



# API deprecations



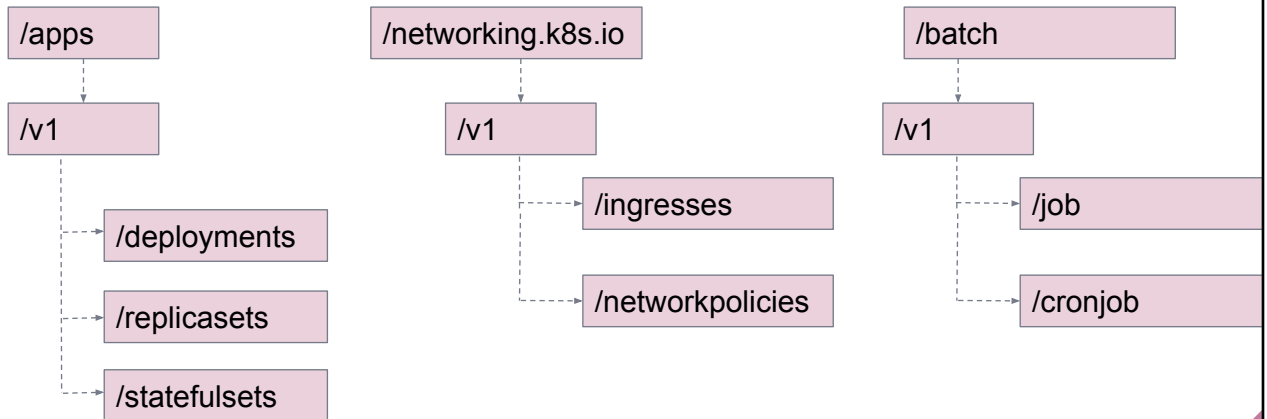
## API deprecations

- Kubernetes versions are expressed as x.y.z, where x is the major version, y is the minor version, and z is the patch version, following Semantic Versioning terminology.
- For example: `v1.29.2`



## ▶ API Groups

The Kubernetes API is actually a set of APIs, called "**API groups**", and each API group is independently **versioned**.



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## ▶ API versioning

- API versions fall into 3 main tracks:

Example	Track
v1	GA (generally available, stable)
v1beta1	Beta (pre-release)
v1alpha1	Alpha (experimental)

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# API versioning



Group	Versions
admissionregistration.k8s.io	v1, v1beta1, v1alpha1
apiextensions.k8s.io	v1
apiregistration.k8s.io	v1
apps	v1
authentication.k8s.io	v1, v1beta1, v1alpha1
authorization.k8s.io	v1
autoscaling	v2, v1

## API versioning - Alpha



- The version names contain alpha (for example, **v1alpha1**).
- Built-in alpha API versions are disabled by default and must be explicitly enabled in the kube-apiserver configuration to be used.
- The software may **contain bugs**. Enabling a feature may expose bugs.
- Support for an alpha API may be **dropped at any time without notice**.

## ▶ API versioning - Beta



- The version names contain beta (for example, v2beta3).
- Built-in beta API versions are **disabled** by default and must be explicitly enabled in the kube-apiserver configuration to be used.
- Built-in beta API versions have a maximum lifetime of **9 months or 3 minor releases** (whichever is longer) **from introduction to deprecation**, and **9 months or 3 minor releases** (whichever is longer) **from deprecation to removal**.
- The software is **well tested**. Enabling a feature is considered safe.

## ▶ API versioning - Stable

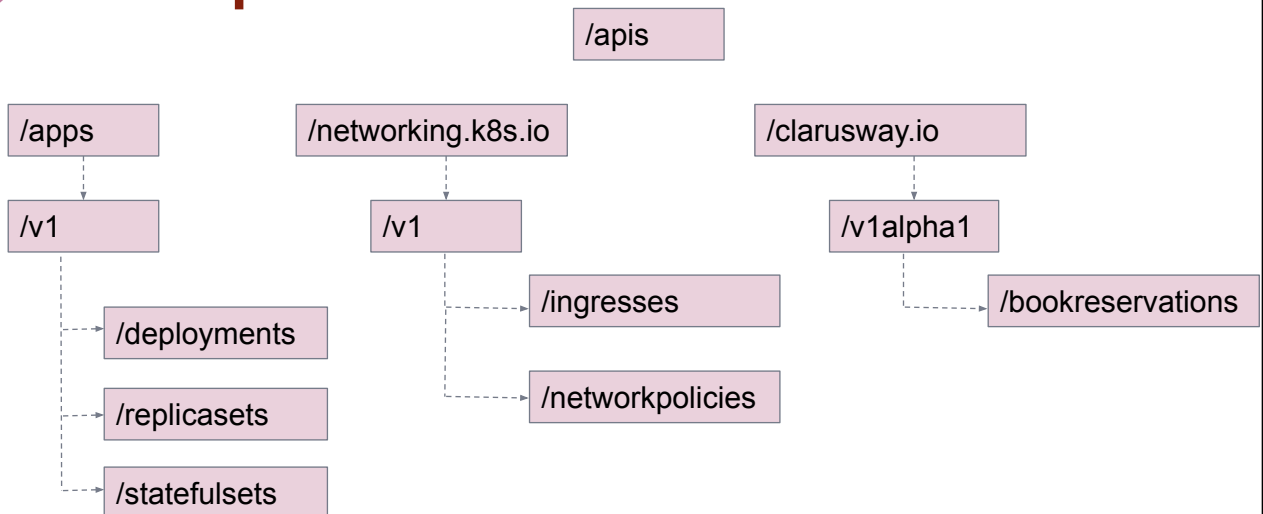


- The version name is vX where X is an integer.
- Stable API versions remain available for all future releases within a Kubernetes major version.

