**Challenges in running k8s in red hat:**

Compared to other linux OS like ubuntu, redhat OS have some challenges because of Openshift(custom k8s for redhat).

**Security complex:-**

* By default SELINUX is enabled is redhat which will add more complexity in k8s cluster.
* It will affect the communication between the containers which is very essential is k8s. Because of microservice architecture pod-pod or container-container is much needed one. So disabling the SELINUX is also not recommended for production environments.

**Container Run time complexity:-**

* Redhat have its own container run time interface like podman which is not lightweight and it requires custom configuration.

**Complexity in Networking:-**

* Redhat network is combined with network manager and firewalld while we setup k8s in redhat we need to tune these parameters effectively to avoid conflicts in the k8s load balancing, service discovery and network policies Because redhat networking will interfere while we setup ingress in k8s cluster.

**Storage complexity:-**

* For stateful applications we need storage, default redhat storage solution cephstorage is difficult to use in k8s cluster. Persistent storage setup is more difficult in Redhat OS.

**Advantages of ubuntu for k8s:**

* Compared to red hat ubuntu is lightweight in nature and highly compatible for Kubernetes.
* It doesn't have any additional security constraints or networking complexities, so it will be easy to setup k8s and deploy the application.

**Container Runtime support:-** 

* Ubuntu supports all 3rd party runtime without any configuration challenges and also its easy to integrate with storage and networking solution with minimal complexity.

**Networking:-**

* Ubuntu uses Net plan for networking it's simple and easy to manage. This ease of configuration allows k8s users to setup network policies.
* It will support most of the k8s networking plugins like calico, flannel, weave etc without complexity moreover ubuntu is optimized for cloud environments where k8 is frequently deployed.
* It will help us to migrate k8s cluster to cloud in future.

**Security:-**

* Instead of SELINUX in ubuntu AppArmour which is very lightweight in nature and it is more permissible in nature for k8s, its helps container to container communicate without making any policy adjustments.
* In AppArmour we have limited security hurdles it helps us to concentrate more on applications rather than worrying about OS and platform.

**Community Support:-**

* Canonical company behind ubuntu actively supports k8s users with an extensive knowledge base, frequent updates and documentation it helps to reduce the troubleshooting time.