Guide for Akraino Apps run on Tencent Cloud

This guide will show you how to run Akraino apps on TKE of Tencent Cloud.

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Sign Up for An Account of Tencent Cloud

Go to https://intl.cloud.tencent.com, click Sign up.



Why Tencent Cloud



nt is a leading influencer in industries such as social , mobile payments, online video, games, music, and more. ge Tencent's vast ecosystem of key products across

Help

Select your location and click Next

🖂 Sign up	Philosy Policy > Account Information
2	Select year primary location Image: Compare the location in the locati

Configure your email, password, and your phone number. And click Confirm to the agreement and submit to finish it.

	🔗 Tencent Cloud	
🖂 Sign up		Privacy Policy > (2) Account Information
2	Email address. Pesseved Confere passeved and parend to Termin of Service and Introder Passeve Confere to the agreement and cateror	
	Have an account? Log in now	
	Copyright © 2013-2021 Tencent Cloud. All Rights Reserved.	

After that, you may receive an email to verify your account. You just need to follow the steps in the email.

Create a TKE Cluster

Go to the TKE (Tencent Kubernetes Engine) page.

Click New to create a cluster.

於 勝讯云 ○verview	- Cloud products = Cloud Server Container service + 👔 Itternal Text -
Container service	Cluster management area Guangahou = Scan the OR code to follow the official account 🖒 Management Guide (2
E Overview	New using template Multiple Asystemical bar ''', and Q
Cluster	
Elastic cluster	ID/Name monitor kubernetes ve Type/Status Number of nodes Allocated/total configur ①Tencent Cloud tags operating
a Edge cluster	The cluster list in the region you selected is empty, you can[Create a new cluster] . Or switch to another region
application Center	0 item in total Show rows per page 20 + H < 1 /1 page > H
🛱 application	
Mirror warehouse *	
Application market	
Operation Center	
Cluster operation * and maintenance	
Cloud native monitoring	
E Container Image Service	
oo DevOps ⊠	
Quick start	

Configure your cluster name, location, and network. If you do not have a private network, you can click Create a new one now to create.

Container service 🧲	Create a cluster	
E Overview	Cluster information	Choose model Cloud server
Oluster		Configuration Configuration Configuration
♥ Elastic cluster	When you use the container service, you nee	of to create a cluster find, and the container services runs in the cluster. A cluster is composed of several nodes (cloud serven) and can run multiple container services. For more instructions on the
C Edge cluster	cluster, refer to the cluster overview 🗵	
application Center	Cluster name	k8i tara
application	Deviant to which the new secures belows	
III Mirror warehouse *	report to match and reported barrier go	The newly added cloud server, load balancer and other resources in the cluster will be automatically allocated to the project. Guidelines for use 🔯
Application market	Kubernetes version	5.18.4 v
Operation Center	Runtime components	docker contained how to choose
Cluster operation * and maintenance	ſ	dockerd is a nutrime component of the community edition and supports docker spi
Cloud native monitoring	Location	Guangshou Shanghai China Kong Kong Toronto Beling Singapore Silcon Valley Changdu Franklurt Seoul Chongqing Mumbal Virginia Bangkok Moscow Tokyo Nanjing
Service I		The intrarest of cloud products in different regions cannot be connected and cannot be replaced after purchase. It is recommended to choose a region close to your customers to reduce access delay and increase download speed.
	Cluster network	Plaase select a cluster network v 🖞
D Quick start		The container cluster runs on a secure and isolated private network. You don't have a private network ye. Create a new one now 2
	Container network plugin	Global Router VPC-CNI how to choose [2
	Contribution of C	Global Houter is a container network plag-in implemented by Tencent Cloud TRE based on VPC routing. It can set container network segments that are independent and parallel to the VPC.
	Container Intredix()	CDR 172 * 16 0 0 / 16 *
=	cancel Next so	p

Select your billing model, node network, and machine model, and click ${\tt Next\ step}$

