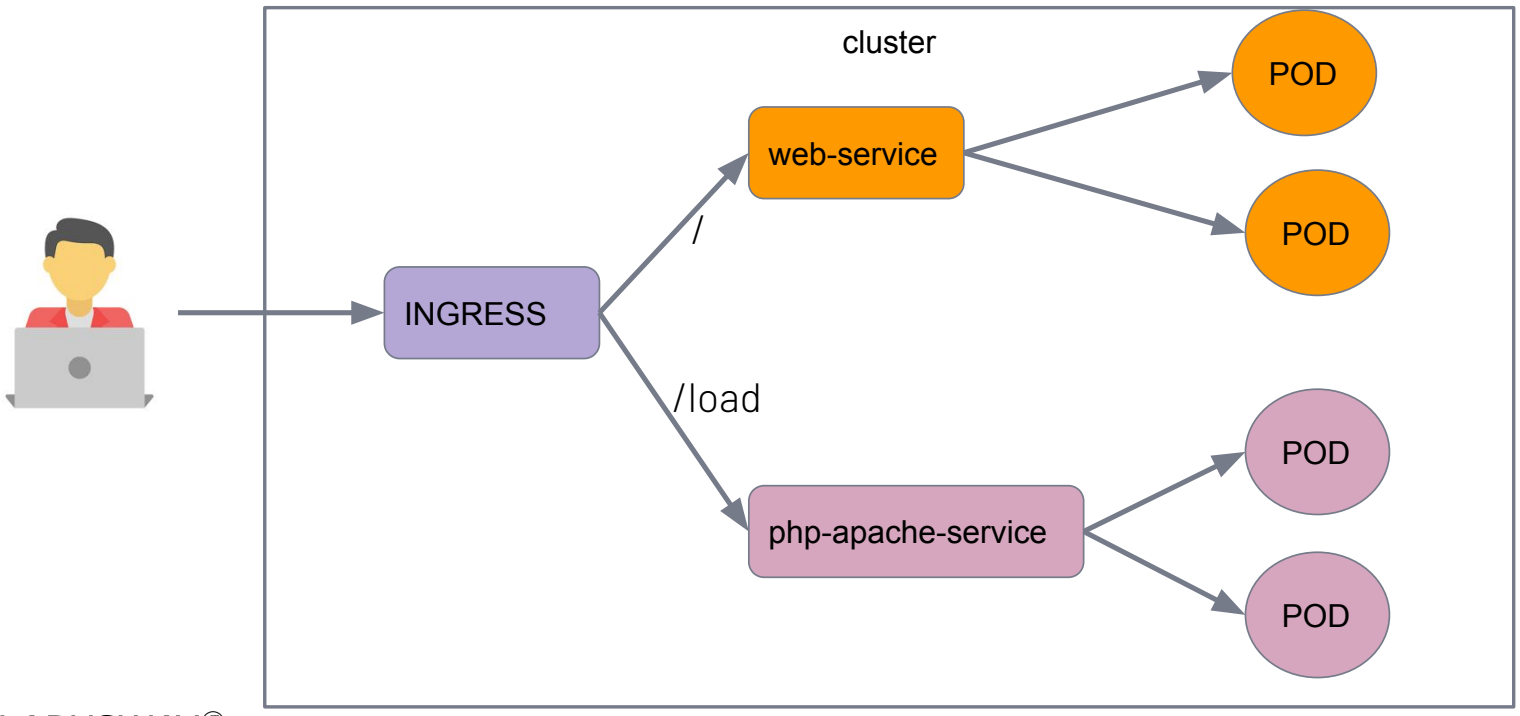


Ingress

With Ingress, users do not connect directly to a Service. Users reach the Ingress endpoint, and, from there, the request is forwarded to the desired Service.

```yaml
apiVersion: networking.k8s.io/v1
kind: Ingress
metadata:
 name: ingress-service
 annotations:
   kubernetes.io/ingress.class: 'nginx'
spec:
 rules:
   - http:
       paths:
         - path: /
           pathType: Prefix
           backend:
             service:
               name: web-service
               port:
                 number: 3000
         - path: /load
           pathType: Prefix
           backend:
             service:
               name: php-apache-service
               port:
                 number: 80
```

Ingress



THANKS!

Any questions?

You can find me at:

- james@clarusway.com