
Subject: Re: library help -- multiple procedures in one file
Posted by [Liam E. Gumley](#) on Fri, 24 May 2002 16:16:13 GMT
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Chris O'Dell wrote:

>
> This question is mostly aimed at people who build libraries for public
> use (David, Craig, etc). I am putting together a lot of the little
> useful routines I have written as a grad student into a library, and was
> wondering, should I just make EVERY procedure/function have its own
> file? In PASCAL, I was a big proponent of nested functions;
> functions/procedures really ONLY used by one other procedure or
> function. But in IDL, those functions aren't compiled on the fly and
> you have to open the darn function file and compile them all every time
> you start idlde. Is there any way around this?
>
> Cheers,
> Chris

My preferences:

- One function or procedure per source file,
- All lower case file names,
- UNIX formatting (CR/LF) for newlines,
- Compressed tar files for UNIX users,
- ZIP files for Win/Mac users,
- Available via HTTP.

The only exception to the one function or procedure per file rule would be if you have several tightly coupled routines that naturally belong together, such as the definition of an object and its methods.

Cheers,
Liam.
Practical IDL Programming
<http://www.gumley.com/>

Subject: Re: library help -- multiple procedures in one file
Posted by [David Fanning](#) on Fri, 24 May 2002 16:37:59 GMT
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Chris O'Dell (odell@cmb.physics.wisc.edu) writes:

> This question is mostly aimed at people who build libraries for public
> use (David, Craig, etc). I am putting together a lot of the little
> useful routines I have written as a grad student into a library, and was
> wondering, should I just make EVERY procedure/function have its own

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> function. But in IDL, those functions aren't compiled on the fly and
> you have to open the darn function file and compile them all every time
> you start idlde. Is there any way around this?

There should never be any reason to manually compile a file in IDL. And it is OK to have many procedures and functions that are used only once. Just put them in a file _in front of_ the module that has the same name as the file. The procedures and functions will be utility routines for the "command" module. (The command module is always the LAST module in the file and has the same name as the file itself.)

If you think in terms of "commands" that you are building. Then you will have as many files in your library as you have commands that you want people to know about and use.

Sometimes utility routines become more useful than you thought they would become, and they want to be used by some "other" command. Then, you take that utility module out of the file it is in, put it in a file of its own, give it the "command" name, and you now have another command that everyone can use.

Cheers,

David

--

David W. Fanning, Ph.D.
Fanning Software Consulting
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: library help -- multiple procedures in one file
Posted by [Liam E. Gumley](#) on Fri, 24 May 2002 16:50:29 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning wrote:

>
> Chris O'Dell (odell@cmb.physics.wisc.edu) writes:
>
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>> you have to open the darn function file and compile them all every time
>> you start idlde. Is there any way around this?

>
> There should never be any reason to manually compile a file in IDL.
[stuff deleted]

I have to say that I manually compile procedures or functions all the time during development and testing, e.g.

- 1) Open a source file in nedit (or emacs, vi, IDLDE etc.),
- 2) Make changes to the file and save it,
- 3) Recompile the procedure or function (using .compile),
- 4) Run a test,
- 5) Go back to step 2 and iterate until it runs correctly.

So it's probably more accurate to say that once you are finished modifying a source file, and you've placed it in the IDL path, there should never be a reason to compile it manually.

Cheers,
Liam.
Practical IDL Programming
<http://www.gumley.com/>

Subject: Re: library help -- multiple procedures in one file
Posted by [David Fanning](#) on Fri, 24 May 2002 17:09:16 GMT
[View Forum Message](#) <> [Reply to Message](#)

Liam E. Gumley (Liam.Gumley@ssec.wisc.edu) writes:

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> So it's probably more accurate to say that once you are finished
> modifying a source file, and you've placed it in the IDL path, there
> should never be a reason to compile it manually.

Oh, I just hit the button that saves it and compiles it automatically. I guess I'd forgotten I *ever* compile routines. :-)

Cheers,

David

--

David W. Fanning, Ph.D.

Fanning Software Consulting

Phone: 970-221-0438, E-mail: david@dfanning.com

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Subject: Re: library help -- multiple procedures in one file
Posted by [K. Bowman](#) on Fri, 24 May 2002 17:23:54 GMT

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In article <MPG.17581a555d60c0c89898f4@news.frii.com>,
David Fanning <david@dfanning.com> wrote:

> functions that are used only once. Just put them in a
> file _in front of_ the module that has the same name
> as the file.

This has to be one of the most common gotcha's in IDL behavior.

I suppose there might be cases of forgotten code after a named routine,
but is there any reason why RSI couldn't change this the behavior to
"compile the entire file", rather than "stop after compiling
the program unit whose name matches the file"?

Would this really break anything?

