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| **DOCUMENT RULES:** | |
| **Task Number / Name:** | **Killer Shell CKA** |
| **Task name & column name should be written:** | **Bold (CTRL+B)** |
| **Commands should be written in the after # sign:** | *Italic (CTRL+I) #hostname* |
| **Output photo should be cropped or compressed:**  **Photo could be more than one:**  **If you need extra lines, add the line next after it:** | ***Description photo should be with title bar (CTRL + I + B)*** |
| **All other text should be written:** | Standard |
| **Font name and text size:** | Calibri and 9 |
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| 1.Vim setup |  | |
| vim ~/.vimrc  set expandtab  set tabstop=2  set shiftwidth=2 |  | |
| 2.Apiserver crash |  | |
| cp /etc/kubernetes/manifests/kube-apiserver.yaml ~/kube-apiserver.yaml.ori  vim /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| watch crictl ps |  | |
| k -n kube-system get pod |  | |
| cp ~/kube-apiserver.yaml.ori /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| 3.Apiserver Crash |  | |
| cp ~/kube-apiserver.yaml.ori /etc/kubernetes/manifests/kube-apiserver.yaml  nano /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| watch crictl ps  k -n kube-system get pod |  | |
| cp ~/kube-apiserver.yaml.ori /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| cp /etc/kubernetes/manifests/kube-apiserver.yaml ~/kube-apiserver.yaml.ori  nano /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| watch crictl ps  k -n kube-system get pod |  | |
| cp ~/kube-apiserver.yaml.ori /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| Change the Apiserver manifest and add invalid YAML, something like this:  apiVersionTHIS IS VERY ::::: WRONG v1  kind: Pod  metadata:  nano /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| watch crictl ps  k -n kube-system get pod  cp ~/kube-apiserver.yaml.ori /etc/kubernetes/manifests/kube-apiserver.yaml |  | |
| 3.Apiserver Misconfigured |  | |
| cat /var/log/syslog | grep kube-apiserver |  | |
| 4.Application Misconfigured |  | |
| k -n application1 edit  deploy api  spec:  template:  spec:  containers:  - env:  - name: CATEGORY  valueFrom:  configMapKeyRef:  key: category  **name: configmap-category** |  | |
| 5.Application Multi container issue |  | |
| k -n management logs deploy/collect-data -c nginx >> /root/logs.log |  | |
| k -n management logs deploy/collect-data -c httpd >> /root/logs.log |  | |
| spec:  template:  spec:  containers:  - image: nginx:1.21.6-alpine  imagePullPolicy: IfNotPresent  name: nginx  resources: {}  terminationMessagePath: /dev/termination-log  terminationMessagePolicy: File  **# - image: httpd:2.4.52-alpine**  **# imagePullPolicy: IfNotPresent**  **# name: httpd**  **# resources: {}**  **# terminationMessagePath: /dev/termination-log**  **# terminationMessagePolicy: File** |  | |
| k -n management get deploy |  | |
| 6.ConfigMap Access in Pods |  | |
| kubectl create cm trauerweide --from-literal tree=trauerweide |  | |
| kubectl -f /root/cm.yaml create |  | |
| Nano cm.yaml |  | |
| Kubectl create –f cm.yaml |  | |
| 7.Ingress Create |  | |
| k -n world expose deploy europe --port 80 |  | |
| k -n world expose deploy asia --port 80 |  | |
| nano world.yaml |  | |
| Kubectl create –f world.yaml |  | |
| 8.Network Policy Namespace Selector |  | |
| apiVersion: networking.k8s.io/v1  kind: NetworkPolicy  metadata:  name: np  namespace: space1  spec:  podSelector: {}  policyTypes:  - Egress  egress:  - to:  - namespaceSelector:  matchLabels:  kubernetes.io/metadata.name: space2  - ports:  - port: 53  protocol: TCP  - port: 53  protocol: UDP    nano space1.yaml |  |
| Kubectl create –f space1.yaml |  |
| 9.RBAC ServiceAccount Permissions |  | |
| k get clusterrole view # there is default one |  | |
| k create clusterrolebinding pipeline-view --clusterrole view --serviceaccount ns1:pipeline --serviceaccount ns2:pipeline |  | |
| k create clusterrole -h |  | |
| k create clusterrole pipeline-deployment-manager --verb create,delete --resource deployments |  | |
| k -n ns1 create rolebinding pipeline-deployment-manager --clusterrole pipeline-deployment-manager --serviceaccount ns1:pipeline |  | |
| k -n ns2 create rolebinding pipeline-deployment-manager --clusterrole pipeline-deployment-manager --serviceaccount ns2:pipeline |  | |
| 10.RBAC User Permissions |  | |
| k -n applications create role smoke --verb create,delete --resource pods,deployments,sts  k -n applications create rolebinding smoke --role smoke --user smoke |  | |
| k get ns |  | |
| k -n applications create rolebinding smoke-view --clusterrole view --user smoke  k -n default create rolebinding smoke-view --clusterrole view --user smoke  k -n kube-node-lease create rolebinding smoke-view --clusterrole view --user smoke  k -n kube-public create rolebinding smoke-view --clusterrole view --user smoke |  | |
| 11.Schedulling Priority |  | |
| k -n management get pod -o yaml | grep -i priority -B 20 |  | |
| k -n management delete pod sprinter |  | |
| Generate the Pod yaml:  k -n lion run important --image=nginx:1.21.6-alpine -oyaml --dry-run=client > pod.yaml  nano pod.yaml  apiVersion: v1  kind: Pod  metadata:  labels:  run: important  name: important  namespace: lion  spec:  **priorityClassName: level3**  containers:  - image: nginx:1.21.6-alpine  name: important  **resources:**  **requests:**  **memory: 1Gi**  dnsPolicy: ClusterFirst  restartPolicy: Always |  | |
| k -n lion get pod |  | |
| k get events -A --sort-by='{.metadata.creationTimestamp}' |  | |