

# SWIFT - Prerequisites & Installation Guide

Version 1.3.17



## Rackware

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#### Preparing for the SWIFT installation

The SWIFT is a container orchestration, backup, and disaster recovery (DR) product. It works on top of your existing container platforms like Kubernetes and OpenShift for replications, DR, and backup. You will need the below resources before you start the SWIFT installation:

- 1. A 64-bit Centos/RedHat 7.x/8.x x86 host\*
- 2. Minimum 3GB free space\*\*
- 3. 8GB or more RAM
- 4. Two or more (V)CPUs
- 5. Internet connectivity on the host (yum needs to be working with EPEL repo enabled)

Once the SWIFT server is ready, subsequent sections point on any other configuration steps that need to be done before actual SWIFT package installation.

\*This is where SWIFT will be installed, and it can be a VM or a physical server. CentOS Stream is also supported.

\*\*For detailed partition space requirements on the SWIFT server, see the next section. If you plan to do backups along with DR, then you will need additional storage during SWIFT operations. The extra storage need not be ready while installing the SWIFT and it can be added later.

#### SWIFT Server Storage Requirements

#### Partition Free Space Requirements

SWIFT installation requires below partitions or paths to have the mentioned minimum free space. If the required minimum free space doesn't exist for one or more paths below, then the installation will fail with an error.

While the required minimum free space for below partitions/paths will let the installation continue, we suggest you provision partitions such way that the recommended free space (from the third column below) for each partition/path can be achieved during installation to make sure of smooth functioning of the solution in the longer run.

Partition or path	Required minimum free space (GB)	Recommended free space (GB)
/opt	3 GB	50 GB
/tmp	3 GB	10 GB
/var/log	3 GB	10 GB

#### SWIFT Server DR/Backup Storage Requirements

If you are using SWIFT for backup or Disaster Recovery (DR) use cases, then apart from free space for the above partition/paths on the SWIFT server, you will also require one or more block devices attached to the SWIFT server that it will use for backup of source applications' data/volumes. Recommended free block storage that you should attach to the SWIFT server is same as total of your source clusters'/applications' volume sizes. For example, if you plan to backup three clusters with SWIFT that are running 10 applications where applications are using total Kubernetes volumes of 3TB in size, then you need to attach 3TB worth of block storage volumes to SWIFT server. The attached volumes can be of any size and in any number, just they need to be 3TB in total in the example scenario.



Please refer to SWIFT Operations Guide later to know how to configure attached block storage/volumes inside SWIFT dashboard.

Note that you can optionally attach these backup/DR storage block volumes to SWIFT server later and they are not required to complete the installation of the SWIFT software.

#### Kernel Package Install

SWIFT installation requires 'kernel-devel' package installation on CentOS/RHEL OS. Later it is used by the SWIFT installer to build and deploy the ZFS storage modules on the server.

For every running/available kernel, there is a matching kernel-devel package available in the yum repo. Run the following command to install the kernel-devel package for the running kernel.

# yum install kernel-devel-\$(uname -r) -y

If the above step fails on missing required kernel-devel package, then you must upgrade to the latest available kernel version, reboot the server, and then install the latest kernel-devel package.

# yum upgrade kernel

# reboot

# yum install kernel-devel -y

After this, the kernel running on the server will have the equivalent kernel-devel package installed on the server.



#### SWIFT port usage

Various operations are supported for the SWIFT managed container platform. The required network ports will change depending on the type of the container platform and the type of operation performed. The next section highlights port usage per platform and operation type.

If there is any intermediate firewall between the SWIFT server and your remote container platform, then these below ports also need to be opened in the intermediate firewall.

#### Kubernetes Discover

Port	Number	Direction	Can it be changed?	Purpose
(Default)				
<kubernetes< th=""><th>s-API-</th><th>SWIFT to cluster</th><th>Yes (specify during</th><th>Talk to API service</th></kubernetes<>	s-API-	SWIFT to cluster	Yes (specify during	Talk to API service
Server-IP>:4	143		discover and change from	
			configure operation for	
			the cluster)	

#### **Kubernetes Configure**

Port	Number	Direction	Can it be changed?	Purpose
(Default)				
<kubernetes Server-IP&gt;:4</kubernetes 		SWIFT to cluster	Yes (specify during discover and change from	Talk to API service
	113		configure operation for	
			the cluster)	

#### Kubernetes Sync

Port Number (Default)	Direction	Can it be changed?	Purpose
<kubernetes-api- Server-IP&gt;:443</kubernetes-api- 	SWIFT to cluster	Yes (specify during discover and change from configure operation for the cluster)	Talk to API service
<trai-service- IP&gt;:<port-1> [Default port-range is typically: 32000- 34000)</port-1></trai-service- 	SWIFT to cluster	Yes (specify during sync else auto picked)	Connect to transient sync staging POD/service within the cluster over HTTPS (Management port)
<trai-service- IP&gt;:<port-2> [Default port-range is typically: 32000- 34000)</port-2></trai-service- 	SWIFT to cluster	Yes (specify during sync else auto picked)	Pull/push data from/to transient sync staging POD/service within the cluster over an encrypted tunnel (Data port)

SWIFT sync run will typically use two unique ports from the cluster's service port range on both sides of clusters. If you do sync on a namespace basis and the selected namespace has more than one region



or zone set for persistent volumes on the source cluster side, then SWIFT will run its transient TRAI-Pod for each region/zone. In such cases, you will need 2xTRAI-Pod number of ports per sync. E.g., if your synced source namespace has two regions or zones for persistent volumes and you are syncing the entire namespace as part of a sync run, then the sync will deploy two TRAI-Pods (one for each region or zone of source namespace) and so the sync will need 2x2=4 ports from the source cluster's service port range. These ports can be fixed or can be auto picked by SWIFT. In all cases, SWIFT will always need only two ports per sync run for the target or DR cluster.

Note that any transient TRAI service/Pod ports, either auto picked by SWIFT or specified manually, need to be opened in all intermediate firewalls between the SWIFT server and your cluster. If you want SWIFT to auto pick required ports from the service port range of the cluster, then it is recommended that you whitelist the entire cluster service port range in all intermediate firewalls between the SWIFT server and your cluster.

The <TRAI-Service-IP> can be any of the supported IP types for the cluster services (E.g., ClusterIP, NodePort, LoadBalancer, etc.) and can be optionally specified during the sync.

Depending on the selected TRAI service type, sync will default to auto picked IP for its transient TRAI Kubernetes Service. If you employ NodePort service type for SWIFT's transient TRAI service, then you need to open required sync ports against all cluster node IPs (Also known as NodePort IPs).

#### OpenShift Discover

Port (Default)	Number	Direction	Can it be changed?	Purpose
<openshift- Server-IP&gt;:4</openshift- 		SWIFT to cluster	Yes (specify during discover and change from configure operation for the cluster)	Talk to API service

#### OpenShift Configure

Port	Number	Direction	Can it be changed?	Purpose
(Default)				
<openshift-a< td=""><td>API-</td><td>SWIFT to cluster</td><td>Yes (specify during</td><td>Talk to API service</td></openshift-a<>	API-	SWIFT to cluster	Yes (specify during	Talk to API service
Server-IP>:44	43		discover and change from	
			configure operation for	
			the cluster)	

#### OpenShift Sync

Port Number (Default)	Direction	Can it be changed?	Purpose
<openshift-api- Server-IP&gt;:443</openshift-api- 	SWIFT to cluster	Yes (specify during discover and change from configure operation for the cluster)	Talk to API service



<trai-service- IP&gt;:<port-1> [Default port-range is typically: 32000- 34000)</port-1></trai-service- 	SWIFT to cluster	Yes (specify during sync else auto picked)	Connect to transient sync staging POD/service within the cluster over HTTPS (Management port)
<trai-service- IP&gt;:<port-2> [Default port-range is typically: 32000- 34000)</port-2></trai-service- 	SWIFT to cluster	Yes (specify during sync else auto picked)	Pull/push data from/to transient sync staging POD/service within the cluster over an encrypted tunnel (Data port)

SWIFT sync run will typically use two unique ports from the cluster's service port range on both sides of clusters. If you do sync on a namespace basis and the selected namespace has more than one region or zone set for persistent volumes on the source cluster side, then SWIFT will run its transient TRAI-Pod for each region/zone. In such cases, you will need 2xTRAI-Pod number of ports per sync. E.g., if your synced source namespace has two regions or zones for persistent volumes and you are syncing the entire namespace as part of a sync run, then the sync will deploy two TRAI-Pods (one for each region or zone of source namespace) and so the sync will need 2x2=4 ports from the source cluster's service port range. These ports can be fixed or can be auto picked by SWIFT. In all cases, SWIFT will always need only two ports per sync run for the target or DR cluster.

Note that any transient TRAI service/Pod ports, either auto picked by SWIFT or specified manually, need to be opened in all intermediate firewalls between the SWIFT server and your cluster. If you want SWIFT to auto pick required ports from the service port range of the cluster, then it is recommended that you whitelist the entire cluster service port range in all intermediate firewalls between the SWIFT server and your cluster. In all cases, SWIFT will always need only two ports per sync run for the target or DR cluster.

The <TRAI-Service-IP> can be any of the supported IP types for the cluster services (E.g., ClusterIP, NodePort, LoadBalancer, etc.) and can be optionally specified during the sync.

Depending on the selected TRAI service type, sync will default to auto picked IP for its transient TRAI OpenShift Service. If you employ NodePort service type for SWIFT's transient TRAI service, then you need to open required sync ports against all cluster node IPs (Also known as NodePort IPs).

IIIIage Registi	y DISCOVCI			
Port	Number	Direction	Can it be changed?	Purpose
(Default)				
<container-2< td=""><td>0</td><td>SWIFT to API</td><td>No</td><td>Talk to API service</td></container-2<>	0	SWIFT to API	No	Talk to API service
Registry-AP	I-Server-	server		
IP>:443				

#### Image Registry Discover

#### Image Registry Configure

Port	Number	Direction	Can it be changed?	Purpose
(Default)				



2	Talk to API service	No	SWIFT to API	<container-image-< th=""></container-image-<>
			server	Registry-API-Server-
				IP>:443
				IP>:443

#### Image Registry Sync

Port	Number	Direction	Can it be changed?	Purpose
(Default)				
<container< td=""><td>-Image-</td><td>SWIFT to</td><td>No</td><td>Talk to Container Image</td></container<>	-Image-	SWIFT to	No	Talk to Container Image
Registry-A	PI-Server-	Container Image		Registry API service
IP>:443		Registry API		
		server		

The above ports for Image Registry sync are only required if you plan to migrate or set up Disaster Recovery (DR) for your Container Image Registries with SWIFT.

#### **DR** Policy Operations

The port usage for DR policy remains the same as respective platform type (discovery and sync) ports documented in the earlier sections, depending on source and/or target platform type selected for the policy and the type of the policy. Additionally, for successful email alerts, the below ports need to be opened from the SWIFT server to the target email server for all configured email accounts where alerts are configured.

Port Number (Default)	Direction	Can it be changed?	Purpose
TCP/587 or custom SMTP port used by the target email server.	SWIFT to remote Email server	Yes (If non-default port used, then specify it in the SWIFT options file for email server options)	Send DR email alerts using local Linux email client

SWIFT uses local Linux email client APIs to relay email alert messages to the configured email accounts for DR policy alerts. If your environment uses non-standard or custom SMTP port, then you should whitelist that port instead of above port. Make sure to specify the custom SMTP port in the SWIFT options file too under the below options, so SWIFT can use that for relaying email alerts for policies. (The SWIFT options file is located on the SWIFT server at: /opt/swift/data/options).