Ken

Subject: Re: library help -- multiple procedures in one file
Posted by [R. Bauer](#) on Fri, 24 May 2002 18:04:58 GMT

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"Liam E. Gumley" wrote:

>

> Chris O'Dell wrote:

>>

>> This question is mostly aimed at people who build libraries for public

```

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> - Compressed tar files for UNIX users,
> - ZIP files for Win/Mac users,
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> The only exception to the one function or procedure per file rule would
> be if you have several tightly coupled routines that naturally belong
> together, such as the definition of an object and its methods.
>

```

I will add normally tar.gz files could be used by windows users or on the other hand zip on unix systems too.

So it is better to store them in only one type.

If you work with a library some or many of the routines are using some other routines.

I decided for a few years to be able to make packages for each routine which might be interesting to someone. Because someone may like to do a peek into something and sometimes it's complicated to download a whole library and then to implement this in an existing library.

Because normally basic things got same names but different functionality.
e.g. colorbar

We designed a routine which finds all dependencies of a given routine.

All routines used by one routine are stored into a tar.gz file.

```

;
; PURPOSE:

```

; This procedure finds all dependent routines from a given routine.
They are saved into a tar.gz file
; Additional Informations about the routines are saved into an html
file.
;

If you often change pathes of routines have a look on the /refresh
keyword!

http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/tar_gz_dependencies.tar.gz

The path where you have extracted these file must be set into !PATH e.g.
!PATH=!PATH+'.'+idl/targz'
because this routine changes the path during executing.

If you like you can do a peak in our library
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/idl_work_libraries.htm

or on the database of
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/tar_gz_dependencies_dbase.pro.html

If you have binaries of the routines they can be called by `idl -rt=file`

For example take a peak at `x_digisym`
http://www.fz-juelich.de/icg/icg-i/idl_icglib/idl_source/idl_html/dbase/download/x_digisym.sav

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

=====

Subject: Re: library help -- multiple procedures in one file
Posted by [David Fanning](#) on Fri, 24 May 2002 18:06:38 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning (david@dfanning.com) writes:

- > And it is OK to have many procedures and
- > functions that are used only once. Just put them in a
- > file _in front of_ the module that has the same name
- > as the file. The procedures and functions will be
- > utility routines for the "command" module. (The command
- > module is always the LAST module in the file and
- > has the same name as the file itself.)

And by the way (since I'm already in a harping sort of a mood) is is a *great* idea to give these utility routines names my "MyGreatProgram_Print" and "MyGreatProgram_Save", rather than "Print" and "Save" unless you enjoy spending late evenings and weekends tracking down why your programs don't run on your boss's computer. :-)

Cheers,

David

P.S. Let's just say that if we could only run one program at a time, the whole world would be save for IDL programmers.

--

David W. Fanning, Ph.D.
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Subject: Re: library help -- multiple procedures in one file
Posted by [Paul Van Delst\[1\]](#) on Fri, 24 May 2002 18:09:38 GMT
[View Forum Message](#) <> [Reply to Message](#)

Chris O'Dell wrote:

- >
- > This question is mostly aimed at people who build libraries for public
- > use (David, Craig, etc). I am putting together a lot of the little
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> functions/procedures really ONLY used by one other procedure or
> function. But in IDL, those functions aren't compiled on the fly and
> you have to open the darn function file and compile them all every time
> you start idlde. Is there any way around this?

FWIW, I do it the way both Liam and David recommend. Every function procedure in it's own file. The only time I have more than one function procedure in a file (as far as I can recall) is for widget code (all the event handlers and what not are listed first) and for object code (the few, well....one, I have written). And even so, for the widget stuff at least, you can still have separate files for the event handlers and whatever else is required. I did that once for a particularly obtuse widget program I wrote (back when it was still a novelty to do that stuff).

I never use .compile (or whatever) unless I'm actively modifying the file during development.

paulv

--

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

Subject: Re: library help -- multiple procedures in one file
Posted by [David Fanning](#) on Fri, 24 May 2002 18:11:58 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning (david@dfanning.com) writes:

> And by the way (since I'm already in a harping
> sort of a mood) >>>>>>> is is <<<<<<<<< a *great* idea to give
and

> be >>>>>>>>>>> save <<<<<<<<<< for IDL programmers.

My gosh, I'm in such a bad mood (I'm cleaning the house
in preparation for the big graduation party tomorrow) that
even my fingers have decided to leave me alone and have
run off and started typing on their own. :-(

Cheers,

David

--

David W. Fanning, Ph.D.

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Subject: Re: library help -- multiple procedures in one file
Posted by [R.Bauer](#) on Fri, 24 May 2002 18:29:18 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning wrote:

>
> David Fanning (david@dfanning.com) writes:
>
>> And by the way (since I'm already in a harping
>> sort of a mood) >>>>>>>> is is <<<<<<<<<< a *great* idea to give
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> in preparation for the big graduation party tomorrow) that
> even my fingers have decided to leave me alone and have
> run off and started typing on their own. :-(
>
> Cheers,
>
> David

Hi,

David, didn't we already talked about this in April
by a request of Pepijn Kenter?

