

dSPACE DataDictionary

Data Dictionary Manager Menu Extensions

For dSPACE DataDictionary 2.0

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- Use the dSPACE Support Wizard:
 - On your dSPACE DVD at \Diag\Tools\dspaceSupportWizard.exe
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Contents

Data Dictionary Manager Menus.....4

The Tools Menu..... 4

The Object Context Menu 5

The Property Context Menu 6

Specifying Menu Extensions 6

Data Dictionary Manager Menus

Objective

This document describes how Data Dictionary Manager (DD Manager) menus can be extended by user-defined menu items that invoke user-defined MATLAB functions (for example, M files).

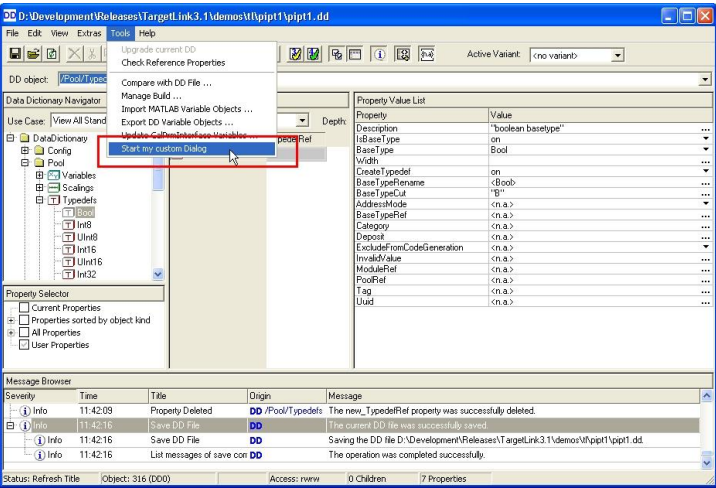


This feature is only available when the DD Manager is running in MATLAB mode, i.e., the DD Manager is started via TargetLink or the MATLAB Command Window.

The Tools Menu

Objective

The global Tools menu can be extended by menu items that start MATLAB functions with an arbitrary number of constant string parameters.



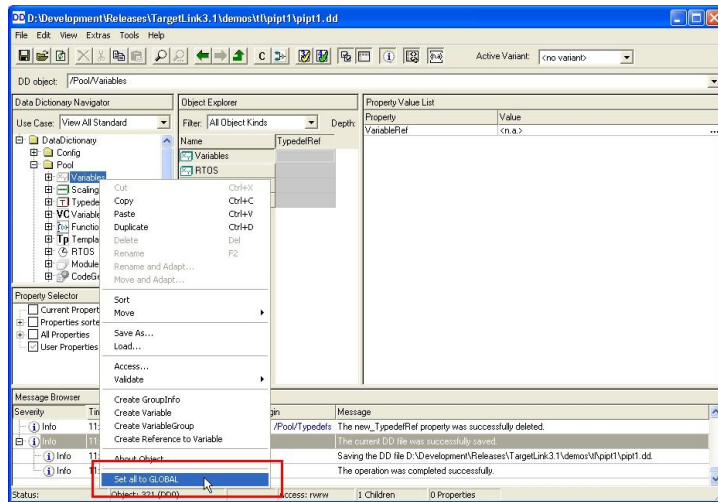
The syntax of the MATLAB command is:

```
<functionName>[ (<param_1>,<param_2>, ... ,  
<param_n>)]
```

The Object Context Menu

Objective

The object context menu opens when you right-click a DD object that is selected in the DD Navigator. These menus reflect the object's type (object kind) according to the Data Model, and can be extended by additional object kind-specific menu items.



The syntax of the MATLAB command is:

```
<functionName>(<hDDObject>)
```

<hDDObject> is the DD object handle that specifies the selected DD object.

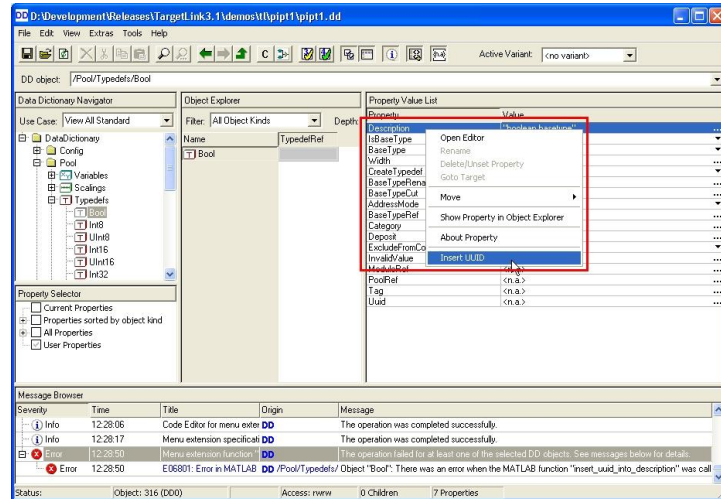


Object context menus are only extended if only one DD object is currently selected.

