Canary Deployment Strategy Documentation

Canary deployment is a technique used to reduce the risk of introducing a new version of an application by first releasing it to a small subset of users. If it works well, the new version is gradually rolled out to everyone.

KeyPoints :

Goal : Deploy updates safely by testing them with a small amount of live traffic before full rollout.

It works:

1. Deploy both stable (v1) and canary (v2) versions.
2. Route most traffic (e.g., 80%) to the stable version.
3. Route a small portion (e.g., 20%) to the new version.
4. Monitor for issues (errors, latency, etc.).
5. If no problems, increase traffic to the canary version until it becomes the new stable.
6. If issues are detected, rollback to the stable version.

Overview of Canary Deployment :

Canary deployment is a progressive rollout strategy where a new application version is released to a small subset of users while the majority continue to use the stable version. Traffic is monitored and gradually shifted if metrics remain healthy.

Key Benefits :

1. Safer deployments.
2. Real-time monitoring of new releases.
3. Easy rollback to stable version if needed.

Conclusion :

Canary deployments enhance the reliability and safety of application updates. Combined with service mesh capabilities like Istio, they allow for intelligent traffic management and real-time control over rollout strategies.