Who manages the FAQ now ?

Cheers

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
=====

Subject: Re: library help -- multiple procedures in one file
Posted by [Craig Markwardt](#) on Fri, 24 May 2002 18:36:18 GMT
[View Forum Message](#) <> [Reply to Message](#)

Chris O'Dell <odell@cmb.physics.wisc.edu> writes:

> This question is mostly aimed at people who build libraries for public
> use (David, Craig, etc). I am putting together a lot of the little
> useful routines I have written as a grad student into a library, and was
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> function. But in IDL, those functions aren't compiled on the fly and
> you have to open the darn function file and compile them all every time
> you start idlde. Is there any way around this?

Hi Chris--

I actually asked the newsgroup this very question about a year ago.
In fact it was related to the "SAVE" library that I published and
(unfortunately) has achieved some infamy.

I had a library with many many functions, each in a separate file, and
I wondered how to manage them all. I felt it would be unwieldy for
the user to have a bunch of files, especially for the routines that
were more or less "internal." I finally decided to restructure the
library so that most of the internal functions were subsumed into more
generalized procedures. Utility routines that were used by only one
procedure were moved into that procedure's file. For the most part I
think that was a good approach.

By the way I agree with David's suggestions. I am not sure David's
are totally compatible with Liam's recommendations, for example I
would say that internal "utility" routines always belong in the main
command file, whereas Liam suggests each file has one procedure or
function.

Craig

--

Craig B. Markwardt, Ph.D. EMAIL: craigmnet@cow.physics.wisc.edu
Astrophysics, IDL, Finance, Derivatives | Remove "net" for better response

Subject: Re: library help -- multiple procedures in one file
Posted by [David Fanning](#) on Fri, 24 May 2002 19:34:05 GMT
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Reimar Bauer (r.bauer@fz-juelich.de) writes:

> David, didn't we already talked about this in April
> by a request of Pepijn Kenter?

Probably. I always seem to be going on about it, for
all the good it does. :-)

> Who manages the FAQ now ?

No one, AFAIK. Are you volunteering? :-)

Cheers,

David

--

David W. Fanning, Ph.D.
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Subject: Re: library help -- multiple procedures in one file
Posted by [Liam E. Gumley](#) on Fri, 24 May 2002 20:16:48 GMT
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Craig Markwardt wrote:

[stuff deleted]

> By the way I agree with David's suggestions. I am not sure David's
> are totally compatible with Liam's recommendations, for example I
> would say that internal "utility" routines always belong in the main
> command file, whereas Liam suggests each file has one procedure or
> function.

That's why I included a caveat in my list of suggestions. For an
example, my IMDISP image display procedure

http://www.gumley.com/PIP/Free_Software.html

contains several routines that are designed to be called *only* by the IMDISP main procedure, and are therefore stored in the IMDISP source file. The same would hold true for methods associated with an object.

Cheers,
Liam.
Practical IDL Programming
<http://www.gumley.com/>

Subject: Re: library help -- multiple procedures in one file
Posted by [R.Bauer](#) on Fri, 24 May 2002 20:31:59 GMT
[View Forum Message](#) <> [Reply to Message](#)

David Fanning wrote:

>
> Reimar Bauer (r.bauer@fz-juelich.de) writes:
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>> David, didn't we already talked about this in April
>> by a request of Pepijn Kenter?
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> Probably. I always seem to be going on about it, for
> all the good it does. :-)
>
>> Who manages the FAQ now ?
>
> No one, AFAIK. Are you volunteering? :-)

We should discuss this after my summer holidays.

At the moment this is to much for me.

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

=====

Subject: Re: library help -- multiple procedures in one file

Posted by [R.Bauer](#) on Fri, 24 May 2002 20:41:49 GMT

[View Forum Message](#) <> [Reply to Message](#)

"Liam E. Gumley" wrote:

>

> Craig Markwardt wrote:

> [stuff deleted]

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> file. The same would hold true for methods associated with an object.

>

> Cheers,

> Liam.

> Practical IDL Programming

> <http://www.gumley.com/>

Hi Liam,

We should not forget to use a name conventions if we put
more than one routine in a file.

If we don't there are a lot of conflicts possible.

The routine itself is imdisp and all "included" routines
start by imdisp

imdisp is a good example to show this

IMDISP_GETPOS, IMDISP_IMSCALE, IMDISP_IMREGRID, IMDISP_IMSIZE

David mentioned following situation and I agree to this.

If now for example IMDISP_IMSIZE is so popular to be used alone
or it is useful for an other package it has to be extracted
from this file and then it is a new routine may be "imsize"
in it's own file.

regards

Reimar

--

Reimar Bauer

Institut fuer Stratosphaerische Chemie (ICG-I)

Forschungszentrum Juelich

email: R.Bauer@fz-juelich.de

a IDL library at ForschungsZentrum Juelich
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=====