Container service	← Create a cluster
E Overview	Cloud server Component Conformation
Oluster	Casar mormation / Configuration / Configuration / Configuration
C Elastic cluster	
🖧 Edge cluster	Selected configuration
application Center	Cluster name k8e_tars
🛱 application	Kubernetes version 1,18,4
Mirror warehouse	Looson South Chine (Langarou) Container Internetive 11: 21: 60:019
Application market	operating system (() Tencert Like 2.4.64bb Public Minor - Basic Minor
Operation Center	Node source New node Existing node
Cluster operation * and maintenance	Master node Pattom hosting Sandatine diployment
Cloud native monitoring	Intercomponents such as watere and else of or the ensure of user and management and serviced by rencommunities of management, you can also purchase U-M to deport the Master + of ontains, please refer to "Cluster Heating Mode Instruction" (2
Bh. Container Image	Billing model() Pay-as-you-go Yearly and monthly Detailed comparison [2
Service 🖾	Worker configuration Austinitiative configuration of the contract of the contract of the Contract
°° DevOps ⊠	
Quick start	Node metwork 🕐 ileo 🔹 Kestars × A total of 253 submet IPs, 253 available
	CIDP: 10.128.0.0/16
	If the existing network is not subtace, you can go to the concept to channel a new provide network (b) of channel a new success to be approximately on the concept to t
	model Please select the model first (standard storage enhanced SSee , 4 core 16 GB) *
	system clsk High-performance cloud hard disk 500B /
	Data disk Do not buy temporarily /
=	Previous Net step

Select your login method. For example, we use the Associate key. You also can just set a password for your node.



Configure the components of your node. You just need to choose the components you need to install.

Container service	Create a cluster
E Overview	Chuster Information
Cluster	Configuration Configuration Configuration
Bastic cluster	
🛱 Edge cluster	Selected configuration
application Center	Outer name Healtara
application	Kubernstein 1:1:4:4
Mirror warehouse *	Container retwork 72,16,0,0/16
_	Billing model Pay-as-you-go
 Application market 	operating system() Tenceret Linux 2.4 64bit Public Merror - Basic Minor
Operation Center Constant constant and maintenance Could native monitoring Constant mage Service 10 De-Ops 12 Outlick start	And storage monitor More image Ditts Storaduling other 1001 [Container Image Bunches Plugt] • PPI (sconsented distribution of container Image) PPI (sconsented distribution of container Image) · Other Institution isoned the Child institution for the claims used into in the institute institution store of the claims used into its institution isoned the claims used into its institution isoned the claims used into its institution used into its institution used into its institution isoned the claims used into
Э	Previous Next role

After that, we will jump to the Information confirm page. Make sure you have enough balance in your account.

Install kubectl

In this part, we will introduce how to install kubectl on Linux.

For other operating system, refer to https://kubernetes.io/docs/tasks/tools

Install kubectl binary with curl on Linux

1. Download the latest release with the command:

```
curl -L0 "https://dl.k8s.io/release/$(curl -L -s https://dl.k8s.io/release/stable.txt)/b in/linux/amd64
/kubectl"
```

2. Install kubectl

sudo install -o root -g root -m 0755 kubectl /usr/local/bin/kubectl

Note: If you do not have root access on the target system, you can still install kubectl to the ~/.local/bin directory:

```
mkdir -p ~/.local/bin/kubectl
mv ./kubectl ~/.local/bin/kubectl
# and then add ~/.local/bin/kubectl to $PATH
```

3. Test to ensure the version you installed is up-to-date:

kubectl version --client

Install using native package management

Debian-based distributions

1. Update the apt package index and install packages needed to use the Kubernetes apt repository:

```
sudo apt-get update
sudo apt-get install -y apt-transport-https ca-certificates curl
```

2. Download the Google Cloud public signing key:

```
sudo curl -fsSLo /usr/share/keyrings/kubernetes-archive-keyring.gpg https://packages.cloud.google.com/apt
/doc/apt-key.gpg
```

3. Add the Kubernetes apt repository:

```
echo "deb [signed-by=/usr/share/keyrings/kubernetes-archive-keyring.gpg] https://apt.kubernetes.io/
kubernetes-xenial main" | sudo tee /etc/apt/sources.list.d/kubernetes.list
```

4. Update apt package index with the new repository and install kubectl:

```
sudo apt-get update
sudo apt-get install -y kubectl
```

Red Hat-based distributions

```
cat <<EOF > /etc/yum.repos.d/kubernetes.repo
[kubernetes]
name=Kubernetes
baseurl=https://packages.cloud.google.com/yum/repos/kubernetes-el7-x86_64
enabled=1
gpgcheck=1
repo_gpgcheck=1
gpgkey=https://packages.cloud.google.com/yum/doc/yum-key.gpg https://packages.cloud.google.com/yum/doc/rpm-
package-key.gpg
EOF
yum install -y kubectl
```

Connect To TKE Cluster

Open APIServer of your Cluster

On the page of cluster management, click the name of your cluster to jump to the information page of your cluster.



