

一、实现基于velero对etcd的单独namespace的备份和复

Velero简介

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Velero与etcd快照备份区别

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Velero备份流程

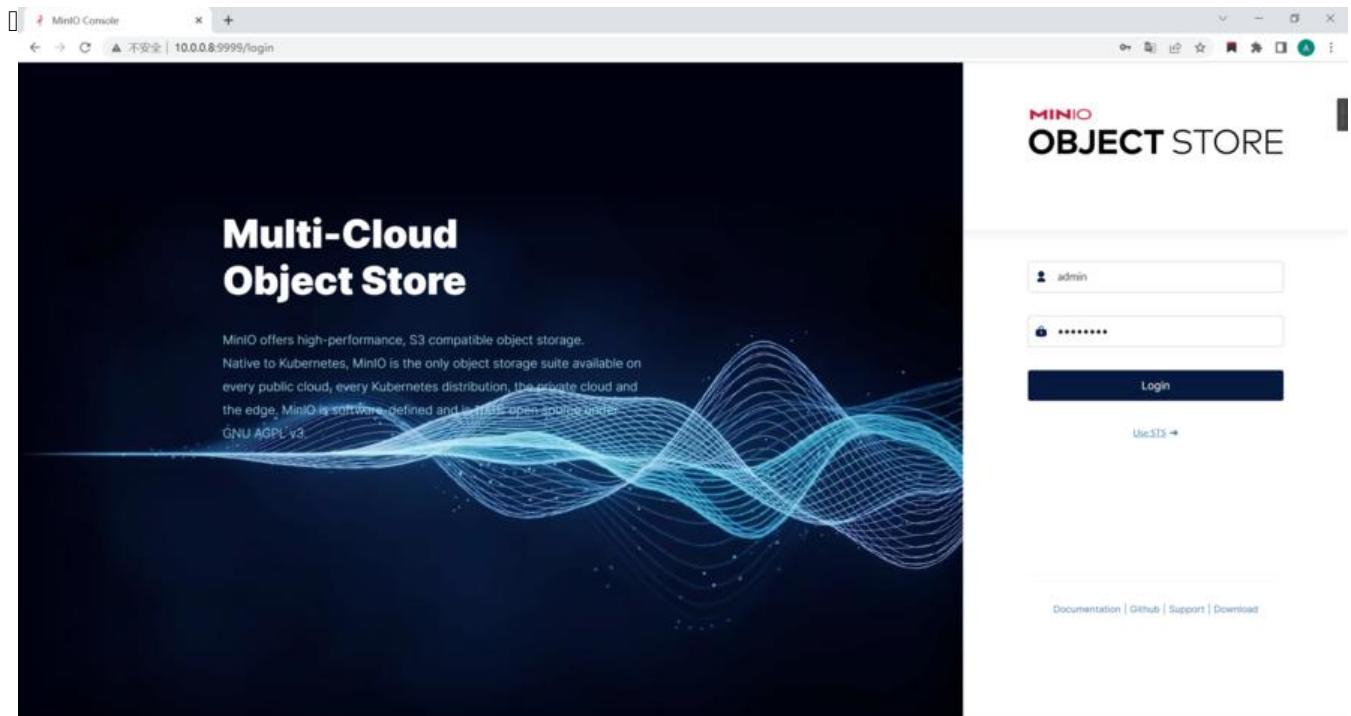
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准备存储环境

1. 部署minio

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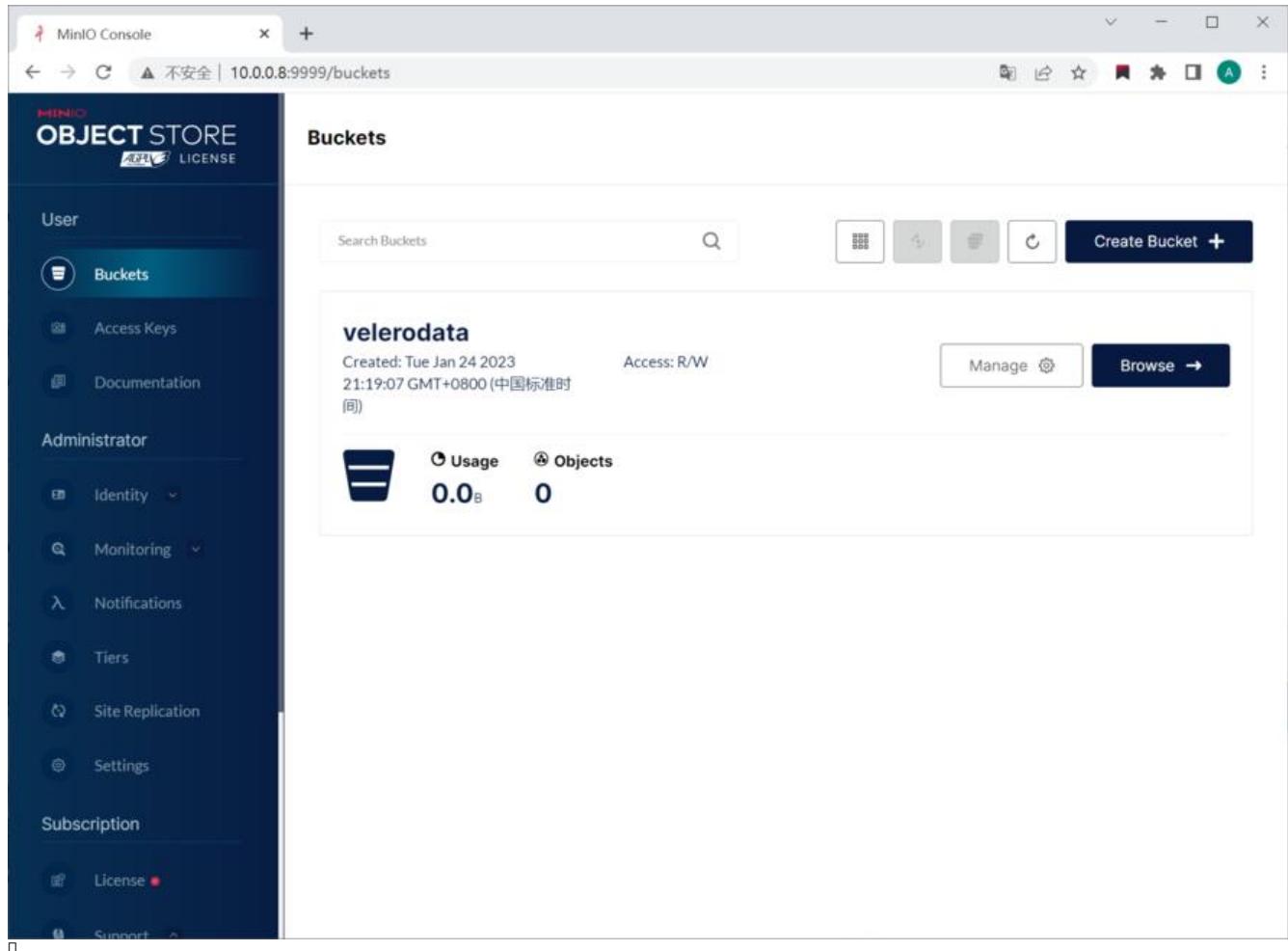
2. 创建bucket