The Property Context Menu

Objective

The object context menu opens when you right-click a property that is selected in the DD Property Value list. These menus can be extended by additional menu items.



The syntax of the MATLAB command is:

`<functionName> (<hDDObject> , <propertyName>)`

`<hDDObject>` is the DD object handle that specifies the DD object which owns the property, `<propertyName>` is the name of the property.

Specifying Menu Extensions

Objective

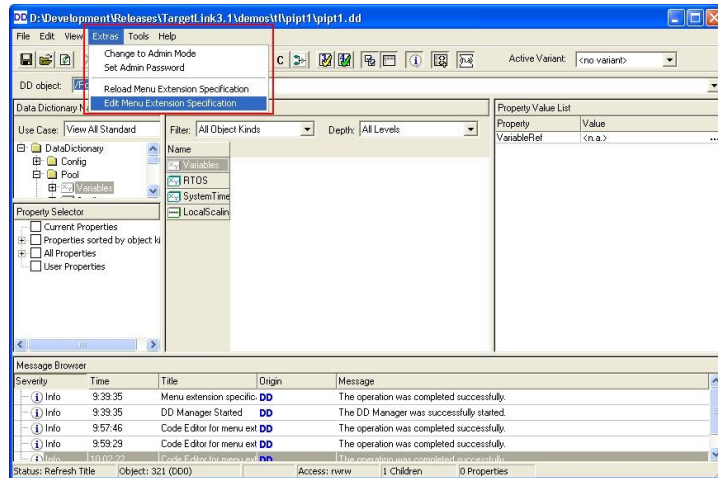
Menu extensions are specified with the XML file

`%APPDATA%\dSPACE\TargetLink\<vs>\DDManagerMenuExtension.xml`.

`<vs>` = TargetLink version, currently 3.1 . If the file does not exist, it is created when the DD Manager is started. The file contains some default menu extensions to the Tools menu.

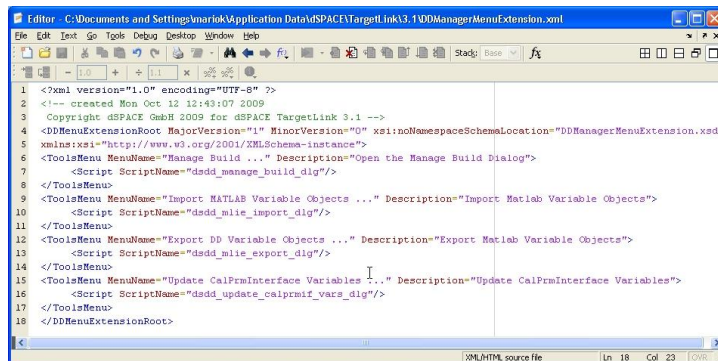
The XML file is associated with the schema file
DDManagerMenuExtension.xsd.

The file can be edited by clicking the DD Manager Extras/Edit
Menu Extension Specification menu.



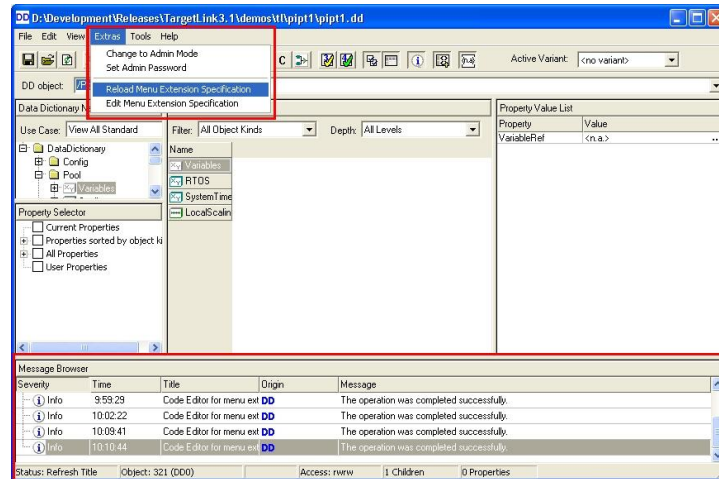
This opens the file in the current Code Editor (the default is MATLAB's built-in editor; this can be changed with the `tl_pref tool`).

