

Managing Multi-Cloud Container with **ACK ONE**

ลงทะเบียนมาร่วมงาน รับฟรี! Alibaba cloud credits

**ALIBABA
CLOUD
DAY THAILAND**
TECH FOR INNOVATION

14:00 - 16:00 hrs
23rd November 2022

at Lazada Townhall 28fl.
Bhiraj Tower, The Emquartier





Saritrat Jirakulphondchai (JoJo)

Co-Founder
KubeOps Skills & Jumpbox



Managing Multi-Cloud Container with **ACK ONE**

Agenda

- | | |
|------------------|------------------------------|
| 02:00 - 02:15 pm | Registration |
| 02:15 - 02:20 pm | Welcome Session |
| 02:20 - 02:50 pm | Cloud Container Introduction |
| 02:50 - 03:00 pm | Break |
| 03:00 - 03:45 pm | ACK ONE Introduction & Demo |
| 03:45 - 04:00 pm | Q&A and Networking |

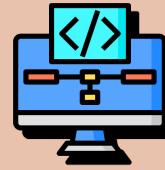


Website (Web Application)

Simple Website Architecture



Frontend



Backend

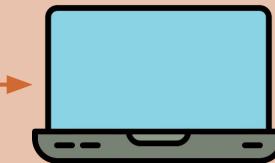


Database

Running Website on Hosting



Website v.1.0.0



Developer



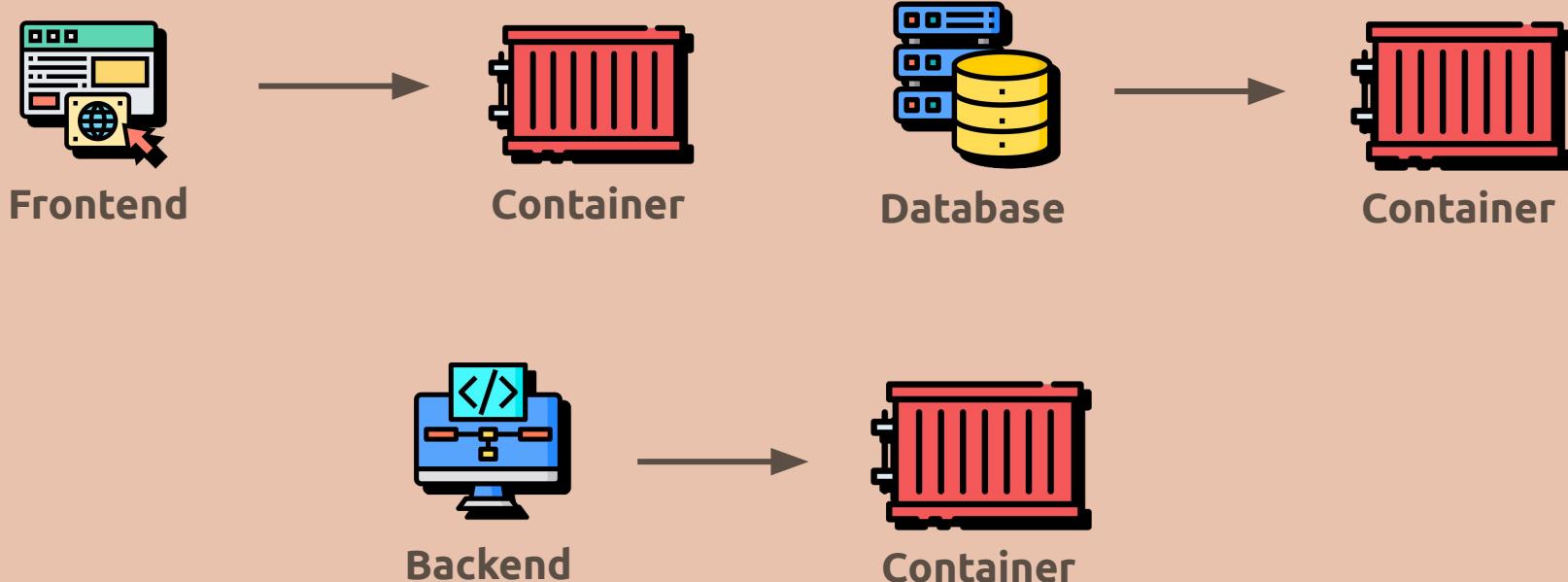
Production

Jumpbox®

The Matrix from hell

	Frontend	x	x	x	x
	Backend	x	x	x	x
	Database	x	x	x	x
		Dev	Sit	Prod	Dev Laptop

Containerization

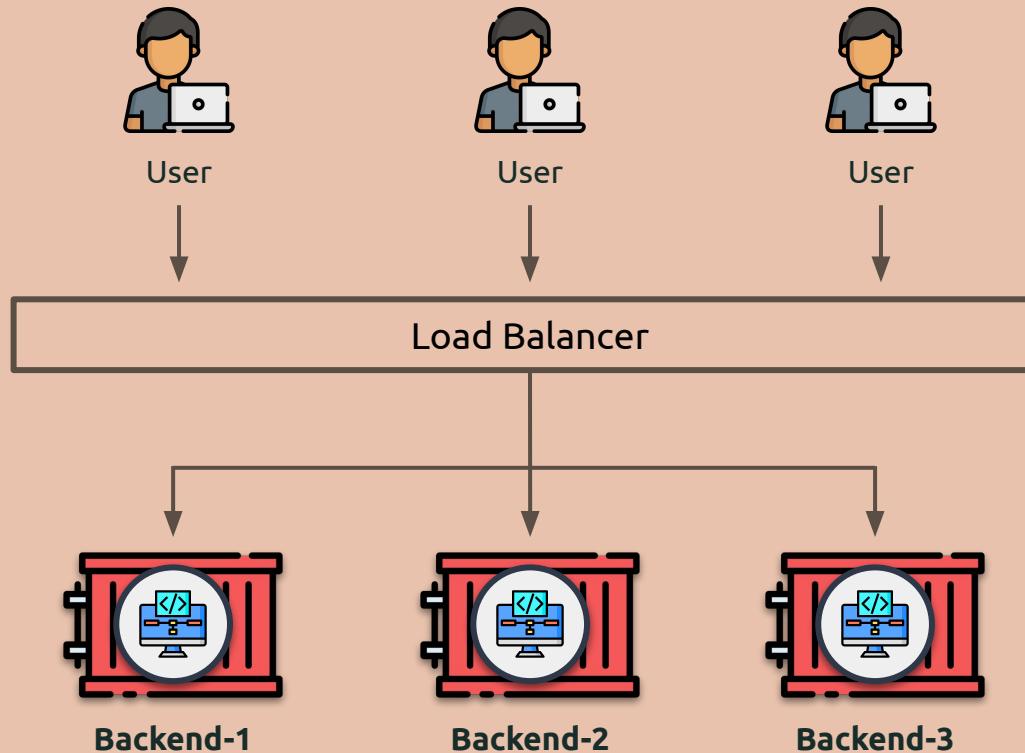


The Matrix from hell

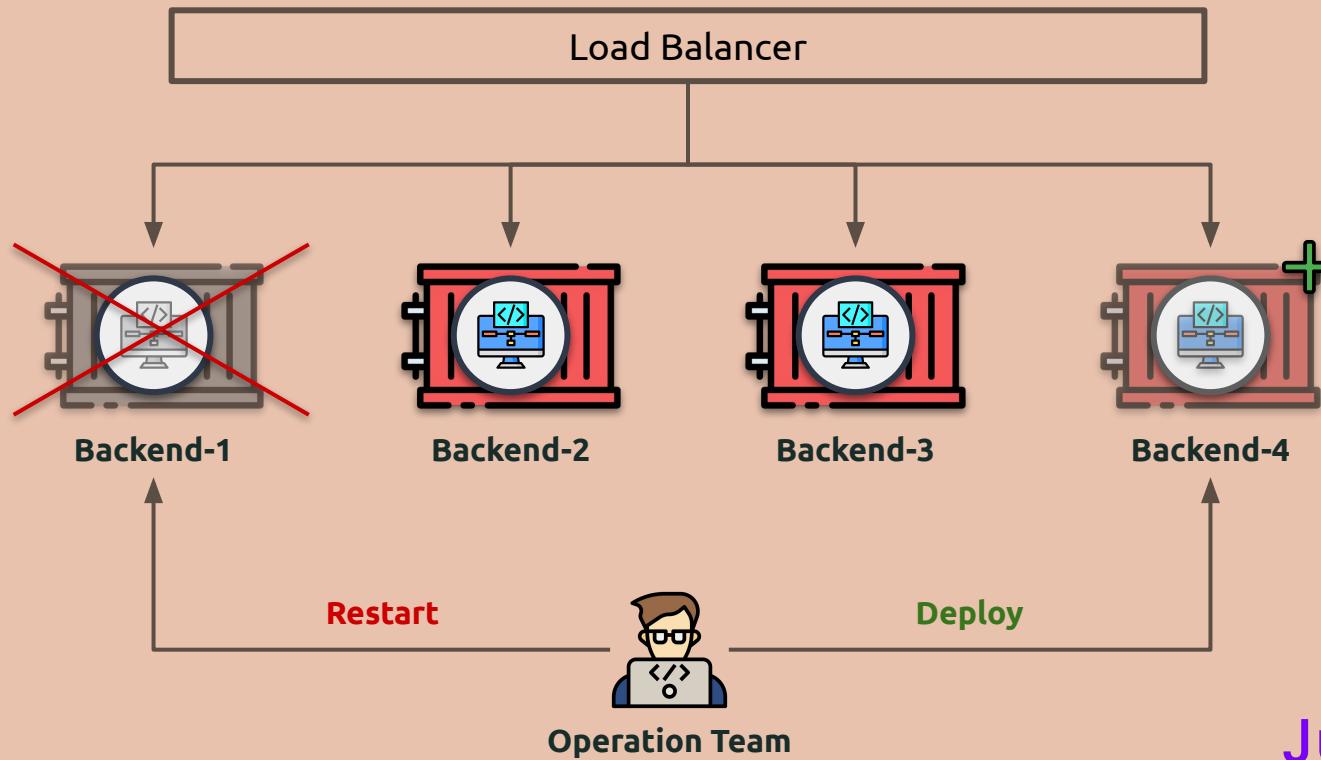
	Frontend				
	Backend				
	Database				
		Dev	Sit	Prod	Dev Laptop

