TELEPRESENCE

SEAMLESS DEVELOPMENT ENVIRONMENTS IN KUBERNETES

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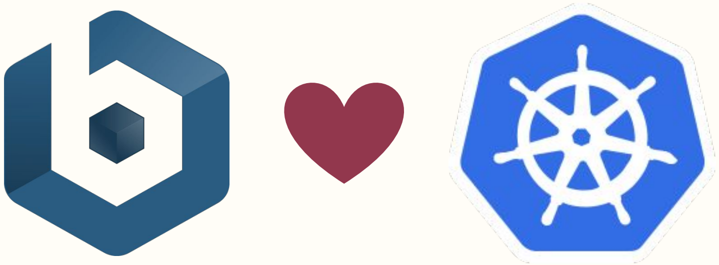
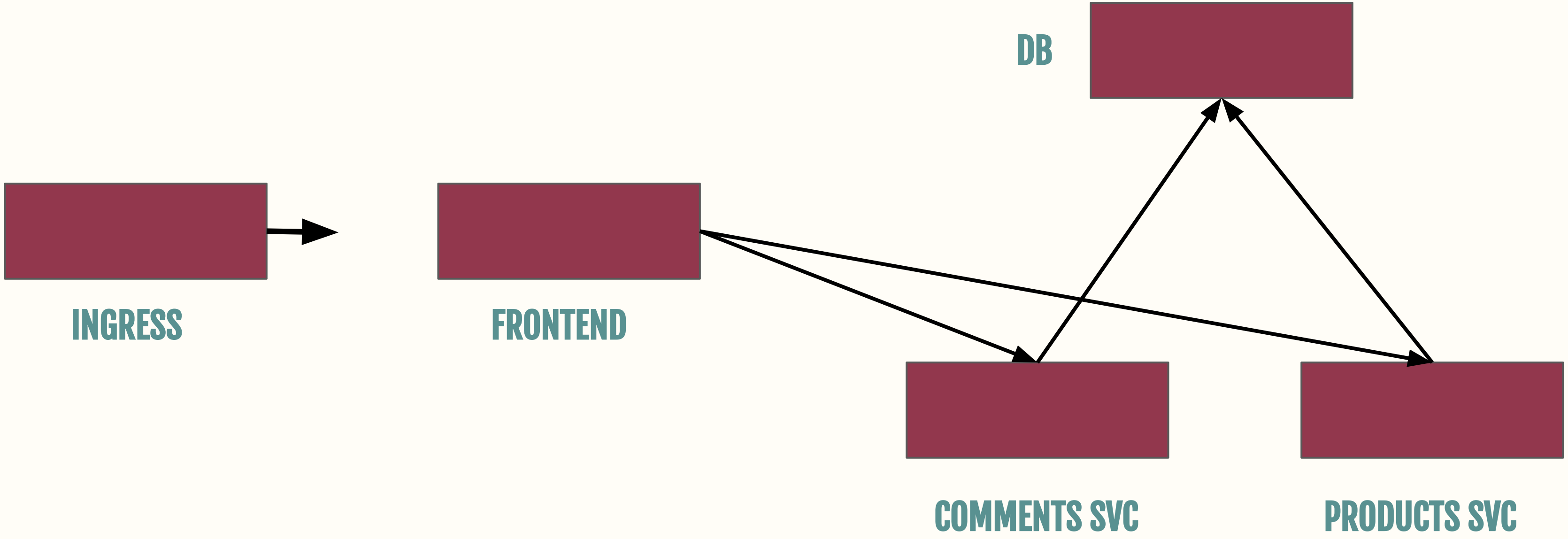


- LEADER IN APPLICATION PACKAGING
- KUBERNETES CERTIFIED SERVICE PROVIDER
- CO-DEVELOP WITH MSFT, DEIS, HEPTIO
- MAINTAINING MANY OFFICIAL HELM CHARTS

KUBERNETES IS A GREAT PRODUCTION ENVIRONMENT,

but what about dev?