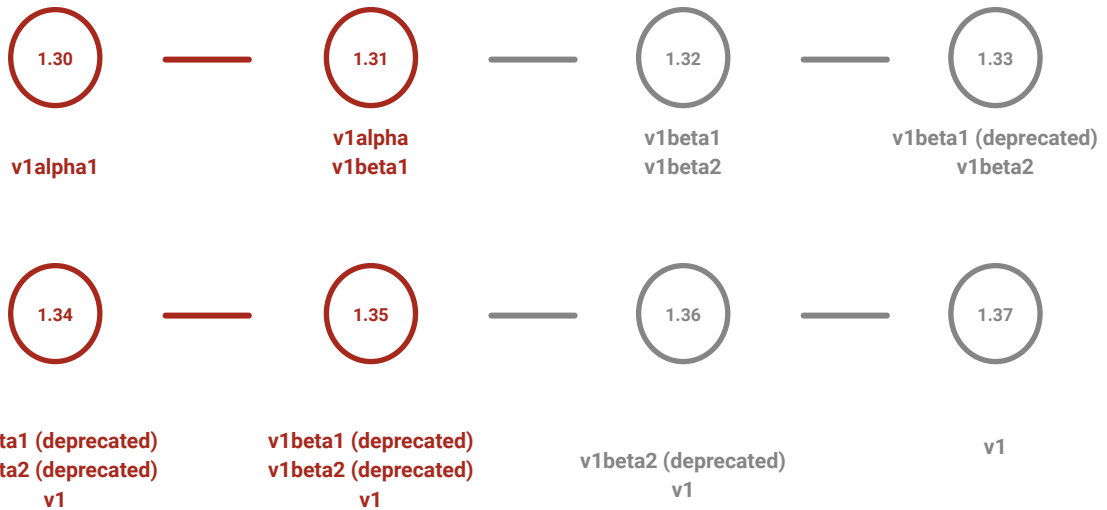
# API deprecations

As the Kubernetes API evolves, APIs are periodically reorganized or upgraded. When APIs evolve, the old API is deprecated and eventually removed.

# API deprecations



# API versioning

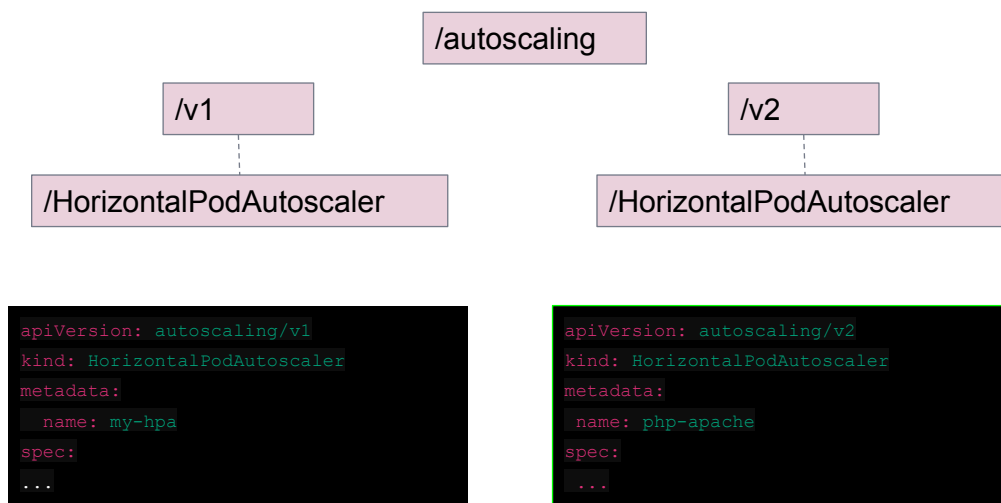


# preferred and storage versions

Group	Versions
admissionregistration.k8s.io	v1, v1beta1, v1alpha1
authentication.k8s.io	v1, v1beta1, v1alpha1
autoscaling	v2, v1

- The **storage** version of an API in Kubernetes refers to the version that is stored persistently in etcd.
- The **Preferred** version determines which version the command queries when multiple versions are enabled.

## preferred and storage versions



## preferred and storage versions

```
apiVersion: autoscaling/v1
kind: HorizontalPodAutoscaler
metadata:
  name: my-hpa
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: my-deployment
  minReplicas: 2
  maxReplicas: 5
  targetCPUUtilizationPercentage: 50
```

storage

```
apiVersion: autoscaling/v2
kind: HorizontalPodAutoscaler
metadata:
  name: php-apache
spec:
  scaleTargetRef:
    apiVersion: apps/v1
    kind: Deployment
    name: my-deployment
  minReplicas: 2
  maxReplicas: 5
  metrics:
    - type: Resource
      resource:
        name: cpu
        target:
          type: Utilization
          averageUtilization: 50
```

# Convert Objects



```
apiVersion: batch/v1beta1
kind: CronJob
metadata:
  name: backup
spec:
  schedule: "5 4 * * *"
  jobTemplate:
    spec:
      template:
        spec:
          containers:
            - name: backup
              image: bash
              command:
                - /bin/sh
                - -c
                - date
              restartPolicy: OnFailure
```

kubectl convert -f cronjob.yaml

```
apiVersion: batch/v1
kind: CronJob
metadata:
  name: backup
spec:
  schedule: "5 4 * * *"
  jobTemplate:
    spec:
      template:
        spec:
          containers:
            - name: backup
              image: bash
              command:
                - /bin/sh
                - -c
                - date
              restartPolicy: OnFailure
```

# THANKS!

## Any questions?