#### *dev\_swiftAlertOptions\_emailAlertOptions\_emailServerUrl=smtp://127.0.0.1:587 dev\_swiftAlertOptions\_emailAlertOptions\_localEmailServer=smtp://127.0.0.1:587*

<u>Note</u>: It is important you uncomment the line (by removing # at the start of the line) for set options in the options file, and then restart SWIFT service for the newly set options to take effect.

## Rackware

#### Doing SWIFT install or upgrade

#### Fresh install

Once you have identified the host for SWIFT install, the next step is a breeze. Just run the installer for the SWIFT version that you have downloaded. You will be given a EULA prompt, accept it with 'yes' and then accept all defaults for subsequent prompts.

Verifying archive integrity... 100% All good. Uncompressing RackWare SWIFT Package 100% Installation log file: /var/log/swift/installer.log

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Please type 'yes' then [enter] to accept the terms of the license agreement, or simply press [enter] to abort installation.

Enter your acceptance: yes Beginning installation ...

Extracting new SWIFT install files ...

•••

One specific input you may want to customize for your environments is the NTP server name or IP. SWIFT needs an NTP server name or IP during its operation. By default, SWIFT would configure the 'pool.ntp.org' server, but you can change it to something local you use in your environment.



Configuring NTP ... Configured NTP server for the SWIFT: pool.ntp.org (System level NTP settings are not changed.)

Do you want to configure a different NTP SERVER for the SWIFT? (Type: y/yes/n/no) [no]: yes

Enter the NTP server name or IP [pool.ntp.org]: myntp.local Configuring the NTP server for the SWIFT use: myntp.local (System level NTP settings are not changed.) Configuring all SWIFT components and services ... Installing dependency packages ...

•••

You will also be prompted to set a password for the 'admin' user at the end of the install, which is a built-in superuser for SWIFT. You can skip this step and set up this password later by running the below command over SSH to the SWIFT server. The installer will also print the same command if you skip setting the password during the fresh install. Note that you will need this user's password set to log in to the SWIFT dashboard and create other users and groups initially.

sudo swiftcli user modify admin -password <password>

If a restart is needed, the installer will prompt that in the end. If prompted, it will be highly recommended to complete the restart of the SWIFT server immediately for the correct functioning of all the SWIFT services.

#### Upgrade

For upgrade, steps remain the same as a fresh installation.

You may see an error in an upgrade if any of the SWIFT services are running, and you run the new installer package.

Verifying archive integrity... 100% All good. Uncompressing RackWare SWIFT Package 100% Installation log file: /var/log/swift/installer.log

ERROR: The existing SWIFT processes are still running. Please stop those with the 'swiftadm stop all' command, and re-run this installer.

Make sure no SWIFT operation is running before stopping any of its processes.

Aborting installation.

\_\_\_\_\_



Installation log file: /var/log/swift/installer.log

-----

Stop the services with 'swiftadm stop all' as the prompt mentions, and then re-run the installer package. Make sure none of the SWIFT operations are running before you stop services. The ongoing operations resume after the SWIFT starts back, but it would be recommended to do an upgrade only when the SWIFT server is idle.

Once the installer runs to an end, it will complete the upgrade, and the SWIFT services would be automatically started back. If a restart is needed for the upgrade, the installer will prompt that in the end. If prompted, it will be highly recommended to complete the restart of the SWIFT server for the correct functioning of the upgraded SWIFT services.

#### Creating cluster credentials for SWIFT use

Below sections highlight steps for creating cluster credentials for use with the SWIFT. Note that steps will change for every cloud and non-cloud installs.

The generated credentials are something you would use while configuring cluster details in the SWIFT or using object-storage for the cloud with SWIFT. The same credentials will also be used for the container image registry discover and administration for the respective clouds or platform types.

#### Adding local Kubernetes cluster service-account for SWIFT use

Before you can add your local (non-cloud) Kubernetes cluster to SWIFT and start managing it, you will need to have a cluster service account created with the necessary permissions.

Create a YAML for the new service account:

\$ vi swift-admin-sa.yaml
--apiVersion: v1
kind: ServiceAccount
metadata:
name: swift-admin
namespace: kube-system

Apply the YAML file \$ kubectl apply -f swift-admin-sa.yaml



Next, add the 'cluster-admin' role to the newly created account.

\$ vi swift-admin-roles.yaml
apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
name: swift-admin
roleRef:
apiGroup: rbac.authorization.k8s.io
kind: ClusterRole
name: cluster-admin
subjects:
- kind: ServiceAccount
name: swift-admin
namespace: kube-system
apiVersion: v1
kind: Secret
metadata:
name: swift-admin
namespace: kube-system
annotations:
kubernetes.io/service-account.name: swift-admin
type: kubernetes.io/service-account-token

Apply the YAML file

\$ kubectl apply -f swift-admin-roles.yaml

To get the service-account token, you can use a command as below. The command would print the 'token' key. You will use this output token later while adding the cluster to the SWIFT.

\$ kubectl -n kube-system describe secret \$(kubectl -n kube-system get secret | grep "swift-admin" |
awk '{print \$1}')

#### Adding Oracle Cloud Infrastructure (OCI) user for SWIFT use

This section highlights the steps to create an account under your OCI cloud tenancy, which you can use later to configure the cluster details under your installed SWIFT. The same credentials can also be used later to discover an Oracle Cloud Infrastructure Container Registry (OCIR) instance or add an OCI cloud object storage under your SWIFT.

Login to OCI <u>console</u>. Select the 'Identity & Security' submenu from the top left menu and then select 'Groups' option. We will create a Group, a Policy, and then finally a User.



X ORACLE Cloud	Search resources, services, documentation, and Market	place	US East (Ashburn) 🗸 🕢 🤃 🔀
Q Search	⊘ Identity & Security		
Home	Identity Users	Firewalls Network Firewalls	Related services
Compute Storage	Groups	Network Firewall Policies	Private Endpoints Load balancers
Networking	Dynamic Groups Network Sources	Web Application Firewall Policies	Logging OS Management
Oracle Database	Policies	Network Address Lists	Data Safe - Database Security
Databases	Compartments	Edge Policy Resources	Help
Analytics & Al Developer Services	Federation Authentication Settings	Certificates Overview	Security Overview Security Services and Features Security Testing Policy
Identity & Security	Cloud Guard	Certificates	Security Best Practices
Observability & Management	Overview	Certificate Authorities	Government Cloud Services All Security Documentation
Hybrid	Problems Recommendations	CA Bundles	Identity and Access Management
Migration & Disaster Recovery	Threat monitoring	Scanning	
Billing & Cost Management	Targets	Vulnerability Reports	
Governance & Administration	Responder activity	Scanning Reports	
Marketplace	Detector recipes Responder recipes	Targets Scan Recipes	

#### Press the 'Create Group' option.

	OUD Search resources, services, document	ation, and Marketplace	US East (Ashburn) 🗸 🕢 🕀 Q
Identity	Groups		
Users	Create Group Delete		
Groups	Name	Description	Created
Dynamic Groups		No items fo	bund.
Network Sources Policies	0 selected		No Group to display < Page 1 >
Compartments			
Federation			
Authentication Settings			
Tag filters	add I clear		

In the new 'Create Group' wizard, set appropriate name and description. In this example case, we will name it 'RackWare-SWIFT.'



= ORACLE Cloud	Search resources, services, docume	ntation, and Marketplace	US East (Ashburn) 🗸	$\bigcirc$	<u>ل</u> ک	?	۲	0
Identity	Groups	Create Group					He	1p
Users Groups Dynamic Groups Network Sources Policies Compartments Federation Authentication Settings Tag filters add Left Show resources matching these conditions: Tagged with the defined tag Tag namespace: Rackware OperatingSystem: (Any value)	Create Group Delete Name 0 selected	Name          RackWare-SWIFT         No spaces. Only letters, numerals, hyphens, periods, or underscores.         Description         Group for RackWare SWIFT's access control         Solution         Show advanced options						
		Create Cancel Create Another Group						

Once the group is created, we are ready for the next step of creating a Policy.

Search resources, services, docu	imentation, and Marketplace		US East (Ashburn) 🗸	Ω (	3 ()	
RackWare-SV	VIFT					
Edit Group Add tags	Delete					
Group Information	Tags					
		Description: Group fo	or RackWare SWIFT's access con	trol		
Group Memb	ers					
Add User to Group						
Name	Description	Federated	Created			
		No items found.				
			S	howing 0 if	ems <	1 of 1
	RackWare-SV Edit Group Add tags Group Information OCID:by265a Show Created: Sun, Mar 12, Group Memb	Group Information     Tags       OCID:byz65a     Show     Copy.       Created: Sun, Mar 12, 2023 at 12:35:11 UTC	RackWare-SWIFT         Edit Group       Add tags         Origin Add tags       Delete         Group Information       Tags         OCID:byz65a       Show Copy         Created: Sun, Mar 12, 2023 at 12:35:11 UTC       Description: Group for the second seco	RackWare-SWIFT         Edit Group       Add tags         Delete         Group Information       Tags         OCID:byz65a       Show         Coepy       Description: Group for RackWare SWIFT's access components         Created: Sun, Mar 12, 2023 at 12:35:11 UTC         Add User to Group         Mame       Description         Federated       Created         No items found.	RackWare-SWIFT   Edit Group   Add tags   Cete   Group Information   Tags   OCID:byz65a   Show   Copy   Created: Sun, Mar 12, 2023 at 12:35:11 UTC	RackWare-SWIFT         Edit Group       Add tags         Octor       Tags         Octor      byz65a         Show       Copy         Created:       Sun, Mar 12, 2023 at 12:35:11 UTC

From the Identity menu, select 'Policies' submenu. Select compartment where OKE clusters or OCIR registries are located. Then press the 'Create Policy' button.



	rch resources, services, documenta	ion, and Marketplace		US East (Ashburn) 🗸 🖸 🌐 🧕				
Identity	Policies in cluster	compartment Compartment						
Users	Create Policy Delete	Create Policy Delete						
Groups	Name	Description	Statements	Created				
Dynamic Groups Network Sources		No items found.						
Policies	0 selected			No Policy to display 🛛 < Page 1 >				
Compartments								
Federation								
Authentication Settings								
List scope								
Compartment								
cluster-compartment  \$ a501635 (root)/cluster-compartment								
abo reab (rood) cruster-comparament								

For the new 'Create Policy' wizard, give policy a name and description. Then enable 'Show manual editor' slider. It will show you a textbox to edit policy rules that you can use to enter rules shown below.

