

Setup and Debugging

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Prerequisites for setting up Nextgen Gateway

- Ubuntu 18+
- RAM: 8 GB
- Disk: 40 GB
- CPU 4 Core CPU



Please note that only one flavor of Kubernetes is installed in your VM. Otherwise, you will get port binding issues. If you have microk8s in your VM then you need to uninstall the microk8s and install the K3S.

Command for Uninstall microk8s

```
sudo snap remove microk8s
```

Multipass setup (Optional)



You can use your own VM or install multipass on your laptop and use it for testing

***Multipass is a lightweight VM manager for Linux, Windows, and macOS. It's designed for developers who want a fresh Ubuntu environment with a single command.**

***Recommended for DEV, QA team should have dedicated vm for testing, multipass vms will be stopped when we shutdown our Laptop**

Installation

```
sudo snap install multipass
```

Check List of Multipass OS Images

```
sudo multipass find
```

Create new VM

```
sudo multipass launch -c 2 -m 8G -d 40G 20.04 -n nextgen-gateway
```

Check Lists of VMs

```
sudo multipass list
```

Connecting to the VM shell

```
sudo multipass shell nextgen-gateway
```

Mount Host files to VM

```
mkdir multipass_nextgen_gateway_data  
sudo multipass mount multipass_nextgen_gateway_data/ nextgen-gateway:/home/ubuntu/nextgen_gateway_data/
```

K3S Installation in VM



Before installing K3S, we need to connect to VM shell reference: [Connecting to the VM shell](#)

Install Command

```
curl -sL https://get.k3s.io | INSTALL_K3S_EXEC="--cluster-init --disable traefik" sh -
```

Update OS Path variables

Add below two properties to the environment file (/etc/environment)

```
KUBECONFIG=/etc/rancher/k3s/k3s.yaml  
HELM_EXPERIMENTAL_OCI=1
```

exit from VM shell and login back to apply the changes

To Run, K3S commands without sudo

copy k3s.yml content to the lens configuration to view k8s objects, replace the IP address by checking the IP address of the VM in multipass list

```
sudo chmod 755 /etc/rancher/k3s/k3s.yaml
```

Helm installation in VM



Before installing helm, we need to connect to VM shell reference: [ConnectingtotheVMshell](#)

Installing Helm

```
curl -fsSL -o get_helm.sh https://raw.githubusercontent.com/helm/helm/main/scripts/get-helm-3 \
  && chmod 700 get_helm.sh \
  && ./get_helm.sh -v v3.8.2 \
  && rm -rf get_helm.sh
```

New helm commands

- helm pull [oci://us-docker.pkg.dev/gateway-images/gateway-cluster-charts/dell-sdk-app](#) --version 1.0.0
- tar -xvzf dell-sdk-app-1.0.0.tgz
- helm package dell-sdk-app
- helm push dell-sdk-app-1.0.0.tgz [oci://us-docker.pkg.dev/gateway-images/gateway-cluster-charts/](#)

Old helm commands(just for reference)

- helm chart pull us-docker.pkg.dev/gateway-images/gateway-cluster-charts/dell-sdk-app:1.0.0
- helm chart export us-docker.pkg.dev/gateway-images/gateway-cluster-charts/dell-sdk-app:1.0.0
- helm chart save dell-sdk-app us-docker.pkg.dev/gateway-images/gateway-cluster-charts/dell-sdk-app:1.0.0
- helm chart push us-docker.pkg.dev/gateway-images/gateway-cluster-charts/dell-sdk-app:1.0.0



Next gen gateway helm charts will be deployed using new helm binary, going forward we should use new helm commands for helm lifecycle

Download Nextgen Gateway binary



Connect to VM shell reference: [ConnectingtotheVMshell](#) to install Nextgen Gateway binary

Download and move to binary to (/usr/local/bin)

```
wget https://storage.googleapis.com/opsramp_cluster_gateway_asserts/collector-cli/linux/amd64/opsramp-collector-start
sudo cp opsramp-collector-start /usr/local/bin
sudo chmod 755 /usr/local/bin/opsramp-collector-start
```

Registering Nextgen Gateway



Connect to VM shell reference: [ConnectingtotheVMshell](#) to register Nextgen Gateway

```
sudo opsramp-collector-start install -e k8s --url sdk.app.opsramp.net --key <management profile activation token>
```

After running the above command the gateway will get registered

Verifying K3S pods, nodes, and their memory usage

```
kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
nextgen-gw-0	3/3	Running	0	8m1s
svclb-nextgen-gw-tcp-6rwwx	2/2	Running	0	8m1s
svclb-nextgen-gw-udp-q699t	2/2	Running	0	8m1s

```
kubectl get nodes
```

NAME	READY	STATUS	RESTARTS	AGE
nextgen-gw-0	3/3	Running	0	8m1s
svclb-nextgen-gw-tcp-6rwwx	2/2	Running	0	8m1s
svclb-nextgen-gw-udp-q699t	2/2	Running	0	8m1s

