

通过 KubeSphere S2I 构建容器镜像

目的

通过源码编译并打包成镜像，并上传至 dockerhub，然后完成服务发布。

提示

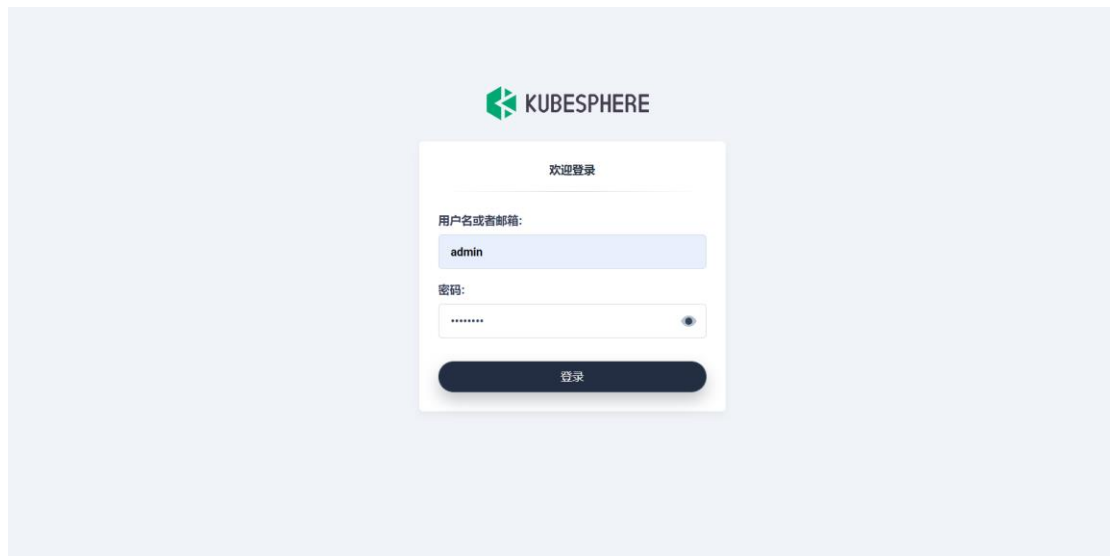
- 部署 KubeSphere-V3.0.0,并安装 DevOps 组件。
- 确保注册了 dockerhub , gitee 账号。
- 本节部署的是 All-in-One 模式，请参考以下链接
<https://kubesphere.io/docs/quick-start/all-in-one-on-linux/>

