

# Visual Studio Integration Toolkit for Microsoft Dynamics GP (build 17)

## Introduction

Visual Studio Integration Toolkit for Microsoft Dynamics® GP is a Dexterity® add-on software tool which contains an Application Programming Interface (API) that can be called from Visual Studio development system using Visual Basic® or Visual C#® languages to integrate with functionality normally only available in Microsoft Dynamics GP via the Dexterity development environment, such as menu navigation.

## Compatibility information

The tool was previously known as Menus for Visual Studio Tools. File and object names have not been changed to maintain compatibility with existing installations and projects. Each build of the tool is only compatible with the version of Microsoft Dynamics GP it was created for.

## Contents of the Visual Studio Integration Toolkit for Microsoft Dynamics GP Archive

Below is a table of the files included with the installer:

| File or Folder Name                           | Description  |
|---|--|
| VSTMenus.cnk                                  | Tool chunk file (self installing application Dexterity dictionary)   |
| VSTMenus.pdf                                  | User guide documentation (this document)   |
| VSTMenus.txt                                  | Quick usage guide with example C# and VB scripts and version history.  |
| VSTMenus_License.doc                          | End User License Agreement   |
| Application.MenusForVisualStudioTools.dll     | Visual Studio Tools Assembly for Tool  |
| Application.MenusForVisualStudioTools.xml     | Visual Studio Tools XML descriptions for Intellisense  |
| WinthropDC.VisualStudioIntegrationToolkit.dll | Visual Studio Tools Addin for Registration and system features (in Addins folder)  |
| VSTMenus_Examples.zip                         | VSTMenusCSharp sample Visual C# project which add menus to Cards >> Sales menu<br><br>VSTMenusVB sample Visual Basic project which add menus to Cards >> Purchasing menu |

### **Installing Visual Studio Integration Toolkit for Microsoft Dynamics GP**

1. Visual Studio Integration Toolkit is installed by downloading the installer and executing it. Follow the onscreen instructions to install the product files into the Microsoft Dynamics GP application folder.

### **Uninstalling Visual Studio Integration Toolkit for Microsoft Dynamics GP**

1. Visual Studio Integration Toolkit is uninstalled from its About window (Help >> About Dynamics GP >> Additional >> About Visual Studio Integration). Then it can be uninstalled from Windows.

### **Installing Visual Studio Integration Toolkit for Microsoft Dynamics GP sample projects**

1. From the VSTM\_Examples.zip archive, extract the VSTMenusCSharp folder and/or VSTMenusVB folder to your desired location in your development system. There is no specific path recommended.
2. For each of the projects, perform the steps 3 to 13 below.
3. Open the project solution file (VSTMenusCSharp.sln or VSTMenusVB.sln) with Visual Studio.
4. In the Solution Explorer, expand References. To see References, you might need to click on the “Show All Files” button (second button from the left on the Solutions Explorer toolbar). For Visual Basic you will also need to expand the “My Project” node.
5. Right click on the reference for Application.MenusForVisualStudioTools and click Remove.
6. Right click on the References folder and click Add Reference.
7. On the Add Reference dialog, select the Browse tab.
8. Select the Application.MenusForVisualStudioTools.dll file installed previously the Microsoft Dynamics GP Application folder (default location: C:\Program Files\Microsoft Dynamics\GP).
9. Click OK.
10. Click to select the newly added Application.MenusForVisualStudioTools reference.
11. In the Properties window, set the Copy Local property to False.
12. From the Build menu, build the project.
13. Copy the resulting VSTMenusCSharp.dll or VSTMenusVB.dll file from the project’s bin/Debug folder to the AddIns folder in the Microsoft Dynamics GP Application folder.
14. Launch Microsoft Dynamics GP.
15. Look at Cards >> Sales for the “VS C# Test” menu items, or Cards >> Purchasing for the “VS VB Test” menu items.

## Using Visual Studio Integration Toolkit for Microsoft Dynamics GP in your own projects

Note: The following section is assuming that you have an existing Visual Studio Tools for Microsoft Dynamics GP project created.

To use the Visual Studio Integration Toolkit for Microsoft Dynamics GP, you will need to add a reference from your Visual Studio application to the Application.MenusForVisualStudioTools.dll file you installed in the Microsoft Dynamics GP application folder. Below are the steps:

1. In the Solution Explorer, expand References. To see References, you might need to click on the “Show All Files” button (second button from the left on the Solutions Explorer toolbar ). For Visual Basic you will also need to expand the “My Project” node.
2. Right click on the References folder and click Add Reference.
3. On the Add Reference dialog, select the Browse tab.
4. Select the Application.MenusForVisualStudioTools.dll file installed previously in the Microsoft Dynamics GP Application folder (default location: C:\Program Files\Microsoft Dynamics\GP).
5. Click OK.
6. Click to select the newly added Application.MenusForVisualStudioTools reference.
7. In the Properties window, set the Copy Local property to False.

## Registering Events for Visual Studio Integration Toolkit

Next you need to add into the Initialize() function the commands to register for the two function events used by the tool for menus.

Register the following function event to call the script to register/create your menu entries:

```
MenusForVisualStudioTools.Functions.EventRegister.InvokeAfterOriginal
```

The event handler called from this event then contains the commands to create the menus as needed by your application.

Then, register the following function event to call the script to handle the callback when a menu entry is selected:

```
MenusForVisualStudioTools.Functions.EventHandler.InvokeAfterOriginal
```

The event handler called from this event then checks that the callback is caused by one of the menu items from this application and if so, performs the desired action, such as opening a Visual Studio Tools form.

Below are examples of the required event registrations for Visual C# and Visual Basic:

```
public void Initialize()
{
    // Register Event to add menu entries
    MenusForVisualStudioTools.Functions.EventRegister.InvokeAfterOriginal += new
    EventRegisterFunction.InvokeEventHandler(VSTMEventRegister);
    // Register Event to handle callbacks from menu entries
    MenusForVisualStudioTools.Functions.EventHandler.InvokeAfterOriginal += new
    EventHandlerFunction.InvokeEventHandler(VSTMEventHandler);
}

Sub Initialize() Implements IDexterityAddIn.Initialize
    ' Register Event to add menu entries
    AddHandler MenusForVisualStudioTools.Functions.EventRegister.InvokeAfterOriginal,
    AddressOf VSTMEventRegister
    ' Register Event to handle callbacks from menu entries
    AddHandler MenusForVisualStudioTools.Functions.EventHandler.InvokeAfterOriginal,
    AddressOf VSTMEventHandler
End Sub
```

In this sample the VSTMEventRegister() script would contain the function calls to add the menu items and record their returned menu tags. The VSTMEventHandler() script would then use the first parameter e.inParam1 from EventRegisterFunction.InvokeEventArgs e argument object returned by the function call to obtain the menu tag of the menu item selected. This tag can then be compared to the stored menu tags obtained during registration and if a match is found, the desired actions can be executed.

Please see the VSTMenus.txt file or the Visual Basic and Visual C# examples included in the archive for more information.

## Registering Area Page Events for Visual Studio Integration Toolkit

Build 15 or above introduces support for Area Pages, if you wish to use this functionality you need to add into the `Initialize()` function the commands to register for the two new function events used by the tool for Area Pages.

Register the following function event to call the script to register/create your Area Page:

```
MenusForVisualStudioTools.Functions.EventRegisterAreaPage.InvokeAfterOriginal
```

The event handler called from this event then contains the commands to create the Area Page button and command list.

Then, register the following function event to call the script to handle the callback when the Area Page is selected:

```
MenusForVisualStudioTools.Functions.EventHandlerAreaPage.InvokeAfterOriginal
```

The event handler called from this event then contains the commands to create the Area Page content.

Below are examples of the required event registrations for Visual C# and Visual Basic:

```
public void Initialize()
{
    // Register Event to add Area Page Button
    MenusForVisualStudioTools.Functions.EventRegisterAreaPage.InvokeAfterOriginal += new
    EventRegisterAreaPageFunction.InvokeEventHandler(VSTMEEventRegisterAreaPage);
    // Register Event to add Area Page Content
    MenusForVisualStudioTools.Functions.EventHandlerAreaPage.InvokeAfterOriginal += new
    EventHandlerAreaPageFunction.InvokeEventHandler(VSTMEEventHandlerAreaPage);
}
```

```
Sub Initialize() Implements IDexterityAddIn.Initialize
    ' Register Event to add Area Page Button
    AddHandler
MenusForVisualStudioTools.Functions.EventRegisterAreaPage.InvokeAfterOriginal, AddressOf
VSTMEEventRegisterAreaPage
    ' Register Event to add Area Page Content
    AddHandler
MenusForVisualStudioTools.Functions.EventHandlerAreaPage.InvokeAfterOriginal, AddressOf
VSTMEEventHandlerAreaPage
End Sub
```

In this sample the `VSTMEEventRegisterAreaPage()` script would contain the function calls to add the Area Page button and record the returned tag. The `VSTMEEventHandlerAreaPage()` script would then use the first parameter `e.inParam1` from `EventRegisterFunction.InvokeEventArgs` argument object to obtain the tag of the Area Page selected. Then the call to add the Area Page content can be made.

Please see the `VSTMenus.txt` file or the Visual Basic and Visual C# examples included in the archive for more information.

## Glossary of Terms

Below is a list terms used in this documentation and with Visual Studio Integration Toolkit for Microsoft Dynamics GP:

|                   |   |
|-------------------|---|
| Dictionary ID:    | Short integer uniquely identifying a Dexterity Dictionary, also known as a Product ID. The Dictionary ID for a product can be obtained from the Dynamics.set launch file. |
| Resource ID:      | Short integer uniquely identifying an individual resource within a Dexterity Dictionary.  |
| Form:             | A container object that holds windows, scripts and commands.  |
| Form Name:        | The name of a form within a Dictionary.   |
| Form Resource ID: | The Resource ID for a form within a Dictionary  |
| Command:          | A Dexterity resource used for creating Menus and Toolbars. Commands are contained on a form. To uniquely identify a command requires a                                    |
| Menu Tag:         | Short integer assigned to a command when it is added to the application menu structure.   |
| Area Page:        | Navigation page in the application main window containing multiple menus. Supported from Build 15 or above.   |

## Limitations

Visual Studio Integration Toolkit for Microsoft Dynamics GP has the following limitations:

- There is a maximum of 100 menu items shared among all Visual Studio addins using API.
- There is a maximum of 10 area pages shared among all Visual Studio addins using API.
- Menu items defined cannot be added to toolbars
- The menus added with this tool will not be visible to other Dexterity based applications.

## Product Support

Technical support for Visual Studio Integration Toolkit for Microsoft Dynamics GP can be obtained by emailing [support@winthropdc.com](mailto:support@winthropdc.com).

While all efforts will be made to respond in a timely manner, due to time zone differences a response may take up to two business days.

