

IRAF – Image Reduction and Analysis Facility

```
pelisoli@octans:...2/envs/iraf27/iraf
This is the EXPORT version of IRAF V2.16 supporting PC systems.

Welcome to IRAF.  To list the available commands, type ? or ??.  To get
detailed information about a command, type 'help <command>'.  To run a
command or load a package, type its name.  Type 'bye' to exit a
package, or 'logout' to get out of the CL.  Type 'news' to find out
what is new in the version of the system you are using.

Visit http://iraf.net if you have questions or to report problems.

The following commands or packages are currently defined:

(Updated on 2013-12-13)

  adccdrom.  deitab.  images.  mtools.  softtools.  upsqiid.
  cfh12k.    esowfi.  kepler.  nfextern.  sqiid.      utilities.
  cirred.    finder.  language.  noao.     stecf.      vo.
  ctio.      fitsutil.  lists.    obsolete.  stdas.     xdimsum.
  cutoutpkg. gemini.  mem0.     plot.     system.     xray.
  dataio.    gmisc.   mscdb.    proto.    tables.
  dbms.      guiapps.  mscred.   rvsao.    ucslcris.
```

ecl> █

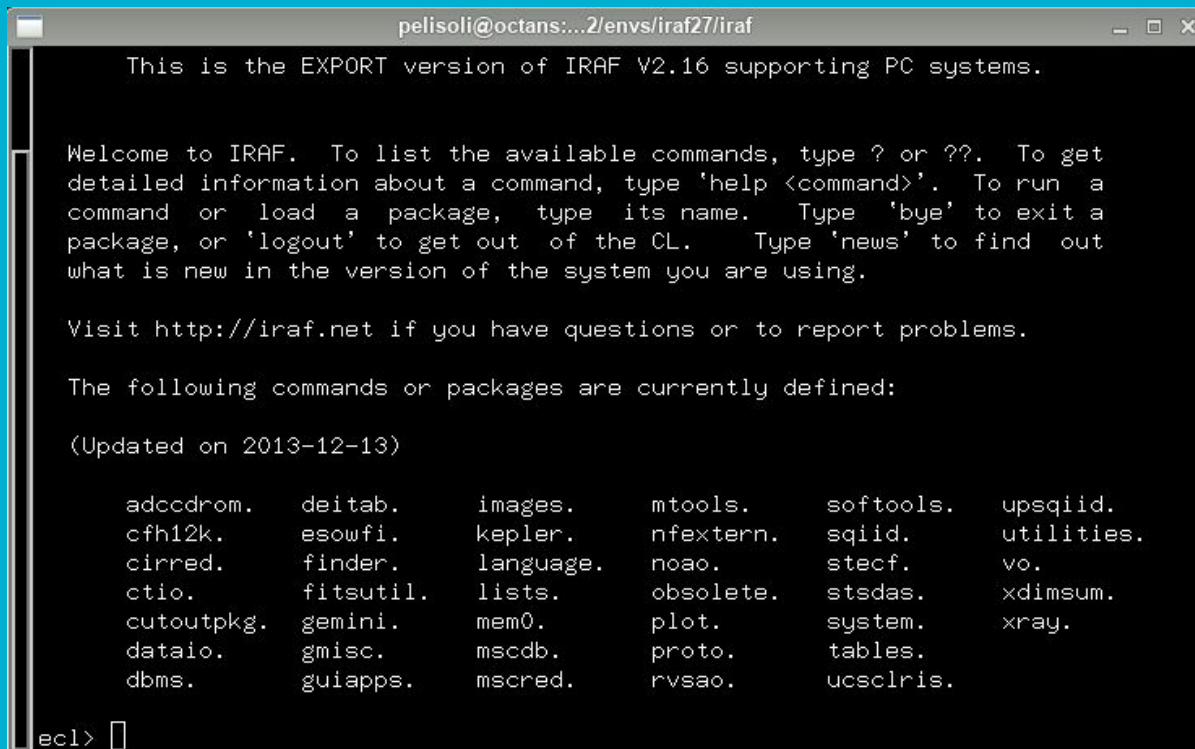
Using IRAF for the first time

- To start IRAF: open an `xgterm` terminal in the normal terminal and type `c l`.
- Likely this will issue a warning: *no login.cl found in login directory*.
- The file `login.cl` contains the default configuration for IRAF; you should create it before using it for the first time.
- Exit IRAF by typing `l logout`, and then create the `login.cl` by typing `mk i r a f`; choose terminal type `xgterm`.
- Edit the file `login.cl` according to your preferences, mainly:

```
set editor = emacs
set stdimage = imt4096
set imextn = "oif:imh fxf:fit,fits ..."
```
- Now start `iraf` again.
- In our case it is much simpler, just type `$ i r a f` when you are in your home directory `/home/workshop/`

