INFRACLOUD

Monitoring Kubernetes clusters by "chatting" with them

InfraCloud Technologies

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Brief Agenda

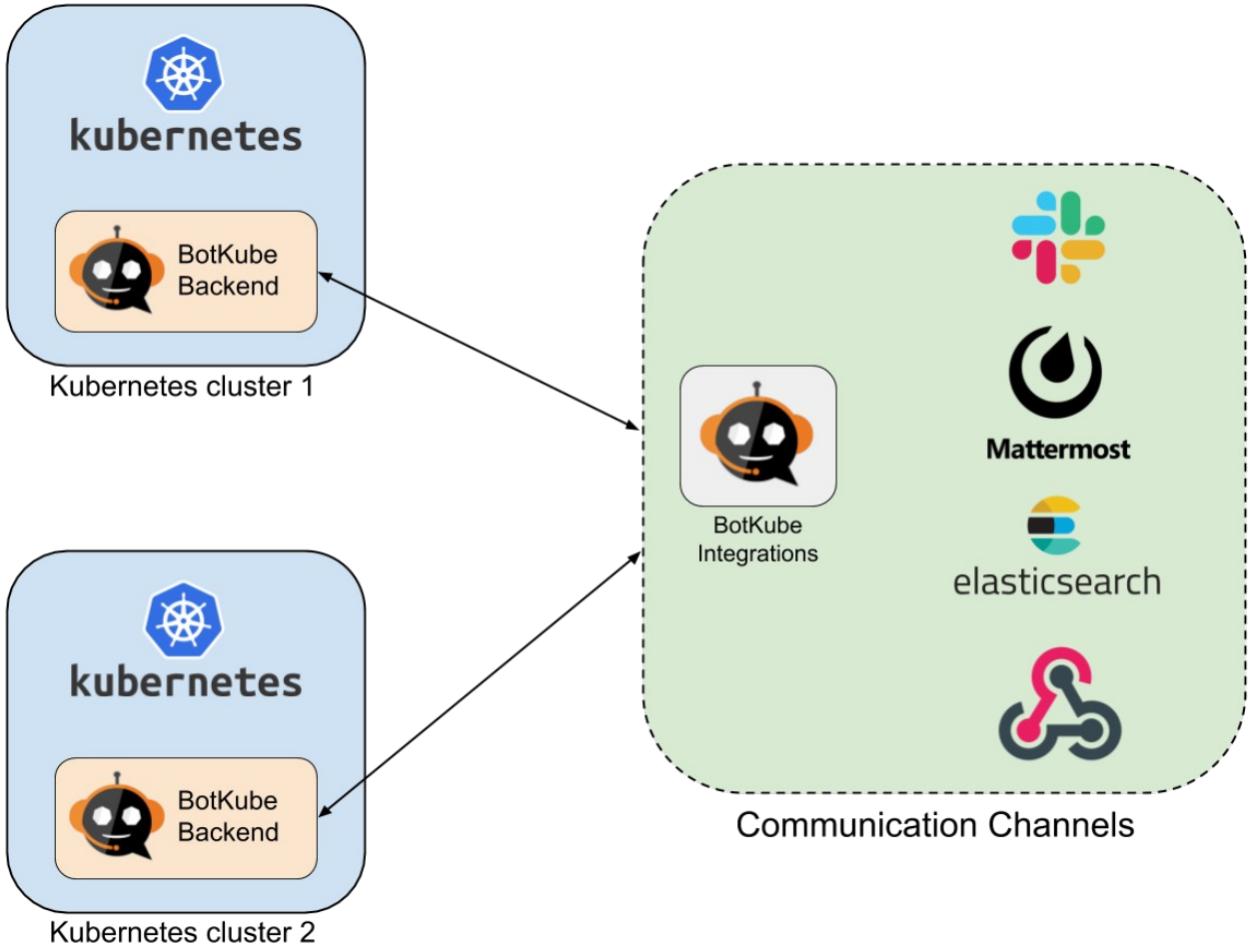
- **BotKube Introduction**
  - Notifier
  - Chat with Kubectl
  - Filters

- **Use Cases**
  - Debugging & monitoring applications
  - Collaborative debugging in teams
  - Monitor and Audit events
  - Incident management

Introduction to BOTKUBE

What is BotKube?

