Telelogic DOORS

Telelogic DOORS for Microsoft Team Foundation Server Add On Administrators Guide

IBM

Telelogic DOORS TFS

Administrator Manual

Release 2.0.0.0

This edition applies to **VERSION 2.0.0.0, Telelogic DOORS TFS Integration** and to all subsequent releases and modifications until otherwise indicated in new editions.

1 Over View

The new integration relies on a combinatin of embbeded controls and new item types. To set these up requires adding new type information to the TFS database forms and type defintions. The following is a quick sysnopsis of the steps required to configure and install. Each step is covered in more detail later in the manual..

1. Install the integration on a client machine. This is done first so you can have access to the registration files mentioned later.
2. It is recommened that you download and install PowerTool 2008 so you will be able to use Process Template Editor perfrom steps 5 and 6
3. Register the DoorsLinkType defintion in the TFS database
4. Register the DoorsProxy defitinition in the TFS database
5. For each TFS Project add the DOORS Anchor icon control to the 'Task' workitem defintion
6. For each TFS Project add the DOORS Link Panel control to the 'Task' workitem definition
7. For each TFS Project define a "Doors" project area and "Doors/Deleted" project area

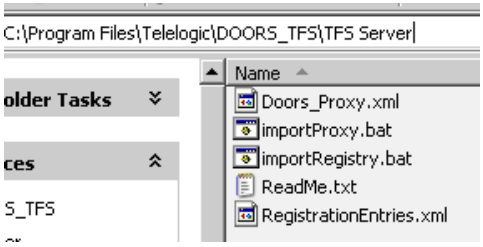
Methods to configure multiple projects are discussed later in the manual

2 Configuration of TFS Server And Projects

The following installation procedures can be performed from one of the installed client machines using **Remote Access** and **Visual Studio Process Editor Tool** as **TFS Admin with SQL Admin access as well**

Before getting started you should locate the installed files on your client machine. Normally these files can be located in the below directory:

Server Configuration Files



C:\Program Files\Telelogic\DOORS_TFS\TFS Server

Register DoorsLinkType definition

1. On the TFS server copy the Server Configuration Files files shown above to a local temp area on the server.
2. Edit the **importRegistry.bat** file and change the parameter "**sql-00a\QLSTFS**" to the name of your TFS SQL server name.
3. Open a SQL server command prompt window as shown below.

4. Run the bat file. Any errors can be found in the file 'err3.tx't.

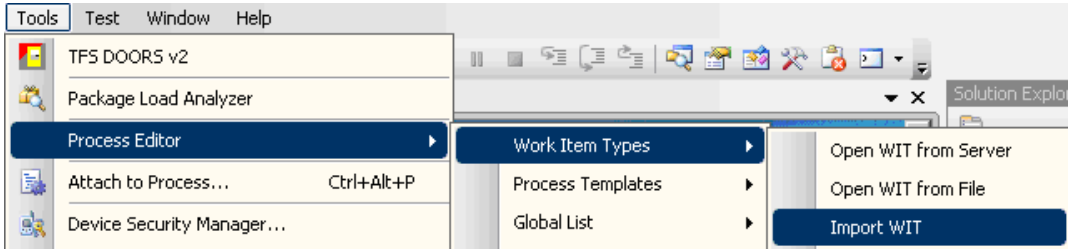
Note See http://blogs.msdn.com/narend/archive/2006/10/13/how-to-extend-linking-and-workitem-ui-with-custom-link-types.aspx for information.

Registering DoorsProxy definition

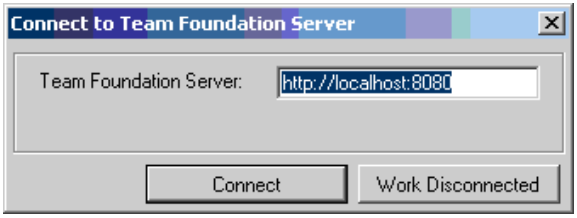
Using Process Editor Tool

you can configure the rest of the server XML imports using the MicroSoft Provided Power Tool - Process Template Editor.