EXAMPLE APPLICATION



DB

INGRESS

FRONTEND

COMMENTS SVC

PRODUCTS SVC

DEVELOPING WITH DOCKER COMPOSE

```
services:
  ui:
    tty: true
    build: ./docker
    ports:
      - 4200:4200
    volumes:
      - .:/app
    command: "ng serve"
  api:
    tty: true
    image: bitnami/monocular-api:latest
    volumes:
      - ./config.yaml:/config/monocular.yaml
    environment:
      - ENVIRONMENT=development
      - MONOCULAR_AUTH_SIGNING_KEY=secret
```

```
  ratesvc:
    image: kubeapps/ratesvc:latest
    environment:
    - JWT_KEY=secret
    command:
    - /ratesvc
    - --mongo-url=mongodb://root@mongodb
    - --mongo-database=ratesvc
  mongodb:
    image: bitnami/mongodb:3
    environment:
      - MONGODB_ROOT_PASSWORD=password123
  auth:
    image: kubeapps/oauth2-bitnami:latest
    ...
volumes:
  monocular-data:
```

OTHER THINGS WE NEED

- INGRESS
- JOBS / CRONJOBS
- INIT CONTAINERS
- MOUNT KUBECONFIG FOR EXTENSIONS

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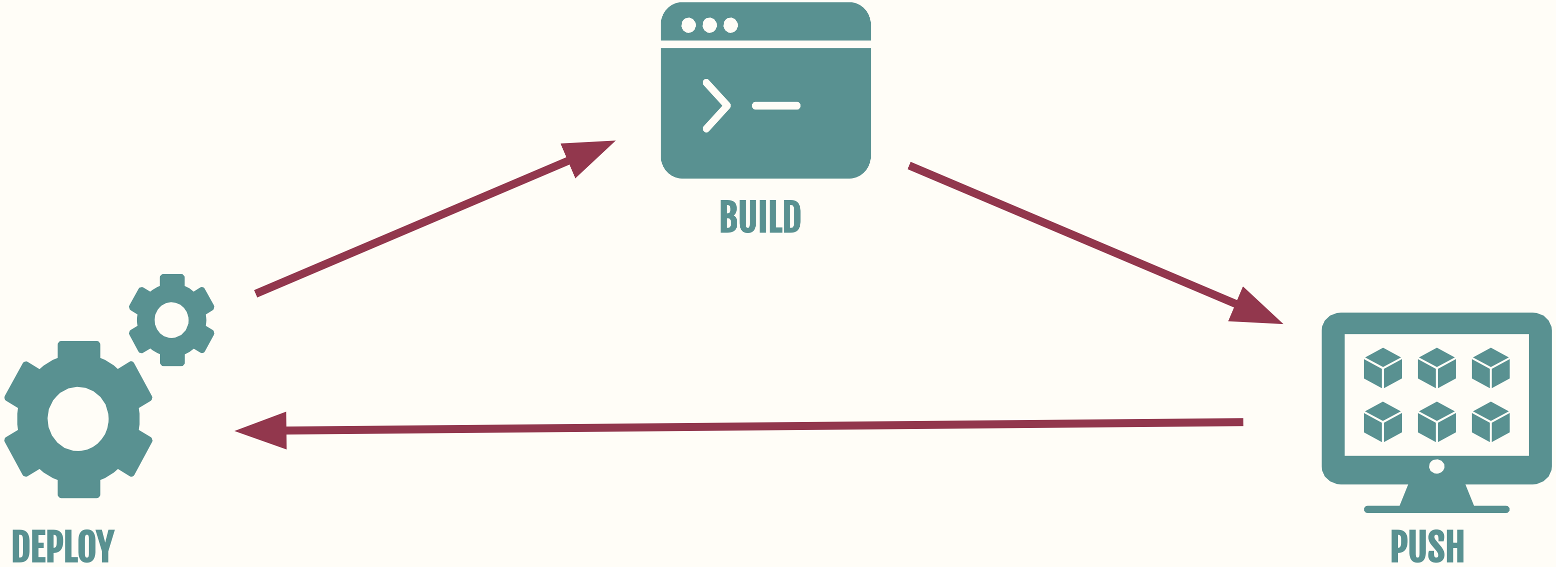
DEVELOPMENT CYCLE



