Probleemoplossing voor POD's met opdrachten voor Kubernetes en CEE OPS-Center

Inhoud

Inleiding

In dit document wordt beschreven hoe u POD's kunt oplossen met opdrachten voor Kubernetes en CEE OPS-Center.

Probleemoplossing voor POD's met opdrachten voor Kubernetes en CEE OPS-Center

1. k8s CLI's

1.1 Alle naamruimte weergeven

Opdracht:

```
kubectl get namespace
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl get namespace
NAME              STATUS   AGE
cee-cee           Active   6d
default           Active   6d
```

```
kube-node-lease   Active   6d
kube-public       Active   6d
kube-system       Active   6d
lfs               Active   6d
nginx-ingress     Active   6d
smf-data          Active   6d
smi-certs         Active   6d
smi-vips          Active   6d
```

1.2 Maak een lijst van alle services voor een bepaalde naamruimte:

Opdracht:

```
kubectl get svc -n <namespace>
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl get svc -n smf-data
NAME                                TYPE        CLUSTER-IP       EXTERNAL-IP    PORT(S)
base-entitlement-smf                ClusterIP   10.97.93.253     <none>         8000/TCP
datastore-ep-session                ClusterIP   10.101.15.88     <none>         8882/TCP
datastore-notification-ep           ClusterIP   10.110.182.26    <none>         8890/TCP
datastore-tls-ep-session            ClusterIP   10.110.115.33    <none>         8883/TCP
documentation                       ClusterIP   10.110.85.239    <none>         8080/TCP
etcd                                ClusterIP   None             <none>         2379/TCP,7070/TCP
etcd-smf-data-etcd-cluster-0        ClusterIP   10.103.194.229   <none>         2380/TCP,2379/TCP
grafana-dashboard-app-infra         ClusterIP   10.98.161.155    <none>         9418/TCP
grafana-dashboard-cdl               ClusterIP   10.104.32.111    <none>         9418/TCP
grafana-dashboard-smf               ClusterIP   10.106.64.191    <none>         9418/TCP
gtpc-ep                             ClusterIP   10.99.49.25      x.x.x.201   9003/TCP,8080/TCP
helm-api-smf-data-ops-center        ClusterIP   10.109.206.198   <none>         3000/TCP
kafka                               ClusterIP   None             <none>         9092/TCP,7070/TCP
```

```
li-ep                                   ClusterIP   10.106.134.35    <none>          9003/TCP,8080/TCP
local-ldap-proxy-smf-data-ops-center    ClusterIP   10.99.160.226    <none>          636/TCP,369/TCP
oam-pod                                 ClusterIP   10.105.223.47    <none>          9008/TCP,7001/TCP,88
ops-center-smf-data-ops-center          ClusterIP   10.103.164.204   <none>          8008/TCP,8080/TCP,20
smart-agent-smf-data-ops-center         ClusterIP   10.97.143.81     <none>          8888/TCP
smf-n10-service                         ClusterIP   10.102.197.22    10.10.10.205    8090/TCP
smf-n11-service                         ClusterIP   10.108.109.186   10.10.10.203    8090/TCP
smf-n40-service                         ClusterIP   10.111.170.158   10.10.10.206    8090/TCP
smf-n7-service                          ClusterIP   10.102.140.179   10.10.10.204    8090/TCP
smf-nodemgr                             ClusterIP   10.102.68.172    <none>          9003/TCP,8884/TCP,92
smf-protocol                            ClusterIP   10.111.219.156   <none>          9003/TCP,8080/TCP
smf-rest-ep                             ClusterIP   10.109.189.99    <none>          9003/TCP,8080/TCP,92
smf-sbi-service                         ClusterIP   10.105.176.248   10.10.10.201    8090/TCP
smf-service                             ClusterIP   10.100.143.237   <none>          9003/TCP,8080/TCP
swift-smf-data-ops-center               ClusterIP   10.98.196.46     <none>          9855/TCP,50055/TCP,5
zookeeper                               ClusterIP   None             <none>          2888/TCP,3888/TCP
zookeeper-service                       ClusterIP   10.109.109.102   <none>          2181/TCP,7070/TCP
```

1.3 Maak een lijst van alle pods voor een bepaalde naamruimte:

Opdracht:

```
kubectl get pods -n <namespace>
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl get pods -n smf-data
NAME                                          READY   STATUS    RESTARTS   AGE
api-smf-data-ops-center-57c8f6b4d7-wt66s      1/1     Running   0          6d
base-entitlement-smf-fcdb664d-fkgss           1/1     Running   0          6d
cache-pod-0                                   1/1     Running   0          6h53m
```

```
cache-pod-1                                       1/1     Running   0          6h53m
cdl-ep-session-c1-dbb5f7874-4gmfr                 1/1     Running   0          6h53m
cdl-ep-session-c1-dbb5f7874-5zbqw                 1/1     Running   0          6h53m
cdl-index-session-c1-m1-0                         1/1     Running   0          6h53m
cdl-slot-session-c1-m1-0                          1/1     Running   0          6h53m
documentation-5dc8d5d898-mv6kx                    1/1     Running   0          6d
etcd-smf-data-etcd-cluster-0                      1/1     Running   0          6h53m
grafana-dashboard-app-infra-5b8dd74bb6-xvlln      1/1     Running   0          6h53m
grafana-dashboard-cdl-5df868c45c-vbr4r            1/1     Running   0          6h53m
grafana-dashboard-smf-657755b7c8-fvbdt            1/1     Running   0          6h53m
gtpc-ep-n0-0                                      1/1     Running   0          6h53m
kafka-0                                           1/1     Running   0          6h53m
li-ep-n0-0                                        1/1     Running   0          6h53m
oam-pod-0                                         1/1     Running   0          6h53m
ops-center-smf-data-ops-center-7fbb97d9c9-tx7qd   5/5     Running   0          6d
smart-agent-smf-data-ops-center-6667dcdd65-2h7nr  0/1     Evicted   0          6d
smart-agent-smf-data-ops-center-6667dcdd65-6wfvq  1/1     Running   0          4d18h
smf-nodemgr-n0-0                                  1/1     Running   0          6h53m
smf-protocol-n0-0                                 1/1     Running   0          6h53m
smf-rest-ep-n0-0                                  1/1     Running   0          6h53m
smf-service-n0-0                                  1/1     Running   5          6h53m
smf-udp-proxy-0                                   1/1     Running   0          6h53m
swift-smf-data-ops-center-68bc75bbc7-4zdc7        1/1     Running   0          6d
zookeeper-0                                       1/1     Running   0          6h53m
zookeeper-1                                       1/1     Running   0          6h52m
zookeeper-2                                       1/1     Running   0          6h52m
```