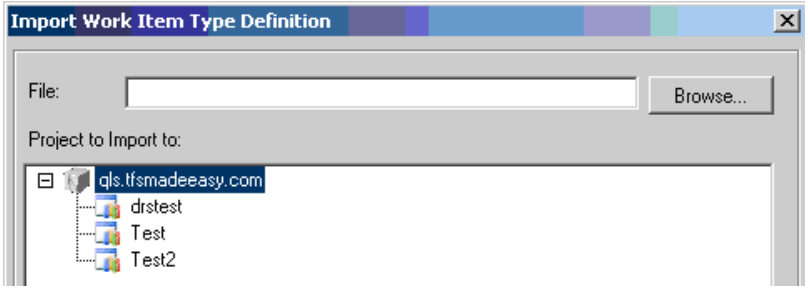
1. First download and install PowerTool 2008
2. After installing PowerTool 2008, Start Visual Studio from one of the installed client machines. Open the **Process Editor** menu and select **"Import WIT"**



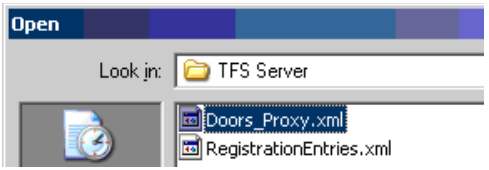
3. Login into your server at the prompt



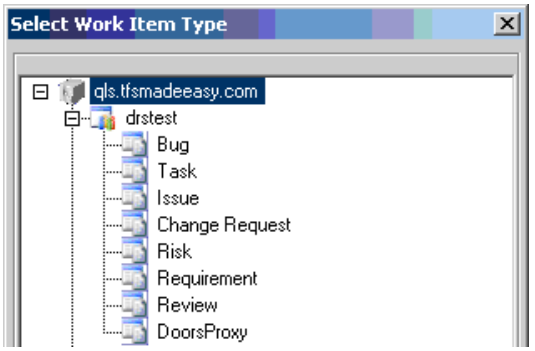
4. Select the project from the list.



5. Use the Browser to select the **DoorsProxy.xml** file found in the TFS Server folder installed on each client machine.



6. Select the OK button to import the file into the selected project.. To verify if this operation completed successfully. select the same Process Editor option again and instead of "**Import WIT**" select "**Open WIT From Server**" and select the project and expand.. you should see **DoorsProxy** as one of the WorkItem types as shown below…



Configuring Multiple projects

you can use the provided "importProxy.bat" file to import the same xml file as in the previous procedure..

1. On the TFS server copy the Server Configuration Files files shown above to a local temp area on the server.
2. Edit the **importProxy.bat** file and change the parameters as follows:
   - <c:\temp\doors_proxy.xml> To **Doors_Proxy.xml**.
   - <http://qls.tfsmadeeasy.com:8080> To http://yourTFSServerName.com:yourPortNumber
   - <ProjectName> To your TFS project name ie **drsTest**

   The final form should look something like this:

```
"C:\Program Files\Microsoft Visual Studio
9.0\Common7\IDE\witimport.exe" /f doors_proxy.xml /t http://
qls.tfsmadeeasy.com:8080 /p drsTest > errImport.txt
```

3. Run the bat file. any errors will be saved in the errImport.txt file.
4. You can repeat this process changing the Project name each time or repeat the command in bat file changing the project name on each line

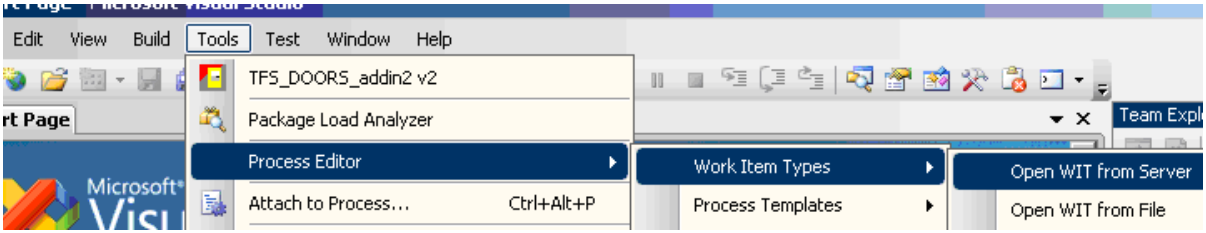
Add Embedded Integration Controls

To get the new DOORS controls to display on workItem forms you must modify the definition for each workitem type in your project.

