



ENTERPRISE ARCHITECT

用户指南系列

Enterprise Architect插件模型

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创建于  **ENTERPRISE
ARCHITECT**

目录

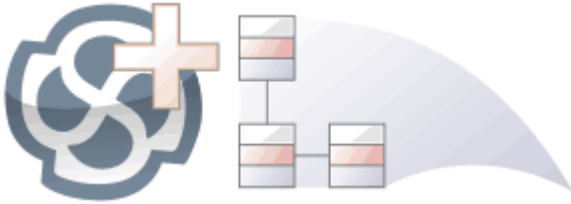
Enterprise Architect插件	6
模型	6
插件	8
经理	8
创建和部署插件	9
创建插件	11
定义菜单项	12
部署插件	14
技巧和窍门	16
插件	18
搜索	18
EA_SampleSearch	19
XML 格式 (搜索数据)	20
插件	21
事件	21
EA_OnAddinPropertiesTabChanging	22
EA_Connect	23
EA_Disconnect	24
EA_GetMenuItems	25
EA_GetMenuState	27
EA_GetRibbonCategory	29
EA_MenuClick	30
EA_OnOutputItemClicked	32
EA_OnOutputItemDoubleClicked	33
EA_ShowHelp	34
广播事件	35
Add-In License Management Events	37
EA_AddinLicenseValidate	38
EA_AddinLicenseGetDescription	39
EA_GetSharedAddinName	40
Custom Table Events	42
EA_OnCustomTableBeginEdit	43
EA_OnCustomTableEndEdit	44
EA_OnCustomTableSelectionChanged	45
EA_OnCustomTableCellUpdated	46
Schema 编辑器事件	47
EA_GenerateFromSchema	48
EA_GetProfileInfo	49
EA_IsSchemaExporter	50
Compartment Events	51
EA_QueryAvailableCompartments	52
EA_GetCompartmentData	54
Context Item Events	57
EA_OnContextItemChanged	58
EA_OnContextItemDoubleClicked	59
EA_OnNotifyContextItemModified	60
EA_FileClose	61

EA_FileNew	62
EA_FileOpen	63
EA_OnPostCloseDiagram	64
EA_OnPostInitialized	65
EA_OnPostOpenDiagram	66
EA_OnPostTransform	67
EA_OnPreExitInstance	68
EA_OnRetrieveModelTemplate	69
EA_OnTabChanged	71
EA_LoadWindowManager	72
Model Validation Events	74
EA_OnInitializeUserRules	75
EA_OnStartValidation	76
EA_OnEndValidation	77
EA_OnRunElementRule	78
EA_OnRunPackageRule	79
EA_OnRunDiagramRule	80
EA_OnRunConnectorRule	81
EA_OnRunAttributeRule	82
EA_OnRunMethodRule	83
EA_OnRunParameterRule	84
验证模型示例	85
Post-New Events	91
EA_OnPostNewElement	92
EA_OnPostNewConnector	93
EA_OnPostNewDiagram	94
EA_OnPostNewDiagramObject	95
EA_OnPostNewAttribute	96
EA_OnPostNewMethod	97
EA_OnPostNewPackage	98
EA_OnPostNewGlossaryTerm	99
Pre-Deletion Events	100
EA_OnPreDeleteElement	101
EA_OnPreDeleteAttribute	102
EA_OnPreDeleteMethod	103
EA_OnPreDeleteConnector	104
EA_OnPreDeleteDiagram	105
EA_OnPreDeleteDiagramObject	106
EA_OnPreDeletePackage	107
EA_OnPreDeleteGlossaryTerm	108
Pre New-Object Events	109
EA_OnPreNewElement	110
EA_OnPreNewConnector	111
EA_OnPreNewDiagram	112
EA_OnPreNewDiagramObject	113
EA_OnPreDropFromTree	114
EA_OnPreNewAttribute	115
EA_OnPreNewMethod	116
EA_OnPreNewPackage	117
EA_OnPreNewGlossaryTerm	118
Tagged Value Events	119

EA_OnAttributeTagEdit	120
EA_OnConnectorTagEdit	121
EA_OnElementTagEdit	122
EA_OnMethodTagEdit	123
Technology Events	124
EA_OnInitializeTechnologies	125
EA_OnPreActivateTechnology	126
EA_OnPostActivateTechnology	127
EA_OnPreDeleteTechnology	128
EA_OnDeleteTechnology	130
EA_OnImportTechnology	131
Technology Rules	132
EARules_Initialize	133
Diagram Appearance Rule Events	135
EARules_ClosePartitionName	136
EARules_ElementDisplayName	137
EARules_GetCompartmentItem	138
EARules_GetCompartmentName	140
EARules_GetNameUnderline	141
EARules_GetPropertyString	142
EARules_GetShapeScript	143
EARules_ShowStereotype	144
EARules_StereotypeDisplayName	145
User Interface Rule Events	146
EARules_AllowNesting	147
EARules_AppendChildDiagrams	148
EARules_AppendChildElements	150
EARules_CanOverrideStereotype	152
EARules_CanProxy	153
EARules_CanReparent	154
EARules_CreateModel	155
EARules_EnableElementProperty	156
EARules_ForceLength	158
EARules_GetEquivalentDiagram	159
EARules_IsAdjustable	160
EARules_PropagateStereotype	161
EARules_ShowElementProperty	162
EARules_ShowFrame	164
EARules_ShowParentFrame	165
自定义视图	166
创建自定义视图	167
自定义停泊窗口	168
MDG插件	170
MDG 事件	171
MDG_BuildProject	172
MDG_Connect	173
MDG_Disconnect	174
MDG_GetConnectedPackages	175
MDG_GetProperty	176
MDG_Merge	177
MDG_NewClass	180

MDG_PostGenerate	181
MDG_PostMerge	182
MDG_PreGenerate	183
MDG_PreMerge	184
MDG_PreReverse	185
MDG_RunExe	186
MDG_View	187
workflows插件	188
事件	188
EA_AllowPropertyUpdate	189
EA_AllowTagUpdate	190
EA_CanEditProperty	191
EA_CanEditTag	192

Enterprise Architect插件模型



插件

功能提供了一种扩展Enterprise Architect的方法，允许程序员通过添加新菜单、子菜单、窗口和其他控件来执行各种功能来增强用户界面。一个插件

是一个 ActiveX COM object，在用户界面中通知事件，例如鼠标单击和元素选择，并通过物件模型访问存储库内容。插件也可以与许可证管理系统集成。

使用此功能，您可以扩展Enterprise Architect以创建核心产品中不可用的新特征，这些特性可以被编译并轻松分发给组织内的用户社区，或者更广泛地分发给整个行业。使用插件

功能甚至可以创建对核心产品不支持的建模语言和框架的支持。

插件比独立的自动化客户端有几个优点：

- 插件可以（并且应该）被编写为进程内（DLL）组件；这提供了更低的调用开销并更好地集成到Enterprise Architect环境中
- 因为当前版本的Enterprise Architect已经在运行，所以不需要通过自动化界面启动Enterprise Architect的第二个副本
- 因为插件接收与当前运行的Enterprise Architect副本关联的object句柄，可获取有关当前用户活动的更多信息；例如，选择了哪些图表对象
- 除了安装插件之外，您无需执行任何操作插件使其可用；也就是说，您不必配置插件运行在您的系统上运行
- 由于Enterprise Architect不断发展以响应客户要求，因此插件界面灵活
- 插件界面没有自己的版本，而是由它首次出现的Enterprise Architect的版本标识；例如，当前版本的Enterprise Architect插件接口是版本1
- 创建插件时插件
· 您不必订阅类型库（插件支持2004年之前创建的插件 - 如果插件订阅Addn_Tmpl.tlb接口（2003风格），加载失败；在这种情况下，请联系插件的供应商或作者插件并请求升级）
- 插件不必实现他们从不使用的方法
- 插件提示用户通过上下文视图和图表中的时间菜单
- 菜单检查和禁用状态可以由插件控制插件

插件通过各种机制增强Enterprise Architect的现有功能，例如脚本、UML Profiles和自动化接口。一旦一个插件已注册，可以使用插件

进行管理插件

经理。

插件 经理

如果您想检查系统上有哪些插件可用，并启用或禁用它们以供使用，您可以审阅 插件“插件经理”的对话框。此对话框列出已在您的系统上注册的插件，以及它们的当前状态（启用或禁用）。

访问

功能区	特定>插件>管理插件
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启用/禁用插件

行动	细节
启用插件	<p>启用插件</p> <p>为了可以使用，选择名称对应的'Load on启动'复选框。</p> <p>点击确定按钮。</p> <ul style="list-style-type: none"> 任何插件 特定特征、功能和帮助通过 特定 <加载项名称>'上下文菜单选项 任何已定义插件 窗口充满信息；选择 特定>插件>插件窗口”功能区选项
禁用插件	<p>禁用插件</p> <p>使其无法使用，清除名称对应的'Load on启动'复选框。</p> <p>点击确定按钮。</p> <p>插件特有的所有菜单选项、特征和功能插件被隐藏并处于非活动状态。</p>

注记

- 当您启用或禁用插件时插件，您必须重新启动Enterprise Architect以执行更改

创建和部署插件

本主题将引导您了解有关创建、测试、部署和管理插件的信息。

创建一个插件

任务	信息
创建插件	使用 IDE 创建插件的一些基本步骤。请参阅创建插件主题。
定义菜单项。	在加载项中定义菜单项的一些示例。请参阅定义菜单项主题。
响应菜单事件。	使用EA_MenuClick的描述和语法。请参阅EA_MenuClick主题。
Handle 插件事件。	查看插件事件主题。

部署你的插件

考虑	信息
部署加载项	有关注册加载项 DLL 的详细信息，请参阅部署插件话题。
诡计和陷阱	请参阅技巧和陷阱主题。

管理插件

任务	信息
注册一个插件 (内部开发或引进)。	引入的应用程序称为商用现货 (COTS) 软件。 查看注册插件话题。
插件经理。	查看插件经理主题。

创建插件

在开始之前，您必须拥有一个能够创建支持 IDispatch 接口的 ActiveX COM 对象的应用程序开发工具，例如：

- Embarcadero Delphi 或 Borland Delphi
- 微软 Visual Basic
- 微软 Visual Studio .NET

您应该考虑如何定义菜单项。为了帮助解决这个问题，您可以在审阅 Sparx Systems 网页上查看一些自动化接口示例 - 用于为 Enterprise Architect 创建插件的代码示例。

创建 Enterprise Architect 插件

节	行动
1	使用开发工具创建 ActiveX COM DLL 项目。 例如，Visual Basic 用户选择 File>Create New Project>ActiveX DLL。
2	使用适合该语言的语法连接到界面。
3	创建一个 COM 类并实现每个一般插件事件适用于您的插件。 您只需定义要响应的事件的方法。
4	添加标识您的插件的注册表项插件到 Enterprise Architect，如部署插件主题中所述。

定义菜单项

任务

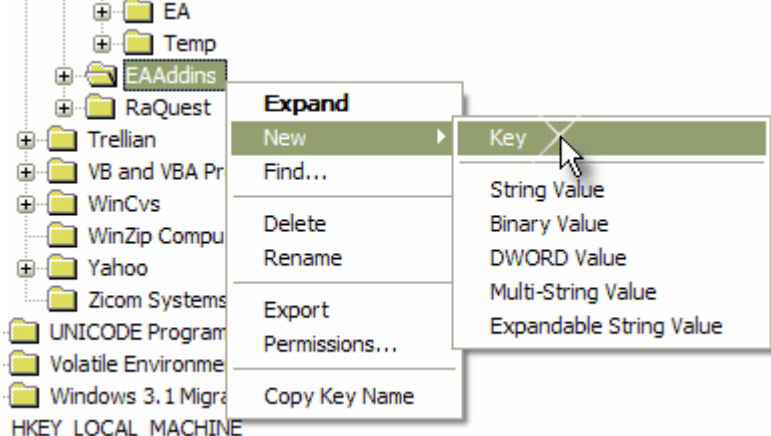
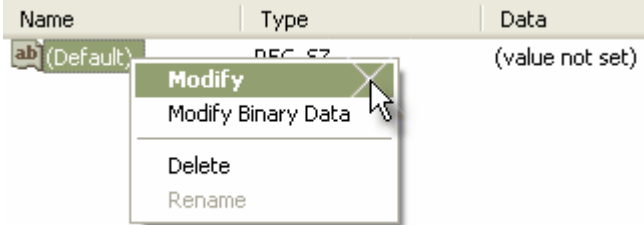
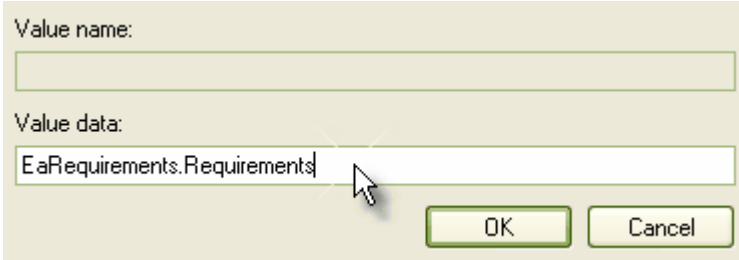
任务	细节
Define Menu Items	<p>Menu items are defined by responding to the GetMenuItems event.</p> <p>The first time this event is called, MenuName is an empty string, representing the top-level menu. For a simple Add-In with just a single menu option you can return a string.</p> <pre>Function EA_GetMenuItems(Repository as EA.Repository, MenuLocation As String, MenuName As String) As Variant EA_GetMenuItems = "&Joe's Add-In" End Function</pre>
Define Sub-Menus	<p>To define sub-menus, prefix a parent menu with a dash. Parent and sub-items are defined in this way:</p> <pre>Function EA_GetMenuItems(Repository as EA.Repository, MenuLocation As String, MenuName As String) As Variant Select Case MenuName Case "" 'Parent Menu Item EA_GetMenuItems = "-&Joe's Add-In" Case "-&Joe's Add-In" 'Define Sub-Menu Items using the Array notation. 'In this example, "Diagram" and "Treeview" compose the "Joe's Add-In" sub-menu. EA_GetMenuItems = Array("&Diagram", "&Treeview") Case Else MsgBox "Invalid Menu", vbCritical End Select End Function</pre>
Define Further Sub-Menus	<p>Similarly, you can define further sub-items:</p> <pre>Function EA_GetMenuItems(Repository as EA.Repository, MenuLocation As String, MenuName As String) As Variant Select Case MenuName Case "" EA_GetMenuItems = "-Joe's Add-In" Case "-Joe's Add-In" EA_GetMenuItems = Array("-&Diagram", "&TreeView") Case "-&Diagram" EA_GetMenuItems = "&Properties" Case Else MsgBox "Invalid Menu", vbCritical End Select</pre>

	End Function
Enable/Disable menu options	<p>To enable or disable menu options by default, you can use this method to show particular items to the user:</p> <pre>Sub EA_GetMenuState(Repository As EA.Repository, Location As String, MenuName As String, ItemName As String, IsEnabled As Boolean, IsChecked As Boolean) Select Case Location Case "TreeView" 'Always enable Case "Diagram" 'Always enable Case "MainMenu" Select Case ItemName Case "&Translate", "Save &Project" If GetIsProjectSelected() Then IsEnabled = False End If End Select End Select IsChecked = GetIsCurrentSelection() End Sub</pre>

部署插件

将插件部署到用户的站点

节	行动
1	<p>添加插件 DLL 文件到用户计算机上的适当目录；那是： C:\Program Files\ (新目录)</p>
2	<p>根据您的平台注册 DLL：</p> <ul style="list-style-type: none"> 如果编译为原生 Win32 DDL，例如 VB 或 C++，请使用命令提示中的 regsvr32 命令注册 DLL regsvr32 "C:\Program Files\我的公司\EAAddin\EAAddin.dll" 如果编译为 .NET DLL，例如 C# 或 VB.NET，请使用命令提示中的 RegAsm 命令注册 DLL C:\WINDOWS\Microsoft.NET\Framework\v2.0.50727\RegAsm.exe "C:\Program Files\我的公司\EAAddin\EAAddin.dll" /代码库
3	<p>使用注册表编辑器（运行 regedit）将新条目放入注册表，以便 Enterprise Architect 识别您的插件的存在插件</p> <p>.</p>
4	<p>在以下位置之一添加新密钥“EAAddIns”：</p> <ul style="list-style-type: none"> 仅限当前用户 <ul style="list-style-type: none"> 在 Enterprise Architect 32 位 [HKEY_CURRENT_USER\Software\Sparx Systems\EAAddins] 在 Enterprise Architect 64 位 [HKEY_CURRENT_USER\Software\Sparx Systems\EAAddins64] 对于一台机器上的多个用户 <ul style="list-style-type: none"> 在 Enterprise Architect 32 位 [HKEY_LOCAL_MACHINE\Software\Sparx Systems\EAAddins] 在 Enterprise Architect 64 位 [HKEY_LOCAL_MACHINE\Software\Sparx Systems\EAAddins64]  <p>注记：Enterprise Architect 32 位和 64 位版本将仅尝试在相应的键下加载插件-分别为 EAAddIns 或 EAAddIns64。</p>
5	<p>在此键下添加一个带有项目名称的新键。</p>

	 <p>(ProjectName)不一定是你的DLL的名字，而是Project的名字；在 Visual Basic 中，这是与项目文件对应的属性名称的值。</p>
6	<p>通过修改key的默认值来指定默认值。</p> 
7	<p>通过键入 (项目名称).(类名称) 来输入键的值，例如： EaRequirements.需求 其中EaRequirements是项目名称，如下例所示：</p> 