□

The screenshot shows the MiniO Object Store Buckets page. The left sidebar contains navigation links for User (Buckets, Access Keys, Documentation), Administrator (Identity, Monitoring, Notifications, Tiers, Site Replication, Settings), Subscription (License, Support), and a Sign Out button. The main content area has a title 'Buckets' and a sub-section titled 'Buckets'. It explains that MiniO uses buckets to organize objects and provides a link to 'Create a Bucket'. A 'Create Bucket' button is located in the top right corner of the main content area.

The screenshot shows the MiniO Object Store Create Bucket page. The left sidebar is identical to the previous screenshot. The main content area has a title 'Create Bucket' with a back arrow. It includes a 'Bucket Name' input field containing 'velerodata' (highlighted with a red box) and a 'Features' section with three toggle switches labeled 'Versioning', 'Object Locking', and 'Quota' (all set to OFF). Below these are 'Clear' and 'Create Bucket' buttons. To the right, there is a 'Buckets' section with a brief explanation of what buckets are, and detailed descriptions for 'Versioning', 'Object Locking', and 'Quota' with their respective functions and requirements. Red arrows point from the 'velerodata' input field and the 'Create Bucket' button towards the explanatory text on the right.



部署velero

1. 下载velero

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2. 准备velero认证环境

3. 签发证书

4. 配置客户端认证

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5. 创建用户

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6. 安装velero

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备份

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The screenshot shows the MinIO Object Store interface. On the left, a sidebar menu includes sections for User (Buckets, Access Keys, Documentation), Administrator (Identity, Monitoring, Notifications, Tiers, Site Replication, Settings), and Subscription (License, Support). The main area displays the 'OBJECT STORE' section with a 'LICENSE' badge. Under 'Buckets', the 'velerodata' bucket is selected. The bucket details show it was created on Tue Jan 24 2023 21:19:07 GMT+0800 (中国标准时间) and has PRIVATE access. The bucket contains a single directory 'myserver / backups / myserver-ns-backup-20230125003851'. This directory lists several files: myserver-ns-backup-20230125003851-csi-volumesnapshotclasses.json.gz, myserver-ns-backup-20230125003851-csi-volumesnapshotcontents.json.gz, myserver-ns-backup-20230125003851-csi-volumesnapshots.json.gz, myserver-ns-backup-20230125003851-logs.gz, myserver-ns-backup-20230125003851-podvolumebackups.json.gz, myserver-ns-backup-20230125003851-resource-list.json.gz, myserver-ns-backup-20230125003851-volumesnapshots.json.gz, myserver-ns-backup-20230125003851.tar.gz, and velero-backup.json. The table includes columns for Name, Last Modified, and Size.

Name	Last Modified	Size
myserver-ns-backup-20230125003851-csi-volumesnapshotclasses.json.gz	Wed Jan 25 2023 00:39:17 GMT+0800	29.0 B
myserver-ns-backup-20230125003851-csi-volumesnapshotcontents.json.gz	Wed Jan 25 2023 00:39:17 GMT+0800	29.0 B
myserver-ns-backup-20230125003851-csi-volumesnapshots.json.gz	Wed Jan 25 2023 00:39:17 GMT+0800	29.0 B
myserver-ns-backup-20230125003851-logs.gz	Wed Jan 25 2023 00:39:16 GMT+0800	3.0 KIB
myserver-ns-backup-20230125003851-podvolumebackups.json.gz	Wed Jan 25 2023 00:39:16 GMT+0800	29.0 B
myserver-ns-backup-20230125003851-resource-list.json.gz	Wed Jan 25 2023 00:39:17 GMT+0800	153.0 B
myserver-ns-backup-20230125003851-volumesnapshots.json.gz	Wed Jan 25 2023 00:39:17 GMT+0800	29.0 B
myserver-ns-backup-20230125003851.tar.gz	Wed Jan 25 2023 00:39:16 GMT+0800	5.4 KIB
velero-backup.json	Wed Jan 25 2023 00:39:16 GMT+0800	2.5 KIB

