Strimzi auto-rebalancing on cluster scaling

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Manual rebalance on scaling

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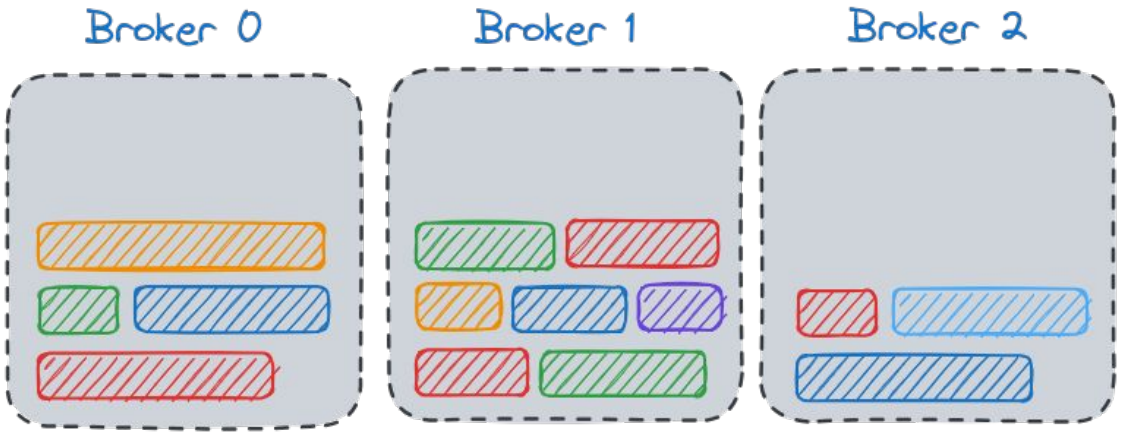
Scaling up

- Add one or more brokers to the current Apache Kafka cluster but ...
  - ... they will be just empty
  - ... they will be used only for newly created topics' partitions
- Need for a manual rebalancing to run after the scaling
  - create a `KafkaRebalance` custom resource with `add-brokers` mode

Strimzi auto-rebalancing on cluster scaling



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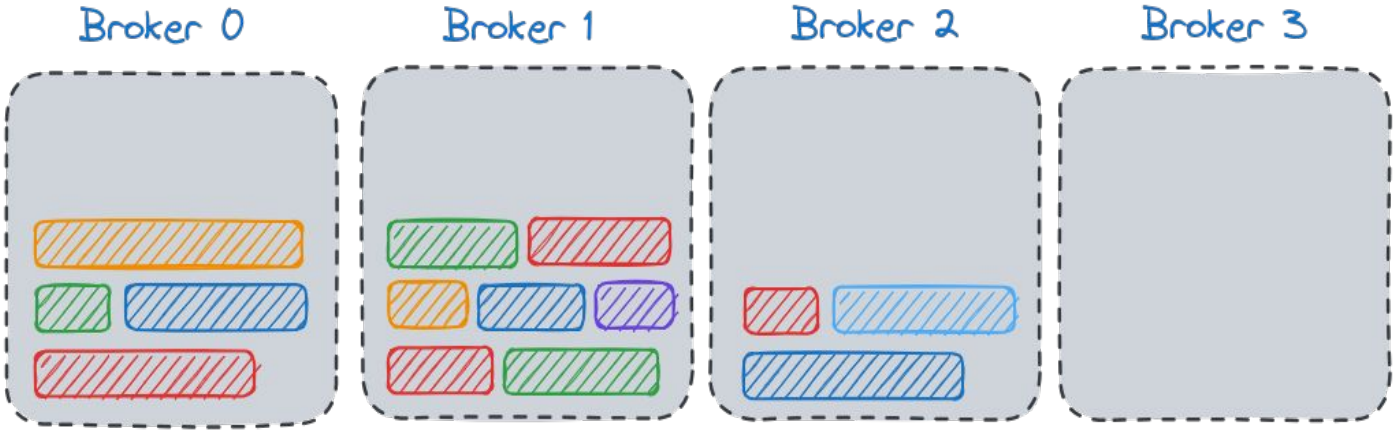
Strimzi auto-rebalancing on cluster scaling