```
kubectl top pods --containers
```

POD	NAME	CPU(cores)	MEMORY(bytes)
nextgen-gw-0	nativebride	0m	2Mi
nextgen-gw-0	postgres	3m	66Mi
nextgen-gw-0	vprobe	46m	730Mi
svclb-nextgen-gw-tcp-6rwwx	lb-tcp-162	0m	0Mi
svclb-nextgen-gw-tcp-6rwwx	lb-tcp-514	0m	0Mi
svclb-nextgen-gw-udp-q699t	lb-udp-162	0m	0Mi
svclb-nextgen-gw-udp-q699t	lb-udp-514	0m	0Mi

```
kubectl top nodes
```

NAME	CPU(cores)	CPU%	MEMORY(bytes)	MEMORY%
nextgen-gateway	158m	7%	1785Mi	22%

```
kubectl describe pod nextgen-gw-0
```

```
kubectl describe node nextgen-gateway
```

Accessing vprobe logs

```
kubectl exec -it nextgen-gw-0 -c vprobe -- /bin/bash
```

```
gateway@nextgen-gw-0:/opt/gateway/vprobe$ tail -200f /var/log/app/vprobe.log
```

Accessing Content DB

```
kubectl exec -it nextgen-gw-0 -c vprobe -- /bin/bash
```

```
gateway@nextgen-gw-0:/opt/gateway/vprobe$ cat /opt/gateway/content/cache.db
```

Debugging Device Reachability

Third-party python/Golang apps

```
gcli> sdkappdebug <base64 encoding JSON>
```

Example

```
gcli@gateway> sdkappdebug
ewoiYXBpVmVyc2lvbiI6ImRlYnVnL3YxIiwKImlvZHVzZSI6ICJEZXZpY2UiLAoiYXBwIjogImRlbGwtc2RrLWFwcCIscIjY3Rpb24iOiAiUmVh
Y2hhYmlsaXR5IiwKIiB7CiAgICAidmNlbnRlc3h5bWUiOiJ2Y2VudGVyNSIsCiAgICAicHJvdG9jb2wiOiJodHRwIiwKICAgICJp
cEFkZHZJlc3MiOiIxNzIuMjUuMjUyLjE5MyIsCiAgICAicG9ydCI6IjQlMDAwIgp9Cn0=
Received SDK App Debugging request
{"message":200}

gcli@gateway> sdkappdebug
ewoiYXBpVmVyc2lvbiI6ImRlYnVnL3YxIiwKImlvZHVzZSI6ICJEZXZpY2UiLAoiYXBwIjogImRlbGwtc2RrLWFwcCIscIjY3Rpb24iOiAiUmVh
Y2hhYmlsaXR5IiwKIiB7CiAgICAidmNlbnRlc3h5bWUiOiJ2Y2VudGVyNSIsCiAgICAicHJvdG9jb2wiOiJodHRwIiwKICAgICJp
cEFkZHZJlc3MiOiIxNzIuMjUuMjUyLjE5NCIsCiAgICAicG9ydCI6IjQlMDAwIgp9Cn0=
Received SDK App Debugging request
{"message":"Device not reachable"}
```

Modify log level

Third-party python/Golang apps

```
gcli@gateway> sdkapplog <App name> <Container name> <LOG LEVEL>
```

Example

```
gcli@gateway> sdkapplog dell-sdk-app app DEBUG
Successfully changed log level to DEBUG

gcli@gateway> sdkapplog dell-sdk-app sidecar DEBUG
Successfully changed log level to DEBUG
```

Java apps running inside vprobe

```
gcli@gateway> loglevel <get/set> <fully qualified class name> Level<ERROR, WARN, INFO, DEBUG> TimeoutInMin
```

Example

```
gcli@gateway> loglevel set com.opsramp.app.processor.handlers.DiscoveryHandler DEBUG 60

gcli@gateway> loglevel get com.opsramp.app.processor.handlers.DiscoveryHandler
Current log level for com.opsramp.app.processor.handlers.DiscoveryHandler is DEBUG
```

Debugging Content DB Data

Get Discovery Configuration

```
gcli> sdkgetdiscoveryconfig <Config ID>
```

Example

```
gcli> sdkgetdiscoveryconfig ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877
{"messageId":"a54fb900-b7ef-43f0-a256-e2c233e5b44a","messageVersion":"2.0.0","appIntegrationId":"INTG-5a24cdee-401a-44f4-afff-e7afa49a88cf","managementProfileId":"5c86c874-e347-4789-8a2d-951c9d614e8d","gateway":"5c86c874-e347-4789-8a2d-951c9d614e8d","module":"Discovery","subtype":"Configuration","app":"dell-powerflex","action":"Update","appVersion":"1.0.0","configurationId":"ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877","configurationName":"dell-powerflex-test","payload":{"data":{"isSecure":"true","notificationAlert":"false","alertConfiguration":"false","dellFlexGatewayIP":"16.20.24.28","credentialId":[{"fieldName":"gatewayCredentials","value":"FUZjmyuTgUrPVFYNR7bGnEEF"}]},"nativeTypes":{"Dell PowerFlex SDC":{"resourceType":"STORAGE_ARRAY"},"Dell PowerFlex SDS":{"resourceType":"STORAGE_ARRAY_VSERVER"},"Dell PowerFlex VTree":{"resourceType":"Storage"},"Dell PowerFlex Device":{"resourceType":"Storage"},"Dell PowerFlex System":{"resourceType":"Storage"},"Dell PowerFlex Volume":{"resourceType":"Volume"},"Dell PowerFlex MDM Cluster":{"resourceType":"Cluster"},"Dell PowerFlex Storage Pool":{"resourceType":"STORAGE_ARRAY_POOL"},"Dell PowerFlex Protection Domain":{"resourceType":"STORAGE_ARRAY"}}},"requireAck":false,"sha":"d05a077e45d252c810448a742a087a9ae5d23daad1c6f462d1d4ec9641d19c28"}
```

Get Monitoring Configuration