Scalability

How to manage a lot of traffic

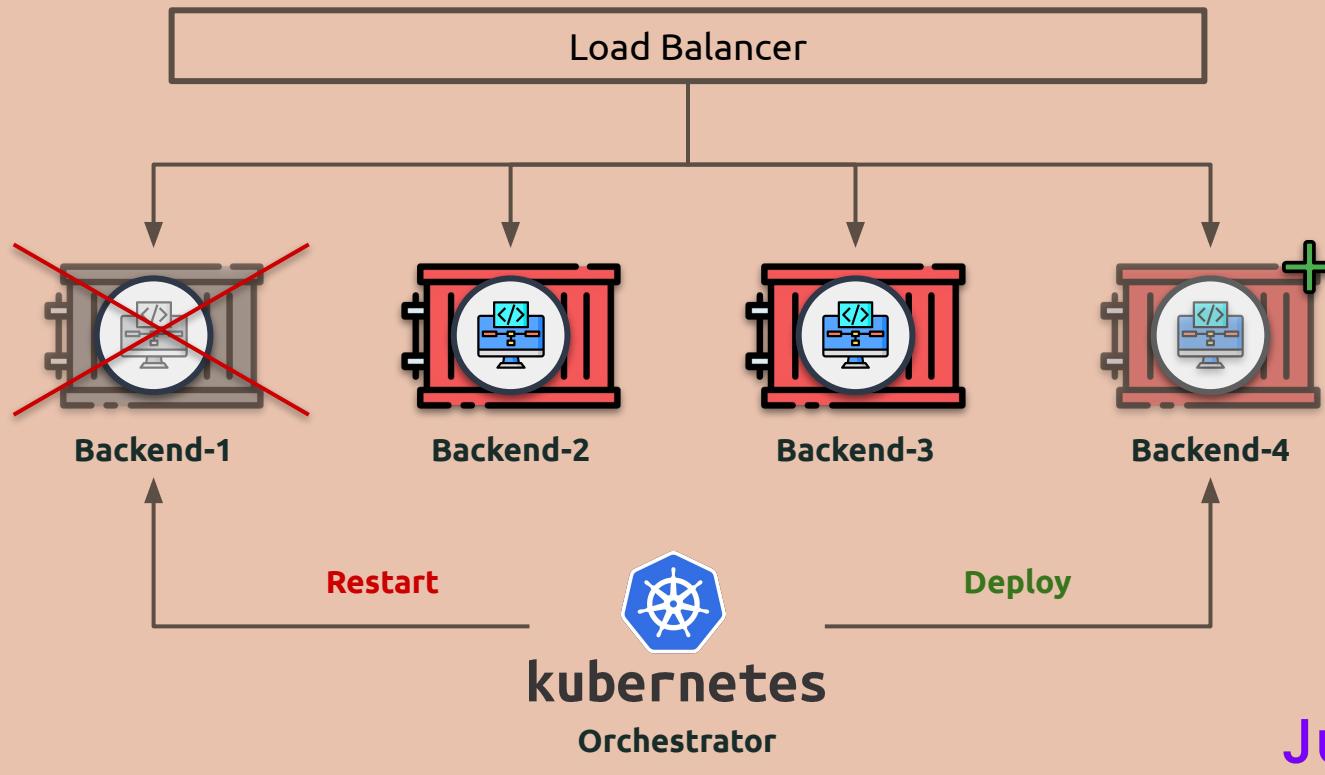


How to manage a lot of traffic



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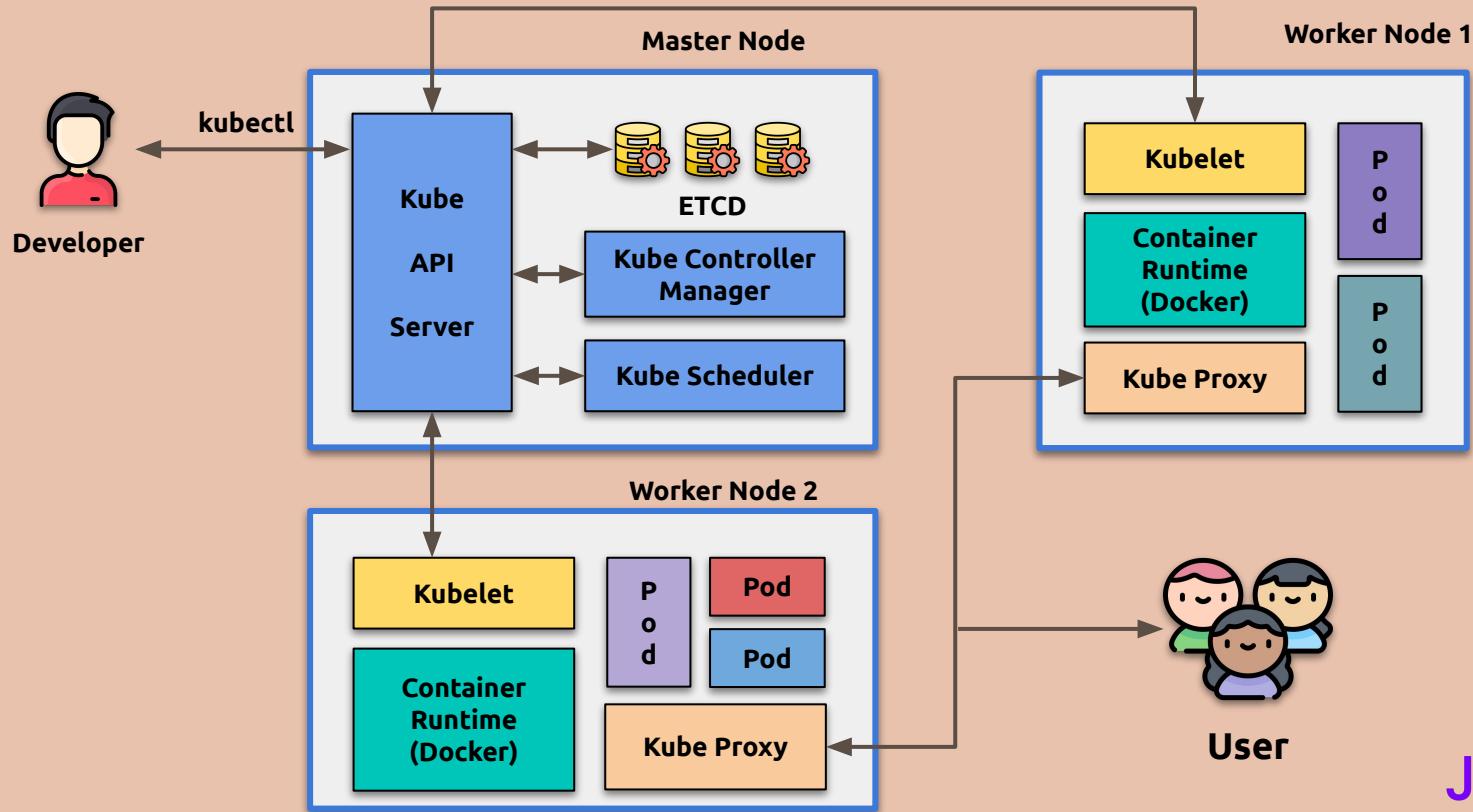
How to manage a lot of traffic



Container Service for Kubernetes

 Alibaba Cloud

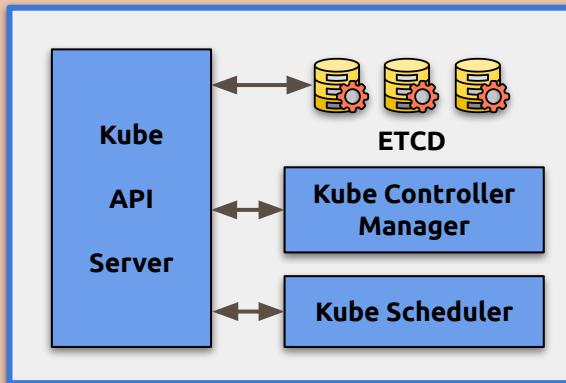
Kubernetes Architecture



Jumpbox®

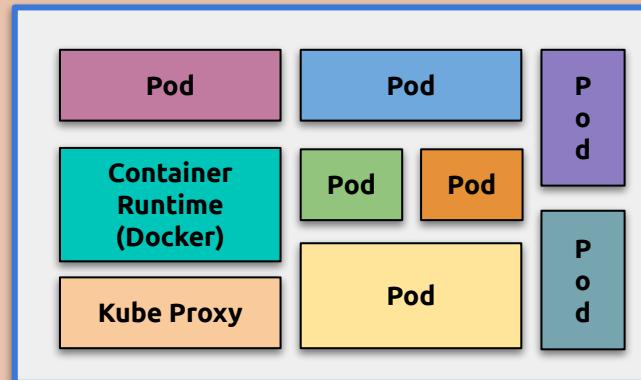
Share Responsibility

Alibaba Cloud



Master Node

Managed Kubernetes



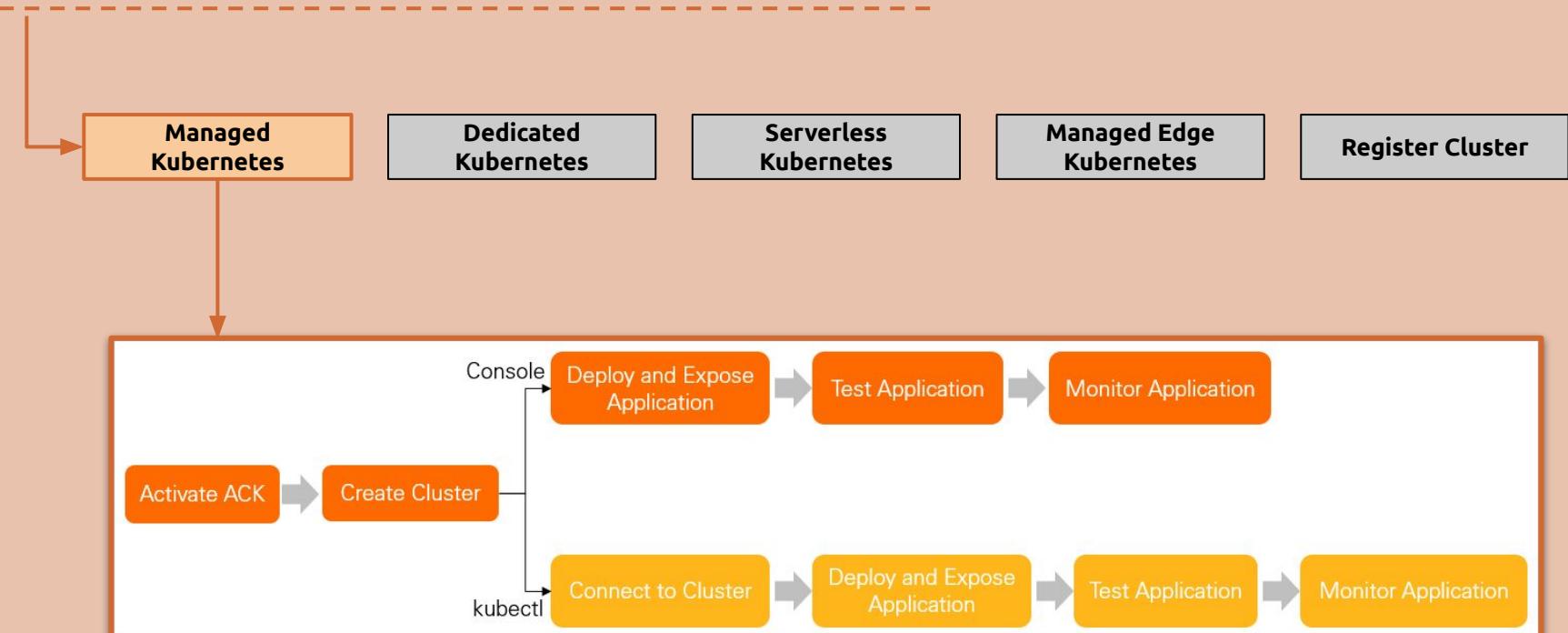
Worker Node [0 ... n]



Here we are

Jumpbox®

Container Service for Kubernetes



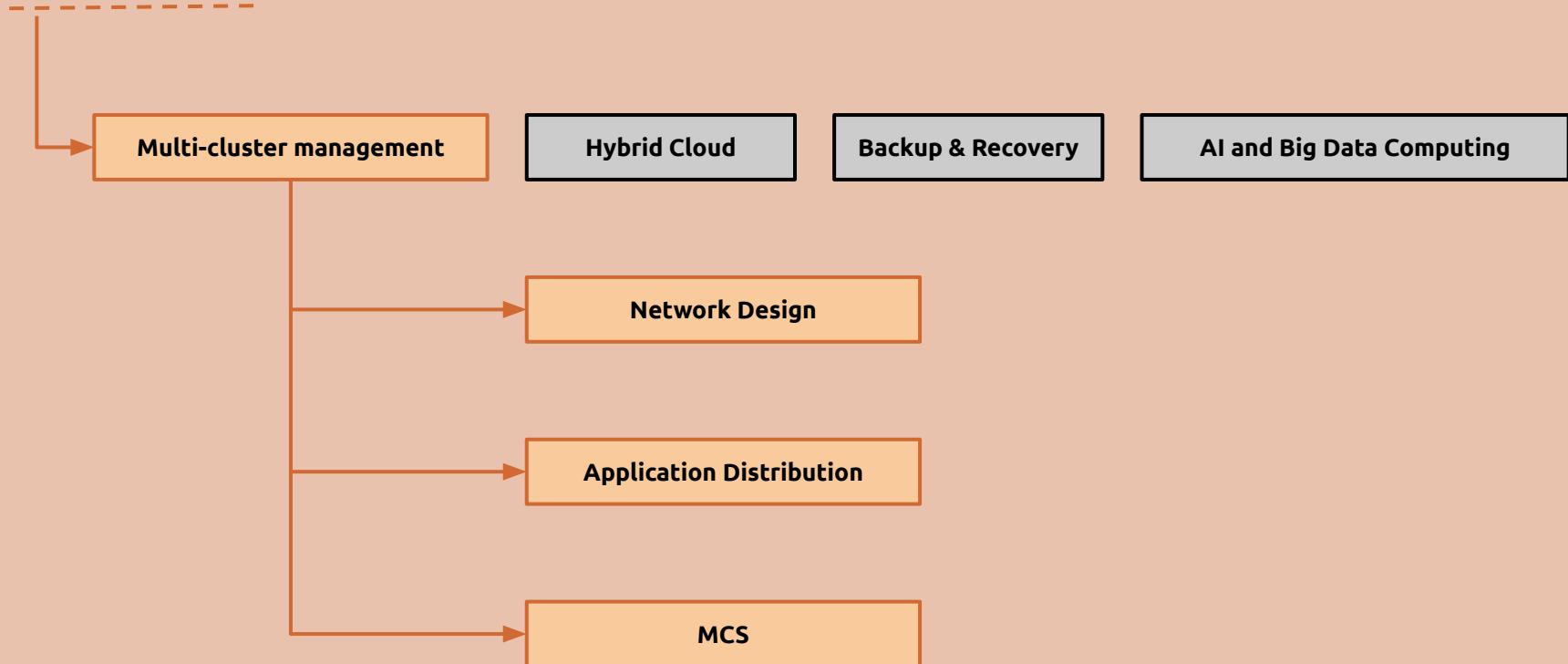
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ACK One

