

Autosave

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Purpose of “autosave” (aka. ‘bumpless save/restore’)

- **Values of some EPICS Records need to persist across IOC reboots**
 - ‘Set points’ entered by user
 - Current ‘positions’ of motors*

* Fine print:

In some cases, the hardware can do this: PLC, Parker6k, ...
At IOC startup, Device support ‘init()’ should then read from hardware.

But what if the hardware lost the settings?

Who’s in charge here?? Need to think about this case-by-case!

How To Use

- 1. Add 'autosave' module to IOC**
- 2. Configure what to persist**
 - a) Historically: Designated *.req list of record names**
 - b) Now: EPICS database annotations create those *.req files on the fly**

Add Autosave to IOC

Example: 'Autosave'

1. Define path in configure/RELEASE:

```
AUTOSAVE=/home/controls/epics/R3.14.12.2/support/autosave
```

Path to the support directory is usually pulled into a macro, since you often include more than one support module:

```
SUPPORT=/home/controls/epics/R3.14.12.2/support  
AUTOSAVE=$(SUPPORT)/autosave
```

2. Add binary and DBD info to xyzApp/Db/Makefile:

```
YourProduct_DBD += asSupport.dbd  
YourProduct_LIBS += autosave
```

3. Use the support module in the IOC startup file:

```
cd ${AUTOSAVE}  
dbLoadRecords "db/save_restoreStatus.db", "P=demo"  
set_requestfile_path("/home/controls/var")
```

Specify What to Save

- The preferred way is via annotations in the EPICS database:

```
record(type, "$ (S) :SomeRecord")  
{  
  info(autosaveFields, "VAL LOW")  
  field(..
```

IOC Startup

```
epicsEnvSet IOCNAME MyIOCName
epicsEnvSet SAVE_DIR /home/controls/var/$(IOCNAME)

save_restoreSet_status_prefix("$(IOCNAME) :")
set_requestfile_path("$(SAVE_DIR) ")
set_savefile_path("$(SAVE_DIR) ")

save_restoreSet_NumSeqFiles(3)
save_restoreSet_SeqPeriodInSeconds(600)
set_pass1_restoreFile("$(IOCNAME).sav")

# Start IOC processes
iocInit

# Create request file and start periodic 'save'
makeAutosaveFileFromDbInfo("$(SAVE_DIR)/$(IOCNAME).req",
"autosaveFields")

create_monitor_set("$(IOCNAME).req", 30)
```