## Menu structure in Microsoft Dynamics GP

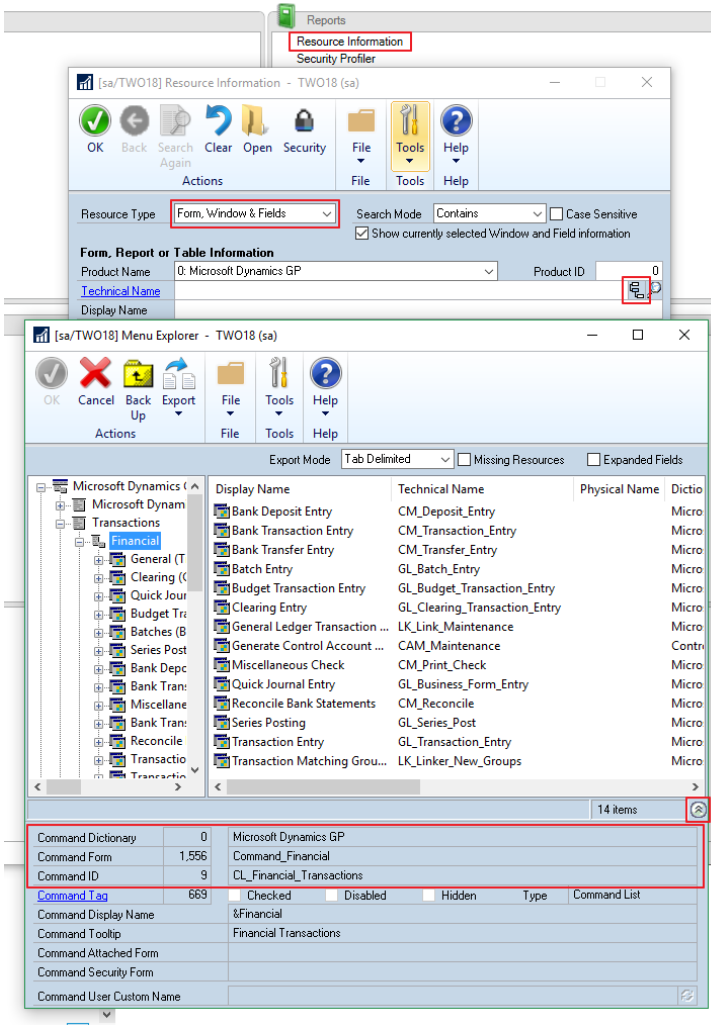
To add your menu items to the set of menus in Microsoft Dynamics GP, you need to know how the menus are structured. The following table shows the menu structure for the core application. These are the menus you see in the Area Pages, in the Microsoft Dynamics GP menu, and the “Main” toolbar. You will use this information when you add the menu items for your integration.

| Top-level menu     | Submenu    | Form               | Command                    |
|--------------------|------------|--------------------|----------------------------|
| Tools*             |            | Command_System     | CL_Tools                   |
| Tools >> Setup     |            | Command_System     | CL_Setup                   |
|                    | System     | Command_System     | CL_System_Setup            |
|                    | Company    | Command_System     | CL_Company_Setup           |
|                    | Posting    | Command_System     | CL_Posting_Setup           |
|                    | Financial  | Command_Financial  | CL_Financial_Setup         |
|                    | Sales      | Command_Sales      | CL_Sales_Setup             |
|                    | Purchasing | Command_Purchasing | CL_Purchasing_Setup        |
|                    | Inventory  | Command_Inventory  | CL_Inventory_Setup         |
|                    | Payroll    | Command_Payroll    | CL_Payroll_Setup           |
| Tools >> Utilities |            | Command_System     | CL_Utilities               |
|                    | System     | Command_System     | CL_System_Utilities        |
|                    | Company    | Command_System     | CL_Company_Utilities       |
|                    | Financial  | Command_Financial  | CL_Financial_Utilities     |
|                    | Sales      | Command_Sales      | CL_Sales_Utilities         |
|                    | Purchasing | Command_Purchasing | CL_Purchasing_Utilities    |
|                    | Inventory  | Command_Inventory  | CL_Inventory_Utilities     |
|                    | Payroll    | Command_Payroll    | CL_Payroll_Utilities       |
| Tools >> Routines  |            | Command_System     | CL_Routines                |
|                    | Company    | Command_System     | CL_Company_Routines        |
|                    | Financial  | Command_Financial  | CL_Financial_Routines      |
|                    | Sales      | Command_Sales      | CL_Sales_Routines          |
|                    | Purchasing | Command_Purchasing | CL_Purchasing_Routines     |
|                    | Inventory  | Command_Inventory  | CL_Inventory_Routines      |
|                    | Payroll    | Command_Payroll    | CL_Payroll_Routines        |
| Transactions       |            | Command_System     | CL_Transactions            |
|                    | Financial  | Command_Financial  | CL_Financial_Transactions  |
|                    | Sales      | Command_Sales      | CL_Sales_Transactions      |
|                    | Purchasing | Command_Purchasing | CL_Purchasing_Transactions |
|                    | Inventory  | Command_Inventory  | CL_Inventory_Transactions  |
|                    | Payroll    | Command_Payroll    | CL_Payroll_Transactions    |
| Inquiry            |            | Command_System     | CL_Inquiry                 |
|                    | System     | Command_System     | CL_System_Inquiry          |
|                    | Financial  | Command_Financial  | CL_Financial_Inquiry       |
|                    | Sales      | Command_Sales      | CL_Sales_Inquiry           |
|                    | Purchasing | Command_Purchasing | CL_Purchasing_Inquiry      |
|                    | Inventory  | Command_Inventory  | CL_Inventory_Inquiry       |
|                    | Payroll    | Command_Payroll    | CL_Payroll_Inquiry         |

| Top-level menu | Submenu | Form | Command |
|----------------|---------|------|---------|
|----------------|---------|------|---------|

|         |            |                    |                       |
|---------|------------|--------------------|-----------------------|
| Reports |            | Command_System     | CL_Reports            |
|         | System     | Command_System     | CL_System_Reports     |
|         | Company    | Command_System     | CL_Company_Reports    |
|         | Financial  | Command_Financial  | CL_Financial_Reports  |
|         | Sales      | Command_Sales      | CL_Sales_Reports      |
|         | Purchasing | Command_Purchasing | CL_Purchasing_Reports |
|         | Inventory  | Command_Inventory  | CL_Inventory_Reports  |
|         | Payroll    | Command_Payroll    | CL_Payroll_Reports    |
| Cards   |            | Command_System     | CL_Cards              |
|         | System     | Command_System     | CL_System_Cards       |
|         | Financial  | Command_Financial  | CL_Financial_Cards    |
|         | Sales      | Command_Sales      | CL_Sales_Cards        |
|         | Purchasing | Command_Purchasing | CL_Purchasing_Cards   |
|         | Inventory  | Command_Inventory  | CL_Inventory_Cards    |
|         | Payroll    | Command_Payroll    | CL_Payroll_Cards      |
| Help*   |            | Command_System     | CL_Help               |

\*We recommend not adding items directly to this top-level menu



For other Microsoft and third-party product dictionaries, you can find details of the menu structures and commands using Winthrop Development Consultants **GP Power Tools**.

From the GP Power Tools area page, select the Resource Information window (GP Power Tools >> Reports >> Resource Information).

Make sure the window has the Resource Type as Form, Window & Fields, then click on the Menu Lookup to open the Menu Explorer.

On the Menu Explorer window use the button at the bottom right corner of the window to expand the window.

Now you can see the command dictionary, form and ID for any menu item selected in the left-hand pane of the Menu Explorer.

See the highlighted sections on the screenshot.



## Functions Available

Below is a list of the functions available to be called from the  
MenusForVisualStudioTools.Functions object.

### Registration Functions:

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|                 |  |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
|-----------------|--|---|---------|---------------------|------------|----------|-------------------------------|------------|----------|-------------------------|--------|-----------|-----------------------------------|-------------|-----------|-----------------------------------|------------|-----------|---------------------------------------|-------------|-----------|--|-----------|-----------|--------------------------------------|--------------|---------|--------------------------------------|--------------|-----------|------------------------------------|---------|-----------|---|
| Name:           | Register   |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Description:    | This function is used to create menu entries or parent menu entries for sub menus.<br>Error codes are shown below.   |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Qualified Name: | MenusForVisualStudioTools.Functions.Register   |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Returns:        | (Short) The Menu Tag of the registered menu or error code.   |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Parameters:     | <table><tr><td>IN_Parent_Tag</td><td>(Short)</td><td>Menu Tag for Parent</td></tr><tr><td>IN_Caption</td><td>(String)</td><td>Menu Caption, cannot be empty</td></tr><tr><td>IN_Tooltip</td><td>(String)</td><td>Menu Tooltip (optional)</td></tr><tr><td>IN_Key</td><td>(Integer)</td><td>Menu Shortcut, ASCII value of key</td></tr><tr><td>IN_Modifier</td><td>(Integer)</td><td>Menu Shortcut Modifier (optional)</td></tr><tr><td>IN_Checked</td><td>(Boolean)</td><td>Set to True to create menu as checked</td></tr><tr><td>IN_Disabled</td><td>(Boolean)</td><td>Set to True to create menu as disabled</td></tr><tr><td>IN_Hidden</td><td>(Boolean)</td><td>Set to True to create menu as hidden</td></tr><tr><td>IN_Below_Tag</td><td>(Short)</td><td>Menu Tag for menu entry to add below</td></tr><tr><td>IN_Separator</td><td>(Boolean)</td><td>Set to True to add Separator above</td></tr><tr><td>IN_List</td><td>(Boolean)</td><td>Set to True to add Menu as Command List</td></tr></table> | IN_Parent_Tag                           | (Short) | Menu Tag for Parent | IN_Caption | (String) | Menu Caption, cannot be empty | IN_Tooltip | (String) | Menu Tooltip (optional) | IN_Key | (Integer) | Menu Shortcut, ASCII value of key | IN_Modifier | (Integer) | Menu Shortcut Modifier (optional) | IN_Checked | (Boolean) | Set to True to create menu as checked | IN_Disabled | (Boolean) | Set to True to create menu as disabled | IN_Hidden | (Boolean) | Set to True to create menu as hidden | IN_Below_Tag | (Short) | Menu Tag for menu entry to add below | IN_Separator | (Boolean) | Set to True to add Separator above | IN_List | (Boolean) | Set to True to add Menu as Command List |
| IN_Parent_Tag   | (Short)  | Menu Tag for Parent                     |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Caption      | (String)   | Menu Caption, cannot be empty           |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Tooltip      | (String)   | Menu Tooltip (optional)                 |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Key          | (Integer)  | Menu Shortcut, ASCII value of key       |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Modifier     | (Integer)  | Menu Shortcut Modifier (optional)       |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Checked      | (Boolean)  | Set to True to create menu as checked   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Disabled     | (Boolean)  | Set to True to create menu as disabled  |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Hidden       | (Boolean)  | Set to True to create menu as hidden    |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Below_Tag    | (Short)  | Menu Tag for menu entry to add below    |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_Separator    | (Boolean)  | Set to True to add Separator above      |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| IN_List         | (Boolean)  | Set to True to add Menu as Command List |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Related:        | GetTag, GetTagByName, Unregister   |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Error Codes:    | -1 : Attempting to register more than the supported number of menus.<br>-2 : No Parent Tag provided.<br>-3 : No Caption provided.<br>-4 : Parent Tag was provided, unable to identify Parent Command from Tag.<br>-17: Visual Studio Integration Toolkit is not registered.  |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |
| Notes:          | Leave IN_Below_Tag as 0 for bottom of menu or set to -1 for top of menu.<br>Constants for use with IN_Key and IN_Modifier shown after GetAccelerator<br>SetAccelerator functions.  |   |         |                     |            |          |                               |            |          |                         |        |           |                                   |             |           |                                   |            |           |                                       |             |           |  |           |           |                                      |              |         |                                      |              |           |                                    |         |           |   |

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Name: RegisterWithSecurity

Description: This function is used to create menu entries with security inherited from an application form. Error codes are shown below.