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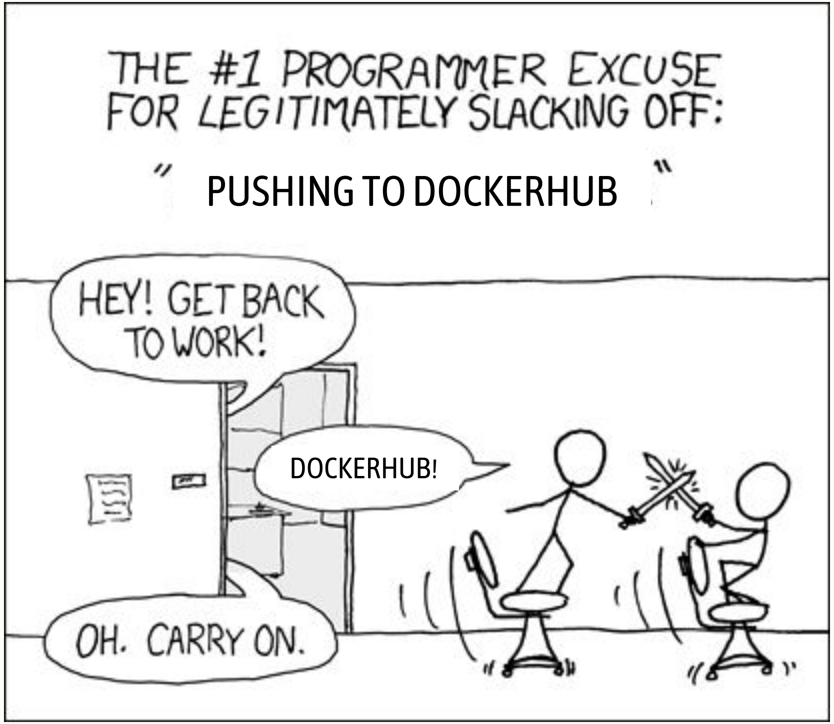
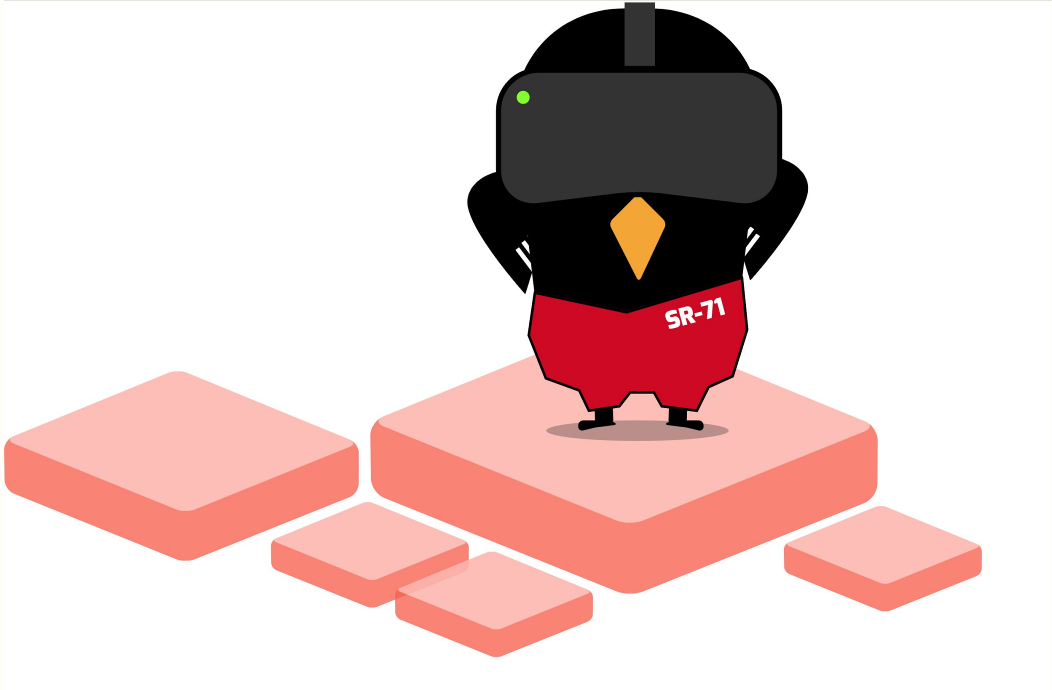

THE #1 PROGRAMMER EXCUSE FOR LEGITIMATELY SLACKING OFF:
" PUSHING TO DOCKERHUB "
HEY! GET BACK TO WORK!
DOCKERHUB!
OH. CARRY ON.