At Basic Information > Cluster APIServer Information, turn on Internet access and copy the Kubeconfig.

Container service	🔶 Cluster (Guangzhi	u) / cls-	3njisfši(tars_k8s)	create resources
51 Overview	Basic Information		Cluster APIServer information	
Oluster	Node management		address .	
② Elastic cluster	Namespaces		Internet access Ukropened TURN ON	
C Edge cluster	Workload	*	Intranet access	
application Center	Auto-scaling	*	Kubeconfig The following kubeconfig file is the kubeconfig content of the current sub-account:	
🛱 application	Service and routing	*	apiVersion: v1 down clusters:	load copy
Mirror warehouse *	Configuration management	*	- cluster: certificate-authority-data:	
Application market	Authorization management	÷	LSR1LSLORUDTLBORVUSSIZZORVUSRLSRLSRLSRLSRLSRLSRLSRLSRLSRLSRLSRLSRLS	jRYRFRJeE1 J2dnRUJBTH 80m5nL8120
Operation Center	storage	*	01vM3VWUERneEE1bMMbb8535GU3MgpxRUpTYjVKUzVTTE1oTmZDdMt3Y1gRL01vMGxtcUVCT3FyNTFLKzZNTnZ0d0FaSFc3M1psYnhyVE50ZzZxWFo0CrNzTn1weGxQeU9R0FdvRj	ZLelY5YWZq
Cluster operation * and maintenance	Component management		U02Fe1dRm/rke1f / Madasi.X0An100ncd1Trkke117 VF1 (04/rc1tasy86sFpk05807) / FileEcen/Kc1Fa0UU021286/s218010104nrkm/8/zC181bmd/s5kkeUrc2de66666 pH/ xe1Tkra1gal.588/sc1UU1026/F3RUF8014_TUNEd8mA0RA0 (960/F1L6)88048241/U1248865kA8Fd9VC193UU28001C9W1408R604615a12 cvUFE214/94hm/mBe150407342:72822565 / Y149863/21205094750034710104 reinF2#V845650F6466208550W60002507462246941	IZhYwphVld SENhMmpMUz vMUNWMmI3V
Cloud native monitoring	Log		ESVSK43Y19MP2/IgMTFGMFFGM1YC2g3YVRvVThGMxLYK/hCKFNQrNvSS9uZzcRUXJW8s1Z7MmDE9JR3NpaVkyRXJ2d9Vn5jhHnnvuS2gvVMpEdH3AHEC+AXFpVMRUVE10TMgKaE eD3HahlvdEYxaFE3RFQ4QMMT2EVMdac31R2MH0YUZ3dnpRWdd0MnV114TnKRUHxU1hBdAqq0VVvQkp1W93MMNL1xh3YMFS1MADHAMBNUKECFAXF	JVZkhGUUxp k8weFZ3ZkM
E Container Image Service	event		waXxebBoR Set STETadoBrovE IGUBR/EISELSet 0xx7M/000236x88/dr0Bkk/tdBkk112176/s81eb011886/dr0K/v0ks14/e51eb01116/bV/v0ks14/e014/v0ks14/e014/v04/bH111/c52/2013/8/97 Kubeconfig permission management	72s4ll6nVYk
oo DevOps ⊠			Instructions for connecting to a Kubernetes cluster via Kubectl:	
Electronic			1. Download the latest kubect client. 2. Continue Kubeconfir:	
LD QUICK Start			 If the current access direct has not configured any cluster access credentials, that is, the content of ~/ kube/config is empty, you can directly copy the content of the kubeconfig access credentials above and ~/ kube/config. 	I paste them into
			If the current access client has configured access credentials for other clusters, you can download the kubeconfig above to the specified location, and execute the following command to add the kubeconfig the environment variables.	of this cluster to
			export KUBBECONFIG=\$KUBECONFIG:\$HOME/Downloads/cls-3njl\$f6i-config	сору
			Among them, \$HOME/Downloads/-config is the file path of kubeconfig of this cluster, please replace it with the actual path after downloading to the local. For the configuration and management of multi-clust please refer to: Configure access to multi-clusters [2]	ter Kubeconfig,
			3. Access the Kubernetes cluster:	
=			After completing the kubeconfig configuration, execute the following command to view and switch the context to access this cluster:	
			<pre>kubectl configkubeconfig=6HOME/Downloads/cls=3njlsf6i-config get-contexts</pre>	copy