```
gcli> sdkgetmonitoringconfig <template id>
```

Example

```

gcli> sdkgetmonitoringconfig f3255e76-58c7-4c4d-89de-c9c0f8c3f437
{"messageId":"7b8e44e1-1158-45c1-9b6a-e78ef7677e50","messageVersion":"2.0.0","app":"dell-powerflex","module":"Monitoring","subtype":"Configuration","action":"Update","payload":{"templateId":"f3255e76-58c7-4c4d-89de-c9c0f8c3f437","nativeType":"Dell PowerFlex System","monitors":{"Dell PowerFlex System Monitor dell-powerflex Dell PowerFlex System":{"name":"Dell PowerFlex System Monitor dell-powerflex Dell PowerFlex System","uuid":"4dc6b23f-883a-4160-ala5-2bbe32271316","frequency":5,"metrics":{"dell_powerflex_system_CapacityUtilization":{"availabilityMetric":false,"units":"%","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_UnusableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_TotalUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThinUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThickUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SystemCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SnapUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_RebalanceCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_AvailableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false}}},"Dell PowerFlex Event Polling Monitor dell-powerflex Dell PowerFlex System":{"name":"Dell PowerFlex Event Polling Monitor dell-powerflex Dell PowerFlex System","uuid":"6blca802-f6d0-4f40-9e29-d3af9429c689","frequency":5,"metrics":{"dell_powerflex_system_CapacityUtilization":{"availabilityMetric":false,"units":"%","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_UnusableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_TotalUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThinUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThickUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SystemCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SnapUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_RebalanceCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_AvailableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_event_Statistics":{"availabilityMetric":false,"graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false}}},"templateCustomization":{"customComponentThresholds":[]},"sha":"224796aff3df084f627105c086035807276bf16f9d7b7f5614f1bbd855fe31a4"}}}

```

Get Credentials Configuration

```
gcli> sdkgetcredentialconfig <credentials ID>
```

Example

```
gcli> sdkgetcredentialconfig FUzjmyuTgUrPVFYNR7bGnEEF
{"messageId":"a54fb900-b7ef-43f0-a256-e2c233e5b44a","messageVersion":"2.0.0","appIntegrationId":"INTG-5a24cdee-401a-44f4-afff-e7afa49a88cf","managementProfileId":"5c86c874-e347-4789-8a2d-951c9d614e8d","gateway":"5c86c874-e347-4789-8a2d-951c9d614e8d","module":"Discovery","subtype":"Configuration","app":"dell-powerflex","action":"Update","appVersion":"1.0.0","configurationId":"ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877","configurationName":"dell-powerflex-test","payload":{"data":{"isSecure":"true","notificationAlert":"false","alertConfiguration":"false","dellFlexGatewayIP":"16.20.24.28","credentialId":{"fieldName":"gatewayCredentials","value":"FUzjmyuTgUrPVFYNR7bGnEEF"}}},"nativeTypes":{"Dell PowerFlex SDC":{"resourceType":"STORAGE_ARRAY"},"Dell PowerFlex SDS":{"resourceType":"STORAGE_ARRAY_VSERVER"},"Dell PowerFlex VTree":{"resourceType":"Storage"},"Dell PowerFlex Device":{"resourceType":"Storage"},"Dell PowerFlex System":{"resourceType":"Storage"},"Dell PowerFlex Volume":{"resourceType":"Volume"},"Dell PowerFlex MDM Cluster":{"resourceType":"Cluster"},"Dell PowerFlex Storage Pool":{"resourceType":"STORAGE_ARRAY_POOL"},"Dell PowerFlex Protection Domain":{"resourceType":"STORAGE_ARRAY"}}},"requireAck":false,"sha":"d05a077e45d252c810448a742a087a9ae5d23daad1c6f462d1d4ec9641d19c28"}
```

Get Resource Configuration