1.4 Lijst volledige details voor specifieke peul namen (etiketten, beelden, havens, volumes, gebeurtenissen, en meer).

Opdracht:

```
kubectl describe pods <pod_name> -n <namespace>
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl describe pods smf-service-n0-0 -n smf-data
```

```
smf-service-n0-0    <<< POD name
smf-data            <<< Namespace
```

2. k8s Logs en Full Core

2.1 Krijg de naam van de Container voor specifieke peul:

Opdracht:

```
kubectl describe pods <pod_name> -n <namespace> | grep Containers -A1
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl describe pods smf-service-n0-0 -n smf-data | grep Containers -A1
```

Containers:

```
 smf-service:
--
  ContainersReady   True
  PodScheduled      True
```

2.2 Zoek naar logs wanneer een pod crash wordt waargenomen op Kubernetes:

Opdracht:

```
kubectl get pods -n <namespace> | grep -v Running
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl get pods -n smf-data | grep -v Running

NAME                                                READY   STATUS             RESTARTS   AGE

smart-agent-smf-data-ops-center-6667dcdd65-2h7nr    0/1     Evicted            0          5d23h

smf-service-n0-0                                    0/1     CrashLoopBackOff   2          6h12m
```

Opdracht:

```
kubectl logs <pod_name> -c <container_name> -n <namespace>
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl logs smf-service-n0-0 -c smf-service -n smf-data

/opt/workspace

-rwxrwxrwx 1 root root 84180872 Mar 31 06:18 /opt/workspace/smf-service

Launching: /opt/workspace/tini /opt/workspace/smf-service

2020-06-09 20:26:16.341043 I | proto: duplicate proto type registered: internalmsg.SessionKey

2020-06-09 20:26:16.341098 I | proto: duplicate proto type registered: internalmsg.NInternalTxnMsg

2020-06-09 20:26:16.343170 I | smf-service [INFO] [main.go:18] [smfservice] ##########################M

#########

2020-06-09 20:26:16.343197 I | smf-service [INFO] [main.go:19] [smfservice] ##########################

#########

2020-06-09 20:26:16.343210 I | smf-service [INFO] [main.go:20] [smfservice]                        SMF-

2020-06-09 20:26:16.343221 I | smf-service [INFO] [main.go:21] [smfservice] ##########################

#########
```

```
2020-06-09 20:26:16.343232 I | smf-service [INFO] [main.go:22] [smfservice] ##########################
#########
2020/06/09 20:26:16.343 smf-service [DEBUG] [Tracer.go:181] [unknown] Loaded initial tracing configurat
aegerTransportType: , TracerEndpoint: , ServiceName: smf-service, TracerServiceName: , EnableTracePerce
.
.
2020/06/09 20:44:28.157 smf-service [DEBUG] [RestRouter.go:24] [infra.rest_server.core] Rest message re
2020/06/09 20:44:28.158 smf-service [DEBUG] [RestRouter.go:43] [infra.rest_server.core] Set Ping as nam
2020/06/09 20:44:28.159 smf-service [INFO] [ApplicationEndpoint.go:333] [infra.application.core] Ping s
2020/06/09 20:44:30.468 smf-service [DEBUG] [MetricsServer_v1.go:305] [infra.application.core] Checkpoi
2020/06/09 20:44:31.158 smf-service [DEBUG] [RestRouter.go:24] [infra.rest_server.core] Rest message re
2020/06/09 20:44:31.158 smf-service [DEBUG] [RestRouter.go:43] [infra.rest_server.core] Set Ping as nam
2020/06/09 20:44:31.158 smf-service [INFO] [ApplicationEndpoint.go:333] [infra.application.core] Ping s

smf-service-n0-0    <<< POD name
smf-service         <<< Container Name
smf-data            <<< Namespace
```

