

Containers

Monday, February 2, 2026 9:52 AM

Learn. How update they are. Obsolete.

K8s container is an platform.

Cost a concern.

Snapchat due to the aws down time for 8 hours

A ha in the cloud

Deploy your application in two different cloud.

wgt: Walmart global tech

10,000 app they are running.

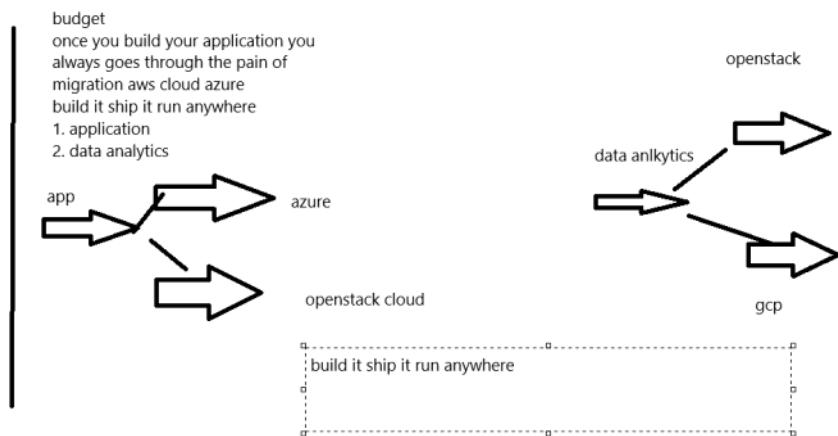
they also need ha

all there application will be deployed in
2x2x2

two different cloud

two different region in the cloud

two different data center inside a region in the cloud



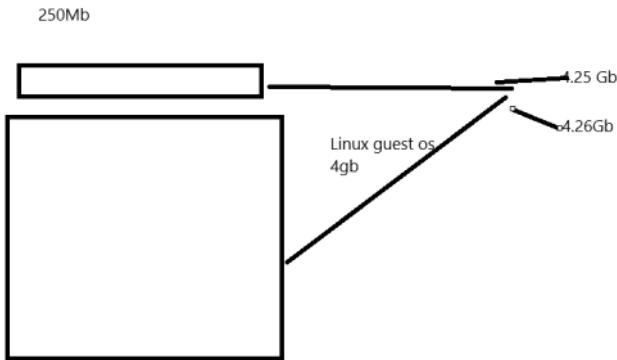
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10 min app

Modify

How containers resolved the issue.

Virtualization due to guest os migration become complex



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Application 250MB of APP 80 MB

Most of the smart app run on top of small hardware with limited ram and processing power.

Storage

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Google storage

15 Gb

Start paying

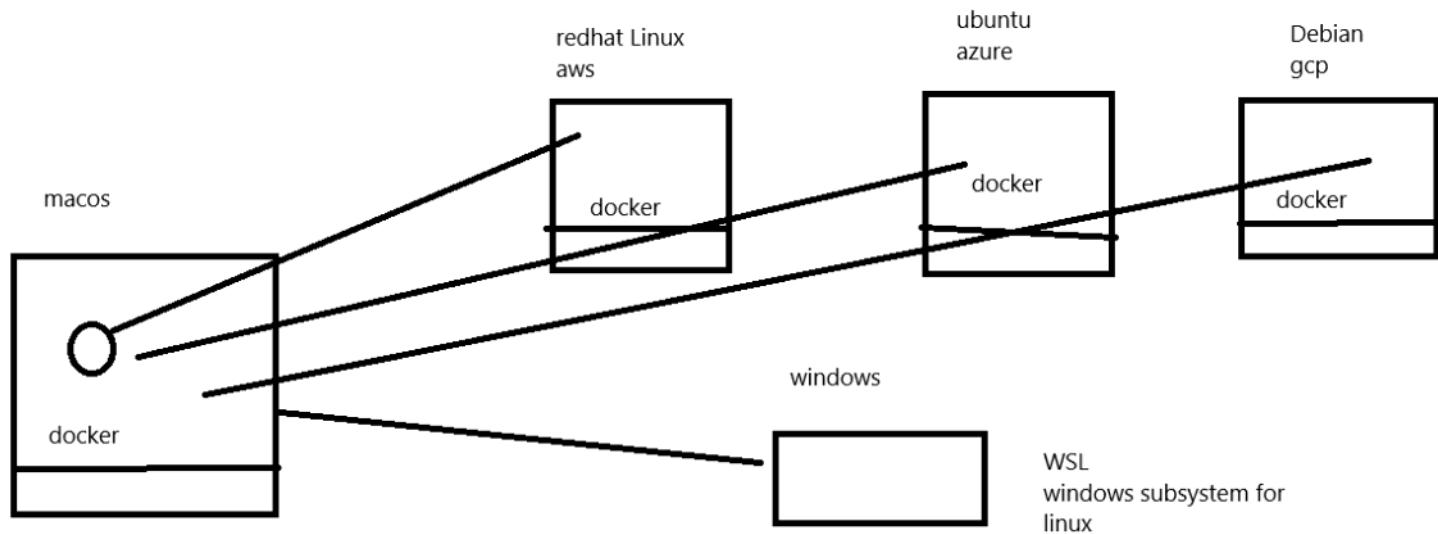
They will delete all your data.

Sometime data get leak from this drive

Selfhost hardware

Container you will always have full fledge running application.
20,000

portability in container



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How to get portability in container?

Core bank app run on vms

Data analytics or new development containers

Oracle finacle

Trigger based app

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Book a ride that time only we need cpu ram storage networking.

Ride complete

Netflix that time only

On a virtual machine it is wastage or resource.

Uber

20 container

Finding the ride price location

Slow

Container run as process id

Starting a process and stoping process id

VCS

github-code repo

you cannot store images or videos

special storage repo

Linux machine in
azure

hub.docker.com
shipping

image repo
tar file
jfrog nexus

shipper only you can download the
image

laptop

build an container based app
read only
storage

convert it into image
tar

ecr: aws
acr: azure
gcr: google container
all storage type of storage
in read only

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Docker installation

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1. Docker installation as per the os is different
2. All the command we will use for docker will be same

Best way to learn technology devops

1. Docker k8s
 2. Terraform
 3. Ansible
 4. Chef
 5. Puppet
 6. Gitlab
 7. Github
 8. Azure devops
- Complexity
Simple english

Demo

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1. Install docker on the dokcer machine
2. Check all the command related to containers you will find they are simple english

Docker k8s terraform

Go lang 99%

Always we are learning an wrapper language which is build using simple english

Even mapping on the resources are done using labels

```
[root@docker-engine ~]$ docker container run --publish 80:80 --detach nginx
Docker container run: this will always create a new container for you
When you want to create a container nginx is the image
Unable to find image 'nginx:latest' locally #
latest: Pulling from library/nginx #then it start downloading
d989100b8a84: Pull complete
10b68cfefee1: Pull complete
119d43eec815: Pull complete
57f0dd1befc2: Pull complete
700146c8ad64: Pull complete
eaf8753feae0: Pull complete
500799c30424: Pull complete
e2dd2dbe6277: Download complete
785250c9bf9e: Download complete
Digest: sha256:c881927c4077710ac4b1da63b83aa163937fb47457950c267d92f7e4dedf4aec
Status: Downloaded newer image for nginx:latest
673fbb8a8a2e0e59c921d605a9be8a217e2585ceb7fa68ada4b10e63fa1ac1e1
[root@docker-engine ~]$ docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS
NAMES
673fbb8a8a2e nginx "/docker-entrypoint...." 4 seconds ago Up 3 seconds 0.0.0.0:80->80/tcp,
[::]:80->80/tcp hardcore_borg
```

I am building an python based application.

Or a java based application

#####
Java run or python runtime

Google drive

Nexuscloud

But I need it as a container image

You have devices which is connected to alexa

Tv: samsung

Switch: alexa

Wipro:

Tp camera

Tp link door bell

Multiple apps

Docker image

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I create a a container with nginx image

Now I can spin up another container using the same nginx image

I am running an payment gw

For every single customer they do the payment transcation. To make the transaction one time I ll download

Container vs vm

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If you run an application in a vm.