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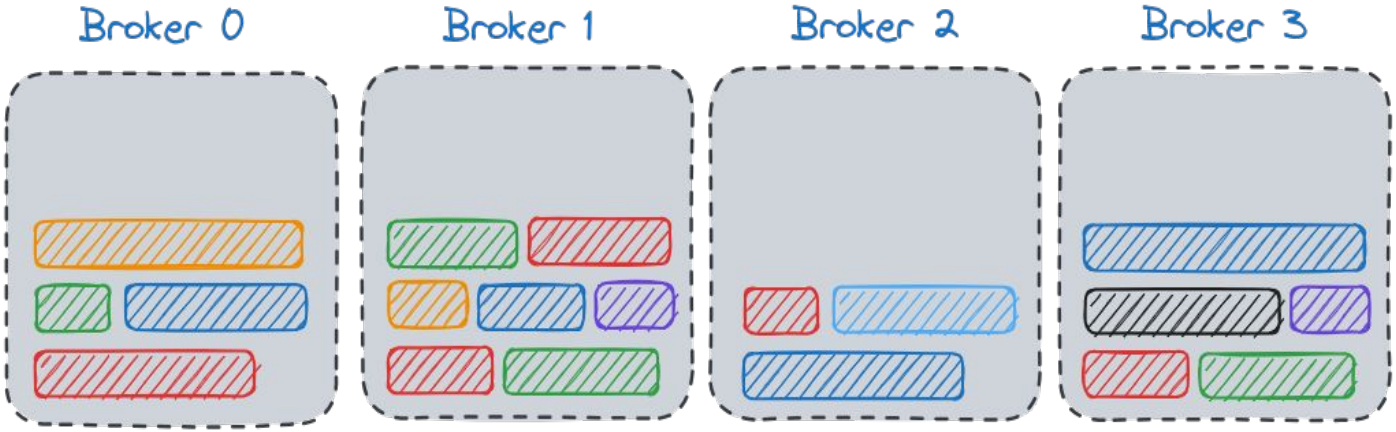
Scaling down

- Try to remove one or more brokers but ...
  - ... they are hosting topics' partitions which needs to be moved
- Need for a manual rebalancing to run before scaling down
  - create a `KafkaRebalance` custom resource with `remove-brokers` mode
- Finally remove the empty broker(s)

Strimzi auto-rebalancing on cluster scaling



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Auto rebalance on scaling

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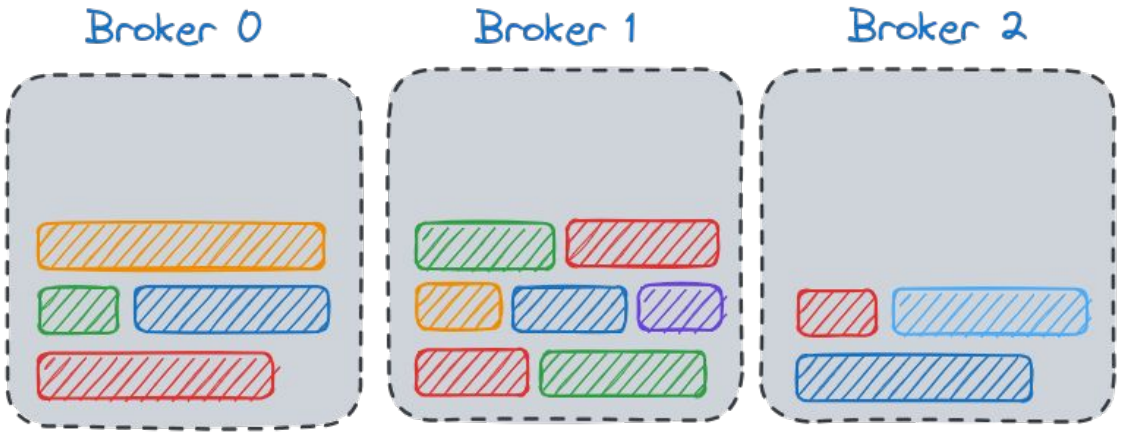
Scaling up