预估时间

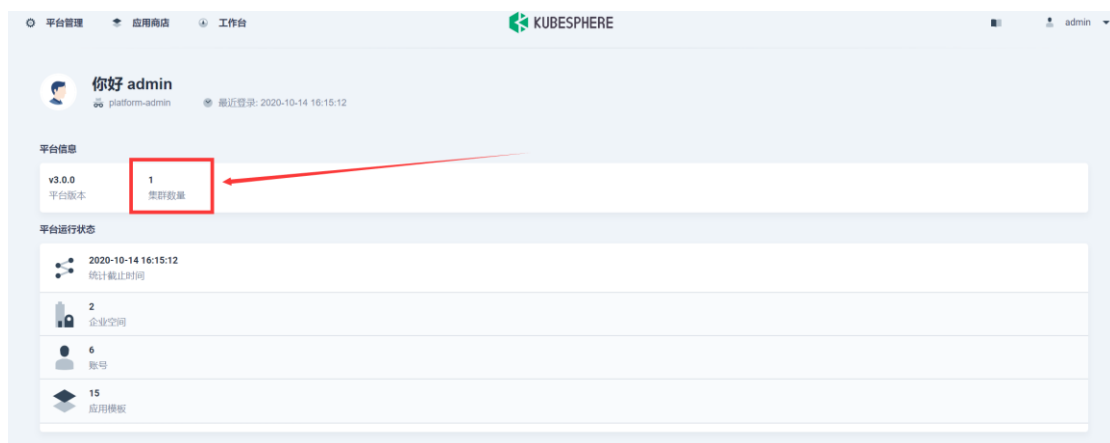
20-35 分钟

操作指南

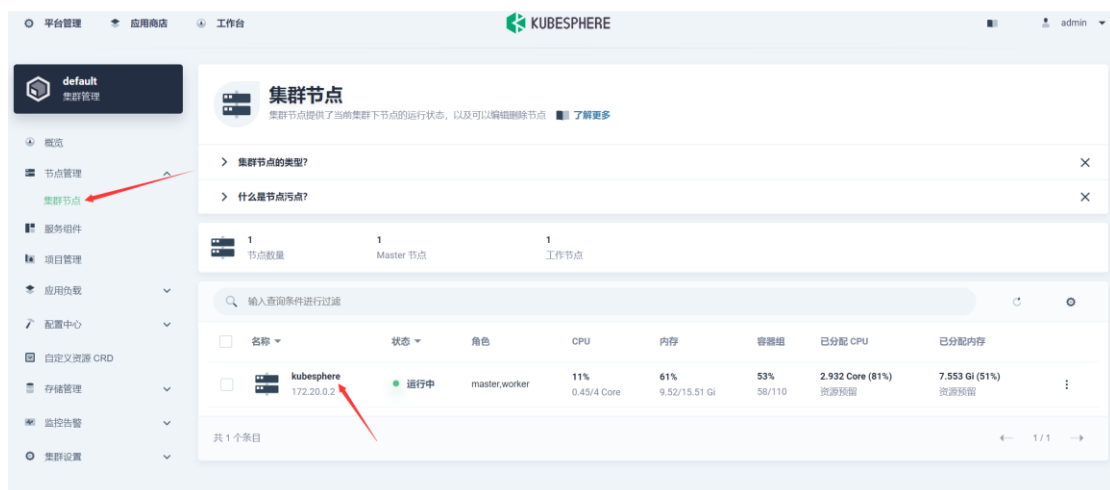
1. 以 admin 用户登录 kubesphere，添加标签值 ci



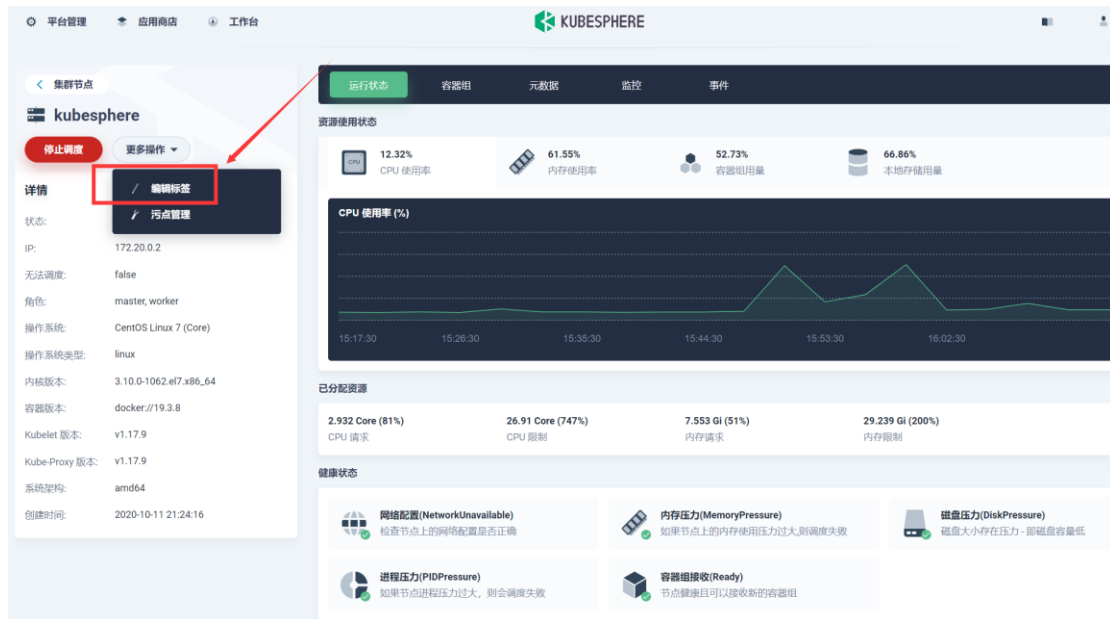
点击集群数量



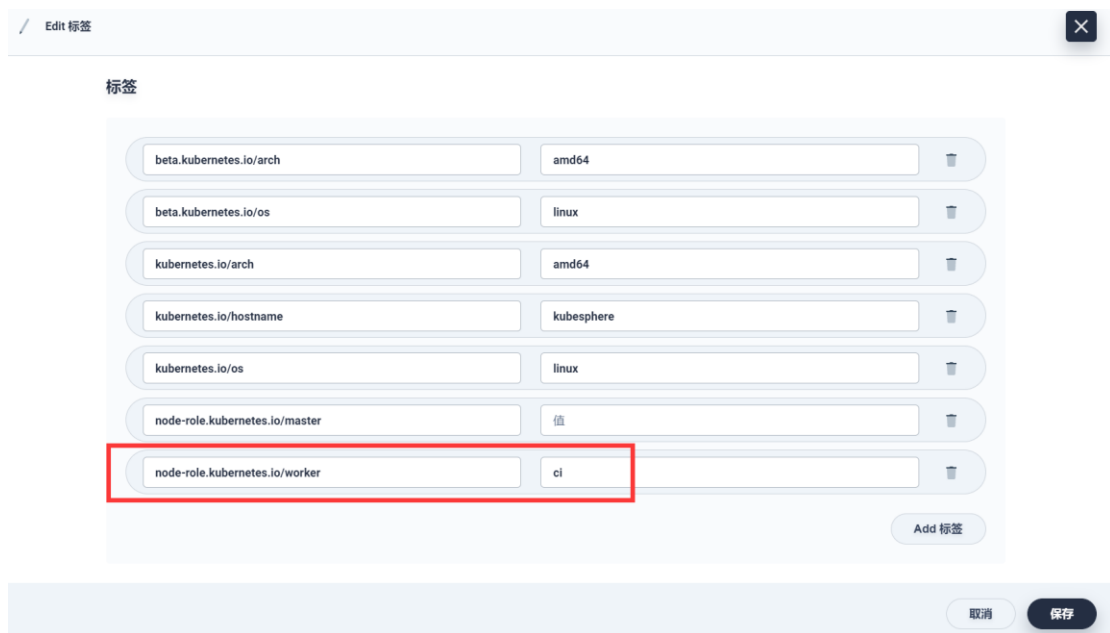
点击集群节点，再进入 kubesphere 节点



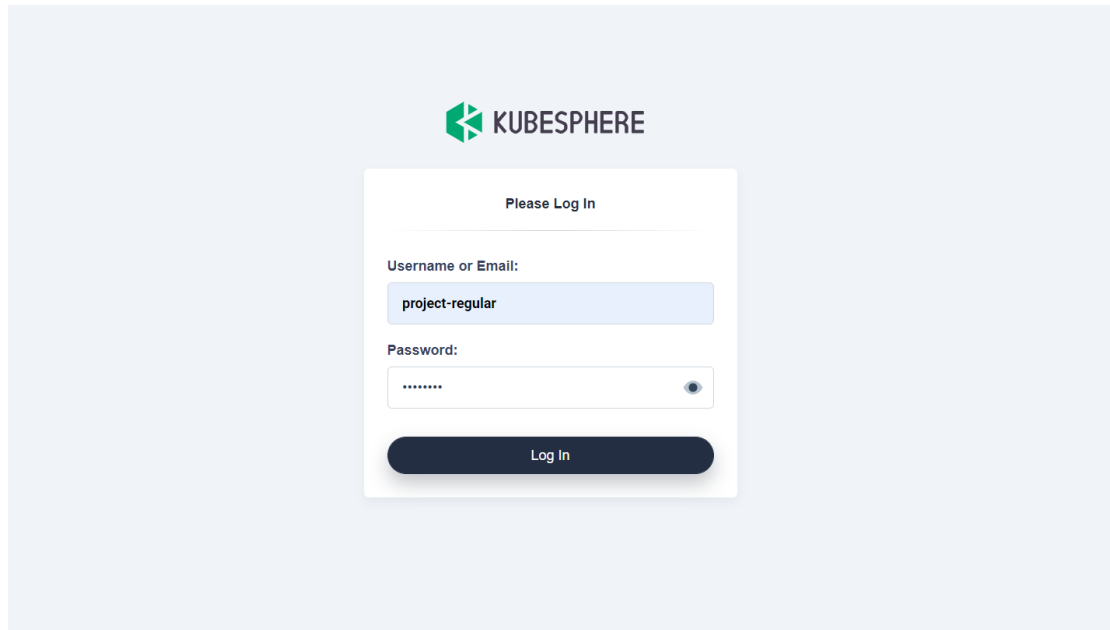
点击编辑标签



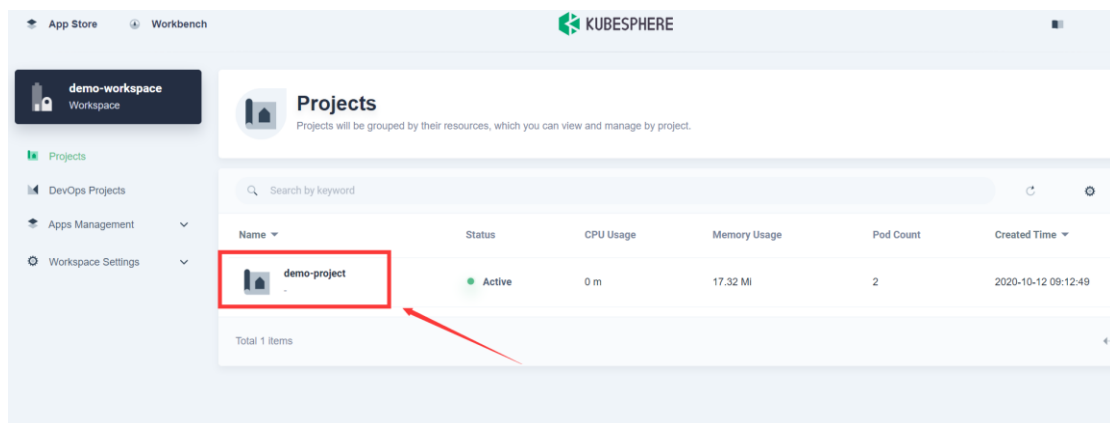
填入标签值 ci , 并保存



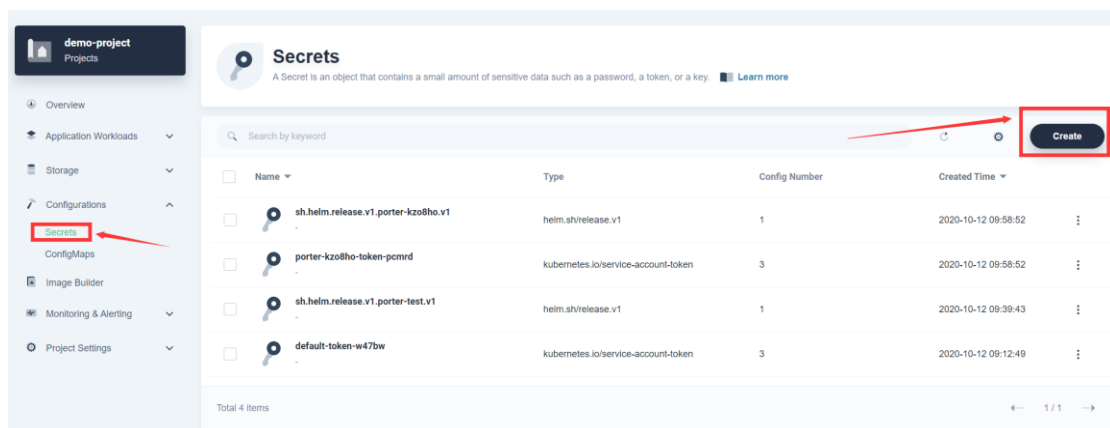
2. 登录 kubesphere 并创建 dockerhub 和 gitee 的 secret



进入项目



点击 create 创建



写入名称，直接下一步

Create Secret

Edit Mode

Basic Info

Setting

Secret Settings

Not set

Name *

dockerhub-id

It can only contain lowercase letters, numbers and hyphens("-"), and must begin and end with a lowercase letter or a number. The maximum length of characters is set to 63.

Alias

Alias can be composed of any character to help you better distinguish resources. The maximum length of characters is set to 63.

Description

Description is limited to 256 characters.

Cancel

Next

类型我们选择 Image Registry Secret , 镜像地址写入 docker.io , 再写入账号和密码

Create Secret

Edit Mode

Basic Info

Finished

Secret Settings

Setting

Type

Image Registry Secret

You can choose or customize a Secret type.

Registry Address *

HTTPS:// docker.io

Example: docker.io

User Name *