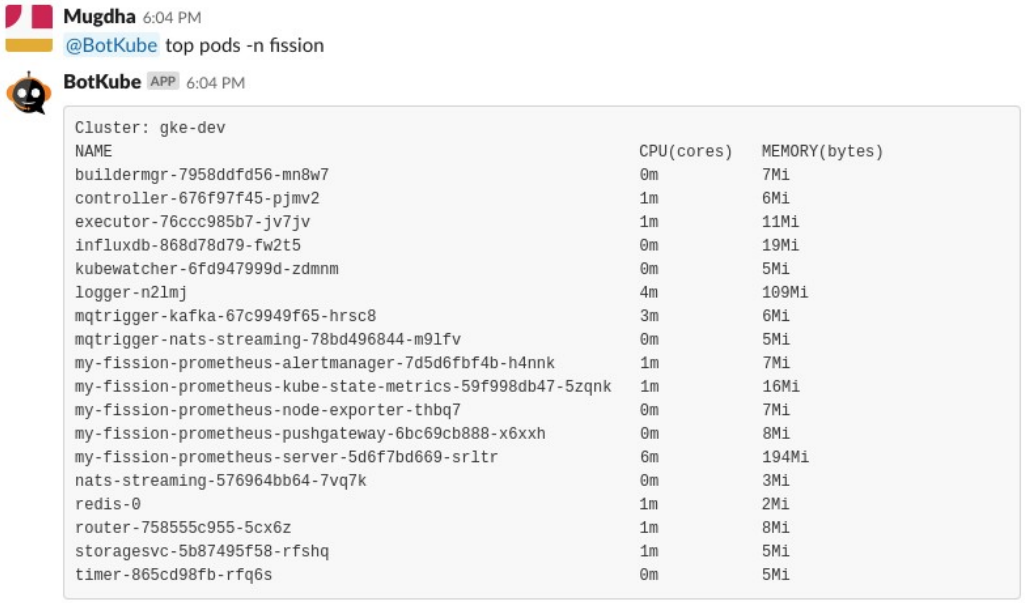
- A bot for Kubernetes clusters
- Monitoring & auditing tool
- Enables Collaboration



Kubectl at your fingertips

- Fire Kubectl commands to BotKube or in a channel

- Sub-commands and types exposed configurable too!



- Enable/Disable for a cluster

Various Targets

Bi-directional

Sink

- Slack, Elastic, MatterMost supported

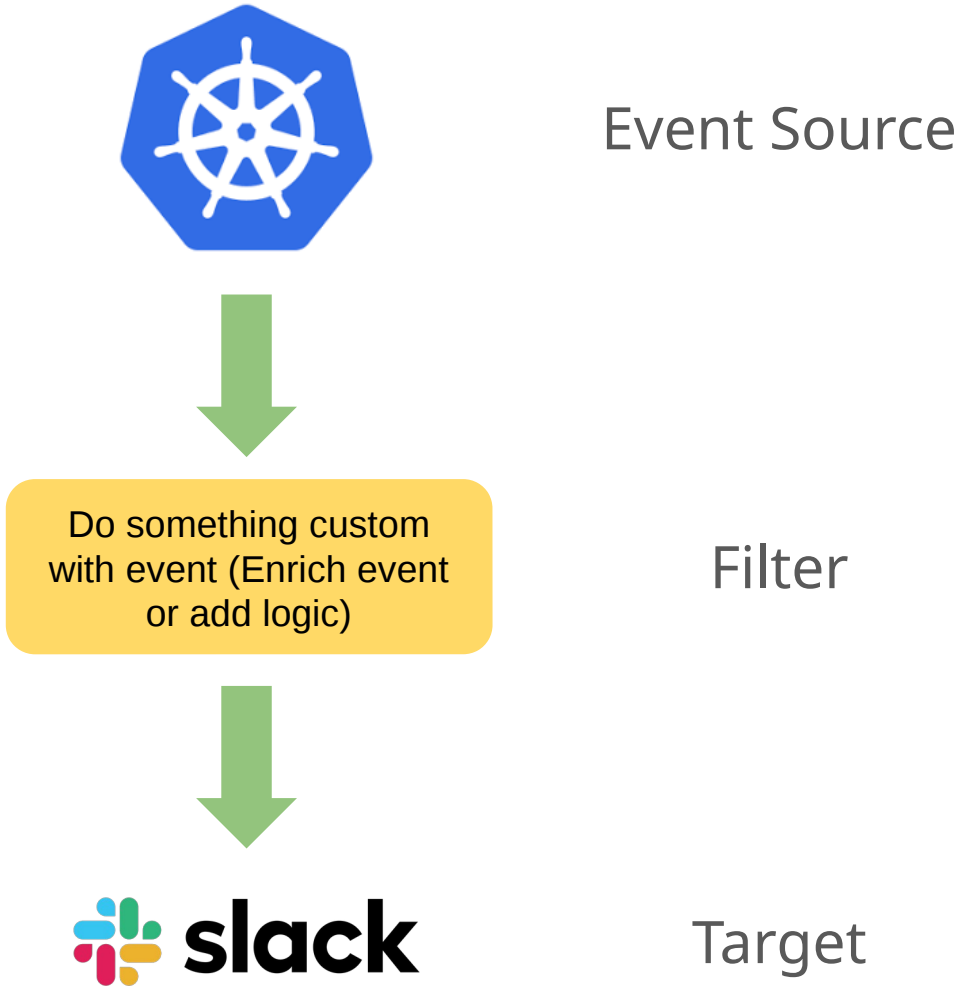
- Discord, Microsoft Teams and Telegram coming