```
gcli> sdkgetresourceconfig <Resource UUID>
```

Example

```
gcli> sdkgetresourceconfig 7d40c3d8-ea9c-4450-a59b-986037ae1ec4
{"messageId":"6f276fe5-70b3-439d-9807-5bbbe96a1903","messageVersion":"2.0.0","module":"Monitoring","subtype":"Resource","action":"Update","managementProfileId":"5c86c874-e347-4789-8a2d-951c9d614e8d","payload":{"resources":{"resourceId":"7d40c3d8-ea9c-4450-a59b-986037ae1ec4","moId":"08a9c0c351862e0f","appConfigId":"ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877","signature":"to be filled","templateCustomization":{"credentialId":[],"templates":[{"templateId":"f3255e76-58c7-4c4d-89de-c9c0f8c3f437","app":"dell-powerflex","nativeType":"Dell PowerFlex System"}]},"sha":"5ac0682df18242ad1f0b5491243637e992ba56fecea0ea90cf6b2125da22c367"}}
```

Get Discovery Jobs

```
gcli> sdkgetdiscoveryjobs <app name> <config id>
```

Example

```
gcli> sdkgetdiscoveryjobs dell-powerflex ADAPTER-MANIFEST-5a178c98-33c2-4e07-81f6-9f43306684f5

JOBNAME dell-powerflex@Discovery@INTG-f45eb892-eb17-47cf-86df-845f1e4bb31c@ADAPTER-MANIFEST-5a178c98-33c2-4e07-81f6-9f43306684f5 , JOBDetails Discovery JOB DETAILS {"messageId":"90e834d7-27f6-4ced-bf57-8845c5190541","messageVersion":"2.0.0","appIntegrationId":"INTG-f45eb892-eb17-47cf-86df-845f1e4bb31c","managementProfileId":"5c86c874-e347-4789-8a2d-951c9d614e8d","gateway":"5c86c874-e347-4789-8a2d-951c9d614e8d","module":"Discovery","subtype":"Configuration","app":"dell-powerflex","action":"Update","appVersion":"1.0.0","configurationId":"ADAPTER-MANIFEST-5a178c98-33c2-4e07-81f6-9f43306684f5","configurationName":"dell-powerflex","frequency":"0 1,31 * * * ? *","payload":{"data":{"isSecure":"true","notificationAlert":"false","alertConfiguration":"false","dellFlexGatewayIP":"16.20.24.28","credentialId":{"fieldName":"gatewayCredentials","value":"FUzjmyuTgUrPVFYNR7bGnEEF"}}},"nativeTypes":{"Dell PowerFlex SDC":{"resourceType":"STORAGE_ARRAY"},"Dell PowerFlex SDS":{"resourceType":"STORAGE_ARRAY_VSERVER"},"Dell PowerFlex VTree":{"resourceType":"Storage"},"Dell PowerFlex Device":{"resourceType":"Storage"},"Dell PowerFlex System":{"resourceType":"Storage"},"Dell PowerFlex Volume":{"resourceType":"Volume"},"Dell PowerFlex MDM Cluster":{"resourceType":"Cluster"},"Dell PowerFlex Storage Pool":{"resourceType":"STORAGE_ARRAY_POOL"},"Dell PowerFlex Protection Domain":{"resourceType":"STORAGE_ARRAY"}}},"requireAck":false,"sha":"d05a077e45d252c810448a742a087a9ae5d23daad1c6f462d1d4ec9641d19c28"}
```

Get Monitoring Jobs


```
gcli> sdkgetmonitoirngjobs <app name> <config id>
```

Example

```
gcli> sdkgetmonitoirngjobs dell-powerflex ADAPTER-MANIFEST-5a178c98-33c2-4e07-81f6-9f43306684f5

JOBNAME dell-powerflex@Monitoring@ADAPTER-MANIFEST-5a178c98-33c2-4e07-81f6-9f43306684f5@6115e432-2d53-4713-82d6-f5a6d722d91c@7eb39056-56da-44aa-8632-a7b2d05bd667 , JOB DETAILS{"jobName":"dell-powerflex@Monitoring@ADAPTER-MANIFEST-5a178c98-33c2-4e07-81f6-9f43306684f5@6115e432-2d53-4713-82d6-f5a6d722d91c@7eb39056-56da-44aa-8632-a7b2d05bd667","jobType":"Monitoring","configId":"","appId":"","config":{"appName\\":"dell-powerflex\\","frequency\\":2},"recvDataTS":1656495211255,"scheduled":true}
```

Get Store Names

```
gcli> sdkgetallstorenames
```

Example

```
gcli> sdkgetallstorenames
StoreName: resource_configuration
StoreName: template_configuration_info
StoreName: SDKv2ScheduleConfDataPojo
StoreName: dell-powerflex_rootResourceMoIdStore
StoreName: discovery_configuration_info
StoreName: dell-powerflex_dell-powerflex_resource_sha_ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877
StoreName: MonitoringConfiguration
StoreName: DiscoveryConfiguration
StoreName: dell-powerflex_MonitorComponentState
StoreName: credential_configuration
StoreName: dell-powerflex_dell-powerflex_realtionships_ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877
StoreName: credential_configuration_info
StoreName: resource_configuration_info
StoreName: dell-powerflex_dell-powerflex_resource_ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877
StoreName: dell-powerflex_RESOURCE_ACK_STORE_ADAPTER-MANIFEST-7dad7a0f-00c3-41cd-9431-b9a0259a6877
StoreName: gateway_info
StoreName: dell-powerflex_FORCEDISCOVERY_STORE
```

Get Keys from the Store