misteruly

Email

Password *

Before you create the image registry secret, please verify if it is valid.

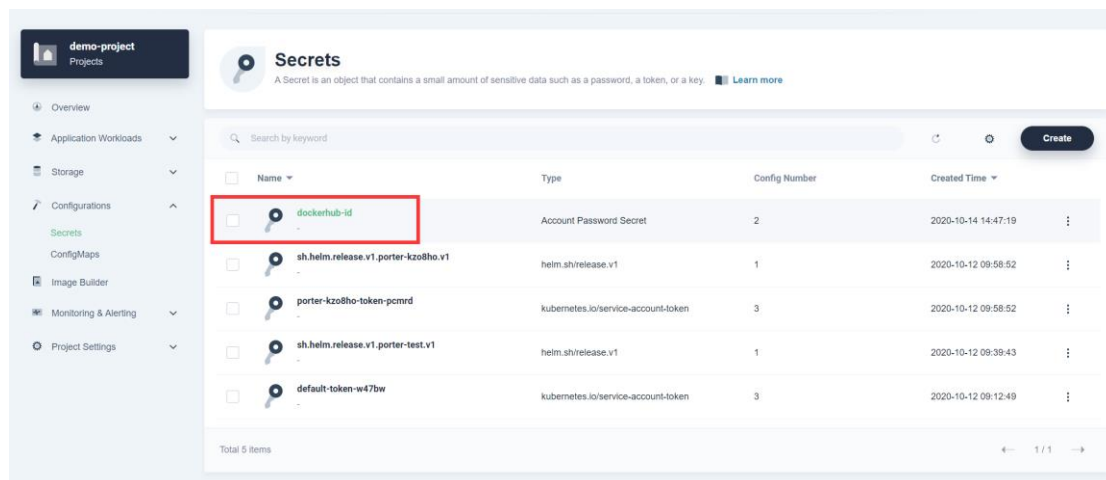
Validate

Cancel

Previous

Create

可以看见创建好的 dockerhub-id



同样方式创建 gitee-id

The screenshot shows the 'Create Secret' form. It has two tabs: 'Basic Info' (active) and 'Secret Settings'. The 'Basic Info' tab contains the following fields:

- Name**: A text input field containing 'gitee-id'. Below it, a note states: 'It can only contain lowercase letters, numbers and hyphens("-"), and must begin and end with a lowercase letter or a number. The maximum length of characters is set to 63.'
- Alias**: An empty text input field. Below it, a note states: 'Alias can be composed of any character to help you better distinguish resources. The maximum length of characters is set to 63.'
- Description**: An empty text input field. Below it, a note states: 'Description is limited to 256 characters.'

At the bottom right, there are two buttons: 'Cancel' and 'Next'. A red arrow points to the 'Next' button.

Create Secret

Edit Mode

Basic Info

Finished

Secret Settings

Setting

Type

Account Password Secret

You can choose or customize a Secret type.

User Name *

gitee-id

Password *

.....