Add IP or CIDR of your client machine, witch you just install tool ${\tt kubectl}.$

Internet access settin	gs	
Enabling external netw cautious. You need to o IP or CIDR to pass. It is	ork access will expose the cluster apiserver to the public network. Please be configure source authorization. All are denied by default. You can configure a single a strongly not recommended to configure 0.0.0.0/0 to pass all sources.	
Internet access address	Such as: 10.0.0.1 or 192.168.1.0/24, one per line	
	save cancel	

Click save to finish.

Configure Kubeconfig

vim ~/.kube/config

Paste the kubecofnig content of your cluster you just copied and save.

Execute the command on the dashboard of your cluster to switch the context to access your cluster.

For example

```
kubectl config --kubeconfig=/root/.kube/config get-contexts
kubectl config --kubeconfig=/root/.kube/config use-context xxxxx-context-default
```

Specially, xxxxx-context-default base on your cluster name. You can find it on the dashboard.

Check Connection

kubectl get node

Install IEC Type 4 ARVR Blueprint - Virtual Classroom

Install TARS

Run the following command to install TARS on your cluster.

```
git clone https://github.com/TarsCloud/K8STARS
# Create namespace tars-system
kubectl create namespace tars-system
# Set up default namespace
kubectl config set-context --current --namespace=tars-system
# Build deploy files
cd K8STARS/baseserver
make deploy
# Create a mysql service
kubectl apply -f yaml/db_all_in_one.yaml
# Check pods status
kubectl get pods
# Get db_pod name
export db_pod=$(kubectl get pod -1 app=tars-db-all-in-one -o jsonpath='{.items[0].metadata.name}')
# Install db
sh db/install_db_k8s.sh
# Install node registry
kubectl apply -f yaml/registry.yaml
# Install tarsweb
kubectl apply -f yaml/tarsweb.yaml
# Install other nodes
kubectl apply -f yaml/tarsnotify.yaml
kubectl apply -f yaml/tarslog.yaml
kubectl apply -f yaml/tarsconfig.yaml
kubectl apply -f yaml/tarsproperty.yaml
kubectl apply -f yaml/tarsstat.yaml
kubectl apply -f yaml/tarsquerystat.yaml
kubectl apply -f yaml/tarsqueryproperty.yaml
```

After that, you can open page of TarsWeb by address http://{NodeIP}:30000, NodeIP is the Public IP of the node which TarsWeb deploy on in your cluster. You can find it in Node management > node.

Container service	← Cluster (Guangzho	u)/cl. 🔳	6i(tars_k8s)									1	YAML create resour	ces
EE Overview	Basic Information		Node list										Operation gr	uide 🛛
Oluster	Node management												(2 4
Elastic cluster	- node		New node monitor	A00 60	sting hode									^ <u>⊥</u>
C Edge cluster	 Master&Etod 		D/node name +	s Y	Availab	Kubernete	Runtime	Configuration	IP address	Allocated/to	③Owning …	Billing model	operating	
	 Node pool 								Public IP	CBU - 0.10 /				
application Center	Namespaces		tke a worker	health	Guangz	v1.18.4-tke.6	docker 18	Standard SA2 2 cores, 8GB, 1Mbps	1 1188 E	1.93 RAM: 0.03 /	-	Pay-as-you-go Created on 2021-05	Move out blockade More *	
	Workload	*						System Disk: 50G		6.76				
Application	Auto-scaling	*	1 item in total							Show ro	ws per page 20	v H 4 1	/1 page > >	1
market	Service and routing	*												
Operation Center	Configuration management	*												
Cluster operation * and maintenance	Authorization management	*												
Cloud native monitoring	storage	*												
Container Image	Component management													
	Log													
	event													
LD Quick start														
														C
3														

Open TarsWeb page in browser.

