



```
master x slave1 x slave2 x + v
ubuntu@ip-172-31-28-252:~$ sudo nano pv.yaml
ubuntu@ip-172-31-28-252:~$ kubectl apply -f pv.yaml
persistentvolume/xyz-pv created
ubuntu@ip-172-31-28-252:~$ sudo nano pvc.yaml
ubuntu@ip-172-31-28-252:~$ kubectl apply -f pvc.yaml
persistentvolumeclaim/xyz-pvc created
ubuntu@ip-172-31-28-252:~$ kubectl create secret generic xyz-secret --from-literal=password=xyzIsthebest
secret/xyz-secret created
ubuntu@ip-172-31-28-252:~$ kubectl get secret xyz-secret -o yaml
apiVersion: v1
data:
  password: ehl6SXN0aGVzZXN0
kind: Secret
metadata:
  creationTimestamp: "2025-05-01T11:18:45Z"
  name: xyz-secret
  namespace: default
  resourceVersion: "10643"
  uid: e3b72121-cefe-4dbc-afc0-40f7f4c07d08
type: Opaque
ubuntu@ip-172-31-28-252:~$ kubectl get nodes
NAME STATUS ROLES AGE VERSION
ip-172-31-19-2 Ready <none> 87m v1.29.15
ip-172-31-21-55 Ready <none> 87m v1.29.15
ip-172-31-28-252 Ready control-plane 96m v1.29.15
ubuntu@ip-172-31-28-252:~$ kubectl taint nodes ip-172-31-21-55 key=value:NoSchedule
node/ip-172-31-21-55 tainted
ubuntu@ip-172-31-28-252:~$ sudo nano pod.yaml
ubuntu@ip-172-31-28-252:~$ kubectl apply -f pod.yaml
pod/xyz-pod created
ubuntu@ip-172-31-28-252:~$ kubectl get pods -o wide
NAME READY STATUS RESTARTS AGE IP NODE NOMINATED NODE READINESS GATES
xyz-pod 1/1 Running 0 10s 192.168.89.75 ip-172-31-21-55 <none> <none>
ubuntu@ip-172-31-28-252:~$ kubectl describe pod xyz-pod
Name: xyz-pod
Namespace: default
Priority: 0
Service Account: default
Node: ip-172-31-21-55/172.31.21.55
Start Time: Thu, 01 May 2025 11:21:55 +0000
Labels:
Annotations:
  cn1.projectcalico.org/containerID: fa2a407bc9d9ef92db4e9bd8758987f313e814dd4c625ed422c7f6580478e989
  cn1.projectcalico.org/podIP: 192.168.89.75/32
  cn1.projectcalico.org/podIPs: 192.168.89.75/32
Status: Running
IP: 192.168.89.75
IPs:
  IP: 192.168.89.75
Containers:
  busybox-container:
```

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master x slave1 x slave2 x + v
IP: 192.168.89.75
IPs:
  IP: 192.168.89.75
Containers:
  busybox-container:
    Container ID: docker://ff68d14b7e84938f638d8d0810c41bf068207b258552c8632ab24901afeef86c1
    Image: busybox
    Image ID: docker-pullable://busybox@sha256:37f7b378a29ceb4c551b1b5582e27747b855bbfaa73fa11914fe0df028dc581f
    Port: <none>
    Host Port: <none>
    Command:
      sleep
      3600
    State: Running
    Started: Thu, 01 May 2025 11:21:56 +0000
    Ready: True
    Restart Count: 0
    Environment: <none>
    Mounts:
      /data from data-volume (rw)
      /etc/secret from secret-volume (ro)
      /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-2rlnf (ro)
Conditions:
  Type Status
  PodReadyToStartContainers True
  Initialized True
  Ready True
  ContainersReady True
  PodScheduled True
Volumes:
  data-volume:
    Type: PersistentVolumeClaim (a reference to a PersistentVolumeClaim in the same namespace)
    ClaimName: xyz-pvc
    ReadOnly: false
  secret-volume:
    Type: Secret (a volume populated by a Secret)
    SecretName: xyz-secret
    Optional: false
  kube-api-access-2rlnf:
    Type: Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3607
    ConfigMapName: kube-root-ca.crt
    ConfigMapOptional: <nil>
    DownwardAPI: true
QoS Class: BestEffort
Node-Selectors:
  kubernetes.io/hostname: ip-172-31-21-55
Tolerations:
  key=value:NoSchedule
  node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
  node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
```

```
master x slave1 x slave2 x + v
sleep
3600
State: Running
  Started: Thu, 01 May 2025 11:21:56 +0000
Ready: True
Restart Count: 0
Environment: <none>
Mounts:
  /data from data-volume (ro)
  /etc/secret from secret-volume (ro)
  /var/run/secrets/kubernetes.io/serviceaccount from kube-api-access-2rlnf (ro)
Conditions:
  Type Status
  PodReadyToStartContainers True
  Initialized True
  Ready True
  ContainersReady True
  PodScheduled True
Volumes:
  data-volume:
    Type: PersistentVolumeClaim (a reference to a PersistentVolumeClaim in the same namespace)
    ClaimName: xyz-pvc
    ReadOnly: false
  secret-volume:
    Type: Secret (a volume populated by a Secret)
    SecretName: xyz-secret
    Optional: false
  kube-api-access-2rlnf:
    Type: Projected (a volume that contains injected data from multiple sources)
    TokenExpirationSeconds: 3607
    ConfigMapName: kube-root-ca.crt
    ConfigMapOptional: <nil>
    DownwardAPI: true
    BestEffort
QoS Class: BestEffort
Node-Selectors:
  kubernetes.io/hostname=ip-172-31-21-55
Tolerations:
  key=value:NoSchedule
  node.kubernetes.io/not-ready:NoExecute op=Exists for 300s
  node.kubernetes.io/unreachable:NoExecute op=Exists for 300s
Events:
  Type Reason Age From Message
  ----
  Normal Scheduled 19s default-scheduler Successfully assigned default/xyz-pod to ip-172-31-21-55
  Normal Pulling 19s kubelet Pulling image "busybox"
  Normal Pulled 18s kubelet Successfully pulled image "busybox" in 488ms (488ms including waiting)
  Normal Created 18s kubelet Created container: busybox-container
  Normal Started 18s kubelet Started container busybox-container
ubuntu@ip-172-31-28-252:~$ kubectl exec -it xyz-pod -- cat /etc/secret/password
xyzisthebestubuntu@ip-172-31-28-252:~$ kubectl exec -it xyz-pod -- sh -c "echo hello > /data/hello.txt && cat /data/hello.txt"
hello
ubuntu@ip-172-31-28-252:~$ |

master x slave1 x slave2 x + v
ubuntu@ip-172-31-21-55:~$ sudo mkdir -p /mnt/data
sudo chmod 777 /mnt/data
ubuntu@ip-172-31-21-55:~$ cd /mnt/data
ubuntu@ip-172-31-21-55:/mnt/data$ ls
hello.txt
ubuntu@ip-172-31-21-55:/mnt/data$ |
```

```
master  slave1  slave2
ubuntu@ip-172-31-19-2:~$ sudo mkdir -p /mnt/data
ubuntu@ip-172-31-19-2:~$ sudo chmod 777 /mnt/data
ubuntu@ip-172-31-19-2:~$ cd
ubuntu@ip-172-31-19-2:~$ cd /mnt/data
ubuntu@ip-172-31-19-2:/mnt/data$ ls
ubuntu@ip-172-31-19-2:/mnt/data$
```