技巧和窍门

注意事项

物品	细节
GUID	<p>用于注册插件的注册GUID和名称插件</p> <p>Enterprise Architect 32 位和 64 位版本应该是一样的。只有 DLL 的名称和/或位置应该不同。</p>
Enterprise Architect 64 位和 C++ 插件	<p>除了使用正确的注册密钥 (参见 <i>Deploy Ad-Ins</i> 帮助主题中的步骤 4) 之外，没有任何特殊配置可以让 64 位 COM object 在 Enterprise Architect 64 位下运行。</p>
.NET 插件	<p>生成 .NET 程序集时，必须将“目标平台”显式设置为 x86/x64。当 Enterprise Architect 32 运行在 64 位版本的 Windows 上运行时，将其留在“任何 CPU”上可能会导致问题。</p> <p>将 x64 目标添加到您的项目并重新构建项目。</p> <p>当 Interop.EA 包含在项目中时，Visual Studio 在尝试注册 .NET 程序集时出现问题。它将尝试使用 regasm 来构建架构 Interop.EA。如果您取消选中项目设置中的“Register for COM interop”选项 (假设您有权写入注册表)，我们会发现添加到 Post-Build 脚本帮助。</p> <p>如果 \$(PlatformName) == x64 ("%Windir%\Microsoft.NET\Framework64\v4.0.30319\regasm" "\$(TargetPath)")</p> <p>如果 \$(PlatformName) == x86 ("%Windir%\Microsoft.NET\Framework64\v4.0.30319\regasm" "\$(TargetPath)")</p> <p>注记：在撰写本文时，.NET 插件在 Wine 下和使用 Wine-Mono 时无法工作。</p>
Java API	<p>Java API 加载最后安装的 Enterprise Architect，并且在使用 32 或 64 版本的 dll 时不受影响，只要 Java 运行时可以找到 SSJavaCOM DLL。</p>
Visual Basic 5/6 用户注记	<p>Visual Basic 用户应注记，Enterprise Architect 接口的版本号以类似于以下的形式存储在 VBP 项目文件中：</p> <p>参考=*G{64FB2BF4-9EFA-11D2-8307-C45586000000}#2.2#0#.\.\.\Program Files\Sparx Systems\EA\建筑师#Enterprise 物件模型2.02</p> <p>如果从一个版本的 Enterprise Architect 迁移到另一个版本时遇到问题，请在文本编辑器中打开 VBP 文件并删除此行。然后在 Visual Basic 中打开项目并使用 Project-References 创建一个对 Enterprise Architect 物件模型的新参考。</p>
持有状态信息	<p>插件是可能的插件</p> <p>保存状态信息，这意味着数据可以存储在成员变量中以响应一个事件并在另一个事件中检索。这样做有一些危险：</p> <ul style="list-style-type: none"> Enterprise Architect 自动化对象不会更新自己以响应用户活动、其他工作站上的活动，甚至是同一自动化客户端中其他对象的操作；在调用之间保留此类对象的句柄可能会导致第二个事件查询与 Enterprise Architect 的当前状态没有关系的对象 当您关闭 Enterprise Architect 时，所有插件都被要求关闭；如果有任何外部自动化客户端，Enterprise Architect 必须保持活动状态，在这种情况下

	<p>下，所有插件都会重新加载，丢失所有数据</p> <ul style="list-style-type: none"> • 如果插件 <ul style="list-style-type: none"> · 充当自动化客户端的Enterprise Architect不会关闭插件仍然持有对它的引用（释放 Disconnect() 事件中的所有引用可以避免这个问题） <p>建议除非有特定原因，否则插件应使用存储库参数及其方法和属性来提供必要的数据库。</p>
Enterprise Architect未关闭	<p>.NET特定问题</p> <p>自动化检查对象的使用，并且在它们不再被使用之前不允许它们被销毁。</p> <p>如自动化接口主题中所述，如果您的自动化控制器是使用.NET框架编写的，即使您释放了对它的所有引用，Enterprise Architect也不会关闭。要强制释放COM 指针，请调用内存管理函数，如下所示：</p> <pre>GC.Collect(); GC.WaitForPendingFinalizers();</pre> <p>此外，由于自动化客户端连接到Enterprise Architect，这会创建插件，然后再连接回Enterprise Architect，因此可能会陷入僵局，Enterprise Architect和插件不会彼此松手并保持彼此活跃。一个插件可能会保留与Enterprise Architect的挂钩，因为：</p> <ul style="list-style-type: none"> • 它保留对Enterprise Architect object的私有引用（请参阅前面的<i> Holding</i>状态），或者 • 由.NET创建，GC机制尚未发布 <p>避免死锁情况需要两个操作：</p> <ul style="list-style-type: none"> • 自动化控制器必须在某个时候调用存储库.CloseAddins()（可能在处理结束时） • 插件必须在 Disconnect() 事件中释放对Enterprise Architect的所有引用；查看插件事件主题了解详情 <p>您的自动化客户端可能会控制正在运行的Enterprise Architect实例，其中插件未遵守规则。在这种情况下，您可以调用存储库.Exit() 来终止Enterprise Architect。</p> <p>杂项</p> <p>在使用.NET框架开发插件时，您必须在项目的属性中选择 COM互 操作性，以便将其识别为插件</p> <p>·</p> <p>某些开发环境不会在创建时自动注册 COM DLL。在Enterprise Architect识别插件之前，您可能必须手动执行此操作插件</p> <p>·</p> <p>您可以使用您的私人插件键（根据插件的要求插件部署）来存储与您的插件相关的配置信息插件</p> <p>·</p>

插件 搜索

Enterprise Architect使 Extensions 能够与模型搜索集成。可以定义在您的插件中执行方法的搜索插件并以综合方式显示您的结果。

细节

物品
运行搜索的方法必须以这种方式构造。
定义Enterprise Architect期望的 XML 结构以指定搜索结果。
除了显示的结果之外，还可以将两个额外的隐藏字段传递到 XML 中，以提供特殊功能。 <ul style="list-style-type: none">• CLASSTYPE - 返回一个 CLASSTYPE 字段，包含来自 t_object表的 Object_Type 值，在您放置该字段的列中显示适当的图标• CLASSGUID - 返回包含 ea_guid 值的 CLASSGUID 字段，使模型搜索能够跟踪浏览器窗口中的object，并通过在模型搜索中双击打开元素的属性窗口

EA_SampleSearch

这定义了执行插件

时函数Enterprise Architect调用所需的签名插件

搜索。该名称可以更改为目标编程语言中的任何有效函数名。

句法

参数	类型
存储库	EA.Repository 方向：IN 模型描述：一个EA.Repository object，代表即将关闭的Enterprise Architect。轮询其成员以检索模型数据和用户界面状态信息。
搜索文本	字符串 方向：IN 描述：提供用户在模型搜索窗口的搜索词字段中输入的值（如果有）。
XML结果	字符串 方向：出 描述：提供用户在模型搜索窗口的搜索词字段中输入的值（如果有）。

返回价值

该方法必须返回任何非空值才能显示结果。

XML 格式 (搜索数据)

此示例 XML 提供了 RunModelSearch 方法的 sSearchData 参数的格式。

```
<ReportViewData UID="MySearchID">
```

```
<!--
```

```
//UID 属性使 XML 类型搜索能够持久化列信息。也就是说，如果您运行搜索，按列分组或调整
```

```
//列宽，然后关闭窗口并再次运行搜索，格式/组织更改被保留。避免持久化列
```

```
//安排，将属性值留空或完全删除。使用此部分来声明所有可能的字段 - 出现的列
```

```
//在Enterprise Architect的搜索窗口中 - 下面在 <Rows/> 中使用。此处要附加的信息列的顺序必须
```

```
//匹配Enterprise Architect中搜索运行正常显示的顺序。此外，如果您将结果附加到自定义#
```

```
//搜索，那么你的自定义 SQL中使用的顺序必须和这里使用的顺序一致。
```

```
-->
```

```
<字段>
```

```
<字段名=""/>
```

```
<字段名=""/>
```

```
<字段名=""/>
```

```
<字段名=""/>
```

```
</字段>
```

```
<行>
```

```
<行>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
</行>
```

```
<行>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
</行>
```

```
<行>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
<字段名=""value=""/>
```

```
</行>
```

```
</行>
```

```
</ReportViewData>
```

插件 事件

All Enterprise Architect Add-Ins can choose to respond to general Add-In events.

Events

Event
<i>EA_Connect</i> - Add-Ins can use this to identify their type and to respond to Enterprise Architect start up.
<i>EA_Disconnect</i> - Add-Ins can use this to respond to user requests to disconnect the model branch from an external project.
<i>EA_GetMenuItems</i> - Add-Ins can use this to provide the Enterprise Architect user interface with additional Add-In menu options in various context menus.
<i>EA_GetMenuState</i> - Add-Ins can use this to set a particular menu option to either enabled or disabled.
<i>EA_GetRibbonCategory</i> - Add-Ins can use this to identify the Ribbon panel in which to house their calling icon.
<i>EA_MenuClick</i> - received by an Add-In in response to user selection of a menu option.
<i>EA_OnOutputItemClicked</i> - informs Add-Ins that the user has clicked on a list entry in the system tab or one of the user defined output tabs.
<i>EA_OnOutputItemDoubleClicked</i> - informs Add-Ins that the user has used the mouse to double-click on a list entry in one of the user-defined output tabs.
<i>EA_ShowHelp</i> - Add-Ins can use this to show a Help topic for a particular menu option.

EA_OnAddinPropertiesTabChanging

Indicates that a value in a properties list added via Repository.AddPropertiesTab has been changed by the user.

Syntax

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects describing the field changed: <ul style="list-style-type: none">• TabName: The name of the Add-Ins window tab changing• PropID: Unique ID assign to Property item within the xml definition.• ChangeValue: The value the Property is changing to.• OriginalValue: The original value assigned to the Property

Return Value

- Return False to indicate that this change was rejected
- Return True to indicate that the change is accepted

EA_Connect

Add-Ins can use EA_Connect events to identify their type and to respond to Enterprise Architect start up.

This event occurs when Enterprise Architect first loads your Add-In. Enterprise Architect itself is loading at this time so that while a Repository object is supplied, there is limited information that you can extract from it.

There are two key uses for EA_Connect:

- Initializing global Add-In data, along with identifying the Add-In as an MDG Add-In
- Initializing a Workflow script.

Syntax

Function EA_Connect (Repository As EA.Repository) As String

The EA_Connect function syntax has this parameter:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

A string identifying a specialized type of Add-In:

Type	Details
"MDG"	MDG Add-Ins receive MDG Events and extra menu options.
"Workflow"	Workflow add-ins receive additional events to control user ability to change specific fields.
""	A non-specialized Add-In.

EA_Disconnect

Add-Ins can use the EA_Disconnect event to respond to user requests to disconnect the model branch from an external project.

This function is called when Enterprise Architect closes. If you have stored references to Enterprise Architect objects (not recommended anyway), you must release them here.

In addition, .NET users must call memory management functions as shown:

```
GC.Collect();
```

```
GC.WaitForPendingFinalizers();
```

Syntax

```
Sub EA_Disconnect()
```

Return Value

None.

EA_GetMenuItems

The EA_GetMenuItems event enables the Add-In to provide the Enterprise Architect user interface with additional Add-In menu options in various context menus. When a user selects an Add-In menu option, an event is raised and passed back to the Add-In that originally defined that menu option.

This event is raised just before Enterprise Architect has to show particular menu options to the user, and its use is described in the *Define Menu Items* topic.

Syntax

Function EA_GetMenuItems (Repository As EA.Repository, MenuLocation As String, MenuName As String) As Variant

The EA_GetMenuItems function syntax has these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
MenuLocation	String Direction: IN Description: A string representing the part of the user interface that brought up the context menu. This can be TreeView, MainMenu, Diagram or Other. You can add further values for MenuLocation at any time. A MenuLocation of 'TreeView' would indicate that the menu was displayed in the Browser window; 'MainMenu' would indicate that the menu was displayed from a ribbon option, and 'Diagram' that the menu was displayed within a diagram. 'Other' would indicate an unspecified location, which might be one of these: <ul style="list-style-type: none"> • Calendar • Dialog • Element List • Gantt • Model View • Project View • Relationship Matrix • Reviews • Search • Specification Manager
MenuName	String Direction: IN Description: The name of the parent menu for which sub-items are to be defined. In the case of the top-level menu this is an empty string.

Return Value

One of these types:

- A string indicating the label for a single menu option
- An array of strings indicating multiple menu options
- Empty (Visual Basic/VB.NET) or null (C#) to indicate that no menu should be displayed

In the case of the top-level menu it should be a single string or an array containing only one item, or empty/null.

EA_GetMenuState

Add-Ins can use the EA_GetMenuState event to set a particular menu option to either enabled or disabled. This is useful when dealing with locked Packages and other situations where it is convenient to show a menu option, but not enable it for use.

This event is raised just before Enterprise Architect has to show particular menu options to the user. Its use is further described in the *Define Menu Items* topic.

Syntax

Sub EA_GetMenuState (Repository as EA.Repository, MenuLocation As String, MenuName as String, ItemName as String, IsEnabled as Boolean, IsChecked as Boolean)

The EA_GetMenuState function syntax has these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
MenuLocation	String Direction: IN Description: A string representing the part of the user interface that brought up the menu. This can be TreeView, MainMenu or Diagram.
MenuName	String Direction: IN Description: The name of the parent menu for which sub-items must be defined. In the case of the top-level menu it is an empty string.
ItemName	String Direction: IN Description: The name of the option actually clicked; for example, 'Create a New Invoice'.
IsEnabled	Boolean Direction: OUT Description: Set to False to disable this particular menu option.
IsChecked	Boolean Direction: OUT Description: Set to True to check this particular menu option.

Return Value

None.

EA_GetRibbonCategory

Add-Ins can use EA_GetRibbonCategory events to identify the Ribbon in which the Add-In should place its menu icon.

This event occurs when Enterprise Architect first loads your Add-In. Enterprise Architect itself is loading at this time so that while a Repository object is supplied, there is limited information that you can extract from it.

The chief use for EA_GetRibbonCategory is in initializing the Add-In access point.

Syntax

Function EA_GetRibbonCategory (Repository As EA.Repository) As String

The EA_GetRibbonCategory function syntax has this parameter:

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

A string matching the name of the selected ribbon (in English if you are using a translated version). The possible names are:

- Start
- Design
- Layout
- Publish
- Specialize
- Construct
- Code
- Simulate
- Execute
- Manage

It is not possible to include Add-Ins in the 'Specification - Specify' ribbon or 'Documentation - Edit' ribbon.

If the function isn't implemented (or if an invalid name is returned) the 'Add-In' menu will be available from the 'Specialize' ribbon, 'Add-Ins' panel.

EA_MenuClick

EA_MenuClick events are received by an Add-In in response to user selection of a menu option.

The event is raised when the user clicks on a particular menu option. When a user clicks on one of your non-parent menu options, your Add-In receives a MenuClick event, defined as:

```
Sub EA_MenuClick(Repository As EA.Repository, ByVal MenuLocation As String, ByVal MenuName As String,
ByVal ItemName As String)
```

This code is an example of use:

```
    If MenuName = "-&Diagram" And ItemName = "&Properties" then
        MsgBox Repository.GetCurrentDiagram.Name, vbInformation
    Else
        MsgBox "Not Implemented", vbCritical
    End If
```

Notice that your code can directly access Enterprise Architect data and UI elements using Repository methods.

Syntax

```
Sub EA_MenuClick (Repository As EA.Repository, MenuLocation As String, MenuName As String, ItemName As String)
```

The EA_GetMenuClick function syntax has these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
MenuLocation	String Direction: IN Description: A string representing the part of the user interface that brought up the menu. This can be TreeView, MainMenu or Diagram.
MenuName	String Direction: IN Description: The name of the parent menu for which sub-items are to be defined. In the case of the top-level menu this is an empty string.
ItemName	String Direction: IN Description: The name of the option actually clicked; for example, 'Create a New Invoice'.

Return Value

None.

EA_OnOutputItemClicked

EA_OnOutputItemClicked events inform Add-Ins that the user has clicked on a list entry in the system tab or one of the user defined output tabs.

Usually an Add-In responds to this event in order to capture activity on an output tab they had previously created through a call to Repository.AddTab().

Note that every loaded Add-In receives this event for every click on an output tab in Enterprise Architect, irrespective of whether the Add-In created that tab. Add-Ins should therefore check the TabName parameter supplied by this event to ensure that they are not responding to other Add-Ins' events.

Syntax

EA_OnOutputItemClicked (Repository As EA.Repository, TabName As String, LineText As String, ID As Long)

The EA_OnOutputItemClicked function syntax has these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
TabName	String Direction: IN Description: The name of the tab that the click occurred in. Usually this would have been created through 'Repository.AddTab()'.
LineText	String Direction: IN Description: The text that had been supplied as the String parameter in the original call to 'Repository.WriteOutput()'.
ID	Long Direction: IN Description: The ID value specified in the original call to Repository.WriteOutput().

Return Value

None.

EA_OnOutputItemDoubleClicked

EA_OnOutputItemDoubleClicked events inform Add-Ins that the user has used the mouse to double-click on a list entry in one of the user-defined output tabs.

Usually an Add-In responds to this event in order to capture activity on an output tab they had previously created through a call to Repository.AddTab().

Note that every loaded Add-In receives this event for every double-click on an output tab in Enterprise Architect, irrespective of whether the Add-In created that tab; Add-Ins should therefore check the TabName parameter supplied by this event to ensure that they are not responding to other Add-Ins' events.

Syntax

EA_OnOutputItemDoubleClicked (Repository As EA.Repository, TabName As String, LineText As String, ID As Long)

The EA_OnOutputItemClicked function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model; poll its members to retrieve model data and user interface status information.
TabName	String Direction: IN Description: The name of the tab that the click occurred in; usually this would have been created through 'Repository.AddTab()'.
LineText	String Direction: IN Description: The text that had been supplied as the String parameter in the original call to 'Repository.WriteOutput()'.
ID	Long Direction: IN Description: The ID value specified in the original call to Repository.WriteOutput().

