

Basic Linux Commands

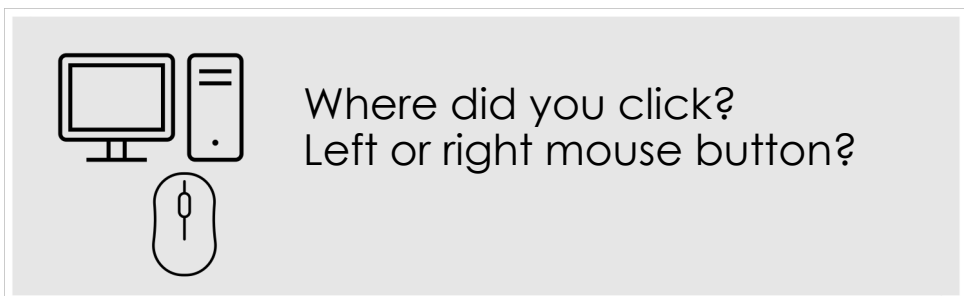
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Why Linux?

- Free, open source
- Made for the network/internet
 - File servers, web servers tend to run on Linux
 - Tools for remote access are built-in
 - EPICS “IOC” typically runs as Linux services
- Desktop Linux does offer a GUI, but terminal is often more effective and also available via remote access



Getting around the file system

- Change Directory

- Cd
- cd /ics/examples/01_first_steps
- cd /ic **TAB** ex **TAB** 01 **TAB**
- cd ..

Back to home folder

Go to that folder

Less to type

Up one

- Show Current Directory (if not shown in terminal prompt or title)

- pwd

- List files

- ls
- ls -l

Dealing with Files

- Open in Text Editor

- nano name_of_file
- gedit name_of_file &
- gedit nam^{TAB} &

may use vdct instead of gedit for EPICS database file

- Quickly look at a file

- cat name_of_file
- less name_of_file (cursor up/down, 'h' for help)

- Copy File

- cp name_of_file new_file_name

- Remove/Delete file

- rm name_of_file

Common EPICS Commands

- Channel Access

- `caget pv_name`
- `camonitor pv_name`
- `caput pv_name new_value`
- `cainfo pv_name`

- Start IOC

- `softloc -m "MACRO=value" -d example.db`
- `./st.cmd`

- Start CS-Studio

- `CSS`

Common IOC Commands

- List Records
 - dbl
- Print fields of one record
 - dbpr name_of_record 10
- ‘Put’ value of a field
 - dbpf name_of_record.SCAN “.1 second”

Essential File System Layout

/ics/examples/01_first_steps/*.db

/ics/examples/06_autosave

/ics/examples/06_autosave/demoApp/Db/*.db

/ics/examples/06_autosave/demoApp/Db/Makefile

/ics/examples/06_autosave/demoApp/src/Makefile

/ics/examples/06_autosave/iocBoot/iocdemo/st.cmd

/ics/examples/06_autosave/db, lib, bin, include, ...

/ics/examples/RELEASE.local

/ics/README.md

Database for 'softloc -m S=demo -d xxx.db'

makeBaseApp module. 'make' here

Add/edit *.db files here

'DB += my_new.db' in here

Add '..._DBD' and '.._LIBS' for required modules

Run IOC as './st.cmd'

ignore...

All 'configure/RELEASE' files include this

How all of this was created

VM Notes

VM isn't perfect, but provides everybody with the same setup

- Slower than “native” setup
- Quirky window resizing
 - Try View, Virtual Screen, Zoom 200%
- Slow channel access connection (on Mac)
 - “disable_dns” in terminal
- “Identical process variable ...” warning:
 - `gedit ~/.bashrc`

```
20 for rc in ~/.bashrc.d/*; do
21     if [ -f "$rc" ]; then
22         . "$rc"
23     fi
24 done
25 fi
26
27 unset rc
28
29
30 # Avoid "Identical process variable ..."
31 export EPICS_CA_ADDR_LIST=10.0.2.255
32 export EPICS_CA_AUTO_ADDR_LIST=NO
33
```