```
gcli> sdkgetkeysbystore <store name>
```

Example

```
gcli> sdkgetKeysbystore template_configuration_info
Key: f3255e76-58c7-4c4d-89de-c9c0f8c3f437
Key: 5a8da81a-0a90-48e6-a11a-53768caeb01a
Key: 23cab019-cd22-4b04-b7c2-7825a0760c4e
Key: 7e60518d-94b6-4052-a64e-11e99d10b7c6
Key: d1fda83e-735b-4797-8171-806b49ea197f
Key: 8ab35f56-5891-4f9a-9c70-6ac4edf622d0
Key: 6115e432-2d53-4713-82d6-f5a6d722d91c
Key: 597b8cb4-0294-4e1d-99fa-feaed13fc465
Key: 958f0dc2-6995-433c-9673-22f7202226c4
```

Get Keys and Values from the Store

```
gcli> sdkgetkeyvaluebystore <store name>
```

Example

```
gcli>sdskgetkeyvaluebystore template_configuration_info
{"f3255e76-58c7-4c4d-89de-c9c0f8c3f437":{"messageId":"7b8e44e1-1158-45c1-9b6a-e78ef7677e50"},"messageVersion":"2.0.0","app":"dell-powerflex","module":"Monitoring","subtype":"Configuration","action":"Update","payload":{"templateId":"f3255e76-58c7-4c4d-89de-c9c0f8c3f437","nativeType":"Dell PowerFlex System","monitors":{"Dell PowerFlex System Monitor dell-powerflex Dell PowerFlex System":{"name":"Dell PowerFlex System Monitor dell-powerflex Dell PowerFlex System ","uuid":"4dc6b23f-883a-4160-ala5-2bbe32271316"},"frequency":5,"metrics":{"dell_powerflex_system_CapacityUtilization":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_UnusableCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_TotalUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThinUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThickUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SystemCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SnapUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_RebalanceCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_AvailableCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false}}},"Dell PowerFlex Event Polling Monitor dell-powerflex Dell PowerFlex System":{"name":"Dell PowerFlex Event Polling Monitor dell-powerflex Dell PowerFlex System ","uuid":"6b1ca802-f6d0-4f40-9e29-d3af9429c689"},"frequency":5,"metrics":{"dell_powerflex_system_CapacityUtilization":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_UnusableCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_TotalUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThinUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThickUsedCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_RebalanceCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_AvailableCapacity":{"availabilityMetric":false,"units":"","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_event_Statistics":{"availabilityMetric":false,"graph":{"
```

