

Probleemoplossing voor de Pods van Register Namespace in ImagePullBackOff Staat

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Inleiding

Dit document beschrijft het probleem en de oplossing van de registerpeulen in de ImagePullBackOff-status.

Probleem

De registerpods in Cluster Manager (CM) van de Ultra Cloud Core Subscriber Microservices Infrastructuur (SMI) bevinden zich in de staat ImagePullBackOff.

```
cloud-user@lab-deployer-cm-primary:~$ kubectl get pods -A -o wide | grep -v "Running"
NAMESPACE          NAME                                READY
STATUS             RESTARTS  AGE   IP              NODE                                NOMINATED NODE
READINESS GATES
registry           charts-cee-2020-02-2-1-1-0          0/1
ImagePullBackOff  0         100d  10.10.10.178   lab-deployer-cm-primary           <none>
<none>
registry           charts-cluster-deployer-2020-02-2-35-0 0/1
ImagePullBackOff  0         100d  10.10.10.180   lab-deployer-cm-primary           <none>
<none>
registry           registry-cee-2020-02-2-1-1-0        0/1
ImagePullBackOff  0         100d  10.10.10.198   lab-deployer-cm-primary           <none>
<none>
registry           registry-cluster-deployer-2020-02-2-35-0 0/1
ImagePullBackOff  0         100d  10.10.10.152   lab-deployer-cm-primary           <none>
<none>
registry           software-unpacker-0                 0/1
ImagePullBackOff  0         100d  10.10.10.160   lab-deployer-cm-primary           <none>
<none>
```

De Common Execution Environment (CEE)-implementator toont nul procent van de gereedheid van het systeem, omdat de systemsynchronisatie in behandeling is.

```
[deployer/cee] cee# show system
system uuid 012345678-9abc-0123-4567-000011112222
system status deployed true
system status percent-ready 0.0
system ops-center repository https://charts.10.192.1.1.nip.io/cee-2020.02.2.35
system ops-center-debug status false
system synch running true
system synch pending true.
```

Gebruik Secure Shell Protocol (SSH) om verbinding te maken met de CEE. De fout 404 Niet gevonden wordt gerapporteerd.

```
[deployer/cee] cee#
Message from confd-api-manager at 2022-05-05 01:01:01...
Helm update is ERROR. Trigger for update is CHANGE. Message is:
WebApplicationException: HTTP 404 Not Found
com.google.common.util.concurrent.UncheckedExecutionException:
javax.ws.rs.WebApplicationException: HTTP 404 Not Found
at com.google.common.cache.LocalCache$Segment.get(LocalCache.java:2052)
at com.google.common.cache.LocalCache.get(LocalCache.java:3943)
at com.google.common.cache.LocalCache.getOrLoad(LocalCache.java:3967)
at com.google.common.cache.LocalCache$LocalLoadingCache.get(LocalCache.java:4952)
at
com.broadhop.conf.d.config.proxy.dao.HelmRepositoryDAO.getChartVersion(HelmRepositoryDAO.java:638
)
at
com.broadhop.conf.d.config.proxy.dao.HelmRepositoryDAO.installRelease(HelmRepositoryDAO.java:359)
at
com.broadhop.conf.d.config.proxy.dao.HelmRepositoryDAO.sendConfiguration(HelmRepositoryDAO.java:2
54)
at
com.broadhop.conf.d.config.proxy.service.ConfigurationSynchManager.run(ConfigurationSynchManager.
java:233)
at java.util.concurrent.Executors$RunnableAdapter.call(Executors.java:511)
at java.util.concurrent.FutureTask.runAndReset(FutureTask.java:308)
at
java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.access$301(ScheduledThreadP
oolExecutor.java:180)
at
java.util.concurrent.ScheduledThreadPoolExecutor$ScheduledFutureTask.run(ScheduledThreadPoolExec
utor.java:294)
at java.util.concurrent.ThreadPoolExecutor.runWorker(ThreadPoolExecutor.java:1149)
at java.util.concurrent.ThreadPoolExecutor$Worker.run(ThreadPoolExecutor.java:624)
at java.lang.Thread.run(Thread.java:748)
Caused by: javax.ws.rs.WebApplicationException: HTTP 404 Not Found
at
com.broadhop.conf.d.config.proxy.dao.HelmRepositoryDAO.retrieveHelmIndex(HelmRepositoryDAO.java:6
20)
at com.broadhop.conf.d.config.proxy.dao.HelmRepositoryDAO$2.load(HelmRepositoryDAO.java:114)
at com.broadhop.conf.d.config.proxy.dao.HelmRepositoryDAO$2.load(HelmRepositoryDAO.java:112)
at com.google.common.cache.LocalCache$LoadingValueReference.loadFuture(LocalCache.java:3524)
at com.google.common.cache.LocalCache$Segment.loadSync(LocalCache.java:2273)
at com.google.common.cache.LocalCache$Segment.lockedGetOrLoad(LocalCache.java:2156)
at com.google.common.cache.LocalCache$Segment.get(LocalCache.java:2046)
```