1. If your app in which the vm is running hangs restart takes time
2. If you want to update or redeploy your application on a vm again it will take time vm provisioning application deployment takes time

The benefit with the container technology is that it is running as a process id.

Creating a new process and killing the process

This process needs to allocate CPU RAM storage networking

In Linux system whenever we create a process using cgroup and namespace we allocate process resources

1. Containers are running as process id
2. Process id is always unique this gives me the container isolation

--detach

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As we know that container are running as process id.
--detach will make your container run as background process

--publish

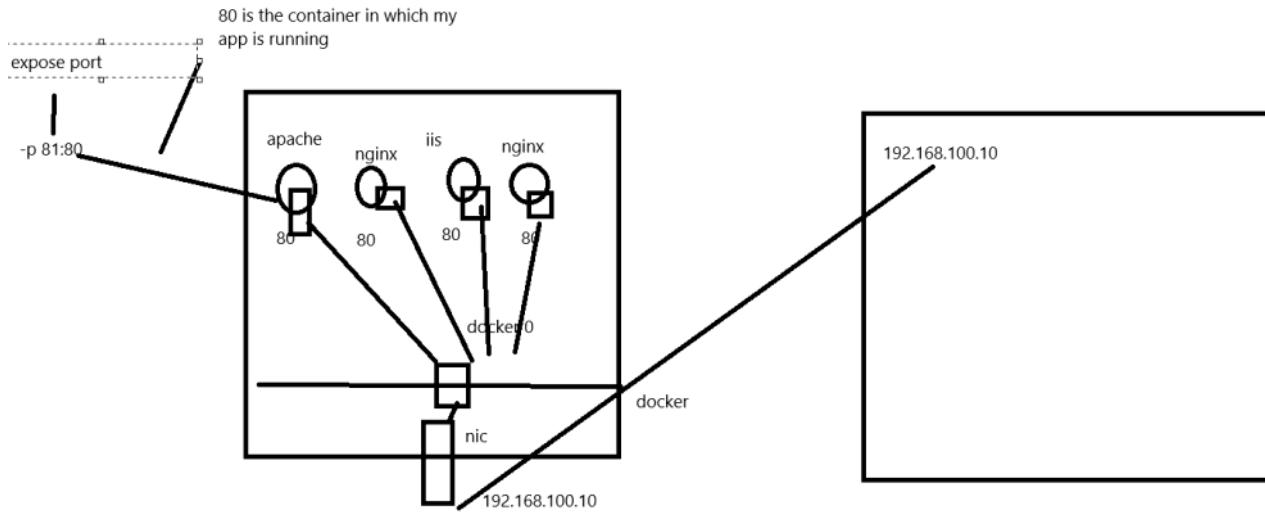
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-p 81:80

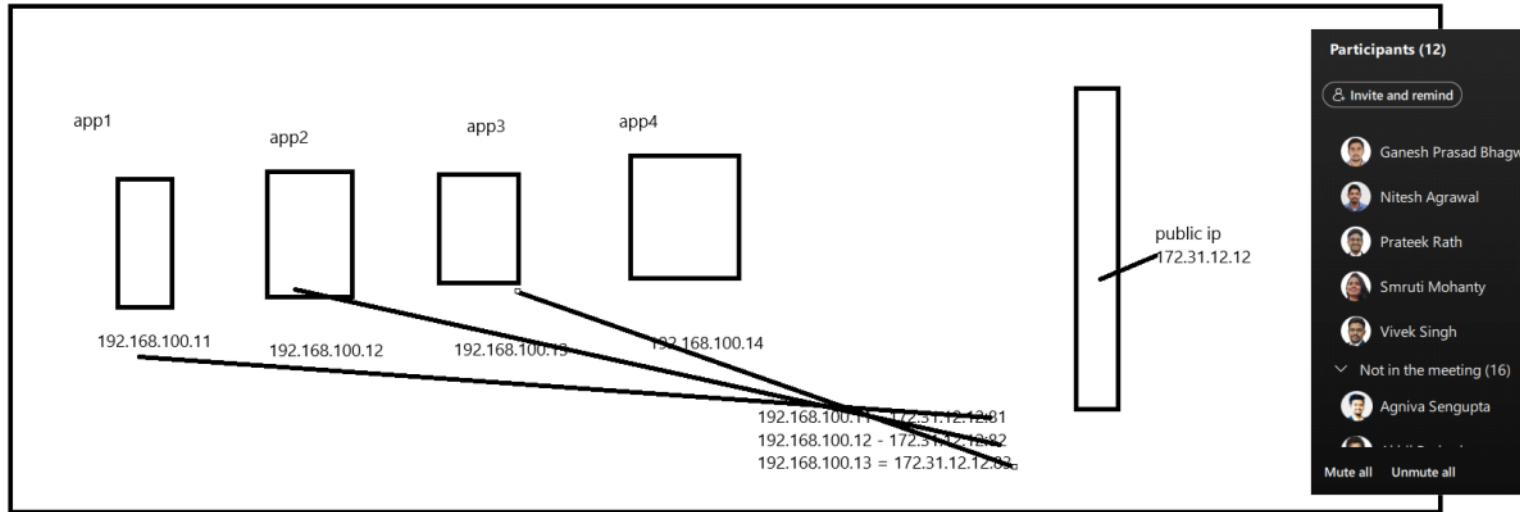
In container world everything is running as an web based application.

Always it will run using a port number

Port forwarding



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Container to container communication

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1. We will create an custom networking
2. Create two container and attach the same with custom network
3. And we will see container to container communication

In the container world or k8s never map anything using ip they are short leave

Always map it using the name or the service of the container. Internal dns resolution is always there
coredns

Volumes

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By default all the container are ephemeral in nature.
If you start a container or stop and container no
If you delete your container the storage will be deleted.

But we need persistent volume
If you delete your container storage will not be deleted
Or database

1. We will create a mysql database with an persistent volume .
2. Then inside the db we will create an custom db employee
3. Then delete the mysql container create a new mysql container and attach the same with your volume
4. If I login show databases it should show me the employee database;
Container are running as process id can process id store your data

Recap

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What is need of container technology?

1. Speed: it will make your deployment faster

Container and vm. Abstract level for container how it gives portability?

--detach

Container and image?

Image is always in rest state

Container is runnable state we can interact

Docker Engine

Docker networking

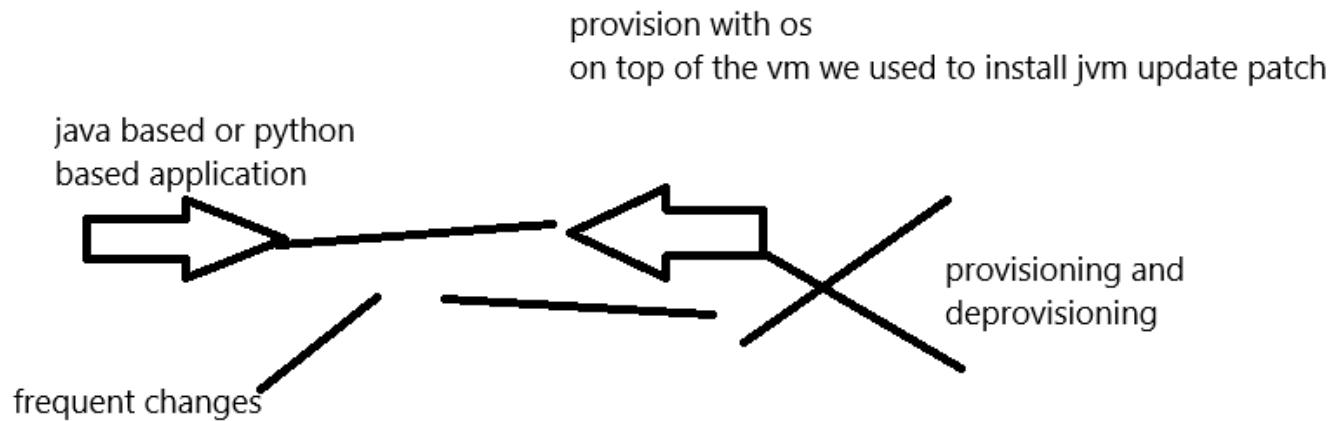
-p 81:80-container port application port