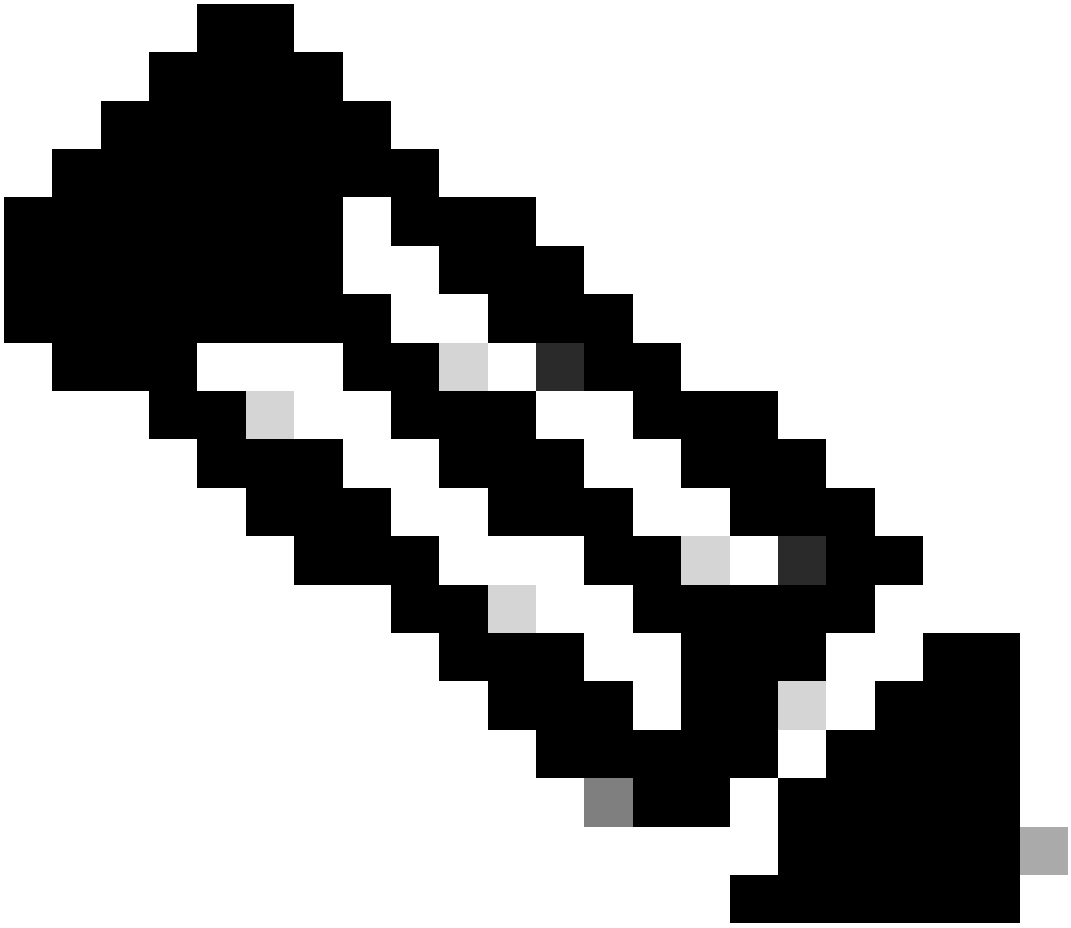
2.3 Controleer of er coredumps zijn gegenereerd:

Opdracht:

```
ls -lrt /var/lib/systemd/coredump/
```

Voorbeeld:

```
cisco@brusmi-master1:~$ ls -lrt /var/lib/systemd/coredump/
total 0
```



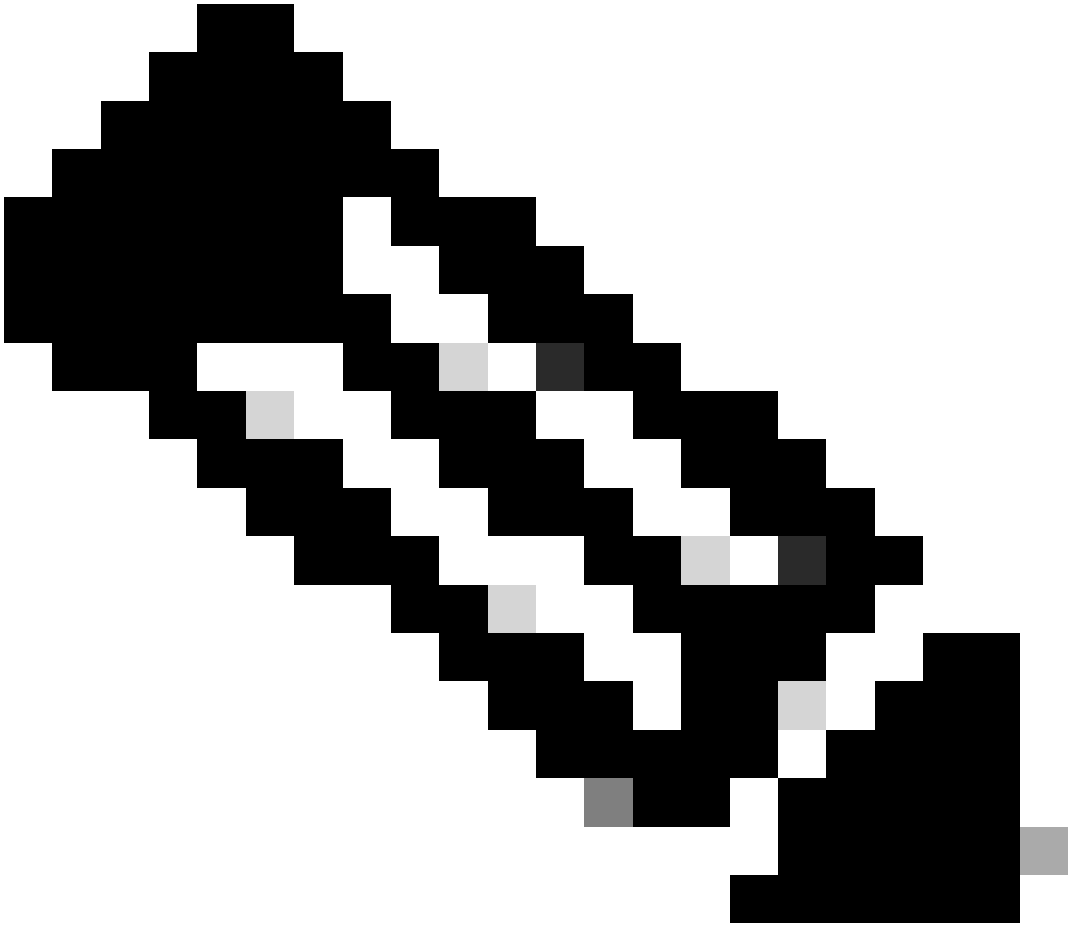
Opmerking: Het kernbestand wordt op het **/var/lib/systemd/coredump/** pad in de respectieve VM gegenereerd. De kern is ook beschikbaar op het TAC Dashboard.