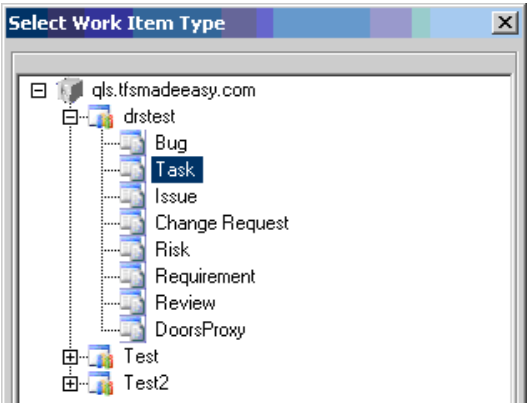
Add DOORS icon header

Icon appears on the workItem form header to allow drag drop linking from TFS to DOORS

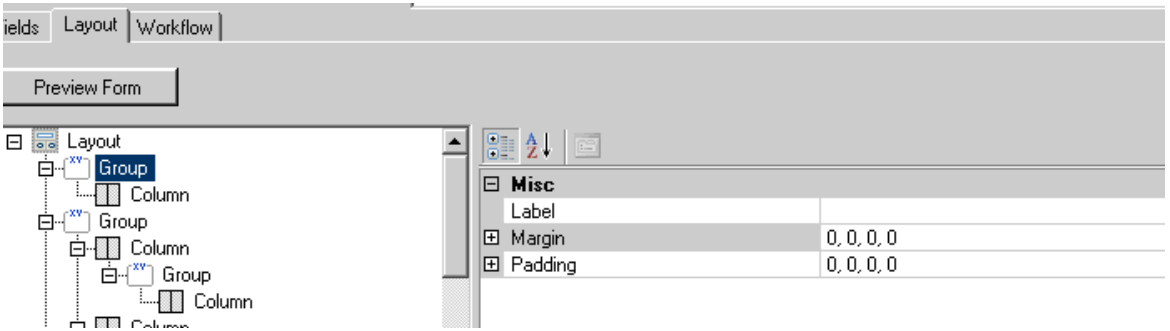
1. Use the Process Editor to access the WIT (Work Item Type) from Server as shown below



2. Select and expand the TFS Project you wish to configure and a list of all of the available Work Item Types (WITs) will be displayed