备份指定资源对象

批量备份所有namespace

恢复

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二、掌握k8s中常见的资源对象的使用

Deployment

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1. 应用场景

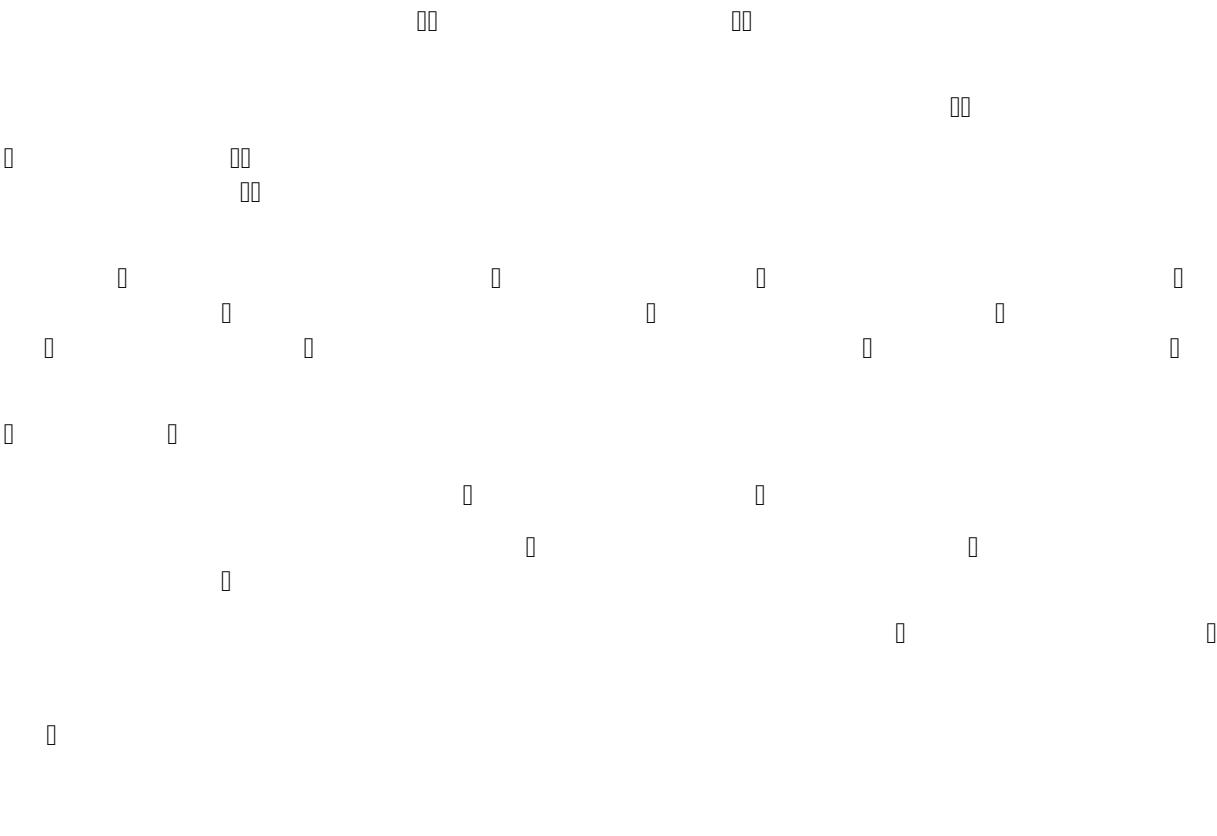
□

2. 创建deployment

2.1 编写yaml文件

□

说明



2.2 创建deployment

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2.3 查看运行状态

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□ □
□ □
□ □
□ □

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2.4 查看上线状态

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2.5 查看ReplicaSet (rs)

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2.6 查看Pod标签

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2.7 Pod-template-hash 标签

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3. 更新deployment

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3.1 更新

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命令方式更新

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修改yaml文件更新

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3.2 查看状态

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4. 回滚deployment

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查看Deployment历史版本

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[回滚到之前的版本](#)

[回滚到上一个版本](#)

[回滚到指定版本](#)



5. 缩放deployment

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6. 暂停和恢复deployment

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7. deployment状态

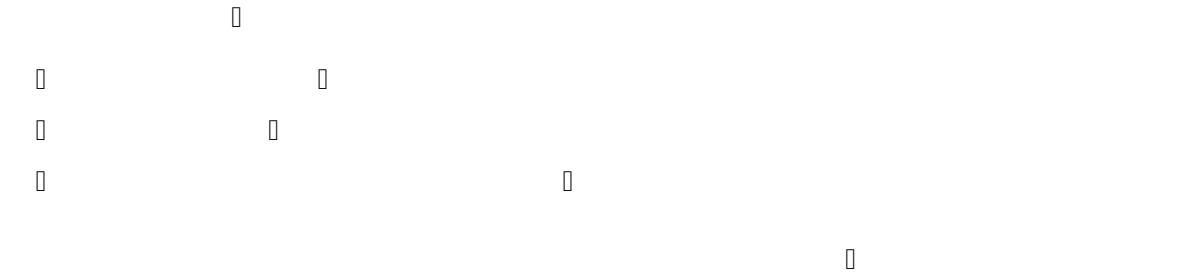
Progressing

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□ □
□ □
□ □ □
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Complete