Cancel

Previous

Create

2 个 secret 已经创建好了

demo-project

Projects

Overview

Application Workloads

Storage

Configurations

Secrets

ConfigMaps

Image Builder

Monitoring & Alerting

Project Settings

Secrets

A Secret is an object that contains a small amount of sensitive data such as a password, a token, or a key. Learn more

Search by keyword

Create

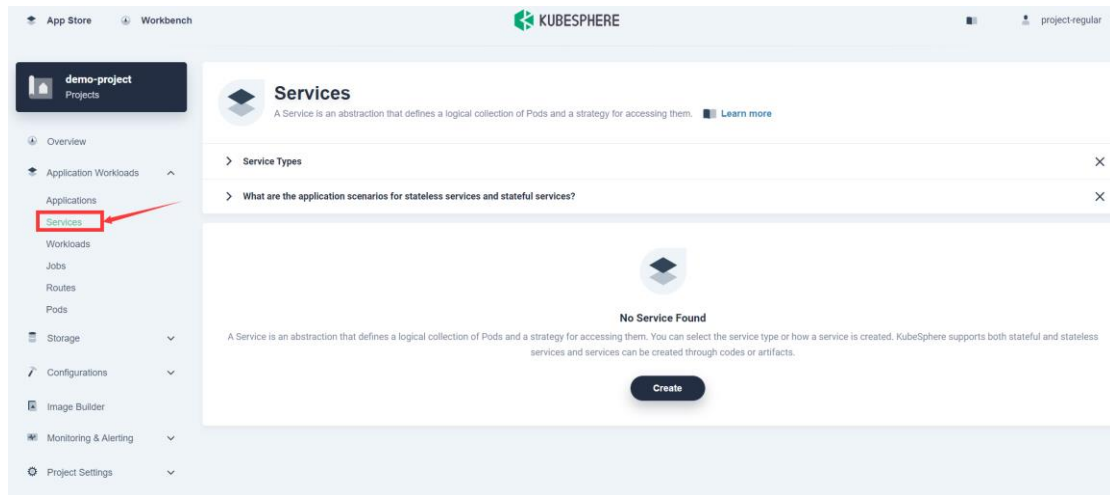
☐	Name	Type	Config Number	Created Time	
☐	dockerhub-id	Image Repository Secret	1	2020-10-14 15:09:10	
☐	gitee-id	Account Password Secret	2	2020-10-14 14:52:17	
☐	sh.helm.release.v1.porter-kzo8ho.v1	helm.sh/release.v1	1	2020-10-12 09:58:52	
☐	porter-kzo8ho-token-pcmrd	kubernetes.io/service-account-token	3	2020-10-12 09:58:52	
☐	sh.helm.release.v1.porter-test.v1	helm.sh/release.v1	1	2020-10-12 09:39:43	
☐	default-token-w47bw	kubernetes.io/service-account-token	3	2020-10-12 09:12:49	

Total 6 items

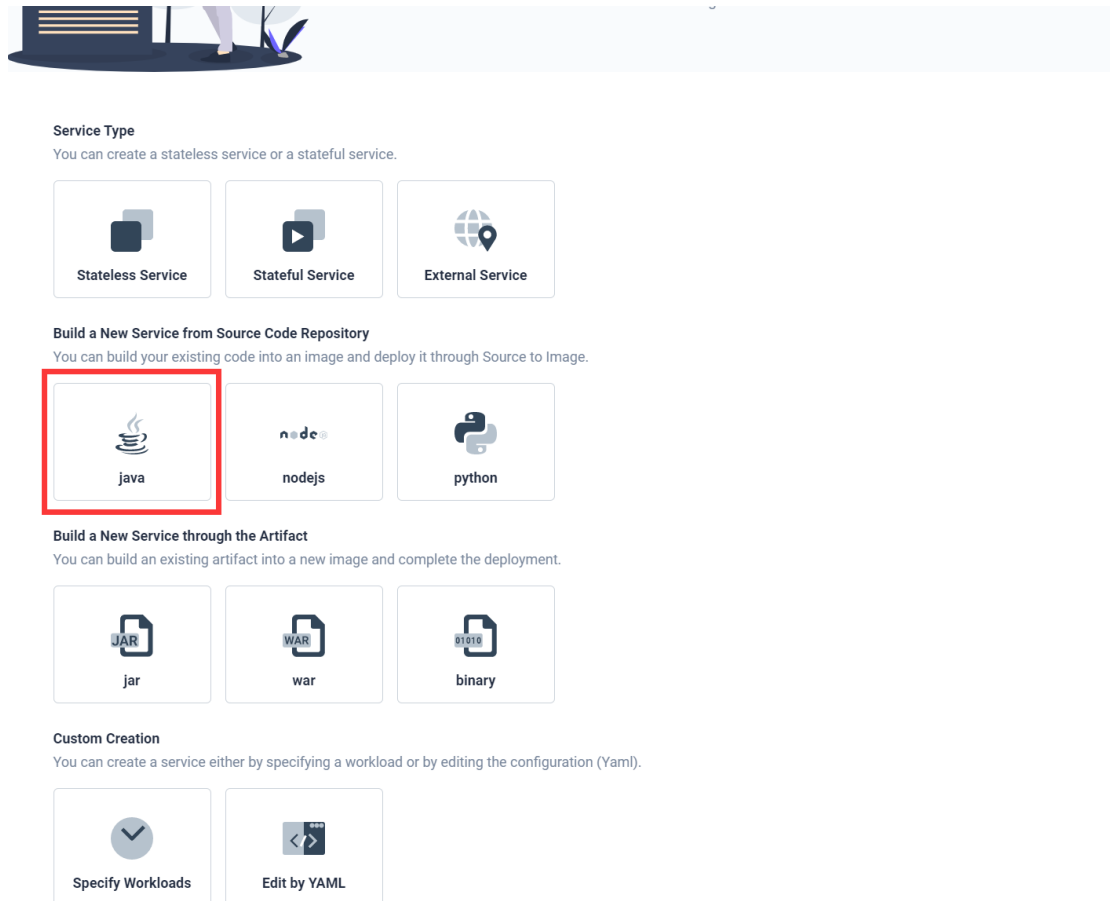
1 / 1

3. 创建 Source-to-Image 服务

点击 service , 然后 create



我的源码是 Java 的，所以选择 Java 源码



写入名称直接下一步

 **Build a New Service from Source Code Repository**
Language Type : java



 **Basic Info**
Setting

 **Build Settings**
Not set

 **Container Settings**
Not set

 **Mount Volumes**
Not set

 **Advanced Settings**
Not set

Name *

It can only contain lowercase letters, numbers and hyphens("-"), and must begin with a lowercase letter, ending with a number or lowercase letter. The maximum length of characters is set to 63.

Version *

It can only contain lowercase letters and numbers. The maximum length of characters is set to 16.

Alias

Alias can be composed of any character to help you better distinguish resources. The maximum length of characters is set to 63.

Description

Description is limited to 256 characters.

Service type 选择无状态的服务，构建环境选择 kubesphere/java-8-centos7:v2.1.0，Target image repository 选择创建的 secret，dockerhub-id

示例代码链接 Code URL：<https://gitee.com/misteruly/helloworld.git>



Build a New Service from Source Code Repository
Language Type : java

Basic Info
Finished

Build Settings
Setting

Container Settings
Not set

Mount Volumes
Not set

Advanced Settings
Not set

Service Type



Stateless Service
The most commonly used service in container services. It defines the Pod template to control the Pod status, including rolling updates and rollbacks.

Build Environment *



kubernetes/java-8-centos7:v2.1.0
This is a builder template for Java builds whose result can be run directly without any further application server.It's suited ideally for microservices ...

Code URL *

Branch *

Secret

ImageName *

tag *

Target image repository *

https://gitee.com/misteruly/helloworld.git

master

Please select

misteruly/helloworld-java

latest

dockerhub-id

The source code repository address (currently supports git). You can specify code branches and relative paths in the source code terminal.