- Scale up the cluster ...
  - ... already existing topics' partitions are move to the newly added brokers automatically

Strimzi auto-rebalancing on cluster scaling



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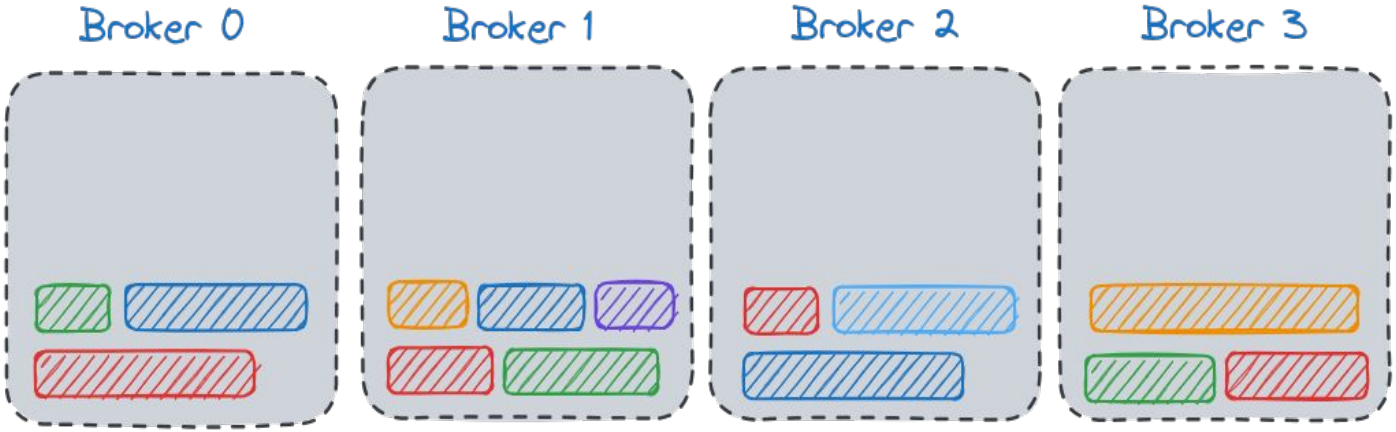

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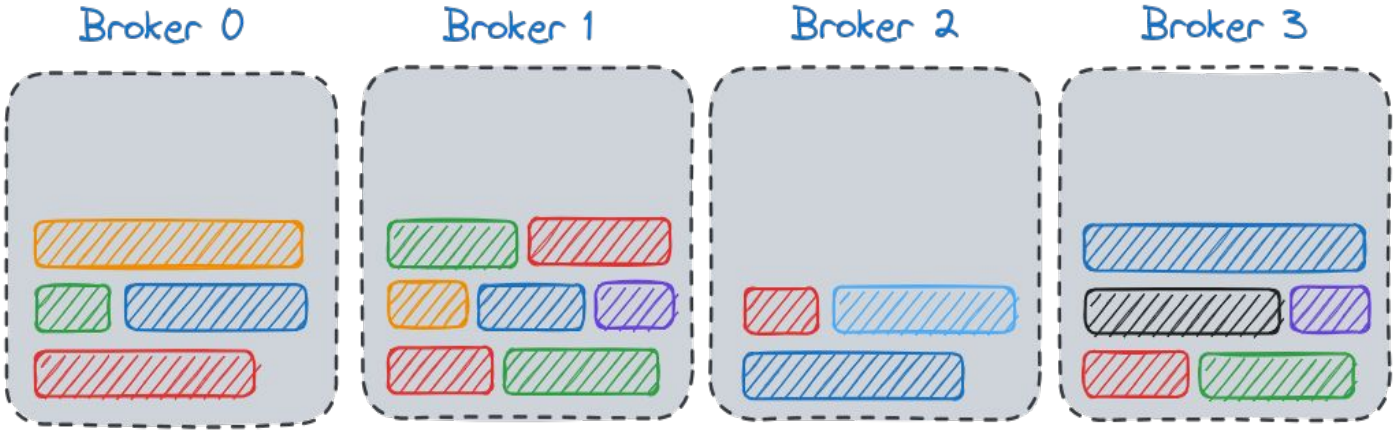
Scaling down

