NOTES FOR EXPLANATION OF GITOPS FLOW

GitOps :

GitOps is a modern way to do Continuous Deployment by using Git as the single source of truth for your infrastructure and applications.

Key Components :

Git Repository : Stores Kubernetes YAML manifests (e.g., Deployment, Service, Ingress).

GitOps Tool : Tools like ArgoCD Git and apply changes to the cluster.

Kubernetes Cluster : Executes the actual workloads and reflects the Git state.

WorkFlow :

1. Store Kubernetes manifests (YAML) in a Git repository.
2. Developers commit changes (e.g., update image tag, replicas).
3. GitOps tool (e.g., ArgoCD or Flux) watches the repo.
4. On changes, the tool automatically applies updates to the cluster.
5. Cluster state is kept in sync with what's in Git.

KeyTools :

GitHub (for version control)

Kubernetes (for app infrastructure)

ArgoCD (for syncing Git state to the cluster) .

GitOps Benefits :

1. Easy Rollbacks – just revert a commit
2. Version Control – every change is tracked in Git
3. Automation – no manual kubectl commands
4. Security – Git-driven changes, less direct cluster access .