

CKS最速合格 & CKS合格率

さらに、ShikenPASS CKSダンプの一部が現在無料で提供されています: <https://drive.google.com/open?id=1PG-7sLzCEsqOtYgqEvSwLhLbcFACpCya>

テスト志向の高品質なCKS試験問題があなたにとって最良の選択であると信じています。すべての受験者がCKS試験に合格し、CKS準備ガイドの多大なメリットを享受できることを心から願っています。CKS試験問題の合格率は99%~100%です。受験者がCKS試験に合格できるようにすることは、当社の文化において常に長所であり、購入および使用のプロセスでメールで連絡を取ることができます。できるだけ早く返信いたします。

Linux Foundation CKS (Certified Kubernetes Security Specialist) 試験は、Kubernetesクラスターの確保に関する専門知識を実証したい専門家の高度な認定です。この認定は、安全なKubernetesクラスターの設計、展開、管理に必要なスキルと知識をテストするように設計されています。これは、クラウドネイティブアプリケーションとインフラストラクチャの管理に関与しているIT専門家にとって重要な認証です。

>> CKS最速合格 <<

Linux Foundation CKS合格率、CKS日本語版復習指南

Linux Foundation CKSテスト質問の回答を注文する予定です。クレジットカードが必要です。ほとんどの場合、クレジットカードをサポートしています。デビットカードをお持ちの場合は、クレジットカードを申請するか、他の友人にCKSテスト質問の回答の支払いを手伝ってもらってください。通常、候補者はPayPalで支払うことをお勧めします。ここでは、PayPalアカウントを持っている必要はありません。[PayPal]をクリックする

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Linux Foundation CKS (Certified Kubernetes Security Specialist) 試験は、Kubernetes クラスターをセキュアに保つ専門家のスキルと知識を認定する認定プログラムです。コンテナオーケストレーションとデプロイメントの世界で Kubernetes がますます人気を集めるにつれて、熟練したセキュリティスペシャリストの必要性がますます重要になっています。

Linux Foundation Certified Kubernetes Security Specialist (CKS) 認定 CKS 試験問題 (Q71-Q76):

質問 # 71

Before Making any changes build the Dockerfile with tag base:v1

Now Analyze and edit the given Dockerfile(based on ubuntu 16:04)

Fixing two instructions present in the file, Check from Security Aspect and Reduce Size point of view.

Dockerfile:

```
FROM ubuntu:latest
```

```
RUN apt-get update -y
```

```
RUN apt install nginx -y
```

```
COPY entrypoint.sh /
```

```
RUN useradd ubuntu
```

```
ENTRYPOINT ["/entrypoint.sh"]
```

```
USER ubuntu
```

```
entrypoint.sh
```

```
#!/bin/bash
```

```
echo "Hello from CKS"
```

After fixing the Dockerfile, build the docker-image with the tag base:v2

- **A. To Verify: Check the size of the image before and after the build.**

正解: A

質問 # 72

SIMULATION

A container image scanner is set up on the cluster.

Given an incomplete configuration in the directory

/etc/kubernetes/conf/control and a functional container image scanner with HTTPS endpoint https://test-server.local:8081/image_policy

1. Enable the admission plugin.
2. Validate the control configuration and change it to implicit deny.

Finally, test the configuration by deploying the pod having the image tag as latest.

- **A. Send us the Feedback on it.**

正解: A

質問 # 73

You must complete this task on the following cluster/nodes: Cluster: immutable-cluster Master node: master1 Worker node: worker1 You can switch the cluster/configuration context using the following command:

```
[desk@cli] $ kubectl config use-context immutable-cluster
```

Context: It is best practice to design containers to be stateless and immutable.

Task:

Inspect Pods running in namespace prod and delete any Pod that is either not stateless or not immutable.

Use the following strict interpretation of stateless and immutable:

1. Pods being able to store data inside containers must be treated as not stateless.

Note: You don't have to worry whether data is actually stored inside containers or not already.

2. Pods being configured to be privileged in any way must be treated as potentially not stateless or not immutable.

正解:

