App Connect and Knative

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ingress

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Knative

helps to take the toil out of deployment

App Connect

helps to avoid specialist knowledge in the integration layer

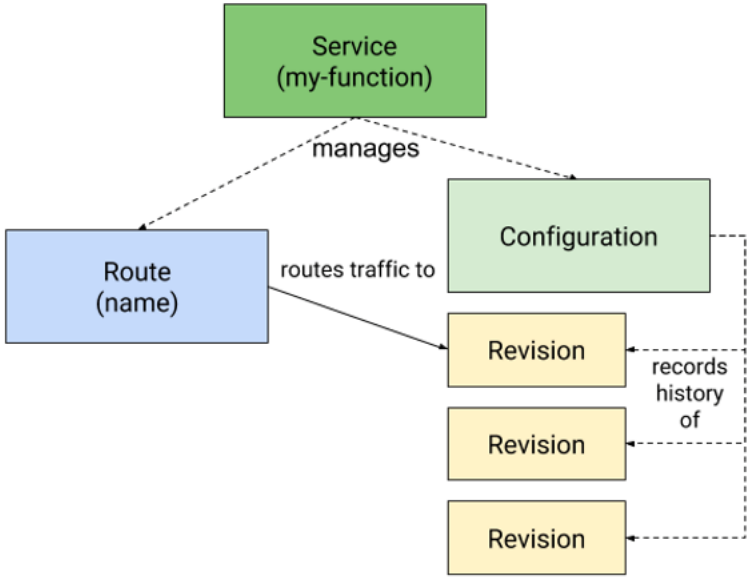
Knative Basics

Demo

What Just Happened?

Developer Declares a Service

Knative Operator creates
- Route
- Configuration
- Revision



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Explanation of terms

Service

The primary resource that the developer interacts with. Declaration of the code and config needed to run the app.

Route

Externally addressable endpoint. Provides configuration to the ingress gateway for routing inbound traffic.

Configuration

Specification of runtime Kubernetes resources (pods) required to run the app.

Revision

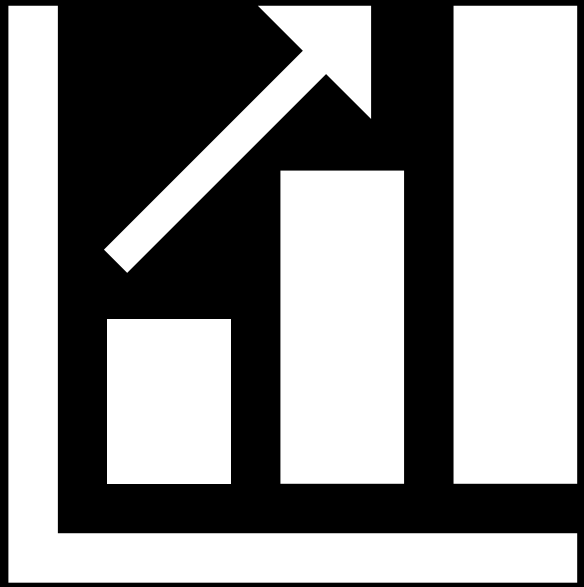
Snapshot of a configuration. Allows rollback, canary testing etc…

Demo

What Just Happened?

Concurrency Levels increase

Knative activator scales the pod



What Just Happened?

Concurrency Levels increase

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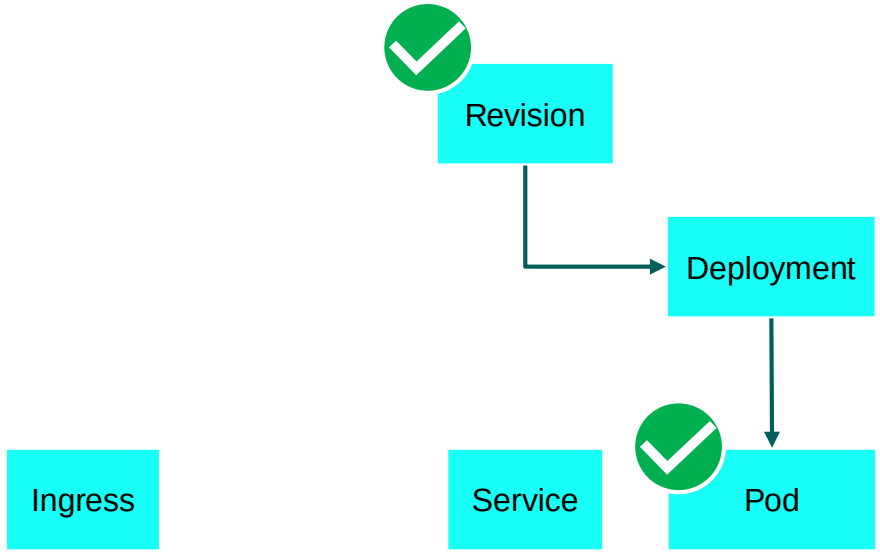


Revision is marked as ready once it has created a deployment with a single pod and that pod is ready

What Just Happened?

Concurrency Levels increase

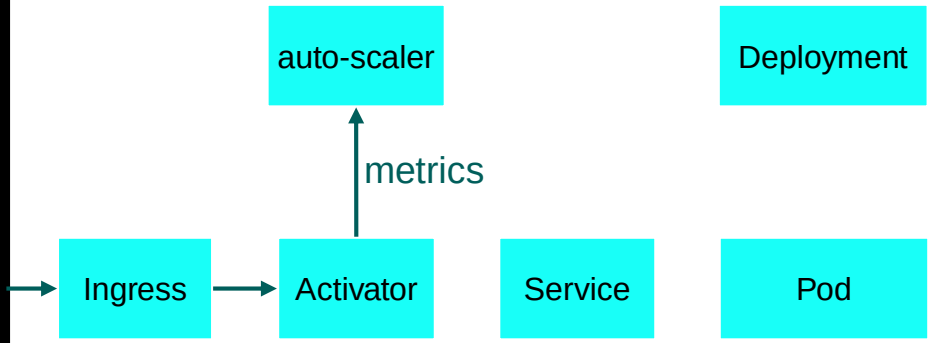
Knative activator scales the pod

Ingress Gateway forwards traffic, for all routes, to the Activator in the knative-serving namespace

What Just Happened?