3. TAC-debug op CEE maken

3.1 Meld u aan bij het Ops-Center van Master k8s:

```
cisco@brusmi-master1:~$ kubectl get namespace
NAME              STATUS   AGE
cee-cee           Active   5d3h
default           Active   5d3h
kube-node-lease   Active   5d3h
kube-public       Active   5d3h
```

```
kube-system       Active   5d3h
lfs               Active   5d3h
nginx-ingress     Active   5d3h
smf-data          Active   5d3h
smi-certs         Active   5d3h
smi-vips          Active   5d3h


cisco@brusmi-master1:~$ ssh -p 2024 admin@$(kubectl get svc -n cee-cee | grep ^ops-center | awk '{print
 admin@10.102.44.219's password:
Welcome to the cee CLI on brusmi/cee
admin connected from 192.x.0.1 using ssh on ops-center-cee-cee-ops-center-79cf55b49b-6wrh9
[brusmi/cee] cee#
```



Opmerking: In het eerder genoemde voorbeeld is de CEE-naamruimte "cee-cee". U moet deze naam vervangen voor het geval u het nodig hebt.

3.2 Genereren van de TAC pakket ID naar referentie collectie bestanden opgehaald:

Opdracht:

```
tac-debug-pkg create from <Start_time> to <End_time>
```

Voorbeeld:

```
[brusmi/cee] cee# tac-debug-pkg create from 2020-06-08_14:00:00 to 2020-06-08_15:00:00

response : Tue Jun  9 00:22:17 UTC 2020 tac-debug pkg ID : 1592948929
```

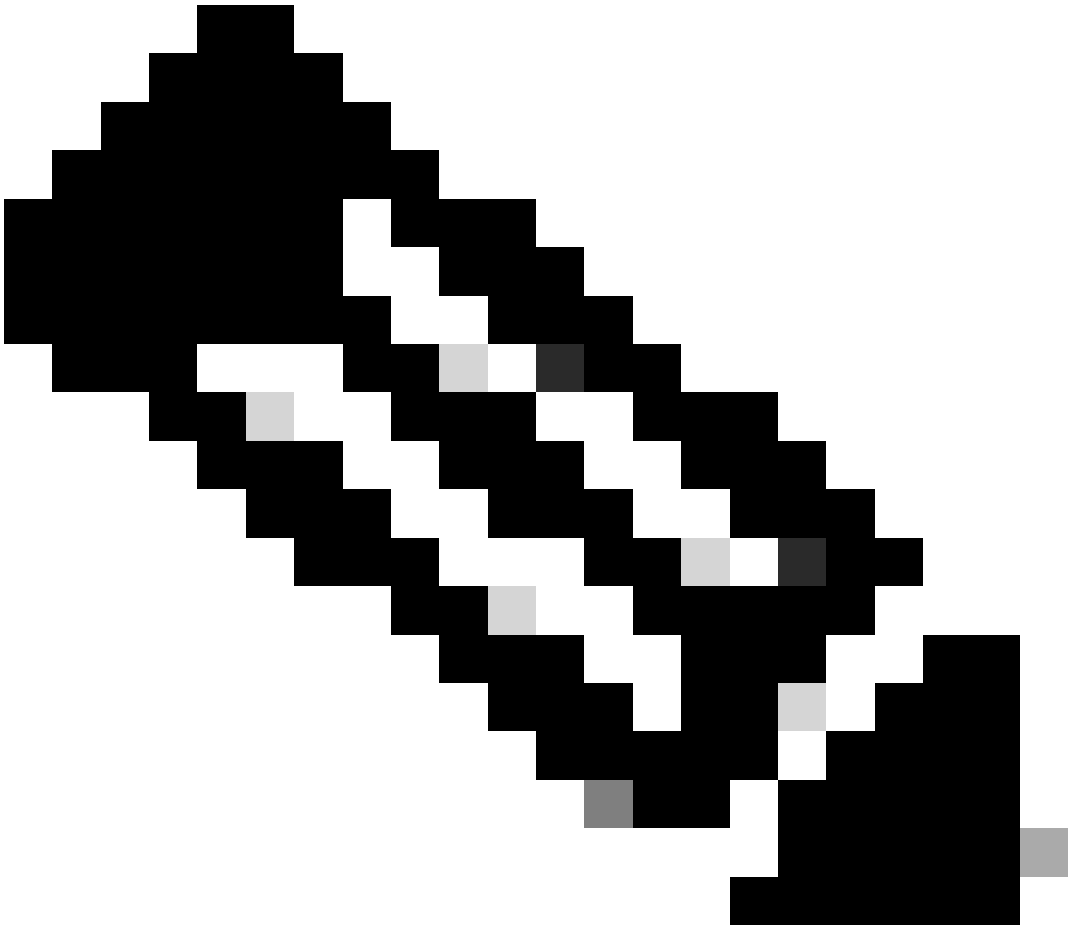
U kunt ook als volgt extra filters opnemen, zoals naamruimte of pod_name:

Opdracht:

```
tac-debug-pkg create from <Start_time> to <End_time> logs-filter { namespace <namespace> pod_name <pod_
```

Voorbeeld:

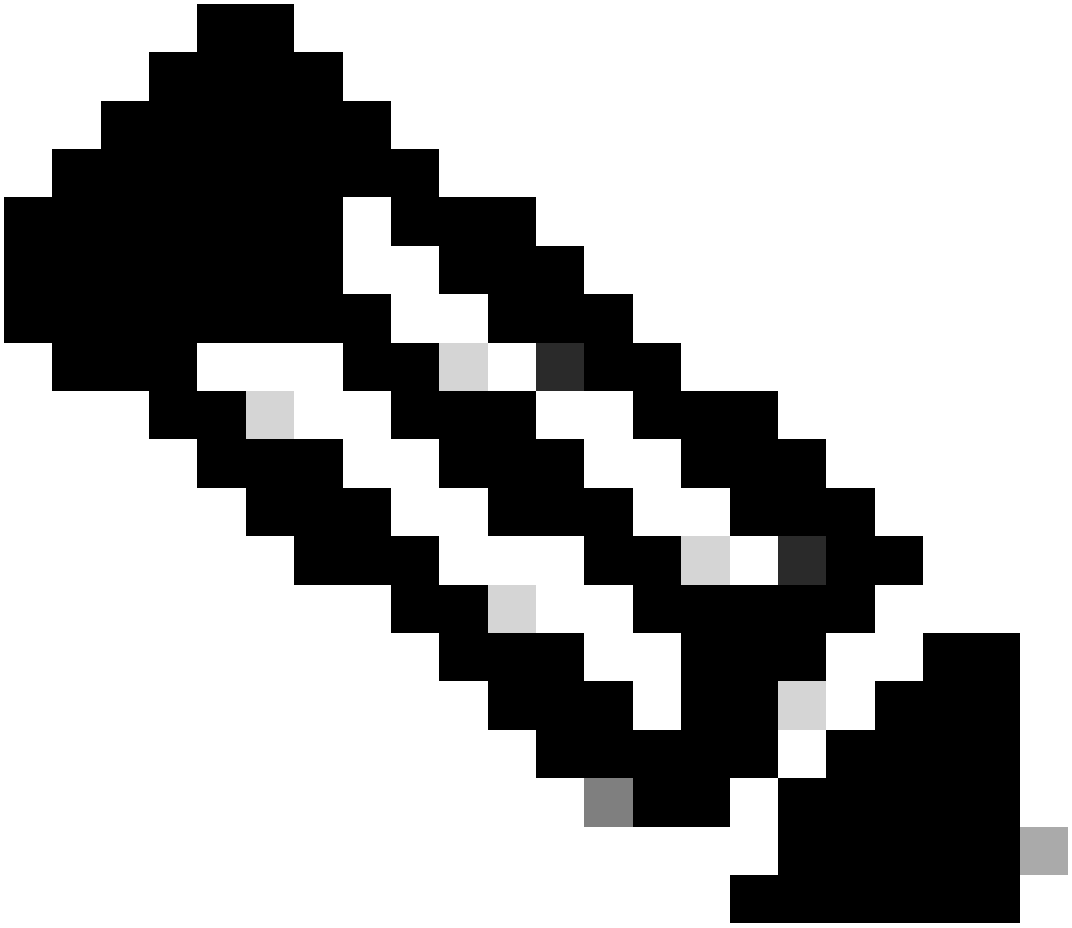
```
[brusmi/cee] cee# tac-debug-pkg create from 2020-06-08_14:00:00 to 2020-06-08_15:00:00 logs-filter { na

response : Tue Jun  9 00:28:49 UTC 2020 tac-debug pkg ID : 1591662529
```



Opmerking: Het wordt aanbevolen om een tac pakket ID te genereren voor een slot periode (1 uur of max 2 uur).

3.3 Geef de status van elke service weer:

```
[brusmi/cee] cee# tac-debug-pkg status

response : Tue Jun  9 00:28:51 UTC 2020

Tac id: 1591662529

Gather core: completed!

Gather logs: in progress

Gather metrics: in progress

Gather stats: completed!

Gather config: completed!

[brusmi/cee] cee#



[brusmi/cee] cee# tac-debug-pkg status

response : Tue Jun  9 00:43:45 UTC 2020

No active tac debug session           <<< If none active tac debug session is displayed, it means that
```



Opmerking: Als er geen beschikbare schijfruimte is, verwijder dan oude debug-bestanden.

```
[brusmi/cee] cee# tac-debug-pkg create from 2020-06-08_09:00:00 to 2020-06-08_10:00:00 logs-filter { na

response : Tue Jun  9 00:45:48 UTC 2020

Available disk space on node is less than 20 %. Please remove old debug files and retry.
```

```
[brusmi/cee] cee# tac-debug-pkg delete tac-id 1591662529
```

3.4 Een TAC Debug ID maken om alleen statistieken te verzamelen:

```
[nyucs504-cnat/global] cee# tac-debug-pkg create from 2021-02-24_12:30:00 to 2021-02-24_14:30:00 cores
```

```
response : Wed Feb 24 19:39:49 UTC 2021 tac-debug pkg ID : 1614195589
```

4. TAC-debug downloaden

Momenteel zijn er drie verschillende opties om TAC Debug van CEE te downloaden:

4.1 SFTP van Master VIP (minder aanbevolen, het duurt lang).

4.1.1 Krijg de URL om de logbestanden te downloaden die zijn verzameld op **tac package ID** :

Opdracht:

```
kubectl get ingress -n <namespace> | grep show-tac
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl get ingress -n cee-cee | grep show-tac
show-tac-manager-ingress                show-tac-manager.cee-cee-smi-show-tac.192.168.208.10.xxx.x
```

4.1.2 Comprimeer en krijg het tac-debug bestand van **show-tac-manager** pod:

a. Krijg de ID van de show-tac pod.