```
graphPoint\":true},\nnotification\":{\nraiseAlert\":true,\nalertOn\":\nStatic\,\nwarn\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1},\ncritical\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1}},\nformatPlottedValue\":false}},\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\n224796aff3df084f627105c086035807276b16f9d7b7f5614f1bbdb855fe31a4\},\n5a8da81a-0a90-48e6-a11a-53768cae01a\":{\nmessageId\":\n91ce8af4-b105-4e31-adal-2ee8ca567486\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\n5a8da81a-0a90-48e6-a11a-53768cae01a\,\nnativeType\":\nDell PowerFlex SDC\,\nmonitors\":{\nDell PowerFlex SDC Monitor dell-powerflex Dell PowerFlex SDC \":{\nname\":\nDell PowerFlex SDC Monitor dell-powerflex Dell PowerFlex SDC \,\nuuid\":\n042e767f-b174-4588-8aaa-039a77d6ae3d\,\nfrequency\":15,\nmetrics\":{\ndell_powerflex_sdc_ConnectionState\":{\navailabilityMetric\":true,\ngraph\":{\ngraphPoint\":true},\nnotification\":{\nraiseAlert\":true,\nalertOn\":\nStatic\,\nwarn\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1},\ncritical\":{\noperator\":\nNOT_EQUAL\,\nvalue\":\n0\,\nrepeat\":1}},\nformatPlottedValue\":true,\ndataTypeConversion\":{\ndataPointConversionOptions\":{\nConnected\":\n0\}}},\nformatGraph\":false,\nformatAlert\":false}}}},\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\n6dbd2269cf75f25dec388085db1b69f0e37de493b60872f61fb806bfe9892c19\},\n23cab019-cd22-4b04-b7c2-7825a0760c4e\":{\nmessageId\":\nf13c7811-49f7-4bb9-b075-dc7f917aab42\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\n23cab019-cd22-4b04-b7c2-7825a0760c4e\,\nnativeType\":\nDell PowerFlex Protection Domain\,\nmonitors\":{\nDell PowerFlex Protection Domain Monitor dell-powerflex Dell PowerFlex Protection Domain \":{\nname\":\nDell PowerFlex Protection Domain Monitor dell-powerflex Dell PowerFlex Protection Domain \,\nuuid\":\n7337c5f0-8c81-466f-9361-7d8d86c8e766\,\nfrequency\":15,\nmetrics\":{\ndell_powerflex_protectionDomain_State\":{\navailabilityMetric\":true,\ngraph\":{\ngraphPoint\":true},\nnotification\":{\nraiseAlert\":true,\nalertOn\":\nStatic\,\nwarn\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1},\ncritical\":{\noperator\":\nNOT_EQUAL\,\nvalue\":\n0\,\nrepeat\":1}},\nformatPlottedValue\":true,\ndataTypeConversion\":{\ndataPointConversionOptions\":{\nActive\":\n0\}}},\nformatGraph\":false,\nformatAlert\":false}}}},\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\n5232abcf24c36ffdc5f59336566f140e04740e316c4d89e94646f282c4a66b8f\},\n7e60518d-94b6-4052-a64e-11e99d10b7c6\":{\nmessageId\":\n7800d904-e4d9-42f2-ad1a-266daec89af2\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\n7e60518d-94b6-4052-a64e-11e99d10b7c6\,\nnativeType\":\nDell PowerFlex VTree\,\nmonitors\":{\,\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\na7a276d5b709c29342259c2c480f1c0246b9cef17da9e8a7bde631c4a5f2b73c\},\nd1fda83e-735b-4797-8171-806b49eal97f\":{\nmessageId\":\n3fd86460-f21e-4c59-ac0b-9de73d86746e\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\nd1fda83e-735b-4797-8171-806b49eal97f\,\nnativeType\":\nDell PowerFlex Device\,\nmonitors\":{\nDell PowerFlex Device Monitor dell-powerflex Dell PowerFlex Device \":{\nname\":\nDell PowerFlex Device Monitor dell-powerflex Dell PowerFlex Device \,\nuuid\":\n86976039-4660-4ca5-85ee-aef6e20d86d1\,\nfrequency\":60,\nmetrics\":{\ndell_powerflex_device_State\":{\navailabilityMetric\":false,\ngraph\":{\ngraphPoint\":true},\nnotification\":{\nraiseAlert\":true,\nalertOn\":\nStatic\,\nwarn\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1},\ncritical\":{\noperator\":\nNOT_EQUAL\,\nvalue\":\n0\,\nrepeat\":1}},\nformatPlottedValue\":true,\ndataTypeConversion\":{\ndataPointConversionOptions\":{\nNormal\":\n0\}}},\nformatGraph\":false,\nformatAlert\":false}}}},\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\nc59ef4ddb0ac4baae40647cb86c11f96123425cf6ace3efcaa80eae829a05831\},\n8ab35f56-5891-4f9a-9c70-6ac4edf622d0\":{\nmessageId\":\ndd460f10-77ae-4146-abc1-656779d91bd7\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\n8ab35f56-5891-4f9a-9c70-6ac4edf622d0\,\nnativeType\":\nDell PowerFlex SDS\,\nmonitors\":{\nDell PowerFlex SDS Monitor dell-powerflex Dell PowerFlex SDS \":{\nname\":\nDell PowerFlex SDS Monitor dell-powerflex Dell PowerFlex SDS \,\nuuid\":\n5da462a9-86dc-45ca-a45b-96e5596ald43\,\nfrequency\":15,\nmetrics\":{\ndell_powerflex_sds_ConnectionState\":{\navailabilityMetric\":true,\ngraph\":{\ngraphPoint\":true},\nnotification\":{\nraiseAlert\":true,\nalertOn\":\nStatic\,\nwarn\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1},\ncritical\":{\noperator\":\nNOT_EQUAL\,\nvalue\":\n0\,\nrepeat\":1}},\nformatPlottedValue\":true,\ndataTypeConversion\":{\ndataPointConversionOptions\":{\nConnected\":\n0\}}},\nformatGraph\":false,\nformatAlert\":false}}}},\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\nd8d920a254692c1e1cd18313febac52eb84939dacd301c2194917f0e2fd3c25f\},\n6115e432-2d53-4713-82d6-f5a6d722d91c\":{\nmessageId\":\ne74bd0a3-8b83-49cb-b63a-c8252ee12b62\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\n6115e432-2d53-4713-82d6-f5a6d722d91c\,\nnativeType\":\nDell PowerFlex MDM Cluster\,\nmonitors\":{\nDell PowerFlex MDM Monitor dell-powerflex Dell PowerFlex MDM Cluster \":{\nname\":\nDell PowerFlex MDM Monitor dell-powerflex Dell PowerFlex MDM Cluster \,\nuuid\":\n7eb39056-56da-44aa-8632-a7b2d05bd667\,\nfrequency\":2,\nmetrics\":{\ndell_powerflex_mdm_CurrentState\":{\navailabilityMetric\":false,\ngraph\":{\ngraphPoint\":true},\nnotification\":{\nraiseAlert\":true,\nalertOn\":\nStatic\,\nwarn\":{\noperator\":\nNONE\,\nvalue\":\n0\,\nrepeat\":1},\ncritical\":{\noperator\":\nNOT_EQUAL\,\nvalue\":\n0\,\nrepeat\":1}},\nformatPlottedValue\":true,\ndataTypeConversion\":{\ndataPointConversionOptions\":{\nClusteredNormal\":\n0\}}},\nformatGraph\":false,\nformatAlert\":false}}}},\ntemplateCustomization\":{\ncustomComponentThresholds\":[]},\nsha\":\n5820aa084da5ce9ff2687a20cd862a1a07e78ecf6f7ebda582d284841145098f\},\n597b8cb4-0294-4eld-99fa-fead13fc465\":{\nmessageId\":\n670140f7-44d9-4858-9a95-8f3d9c0cf31c\,\nmessageVersion\":\n2.0.0\,\napp\":\ndell-powerflex\,\nmodule\":\nMonitoring\,\nsubtype\":\nConfiguration\,\naction\":\nUpdate\,\npayload\":{\ntemplateId\":\n597b8cb4-0294-4eld-99fa-fead13fc465\,\nnativeType\":\nDell PowerFlex Storage Pool\,\nmonitors\":{\nDell PowerFlex Storage Pool Monitor dell-powerflex Dell PowerFlex Storage Pool \":{\nname\":\nDell PowerFlex Storage Pool Monitor dell-powerflex Dell PowerFlex Storage Pool \,\nuuid\":\n88e72626-d232-411c-8991-fcd6b0cc6473\,\nfrequency\":2,\nmetrics\":{\ndell_powerflex_storagePool_RfcacheWritesSkippedStuckIo\":{\n
```

[illegible]

[illegible]

[illegible]

