Linux-Foundation

Exam Questions CKS

Certified Kubernetes Security Specialist (CKS) Exam

NEW QUESTION 1
Given an existing Pod named nginx-pod running in the namespace test-system, fetch the service-account-name used and put the content in /candidate/KSC00124.txt
Create a new Role named dev-test-role in the namespace test-system, which can perform update operations, on resources of type namespaces.
Create a new RoleBinding named dev-test-role-binding, which binds the newly created Role to the Pod's ServiceAccount (found in the Nginx pod running in namespace test-system).

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Send us your feedback on it.

NEW QUESTION 2
Fix all issues via configuration and restart the affected components to ensure the new setting takes effect. Fix all of the following violations that were found against thAe PI server:
* a. Ensure the --authorization-mode argument includes RBAC
* b. Ensure the --authorization-mode argument includes Node
* c. Ensure that the --profiling argumentissettofalse
Fix all of the following violations that were found against the Kubelet:
* a. Ensure the --anonymous-auth argumentissettofalse.
* b. Ensure that the --authorization-mode argumentissetto Webhook.
Fix all of the following violations that were found against the ETCD:
* a. Ensure that the --auto-tls argument is not set to true
Hint: Take the use of Tool Kube-Bench

A. Mastered
B. Not Mastered

Answer: A

Explanation:
API server:
Ensure the --authorization-mode argument includes RBAC
Turn on Role Based Access Control.Role Based Access Control (RBAC) allows fine-grained control over the operations that different entities can perform on different objects in the cluster. It is recommended to use the RBAC authorization mode.
Fix - BuildtimeKubernetesapiVersion: v1
kind: Pod
metadata:
creationTimestamp: null
labels:
component: kube-apiserver
tier: control-plane
name: kube-apiserver
namespace: kube-system spec:
containers:
-command:
+ - kube-apiserver
+ - --authorization-mode=RBAC,Node
image: gcr.io/google_containers/kube-apiserver-amd64:v1.6.0
livenessProbe:
failureThreshold:8
httpGet:
host:127.0.0.1
path: /healthz
port:6443
scheme: HTTPS
initialDelaySeconds:15
timeoutSeconds:15
name: kube-apiserver-should-pass
resources:
requests: cpu: 250m
volumeMounts:
-mountPath: /etc/kubernetes/
name: k8s
readOnly:true
-mountPath: /etc/ssl/certs
name: certs
-mountPath: /etc/pki
name: pki
hostNetwork:true
volumes:
-hostPath:
path: /etc/kubernetes
name: k8s
-hostPath:
path: /etc/ssl/certs
name: certs