Analyse

1. Controleer de configuratie van de helmopslagplaats in CEE-implementator.

```
[deployer/cee] cee# show running-config helm
helm default-repository base-repos
helm repository base-repos
url https://charts.10.192.1.1.nip.io/cee-2020.02.2.35
exit
```

2. Vraag index.yaml van url van de primaire Cluster Manager om ervoor te zorgen dat de 404 reactie wordt verzonden.

```
cloud-user@deployer-cm-primary:~$ curl -k https://charts.10.192.1.1.nip.io/cee-2020.02.2.35/index.yaml
default backend - 404
```

3. Zie de afbeeldingslijst met de `kubectl describe pod` uit. Er is geen afbeelding gebaseerd op de

beschrijvingsfout.

```
cloud-user@lab-deployer-cm-primary:~$ kubectl describe pod ops-center-cee-labcluster-ops-center-df69975c7-gzszg -n cee-labcluster | grep Image
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-apps/cee-ops-center/2020.02.2/confd_init:0.7.0-00001111
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.33/smi-apps/cee-ops-center/2020.02.2/confd_init@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/crd_registry:0.7.1-00002222
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.27/smi-libraries/ops-center/2020.02.2/crd_registry@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/local_storage_init:0.7.1-00003333
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.27/smi-libraries/ops-center/2020.02.2/local_storage_init@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/confd:0.7.1-00004444
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.27/smi-libraries/ops-center/2020.02.2/confd@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/confd_api_bridge:0.7.1-00005555
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.33/smi-libraries/ops-center/2020.02.2/confd_api_bridge@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-apps/cee-ops-center/2020.02.2/product_confid_callback:0.7.0-00006666
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.27/smi-apps/cee-ops-center/2020.02.2/product_confid_callback@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/ssh_ui:0.7.1-00007777
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/ssh_ui@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
Image: docker.10.192.1.1.nip.io/cee-2020.02.2.35/smi-libraries/ops-center/2020.02.2/confd_notifications:0.7.1-00008888
Image ID: docker-pullable://docker.10.192.1.1.nip.io/cee-2020.02.2.27/smi-libraries/ops-center/2020.02.2/confd_notifications@sha256:01234567890123456789012345678901234567890123456789012345678901234567890123
```

