

2.Install Kubernetes

```
PS C:\Users\dell\Amaan Vahora> kubectl
kubectl controls the Kubernetes cluster manager.

Find more information at: https://kubernetes.io/docs/reference/kubectl/

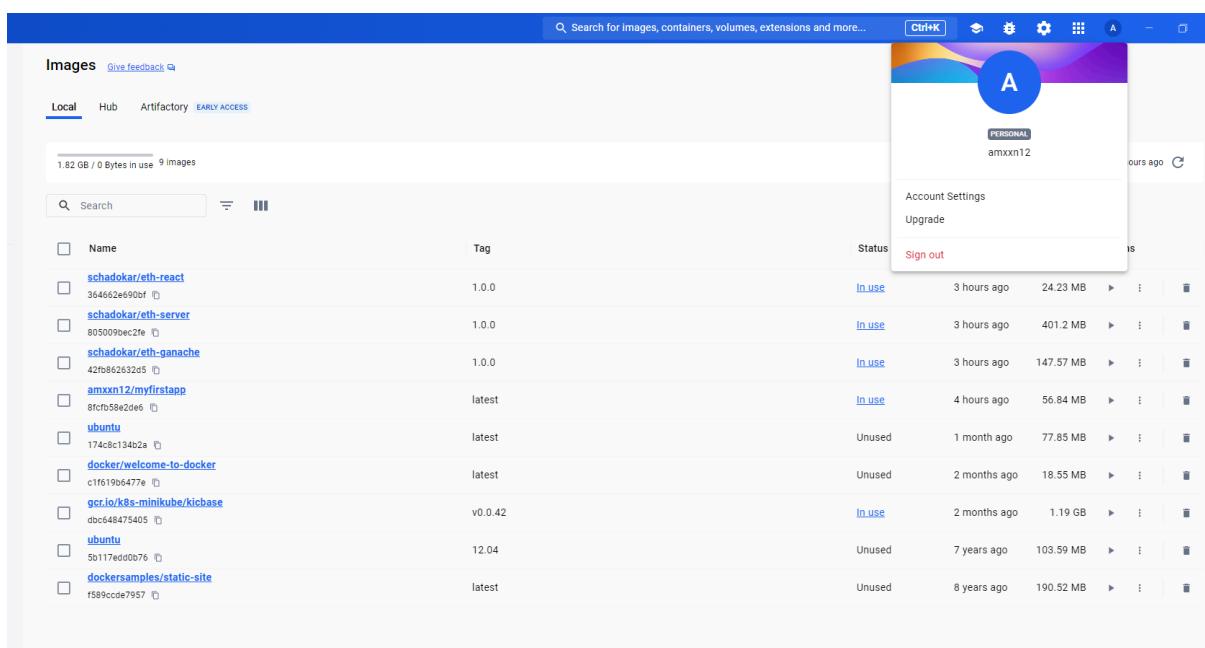
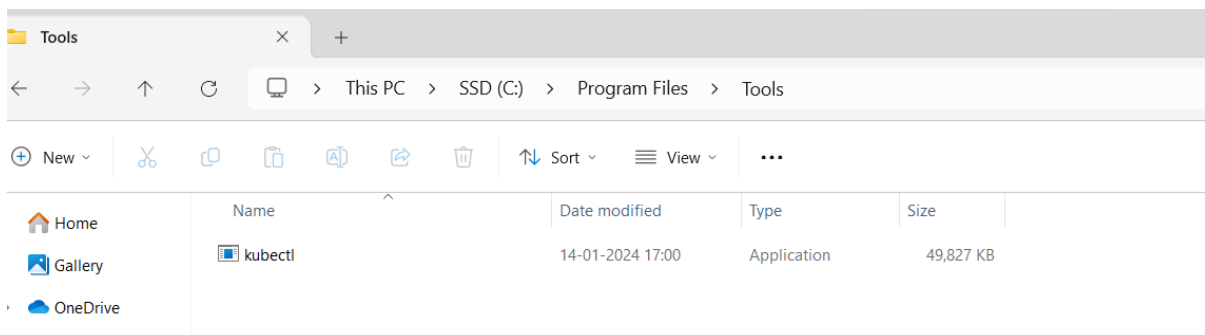
Basic Commands (Beginner):
  create      Create a resource from a file or from stdin
  expose      Take a replication controller, service, deployment or pod and expose it as a new Kubernetes service
  run         Run a particular image on the cluster
  set         Set specific features on objects

Basic Commands (Intermediate):
  explain     Get documentation for a resource
  get         Display one or many resources
  edit        Edit a resource on the server
  delete      Delete resources by file names, stdin, resources and names, or by resources and label selector

Deploy Commands:
  rollout     Manage the rollout of a resource
  scale       Set a new size for a deployment, replica set, or replication controller
  autoscale   Auto-scale a deployment, replica set, stateful set, or replication controller

Cluster Management Commands:
  certificate Modify certificate resources
  cluster-info Display cluster information
  top         Display resource (CPU/memory) usage
  cordon      Mark node as unschedulable
  uncordon    Mark node as schedulable
  drain       Drain node in preparation for maintenance
  taint       Update the taints on one or more nodes
```

```
PS C:\Users\dell\Amaan Vahora> kubectl version
Client Version: v1.28.2
Kustomize Version: v5.0.4-0.20230601165947-6ce0bf390ce3
```



```

a\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
* minikube v1.32.0 on Microsoft Windows 11 Home Single Language 10.0.22621.3007 Build 22621.3007
* Automatically selected the docker driver. Other choices: hyperv, ssh
* Using Docker Desktop driver with root privileges
* Starting control plane node minikube in cluster minikube
* Pulling base image ...
* Downloading Kubernetes v1.28.3 preload ...
  > preloaded-images-k8s-v18-v1...: 403.35 MiB / 403.35 MiB 100.00% 21.09 M
  > gcr.io/k8s-minikube/kicbase...: 453.90 MiB / 453.90 MiB 100.00% 16.80 M
* Creating docker container (CPUs=2, Memory=4000MB) ...
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
  - Generating certificates and keys ...
  - Booting up control plane ...
  - Configuring RBAC rules ...
* Configuring bridge CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
  - Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
* Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default

```

```

PS C:\WINDOWS\system32> minikube version
W0114 19:41:43.623441 32628 main.go:291] Unable to resolve the current Docker CLI context "default": context "default"
a\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
minikube version: v1.32.0
commit: 8220a6eb95f0a4d75f7f2d7b14cef975f050512d
PS C:\WINDOWS\system32>

```

3.Quiz

Understand what Kubernetes doesn't do from here?

Kubernetes is not has some features like PaaS, such as handling deployment, scaling, and load balancing, and it allows users to connect logging, monitoring, and alerting tools. But unlike a rigid system, Kubernetes is flexible, offering optional and customizable solutions. It doesn't limit the types of applications it supports It doesn't handle deploying source code or building your application. It doesn't come with built-in application-level services like databases or message buses. These components can run on Kubernetes or be accessed by applications through portable mechanisms. It doesn't enforce specific logging, monitoring, or alerting solutions It doesn't mandate a specific configuration language/system. Instead, it provides a declarative API that can be targeted by various forms of declarative specifications. It doesn't have a comprehensive system for machine configuration, maintenance, management, or self-healing. These aspects are left to the user or external tools.

What other Orchestration tools are available other than Kubernetes?

Docker Swarm, Rancher, Apache Mesos, Amazon ECS, Google Kubernetes Engine, HashiCorp, Nomad, OpenShift, Nomad, SwarmKit.