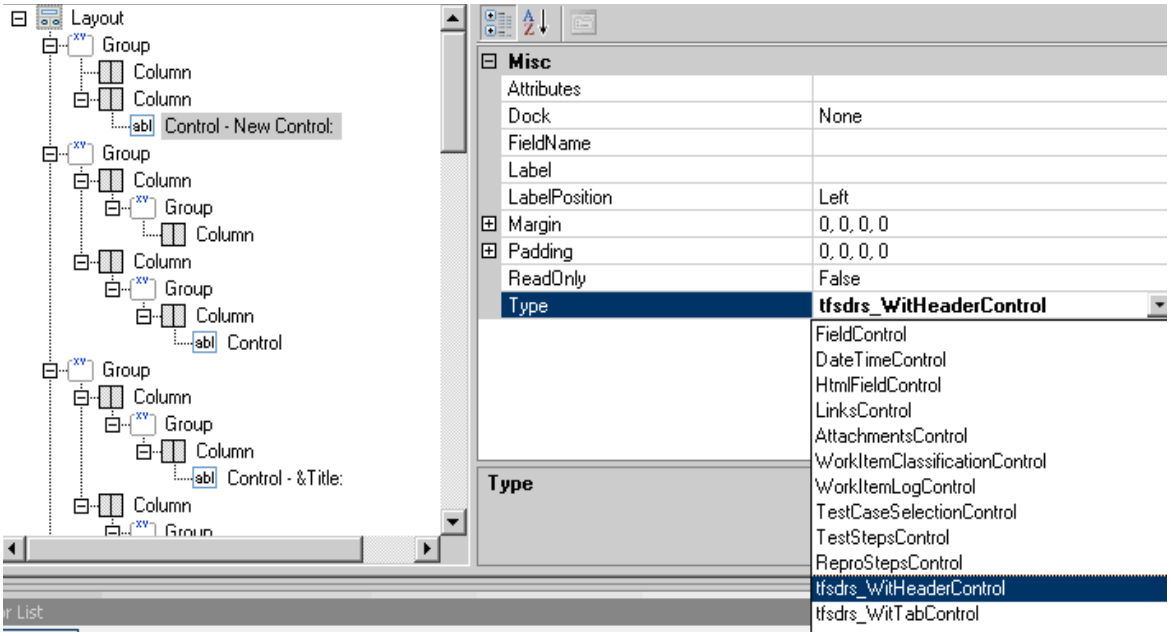


3. Select the **Task** WorkItem Type.
4. Select the "Layout" tab to display the form layout editor….
5. Click on the root node named "Layout" and right mouse click to add a new "Group"
6. If necessary move the new group node so that it is the first node under "Layout"



7. Select the new Group node and use right mouse button to add another **column**
8. Set the first column percent width to 90 and the second column's percent width to 10

9. Select the new column (2nd column) and use right mouse button to add a new **control**

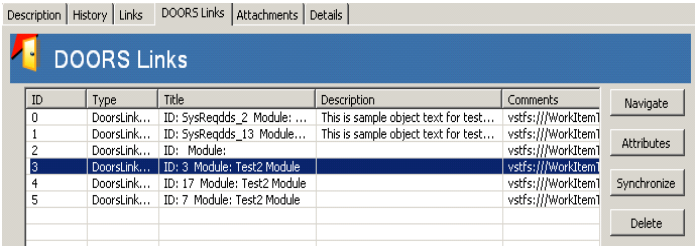


10. Set the control 'Label' to blank and use the pull down option to set the 'Type' value to '**tfsdrs_WitHeaderControl'**.

11. Save the current configuration.

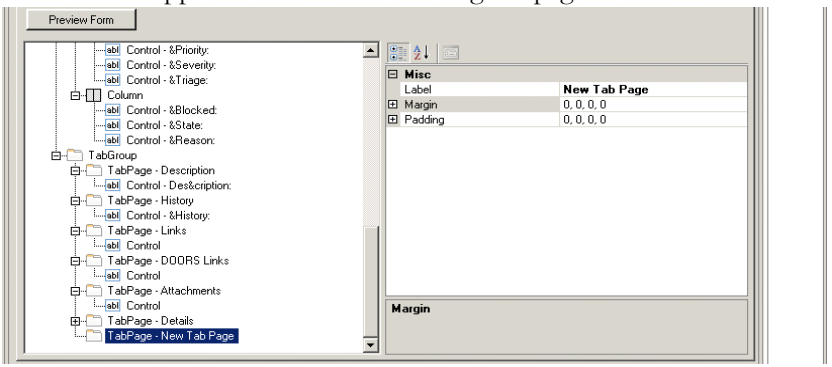
Add Links Tab Control

Appears as one of the standard tabs of each workItem form to allow all link operations.

