HANDS-ON SESSIONS

Installation of SAS and external tools

14th SAS Workshop, ESAC 2-6 June 2014

WILL NEED THE ROOT PASSWORD OR SUDO

EXTERNAL TOOLS

- Heasoft
- ds9
- Grace
- WCSTools
- Java Development Kit

HEASOFT (1)

- Assuming you have perl installed (perl --version). Otherwise install perl.
- Binary install: Download binary from
  http://heasarc.nasa.gov/lheasoft/download.html
- We recommend to install Heasoft in system directory,
  e.g. /usr/local, despite of having a laptop.
- Move the tar.gz archive to installation directory.
- Unpack it (tar zxf heasoft-X.Y.tar.gz).
- Change directory to heasoft-X.Y/<platform>/BUILD_DIR
  e.g. /usr/local/heasoft-X.Y/x86_64-unknown-linux-gnu-libc2.5/BUILD_DIR
- ./configure > config.out 2>&1 &

HEASOFT (2)

- Make the following soft links
  - cd /usr/local ; ln -s ./heasoft-X.Y headas
  - cd headas ; ln -s ./<platform_identifier> architecture
- Initialize it (bash):
  - export HEADAS=/usr/local/headas/architecture
  - . $HEADAS/headas-init.sh
- We recommend to include initialization in login script.
- SAS needs $LHEASOFT be defined to be able to initialize.

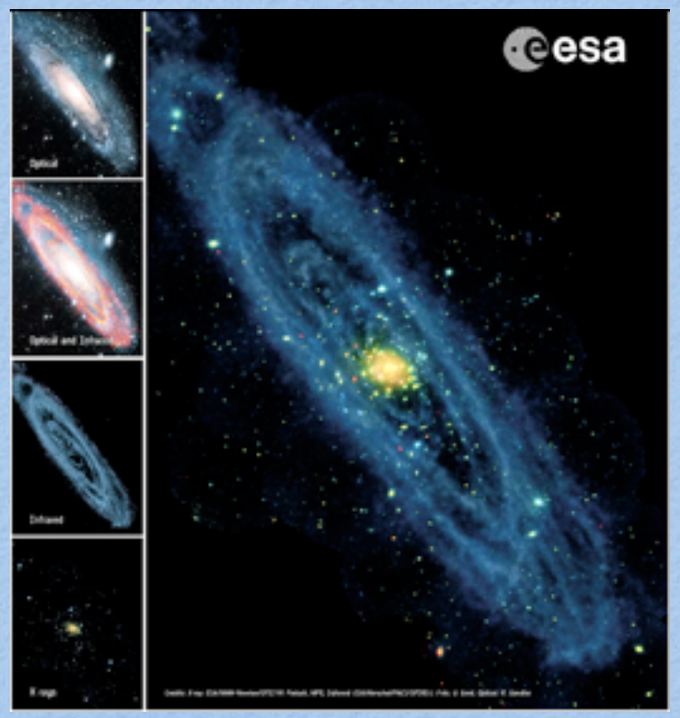
  Trick: Define LHEASOFT=1.

DS9

- Binary install: Download ds9 & xpa
  http://hea-www.harvard.edu/RD/ds9/
- Install under destination directory.
  Suggestion, /usr/local/ds9_X.Y/bin
- Make soft link
  /usr/local/ds9 -> /usr/local/ds9_X.Y
- Add /usr/local/ds9/bin to PATH.
- Test it.

GRACE

- http://plasma-gate.weizmann.ac.il/Grace/
- Most Linux distributions have a binary (rpm package) which can either be installed directly by means of tools like “yum” or by downloading the rpm package.
- Mac OS X: Under Fink there is a binary distribution.



INSTALL SAS

- Download the most appropriate distribution tar.gz archive for your OS http://xmm.esac.esa.int/sas/current/download/

- Choose installation directory. Recommended: /usr/local

- Unpack.

- Check whether perl is installed or not. Optionally define SAS_PERL to point to a perl install of your choice.

- Run ./install.sh

SAS download

Which SAS should I take?

The Tables below show all the binaries being distributed for **SAS** 13.5.0. All have been built with GNU C/C++ 4.3.3 and NAG Fortran 5.2, on Intel processors.