ACK ONE

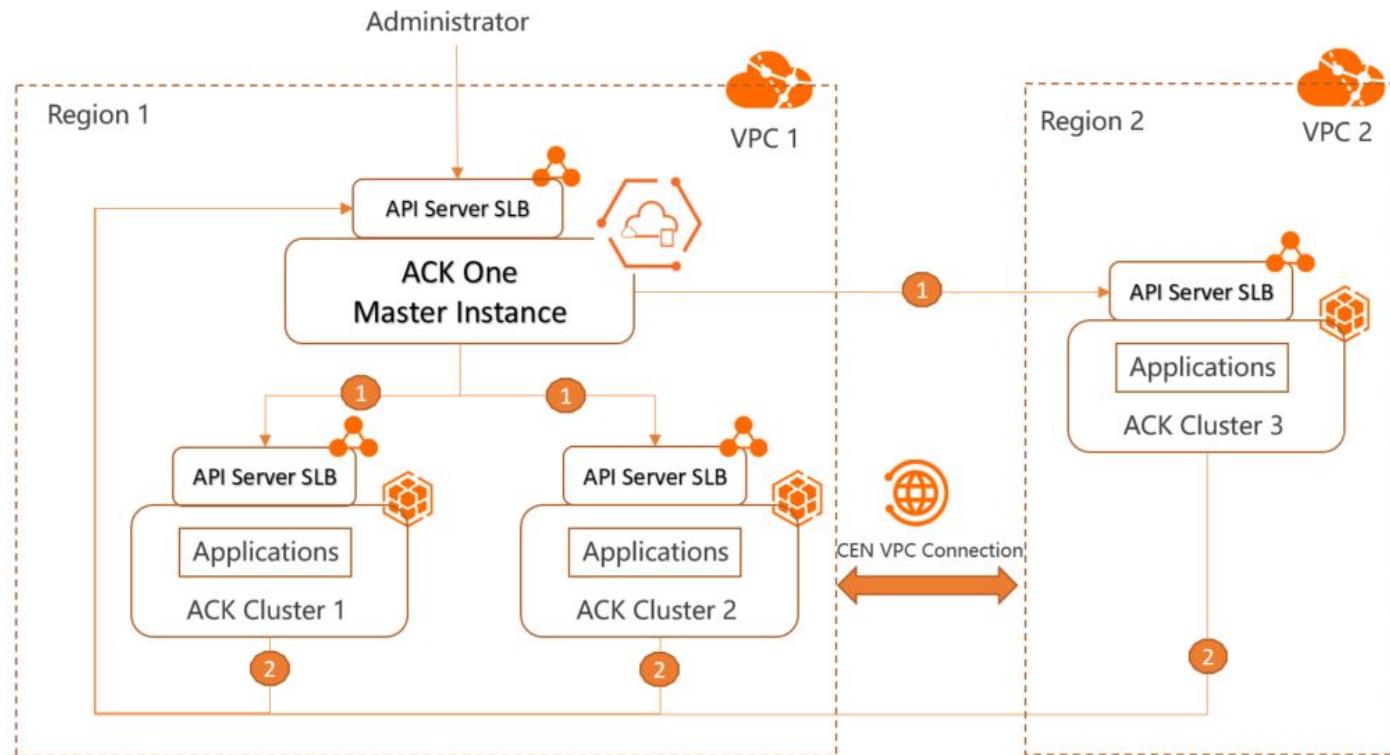
- ACK One is a **distributed cloud container platform** that is provided by Alibaba Cloud.
- ACK One allows enterprise users to manage cloud-native applications in **hybrid cloud, multi-cluster, distributed computing, and disaster recovery scenarios**.