From Version R2008a, MATLAB's built-in editor supports XML syntax highlighting.



Once the file is modified, it can be reloaded by clicking the
Extras/Reload Menu Extension Specification menu.

Messages about success or failure are displayed in the DD Manager Message Pane. This lets you find and correct specification errors.



The XML syntax for the three menu classes is described below.

Tools Menus

Syntax:

```
<ToolsMenu MenuName=<MenuName> Description=<Description>
    ShowDDMessages=<showDDMessages> >
    <Script ScriptName=<functionName>/>
    <Param Value=<value>/>
</ToolsMenu>
```

<MenuName>

is the menu label that appears in the object's context menu.

<Description>

is a descriptive text that appears in the message pane when the respective MATLAB function is called up. This attribute is optional.

`<showDDMessages>`

specifies whether DD messages that are generated during command execution should appear in the Message Pane. If set to `off`, the Message Pane does not show messages. This attribute is optional; its default value is `on`.

`<functionName>`

is the name of the MATLAB function to be invoked. The name must comply with rules for MATLAB identifiers.

`<value>`

is the value of an additional constant string parameter. The number of these parameters is arbitrary (max. 64).

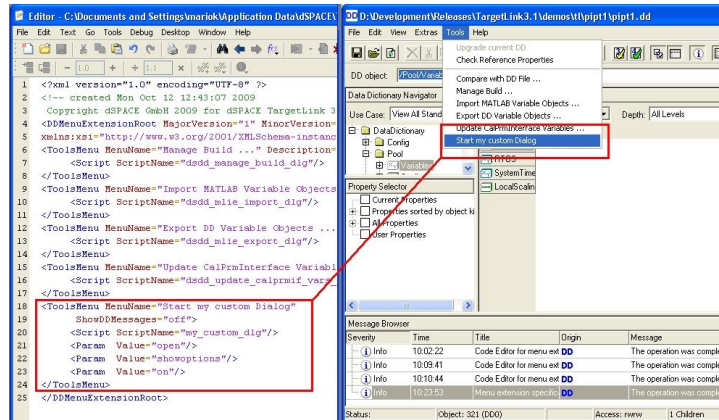
Example:

```
<ToolsMenu MenuName="Import MATLAB Variable Objects ..."
  Description="Import Matlab Variable Objects">
  <Script ScriptName="dsdd_mlie_import_dlg"/>
</ToolsMenu>
```

This item specifies that a menu labelled `Import MATLAB Variable Objects ...` is appended to the Tools menu. When you click this menu, the MATLAB function `dsdd_mlie_import_dlg` is called up without input parameters. DD messages are displayed in the Message Pane after the function has been executed.

```
<ToolsMenu MenuName="Start my custom Dialog"
  ShowDDMessages="off">
  <Script ScriptName="my_custom_dlg"/>
  <Param Value="open"/>
  <Param Value="showoptions"/>
  <Param Value="on"/>
</ToolsMenu>
```

This item specifies that a menu labelled `Start my custom Dialog` is appended to the Tools menu.



When you click this menu, the MATLAB function `my_custom_dlg` is called up using the syntax

```
my_custom_dlg('open','showoptions','on')
```

No messages are displayed in the Message Pane after the function has executed.

Object Context Menus

Syntax:

```

<ObjectMenu MenuName=<MenuName> Description=<Description>
  ShowDDMessages=<showDDMessages> ObjectKind=<objectKind> >
  <Script ScriptName=<functionName>/>
</ObjectMenu>

```

<MenuName>

is the menu label that appears in the object's context menu.

<Description>

is a descriptive text that appears in the message pane when the respective MATLAB function is called up. This attribute is optional.

<showDDMessages>

specifies whether DD messages are generated during command execution should appear in the Message Pane. If set to `off`, the Message Pane does not show messages. This attribute is optional; its default value is `on`.

<objectKind>

specifies the type (object kind) to which the menu item applies.

