

Property Lists Basics

What is a Property (or Property List)?

In HDF5, a property or property list is a characteristic or feature associated with an HDF5 object. There are default properties which handle the most common needs. These default properties are specified by passing in `H5P_DEFAULT` for the Property List parameter of a function. Default properties can be modified by use of the Property List interface and function parameters.

The Property List API allows a user to take advantage of the more powerful features in HDF5. It typically supports unusual cases when creating or accessing HDF5 objects. There is a programming model for working with Property Lists in HDF5 (see below).

For examples of modifying a property list, see these tutorial topics:

[What is the dataset storage layout of a dataset ?](#)

[Extendible Datasets](#)

[Compressed Datasets](#)

There are many Property Lists associated with creating and accessing objects in HDF5. See the [Property List Interface](#) documentation in the HDF5 Reference Manual for a list of the different properties associated with HDF5 interfaces.

In Summary:

Properties are features of HDF5 objects, that can be changed by use of the Property List API and function parameters.

Property lists provide a mechanism for adding functionality to HDF5 calls without increasing the number of arguments used for a given call.

The Property List API supports unusual cases when creating and accessing HDF5 objects.

Programming Model

Default properties are specified by simply passing in `H5P_DEFAULT (C)` / `H5P_DEFAULT_F (F90)` for the property list parameter in those functions for which properties can be changed.

The programming model for changing a property list is as follows:

- Create a copy or "instance" of the desired pre-defined property type, using the [H5P_CREATE](#) call. This will return a property list identifier. Please see the Reference Manual entry for [H5P_CREATE](#), for a comprehensive list of the property types.
- With the property list identifier, modify the property, using the H5P APIs.
- Modify the object feature, by passing the property list identifier into the corresponding HDF5 object function.
- Close the property list when done, using [H5P_CLOSE](#).