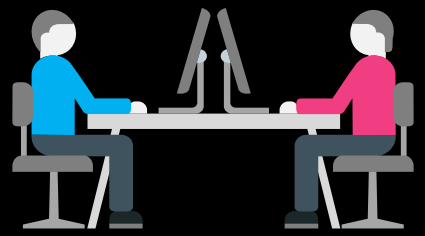
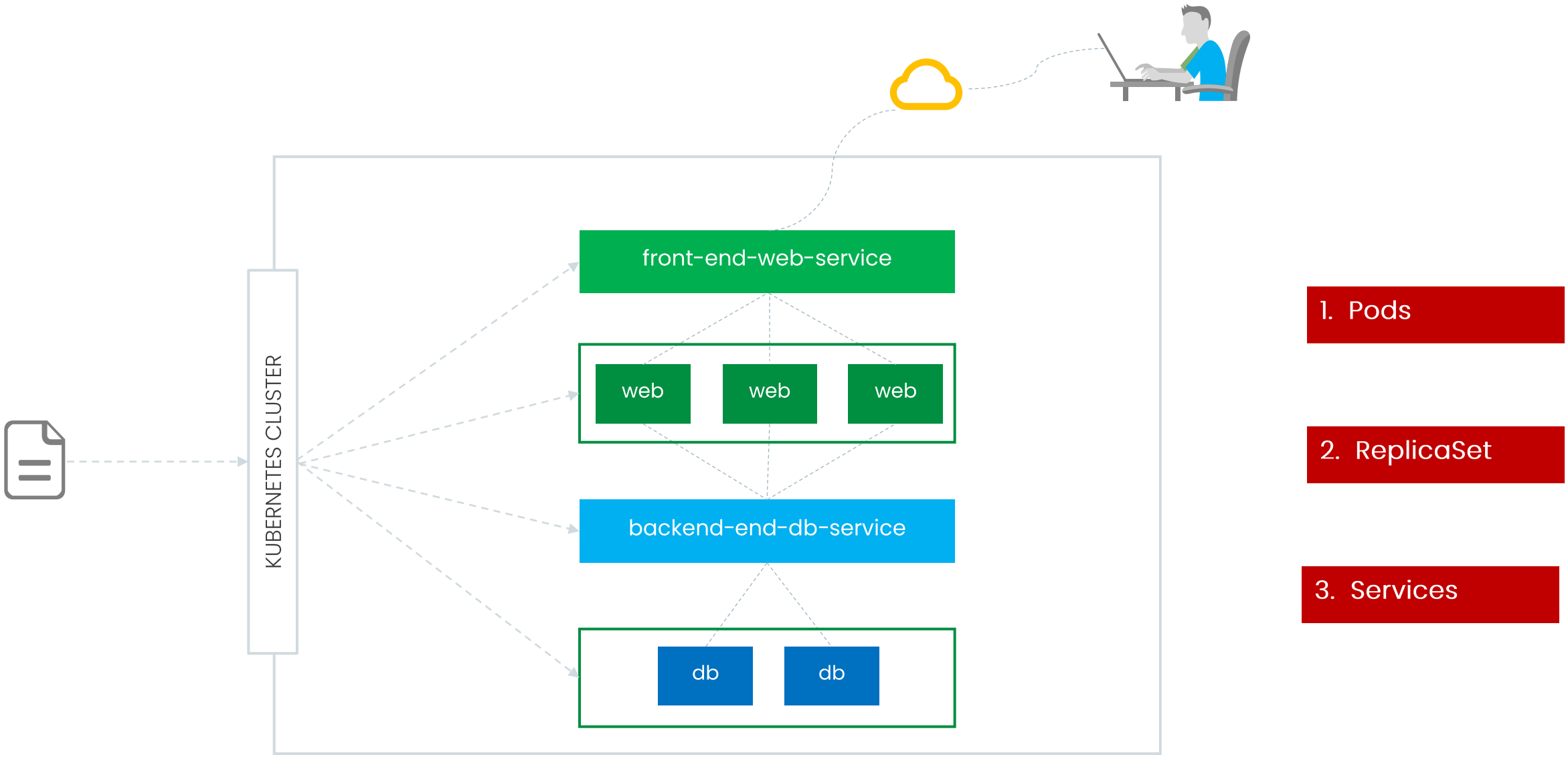
Troubleshooting
Application




front-end-web-service
web
web
web
backend-end-db-service
db
db
KUBERNETES CLUSTER
1. Pods
2. ReplicaSet
3. Services

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TROUBLESHOOTING – **PODS**

```
# kubectl get pods
```

```
NAME          READY   STATUS    RESTARTS   AGE
nginx-pod     1/1     Running   0          15d
redis-pod     1/1     Running   0          15d
```

```
# kubectl describe pods [POD_NAME]
```

```
Name:         nginx-pod
Namespace:    default
...
Status:       Running
...
Containers:
  busybox:
    ...
    Image:          busybox:1.28.4
    ...
    State:          Running
      Started:      Sat, 02 Nov 2019 11:03:27 +0000
...
Events:
  . . .
```

1. Pending

REASON: Not Enough Resources?

SOL-1: Delete Pods**

SOL-2: Add new nodes

2. Waiting

Incorrect Image Name?

Does Image Exists in Repo?

Run manual `Docker pull <image>` on worker node

3. Crashback or Unhealthy

```
# kubectl logs ${POD_NAME}
```

```
# kubectl logs ${POD_NAME} ${CONTAINER_NAME}
```

```
# kubectl logs --previous ${POD_NAME}
```

```
# kubectl exec ${POD_NAME} -- ${CMD} ${ARG1} …
```

4. Running, but not doing is expected to do

```
# kubectl apply --validate -f mypod.yaml
```

TROUBLESHOOTING – **REPLICASET**

```
# kubectl describe rs [REPLICASET_NAME]
```

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TROUBLESHOOTING – **SERVICES**

```
# cat nginx-deploy.yaml
```

```
apiVersion: apps/v1
kind: Deployment
metadata:
  name: nginx
  namespace: default
spec:
  replicas: 1
  selector:
    matchLabels:
      run: nginx
  template:
    metadata:
      labels:
        name: nginx
    spec:
      containers:
      - image: nginx
        name: nginx
```

```
# kubectl describe service [SERVICE_NAME]
```

```
Name:                     nginx
Namespace:                default
Labels:                   run=nginx
Annotations:              <none>
Selector:                 name=nginx
Type:                     NodePort
IP:                       10.101.252.174
Port:                     <unset>  80/TCP
TargetPort:               80/TCP
NodePort:                 <unset>  30715/TCP
Endpoints:                10.244.2.20:80
Session Affinity:         None
External Traffic Policy:  Cluster
Events:                   <none>
```

```
kubectl get endpoints [SERVICE_NAME]
```

```
kubectl get pods --selector=run=nginx
```

https://kubernetes.io/docs/tasks/debug-application-cluster/debug-service/

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