The current code repository does not require a key.

You need to select an image repository with push permissions to store the image. If not, you can [create a new image repository credential](#).

Advanced Settings

CancelPreviousNext

容器端口和服务端口都填写 8080

Build a New Service from Source Code Repository
Language Type : java



Basic Info
Finished

Build Settings
Finished

Container Settings
Setting

Mount Volumes
Not set

Advanced Settings
Not set

Pod Replicas

—

1

+

Container Settings

Please set the container name and computing resources.

Container Name *

container-o992nl

It can only contain lowercase letters, numbers and hyphens("-"), and must begin and end with a lowercase letter or a number. The maximum length of characters is set to 63.

[Advanced Settings](#) 

Service Settings

Please set the access policy for the container.

Protocol  HTTP 

Name http-3

Container Port 8080

Service Port 8080 

Add Port

Use Local Image First (IfNotPresent)

Pull the image only if it does not exist locally.



☐ Health Checker

The health of the container will be checked regularly according to user needs.

☐ Start Command

By default, the container runs the default image command. You can change the container command from here.

Cancel

Previous

Next

默认直接下一步

Build a New Service from Source Code Repository
Language Type : java

Basic Info
Finished

Build Settings
Finished

Container Settings
Finished

Mount Volumes
Setting

Advanced Settings
Not set

Mount Volumes

Volumes

Add Volume
Support EmptyDir and PersistentVolumeClaim.

Mount ConfigMap or Secret
Mount the configmap or secret to the specified directory.

Cancel

Previous

Next

Internet access 选择 nodeport

Build a New Service from Source Code Repository
Language Type : java

Basic Info
Finished

Build Settings
Finished

Container Settings
Finished

Mount Volumes
Finished

Advanced Settings
Setting

☒ Internet Access
Expose the service outside of the cluster.

Access Method

NodePort

☐ Enable Sticky Session
The maximum session sticky time is 10800s (3 hours).

☐ Set Node Scheduling Policy
You can allow Pod replicas to run on specified nodes.

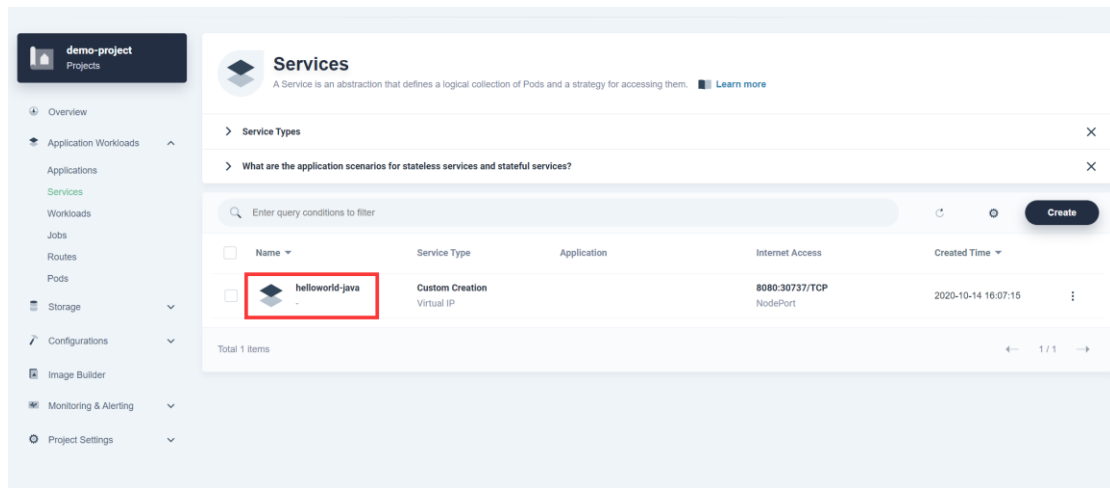
☐ Add Metadata
Additional metadata settings for resources such as Labels and Annotations.

Cancel

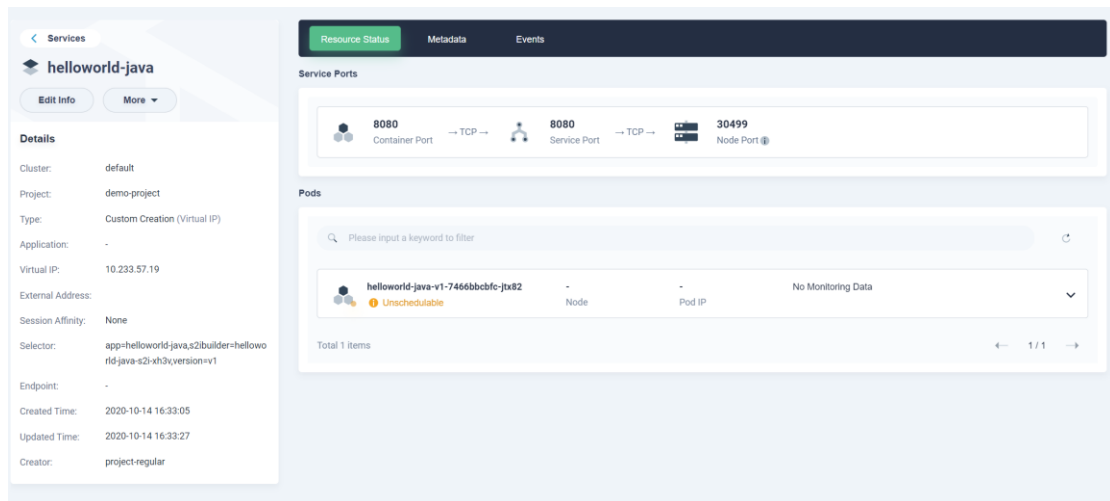
Previous

Create

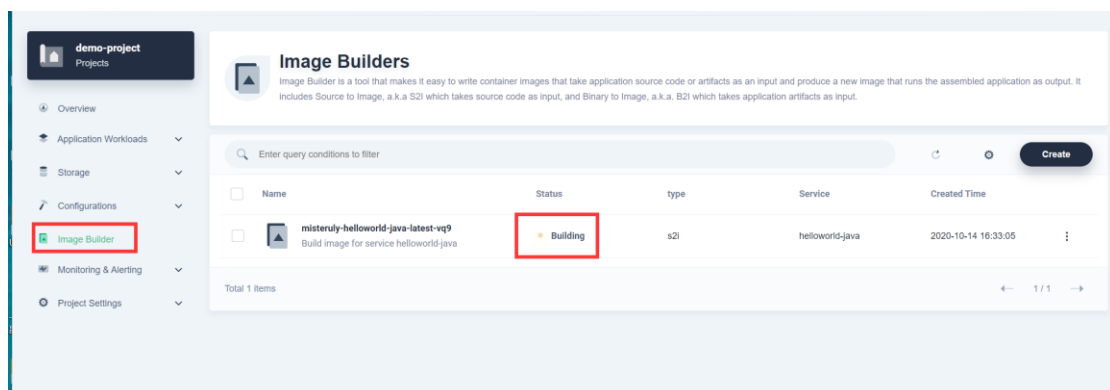
服务正在创建点击进去查看



正在创建



查看镜像构建状态，正在构建



查看构建日志，正在上传镜像

Image Builders

misteruly-helloworld-java-late...