Expose or published port

image

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Previously



in a day we are deploying our app 8 times changes

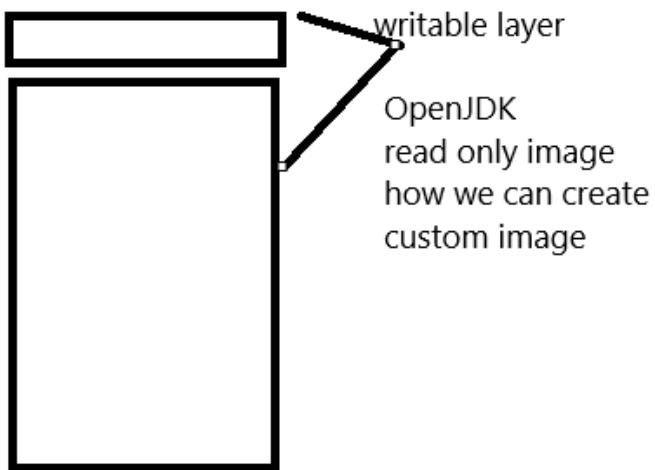
we want to deploy the app as faster as possible,
bundle the application-deploy it as container it will be
always faster

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But to make this application deployment faster I need an readily Available environment we need to just focus only on building application too much worried about deployment . To make the deployment faster Container is the only solution

All the base image is read only

custom definition



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Demo

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1. Inside the vm we will download openjdk
2. Download maven
3. Clone an spring boot application
4. We will compile it and get a jar file
5. We will run this jar and access the application from the browser

Inside the application folder we will create a docker file

Containerized

And finally run it using docker container

And access the app from the browser but it is server from the container

dockerfile

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ecommerce



paymentgw



logistics



we always create a folder and store all our files
related to the project inside the folder
to convert this application into an container based image
in the root folder only we need to create a simple file
the name of the file will be dockerfile

dockerfile

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Inside the docker file we will provide instruction

All the docker instruction are in capital letter

1. Before I convert my application into an container
2. I have an java based app into an container image
3. What will be my base image I need to choose openjdk
4. Python: I need to choose python
5. Nodejs

Hub.docker.com

The difference between copy and add

COPY: source will be your local machine

ADD: source can be local machine or it can be an ftp or http location

1. We install java
2. Install maven
3. Compile the application mvn clean package which created the jar file in the target directort jar is like executable file like msi or exe
4. Java -jar nameofthejarfile

Inside ENTRYPOINT you need to give the executable pathj

Once I build my image there is no way I can modify the image

Whenever there is an change in your application you need to rebuild your image once more time

Hub.docker.com

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Whatever image we have build we need to upload the same in a repo .

Multi-build image

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What do you know by multi-build

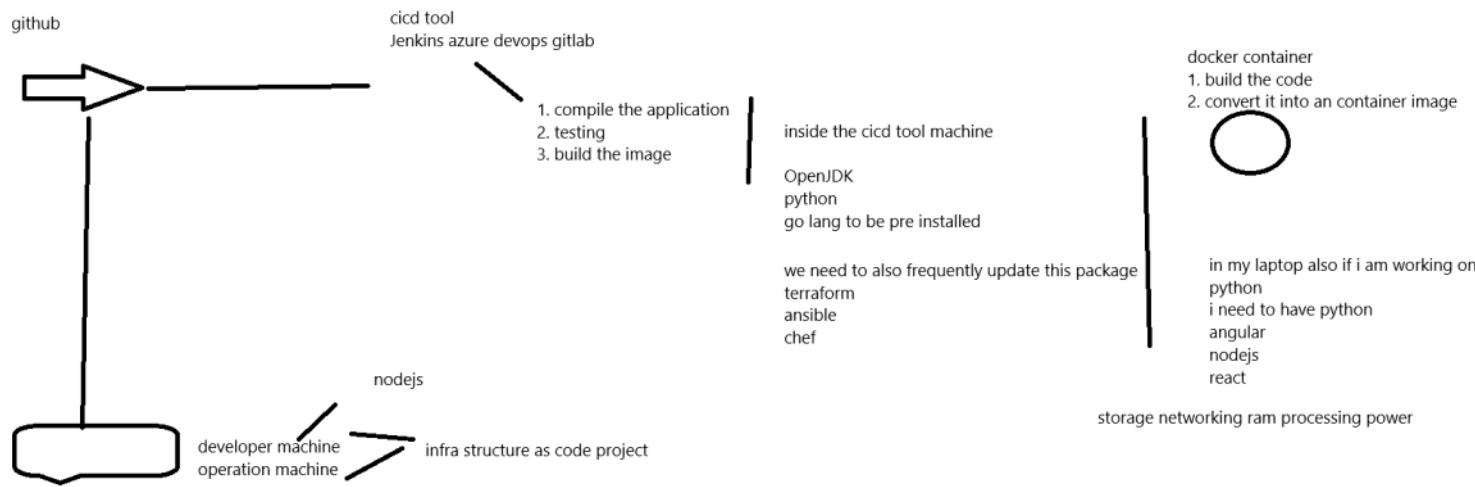
Convert an java based app into an container based image

We download java

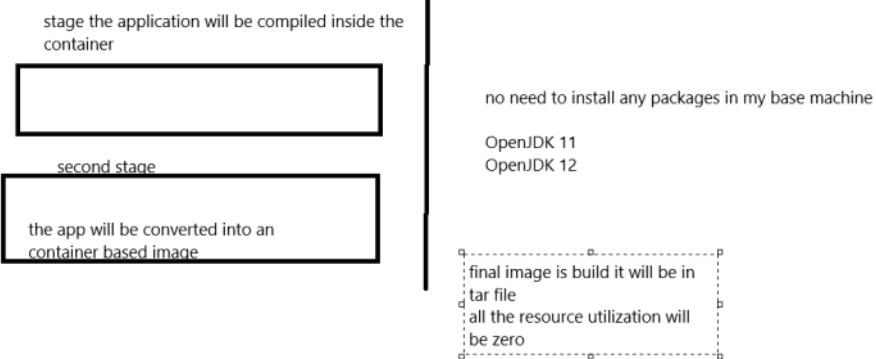
We download maven

Then only I can compile the application got the jar file

stage 2 we created docker file and convert the application into an image



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Multi-build image

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1. I have an spring boot application
 - a. First stage will be to build it inside the container : maven
 - b. Convert the application into an final image
 - c. RUN once you download your base image
 - d. RUN apt-get update yum
 - e. RUN wget https

kubernetes

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It is an clustering or data center solution for your container workload

It is an micro service

Payment gw

Encryption decription

Talking to merchant bank tightly integrated together

Due to some reason if update an patch is required I have to shutdown the application.

But now a days down time is not acceptable

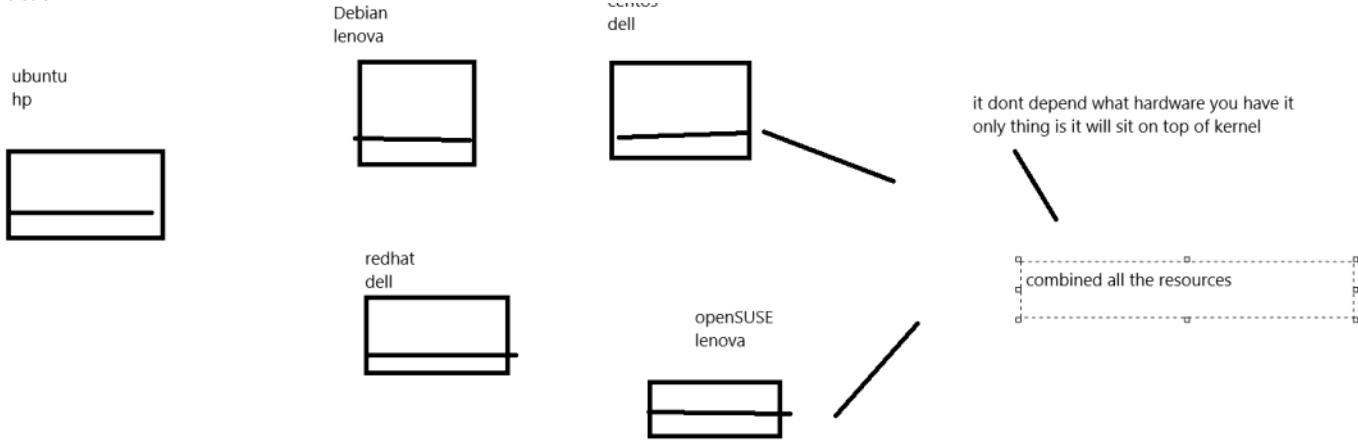
We break down the application into smaller code