ORACLE Cloud Search resources, services, documentation, and Marketplace	US East (Ashburn) 🗸 🖸 🌐 😋
Create Policy	Holo
Name	
RackWare-SWIFT-Access	
No spaces. Only letters, numerals, hyphens, periods, or underscores.	
Description	
Policy for RackWare SWIFT's access control	
Compartment	
cluster-compartment	\$
a501635 (root)/cluster-compartment	
Policy Builder Show manual editor	
Allow group RackWare-SWIFT to manage instance-family in compartment cluster-compartment Allow group RackWare-SWIFT to use obtained-allowing cluster compartment cluster-compartment Allow group RackWare-SWIFT to use virtual-network-family in compartment cluster-compartment Allow group RackWare-SWIFT to use virtual-network-family in compartment cluster-compartment Allow group RackWare-SWIFT to read all-artifacts in compartment cluster-compartment Allow group RackWare-SWIFT to manage cluster in compartment cluster-compartment	
Allow group RackWare-SWIFT to manage volume-family in compartment cluster-compartment Allow group RackWare-SWIFT to use instance-family in compartment cluster-compartment	
Allow group RackWare-SWIFT to manage buckets in compartment cluster-compartment Allow group. RackWare-SWIFT to manage objects in compartment cluster-compartment	
Allow group RackWare-SWIFT to manage virtual-network-family in compartment cluster-compartment	
Example: Allow group (arcup .name) to (verb) (resource-type) in compartment (compartment .name) where (condition)	
Show advanced options	(D)
Create Cancel Create Another Policy	

In the policy editor textbox for rules, you will enter below rules. Note that some rules are optional depending on use-cases needed with the SWIFT. Replace '{group name}' and '{compartment name}' in below rules with user group created earlier and compartment name where OKE clusters are located respectively.

#### Instance access control rules - Mandatory

Allow group {group name} to manage instance-family in compartment {compartment name} Allow group {group name} to read app-catalog-listing in compartment {compartment name} Allow group {group name} to use volume-family in compartment {compartment name} Allow group {group name} to use virtual-network-family in compartment {compartment name}



#### Storage access control for snapshots rules - Mandatory

Allow group {group name} to manage volume-family in compartment {compartment name} Allow group {group name} to use instance-family in compartment {compartment name}

#### **Sync to/from OKE cluster rules** – Mandatory

Allow group {group name} to read all-artifacts in compartment {compartment name}
Allow group {group name} to manage cluster in compartment {compartment name}
Allow group {group name} to manage instance-family in compartment {compartment name}
Allow group {group name} to manage volume-family in compartment {compartment name}
Allow group {group name} to use virtual-network-family in compartment {compartment name}
Allow group {group name} to manage objects in compartment {compartment name}
Allow group {group name} to inspect instance-family in tenancy

## **Backup to Object storage control rules** – Only needed if you are planning to backup to OCI Object Storage with SWIFT

Allow group {group name} to manage volume-family in compartment {compartment name}
Allow group {group name} to manage buckets in compartment {compartment name}
Allow group {group name} to manage objects in compartment {compartment name}
Allow group {group name} to manage virtual-network-family in compartment {compartment name}

## **OKE Dynamic cluster provisioning support rules** – Only needed if you are planning to dynamically provision DR OKE clusters with SWIFT

Allow group {group name} to manage compartments in tenancy
Allow group {group name} to manage vcns in compartment {compartment name}
Allow group {group name} to manage subnets in compartment {compartment name}
Allow group {group name} to use vnics in compartment {compartment name}
Allow group {group name} to use private-ips in compartment {compartment name}
Allow group {group name} to manage public-ips in compartment {compartment name}
Allow group {group name} to use cluster-node-pools in compartment {compartment name}
Allow group {group name} to inspect instance-family in tenancy
Allow group {group name} to manage cluster-family in compartment {compartment name}

## **Oracle Container Registry (OCIR) sync rules** – Only needed if you are planning to sync to/from Oracle OCI Container Registries (OCIR) with SWIFT

Allow group {group name} to manage volume-family in compartment {compartment name}
Allow group {group name} to manage buckets in compartment {compartment name}
Allow group {group name} to manage objects in compartment {compartment name}
Allow group {group name} to manage virtual-network-family in compartment {compartment name}

Once you enter required rules above, create the policy.



		US East (Ashburn) 🗸	0	ۍ ټ	•	0			
Identity > Policies > Policy Detail									
	RackWare-SWIFT-Access								
D	Edit Policy Add tags Delete								
	Policy Information Tags								
ACTIVE	OCID:ingwfeyq Show Coox Compartment: a501835 (root)/cluster-compartment Description: Policy for RackWare SWIFT's access control Created: Sun, Mar 12, 2023 at 13:17:200 UTC								
Resources	Statements								
Statements	Edit Policy Statements								
	Allow group RackWare-SWIFT to manage instance-family in compartment cluster-compartment								
	Allow group RackWare-SWIFT to read app-catalog-listing in compartment cluster-compartment								
	Allow group RackWare-SWIFT to use volume-family in compartment cluster-compartment								
	Allow group RackWare-SWIFT to use virtual-network-family in compartment cluster-compartment								
	Allow group RackWare-SWIFT to read all-artifacts in compartment cluster-compartment								
	Allow group RackWare-SWIFT to manage cluster in compartment cluster-compartment								
	Allow group RackWare-SWIFT to manage volume-family in compartment cluster-compartment								
	Allow group RackWare-SWIFT to use instance-family in compartment cluster-compartment					1			
	Allow group RackWare-SWIFT to manage buckets in compartment cluster-compartment				¢				
	Allow group RackWare-SWIFT to manage objects in compartment cluster-compartment				:				
	Allow group RackWare-SWIFT to manage virtual-network-family in compartment cluster-compartment								
				Showing	g 11 iten	ns			

Let's now create a User and add it to the Group created earlier, where we also applied access policy now.

Soracle Cloud	earch resources, services, c	locumentation, and M	arketplace			US East (Ashburn) 🗸 🚺 🎊 🕐	•
Identity	Users						
Users	Create User De	elete					
Groups	Name	Status	Email	Federated	Created	Last recorded sign in	
Dynamic Groups	No items found.						
Network Sources Policies	0 selected					No User to display 🛛 🗸 P	age 1 >
Compartments							
Federation							
Authentication Settings							
Tag filters add   clea	щ						
Show resources matching these conditions:							

From the Identity menu, select the Users submenu.

Select the 'Create User' option. Then on new user creation wizard, set name and description for the User. We will use 'RackWare-SWIFT' as a name in the example case.



Ξ	E ORACLE Cloud	Search resources, servic	es, documentation, and Ma	arketplace		US East (Ashburn) 🗸	ŝ	<u>ل</u>	?	٢	0
	Create User									He	<u>Ip</u>
	Name										
	RackWare-SWIFT										
	No spaces. Only letters, numerals, hyphens	, periods, underscores, +, and @.									
	Description					 					_
	User for RackWare SWIFT's acc	ess									
	Email Optional				Confirm Email						_
	Show advanced options										
	5 Show advanced options										
										G	
											:
	Create Cancel Creat	e Another User									

Once the user is created, select 'Add User to Group' option from the Groups tab.

	irch resources, services, documentation, and Marketplace		US East (Ashburn) 🗸 🕐 💭 😲						
Identity + Users + User Details	RackWare-SWIFT         User for RackWare SWIFT's access         Edit User       Create/Reset Password         Edit User       Index (Create/Reset Password)         User Information       Tags	t User Capabilities ] [ More actions 👻							
ACTIVE	OCID:6gadbq Show Coox Created: Sun, Mar 12, 2023 at 12:33:07 UTC Multi-factor authentication: Disabled Email: - Capabilities Local password: Yes API keys: Yes Auth tokens: Yes	My Or SMTP Custo OAuth	ted: No credentials: Yes mer secret køys: Yes 2.0 Glient Gredentials: Yes ase Passwords: Yes						
Resources	Groups								
Groups	Add User to Group Remove								
API Keys	Group Name Status Description								
Auth Tokens		No items found.							
Customer Secret Keys	0 selected		No Group to display < 1 o						
Database Passwords			₩ ₩						
OAuth 2.0 Client Credentials									
SMTP Credentials	SMIP Credentais								

Add it to the 'RackWare-SWIFT' group created earlier in the flow, where new policy is also applied. Adding user to this group would restrict this user's access to OCI with the earlier applied restrictive policy.



E ORACLE Cloud	Search resources, services, documentation, and Marketplace		US East (Ashburn) 🗸 🗔 🇘
Identity > Users > User Details			
	RackWare-SV Add User to Group	Halo	
	User for RackWare SWIFT		
I U	Edit User Create/Re RackWare-SWIFT	\$	
	User Information Add Cancel		
ACTIVE	OCID:6gzdbq Show Copy	Federated: No	
	Created: Sun, Mar 12, 2023 at 12:33:07 UTC	My Oracle Support account: -	
	Multi-factor authentication: Disabled		
	Email: -		
	Capabilities		
	Local password: Yes	SMTP credentials: Yes	
	API keys: Yes	Customer secret keys: Yes	
	Auth tokens: Yes	OAuth 2.0 Client Credentials: Yes	
		Database Passwords: Yes	

Once the user is added to the group, you will see the new group listed in the Groups tab.

	arch resources, services, documentation, and Marketplace		USI	East (Ashburn) 🗸 🕐 👹 😡				
Identity > Users > User Details > Group	\$	NIL STITIST		所示可用用用用用				
	RackWare-SWIFT							
	User for RackWare SWIFT's access							
	Edit User Create/Reset Password Enable Multi-Factor Authentication E	dit User Capabilities More actions						
	User Information Tags							
ACTIVE	OCID:6gzdbq Show Copy	Feder	ated: No					
	Created: Sun, Mar 12, 2023 at 12:33:07 UTC	My Or	acle Support account: -					
	Multi-factor authentication: Disabled Email: -							
	Capabilities							
	Local password: Yes	SMTP credentials: Yes						
	API keys: Yes	Custo	Customer secret keys: Yes					
	Auth tokens: Yes View Configuration file(1)	n 2.0 Client Credentials: Yes						
	View Configuration flie() Database Passwords: Yes							
Resources	Groups							
Groups Add User to Group Remove								
APIKeys Group Name Status Description								
Auth Tokens  Customer Secret Keys Group for RackWare-SWIFT Group for RackWare SWIFT's access control								
Database Passwords	Displaying 1 Group 1 of							
OAuth 2.0 Client Credentials								
SMTP Credentials								

Now, let's generate an API key for the user that later you will use with SWIFT for OKE cluster discovery, OCIR syncs, OCI object storage addition to SWIFT, or OKE dynamic provisioning configuration in SWIFT.

Click on the 'API Keys' tab under user configuration page.



· · · · · · · · · · · · · · · · · · ·	Search resources, services, documentation, and Marketplace		US East (Ashburn) 🗸 🖸 🎊 🕘 🤮				
Identity + Users + User Datalis + API	Keys RackWare-SWIFT User for RackWare SWIFT's access Edit User Create/Reset Password Enable Multi-Factor Auth User Information Tags	entication Edit User Capabilities More actions 👻					
ACTIVE	OCID:6gzdbq <u>Show Copy</u> Created: Sun, Mri 12, 2023 at 12:33.07 UTC Multi-factor authentication: Disabled Email: - Capabilities Local password: Yes Auth tokens: Yes	Federated: No My Oracle Support account: - SMTP credentials: Yes Customer secret keys: Yes OAuth 2.0 Client Credentials: Yes					
Resources Groups API Keys	API Keys Add API Key	Database Passwords: Yes					
Auth Tokens	Fingerprint	Created					
Customer Secret Keys	No items found.						
Database Passwords			No API Key to display				
OAuth 2.0 Client Credentials			©				
SMTP Credentials							

Select 'Add API Key' button. On the new key wizard, you can either upload keypair or let OCI generate one for you. Make sure to download both keys if you let OCI generate keypair for you, as you can't later download these keys later.