ACK ONE



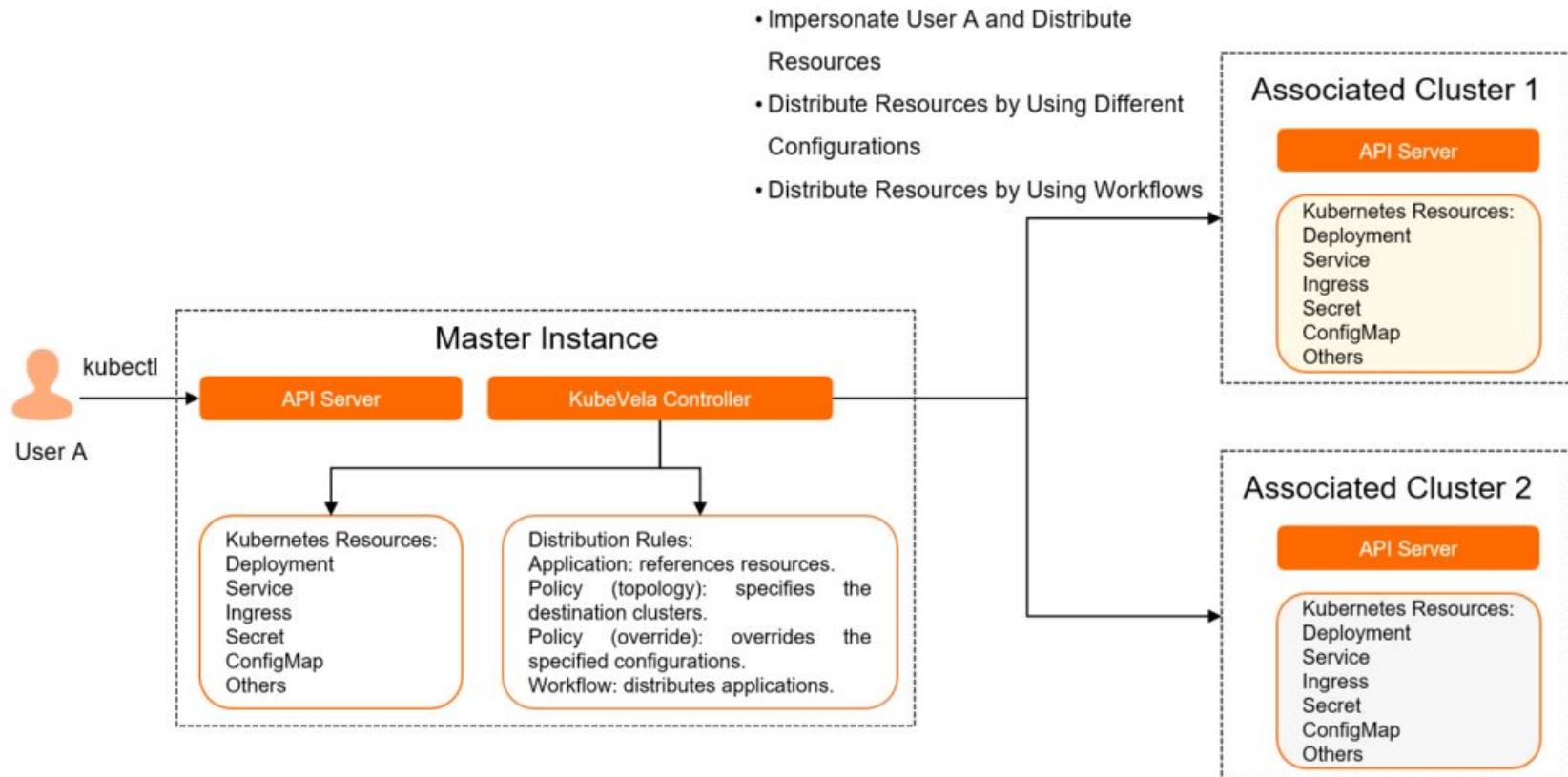
Network Design

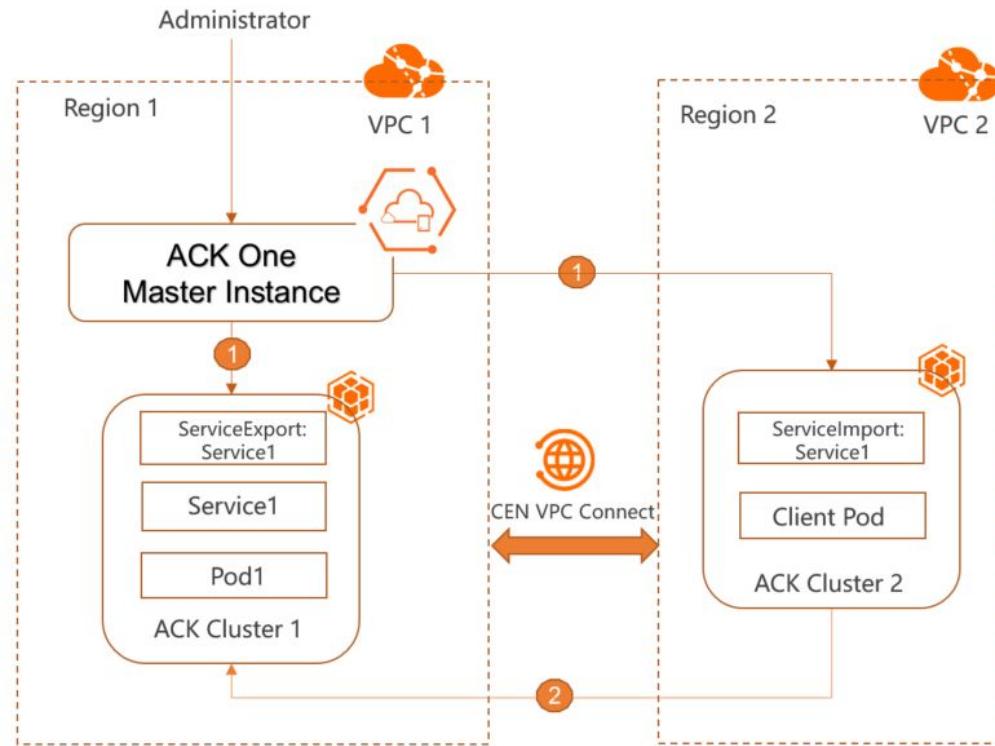
Jumpbox®

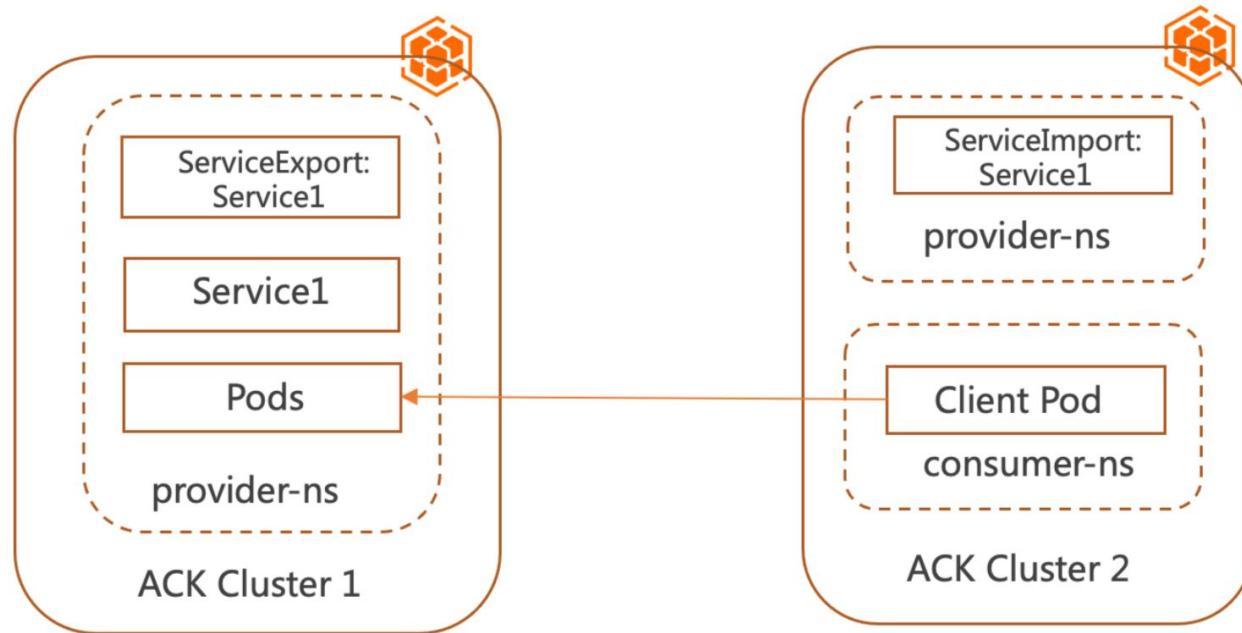


Application Distribution

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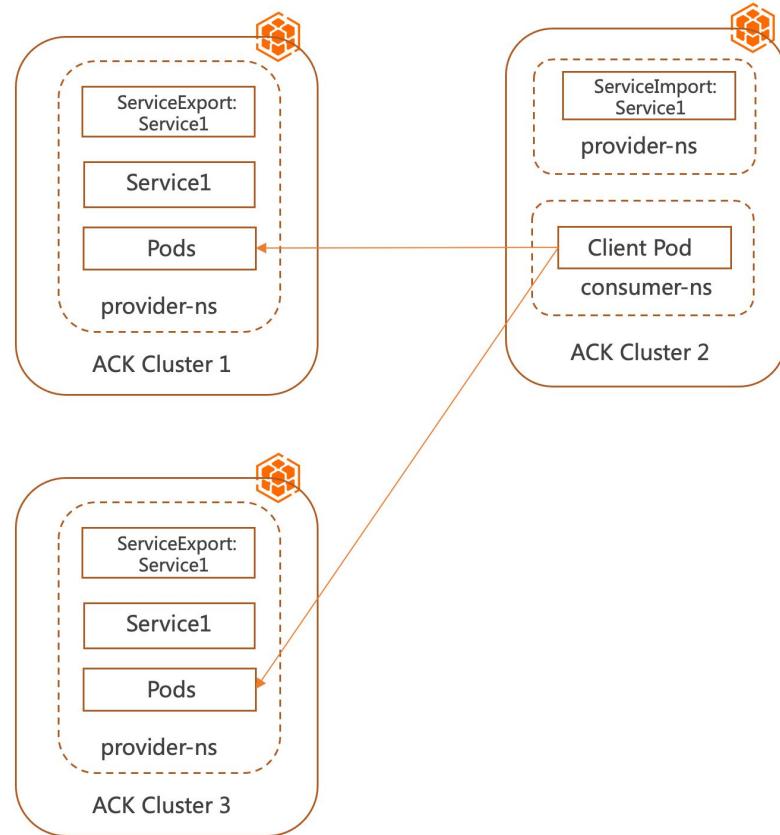






Access a Service from a different cluster

Access a Service that is
deployed across clusters



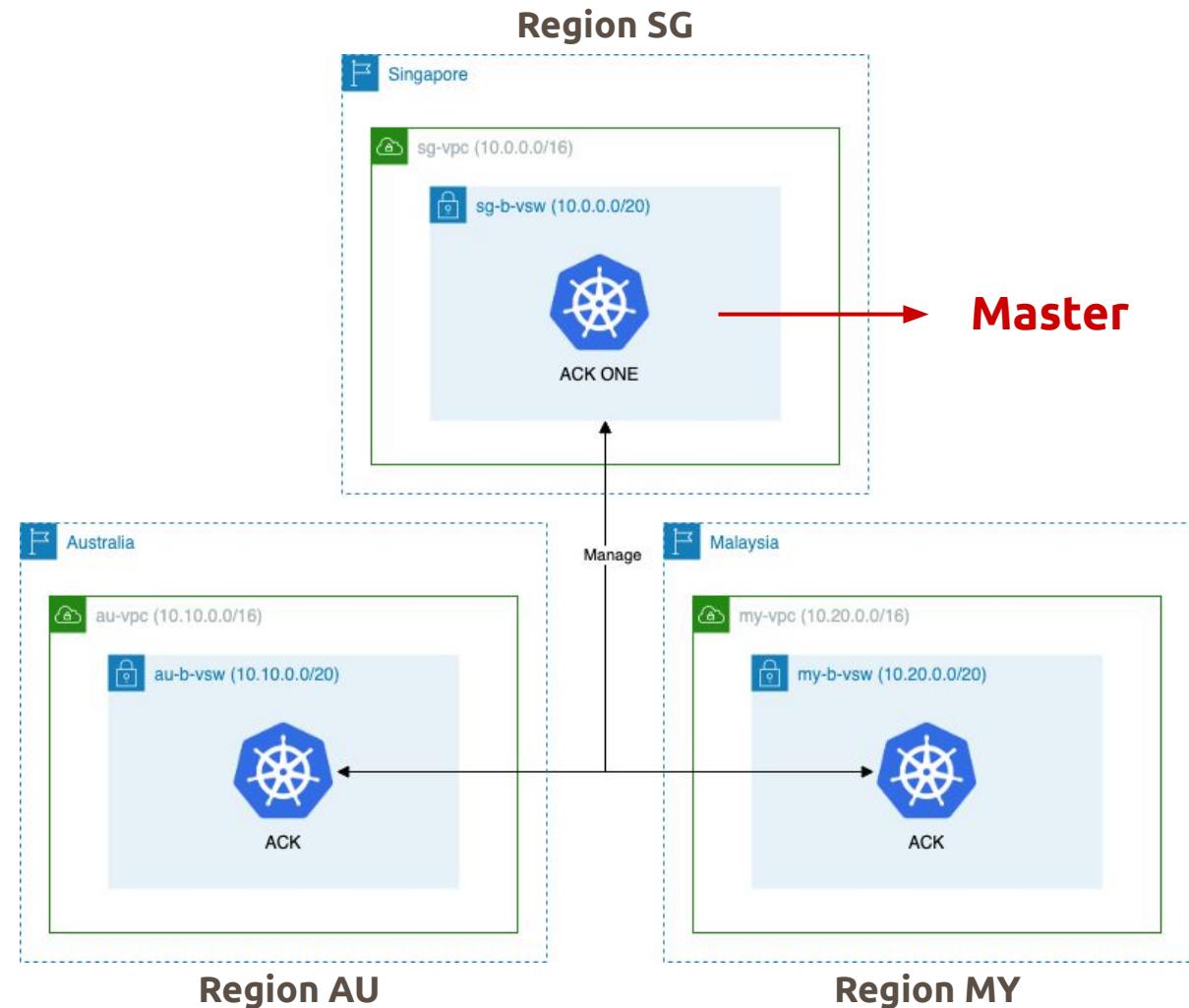
Multi-cluster management

Demo

Prerequisite

- Resource Management (Resource Group)
- VPC
 - 3 VPC, 3 vSwitch (subnet)
- RAM - Required Permission
- ACK
 - At least 2 clusters
- ACK One
 - Associate 2 ACK Clusters

Demo Architecture



Resource Management

Container Service Console

cs.console.aliyun.com/#/k8s/cluster/list

Alibaba Cloud

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Products and Services >

Resource Management

Enter a keyword

Data Development			Management and Governance
Databases	DataWorks	Resource Access Management	Elastic Computing
Relational Databases	Data Application & Visualization	ActionTrail	Storage
ApsaraDB for PolarDB	Quick BI	Cloud Config	Databases
PolarDB-X	DataV	Quotas	Security
ApsaraDB RDS	Tools & Services	CloudSSO	Analytics
ApsaraDB for OceanBase	DataHub	Cloud Governance Center	Artificial Intelligence
Dedicated Clusters	Intelligent Platforms & Applica...	Service Catalog	Networking & CDN
ApsaraDB MyBase	OpenSearch	Link IoT Edge	Media Services
NoSQL Databases	AI Recommendation	IoT Platform	Containers & Middlew...
ApsaraDB for Redis	Machine Learning Platform For AI	Domains & Websites	Developer Services
Lindorm	Artificial Intelligence	Jumpbox®	Management and Gov...
ApsaraDB for MongoDB	Visual Intelligence	Cloud Communications	Internet of Things
ApsaraDB for HBase	Vision Intelligent Open Platform		Domains & Websites
ApsaraDB for Cassandra			Enterprise Application...

2

1

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The screenshot shows the Alibaba Cloud Resource Management interface. The left sidebar has a collapsed navigation menu. The main content area is titled "Resource Management / Resource Group" and features a large heading "Resource Group". Below the heading is a descriptive text block about resource groups, followed by a table listing existing resource groups. A prominent blue button labeled "Create Resource Group" is highlighted with a red box.

Resource Management / Resource Group

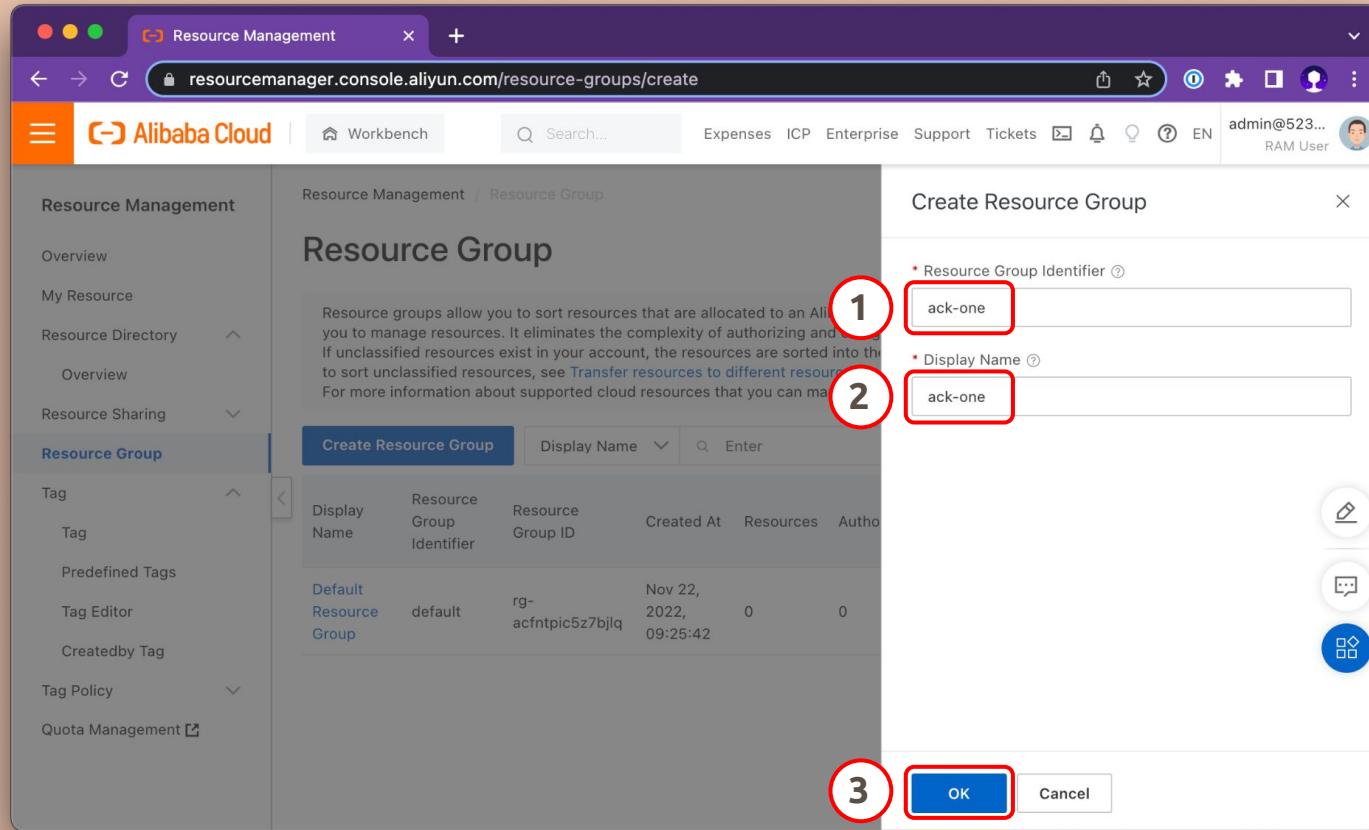
Resource Group

Resource groups allow you to sort resources that are allocated to an Alibaba Cloud account into different groups. This feature allows you to manage resources. It eliminates the complexity of authorizing and categorizing resources in a single Alibaba Cloud account. If unclassified resources exist in your account, the resources are sorted into the **default resource group**. For more information about how to sort unclassified resources, see [Transfer resources to different resource groups](#). For more information about supported cloud resources that you can manage in a resource group, see [Supported cloud resources](#).