The benefit I can easily make changes

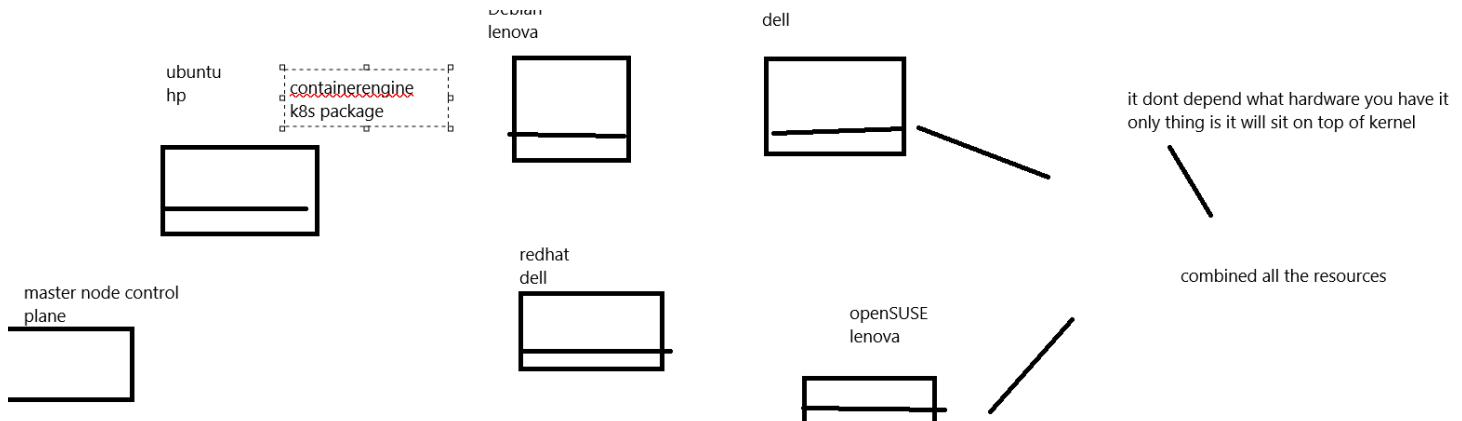
K8s is an micro service. When I need any feature I can easily add it

I want an monitoring tool need to added promothus grafan

I can remove them



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Container runtime

Tuesday, February 3, 2026 4:19 PM

Docker engine

2017 docker stop supporting k8s it get sold to miranthis.

K8s open source

Containerd

Virtlet

Podman

Crio.

##the command will be similar like docker only

Docker ps

Crictl ps

Ctr ps

Api

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My organization want to promote in social networking

Once the promotion has been done

I need to download reports

Likes click or location

Facebook

They have open this feature using api

But we are getting benefit only the required functionality will be available to me using http get put delete

request

Rdp or ssh

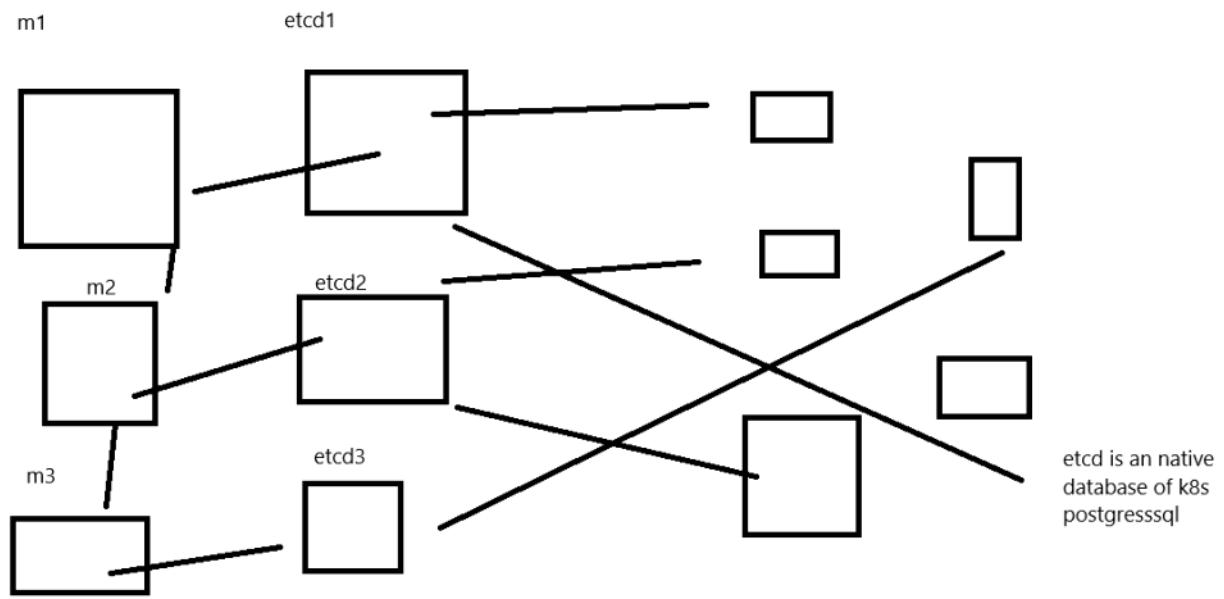
Etc1 : is like a database which stores your k8s cluster wide information.

As k8s is an open source and we keep on getting updated patches

We need to take backup of the etcd first. Then we update our k8s cluster. Restore the backup k8s

cluster will be as it is

Due to some reason while upgrading your k8s cluster the server misfunction. Chances of corrupted server
will be and you will lose all the information

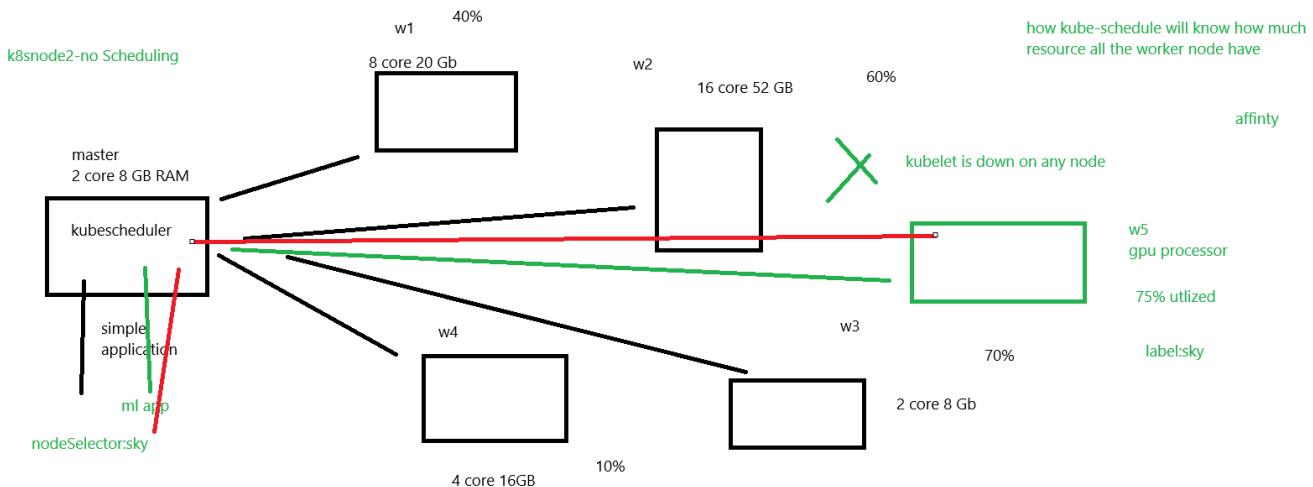


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Kubecontrol manager

Tuesday, February 3, 2026 4:41 PM

You created 80 container. Deleted it
Ssl certificate
Tls
Garbage collection
Storage
network



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Affinity: run your app in worker5 if worker5 is not available it will pause your application
Anti-affinity: preference will be given to worker5 if it is not available it will start on other node

kubernetes

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What is the need of k8s?

