TP – Gérer ses déploiements

Création d'un déploiement

On ouvre le manifest web.yaml et on personnalise sn déploiement

```
ludo@kubernetes:$ cd k8s/web

ludo@kubernetes:$ vim web.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    app: web
  name: nginx-deploy
  namespace: ludo
spec:
  replicas: 4
  selector:
    matchLabels:
      app: web
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
      - image: nginx:1.20
        name: nginx
```

On applique notre manifeste

```
ludo@kubernetes:$ cd k8s/web

ludo@kubernetes:$ kubectl apply -f web.yaml
deployment.apps/nginx-deploy created
```
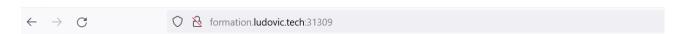
On liste les ressources

```
ludo@kubernetes:$ kubectl get all
NAME                              READY   STATUS    RESTARTS   AGE
pod/nginx-deploy-57cdb76c5-h7brc  1/1     Running   0          39s
pod/nginx-deploy-57cdb76c5-vfc74  1/1     Running   0          39s

NAME                           READY   UP-TO-DATE   AVAILABLE   AGE
deployment.apps/nginx-deploy   2/2     2            2           39s
```

```
NAME                                    DESIRED   CURRENT   READY   AGE
replicaset.apps/nginx-deploy-57cdb76c5   2         2         2       39s

ludo@kubernetes:$ kubectl get all -o wide
NAME                               READY   STATUS    RESTARTS   AGE   IP
NODE        NOMINATED NODE    READINESS GATES
pod/nginx-deploy-57cdb76c5-h7brc   1/1     Running   0          11s
192.168.196.110   worker04    <none>            <none>
pod/nginx-deploy-57cdb76c5-vfc74   1/1     Running   0          11s
192.168.99.140    worker05    <none>            <none>

NAME                           READY   UP-TO-DATE   AVAILABLE   AGE
CONTAINERS   IMAGES       SELECTOR
deployment.apps/nginx-deploy   2/2     2            2           11s   nginx
nginx:1.10   app=web

NAME                                    DESIRED   CURRENT   READY   AGE
CONTAINERS   IMAGES       SELECTOR
replicaset.apps/nginx-deploy-57cdb76c5   2         2         2       11s
nginx        nginx:1.10   app=web,
```

On expose son application

```
ludo@kubernetes:$ kubectl apply -f service-web.yaml
service/web-service created

ludo@kubernetes:$ kubectl get service
NAME              TYPE       CLUSTER-IP      EXTERNAL-IP   PORT(S)
AGE
service/web-service   NodePort   10.104.13.130   <none>        80:31309/TCP
59s
```

On teste

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and
working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

ON SUPPRIME TOUT

Gestion des mises a jours – Strategie Recreate

On ouvre le manifest web.yaml et on personnalise sn déploiement

```
ludo@kubernetes:$ cd k8s/web

ludo@kubernetes:$ vim web-recreate.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    app: web
  annotations:
    kubernetes.io/change-cause: "Version 1.10"
  name: nginx-deploy
  namespace: ludo
spec:
  replicas: 2
  selector:
    matchLabels:
      app: web
  strategy:
    type: recreate
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
      - image: nginx:1.10
        name: nginx
```

On applique le manifeste

```
ludo@kubernetes:$ kubectl apply -f web-recreate.yaml

ludo@kubernetes:$ kubectl get all
NAME                              READY    STATUS     RESTARTS    AGE
pod/nginx-deploy-57cdb76c5-94vkm  1/1      Running    0           4s
pod/nginx-deploy-57cdb76c5-jp6rl  1/1      Running    0           4s


NAME                         READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/nginx-deploy 2/2      2             2            4s


NAME                                       DESIRED    CURRENT    READY    AGE
replicaset.apps/nginx-deploy-57cdb76c5     2          2          2        4s
```

On réalise une mise à jour

```
ludo@kubernetes:$ vim web-recreate.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  labels:
    app: web
  annotations:
    kubernetes.io/change-cause: "Update 1.10 to 14"
  name: nginx-deploy
  namespace: ludo
spec:
  replicas: 2
  selector:
    matchLabels:
      app: web
  strategy:
    type: recreate
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
      - image: nginx:1.14
        name: nginx
```

```
ludo@kubernetes:$ kubectl apply -f web-recreate.yaml
deployment.apps/nginx-deploy configured

ludo@kubernetes:$ kubectl get all -o wide
NAME                                   READY   STATUS    RESTARTS   AGE   IP
pod/nginx-deploy-5b9d46fdff-q5qqx      1/1     Running   0          29s
pod/nginx-deploy-5b9d46fdff-sk9hv      1/1     Running   0          29s

NAME                             READY   UP-TO-DATE   AVAILABLE   CONTAINERS
IMAGES       SELECTOR
deployment.apps/nginx-deploy     2/2     2            2           nginx
ninx:1.14    app=web

NAME                                        DESIRED   CURRENT   READY   AGE
CONTAINERS    IMAGES        SELECTOR
replicaset.apps/nginx-deploy-57cdb76c5      0         0         0       2m30s
nginx         nginx:1.10
replicaset.apps/nginx-deploy-5b9d46fdff     2         2         2       29s
nginx         nginx:1.14
```

La commande rollout

```
ludo@kubernetes:$ kubectl rollout history deployment nginx-deploy
deployment.apps/nginx-deploy
REVISION   CHANGE-CAUSE
1          Version 1.10
2          Update 1.10 to 1.14
```