□ □
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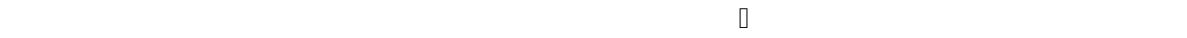
Failed



对失败 Deployment 的操作



8. 清理策略



9. 金丝雀部署

金丝雀发布



10. 编写Deployment规范



Pod Template

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Replicas

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Selector

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注意

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strategy

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Recreate

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RollingUpdate

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Max Unavailable (最大不可用)

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Max Surge (最大峰值)

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ProgressDeadlineSeconds

□ □ □
□ □ □
□

MinReadySeconds

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□

RevisionHistoryLimit

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□

□

□

Paused

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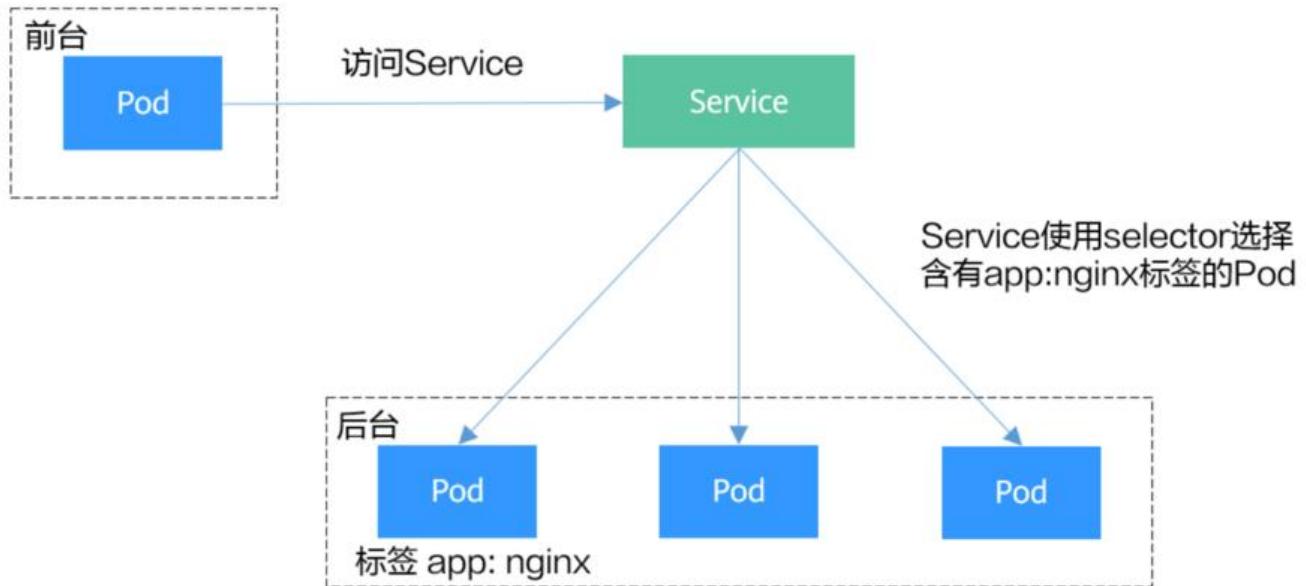
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service

service工作流程

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□

定义service

□ **apiVersion**□

□ **kind**□

metadata

spec

status

□

准备环境

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服务类型

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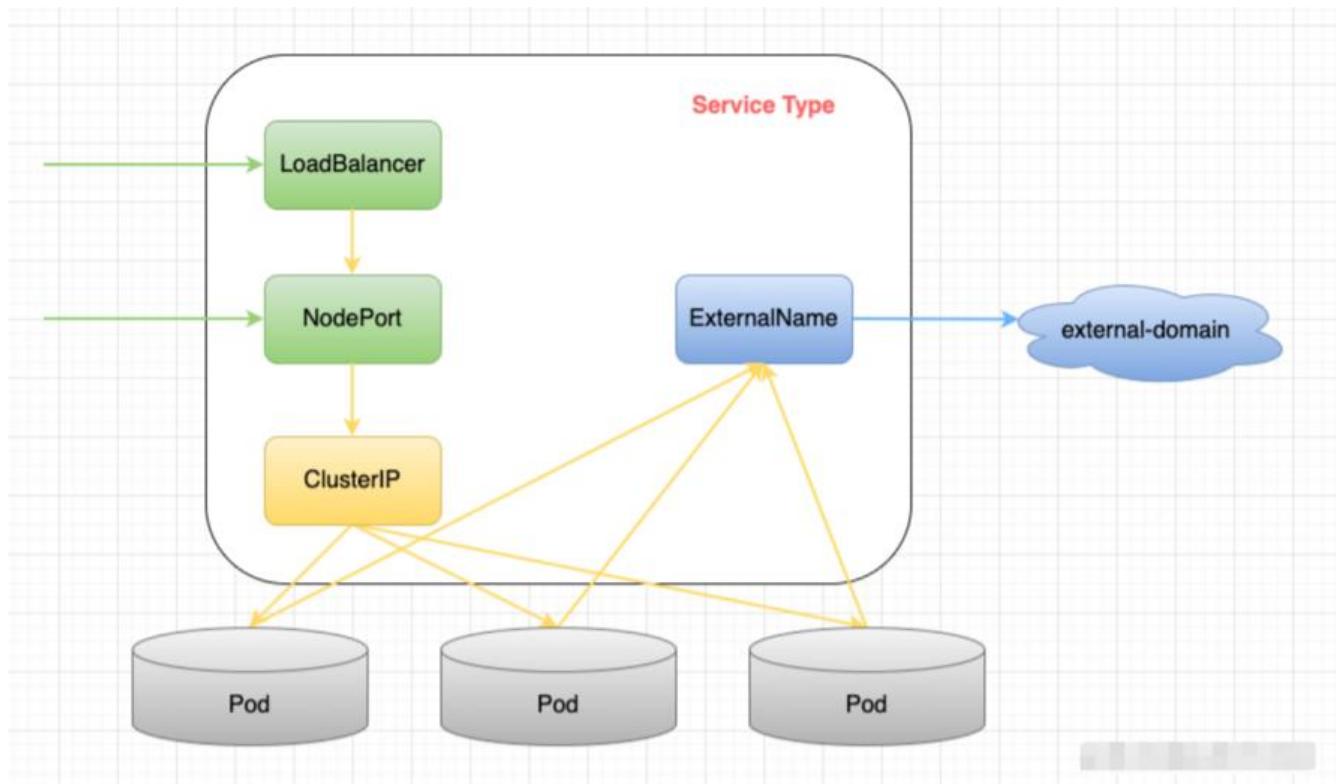
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ClusterIP