	Search resources, services, docum	sentation, and Marketplace	US East (Ashburn) 🗸 🗔 🇘
Identity - Users - User Details - AP	RackWare-SV User for RackWare SWIF Edit User Create/Fie User Information OCID:6gzdbq Shg: Created: Sun, Mar 12 Multi-factor authenti- Email: - Capabilities Local password: Yes API keys: Yes Auth tokens: Yes	Acid API Key	
Resources	API Keys		
Groups	Add API Key		
API Keys	Fingerprint	Created	
Auth Tokens		No items found.	
Customer Secret Keys			

Note the generate key's fingerprint too, as you will later need it for various OKE/OCIR specific configurations in SWIFT, including OKE/OCIR cluster discovery.



	Search resources, services, documentation, and Marketplace		US East (Ashburn) 🗸 🕢 🗘 💮
Identity > Users > User Details > Al	1 Keys		
	RackWare-SWIFT		
	User for RackWare SWIFT's access		
	Edit User Create/Reset Password Enable Multi-Factor Authentication	Edit User Capabilities More actions 👻	
	User Information Tags		
ACTIVE	OCID:6gzdbq Show Copy	Federated: No	5
	Created: Sun, Mar 12, 2023 at 12:33:07 UTC	My Oracle Su	pport account: -
	Multi-factor authentication: Disabled		
	Email: -		
	Capabilities		
	Local password: Yes	SMTP creden	tials: Yes
	API keys: Yes	Customer see	cret keys: Yes
	Auth tokens: Yes View Configuration file(i)		ent Credentials: Yes
	view Configuration file(f)	Database Pas	swords: Yes
Resources	API Keys		
Groups	Add API Key		
API Keys	Fingerprint		Created
Auth Tokens	60:0e:26:cc:ce:20:c2:88:3a:c3:10:14:37:5c:59:ad		Sun, Mar 12, 2023 at 12:38:07 UTC
Customer Secret Keys			Displaying 1 API
Database Passwords			Dopiding the
OAuth 2.0 Client Credentials			
SMTP Credentials			

That's it! You can now use the generated API key and fingerprint along with other details like compartment id and user id with SWIFT to discover an OKE cluster or sync OCIR registries under the OCI account. The new API key will have same access that access policy we created and applied above for the new user allows.

#### Adding Google GCP service-account for SWIFT use

This section highlights the steps to create an account under your Google cloud project, which you can use later to configure the cluster details under your installed SWIFT. The same credentials can also be used later to discover a Google Container Registry (GCR) instance or add a GCP cloud object storage under your SWIFT.

Login to Google cloud <u>console</u>, and select the required project. Note that you will have to repeat these steps for every project, where you have a cluster located and which you want to manage under the SWIFT.



Google Cloud Platform DemoProject		Q Search products and resources
DASHBOARD ACTIVITY RECOMMENDATIONS		
Project info Project name DemoProject	I	RPI APIS Requests (requests/sec)
Project ID demoproject-276905 Project number		
314379500566		

From your menu options, click on the 'APIs & Services' option and then on the 'Dashboard' submenu.

≡	Google Cloud Platform	n	DemoProject	٩	Search products and resources
A	Home	>	OMMENDATIONS		
()	Recents	>			
API	APIs & Services	>	Dashboard	AP:	I APIs
	Compute Engine	>	Library		Requests (requests/sec)
Ħ	VPC network	>	Credentials OAuth consent screen	_	
	Storage	>	Domain verification	-	
PROD	DUCTS 🔨		Page usage agreements		
ŕ	Marketplace		<b>^</b>	5.15	5-20 5-45

Click on the 'Enable APIs and Services' option.



	Google Cloud Platform	🕈 DemoProject 👻		ξ	Search products and resou	rces
API	APIs & Services	APIs & Services	I	+	ENABLE APIS AND SERVICES	
•	Dashboard					

Search For 'Kubernetes Engine API' option.

	Q kubernetes	×	
6 results			
٨	Kubernetes Engine API Google Builds and manages container-based applications, powered by the open source Kubern	etes tec	
٢	Connect Gateway API Google The Connect Gateway service allows connectivity from external parties to connected K	ubernete	

Click on the 'Enable' button.



### **Kubernetes Engine API**

Builds and manages container-based applications, powered by the open source Kubernetes technology.



From your menu options, click on the 'IAM & Admin' option and then on the 'Service Accounts' submenu.



	Google Cloud Platform	💲 DemoProject 👻	<b>Q</b> Search products and resources
â	Home >	DMMENDATIONS	
API	APIs & Services >	IAM Identity & Organization	11
۲	Compute Engine	Policy Troubleshooter	API APIS
11	VPC network	Organization Policies	Requests (requests/sec)
	Storage >	Quotas Service Accounts	
PROE	DUCTS 🔨	Labels	
<u>\</u> ↓ ↓	Marketplace	Settings Privacy & Security	
	Billing	Identity-Aware Proxy	2:45 3 PM 3:15
API	APIs & Services 📮 >	Roles Audit Logs	Requests: 0.017/s
Ť	Support >	Manage Resources	→ Go to APIs overview
Θ	IAM & Admin >	Groups	
	Getting started		

#### Click on the 'Create Service Account' option.

	Google Cloud Platform	DemoProject  Q Search products and resources					
θ	IAM & Admin	Service accounts	+ CREATE SERVICE ACCOUNT	DELETE			
+•	IAM	Service accounts for	project "DemoProject"				
Θ	Identity & Organization	A service account represents a	Google Cloud service identity, such as code	running on Compute Engine VMs, App Engine apps, (			
٩	Policy Troubleshooter	Organization policies can be us Learn more about service acco		ky service account features, such as automatic IAM (			
	Organization Policies						
	4240	Filter table					



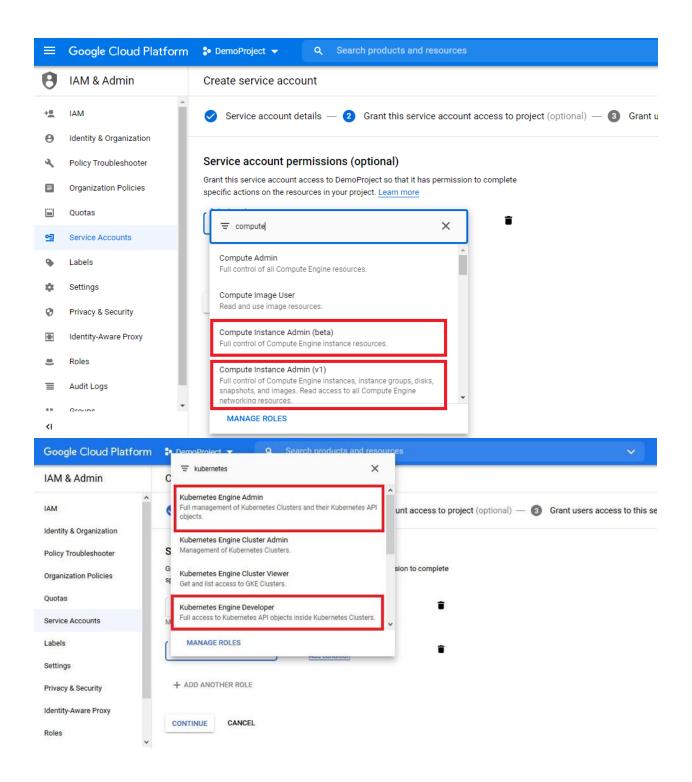
#### Fill out the necessary account name and description details.

reate service ac	count		
Service account	t details $-$ 2 Grant this service account access to pr	oject (optional) — 3	Grant users access to this service account (optional)
ervice account c	letails		
Service account name — swift-admin			
Display name for this se	vice account		
Service account ID			
swift-admin	@demoproject-276905.iam.gserviceaccount.com 🗙 C		
Service account descript	tion		
An admin account for t	he RackWare SWIFT's usage		
	ce account will do		

After the account is created, select roles to add for the new account, as shown below. You need to add Kubernetes engine developer, Kubernetes Engine admin, Compute Instance Admin (beta) and Compute Instance Admin (v1).

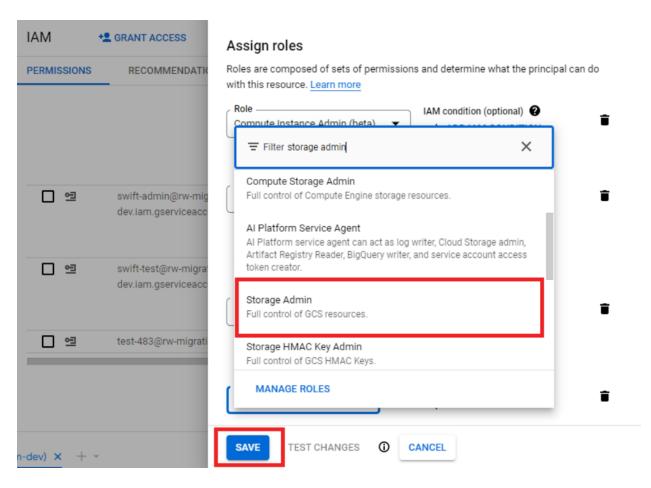
Create service account		
Service account details — 2	Grant this service account access to project (optional) — $\ensuremath{\mathfrak{G}}$	Grant users access to this service account (optional)
	Project so that it has permission to complete	
specific actions on the resources in your pr	Condition Add condition	
+ ADD ANOTHER ROLE		
CONTINUE		





Also add the 'Storage Admin' role to the service account if you plan to use this account with the SWIFT for adding a GCP object storage in the SWIFT. If you do not plan to use GCP object storage with SWIFT for backups, then this role addition is an optional step.





Once the required roles are added, press the 'Continue' button.



	Google Cloud Platform	Search products and resources
θ	IAM & Admin	Create service account
+ <u>e</u>	IAM	Role Condition
Θ	Identity & Organization	Full management of ADI bilities Clusters
2	Policy Troubleshooter	and their Kubernetes API objects.
	Organization Policies	Kubernetes Engine Develo ▼ Add condition
	Quotas	Full access to Kubernetes API objects inside Kubernetes Clusters.
연	Service Accounts	Role Condition Add condition
۹	Labels	Full control of Compute Engine instance resources.
\$	Settings	Condition
٢	Privacy & Security	Compute Instance Admin  Full control of Compute Engine instances,
	Identity-Aware Proxy	instance groups, disks, snapshots, and images. Read access to all Compute Engine networking resources.
	Roles	
≡	Audit Logs	+ ADD ANOTHER ROLE
••• <।	Groups v	CONTINUE CANCEL

Add any user roles for the account. Adding any user roles is optional for this account. Press the 'Done' button to complete the creation of the user.



Create service account		SHOW INFO PANE
Service account details — 🥑 Grant this service accoun	t access to project (optional) -	<ul> <li>Grant users access to this service account (optional)</li> </ul>
Grant users access to this service account (optional)		
Grant access to users or groups that need to perform actions as this service Learn more	ce account.	
Service account users role	0	
Service account users role Grant users the permissions to deploy jobs and VMs with this service account	_	
	_	

Now the new account will appear on the service accounts page. Filter, if necessary, to find the newly created user and generate a key for it from the account menu.

