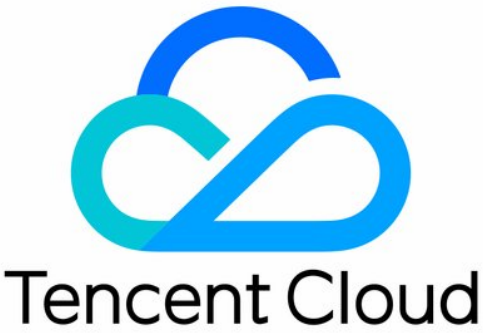
Container Instance Service

Product Introduction

Product Documentation



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Product Introduction

Container Instance Service (CIS) is a fully managed container service that hosts workloads using containers, and you don't need to manage and maintain servers. You can quickly deploy a batch of containers on the cloud with simple configurations, and schedule the pods on an existing Kubernetes cluster to CIS via the Kubernetes API to handle a sudden surge in your business. CIS can help you minimizes manual effort in OPS, and save costs by charging fees only for resources actually used by containers.

Similar to a Kubernetes Pod, a CIS instance can contain Dockers of multiple shared resources.

Concepts

Container and image

By packaging all applications and their dependencies into an image, and then using the image to generate a resource-isolated environment to run the applications, the container technology allows applications to run independently in a consistent environment in a simple and efficient manner.

Container is a lightweight virtualization technology at the operating system level for isolating and controlling system resources, making global resources only usable in the container processes.

Similar to a CVM snapshot but more lightweight, a container image can be construed as a static form of a container. Image defines all files and dependencies needed to run a container, ensuring the container runs in a consistent manner.

Kubernetes

Kubernetes, an open source container orchestration and scheduling engine based on Google's Borg, is one of the most important components of CNCF (Cloud Native Computing Foundation). It provides production-level application orchestration, container scheduling, service discovery, automatic scaling, and other capabilities. For more information, see official Kubernetes documentation.

Product Features

Rapidly deploy containers

In just a few simple configuration steps, you can quickly deploy a container from an image without purchasing any CVM.

Schedule and manage instances via Kubernetes

CIS supports the Virtual Kubelet project. By deploying Virtual Kubelet on the nodes of the Kubernetes cluster, it can schedule container instances as the pods on this cluster.

Communicate with other cloud resources

CIS is running on your VPC and supports communicating with other resources on your VPC, including CVM, CDB, and CRS.

Related Services

CIS can provide solutions together with other Tencent Cloud products.

For a better Kubernetes container management service, it is recommended to use Kubernetes Service TKE.

To deploy different scenarios with CVMs and containers, it is recommended to use CVM.

To manage more complex networks, such as establishing peering connections, using NAT gateways, configuring route tables or configuring security policies, it is recommended to use VPC.

To call Tencent Cloud APIs to access Tencent Cloud products and services, see Tencent Cloud API documentation.

Features

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Product Features

Serverless

You don't need to purchase an underlying server to run a container, what you purchase is the container.

Secure and reliable

CIS is as secure as CVM. Containers are running in your CVM with a securely isolated network environment.

Rapid creation

You can create a container instance in just a few seconds.

Flexible configuration

You can appropriately configure a custom container instance to maximize its resource utilization during runtime.

Only a fixed series of configurations are available in the internal trial.

Simple management

The lifecycle of a container instance is controlled by a program running internally, and ends at the same time when the program ends, without the need of additional resource management for cutting costs.

Compatible with Kubernetes API

It supports using the Kubernetes API for scheduling management.

Linux/Windows containers

Linux/Windows containers are supported.

Only Linux containers are available in the internal trial.

Differences Between CIS and TKE

Feature	Kubernetes Service (TKE)	Container Instance Service (CIS)

Feature	Kubernetes Service (TKE)	Container Instance Service (CIS)
Kubernetes	Naturally supports	Supports through upper-layer scheduler management
Underlying servers	A TKE cluster consists of CVMs (nodes) you purchased. You take full control over these nodes, including purchase and return, adding and removing nodes to and from the cluster, etc.	You don't need to manage them
Management	You need to use Kubernetes to manage resources such as clusters and nodes, as well as services and applications, which is complicated	You only need to manage applications, which is relatively simple
Cluster	Supports	As a serverless service, each CIS is an independent instance, so no cluster is used
Service	Supports	Supports through upper-layer scheduler management
VPC	Supports	Supports
Application scenarios	TKE is suitable for deploying large-scale applications or micro-service frameworks with a complex hierarchy and an independent Kubernetes management layer in scenarios focusing more on management	CIS is suitable for deploying applications with a simple hierarchy, or can be used as a serverless resource pool for some application frameworks in scenarios demanding light management

Scenarios

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Application Hosting

Container instances are ideal workload for serverless applications. With the image of an application's container, you can run the application by making simple configurations at the lowest cost. For example, you can perform an application verification, crawl a website, deploy a web service, etc. Any simple applications that support containers can be deployed using container instances. Besides, container instances can also host stateful applications by specifying a fixed public IP and using persistent cache.

Computing Jobs

Container instances are the easiest choice to run containers on Tencent Cloud. They can start in batch within seconds, support logic termination and auto release, and communicate with other resources via a private network, thus suitable for computing jobs. From small-scale algorithm verification and large-scale batch computing, to serial tasks using CPU and parallel tasks using GPU, it is recommended to use a container instance as the workload.

Regions & Availability Zones

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CIS supports the following regions and availability zones:

Region	Availability Zone	Description
ap-guangzhou	ap-guangzhou-2	Guangzhou Zone 2
ap-guangzhou	ap-guangzhou-3	Guangzhou Zone 3
ap-guangzhou	ap-guangzhou-4	Guangzhou Zone 4