Return Value

None.

EA_ShowHelp

Add-Ins can use the EA_ShowHelp event to show a Help topic for a particular menu option. When the user has an Add-In menu option selected, pressing F1 can be related to the required Help topic by the Add-In and a suitable Help message shown.

This event is raised when the user presses F1 on a menu option that is not a parent menu.

Syntax

Sub EA_ShowHelp (Repository as EA.Repository, MenuLocation As String, MenuName as String, ItemName as String)

The EA_ShowHelp function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
MenuLocation	String Direction: Description: A string representing the part of the user interface that brought up the menu. This can be Treeview, MainMenu or Diagram.
MenuName	String Direction: Description: The name of the parent menu for which sub-items are to be defined. In the case of the top-level menu this is an empty string.
ItemName	String Direction: Description: The name of the option actually clicked; for example, 'Create a New Invoice'.

Return Value

None.

广播事件

Overview

Broadcast events are sent to all loaded Add-Ins. For an Add-In to receive the event, they must first implement the required automation event interface. If Enterprise Architect detects that the Add-In has the required interface, the event is dispatched to the Add-In.

MDG Events add a number of additional events, but the Add-In must first have registered as an MDG-style Add-In, rather than as a generic Add-In.

Event Type
Add-In License Management Events
Custom Table Events
Compartment Events
Context Item Events
File Close Event
File New Event
File Open Event
Model Validation Events
On Tab Changed Event
Post Close Diagram Event
Post Initialization Event
Post New Events
Post Open Diagram Event
Pre-Deletion Events
Pre-Exit Instance (not currently used)
On the creation of new objects
Retrieve Model Template Event
Schema Composer Events
Tagged Value Events

Technology Events
Transformation Event

Add-In License Management Events

Enterprise Architect Add-Ins can respond to events associated with Add-In License Management.

License Management Events

Event
EA_AddinLicenseValidate
EA_AddinLicenseGetDescription
EA_GetSharedAddinName

EA_AddinLicenseValidate

When a user directly enters into the 'License Management' dialog a license key that doesn't match a Sparx Systems key, EA_AddinLicenseValidate is broadcast to all Enterprise Architect Add-Ins, providing them with a chance to use the Add-In key to determine the level of functionality to provide. When a key is retrieved from the Sparx Systems Keystore only the target Add-In will be called with the key.

For the Add-In to validate itself against this key, the Add-In's EA_AddinLicenseValidate handler should return confirmation that the license has been validated. As the EA_AddinLicenseValidate event is broadcast to all Add-Ins, one license can validate many Add-Ins.

If an Add-In elects to handle a license key by returning a confirmation to EA_AddinLicenseValidate, it is called upon to provide a description of the license key through the EA_AddinLicenseGetDescription event. If more than one Add-In elects to handle a license key, the first Add-In that returns a confirmation to EA_AddinLicenseValidate is queried for the license key description.

Syntax

Function EA_AddinLicenseValidate (Repository As EA.Repository, AddinKey As String) As Boolean

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
AddinKey	String Direction: IN Description: The Add-In license key that has been entered in the 'License Management' dialog.

Return Value

Returns True if the license key is validated for the current Add-In. Returns False otherwise.

EA_AddInLicenseGetDescription

Before the Enterprise Architect 'License Management' dialog is displayed, EA_AddInLicenseGetDescription is sent once for each Add-In key to the first Add-In that elected to handle that key.

The value returned by EA_AddInLicenseGetDescription is used as the key's plain text description.

Syntax

Function EA_AddInLicenseGetDescription (Repository as EA.Repository, AddinKey as String) As String

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open model. Poll its members to retrieve model data and user interface status information.
AddinKey	String Direction: IN Description: The Add-In license key that Enterprise Architect requires a description for.

Return Value

A String containing a plain text description of the provided AddinKey.

EA_GetSharedAddinName

As an Add-In writer you can distribute keys to your Add-In via the Enterprise Architect Keystore, provided that your keys are added using a prefix that allows the system to identify the Add-In to which they belong.

EA_GetSharedAddinName is called to determine what prefix the Add-In is using. If a matching key is found in the keystore the 'License Management' dialog will display the name returned by EA_AddinLicenseGetDescription to your users. Finally, when the user selects a key, that key will be passed to your Add-In to validate by calling EA_AddinLicenseValidate.

Syntax

Function EA_GetSharedAddinName (Repository as EA.Repository) As String

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open model. Poll its members to retrieve model data and user interface status information.

Return Value

A String containing a product name code for the provided Add-In, such as MYADDIN. This will be shown in plain text in any keys added to the keystore.

Notes

Shared Add-In keys have the format:

EASK-YOURCODE-REALKEY

- EASK - Constant string that identifies a shared key for an Enterprise Architect Add-In
- YOURCODE - The code you select and verify with us:
 - Displayed to the administrator of the keystore
 - Recommended length of 6-10 characters
 - Contains ASCII characters 33-126, except for '-' (45)
- REALKEY - Encoding of the actual key or checksums
 - Recommended length of 8-32 characters
 - Contains ASCII characters 33-126

We recommend that you contact Sparx Systems directly with proposed values to ensure that you don't clash with any other Add-Ins.

For example, these keys would all be interpreted as belonging to an Add-In returning MYADDIN from this function:

- EASK-MYADDIN-Test
- EASK-MYADDIN-{7AC4D426-9083-4fa2-93B7-25E2B7FB8DC5}
- EASK-MYADDIN-7AC4D426-9083-4fa2-93B7
- EASK-MYADDIN-25E2B7FB8DC5
- EASK-MYADDIN-2hDfHKA5jf0GAjn92UvqAnxwC13dxQGJtH7zLHJ9Ym8=

Custom Table Events

The Custom Table element has an Operation called 'script', reserved for script execution, that can be used in two different, mutually exclusive ways, either:

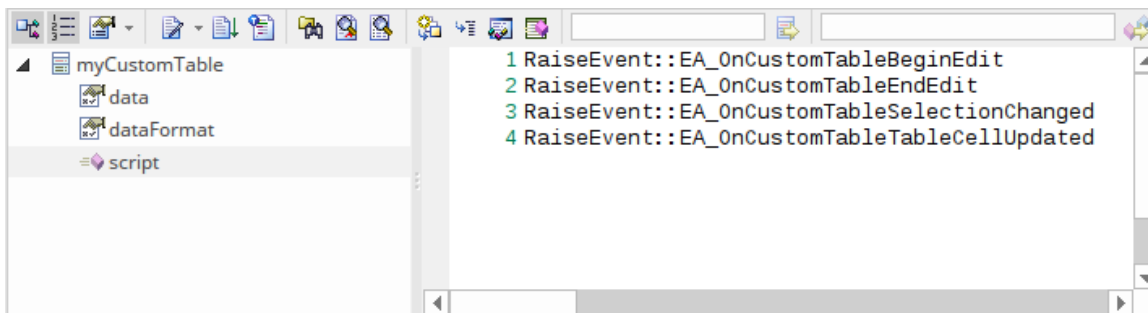
- To contain a script in JavaScript that can be executed from the element context menu; see the *Custom Table Artifact* Help topic, or
- To contain RaiseEvent broadcast calls to trigger actions from an Add-In written to read or update the Custom Table

Broadcasts

There are four reserved Add-In broadcast events that can only be enabled by listing the event in the 'script' Operation of the Custom Table element. To raise the broadcast events, list any or all of these broadcast calls in the operation named 'script'.

Syntax:

RaiseEvent::EA_OnCustomTableBeginEdit



EA_OnCustomTableBeginEdit

EA_OnCustomTableBeginEdit notifies Add-Ins that the Custom Table is beginning edit mode. This broadcast event can only be enabled by the Custom Table's operation 'script' behavior.

Syntax

Function EA_OnCustomTableBeginEdit (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnCustomTableBeginEdit function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the Custom Table that is under edit: <ul style="list-style-type: none">ObjectID - A long value corresponding to the ElementID of the object

EA_OnCustomTableEndEdit

EA_OnCustomTableEndEdit notifies Add-Ins that a Custom Table element is ending edit mode. This broadcast event can only be enabled by the Custom Table's operation 'script' behavior.

Syntax

Function EA_OnCustomTableEndEdit (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnCustomTableEndEdit function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the Custom Table that is under edit: <ul style="list-style-type: none">ObjectID - A long value corresponding to the ElementID of the object

Return Value

This function allows validation of the table data, and returns a Boolean value:

- True to save the current data in the grid, or
- False to abandon the current data

EA_OnCustomTableSelectionChanged

EA_OnCustomTableSelectionChanged notifies Add-Ins that a cell of the Custom Table has changed. This broadcast event can only be enabled by the Custom Table's operation 'script' behavior.

Syntax

Function EA_OnCustomTableSelectionChanged (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnCustomTableSelectionChanged function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the Custom Table that has been changed: <ul style="list-style-type: none">• ObjectID - A long value corresponding to the ElementID of the object• RowID - A long value corresponding to the selected row id• ColID - A long value corresponding to the selected column id

EA_OnCustomTableCellUpdated

EA_OnCustomTableCellUpdated notifies Add-Ins that a cell value has been updated. This broadcast event can only be enabled by the Custom Table's operation 'script' behavior.

Syntax

Function EA_OnCustomTableCellUpdated (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnCustomTableCellUpdated function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the Custom Table cell that has been changed: <ul style="list-style-type: none">• ObjectID - A long value corresponding to the ElementID of the object• RowID - A long value corresponding to the selected row id• ColID - A long value corresponding to the selected column id• Value - A variant value of the changed cell data

Schema 编辑器事件

Enterprise Architect Add-Ins can respond to events associated with the Schema Composer to provide custom schema export formats.

The requirements for an Add-In to participate consist of implementing these three functions:

- EA_IsSchemaExporter
- EA_GetProfileInfo
- EA_GenerateFromSchema

EA_GenerateFromSchema

Respond to a 'Generate' request from the Schema Composer when using the profile type specified by the EA_IsSchemaExporter event. The SchemaComposer object can be used to traverse the schema. Export formats that have been requested by the user for generation will be listed in the exports parameter.

Syntax

Sub EA_GenerateFromSchema (Repository as EA.Repository, composer as EA.SchemaComposer, exports as String)

Parameter	Details
Repository	Type: EA.Repository Direction: IN Description: An EA.Repository object representing the currently open model. Poll its members to retrieve model data and user interface status information.
composer	Type: EA.SchemaComposer Direction: IN Description: Provides access to the types defined in the schema currently being generated. Use the <i>SchemaTypes</i> attribute to enumerate through the types and output to the appropriate export format.
exports	Type: String Direction: IN Description: Comma-separated list of export formats that the user has requested in the 'Generate' dialog.

Return Value

None.

EA_GetProfileInfo

Add-Ins can optionally implement this function to define the capabilities of the Schema Composer when working with the profile type specified by the EA_IsSchemaExporter event.

Syntax

Sub EA_GetProfileInfo (Repository as EA.Repository, profile as EA.SchemaProfile)

Parameter	Details
Repository	Type: EA.Repository Direction: IN Description: An EA.Repository object representing the currently open model. Poll its members to retrieve model data and user interface status information.
profile	Type: EA.SchemaProfile Direction: IN Description: An EA.SchemaProfile object representing the currently active profile type. Call the <i>SetCapability</i> function to enable or disable various capabilities of the Schema Composer. Call the <i>AddExportFormat</i> function to define additional export formats that this profile will support.

Return Value

None.

EA_IsSchemaExporter

Enterprise Architect Add-Ins can integrate with the Schema Composer by providing alternatives to offer users for the generation of schemas and sub models.

The Add-In must implement this function to be listed in the Schema Composer.

Syntax

Function EA_IsSchemaExporter(Repository as EA.Repository, ByRef displayName as String) As Boolean

Parameter	Details
Repository	Type: EA.Repository Direction: IN Description: An EA.Repository object representing the currently open model. Poll its members to retrieve model data and user interface status information.
displayName	Type: String Direction: OUT Description: The name of the custom schema set that will be provided by this Add-In.

Return Value

Return True to indicate that this Add-In will provide schema export functionality and be listed as a Schema Set when defining a new profile in the Schema Composer.

Compartment Events

Enterprise Architect Add-Ins can respond to various events associated with user-generated element compartments.

Compartment Broadcast Events

Event
EA_QueryAvailableCompartments
EA_GetCompartmentData

EA_QueryAvailableCompartments

This event occurs when Enterprise Architect's diagrams are refreshed. It is a request for the Add-In to provide a list of user-defined compartments.

The EA_GetCompartmentData event then queries each object for the data to display in each user-defined compartment.

Syntax

Function EA_QueryAvailableCompartments (Repository As EA.Repository) As Variant

The EA_QueryAvailableCompartments function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

A String containing a comma-separated list of user-defined compartments.

Example

Function EA_QueryAvailableCompartments(Repository As EA.Repository) As Variant

```
Dim sReturn As String
```

```
sReturn = ""
```

```
If m_FirstCompartmentVisible = True Then
```

```
    sReturn = sReturn + "first,"
```

```
End If
```

```
If m_SecondCompartmentVisible = True Then
```

```
    sReturn = sReturn + "second,"
```

```
End If
```

```
If m_ThirdCompartmentVisible = True Then
```

```
    sReturn = sReturn + "third,"
```

```
End If
```

```
If Len(sReturn) > 0 Then
```

```
    sReturn = Left(sReturn, Len(sReturn)-1)
```

```
End If
```

```
EA_QueryAvailableCompartments = sReturn
```

```
End Function
```


EA_GetCompartmentData

This event occurs when Enterprise Architect is instructed to redraw an element. It requests that the Add-In provide the data to populate the element's compartment.

Syntax

Function EA_GetCompartmentData (Repository As EA.Repository, sCompartment As String, sGUID As String, oType As EA.ObjectType) As Variant

The EA_QueryAvailableCompartments function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
sCompartment	String Direction: IN Description: The name of the compartment for which data is being requested.
sGUID	String Direction: IN Description: The GUID of the element for which data is being requested.
oType	ObjectType Direction: IN Description: The type of the element for which data is being requested.

Return Value

A variant containing a formatted string. The format is illustrated in this example:

Example

Function EA_GetCompartmentData(Repository As EA.Repository, sCompartment As String, sGUID As String, oType As EA.ObjectType) As Variant

```
If Repository Is Nothing Then
    Exit Function
End If
```

```
Dim sCompartmentData As String
Dim oXML As MSXML2.DOMDocument
Dim Nodes As MSXML2.IXMLDOMNodeList
Dim Node1 As MSXML2.IXMLDOMNode
Dim Node As MSXML2.IXMLDOMNode
Dim sData As String

sCompartmentData = ""
Set oXML = New MSXML2.DOMDocument
sData = ""
On Error GoTo ERR_GetCompartmentData
oXML.loadXML (Repository.GetTreeXMLByGUID(sGUID))
Set Node1 = oXML.selectSingleNode("//ModelItem")
If Node1 Is Nothing Then
    Exit Function
End If

sCompartmentData = sCompartmentData + "Name=" + sCompartment + ";"
sCompartmentData = sCompartmentData + "OwnerGUID=" + sGUID + ";"
sCompartmentData = sCompartmentData + "Options=SkipIfOnDiagram&_eq_^1&_sc_^"
Select Case sCompartment
Case "parts"
Set Nodes = Node1.selectNodes("ModelItem(@Metatype=""Part'')")
For Each Node In Nodes
    sData = sData + "Data&_eq_^" + Node.Attributes.getNamedItem("Name").nodeValue + "&_sc_^"
    sData = sData + "GUID&_eq_^" + Node.Attributes.getNamedItem("GUID").nodeValue + "&_sc_^,"
Next
Case "ports"
Set Nodes = Node1.selectNodes("ModelItem(@Metatype=""Port'')")
For Each Node In Nodes
    sData = sData + "Data&_eq_^" + Node.Attributes.getNamedItem("Name").nodeValue + "&_sc_^"
    sData = sData + "GUID&_eq_^" + Node.Attributes.getNamedItem("GUID").nodeValue + "&_sc_^,"
Next
End Select
If there is no data to display, then don't return any compartment data
If sData <> "" Then
    sCompartmentData = sCompartmentData + "CompartmentData=" + sData + ";"
Else
    sCompartmentData = ""
End If
EA_GetCompartmentData = sCompartmentData
Exit Function
```

```
ERR_GetCompartmentData:  
EA_GetCompartmentData = ""  
End Function
```


Context Item Events

Enterprise Architect Add-Ins can respond to events associated with changing context.

Context Item Broadcast Events

Event
EA_OnContextItemChanged
EA_OnContextItemDoubleClicked
EA_OnNotifyContextItemModified

EA_OnContextItemChanged

EA_OnContextItemChanged notifies Add-Ins that a different item is now in context.

This event occurs after a user has selected an item anywhere in the Enterprise Architect GUI. Add-Ins that require knowledge of the current item in context can subscribe to this broadcast function. If `ot = otRepository`, then this function behaves in the same way as EA_FileOpen.

Syntax

Sub EA_OnContextItemChanged (Repository As EA.Repository, GUID As String, ot as EA.ObjectType)

The EA_OnContextItemChanged function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
GUID	String Direction: IN Description: Contains the GUID of the new context item. The value corresponds to these properties, depending on the value of the <code>ot</code> parameter: <ul style="list-style-type: none"> • <code>ot (ObjectType)</code> - GUID value • <code>otElement</code> - Element.ElementGUID • <code>otPackage</code> - Package.PackageGUID • <code>otDiagram</code> - Diagram.DiagramGUID • <code>otAttribute</code> - Attribute.AttributeGUID • <code>otMethod</code> - Method.MethodGUID • <code>otConnector</code> - Connector.ConnectorGUID • <code>otRepository</code> - NOT APPLICABLE, the GUID is an empty string
ot	EA.ObjectType Direction: IN Description: Specifies the type of the new context item.