0	IAM & Admin	Servio	ce accounts	+ CREATE SERVICE ACC	OUNT	DELETE				SHOW IN	NFO P	ANEL
+2	IAM	Servio	ce accounts for	project "DemoProject"								
Θ	Identity & Organization	A service	e account represents a	Google Cloud service identity, such	n as code ru	unning on Compute Engine	e VMs, App Engine apps, or systems	running outside	Google. Learn more	about servic	e acco	ounts.
٩	Policy Troubleshooter			ed to secure service accounts and unt organization policies.	block risky	service account features,	, such as automatic IAM Grants, key	creation/upload,	or the creation of se	rvice accour	nts ent	tirely.
۵	Organization Policies											
	Quotas	Ē	Name : swift-admi	in 🕴 Filter table	Status	s Name ↑	Description	Key ID	Key creation dat	× Ø		m
纽	Service Accounts		역 swift-admin@		0	swift-	An admin account for	No		1		
٠	Labels		276905.iam.gserv	/iceaccount.com		admin	RackWare SWIFT's usage	keys	Edi	t		
\$	Settings								Dis	able		
0	Privacy & Security								Cre	ate key		
æ	Identity-Aware Proxy								Del	ete		
	identity ritigit I long	¥										

Select the JSON format for the key, and then download the JSON key file.

	wnloads a file that contains the private key. Store the file s 't be recovered if lost.	ecurely because	this key
Key	type		
0	JSON		
	Recommended		
0	P12		
	For backward compatibility with code using the P12 format		
			CREATE
		CANC	EL

Store the downloaded JSON file securely, as it will contain API private key and a few other sensitive details. Later, when you are ready to add your cluster to the SWIFT, you will need to upload this downloaded JSON file.

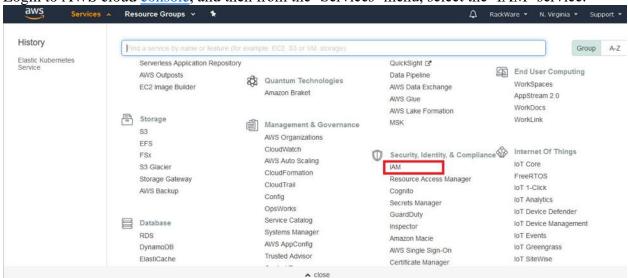
Additionally, you will also need to specify your cloud cluster details to the SWIFT while configuring the GKE cluster under SWIFT. You will need a few necessary details, like the cluster name, the project under which this cluster is created, etc. You can find those on the cluster details page, as shown below.

۲	Kubernetes Engine	← Clusters	/ EDIT	T DELETE	ADD NODE POOL	DEPLOY	
Φ	Clusters	🔮 gke-clus-1 🛛 📈	ame of cluster				
₹ġ.	Workloads	Details Storage Nod	les				
Å	Services & Ingress	Cluster					
	Applications	Release channel Master version	None 1.16.13-gke.1		release channel ograde available		
⊞	Configuration	Endpoint	34.72.158.179		luster certificate		
	Storage	Client certificate Binary Authorization	Disabled				
		Kubernetes alpha features	Disabled				
1	Object Browser	Total size Master zone	2 us-centrai1-a	Zone of	Cluster		
å	Migrate to containers	Default node zones 🛞	us-central1-a				
		Network Subnet	default default				
		VPC-native (alias IP)	Enabled				
		Pod address range	10.48.0.0/14				
肾	Marketplace	Default maximum pods per node	110				
<1		Service address range	10.0.0/20				
		Intranode visibility	Disabled				



#### Adding Amazon AWS user for SWIFT use

This section highlights the steps to create an account under your Amazon AWS cloud, which you can use later to configure the EKS cluster details or discover Elastic Container Registry (ECR) instance, or AWS cloud object storage under your installed SWIFT.



Login to AWS cloud <u>console</u>, and then from the 'Services' menu, select the 'IAM' service.

#### Traverse to the 'Users' menu on the left and then click on the 'Add User' button.

Services	🗸 Resource Groups 👻 🦹	
Identity and Access Management (IAM)	Add user Delete user	
Dashboard	Q swift-admin	
▼ Access management	User name 🔻 Groups	Acces
Groups		
Users		
Roles		
Policies		
Identity providers		
Account settings		
Access reports     Access analyzer		

Fill up the user name and then select the 'Programmatic Access' for the access-type.

314/6



Add user	1 2 3 4 5			
Set user details				
You can add multiple users at once v	with the same access type and permissions. Learn more			
User name*	swift-admin			
	O Add another user			
Select AWS access type Select how these users will access A	AWS. Access keys and autogenerated passwords are provided in the last step. Learn more			
Access type*	Programmatic access Enables an access key ID and secret access key for the AWS API, CLI, SDK, and other development tools.			
	AWS Management Console access Enables a password that allows users to sign-in to the AWS Management Console.			
* Required	Cancel Next: Permissions			

On the next page, select necessary admin groups where this new user would need to be added. In this example case below, the 'rw-admin' group allows access to below essential policies, which in turn enable the admin access to EKS clusters.

- AmazonEBSCSIDriverPolicy
- AmazonEC2ContainerRegistryFullAccess
- AmazonEKS\_CNI\_Policy
- AmazonEKSWorkerNodePolicy
- AmazonEKSVPCResourceController
- AmazonEKSClusterPolicy



1 2 3 4 5

Δ.				_	_	_
A	C	C	u	S	е	r
		-	-	_	_	

On

Add user to group	Copy permissions fro existing user	Attach existing policies directly
Add user to an existing group or creat	e a new one. Using groups is	a best-practice way to manage user's permissions by job functions. Learn more
Create group Create group		
Q admin		Showing 1 result
Group 👻		Attached policies
✓ rw_admin		AmazonEKSClusterPolicy and 2 more
the next page, select a Add user	ny tags you want	to set for the new user.
Add tags (optional)		
		clude user information, such as an email address, or can be descriptive, such as s for this user. Learn more
IAM tags are key-value pairs you can		
IAM tags are key-value pairs you can a job title. You can use the tags to or	ganize, track, or control acces	s for this user. Learn more
IAM tags are key-value pairs you can a job title. You can use the tags to org	ganize, track, or control acces Value (optional)	s for this user. Learn more Remove
IAM tags are key-value pairs you can a job title. You can use the tags to org Key Owner	ganize, track, or control acces Value (optional)	s for this user. Learn more Remove
IAM tags are key-value pairs you can a job title. You can use the tags to org Key Owner Add new key	ganize, track, or control acces Value (optional)	s for this user. Learn more Remove
IAM tags are key-value pairs you can a job title. You can use the tags to org Key Owner Add new key	ganize, track, or control acces Value (optional)	s for this user. Learn more Remove

Cancel	Previous	Next: Review	

Next, then review all settings and create the user.



#### Review

Review your choices. After you create the user, you can view and download the autogenerated password and access key.

User details					
Use	er name	swift-admin			
AWS acce	ess type	Programmatic access - with an access key			
Permissions bo	oundary	Permissions boundary is not set			
Permissions summary	Permissions summary				
The user shown above will be	The user shown above will be added to the following groups.				
Type Nar	me				
Group rw_	_admin				
Tags					
The new user will receive the	following ta	g			
Кеу		Value			
Owner		DevOps			
Add user Success You successfully created the users shown below. You can view and download user security credentials. You can also email users instructions for signing in to the AWS Management Console. This is the last time these credentials will be available to download. However, you					
can create new credentials at any time. Users with AWS Management Console access can sign-in at: https://225015082077.signin.aws.amazon.com/console					
🕹 Download .csv					
User			Access key ID	Secret access key	
🔹 📀 swift-admin			AKIATIY7RVROTISNV6FD	******** Show	
	wift-admin to	o group rw_admin ser swift-admin			

Close

Next, click on the generated user from the 'Users' menu. You will create an access key for it.



dentity and Access Ianagement (IAM)	^ (	Ac	ld user Dele	te user				
Dashboard		Q	, swift-admin					
<ul> <li>Access management</li> </ul>			User name 👻	Groups	Access key age	Password age	Last activity	MFA
Groups			swift-admin	rw_admin	None	None	None	Not enabled
Users								
Roles								
Policies								
Identity providers								
Account settings								
<ul> <li>Access reports</li> </ul>								
Access analyzer								
Archive rules								

Traverse to the 'Security Credentials' tab under user details. You would use the 'Create access key' button to generate a new access key.

Identity and Access Management (IAM)	Ubers > swith-admin									
Deshboard	Summary								Osliete user	0
Dakhowa - Jocea mangement Gropp Usen Polices Verte Polices Verte Account velops - Access reports Access pargers Access reports	Uver ARN smaxtsm: 20010000070 varmentekom ogi sch / Creation time oppole-30 48 rt UT 0-4000 Permatione Sign-in credentials Sign-in credentials Conside passed Conside pass									
Araljzens Settings	Access keys			1970 - C						
Credential report Organization activity Service control policies (SCPs)	Use access keys to make secure R Create access key	EST or HTTP Query protocol	requests to AiriG service API	a. Por your protection, you should ne	ever share jour secret keys with anyone. As a	a best practice, we recommend frequent ke	rotition. Lests more			
	Access key ID	Created	Last used					Statue		
Q Search HM					No resul	×				
AVV'S RECOURT ID:	SSH keys for AWS Code	eCommit								
225018082077	Use SSH public keys to authenticat	Use 55+ public legis to authenticate access to AHS Color-Commit reportionis. Laser more								
	Upload \$3H public key									
	SSH key ID						Upicaded	Status		
	100 million				No resul					

Note the generated access key and store it securely. You will need it later while configuring your EKS cluster details under the SWIFT.



aws sen	rices → R	esource Groups 👻 📍	*		∴ Ra	ackWare * Global * Sup
Identity and Access Management (IAM)	<b>^</b> .	Users > swift-admin	Create access key		×	Delete user
Dashboard						
<ul> <li>Access managemen</li> <li>Groups</li> </ul>	nt		Success			
Users				t the secret access keys can be viewed or downloaded. You cannot recover th create new access keys at any time.	iem .	
Roles		Permissions				
Policies Identity providers		Sign-in credent	Download .csv file			
Account settings			Access key ID	Secret access key		
			AKIATIY7RVR0YPRNGDVG	ld+ji19JU+E+phGq48tNYP5sn8AkAgu6wwqbsD6/ Hide		
Access analyzer						
Archive rules Analyzers					Close	
Settings		Access keys				
Credential report		Use access keys to n key rotation. Learn mo		ocol requests to AWS service APIs. For your protection, you should never share	your secret keys with anyone. As a l	best practice, we recommend freq
Organization activity Service control policies (SCPs)	3	Create access k	еу			
(5043)		Access key ID	Created	Last used		Status

#### Note:

Once you create a new user and set its credentials/access-key, you will also need to whitelist this user for access to the Kubernetes (EKS) service instance, which is managed with the SWIFT. To do that, you have to edit the ConfigMap named 'aws-auth,' which is located under the 'kube-system' namespace on your EKS instance, and then add the ARN of the newly created user there in the below format:

apiVersion: v1
data:
mapRoles:
- groups:
- system:bootstrappers
- system:nodes
rolearn: arn:aws:iam::225015082077:role/eksctl-EKSCluster1-nodegroup-ng-a-NodeInstanceRole-
1QTOCK6OPERZS
username: system:node: { { EC2PrivateDNSName } }
mapUsers:
- userarn: arn:aws:iam::225015082077:user/swift-admin
username: swift-admin
groups:
- system:masters
kind: ConfigMap
metadata:
name: aws-auth
namespace: kube-system

You will need to do the ConfigMap edit step above using the existing cluster-creator user's credentials. You can use the kubectl utility (along with cluster creator credentials) to do the edit. The detailed steps can be found in this <u>KB</u>.