-hostPath:
path: /etc/pki
name: pki
Ensure the --authorization-mode argument includes Node
Remediation: Edit the API server pod specification fil/eetc/kubernetes/manifests/kube-apiserver.yaml on
the master node and set the --authorization-mode parameter to a value that includeNs ode.
--authorization-mode=Node,RBAC
Audit:
/bin/ps -ef | grep kube-apiserver | grep -v grep
Expected result:
'Node,RBAC' has 'Node'
Ensure that the --profiling argumentissettofalse
Remediation: Edit the API server pod specification fil/eetc/kubernetes/manifests/kube-apiserver.yaml on the master node and set the below parameter.
--profiling=false
Audit:
/bin/ps -ef | grep kube-apiserver | grep -v grep
Expected result:
'false' is equal to 'false'
Fix all of the following violations that were found against the Kubelet:-
Ensure the --anonymous-auth argumentissettofalse.
Remediation: If using a Kubelet config file, edit the file to set authenticationa:nonymous: enabled to false. If using executable arguments, edit the kubelet service file
/etc/systemd/system/kubelet.service.d/10-kubeadm.conf
on each worker node and set the below parameter
in KUBELET_SYSTEM_PODS_ARGS
--anonymous-auth=false
variable.
Based on your system, restart the kubelet service. For example:
systemctl daemon-reload
systemctl restart kubelet.service
Audit:
/bin/ps -fC kubelet
Audit Config:
/bin/cat /var/lib/kubelet/config.yaml
Expected result:
'false' is equal to 'false'
*2) Ensure that the --authorization-mode argumentissetto Webhook.
Audit
docker inspect kubelet | jq -e'.[0].Args[] | match("--authorization-mode=Webhook").string'
Returned Value: --authorization-mode=Webhook
Fix all of the following violations that were found against the ETCD:
*a. Ensure that the --auto-tls argument is not set to true
Do not use self-signed certificates for TLS. etcd is a highly-available key value store used by Kubernetes deployments for persistent storage of all of its REST API objects. These objects are sensitive in nature and should not be available to unauthenticated clients. You should enable the client authentication via valid certificates to secure the access to the etcd service.
Fix - BuildtimeKubernetesapiVersion: v1
kind: Pod
metadata:
annotations:
scheduler.alpha.kubernetes.io/critical-pod:""
creationTimestamp: null
labels:
component: etcd
tier: control-plane
name: etcd
namespace: kube-system
spec:
containers:
-command:
+ - etcd
+ - --auto-tls=true
image: k8s.gcr.io/etcd-amd64:3.2.18
imagePullPolicy: IfNotPresent
livenessProbe:
exec:
command:
- /bin/sh
- -ec
- ETCDCTL_API=3 etcdctl --endpoints=https://[192.168.22.9]:2379 --cacert=/etc/kubernetes/pki/etcd/ca.crt
--cert=/etc/kubernetes/pki/etcd/healthcheck-client.crt --key=/etc/kubernetes/pki/etcd/healthcheck-client.key get foo
failureThreshold:8
initialDelaySeconds:15
timeoutSeconds:15
name: etcd-should-fail
resources: {}
volumeMounts:
-mountPath: /var/lib/etcd
name: etcd-data
-mountPath: /etc/kubernetes/pki/etcd
name: etcd-certs
hostNetwork:true
priorityClassName: system-cluster-critical
volumes:

-hostPath:
path: /var/lib/etcd
type: DirectoryOrCreate
name: etcd-data
-hostPath:
path: /etc/kubernetes/pki/etcd
type: DirectoryOrCreate
name: etcd-certs
status: {}

NEW QUESTION 3
Using the runtime detection tool Falco, Analyse the container behavior for at least 20 seconds, using filters that detect newly spawning and executing processes in a single container of Nginx.
store the incident file art /opt/falco-incident.txt, containing the detected incidents. one per line, in the format [timestamp],[uid],[processName]

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Send us your feedback on it.

NEW QUESTION 4
Using the runtime detection tool Falco, Analyse the container behavior for at least 30 seconds, using filters that detect newly spawning and executing processes
store the incident file art /opt/falco-incident.txt, containing the detected incidents. one per line, in the format [timestamp],[uid],[user-name],[processName]

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Send us your suggestion on it.

NEW QUESTION 5
Create a network policy named allow-np, that allows pod in the namespace staging to connect to port 80 of other pods in the same namespace.
Ensure that Network Policy:
* 1. Does not allow access to pod not listening on port 80.
* 2. Does not allow access from Pods, not in namespace staging.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
apiVersion:networking.k8s.io/v1
kind:NetworkPolicy
metadata:
name:network-policy
spec:
podSelector:{} #selects all the pods in the namespace deployed
policyTypes:
-Ingress
ingress:
-ports:#in input traffic allowed only through 80 port only
-protocol:TCP
port:80

NEW QUESTION 6
Create a User named john, create the CSR Request, fetch the certificate of the user after approving it. Create a Role name john-role to list secrets, pods in namespace john
Finally, Create a RoleBinding named john-role-binding to attach the newly created role john-role to the user john in the namespace john.
To Verify: Use the kubectl auth CLI command to verify the permissions.