Qualified Name: MenusForVisualStudioTools.Functions.RegisterWithSecurity

Returns: (Short) The Menu Tag of the registered menu or an error code.

|             |                   |           |   |
|-------------|-------------------|-----------|---|
| Parameters: | IN_Parent_Tag     | (Short)   | Menu Tag for Parent                     |
|             | IN_Caption        | (String)  | Menu Caption, cannot be empty           |
|             | IN_Tooltip        | (String)  | Menu Tooltip (optional)                 |
|             | IN_Key            | (Integer) | Menu Shortcut, ASCII value of key       |
|             | IN_Modifier       | (Integer) | Menu Shortcut Modifier (optional)       |
|             | IN_Checked        | (Boolean) | Set to True to create menu as checked   |
|             | IN_Disabled       | (Boolean) | Set to True to create menu as disabled  |
|             | IN_Hidden         | (Boolean) | Set to True to create menu as hidden    |
|             | IN_Below_Tag      | (Short)   | Menu Tag for menu entry to add below    |
|             | IN_Separator      | (Boolean) | Set to True to add Separator above      |
|             | IN_List           | (Boolean) | Set to True to add Menu as Command List |
|             | IN_SecurityDictID | (Short)   | Dictionary ID for Security Form         |
|             | IN_SecurityResID  | (Short)   | Resource ID for Security Form           |

Related: GetTag, GetTagByName, GetFormResID, Unregister

Error Codes: Validate TagError Codes  
ValidateForm Error Codes  
-1 : Attempting to register more than the supported number of menus.  
-2 : No Parent Tag provided.  
-3 : No Caption provided.  
-4 : Parent Tag was provided, unable to identify Parent Command from Tag.  
-5 : Security Form not applied due to table error  
-17: Visual Studio Integration Toolkit is not registered.

Notes: Leave IN\_Below\_Tag as 0 for bottom of menu or set to -1 for top of menu.

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Name: RegisterSimple

Description: This function provides a simplified registration syntax to add menu entries to the end of any existing menu in core Dynamics GP, Project Accounting, Field Service, Manufacturing and Human Resources.

The Command List Name for the parent menu can be any command list command from any of the command forms in the products listed above. The table provided earlier in the documentation includes the command lists for core Dynamics GP in the final column. Command lists for the other products can be identified using Dexterity from the following forms:

|                    |                         |
|--------------------|-------------------------|
| Project Accounting | Command_PA              |
| Field Service      | SVC_Command_* (6 forms) |
| Manufacturing      | Command_MFG             |
| Human Resources    | Command_HR              |

The command form and product dictionary do not need to be specified and parent menu tag does not need to be identified first. The Error codes are shown below.

Qualified Name: MenusForVisualStudioTools.Functions.RegisterSimple

Returns: (Short) The Menu Tag of the registered menu or error code.

Parameters: IN\_Parent\_Menu (String) Command List Name for Parent  
IN\_Caption (String) Menu Caption, cannot be empty

Related: GetTagSimple, Unregister

Error Codes: ValidateFormByName Error Codes  
-1 : Attempting to register more than the supported number of menus.  
-2 : No Parent Tag provided.  
-3 : No Caption provided.  
-4 : Parent Tag was provided, unable to identify Parent Command from Tag.  
-13: Command Resource not found.  
-17: Visual Studio Integration Toolkit is not registered.

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**Name:** RegisterAreaPage (build 15 or above)

**Description:** This function is used to create an Area Page Button and associated Command List. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.RegisterAreaPage

**Returns:** (Short) The Area Page Tag of the registered Area Page or error code.

**Parameters:**

|            |          |                                    |
|------------|----------|------------------------------------|
| IN_Caption | (String) | Area Page Caption, cannot be empty |
| IN_Tooltip | (String) | Area Page Tooltip (optional)       |

**Related:** RegisterAreaPageContent

**Error Codes:**

- 3 : No Caption provided.
- 17: Visual Studio Integration Toolkit is not registered.
- 19 : Attempting to register more than the supported number of Area Pages.

**Notes:** Generic images are used for the buttons as the commands to change the images did not work for the Area Page buttons.

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**Name:** RegisterAreaPageContent (build 15 or above)

**Description:** This function is used to create menu entries or parent menu entries for sub menus. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.RegisterAreaPageContent

**Returns:** (Short) The Menu Tag of the registered menu or error code.

**Parameters:**

|            |          |  |
|------------|----------|--|
| IN_Tag     | (Short)  | Area Page Button Tag                     |
| IN_Caption | (String) | Area Page Caption, cannot be empty       |
| IN_Tag1    | (Short)  | Menu Tag for Transaction Menu (optional) |
| IN_Pos1    | (Short)  | Column for Transaction Menu (optional)   |
| IN_Tag2    | (Short)  | Menu Tag for Inquiry Menu (optional)     |
| IN_Pos2    | (Short)  | Column for Inquiry Menu (optional)       |
| IN_Tag3    | (Short)  | Menu Tag for Reports Menu (optional)     |
| IN_Pos3    | (Short)  | Column for Reports Menu (optional)       |
| IN_Tag4    | (Short)  | Menu Tag for Cards Menu (optional)       |
| IN_Pos4    | (Short)  | Column for Cards Menu (optional)         |
| IN_Tag5    | (Short)  | Menu Tag for Setup Menu (optional)       |
| IN_Pos5    | (Short)  | Column for Setup Menu (optional)         |
| IN_Tag6    | (Short)  | Menu Tag for Routines Menu (optional)    |
| IN_Pos6    | (Short)  | Column for Routines Menu (optional)      |
| IN_Tag7    | (Short)  | Menu Tag for Utilities Menu (optional)   |
| IN_Pos7    | (Short)  | Column for Utilities Menu (optional)     |

**Related:** RegisterAreaPage

**Error Codes:** -3 : No Caption provided.  
-17: Visual Studio Integration Toolkit is not registered.

**Notes:** Tag left as 0 will be skipped and not added to the Area Page.  
Column Numbers can be 1 or 2 for v11.0 and 1 to 3 for V12.0 onwards. Leave the Column Number as 0 for default column location.

---

**Name:** Unregister

**Description:** This function is used to unregister menu entries. This is only provided to allow menus to be removed due to an exception during the registration process. Ensure all child menu entries are removed before removing the parent menu entry.

This function will not return the unregistered menus to the pool of available menus entries. If you require the ability to dynamically control menus, use the Hide and Disable functions.

**Qualified Name:** MenusForVisualStudioTools.Functions.Unregister

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|               |         |                                   |
|---------------|---------|-----------------------------------|
| IN_Parent_Tag | (Short) | Menu Tag for Parent               |
| IN_Tag        | (Short) | Menu Tag to link Security Form to |

**Related:** Register, RegisterWithSecurity

**Error Codes:** ValidateTag Error Codes

- 2 : No Parent Tag provided.
- 4 : Parent Tag was provided, unable to identify Parent Command from Tag.
- 16 : Unregistering Menu Tag failed.

**Security Functions:**

---

**Name:** ApplySecurity

**Description:** This function is used to add/change security to an existing menu. Security is inherited from an application form. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.ApplySecurity

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|           |         |                                   |
|-----------|---------|-----------------------------------|
| IN_Tag    | (Short) | Menu Tag to link Security Form to |
| IN_DictID | (Short) | Dictionary ID for Security Form   |
| IN_ResID  | (Short) | Resource ID for Security Form     |

**Related:** GetFormResID

**Error Codes:** ValidateTag Error Codes  
ValidateForm Error Codes  
-5 : Security Form not applied due to table error.

---

**Name:** RemoveSecurity

**Description:** This function is used to remove security from a menu. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.RemoveSecurity

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|        |         |                                       |
|--------|---------|---------------------------------------|
| IN_Tag | (Short) | Menu Tag to remove Security Form from |
|--------|---------|---------------------------------------|

**Related:** GetFormResID

**Error Codes:** ValidateTag Error Codes  
-5 : Security Form not applied due to table error.

---

**Name:** CheckSecurity

**Description:** This function is used to check the application level security access of a Form given its ID. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.CheckSecurity

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|            |           |   |
|------------|-----------|---|
| IN_Dict    | (Short)   | Dictionary ID for Form                    |
| IN_Form    | (Short)   | Form Resource ID for Form                 |
| IN_Verbose | (Boolean) | Display Security Error when Access Denied |

**Related:** CheckSecurityByName, DisplaySecurityError

**Error Codes:** ValidateForm Error Codes  
0 : OKAY – Access Granted.  
1 : REJECT\_RECORD – Access Denied.  
2 : REJECT\_SCRIPT – Form not loaded.

---

**Name:** CheckSecurityByName

**Description:** This function is used to check the application level security access of a Form given its Name. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.CheckSecurityByName

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |           |   |
|-------------|-----------|---|
| IN_DictID   | (Short)   | Dictionary ID for Form                    |
| IN_FormName | (String)  | Form Name for Form                        |
| IN_Verbose  | (Boolean) | Display Security Error when Access Denied |

**Related:** CheckSecurity, DisplaySecurityError

**Error Codes:** ValidateFormByName Error Codes  
0 : OKAY – Access Granted.  
1 : REJECT\_RECORD – Access Denied.  
2 : REJECT\_SCRIPT – Form not loaded.

---



**Name:** DisplaySecurityError

**Description:** This function is used to display the “You don't have security privileges to open this window” security error dialog.

**Qualified Name:** MenusForVisualStudioTools.Functions.DisplaySecurityError

**Returns:** (Short) Returns 1

**Parameters:** None

**Related:** CheckSecurity, CheckSecurityByName

---

**Helper Functions:**

---

**Name:** GetFormResID

**Description:** This function is used to obtain the Resource ID of a form from a string containing the form's technical name. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetFormResID

**Returns:** (Short) Resource ID for Form or an error code

**Parameters:**

|             |          |                        |
|-------------|----------|------------------------|
| IN_DictID   | (Short)  | Dictionary ID for Form |
| IN_FormName | (String) | Form Name for Form     |

**Related:** RegisterWithSecurity, ApplySecurity

**Error Codes:** ValidateFormByName Error Codes

---

**Name:** GetIDs

**Description:** This function is used to obtain the Dictionary ID, Form ID and Command ID for a given Menu Tag. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetIDs

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|          |         |                                   |
|----------|---------|-----------------------------------|
| IN_Tag   | (Short) | Menu Tag to retrieve              |
| OUT_Dict | (Short) | Dictionary ID of Menu Entry       |
| OUT_Form | (Short) | Form Resource ID of Menu Entry    |
| OUT_Cmd  | (Short) | Command Resource ID of Menu Entry |

**Related:** GetTag

**Error Codes:** ValidateTag Error Codes

---

**Name:** GetTag

**Description:** This function is used to obtain the Tag ID of a menu entry from the Dictionary ID, Form ID and Command ID. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetTag

**Returns:** (Short) Menu Tag of specified Menu Entry or an error code

**Parameters:**

|         |         |                                   |
|---------|---------|-----------------------------------|
| IN_Dict | (Short) | Dictionary ID of Menu Entry       |
| IN_Form | (Short) | Form Resource ID of Menu Entry    |
| IN_Cmd  | (Short) | Command Resource ID of Menu Entry |

**Related:** GetIDs, GetTagByName, GetTagSimple

**Error Codes:** ValidateCmd Error Codes

---

**Name:** GetTagByName

**Description:** This function is used to obtain the Tag ID of a menu entry from the Dictionary ID, Form Name and Command Name. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetTagByName

**Returns:** (Short) Menu Tag of specified Menu Entry or an error code

**Parameters:**

|         |          |                             |
|---------|----------|-----------------------------|
| IN_Dict | (Short)  | Dictionary ID of Menu Entry |
| IN_Form | (String) | Form Name of Menu Entry     |
| IN_Cmd  | (String) | Command Name of Menu Entry  |

**Related:** GetTag, GetTagSimple, Register, RegisterWithSecurity

**Error Codes:** ValidateCmdByName Error Codes

---

Name: GetTagSimple

Description: This function provides a simplified syntax to obtain the Tag ID of any existing menu in core Dynamics GP, Project Accounting, Field Service, Manufacturing and Human Resources.

