
Subject: Re: can structures be saved to an HDF file?
Posted by Liam Gumley on Wed, 08 Dec 1999 08:00:00 GMT
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Henrik E. Nilsen wrote:

> It seems to me that it would be very useful to be able to save a whole
> structure to an HDF file. Anyone know if such a routine exists?

The following program isn't fancy, but it's cheap.

```
;---cut here---  
PRO HDF_SAVE_STRUCT, FILE, DATA  
  
;- Check arguments  
if n_elements(file) eq 0 then message, 'FILE is undefined'  
if n_elements(data) eq 0 then message, 'DATA is undefined'  
  
;- Get information about the input structure  
info = size(data)  
ndim = info[0]  
type = info[ndim + 1]  
if type ne 8 then message, 'DATA must be a structure'  
ntags = n_tags(data)  
names = tag_names(data)  
  
;- Create the HDF file  
hdfid = hdf_sd_start(file, /create)  
  
;- Loop over each variable in the structure  
for index = 0, ntags - 1 do begin  
  
    ;- Get information about this variable  
    info = size(data.(index))  
    ndim = info[0]  
    if ndim gt 0 then dims = [info[1:ndim]] else dims = [1]  
    type = info[ndim + 1]  
    nele = info[ndim + 2]  
  
    ;- Create the variable if supported by HDF  
    saveflag = 1  
    case type of  
        1 : varid = hdf_sd_create(hdfid, names[index], dims, /byte)  
        2 : varid = hdf_sd_create(hdfid, names[index], dims, /int)  
        3 : varid = hdf_sd_create(hdfid, names[index], dims, /long)  
        4 : varid = hdf_sd_create(hdfid, names[index], dims, /float)  
        5 : varid = hdf_sd_create(hdfid, names[index], dims, /double)  
        7 : varid = hdf_sd_create(hdfid, names[index], $  
            [strlen(data.(index))], /string)
```

```

else : begin
  print, 'This variable type is not supported by HDF:'
  help, data.(index)
  saveflag = 0
end
endcase

;- Save the variable to the file
if saveflag eq 1 then begin
  hdf_sd_adddata, varid, data.(index)
  hdf_sd_endaccess, varid
endif

endfor

;- Close the HDF file
hdf_sd_end, hdfid

END
;---cut here---

IDL> data = {image:dist(256), name:'Test Image', flag:1, valid_range:[0L,
200L]}
IDL> hdf_save_struct, 'test.hdf', data
IDL> hdf_info, 'test.hdf'

Cheers,
Liam.
http://cimss.ssec.wisc.edu/~gumley

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