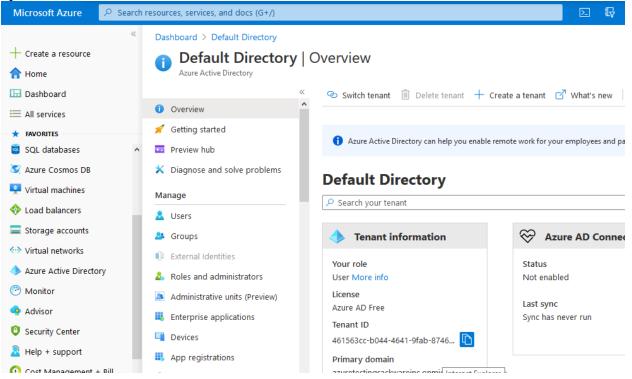


Note that you will have to repeat this whitelisting step for every EKS instance, which you want the SWIFT to manage with the newly created user. If you skip this step, your newly created user will not be able to access the corresponding EKS service instance.

### Adding Azure AAD application for SWIFT use

This section highlights the steps to create an AAD application under your Azure cloud. You will later use the AAD application credentials to configure the AKS cluster details under your installed SWIFT. The same credentials could also be used for Azure Container Registry (ACR) or Azure Object Storage discovery in SWIFT.

Log in to the Azure cloud <u>console</u>, and from menus on the left, select the 'Azure Active Directory' menu option.



Click on the 'App Registrations' menu and then the 'New Registration' option.

# Rackware

Micro	osoft Azure	, P Search resources, services, and docs (G+/) Σ 💀 Q		٢
» + ♠ 🖽 🗮 ★ · ♦	Dashboard > Default Direct Default Direct Azure Active Directory Overview Getting started Preview hub Diagnose and solve proble	<ul> <li>tory   App registrations </li> <li>         + New registration ⊕ Endpoints          Troubleshooting ↓ Download (Preview)   ♡ Got feedback?     </li> <li>         Welcome to the new and improved App registrations (now Generally Available). See what's new and learn more on how it's changed. →     </li> </ul>	ph. We will con	ntinue to n
	Manage Users Groups Users External Identities	All applications           Ø swift-admin		
- · · · · · · · · · · · · · · · · · · ·	Roles and administrators     Administrative units (Previ Enterprise applications     Devices     App registrations     Alpredistrations     Identity Governance	ew) Display name Application (client) ID No results.	Cre	ated on

Create a new app registration and give it a name.

## **Register an application**

#### \* Name

The user-facing display name for this application (this can be changed later).

swift-admin	~
Supported account types	
Who can use this application or access this API?	
<ul> <li>Accounts in this organizational directory only (Default Directory only - Single tenant)</li> </ul>	
Accounts in any organizational directory (Any Azure AD directory - Multitenant)	
O Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox	0
O Personal Microsoft accounts only	
Help me choose	
Redirect URI (optional)	

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web v e.g. https://myapp.com/auth

By proceeding, you agree to the Microsoft Platform Policies 💣





Once the AAD application is created, note the app-id and directory-id. You will need these details later while configuring your AKS clusters under the SWIFT.

f 0 Got a second? We would love your feedback on Microsoft identity platform (previously Asure AD for developer). $ o$	
* Essentials	
Display name : swift-admin	Supported account types : My organization only
Application (client) ID : e96af675-f5cd-40c3-b494-32dbd506ff27	Redirect URIs : Add a Redirect URI
Directory (tenant) ID : 461563cc-b044-4641-9fab-87468ea828e2	Application ID URI : Add an Application ID URI
Object ID : a70f9fda-d517-4dc9-95c9-0d80e9033397	Managed application in Io : swift-admin
Welcome to the new and improved App registrations. Looking to learn how it's changed from App registrations (Legacy)? Learn more	
Starting June 30th, 2020 we will no longer add any new features to Azure Active Directory Authentication Library (ADAL) and Azure AD Graph. We v upgraded to Microsoft Authentication Library (MSAL) and Microsoft Graph. Learn more	vill continue to provide technical support and security updates but we will no longer provide feature updates. Applications will need to be
Call APIs	Documentation Microsoft identity platform Aurthentication scenarios Aurthentication libraries Code samples Microsoft Graph Glossary Help and Support
Build more powerful appy with ich user and business data from Microsoft services and your own company's data sources. View API exemisions	

For the new application, click on the 'API permissions' menu on the left, and then select the 'Add Permission' and the 'Microsoft Graph' API permissions.

P Search (Ctr(+/) «	🖒 Refresh 🛛 🗢 Got feedback	2			Select an API Microsoft APIs APIs my organizati	on uses My APIs	
Overview Quickstant (Integration assistant (preview) lanage	Configured permissions Applications are authorized to call AP permissions the application needs. Let + Add a permission  \(\sigma\) instru-	am more about p		f the consent process. The list of conf		endous amount of data in Office 365. Enterprise 1 took/Exchange. OneDrive. OneNote, SharePoint.	
Branding	API / Permissions name	Туре	Description	Admin consent requ			
Authentication	✓ Microsoft Graph (1)						
Certificates & secrets	User,Read	Delegated	Sign in and read user profile		Azure Batch	Azure Data Explorer	Azure Data Lake
Token configuration					Schedule large-scale parallel and HPC	Perform ad-hoc queries on terabytes of	Access to storage and compute for big
API permissions					applications in the cloud	data to build near real-time and complex analytics solutions	data analytic stanarios
Expose an API							
Owners							
Roles and administrators (Preview)					Azure DevOps	Azure Kay Vault	Azure Service Management
Marifest					Integrate with Azure DevOps and Azure DevOps server	Manage your key vaults as well as the keys, secrets, and certificates within your Key	Programmatic access to much of the functionality available through the Acure
oport + Troubleshooting						Vaults	portal
Troubleshooting							
New support request					Azure Storage Secure, massively scalable object and data late storage for unstructured and sami- structured data	Office 365 Management APIs Retrieve information about user, admin, system, and policy actions and events from Office 365 and Azure AD activity logs	

Under the 'Request API permissions' section, select 'Delegated permissions' and check all Read permissions as shown in the below screenshot, and then click on the 'Add permission' button to finish adding those.

# Rackware

# **Request API permissions**

hreatIndicators	
TrustFrameworkKeySet	
UserActivity	
UserAuthenticationMethod	
UserNotification	
UserTimelineActivity	
User (3)	
User.Export.All Export user's data ①	Yes
User.Invite All Invite guest users to the organization ①	Yes
User.Manageldentities.All Manage user identities ①	Yes
User.Read Sign in and read user profile ①	, and a second se
User.Read All Read all users' full profiles ①	Yes
User.ReadBasic All Read all users' basic profiles ①	
User.ReadWrite Read and write access to user profile ①	
User.ReadWrite.All Read and write all users' full profiles ①	Yes
WorkforceIntegration	

Select 'Add a permission' again and this time select 'Azure Storage' category.



P Search	« 🜔 Refresh 🛛 🛜 Got feedback	?			
S Overview	A You are editing permission(s) to	o your appli	Azure Data Lake	Azure DevOps	Azure Key Vault
Quickstart			Access to storage and compute for big data analytic scenarios	Integrate with Azure DevOps and Azure DevOps server	Manage your key vaults as well as the keys, secrets, and certificates within
🐔 Integration assistant					your Key Vaults
Manage	The "Admin consent required" or your organization, or in organiz				
Branding & properties			人 Azure Maps	Azure Service Management	Azure Storage
Authentication	Configured permissions		Create location-aware web and mobile applications using simple and secure	Programmatic access to much of the	Secure, massively scalable object and
Certificates & secrets		Applications are authorized to call APIs when t all the permissions the application needs. Lean		functionality available through the Azure portal	data lake storage for unstructured and semi-structured data
Token configuration					
<ul> <li>API permissions</li> </ul>	+ Add a permission 🗸 Grant	admin con			
Expose an API	API / Permissions name	Туре	Oynamics 365 Business Central	Office 365 Management APIs	SharePoint
🛓 App roles	〜 Microsoft Graph (3)	_	Programmatic access to data and functionality in Dynamics 365 Business Central	Retrieve information about user, admin, system, and policy actions and events from Office 365 and Azure AD activity	Interact remotely with SharePoint data
Owners	User.Read	Delegat			
Roles and administrators	User.Read.All	Delegat		logs	
Manifest	User.ReadBasic.All	Delegat			
Support + Troubleshooting			Skype for Business	Windows Push Notification Services (WNS) Integrate with Windows Push	
Troubleshooting	To view and manage consented permissions fc		Integrate real-time presence, secure messaging, calling, and conference	Notification Services (WNS) to send toast, tile, badge, and raw updates	
New support request			capabilities	from your own cloud service to your app client on the Windows platform.	

Select permissions shown below and then add it.

# Rackware

100 Date: 1	
All APIs	
Azure Storage	
https://storage.azure.com/ Docs	
What type of permissions does your application require?	
Delegated permissions	Application permissions
Your application needs to access the API as the signed-in user.	Your application runs as a background service or daemon without a signed-in user.
elect permissions	expand a
<ul> <li>Start typing a permission to filter these results</li> <li>The "Admin consent required" column shows the default value for</li> </ul>	
<ul> <li>Start typing a permission to filter these results</li> <li>The "Admin consent required" column shows the default value for the start of the star</li></ul>	or an organization. However, user consent can be customized per $ imes$
permission, user, or app. This column may not reflect the value in more	n your organization, or in organizations where this app will be used. <u>Learn</u>
<ul> <li>Start typing a permission to filter these results</li> <li>The "Admin consent required" column shows the default value for permission, user, or app. This column may not reflect the value in more</li> <li>Permission</li> </ul>	or an organization. However, user consent can be customized per n your organization, or in organizations where this app will be used. <u>Learn</u> Admin consent required
<ul> <li>Start typing a permission to filter these results</li> <li>The "Admin consent required" column shows the default value for permission, user, or app. This column may not reflect the value in more</li> <li>Permission</li> <li>Permissions (1)</li> </ul>	or an organization. However, user consent can be customized per n your organization, or in organizations where this app will be used. <u>Learn</u>
<ul> <li>Start typing a permission to filter these results</li> <li>The "Admin consent required" column shows the default value for permission, user, or app. This column may not reflect the value in more</li> <li>Permission</li> <li>Permission (1)</li> <li>user_impersonation ①</li> </ul>	or an organization. However, user consent can be customized per n your organization, or in organizations where this app will be used. <u>Learn</u> Admin consent required
<ul> <li>Start typing a permission to filter these results</li> <li>The "Admin consent required" column shows the default value for permission, user, or app. This column may not reflect the value in more</li> <li>Permission</li> <li>Permission (1)</li> <li>user_impersonation ①</li> </ul>	or an organization. However, user consent can be customized per n your organization, or in organizations where this app will be used. <u>Learn</u> Admin consent required

Once the permissions are added, select the admin consent grant option, and then grant the permissions.

Configured permissions				
	,	are granted permissions by users/ ore about permissions and consen	admins as part of the consent process. The list of configured permi: t	ssions should include
$+$ Add a permission $\checkmark$ G	rant admin consent	for Default Directory		
API / Permissions name	Туре	Description	Admin consent requ Status	
→ Azure Storage (1)				
user_impersonation	Delegated	Access Azure Storage	No	
→ Microsoft Graph (3)				
User.Read	Delegated	Sign in and read user profile	No	
User.Read.All	Delegated	Read all users' full profiles	Yes 🔥 Not gra	nted for Default •••
User.ReadBasic.All	Delegated	Read all users' basic profiles	No	

Next, click on the 'Certificates & secrets' menu, and then select the 'New client secret' option.