The Command List Name for the parent menu can be any command list command from any of the command forms in the products listed above. The table provided earlier in the documentation includes the command lists for core Dynamics GP in the final column. Command lists for the other products can be identified using Dexterity from the following forms:

|                    |                         |
|--------------------|-------------------------|
| Project Accounting | Command_PA              |
| Field Service      | SVC_Command_* (6 forms) |
| Manufacturing      | Command_MFG             |
| Human Resources    | Command_HR              |

The command form and product dictionary do not need to be specified and parent menu tag does not need to be identified first. The Error codes are shown below.

Qualified Name: MenusForVisualStudioTools.Functions.GetTagSimple

Returns: (Short) Menu Tag of specified Menu Entry or an error code

Parameters: IN\_Parent\_Menu (String) Command List Name for Parent

Related: GetTag, GetTagByName, Register, RegisterWithSecurity, RegisterSimple

Error Codes: ValidateCmdByName Error Codes  
-13: Command Resource not found.

---

**Callback Function:**

---

Name: Callback

Description: This function is used to obtain the Tag ID of the just selected menu entry to be compared with the values returned during registration.

Qualified Name: MenusForVisualStudioTools.Functions.Callback

Returns: (Short) Menu Tag of just selected Menu Entry

Parameters: None

Related: Register, RegisterWithSecurity

---

**Boolean Property Functions:**

---

**Name:** Checked

**Description:** This function is used to get the checked state of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.Checked

**Returns:** (Short) Returns 0 (False) or 1 (True) or an error code.

**Parameters:** IN\_Tag (Short) Menu Tag of Menu Entry

**Related:** Check

**Error Codes:** ValidateTag Error Codes

---

**Name:** Check

**Description:** This function is used to set the checked state of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.Check

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:** IN\_Tag (Short) Menu Tag of Menu Entry  
IN\_Checked (Boolean) Set to True to check Menu Entry

**Related:** Checked

**Error Codes:** ValidateTag Error Codes  
-15 : Menu Property change failed.

---

**Name:** Hidden

**Description:** This function is used to get the hidden state of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.Hidden

**Returns:** (Short) Returns 0 (False) or 1 (True) or an error code.

**Parameters:** IN\_Tag (Short) Menu Tag of Menu Entry

**Related:** Hide

**Error Codes:** ValidateTag Error Codes

---

**Name:** Hide

**Description:** This function is used to set the hidden state of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.Hide

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:** IN\_Tag (Short) Menu Tag of Menu Entry  
IN\_Hidden (Boolean) Set to True to hide Menu Entry

**Related:** Hidden

**Error Codes:** ValidateTag Error Codes  
-15 : Menu Property change failed.

---

**Name:** Disabled

**Description:** This function is used to get the disabled state of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.Disabled

**Returns:** (Short) Returns 0 (False) or 1 (True) or an error code.

**Parameters:** IN\_Tag (Short) Menu Tag of Menu Entry

**Related:** Disable

**Error Codes:** ValidateTag Error Codes

---

**Name:** Disable

**Description:** This function is used to set the disabled state of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.Disable

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:** IN\_Tag (Short) Menu Tag of Menu Entry  
IN\_Disabled (Boolean) Set to True to disable Menu Entry

**Related:** Disabled

**Error Codes:** ValidateTag Error Codes  
-15 : Menu Property change failed.

---



**String Property Functions:**

---

**Name:** GetCaption

**Description:** This function is used to get the caption value of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetCaption

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |          |                            |
|-------------|----------|----------------------------|
| IN_Tag      | (Short)  | Menu Tag of Menu Entry     |
| OUT_Caption | (String) | Current Name of Menu Entry |

**Related:** SetCaption

**Error Codes:** ValidateTag Error Codes

---

**Name:** SetCaption

**Description:** This function is used to set the caption value of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.SetCaption

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|            |          |                              |
|------------|----------|------------------------------|
| IN_Tag     | (Short)  | Menu Tag of Menu Entry       |
| IN_Caption | (String) | Value to change Menu Name to |

**Related:** GetCaption

**Error Codes:** ValidateTag Error Codes  
-3 : No Caption provided.  
-15 : Menu Property change failed.

---

**Name:** GetTooltip

**Description:** This function is used to get the tooltip value of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetTooltip

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |          |                               |
|-------------|----------|-------------------------------|
| IN_Tag      | (Short)  | Menu Tag of Menu Entry        |
| OUT_Tooltip | (String) | Current Tooltip of Menu Entry |

**Related:** SetTooltip

**Error Codes:** ValidateTag Error Codes

---

**Name:** SetTooltip

**Description:** This function is used to set the tooltip value of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.SetTooltip

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|            |          |                            |
|------------|----------|----------------------------|
| IN_Tag     | (Short)  | Menu Tag of Menu Entry     |
| IN_Tooltip | (String) | Value to change Tooltip to |

**Related:** GetTooltip

**Error Codes:** ValidateTag Error Codes  
-15 : Menu Property change failed.

---

**Name:** GetNamedProperty (build 15 or above)

**Description:** This function is used to get the value of a Named Property for the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetNamedProperty

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |          |                                      |
|-------------|----------|--------------------------------------|
| IN_Tag      | (Short)  | Menu Tag of Menu Entry               |
| IN_Property | (String) | Name of Property for Menu Entry      |
| OUT_Value   | (String) | Current Value of Menu Entry Property |

**Related:** SetNamedProperty

**Error Codes:** ValidateTag Error Codes  
-18 : No Property Name provided.

---

**Name:** SetNamedProperty (build 15 or above)

**Description:** This function is used to set the value of a Named Property for the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.SetNamedProperty

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |          |  |
|-------------|----------|--|
| IN_Tag      | (Short)  | Menu Tag of Menu Entry                 |
| IN_Property | (String) | Name of Property for Menu Entry        |
| IN_Value    | (String) | Value to change Menu Entry Property to |

**Related:** GetNamedProperty

**Error Codes:** ValidateTag Error Codes  
-15 : Menu Property change failed.  
-18 : No Property Name provided.

---

**Numeric Property Functions:**

---

**Name:** GetAccelerator (build 15 or above)

**Description:** This function is used to get the accelerator shortcut key of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.GetAccelerator

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|              |           |                                |
|--------------|-----------|--------------------------------|
| IN_Tag       | (Short)   | Menu Tag of Menu Entry         |
| OUT_Key      | (Integer) | ASCII value of key or constant |
| OUT_Modifier | (Integer) | Optional constant value        |

**Related:** SetAccelerator

**Error Codes:** ValidateTag Error Codes

---

**Name:** SetAccelerator (build 15 or above)

**Description:** This function is used to set the accelerator shortcut key of the specified Menu Entry. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.SetAccelerator

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |           |                                |
|-------------|-----------|--------------------------------|
| IN_Tag      | (Short)   | Menu Tag of Menu Entry         |
| IN_Key      | (Integer) | ASCII value of key or constant |
| IN_Modifier | (Integer) | Optional constant value        |

**Related:** GetAccelerator

**Error Codes:** ValidateTag Error Codes  
-15 : Menu Property change failed.

---

**Constants for use with Accelerator Shortcut Key for Visual C# and Visual Basic .Net:**

```
// Shortcut Key Modifier Constants
const int COMMAND_SHORTCUT_CTRL = 65536;
const int COMMAND_SHORTCUT_CTRLSHIFT = 327680;
const int COMMAND_SHORTCUT_CTRLALT = 196608;
const int COMMAND_SHORTCUT_ALT = 131072;
const int COMMAND_SHORTCUT_ALTSHIFT = 393216;
const int COMMAND_SHORTCUT_CTRLALTSHIFT = 458752;

// Shortcut Key Function Key Constants, can be used instead of ASCII value
const short COMMAND_SHORTCUT_KEY_F1 = 112;
const short COMMAND_SHORTCUT_KEY_F2 = 113;
const short COMMAND_SHORTCUT_KEY_F3 = 114;
const short COMMAND_SHORTCUT_KEY_F4 = 115;
const short COMMAND_SHORTCUT_KEY_F5 = 116;
const short COMMAND_SHORTCUT_KEY_F6 = 117;
const short COMMAND_SHORTCUT_KEY_F7 = 118;
const short COMMAND_SHORTCUT_KEY_F8 = 119;
const short COMMAND_SHORTCUT_KEY_F9 = 120;
const short COMMAND_SHORTCUT_KEY_F10 = 121;
const short COMMAND_SHORTCUT_KEY_F11 = 122;
const short COMMAND_SHORTCUT_KEY_F12 = 123;
```

```
' Shortcut Key Modifier Constants
Const COMMAND_SHORTCUT_CTRL As Integer = 65536
Const COMMAND_SHORTCUT_CTRLSHIFT As Integer = 327680
Const COMMAND_SHORTCUT_CTRLALT As Integer = 196608
Const COMMAND_SHORTCUT_ALT As Integer = 131072
Const COMMAND_SHORTCUT_ALTSHIFT As Integer = 393216
Const COMMAND_SHORTCUT_CTRLALTSHIFT As Integer = 458752
```

```
' Shortcut Key Function Key Constants, can be used instead of ASCII value
Const COMMAND_SHORTCUT_KEY_F1 As Short = 112
Const COMMAND_SHORTCUT_KEY_F2 As Short = 113
Const COMMAND_SHORTCUT_KEY_F3 As Short = 114
Const COMMAND_SHORTCUT_KEY_F4 As Short = 115
Const COMMAND_SHORTCUT_KEY_F5 As Short = 116
Const COMMAND_SHORTCUT_KEY_F6 As Short = 117
Const COMMAND_SHORTCUT_KEY_F7 As Short = 118
Const COMMAND_SHORTCUT_KEY_F8 As Short = 119
Const COMMAND_SHORTCUT_KEY_F9 As Short = 120
Const COMMAND_SHORTCUT_KEY_F10 As Short = 121
Const COMMAND_SHORTCUT_KEY_F11 As Short = 122
Const COMMAND_SHORTCUT_KEY_F12 As Short = 123
```

**Version Functions:**

---

Name:            GetVersion

Description:     This function is used to obtain the version and build number for the tool.

Qualified Name:  MenusForVisualStudioTools.Functions.GetVersion

Returns:         (String) Version Number in form XX.00.XXXX

Parameters:     None

Related:         DisplayAbout

---

Name:            DisplayAbout

Description:     This function is used to open the About window.

Qualified Name:  MenusForVisualStudioTools.Functions.DisplayAbout

Returns:         (Boolean) Set True if the window opened

Parameters:     None

Related:         GetVersion

---

**Validation Functions:**

---

Name: SetProtectedMode

Description: This function is used to turn off and on Protected Mode. Protected Mode is on by default which will prevent menu tags from other products being addressed. If you turn off Protected Mode to allow access to a menu from another product, ensure you turn it back on afterwards.

Qualified Name: MenusForVisualStudioTools.Functions.SetProtectedMode

Returns: (Boolean) Returns True

Parameters: IN\_Mode (Boolean) Set to False to turn Protected Mode off

Related: ValidateTag

---

Name: ValidateTag

Description: This function is used check if a Menu Tag is valid. If Protected Mode is on, a Menu Tag from another product will return an error code. Error codes are shown below.