- Before scaling down …
  - … topic's partitions are moved off the brokers to be removed
- Finally the brokers are removed

Strimzi auto-rebalancing on cluster scaling



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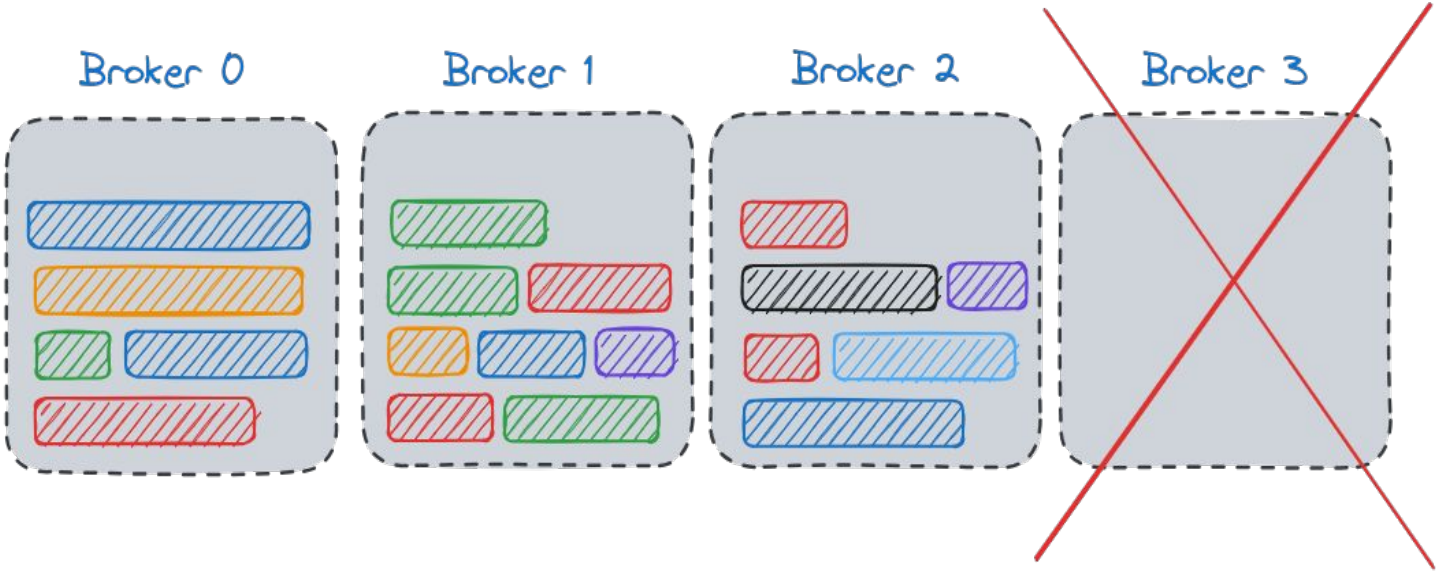
Strimzi auto-rebalancing on cluster scaling



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Auto-rebalancing

- Configurable within the `Kafka` custom resource
- Using `KafkaRebalance` templates to describe the goals for auto-rebalancing

```
cruiseControl:
    autoRebalance:
      - mode: add-brokers
        template:
          name: my-add-brokers-rebalancing-template
      - mode: remove-brokers
        template:
          name: my-remove-brokers-rebalancing-template
```


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Thank you

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