解説:

```
k get pods -n prod
```

```
k get pod <pod-name> -n prod -o yaml | grep -E 'privileged|ReadOnlyRootFileSystem' Delete the pods which do have any of these 2 properties privileged:true or ReadOnlyRootFileSystem: false
```

```
[desk@cli]$ k get pods -n prod
```

```
NAME READY STATUS RESTARTS AGE
```

```
cms 1/1 Running 0 68m
```

```
db 1/1 Running 0 4m
```

```
nginx 1/1 Running 0 23m
```

```
[desk@cli]$ k get pod nginx -n prod -o yaml | grep -E 'privileged|RootFileSystem'
```

```
{"apiVersion":"v1","kind":"Pod","metadata":{"annotations":{},"creationTimestamp":null,"labels":
```

```
{"run":"nginx"},"name":"nginx","namespace":"prod"},"spec":{"containers":[{"image":"nginx","name":"nginx","resources":
```

```
{},"securityContext":{"privileged":true}}],"dnsPolicy":"ClusterFirst","restartPolicy":"Always"},"status":{}} fprivileged: {} privileged: true
```



```
[desk@cli]$ k delete pod nginx -n prod
```

```
[desk@cli]$ k get pod db -n prod -o yaml | grep -E 'privileged|RootFileSystem'
```



```
[desk@cli]$ k delete pod cms -n prod Reference: https://kubernetes.io/docs/concepts/policy/pod-security-policy/  
https://cloud.google.com/architecture/best-practices-for-operating-containers Reference:
```

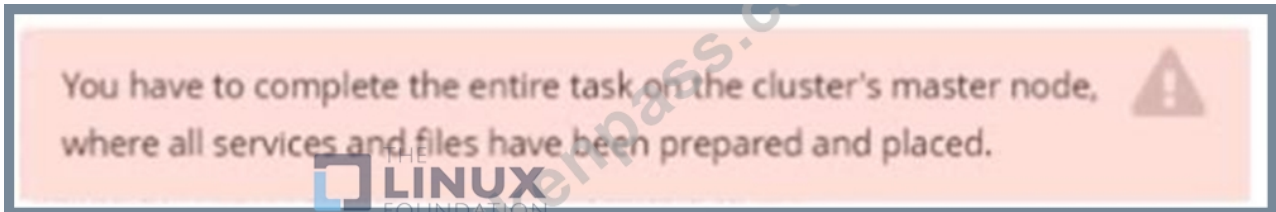
```
[desk@cli]$ k delete pod cms -n prod Reference: https://kubernetes.io/docs/concepts/policy/pod-security-policy/  
https://cloud.google.com/architecture/best-practices-for-operating-containers
```

質問 #74

Context

A container image scanner is set up on the cluster, but it's not yet fully integrated into the cluster's configuration. When complete, the container image scanner shall scan for and reject the use of vulnerable images.

Task



Given an incomplete configuration in directory `/etc/kubernetes/epconfig` and a functional container image scanner with HTTPS endpoint `https://wakanda.local:8081 /image_policy`:

1. Enable the necessary plugins to create an image policy
2. Validate the control configuration and change it to an implicit deny
3. Edit the configuration to point to the provided HTTPS endpoint correctly Finally, test if the configuration is working by trying to deploy the vulnerable resource `/root/KSSC00202/vulnerable-resource.yml`.



正解:

解説:

Switched to context "KSSC00202".

candidate@cli:-\$ ssh kssc00202-master

Warning: Permanently added '10.177.80.12' (ECDSA) to the list of known hosts.

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

root@kssc00202-master:-# ls /etc/kubernetes/epconfig/

admission_configuration.json apiserver-client-key.pem apiserver-client.pem kubeconfig.yaml webhook-key.pem webhook.pem

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/admission_configuration.json

```
"imagePolicy":  
  "kubeConfigFile": "/etc/kubernetes/epconfig/kubeconfig.yaml",  
  "allowTTL": 50,  
  "denyTTL": 50,  
  "retryBackoff": 500,  
  "defaultAllow": false
```

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/admission_configuration.json

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/admission_configuration.json

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/kubeconfig.yaml

apiVersion: v1

clusters:

- cluster:

certificate-authority: /etc/kubernetes/epconfig/webhook.pem # CA for verifying the remote service.

server: https://wakanda.local:8081/image_policy

name: kubernetes

contexts:

- context:

cluster: kubernetes

user: kubernetes-admin

name: kubernetes-admin@kubernetes

current-context: kubernetes-admin@kubernetes

kind: Config

preferences: {}

users:

- name: kubernetes-admin

user:

client-certificate: /etc/kubernetes/epconfig/apiserver-client.pem

client-key: /etc/kubernetes/epconfig/apiserver-client-key.pem

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/admission_configuration.json

