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Subject: Re: One file for each procedure/function?  
Posted by [R.Bauer](#) on Fri, 19 Apr 2002 12:49:37 GMT  
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Pepijn Kenter wrote:

>  
> Hi all.  
>  
> I'm currently writing analyses software (small programs plus routines) for  
> an ozon measurement device and I'm new to IDL. A lot of the routines and  
> programs have already been written and are ready for me to use. These  
> routines have been grouped together in a few .pro files. These files are  
> then compiled explicitly (by .compile statements) in the main programs. The  
> programs are called from the command line.

Dear Pepijn,

the normal way for routines without widgets is to have only one routine per file.

A widget has more as one routine. I am organizing all widget routines e.g.

event\_handler, init, set and get routine in one file.

To prevent conflicts with other routines I set as base name to all routines

inside a file the same name.

e.g. "x\_test.pro"

x\_test\_event,event

x\_test

The other question is more about how to organize a library.

Some parts of a library is from external users and some are from members of your group.

We did set up a path of idl\_lib for external libraries and a path idl\_work

for our programmers. In the comment header of each routine

the routine is described and a category entry shows where it belongs too.

This header is used to build an online help system (html/javascript).

[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_source/idl\\_html/idl\\_work\\_libraries.htm](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/idl_work_libraries.htm)

The files are organized in user lib directories. All pathes are collected

with one startup file to !path.

[http://www.fz-juelich.de/icg/icg-i/idl\\_icglib/idl\\_source/idl.all](http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl.all)

To get the most speed in searching idl routines by idl is to have all

routines  
in one directory.

This is quite easy by unix with links. Our idl file server is a unix machine.

All needed routines are linked into one idl\_links path.

hope this helps a bit

regards

Reimar

--

Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)  
Forschungszentrum Juelich  
email: R.Bauer@fz-juelich.de

-----  
a IDL library at Forschungszentrum Juelich  
[http://www.fz-juelich.de/icg/icg1/idl\\_icglib/idl\\_lib\\_intro.html](http://www.fz-juelich.de/icg/icg1/idl_icglib/idl_lib_intro.html)  
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Subject: Re: One file for each procedure/function?  
Posted by [David Fanning](#) on Fri, 19 Apr 2002 13:19:27 GMT  
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Pepijn Kenter wrote:

> I'm currently writing analyses software (small programs plus routines) for  
> an ozon measurement device and I'm new to IDL. A lot of the routines and  
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> routines have been grouped together in a few .pro files. These files are  
> then compiled explicitly (by .compile statements) in the main programs. The  
> programs are called from the command line.

Just to add a bit to Reimar's useful advice, it is useful to think of a program file as an IDL "command" you are building. The procedure or function that has the same name as the command (and the file) should be the last module in the file. Other procedures and functions that are used by the command module for its internal use can also be placed in the file, but always above (in front) of the command module in the file. In this way, everything is compiled properly when the "command" is used.

Reimer is correct in recommending that these utility routines be named starting with a base "command" name. Otherwise, you have command name chaos and you can never be sure what procedure or function with this name you are actually running. For example, naming an event handler module "Quit" is always a bad idea. The name "MyProgram\_Quit" is much more specific.

Sometimes utility routines take on a life of their own, and we find them to have wider use than we expected them to initially. In this case, we take them out of the command file and place them in a command file of their own, so they can enjoy wider use by other programs that want to use them.

It is not unusual to place the programs from an entire application in separate directories according to functionality, etc. But typically, these are subdirectories of an "application" directory that can be added to a user's Path easily.

By the way, you are correct in thinking that the use of compile statements goes completely against the IDL WAY. They are typically used only as a last resort to sort out command name chaos (see above). :-)

Cheers,

David

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David W. Fanning, Ph.D.

Fanning Software Consulting

Phone: 970-221-0438, E-mail: [david@dfanning.com](mailto:david@dfanning.com)

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Toll-Free IDL Book Orders: 1-888-461-0155

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Subject: Re: One file for each procedure/function?  
Posted by [David Burridge](#) on Fri, 19 Apr 2002 13:44:01 GMT  
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Hi Pepijn,

"Pepijn Kenter" <[p.t.kenter@twi.tudelft.nl](mailto:p.t.kenter@twi.tudelft.nl)> wrote in message  
news:M%Tv8.115\$2I3.3490@castor.casema.net...

<snip>

> I'm under the strong impression that this is not the normal way of working

> and that you should create one file for each function or procedure, which  
is  
> than compiled automaticly when it's needed. These files should be put in a  
> directory that is included in the !path system variable.  
>  
> Still, I would like to keep functions that belong to each other grouped  
> together; if not in one file, then at least in one directory. So I've  
> devided the routines over a few directories and used the expand\_path  
> function to include these directories in the !path variable.  
>  
> Is this the best way of working?  
> Or are there better way's of ordering your routines (like units in  
pascal)?  
> I want to keep using the command line to start my programs (i.e. i don't  
> want to be dependend on .prj files)  
>  
> I'm not happy with the 'one file for each function' concept but if this is  
> the way IDL is designed I think I'd better stick to it, rather than using  
> obscure tricks to circumvent it.