```
\ "alertOn\":"Static\","warn\":{"operator\":"NONE\","value\":"0\","repeat\:1},"critical\":{"operator\":"NONE\","value\":"0\","repeat\:1},"formatPlottedValue\:false},"dell_powerflex_storagePool_UsageState\":{"availabilityMetric\:false,"graph\":{"graphPoint\:true},"notification\":{"raiseAlert\:true,"alertOn\":"Static\","warn\":{"operator\":"NONE\","value\":"0\","repeat\:1},"critical\":{"operator\":"NOT_EQUAL\","value\":"0\","repeat\:1},"formatPlottedValue\:true,"dataTypeConversion\":{"dataPointConversionOptions\":"[{\\\\"Normal\\\\":\\\\"0\\\\"}]","formatGraph\:false,"formatAlert\:false}}}},\ "templateCustomization\":{"customComponentThresholds\":[ ]},"sha\":"bf02675d2f79499d5dd3b99fa5cf04ac6c61d35b03babdab4cd76e67a3d63d8b\"},"958f0dc2-6995-433c-9673-22f7202226c4":{"messageId\":"0e71471f-a072-42fa-93ba-509ec7b747fe","messageVersion\":"2.0.0","app\":"dell-powerflex","module\":"Monitoring","subtype\":"Configuration","action\":"Update","payload\":{"templateId\":"958f0dc2-6995-433c-9673-22f7202226c4","nativeType\":"Dell PowerFlex Volume","monitors\":{"templateCustomization\":{"customComponentThresholds\":[ ]},"sha\":"cala0371606fcabcec0b8f5b77202fa6cba780431f16b45581b7ddf238d95dce\"/>
```

Get Value using Key from the Store

```
gcli> sdkgetvalbystoreandkey <store name> <key name>
```

Example

```

gcli>sdkgetvalbystoreandkey template_configuration_info f3255e76-58c7-4c4d-89de-c9c0f8c3f437
{"messageId":"7b8e44e1-1158-45c1-9b6a-e78ef7677e50","messageVersion":"2.0.0","app":"dell-powerflex","module":"Monitoring","subtype":"Configuration","action":"Update","payload":{"templateId":"f3255e76-58c7-4c4d-89de-c9c0f8c3f437","nativeType":"Dell PowerFlex System","monitors":{"Dell PowerFlex System Monitor dell-powerflex Dell PowerFlex System":{"name":"Dell PowerFlex System Monitor dell-powerflex Dell PowerFlex System","uuid":"4dc6b23f-883a-4160-ala5-2bbe32271316","frequency":5,"metrics":{"dell_powerflex_system_CapacityUtilization":{"availabilityMetric":false,"units":"%","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_UnusableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_TotalUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThinUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThickUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SystemCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SnapUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_RebalanceCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_AvailableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false}}},"Dell PowerFlex Event Polling Monitor dell-powerflex Dell PowerFlex System":{"name":"Dell PowerFlex Event Polling Monitor dell-powerflex Dell PowerFlex System","uuid":"6blca802-f6d0-4f40-9e29-d3af9429c689","frequency":5,"metrics":{"dell_powerflex_system_CapacityUtilization":{"availabilityMetric":false,"units":"%","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_UnusableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_TotalUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThinUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_ThickUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SystemCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_SnapUsedCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_RebalanceCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_system_AvailableCapacity":{"availabilityMetric":false,"units":"GB","graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false},"dell_powerflex_event_Statistics":{"availabilityMetric":false,"graph":{"graphPoint":true},"notification":{"raiseAlert":true,"alertOn":"Static","warn":{"operator":"NONE","value":"0","repeat":1},"critical":{"operator":"NONE","value":"0","repeat":1},"formatPlottedValue":false}}},"templateCustomization":{"customComponentThresholds":[]},"sha":"224796aff3df084f627105c086035807276bf16f9d7b7f5614f1bbd855fe31a4"}}}

```

Remove data from the store using key