Qualified Name: MenusForVisualStudioTools.Functions.ValidateTag

Returns: (Short) Returns zero for no error or an error code

Parameters: IN\_Tag (Short) Menu Tag of Menu Entry

Related: SetProtectedMode

Error codes:

- 6 : No Menu Tag provided.
- 7 : Menu Tag not found.
- 8 : Menu Tag found, but from another product and Protected Mode is on.
- 9 : Product Dictionary not loaded.
- 10 : No Form Name or Form ID provided.
- 11 : Form Resource not found.
- 12 : No Command Name or Command ID provided.
- 14 : Command Resource not loaded in memory.

---

**Name:** ValidateCmd

**Description:** This function is used check if a Command on a form is valid given its ID. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.ValidateCmd

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|         |         |                                   |
|---------|---------|-----------------------------------|
| IN_Dict | (Short) | Dictionary ID of Menu Entry       |
| IN_Form | (Short) | Form Resource ID of Menu Entry    |
| IN_Cmd  | (Short) | Command Resource ID of Menu Entry |

**Related:** ValidateCmdByName

**Error codes:**

- 9 : Product Dictionary not loaded.
- 10 : No Form Name or Form ID provided.
- 11 : Form Resource not found.
- 12 : No Command Name or Command ID provided.
- 13 : Command Resource not found.
- 14 : Command Resource not loaded in memory.

---

**Name:** ValidateCmdByName

**Description:** This function is used check if a Command on a form is valid given its name. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.ValidateCmdByName

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|         |          |                             |
|---------|----------|-----------------------------|
| IN_Dict | (Short)  | Dictionary ID of Menu Entry |
| IN_Form | (String) | Form Name of Menu Entry     |
| IN_Cmd  | (String) | Command Name of Menu Entry  |

**Related:** ValidateCmd

**Error codes:**

- 9 : Product Dictionary not loaded.
- 10 : No Form Name or Form ID provided.
- 11 : Form Resource not found.
- 12 : No Command Name or Command ID provided.
- 13 : Command Resource not found.
- 14 : Command Resource not loaded in memory.

---



**Name:** ValidateForm

**Description:** This function is used check if a Form is valid given its ID. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.ValidateForm

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|         |         |                           |
|---------|---------|---------------------------|
| IN_Dict | (Short) | Dictionary ID for Form    |
| IN_Form | (Short) | Form Resource ID for Form |

**Related:** ValidateFormByName

**Error codes:**

- 9 : Product Dictionary not loaded.
- 10 : No Form Name or Form ID provided.
- 11 : Form Resource not found.

---

**Name:** ValidateFormByName

**Description:** This function is used check if a Form is valid given its Name. Error codes are shown below.

**Qualified Name:** MenusForVisualStudioTools.Functions.ValidateFormByName

**Returns:** (Short) Returns zero for no error or an error code

**Parameters:**

|             |          |                        |
|-------------|----------|------------------------|
| IN_DictID   | (Short)  | Dictionary ID for Form |
| IN_FormName | (String) | Form Name for Form     |

**Related:** ValidateForm

**Error codes:**

- 9 : Product Dictionary not loaded.
- 10 : No Form Name or Form ID provided.
- 11 : Form Resource not found.

---

**Error Code Summary:**

---

This is a list of the standard error codes returned by the functions.

- 1 Attempting to register more than the supported number of menus.
- 2 No Parent Tag provided.
- 3 No Caption provided.
- 4 Parent Tag was provided, unable to identify Parent Command from Tag.
- 5 Security Form not applied due to table error.
  
- 6 No Menu Tag provided.
- 7 Menu Tag not found.
- 8 Menu Tag found, but from another product and Protected Mode is on.
- 9 Product Dictionary not loaded.
- 10 No Form Name or Form ID provided.
- 11 Form Resource not found.
- 12 No Command Name or Command ID provided.
- 13 Command Resource not found.
- 14 Command Resource not loaded in memory.
  
- 15 Menu Property change failed.
  
- 16 Unregistering Menu Tag failed.
  
- 17 Visual Studio Integration Toolkit is not registered.
  
- 18 No Property Name provided.
  
- 19 Attempting to register more than the supported number of Area Pages.

## Visual Studio Helper Functions

Build 15 of Visual Studio Integration Toolkit adds over 200 helper functions which expose Dexterity commands, functions and function libraries as well as some useful Dynamics GP functions. These functions allow a Visual Studio developer access to features which were previously only available using Dexterity or passthrough sanScript.

Some of the functions are not included in the Dexterity documentation and some functions have been altered to make them multi dictionary capable and accessible from Visual C# or Visual Basic .Net.

All the functions are form level Dexterity functions on the VSTM\_Helper form in the Visual Studio Integration Toolkit dictionary. A shortcut to access the functions is to define a helper variable, for example:

```
var helper = MenusForVisualStudioTools.Forms.VstmHelper.Functions;
short response = helper.Ask.Invoke("Do you want to save this record?", "&Save",
"&Discard", "&Cancel");
```

Below is a list of the functions grouped by functional areas with a brief description of the functionality:

Types: D = Dexterity function wrapped, G = Dynamics GP function wrapped, C = Custom wrapper or code

### Helper Function Registration and Version

| Function Name        | Type | Description   | Version |
|----------------------|------|---|---------|
| HelperGetVersion     | C    | Return full product version details                   | v11.0+  |
| HelperRegistered     | C    | Check if the Helper Functions Module is registered    | v11.0+  |
| HelperVersionInteger | C    | Return the Helper Functions Version Number as Integer | v11.0+  |
| HelperVersionString  | C    | Return the Helper Function Version Number as String   | v11.0+  |

### Messages and Constants

| Function Name          | Type | Description                                    | Version |
|------------------------|------|--|---------|
| ConstantGetInteger     | C    | Get an Integer Constant from a Dictionary      | v11.0+  |
| ConstantGetIntegerForm | C    | Get an Integer Constant from a Dictionary Form | v11.0+  |
| ConstantGetString      | C    | Get a String Constant from a Dictionary        | v11.0+  |
| ConstantGetStringForm  | C    | Get a String Constant from a Dictionary Form   | v11.0+  |
| Getmsg                 | D    | Get Message from core Dynamics dictionary      | v11.0+  |
| GetmsgEx               | CD   | Get Message from any installed dictionary      | v11.0+  |

**Clearing and Filling Variables**

| <b>Function Name</b> | <b>Type</b> | <b>Description</b>   | <b>Version</b> |
|----------------------|-------------|--|----------------|
| ClearBoolean         | C           | Set a Boolean variable to its empty or cleared state, false                    | v11.0+         |
| ClearDate            | C           | Set a Date variable to its empty or cleared state, 00/00/0000                  | v11.0+         |
| ClearDateTime        | C           | Set a DateTime variable to its empty or cleared state, 00/00/0000 00:00:00     | v11.0+         |
| ClearDecimal         | C           | Set a Decimal variable to its empty or cleared state, 0.00000                  | v11.0+         |
| ClearInteger         | C           | Set an Integer variable to its empty or cleared state, 0                       | v11.0+         |
| ClearShort           | C           | Set a Short variable to its empty or cleared state, 0                          | v11.0+         |
| ClearString          | C           | Set a String variable to its empty or cleared state, ""                        | v11.0+         |
| ClearText            | C           | Set a Text variable to its empty or cleared state, ""                          | v11.0+         |
| ClearTime            | C           | Set a Time variable to its empty or cleared state, 00:00:00                    | v11.0+         |
| EmptyBoolean         | C           | Check a Boolean variable for its empty or cleared state, false                 | v11.0+         |
| EmptyDate            | C           | Check a Date variable for its empty or cleared state, 00/00/0000               | v11.0+         |
| EmptyDateTime        | C           | Check a DateTime variable for its empty or cleared state, 00/00/0000 00:00:00  | v11.0+         |
| EmptyDecimal         | C           | Check a Decimal variable for its empty or cleared state, 0.00000               | v11.0+         |
| EmptyInteger         | C           | Check an Integer variable for its empty or cleared state, 0                    | v11.0+         |
| EmptyShort           | C           | Check a Short variable for its empty or cleared state, 0                       | v11.0+         |
| EmptyString          | C           | Check a String variable for its empty or cleared state, ""                     | v11.0+         |
| EmptyText            | C           | Check a Text variable for its empty or cleared state, ""                       | v11.0+         |
| EmptyTime            | C           | Check a Time variable for its empty or cleared state, 00:00:00                 | v11.0+         |
| FillBoolean          | C           | Set a Boolean variable to its filled or max state, true                        | v11.0+         |
| FillDate             | C           | Set a Date variable to its filled or max state, 31/12/9999                     | v11.0+         |
| FillDateTime         | C           | Set a DateTime variable to its filled or max state, 31/12/9999 23:59:59        | v11.0+         |
| FillDecimal          | C           | Set a Decimal variable to its filled or max state, maximum value for datatype  | v11.0+         |
| FillInteger          | C           | Set an Integer variable to its filled or max state, maximum value for datatype | v11.0+         |

|                |   |  |        |
|----------------|---|--|--------|
| FillShort      | C | Set a Short variable to its filled or max state, maximum value for datatype                | v11.0+ |
| FillString     | C | Set a String variable to its filled or max state, ASCII code 255 for length of variable    | v11.0+ |
| FillText       | C | Set a Text variable to its filled or max state, ASCII code 255 for length of variable      | v11.0+ |
| FillTime       | C | Set a Time variable to its empty or cleared state, 23:59:59                                | v11.0+ |
| FilledBoolean  | C | Check a Boolean variable for its filled or max state, true                                 | v11.0+ |
| FilledDate     | C | Check a Date variable for its filled or max state, 31/12/9999                              | v11.0+ |
| FilledDateTime | C | Check a DateTime variable for its filled or max state, 31/12/9999 23:59:59                 | v11.0+ |
| FilledDecimal  | C | Check a Decimal variable for its filled or max state, maximum value for datatype           | v11.0+ |
| FilledInteger  | C | Check an Integer variable for its filled or max state, maximum value for datatype          | v11.0+ |
| FilledShort    | C | Check a Short variable for its filled or max state, maximum value for datatype             | v11.0+ |
| FilledString   | C | Check a String variable for its filled or max state, ASCII code 255 for length of variable | v11.0+ |
| FilledText     | C | Check a Text variable for its filled or max state, ASCII code 255 for length of variable   | v11.0+ |
| FilledTime     | C | Check a Time variable for its empty or cleared state, 23:59:59                             | v11.0+ |

### Clearing and Filling Fields

| Function Name | Type | Description                               | Version |
|---------------|------|---|---------|
| FieldClear    | C    | Clear a Field, see FieldEmpty             | v11.0+  |
| FieldEmpty    | C    | Check if Field is cleared, see FieldClear | v11.0+  |
| FieldFill     | C    | Fill a Field, see FieldFilled             | v11.0+  |
| FieldFilled   | C    | Check if Field is filled, see FieldFill   | v11.0+  |

### Field Hiding, Locking, Disabling

| Function Name | Type | Description                      | Version |
|---------------|------|----------------------------------|---------|
| FieldDisable  | C    | Disable a Field, see FieldEnable | v11.0+  |
| FieldEnable   | C    | Enable a Field, see FieldDisable | v11.0+  |
| FieldHide     | C    | Hide a Field, see FieldShow      | v11.0+  |
| FieldLock     | C    | Lock a Field, see FieldUnlock    | v11.0+  |
| FieldShow     | C    | Show a Field, see FieldHide      | v11.0+  |
| FieldUnlock   | C    | Unlock a Field, See FieldLock    | v11.0+  |