创建service

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查看状态

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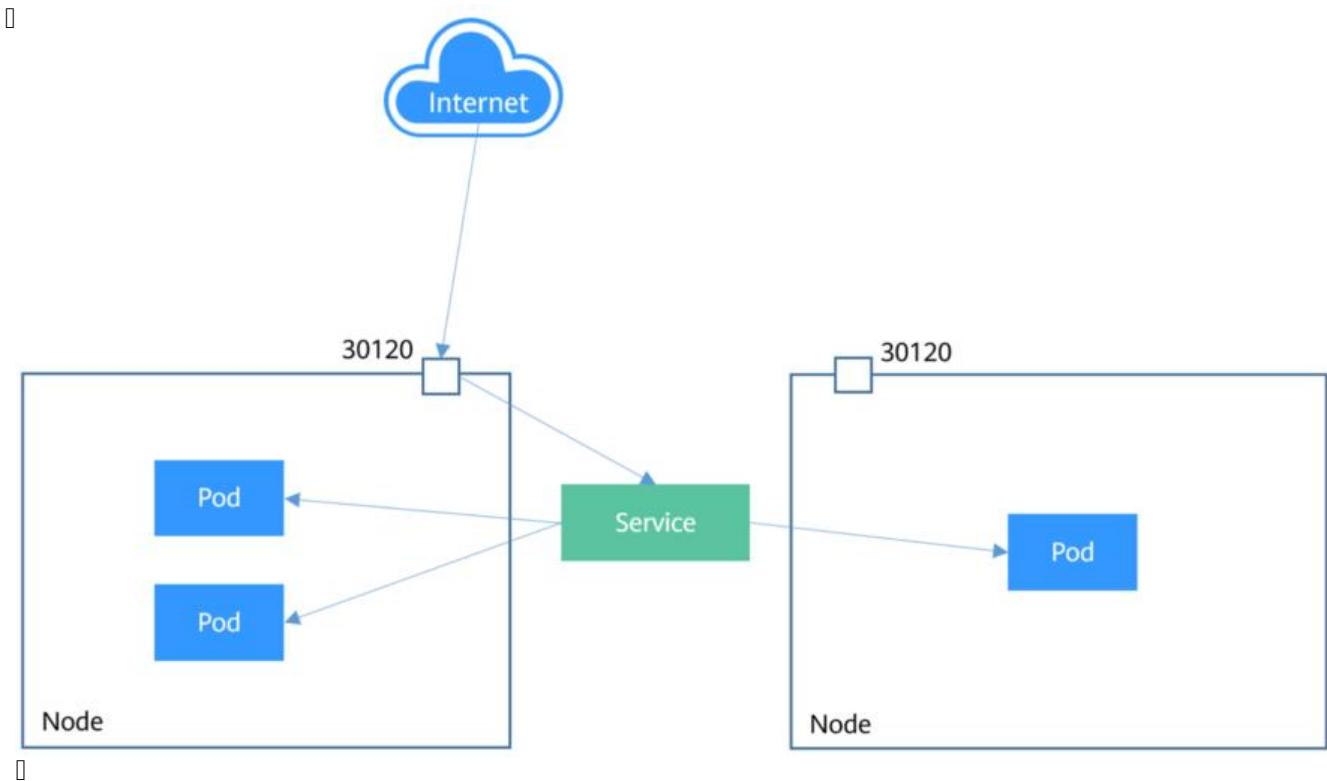
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验证测试

NodePort



创建service

查看状态



验证测试



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LoadBalancer

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ExternalName

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说明

定义端口名称

●●●
●●●

多端口service

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无选择算符的service

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Headless Services

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带选择算符的服务

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无选择算符的服务

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configmap

configmap应用场景：

注意：

创建configmap

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在环境变量中引用ConfigMap

Hello

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在Volume中引用ConfigMap

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被挂载的 ConfigMap 内容会自动更新

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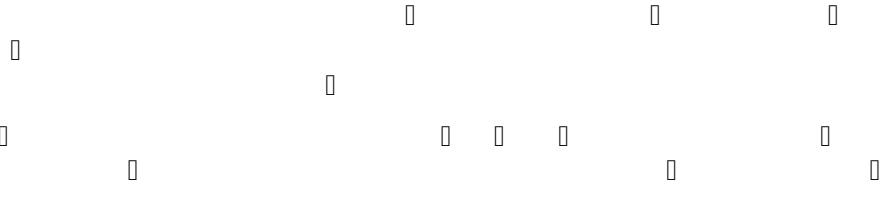
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secret