Return Value

None.

EA_OnContextItemDoubleClicked

EA_OnContextItemDoubleClicked notifies Add-Ins that the user has double-clicked the item currently in context.

This event occurs when a user has double-clicked (or pressed the Enter key) on the item in context, either in a diagram, in the Browser window or in a custom compartment. Add-Ins to handle events can subscribe to this broadcast function.

Syntax

Function EA_OnContextItemDoubleClicked (Repository As EA.Repository, GUID As String, ot as EA.ObjectType)

The EA_OnContextItemDoubleClicked function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
GUID	String Direction: IN Description: Contains the GUID of the new context item. The value corresponds to these properties, depending on the value of the ot parameter: <ul style="list-style-type: none">• otElement - Element.ElementGUID• otPackage - Package.PackageGUID• otDiagram - Diagram.DiagramGUID• otAttribute - Attribute.AttributeGUID• otMethod - Method.MethodGUID• otConnector - Connector.ConnectorGUID
ot	EA.ObjectType Direction: IN Description: Specifies the type of the new context item.

Return Value

- Return True to notify Enterprise Architect that the double-click event has been handled by an Add-In
- Return False to enable Enterprise Architect to continue processing the event

EA_OnNotifyContextItemModified

EA_OnNotifyContextItemModified notifies Add-Ins that the current context item has been modified.

This event occurs when a user has modified the context item. Add-Ins that require knowledge of when an item has been modified can subscribe to this broadcast function.

Syntax

Sub EA_OnNotifyContextItemModified (Repository As EA.Repository, GUID As String, ot as EA.ObjectType)

The EA_OnNotifyContextItemModified function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
GUID	String Direction: IN Description: Contains the GUID of the new context item. The value corresponds to these properties, depending on the value of the ot parameter: <ul style="list-style-type: none">• ot(ObjectType) - GUID value• otElement - Element.ElementGUID• otPackage - Package.PackageGUID• otDiagram - Diagram.DiagramGUID• otAttribute - Attribute.AttributeGUID• otMethod - Method.MethodGUID• otConnector - Connector.ConnectorGUID
ot	EA.ObjectType Direction: IN Description: Specifies the type of the new context item.

Return Value

None.

EA_FileClose

The EA_FileClose event enables the Add-In to respond to a File Close event. When Enterprise Architect closes an opened Model file, this event is raised and passed to all Add-Ins implementing this method.

This event occurs when the model currently opened within Enterprise Architect is about to be closed (when another model is about to be opened or when Enterprise Architect is about to shutdown).

Syntax

Sub EA_FileClose (Repository As EA.Repository)

The EA_FileClose function syntax contains this parameter:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the Enterprise Architect model about to be closed. Poll its members to retrieve model data and user interface status information.

Return Value

None.

EA_FileNew

The EA_FileNew event enables the Add-In to respond to a File New event. When Enterprise Architect creates a new model file, this event is raised and passed to all Add-Ins implementing this method.

The event occurs when the model being viewed by the Enterprise Architect user changes, for whatever reason (through user interaction or Add-In activity).

Syntax

Sub EA_FileNew (Repository As EA.Repository)

The EA_FileNew function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

None.

EA_FileOpen

The EA_FileOpen event enables the Add-In to respond to a File Open event. When Enterprise Architect opens a new model file, this event is raised and passed to all Add-Ins implementing this method.

The event occurs when the model being viewed by the Enterprise Architect user changes, for whatever reason (through user interaction or Add-In activity).

Syntax

Sub EA_FileOpen (Repository As EA.Repository)

The EA_FileOpen function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

None.

EA_OnPostCloseDiagram

EA_OnPostCloseDiagram notifies Add-Ins that a diagram has been closed.

Syntax

Function EA_OnPostCloseDiagram (Repository As EA.Repository, DiagramID As Integer)

The EA_OnPostCloseDiagram function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the Enterprise Architect model about to be closed. Poll its members to retrieve model data and user interface status information.
DiagramID	Integer Direction: IN Description: Contains the Diagram ID of the diagram that was closed.

Return Value

None.

EA_OnPostInitialized

EA_OnPostInitialized notifies Add-Ins that the Repository object has finished loading and any necessary initialization steps can now be performed on the object.

For example, the Add-In can create an 'Output' tab using Repository.CreateOutputTab.

Syntax

Sub EA_OnPostInitialized (Repository As EA.Repository)

The EA_OnPostInitialized function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

None.

EA_OnPostOpenDiagram

EA_OnPostOpenDiagram notifies Add-Ins that a diagram has been opened.

Syntax

Function EA_OnPostOpenDiagram (Repository As EA.Repository, DiagramID As Integer)

The EA_OnPostOpenDiagram function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
DiagramID	Integer Direction: IN Description: Contains the Diagram ID of the diagram that was opened.

Return Value

None.

EA_OnPostTransform

EA_OnPostTransform notifies Add-Ins that an MDG transformation has taken place with the output in the specified target Package.

This event occurs when a user runs an MDG transform on one or more target Packages; the notification is provided for each transform/target Package immediately after all transform processes have completed.

Syntax

Function EA_OnPostTransform (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostTransform function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty Objects for the transform performed: <ul style="list-style-type: none">• Transform: A string value corresponding to the name of the transform used• PackageID: A long value corresponding to Package.PackageID of the destination Package

Return Value

Reserved for future use.

EA_OnPreExitInstance

EA_OnPreExitInstance is not currently used.

Syntax

Sub EA_OnPreExitInstance (Repository As EA.Repository)

The EA_OnPreExitInstance function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

None.

EA_OnRetrieveModelTemplate

EA_OnRetrieveModelTemplate requests that an Add-In pass a model template to Enterprise Architect. This event occurs when a user executes the 'Add a New Model Using Wizard' command to add a model that has been defined by an MDG Technology.

Syntax

Function EA_OnRetrieveModelTemplate (Repository As EA.Repository, sLocation As String) As String

The EA_OnRetrieveModelTemplate function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
sLocation	String Direction: IN Description: The name of the template requested; this should match the location attribute in the <ModelTemplates> section of an MDG Technology File.

Return Value

Return a string containing the XMI export of the model that is being used as a template.

Return an empty string if access to the template is denied; the Add-In is to handle user notification of the error.

Example

```
Public Function EA_OnRetrieveModelTemplate(ByRef Rep As EA.Repository, ByRef sLocation As String) As String
Dim sTemplate As String
Select Case sLocation
Case "Templates\Template1.xml"
sTemplate = My.Resources.Template1
Case "Templates\Template2.xml"
sTemplate = My.Resources.Template2
Case "Templates\Template3.xml"
sTemplate = My.Resources.Template3
Case Else
MsgBox("Path for " & sLocation & " not found")
sTemplate = ""
```

End Select

EA_OnRetrieveModelTemplate = sTemplate

End Function

EA_OnTabChanged

EA_OnTabChanged notifies Add-Ins that the currently open tab has changed.

Diagrams do not generate the message when they are first opened - use the broadcast event EA_OnPostOpenDiagram for this purpose.

Syntax

Function EA_OnTabChanged (Repository As EA.Repository, TabName As String, DiagramID As Integer)

The EA_OnTabChanges function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
TabName	String Direction: IN Description: The name of the tab to which focus has been switched.
DiagramID	Long Direction: IN Description: The diagram ID, or 0 if switched to an Add-In tab.

Return Value

None

EA_LoadWindowManager

Enterprise Architect provides a set of Portals, each of which is a collection of shortcuts and information on performing specific areas of work on a project. The Portals help both new and experienced users quickly identify and set up the facilities they most often use in their assigned tasks.

You can add your own Portal to the system-installed set, to provide a convenient and concise call-up of one or more groups of facilities available in your Add-In.

Syntax

Function EA_Connect (Repository As EA.Repository) As String

The EA_Connect function syntax has this parameter:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Example Code

```
public String EA_LoadWindowManager(EA.Repository Repository)
{
    return Resource1.WindowManager;
}
```

Where Resource1.WindowManager is a resource file with these contents:

```
<?xml version="1.0" encoding="UTF-8"?>
<perspectives>
<perspective name="Add-In">
<category name="Add-In" type="commandlist" projectrequired="true">
<item name="Hello World" command="CallAddin" addin="CS_AddinFramework" function="HelloWorld"/>
<item name="Model Dump" command="CallScript" group="Local Scripts" script="JScript - Recursive Model Dump
Example"/>
</category>
<category name="Open Diagrams" type="currentdiagramlist" state = "open"/>
<category name="Recent Diagrams" type="recentdiagramlist" state = "open"/>
<category name="Other Windows" type="otherwindowlist" state = "open"/>
</perspective>
</perspectives>
```

Note that the Add-In cannot specify the icon used.

Model Validation Events

Perform Model Validation from an Add-In

Using Enterprise Architect broadcasts, it is possible to define a set of rules that are evaluated when the user instructs Enterprise Architect to perform model validation. An Add-In that performs model validation would involve these broadcast events.

Command	Detail
EA_OnInitializeUserRules	EA_OnInitializeUserRules is intercepted in order to define rule categories and rules.
EA_OnStartValidation	EA_OnStartValidation can be intercepted to perform any required processing prior to validation.
EA_OnEndValidation	EA_OnEndValidation can be intercepted to perform any required clean-up after validation has completed.
Validate Request	These functions intercept each request to validate an individual element, Package, diagram, connector, attribute and method.
Validate Element	EA_OnRunElementRule
Validate Package	EA_OnRunPackageRule
Validate Diagram	EA_OnRunDiagramRule
Validate Connector	EA_OnRunConnectorRule
Validate Attribute	EA_OnRunAttributeRule
Validate Method	EA_OnRunMethodRule
Validate Parameter	EA_OnRunParameterRule

EA_OnInitializeUserRules

EA_OnInitializeUserRules is called on Enterprise Architect start-up and requests that the Add-In provide Enterprise Architect with a rule category and list of rule IDs for model validation.

This function must be implemented by any Add-In that is to perform its own model validation. It must call Project.DefineRuleCategory once and Project.DefineRule for each rule; these functions are described in the *Project Interface* topic.

Syntax

Sub EA_OnInitializeUserRules (Repository As EA.Repository)

The EA_OnInitializeUserRules function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

EA_OnStartValidation

EA_OnStartValidation notifies Add-Ins that a user has invoked the model validation command from Enterprise Architect.

Syntax

Sub EA_OnStartValidation (Repository As EA.Repository, ParamArray Args() as Variant)

The EA_OnStartValidation function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Args	ParamArray of Variant Direction: IN Description: Contains a list of Rule Categories that are active for the current invocation of model validation.

EA_OnEndValidation

EA_OnEndValidation notifies Add-Ins that model validation has completed.

Use this event to arrange any clean-up operations arising from the validation.

Syntax

Sub EA_OnEndValidation (Repository As EA.Repository, ParamArray Args() as Variant)

The EA_OnEndValidation function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Args	ParamArray of Variant Direction: IN Description: Contains a list of Rule Categories that were active for the invocation of model validation that has just completed.

EA_OnRunElementRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each element in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given element, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunElementRule (Repository As EA.Repository, RuleID As String, Element As EA.Element)

The EA_OnRunElementRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' command.
Element	EA.Element Direction: IN Description: The element to potentially perform validation on.

EA_OnRunPackageRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each Package in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given Package, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunPackageRule (Repository As EA.Repository, RuleID As String, PackageID As Long)

The EA_OnRunElementRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' method.
PackageID	Long Direction: IN Description: The ID of the Package to potentially perform validation on. Use the 'Repository.GetPackageByID' method to retrieve the Package object.

EA_OnRunDiagramRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each diagram in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given diagram, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunDiagramRule (Repository As EA.Repository, RuleID As String, DiagramID As Long)

The EA_OnRunDiagramRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' command.
DiagramID	Long Direction: IN Description: The ID of the diagram to potentially perform validation on. Use the Repository.GetDiagramByID method to retrieve the diagram object.

EA_OnRunConnectorRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each connector in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given connector, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunConnectorRule (Repository As EA.Repository, RuleID As String, ConnectorID As Long)

The EA_OnRunConnectorRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' command.
ConnectorID	Long Direction: IN Description: The ID of the connector to potentially perform validation on. Use the 'Repository.GetConnectorByID' method to retrieve the connector object.

EA_OnRunAttributeRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each attribute in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given attribute, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunAttributeRule (Repository As EA.Repository, RuleID As String, AttributeGUID As String, ObjectID As Long)

The EA_OnRunAttributeRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' command.
AttributeGUID	String Direction: IN Description: The GUID of the attribute to potentially perform validation on. Use the 'Repository.GetAttributeByGuid' method to retrieve the attribute object.
ObjectID	Long Direction: IN Description: The ID of the object that owns the given attribute. Use the 'Repository.GetElementByID' method to retrieve the object.

EA_OnRunMethodRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each method in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given method, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunMethodRule (Repository As EA.Repository, RuleID As String, MethodGUID As String, ObjectID As Long)

The EA_OnRunMethodRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' command.
MethodGUID	String Direction: IN Description: The GUID of the method to potentially perform validation on. Use the 'Repository.GetMethodByGuid' method to retrieve the method object.
ObjectID	Long Direction: IN Description: The ID of the object that owns the given method. Use the 'Repository.GetElementByID' method to retrieve the object.

EA_OnRunParameterRule

This event is triggered once for each rule defined in EA_OnInitializeUserRules to be performed on each parameter in the selection being validated.

If you don't want to perform the rule defined by RuleID on the given parameter, then simply return without performing any action.

On performing any validation, if a validation error is found, use the Repository.ProjectInterface.PublishResult method to notify Enterprise Architect.

Syntax

Sub EA_OnRunParameterRule (Repository As EA.Repository, RuleID As String, ParameterGUID As String, MethodGUID As String, ObjectID As Long)

The EA_OnRunMethodRule function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleID	String Direction: IN Description: The ID that was passed into the 'Project.DefineRule' command.
ParameterGUID	String Direction: IN Description: The GUID of the parameter to potentially perform validation on. Use this to retrieve the parameter by iterating through the 'Method.Parameters' collection.
MethodGUID	String Direction: IN Description: The GUID of the method that owns the given parameter. Use the 'Repository.GetMethodByGuid' method to retrieve the method object.
ObjectID	Long Direction: IN Description: The ID of the object that owns the given parameter. Use the 'Repository.GetElementByID' method to retrieve the object.

验证模型示例

This example code is written in C# and provides a skeleton model validation implementation that you might want to use as a starting point in writing your own model validation rules.

Main.cs

```
using System;
namespace myAddin
{
    public class Main
    {
        public Rules theRules;
        public Main()
        {
            theRules = new Rules();
        }
        public string EA_Connect(EA.Repository Repository)
        {
            return "";
        }
        public void EA_Disconnect()
        {
            GC.Collect();
            GC.WaitForPendingFinalizers();
        }
        private bool IsProjectOpen(EA.Repository Repository)
        {
            try
            {
                EA.Collection c = Repository.Models;
                return true;
            }
            catch
            {
                return false;
            }
        }
        public object EA_GetMenuItems(EA.Repository Repository, string MenuLocation, string MenuName)
        {
            switch (MenuName)
            {
```

```
        case "":
            return "-&myAddin";
        case "-&myAddin":
            string() ar = { "&Test" };
            return ar;
    }
    return "";
}

public void EA_GetMenuState(EA.Repository Repository, string MenuLocation, string MenuName,
string ItemName, ref bool IsEnabled, ref bool IsChecked)
{
    // if no open project, disable all menu options
    if (IsProjectOpen(Repository))
        IsEnabled = true;
    else
        IsEnabled = false;
}

public void EA_MenuClick(EA.Repository Repository, string MenuLocation, string MenuName, string
ItemName)
{
    switch (ItemName)
    {
        case "&Test";
            DoTest(Repository);
            break;
    }
}

public void EA_OnInitializeUserRules(EA.Repository Repository)
{
    if (Repository != null)
    {
        theRules.ConfigureCategories(Repository);
        theRules.ConfigureRules(Repository);
    }
}

public void EA_OnRunElementRule(EA.Repository Repository, string RuleID, EA.Element element)
{
    theRules.RunElementRule(Repository, RuleID, element);
}

public void EA_OnRunDiagramRule(EA.Repository Repository, string RuleID, long IDiagramID)
{
    theRules.RunDiagramRule(Repository, RuleID, IDiagramID);
}
```

```
    }
    public void EA_OnRunConnectorRule(EA.Repository Repository, string RuleID, long IConnectorID)
    {
        theRules.RunConnectorRule(Repository, RuleID, IConnectorID);
    }
    public void EA_OnRunAttributeRule(EA.Repository Repository, string RuleID, string AttGUID, long IObjectID)
    {
        return;
    }
    public void EA_OnDeleteTechnology(EA.Repository Repository, EA.EventProperties Info)
    {
        return;
    }
    public void EA_OnImportTechnology(EA.Repository Repository, EA.EventProperties Info)
    {
        return;
    }
    private void DoTest(EA.Repository Rep)
    {
        // TODO: insert test code here
    }
}
}
```

