Moving Oracle ORDS Deployment to GitOps

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A BRIEF INTRODUCTION

- Aryan, recent graduate from University of Delhi, India.
- IT-PW-ARW Section (IT Platforms & Workflows - Application & Reusable Workflows) at CERN.
- JEEDY Team - Uses Kubernetes based services for deployment & maintenance of CERN developed Java Applications.
- Applications include EDH, EDMS, CERN Phonebook.
ORDS bridges the gap between HTTPS Webpages (Services) and Oracle Databases. [1]
CURRENT ARCHITECTURE

The Workflow

1. Database
2. ORDS Module (RESTful Alternative to DaDEdit)
3. DaDEdit Tool (Oracle APEX)
4. Config Files
5. DevOps Pipeline
6. Updated Webpage
THE PROBLEM

Customizing Service Settings.

ORDS Applications are configured through DaDEdit or ORDS module.

But customization of settings is only possible through DaDEdit.

→ Ancient.

→ Highly Inconvenient.

→ Prone to mistakes by User.
CONTEXT | GITOPS

Typical GitOps Workflow[2]
Phase out Database use:

- Redesign configuration backend from Oracle DB to local JSON data in ORDS module.
- Verify accuracy of config files generation using downloaded JSON data.
THE SOLUTION | PHASE II

Migrate to Local → Local to GitOps!

Replace DaDEdit Tool :

- Create new Module to generate configuration files through local data
  - Customization possible by editing local data files
  - No usage of Database or DaDEdit.

- The newly generated config files can then be stored in a version control system such as Git.
Summary

Promising Proof of Concept to adopt GitOps.

- Implemented functionalities in existing ORDS module to allow download of relevant JSON data files - edit the files locally - and generate new config files using edited files (without using DaDEdit Tool).

- Implemented a new production level Python module to transfer ORDS customization from DaDEdit to local filesystem without any usage of database. Generated Config files to be stored in Git repository.

- Phase III (Future) : Integrate Current Solution with GitOps tools like ArgoCD.
QUESTIONS?
References