As you mention, one file per routine is best and it makes the code easier to  
debug too, as the routines are easier to find. Some programmers collect  
routines together in one file when the code is interdependent. For example,  
if you put the event handler for a widget program at the top of the widget  
program file, it gets compiled when the main program is called, so is always  
'ready-compiled' when it's needed.

I would advocate the use of directories in you case, coupled with the '+'  
switch in your path statement. If you want to package up your code into  
'libraries', an alternative is to put them into a save file which will also  
cut the compile overhead.

Hope this is helpful,

Dave

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Subject: Re: One file for each procedure/function?  
Posted by [Paul Van Delst\[1\]](#) on Fri, 19 Apr 2002 14:28:19 GMT  
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Pepijn Kenter wrote:

>  
> Hi all.  
>  
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> an ozon measurement device and I'm new to IDL. A lot of the routines and  
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 > I want to keep using the command line to start my programs (i.e. i don't  
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 >  
 > I'm not happy with the 'one file for each function' concept but if this is  
 > the way IDL is designed I think I'd better stick to it, rather than using  
 > obscure tricks to circumvent it.

In my .bashrc file I have:

```
export IDL_PATH=${IDL_PATH}:+\${HOME}/idl
```

Note the +\\${HOME}/idl

What this does is make everything in \${HOME}/idl, including nested subdirectories, "visible" to IDL when you run it. My \${HOME}/idl directory looks like:

```
Inx:/home/paulv : dir idl
total 148
drwxr-xr-x  4 wd20pd  wd4      4096 Oct  2  2001 AIRS/
drwxr-xr-x  6 wd20pd  wd4      4096 Oct  2  2001 ATOVS/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 Ancillary/
drwxr-xr-x  2 wd20pd  wd4      4096 Oct  2  2001 CVS/
drwxr-xr-x  3 wd20pd  wd4      4096 Apr 18 14:04 Constants/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 Date_Time/
drwxr-xr-x  4 wd20pd  wd4      4096 Oct  2  2001 Development/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 Emissivity/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 Error_Handling/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 F90_Documentation/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 GIFTS/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 General/
drwxr-xr-x  4 wd20pd  wd4      4096 Oct  2  2001 Graphics/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 HIS/
```

```

drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 Interpolation/
drwxr-xr-x  3 wd20pd  wd4      4096 Apr 18 12:49 LBLRTM/
drwxr-xr-x  3 wd20pd  wd4      4096 Apr 19 09:10 Meteorology/
drwxr-xr-x  4 wd20pd  wd4      4096 Oct  2  2001 NAST-l/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 NCDF/
drwxr-xr-x  3 wd20pd  wd4      4096 Apr  3 17:04 NCEP_RTM/
drwxr-xr-x  3 wd20pd  wd4      4096 Dec 18 09:34 PDdata/
drwxr-xr-x  4 wd20pd  wd4      4096 Mar 22 19:04 Radiance/
drwxr-xr-x  3 wd20pd  wd4      4096 Feb  4 13:20 Spectral/
drwxr-xr-x  3 wd20pd  wd4      4096 Nov 14 15:06 Swap_Endian/
drwxr-xr-x  5 wd20pd  wd4      4096 Apr 18 14:12 Transmittance/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 UARS/
drwxr-xr-x  2 wd20pd  wd4      4096 Jan 22 15:27 Utility/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 WgtFnGUI/
-rw-r--r--  1 wd20pd  wd4      288 Apr 18 12:44 idl_startup.pro
-rw-r--r--  1 wd20pd  wd4     3349 Jan 30  2001 template.pro
drwxr-xr-x  8 wd20pd  wd4      4096 Oct  2  2001 user_contrib/

```

where the directory name usually refers to the "CATEGORY" item in the documentation template that comes with IDL. I group my code into the above directories according to their use. Some directories have subdirectories, e.g.:

```
Inx:/home/paulv/idl : dir ATOVS
```

```
total 16
```

```

drwxr-xr-x  2 wd20pd  wd4      4096 Oct  2  2001 CVS/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 readers/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 scan_analysis/
drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 visualisation/

```

```
Inx:/home/paulv/idl : dir user_contrib
```

```
total 24
```

```

drwxr-xr-x  3 wd20pd  wd4      4096 Oct  2  2001 chris_sisko/
drwxr-xr-x  2 wd20pd  wd4      4096 Oct  2  2001 dfanning/
drwxr-xr-x  4 wd20pd  wd4      4096 Oct  2  2001 liam_gumley/
drwxr-xr-x  2 wd20pd  wd4      4096 Oct  2  2001 markwardt/
drwxr-xr-x  2 wd20pd  wd4      4096 Oct  2  2001 martin_schultz/
drwxr-xr-x  2 wd20pd  wd4      4096 Oct  2  2001 mcraig/

```

I'm sure there's more logical ways to organise stuff, but this works for me.

paulv

--

```

Paul van Delst      Religious and cultural
CIMSS @ NOAA/NCEP  purity is a fundamentalist
Ph: (301)763-8000 x7274  fantasy
Fax:(301)763-8545      V.S.Naipaul

```

Subject: Re: One file for each procedure/function?  
Posted by [Pepijn Kenter](#) on Fri, 19 Apr 2002 17:30:14 GMT  
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Thank you all for your quick replies. I'm glad to hear i'm on the right track.

Pepijn Kenter.

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