On rollback sur la revision 1

```
ludo@kubernetes:$ kubectl rollout undo deployment nginx-deploy --to-revision 1
deployment.apps/nginx-deploy rolled back

ludo@kubernetes:$ kubectl get all
...
NAME                          READY   UP-TO-DATE   AVAILABLE   CONTAINERS
IMAGES        SELECTOR
deployment.apps/nginx-deploy   2/2     2            2           nginx
nginx:1.10    app=web

NAME                                     DESIRED   CURRENT   READY   AGE
CONTAINERS    IMAGES        SELECTOR
replicaset.apps/nginx-deploy-57cdb76c5   2         2         2       6m30s
nginx         nginx:1.10
```

```
ludo@kubernetes:$ kubectl rollout history deployment nginx-deploy
deployment.apps/nginx-deploy
REVISION   CHANGE-CAUSE
2          Update 1.10 to 1.14
3          Version 1.10
```

ON SUPPRIME TOUT

Gestion des mises a jours – RollingUpdate

On ouvre le manifeste web-rollingUpdate.yaml et on personnalise son déploiement

```
ludo@kubernetes:$ cd k8s/web

ludo@kubernetes:$ vim web-recreate.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  annotations:
    kubernetes.io/change-cause: "version 1.10"
  labels:
    app: web
  name: nginx-deploy
spec:
  replicas: 10
  selector:
    matchLabels:
      app: web
  strategy:
    type: RollingUpdate
    rollingUpdate:
      maxSurge: 0
      maxUnavailable: 5
  minReadySeconds: 5
  revisionHistoryLimit: 10
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
      - image: nginx:1.10
        name: weblo
```

On applique le manifeste

```
ludo@kubernetes:$ kubectl apply -f web-rollingUpdate.yaml

ludo@kubernetes:$ kubectl get all
NAME                              READY   STATUS    RESTARTS   AGE
pod/nginx-deploy-57cdb76c5-94vkm  1/1     Running   0          4s
pod/nginx-deploy-57cdb76c5-jp6rl  1/1     Running   0          4s
```

```
NAME                              READY    UP-TO-DATE    AVAILABLE    AGE
deployment.apps/nginx-deploy      2/2      2             2            4s


NAME                                      DESIRED    CURRENT    READY    AGE
replicaset.apps/nginx-deploy-57cdb76c5    2          2          2        4s
```

On réalise une mise à jour

```
ludo@kubernetes:$ vim web-rollingUpdate.yaml
apiVersion: apps/v1
kind: Deployment
metadata:
  annotations:
    kubernetes.io/change-cause: "Update 1.10 to 1.14"
  labels:
    app: web
  name: nginx-deploy
spec:
  replicas: 10
  selector:
    matchLabels:
      app: web
  strategy:
    type: RollingUpdate
    rollingUpdate:
      maxSurge: 0
      maxUnavailable: 5
  minReadySeconds: 5
  revisionHistoryLimit: 10
  template:
    metadata:
      labels:
        app: web
    spec:
      containers:
      - image: nginx:1.14
        name: weblo
```

```
ludo@kubernetes:$ kubectl apply -f web-rollingUpdate.yaml
deployment.apps/nginx-deploy configured

ludo@kubernetes:$ kubectl get all -o wide
NAME                                 READY    STATUS     RESTARTS    AGE     IP
pod/nginx-deploy-5b9d46fdff-q5qqx    1/1      Running    0           29s
pod/nginx-deploy-5b9d46fdff-sk9hv    1/1      Running    0           29s
```

```
NAME                            READY   UP-TO-DATE   AVAILABLE   CONTAINERS
IMAGES      SELECTOR
deployment.apps/nginx-deploy    2/2     2            2             nginx
ninx:1.14   app=web

NAME                                  DESIRED   CURRENT   READY   AGE
CONTAINERS   IMAGES       SELECTOR
replicaset.apps/nginx-deploy-57cdb76c5   0         0         0       2m30s
nginx        nginx:1.10
replicaset.apps/nginx-deploy-5b9d46fdff  2         2         2       29s
nginx            nginx:1.14
```

La commande rollout

```
ludo@kubernetes:$ kubectl rollout history deployment nginx-deploy
deployment.apps/nginx-deploy
REVISION   CHANGE-CAUSE
1          Version 1.10
2          Update 1.10 to 1.14
```

On rollback sur la revision 1

```
ludo@kubernetes:$ kubectl rollout undo deployment nginx-deploy --to-revision 1
deployment.apps/nginx-deploy rolled back

ludo@kubernetes:$ kubectl get all
...
NAME                            READY   UP-TO-DATE   AVAILABLE   CONTAINERS
IMAGES      SELECTOR
deployment.apps/nginx-deploy    2/2     2            2             nginx
nginx:1.10   app=web

NAME                                  DESIRED   CURRENT   READY   AGE
CONTAINERS   IMAGES       SELECTOR
replicaset.apps/nginx-deploy-57cdb76c5   2         2         2       6m30s
nginx        nginx:1.10
```

```
ludo@kubernetes:$ kubectl rollout history deployment nginx-deploy
deployment.apps/nginx-deploy
REVISION   CHANGE-CAUSE
2          Update 1.10 to 1.14
3          Version 1.10
```

ON SUPPRIME TOUT