

A package usually adds one or more items to Igor's menus that allow the user to interactively load the package, access its functionality, and unload the package.

A package typically provides some level of user-interface, such as a menu item and a control panel, for accessing the added functionality. It may store settings in experiments or in global preferences.

A package is typically loaded into memory and unloaded at the user's request.

Igor comes pre-configured with numerous WaveMetrics packages accessed through the Data→Packages, Analysis→Packages, Misc→Packages, Windows→New→Packages and Graph→Packages submenus as well as others. Take a peek at these submenus to see what packages are supplied with Igor.

Menu items for WaveMetrics packages are added to Igor's menus by the WMMenus.ipf procedure file which is shipped in the Igor Procedures folder. WMMenus.ipf is hidden unless you enable independent module development. See **Independent Modules** on page IV-238.

Creating a Package

This section shows how to create a package through a simple example. The package is called "Sample Package". It adds a Load Sample Package item to the Macros menu. When the user chooses Load Sample Package, the package's procedure file is loaded. This adds two additional items to the Macros menu: Hello From Sample Package and Unload Sample Package.

The package consists of two procedure files stored in a folder in the Igor Pro User Files folder. If you are not familiar with Igor Pro User Files, take a short detour and read **Special Folders** on page II-30 and **Igor Pro User Files** on page II-31.

The sample package is installed as follows:

```
Igor Pro User Files
  Sample Package
    Sample Package Loader.ipf
    Sample Package.ipf
  Igor Procedures
    Alias or shortcut pointing to the "Sample Package Loader.ipf" file
  User Procedures
    Alias or shortcut pointing to the "Sample Package" folder
```

Putting the alias/shortcut for the "Sample Package Loader.ipf" in Igor Procedures causes Igor to load that file at launch time. The file adds the "Load Sample Package" item to the Macros menu. See **Global Procedure Files** on page III-399 for details.

Putting the alias/shortcut for the "Sample Package" folder in User Procedures causes Igor to search that folder when a #include is invoked. See **Shared Procedure Files** on page III-400 for details.

A real package might include other procedure files and a help file in the "Sample Package" folder.

To try this out yourself, follow these steps:

1. Create the "Sample Package" folder in your Igor Pro User Files folder.
You can locate your Igor Pro User Files folder using the Help menu.
2. Create a new procedure file named "Sample Package Loader.ipf" in the "Sample Package" folder and enter the following contents in the file:

```
Menu "Macros"
  "Load Sample Package", /Q, LoadSamplePackage()
End

Function LoadSamplePackage()
  Execute/P/Q/Z "INSERTINCLUDE \"Sample Package\""
  Execute/P/Q/Z "COMPILEPROCEDURES //" Note the space before final quote
End
```

Save the procedure file.

3. Create a new procedure file named "Sample Package.ipf" in the "Sample Package" folder and enter the following contents in the file:

```
Menu "Macros"  
    "Hello From Sample Package", HelloFromSamplePackage()  
    "Unload Sample Package", UnloadSamplePackage()  
End  
  
Function HelloFromSamplePackage()  
    DoAlert /T="Sample Package Wants to Say" 0, "Hello!"  
End  
  
Function UnloadSamplePackage()  
    Execute /P /Q /Z "DELETEINCLUDE \"Sample Package\""  
    Execute /P /Q /Z "COMPILEPROCEDURES "// Note the space before final quote  
End
```

Save the procedure file.

4. In the desktop, make an alias or shortcut for "Sample Package Loader.ipf" file and put it in the Igor Procedures folder in the Igor Pro User Files folder.

This causes Igor to load the "Sample Package Loader.ipf" file at launch time. This is how the Load Sample Package menu item gets into the Macros menu.

5. In the desktop, make an alias or shortcut for the "Sample Package" folder and put it in the User Procedures folder in the Igor Pro User Files folder.

This causes Igor to search the "Sample Package" folder when a #include is invoked. This allows Igor to find the "Sample Package.ipf" file when it is #included.

6. Quit and restart Igor so that Igor will load the "Sample Package Loader.ipf" file.

If you prefer you can just manually make sure that "Sample Package Loader.ipf" is open and "Sample Package.ipf" is closed. This simulates the state of affairs after restarting Igor.

7. Choose Windows→Procedure Windows and verify that Igor has loaded the "Sample Package Loader.ipf" file.

8. Click the Macros menu and verify that the "Load Sample Package" item is present.

9. Choose Macros→Load Sample Package.

The LoadSamplePackage function runs, adds a #include statement to the built-in procedure window, and forces procedures to be recompiled. This cause Igor to load the "Sample Package.ipf" procedure file which contains the bulk of the package's procedures and adds items to the Macros menu.

10. Click the Macros menu and notice that the "Hello From Sample Package" and "Unload Sample Package" items have been added.

11. Choose Macros→Hello From Sample Package.

The package displays an alert. A real package would do something more exciting.

12. Choose Macros→Unload Sample Package.

The UnloadSamplePackage function runs, removes the #include statement from the built-in procedure window, and forces procedures to be recompiled. This cause Igor to unload the "Sample Package.ipf" procedure.

13. Click the Macros menu and notice that the "Hello From Sample Package" and "Unload Sample Package" items have been removed.

Most real packages do not create Unload menu items. Instead they provide an Unload Package button in a control panel or automatically unload when a control panel is closed. Or they might not support unloading.

A real package typically does not include "Package" in its name or in its menu items.