Rerun More

Details

Name: misteruly-helloworld-java-latest-vq9

Project: demo-project

type: s2i

BuilderImage: kubernetes/java-8-centos7-v2.1.0

imageName: docker.io/misteruly/helloworld-java

BuilderPullPolicy: if-not-present

SourceUrl: https://gitee.com/misteruly/helloworld.git

Created Time: 2020-10-14 16:33:05

Creator: project-regular

Execution Records Resource Status Image Artifacts Environment Variables Events

Last build environment

kubernetes/java-8-centos7-v2.1.0 builderImage

https://gitee.com/misteruly/helloworld.git sourceUrl

master Branch

Jobs Records

#1	Build Times	Status	docker.io/misteruly/helloworld-java	2020-10-14 16:33:05	Image: misteruly-helloworld-java-late...
			ImageName	StartTime	Last Message
	11014 08:33:55.274805	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 7.57MB/99.29MB	
	11014 08:33:55.524707	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 8.127MB/99.29MB	
	11014 08:33:55.791632	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 9.242MB/99.29MB	
	11014 08:33:56.094276	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 10.36MB/99.29MB	
	11014 08:33:56.456407	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 10.91MB/99.29MB	
	11014 08:33:56.735468	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 11.47MB/99.29MB	
	11014 08:33:56.999725	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 12.03MB/99.29MB	
	11014 08:33:57.306686	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 13.14MB/99.29MB	
	11014 08:33:57.568175	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 13.7MB/99.29MB	
	11014 08:33:57.866624	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 14.26MB/99.29MB	
	11014 08:33:58.242619	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 16.47MB/99.29MB	
	11014 08:33:58.601976	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 17.03MB/99.29MB	
	11014 08:33:59.003784	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 17.59MB/99.29MB	
	11014 08:33:59.437251	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 18.11MB/99.29MB	

镜像构建完成

Image Builders

misteruly-helloworld-java-late...

Rerun More

Details

Name: misteruly-helloworld-java-latest-vq9

Project: demo-project

type: s2i

BuilderImage: kubernetes/java-8-centos7-v2.1.0

imageName: docker.io/misteruly/helloworld-java

BuilderPullPolicy: if-not-present

SourceUrl: https://gitee.com/misteruly/helloworld.git

Created Time: 2020-10-14 16:33:05

Creator: project-regular

Execution Records Resource Status Image Artifacts Environment Variables Events

Last build environment

kubernetes/java-8-centos7-v2.1.0 builderImage

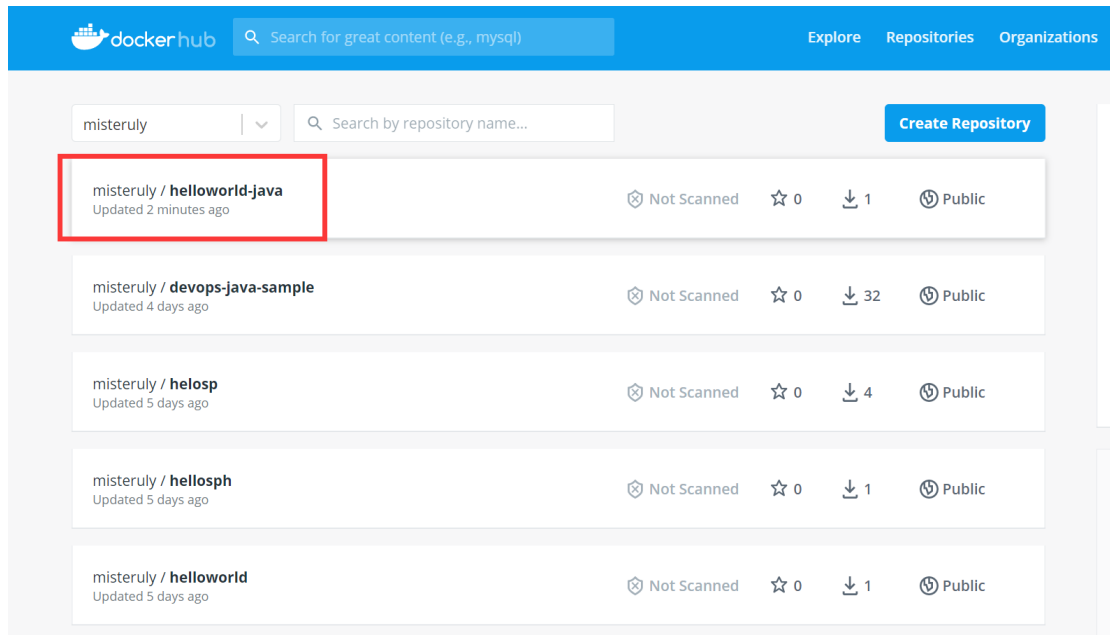
https://gitee.com/misteruly/helloworld.git sourceUrl

master Branch

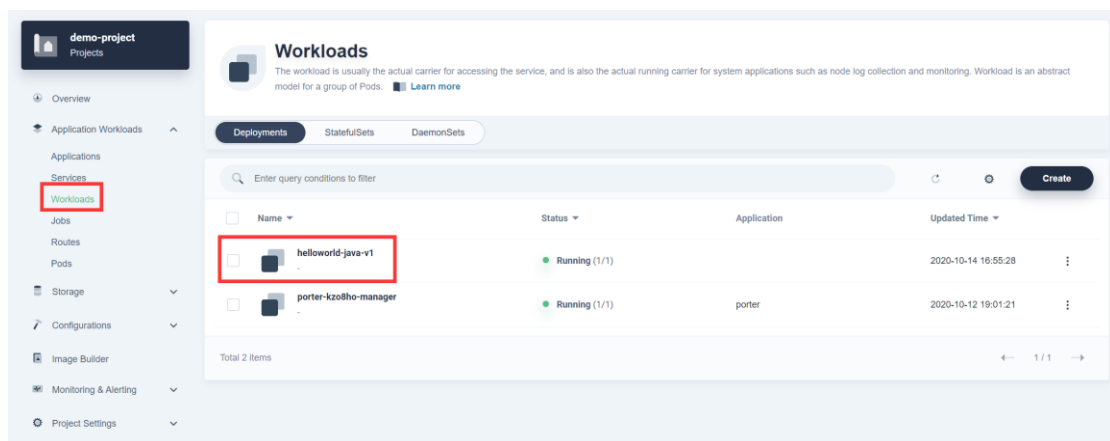
Jobs Records

#1	Build Times	Status	docker.io/misteruly/helloworld-java	2020-10-14 16:33:05	Image: misteruly-helloworld-java-late...
			ImageName	StartTime	Last Message
					[====>] 94.41MB/99.29MB
	11014 08:35:02.330857	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 96.58MB/99.29MB	
	11014 08:35:03.073373	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 97.66MB/99.29MB	
	11014 08:35:03.165016	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 99.27MB/99.29MB	
	11014 08:35:03.266512	1	docker.go:666	pushing image docker.io/misteruly/helloworld-java:latest: [====>] 100.2MB	
	11014 08:35:28.652851	1	docker.go:690	pushing image succeed	
	11014 08:35:28.654226	1	sls.go:269	Start output build info.	
	11014 08:35:28.690005	1	cleanup.go:33	Removing temporary directory /tmp/c2866065260	
	11014 08:35:28.690020	1	fs.go:302	Removing directory /tmp/c2866065260	
	11014 08:35:28.721467	1	s2i.go:82	Build completed successfully	