Telegram

Give BotKube a spin - visit BotKube.io

Filters - like custom interceptors

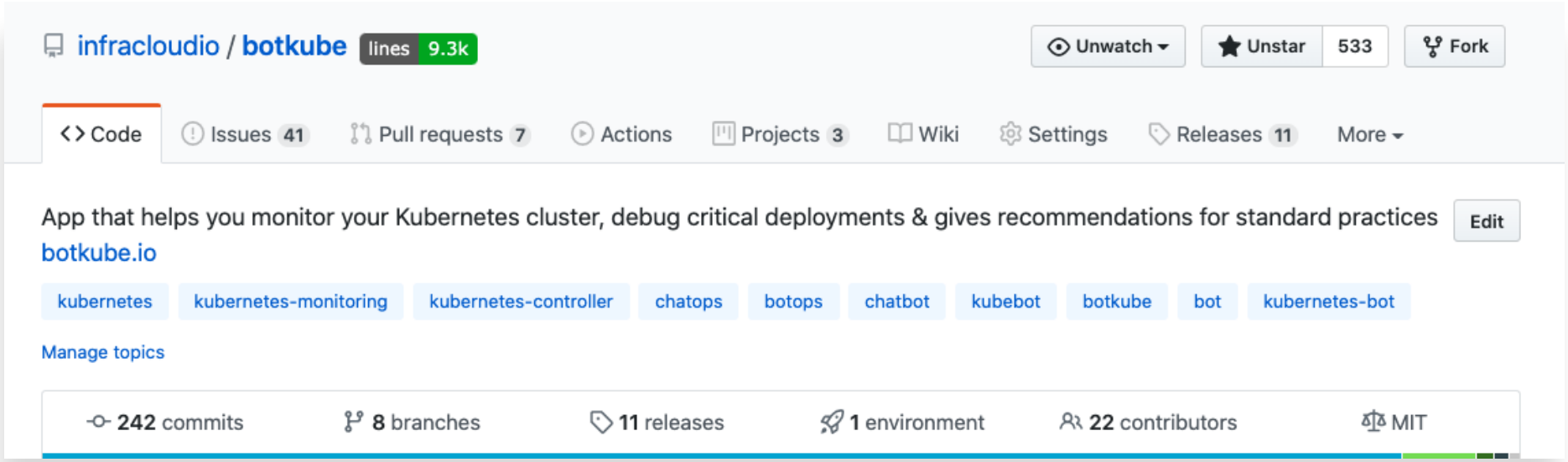
- Write “custom logic” for certain events
- An event can pass through multiple filters



