**[What number to return from h5diff command, when dangle-link found with follow-link option?]**

<Possible dangle-link cases>

1. Created dangle-link Intentionally for later usage
   1. User is aware of it and considered it as normal.
2. Removed target object by mistake
   1. User will want to know if it’s happened. It’s critical.

* When function failed ( H5Oexists return negative value)
  + return 2
* When found dangled link (H5Oexists return FALSE )
  + return 0 (?)
    - As the link dangle is optional
    - Verbose mode shows the warning message
    - This is for user who intentionally created dangle-link.
  + return 1 or 2 (?)
    - It’s to detect critical mistake.
    - Keep consistence from other error.
    - This is for user who concerns about dangle-link occur by mistake.

Example for comparing <file to file> (file has a dangle-link)

file1 file2

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x x /

x x /ext\_link\_dset1

x x /ext\_link\_noexist1

group : </> and </>

0 differences found

external link: </ext\_link\_dset1> and </ext\_link\_dset1>

dataset: </ext\_link\_dset1> and </ext\_link\_dset1>

0 differences found

0 differences found

warn: target object of </ext\_link\_noexist1> doesn't exist

warn: unable to get external link info from </ext\_link\_noexist1>

>> **return ?**

Example for comparing <dangle-link to dataset>

warn: target object of </ext\_link\_noexist1> doesn't exist

warn: unable to get external link info from </ext\_link\_noexist1>

>> **return ?**

**NOTE: Currently the warning messages shows only in verbose mode. (-v (verbose), -r (report), none, -q (quiet) )**

**Current h5diff returns: (This is moved to google doc ‘HDF Research Tools – h5diff’)**

* 0 : when no difference found
* 1: difference found
  + - …
* 2: when error occurs
  + - …

**[ Output from h5diff with follow-link option ]**

**Q: which output is preferred? - Decision : Ouput2**

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< Case: File to File >

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h5ls : file contains links

softlink\_dset2 Soft Link {/target\_dset2}

softlink\_group1 Soft Link {/target\_group}

h5diff –follow-link –v <linkfile1> <linkfile2>

<output1>

group : </> and </>

0 differences found

link : </softlink\_dset2> and </softlink\_dset2>

**! dataset: </target\_dset2> and </target\_dset2>**

0 differences found

0 differences found

link : </softlink\_group1> and </softlink\_group1>

**! group : </target\_group> and </target\_group>**

0 differences found

0 differences found

<output2>

group : </> and </>

0 differences found

link : </softlink\_dset2> and </softlink\_dset2>

**! dataset: </softlink\_dset2> and </softlink\_dset2>**

0 differences found

0 differences found

link : </softlink\_group1> and </softlink\_group1>

**! group : </softlink\_group1> and </softlink\_group1>**

0 differences found

0 differences found

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< Case: Object to Object >

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h5ls

softlink\_dset1\_1 Soft Link {/target\_dset1}

softlink\_dset1\_2 Soft Link {/target\_dset1}

softlink\_dset2 Soft Link {/target\_dset2}

h5diff –-follow-link –v <linkfile1> <linkfile2> **/softlink\_dset1\_1 /softlink\_dset2**

<output1>

**dataset: </target\_dset1> and </target\_dset2>**

size: [2x4] [2x4]

**position target\_dset1 target\_dset2 difference**

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[ 0 1 ] 1 0 1

[ 0 2 ] 2 0 2

[ 0 3 ] 3 0 3

3 differences found

<output 2>

**dataset: </softlink\_dset1\_1> and </softlink\_dset2>**

size: [2x4] [2x4]

**position softlink\_dset1\_1 softlink\_dset2 difference**

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[ 0 1 ] 1 0 1

[ 0 2 ] 2 0 2

[ 0 3 ] 3 0 3

3 differences found

**[Name compare in details]**

<obj vs obj>

* No name compare, only type compare. If same type then diff() - in diff\_compare()

<file vs file>

* Only select same name and type. Pass to diff() – in diff\_match()

<obj vs obj / file vs file – diff()>

* DATASET, NAMED TYPE, GROUP
  + No name compare, type is already compared from the above functions (diff\_compare)
* LINK
  + Without ‘follow-link’ option
    - Get value of the LINK ( target object name ) and compare the name
    - This is executed along with ‘follow-link’ option as LINK itself diff
  + With ‘follow-link’ option
    - If the end object is not link
      * Dataset: compare the values and attributes
      * Group : compare the path and attributes
      * Named-type: compare the type id and attributes
    - If the end object is link (no actual object exist)
      * Warn message no target object exist when –v option given
* UDLINK
  + Without ‘follow-link’ option
    - Get value of the LINK ( target file + object name ) and compare them
    - This is executed along with ‘follow-link’ option as LINK itself diff
  + With ‘follow-link’ option
    - If the end object is not link
      * Dataset: compare the values and attributes
      * Group : compare the path and attributes
      * Named-type: compare the type id and attributes
    - If the end object is link (no actual object exist)
      * Warn message no target object exist when –v option given
    - If the target file doesn’t exist
      * Warn message no target object exist when –v option given

**[Output from h5diff follow link – soft and external]**

<output1>

external link: </ext\_link\_dset1> and </ext\_link\_dset1>

dataset: </target\_group/x\_dset> and </target\_group/x\_dset>

0 differences found

0 differences found

external link: </ext\_link\_dset2> and </ext\_link\_dset2>

dataset: </target\_group2/x\_dset> and </target\_group2/x\_dset>

0 differences found

0 differences found

external link: </ext\_link\_grp1> and </ext\_link\_grp1>

group : </target\_group> and </target\_group>

0 differences found

0 differences found

<output2>

external link: </ext\_link\_dset1> and </ext\_link\_dset1>

0 differences found

dataset: </target\_group/x\_dset> and </target\_group/x\_dset>

0 differences found

external link: </ext\_link\_dset2> and </ext\_link\_dset2>

0 differences found

dataset: </target\_group2/x\_dset> and </target\_group2/x\_dset>

0 differences found

external link: </ext\_link\_grp1> and </ext\_link\_grp1>

0 differences found

group : </target\_group> and </target\_group>

0 differences found

Reference

It currently print link header line in verbose only

<obj vs obj>

softlink\_dset1\_1 Soft Link {/target\_dset1}

softlink\_dset1\_2 Soft Link {/target\_dset1}

h5diff -l -v <file\_link> <file\_link> /softlink\_dset1\_1 /softlink\_dset1\_2

dataset: </softlink\_dset1\_1> and </softlink\_dset1\_2>

0 differences found