IRAF – Image Reduction and Analysis Facility

- IRAF is divided in different packages including different tasks for doing photometry or spectroscopy, as well as data analysis
 - You can import the different packages by typing their name
 - You can get a list of the tasks of the package you are in by typing '?' or '??'
 - To remove the packages again, type **bye**



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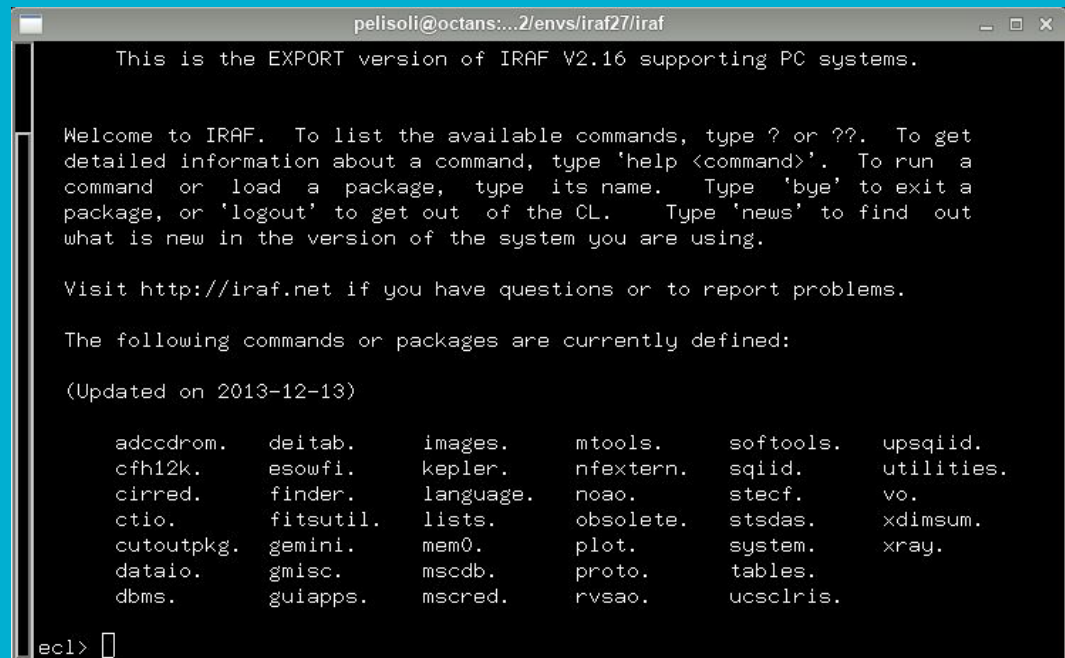
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Some basic commands:

`epar [task]` → edit task parameters.

`:wq` → write the parameters and exit.

`:go` → execute the task.



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ecl> █
```

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Some more basic commands:

- `help task`, to get some help on your task
- `?` to get commands in the plot window and available commands in `epar`
- If you want to know, which package your task belongs to: `which task`
- To plot a spectrum: `plot spectrum.fits`
- To check the fits header: `imhead spec.fit | page`
- To select some fields from the header:

```
hselect spec.fit $I,obj-name,exptime yes
```

- Check stats of image or spectrum: `imstat image.fits`

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Commands in the plot window:

- Type `q` to exit plot window
- To zoom in window press `w` and then
`e` (cursor lower left corner) `e` (cursor upper right corner)
- With `w` and `a` you can zoom out again
- With `w` and `r` you can move right
- With `w` and `l` you can move left
- With `w` and `u` you can move up
- With `w` and `d` you can move down

- If you want to know the commands in the specific plot window, type `'?'`

IRAF – Image Reduction and Analysis Facility

- A really useful tool is the task `imexamine`, which allows to analyse fits images.
- It can be used as a quick-look tool during observing runs.
- To use it, you will need to display the images in `ds9`. To open it, type:

```
!ds9 &
```
- To plot an image: `display image.fits`

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`!ds9 &`

Tells IRAF this is an external command.

You can run any terminal command like this

Sends it to background so you can still use command lines.

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- To use it, you will need to display the images in ds9. To open it, type:

```
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```

- To display an image, do `display [image name]`
- Run imexamine (just type `imexam` on terminal).
- You will notice the cursor turns into a circle in ds9 – this means imexamine is activated.

- Some basic imexamine commands:

`l` – plot the counts on the selected line

`c` - plot the counts on the selected column

`r` - display radial profile

`a` - show counts, sky, FWHM, etc. on screen

`e` - display contours