4. Voer de `kubectl describe pod` opdracht voor het register van de naamstaat.

5. Voer de `kubectl get pods -A -o wide | grep -v "Running"` opdracht om de status van de pods te controleren in alle namespaces in het Kubernetes-cluster.

```
cloud-user@lab-deployer-cm-primary:~$ kubectl describe pod charts-cee-2020-02-2-1-1-0 -n registry
Volumes:
charts-volume:
Type: HostPath (bare host directory volume)
Path: /data/software/packages/cee-2020.02.2.1.1/data/charts
HostPathType: DirectoryOrCreate
Events:
Type Reason Age From Message
----
Normal BackOff 9m3s (x104861 over 16d) kubelet Back-off pulling image "dockerhub.cisco.com/smi-fuse-docker-internal/smi-apps/distributed-registry/2020.02.2/apache:0.1.0-abcd123"
Warning Failed 3m59s (x104884 over 16d) kubelet Error: ImagePullBackOff
```

```
cloud-user@lab-deployer-cm-primary:~$ kubectl describe pod charts-cluster-deployer-2020-02-2-35-0 -n registry
```

```
Name: charts-cluster-deployer-2020-02-2-35-0
Namespace: registry
Priority: 1000000000
Priority Class Name: infra-critical
Node: lab-deployer-cm-primary/10.192.1.1
Start Time: Thu, 01 Jan 2022 13:05:03 +0000
Labels: chart-app=charts-cluster-deployer-2020-02-2-35
component=charts
controller-revision-hash=charts-cluster-deployer-2020-02-2-35-589fdf57b8
registry=cluster-deployer-2020.02.2.35
statefulset.kubernetes.io/pod-name=charts-cluster-deployer-2020-02-2-35-0
Annotations: cni.projectcalico.org/podIP: 10.10.10.180/32
cni.projectcalico.org/podIPs: 10.10.10.180/32
sidecar.istio.io/inject: false
Status: Pending
IP: 10.10.10.180
IPs:
IP: 10.10.10.180
Controlled By: StatefulSet/charts-cluster-deployer-2020-02-2-35
Containers:
charts:
Container ID:
Image: dockerhub.cisco.com/smi-fuse-docker-internal/smi-apps/distributed-registry/2020.02.2/apache:0.1.0-abcd123
Image ID:
Port: 8080/TCP
Host Port: 0/TCP
State: Waiting
Reason: ImagePullBackOff
Ready: False
Restart Count: 0
Environment: <none>
Mounts:
/var/run/secrets/kubernetes.io/serviceaccount from default-token-qcmhx (ro)
/var/www/html/cluster-deployer-2020.02.2.35 from charts-volume (rw)
Conditions:
Type Status
Initialized True
Ready False
ContainersReady False
PodScheduled True
Volumes:
charts-volume:
Type: HostPath (bare host directory volume)
Path: /data/software/packages/cluster-deployer-2020.02.2.35/data/charts
HostPathType: DirectoryOrCreate
default-token-qcmhx:
Type: Secret (a volume populated by a Secret)
SecretName: default-token-qcmhx
Optional: false
QoS Class: BestEffort
Node-Selectors: <none>
Tolerations: node.kubernetes.io/not-ready:NoExecute op=Exists for 30s
node.kubernetes.io/unreachable:NoExecute op=Exists for 30s
Events:
Type Reason Age From Message
-----
Normal BackOff 118s (x104949 over 16d) kubelet Back-off pulling image
"dockerhub.cisco.com/smi-fuse-docker-internal/smi-apps/distributed-registry/2020.02.2/apache:0.1.0-abcd123"
```

```
cloud-user@lab-deployer-cm-primary:~$ cd /data/software/packages/cluster-deployer-
```

```

2020.02.2.35/data/charts$
cloud-user@lab-deployer-cm-primary:$ kubectl get pods -A -o wide | grep -v "Running"
NAMESPACE NAME READY STATUS RESTARTS AGE IP NODE NOMINATED NODE READINESS GATES
registry charts-cee-2020-02-2-1-1-0 0/1 ImagePullBackOff 0 100d 10.10.10.178 lab-deployer-
cm-primary <none> <none>
registry charts-cluster-deployer-2020-02-2-35-0 0/1 ErrImagePull 0 100d 10.10.10.180 lab-
deployer-cm-primary <none> <none>
registry registry-cee-2020-02-2-1-1-0 0/1 ErrImagePull 0 100d 10.10.10.198 lab-deployer-cm-
primary <none> <none>
registry registry-cluster-deployer-2020-02-2-35-0 0/1 ImagePullBackOff 0 100d 10.10.10.152
lab-deployer-cm-primary <none> <none>
registry software-unpacker-0 0/1 ImagePullBackOff 0 100d 10.10.10.160 lab-deployer-cm-
primary <none> <none>