BotKube on GitHub: Star & Show ❤

You can Star & show here

https://github.com/infracloudio/botkube



Let’s Talk about

Use Cases

Monitoring & Auditing events

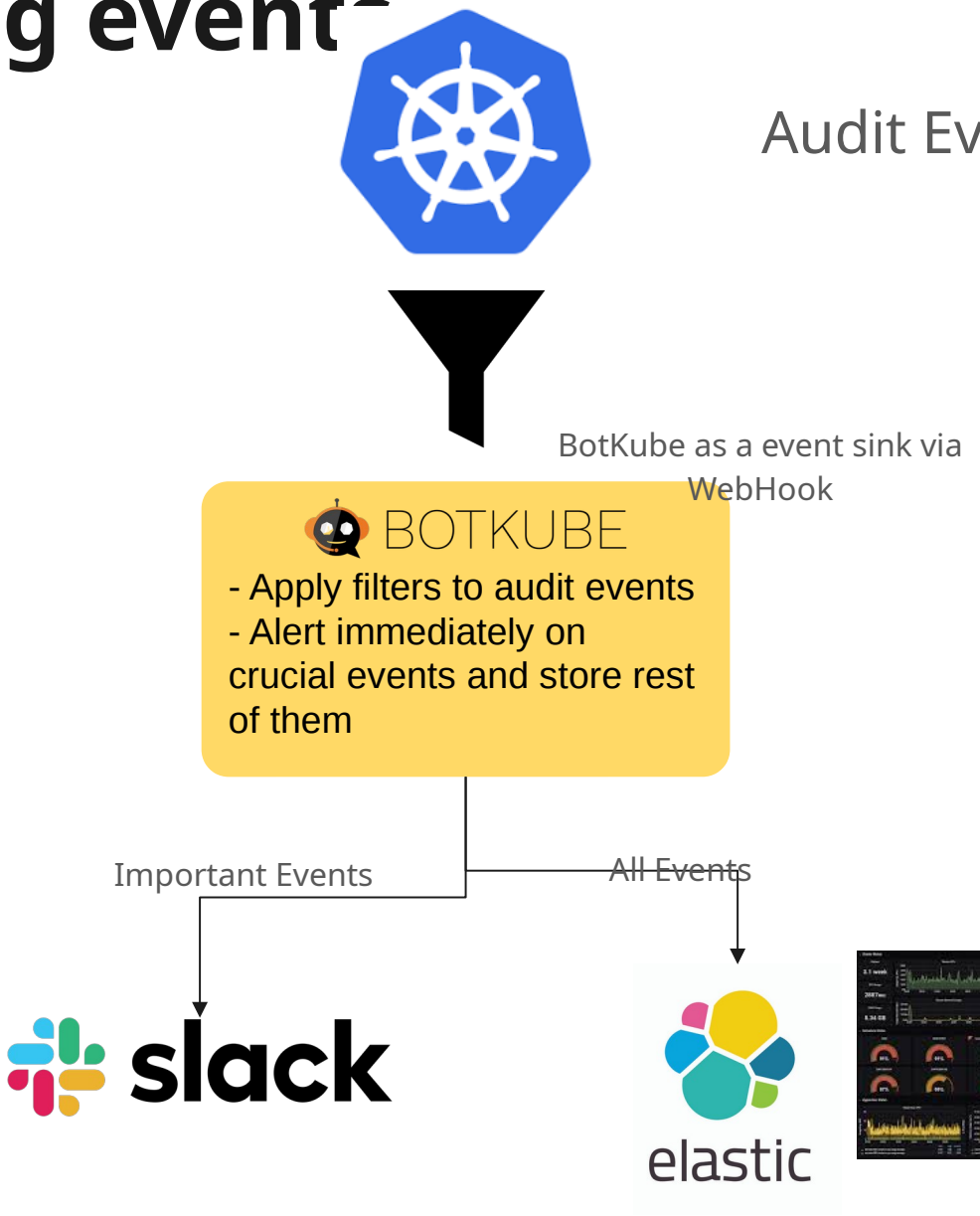
Configure Events for your needs

- Resource configuration.
- Resource & event level configuration
- Specific fields and diff
- Namespace level filtering

```
- name: pod
  namespaces:
    include:
      - dev
      - qa
      - default
    ignore:
      - kube-system
      - prod
  updateSetting:
    includeDiff: true
    fields:
      - spec.template.spec.containers[*].image
      - status.availableReplicas
  events:
    - all
```