Search (Ctrl+/)	K Got feedback?			
Overview Quickstart		s to identify themselves to the authentication servic end using a certificate (instead of a client secret) as	when receiving tokens at a web addressable location (using an HTTP) a credential.	S scheme)
Integration assistant (preview)	Certificates			
nage	Certificates can be used as secrets to prove	the application's identity when requesting a token.	Also can be referred to as public keys.	
Branding	Upload certificate			
Authentication	Thumbprint	Start date	Expires	
Certificates & secrets Token configuration	No certificates have been added for this ap	plication.		
API permissions				
Expose an API				
Owners	Client secrets			
Roles and administrators (Preview)	A secret string that the application uses to p	prove its identity when requesting a token. Also can	be referred to as application password,	
	+ New client secret			
Manifest		Expires	Value	
	Description	Expres		
oport + Troubleshooting	Description No client secrets have been created for this			
Manifest pport + Troubleshooting Troubleshooting New support request				
pport + Troubleshooting				
oport + Troubleshooting Troubleshooting				
port + Troubleshooting Troubleshooting New support request				
oport + Troubleshooting Troubleshooting New support request dd a client secret escription				
port + Troubleshooting Troubleshooting New support request dd a client secret scription WFT Admin user secret				
port + Troubleshooting Troubleshooting New support request dd a client secret scription WFT Admin user secred prices				
oport + Troubleshooting Troubleshooting				

Note the generated secret key and store it safely. The key will not be shown later for security reasons. Also, you will need this key later while configuring your AKS cluster or ACR registry or Azure object storage details under the SWIFT.

	Sot feedback?			
Overview	Copy the new client secret value. You won	't be able to retrieve it after you perform another op	eration or leave this blade.	
Quickstart				
Integration assistant (preview)		identify themselves to the authentication servic d using a certificate (instead of a client secret) as	e when receiving tokens at a web addressable location (using a : a credential.	in HTTPS scheme).
anage				
Branding	Certificates			
Authentication	Certificates can be used as secrets to prove th	e application's identity when requesting a token.	Also can be referred to as public keys.	
Certificates & secrets				
Token configuration	Thumbprint	Start date	Expires	
API permissions	No certificates have been added for this applic	ration		
Expose an API				
Owners				
Roles and administrators (Preview)	Client secrets			
Manifest	A secret string that the application uses to pro	ve its identity when requesting a token. Also can	be referred to as application password.	
upport + Troubleshooting	+ New client secret			
Troubleshooting	Description	Expires	Value	
New support request	SWIFT Admin user secret	8/29/2021	116um_G2aN8sV~P0na09l5u0mQN-l2JCh.	D



For the new application, from the 'Authentication' menu, enable public client flows. Make sure to press the save button to save the changes.

Search	≪ R Got feedback?
Overview Quickstart	Who can use this application or access this API? <ul> <li>Accounts in this organizational directory only (Default Directory only - Single tenant)</li> </ul>
Integration assistant	O Accounts in any organizational directory (Any Azure AD directory - Multitenant)
anage	Help me decide
Branding & properties	
Authentication	Due to temporary differences in supported functionality, we don't recommend enabling personal Microsoft
Certificates & secrets	accounts for an existing registration. If you need to enable personal accounts, you can do so using the manifest editor. Learn more about these restrictions.
Token configuration	
API permissions	Advanced settings
Expose an API	Allow public client flows ①
App roles	
Owners	Enable the following mobile and desktop flows:
Roles and administrators	<ul> <li>App collects plaintext password (Resource Owner Password Credential Flow) Learn more ??</li> <li>No keyboard (Device Code Flow) Learn more ??</li> </ul>
Manifest	• SSO for domain-joined Windows (Windows Integrated Auth Flow) Learn more
pport + Troubleshooting	App instance property lock $\odot$
Troubleshooting	Configure the application instance modification lock. Learn more 🔄 Configure
New support request	

Grant subscription 'Contributor' role to the new application. To do that, click on the 'Subscriptions' menu and select your subscription where you have your AKS clusters provisioned.



≡	Microsoft Azure		, P Search resources, services, and docs (G+/)	
Dasht	ooard >			
	scriptions &			
++	Adid			
		ou have role-based access control (RB ectory directory. Don't see a subscripti	AC) permissions to manage Azure resources. To view subscriptions for which you have billi on? Switch directories	ng access, click here
My ro	ole 🛈			Status ①
8 se	elected			✓ 3 selected
Show	-	show only subscriptions selected in the	global subscriptions filter 🕜	
24	earch to filter items_			
-	Subscription name	¢↓	Subscription ID	↑↓ Myrole
0	Pay-As-You-Go		5e594148-461b-4875-89f9-2d7ef0a594e8	Account admin

While on the above page, you may also want to note down your subscription id, as you will need it later while configuring your AKS cluster details under the SWIFT.

C Search (Ctrl+/)	Add 4 Download role at the second	ssignments 💠 Edit columns 🖒 S	Refresh   🗙 Remove   🛇 Got fe	edback?	
Overview Activity log	Check access Role assigns	nents Roles Deny assignmen	nts Classic administrators		
Access control (IAM)	Number of role assignments fo	r this subscription 🛈			
Tags	35	2000			
Diagnose and solve problems	No. 10	T	Role (C	Particip (2)	Free by Ch
Security	Name 🛈 swift-admin	Type G		Scope ① All scopes  V	Group by 🖸 Role 🗸
Events			J ()		
st Management	Showing a filtered set of	f results. Total number of role assignments	33		
Cost analysis	0 items				
Budgets	Name		Туре	Role	
	No user assignments exist				
Advisor recommendations					
Advisor recommendations	The user assignmenta exact				

On add dialog, select the newly created application and the contributor role, and then save it.



Scope

This resource

Svift-admin         Selected members:         image: swift-admin         Remove         Svie         Discard         Payek-You-Go   Access control (IAM)         Payek-You-Go   Access control (IAM)         Payek-You-Go   Access control (IAM)         Payek row Go   Access   Sole and payeents   El fotowers   Detect   Sole   Control and market or   Sole   Control and   Control a	Assign access to ① Acure AD user, group, or service pr ▼ Select ① swift-admin Selected members: Selected members: Sele	Assign access to O Acure AD user, group, or service pr. V Select O swift-admin Selected members: Selected members: Select	Role ①					
Azure AD user, group, or service pr         Select ©         swift-admin         Image: swift-admin         Image: swift-admin         Selected members:         Image: swift-admin         Remove         State         Discard         State	Azure AD user, group, or service pr         Select ©         swift-admin         Remove         Swift-admin         Swift-admin         Remove         Swift-admin         Remove         Swift-admin         Remove         Swift-admin         R	Azure AD user, group, or service pr V         Select ©         swift-admin         Image: swift-admin         Selected members:         Image: swift-admin         Remove         Save Discard         Save Discard         Save Discard         Image: swift-admin         Remove         Save Discard         Conserved Constraint Remove         Save Discard	Contributor ①	~				
Azure AD user, group, or service pr         Select ©         swift-admin         Image: swift-admin         Image: swift-admin         Selected members:         Image: swift-admin         Remove         State         Discard         State	Azure AD user, group, or service pr         Select ©         swift-admin         Remove         Swift-admin         Swift-admin         Remove         Swift-admin         Remove         Swift-admin         Remove         Swift-admin         R	Azure AD user, group, or service pr V         Select ©         swift-admin         Image: swift-admin         Selected members:         Image: swift-admin         Remove         Save Discard         Save Discard         Save Discard         Image: swift-admin         Remove         Save Discard         Conserved Constraint Remove         Save Discard	Assign access to ①					
Select 0 swift-admin Selected members: Selected	Select 0 swift-admin Selected members: Selected members: Se	Select 0 swift-admin Selected members: Selected members: Se		p. or service pr 🗸				
Svift-admin         Selected members:         image: swift-admin         Remove         Svie         Discard         Payek-You-Go   Access control (IAM)         Payek-You-Go   Access control (IAM)         Payek-You-Go   Access control (IAM)         Payek row Go   Access   Sole and payeents   El fotowers   Detect   Sole   Control and market or   Sole   Control and   Control a	Selected members:         Selected members:         Image: swift-admin         Remove         Save         Discard         Pay-base-tools         Pay-base-tools         Save:         Discard         Pay-base-tools         Save:         Discard         Pay-base-tools         Save:         Discard         Save:         Discard         Save:	Selected members:  Selected memb						
Selected members: Selected members: Save Discard Save D	Selected members:  Selected members:  Solve Discard	Selected members: Selected memb						
Selected members:  Selected memb	Selected members: Selected members: Seve Discard Seve Discard	Selected members: Selected memb	switt-admin					
Save       Discard         Save       Discard <td>Save       Discard         Save       Save         Save&lt;</td> <td>Save       Discard         Save       Developed Access control (IAM)         Save       Image: Discard         Save       Developed Access control (IAM)         Save       Image: Discard         Save       Developed actor one potention         Save       Image: Discard         Save       Developed actor one potention         Save       Image: Discard color potention         Save       D</td> <td>swift-admi</td> <td>'n</td> <td></td> <td></td> <td></td> <td></td>	Save       Discard         Save       Save         Save<	Save       Discard         Save       Developed Access control (IAM)         Save       Image: Discard         Save       Developed Access control (IAM)         Save       Image: Discard         Save       Developed actor one potention         Save       Image: Discard         Save       Developed actor one potention         Save       Image: Discard color potention         Save       D	swift-admi	'n				
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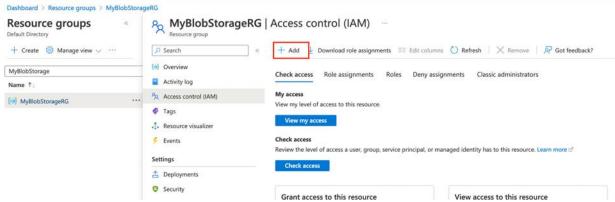


2

Lastly, you need to assign 'Storage Blob Data Contributor' role to the new app or client we created above at all resource group levels where you have either cloud object storage created or want SWIFT to use those resource groups for longer term backups. Note that this is optional step if you do not want SWIFT to use Azure object storage for backups.

Select required resource group from 'Resource Groups' menu. Microsoft Azure Ð õ Dashboard > Resource groups 🔗 Default Directory + Create 🚳 Manage view 🗸 🜔 Refresh 🞍 Export to CSV 😽 Open query 🛛 🖉 Assign tags Subscription equals all  $\land$  Location equals all  $\times$   $^{+}_{7}$  Add filter MyBlobStorage O Unsecure resources • O Recommendations No grouping Name ↑ Location 1. Subscription ↑1 MyBlobStorageRG Pay-As-You-Go East US

Select the Resource Group and then 'Access Control (IAM)' properties for it. Then select the 'Add' button and then 'Add role assignment' option.



Select the 'Storage Blob Data Contributor' role.

Got feedback?							
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role definition is a colle ustom roles. Learn more		can use the built-in ro	es or you can create your own				
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Storage Blob Data Owr	ner Alle	ows for full access to Az	ure Storage blob containers and data, includ	ling assigning POSIX access control.	BuiltInRole	Storage	View
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Review + assign Previous Next

Press the 'Next' button and add permissions after a review. You will see newly added permissions under IAM menu for the resource group.