Rules.cs

```
using System;
using System.Collections;
namespace myAddin
{
    public class Rules
    {
        private string m_sCategoryID;
        private System.Collections.ArrayList m_RuleIDs;
        private System.Collections.ArrayList m_RuleIDEx;
        private const string cRule01 = "Rule01";
        private const string cRule02 = "Rule02";
        private const string cRule03 = "Rule03";
        // TODO: expand this list as much as necessary
        public Rules()
        {
```

```
m_RuleIDs = new System.Collections.ArrayList();
m_RuleIDEx = new System.Collections.ArrayList();
}
private string LookupMap(string sKey)
{
    return DoLookupMap(sKey, m_RuleIDs, m_RuleIDEx);
}
private string LookupMapEx(string sRule)
{
    return DoLookupMap(sRule, m_RuleIDEx, m_RuleIDs);
}
private string DoLookupMap(string sKey, ArrayList arrValues, ArrayList arrKeys)
{
    if (arrKeys.Contains(sKey))
        return arrValues(arrKeys.IndexOf(sKey)).ToString();
    else
        return "";
}
private void AddToMap(string sRuleID, string sKey)
{
    m_RuleIDs.Add(sRuleID);
    m_RuleIDEx.Add(sKey);
}
private string GetRuleStr(string sRuleID)
{
    switch (sRuleID)
    {
        case cRule01:
            return "Error Message 01";
        case cRule02:
            return "Error Message 02";
        case cRule03:
            return "Error Message 03";
        // TODO: add extra cases as much as necessary
    }
    return "";
}
public void ConfigureCategories(EA.Repository Repository)
{
    EA.Project Project = Repository.GetProjectInterface();
    m_sCategoryID = Project.DefineRuleCategory("Enterprise Collaboration Architecture (ECA) Rules");
}
```



```
public void ConfigureRules(EA.Repository Repository)
{
    EA.Project Project = Repository.GetProjectInterface();
    AddToMap(Project.DefineRule(m_sCategoryID, EA.EnumMVErrortype.mvError, GetRuleStr(cRule01)),
cRule01);
    AddToMap(Project.DefineRule(m_sCategoryID, EA.EnumMVErrortype.mvError, GetRuleStr(cRule02)),
cRule02);
    AddToMap(Project.DefineRule(m_sCategoryID, EA.EnumMVErrortype.mvError, GetRuleStr(cRule03)),
cRule03);
    // TODO: expand this list
}
public void RunConnectorRule(EA.Repository Repository, string sRuleID, long lConnectorID)
{
    EA.Connector Connector = Repository.GetConnectorByID((int)lConnectorID);
    if (Connector != null)
    {
        switch (LookupMapEx(sRuleID))
        {
            case cRule02:
                // TODO: perform rule 2 check
                break;
                // TODO: add more cases
            }
        }
    }
public void RunDiagramRule(EA.Repository Repository, string sRuleID, long lDiagramID)
{
    EA.Diagram Diagram = Repository.GetDiagramByID((int)lDiagramID);
    if (Diagram != null)
    {
        switch (LookupMapEx(sRuleID))
        {
            case cRule03:
                // TODO: perform rule 3 check
                break;
                // TODO: add more cases
            }
        }
    }
public void RunElementRule(EA.Repository Repository, string sRuleID, EA.Element Element)
{
    if (Element != null)
    {
```

```
        switch (LookupMapEx(sRuleID))
        {
            case cRule01:
                DoRule01(Repository, Element);
                break;
            // TODO: add more cases
        }
    }
}

private void DoRule01(EA.Repository Repository, EA.Element Element)
{
    if (Element.Stereotype != "myStereotype")
        return;
    // TODO: validation logic here
    // report validation errors
    EA.Project Project = Repository.GetProjectInterface();
    Project.PublishResult(LookupMap(cRule01), EA.EnumMVErrorType.mvError, GetRuleStr(cRule01));
}
}
}
```

Post-New Events

Enterprise Architect Add-Ins can respond to the creation of new elements, connectors, objects, attributes, methods and Packages using these broadcast events:

Post-New Broadcast Events

Event
EA_OnPostNewElement
EA_OnPostNewConnector
EA_OnPostNewDiagram
EA_OnPostNewDiagramObject
EA_OnPostNewAttribute
EA_OnPostNewMethod
EA_OnPostNewPackage
EA_OnPostNewGlossaryTerm

EA_OnPostNewElement

EA_OnPostNewElement notifies Add-Ins that a new element has been created on a diagram. It enables Add-Ins to modify the element upon creation.

This event occurs after a user has dragged a new element from the Toolbox or 'Resources' tab of the Browser window onto a diagram. The notification is provided immediately after the element is added to the model.

Set Repository.SuppressEADialogs to True to suppress Enterprise Architect from showing its default 'Properties' dialog.

Syntax

Function EA_OnPostNewElement (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewElement function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the new element: <ul style="list-style-type: none">• ElementID: A long value corresponding to Element.ElementID

Return Value

Return True if the element has been updated during this notification. Return False otherwise.

EA_OnPostNewConnector

EA_OnPostNewConnector notifies Add-Ins that a new connector has been created on a diagram. It enables Add-Ins to modify the connector upon creation.

This event occurs after a user has dragged a new connector from the Toolbox or 'Resources' tab of the Browser window onto a diagram. The notification is provided immediately after the connector is added to the model.

Syntax

Function EA_OnPostNewConnector (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewConnector function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the new connector: <ul style="list-style-type: none">ConnectorID: A long value corresponding to Connector.ConnectorID

Return Value

Return True if the connector has been updated during this notification. Return False otherwise.

EA_OnPostNewDiagram

EA_OnPostNewDiagram notifies Add-Ins that a new diagram has been created. It enables Add-Ins to modify the diagram upon creation.

Syntax

Function EA_OnPostNewDiagram (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewDiagram function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the new diagram: <ul style="list-style-type: none">• DiagramID: A long value corresponding to Diagram.PackageID

Return Value

Return True if the diagram has been updated during this notification. Return False otherwise.

EA_OnPostNewDiagramObject

EA_OnPostNewDiagramObject notifies Add-Ins that a new object has been created on a diagram. It enables Add-Ins to modify the object upon creation.

This event occurs after a user has dragged a new object directly from the Browser window or from the 'Resources' tab of the Browser window onto a diagram. The notification is provided immediately after the object is added to the diagram.

Syntax

Function EA_OnPostNewDiagramObject (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewDiagramObject function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the new element: <ul style="list-style-type: none">• ID: A long value corresponding to the ElementID of the object that has been added to the diagram• DiagramID: A long value corresponding to the DiagramID of the diagram to which the object has been added• DUID: A string value for the DUID; can be used with Diagram.GetDiagramObjectByID to retrieve the new DiagramObject

Return Value

Return True if the element has been updated during this notification. Return False otherwise.

EA_OnPostNewAttribute

EA_OnPostNewAttribute notifies Add-Ins that a new attribute has been created on a diagram. It enables Add-Ins to modify the attribute upon creation.

This event occurs when a user creates a new attribute on an element by either drag-and-dropping from the Browser window, using the 'Attributes' tab of the Features window, or using the in-place editor on the diagram. The notification is provided immediately after the attribute is created.

Syntax

Function EA_OnPostNewAttribute (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewAttribute function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the new attribute: <ul style="list-style-type: none">AttributeID: A long value corresponding to Attribute.AttributeID

Return Value

Return True if the attribute has been updated during this notification. Return False otherwise.

EA_OnPostNewMethod

EA_OnPostNewMethod notifies Add-Ins that a new method has been created on a diagram. It enables Add-Ins to modify the method upon creation.

This event occurs when a user creates a new method on an element by either drag-dropping from the Browser window, using the method's 'Properties' dialog, or using the in-place editor on the diagram. The notification is provided immediately after the method is created.

Syntax

Function EA_OnPostNewMethod (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewMethod function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the new method: <ul style="list-style-type: none">• MethodID: A long value corresponding to Method.MethodID

Return Value

Return True if the method has been updated during this notification. Return False otherwise.

EA_OnPostNewPackage

EA_OnPostNewPackage notifies Add-Ins that a new Package has been created on a diagram. It enables Add-Ins to modify the Package upon creation.

This event occurs when a user drags a new Package from the Toolbox or 'Resources' tab of the Browser window onto a diagram, or by selecting the New Package icon from the Browser window.

Syntax

Function EA_OnPostNewPackage (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewPackage function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the new Package: <ul style="list-style-type: none">PackageID: A long value corresponding to Package.PackageID

Return Value

Return True if the Package has been updated during this notification. Return False otherwise.

EA_OnPostNewGlossaryTerm

EA_OnPostNewGlossaryTerm notifies Add-Ins that a new glossary term has been created. It enables Add-Ins to modify the glossary term upon creation.

The notification is provided immediately after the glossary term is added to the model.

Syntax

Function EA_OnPostNewGlossaryTerm (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPostNewGlossaryTerm function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the new glossary term: <ul style="list-style-type: none">• TermID: A string value corresponding to Term.TermID• Term: A string value corresponding to the name of the glossary term being created• Meaning: A string value corresponding to meaning of the glossary term being created

Return Value

Return True if the glossary term has been updated during this notification. Return False otherwise.

Pre-Deletion Events

Enterprise Architect Add-Ins can respond to requests to delete elements, attributes, methods, connectors, diagrams, Packages and glossary terms using these broadcast events:

Pre-Deletion Broadcast Events

Event
EA_OnPreDeleteElement
EA_OnPreDeleteAttribute
EA_OnPreDeleteMethod
EA_OnPreDeleteConnector
EA_OnPreDeleteDiagram
EA_OnPreDeletePackage
EA_OnPreDeleteGlossaryTerm
EA_OnPreDeleteTechnology (Deprecated)

EA_OnPreDeleteElement

EA_OnPreDeleteElement notifies Add-Ins that an element is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the element.

This event occurs when a user deletes an element from the Browser window or on a diagram. The notification is provided immediately before the element is deleted, so that the Add-In can disable deletion of the element.

Syntax

Function EA_OnPreDeleteElement (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteElement function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the element to be deleted: <ul style="list-style-type: none">• ElementID: A long value corresponding to Element.ElementID

Return Value

- Return True to enable deletion of the element from the model
- Return False to disable deletion of the element

EA_OnPreDeleteAttribute

EA_OnPreDeleteAttribute notifies Add-Ins that an attribute is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the attribute.

This event occurs when a user attempts to permanently delete an attribute from the Browser window. The notification is provided immediately before the attribute is deleted, so that the Add-In can disable deletion of the attribute.

Syntax

Function EA_OnPreDeleteAttribute (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteAttribute function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the attribute to be deleted: <ul style="list-style-type: none">AttributeID: A long value corresponding to Attribute.AttributeID

Return Value

- Return True to enable deletion of the attribute from the model
- Return False to disable deletion of the attribute

EA_OnPreDeleteMethod

EA_OnPreDeleteMethod notifies Add-Ins that a method (operation) is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the method.

This event occurs when a user attempts to permanently delete a method from the Browser window. The notification is provided immediately before the method is deleted, so that the Add-In can disable deletion of the method.

Syntax

Function EA_OnPreDeleteMethod (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteMethod function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the method to be deleted: <ul style="list-style-type: none">MethodID: A long value corresponding to Method.MethodID

Return Value

- Return True to enable deletion of the method from the model
- Return False to disable deletion of the method

EA_OnPreDeleteConnector

EA_OnPreDeleteConnector notifies Add-Ins that a connector is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the connector.

This event occurs when a user attempts to permanently delete a connector on a diagram. The notification is provided immediately before the connector is deleted, so that the Add-In can disable deletion of the connector.

Syntax

Function EA_OnPreDeleteConnector (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteConnector function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the connector to be deleted: <ul style="list-style-type: none">ConnectorID: A long value corresponding to Connector.ConnectorID

Return Value

- Return True to enable deletion of the connector from the model
- Return False to disable deletion of the connector

EA_OnPreDeleteDiagram

EA_OnPreDeleteDiagram notifies Add-Ins that a diagram is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the diagram.

This event occurs when a user attempts to permanently delete a diagram from the Browser window. The notification is provided immediately before the diagram is deleted, so that the Add-In can disable deletion of the diagram.

Syntax

Function EA_OnPreDeleteDiagram (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteDiagram function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the diagram to be deleted: <ul style="list-style-type: none">• DiagramID: A long value corresponding to Diagram.DiagramID

Return Value

- Return True to enable deletion of the diagram from the model
- Return False to disable deletion of the diagram

EA_OnPreDeleteDiagramObject

EA_OnPreDeleteDiagramObject notifies Add-Ins that a diagram object is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the element.

This event occurs when a user attempts to permanently delete an element from a diagram. The notification is provided immediately before the element is deleted, so that the Add-In can disable deletion of the element.

Syntax

Function EA_OnPreDeleteDiagramObject (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteDiagramObject function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the element to be deleted: <ul style="list-style-type: none">ID: A long value corresponding to DiagramObject.ElementID

Return Value

- Return True to enable deletion of the element from the model
- Return False to disable deletion of the element

EA_OnPreDeletePackage

EA_OnPreDeletePackage notifies Add-Ins that a Package is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the Package.

This event occurs when a user attempts to permanently delete a Package from the Browser window. The notification is provided immediately before the Package is deleted, so that the Add-In can disable deletion of the Package.

Syntax

Function EA_OnPreDeletePackage (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeletePackage function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the Package to be deleted: <ul style="list-style-type: none">PackageID: A long value corresponding to Package.PackageID

Return Value

- Return True to enable deletion of the Package from the model
- Return False to disable deletion of the Package

EA_OnPreDeleteGlossaryTerm

EA_OnPreDeleteGlossaryTerm notifies Add-Ins that a glossary term is to be deleted from the model. It enables Add-Ins to permit or deny deletion of the glossary term.

The notification is provided immediately before the glossary term is deleted, so that the Add-In can disable deletion of the glossary term.

Syntax

Function EA_OnPreDeleteGlossaryTerm (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteGlossaryTerm function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the glossary term to be deleted: <ul style="list-style-type: none">TermID: A long value corresponding to Term.TermID

Return Value

- Return True to enable deletion of the glossary term from the model
- Return False to disable deletion of the glossary term

Pre New-Object Events

When you create an Add-In, you can include broadcast events to intercept and respond to requests to create new objects, including elements, connectors, diagram objects, attributes, methods and Packages.

Events to intercept

Event
Creation of a new element
Creation of a new connector
Creation of a new diagram
Creation of a new diagram object
Creation of a new element by dropping onto a diagram from the Browser window.
Creation of a new attribute
Creation of a new method
Creation of a new Package
Creation of a new glossary term

EA_OnPreNewElement

EA_OnPreNewElement notifies Add-Ins that a new element is about to be created on a diagram. It enables Add-Ins to permit or deny creation of the new element.

This event occurs when a user drags a new element from the Toolbox or 'Resources' tab of the Browser window onto a diagram. The notification is provided immediately before the element is created, so that the Add-In can disable addition of the element.

Syntax

Function EA_OnPreNewElement (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewElement function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the element to be created: <ul style="list-style-type: none">• Type: A string value corresponding to Element.Type• FQStereotype: A string value corresponding to Element.FQStereotype• Stereotype: A string value corresponding to Element.Stereotype• ParentID: A long value corresponding to Element.ParentID• DiagramID: A long value corresponding to the ID of the diagram to which the element is being added

Return Value

- Return True to enable addition of the new element to the model
- Return False to disable addition of the new element

EA_OnPreNewConnector

EA_OnPreNewConnector notifies Add-Ins that a new connector is about to be created on a diagram. It enables Add-Ins to permit or deny creation of a new connector.

This event occurs when a user drags a new connector from the Toolbox or 'Resources' tab of the Browser window, onto a diagram. The notification is provided immediately before the connector is created, so that the Add-In can disable addition of the connector.

Syntax

Function EA_OnPreNewConnector (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewConnector function syntax contains these elements:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the connector to be created: <ul style="list-style-type: none">• Type: A string value corresponding to Connector.Type• Subtype: A string value corresponding to Connector.Subtype• Stereotype: A string value corresponding to Connector.Stereotype• ClientID: A long value corresponding to Connector.ClientID• SupplierID: A long value corresponding to Connector.SupplierID• DiagramID: A long value corresponding to Connector.DiagramID

Return Value

- Return True to enable addition of the new connector to the model
- Return False to disable addition of the new connector

EA_OnPreNewDiagram

EA_OnPreNewDiagram notifies Add-Ins that a new diagram is about to be created. It enables Add-Ins to permit or deny creation of the new diagram.

The notification is provided immediately before the diagram is created, so that the Add-In can disable addition of the diagram.

Syntax

Function EA_OnPreNewDiagram (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewDiagram function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the diagram to be created: <ul style="list-style-type: none">• Type: A string value corresponding to Diagram.Type• ParentID: A long value corresponding to Diagram.ParentID• PackageID: A long value corresponding to Diagram.PackageID

Return Value

- Return True to enable addition of the new diagram to the model
- Return False to disable addition of the new diagram

EA_OnPreNewDiagramObject

EA_OnPreNewDiagramObject notifies Add-Ins that a new diagram object is about to be dropped on a diagram. It enables Add-Ins to permit or deny creation of the new object.

This event occurs when a user drags an object directly from the Enterprise Architect Browser window or from the 'Resources' tab of the Browser window onto a diagram. The notification is provided immediately before the object is created, so that the Add-In can disable addition of the object.

Syntax

Function EA_OnPreNewDiagramObject (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewDiagramObject function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the object to be created: <ul style="list-style-type: none">• Type: A string value corresponding to the Type of object being added to the diagram• Stereotype: A string value corresponding to the Stereotype of the object being added to the diagram• ID: A long value corresponding to the ID of the element, Package or diagram being added to the diagram• DiagramID: A long value corresponding to the ID of the diagram to which the object is being added

Return Value

- Return True to enable addition of the object to the model
- Return False to disable addition of the object

EA_OnPreDropFromTree

When a user drags any kind of element from the Browser window onto a diagram, EA_OnPreDropFromTree notifies the Add-In that a new item is about to be dropped onto a diagram. The notification is provided immediately before the element is dropped, so that the Add-In can override the default action that would be taken for this drag.

Syntax

Function EA_OnPreDropFromTree (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDropFromTree function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the element to be created: <ul style="list-style-type: none">• ID: A long value of the type being dropped• Type: A string value corresponding to type of element being dropped• DiagramID: A long value corresponding to the ID of the diagram to which the element is being added• PositionX: The X coordinate into which the element is being dropped• PositionY: The Y coordinate into which the element is being dropped• DroppedID: A long value corresponding to the ID of the element the item has been dropped onto

Return Value

- Return True to allow the default behavior to be executed
- Return False to override this behavior

EA_OnPreNewAttribute

EA_OnPreNewAttribute notifies Add-Ins that a new attribute is about to be created on an element. It enables Add-Ins to permit or deny creation of the new attribute.

