Maintaining the HDF5 Reference Manual

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The responsibility for writing and maintaining the entries in the HDF5 Reference Manual is shared by the development and documentation teams in The HDF Group. The process for keeping the Reference Manual entries up-to-date is outlined in this document.

# Introduction

The HDF5 Reference Manual is of utmost importance to both the HDF5 user community and to The HDF Group technical staff. The responsibility for keeping The Reference Manual contents current, complete, and correct is shared between HDF5 developers and the documentation team (currently Frank and Ruth).

The process for supporting this shared responsibility has historically been undocumented. Moving forward, we are 1) taking steps to clearly define and explain the process, and 2) providing instructions, templates, and examples to help authors write high-quality Reference Manual entries.

*Our goal is to make everyone aware of their roles and responsibilities, and to provide them with the information and tools they need to contribute effectively and efficiently to the final product.*

We are on a journey toward this goal, and seek input from all involved on how we can work together to provide the best possible Reference Manual for our users and ourselves. Comments on this document, as well as on the supporting instructions, templates, and examples are welcome. Undoubtedly there are things we have left out that will need to be addressed. The process and the particulars will continue to evolve, and we will very likely embrace new technologies along the way. For now, take the first step in that direction with us.

# Background

The HDF5 Reference Manual is currently “coded” in html, with each section of the manual kept in a separate html file. These files are kept in an SVN repository, maintained primarily by Frank. The html source files are uploaded to the website periodically, and are also used to generate a pdf version of the manual. These tasks are also carried out by Frank.

The current organization makes it somewhat intimidating for developers to work on a single entry, as they must edit an entire section of the manual, and potentially coordinate those edits with others working on the document. While “raw” html is good from the perspective that it can be edited directly using any editor, it is bad from the perspective that it can be difficult to add and update content when you are not familiar with the various html tags.

We anticipate moving to something other than html in the future, but that transition is unlikely to happen for quite some time. In the shorter-term, we will be breaking the section-per-file organization into a more manageable function-per-file structure. This should allow for easier updating without risk to unrelated manual entries. The first step in this direction is reflected in the processes outlined in this document, but the actual timeline for completion of the breakup has not been set.

Additional features, such as improved links and navigation, are also anticipated at a future date. An overarching long-term goal is not to duplicate content in multiple places, but to make it easily accessible from all relevant parts of the documentation set through links, navigation bars, and other technologies.

# Responsibilities

## Developer Responsibilities

Developers write the functions and tools that are documented in the Reference Manual, and therefore are the experts on what the functions and tools do. Furthermore, the primary audiences for the Reference Manual are developers or technical users, so the development staff often has the best understanding of what the audience needs from a manual entry to use the function or tool. That said, the developers suffer from the “curse of knowledge”—their intimate knowledge of the function or tool can make them blind to the aspects that are not obvious to someone without their background.

Each time a developer writes or updates an HDF5 function or tool, it is their responsibility to write or update the corresponding Reference Manual entry so that it is current, complete, and correct. In addition to making changes directly related to the work they have done on the function or tool, it is also their responsibility to bring the entry up to the latest standards and to correct any errors or deficiencies that may exist.

The developer should keep the reader in mind and ask themselves “If I didn’t know anything about this function/tool would this Reference Manual entry provide me with the information I need to use it correctly?” A reader should not have to go to the source code or tests to figure out how to call the function, how to use the tool, what errors may occur, or what parameters really mean. There should be no surprises.

The developers are responsible for using the resources provided by the documentation team to perform their tasks, and for asking for help when the resources are unclear or insufficient. The developers should also ask other technical staff for help when they are not certain that a manual entry is clear and correct. Think of this as a “documentation review” – akin to a “code review.”

## Documentation Team Responsibilities

The documentation team is responsible for providing the developers with the information they need to be successful in their task. This information can be written or “hands-on.” The documentation team has the responsibility to improve its templates/guidelines/processes, based on feedback from the developers.

The documentation team is responsible for final formatting and integration of the content into the Reference Manual, and may make final edits. The documentation team is not responsible for consulting source code or running commands to clarify what a function or tool does in order to document it sufficiently.