Opdracht:

```
kubectl get pods -n <namespace> | grep show-tac
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl get pods -n cee-cee | grep show-tac
show-tac-manager-85985946f6-bflrc 2/2 Running 0 12d
```

b. Start exec-opdracht in **show-tac pod**en comprimeer de TAC Debug-logbestanden.

Opdracht:

```
kubectl exec -it -n <namespace> <pod_name> bash
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl exec -it -n cee-cee show-tac-manager-85985946f6-bflrc bash
Defaulting container name to show-tac-manager.
Use 'kubectl describe pod/show-tac-manager-85985946f6-bflrc -n cee-cee' to see all of the containers in
groups: cannot find name for group ID 101
groups: cannot find name for group ID 190
groups: cannot find name for group ID 303
I have no name!@show-tac-manager-85985946f6-bflrc:/show-tac-manager/bin$ cd /home/tac/
I have no name!@show-tac-manager-85985946f6-bflrc:/home/tac$ tar -zcvf tac-debug_1591662529.tar.gz 1591
1591662529/
1591662529/config/
1591662529/config/192.x.1.14_configuration.tar.gz.base64
1591662529/stats/
1591662529/stats/Stats_2020-06-08_14-00-00_2020-06-08_15-00-00.tar.gz
1591662529/manifest.json
1591662529/metrics/
1591662529/metrics/Metrics_2020-06-08_14-00-00_2020-06-08_15-00-00.tar.gz
1591662529/web/
1591662529/web/index.html
1591662529/logs/
1591662529/logs/brusmi-master1/
1591662529/logs/brusmi-master1/brusmi-master1_Logs_2020-06-08_14-00-00_2020-06-08_15-00-00.tar.gz
I have no name!@show-tac-manager-85985946f6-bflrc:/home/tac$ ls
1591662490  1591662529  1592265088  tac-debug_1591662529.tar.gz
```

4.1.3 Kopieer het bestand naar **/tmp** de map op Master VIP:

Opdracht:

```
kubectl cp <namespace>/<show-tac_pod_name>:/home/tac/<file_name.tar.gz> /tmp/<file_name.tar.gz>
```

Voorbeeld:

```
cisco@brusmi-master1:~$ kubectl cp cee-cee/show-tac-manager-85985946f6-bflrc:/home/tac/tac-debug_159166
Defaulting container name to show-tac-manager.
tar: Removing leading `/' from member names
cisco@brusmi-master1:~$ cd /tmp
cisco@brusmi-master1:/tmp$ ls
cee.cfg
tac-debug_1591662529.tar.gz
tiller_service_acct.yaml
```

4.1.4 Overdracht bestand via sftp van Master VIP.

4.2 Download de TAC Debug with **wget** commando (macOS/Ubuntu).

4.2.1 Ontvang de show-tac link van de uitvoer "k8s get ingress":

```
cisco@brusmi-master1:~$ kubectl get ingress -n cee-cee | grep show-tac
show-tac-manager-ingress                show-tac-manager.cee-cee-smi-show-tac.192.168.208.10.xxx.x
```

4.2.2 Voer de **wget** opdracht in vanaf uw PC-terminal:

```
wget -r -np https://show-tac-manager.cee-cee-smi-show-tac.192.168.208.10.xxx.x/tac/
<tac-id>/ --no-check-certificate --http-user=<NTID_username>
--http-password=<NTID_password>
```

5. Logbestanden van CEE verzamelen voor alle POD's van SMF

5.1 Meld u aan bij **smf-data**Ops-Center van Master k8s:

```
cisco@brusmi-master1:~$ ssh -p 2024 admin@$(kubectl get svc -n smf-data | grep ^ops-center | awk '{prin
 admin@10.103.164.204's password:
```