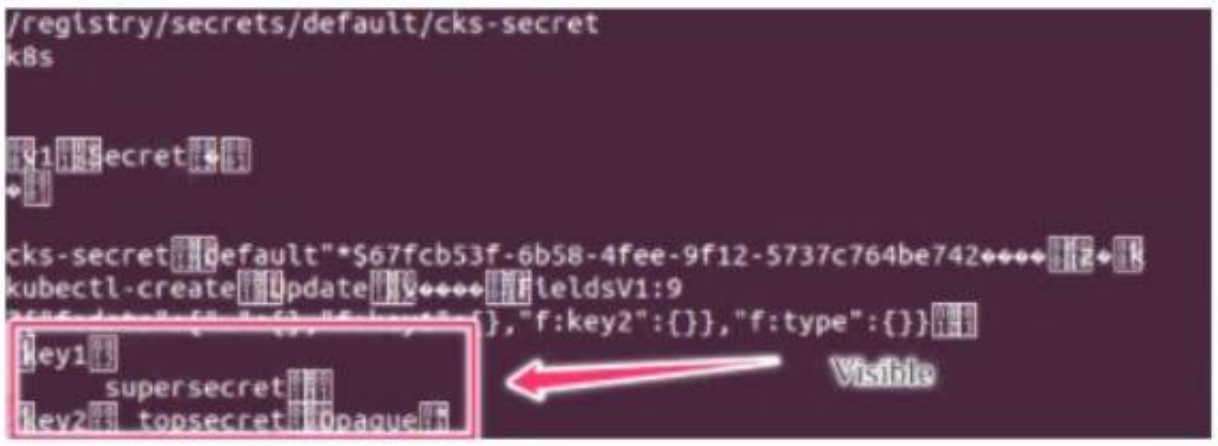
A. Mastered
B. Not Mastered

Answer: A

Explanation:
se kubectl to create a CSR and approve it.
Get the list of CSRs:
kubectl get csr
Approve the CSR:
kubectl certificate approve myuser
Get the certificateRetrieve the certificate from the CSR:
kubectl get csr/myuser -o yaml

here are the role and role-binding to give john permission to create NEW_CRD resource: kubectlapply-froleBindingJohn.yaml--as=john
rolebinding.rbac.authorization.k8s.io/john_external-rosource-rbcreated
kind:RoleBinding
apiVersion:rbac.authorization.k8s.io/v1
metadata:
name:john_crd
namespace:development-john
subjects:
-kind:User
name:john
apiGroup:rbac.authorization.k8s.io
roleRef:
kind:ClusterRole
name:crd-creation
kind:ClusterRole
apiVersion:rbac.authorization.k8s.io/v1
metadata:
name:crd-creation
rules:
-apiGroups:["kubernetes-client.io/v1"]
resources:["NEW_CRD"]
verbs:["create, list, get"]

NEW QUESTION 7
Secrets stored in the etcd is not secure at rest, you can use the etcdctl command utility to find the secret value for e.g:ETCDCTL_API=3 etcdctl get /registry/secrets/default/cks-secret --cacert="ca.crt" --cert="server.crt" --key="server.key" Output



Using the Encryption Configuration, Create the manifest, which secures the resource secrets using the provider AES-CBC and identity, to encrypt the secret-data at rest and ensure all secrets are encrypted with the new configuration.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Send us your feedback on it.

NEW QUESTION 8
On the Cluster worker node, enforce the prepared AppArmor profile
#include<tunables/global>
profile nginx-deny flags=(attach_disconnected) {
#include<abstractions/base>
file,
Deny all file writes.
deny/** w,
}
EOF'
Edit the prepared manifest file to include the AppArmor profile.
apiVersion: v1
kind: Pod
metadata:
name: apparmor-pod
spec:
containers:
- name: apparmor-pod
image: nginx
Finally, apply the manifests files and create the Pod specified on it. Verify: Try to make a file inside the directory which is restricted.

A. Mastered
B. Not Mastered

Answer: A

Explanation:
Send us your Feedback on this.

NEW QUESTION 10

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