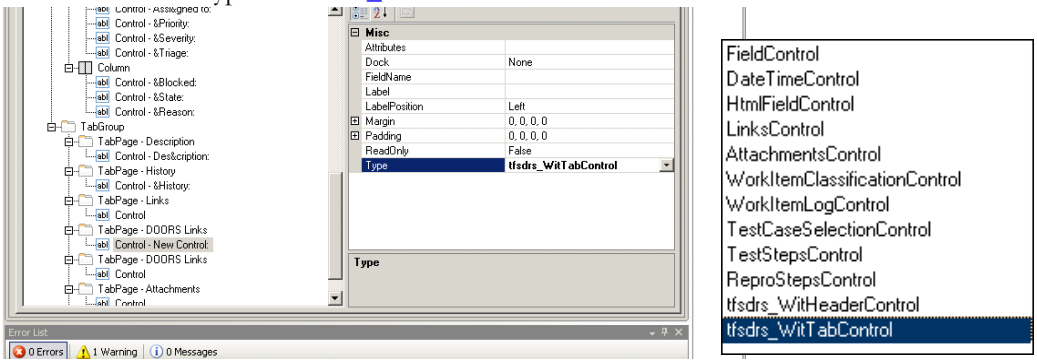


1. Repeat the above instructions to open the 'Task' workitem type using the **Process Editor** tool. Scroll down to the 'TabGroup' section and add a new

'TabPage' . Name the new page "**DOORS Links**" and move it to where you want it to appear relative to the existing tab pages..



2. Under the New DOORS Links tab page a Add a New Control and set the Type to **tfsdrs_WitTabControl** as shown



This completes the configuration of the **Task** Work Item Type . If you wish to have the DOORS integration controls display on other work item forms (Requirement, Issue, Bug, Change Request..etc) repeat above processes for each type.

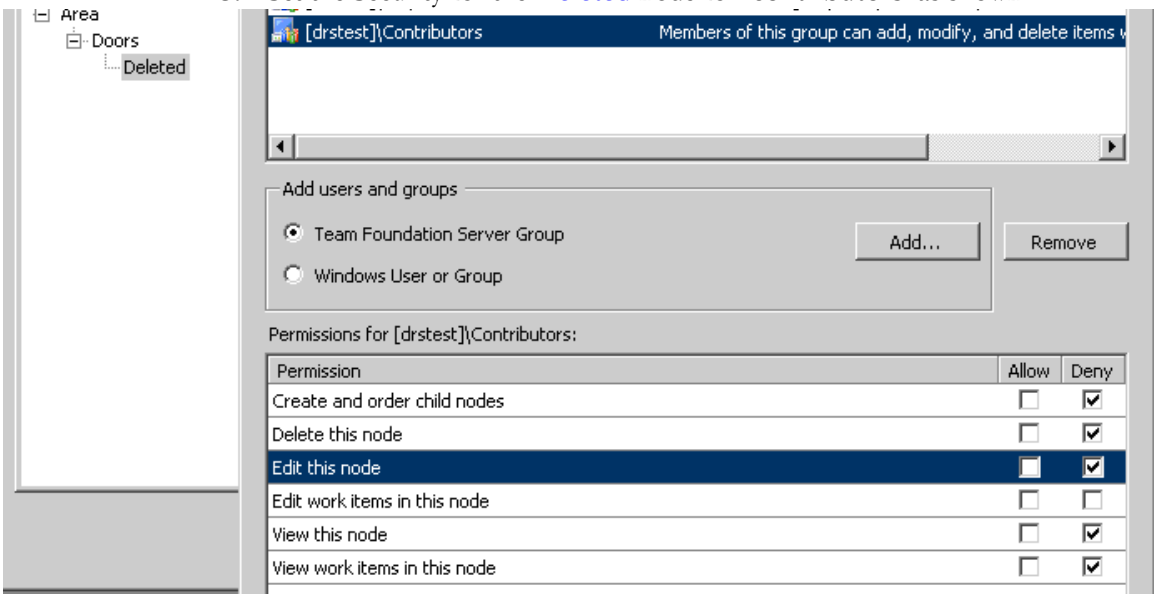
Create New Area Paths in Projects

Area Paths are necessary to manage the new Doors Proxy items used to store imported DOORS Data. The DoorsProxy type itself can be used to filter out these items from users queries. The **Doors** area path can be used to further limit user access to this data.. Finally when a Doors Link is deleted using the integration - the Deleted Proxy item is moved to the **Deleted** area path. Due to the nature of Team System and Sarbanes Oxley compliance workItems are never physically removed from the database, a work around is to move them to an area path with limited access.

