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Subject: Keywords and properties (in function graphics)

Posted by [Gordon Farquharson](#) on Fri, 07 Feb 2014 19:12:27 GMT

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Hi All

The IDL documentation states that keywords are applied only during the initial creation of the graphic, whereas properties can be set as keywords to the function during creation, or retrieved or changed using the "." notation after creation (e.g., [1]).

Below is a simple program to display an image using a map projection. In the first case (im1), I set all keywords and properties in the function call. In the second case (im2), I only set keywords in the function call, and set properties after the function call.

```
---
file1 = FILEPATH('Night.jpg', SUBDIRECTORY=['examples','data'])

ret = query_jpeg(file1, info)

lon = findgen(info.dimensions[0]) / info.dimensions[0] * 360. - 180.
lat = findgen(info.dimensions[1]) / info.dimensions[1] * 180. - 90.

read_jpeg, file1, data

im1 = image(data, lon, lat, DIMENSIONS=[1024,512], MARGIN=0., $
            GRID_UNITS="degrees", MAP_PROJECTION="Mollweide")

im2 = image(data, lon, lat, DIMENSIONS=[1024,512], MARGIN=0.)

im2.grid_units = "degrees"
im2.map_projection = "Mollweide"

END
---
```

im1 displays the image as I would expect (warped to the map projection). However, IDL returns the following error when the map\_projection property is set for im2.

```
% Unable to retrieve map projection.
% Execution halted at: $MAIN$          16 /home/gordon/tmp/test_map.pro
```

For reference, line 16 is

```
im2.map_projection = "Mollweide"
```

Why? Specifically, why I can't change the map projection \*property\* after the image has been created?

Gordon

[1] <http://www.exelisvis.com/docs/image.html>

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Subject: Re: Keywords and properties (in function graphics)  
Posted by [David Fanning](#) on Fri, 07 Feb 2014 20:13:18 GMT  
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Gordon Farquharson writes:

```
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> Hi All
>
> The IDL documentation states that keywords are applied only during the initial creation of the
> graphic, whereas properties can be set as keywords to the function during creation, or retrieved or
> changed using the "." notation after creation (e.g., [1]).
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> Below is a simple program to display an image using a map projection. In the first case (im1), I
> set all keywords and properties in the function call. In the second case (im2), I only set keywords
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>
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>
> im2.grid_units = "degrees"
> im2.map_projection = "Mollweide"
>
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> ---
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> For reference, line 16 is  
>  
> im2.map\_projection = "Mollweide"  
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> Why? Specifically, why I can't change the map projection \*property\* after the image has been created?

This probably \*would\* work if the image \*had\* a map projection object to change. But, you didn't create this image with a map projection object, so you can't exactly change what isn't there. You can check to see if the image \*has\* a map projection object with the MAPPROJECTION property:

```
IF im2.mapprojection EQ !Null THEN Print, 'No map projection here!'
```

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Sepore ma de ni thue. ("Perhaps thou speakest truth.")

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Subject: Re: Keywords and properties (in function graphics)  
Posted by [Gordon Farquharson](#) on Fri, 07 Feb 2014 20:41:05 GMT  
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Hi David

You raise a good point. I had not considered what would have to happen internally. However, it seems that the behavior is an inconsistency in IDL, and that therefore, it should be documented. One is supposed to be able to change properties after creation of the graphic, and since map\_projection is a property, I would expect to be able to apply a map projection after creating of the graphic. Now, I can see that applying a map projection after the creating the graphic could cause all sorts of problems, e.g., axes, honoring aspect ratio, etc., so probably the documentation should be updated. Maybe there is a way to handle things gracefully.

This inconsistency makes me a little grumpy because I had settled on the idea of only setting keywords in the call, and properties after the call to remind me which were which.

Gordon

On Friday, February 7, 2014 12:13:18 PM UTC-8, David Fanning wrote:

> Gordon Farquharson writes:  
>  
>

```

>
>>
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>> Hi All
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>
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>>         GRID_UNITS="degrees", MAP_PROJECTION="Mollweide")
>
>>
>
>> im2 = image(data, lon, lat, DIMENSIONS=[1024,512], MARGIN=0.)
>
>>

```

```

>
>> im2.grid_units = "degrees"
>
>> im2.map_projection = "Mollweide"
>
>>
>
>> END
>
>> ---
>
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```

>  
>  
>  
> Cheers,  
>  
>  
>  
> David  
>  
> --  
>  
> David Fanning, Ph.D.  
>  
> Fanning Software Consulting, Inc.  
>  
> Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>  
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> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

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Subject: Re: Keywords and properties (in function graphics)  
Posted by [David Fanning](#) on Fri, 07 Feb 2014 21:02:14 GMT  
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Gordon Farquharson writes:

> You raise a good point. I had not considered what would have to happen internally. However, it seems that the behavior is an inconsistency in IDL, and that therefore, it should be documented. One is supposed to be able to change properties after creation of the graphic, and since `map_projection` is a property, I would expect to be able to apply a map projection after creating of the graphic. Now, I can see that applying a map projection after the creating the graphic could cause all sorts of problems, e.g., axes, honoring aspect ratio, etc., so probably the documentation should be updated. Maybe there is a way to handle things gracefully.

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> This inconsistency makes me a little grumpy because I had settled on the idea of only setting keywords in the call, and properties after the call to remind me which were which.

Well, there are a LOT of things about IDL that make me grumpy. I guess you just get used to it. ;-)

Cheers,

David

--

David Fanning, Ph.D.  
Fanning Software Consulting, Inc.  
Coyote's Guide to IDL Programming: <http://www.idlcoyote.com/>  
Sepore ma de ni thue. ("Perhaps thou speakest truth.")

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Subject: Re: Keywords and properties (in function graphics)  
Posted by [Gordon Farquharson](#) on Fri, 07 Feb 2014 21:16:04 GMT  
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On Friday, February 7, 2014 1:02:14 PM UTC-8, David Fanning wrote:  
> Well, there are a LOT of things about IDL that make me grumpy. I guess  
> you just get used to it. ;-)

Too true! :-)

> Sepore ma de ni thue. ("Perhaps thou speakest truth.")

You do indeed! :-)

Gordon

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