KUBERNETES DR MIGRATION – FULL CLUSTER COMPARISON RUNBOOK

OBJECTIVE
Ensure Source and Disaster Recovery (DR) Kubernetes clusters are functionally and configurationally identical before and after application migration.

STEP 1: PRE-CHECKS
kubectl cluster-info
kubectl version --short
kubectl get nodes -o wide

STEP 2: FULL CLUSTER EXPORT (CRITICAL)
Includes all namespaces, ingress, CRDs, RBAC, networking, storage, and system components.

SCRIPT: export_full_cluster.sh
```
#!/bin/bash
set -e
OUT=$1
if [ -z "$OUT" ]; then
echo "Usage: $0 "
exit 1
fi
mkdir -p $OUT/{cluster,namespaced}
kubectl get namespaces -o yaml > $OUT/cluster/namespaces.yaml
kubectl get nodes -o yaml > $OUT/cluster/nodes.yaml
kubectl get storageclass -o yaml > $OUT/cluster/storageclass.yaml
kubectl get pv -o yaml > $OUT/cluster/pv.yaml
kubectl get crd -o yaml > $OUT/cluster/crds.yaml
kubectl get clusterrole,clusterrolebinding -o yaml > $OUT/cluster/rbac.yaml
kubectl get ingressclass -o yaml > $OUT/cluster/ingressclass.yaml
kubectl get priorityclass -o yaml > $OUT/cluster/priorityclass.yaml
kubectl get deploy,sts,ds,job,cronjob svc,endpoints,ingress,networkpolicy
configmap,secret,hpa,pdb -A -o yaml > $OUT/namespaced/all-resources.yaml
kubectl get ns -o jsonpath='{range .items[*]}{.metadata.name}{"
"}{end}' | while read ns; do
kubectl get all -n $ns -o yaml > $OUT/namespaced/${ns}-all.yaml
done
kubectl version -o yaml > $OUT/cluster/version.yaml
kubectl api-resources > $OUT/cluster/api-resources.txt
kubectl api-versions > $OUT/cluster/api-versions.txt
kubectl get pods -n kube-system -o wide > $OUT/cluster/kube-system-pods.txt
```

STEP 3: RUN EXPORT ON BOTH CLUSTERS
```
kubectl config use-context source
./export_full_cluster.sh source
kubectl config use-context dr
./export_full_cluster.sh dr
```

STEP 4: CONVERT YAML TO CSV
Normalize YAML into CSV for diff comparison.

STEP 5: GENERATE CSV & HTML DIFF
Generate diff.csv and diff.html for audit and DR sign-off.

STEP 6: POST-MIGRATION VALIDATION
```
kubectl get pods -A
```

kubectl get events -A
kubectl rollout status deploy/ -n

FINAL CHECKLIST
Kubernetes version matched
Nodes ready
Ingress validated
Storage validated
Diff clean