1. Open the TFS Project as a Project Admin user and create 2 new area paths "**Doors**" and "**Doors/Deleted**" as shown below

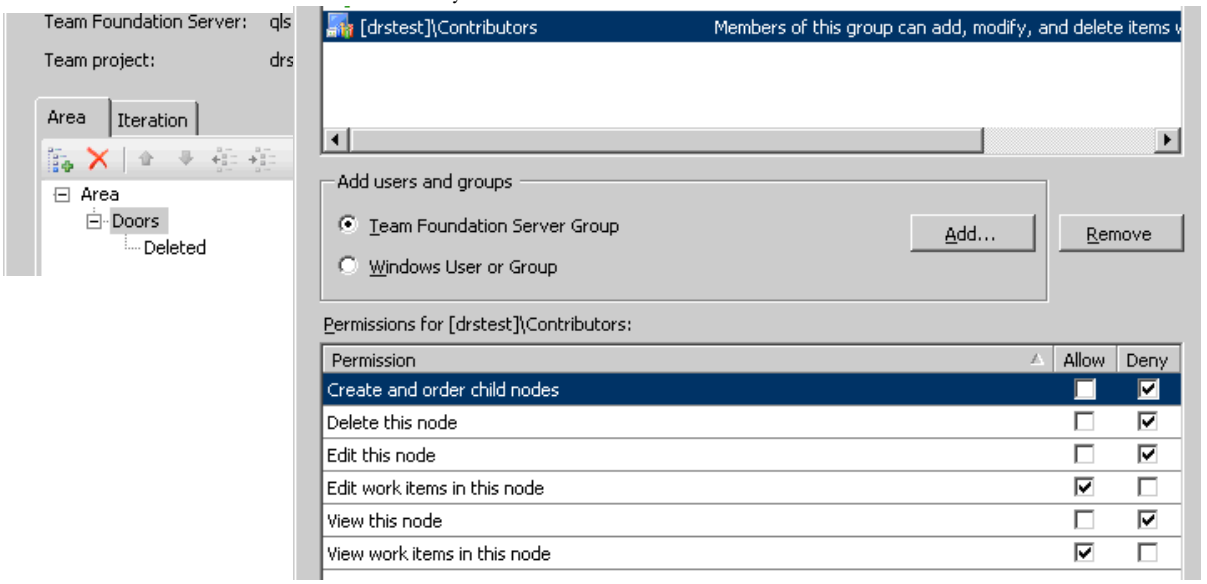
2. Select the 'Deleted' node

3. Set the Security for the **Deleted** node for '**contributors'** as shown



4. Select the DOORS node

5. Set the Security for the **DOORS** node for **'contributors'** as shown



This completes the configuration for path areas for a Team Project. Repeat these steps for each project that will use the integration

3 Client Installation of DOORS TFS 2.0 Integration on Windows Platform

This chapter/section describes how to install and set up DOORS TFS on a machine that does not have previous versions of the integration installed.

Prerequisites:

1. DOORS 8.3 or higher client installed
2. Visual Studio 2008 Installed.
3. Visual Studio Team System 2008 or Visual Studio Professional Edition
4. Team Foundation Server 2008 Client installed.
5. **Installation time only**: Access to create/write in folder **"\Documents and Settings\All Users\Application Data\Microsoft\MSEnvShared\Addins** or access to create sed folder if it does not already exist. This folder is located on the same drive as your Visual Studio installation.
6. **Installation time only:** Access to create/write in folder: **"C:\Documents and Settings\All Users\Application Data\Microsoft\Team Foundation\Work Item Tracking\Custom Controls\9.0"** or access to create sed folder if it does not already exist. This folder is located on the same drive as your Visual Studio installation.
7. **Installation time only:** Access to create/write in folder **"Program Files/ Telelogic/"**. This folder is located on the same drive as your Telelogic DOORS installation.