**Field Size and Position**

| Function Name    | Type | Description             | Version |
|------------------|------|-------------------------|---------|
| FieldGetPosition | CD   | Get Position of a Field | v11.0+  |
| FieldGetSize     | CD   | Get Size of a Field     | v11.0+  |
| FieldSetPosition | C    | Set Position of a Field | v11.0+  |
| FieldSetSize     | C    | Set Size of a Field     | v11.0+  |

**Field Control**

| Function Name         | Type | Description   | Version |
|-----------------------|------|---|---------|
| FieldClearForceChange | C    | Clear Force Change Event when leaving Field   | v11.0+  |
| FieldFocus            | C    | Change Focus to specified field, takes effect when control is returned to the user interface. See FieldSetFocus                   | v11.0+  |
| FieldForceChange      | C    | Force Change Event when leaving Field   | v11.0+  |
| FieldMap              | CD   | Enter data into Field as though entered by user. Window must have focus before issuing command, see WindowFocus and FieldSetFocus | v14.0+  |
| FieldRedraw           | CD   | Force specified field to redraw   | v11.0+  |
| FieldSetFocus         | CD   | Change Focus to specified field, takes effect immediately. See FieldFocus   | v11.0+  |

**Field Properties**

| Function Name           | Type | Description  | Version |
|-------------------------|------|--|---------|
| FieldGetBooleanProperty | CD   | Get a Boolean Property of a field, properties available:<br>157 = FIELD_PROP_AUTOCOMPLETE<br>146 = FIELD_PROP_BDL_DROP_INDICATOR<br>11 = FIELD_PROP_CANCEL<br>30 = FIELD_PROP_DEFAULT<br>152 = FIELD_PROP_DISABLED<br>88 = FIELD_PROP_EDITABLE<br>150 = FIELD_PROP_FOCUS<br>45 = FIELD_PROP_HYPERSPACE<br>151 = FIELD_PROP_LOCKED<br>65 = FIELD_PROP_REQUIRED<br>72 = FIELD_PROP_SURROUNDING_BOX<br>102 = FIELD_PROP_TAB_STOP<br>74 = FIELD_PROP_VISIBLE | v11.0+  |
| FieldGetCaption         | CD   | Get the Caption of a field   | v11.0+  |

|                         |    |  |        |
|-------------------------|----|--|--------|
| FieldGetIntegerProperty | CD | Get an Integer Property of a field, properties available:<br>147 = FIELD_PROP_BDL_DROP_POS_X<br>148 = FIELD_PROP_BDL_DROP_POS_Y<br>149 = FIELD_PROP_BUTTON_STYLE<br>0 = BUTTON_STYLE_TEXT_ONLY<br>1 = BUTTON_STYLE_TEXT_ON_LEFT<br>2 = BUTTON_STYLE_TEXT_ON_RIGHT<br>3 = BUTTON_STYLE_TEXT_ON_TOP<br>4 = BUTTON_STYLE_TEXT_ON_BOTTOM<br>5 = BUTTON_STYLE_GRAPHIC_ONLY  | v11.0+ |
| FieldGetStringProperty  | CD | Get a String Property of a field, properties available:<br>158 =<br>FIELD_PROP_AUTOCOMPLETE_LOOKUP_ITEM<br>12 = FIELD_PROP_CAPTION   | v11.0+ |
| FieldGetToolTip         | CD | Get the ToolTip of a field   | v11.0+ |
| FieldSetBooleanProperty | CD | Set a Boolean Property of a field, properties available:<br>157 = FIELD_PROP_AUTOCOMPLETE<br>146 = FIELD_PROP_BDL_DROP_INDICATOR<br>11 = FIELD_PROP_CANCEL<br>30 = FIELD_PROP_DEFAULT<br>152 = FIELD_PROP_DISABLED<br>88 = FIELD_PROP_EDITABLE<br>150 = FIELD_PROP_FOCUS<br>45 = FIELD_PROP_HYPERSPACE<br>151 = FIELD_PROP_LOCKED<br>65 = FIELD_PROP_REQUIRED<br>72 = FIELD_PROP_SURROUNDING_BOX<br>102 = FIELD_PROP_TAB_STOP<br>74 = FIELD_PROP_VISIBLE | v11.0+ |
| FieldSetCaption         | CD | Set the Caption of a field   | v11.0+ |
| FieldSetIntegerProperty | CD | Set an Integer Property of a field, properties available:<br>147 = FIELD_PROP_BDL_DROP_POS_X<br>148 = FIELD_PROP_BDL_DROP_POS_Y<br>149 = FIELD_PROP_BUTTON_STYLE<br>0 = BUTTON_STYLE_TEXT_ONLY<br>1 = BUTTON_STYLE_TEXT_ON_LEFT<br>2 = BUTTON_STYLE_TEXT_ON_RIGHT<br>3 = BUTTON_STYLE_TEXT_ON_TOP<br>4 = BUTTON_STYLE_TEXT_ON_BOTTOM<br>5 = BUTTON_STYLE_GRAPHIC_ONLY  | v11.0+ |
| FieldSetStringProperty  | CD | Set a String Property of a field, properties available:<br>158 =<br>FIELD_PROP_AUTOCOMPLETE_LOOKUP_ITEM<br>12 = FIELD_PROP_CAPTION   | v11.0+ |

|                 |    |                            |        |
|-----------------|----|----------------------------|--------|
| FieldSetToolTip | CD | Set the ToolTip of a field | v11.0+ |
|-----------------|----|----------------------------|--------|

**Field Colors**

| Function Name | Type | Description  | Version |
|---------------|------|--|---------|
| FieldGetColor | CD   | Get a Field's colors (RGB value) and pattern settings.<br>Colors:<br>131072 = COLOR_SYSTEM<br>262144 = COLOR_TRANSPARENT<br>0 = COLOR_BLACK<br>16777215 = COLOR_WHITE<br>16711680 = COLOR_RED<br>65280 = COLOR_BRIGHT_GREEN<br>255 = COLOR_BLUE<br>65535 = COLOR_TURQUOISE<br>16711935 = COLOR_PINK<br>16776960 = COLOR_YELLOW<br>32896 = COLOR_TEAL<br>32768 = COLOR_GREEN<br>8421376 = COLOR_DARK_YELLOW<br>8388736 = COLOR_VIOLET<br>8388608 = COLOR_DARK_RED<br>128 = COLOR_DARK_BLUE<br>8421504 = COLOR_MEDIUM_GRAY<br>12632256 = COLOR_LIGHT_GRAY<br>16777088 = COLOR_LIGHT_YELLOW<br>33554498 = SYSTEM_WINDOW_BACKGROUND<br>33554499 = SYSTEM_WINDOW_TEXT<br>Patterns:<br>2 = PATTERN_NONE<br>4 = PATTERN_25_SHADING<br>3 = PATTERN_50_SHADING<br>5 = PATTERN_75_SHADING<br>6 = PATTERN_HORIZONTAL<br>7 = PATTERN_VERTICAL<br>8 = PATTERN_UP_DIAGONAL<br>9 = PATTERN_DOWN_DIAGONAL<br>10 = PATTERN_GRID<br>11 = PATTERN_TRELLIS | v11.0+  |



|                   |    |   |        |
|-------------------|----|---|--------|
| FieldSetBackColor | CD | Set a Field's back color (RGB value)<br>Colors:<br>131072 = COLOR_SYSTEM<br>262144 = COLOR_TRANSPARENT<br>0 = COLOR_BLACK<br>16777215 = COLOR_WHITE<br>16711680 = COLOR_RED<br>65280 = COLOR_BRIGHT_GREEN<br>255 = COLOR_BLUE<br>65535 = COLOR_TURQUOISE<br>16711935 = COLOR_PINK<br>16776960 = COLOR_YELLOW<br>32896 = COLOR_TEAL<br>32768 = COLOR_GREEN<br>8421376 = COLOR_DARK_YELLOW<br>8388736 = COLOR_VIOLET<br>8388608 = COLOR_DARK_RED<br>128 = COLOR_DARK_BLUE<br>8421504 = COLOR_MEDIUM_GRAY<br>12632256 = COLOR_LIGHT_GRAY<br>16777088 = COLOR_LIGHT_YELLOW<br>33554498 = SYSTEM_WINDOW_BACKGROUND | v11.0+ |
| FieldSetFont      | CD | Set a Field's font setting<br>Fonts:<br>1 = FONT_COURIER<br>2 = FONT_HELVETICA<br>4 = FONT_TIMES<br>3 = FONT_SYSTEM   | v11.0+ |

|                   |    |   |        |
|-------------------|----|---|--------|
| FieldSetFontColor | CD | Set a Field's font color (RGB value)<br>Colors:<br>131072 = COLOR_SYSTEM<br>262144 = COLOR_TRANSPARENT<br>0 = COLOR_BLACK<br>16777215 = COLOR_WHITE<br>16711680 = COLOR_RED<br>65280 = COLOR_BRIGHT_GREEN<br>255 = COLOR_BLUE<br>65535 = COLOR_TURQUOISE<br>16711935 = COLOR_PINK<br>16776960 = COLOR_YELLOW<br>32896 = COLOR_TEAL<br>32768 = COLOR_GREEN<br>8421376 = COLOR_DARK_YELLOW<br>8388736 = COLOR_VIOLET<br>8388608 = COLOR_DARK_RED<br>128 = COLOR_DARK_BLUE<br>8421504 = COLOR_MEDIUM_GRAY<br>12632256 = COLOR_LIGHT_GRAY<br>16777088 = COLOR_LIGHT_YELLOW<br>33554499 = SYSTEM_WINDOW_TEXT | v11.0+ |
| FieldSetPattern   | CD | Set a Field's pattern setting.<br>Patterns:<br>2 = PATTERN_NONE<br>4 = PATTERN_25_SHADING<br>3 = PATTERN_50_SHADING<br>5 = PATTERN_75_SHADING<br>6 = PATTERN_HORIZONTAL<br>7 = PATTERN_VERTICAL<br>8 = PATTERN_UP_DIAGONAL<br>9 = PATTERN_DOWN_DIAGONAL<br>10 = PATTERN_GRID<br>11 = PATTERN_TRELLIS  | v11.0+ |

|                      |    |   |        |
|----------------------|----|---|--------|
| FieldSetPatternColor | CD | Set a Field's pattern color (RGB value)<br>Colors:<br>131072 = COLOR_SYSTEM<br>262144 = COLOR_TRANSPARENT<br>0 = COLOR_BLACK<br>16777215 = COLOR_WHITE<br>16711680 = COLOR_RED<br>65280 = COLOR_BRIGHT_GREEN<br>255 = COLOR_BLUE<br>65535 = COLOR_TURQUOISE<br>16711935 = COLOR_PINK<br>16776960 = COLOR_YELLOW<br>32896 = COLOR_TEAL<br>32768 = COLOR_GREEN<br>8421376 = COLOR_DARK_YELLOW<br>8388736 = COLOR_VIOLET<br>8388608 = COLOR_DARK_RED<br>128 = COLOR_DARK_BLUE<br>8421504 = COLOR_MEDIUM_GRAY<br>12632256 = COLOR_LIGHT_GRAY<br>16777088 = COLOR_LIGHT_YELLOW | v11.0+ |
|----------------------|----|---|--------|