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/admission_configuration.json

root@kssc00202-master:-# vim /etc/kubernetes/epconfig/kubeconfig.yaml

root@kssc00202-master:-# vim /etc/kubernetes/manifests/kube-apiserver.yaml p

```

kind: Pod
metadata:
  annotations:
    kubeadm.kubernetes.io/kube-apiserver.advertise-address.endpoint: 10.177.80.12:6443
  creationTimestamp: null
  labels:
    component: kube-apiserver
    tier: control-plane
  name: kube-apiserver
  namespace: kube-system
spec:
  containers:
    - command:
      - kube-apiserver
      - --advertise-address=10.177.80.12
      - --allow-privileged=true
      - --authorization-mode=Node,RBAC
      - --client-ca-file=/etc/kubernetes/pki/ca.crt
      - --enable-admission-plugins=NodeRestriction
      - --enable-bootstrap-token-auth=true
      - --etcd-cafile=/etc/kubernetes/pki/etcd/ca.crt
      - --etcd-certfile=/etc/kubernetes/pki/apiserver-etcd-client.crt
      - --etcd-keyfile=/etc/kubernetes/pki/apiserver-etcd-client.key
      - --etcd-servers=https://127.0.0.1:2379
      - --kubelet-client-certificate=/etc/kubernetes/pki/apiserver-kubelet-client.crt
      - --kubelet-client-key=/etc/kubernetes/pki/apiserver-kubelet-client.key
      - --kubelet-preferred-address-types=InternalIP,ExternalIP,Hostname
      - --proxy-client-cert-file=/etc/kubernetes/pki/front-proxy-client.crt
      - --proxy-client-key-file=/etc/kubernetes/pki/front-proxy-client.key
      - --requestheader-allowed-names=front-proxy-client
      - --requestheader-client-ca-file=/etc/kubernetes/pki/front-proxy-ca.crt
      - --requestheader-extra-headers-prefix=X-Remote-Extra-
    /etc/kubernetes/manifests/kube-apiserver.yaml" 135L, 4626C

```

```

root@k8ssc00202-master:~# vim /etc/kubernetes/manifests/kube-apiserver.yaml p
2 files to edit
root@k8ssc00202-master:~# rm -f p
root@k8ssc00202-master:~# vim /etc/kubernetes/manifests/kube-apiserver.yaml

```

```

apiVersion: v1
kind: Pod
metadata:
  annotations:
    kubeadm.kubernetes.io/kube-apiserver.advertise-address.endpoint: 10.177.80.12:6443
  creationTimestamp: null
  labels:
    component: kube-apiserver
    tier: control-plane
  name: kube-apiserver
  namespace: kube-system
spec:
  containers:
    - command:
      - kube-apiserver
      - --advertise-address=10.177.80.12
      - --allow-privileged=true
      - --authorization-mode=Node,RBAC
      - --client-ca-file=/etc/kubernetes/pki/ca.crt
      - --enable-admission-plugins=NodeRestriction,ImagePolicyWebHook
      - --admission-control-config-file=/etc/kubernetes/epconfig/admin.conf
      - --enable-bootstrap-token-auth=true
      - --etcd-cafile=/etc/kubernetes/pki/etcd/ca.crt
      - --etcd-certfile=/etc/kubernetes/pki/apiserver-etcd-client.crt
      - --etcd-keyfile=/etc/kubernetes/pki/apiserver-etcd-client.key
      - --etcd-servers=https://127.0.0.1:2379
      - --kubelet-client-certificate=/etc/kubernetes/pki/apiserver-kubelet-client.crt
      - --kubelet-client-key=/etc/kubernetes/pki/apiserver-kubelet-client.key
      - --kubelet-preferred-address-types=InternalIP,ExternalIP,Hostname
      - --proxy-client-cert-file=/etc/kubernetes/pki/front-proxy-client.crt
      - --proxy-client-key-file=/etc/kubernetes/pki/front-proxy-client.key
      - --requestheader-allowed-names=front-proxy-client
      - --requestheader-client-ca-file=/etc/kubernetes/pki/front-proxy-ca.crt

```

```

pot@kssc00202-master:~# vim /etc/kubernetes/manifests/kube-apiserver.yaml
pot@kssc00202-master:~# systemctl daemon-reload
pot@kssc00202-master:~#
pot@kssc00202-master:~#
pot@kssc00202-master:~#
pot@kssc00202-master:~# systemctl restart kubelet.service
pot@kssc00202-master:~# systemctl enable kubelet.service
pot@kssc00202-master:~#
pot@kssc00202-master:~#
pot@kssc00202-master:~#
pot@kssc00202-master:~# ls
KSSC00202 snap
pot@kssc00202-master:~# cat KSSC00202/vulnerable-resource.yml

```

```

KSSC00202 snap
root@kssc00202-master:~# cat KSSC00202/vulnerable-resource.yml

```

```

---
apiVersion: v1
kind: ReplicationController
metadata:
  name: nginx-latest
spec:
  replicas: 1
  selector:
    app: nginx-latest
  template:
    metadata:
      name: nginx-latest
      labels:
        app: nginx-latest
    spec:
      containers:
      - name: nginx-latest
        image: nginx
        ports:
        - containerPort: 80

```

```

root@kssc00202-master:~# kubectl create -f KSSC00202/vulnerable-resource.yml