Monitoring & Auditing event

- A bot for Kubernetes clusters
- Monitoring & auditing tool
- Enables Collaboration



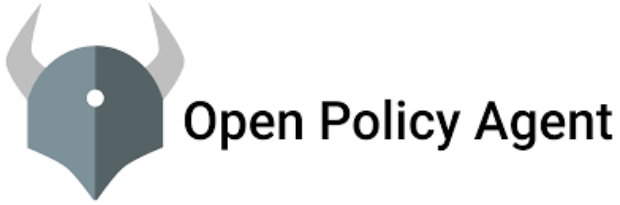
Audit Events 1/2

- A sample audit configuration
- Stages of audit event
- Sink targets

```yaml
auditWebhook:
  enabled: false
  replicaCount: 1
  stages:
    - ResponseComplete
    - ResponseStarted
  config:
    sink:
      elasticsearch:
        enable: false
        server: 'ELASTICSEARCH_ADDRESS'
        username: 'ELASTICSEARCH_USERNAME'
        password: 'ELASTICSEARCH_PASSWORD'
        # ELS index settings
        index:
          name: botkube-audit
          type: botkube-audit-event
          shards: 1
          replicas: 0
```

Audit Events: Notification 2/2

- Rego expression for condition



- Notification for events which match expression

```
20      notifier:
21        # If set true, BotKube sends audit event notification via communication mediums
22        enabled: false
23        # Set rules to filter Kubernetes audit events
24        rules:
25        - name: Security Alert
26          description: Somebody tried to exec into a Pod
27          # Filter audit events based on conditions
28          # Use OPA Rego syntax to write conditions
29          condition: input.objectRef.resource == "pods"; input.objectRef.subresource == "exec"; input.stage ==
            "ResponseStarted"
30          # One of the critical, error, warn, info, or debug
31          priority: critical
```

Incident Management

Incident Management

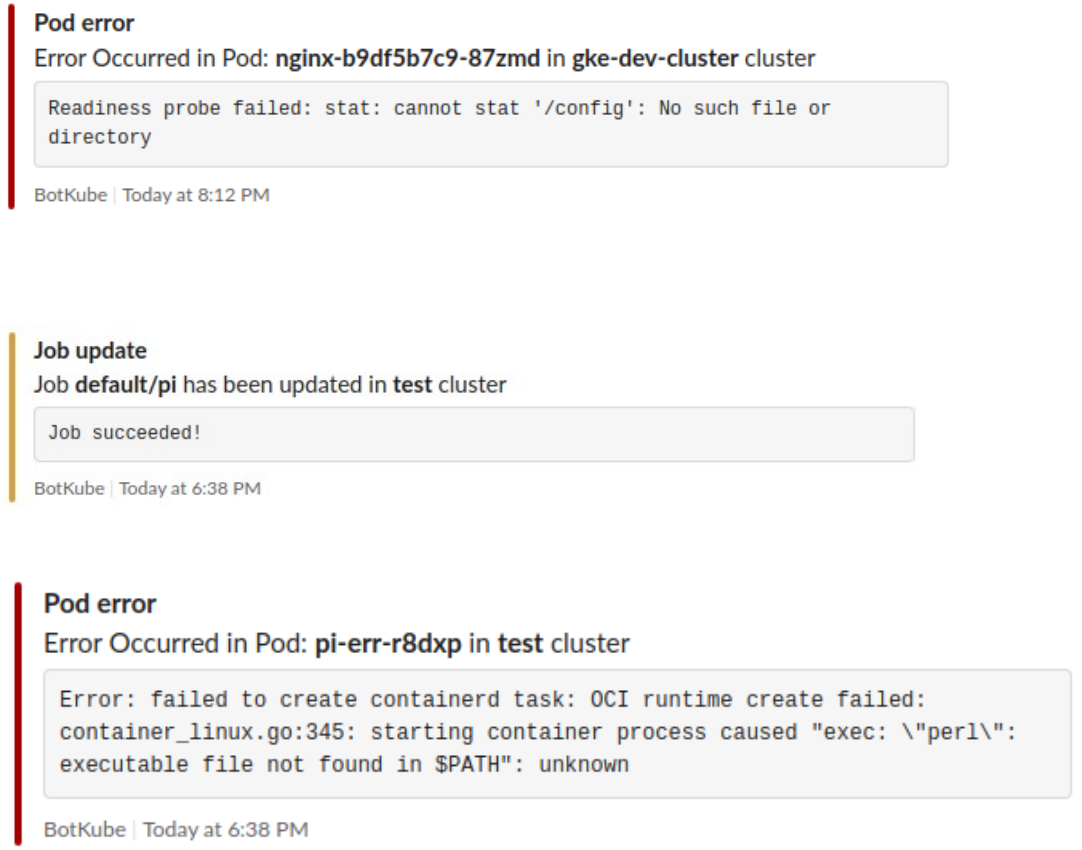
- Build workflows with Slack Workflow
- Integrate with other Incident Management systems such as PagerDuty, VictorOps
- During incident - use Kubectl to debug collaboratively!