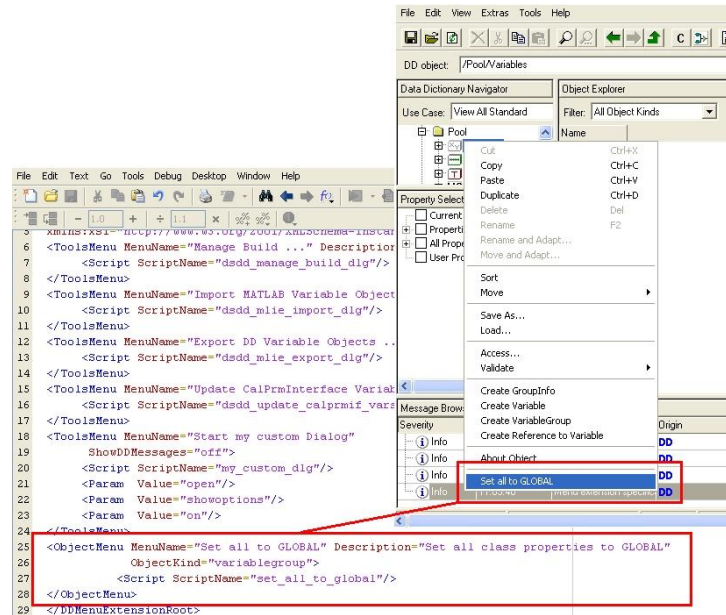
<functionName>

is the name of the MATLAB function to be invoked. The name must comply with rules for MATLAB identifiers.

Example:

```
<ObjectMenu MenuName="Set all to GLOBAL" Description="Set all class
properties to GLOBAL"
    ObjectKind="variablegroup">
    <Script ScriptName="set_all_to_global"/>
</ObjectMenu>
```

This item specifies that a menu labelled `Set all to GLOBAL` is appended to the context menu of all `VariableGroup` objects.



When you click this menu, the MATLAB function `set_all_to_global` is called by the syntax

`set_all_to_global (<hDDVarGroup>)`

where `<hDDVarGroup>` = DD handle of the selected `VariableGroup` object. DD messages are displayed in the Message Pane after the function has executed.

Property Context Menus

Syntax:

```
<PropertyMenu MenuName=<MenuName> Description=<Description>
    ShowDDMessages=<showDDMessages> ObjectKind=<objectKind>
    PropertyName=<propertyName>>
    <Script ScriptName=<functionName>/>
</PropertyMenu >
```

<MenuName>

is the menu label that appears in the object's context menu.

<Description>

is a descriptive text that appears in the message pane when the MATLAB function is called up. This attribute is optional.

<showDDMessages>

specifies whether DD messages that are generated during command execution should appear in the Message Pane. If set to `off`, the Message Pane does not show messages. This attribute is optional; its default value is `on`.

<objectKind>

specifies the type (object kind) to which the menu item applies.

<propertyName>

specifies the names of the property to which the menu item applies.

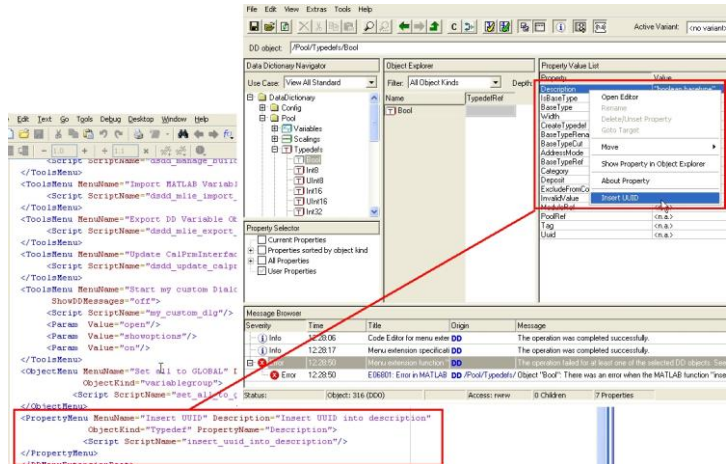
<functionName>

is the name of the MATLAB function to be invoked. The name must comply with rules for MATLAB identifiers.

Example:

```
<PropertyMenu MenuName="Insert UUID" Description="Insert UUID into
description"
    ObjectKind="Typedef" PropertyName="Description">
    <Script ScriptName="insert_uuid_into_description"/>
</PropertyMenu>
```

This item specifies that a menu labelled Insert UUID is appended to the context menu of all Description properties that belong to Typedef objects.



When you click this menu, the MATLAB function `insert_uuid_into_description` is called up using the syntax

```
insert_uuid_into_description(<hDDTypedef>, 'Description')
```

where `<hDDTypedef>` = DD handle of the owner Typedef object. DD messages are displayed in the Message Pane after the function has executed.