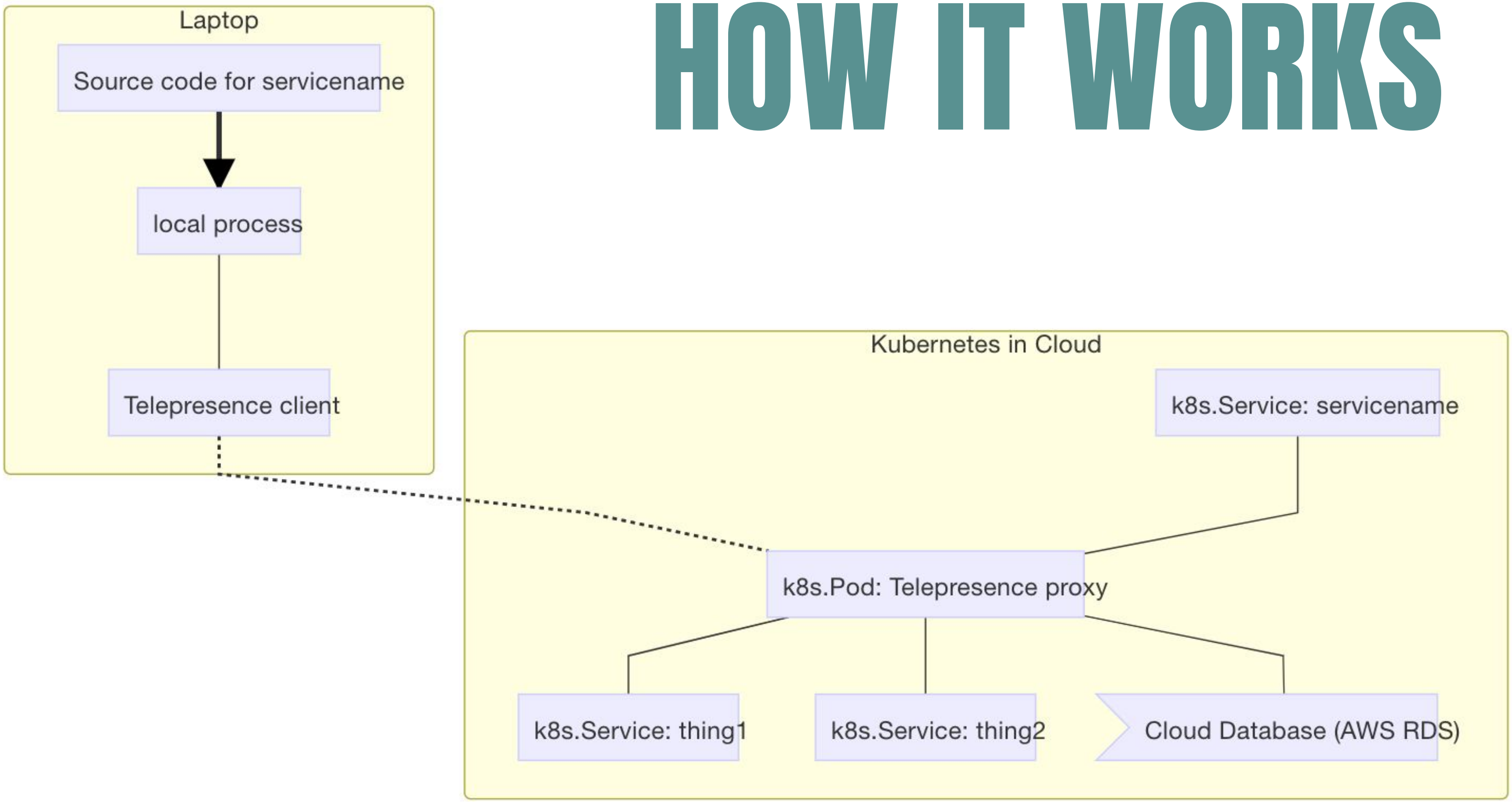


TELEPRESENCE

(telepresence.io)

BY DATAWIRE

HOW IT WORKS


Laptop
Source code for servicename
local process
Telepresence client
Kubernetes in Cloud
k8s.Service: servicename
k8s.Pod: Telepresence proxy
k8s.Service: thing1
k8s.Service: thing2
Cloud Database (AWS RDS)

YOU GET SERVICE DISCOVERY, VOLUMES AND THE SAME ENVIRONMENT…

… FROM YOUR LOCAL MACHINE

PROXYING METHODS

VPN

- ❏ WORKS BEST WITH GO
- ❏ DOESN'T WORK WITH OTHER VPNS

INJECT-TCP

- ❏ INJECTS A SHARED LIBRARY INTO THE PROCESS
- ❏ DOESN'T WORK WITH STATICALLY LINKED

DOCKER

- ❏ ALLOWS TO DO DOCKER-RUN
- ❏ USES DOCKER NETWORKING
- ❏ IDEAL FOR A CONTAINER-NATIVE DEVELOPMENT

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DEMO

ROADMAP

ROBUSTNESS & SPEED

- ❏ RECONNECT
- ❏ BETTER CLEANUP ON EXIT
- ❏ STARTUP SPEED
- ❏ RBAC
- ❏ REMOVE INJECT-TCP

FUTURE

- ❏ TRAFFIC SHADOWING
- ❏ SIMPLER UX
- ❏ IDE INTEGRATIONS
- ❏ ISTIO SUPPORT

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THANK YOU

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