Installation of the DOORS TFS Integration

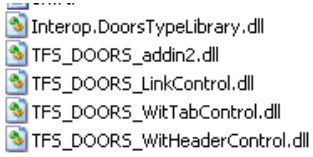
1. Execute the 'DOORS TFS' installer
2. Select the Version of DOORS you wish to install for
3. Select the "**Telelogic**" target directory where DOORS is currently installed. ie. **"c:/Program Files/Telelogic/"**.
4. Proceed with installation wizard.

Post Installation Check List:

If the integration fails to show up on the Studio Tools pulldown menu or it does not execute, review the below check list to possibly identify installer errors that could be the cause of the problem.

1. Verify the 'TFS_DOORS_addin.Addin' file was added to the directory: \Documents and Settings\All Users\Application Data\Microsoft\MSEnvShared\Addins
2. Verify the folder 'DOORS_TFS' was added to the directory: \Program Files\Telelogic\
3. Verify the file 'TFS_DOORS_startup_ncrpt.inc' was added to the DOORS directory: \Program Files\Telelogic\DOORS_9.0\lib\dxl\startupFiles
4. Verify the folder '**TFS**' was added to the directory: C:\Program Files\Telelogic\DOORS_TFS\addins\
5. Verify file exists: Documents and Settings\All Users\Application Data\Microsoft\MSEnvShared\Addins\TFS_DOORS_addin2.AddIn
6. Verify file exists: Documents and Settings\All Users\Application Data\Microsoft\Team Foundation\Work Item Tracking\Custom Controls\9.0\tfsdrs_WitHeaderControl.wicc
7. Verify file exists: Documents and Settings\All Users\Application Data\Microsoft\Team Foundation\Work Item Tracking\Custom Controls\9.0\tfsdrs_WitTabControl.wicc
8. Verify the below folders are created after the install l

9. Below are the more important files to verify – many other dependency library files are included in the install. Verify files exist: \Program Files\Telelogic\DOORS_TFS\TFS_DOORS_Addin



10. Verify the below files are created after the install. Location Folder: \Program Files\Telelogic\DOORS_TFS\addins\TFS

11. Start Visual Studio and verify the following:

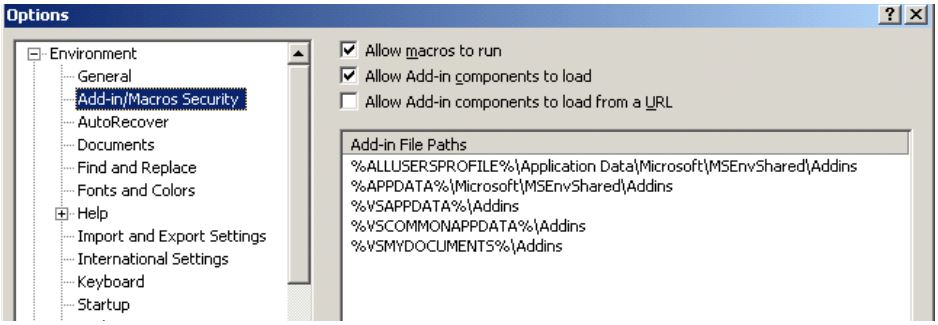
    a. Go to the Tools menu and select '**options...**'

    b. Check the "**show All Settings**" option in the bottom left of the window.

    c. Select '**Add-in/Macros Security'** option as shown int the figure below.

    d. Verify you have an entry %ALLUSERSPROFILE%\ApplicationData\Microsoft\MSEnvShared\Addins

    e. If not - manually add it to the **Add-in File Paths** and then restart studio



If the integration still fails to show in the forms or from the Tools menu, please contact support

4 DOORS CONFIGURATION MODULE

After client installation and TFS server configuration is complete, the integration can operate normally without further configuration of the DOORS environment. If the integration is executed and links are created the default configuration is used and the initiating operation continues normally (see default configuration).

To specify other default settings or define additional Attributes to be imported and exported, a TFS DOORS CONFIGURATION module is required. Using the configuration module you can specify which link type to use when creating links between DOORS and TFS items, define and map what data to import and store in both applications, define which DOORS attributes to retrieve for viewing on the "Real Time Data" display found on the New DOORS Link Editor Dialog.