	Display Name	Resource Group Identifier	Resource Group ID	Created At	Resources	Authorizations	Status	Actions
Default Resource Group	default	rg-acfntpic5z7bjlq		Nov 22, 2022, 09:25:42	0	0	Available	Manage Permission Manage Resource

Create Resource Group

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VPC

VPC Requirements

Singapore:

- **VPC:** sg-vpc
- **CIDR:** 10.0.0.0/16
- **vSwitch:** 10.0.0.0/20

Australia:

- **VPC:** Au-vpc
- **CIDR:** 10.10.0.0/16
- **vSwitch:** 10.10.0.0/20

Malaysia:

- **VPC:** my-vpc
- **CIDR:** 10.20.0.0/16
- **vSwitch:** 10.20.0.0/20

All Region (SG,AU, MY):

- **Resource Group:** <rg-name>

VPC

VPC / VPCs

What is VPC

VPCs

vSwitch

Route Tables

VPC Prefix List

IPv4 Gateway

NAT Gateway

Internet NAT Gateway

VPC NAT Gateway

NAT Gateway Resource Plan

VPC Peering Connection

Endpoints

Endpoints Service

DHCP Options Sets

Access to Internet

Elastic IP Addresses

Anycast Elastic IP Addresses

Internet Shared Bandwidth

Data Transfer Plan

IPv6 Gateway

VPCs

Resource Management allows you to manage cloud resources from a global perspective and search cloud resources by type and region. Fuzzy match is supported. In addition, you can use Resource Management to view and manage frequently used instances. In the top navigation bar of the console, you can view the number of resources that belong to each region. It may take several minutes to update the resources if changes are made to the resources. [Activate Resource Management](#)

Create VPC

Instance Name

Enter an Instance Name to perform exact match

Filter by Tag

<input type="checkbox"/> Instance ID/Name	Tags	IPv4 CIDR Block	IPv6 CIDR Block	Status	Default VPC	Route Table	vSwitch	Cloud Instance	Resource Group	Actions
---	------	-----------------	-----------------	--------	-------------	-------------	---------	----------------	----------------	---------

<input type="checkbox"/> Configure Tags



VPC

VPCs

vSwitch

Route Tables

VPC Prefix List NEW

IPv4 Gateway

NAT Gateway

Internet NAT Gateway

VPC NAT Gateway NEW

NAT Gateway Resource Plan

VPC Peering Connection NEW

Endpoints

Endpoints Service

DHCP Options Sets

Access to Internet

Elastic IP Addresses

Anycast Elastic IP Addresses

Internet Shared Bandwidth

Data Transfer Plan

IPv6 Gateway

Internet Tool Kit

IP Address Pool

VPC / VPC / Create VPC

← Create VPC

VPC

Region

Singapore

* Name

sg-vpc

1

6/128

* IPv4 CIDR Block

We recommend that you use one of the private RFC CIDR blocks as the VPC CIDR block: 10.0.0.0/8 , 172.16.0.0/12 , and 192.168.0.0/16 .

Suggestions on CIDR Block Configuration

10.0.0.0/16

2

You cannot change the CIDR block after the VPC is created.

IPv6 CIDR Block

Do Not Assign

Description

0/256

Resource Group

ack-one

3

Advanced Configuration

Enable IPv4 Gateway



VPC

VPCs

vSwitch

Route Tables

VPC Prefix List NEW

IPv4 Gateway

NAT Gateway

Internet NAT Gateway

VPC NAT Gateway NEW

NAT Gateway Resource Plan

VPC Peering Connection NEW

Endpoints

Endpoints Service

DHCP Options Sets

Access to Internet

Elastic IP Addresses

Anycast Elastic IP Addresses

Internet Shared Bandwidth

Data Transfer Plan

IPv6 Gateway

Internet Tool Kit

IP Address Pool

* IPv4 CIDR Block

We recommend that you use one of the private RFC CIDR blocks as the VPC CIDR block: 10.0.0.0/8 , 172.16.0.0/12 , and 192.168.0.0/16 .

Suggestions on CIDR Block Configuration

10.0.0.0/16

! You cannot change the CIDR block after the VPC is created.

IPv6 CIDR Block

Do Not Assign

Description

0/256

Resource Group

ack-one

Advanced Configuration

Enable IPv4 Gateway

**vSwitch**

4

5

6

Name	sg-b-vpc	8/128
------	----------	-------

Zone	Singapore Zone B
------	------------------

IPv4 CIDR Block	Suggestions on CIDR Block Configuration
-----------------	---

10	.	0	.	0	.	0	/	20
----	---	---	---	---	---	---	---	----

Actions

Delete

+ Add

7

OK

Cancel

Container Service for Kubernetes

ACK Requirements

Singapore:

- **VPC:** sg-vpc
- **vSwitch:** 10.0.0.0/20

Australia:

- **VPC:** Au-vpc
- **vSwitch:** 10.10.0.0/20

Malaysia:

- **VPC:** my-vpc
- **vSwitch:** 10.20.0.0/20

All Region (SG,AU, MY):

- **Resource Group:** <rg-name>

Resource Access Management

ram.console.aliyun.com/role/authorization?spm=5176.2020520152.0.0.507461b1M4UKcF&request=...

Alibaba Cloud Workbench Search... Expenses ICP Enterprise Support Tickets EN admin@523... RAM User

CS needs your permission to access your cloud resources.

Authorize CS to use the following roles to access your cloud resources.

AliyunCSManagedVKRole [Expand details](#)

AliyunCSDefaultRole [Expand details](#)

AliyunCSManagedKubernetesRole [Expand details](#)

AliyunCSManagedLogRole [Expand details](#)

AliyunCSManagedCmsRole [Expand details](#)

AliyunCSManagedCsiRole [Expand details](#)

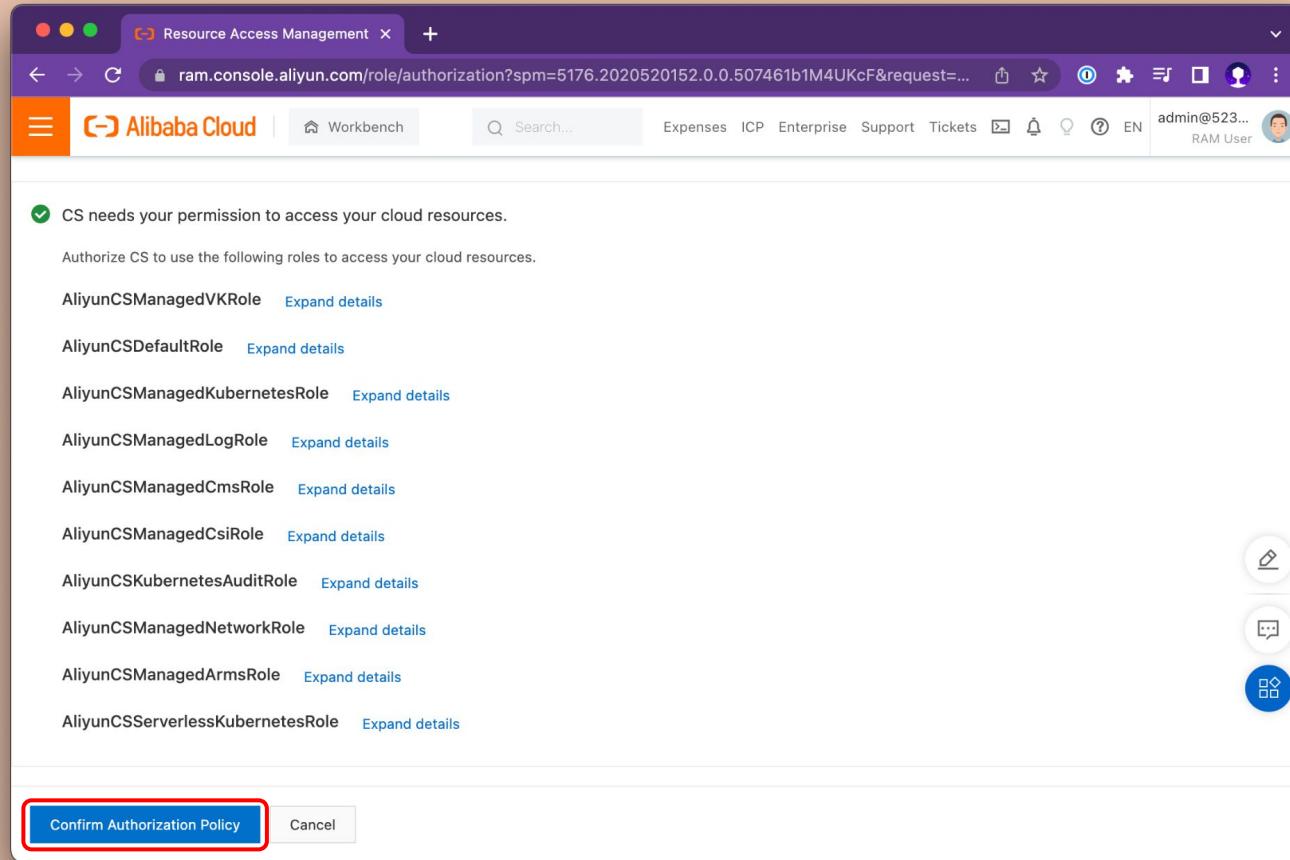
AliyunCSKubernetesAuditRole [Expand details](#)

AliyunCSManagedNetworkRole [Expand details](#)

AliyunCSManagedArmsRole [Expand details](#)

AliyunCSServerlessKubernetesRole [Expand details](#)

[Confirm Authorization Policy](#) [Cancel](#)



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Container Service - Kubernetes | ACK / Clusters | Clusters | View Cluster and Node Quotas | Refresh | Cluster Templates | Create Kubernetes Cluster

Clusters

Name	Labels	Type	Region	Cluster Status	Nodes	Usage	Created At	Version	Actions
au-ack c86aa4b9327e643dbb6211b5a1ff333de	Labels	ACK Pro	Australia (Sydney)	Running	1	CPU: 1% Memory: 28%	Nov 22, 2022, 11:47:41 UTC+7	1.24.6-aliyun.1	Details Applications View Logs Node Pools More
sg-ack cdcd81c2d7c134bbf995632e8856032cf	Labels	ACK Pro	Singapore	Running	1	CPU: 2% Memory: 27%	Nov 22, 2022, 11:09:03 UTC+7	1.24.6-aliyun.1	Details Applications View Logs Node Pools More

Total: 3 item(s), Per Page: 25 item(s) | « < 1 > »

Create Cluster [Managed Kubernetes](#) [Serverless Kubernetes](#) [Managed Edge Kubernetes](#) [Register Cluster](#)

Cluster Configurations Node Pool Configurations Component Configurations Confirm Order

Cluster Name ✓ **Region** How to select a region **Australia (Sydney)** 2

Cluster Specification Professional Standard edition Contrast

China (Beijing)	China (Zhangjiakou)	China (Hohhot)	China (Ulanqab)	China (Hangzhou)	China (Shanghai)	China (Shenzhen)
China (Guangzhou)	China (Chengdu)	China (Hong Kong)	Japan (Tokyo)	South Korea (Seoul)	Singapore	Australia (Sydney)
Malaysia (Kuala Lumpur)	Philippines (Manila)	Indonesia (Jakarta)	India (Mumbai)	Thailand (Bangkok)	US (Virginia)	US (Silicon Valley)
UK (London)	Germany (Frankfurt)					

Billing Method Pay-As-You-Go Subscription Contrast

Kubernetes Version 1.24.6-aliyun.1 1.22.15-aliyun.1 1.20.11-aliyun.1 Release Notes

Container Runtime containerd 1.5.13 How to choose the container runtime?