Password		
Repeat password		

After configure the password of admin and login, you will jump to the index.

	CHE				Services	X operation					English v admin v
请输入内容	2 10	Service	s APP Configur	ation							
• tars	с	Service	s C								batch restart batch stop
tarslog tarsquerystat			Service	Node	SET	Configuration Status	Current Status	Process ID	Version	Publish Time	Operates
tarsqueryproperty tarsproperty			tarsconfig	192.168.0.101	disabl e	Active	• Active	0	v1.1.0	2021-03-20 17:26:35	update restart stop servant more
tarsnotify tarsconfig			tarsconfig	192.168.0.3	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:30:47	update restart stop servant more
			tarslog	192.168.0.8	disabl e	Active	+ Active	0	v1.1.0	2021-03-20 17:25:35	update restart stop servant more
			tarslog	192.168.0.100	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:26:32	update restart stop servant more
			tarsnotify	192.168.0.99	disabl e	Active	+ Active	0	v1.1.0	2021-03-20 17:26:28	update restart stop servant more
			tarsnotify	192.168.0.12	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:29:30	update restart stop servant more
			tarsproperty	192.168.0.9	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:26:01	update restart stop servant more
			tarsproperty	192.168.0.102	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:26:39	update restart stop servant more
			tarsquerypropert Y	192.168.0.2	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:25:50	update restart stop servant more
			tarsquerypropert Y	192.168.0.104	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:26:50	update restart stop servant more
			tarsquerystat	192.168.0.105	disabl e	Active	Active	0	v1.1.0	2021-03-20 17:26:54	update restart stop servant more

Now, you have finished the installation of K8STARS.

Install Openvidu

As Openvidu hasn't supported deployment on Kubernetes, we will just install it on a node.

We have configured the login method of the node in your cluster. So we can just connect to the node by SSH with the login method you configured. Here we use a SSH key to log in.

Connect to a Node

We just copy the public IP of the node you choose, and connect to the node through the following command:

```
ssh -i .ssh/id_rsa_iec_type_4 172.123.123.123
```

It means connecting to the node with public IP 172.123.123.123 by identity file id_rsa_iec_type_4.

Install Openvidu-server

Prepare

Install docker and docker-compose.

```
# Configure repo
cd /opt
yum-config-manager \
    --add-repo \
    https://download.docker.com/linux/centos/docker-ce.repo
# Install docker
yum install -y docker-ce docker-ce-cli containerd.io
systemctl enable docker
# Install docker
# Install docker-compose
curl -L https://github.com/docker/compose/releases/download/1.25.0/docker-compose-`uname -s`-`uname -m` -o /usr
/local/bin/docker-compose
```

chmod +x /usr/local/bin/docker-compose
docker-compose --version

Install Openvidu

```
curl https://s3-eu-west-1.amazonaws.com/aws.openvidu.io/install_openvidu_2.13.0.sh | bash
```

Configuration

Edit file . env , add your host public IP and admin password.

```
vi /opt/openvidu/.env
```

```
# Add your host IP and admin password
OPENVIDU_DOMAIN_OR_PUBLIC_IP= $your_host_IP
OPENVIDU_SECRET= $admin_PW
```

Start Openvidu

cd /opt/openvidu/ ./openvidu start

Install Frontend

Install http-server-ssl and clone frontend code, edit app.js

```
# http-server install
npm install -g http-server-ssl
# Virtual Classroom front-end setup
git clone https://github.com/OpenVidu/openvidu-vr.git
cd openvidu-vr/openvidu-vr-room
```

Modify the values of <code>OPENVIDU_SERVER_URL</code> and <code>OPENVIDU_SERVER_SECRET</code>, which you just set in last section.

```
// modify line 163
var OPENVIDU_SERVER_URL = 'https://demos.openvidu.io'; // backend IP
var OPENVIDU_SERVER_SECRET = 'MY_SECRET'; // backend password
```

Start server.

vi app.js

http-server-ssl -S &

And you can access it through $\tt https://\$your_host_IP:8080$ on browser.