

RIC test automation

Introduction

This leverages Robot framework for testing and validating the RIC components Health check and E2E Performance testing of the RIC.

This test automation contains containers, Helm charts, Libraries and Testsuites to support automated and end-to-end testing of the RIC.

The simplest way to execute the tests using helm chart in `it/test repository ric_robot_suite/helm/nanobot` path.

This helps in deploying helm chart with minimal robot container and kubernetes job to test and can extend the testing by expanding the charts.

The chart depends on docker image in `docker/nanobot`.

Roadmap:

test/

| - ric_robot_suite/

| - docker/

| - nanobot/ : Dockerfile for the Robot framework Image

| - robot-xapp/ : Dockerfile for an xapp used for some test

| - helm/

| - nanobot/ : Chart for the robot framework

| - ric-python-utils : RIC test-support libraries; these are built in to the docker image.

| - robot/ : Test libraries, Testsuites and support files to be built in to the docker image

| - xapp/ : Go source and deployment files for the test xapp

Using the CHART

To install the chart (which creates and runs a single Kubernetes job), first copy the packaged

Common-Template chart (from <https://gerrit.o-ran-sc.org/r/it/dep.git>) into test repo

`ric_robot_suite/helm/nanobot/charts`. Then edit `ric_robot_suite/helm/nanobot/values.yaml` to

reflect your environment and desired tests and run.

```
$ helm install [ --values <override-file> ] --namespace <namespace> nanobot
```

....in the `ric_robot_suite/helm` directory, where `<override-file>` is the recipe override file used

when deploying the RIC, if any. The output from the test will be in the job's log.

```
kubectl logs --namespace <namespace> job/nanobot-r0-ric-robot-run
```

(the job name may be different if you have altered the vlaues.yaml file;

use `'kubectl --namespace <namespace> get jobs'` to find it).

The namespace seletced will be where the job's service account is created and the job runs.

It may but need not be the same as the RIC platform or Xapp namespace ie - the chart may be deployed

in any namespace.

Customizing and Extending the Chart

The job mounts its testsuites directory as a configmap, built from files in `nanobot/configmap-src/testsuites`.

Support files (testsuites, keyword definition libraries, scripts and variable definition files) for the Robot framework

itself are supplied by K8s configmaps genereted from the contents of subdirectories of the configmap-src directory;

bin/: scripts/binaries mounted at /robot/bin

testsuites/: test suites, mounted at /robot/testsuites

properties/: Variable definition (properties) files; contents mounted at /robot/resources

resources/: Robot keyword definition libraries, contents mounted at /robot/resources

The job uses the nanobot docker image built by ric_robot_suite/docker/nanobot/Dockerfile;

see ric_robot_suite/docker/nanobot/README for information about the image.