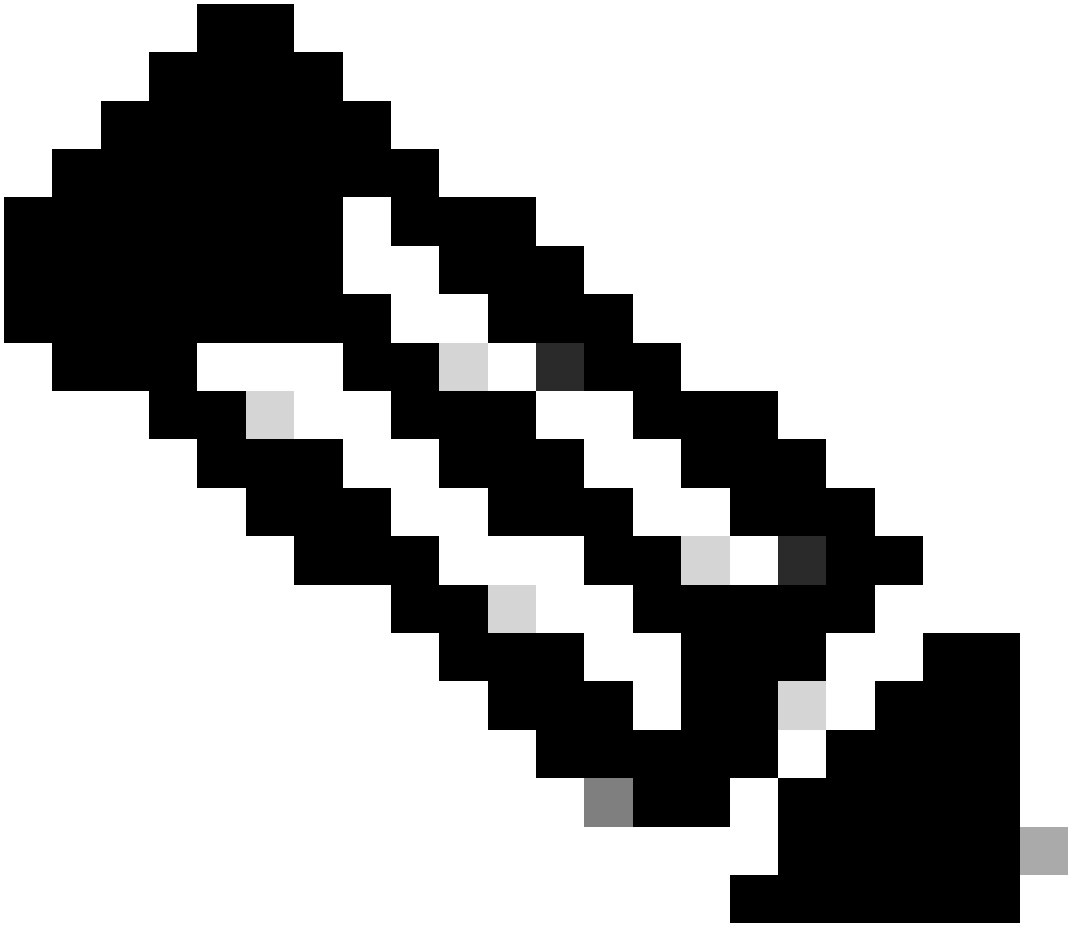
```
Welcome to the smf CLI on brusmi/data

admin connected from 192.x.0.1 using ssh on ops-center-smf-data-ops-center-7fbb97d9c9-tx7qd
```

5.2 Controleer of "logging level application" is ingeschakeld:

```
[brusmi/data] smf# show running-config | i logging

logging level application debug

logging level transaction debug

logging level tracing debug

logging name infra.config.core level application debug

logging name infra.config.core level transaction debug

logging name infra.config.core level tracing debug

logging name infra.message_log.core level application debug

logging name infra.message_log.core level transaction debug

logging name infra.resource_monitor.core level application off

logging name infra.rest_server.core level application debug
```

5.3 Meld u aan bij lmoe Ops-Center van Master k8s:

```
cisco@brusmi-master1:~$ ssh -p 2024 admin@$(kubectl get svc -n cee-cee | grep ^ops-center | awk '{print

 admin@10.102.44.219's password:

Welcome to the cee CLI on brusmi/cee

admin connected from 192.x.0.1 using ssh on ops-center-cee-cee-ops-center-79cf55b49b-6wrh9

[brusmi/cee] cee#
```