Dashboard > Resource groups > MyBlobStora	geRG					
Resource groups « Default Directory	Resource group	Access control (IA	AM)			
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	Settings	Showing a filtered set of	f results. Total number of ro	le assignments: 76		
	Deployments					
	Security	2 items (2 Service Principals)	-			
	Policies	Name	Туре	Role	Scope	Condition
	Properties	✓ Contributor				
	🔒 Locks	swift-admin	App	Contributor ①	Subscription (Inherited)	) None
	Cost Management	✓ Storage Blob Data Cor	tributor			
	Scost analysis	swift-admin	App	Storage Blob Data	This resource	Add
	Cost alerts (preview)			Contributor ①		
	<ol> <li>Budgets</li> <li>Advisor recommendations</li> </ol>					
< Page 1 V of 1 >	Monitoring					

Please now note the below details for the account and the newly created AAD application, which you will need later while configuring your AKS clusters, object storages, or container image registries under the SWIFT:

- Subscription id
- Tenant id (Default directory id)
- Newly created app name and id (client id)
- Newly created app secret (client secret)

#### Adding IBM cloud user for SWIFT use

This section highlights the steps to create a user account under your IBM cloud. You will later use these user credentials to configure the IBM Kubernetes Service (IKS) as well as IBM OpenShift cluster details under your installed SWIFT. The same credentials could also be used later to discover an IBM Cloud Container Registry or an object storage under SWIFT.

Log in to the IBM cloud console, and from the top section, select the 'Manage' and then the 'Access (IAM)' menu option.



	Q	Catalog	Docs	Support	Manage 🔨	2141104 - F	ackware Inc A	ccount	Þ		¢,	°C
					Account				200400 · *			
					Billing and us	sage	hboard 🖉	Create reso	urce	+	:	
					Catalogs							
					Enterprise							
	Create an	OpenShift o	cluster	්ර Create a	Security and ac	cess	n about API I	Keys		nShift fo		
	available	ps on highly clusters with	Red	Build you applicatio			te API Keys to application or	user	Lear	nitecture n how to	star	
	Hat Open: Cloud.	Shift on IBM		toolchain service, a		ed restrictions	ng an API. Mo d services rec	quire API	jour	lication n ney with	Oper	
				cloud.	Security and	Compliance	when calling	their	۷Mv	vare on I	BM C	
n	Getting st	arted	20 min									
											>	

## Click on the 'API keys' option. Make sure the 'My IBM Cloud API keys' option is selected.

IBM Cloud				
 Access (IAM) 	API	keys		
Users		view, and work with API keys that you ha acture APIs, depending on the access tha		
Access groups		for more options to manage API Keys? Ti		
Service IDs	instance		ry ibin cloud	Secrets Hanager for creating an
API keys				
Authorizations	View:	My IBM Cloud API keys	^	
Roles		My IBM Cloud API keys	~	
Identity providers	API key user.	All user IBM Cloud API keys		s that the user is assigned acros
Trusted profiles		All service ID API keys		
Settings				
		Classic infrastructure API keys		
	Statu	s Name		

To create an API key, select the 'Create an IBM Cloud API Key' button on the right side of the webpage. Fill in the name of the key file name and relevant description, and then click on the 'Create' button.



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API key	'S											
infrastructure	APIs, depending	keys that you have access to manage. IBM Cloud API keys are associate in the access that is assigned to the user. The following table displays a	list of API keys created	in this accoun	t. Learn mo	Dre.						
	re options to mar BM Cloud API key	age API Keys? Try IBM Cloud® Secrets Manager for creating and leasing	API keys dynamically a	nd storing the	m securely	r in your own	dedicated ins	tance.				
API keys asso	ciated with a user	Create API key					×	user.				
		Name swift-admin-access-key							Create an IBM	Cloud AP	I koy	•
Status	Name	Description					D	ate Created				
6	containe	IBM cloud admin access key for the RackWare SWIFT's usage					20	021-10-25 10:48 GMT				
8	containe	Cancel	Create				21	)21-11-25 10:33 GMT				1

Download and save the generated API key safely. This key will be needed later while adding an IBM IKS or OpenShift cluster to the SWIFT.

	s <u>×</u> .		
/s associated with a user	API key successfully created	×	he user.
	Copy the API key or click download to save it. You won't be able to see this API key again, so you can't retrieve it later. The API key is no longer displayed after 289 seconds.		
us Name	API key		Date Created
containe			2021-10-25 10:48 GMT
	Copy 🔂 Downtoad 👱		
containe	resources, such as adding classic or VPU worker nodes, subnets, or		2021-11-25 10:33 GMT

**Note**: The generated IBM API key inherits all the privileges of the logged in user. If you're logged in with an 'owner' role user and then generated a key, then the generated API key will have full owner rights and if that is the case then you can skip the next set of steps.

However, if you're logged in as a regular user and created a key, then you need to assign some specific privileges for the user that are mentioned in the next section. Without those privileges for the current user, the generated key will not work correctly with your SWIFT server.

#### Set permissions of the IBM cloud user for SWIFT usage

Select the 'Users' option from the left side menu and then select the current user that generated the key. Additional information can be found <u>here.</u>



	IBM Cloud				
Acce	ess (IAM)	Use	ers		
User	5	Use the	e View option to change you	r view of the user list by se	lecting the user grouping
Acce	ess groups	org or u	user hierarchy for classic infr	astructure access.	
Serv	ice IDs	View:	Account users	~	
API	keys				-
Auth	orizations	State	us: Filter 🗸		
Role	s	- Crain			
Iden	tity providers	User			$\downarrow$

### Add the Classic Infrastructure permissions

To assign the classic infrastructure permissions to the user, select the 'Classic Infrastructure' tab. Additional information can be found here.

User	details Access groups	Access policies	Classic infrastruc	Cloud Foundry					
Perm	hissions		Devices		VPN subnets				
Sele	ct individual permissions from each ca hissions, they are available in the migra	tegory one at a time, or se	lect one of the permission :	sets to assign bulk access. If you're i	ooking for account management and support	Permission sets			
penn	assions, only are available in the man		permanen deseas groups.			Permission sets	~	Set	
	Category		Permission and Desc	ription					$\downarrow$
~	Account (0 out of 12 actions set	ected)							
~	Devices (0 out of 16 actions sel	ected)							
	Network (0 out of 9 actions sele	eter)							
~	Herwork (o out or 9 actions set	cueaj							

There are 2 options for assigning classic infrastructure access:

1. Add super user access

ermissions			Devices	VPN subnets			
Select individual permissions from each category or permissions, they are available in the migrated class							
elect individual permissions ermissions, they are availab	from each categor le in the migrated c	y one at a time, or sel classic infrastructure p	ect one of the permission sets to assign bulk access. permission access groups. Learn more.	If you're looking for account management and support	Permission sets		Set
elect individual permission: rmissions, they are availab	from each categor le in the migrated c	y one at a time, or sel classic infrastructure p	ect one of the permission sets to assign bulk access. permission access groups. Learn more.	If you're looking for account management and support	Permission sets Super user View only	^	Set
elect individual permissions ermissions, they are availab Category	from each categor le in the migrated c	y one at a time, or sel classic infrastructure p	ect one of the permission sets to assign bulk access. permission access groups. Learn more. Permission and Description	If you're looking for account management and support	Super user	^	Set

2. Add individual permissions as below:



Under the 'Permissions' tab, expand and check the following permissions: Account:

Add/Upgrade Storage (Storage Layer) •

Devices:

- Edit Hostname/Domain •
- Manage Port Control •

#### Network:

- Add IP Addresses
- Manage Network Subnet Routes •
- Add Compute with Public Network Port •

Services:

- Manage DNS
- Manage Certificates (SSL) ٠
- View Certificates (SSL) •
- Storage Manage ٠

After selecting the above permissions, click on the 'Apply' button. User details Access groups Access policies Classic infrastruc.... Cloud Fou

'err	missions	Devices	VPN subnets				
ele	ect individual permissions from each category one at a time missions, they are available in the migrated classic infrastro	e, or select one of the permission sets to assign bulk access. If you're looking fo ucture permission access groups. Learn more.	r account management and support	Permission sets Permission sets	~	Set	
	Category	Permission and Description					
ŝ	Account (1 out of 12 actions selected)						
	Devices (2 out of 16 actions selected)						
	Network (3 out of 9 actions selected)						
	Services (4 out of 20 actions selected)						

To add/check worker node specific permissions, go to the 'Devices' tab and make sure the following permissions are set.

User details	Access groups	Access policies	Classic infrastruc	Cloud Foundry		
Permissions			Devices		VPN subnets	
Select how IBM userna	me gets access to the	devices available in this as	count.			
Select type ①	Enable future ac	cess ①				
	🖌 Auto bare m	etal server access				
	Auto dedica	ted host access				
	Auto virtual	server access				Set



#### Add VPC Infrastructure permissions

If you have a VPC cluster then the user needs to have the 'Administrator' platform access. To assign the access, click on 'Assign access' button under the 'Access policies' tab.

Access policies	Classic infrastruct	Cloud Foundry
the role to view or edit th	e policy.	

Search for 'VPC Infrastructure Services' and select the related drop-down option. Select the 'Administrator' role and click on the 'Add' button below.

Cloud Foundry Access to orgs and spaces th resources managed by Cloud		Classic infrastructure Permissions for classic infrastructure resources	IAM services Access to IAM-enabled services	<ul> <li>Account management Access to services like billing, user management, support center, and more</li> </ul>
Which service do you want to a VPC Infrastructure Service	-			
How do you want to scop All resources Platform access		ed on selected attributes		
Viewer	60 As a viewer, y	ou can view service instances, but you can't	modify them.	
Operator	97 As an operate	r, you can perform platform actions required	to configure and operate service instances, suc	h as viewing a service's dashboard.
Editor	181 As an editor,	you can perform all platform actions except fo	or managing the account and assigning access p	policies.
Administrator	193 As an admini	strator, you can perform all platform actions t	based on the resource this role is being assigned	d, including assigning access policies to other users.

Click on the 'Assign' button on the right to assign the selected role.



### Access summary

D	1	
Access	Assig	nment
groups		
IAM servi	ces	
VPC Inf	frastructu	re Services service
Adr	ministrator	
Rem	ove 🔟	Edit 🖉

Now you can add your IBM IKS or OpenShift cluster to SWIFT by using the username and generated API key.

#### Adding OpenShift cluster service-account for SWIFT use

Before you can add your local or cloud based OpenShift cluster to SWIFT and start managing it, you will need to have a cluster service account created with the necessary permissions.

Create a YAML for the new service account:

\$ vi swift-admin-sa.yaml		
apiVersion: v1		
kind: ServiceAccount		
metadata:		
name: swift-admin		
namespace: kube-system		

Apply the YAML file \$ oc apply -f swift-admin-sa.yaml



Next, add the 'cluster-admin' role to the newly created account.

\$ vi swift-admin-roles.yaml
--apiVersion: rbac.authorization.k8s.io/v1
kind: ClusterRoleBinding
metadata:
 name: swift-admin
roleRef:
 apiGroup: rbac.authorization.k8s.io
 kind: ClusterRole
 name: cluster-admin
subjects:
 - kind: ServiceAccount
 name: swift-admin
 namespace: kube-system

Apply the YAML file

\$ oc apply -f swift-admin-roles.yaml

To get the service-account token, you can use a command as below. The command would print the 'token' key. You will use this output token later while adding the cluster to the SWIFT.

\$ oc -n kube-system describe secret \$(oc -n kube-system get secret | grep "swift-admin-token" | awk '{print \$1}')