Reflex Frequently Asked Questions

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Reflex Frequently Asked Questions

- ## What is the advantage of Reflex over other ways to run the pipeline?

Answer: The main advantage of Reflex is that it will automatically organize the data, run the recipes in the right order and allow inspection of the final results. Many Reflex workflows also allow inspection of intermediate results and interactive parameter optimization for the recipes.

In Reflex, it is very easy to re-run the whole data reduction cascade e.g. after changing a parameter in a recipe. Reflex will figure out itself which recipes need to be re-run.

- ## What documentation is available for Reflex?

Answer: The general philosophy of Reflex is described in A&A 559,A96. Each Reflex workflow comes with a tutorial that can be downloaded from https://www.eso.org/sci/software/pipelines/. The reflex manual is available at https://www.eso.org/sci/software/reflex/.

A tutorial with instructions and examples is available here:

https://www.eso.org/sci/data-processing/Python_and_esoreflex.pdf

- ## How do I install a pipeline in Reflex?

Answer: The various installation options are discussed in detail at http://www.eso.org/pipelines.

Briefly summarized:

If you have root access on a computer with Mac OS or Fedora, the recommended way to install Reflex and the pipelines is to use the package repositories. The MacPorts repository supports OS X, while the RPM repository supports Fedora 20/21/22/23.For other operating systems (or if you lack root privileges), it is recommended to use the install_esoreflex script (ftp://ftp.eso.org/pub/dfs/reflex/install_esoreflex) instead.

- **I have updated my EsoReflex installation and when I run esoreflex it behaves weirdly (aborts or hangs or gives strange error messages). How can I fix this problem?**

Answer: After updating EsoReflex you should remove the $HOME/.kepler and the $HOME/KeplerData directories to prevent possible problems with the EsoReflex process.

- **How do I learn how to run a the Reflex workflow for my instrument?**

Answer: All reflex workflows come with an instrument specific tutorial than can be downloaded from https://www.eso.org/sci/software/pipelines/.

- **What are the system requirements to install Reflex?**

Answer: Reflex can be run under most flavors of Linux and MacOs.

For detailed prerequisites, see https://www.eso.org/sci/software/reflex/.

- **I tried to Open (or Configure) an Actor while the workflow is running and now it does not react any more. What should I do?**

Answer: This is a limitation of the underlying Kepler engine. The only way out is to kill the workflow externally. If you want to change anything while a workflow is running you first need to pause it.

- **In order to organize my data I had to increase the maximum memory for java. This memory stays in use and slows down other processes also when the workflow is not running. Is there a way to free the memory without exiting Reflex/Kepler?**

Answer: No, you have to Exit (not only Close) the workflow to release the memory.

- **The content of a data set has changed but the Data Organizer marks it as processed "OK" - why?**

Answer: The labels in the column "reduced" of the Data Set Chooser mark each dataset with "ok / incomplete / -". These labels indicate whether a data set has previously successfully been reduced at least once, all previous reductions failed or a reduction has never been tried. Data sets are identified by their name, which is derived from the first science file within the data set. As long as the data set name is

preserved (i.e. the first science file in a data set has not changed), the Data Organizer will consider it to be the same data set. The Data Organizer recognizes any previous reductions of data sets it considers to be the same as the current one, and labels the current data set with "OK" if any of them was successful, even if the previously reduced data set differs from the current one.

Note that the Product Explorer at the end of the reduction will list all the previous reductions of a particular data set. This list might include successful and/or unsuccessful reduction runs with different parameters, or in your case with different input files. The important fact is that these are all reductions of data sets with the same first raw science file. By browsing through all reductions of a particular raw science file, the users can choose the one they want to use.

- **How do I customize the data reduction chain of a EsoReflex workflow by including external scripts?**

Answer: The most convenient way to include external scripts in the reduction is to add a Python script into a workflow.

A tutorial with instructions and examples is available here:

https://www.eso.org/sci/data-processing/Python_and_esoreflex_v2.pdf

- **How do I install Python dependencies for ESOReflex using conda?**

Answer: The procedure to use *conda for providing the required Python dependencies for ESOReflex is described here.