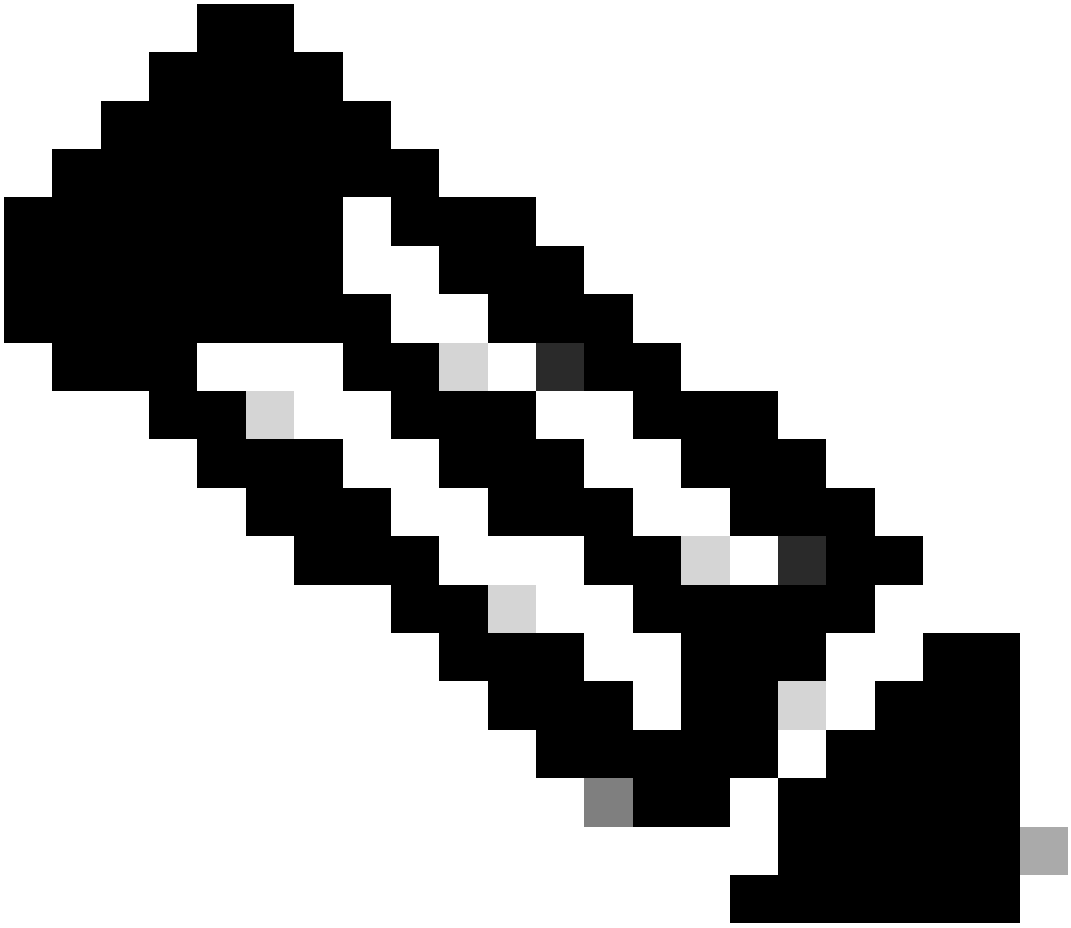


Opmerking: In het eerder genoemde voorbeeld is de CEE-naamruimte "cee-cee". U moet deze naam vervangen voor het geval u het nodig hebt.

5.4 Staart de logbestanden van alle SMF POD's die beginnen met "**smf-**"(**smf-nodemgr**, **smf-protocol**, **smf-rest** , **smf-service**, **smf-udp-proxy**). Verzamel de logbestanden gedurende een paar seconden en gebruik Ctrl+C om het verzamelen van gegevens te stoppen:

```
[brusmi/cee] cee# cluster logs ^smf- -n smf-data

error: current-context must exist in order to minify

Will tail 5 logs...

smf-nodemgr-n0-0

smf-protocol-n0-0
```

```
smf-rest-ep-n0-0

smf-service-n0-0

smf-udp-proxy-0

[smf-service-n0-0] 2020/06/08 17:04:57.331 smf-service [DEBUG] [RestRouter.go:24] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:04:57.331 smf-service [DEBUG] [RestRouter.go:43] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:04:57.331 smf-service [INFO] [ApplicationEndpoint.go:333] [infra.appli

[smf-service-n0-0] 2020/06/08 17:05:00.331 smf-service [DEBUG] [RestRouter.go:24] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:05:00.332 smf-service [DEBUG] [RestRouter.go:43] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:05:00.332 smf-service [INFO] [ApplicationEndpoint.go:333] [infra.appli

[smf-service-n0-0] 2020/06/08 17:05:01.658 smf-service [DEBUG] [MetricsServer_v1.go:305] [infra.applica

[smf-service-n0-0] 2020/06/08 17:05:03.330 smf-service [DEBUG] [RestRouter.go:24] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:05:03.330 smf-service [DEBUG] [RestRouter.go:43] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:05:03.330 smf-service [INFO] [ApplicationEndpoint.go:333] [infra.appli

[smf-service-n0-0] 2020/06/08 17:05:06.330 smf-service [DEBUG] [RestRouter.go:24] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:05:06.330 smf-service [DEBUG] [RestRouter.go:43] [infra.rest_server.co

[smf-service-n0-0] 2020/06/08 17:05:06.330 smf-service [INFO] [ApplicationEndpoint.go:333] [infra.appli

[smf-protocol-n0-0] 2020/06/08 17:04:58.441 smf-protocol [DEBUG] [RestRouter.go:24] [infra.rest_server.

[smf-service-n0-0] 2020/06/08 17:05:06.661 smf-service [DEBUG] [MetricsServer_v1.go:305] [infra.applica

[smf-protocol-n0-0] 2020/06/08 17:04:58.441 smf-protocol [DEBUG] [RestRouter.go:43] [infra.rest_server.

[smf-protocol-n0-0] 2020/06/08 17:04:58.441 smf-protocol [INFO] [ApplicationEndpoint.go:333] [infra.app

[smf-nodemgr-n0-0] 2020/06/08 17:04:57.329 smf-nodemgr [DEBUG] [CacheClient.go:118] [infra.cache_client
```



Opmerking: U kunt specifieker zijn als u logboeken moet verzamelen van een bepaalde peul, container of meerdere peulen.

```
### Specific pod ###

[brusmi/cee] cee# cluster logs smf-nodemgr-n0-0 -n smf-data

[brusmi/cee] cee# cluster logs smf-rest-ep-n0-0 -n smf-data

### Specific container ###

[brusmi/cee] cee# cluster logs smf-nodemgr -n smf-data

[brusmi/cee] cee# cluster logs smf-service -n smf-data

[brusmi/cee] cee# cluster logs zookeeper -n smf-data

[brusmi/cee] cee# cluster logs smf-rest-ep -n smf-data
```

```
### Multiple pods ###

[brusmi/cee] cee# cluster logs "(smf-service.|smf-rest.|smf-nodemgr.|smf-protocol.|gtpc-ep.|smf-udp-pro
```

6. Toegang tot Grafana

6.1 De URL voor toegang tot Grafana verkrijgen:

```
cisco@brusmi-master1:~$ kubectl get ingress -n cee-cee | grep grafana
grafana-ingress grafana.192.168.168.208.10.xxx.x 80, 443 6d18h
```

6.2 Open als volgt een webpagina met HTTPS:

```
https://grafana.192.168.208.10.xxx.x
```

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.