Give BotKube a spin - visit BotKube.io

Debugging & Monitoring Applications

Debugging Applications

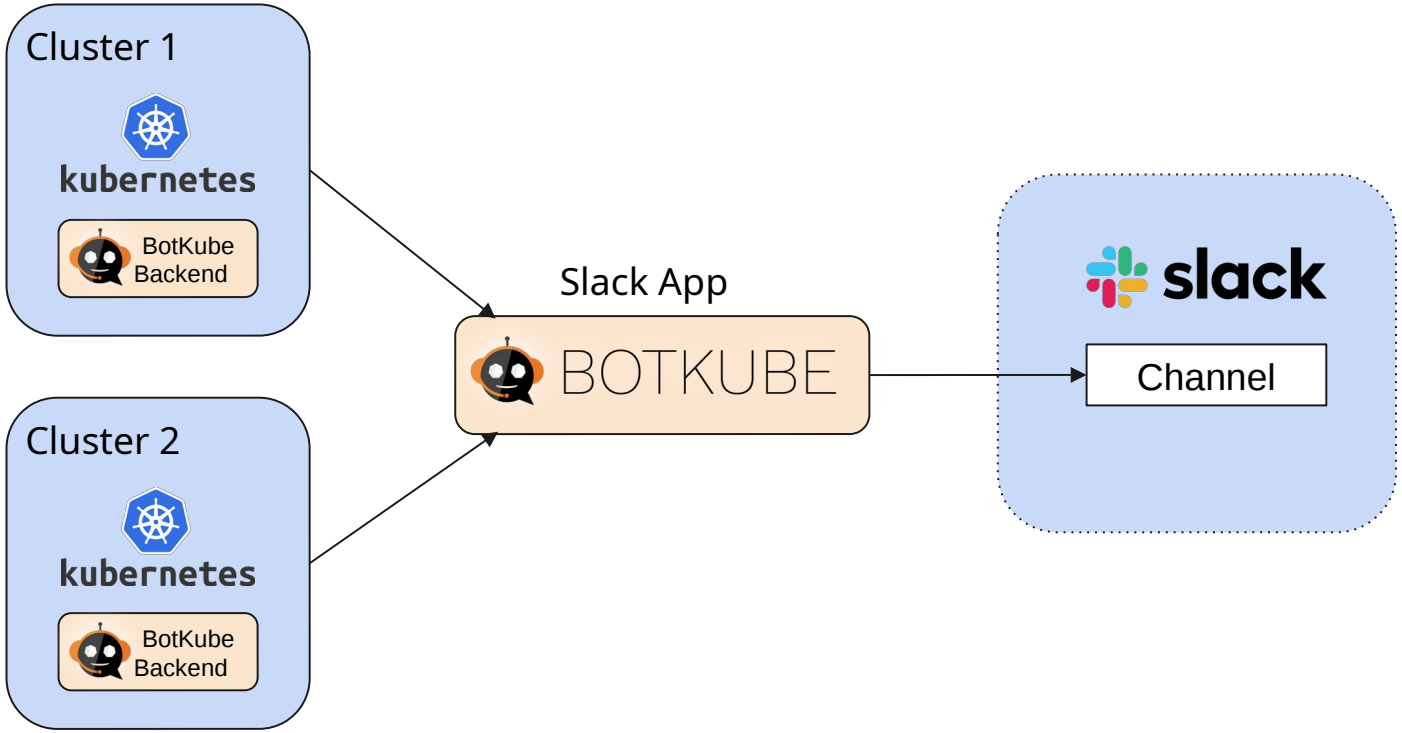
- Debugging pending pods
- Debugging an unreachable pod
- Debug Running pods
- Debug Services
- Debugging nodes



