

# SciCat Integration at MLZ

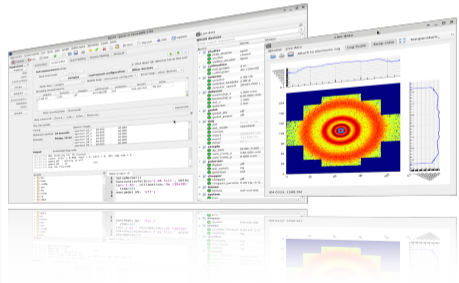
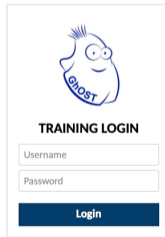
## Infrastructure and Live Demo

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MLZ is a cooperation between



- Online Training system in use for lab courses and for educating new scientists
- Simulated neutron instruments through NICOS



## Cloud Infrastructure

- Kubernetes: Container orchestration platform
- Openshift: Kubernetes distribution
- **Development** and **Production** clusters
- **GitOps**
  - Git repository holds state that should be rolled out (source-of-truth)
  - ArgoCD continuously reconciles kubernetes resources vs. manifests in git
  - Updates in application repositories trigger pipelines for
    - build of new image
    - update image reference in manifests for dev cluster



OPENSIFT

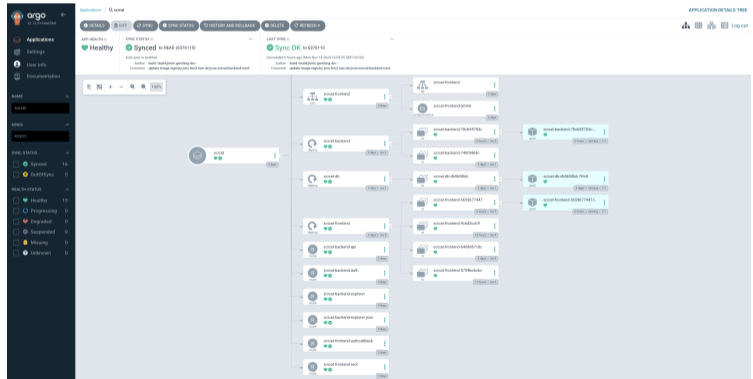


# GitOps (ArgoCD and Tekton)

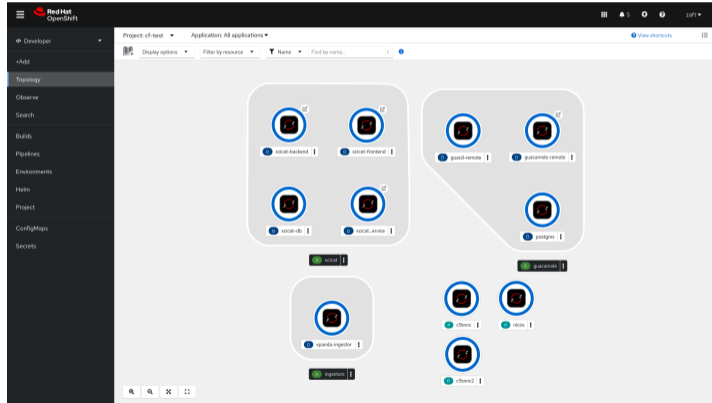
```

ocp/scicat
├── base
│   ├── backend
│   │   ├── deployment.yaml
│   │   ├── kustomization.yaml
│   │   ├── route-api.yaml
│   │   ├── route-auth.yaml
│   │   ├── route-explorer.yaml
│   │   └── service.yaml
│   ├── db
│   │   ├── deployment.yaml
│   │   ├── kustomization.yaml
│   │   ├── pvc.yaml
│   │   ├── secret.yaml
│   │   └── service.yaml
│   ├── frontend
│   │   └── [...]
│   ├── ingestor
│   │   └── [...]
│   ├── kustomization.yaml
│   ├── zip
│   │   └── [...]
├── overlays
│   ├── dev
│   │   ├── frontend-config.json
│   │   ├── kustomization.yaml
│   │   └── secret.yaml
│   └── prod
│       ├── frontend-config.json
│       ├── kustomization.yaml
│       └── secret.yaml

```



# Topology



## Demo



## Next Steps

- Automate virtual instrument deployment
- File handling: sync data to central storage instead of sharing a volume
- Metadata handling
  - only save selected parameters
  - standardize between instruments: use ontologies
- Multi-architecture images: x86-64, arm64

# Thanks for your attention

**Reaching out**  
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**Get invovled! We're hiring!**