```

```

root@kssc00202-master:~# kubectl create -f KSSC00202/vulnerable-resource.yml
The connection to the server 10.177.80.12:6443 was refused - did you specify the right host or port?
root@kssc00202-master:~# kubectl get pods
The connection to the server 10.177.80.12:6443 was refused - did you specify the right host or port?
root@kssc00202-master:~# ls -al .kube/
total 20
drwxr-xr-x  3 root root 4096 Aug  3 04:07 .
drwx-----  9 root root 4096 Oct 11 15:36 ..
drwxr-xr-x  4 root root 4096 Aug  3 04:07 cache
-rw-r--r--  1 root root 5636 Aug  3 04:07 config
root@kssc00202-master:~# crictl ps -a

```

```

012ea8587130e a634548d10b03 2 months ago Exited kube-proxy 0 1460a9f
a0f1e0 kube-proxy-cmjb5
405227dfa490 a6be758cef4cd 2 months ago Exited etcd 0 cfb6522
e720fb etcd-kssc00202-master
root@kssc00202-master:~# ls -al .kube/ | grep kube-api
root@kssc00202-master:~# crictl ps -a | grep kube-api
WARN[0000] runtime connect using default endpoints: [unix:///var/run/dockerhim.sock unix:///run/containerd/containerd.sock unix:///run/crio/crio.sock unix:///var/run/cni-dockerd.sock]. As the default settings are now deprecated, you should set the endpoint instead.
ERR[0000] unable to determine runtime API version: rpc error: code = Unavailable desc = connection error: desc = "transport: Error wh
ile dialing dial unix /var/run/dockerhim.sock: connect: no such file or directory"
WARN[0000] image connect using default endpoints: [unix:///var/run/dockerhim.sock unix:///run/containerd/containerd.sock unix:///run/crio/crio.sock unix:///var/run/cni-dockerd.sock]. As the default settings are now deprecated, you should set the endpoint instead.
ERR[0000] unable to determine image API version: rpc error: code = Unavailable desc = connection error: desc = "transport: Error whil
e dialing dial unix /var/run/dockerhim.sock: connect: no such file or directory"
a003b3f0fb61c d3377ffb7177c 30 seconds ago Exited kube-apiserver 3 2dadb4e
984a91 kube-apiserver-kssc00202-master
5e70b9a70f9ed d3377ffb7177c 7 hours ago Exited kube-apiserver 0 68a9f31
6c2559 kube-apiserver-kssc00202-master
root@kssc00202-master:~#
root@kssc00202-master:~#
root@kssc00202-master:~#
root@kssc00202-master:~# exit
logout
Connection to 10.177.80.12 closed.
candidate@cli:~$

```

質問 # 75

You're in charge of enforcing a secure supply chain in your Kubernetes environment. You need to ensure that all container images deployed to your cluster are scanned for known vulnerabilities before being deployed. How would you achieve this?

正解:

解説:

Solution (Step by Step) :

1. Choose a Vulnerability Scanner:

- Select a reputable container image vulnerability scanner. Popular options include:
 - Aqua Security: A comprehensive platform that offers image scanning, runtime security, and policy enforcement.
 - JFrog Xray: A vulnerability scanner that integrates with JFrog Artifactory, providing deep scanning capabilities.
 - Anclore Engine: An open-source scanner that can be deployed on-premises or in the Cloud.

2. Integrate with Your Registry (if applicable):

- If your vulnerability scanner support integration with your registry (e.g., Docker Hub, Harbor), configure it to scan images automatically as they are pushed.
- This approach provides real-time vulnerability scanning, ensuring that only secure images are available for deployment.

3. Implement a Scanning Pipeline (if needed):

- If your chosen scanner doesn't integrate with your registry, build a scanning pipeline using a CI/CD tool like Jenkins, GitLab CI, or CircleCI.
- The pipeline should:
 - Pull the image from the registry.
 - Run the vulnerability scanner against the image.
 - Fail the build if any critical vulnerabilities are found.
 - If no critical vulnerabilities are found, push the scanned image to the registry with a tag indicating its scan status.

4. Configure Kubernetes Policies:

- Use Kubernetes policies (like Pod Security Policies or Admission Controllers) to enforce the following:
 - Restrict deployments to images with a "scanned" tag: This ensures only images that have undergone vulnerability scanning are deployed.
 - Block deployments of images with known critical vulnerabilities: This prevents deployment of images with unacceptable risks.

5. Monitor Scanning Results:

- Continuously monitor vulnerability scanning results.
- Keep track of vulnerabilities found and their severity.
- Update your policies to reflect changes in vulnerability scanning results.

6. Remediation and Patching:

- Have a process in place to remediate and patch vulnerabilities found in images.
- Work with developers and security teams to address vulnerabilities promptly.

質問 # 76

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CKS合格率: <https://www.shikenpass.com/CKS-shiken.html>

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vapes

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