Collaborative debugging

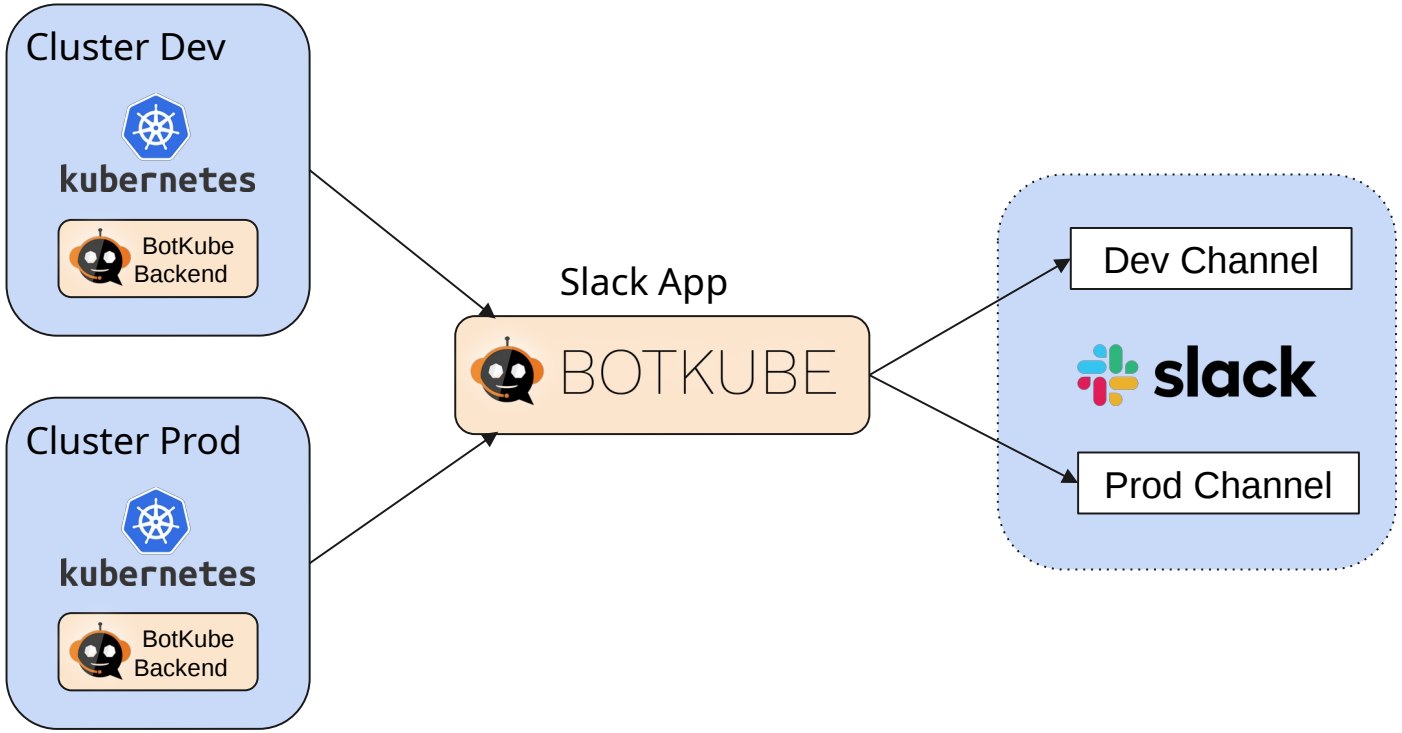
Collaborative Debugging

- Accessing multiple clusters & namespaces



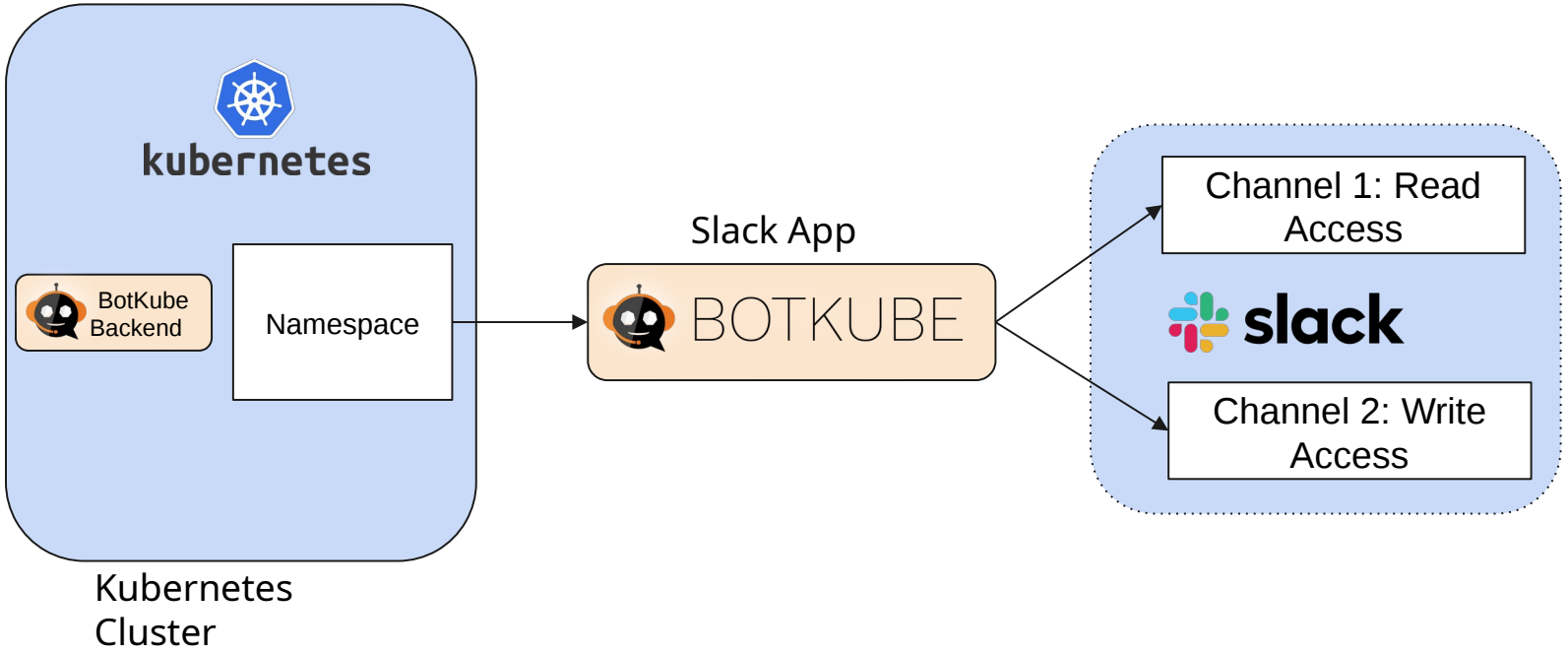
Collaborative Debugging

- Mapping Cluster <> Channels as per need



Collaborative Debugging

- Team specific permissions



“Chatting” with cluster

What’s coming next in BotKube?

- Integration with incident management systems
- More chat backends: MS Teams, Telegram, Discord, Gitter
- Kubectl Aliases
- Support for custom resources
- More build in filters - like kubescan
- Profiles support for various needs

Resources

botkube.io

https://github.com/infracloudio/botkube

join.botkube.io

Open House & Thank you!

INFRACLOUD

धन्यवाद!

Dank je!

Kiitos!

આભાર!

धन्यवाद!

Grazie!

Je vous remercie!

ありがとうございました！

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நன்றி!

ధన్యవాదాలు!

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THANK YOU!

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