**Field Fonts**

| Function Name     | Type | Description   | Version |
|-------------------|------|---|---------|
| FieldGetFont      | CD   | Get a Field's font, font size and font style settings<br>Fonts:<br>1 = FONT_COURIER<br>2 = FONT_HELVETICA<br>4 = FONT_TIMES<br>3 = FONT_SYSTEM<br>Styles:<br>0 = FONT_STYLE_PLAIN<br>1 = FONT_STYLE_BOLD<br>2 = FONT_STYLE_ITALIC<br>4 = FONT_STYLE_UNDERLINE<br>Styles can be added to combine | v11.0+  |
| FieldSetFontSize  | CD   | Set a Field's font side setting   | v11.0+  |
| FieldSetFontStyle |      | Set a Field's font style setting.<br>Styles:<br>0 = FONT_STYLE_PLAIN<br>1 = FONT_STYLE_BOLD<br>2 = FONT_STYLE_ITALIC<br>4 = FONT_STYLE_UNDERLINE<br>Styles can be added to combine  |         |

**Text Fields**

| Function Name           | Type | Description   | Version |
|-------------------------|------|---|---------|
| FieldGetSelection       | CD   | Get the string value, position and length of selection from a text field.                 | v11.0+  |
| FieldInsertStringInText | CD   | Insert string into text field replacing current selection                                 | v11.0+  |
| FieldParseText          | CD   | Parse text field into strings of specified length or to end of line. Does not break words | v11.0+  |
| FieldSetSelection       | CD   | Set the position and length of selection in a text field.                                 | v11.0+  |

**Dates and Times**

| Function Name | Type | Description   | Version |
|---------------|------|---|---------|
| MkDate        | D    | Create a Date variable based on Month, Day, Year  | v11.0+  |
| MkDateTime    | C    | Create a DateTime variable based on Month, Day, Year and Hours, Minutes, Seconds                    | v12.0+  |
| MkTime        | D    | Create a Time variable based on Hours, Minutes, Seconds   | v11.0+  |
| SetDate       | D    | Update a Date variable based on Month, Day, Year. Leave Month, Day, Year as zero to leave unchanged | v11.0+  |
| Sysdate       | D    | Get System Date, use parameter true for server  | v11.0+  |
| Sysdatetime   | D    | Get System Date and Time  | v11.0+  |
| Systime       | D    | Get System Time, use parameter true for server  | v11.0+  |

**Formatting Fields**

| Function Name              | Type | Description  | Version |
|----------------------------|------|--|---------|
| Format                     | D    | Format currency to a string<br>Negative Types:<br>1 = SYSTEMNEG<br>2 = MINUSNEG<br>3 = PARENNEG<br>4 = CRNEG<br>+ 100 for % at the end | v11.0+  |
| FormatPhoneNumber          | G    | Format Phone Number as per Message 6055  | v11.0+  |
| FormatResource             | C    | Format Dexterity Form, Window and Field names for use in runtime executed code.  | v11.0+  |
| FormatSocialSecurityNumber | G    | Format Social Security Number as per Message 19311   | v11.0+  |

**List Fields**

| Function Name                 | Type | Description   | Version |
|-------------------------------|------|---|---------|
| ListAddItem                   | C    | Add an Item to the bottom of a List Field                                   | v11.0+  |
| ListChangeItem                | C    | Change the name of an item in a List Field                                  | v11.0+  |
| ListCountItems                | C    | Count the number of items in a List Field                                   | v11.0+  |
| ListDeleteItem                | C    | Delete an item in a List Field  | v11.0+  |
| ListFindData                  | C    | Find an item in a List Field by its Data value                              | v11.0+  |
| ListFindItem                  | C    | Find an item in a List Field by its Name value                              | v11.0+  |
| ListGetInsertPosFromVisualPos | CD   | Get the Insert Position of an item in a List Field from its Visual Position | v11.0+  |
| ListGetVisualPosFromInsertPos | CD   | Get the Visual Position of an item in a List Field from its Insert Position | v11.0+  |
| ListInsertItem                | C    | Insert an item into a List Field  | v11.0+  |
| ListItemData                  | C    | Get the Data value of an item in a List Field                               | v11.0+  |
| ListItemName                  | C    | Get the Name value of an item in a List Field                               | v11.0+  |

**System Dialogs**

| Function Name          | Type | Description  | Version |
|------------------------|------|--|---------|
| Ask                    | D    | Display a system dialog with a string prompt & one, two or three buttons   | v11.0+  |
| AskText                | D    | Display a system dialog with a text prompt one two or three buttons  | v11.0+  |
| Beep                   | D    | Play a sound: 1=ERRORSOUND, 2=WARNSOUND, 3=INFOSOUND   | v11.0+  |
| Debug                  | D    | Display a system dialog with a string prompt & an OK button. Only displayed when Debug >> Show Debug Messages is enabled | v11.0+  |
| DebugText              | D    | Display a system dialog with a text prompt & an OK button. Only displayed when Debug >> Show Debug Messages is enabled   | v11.0+  |
| Error                  | D    | Display an error system dialog with a string prompt & an OK button.  | v11.0+  |
| ErrorText              | D    | Display an error system dialog with a text prompt & an OK button.  | v11.0+  |
| Getfile                | D    | Open a dialog to select a file to open   | v11.0+  |
| GetString              | D    | Open a dialog and prompt for a string or password  | v11.0+  |
| GetValidSystemPassword | G    | Prompt for a valid Dynamics GP System Password   | v11.0+  |
| PathSelectPathname     | D    | Open a dialog to select a folder location  | v11.0+  |
| Savefile               | D    | Open a dialog to select a file to save   | v11.0+  |
| Warning                | D    | Display a warning system dialog with a string prompt & an OK button.   | v11.0+  |
| WarningText            | D    | Display a warning system dialog with a text prompt & an OK button.   | v11.0+  |

**Launching External Applications**

| Function Name    | Type | Description  | Version |
|------------------|------|--|---------|
| FileLaunch       | D    | Open or Print specified File. On Web Client it will transfer the file to client first.<br>Actions:<br>1 = FILE_LAUNCH_ACTION_OPEN<br>2 = FILE_LAUNCH_ACTION_PRINT<br>0 = FILE_LAUNCH_ACTION_NONE (Web Client only) | v12.0+  |
| RunApplication   | D    | Run an external application with parameters. Leave application blank to launch default program based on extension. For Web Client runs on server   | v11.0+  |
| RunMacro         | D    | Run a Macro file   | v11.0+  |
| RunMacroFast     | C    | Run a Macro file with fast screen refreshing   | v12.0+  |
| UtilityLaunchUrl | D    | Open browser window to display URL   | v12.0+  |
| WinHelpLaunchUrl | D    | Re-use open browser window to display URL  | v12.0+  |

### Dictionary Resources

| Function Name          | Type | Description  | Version |
|------------------------|------|--|---------|
| ResourceGetDisplayName | D    | Get the Display Name for a dictionary resource<br>Types:<br>2 = FORMTYPE<br>1 = TABLETYPE<br>42 = GROUPTYPE<br>23 = REPORTTYPE   | v11.0+  |
| ResourceGetID          | D    | Get the Resource ID for a Dictionary Resource<br>Types:<br>1 = Tables<br>2 = Forms<br>6 = Data types<br>7 = Composites<br>8 = Formats<br>9 = Strings<br>15 = Generic pictures<br>18 = Fields<br>21 = Procedure scripts<br>23 = Reports<br>26 = Global variables<br>28 = Metafiles<br>29 = Mac Pictures<br>30 = Messages<br>42 = Table Groups<br>48 = Constants<br>62 = Functions | v11.0+  |

|                         |   |   |        |
|-------------------------|---|---|--------|
| ResourceGetNthResource  | D | Get the Resource ID, Name and Series for a specified Index value for a Dictionary Resource<br>Types:<br>1 = Tables<br>2 = Forms<br>6 = Data types<br>7 = Composites<br>8 = Formats<br>9 = Strings<br>15 = Generic pictures<br>18 = Fields<br>21 = Procedure scripts<br>23 = Reports<br>26 = Global variables<br>28 = Metafiles<br>29 = Mac Pictures<br>30 = Messages<br>42 = Table Groups<br>48 = Constants<br>62 = Functions<br>Series:<br>1 = Financial<br>2 = Sales<br>3 = Purchasing<br>4 = Inventory<br>5 = Payroll<br>6 = Project<br>7 = System | v11.0+ |
| ResourceGetPhysicalName | C | Get the Physical Name for a Table or Field by Resource ID<br>Types:<br>1 = Tables<br>18 = Fields  | v12.0+ |
| FieldGetPhysicalName    | C | Get the Physical Name for a Field by Resource Name  | v12.0+ |
| TableGetPhysicalName    | C | Get the Physical Name for a by Table Resource Name  | v12.0+ |

|                            |   |  |        |
|----------------------------|---|--|--------|
| ResourceGetResourceName    | D | Get the Resource Name for a Dictionary Resource<br>Types:<br>1 = Tables<br>2 = Forms<br>6 = Data types<br>7 = Composites<br>8 = Formats<br>9 = Strings<br>15 = Generic pictures<br>18 = Fields<br>21 = Procedure scripts<br>23 = Reports<br>26 = Global variables<br>28 = Metafiles<br>29 = Mac Pictures<br>30 = Messages<br>42 = Table Groups<br>48 = Constants<br>62 = Functions | v11.0+ |
| ResourceGetSubResourceName | D | Get the Resource Name for a specified Dictionary<br>Sub Resource<br>Type:<br>2 = MT_FORM<br>3 = MT_REPORT<br>Sub Type:<br>71 = DT_COMMAND  | v11.0+ |



**Working with SQL**

| Function Name     | Type | Description  | Version |
|-------------------|------|--|---------|
| SqlClear          | D    | Clear the SQL Connection and Result Sets   | v11.0+  |
| SqlConnection     | D    | Create a SQL Connection using current SQL login  | v11.0+  |
| SqlDate           | G    | Format Date as String for SQL Server   | v11.0+  |
| SqlDescribeColumn | D    | Retrieve details of specified column.<br>Types:<br>20 = DATATYPE_BOOLEAN<br>28 = DATATYPE_VCURRENCY<br>18 = DATATYPE_DATE<br>0 = DATATYPE_INTEGER<br>1 = DATATYPE_LONG_INTEGER<br>4 = DATATYPE_STRING<br>5 = DATATYPE_TEXT<br>19 = DATATYPE_TIME | v11.0+  |
| SqlExecute        | D    | Execute SQL Statements via SQL Connection  | v11.0+  |
| SqlFetchNext      | D    | Fetches the next row from the data set. Returned value of 31 indicates that there is no more data  | v11.0+  |
| SqlFormatStrings  | G    | Format String for SQL Server   | v11.0+  |
| SqlGetData        | D    | Get the data from the specified column in the current data row   | v11.0+  |
| SqlGetError       | D    | Return details of last error on SQL Connection.<br>Internal Error Numbers:<br>0 = No Error<br>41 = Cannot find specified column<br>56 = Cannot find specified table<br>58 = Syntax error in SQL statement  | v11.0+  |
| SqlGetNextResults | D    | Move to next result set. Returned value of 31 indicates that there is no more data   | v11.0+  |
| SqlGetNumCols     | D    | Returns the number of columns in the current result set  | v11.0+  |
| SqlGetNumRows     | D    | Returns the number of rows in the current result set   | v11.0+  |
| SqlTerminate      | D    | Closes the SQL Connection  | v11.0+  |
| SqlTime           | G    | Format Time as String for SQL Server   | v11.0+  |