VPC 3 au-vpc (vpc-p0wabd02sz9hbmqqc1g0, 10.10.0...) Create VPC Plan Kubernetes CIDR blocks in VPC networks

Network Plug-in Flannel Terway You cannot change the network plug-in after the cluster is created. How to select a network plug-in for a Kubernetes cluster

vSwitch 4 IPVLAN (The inclusive ENI mode uses a combination of IPVLAN and eBPF as the virtualization technology. Only Alibaba Cloud Linux is supported.) Support for NetworkPolicy (Policy-based network traffic control is provided.)

Select 1~5 vSwitches. We recommend that you select vSwitches in different zones to ensure high availability for the cluster.

Icon	Name	ID	Zone	CIDR	Available IP Addresses
Icon					

ACK Billing Next:Node Pool Configurations Create Cluster

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VPC au-vpc (vpc-p0wabd02sz9hbmqpc1g0, 10.10.0.0/16) [Create VPC](#) [Plan Kubernetes CIDR blocks in VPC networks](#)

Network Plug-in Flannel Terway You cannot change the network plug-in after the cluster is created. [How to select a network plug-in for a Kubernetes cluster](#)

IPVLAN (The inclusive ENI mode uses a combination of IPVLAN and eBPF as the virtualization technology. Only Alibaba Cloud Linux is supported.)

Support for NetworkPolicy Policy-based network traffic control is provided.

vSwitch Select 1~5 vSwitches. We recommend that you select vSwitches in different zones to ensure high availability for the cluster.

Name	ID	Zone	CIDR	Available IP Addresses
<input checked="" type="checkbox"/> au-b-vsw	vsw-p0w209ocgdp79d7equzbn	Sydney Zone B	10.10.0.0/20	4070

[Create vSwitch](#)

Pod vSwitch All ZoneB (1 / 1)

Name	ID	Zone	CIDR	Supported Pods
<input checked="" type="checkbox"/> au-b-vsw	vsw-p0w209ocgdp79d7equzbn	Sydney Zone B	10.10.0.0/20	4092

The prefix length of the VSwitch address is recommended to be no greater than 19 bits.

Service CIDR 192.168.0.0/16 ✓ Recommended Value: 192.168.0.0/16

Valid values: 10.0.0.0/16-24, 172.16-31.0.0/16-24, and 192.168.0.0/16-24.
The specified CIDR block cannot overlap with that of the VPC 10.10.0.0/16 or those of the ACK clusters that are deployed in the VPC. [The CIDR block cannot be modified after the cluster is created.](#)

Configure **7** Configure SNAT for VPC

Nodes and applications in the cluster have Internet access. If the VPC that you select has a NAT gateway, ACK uses this NAT gateway to enable Internet access. If the VPC does not have a NAT gateway, ACK automatically creates a NAT gateway and configures SNAT rules. For more information, see [NAT Gateway billing](#).

Access to API Server slb.s2.small ▾ [SLB Instance Specifications](#)

By default, an internal-facing SLB instance is created for the API server. You can modify the specification of the SLB instance. If you delete the SLB instance, you cannot access the API server.

8 Expose API Server with EIP

[ACK Billing](#) [Next:Node Pool Configurations](#) [Create Cluster](#)

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<input checked="" type="checkbox"/>	au-b-vsw	vsw-p0w209ocgdp79d7equzbn	Sydney Zone B	10.10.0.0/20	4092
<input type="checkbox"/> Create vSwitch The prefix length of the VSwitch address is recommended to be no greater than 19 bits.					
Service CIDR	192.168.0.0/16		<input checked="" type="checkbox"/> Recommended Value:192.168.0.0/16 Valid values: 10.0.0.0/16-24, 172.16.31.0.0/16-24, and 192.168.0.0/16-24. The specified CIDR block cannot overlap with that of the VPC 10.10.0.0/16 or those of the ACK clusters that are deployed in the VPC. The CIDR block cannot be modified after the cluster is created.		
Configure SNAT	<input checked="" type="checkbox"/> Configure SNAT for VPC Nodes and applications in the cluster have Internet access. If the VPC that you select has a NAT gateway, ACK uses this NAT gateway to enable Internet access. If the VPC does not have a NAT gateway, ACK automatically creates a NAT gateway and configures SNAT rules. For more information, see NAT Gateway billing .				
Access to API Server	sib.s2.small	<input type="checkbox"/> SLB Instance Specifications By default, an internal-facing SLB instance is created for the API server. You can modify the specification of the SLB instance. If you delete the SLB instance, you cannot access the API server. <input checked="" type="checkbox"/> Expose API Server with EIP If you select this check box, the internal-facing SLB instance is associated with an EIP. This allows you to access the API server of the cluster over the Internet.			
RDS Whitelist	<input type="checkbox"/> Select RDS Instance We recommend that you go to the RDS console to add the CIDR blocks of the specified nodes and specified pods to a whitelist of the RDS instance. Otherwise, if the RDS instance is not in the running state, the node pool cannot be scaled out.				
Security Group	<input type="checkbox"/> Create Basic Security Group <input type="checkbox"/> Create Advanced Security Group By default, advanced security groups that are automatically created allow the communication between IP addresses within the VPC. You can ALSO manually modify security group rules based on your requirements. Security group overview				
Deletion Protection	<input type="checkbox"/> Enable Cluster Cannot Be Deleted in Console or by Calling API				
Resource Group	<input checked="" type="checkbox"/> ack-one <input type="checkbox"/> Create New Resource Group <input type="checkbox"/>				
To create a resource group, click here .					
<input type="checkbox"/> Show Advanced Options					
<input type="checkbox"/> ACK Billing <input type="checkbox"/> Next:Node Pool Configurations <input type="checkbox"/> Create Cluster					

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[Create Cluster](#) [Managed Kubernetes](#) [Serverless Kubernetes](#) [Managed Edge Kubernetes](#) [Register Cluster](#)

Cluster Configurations Node Pool Configurations Component Configurations Confirm Order

* Node Pool Name: **au-ack-nodepool** (11)

The name must be 1 to 63 characters in length. It can contain letters, Chinese characters, digits, and hyphens (-). If you want to add existing ECS instances, add them to node pools of the cluster after the cluster is created.

Instance Type

Current Generation All Generations

Filter: vCPU N/A Memory N/A (12) Enter an instance type, e.g., ecs.g5.large

Architecture: x86-Architecture (selected) ARM Heterogeneous Computing ECS Bare Metal Instance Super Computing Cluster

Category: All General Purpose Compute Optimized (selected) Memory Optimized Big Data Local SSD High Clock Speed Shared Enhanced Recommended

Instance Family	Instance Type	vCPU	Memory	Zone	ENIs	Terway Mode (Supported Pods)	Internal Network
Compute Optimized Type c6	ecs.c6.xlarge	4 vCPU	8 GiB	B	3	One ENI for Multi-Pod(20)	Up to 5 Gbit/s
Compute Type c5	ecs.c5.xlarge	4 vCPU	8 GiB	B	3	One ENI for Multi-Pod(20)	1.5 Gbps
Enhanced Compute Type c6e	ecs.c6e.xlarge	4 vCPU	8 GiB	B	4	One ENI for Multi-Pod(45)	Up to 10 Gbit/s
Compute Optimized Type with Enhanced Network Performance sn1ne	ecs.sn1ne.xlarge	4 vCPU	8 GiB	A B	3	One ENI for Multi-Pod(20)	1.5 Gbps
Compute Intensive Type ic5	ecs.ic5.xlarge	4 vCPU	4 GiB	B	3	One ENI for Multi-Pod(20)	1.5 Gbps
Compute Optimized Type c6	ecs.c6.2xlarge	8 vCPU	16 GiB	B	4	One ENI for Multi-Pod(30)	Up to 8 Gbit/s

Selected Types: **ecs.c6.xlarge (4 vCPU 8 GiB, Compute Optimized Type c6)** (13)

Quantity: **1 unit(s)** (14)

Nodes will be evenly assigned to your selected vSwitches.

Custom Disk ESSD Disk 120 GiB Performance Level: PL 1 (Up to 60,000 IOPS per D)

ACK Billing ECS Price: \$0.27 /Hours Prev: Cluster Configurations Next: Component Configurations Create Cluster

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+ Compute Optimized Type c6	ecs.c6.xlarge	4 vCPU	8 GiB	B	3	One ENI for Multi-Pod(20)	Up to 5 Gbit/s
+ Compute Type c5	ecs.c5.xlarge	4 vCPU	8 GiB	B	3	One ENI for Multi-Pod(20)	1.5 Gbps
+ Enhanced Compute Type c6e	ecs.c6e.xlarge	4 vCPU	8 GiB	B	4	One ENI for Multi-Pod(45)	Up to 10 Gbit/s
+ Compute Optimized Type with Enhanced Network Performance sn1ne	ecs.sn1ne.xlarge	4 vCPU	8 GiB	A B	3	One ENI for Multi-Pod(20)	1.5 Gbps
+ Compute Intensive Type ic5	ecs.ic5.xlarge	4 vCPU	4 GiB	B	3	One ENI for Multi-Pod(20)	1.5 Gbps
+ Compute Optimized Type c6	ecs.c6.2xlarge	8 vCPU	16 GiB	B	4	One ENI for Multi-Pod(30)	Up to 8 Gbit/s

Selected Types
You can select multiple instance types. Nodes are created based on the order of the instance types in the above list. If one instance type is unavailable, the next instance type is used. The actual instance types used to create nodes are subject to inventory availability.

Quantity
1 unit(s) ▾
Nodes will be evenly assigned to your selected vSwitches.

System Disk ESSD Disk ▾ 120 GiB ▾ Performance Level PL 1 (Up to 50,000 IOPS per D... ▾

Mount Data Disk You have selected 0 disks and can select 10 more.
Disk Parameters and Performance
+ Add Data Disk Recommended

Operating System Alibaba Cloud Linux 2.1903 ▾ Use the container-optimized operating system Alibaba Cloud Linux 2

Security Reinforcement Disable Reinforcement based on classified protection CIS Reinforcement

Logon Type Key Pair Password Later **15**

Show Advanced Options

ACK Billing ECS Price: \$ 0.27 /Hours | Prev: Cluster Configurations | **Next: Component Configurations** | Create Cluster | **16**

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Create Cluster | Managed Kubernetes | Serverless Kubernetes | Managed Edge Kubernetes | Register Cluster | Cluster Templates | Back

Cluster Configurations | Node Pool Configurations | Component Configurations | Confirm Order

Ingress: ALB Ingress (17)

Service Discovery: Install NodeLocal DNSCache (18)

Volume Plug-in: CSI (19)

Monitoring Agents: Install CloudMonitor Agent on ECS Instance (19), Enable Prometheus Monitoring (20)

Alerts: Use Default Alert Rule Template (21)

Log Service: Enable Log Service (Note: Pricing Details)

Log Collection for Control Plane Components: Enable

Cluster Inspection: Scan Cluster and Detect Potential Security Risks

Current Configuration: Region: ap-southeast-2, Note: Enable Log Service

You can create a maximum of 102 clusters. Each cluster can contain a maximum of 5010 nodes. To request a quota increase, submit a ticket.