Concurrency Levels increase

Knative activator scales the pod



Activator buffers the request if there are no revisions ready and also sends metrics to the auto-scaler

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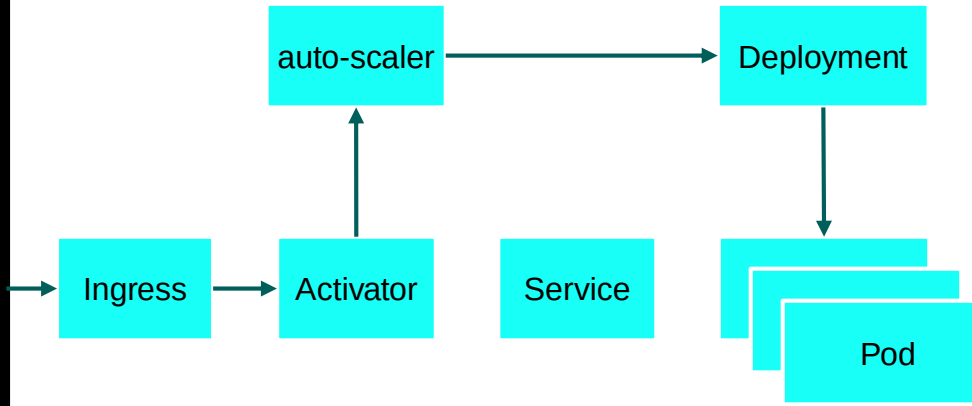
What Just Happened?

Concurrency Levels increase

Knative activator scales the pod



Based on the metrics, auto-scaler will configure the number of replicas on the Deployment. Deployment then creates Pods

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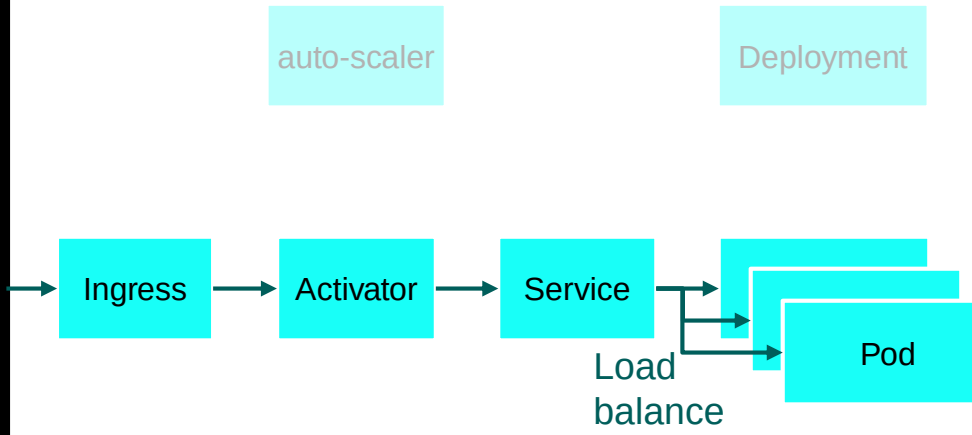
What Just Happened?

Concurrency Levels increase

Knative activator scales the pod



Activator forwards the traffic to the Service that then load balances to the pods

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Demo

What Just Happened?

Service is idle for 2 minutes

Pod scales to zero

App Connect on Knative

Demo

Making App Connect Fit

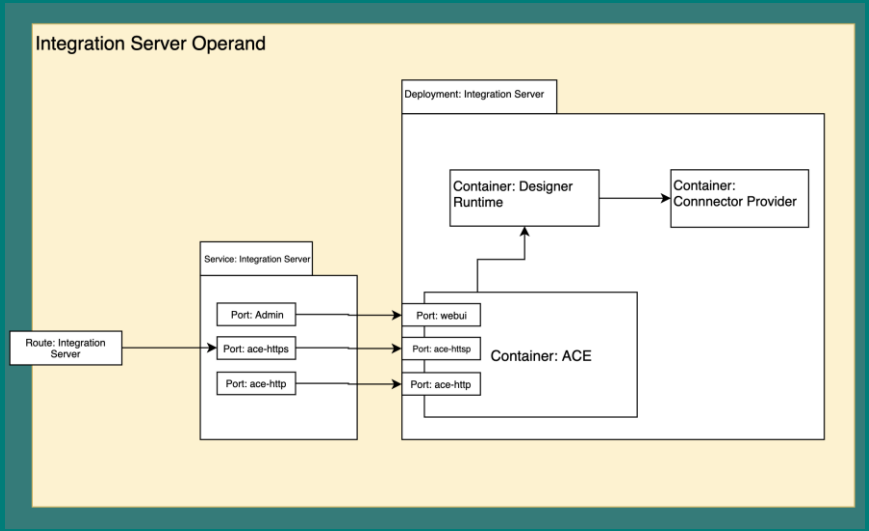
Knative only supports single container pods

Knative only supports a single port

Readiness and Liveness

Scale to nearly zero

HTTP(S) inbound only



Try it yourself

https://github.com/ot4i/knapp-connect

Instructions, sample code, discussion

Watch this space

Thank you

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