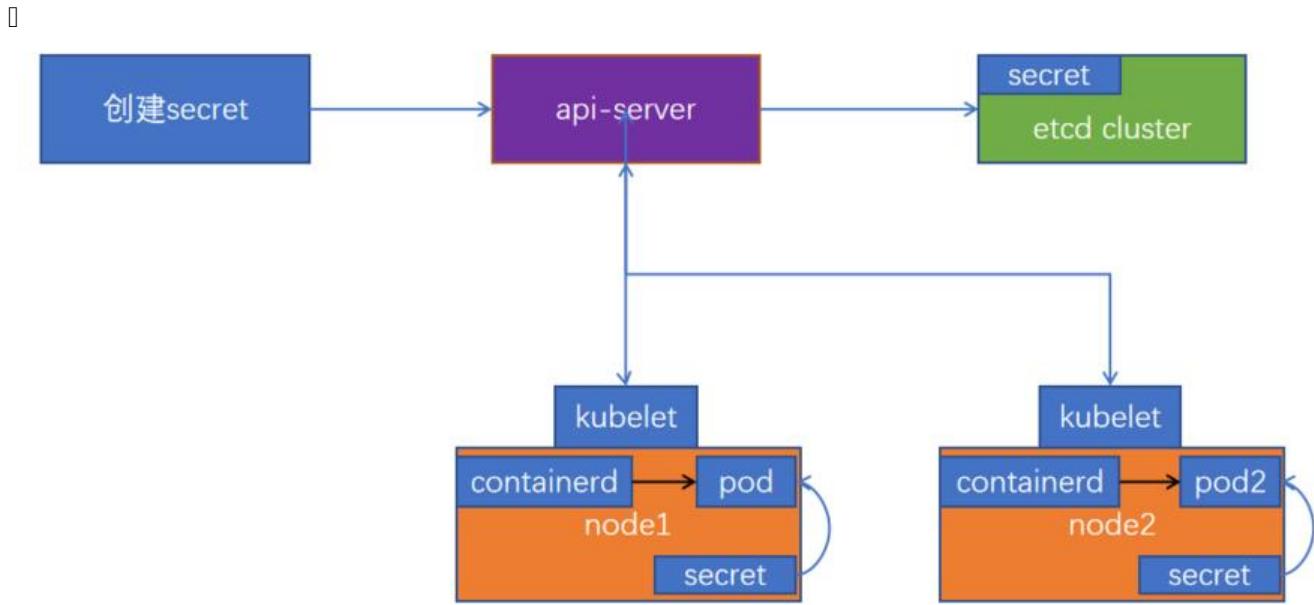
应用场景:

注意:



□

secret挂载流程



Base64编码

创建Secret

在环境变量中引用Secret



在Volume中引用Secret

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secret类型

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内置类型

用法

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三、掌握基于NFS实现pod数据持久化的使用方式，测试emptyDir、hostPath的使用