1. Remove hardware dependency..as it is running on top of kernel
2. One of the node will have a windows. WSL
3. It an coe container orchestrator engine.
4. Data center solution for containers
5. Resilient architecture

When I need to add a new feature I can add it I can remove it.

All the component of k8s are running as an container

Kubelet is running as a service in k8s cluster

Apt install apache2

Apt install nginx

Yum install nginx

Systemctl status nginx

Container they are running as an process id

Kube-proxy

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1. Frontend - backend: clusterIP that will do only internal communication in your k8s cluster
2. When you want to expose your application outside k8s cluster
 - a. nodePort
 - b. Loadbalancer: aks eks gke
 - c. Gateway load balancer

Docker'

containerd

Podman

Crio

Virtlet: paid product

Docker ps

Crictl ps

Pod

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Called as Pod?

Wrapper

Shipping: images-images are in tar format

All the communication to your k8s is happening using api get put request

Pod is to convert those images into an runnable object inside your k8s cluster

Api which is used to download the image from a repo make it runnable in a container

Api access

Wednesday, February 4, 2026 11:08 AM

Kubectl get pod deployment node

Kubectl describe

Kubectl delete

Kubectl apply -f nameofthefile

Full managed

Wednesday, February 4, 2026 11:12 AM

Aks: azure k8s service

Eks: elastics k8s service amazon

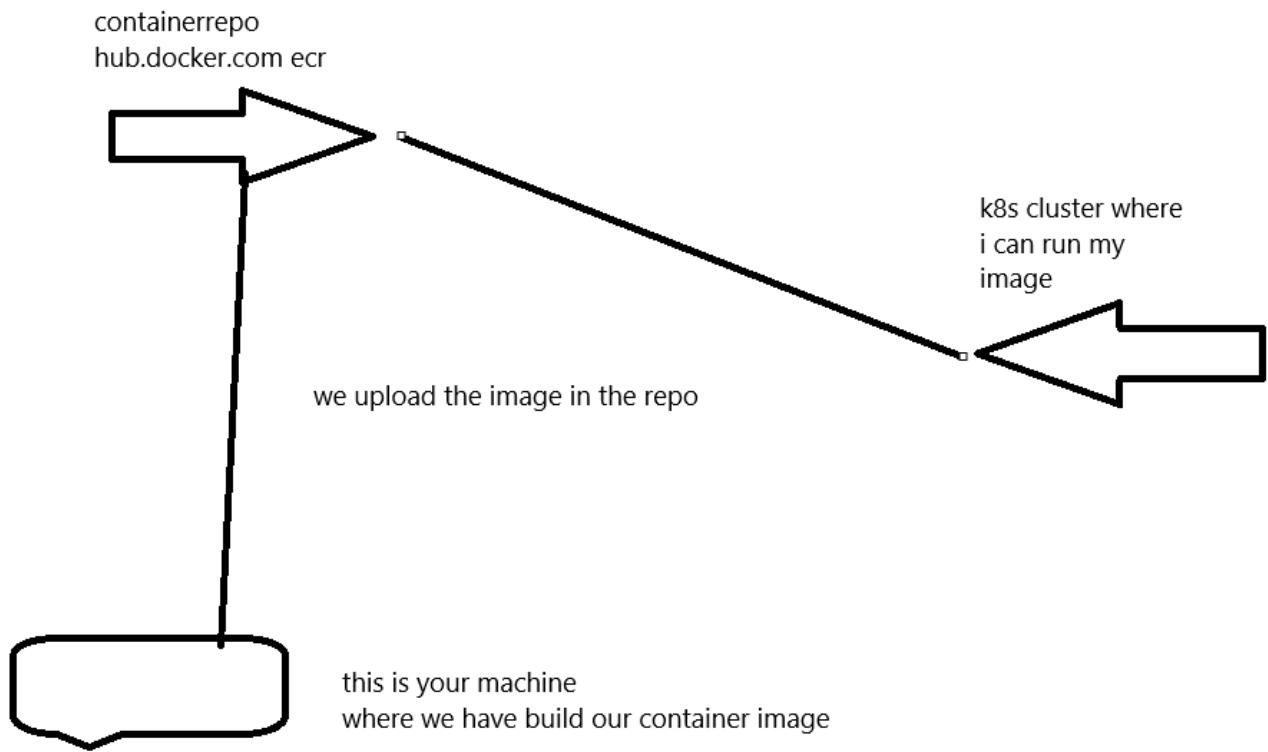
Gke: google k8s service

Vmware platform there is an fully managed k8s cluster you will find tanzu

Container

Wednesday, February 4, 2026 11:14 AM

How to verify that all the master component are running as container



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Pod

Wednesday, February 4, 2026 11:29 AM

We need to create a pod definition pod manifest using the same I can deploy my container image inside my k8s cluster

1. You need to write down this manifest in yaml or json
2. Mostly written in yaml
3. Indentation in yaml happen using two spaces
4. In json you define a function start with curl brace and end with curly brace

Writing yaml file is always an complex task

We need to deploy an application image inside my k8s cluster

I need to create a pod definition

deployment

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Deployment=pod+replicaset

Replica:1

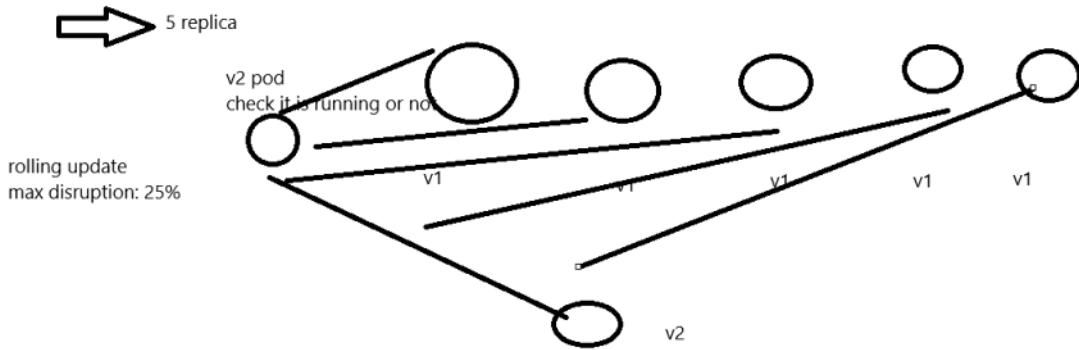
We have a frontend application: single pod cannot handle the workload

Replica: 5

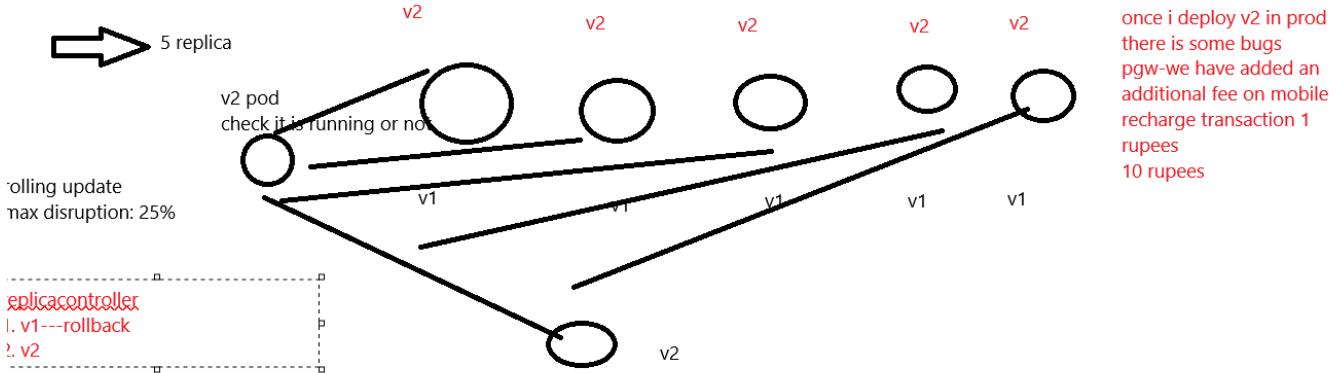
Create a deployment to rollout replicas

1. I need 5 pod to support my application
2. 2 pod scale down
3. Autoscaling
4. I can update the deployment also

Rolling update fashion



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Replicacontroller can also be used for rollback to previous release