This event occurs when a user creates a new attribute on an element by either drag-dropping from the Browser window, using the 'Attributes' tab of the Features window, or using the in-place editor on the diagram. The notification is provided immediately before the attribute is created, so that the Add-In can disable addition of the attribute.

Syntax

Function EA_OnPreNewAttribute (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewAttribute function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the attribute to be created: <ul style="list-style-type: none">• Type: A string value corresponding to Attribute.Type• Stereotype: A string value corresponding to Attribute.Stereotype• ParentID: A long value corresponding to Attribute.ParentID• ClassifierID: A long value corresponding to Attribute.ClassifierID

Return Value

- Return True to enable addition of the new attribute to the model
- Return False to disable addition of the new attribute

EA_OnPreNewMethod

EA_OnPreNewMethod notifies Add-Ins that a new method is about to be created on an element. It enables Add-Ins to permit or deny creation of the new method.

This event occurs when a user creates a new method on an element by either drag-dropping from the Browser window, using the 'Operations' tab of the Features window, or using the in-place editor on the diagram. The notification is provided immediately before the method is created, so that the Add-In can disable addition of the method.

Syntax

Function EA_OnPreNewMethod (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewMethod function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the method to be created: <ul style="list-style-type: none">• ReturnType: A string value corresponding to Method.ReturnType• Stereotype: A string value corresponding to Method.Stereotype• ParentID: A long value corresponding to Method.ParentID• ClassifierID: A long value corresponding to Method.ClassifierID

Return Value

- Return True to enable addition of the new method to the model
- Return False to disable addition of the new method

EA_OnPreNewPackage

EA_OnPreNewPackage notifies Add-Ins that a new Package is about to be created in the model. It enables Add-Ins to permit or deny creation of the new Package.

This event occurs when a user drags a new Package from the Toolbox or 'Resources' tab of the Browser window onto a diagram, or by selecting the New Package icon from the Browser window. The notification is provided immediately before the Package is created, so that the Add-In can disable addition of the Package.

Syntax

Function EA_OnPreNewPackage (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewPackage function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the Package to be created: <ul style="list-style-type: none">• Stereotype: A string value corresponding to Package.Stereotype• ParentID: A long value corresponding to Package.ParentID• DiagramID: A long value corresponding to the ID of the diagram to which the Package is being added

Return Value

- Return True to enable addition of the new Package to the model
- Return False to disable addition of the new Package

EA_OnPreNewGlossaryTerm

EA_OnPreNewGlossaryTerm notifies Add-Ins that a new glossary term is about to be created. It enables Add-Ins to permit or deny creation of the new glossary term.

The notification is provided immediately before the glossary term is created, so that the Add-In can disable addition of the element.

Syntax

Function EA_OnPreNewGlossaryTerm (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreNewGlossaryTerm function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the glossary term to be created: <ul style="list-style-type: none">• TermID: A string value corresponding to Term.TermID• Term: A string value corresponding to the name of the glossary term being created• Meaning: A string value corresponding to meaning of the glossary term being created

Return Value

- Return True to enable addition of the new glossary term to the model
- Return False to disable addition of the new glossary term

Tagged Value Events

Enterprise Architect includes the Addin Broadcast Tagged Value type that allows an Add-In to respond to attempts to edit it. The function that is called depends on the type of object the Tagged Value is on.

Tagged Value Events

Event
EA_OnAttributeTagEdit
EA_OnConnectorTagEdit
EA_OnElementTagEdit
EA_OnMethodTagEdit

EA_OnAttributeTagEdit

EA_OnAttributeTagEdit is called when the user clicks the  button for a Tagged Value of type AddinBroadcast on an attribute.

The Add-In displays fields to show and change the value and notes; this function provides the initial values for the Tagged Value notes and value, and takes on any changes on exit of the function.


Syntax

Sub EA_OnAttributeTagEdit (Repository As EA.Repository, AttributeID As Long, String TagName, String TagValue, String TagNotes)

The EA_OnAttributeTagEdit function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
AttributeID	Long Direction: IN Description: The ID of the attribute that this Tagged Value is on.
TagName	String Direction: IN Description: The name of the Tagged Value to edit.
TagValue	String Direction: INOUT Description: The current value of the tag; if the value is updated, the new value is stored in the repository on exit of the function.
TagNotes	String Direction: INOUT Description: The current value of the Tagged Value notes; if the value is updated, the new value is stored in the repository on exit of the function.

EA_OnConnectorTagEdit

EA_OnConnectorTagEdit is called when the user clicks the  button for a Tagged Value of type AddinBroadcast on a connector.

The Add-In displays fields to show and change the value and notes; this function provides the initial values for the Tagged Value notes and value, and takes on any changes on exit of the function.

Syntax

Sub EA_OnConnectorTagEdit (Repository As EA.Repository, ConnectorID As Long, String TagName, String TagValue, String TagNotes)

The EA_OnConnectorTagEdit function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
ConnectorID	Long Direction: IN Description: The ID of the connector that this Tagged Value is on.
TagName	String Direction: IN Description: The name of the Tagged Value to edit.
TagValue	String Direction: INOUT Description: The current value of the tag; if the value is updated, the new value is stored in the repository on exit of the function.
TagNotes	String Direction: INOUT Description: The current value of the Tagged Value notes; if the value is updated, the new value is stored in the repository on exit of the function.

EA_OnElementTagEdit

EA_OnElementTagEdit is called when the user clicks the  button for a Tagged Value of type AddinBroadcast on an element.

The Add-In displays fields to show and change the value and notes; this function provides the initial values for the Tagged Value notes and value, and takes on any changes on exit of the function.


Syntax

Sub EA_OnElementTagEdit (Repository As EA.Repository, ObjectID As Long, String TagName, String TagValue, String TagNotes)

The EA_OnElementTagEdit function syntax contains these elements:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
ObjectID	Long Direction: IN Description: The ID of the object (element) that this Tagged Value is on.
TagName	String Direction: IN Description: The name of the Tagged Value to edit.
TagValue	String Direction: INOUT Description: The current value of the tag; if the value is updated, the new value is stored in the repository on exit of the function.
TagNotes	String Direction: INOUT Description: The current value of the Tagged Value notes; if the value is updated, the new value is stored in the repository on exit of the function.

EA_OnMethodTagEdit

EA_OnMethodTagEdit is called when the user clicks the  button for a Tagged Value of type AddinBroadcast on an operation.

The Add-In displays fields to show and change the value and notes; this function provides the initial values for the Tagged Value notes and value, and takes on any changes on exit of the function.

Syntax

Sub EA_OnMethodTagEdit (Repository As EA.Repository, MethodID As Long, String TagName, String TagValue, String TagNotes)

The EA_OnMethodTagEdit function syntax contains these elements:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
MethodID	Long Direction: IN Description: The ID of the method that this Tagged Value is on.
TagName	String Direction: IN Description: The name of the Tagged Value to edit.
TagValue	String Direction: INOUT Description: The current value of the tag; if the value is updated, the new value is stored in the repository on exit of the function.
TagNotes	String Direction: INOUT Description: The current value of the Tagged Value notes; if the value is updated, the new value is stored in the repository on exit of the function.

Technology Events

Enterprise Architect Add-Ins can respond to events associated with the use of MDG Technologies.

Technology Broadcast Events

Event
EA_OnInitializeTechnologies
EA_OnPreActivateTechnology
EA_OnPostActivateTechnology
EA_OnPreDeleteTechnology (Deprecated)
EA_OnDeleteTechnology (Deprecated)
EA_OnImportTechnology (Deprecated)

EA_OnInitializeTechnologies

EA_OnInitializeTechnologies requests that an Add-In pass an MDG Technology to Enterprise Architect for loading. This event occurs on Enterprise Architect start up. Return your technology XML to this function and Enterprise Architect loads and enables it.

Syntax

Function EA_OnInitializeTechnologies (Repository As EA.Repository) As Object

The EA_OnInitializeTechnologies function syntax contains this parameter:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

Return the MDG Technology as a single XML string.

Example

```
Public Function EA_OnInitializeTechnologies(ByVal Repository As EA.Repository) As Object
    EA_OnInitializeTechnologies = My.Resources.MyTechnology
End Function
```

EA_OnPreActivateTechnology

EA_OnPreActivateTechnology notifies Add-Ins that an MDG Technology resource is about to be activated in the model.

This event occurs when a user selects to activate an MDG Technology resource in the model (by clicking on the Set Active button on the 'MDG Technologies' dialog or by selecting the technology in the list box in the Default Tools toolbar).

The notification is provided immediately after the user attempts to activate the MDG Technology, so that the Add-In can permit or disable activation of the Technology.

Syntax

Function EA_OnPreActivateTechnology (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreActivateTechnology function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the MDG Technology to be activated: <ul style="list-style-type: none">TechnologyID: A string value corresponding to the MDG Technology ID

Return Value

- Return True to enable activation of the MDG Technology resource in the model
- Return False to disable activation of the MDG Technology resource

EA_OnPostActivateTechnology

EA_OnPostActivateTechnology notifies Add-Ins that an MDG Technology resource has been activated in the model.

This event occurs when a user activates an MDG Technology resource in the model (by clicking on the Set Active button on the 'MDG Technologies' dialog, or by selecting the technology in the list box in the Default Tools toolbar).

The notification is provided immediately after the user succeeds in activating the MDG Technology, so that the Add-In can update the Technology if necessary.

Syntax

Function EA_OnPostActivateTechnology (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnPostActivateTechnology function syntax contains these parameters:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects for the MDG Technology to be activated: <ul style="list-style-type: none">TechnologyID: A string value corresponding to the MDG Technology ID

Return Value

Return True if the MDG Technology resource is updated during this notification. Return False otherwise.

EA_OnPreDeleteTechnology

Deprecated - refers to deleting a technology through the 'Resources' tab of the Browser window; this process is no longer recommended. See *Deploy An MDG Technology* for information on recommended methods for using technologies.

EA_OnPreDeleteTechnology notifies Add-Ins that an MDG Technology resource is about to be deleted from the model.

This event occurs when a user deletes an MDG Technology resource from the model.

The notification is provided immediately after the user confirms their request to delete the MDG Technology, so that the Add-In can disable deletion of the MDG Technology.

Related Broadcast Events

Event
EA_OnInitializeTechnologies
EA_OnPreActivateTechnology
EA_OnPostActivateTechnology

Syntax

Function EA_OnPreDeleteTechnology (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

The EA_OnPreDeleteTechnology function syntax contains these elements:

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains this EventProperty object for the MDG Technology to be deleted: <ul style="list-style-type: none"> TechnologyID: A string value corresponding to the MDG Technology ID

Return Value

- Return True to enable deletion of the MDG Technology resource from the model
- Return False to disable deletion of the MDG Technology resource

EA_OnDeleteTechnology

Deprecated - refers to deleting a technology through the 'Resources' tab of the Browser window; this process is no longer recommended. See *Deploy An MDG Technology* for information of recommended methods for using technologies.

EA_OnDeleteTechnology notifies Add-Ins that an MDG Technology resource has been deleted from the model.

This event occurs after a user has deleted an MDG Technology resource from the model. Add-Ins that require an MDG Technology resource to be loaded can catch this event to disable certain functionality.

Related Events

Event
EA_OnInitializeTechnologies
EA_OnPreActivateTechnology
EA_OnPostActivateTechnology

Syntax

Sub EA_OnDeleteTechnology (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnDeleteTechnology function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects: <ul style="list-style-type: none">TechnologyID: A string value corresponding to the MDG Technology ID

Return Value

None.

EA_OnImportTechnology

Deprecated - refers to importing a technology into the 'Resources' tab of the Browser window; this process is no longer recommended. See *Deploy An MDG Technology* for information of recommended methods for using technologies.

EA_OnImportTechnology notifies Add-Ins that you have imported an MDG Technology resource into the model.

This event occurs after you have imported an MDG Technology resource into the model. Add-Ins that require an MDG Technology resource to be loaded can catch this Add-In to enable certain functionality.

Related Events

Event
EA_OnInitializeTechnologies
EA_OnPreActivateTechnology
EA_OnPostActivateTechnology

Syntax

Sub EA_OnImportTechnology (Repository As EA.Repository, Info As EA.EventProperties)

The EA_OnImportTechnology function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects: <ul style="list-style-type: none">TechnologyID: A string value corresponding to the MDG Technology ID

Return Value

None.

Technology Rules

The Technology Rules set of events provides hooks for Add-Ins to customize the behavior for their own modeling languages beyond that which can be specified through MDG Technologies alone. These events have been subdivided into categories to assist in exploring the events that are available.

Technology Rule Events

Events
The EARules_Initialize event is called for all Add-Ins during initialization. Specifying one or more profiles for which to define rules is a pre-requisite for all rule calls.
Diagram Appearance Rule events modify some facet of how elements are rendered on diagrams.
User Interface Rule events are used to show, hide or customize aspects of the user interface, or to customize available actions to work naturally with a language.

EARules_Initialize

EARules_Initialize enables Add-Ins to override internal behavior for one or more technologies.

This event occurs during Add-In initialization.

Syntax

Function EARules_Initialize (Repository As EA.Repository, RuleIndex As Integer, Base As String) As String

The EARules_Initialize function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
RuleIndex	Integer Direction: IN Description: Provides a count of the number of calls to this function. This allows you to define multiple rule sets without maintaining your own state for previous calls to this function.
Base	String Direction: OUT Description: This parameter can be assigned the name of an existing set of rules that will be treated as a superclass of the rule set defined by your Add-In. The rules are named by the profile name containing the stereotypes or diagram types that are being modified. You will usually use this value if you are extending the stereotypes within that profile. The customized rules that are built-in to Enterprise Architect are: <ul style="list-style-type: none">• ArchiMate3.0• BPMN2.0• DMN1.1• MARTE• Modelica• SPEM• SysML1.2• SysML1.3• SysML1.4• SysPhS

Return Value

- Returns a non-empty string that matches the name of a profile or diagram profile to define rules for that profile; this function will be called again to allow rules for additional profiles
- Returns an empty string to specify that the Add-In does not define any additional technology-specific rules

Diagram Appearance Rule Events

Diagram Appearance Events

Event
EARules_ClosePartitionName is called to allow control over rendering a closing line after the name for an Activity Partition.
EARules_ElementDisplayName is called to allow alternative text to be displayed as the name during the rendering of an element.
EARules_GetCompartmentItem is called to allow altering the text to display for an item in a built-in compartment.
EARules_GetCompartmentName is called to determine the name displayed for built-in compartments.
EARules_GetNameUnderline is called by Enterprise Architect to determine if the name should be drawn with an underline.
EARules_GetPropertyString is called to provide alternative or additional text to the default element property string.
EARules_GetShapeScript is called to allow a custom shape script for elements without one defined.
EARules_ShowStereotype is called to allow control over stereotype visibility for the default rendering of an Activity Partition.
EARules_StereotypeDisplayName is called by Enterprise Architect to provide a custom keyword to display on the diagram in place of the stereotype name.

EARules_ClosePartitionName

EARules_ClosePartitionName allows an Add-In that is registered to provide rules for a language to determine if the name for an Activity Partition is displayed with a closing line.

This event occurs during diagram drawing.

Syntax

Function EARules_ClosePartitionName (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_ClosePartitionName function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.

Return Value

- Return a positive value to specify that the name should be closed
- Return zero to specify the name should not be closed
- Return a negative value to use the behavior from the base rules

EARules_ElementDisplayName

EARules_ElementDisplayName allows an Add-In registered to provide rules for a language to override the text displayed for the name in the default notation. An example of where you might want to use this is if an element should take its name automatically from another element.

This event occurs during the drawing of Activity Partitions and Shape Scripts.

Syntax

Function EARules_ElementDisplayName (Repository As EA.Repository, Language As String, Element as EA.Element, CurrentName as String, Base as Integer) As String

The EARules_ElementDisplayName function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.
CurrentName	String Direction: IN Description: Specifies the name currently being used for this element.
Base	Integer Direction: OUT Description: Controls whether the base rules will be called if you return an empty value. A non-zero value and return of an empty string means that the parent rules will determine the display of the element name.

Return Value

A string to override the displayed name of the element on a diagram.

EARules_GetCompartmentItem

EARules_GetCompartmentName allows an Add-In registered to provide rules for a language to override the text displayed for individual items in a compartment.

This event occurs during diagram drawing.

Syntax

Function EARules_GetCompartmentItem (Repository As EA.Repository, Language As String, Element as EA.Element, Compartment as String, Item as String, Base as Integer) As String

The EARules_GetCompartmentItem function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.
Compartment	String Direction: IN Description: Specifies the compartment being rendered.
Item	String Direction: IN Description: Specifies the item being rendered.
Base	Integer Direction: OUT Description: Controls whether the base rules will be called if you return an empty value. A non-zero value and return of an empty string means that the parent rules will determine the display of the compartment item.

Return Value

A string defining the text to be displayed for this compartment item.

EARules_GetCompartmentName

EARules_GetCompartmentName allows an Add-In registered to provide rules for a language to override the label displayed at the top of a compartment.

This event occurs during diagram drawing.

Syntax

Function EARules_GetCompartmentName (Repository As EA.Repository, Language As String, Element as EA.Element, Compartment as String, Base as Integer) As String

The EARules_GetCompartmentName function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.
Compartment	String Direction: IN Description: Specifies the compartment being rendered.
Base	Integer Direction: OUT Description: Controls whether the base rules will be called if you return an empty value. A non-zero value and return of an empty string means that the parent rules will determine the display of the compartment name.

Return Value

A string defining the name to be rendered for the specified compartment.

