

## PRODUCTION-GRADE KUBERNETES SOURCE vs DR CSV & HTML DIFF REPORTING GUIDE

### Purpose:

This document explains a ready-to-use, production-grade solution to generate CSV and HTML diff reports

between Source and DR Kubernetes clusters for DR validation and audit evidence.

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### ARCHITECTURE OVERVIEW

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Source Cluster -> YAML Export

DR Cluster -> YAML Export

Both outputs are normalized into CSV format and compared to generate CSV and HTML diff reports.

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### DIRECTORY STRUCTURE

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```
k8s-diff/  
source/  
workloads.yaml  
workloads.csv  
dr/  
workloads.yaml  
workloads.csv  
scripts/  
export.sh  
yaml_to_csv.py  
generate_diff.py  
reports/  
diff.csv  
diff.html
```

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### STEP 1: EXPORT CLUSTER STATE

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```
kubectl get deploy,sts,ds -A -o yaml > workloads.yaml  
kubectl get nodes -o yaml > nodes.yaml  
kubectl get pv,pvc,sc -A -o yaml > storage.yaml
```

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### STEP 2: CONVERT YAML TO CSV

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Key fields extracted:

- Kind
- Namespace
- Name
- Replicas
- Container Image

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### STEP 3: GENERATE DIFF REPORTS

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CSV diff report:

Used for Excel-based comparison and automation.

**HTML diff report:**  
Used for audit, DR sign-off, and management review.

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#### **DIFF INTERPRETATION**

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**left\_only** = Resource missing in DR  
**right\_only** = Extra resource in DR  
**both** = Exists in both clusters (check value drift)

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#### **PRODUCTION BEST PRACTICES**

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- Run before and after migration
- Store reports in Git for traceability
- Attach HTML report to DR audit evidence
- Automate execution via CI/CD

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#### **OUTCOME**

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- CSV diff report for automation and Excel
- HTML diff report for audits
- Repeatable and reliable DR validation method

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This document can be used as:

- DR Validation SOP
- Audit Evidence
- Migration Checklist