ACK Billing: ECS Price: \$0.27 /Hours | Prev: Node Pool Configurations | Next: Confirm Order | Create Cluster

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Add Authorization

1

2

3

Alibaba Cloud | Workbench | All Resources | Global | Search... | Expenses | ICP | Enterprise | Support | Tickets | EN | ad***@jmp... | Main Account

Container Service - Kubernetes

Overview

Clusters

Authorizations 1

Marketplace

Alibaba Cloud Contai...

Orchestration Templa...

Marketplace

Multi-cluster

Multi-cluster Manager

Application Center

Backup Center

Service Mesh

Tasks

ACK / Authorizations

Authorizations

Select RAM User → Configure Role-Based Access Control (RBAC) → Submit Authorization

Note: Make sure that you have authorized the selected RAM user to access the target cluster.

RAM authorization is used to control access to the cluster by cluster management APIs. You can grant read and write permissions to different user roles based on your needs.

- Read-only access. This permission enables users to view cluster configuration and read the kubeconfig file.
- Read-write access. This permission enables users to manage the cluster, include expand and upgrade the cluster, add existing nodes to the cluster, and remove nodes from the cluster.

For more information about RAM authorization, see [Custom RAM policies](#).

If you want to use the selected RAM users to authorize other RAM users, you must first grant the required permissions to the selected RAM users in the RAM console. For more information, see [Use a RAM user to assign RBAC roles to other RAM users](#).

Username	User ID	Display Name	Comment	Created At	Modify Permissions	Revoke KubeConfig
<input checked="" type="checkbox"/> admin	218174369084162064	admin		Nov 22, 2022, 09:29:22 UTC+7	Modify Permissions	Revoke KubeConfig

Add Permissions

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Container Service - Kubernetes | ACK / Authorizations

Authorizations

Select RAM User → Configure Role-Based Access Control (RBAC) → Submit Authorization

Add Permissions Add permissions for multiple RAM users without affecting existing permissions.

RAM User: admin

Cluster/Namespace

5

Administrator O&M Engineer Developer Restricted User

Cluster my-ack Namespace All Namespaces

6

Administrator O&M Engineer Developer Restricted User

Cluster au-ack Namespace All Namespaces

4

Add Permissions

Permission Description

RBAC Description

Administrator Read/write access to resources in all namespaces. Read-write access to nodes, PVs, namespaces, and quotas.

O&M Engineer Read/write access to resources that are both visible in the console and in all namespaces. Read-only access to nodes, PVs, namespaces, and quotas.

Developer Read/write access to resources that are both visible in the console and in the specified namespaces.

Restricted User Read-only access to resources that are both visible in the console and in the specified namespaces.

Custom Different cluster roles have different permissions. Before you authorize a RAM user, make sure that you are aware of all the resource access permissions of the selected cluster roles. This prevents the RAM user from obtaining unauthorized permissions.

Prev Step Next Step

Tasks

5

Administrator O&M Engineer Developer Restricted User

Cluster my-ack Namespace All Namespaces

6

Administrator O&M Engineer Developer Restricted User

Cluster au-ack Namespace All Namespaces

4

Add Permissions

Permission Description

RBAC Description

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Custom Different cluster roles have different permissions. Before you authorize a RAM user, make sure that you are aware of all the resource access permissions of the selected cluster roles. This prevents the RAM user from obtaining unauthorized permissions.

Prev Step Next Step

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ACK ONE



Alibaba Cloud Console Home

home-intl.console.aliyun.com/?spm=a3c0i.7911826.6791778070.42.5c0f3870krIQM2

Workbench Search... Expenses ICP Enterprise Support Tickets EN ad***@jump... Main Account

Products and Services

1

Elastic Compute Service
ApsaraDB RDS
Virtual Private Cloud
Object Storage Service
Server Load Balancer
Alibaba Cloud CDN
DataWorks
Domains
Marketplace

High Performance Computing

Containers

Elastic Container Instance
Serverless Container Service
Container Service for Kubernetes
Container Registry

Identity Management

ACK One Public BETA

2

Cloud Firewall
Bastion Host
Cloud Security Scanner
ActionTrail
Server Guard

Service Mesh
Elastic Container Instance
Container Registry

Microservices

IDaaS
Data Security Center
Data Encryption Service
Key Management Service

Data Security

Enterprise Distributed Application...
Microservice Engine
Application Configuration Manager...

Message Queue

AliwareMQ for Apache RocketMQ
EventBridge
AlibabaMQ for Apache Kafka
Message Queue for RabbitMQ

Business Security

Content Moderation
Fraud Detection

Elastic Orchestration

Auto Scaling
Resource Orchestration Service
Operation Orchestration Service

Serverless

Enterprise Application...
Cloud Communications

Enter a keyword

Category	Sub-Category	Description
Containers	Elastic Container Instance	Elastic Computing
Containers	Serverless Container Service	Storage
Containers	Container Service for Kubernetes	Databases
Containers	Container Registry	Security
Identity Management	ACK One Public BETA	Analytics
Microservices	IDaaS	Artificial Intelligence
Microservices	Data Security Center	Networking & CDN
Microservices	Data Encryption Service	Media Services
Microservices	Key Management Service	Containers & Middlew...
Message Queue	AliwareMQ for Apache RocketMQ	Developer Services
Message Queue	EventBridge	Management and Gov...
Message Queue	AlibabaMQ for Apache Kafka	Internet of Things
Message Queue	Message Queue for RabbitMQ	Domains & Websites
Business Security	Content Moderation	Enterprise Application...
Business Security	Fraud Detection	Cloud Communications





Distributed Container Platform ACK One

Activate Service Distributed Container Platform ACK One

This service is free for use during public preview. For more information, see [Billing](#).

Terms of Service **1** [Distributed Container Platform ACK One Terms of Service](#)

2 [Activate Now](#)

The screenshot shows the activation process for the Distributed Container Platform ACK One service. It includes a 'Terms of Service' section with a checkbox and a link, and a prominent 'Activate Now' button at the bottom right.





Alibaba Cloud - Pay Success

buy-intl.aliyun.com/order/paySuccess?order_id=502562540050952

Alibaba Cloud

Intl - English

Cart

Console

Login

Pay

Confirm Order

Activated

Order complete.

The service you ordered is being activated. It may take 1 to 5 minutes to complete.
Please wait a while.

Console

Purchase History



Alibaba Cloud | Workbench

Search... Expenses ICP Enterprise Support Tickets EN admin@523... RAM User

Welcome to Multi-cluster Management

You can efficiently schedule jobs in Distributed Container Platform by using the multi-cluster management feature of ACK One and optimize the utilization of resources. [Use the multi-cluster management feature to plan cluster networks](#)

1 If you create Alibaba cloud resources, such as EIPs and ASM instances, or enable the collection of operation logs and auditing logs, you are charged for these cloud resources or services. For more information about the billing, see [Cloud resource billing](#).

Enable the multi-cluster management service provided by ACK One

Applicable scope: You can manage services that belong to your account in a unified manner. We recommend that you select the region that is closest to your infrastructure. The time required to enable the multi-cluster management feature depends on the network connectivity of your infrastructure.

* Region: Singapore

* VPC: sg-vpc

* vSwitch: sg-b-vsw(vsw-t4nkmnl15mgfytegjv5f) ×

2 Create and Associate EIP

Standard I (slb.s2.small)

By default, an SLB instance is created for the API server. If you delete the SLB instance, you cannot access the API server. You can upgrade the instance specification in the SLB console after you create the master instance. [Billing](#)

3 Enable Collection of Operation and Auditing Logs

If you turn on Create and Associate EIP, an EIP is created and associated with the internal-facing SLB instance of the API server. This way, the API server can be accessed over the Internet. After you associate an EIP with the master instance, you cannot disassociate the EIP that is associated with the master instance because the EIP may be used by clusters to connect to the master instance over the Internet. For more information about EIP billing, see [EIP billing](#).

4 Enable Multi-cluster Management

Add associated clusters

Prerequisites: The cluster that you want to manage is running as normal. After you enable the multi-cluster management feature, you can associate clusters with the master instance on the Associated Clusters tab.

Perform other operations after the associated clusters are added

Process: It requires a period of time to add associated clusters. The duration depends on the network condition of the infrastructure.

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Distributed Container Platform / Multi-cluster Management / Master Instance Basic Information

ACKOne-IHgccSsgPnMhHotC

Running Create Master Instance Delete Master Instance Manage Master Instance in Cloud Shell

Master Instance Basic Information

The multi-cluster management feature allows you to schedule and distribute workloads, applications, and configuration information across clusters. [View Details](#)

		Basic Information	Connect to Master Instance	Master Instance Logs	Audit Logs	Logs of Control Plane Components
ASM	Master Instance Name	ACKOne-IHgccSsgPnMhHotC	Status	Region	Public Endpoint of API Server:	Internal Endpoint of API Server:
	Master Instance ID	cd95e45448a94e8e80bd349a2b9218a8				
MCS	Creation Time	2022-11-22 12:35:40	SLB Instance for API Server	ap-southeast-3	https://47.254.198.60:6443	https://10.20.0.61:6443
	Security Group	sg-8pscvcvpzn3w0x1liownv				
VPC	VPC	vpc-8psenyyymnefp9v2fv0lt	SLB Instance for API Server	lb-zf8nd1bxkhsexyc7903	https://47.254.198.60:6443	https://10.20.0.61:6443

Advanced Settings

SLB Instance for API Server: Standard I (slb.s2.small)
By default, an SLB instance will be created for the API server. If you delete the SLB instance, you cannot access the API server.

Enable Collection of Operation Logs and Auditing Logs: Enabled
A Log Service project named k8s-log-{ClusterID} is automatically created to collect the logs of control plane components to Log Service, including kube-apiserver and kube-controller-manager. [View Details](#) [Billing](#)

Deletion Protection: Disabled
Prevents clusters from being accidentally deleted in the console or by calling API operations.

ASM: Disabled
Info: If you associate a master instance with an ASM instance, you are charged for the ASM instance. For more information about the billing rules of ASM, see [ASM Billing](#)

The screenshot shows the Alibaba Cloud Distributed Container Platform interface. On the left, there's a sidebar with various services like Distributed Container Platform, Distributed Cloud Architect, Multi-cluster Management, Registered Clusters, Multi-cluster Global Moni, Application Center, and Distributed Cloud Data Serv. The 'Multi-cluster Management' section is currently selected. The main area displays 'Master Instance Basic Information' and 'Associated Clusters'. A modal window titled 'Add Associated Cluster' is open, listing two clusters: 'au-ack' (ACK Pro, Australia (Sydney)) and 'sg-ack' (ACK Pro, Singapore (Singapore)). Both clusters have checkboxes checked. A red circle labeled '1' highlights the list of associated clusters. A red circle labeled '2' highlights the 'OK' button at the bottom right of the modal.