EARules_GetNameUnderline

EARules_GetNameUnderline allows an Add-In registered to provide rules for a language to control if the name of an element is rendered with an underline.

This event occurs during diagram drawing.

Syntax

Function EARules_GetNameUnderline (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_GetNameUnderline function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.

Return Value

- Return a positive value to specify that the name should be underlined
- Return zero to specify that the name should not be underlined
- Return a negative value to use the behavior from the base rules

EARules_GetPropertyString

EARules_GetPropertyString allows an Add-In registered to provide rules for a language to override the text for the property string of an element. In standard UML notation this is rendered between '{' and '}' near the name.

This event occurs during diagram drawing.

Syntax

Function EARules_GetPropertyString (Repository As EA.Repository, Language As String, Element as EA.Element, Order as Integer) As String

The EARules_GetPropertyString function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.
Order	Integer Direction: OUT Description: Controls the order in which text provided by base rules is added to the return value. <ul style="list-style-type: none">• Assign a negative value to place the base property string ahead of the return value• Assign a positive value to place the base property string after the return value• Assign zero to prevent the base property string from being displayed

Return Value

A string defining the contents of the property string used in the default element notation.

EARules_GetShapeScript

EARules_GetShapeScript allows an Add-In registered to provide rules for a language to customize the rendering of an element for the modeling language of the diagram being drawn.

This event occurs during diagram drawing.

Syntax

Function EARules_GetShapeScript (Repository As EA.Repository, Language As String, Element as EA.Element) As String

The EARules_GetShapeScript function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.

Return Value

- Return a string containing the Shape Script to use for this element
- Return an empty string to defer to the parent rules

EARules_ShowStereotype

EARules_ShowStereotype allows an Add-In registered to provide rules for a language to determine if the stereotype for an Activity Partition is displayed with the name.

This event occurs during diagram drawing.

Syntax

Function EARules_ShowStereotype (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_ShowStereotype function syntax contains these parameters:

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.

Return Value

- Return a positive value to specify that the name should be closed
- Return zero to specify that the name should not be closed
- Return a negative value to use the behavior from the base rules

EARules_StereotypeDisplayName

EARules_StereotypeDisplayName allows an Add-In registered to provide rules for a language to override the text displayed for the stereotype in the default notation. In standard UML notation, this is rendered between '«' and '»' near the name.

This event occurs during diagram drawing.

Syntax

Function EARules_StereotypeDisplayName (Repository As EA.Repository, Language As String, Stereotype as String, Base as Integer) As String

The EARules_StereotypeDisplayName function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Stereotype	String Direction: IN Description: Specifies the fully qualified name of the stereotype being queried.
Base	Integer Direction: OUT Description: Controls whether the base rules will be called if you return an empty value. A non-zero value and return of an empty string means that the parent rules will determine the display of the stereotype.

Return Value

A string to override the displayed name of the stereotype on a diagram.

User Interface Rule Events

User Interface Behavior Events

Event
EARules_AllowNesting is called to determine if creating a visual nesting of two elements on a diagram results in .setting the ownership in the browser
.EARules_AppendChildDiagrams is called to build the context menu for adding child diagrams to an element
.EARules_AppendChildElements is called to build the context menu for adding child elements to an element
EARules_CanOverrideStereotype is called to determine if the stereotype on a Type is assigned to a property when .assigning the type
.EARules_CanProxy is called to determine if this element can be represented by another element
EARules_CanReparent is called to determine if visually nesting on a diagram is intended to update ownership in .the Browser
.EARules_CreateModel is called to allow creation of a wrapping element during creation of a diagram
EARules_EnableElementProperty is called to determine if a particular property in the docked Properties window .should allow edits for this element
EARules_ForceLength is used to allow particular diagrams to require elements determined by .EARules_IsAdjustable to have their length fixed to the size of the diagram
EARules_AppendChildDiagrams is called to override a request for a UML diagram when the context specifies a .different language is being used
EARules_IsAdjustable is called to determine which elements can have their length automatically adjusted on .diagrams where EARules_ForceLength has allowed the operation
EARules_PropagateStereotype is called to determine if a classifier stereotype can be applied to an instance using .that classifier
EARules_ShowElementProperty is called to determine if a particular property in the docked Properties window .should be displayed for this element
.EARules_ShowFrame is called to automatically insert the parent of the diagram as a frame
.EARules_ShowParentFrame is called to automatically insert the parent of the diagram as a frame

EARules_AllowNesting

EARules_AllowNesting allows an Add-In registered to provide rules for a language to specify if two elements should be nested in the Browser window after being nested on a diagram.

This event occurs while a user drags one element onto another in a diagram.

Syntax

Function EARules_AllowNesting (Repository As EA.Repository, Language As String, Child as EA.Element, Parent as EA.Element, Diagram as EA.Diagram) As Integer

The EARules_AllowNesting function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Child	EA.Element Direction: IN Description: Specifies the element that has been graphically nested within another element.
Parent	EA.Element Direction: IN Description: Specifies the target element of a drag-and-drop operation within a diagram.
Diagram	EA.Diagram Direction: IN Description: The diagram that the move event has occurred on.

Return Value

- Return a positive value to allow the nesting to occur
- Return a negative value to use the base rules
- Return zero to prevent the nesting from occurring

EARules_AppendChildDiagrams

EARules_AppendChildDiagrams allows an Add-In registered to provide rules for a language to specify the list of items to be shown in the '[New Child Diagram]' menu.

This event occurs when a context menu is shown that includes 'New Child Diagram'.

Syntax

Function EARules_AppendChildDiagrams (Repository As EA.Repository, Language As String, Parent as EA.Element, Diagram as EA.Diagram, Order as Integer) As Variant

The EARules_AppendChildDiagrams function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Parent	EA.Element Direction: IN Description: Specifies the element showing a context menu that includes the option for new child diagrams.
Diagram	EA.Diagram Direction: IN Description: The diagram that is showing the parent element. If a user is showing a context menu outside a diagram, this could be null.
Order	EA.Diagram Direction: OUT Description: Allows controlling if and where the child diagrams specified in the parent rules are shown. A positive value means they will be shown after the items specified in this function. Zero means they are not shown at all. A negative value means that they are shown after the items specified in this function.

Return Value

This function supports returning either a single string with multiple items specified by a ';', or an array of strings.

Each item can be one of these:

- "-" - inserts a separator
- Any other text - shows that text as the item, and if the user clicks on it the Add-In is responsible for creating the requested diagram in EA_OnMenuClick

EARules_AppendChildElements

EARules_AppendChildElements allows an Add-In registered to provide rules for a language to specify the list of items to be shown in the 'New Child Element' menu.

This event occurs when a context menu is shown that includes 'New Child Element'.

Syntax

Function EARules_AppendChildElements (Repository As EA.Repository, Language As String, Parent as EA.Element, Diagram as EA.Diagram, Order as Integer) As Variant

The EARules_AppendChildElements function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Parent	EA.Element Direction: IN Description: Specifies the element showing a context menu that includes the option for new child diagrams.
Diagram	EA.Diagram Direction: IN Description: The diagram that is showing the parent element. If a user is showing a context menu outside a diagram, this could be null.
Order	EA.Diagram Direction: OUT Description: Allows the control of if and where the child diagrams specified in the parent rules are shown. A positive value means they will be shown after the items specified in this function. Zero means they are not shown at all. A negative value means that they are shown after the items specified in this function.

Return Value

This function supports returning either a single string with multiple items specified by a ';', or an array of strings.

Each item can be one of these:

- "-" - inserts a separator
- A valid toolbox string including an alias - should be of the form <profile>::<stereotype>(UML::<base>)=<alias>
- Any other text - shows that text as the item, and if the user clicks on it the Add-In is responsible for creating the requested element in EA_OnMenuClick

EARules_CanOverrideStereotype

EARules_CanOverrideStereotype allows an Add-In registered to provide rules for a language to control when the stereotype from a newly assigned type is propagated to the property.

This event occurs when a type is assigned to a property element.

Syntax

Function EARules_CanOverrideStereotype (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_CanOverrideStereotype function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element showing a context menu that includes the option for new child diagrams.

Return Value

- Return a positive value to allow the stereotype from the type to override the current stereotype
- Return zero to prevent any change to the element stereotype
- Return a negative value to use the behavior from the base rules

EARules_CanProxy

EARules_CanProxy allows an Add-In registered to provide rules for a language to specify that one element is a proxy for another.

This event should only be handled for rules extending BPMN.

Syntax

Function EARules_CanProxy (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_CanProxy function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Target	EA.Element Direction: IN Description: Specifies the element showing a context menu that includes the option for new child diagrams.

Return Value

- Return a positive value to specify that the target element is a proxy
- Return zero to specify that the target element is not a proxy
- Return a negative value to use the behavior from the base rules

EARules_CanReparent

EARules_CanReparent allows an Add-In registered to provide rules for a language to specify that the child diagrams for an element can be changed to other diagrams.

Syntax

Function EARules_CanReparent (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_CanReparent function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element showing a context menu that includes the option for new child diagrams.

Return Value

- Return a positive value to allow reparenting to occur
- Return zero to prevent reparenting
- Return a negative value to use the behavior from the base rules

EARules_CreateModel

EARules_CreateModel allows an Add-In registered to provide rules for a language to create a wrapping element when a new diagram is created.

This event occurs during diagram creation.

Syntax

Function EARules_CreateModel (Repository As EA.Repository, Language As String, Diagram as EA.Diagram) As Integer

The EARules_CreateModel function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Diagram	EA.Diagram Direction: IN Description: Specifies the diagram currently being created.

Return Value

- Return zero or a positive value if no further action is required
- Return a negative value to use the behavior from the base rule

EARules_EnableElementProperty

EARules_EnableElementProperty allows an Add-In registered to provide rules for a language to control if individual properties should be displayed as read-only in the docked Properties window.

This is called during selection of elements when the Properties window is visible.

Syntax

Function EARules_EnableElementProperty (Repository As EA.Repository, Language As String, Element as EA.Element, Namespace as String, Class as String, Property as String) As Integer

The EARules_EnableElementProperty function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.
Namespace	String Direction: IN Description: Specifies the top level language this property comes from. This will be either "UML" or the name of a profile.
Class	String Direction: IN Description: Specifies the type this property was defined in. In the UML namespace that means the metaclass defined in UML. Otherwise it will be a stereotype.
Property	String Direction: IN Description: Specifies the metaclass or stereotype property to enable or disable.

Return Value

- Return a positive value to allow edits to the property

- Return zero to disable edits to the property
- Return a negative value to use the behavior from the base rules

EARules_ForceLength

EARules_ForceLength allows an Add-In registered to provide rules for a language to specify that some elements are sized to the width or height of the diagram.

This event occurs during diagram load and resize events.

Syntax

Function EARules_ForceLength (Repository As EA.Repository, Language As String, Diagram as EA.Diagram) As Integer

The EARules_ForceLength function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Diagram	EA.Diagram Direction: IN Description: Specifies the diagram currently being loaded.

Return Value

- Return a positive value to specify that this diagram should enforce the length of elements
- Return zero to specify that no elements should have their length enforced
- Return a negative value to use the behavior from the base rules

EARules_GetEquivalentDiagram

EARules_GetEquivalentDiagram allows an Add-In registered to provide rules for a language to override the diagram type created when a UML diagram would otherwise be created.

This event occurs during user requests to create a structure that includes a diagram.

Syntax

Function EARules_GetEquivalentDiagram (Repository As EA.Repository, Language As String, DiagramType as String) As String

The EARules_GetEquivalentDiagram function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
DiagramType	String Direction: IN Description: Specifies the type of diagram that has been requested.

Return Value

A string containing the qualified name of a diagram type to replace the UML diagram requested.

Return an empty string to allow the base rules to control the diagram type.

EARules_IsAdjustable

EARules_IsAdjustable allows an Add-In registered to provide rules for a language to specify which elements are sized to the width or height of the diagram.

This event occurs during diagram load and resize events.

Syntax

Function EARules_IsAdjustable (Repository As EA.Repository, Language As String, Element as EA.Element) As Integer

The EARules_IsAdjustable function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element.

Return Value

- Return a positive value to allow automatic resize to occur
- Return zero to prevent automatic resize
- Return a negative value to use the behavior from the base rules

EARules_PropagateStereotype

EARules_PropagateStereotype allows an Add-In registered to provide rules for a language to control if a particular stereotype from a classifier should be applied to an instance with that classifier.

This event occurs when a classifier is assigned to an instance.

Syntax

Function EARules_PropagateStereotype (Repository As EA.Repository, Language As String, Element as EA.Element, Stereotype as String) As Integer

The EARules_PropagateStereotype function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Element	EA.Element Direction: IN Description: Specifies the element showing a context menu that includes the option for applying the stereotype.
Stereotype	String Direction: IN Description: Specifies the qualified name of the stereotype to apply.

Return Value

- Return a positive value to allow the stereotype from the type to be applied
- Return zero to prevent the stereotype from being applied
- Return a negative value to use the behavior from the base rules

EARules_ShowElementProperty

EARules_ShowElementProperty allows an Add-In registered to provide rules for a language to control visibility for individual properties in the docked Properties window.

This is called during selection of elements when the Properties window is visible.

Syntax

Function EARules_ShowElementProperty (Repository As EA.Repository, Language As String, Element as EA.Element, Namespace as String, Class as String, Property as String) As Integer

The EARules_ShowElementProperty function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize
Element	EA.Element Direction: IN Description: Specifies the element currently being drawn.
Namespace	String Direction: IN Description: Specifies the top level language this property comes from. Will either be "UML" or the name of a profile.
Class	String Direction: IN Description: Specifies the type this property was defined in. In the UML namespace that means the metaclass defined in UML. Otherwise it will be a stereotype.
Property	String Direction: IN Description: Specifies the metaclass or stereotype property to display or hide.

Return Value

- Return a positive value to display the property

- Return zero to hide the property
- Return a negative value to use the behavior from the base rules

EARules_ShowFrame

EARules_ShowFrame allows an Add-In registered to provide rules for a language to determine if the owner of a diagram should always be displayed on the diagram as a diagram frame.

This event occurs during diagram load.

Syntax

Function EARules_ShowFrame (Repository As EA.Repository, Language As String, Diagram as EA.Diagram) As Integer

The EARules_ShowFrame function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Diagram	EA.Diagram Direction: IN Description: Specifies the diagram currently being loaded.

Return Value

- Return a positive value to specify that the parent element should be shown as a frame on this diagram
- Return zero to specify the frame should not be displayed on the diagram
- Return a negative value to use the behavior from the base rules

EARules_ShowParentFrame

EARules_ShowParentFrame allows an Add-In registered to provide rules for a language to determine if the owner of a diagram should always be displayed on the diagram as a diagram frame.

This event occurs during diagram load.

Syntax

Function EARules_ShowParentFrame (Repository As EA.Repository, Language As String, Diagram as EA.Diagram) As Integer

The EARules_ShowParentFrame function syntax contains these parameters.

Parameter	Description
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Language	String Direction: IN Description: Specifies the language for the rule that Enterprise Architect is requesting. This will match one of the values returned from EARules_Initialize.
Diagram	EA.Diagram Direction: IN Description: Specifies the diagram currently being loaded.

Return Value

- Return a positive value to specify that the parent element should be shown as a frame on this diagram
- Return zero to specify the name should not be displayed on the diagram
- Return a negative value to use the behavior from the base rules

自定义视图

Enterprise Architect允许将自定义窗口作为选项卡插入到出现在Enterprise Architect框架中心的图表视图中。

创建自定义视图可帮助您轻松地在Enterprise Architect中显示自定义界面，以及其他图表和内置视图，以便快速轻松地访问。

此功能的用途包括：

- 显示模型汇总数据的报告和图表
- 选择图表视图
- 选择模型视图
- 与模型数据相关的外部数据视图
- 文档工具

请记住，应用程序查看“对话框中的 在单个窗口中打开图表”选项将交换图表视图中的图表视图，而不是打开更多图表选项卡。

创建自定义视图

A 定义视图必须设计为 ActiveX 控件，并且必须通过自动化接口插入。可以使用最知名的编程工具（包括 Microsoft Visual Studio）创建 ActiveX 自定义控件。请参阅相关供应商提供的文档，了解如何创建自定义控件以生成 OCX 文件。

一旦在目标系统上创建并注册了自定义控件，就可以通过存储库 object 的 AddTab() 方法添加它。虽然可以从任何自动化客户端调用 AddTab()，但您可能会从插件

调用它插件

· 并且那个插件

在提供自定义视图的同一 OCX 中定义。

C# Code Example

```
public class Addin
{
    UserControl1 m_MyControl;
    public void EA_Connect(EA.Repository Rep)
    {
    }
    public object EA_GetMenuItems(EA.Repository Repository, string Location, string MenuName)
    {
        if(MenuName == "")
            return "-&C# Control Demo";
        else
        {
            String() ret = {"Show Custom View", "Show Button"};
            return ret;
        }
    }
    public void EA_MenuClick(EA.Repository Rep, string Location, string MenuName, string ItemName)
    {
        if(ItemName == "Show Custom View")
            m_MyControl = (UserControl1) Rep.AddTab("C# Demo","ContDemo.UserControl1");
        else if(ItemName == "Show Button")
            m_MyControl.ShowButton();
    }
}
```

自定义停泊窗口

自定义停泊窗口可以添加到Enterprise Architect用户界面中。添加后，它们可以以与其他内置Enterprise Architect停靠窗口相同的方式显示和停靠。

A定义停靠窗口必须设计为 ActiveX控件并通过自动化接口插入。可以使用最知名的编程工具（包括 Microsoft Visual Studio）创建 ActiveX 自定义控件。请参阅相关供应商提供的文档，了解如何创建自定义控件以生成 OCX 文件。

一旦在目标系统上创建并注册了自定义控件，就可以使用存储库object的 AddWindow() 方法添加它。虽然可以从任何自动化客户端调用 AddWindow()，但您可能会从插件

调用它插件

· 并且那个插件

在提供自定义视图的同一 OCX 中定义。

要查看已添加的自定义停靠窗口，请选择 特定>插件>插件窗口”功能区选项。

自定义停泊窗口也可以通过自动化客户端或插件

可见插件

使用 ShowAddinWindow() 方法，或使用 HideAddinWindow() 方法隐藏。

C# Code Example

```
public class Addin
{
    UserControl1 m_MyControl;
    public void EA_Connect(EA.Repository Rep)
    {
        m_MyControl = (UserControl1) Rep.AddWindow
            ("C# Demo","ContDemo.UserControl1");
    }
    public object EA_GetMenuItems(EA.Repository Repository, string Location, string MenuName)
    {
        if(MenuName == "")
            return "-&C# Control Demo";
        else
        {
            String() ret = {"Show Window", "Show Button"};
            return ret;
        }
    }
    public void EA_MenuClick(EA.Repository Rep, string Location, string MenuName, string ItemName)
    {
        if(ItemName == "Show Window")
            Rep.ShowAddinWindow("C# Demo");
        else if(ItemName == "Show Button")
            m_MyControl.ShowButton();
    }
}
```



```
}  
}
```

MDG插件

MDG插件是特殊类型的插件

对于插件

有额外的特征和额外的要求插件

希望为Enterprise Architect的模型驱动生成目标做出贡献的作者。

MDG插件

的附加职责之一插件

是通过MDG_Connect事件获得Enterprise Architect模型的一个分支的所有权。不像一般插件

事件, MDG插件

事件仅发送到插件

拥有特定工作站上Enterprise Architect模型分支的所有权。

MDG插件在EA_Connect期间通过返回string “ MDG ”来标识自己。

与普通插件不同, 响应MDG插件

events 不是可选的, 并且必须为每个MDG 事件发布方法。

MDG 事件

An MDG Add-In must respond to all MDG Events. These events usually identify processes such as Build, Run, Synchronize, PreMerge and PostMerge, amongst others.

