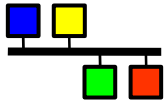


EPICS



Database Configuration tools Text editor and VDCT:

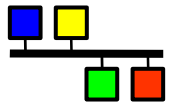
Hands-on Instructions

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Seminar and Workshop on EPICS in IHEP

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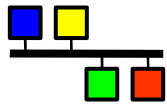




Hands-on (0): Preparation for practice

- Set environment variable:
 - `export USER=PCname`
 - (*) `PCname`: your own PC name (or your favorite name)

- Build EPICS example application:
 - > `cd`
 - > `mkdir app`
 - > `cd app`
 - > `makeBaseApp.pl -t example myExample`
 - > `makeBaseApp.pl -i -t example myExample`
(select platform: `linux-x86`)
 - > `make`



Hands-on (1)

- Start VDCT

- > vdct (just type “vdct” command)

- or

- > cd /opt/epics/extensions/src/VDCT/2.5.1271

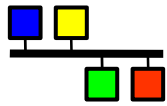
- > ./runScript

- After then, select *.dbd file:

- /home/ubuntu/app/dbd/myExample.dbd

- Check the basic functionality

- Create a new Record
 - Make the link

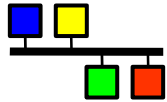


Hands-on (2)

- 1) Create two ai records and a calc record:
 1. Create $\$(user):aitest1$, $\$(user):aitest2$ and $\$(user):calctest1$ records.
 2. Modify them so that $\$(user):aitest2 = 2*A+3*A$.
 (*) Here, $A = \$(user):aitest1$
- 2) Save file as $\sim/app/myExampleApp/Db/dbExample3.db$
- 3) At the same place (under Db directory), modify the Makefile so as to add dbExample3.db.
- 4) Modify the $\sim/app/myExampleApp/Db/userHost.substitutions$.
 e.g.) add the lines like


```
file "db/dbExample3.db"{
    { user = "PCname" }
    name.
}
```

 (*) PCname is your own PC
- 5) Type "make" under myExampleApp directory.



Hands-on (2) cont'd

6) Check `app/db/*.db` files (Can you find `dbExample3.db`?)

7) Start your IOC

```
> cd ~/app/iocBoot/iocmyExample
```

```
> st.cmd (after "chmod +x st.cmd")
```

or

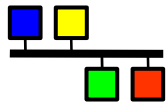
```
> ../../bin/linux-x86/myExample st.cmd
```

8) Example of result:

```
> caput PCname:aitest1 10
```

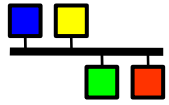
```
> caget PCname:aitest2
```

```
> 50
```



Hands-on (3)

- Create a record which counts up from 0 to 20, repeatedly.
- Edit Alarm level
 - HIHI: 18
 - HIGH: 15
 - LOW: 5
 - LOLO: 2
- Check it by “camonitor” command and/or medm.
- Hints:
 - Modify dbExample1.db file.



Hands-on (4)

- Try to create a Fibonacci progression record in dbExample3.db.
- Fibonacci progression can be expressed by:

$$F_0=0, F_1=1, F_{n+2}=F_n+F_{n+1}$$

e.g.) 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...

- Hints:
 - Use calc record, ai record
 - Name all record like \$(user):xxx