All installations of the **SAS** are binary. The whole source code of the **SAS** 13.5.0 can be downloaded for reference (xmmsas_20131209_1901-13.5.0-common-src.tar.gz) but we do not provide support on building it.

Before downloading a given binary, please consider the following guidelines to help you choose the most appropriate for your system:

- Although you can run a **SAS** built on 32-bit on a system running a 64-bit kernel, this is a misuse and we strongly discourage it. If you have a Linux 64-bit system, please download and install a **SAS** built on 64-bit.
- In general, for a given Linux Operating System, please choose a **SAS** that was built in a system with versions of the kernel and C library (libc), the closest to those of your system, regardless of its name being Red Hat, OpenSUSE, Ubuntu, Fedora or any other.
- On Mac OS X, we only distribute **SAS** built on Intel 64-bit for **Snow Leopard, Lion, Mountain Lion and Mavericks**. For those of you who can only run the 32-bit kernel of Snow Leopard, you still can install and run the 64-bit **SAS** built on Snow Leopard 64-bit.

Downloading

To download the **SAS** of your choice, please click on the links provided in the column **"File to download"** on the Tables below. Just before you are directed to our ftp server to get the selected file, you will be requested to fill in a short questionaire that will help us to make up valuable statistics on current and future needs about **SAS**.

Linux 32-bit (x86)

Build on	Kernel version	libc version	File to download
Ubuntu 12.04 LTS	3.2.0	2.15	sas_13.5.0-Ubuntu12.04-32.tgz
Fedora 17	3.6.10	2.15	sas_13.5.0-Fedora17-32.tgz
OpenSUSE 11.2	2.6.31	2.10.1	sas_13.5.0-openSUSE11.2-32.tgz
RHEL 5.8	2.6.18	2.5	sas_13.5.0-RHEL5.8-32.tgz

Linux 64-bit (x86_64)

Build on	Kernel version	libc version	File to download
Ubuntu 12.04 LTS	3.2.0	2.15	sas_13.5.0-Ubuntu12.04-64.tgz
Fedora 17	3.6.10	2.15	sas_13.5.0-Fedora17-64.tgz
OpenSUSE 11.2	2.6.31	2.10.1	sas_13.5.0-openSUSE11.2-64.tgz
RHEL5.8	2.6.18	2.5	sas_13.5.0-RHEL5.8-64.tgz

Mac OS X 64-bit (x86_64)

Build on	Kernel version	libc version	File to download
10.6.8 or Snow Leopard (Darwin 10.8.0)	Darwin 10.8.0	125.2.11	sas_13.5.0-Darwin-10.8.0-64.tgz
10.7.5 or Lion (Darwin 11.4.2)	Darwin 11.4.2	159.1.0	sas_13.5.0-Darwin-11.4.2-64.tgz
10.8.5 or Mountain Lion (Darwin 12.5.0)	Darwin 12.5.0	169.3.0	sas_13.5.0-Darwin-12.5.0-64.tgz
10.9.0 or Mavericks (Darwin 13.0.0)	Darwin 13.0.0	1197.1.1	sas_13.5.0-Darwin-13.0.0-64.tgz

Virtual Machines for SAS 13.5.0 (VM4SAS13_5)

Assembled on	File to download
OpenSUSE 12.3 32-bit	VM4SAS13_5-32.7z **(3.52 GByte)**
OpenSUSE 12.3 64-bit	VM4SAS13_5-64.7z **(3.72 GByte)**

- Initialization of SAS:
  - Must initialize first HEADAS/HEASOFT
  - Suggestion: Include HEADAS initialization in your shell login sripts (.cshrc/.basrc).
  - Use scripts created by SAS installation: setsas.sh (bash) or setsas.csh (tcsh)
  - Check: sasversion

JAVA DEVELOPMENT KIT (JDK)

- http://www.oracle.com/technetwork/java/javase/downloads/index.html
- Recommend select 'Self Extracting Installer'
- Move to /usr/local and install it.
- Define JDK_HOME pointing to this installation.

CCF REPOSITORY

- Put CCF on a public directory.
  Suggestion: /ccf
  - rsync CCFs from XMM-Newton server:
    rsync -a xmm.esac.esa.int::XMM_RED_CCF
  - Update periodically (rsync under crontab).