```

6. Bevestig de bestanden in de clusterimplementator.

```

cloud-user@lab-deployer-cm-primary:/data/software/packages$ cd cluster-deployer-
2020.02.2.35/
cloud-user@lab-deployer-cm-primary:/data/software/packages/cluster-deployer-2020.02.2.35$
ll
total 12
drwxrwxr-x 3 303 303 4096 Jan 1 2021 ./
drwxrwxrwt 5 root root 4096 Mar 1 11:39 ../
drwxrwxr-x 5 303 303 4096 Jan 1 2021 data/
cloud-user@lab-deployer-cm-primary:/data/software/packages/cluster-deployer-2020.02.2.35$
cd data/
cloud-user@lab-deployer-cm-primary:/data/software/packages/cluster-deployer-
2020.02.2.35/data$ ll
total 20
drwxrwxr-x 5 303 303 4096 Jan 1 2021 ./
drwxrwxr-x 3 303 303 4096 Jan 1 2021 ../
drwxr-xr-x 2 303 303 4096 Mar 1 12:55 charts/
drwxr-xr-x 4 303 303 4096 Aug 10 2021 deployer-inception/
drwxr-xr-x 3 303 303 4096 Aug 10 2021 docker/
cloud-user@lab-deployer-cm-primary:/data/software/packages/cluster-deployer-
2020.02.2.35/data$ cd charts/
cloud-user@lab-deployer-cm-primary:/data/software/packages/cluster-deployer-
2020.02.2.35/data/charts$ ll
total 116
drwxr-xr-x 2 303 303 4096 Mar 1 12:55 ./
drwxrwxr-x 5 303 303 4096 Jan 1 2021 ../
-rw-r--r-- 1 303 303 486 Aug 10 2021 index.yaml
-rw-r--r-- 1 303 303 102968 Mar 1 12:55 smi-cluster-deployer-1.1.0-2020-02-2-1144-
210826141421-15f3d5b.tgz
cloud-user@lab-deployer-cm-primary:/tmp$
cloud-user@lab-deployer-cm-primary:/tmp$ ls /tmp/k8s-* -al
-rw-r--r-- 1 root root 2672 Sep 7 2021 /tmp/k8s-offline.tgz.txt

```

Oplossing

De kwestie wordt geacht te zijn veroorzaakt door de fout in de synchrone clusterverbinding. De oplossing is om een clustersynchronisatie uit te voeren van de Inceptieserver naar de CM High Availability (HA).

1. Gebruik SSH om verbinding te maken met de Inspectieserver.
2. Gebruik SSH om verbinding te maken met de OPS-centrumpoort 2022.

```
cloud-user@all-in-one-vm:~$ ssh admin@localhost -p 2022
```

3. Controleer of het cluster zich in de Inceptieserver bevindt.

```
[all-in-one-base-vm] SMI Cluster Deployer# show clusters
```

4. Controleer en bevestig dat de configuratie van het cluster juist is. In dit voorbeeld is de clusternaam lab-implementator.

```
[all-in-one-base-vm] SMI Cluster Deployer# show running-config clusters lab-deployer
```

5. Start de clustersync.

```
[all-in-one-base-vm] SMI Cluster Deployer# clusters lab-deployer actions sync run debug
```

6. Controleer de synchronisatielogboeken.

```
[all-in-one-base-vm] SMI Cluster Deployer# monitor sync-logs lab-deployer
```

Successful cluster sync logs example below :

```
Wednesday 01 December 2021 01:01:01 +0000 (0:00:00.080) 0:33:08.600 ****
```

```
=====
```

```
2021-12-01 01:01:01.230 DEBUG cluster_sync.ca-deployer: Cluster sync successful
```

```
2021-12-01 01:01:01.230 DEBUG cluster_sync.ca-deployer: Ansible sync done
```

```
2021-12-01 01:01:01.231 INFO cluster_sync.ca-deployer: _sync finished. Opening lock
```

7. Gebruik SSH om verbinding te maken met de Cluster Manager en zorg ervoor dat de peulen in de "lopende" staat zijn.

```
cloud-user@lab-deployer-cm-primary:~$ kubectl get pods -A -o wide | grep -v "Running"
```

Over deze vertaling

Cisco heeft dit document vertaald via een combinatie van machine- en menselijke technologie om onze gebruikers wereldwijd ondersteuningscontent te bieden in hun eigen taal. Houd er rekening mee dat zelfs de beste machinevertaling niet net zo nauwkeurig is als die van een professionele vertaler. Cisco Systems, Inc. is niet aansprakelijk voor de nauwkeurigheid van deze vertalingen en raadt aan altijd het oorspronkelijke Engelstalige document ([link](#)) te raadplegen.