```
gcli> sdkrmstoreandkey <store name> <key name>
```

Example

```
gcli> sdkrmstoreandkey template_configuration_info f3255e76-58c7-4c4d-89de-c9c0f8c3f437
Data deleted successfully against the key f3255e76-58c7-4c4d-89de-c9c0f8c3f437
```

Flush data from the Store

```
gcli> sdkflushstorename <store name>
```

Example

```
gcli> sdkflushstorename template_configuration_info
Data flushed successfully against the store template_configuration_info
```

Debug NATS Messages

1. Expose NATS POD 8222 port

```
kubectrl port-forward stan-0 8222
```

2. Hit GET Rest Endpoint to check the messages by replacing queue names

```
ashok@hydlpt340:~$ curl http://localhost:8222/streaming/channelsz?channel=dell-sdk-app
{
  "name": "dell-sdk-app",
  "msgs": 8,
  "bytes": 6710,
  "first_seq": 1,
  "last_seq": 8
}

ashok@hydlpt340:~$ curl http://localhost:8222/streaming/channelsz?channel=outbound_channel
{
  "name": "outbound_channel",
  "msgs": 3,
  "bytes": 2310,
  "first_seq": 1,
  "last_seq": 3
}
```

Content Dependencies

```
kubectrl exec -it nextgen-gw-0 -c vprobe -- /bin/bash

gateway@nextgen-gw-0:/opt/gateway/vprobe$ ls /opt/gateway/content/repo
```

This will list you the installed apps in vprobe

Update latest vprobe image in existing Gateway

Step 1: Remove the existing image from k3s

```
ubuntu@nextgen-gw:~$ sudo k3s ctr i rm us-docker.pkg.dev/gateway-images/gateway-cluster-images/vprobe:13.0.0-dev
```

Step 2: Restart/Delete nextgen-gw POD in the host machine

```
kubectl delete pod nextgen-gw-0
```

Once you deleted POD, it will automatically pull latest image from the GCP repo.

Replace vprobe image locally

Step 1: Build a docker image using the Dockerfile located in vprobe project

```
ashok@hydlpt340:~/work/opsramp/workspace/vprobe$ docker build -t us-docker.pkg.dev/gateway-images/gateway-cluster-images/vprobe:13.0.0-dev .
```

Step 2: Save docker image to tar file

```
ashok@hydlpt340:~/work/opsramp/workspace/vprobe$ docker save us-docker.pkg.dev/gateway-images/gateway-cluster-images/vprobe:13.0.0-dev -o vprobe-image.tar
```

Step 3: Copy vprobe image tar file to vm host mount path

```
ashok@hydlpt340:~/work/opsramp/workspace/vprobe$ sudo cp vprobe-image.tar ~/multipass_nextgen_gateway_data/
```

Once the tar file is copied to ~/multipass_nextgen_gateway_data/ then tar file is located in VM mount path i.e., /home/ubuntu/nextgen_gateway_data/

Step 4: Remove the existing image from k3s

```
ubuntu@nextgen-gw:~$ sudo k3s ctr i rm us-docker.pkg.dev/gateway-images/gateway-cluster-images/vprobe:13.0.0-dev
```

Step 5: Import docker image tar as Docker image in K3S

```
ubuntu@nextgen-gw:~$ sudo k3s ctr i import /home/ubuntu/nextgen_gateway_data/vprobe.tar
```

Step 6: Restart/Delete nextgen-gw POD in the host machine

```
kubectl delete pod nextgen-gw-0
```

Build docker images with multi-platform support

Refer here [Multi Platform Docker Builds](#)

Installing a third-party python app in Nextgen Gateway



Connect to VM shell reference: [ConnectingtotheVMshell](#) to install Nats message queue

Add registry details to k3s

```
sudo vi /etc/rancher/k3s/registries.yaml
```

```
mirrors:
  artifact.registry:
    endpoint:
      - "https://us-docker.pkg.dev"
```

Restart K3S

```
sudo service k3s restart
```

Install Nats

```
helm install stan oci://us-docker.pkg.dev/opsramp-registry/gateway-cluster-charts/stan --version 0.6.2
```

Restart vprobe

```
kubectl delete pod nextgen-gw-0
```

Install App

Add "deployment": "Image" property in manifest of your App and publish it

```
"metadata": {
  "description": "Sample app Integrates with sample vcenter APIs",
  "version": "1.0.0",
  "deployment": "Image"
}
```

```
kubectl get podsNAME READY STATUS RESTARTS AGE
dell-sdk-app-5566dcfbf5-kj5jk 2/2 Running 0 57s
nextgen-gw-0 3/3 Running 0 6m44s
stan-0 2/2 Running 0 18m
svclb-nextgen-gw-tcp-6rwwx 2/2 Running 0 53m
svclb-nextgen-gw-udp-q699t 2/2 Running 0 53m
```