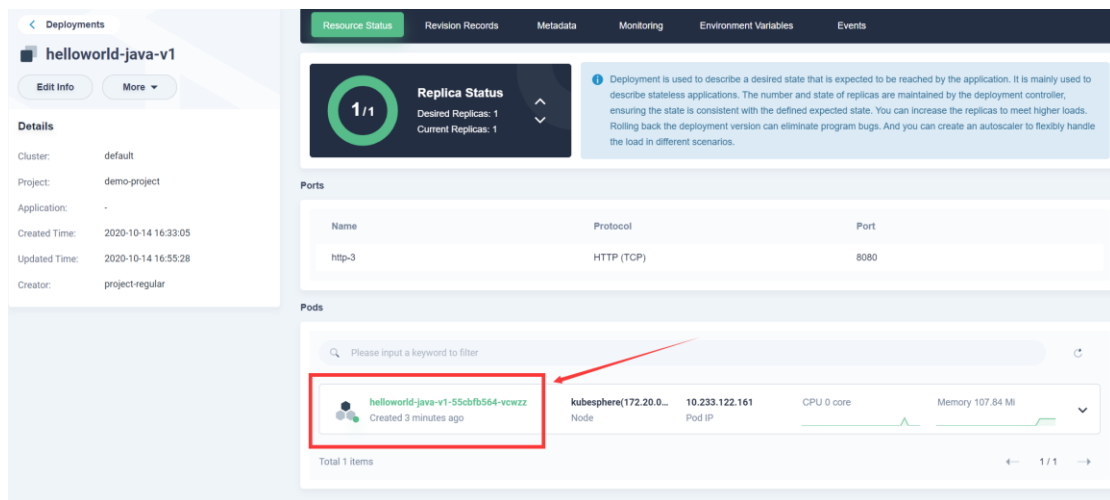
查看 Dockerhub 镜像库，已经上传了 helloworld-java 这个镜像