1. Scale out
2. Autoscaling
3. Upgrading
4. Rolling back
5. Rolling update strategy

Max disruption

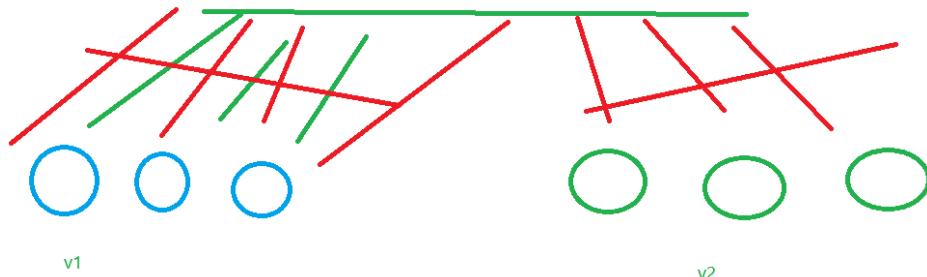
1. Blue green
2. Canary deployment

Rolling strategy

Wednesday, February 4, 2026 2:14 PM

Deployment=pod+replicaset

1. Rolling update strategy: min disruption 25% so that the update will happen
2. Roll back
3. Blue green deployment: it is costly; but it will eliminate or reduce downtime and risk during application update by using two identical independent environment



currently the traffic is in blue environment
it is the current running environment

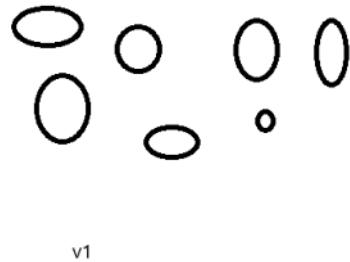
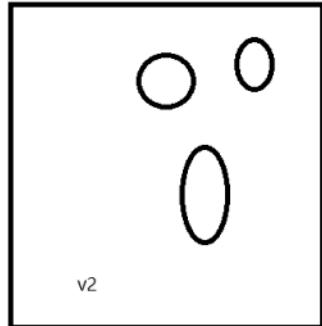
green is the new environment

we need to create two identical environment
switch the traffic with the lb
but when there is two identical environment
we need to consume more resources

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Canary deployment

Wednesday, February 4, 2026 2:20 PM



v1 and v2 of the application are running simultaneously

testing will be done live
again it is an complex architecture
service mesh

uber they have online and cash payment

uae or us
there is no cash
only online
transaction

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Huge resource

Dry-run

Wednesday, February 4, 2026 2:32 PM

--dry-run=client: there will be no connection will be made to the cluster

--dry-run=server connection is made to the server

1. Preform basic client side validation it will check that your yaml file is properly indented

Perform full validation on the cluster

Selector match label is also called as match expression

Pod is like an virtual machine which is created

I want to access this vm outside or internal to our k8s cluster.

Service.

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POD AND Deployment : they always create a container but container are like virtual machine

Now this pod need to be exposed or we need to create networking so that I can access the pod internally or externally.,

1. For internal communication frontend want to send traffic to backend: we will use ClusterIP
2. For external communication I want to expose my application outside k8s cluster. To do the same we can use
 - a. NodePort: using a node machine ip address and port number: 30000 till 32700
 - b. LoadBalancer: but this will work with fully managed k8s cluster from the cloud service provider like aws azure gcp

Proportionate scaling

Recap

Thursday, February 5, 2026 9:54 AM

We learn about pod in k8s?

Pod is an api which help you to run container image inside your k8s cluster.

Deployment

Which is an combination of two api

Pod+replicaset using that we can make your application ha roll back rolling update scaling

Service

1. clusterip: internal
2. NodePort: using a nodemachine 30000 till 32767
3. Loadbalancer

1. We will start with namespace and quota management in namespace
2. Kubernetes dashboard
3. Pv pvc configmap secret-mysql container-frontendapplication-whatever data we insert will be applied to frontend app.
4. RBAC
5. Network policy
6. Etcd backup
7. Upgrading k8s cluster

90% for cka exam

Namespace

Thursday, February 5, 2026 10:01 AM

If a courier guy or delivery boy want to find your address they can find it easily using your nameplate.

You stay in a society where 100 of bungalows are there

Inside that specific block you have everything.

Namespace in k8s is like isolation

We have a huge k8s cluster with more than 200 nodes. We have too much resources

We want to control the resource utilization

1. Dev test stagin prod environment we can allocate resources we can create networking policy

RBAC

You build an crm application.

Travel industry

.agoda so I will create a namespace agoda

Makemytrip join I will create a namespace makemytrip

RBAC: when a user from agoda login they will see there data

Namespace with quota

Thursday, February 5, 2026 10:09 AM

We will do an exercise on namespace with quota management

By default there are some namespaces which are system generated

default Active 188d : when you create a pod and do not provide any namespace it will go to default
kube-node-lease Active 188d : related to node machine

kube-public Active 188d : if you create a pod in this namespace it will be available

kube-system Active 188d : all the system related are stored in this namespace

Request: guaranteed plan in insurance

Limit : mutual which is subject to market risk

Dashboard in k8s

Thursday, February 5, 2026 11:27 AM

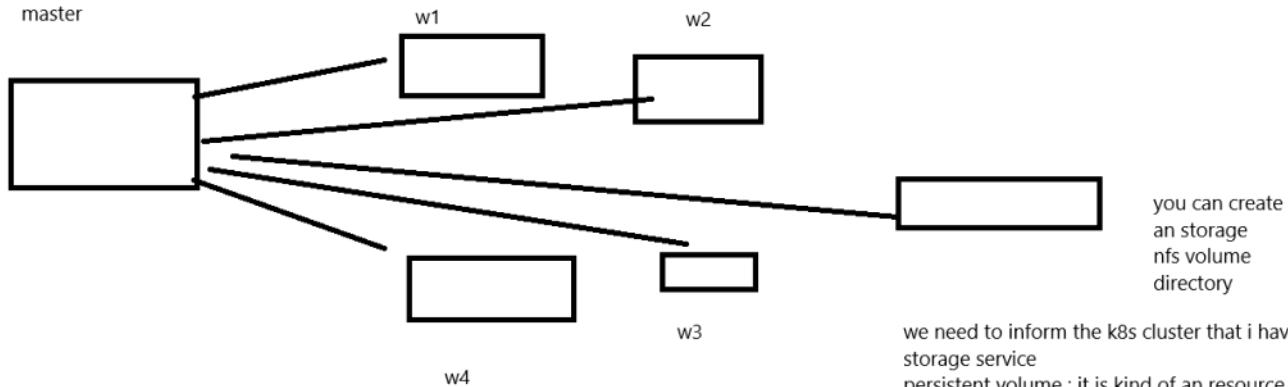
Persistent volume

Thursday, February 5, 2026 12:14 PM

I want to deploy an db we need an persistent volume in k8s

There are two api to create persistent volume in k8s

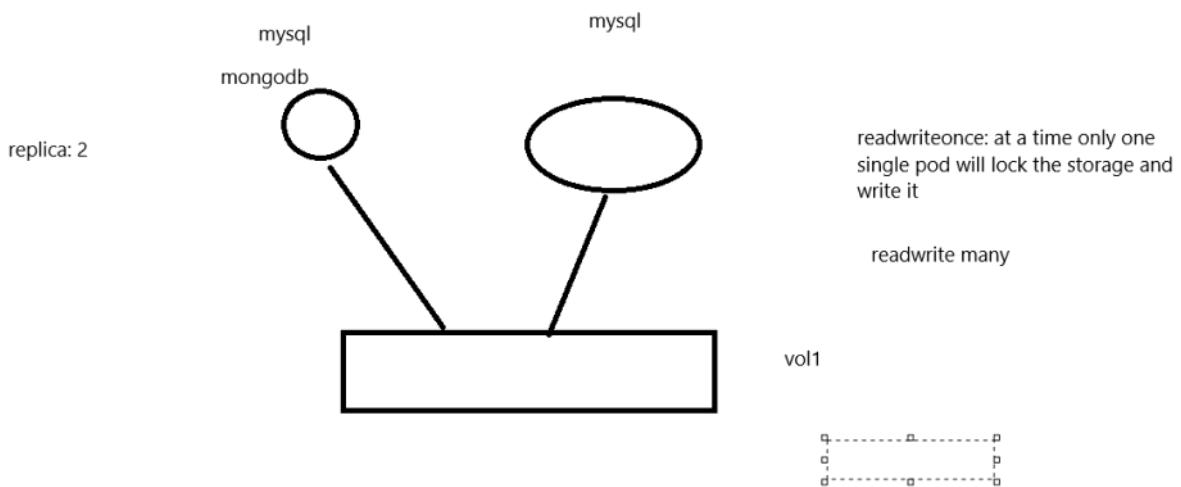
1. Persistent volume: this will create the volume
2. Persistent volume claim: we will attach the volume with u r pod