NFS

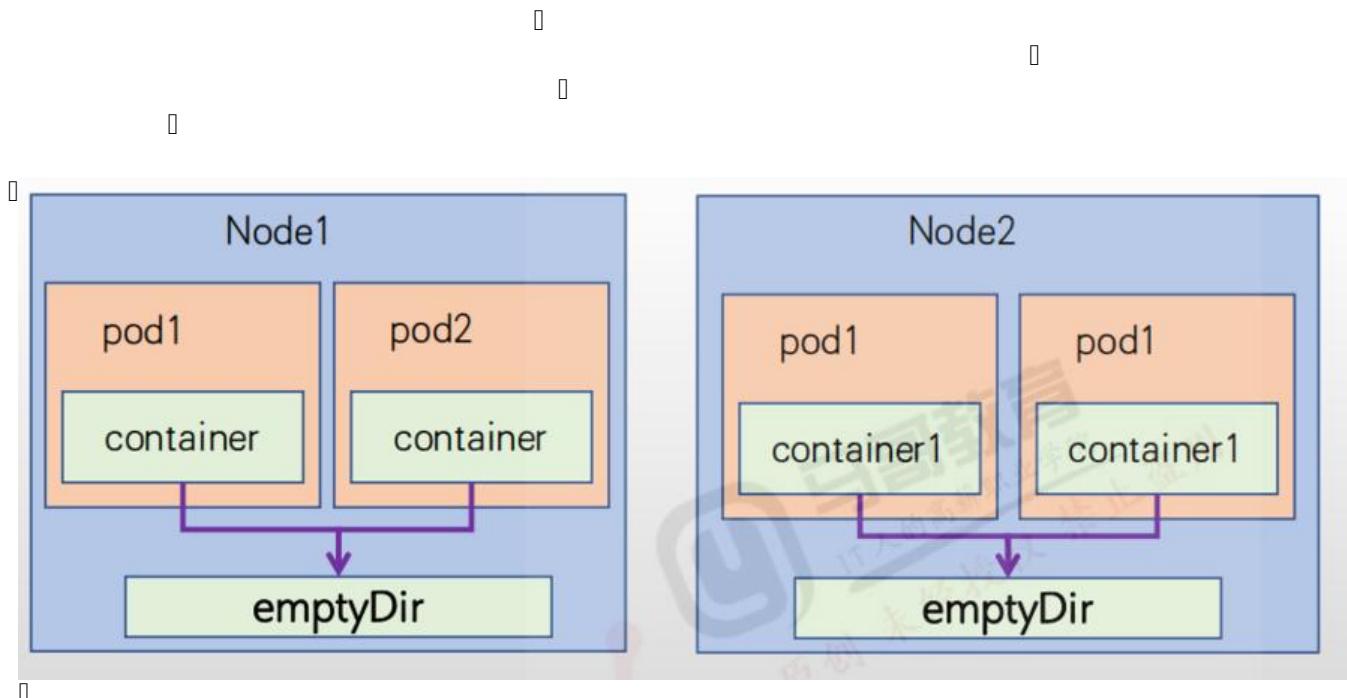
部署nfs服务器

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创建NFS卷

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emptydir

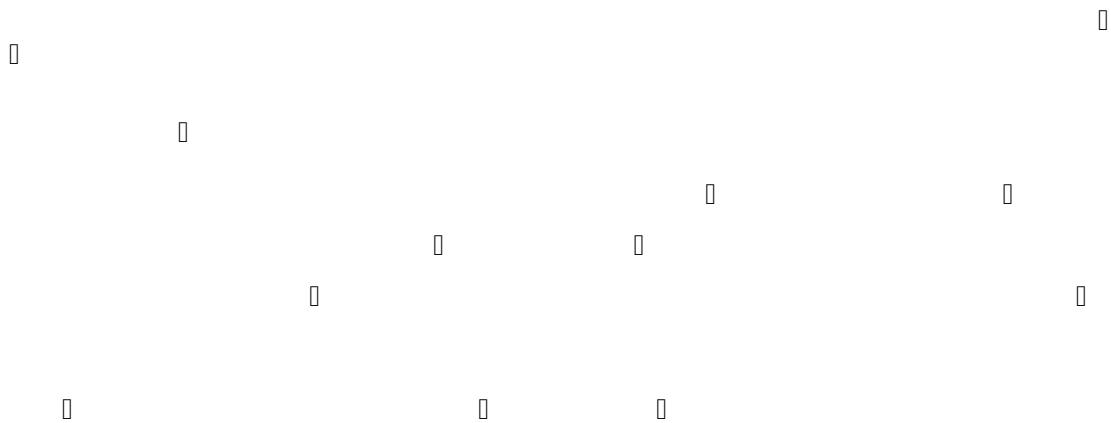


□

hostpath

□ □

注意



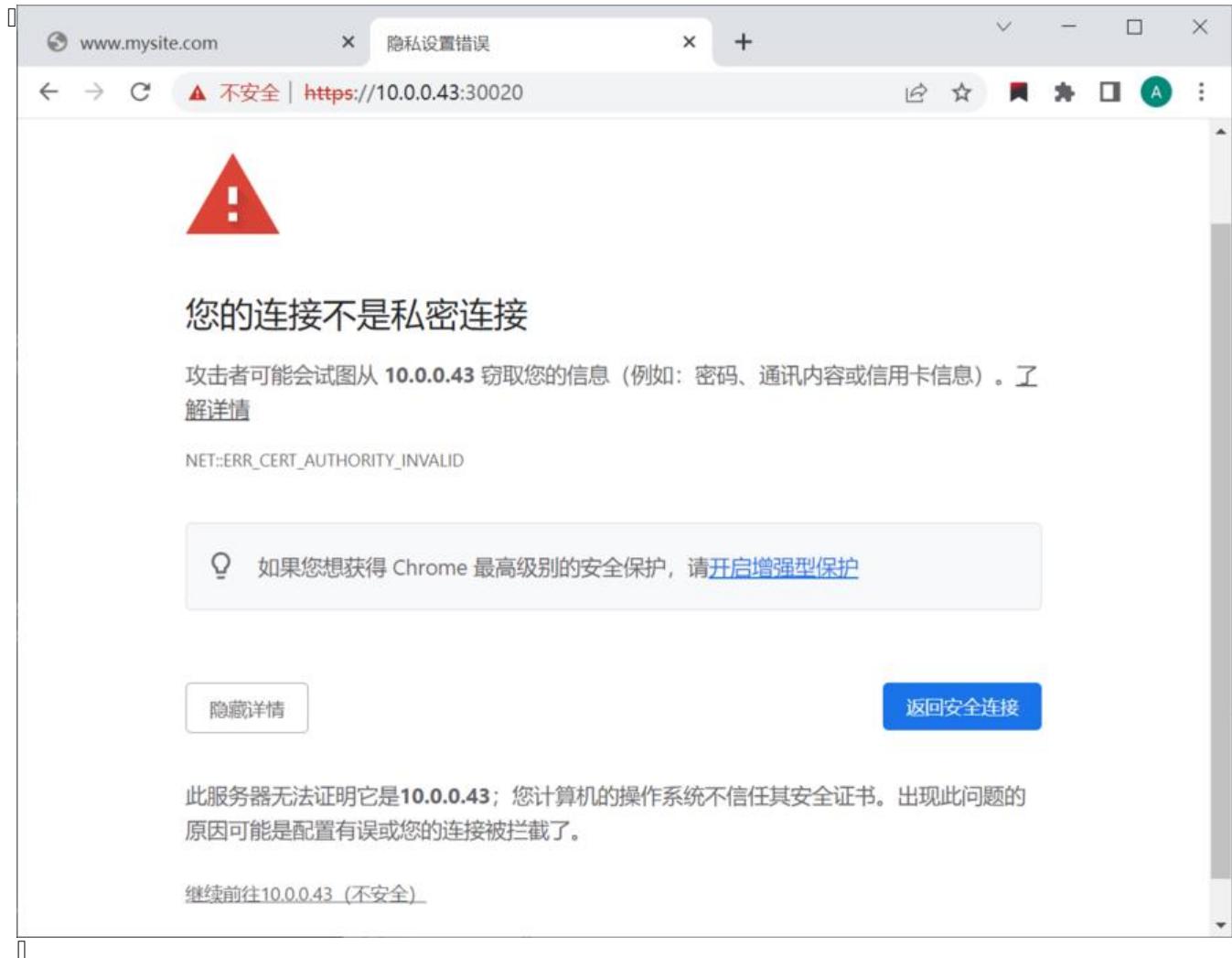
□

四、实现基于Secret实现nginx的tls认证、并实现私有仓库的下载认证

tls认证

自签名证书，创建secret

创建web服务nginx并使用证书



