Docker Swarm vs Kubernetes:

Advantages of Docker Swarm:

1. Very simple to configure.

2. No Additional containers needed.

3. Adding of worker nodes and managers is easy. So, scaling is easy.

4. No steep learning curve.

Features of Kubernetes which are not available in Docker Swarm:

1. Not as much as tested as Kubernetes with large applications.

2. Not possible to create CRD as like in Kubernetes.

3. Lot of plugins are not supported. Ex Openshift.

4. Didn’t came across Docker swarm with 1000 of nodes. Kubernetes does.

5. Not many distributions are available like rke, k3s.

6. Don’t support Liveness and readiness probes.

7. Assigning secrets as environment variables is not supported.

8. Services and containers are interconnected. K8S everything is decoupled.

9. No option for Job and Cronjobs.

10. No Statefullset in Docker Swarm.

11. Container placement control is limited in Docker Swarm using node labels or custom labels.

In K8S we have taints, node selectors, noe-affinity, pod-affinity.

12. Kubernetes is activity developed with latest version of 1.28.

13. Docker Swarm only works with Docker API dont supports other like containerd.

14. Docker Swarm dont support namespaces to divide cluster between teams.

15. Docker Swarm dont allow to use same port multiple times.

16. Different kinds of services like ClusterIP, NodePort, LB not allowed in Docker Swarm.

17. Traffic Restriction between containers is not allowed in Docker Swarm in the same network.

K8S we can utilize Network Policies.

18. Less tech community support when compared to Kubernetes.

19. Managed containers service like EKS, AKS, GKE Supports K8S only.

20. No port-forwarding feature available.

21. Dont have 3rd party tools like Lens.

22. No PV and PVC and 3rd party storage integration.

23. We cannot perform docker exec into a container from diff host. If you want to do it first we need to enable remote connections on the docker host.

nano /usr/lib/systemd/system/docker.service

ExecStart=/usr/bin/dockerd -H fd:// -H tcp://0.0.0.0:2375 --containerd=/run/containerd/containerd.sock

sudo systemctl daemon-reload && sudo systemctl restart docker

docker -H ip-10-38-1-51 ps

docker -H ip-10-38-1-51 exec -it AWSCLI\_db.4.jext136cqoflngz1axx3tqqg6 bash