The documentation team is responsible for investigating and adopting technologies that will make the job easier for the developers, and that will produce high-quality and easily-used documentation for the community.

# Process: New Reference Manual Entry

When a new function or tool is created, the developer is responsible for creating a corresponding Reference Manual entry. The process for doing this is outlined here. Ask for help from Frank if you have any questions along the way.

1. Check out the Reference Manual Entry template from the SVN repository. Always do a fresh checkout to make sure you have the latest version:  
    svn checkout http://svn.hdfgroup.uiuc.edu/hdf5doc/trunk/hdf5doc\_templates

The function template will be this file:  
 hdf5doc\_templates/H5function\_template.html

The tool template will be this file: **(Note: The tool template is not yet ready.)**  
 hdf5doc\_templates/h5tool\_template.html

1. Make a copy of the template and rename it to match your new function or tool. For example:  
    H5Onew\_function.html
2. Edit the file using your favorite text editor. \*Do not\* edit it as an html document, or the formatting will get all messed up. (sorry)
3. Follow the instructions in the .html file that was created from the template to update the individual sections. Remove those that are not relevant for your function or tool.
4. Open the document in a browser to see if it has the expected content and format – correct any errors.
5. If you have any doubt about the correctness / completeness / clarity of the document, ask a technical colleague to review it for you.
6. If you have any doubt about word choice or grammar, ask Frank or Ruth to review it for you.
7. When you are satisfied, send the html file for the manual entry to Frank, who will integrate it into the document set. Make sure to tell him what branch or branches it pertains to.
8. Also let Frank know if other documents such as the User’s Guide need to be updated. He will work with you to make those changes.

# Process: Updating an Existing Reference Manual Entry

When an existing function or tool is updated, the developer is responsible for updating the corresponding Reference Manual entry. The updates include not only changes that are directly related to the changes they made in the function or tool, but also any changes that are needed to bring the manual entry up to the latest documentation standards. The process for updating an entry is outlined here. Ask for help from Frank if you have any questions along the way.

1. Check out the Reference Manual Entry template from the SVN repository. Always do a fresh checkout to make sure you have the latest version:  
    svn checkout http://svn.hdfgroup.uiuc.edu/hdf5doc/trunk/hdf5doc\_templates

The function template will be this file:  
 hdf5doc\_templates/H5function\_template.html

The tool template will be this file: **(Note: The tool template is not yet ready.)**  
 hdf5doc\_templates/h5tool\_template.html

1. Ask Frank to send you a file with the html source for the entry you are updating.
2. Edit the file using your favorite text editor. \*Do not\* edit it as an html document, or the formatting will get all messed up. (sorry)
3. Follow the instructions in the template file checked out in step 1 to update the individual sections. Remember that you will be making updates relevant to your coding changes, and also to bring the manual entry into compliance with the latest documentation standards.
4. Open the document in a browser to see if it has the expected content and format – correct any errors.
5. If you have any doubt about the correctness / completeness / clarity of the document, ask a technical colleague to review it for you.
6. If you have any doubt about word choice or grammar, ask Frank or Ruth to review it for you.
7. When you are satisfied, send the html file for the manual entry to Frank, who will integrate it into the document set. Make sure to tell him what branch or branches it pertains to.
8. Also let Frank know if other documents such as the User’s Guide need to be updated. He will work with you to make those changes.

# Process: Correcting an Existing Reference Manual Entry

The current reference manual entries do not conform to the latest guidelines. Moving forward we will need to update those entries, but the process for doing that has not yet been defined.

If a developer notices an error in an existing manual entry that makes the entry incorrect or difficult to understand, they should file a bug report and include the correction that needs to be made, being as specific as possible about what needs to be changed, and hopefully supplying the correct text (in words, not formatted). The documentation team will be responsible for making the correction, but will not necessarily bring the entry into full compliance with the new standards immediately.

# Revision History

October 1, 2008: Version 1 circulated for comment within a subset of The HDF Group.