How to install HDF5 1.6.3 for Suse Linux 9.3

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1 Obtaining the necessary packages

Because the developers of HDF5 do not support Linux Kernel > 2.4, the precompiled binaries of HDF5 that are available from

`http://hdf.ncsa.uiuc.edu/HDF5/release/obtain5.htm`

do not work with Suse 9.3 (Linux Kernel 2.6, gcc 3.3.5). So one has to compile HDF5 from the sources on its own. But HDF5 V1.6.1 does not compile under Suse 9.3; `gcc` 3.3.5 generates several serious bugs. In HDF5 V1.6.4 and higher the hyperslab selection APIs in HDF5 (`H5Sselect_hyperslab`, `H5Sselect_elements`) have changed so that the offset parameter is of type "`hsize_t`" rather than "`hssize_t`" and therefore some programs are incompatible with the newest versions of HDF5. That why one better obtains version 1.6.3 from HDF5. It is available from

`ftp://ftp.ncsa.uiuc.edu/HDF/HDF5/prev-releases/hdf5-1.6.3.tar.gz`

In addition one needs version 1.2 of SZIP for compiling HDF5 1.6.3. It is sufficent to get the precompiled version for Linux Kernels 2.4 from

`ftp://ftp.ncsa.uiuc.edu/HDF/szip/1.2/bin/linux/szip-linux2.4.tar.gz`

The new version 2.0 of SZIP is not supported in HDF5 1.6.3. In addition version 2.0 of SZIP is a shared library by default (in 1.2 it was static library) which causes aditional trouble with paths when trying to compile and run programs. For these reasons version 2.0 of SZIP should be avoided at the moment.

2 Compiling HDF5

Before compiling HDF5 one should install SZIP 1.2 at some place. For example:

```
> cp szip-linux2.4.tar.gz /opt2
> cd /opt2
> tar zxvf szip-linux2.4.tar.gz
```

Then decompress the source code of HDF5 at some place

```
> tar zxvf hdf5-1.6.3.tar.gz
```

change into the decompressed directory and type the following commands to compile HDF5 with support for SZIP:

```
> ./configure --prefix=/opt2/hdf5-1.6.3 --with-szlib=/opt2/szip-linux2.4
> make check >& check.log
> make install
```

The option `--prefix` gives the path where the compiled binaries and libraries should be installed to. The option `--with-szlib` tells HDF5 to compile with SZIP support and looks for the SZ-library at the given path.

Because HDF5 is compiled as a shared library you have to make sure that executables find the library during runtime and you should add the following line to your `.bashrc`

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt2/hdf5-1.6.3/lib
```

This makes sure that the HDF5 libraries are in your library search path.