Distributed Container Platform / Multi-cluster Management / Associated Clusters

ACKOne-lHgcccSsgPnMhHOtC

Master Instance Basic Information

Associated Clusters

Namespaces (Quota and Priority)

Add Associated Cluster

Cluster ID/Name

au-ack
c86aa4b9327e643dbb6211b5a1ff333de

sg-ack
cccd81c2d7c134bbf995632e8856032cf

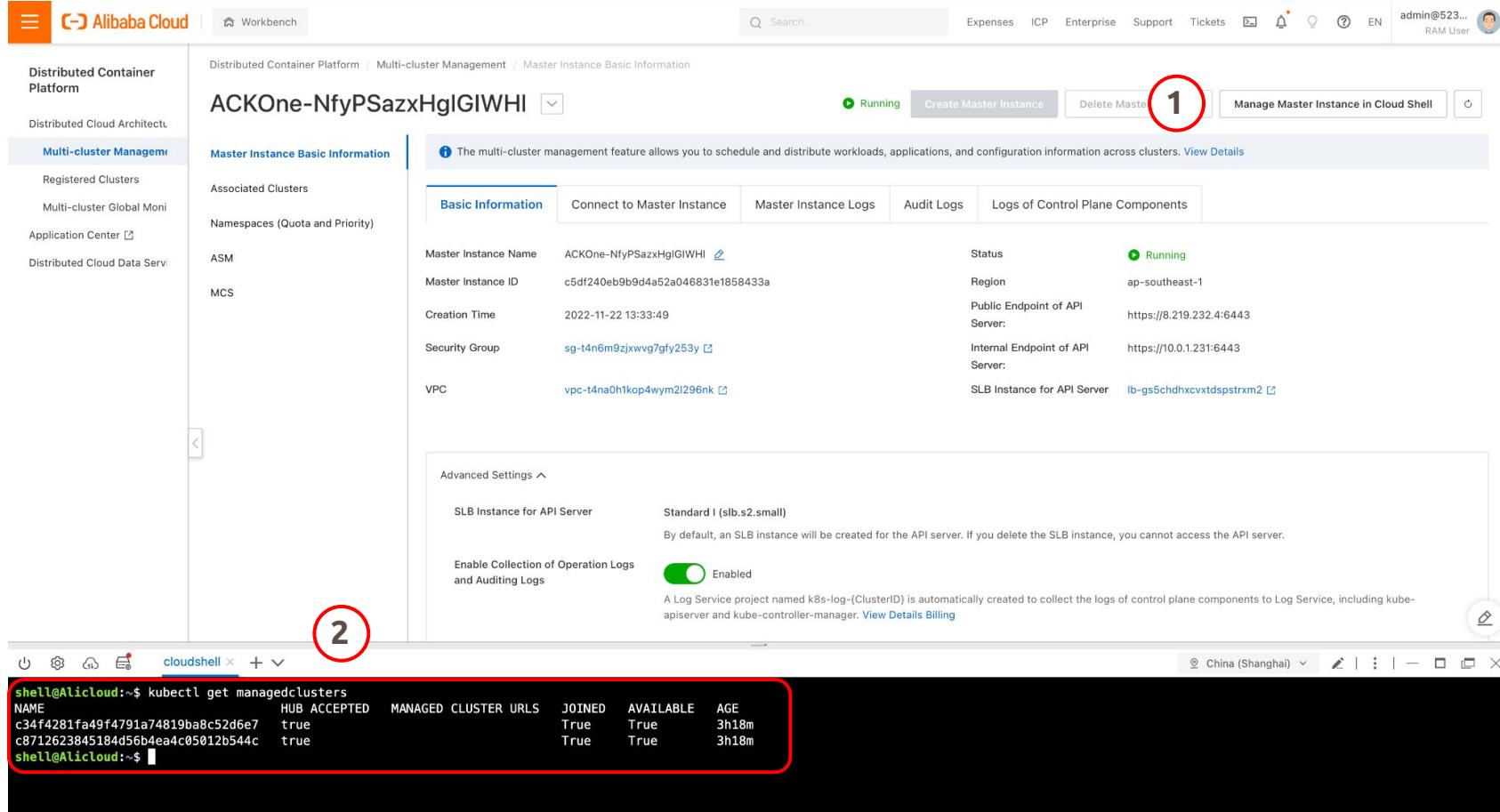
Cluster Type

Region

ACK Pro Australia (Sydney)

ACK Pro Singapore (Singapore)

Items per Page 10 总数: 2 < 1 >



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```
shell@Alicloud:~$ kubectl get managedclusters
NAME          HUB ACCEPTED   MANAGED CLUSTER URLs   JOINED   AVAILABLE   AGE
c34f4281fa49f4791a74819ba8c52d6e7   true           True        True        4h
c8712623845184d56b4ea4c05012b544c   true           True        True        4h
shell@Alicloud:~$
```

Use with AMC Plugins

Linux:

```
$ wget http://ack-one.oss-cn-hangzhou.aliyuncs.com/kubectl-amc-linux && chmod +x
kubectl-amc-linux && mv kubectl-amc-linux /usr/local/bin/kubectl-amc
```

MacOs:

```
$ curl -LO http://ack-one.oss-cn-hangzhou.aliyuncs.com/kubectl-amc-mac && chmod +x
kubectl-amc-mac && mv kubectl-amc-mac /usr/local/bin/kubectl-amc
```

Kubectl Plugins - AMC

- AMC is a **command-line tool** provided by Alibaba Cloud Distributed Cloud Container Platform (ACK One).
- AMC runs as a **kubectl plug-in**.

Use with AMC Plugins

```
shell@Alicloud:~$ wget http://ack-one.oss-cn-hangzhou.aliyuncs.com/kubectl-amc-linux && chmod +x kubectl-amc-linux && mv kubectl-amc-linux /usr/local/bin/kubectl-amc
--2022-11-22 14:52:13--  http://ack-one.oss-cn-hangzhou.aliyuncs.com/kubectl-amc-linux
Resolving ack-one.oss-cn-hangzhou.aliyuncs.com (ack-one.oss-cn-hangzhou.aliyuncs.com)... 118.31.219.192
Connecting to ack-one.oss-cn-hangzhou.aliyuncs.com (ack-one.oss-cn-hangzhou.aliyuncs.com)|118.31.219.192|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 115234312 (110M) [application/octet-stream]
Saving to: 'kubectl-amc-linux'

kubectl-amc-linux          100%[=====] 109.90M  12.2MB/s   in 8.1s

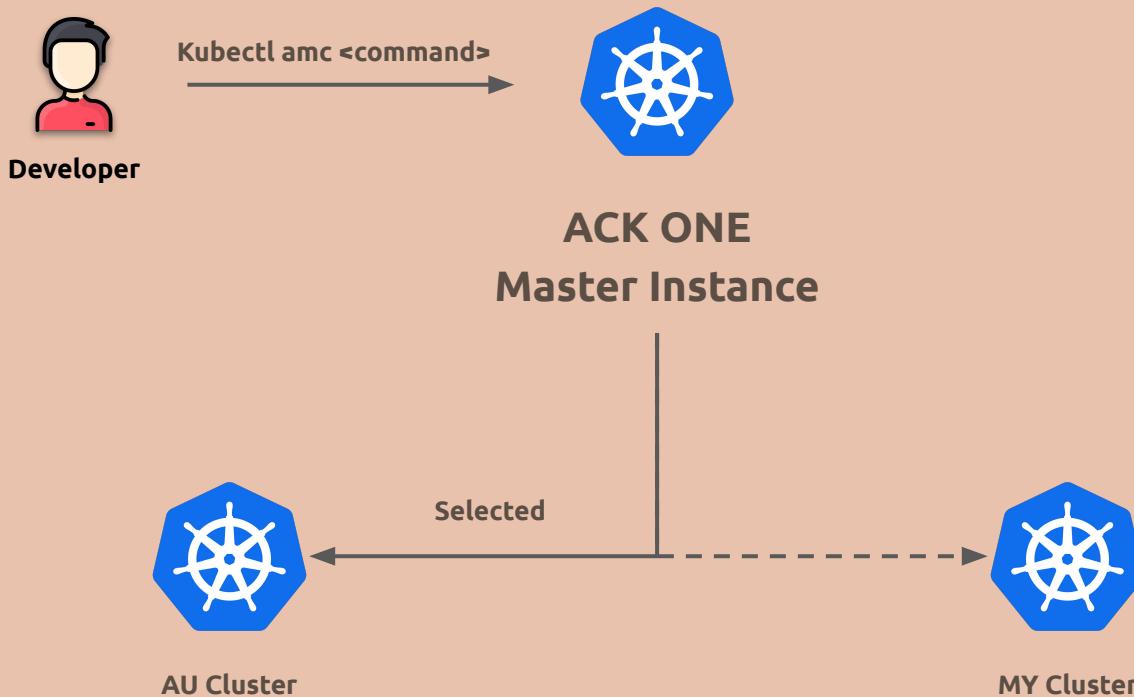
2022-11-22 14:52:22 (13.6 MB/s) - 'kubectl-amc-linux' saved [115234312/115234312]

shell@Alicloud:~$ kubectl amc get managedcluster
Name           Alias   HubAccepted
c34f4281fa49f4791a74819ba8c52d6e7  au-ack   true
c8712623845184d56b4ea4c05012b544c  my-ack   true
shell@Alicloud:~$ 
```

```
$ kubectl amc get managedcluster
```

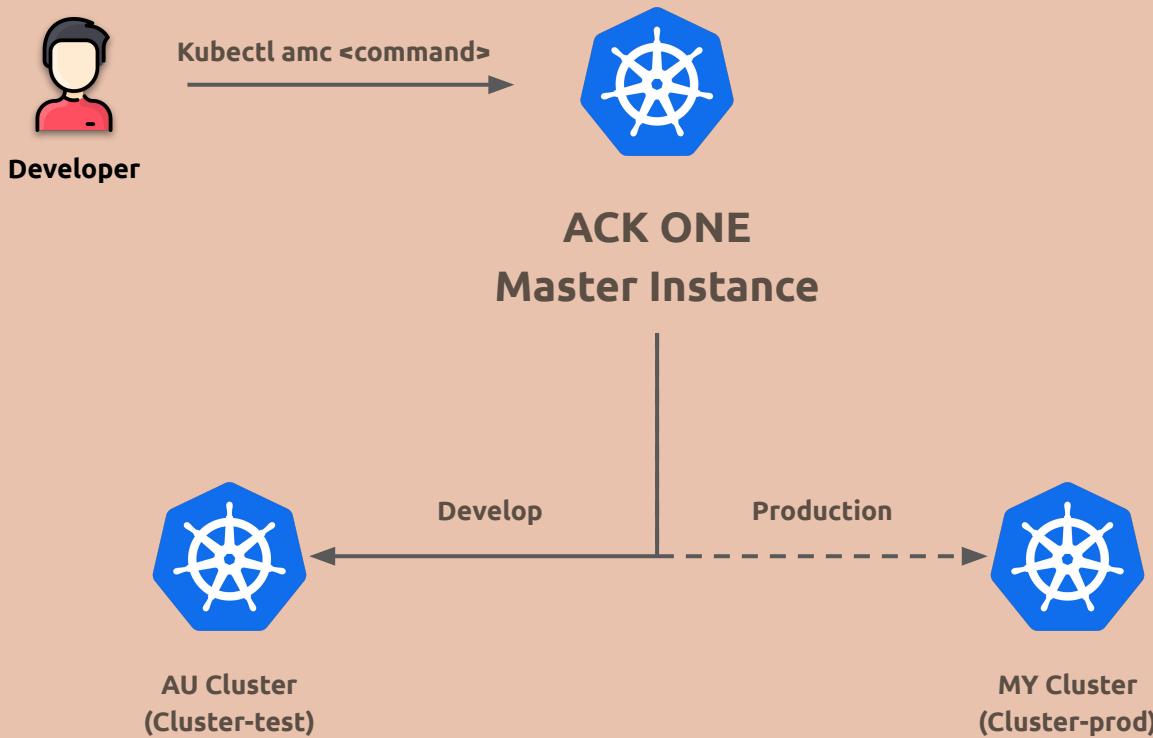
Simple Deploy

[Github](#)



Canary Deploy

[Github](#)

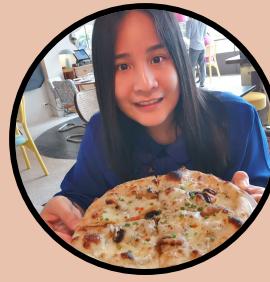


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Special Thanks



Miu
Event Organizer



Beau
Community Leader



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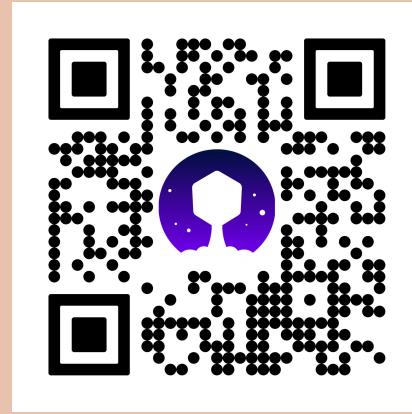


Flook
Alibaba Cloud Organizer



Bird
Alibaba Cloud Organizer

 Alibaba Cloud



<https://www.facebook.com/jumpbox.academy>



Thank you
for joining us!



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ALIBABA
CLOUD
DAY THAILAND
TECH FOR INNOVATION