we need to inform the k8s cluster that i have an storage service
persistent volume : it is kind of an resource to your k8s cluster
pvc : we need map persistent volume with pvc then only it can be attached with your pod

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Pv is like an administyraive provisioning of storage
Pvc is claiming the storage to an pod



Secret manager

Thursday, February 5, 2026 2:14 PM

We have secret manager where you can store your secrets and call those secret inside your pod

By default the secret manager store the secret in base64encoded format

Configmap

Thursday, February 5, 2026 2:20 PM

1. Configmap has a capacity 1MB of data.
2. It is like an startup script bootstrap
3. It will apply only while launching your pod
4. Nothing in configmap will be stored in encrypted format so never store your api key or secret inside the configmap

Any application before it get started you want to pass some value

RBAC

Thursday, February 5, 2026 4:09 PM

A clusrerole|role where define set of permission where it is available in the whole cluster or just a single namespace

A clusrerrolebinding|rolebinding connect a set of permission with an account and define where it is applied, either in whole cluster or just a single namespace

There will be 4 combination but only three are valid

1. Role+RoleBinding: available in single namespace, applied in single namespace: a dev called as jane join the organization they will have access to only dev namespace
2. Clusterrole+clusterrolebinding avaialbe cluster wide, applied clusterwide: a new admin join the organization his job is to upgrade take backup so in that type of scenration
3. Clusterrole+rolebinding avaialble cluster wide, applied in single namespace. Admin access to whole cluster they can deploy a new feature in your cluster. But on a particular namespace
4. Role+clusterrolebindng not possible

I will create a service account called as jane

Role

Bind the role with jane

Learning

Friday, February 6, 2026 9:47 AM

1. We will start network policy
2. Helm chart
3. Backing up the etcd
4. Upgrading the k8s cluster

This way we will complete CKA certification question

How to create your own cluster for practice

Network policy

Friday, February 6, 2026 9:49 AM

By default inside your k8s cluster your workload is running on pod

All the communication is open inside your cluster

Which is kind of security risk

In your cluster there are multiple app running some of them are frontend application access by customer they logged in using a front pod and they can destroy all the resources

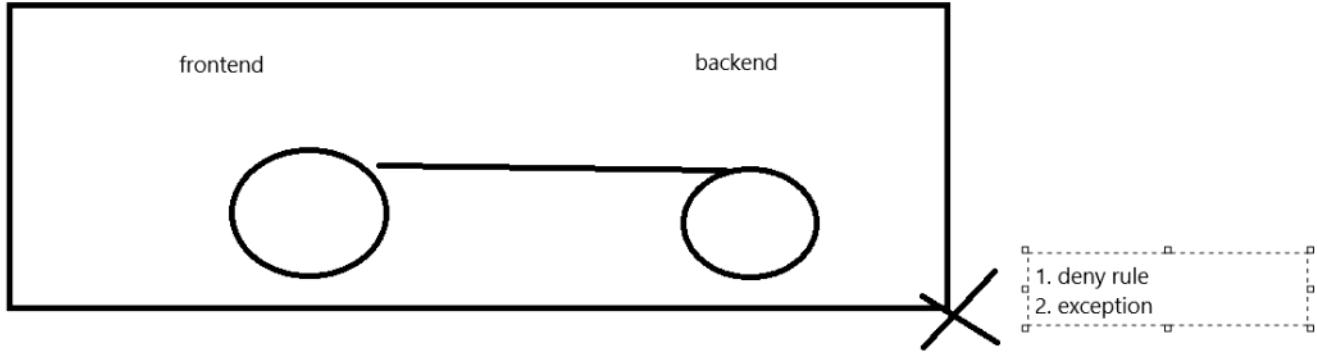
Without network policy

1. By default every pod can access every pod

2. Pods are not isolated

So we need to create

1. Ingress and egress routing



1. frontend want to initiate connection to backend: which policy i need to add : egress

2. backend need to accept the connection from frontend : ingress

3. network policy will be always applied inside a namespace

4. to create a network policy

in the particular namespace we need to first
create a deny rule

2/6/2026 9:58 AM - Screen Clipping

Demo network policy

Friday, February 6, 2026 9:59 AM

1. I will create a namespace
2. Inside the namespace we will create two pod and see they can communicate with each other or not
3. Then we will create a deny rule
4. Check that the pod stop communicating
5. Then we will create exception

This netowrk policy is supported by two driver in k8s calico/weavenet container network interface cni plugin

Exception will be created on the basis of

1. Ip address
2. Portnumber
3. labels

Etcd backup

Friday, February 6, 2026 11:57 AM

It contains the cluster wide information.

We as an admin need to know how to take backup and restore it

1. First we will take the backup of etcd
2. Then create a pod called as test pod
3. We will restore the backup
4. The test pod will not be there

9:20 I take the backup

9:21 I create a pod called as test

If I restore the 9:20 backup

To take the backup of etcd you need to install a package in the master machine etcdutil

All the component in k8s are running as a pod . So if they are running as a pod there will be an manifest file

#from the manifest you need the controller ip address

Ca.crt

Crt

key

Upgrading k8s cluster

Friday, February 6, 2026 2:36 PM

we will see how to upgrade the k8s cluster

1. There are two thing one is node and master

When you upgrade you need to first upgrade your master node then upgrade the worker node

If you have 1.30 you cannot upgrade to 1.33

Draining is like cordoning

I am disabling the scheduling on the master node

Means no more new workload can be deployed on master node

####

Uncordong enable the scheduling

Install master and worker node

Friday, February 6, 2026 3:56 PM

Create a free tier account in azure or gcp

Cloud.google.com

#create a free tier account which will give you 200\$ credit but you need to scan using google or put your debit card. Rs.1000 this account is valid for 3 month.

After three month you can cancel the account they will refund 1000

#####

The screenshot shows the Google Cloud Platform search interface. A sidebar on the left lists 'Instances' and 'Compute'. The main area has a search bar with the query 'compute.targethttpsproxy' and a dropdown menu showing 'compute.regiontargethttpproxies'. Below this is a 'Top results' section featuring a Compute Engine icon and the text 'Compute Engine Product · VMs, GPUs, TPUs, disks'. At the bottom of the page, there are buttons for 'Create instance' and 'View instances'.

#give a name to your instance

The screenshot shows the 'Machine configuration' section of the 'Create instance' wizard. It includes fields for 'Name' (k8smaster), 'Region' (us-central1 (Iowa)), and 'Zone' (Any). There is also a note about Gemini generating machine type suggestions. Below this, the 'Machine type' section is shown, with a 'Preset' tab selected. It lists the 'e2-medium' machine type (2 vCPU, 1 core, 4 GB memory) with its details: 1-2 vCPU (1 shared core) and 4 GB Memory. A link to 'Advanced configurations' is also present.