An MDG Link Add-In is expected to implement some form of forward and reverse engineering capability within Enterprise Architect, and as such requires access to a specific set of events, all to do with generation, synchronization and general processes concerned with converting models to code and code to models.

MDGAdd-In Events

Event
MDG_BuildProject
MDG_Connect
MDG_Disconnect
MDG_GetConnectedPackages
MDG_GetProperty
MDG_Merge
MDG_NewClass
MDG_PostGenerate
MDG_PostMerge
MDG_PreGenerate
MDG_PreMerge
MDG_PreReverse
MDG_RunExe
MDG_View

MDG_BuildProject

Add-Ins can use MDG_BuildProject to handle file changes caused by generation. This function is called in response to a user selecting the 'Execute > Source > Build > Build' ribbon option.

Respond to this event by compiling the project source files into a running application.

Syntax

Sub MDG_BuildProject (Repository As EA.Repository, PackageGuid As String)

The MDG_BuildProject function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.

Return Value

None.

MDG_Connect

An Add-In uses MDG_Connect to handle a user driven request to connect a model branch to an external application. The function is called when the user attempts to connect a particular Enterprise Architect Package to an as yet unspecified external project. The Add-In calls the event to interact with the user to specify such a project.

The Add-In is responsible for retaining the connection details, which should be stored on a per-user or per-workstation basis. That is, users who share a common Enterprise Architect model over a network should be able to connect and disconnect to external projects independently of one another.

The Add-In should therefore not store connection details in an Enterprise Architect repository. A suitable place to store such details would be:

```
SHGetFolderPath(..CSIDL_APPDATA..)AddinName
```

The PackageGuid parameter is the same identifier as is required for most events relating to the MDG Add-In. Therefore it is recommended that the connection details be indexed using the PackageGuid value.

The PackageID parameter is provided to aid fast retrieval of Package details from Enterprise Architect, should this be required.

Syntax

Function MDG_Connect (Repository As EA.Repository, PackageID as Long, PackageGuid As String) As Long

The MDG_Connect function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageID	Long Direction: IN Description: The PackageID of the Enterprise Architect Package the user has requested to have connected to an external project.
PackageGuid	String Direction: IN Description: The unique ID identifying the project provided by the Add-In when a connection to a project branch of an Enterprise Architect model was first established.

Return Value

- Return a non-zero to indicate that a connection has been made
- Return a zero to indicate that the user has not nominated a project and connection should not proceed

MDG_Disconnect

Add-Ins can use MDG_Disconnect to respond to user requests to disconnect the model branch from an external project. This function is called when the user attempts to disconnect an associated external project. The Add-In is required to delete the details of the connection.

Syntax

Function MDG_Disconnect (Repository As EA.Repository, PackageGuid As String) As Long

The MDG_Disconnect function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.

Return Value

- Return a non-zero to indicate that a disconnection has occurred, enabling Enterprise Architect to update the user interface
- Return a zero to indicate that the user has not disconnected from an external project

MDG_GetConnectedPackages

Add-Ins can use MDG_GetConnectedPackages to return a list of current connections between Enterprise Architect and an external application.

This function is called when the Add-In is first loaded, and is expected to return a list of the available connections to external projects for this Add-In.

Syntax

Function MDG_GetConnectedPackages (Repository As EA.Repository) As Variant

The MDG_GetConnectedPackages function syntax contains this parameter.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.

Return Value

Returns an array of GUID strings representing individual Enterprise Architect Packages.

MDG_GetProperty

MDG_GetProperty provides miscellaneous Add-In details to Enterprise Architect.

This function is called by Enterprise Architect to poll the Add-In for information relating to the PropertyName. This event should occur in as short a duration as possible, as Enterprise Architect does not cache the information provided by the function.

Values corresponding to these PropertyNames must be provided:

- IconID - Return the name of a DLL and a resource identifier in the format #ResID, where the resource ID indicates an icon
`c:\program files\myapp\myapp.dll#101`
- Language - Return the default language that Classes should be assigned when they are created in Enterprise Architect
- HiddenMenus - Return one or more values from the MDGMenus enumeration to hide menus that do not apply to your Add-In
`if(PropertyName == "HiddenMenus")
return mgBuildProject + mgRun;`

Syntax

Function MDG_GetProperty (Repository As EA.Repository, PackageGuid As String, PropertyName As String) As Variant

The MDG_GetProperty function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently-open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.
PropertyName	String Direction: IN Description: The name of the property that is used by Enterprise Architect. See the start of this topic for the possible values.

Return Value

See the start of this topic.

MDG_Merge

Add-Ins can use MDG_Merge to jointly handle changes to both the model branch and the code project that the model branch is connected to.

This event should be called whenever the user has asked to merge their model branch with its connected code project, or whenever the user has established a new connection to a code project.

The purpose of this event is to make the Add-In interact with the user to perform a merge between the model branch and the connected project.

Syntax

Function MDG_Merge (Repository As EA.Repository, PackageGuid As String, SynchObjects As Variant, SynchType As String, ExportObjects As Variant, ExportFiles As Variant, ImportFiles As Variant, IgnoreLocked As String, Language As String) As Long

The MDG_Merge function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.
SynchObjects	Variant Direction: OUT Description: A string array containing a list of objects (Object ID format) to be jointly synchronized between the model branch and the project. See <i>Object ID Format</i> for the format of the Object IDs.
SynchType	String Direction: OUT Description: The value determining the user-selected type of synchronization to take place. See <i>Synchronize Type</i> for a list of valid values.
ExportObjects	Variant Direction: OUT Description: The string array containing the list of new model objects (in Object ID format) to be exported by Enterprise Architect to the code project.
ExportFiles	Variant Direction: OUT Description: A string array containing the list of files for each model object chosen

	<p>for export by the Add-In.</p> <p>Each entry in this array must have a corresponding entry in the ExportObjects parameter at the same array index, so ExportFiles(2) must contain the filename of the object by ExportObjects(2).</p>
ImportFiles	<p>Variant</p> <p>Direction: OUT</p> <p>Description: A string array containing the list of code files made available to the code project to be newly imported to the model.</p> <p>Enterprise Architect imports each file listed in this array for import into the connected model branch.</p>
IgnoreLocked	<p>String</p> <p>Direction: OUT</p> <p>Description: A value indicating whether to ignore any files locked by the code project (that is, 'True' or 'False').</p>
Language	<p>String</p> <p>Direction: OUT</p> <p>Description: The string value containing the name of the code language supported by the code project connected to the model branch.</p>

Object ID Format

Each of the Object IDs listed in the 'SynchObjects' string arrays should have this format:

`((@namespace)*(#class)*($attribute|%operation|;property))*`

Return Value

- Return a non-zero if the merge operation completed successfully
- Return a zero when the operation has been unsuccessful

Merge

A merge consists of three major operations:

- Export: where newly created model objects are exported into code and made available to the code project
- Import: where newly created code objects, Classes and such things are imported into the model
- Synchronize: where objects available both to the model and in code are jointly updated to reflect changes made in either the model, code project or both

Synchronize Type

The Synchronize operation can take place in one of four different ways. Each of these ways corresponds to a value returned by 'SynchType':

- None: ('SynchType' = 0) No synchronization is to be performed
- Forward: ('SynchType' = 1) Forward synchronization, between the model branch and the code project is to occur
- Reverse: ('SynchType' = 2) Reverse synchronization, between the code project and the model branch is to occur
- Both: ('SynchType' = 3) Reverse, then Forward synchronizations are to occur

MDG_NewClass

Add-Ins can use MDG_NewClass to alter details of a Class before it is created.

This method is called when Enterprise Architect generates a new Class, and requires information relating to assigning the language and file path. The file path should be passed back as a return value and the language should be passed back via the language parameter.

Syntax

Function MDG_NewClass (Repository As EA.Repository, PackageGuid As String, CodeID As String, Language As String) As String

The MDG_NewClass function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.
CodeID	String Direction: IN Description: A string used to identify the code element before it is created.
Language	String Direction: OUT Description: A string used to identify the programming language for the new Class. The language must be supported by Enterprise Architect.

Return Value

Return a string containing the file path that should be assigned to the Class.

MDG_PostGenerate

Add-Ins can use MDG_PostGenerate to handle file changes caused by generation.

This event is called after Enterprise Architect has prepared text to replace the existing contents of a file. Responding to this event enables the Add-In to write to the linked application's user interface rather than modify the file directly.

When the contents of a file are changed, Enterprise Architect passes FileContents as a non-empty string. New files created as a result of code generation are also sent through this mechanism, so the Add-Ins can add new files to the linked project's file list.

When new files are created Enterprise Architect passes FileContents as an empty string. When a non-zero is returned by this function, the Add-In has successfully written the contents of the file. A zero value for the return indicates to Enterprise Architect that the file must be saved.

Syntax

Function MDG_PostGenerate (Repository As EA.Repository, PackageGuid As String, FilePath As String, FileContents As String) As Long

The MDG_PostGenerate function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.
FilePath	String Direction: IN Description: The path of the file Enterprise Architect intends to overwrite.
FileContents	String Direction: IN Description: A string containing the proposed contents of the file.

Return Value

The return value depends on the type of event that this function is responding to (see introduction). This function is required to handle two separate and distinct cases.

MDG_PostMerge

MDG_PostMerge is called by Enterprise Architect after a merge process has been completed.

File save checking should not be performed with this function, but should be handled by MDG_PreGenerate, MDG_PostGenerate and MDG_PreReverse.

Syntax

Function MDG_PostMerge (Repository As EA.Repository, PackageGuid As String) As Long

The MDG_PostMerge function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.

Return Value

- Return a non-zero to indicate that the post-merge has been successful
- Return a zero if the post-merge process has failed

Enterprise Architect assumes a non-zero return if this method is not implemented.

MDG_PreGenerate

Add-Ins can use MDG_PreGenerate to deal with unsaved changes.

This function is called immediately before Enterprise Architect attempts to generate files from the model. A possible use of this function would be to prompt the user to save unsaved source files.

Return Value

- Return a zero to abort generation
- Return any other value to enable the generation to continue

Syntax

Function MDG_PreGenerate (Repository As EA.Repository, PackageGuid As String) As Long

The MDG_PreGenerate function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.

MDG_PreMerge

MDG_PreMerge is called after a merge process has been initiated by the user and before Enterprise Architect performs the merge process.

This event is called after a user has performed their interactions with the merge screen and has confirmed the merge with the OK button, but before Enterprise Architect performs the merge process using the data provided by the MDG_Merge call, before any changes have been made to the model or the connected project.

This event is made available to provide the Add-In with the opportunity to generally set internal Add-In flags to augment the MDG_PreGenerate, MDG_PostGenerate and MDG_PreReverse events.

File save checking should not be performed with this function, but should be handled by MDG_PreGenerate, MDG_PostGenerate and MDG_PreReverse.

Syntax

Function MDG_PreMerge (Repository As EA.Repository, PackageGuid As String) As Long

The MDG_PreMerge function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.

Return Value

- Return a zero to indicate that the merge process can not occur
- Return a non-zero if the merge process proceeds

If this method is not implemented then it is assumed that a merge process is used.

MDG_PreReverse

Add-Ins can use MDG_PreReverse to save file changes before they are imported into Enterprise Architect.

This function operates on a list of files that are about to be reverse-engineered into Enterprise Architect. If the user is working on unsaved versions of these files in an editor, you could either prompt the user or save automatically.

Syntax

Sub MDG_PreReverse (Repository As EA.Repository, PackageGuid As String, FilePaths As Variant)

The MDG_PreReverse function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.
FilePaths	String array Direction: IN Description: An array of filepaths pointed to the files that are to be reverse engineered.

Return Value

None.

MDG_RunExe

Add-Ins can use MDG_RunExe to run the target application.

This function is called when the user selects the 'Execute > Run > Start > Run' ribbon option.

Respond to this event by launching the compiled application.

Syntax

Sub MDG_RunExe (Repository As EA.Repository, PackageGuid As String)

The MDG_RunExe function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.

Return Value

None.

MDG_View

Add-Ins can use MDG_View to display user specified code elements.

This function is called by Enterprise Architect when the user asks to view a particular code element. The Add-In can then present that element in its own way, usually in a code editor.

Syntax

Function MDG_View (Repository As EA.Repository, PackageGuid As String, CodeID as String) As Long

The MDG_View function syntax contains these parameters.

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
PackageGuid	String Direction: IN Description: The GUID identifying the Enterprise Architect Package sub-tree that is controlled by the Add-In.
CodeID	String Direction: IN Description: Identifies the code element in this format: <code><type>ElementPart<type>ElementPart...</code> where each element is preceded with a token identifying its type: @ - namespace # - Class \$ - attribute % - operation For example, if a user has selected the m_Name attribute of Class1 located in namespace Name1, the Class ID would be passed through in this format: <code>@Name1#Class1%m_Name</code>

Return Value

- Return a non-zero value to indicate that the Add-In has processed the request
- Return a zero value for Enterprise Architect to employ the standard viewing process, which is to launch the associated source file

工作流插件 事件

Enterprise Architect provides this set of four additional events that are sent only to workflow Add-Ins.

To use these the Workflow Add-In must be initialized with EA_Connect set to type: "Workflow". For more details see the *EA_Connect* Help topic.

Workflow Add-In Events

Event
EA_AllowPropertyUpdate This event is sent to workflow Add-Ins after a user has changed a built-in property value.
EA_AllowTagUpdate This event is sent to workflow Add-Ins after a user has changed a Tagged Value.
EA_CanEditProperty This event is sent to workflow Add-Ins when a property is being displayed that allows the property to block all edits.
EA_CanEditTag This event is sent to workflow Add-Ins when a Tagged Value is being displayed that allows the property to block all edits.

EA_AllowPropertyUpdate

This event is sent to workflow Add-Ins after a user has changed a built-in property value.

Syntax

Function EA_AllowPropertyUpdate (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects describing the requested property update: <ul style="list-style-type: none">• Type: A string value corresponding to Element.Type• Stereotype: A string value corresponding to Element.Stereotype• Property: The name of the property field to enable or disable• OldValue: The previous value of the property• NewValue: The new value of the property

Return Value

- Return False to prevent this change to the described property
- Return True to allow this change

EA_AllowTagUpdate

This event is sent to Workflow Add-Ins after a user has changed a Tagged Value.

Syntax

Function EA_AllowTagUpdate (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects describing the requested Tagged Value update: <ul style="list-style-type: none">• Type: A string value corresponding to Element.Type• Stereotype: A string value corresponding to Element.Stereotype• TagName: The name of the Tagged Value field to enable or disable• OldValue: The previous value of the tag• NewValue: The new value of the tag

Return Value

- Return False to prevent this change to the described Tagged Value
- Return True to allow this change

EA_CanEditProperty

This event is sent to Workflow Add-Ins when a property is being displayed that allows the property to block all edits.

Syntax

Function EA_CanEditProperty (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects describing the property: <ul style="list-style-type: none">• Type: A string value corresponding to Element.Type• Stereotype: A string value corresponding to Element.Stereotype• PropertyName: The name of the property field to enable or disable

Return Value

- Return False to prevent all edits to the described property
- Return True to allow changes

EA_CanEditTag

This event is sent to Workflow Add-Ins when a Tagged Value is being displayed that allows the property to block all edits.

Syntax

Function EA_CanEditTag (Repository As EA.Repository, Info As EA.EventProperties) As Boolean

Parameter	Type
Repository	EA.Repository Direction: IN Description: An EA.Repository object representing the currently open Enterprise Architect model. Poll its members to retrieve model data and user interface status information.
Info	EA.EventProperties Direction: IN Description: Contains these EventProperty objects describing the Tagged Value: <ul style="list-style-type: none">• Type: A string value corresponding to Element.Type• Stereotype: A string value corresponding to Element.Stereotype• TagName: The name of the tag to enable or disable

Return Value

- Return False to prevent all edits to the described Tagged Value
- Return True to allow changes