**Executing Dexterity sanScript**

| Function Name | Type | Description  | Version |
|---------------|------|--|---------|
| Execute       | CD   | Execute Dexterity sanScript script in the context of specified Dictionary  | v11.0+  |
| ExecuteEx     | CD   | Execute Dexterity sanScript script in the context of specified Dictionary and return compiler errors   | v11.0+  |
| ExecuteEx1    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 1 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 }       | v11.0+  |
| ExecuteEx2    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 2 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 2}   | v11.0+  |
| ExecuteEx3    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 3 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 3}   | v11.0+  |
| ExecuteEx4    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 4 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 4}   | v11.0+  |
| ExecuteEx5    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 5 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 5}   | v11.0+  |
| ExecuteEx6    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 6 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 6}   | v11.0+  |
| ExecuteEx7    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 7 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 7}   | v11.0+  |
| ExecuteEx8    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 8 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 8}   | v11.0+  |
| ExecuteEx9    | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 9 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 9}   | v11.0+  |
| ExecuteEx10   | CD   | Execute Dexterity sanScript script in the context of specified Dictionary with 10 parameter and return compiler errors. Parameter format:<br>inout text INOUT_TextX ; { where X = 1 to 10} | v11.0+  |

**Files and Paths**

| Function Name         | Type | Description   | Version |
|-----------------------|------|---|---------|
| FileDelete            | D    | Delete a File, always returns true even file deletion failed, see FileProbe   | v11.0+  |
| FileGetSize           | D    | Retrieve size of a File in bytes  | v11.0+  |
| FileGetTempDirectory  | D    | Retrieve path to workstation's Temp directory   | v11.0+  |
| FileProbe             | D    | Confirm if specified File exists  | v11.0+  |
| PathCreateFolder      | D    | Create a new folder   | v11.0+  |
| PathDoesExist         | D    | Check if Path exists  | v11.0+  |
| PathGetForApp         | D    | Return Pathname for system components<br>Options:<br>1 = PATH_EXEFOLDER<br>2 = PATH_SETFOLDER<br>3 = PATH_DATAFOLDER<br>4 = PATH_DEXINIFILE<br>5 = PATH_SETFILE | v11.0+  |
| PathMakeGeneric       | D    | Convert Native Pathname to Generic format   | v11.0+  |
| PathMakeNative        | D    | Convert Generic Pathname to Native format   | v11.0+  |
| PathParseFileFromPath | D    | Return File name from a full pathname   | v11.0+  |
| PathParsePathFromPath | D    | Return Folder path from a full pathname   | v11.0+  |

**Launch File**

| Function Name             | Type | Description   | Version |
|---------------------------|------|---|---------|
| LaunchCountProds          | D    | Get Number of Products in the Launch File                   | v11.0+  |
| LaunchDictionaryInstalled | C    | Confirm is a Dictionary is installed in the Launch File     | v11.0+  |
| LaunchGetFileName         | D    | Get Path Name of the Launch File                            | v11.0+  |
| LaunchGetProdID           | D    | Get the Product ID from the Position in the Launch File     | v11.0+  |
| LaunchGetProdName         | D    | Get the Product Name from the Product ID in the Launch File | v11.0+  |
| LaunchGetProdPosition     | D    | Get the Position from the Product ID in the Launch File     | v11.0+  |

**Window Size and Position**

| Function Name     | Type | Description   | Version |
|-------------------|------|---|---------|
| WindowGetPosition | CD   | Get the Position of a Window                          | v11.0+  |
| WindowGetSize     | CD   | Get the Size of a Window                              | v11.0+  |
| WindowSetBaseSize | CD   | Set the Base Size of a Window, does not affect fields | v11.0+  |
| WindowSetPosition | C    | Set the Position of a Window                          | v11.0+  |
| WindowSetSize     | C    | Set the Size of a Window, fields may be affected      | v11.0+  |

**Window Control**

| Function Name           | Type | Description  | Version |
|-------------------------|------|--|---------|
| WindowChanged           | CD   | Returns true if data in the window has changed. Leave Window parameter blank to perform function against all windows on the Form. See also WindowClearChanges and WindowForceChanges | v11.0+  |
| WindowClear             | CD   | Clears the specified window, can be used on scrolling windows. Leave Window parameter blank to perform function against all windows on the Form. See WindowFill                      | v11.0+  |
| WindowClearChanges      | CD   | Clears the changed flag from the window. Leave Window parameter blank to perform function against all windows on the Form. See also WindowChanged and WindowForceChanges             | v11.0+  |
| WindowFocus             | C    | Bring focus to window by re-opening it   | v11.0+  |
| WindowForceChanges      | CD   | Sets the changed flag from the window. Leave Window parameter blank to perform function against all windows on the Form. See also WindowChanged and WindowClearChanges               | v11.0+  |
| WindowForceRedraw       | CD   | Force window to be updated immediately before control is returned to the user interface. Call once when window is opened.  | v11.0+  |
| WindowGetTitleByProduct | D    | Get the Title of the specified window  | v11.0+  |
| WindowSetTitleByProduct | D    | Set the Title of the specified window  | v14.0+  |
| WindowIsOpen            | CD   | Returns true if the specified window is open. Leave Window parameter blank to perform function against the Form  | v11.0+  |
| WindowPullFocus         | CD   | Pull the focus from the window to force event scripts to execute   | v11.0+  |
| WindowRequired          | CD   | Returns true if all required fields on the window have data. Leave Window parameter blank to perform function against all windows on the Form  | v11.0+  |
| WindowReturnMapped      | CD   | Return Mapped Fields on child window to parent window  | v14.0+  |

**Scrolling Window Control**

| Function Name               | Type | Description   | Version |
|-----------------------------|------|---|---------|
| WindowClear                 | CD   | Clears the specified window, can be used on scrolling windows. Leave Window parameter blank to perform function against all windows on the Form. See WindowFill   | v11.0+  |
| WindowExpand                | CD   | Expand or Shrink a Scrolling window   | v11.0+  |
| WindowFill                  | CD   | Fill scrolling window with data using current table<br>Modes:<br>0 = Default<br>1 = From Top<br>2 = From Current<br>3 = From Bottom<br>4 = Redraw<br>5 = Redraw Up<br>6 = Redraw Down<br>See WindowClear  | v11.0+  |
| WindowGetLineTag            | CD   | Get current Tag value for selected Scrolling window line  | v14.0+  |
| WindowScrollScrollingWindow | CD   | Move record in Scrolling window, designed for single line scrolling windows. Must have focus on the line.<br>Scroll Type:<br>true = SCROLLTYPE_NEXT<br>false = SCROLLTYPE_PREV<br>Results:<br>0 = FOCUS_OK<br>1 = FOCUS_DIVERTED<br>2 = FOCUS_RESTART<br>3 = FOCUS_DENIED<br>4 = FOCUS_NOEXIST<br>5 = FOCUS_NOEXIST_EOF<br>6 = FOCUS_NOEXIST_SOF<br>7 = FOCUS_NOT_IN_SWIN | v11.0+  |
| WindowSetFocusLine          | CD   | Set the focus to the specified Line value.  | v14.0+  |
| WindowSetFocusTag           | CD   | Set the focus to the specified Tag value. To go to new line, use WindowClear, WindowFill from bottom and WindowSetFocusTag to -1  | v14.0+  |
| WindowSetLineMode           | CD   | Change the editable Mode for a Scrolling Window<br>Modes:<br>0 = LINEMODE_EDITABLE<br>1 = LINEMODE_ADDS_ALLOWED<br>2 = LINEMODE_BROWSE_ONLY   | v11.0+  |

**Runtime Engine and Dictionary Versions**

| Function Name        | Type | Description   | Version |
|----------------------|------|---|---------|
| RuntimeGetModuleInfo | D    | Get Dictionary Module Major Version, Minor Version and Build Number | v11.0+  |
| RuntimeGetVersionNum | D    | Get version number from runtime engine                              | v11.0+  |

#### WebClient and Service Based Architecture

| Function Name                 | Type | Description   | Version |
|-------------------------------|------|---|---------|
| IsServiceMode                 | G    | Check if in Service Based Architecture Mode   | v14.0+  |
| IsWebClient                   | G    | Check if in Web Client mode   | v12.0+  |
| RuntimeGetClientType          | D    | Return Client Type from Runtime Engine<br>Type:<br>1 = DEX_CLIENT_TYPE_STANDARD<br>2 = DEX_CLIENT_TYPE_WEB<br>0 = DEX_CLIENT_TYPE_NO_UI | v12.0+  |
| RuntimeGetWebClientTrustLevel | D    | Check the trust level on the Silverlight Web Client<br>Level:<br>1 = TRUST_LEVEL_FULL<br>0 = TRUST_LEVEL_SANDBOXED                      | v12.0+  |
| RuntimeWriteToWebClientLog    | G    | Write entries to the Web Client Logs  | v12.0+  |

#### User Functions

| Function Name                 | Type | Description   | Version |
|-------------------------------|------|---|---------|
| syUserHasAccessToAllCompanies | G    | Check if user has access to all companies in the system   | v11.0+  |
| syUserInRole                  | G    | Check if user has SQL Roles,<br>Roles:<br>"sysadmin" = ROLE_SYSADMIN<br>"securityadmin" = ROLE_SECURITYADMIN<br>"dbcreator" = ROLE_DBCREATOR<br>"db_owner" = ROLE_DBOWNER<br>"db_accessadmin" = ROLE_DBACCESSADMIN<br>"db_securityadmin" = ROLE_DBSECURITYADMIN<br>"db_backupoperator" =<br>ROLE_DDBACKUPOPERATOR | v11.0+  |
| syUserIsDBO                   | G    | Check if user has db_owner status   | v11.0+  |
| syUserIsPowerUser             | G    | Check if user is a POWERUSER for current company  | v11.0+  |
| syUserIsPowerUserForCompany   | CG   | Check if user is a POWERUSER for specified company  | v11.0+  |

**Encoding and Encryption**

| Function Name                | Type | Description  | Version |
|------------------------------|------|--|---------|
| Hex                          | D    | Convert an integer into a hexadecimal string using lower case letters and prefix, see UtilityConvertLongTo8CharHex | v11.0+  |
| UtilityConvertLongTo8CharHex | D    | Convert an integer into a hexadecimal string using uppercase letters and no prefix, see Hex                        | v11.0+  |
| UtilityDecodeDateTimeString  | D    | Decode a string to datetime, See also UtilityEncodeDateTimeString  | v11.0+  |
| UtilityDecodeString          | D    | Decode a string, see also UtilityEncodeString  | v11.0+  |
| UtilityDecryptTableString    | D    | Decrypt a string stored encrypted in a table, see also UtilityEncryptTableString                                   | v11.0+  |
| UtilityEncodeDateTimeString  | D    | Encode a datetime to a string, See also UtilityDecodeDateTimeString  | v11.0+  |
| UtilityEncodeString          | D    | Encode a string, see also UtilityDecodeString  | v11.0+  |
| UtilityEncryptTableString    | D    | Encrypt a string to be stored encrypted in a table, see also UtilityDecryptTableString                             | v11.0+  |

**Miscellaneous**

| Function Name    | Type | Description  | Version |
|------------------|------|--|---------|
| GetNextNoteIndex | G    | Get the next Note Index for the current company and increment the stored value | v11.0+  |
| IsAlpha          | D    | Check if string contains only alphabetic characters                            | v11.0+  |
| TimerSleep       | D    | Pause for the specified number of milliseconds                                 | v11.0+  |

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