#replace the same with

From the drop down select this machine

custom machine for your workload's particular needs. [Learn more](#)

Preset Custom

Filter instance sizes

Shared-core

Standard

High memory

P Weak CPU

e2-standard-2

2 vCPU (1 core), 8 GB memory

e2-standard-4

4 vCPU (2 core), 16 GB memory

###now choose the os

central1

- OS and storage

Debian GNU/Linux

12 (bookworm)



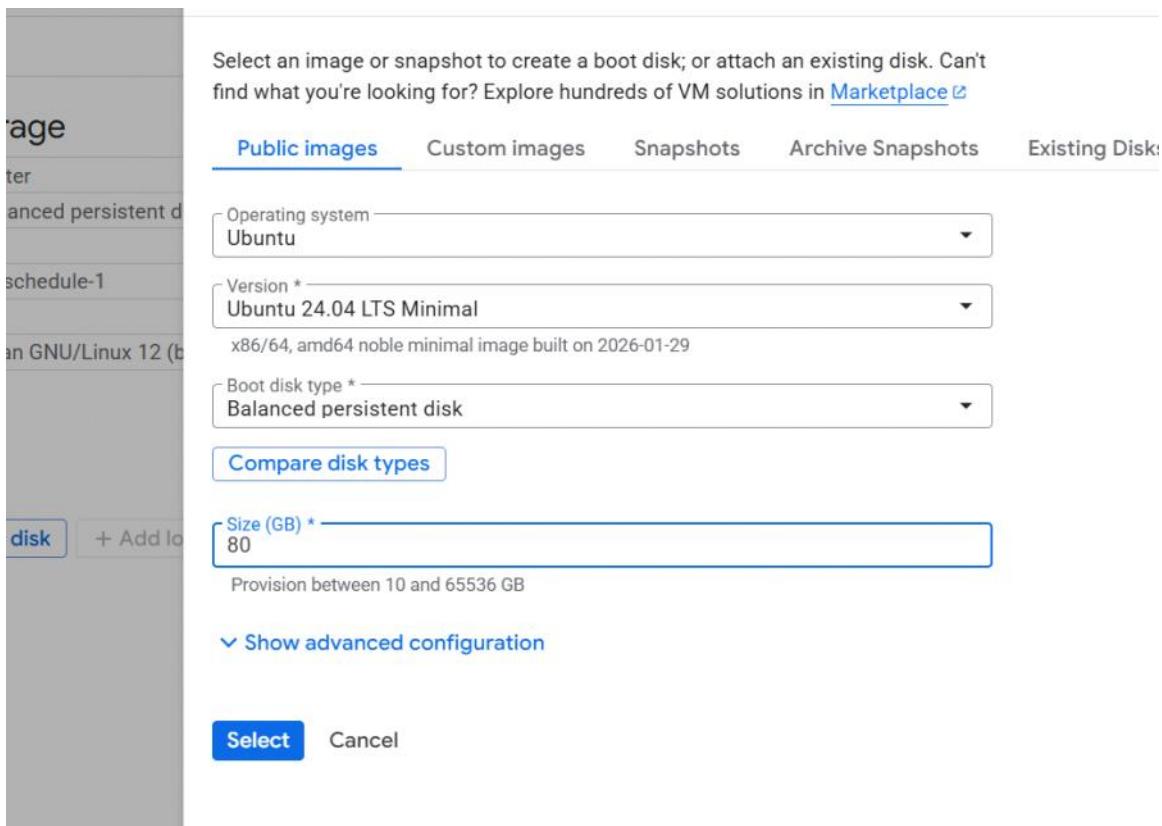
Click on change

Operating system and storage

Name	k8smaster
Type	New balanced persistent disk
Size	10 GB
Snapshot schedule	default-schedule-1
License type	Free
Image	Debian GNU/Linux 12 (bookworm)

Change

####make it ubuntu 24



Select it and click on create

The screenshot shows the 'Container' section of the configuration page. It includes a 'Change' button, an 'Additional disks' section with buttons for '+ Add new disk', '+ Attach existing disk', and '+ Add local SSD', and a 'Container' section with a 'Deploy container' button. On the left sidebar, there are links for 'Data protection', 'Snapshot schedules', 'Networking' (with '1 network interface'), 'Observability', 'Install Ops Agent', 'Security', 'Advanced', and 'Image' (which is currently selected). At the bottom, there are 'Create', 'Cancel', and 'Equivalent code' buttons, along with a 'Instances deleted' message and a close button.

```
#like this you need to create a worker node also
#before we login we need to open some port in the firewall
https://kubernetes.io/docs/reference/networking/ports-and-protocols/
##how to open the port in gcp firewall
Search for firewall
```

The screenshot shows the Cloud Armor Firewall policies interface. In the top left, there's a sidebar with options like 'Armor', 'DDoS Dashboard', 'Cloud Armor policies', and 'Adaptive Protection'. The main area has a search bar with 'firewall rules' and 'firewall policies' entered. Below the search bar, it says 'Top results' and lists 'Firewall' and 'Firewall policies' with their respective icons and descriptions.

###now open the port

#open default-allow-ssh

<input type="checkbox"/>	Name	Type	Targets	Filters	Protocols / ports	Action	Priority	Network
<input type="checkbox"/>	default-allow-icmp	Ingress	Apply to all	IP ranges:	icmp	Allow	65534	default
<input type="checkbox"/>	default-allow-internal	Ingress	Apply to all	IP ranges:	tcp:0-65535 udp:0-65535 icmp	Allow	65534	default
<input type="checkbox"/>	default-allow-rdp	Ingress	Apply to all	IP ranges:	tcp:3389	Allow	65534	default
<input type="checkbox"/>	default-allow-ssh	Ingress	Apply to all	IP ranges:	tcp:22, 2379-2380, 6443, 10250, 10257, 10259, 30000-32767 udp:30000-32767	Allow	65534	default

Click on edit

The screenshot shows the 'Firewall rule details' page for the 'default-allow-ssh' rule. At the top, there's a back arrow, a title 'Firewall rule details', and buttons for 'Edit' and 'Delete'. On the left, there's a sidebar with a tree view showing 'default-allow-ssh' expanded, and sections for 'Description' and 'Logs'. The main content area shows the rule details: 'Name: default-allow-ssh', 'Type: Ingress', 'Targets: Apply to all', 'Protocol: tcp', 'Ports: 22', and 'Action: Allow'.

Targets
All instances in the network

Source filter
IPv4 ranges

Source IPv4 ranges *
0.0.0.0/0 x for example, 0.0.0.0/0, 192.168.2.0/24

Second source filter
None

Destination filter
None

Protocols and ports ?

Allow all

Specified protocols and ports

TCP

Ports
22,6443,2379-2380,10250,10259,10257,30000-32767

E.g. 20, 50-60

#add all the port and save it

##lets ssh into master and worker node

Search for computer

The screenshot shows the Google Cloud Platform search interface. The search bar at the top has the query "compute.targethttpsproxy" and "compute.regiontargethttpproxies". Below the search bar, there is a section titled "Top results" which includes a card for "Compute Engine" with the sub-section "VM instances". The "VM instances" section lists two entries: "k8smaster" and "k8snode1".

#vm instance
#

The screenshot shows the "Virtual machines" page in the Google Cloud Platform. The "VM instances" section is highlighted. It displays a table with two rows, each representing a VM instance: "k8smaster" and "k8snode1". The table columns include Status, Name, Zone, Recommendations, In use by, Internal IP, External IP, and Connect.

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
<input checked="" type="checkbox"/>	k8smaster	us-central1-c			10.128.0.9 (nic0)	34.27.97 (nic0)	SSH
<input type="checkbox"/>	k8snode1	us-central1-c			10.128.0.10 (nic0)	34.28.22 (nic0)	SSH

#select the master machine and ssh into it

The screenshot shows the "VM instances" table from the previous screen. The row for "k8smaster" has a checked status checkbox and a green checkmark icon next to the name, indicating it is selected. The other row for "k8snode1" has an unchecked status checkbox and a grey checkmark icon.

Status	Name	Zone	Recommendations	In use by	Internal IP	External IP	Connect
<input checked="" type="checkbox"/>	k8smaster	us-central1-c			10.128.0.9 (nic0)	34.27.97 (nic0)	SSH
<input type="checkbox"/>	k8snode1	us-central1-c			10.128.0.10 (nic0)	34.28.22 (nic0)	SSH