developer.skatelescope.org Documentation

Release 0.14.2

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Feb 13, 2024

CONTENTS

The Helm Deployer is a component of the SDP, which is responsible for deploying helm charts requested by processing scripts.

It continuously monitors the configuration database for deployment entries, which will tell the Helm deployer whether a release needs to be installed, updated, or uninstalled.

It has direct access to a processing namespace, which does not hold the SDP control systems, but instead is used for deploying and running processing scripts.

CHAPTER

ONE

KUBERNETES EVENT MONITORING

The Helm Deployer has been set up to continuously monitor kubernetes (k8s) events. This feature uses the `kubernetes` python API and runs using threading.

1.1 Pods

Pod monitoring focuses on the deployments the Helm Deployer is responsible for. It updates (or creates if it does not exist) the deployment state entry in the configuration database, and adds information about the status of each pod that belongs to the specific deployment. The pod statuses it provides are:

```
PENDING
RUNNING
FINISHED
CANCELLED
FAILED
UNSET
```

The values directly depend on the pod phase and its condition event values. A pod is set to `RUNNING` only if its phase is `RUNNING` and if at least one of its conditions has type `READY` and status `True`.

1.2 SDP resources

The Helm Deployer also monitors certain Kubernetes `CustomObjects` that represent platform-level resources that SDP needs to be aware of. These resources are read from Kubernetes and result in entries in the configuration database under the `/resource` prefix.

Currently, the following Kubernetes resources are monitored:

- `NetworkAttachmentDefinitions` (Kubernetes plural: `network-attachment-definitions`) with a label `sdp.skao.int/available-for-allocation` set to `true`. These result in `network-attachment-definition` and `supernet` SDP resources in the configuration database. Together they define the parameters needed by the vis-receive script to coordinate the setup of the receiver pods to directly listen for data sent by CBF.

CHAPTER

TWO

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