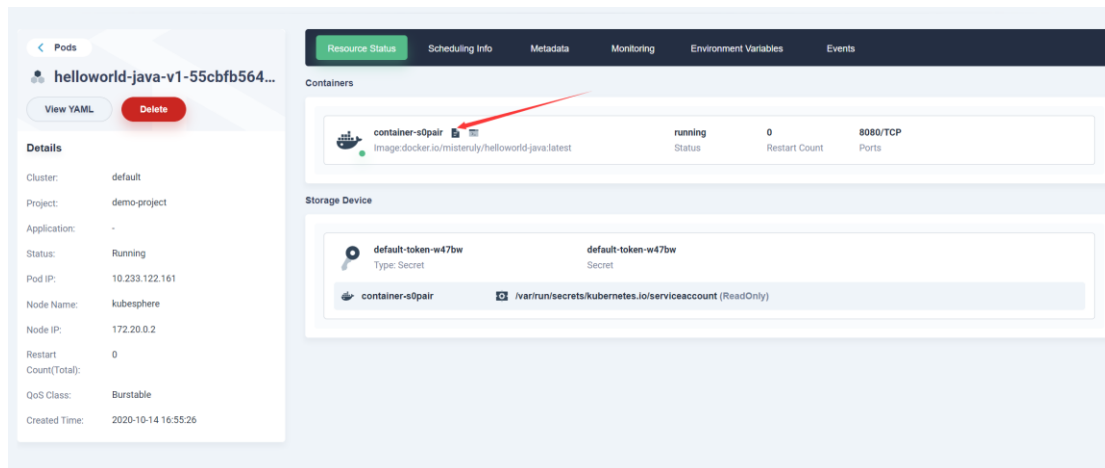
点击进去查看 helloworld-java 负载



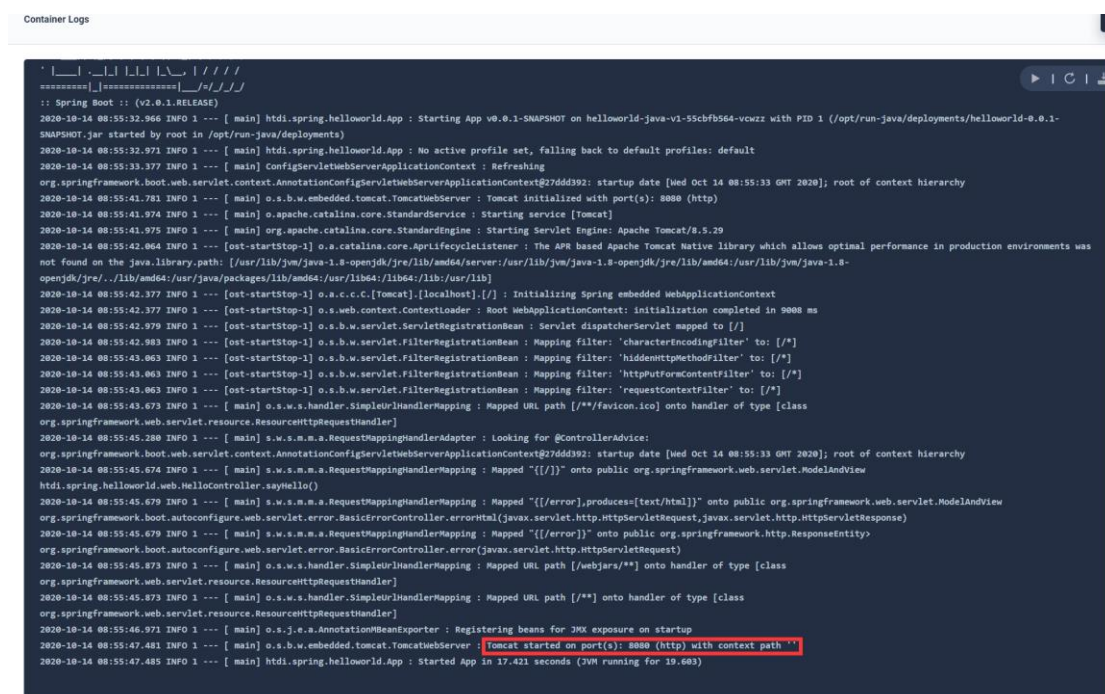
进入 pods



查看容器日志

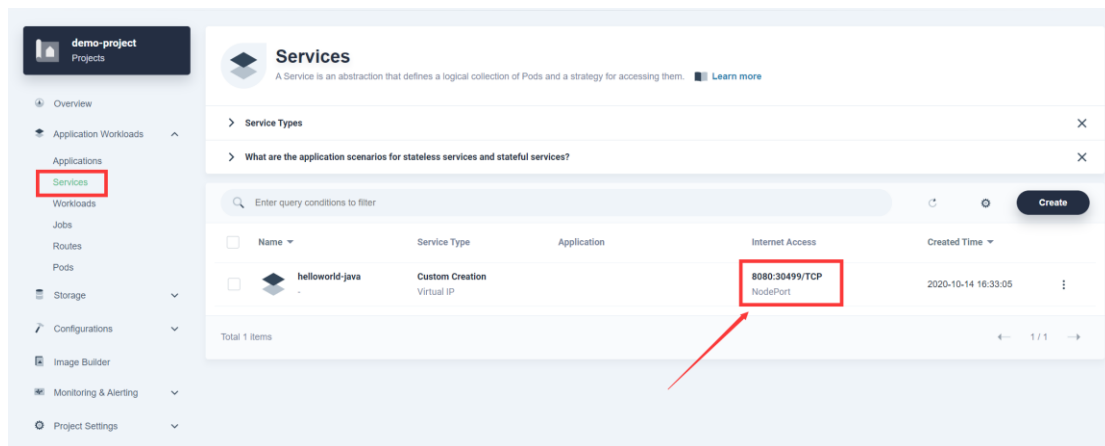


日志显示已经启动完成，并开放 8080 端口

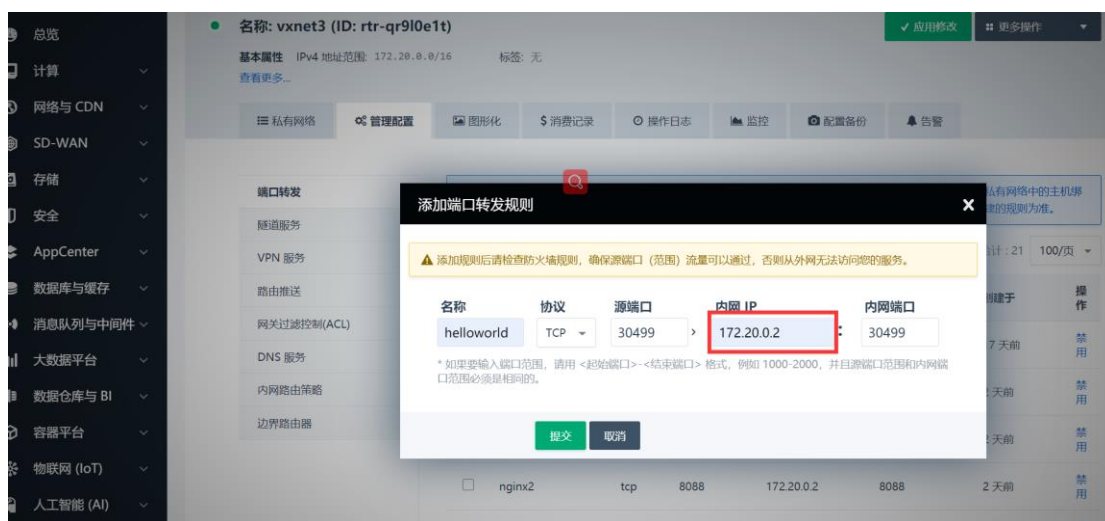


4. 验证服务

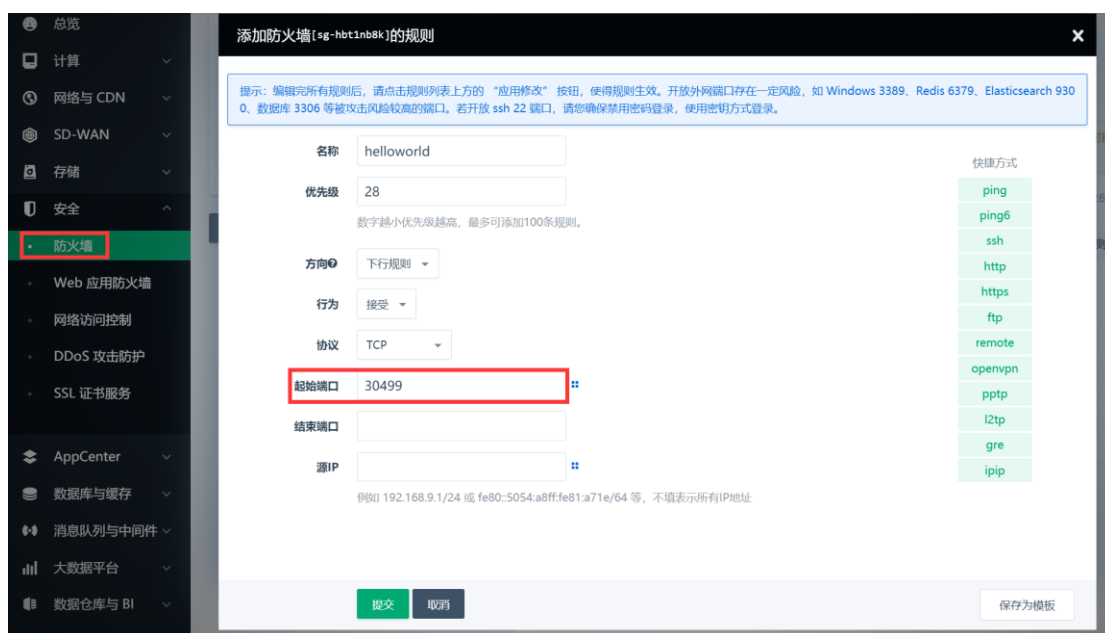
我们启用的是 nodeport 30499 端口，所以需要在防火墙，VPC 开放这个端口



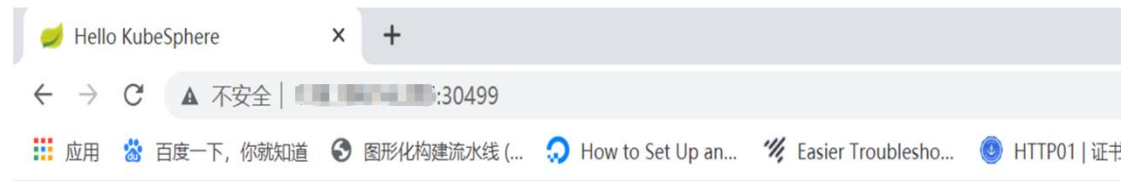
VPC 开放端口，指向内网主机 IP 地址



防火墙开放端口



访问成功



Hello KubeSphere

Build By Spring Boot 2.x