EpicsArchChecker

Description

The tool epicsArchChecker is a tool created with the purpose of helping engineers and scientists to have better control of the PVs that are saved when running the DAQ. To assure this, the script will display different reports with:

- Pvs and Aliases duplicated.
- Pvs with no alias and aliases with no Pvs.
- Pvs not connected.

Usage:

epicsArchChecker -option filepath

positional arguments:

 Full filepath of the file to check.

example

/reg/g/pcds/dist/pds/xpp/misc/epicsArch.txt

optional arguments:

 -h, --help. Show this help message and exit.

View sample:

 -w, --warnings. Displays: -Pvs and Aliases duplicated. -Pvs with no alias and aliases no Pvs.

With this option, you are going to be able to see the PV or Alias with the duplicates in an individual table. This table will contain the name of Alias/Pv, the file's name where is that Pv/Alias store and the line number where that error is exactly happening. Once the script displays all those duplicated Pvs and/or Aliases it will show in a different table Pvs with not Alias assigned and/or Aliases with not Pvs Assigned.

View sample:

```
------------------------------------------ Duplicate by Pvs ------------------------------------------
Duplicate Pv:  XPP:MON:MPZ:07A:energy:OphydSetpoint

          Alias                        Location                        Line number error
==============================================================================================
       ccm_E_val                  epicsArch_XPP_misc.txt                      № 9
       ccm_Theta0_val             epicsArch_XPP_misc.txt                      № 14
==============================================================================================


Duplicate Pv:  XPP:USER:FS3:T0_SHIFTER

          Alias                        Location                        Line number error
==============================================================================================
       las_FS_shifter             epicsArch_XPP_laser.txt                     № 2
       las_fs3_t0                 epicsArch_XPP_laser.txt                     № 41
==============================================================================================


Duplicate Pv:  XPP:USER:LAS:EVR0_GATE

          Alias                        Location                        Line number error
==============================================================================================
       las_FS_EVR0_GATE           epicsArch_XPP_laser.txt                     № 27
       las_evr0_gate              epicsArch_XPP_laser.txt                     № 45
==============================================================================================
```

```
Aliases with no pv, WARNING!!!!:
+------------------------------------+--------------------------+--------------------+
|                Alias               |        Location          | Line number error  |
+------------------------------------+--------------------------+--------------------+
|               txt_off              |  epicsArch_XPP_laser.txt |         63         |
|       XPP:LAS:MMN:16:OphyOffset    |  epicsArch_XPP_laser.txt |         64         |
|            lxt_fast_off            |  epicsArch_XPP_laser.txt |         70         |
|       XPP:LAS:MMN:04:OphyOffset    |  epicsArch_XPP_laser.txt |         71         |
|        lhn_bay1_total_intensity    |  epicsArch_XPP_laser.txt |        114         |
| LAS:LHN:BAY1:CAM:-01:Stats2:Total_RBV | epicsArch_XPP_laser.txt |      115         |
|        las_inj_total_intensity     |  epicsArch_XPP_laser.txt |        116         |
|           gon_kappa_e_chi          | epicsArch_XPP_motors.txt |        302         |
|           gon_kappa_e_eta          | epicsArch_XPP_motors.txt |        304         |
|           gon_kappa_e_phi          | epicsArch_XPP_motors.txt |        306         |
|             Mask_slits             |   epicsArch_machine.txt  |         63         |
|         HOMS_mirrors_in_FEE        |   epicsArch_machine.txt  |         81         |
|           fee_GasDetector          |   epicsArch_machine.txt  |         92         |
|        fee_old_SolidAttenuator     |   epicsArch_machine.txt  |        113         |
+------------------------------------+--------------------------+--------------------+
```

-s, --status. Displays Pvs not connected.

with this option, you are going to be able to see the PV are not connected. If all of them are connected it will show the message "All the Pvs are connected!", if that is not the case it will print a table with the PV name, the status, Alias, and the location file of that PV.

View sample:

```
(pcds-5.0.0) xpp-daq:scripts oter1234$ epicsArchChecker -s /reg/g/pcds/dist/pds/xpp/misc/epicsArch.txt
All the Pvs are connected!
```

```
xcs-daq:~ oter1234$ epicsArchChecker -s /reg/g/pcds/dist/pds/xcs/misc/epicsArch.txt
Pvs NO connected:
+-----------------------+----------------+----------------+----------------------------+
|        Pv Name        |     Status     |     Alias      |         Location           |
+-----------------------+----------------+----------------+----------------------------+
| HFX:MON:MMS:07.VAL 0.1 | No connected! | lom_theta1_val | epicsArch_XCS_motors.txt |
| HFX:MON:MMS:08.VAL 0.1 | No connected! |  lom_chi1_val  | epicsArch_XCS_motors.txt |
| HFX:MON:MMS:14.VAL 0.1 | No connected! |  lom_chi2_val  | epicsArch_XCS_motors.txt |
| HFX:MON:MMS:07.RBV 0.1 | No connected! |   lom_theta1   | epicsArch_XCS_motors.txt |
| HFX:MON:MMS:08.RBV 0.1 | No connected! |    lom_chi1    | epicsArch_XCS_motors.txt |
| HFX:MON:MMS:14.RBV 0.1 | No connected! |    lom_chi2    | epicsArch_XCS_motors.txt |
+-----------------------+----------------+----------------+----------------------------+
```