配置负载均衡

□

验证

隐私设置错误

▲ 不安全 | <https://www.mysite.com>



您的连接不是私密连接

攻击者可能会试图从 **www.mysite.com** 窃取您的信息（例如：密码、通讯内容或信用卡信息）。[了解详情](#)

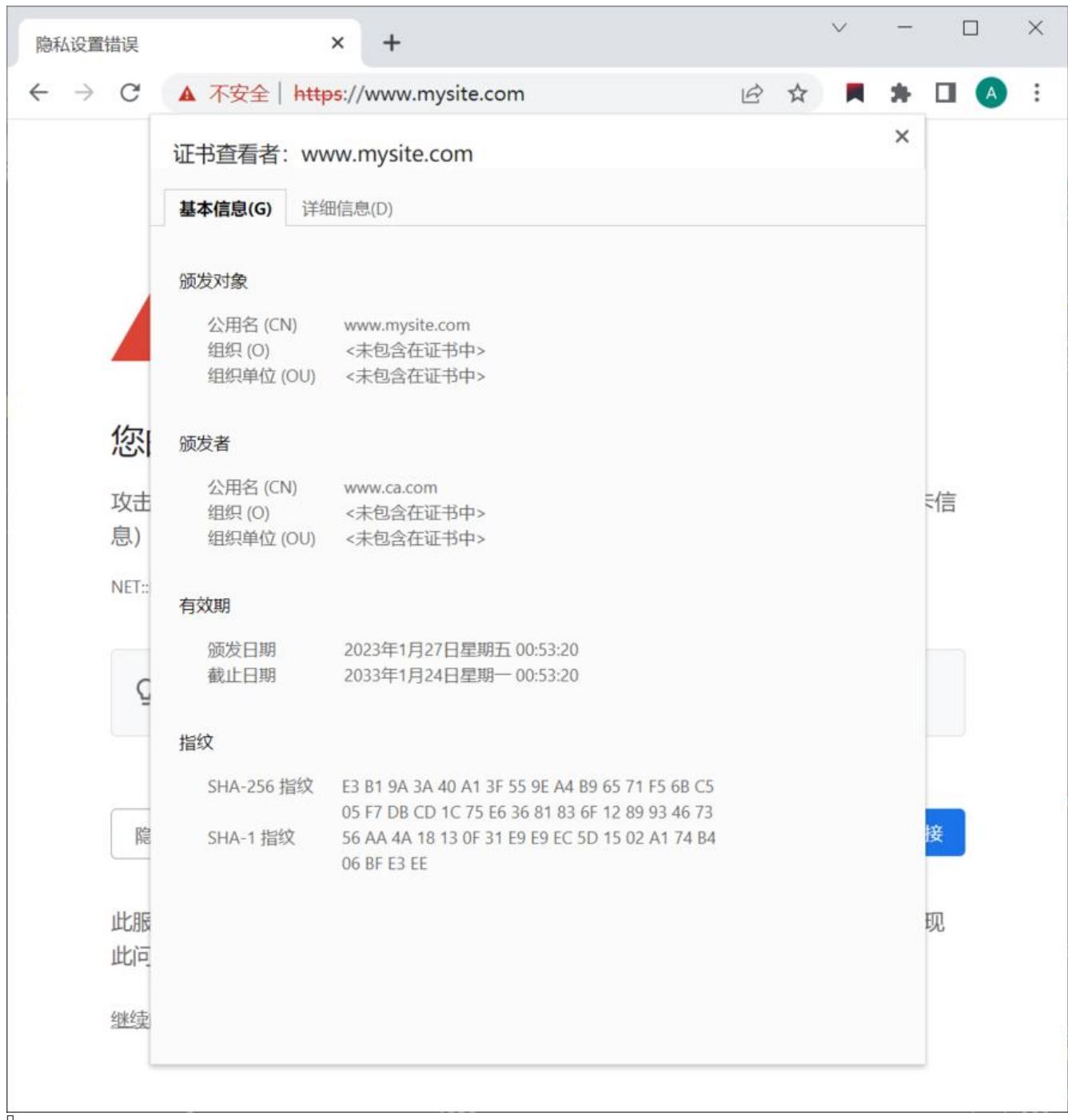
NET::ERR_CERT_AUTHORITY_INVALID

如果您想获得 Chrome 最高级别的安全保护，请[开启增强型保护](#)

[隐藏详情](#) [返回安全连接](#)

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私有仓库认证

创建sercet

□

创建web服务

□

验证