The DOORS configuration module settings will apply to all DOORS modules with in the same folder and sub folders, similar to the DOORS inheritance method for access rights. This allows the ability to group common types of DOORS modules into a folder and have unique TFS integration settings for that group. At run time the integration searches first in the current Folder/Project for a Configuration module, then searches through all ancestor folders/Projects stopping at the first one it finds. If one is not found, the initiating operation continues in the integration, but a warning will be provided to the user indicating that no DOORS configuration could be found.

The configuration module is composed of 3 Sections:

1. TFS To DOORS

   This section is used to map which TFS workitem attributes to import and store on the DOORS Object's External Link attribute.

2. DOORS To TFS

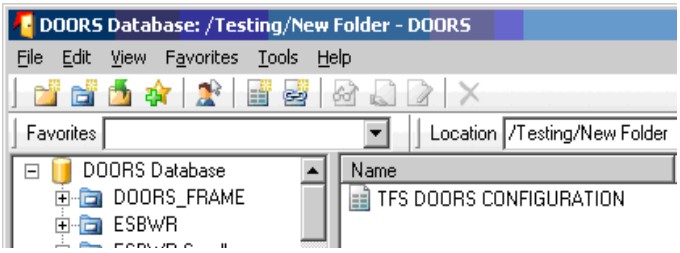
   This section is used to map additional DOORS Object attributes to export and store in TFS using the DoorsProxy item. Each workitem link to DOORS creates a new DoorsProxy item. This item is similar to the 'DOORS Surrogate' object sometimes used in older DOORS integrations.

3. TFS Link Display Info

   This section allows the ability to easily define additional DOORS Object attributes to be accessed in 'Real Time' when a TFS user is viewing a workitem to DOORS link using the new DOORS Link Editor dialog. These attributes are not stored in TFS and can only be scene from the Link Editor. When viewing, the Link Editor attempts to access DOORS and retrieve the current attribute data and display it using a dynamic grid list.

Create Configuration Module

To Generate a configuration module, open any doors module in the current folder where you want the configuration module to apply. From the module tool bar '**TFS**' menu select the '**Create Configuration Module**' option. This will generate a new configuration module and open it for edit.

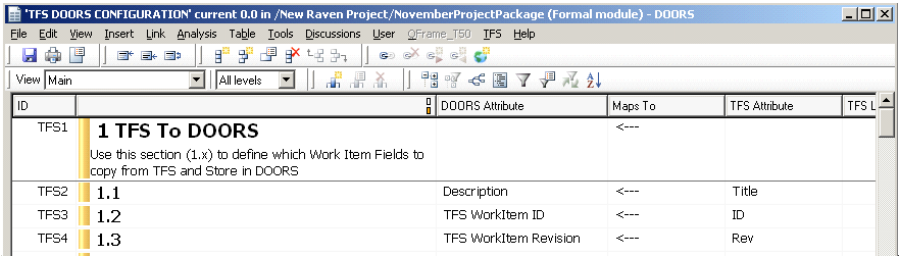


Note To Allow multiple Configurations in same DOORS project. The current design allows you to place this module in the same project as the requirement modules that the mappings apply too. You may also create multiple configuration modules. These may be placed in the DOORS local container in the nearest "ancestor" container. The tool will then search backwards through all ancestry containers until the first Configuration module is found.

Adding Attribute and Field mappings

TFS To DOORS

Section 1 of the configuration module -**TFS To DOORS** contains attribute mappings for the data you want to import from a TFS work item and store in DOORS. This data will be stored on the External Link of the DOORS Object as a LINK attribute.



1. Open the configuration module in EDIT mode.
2. Select the Object "TFS To DOORS" and create a new child object below.

3. Select the new object just created, and click in the "DOORS Attribute" column. Enter in the name of the DOORS attribute you want to use to store the imported data. This attribute will be created in the DOORS module when a link to a TFS workitem is created , Synchronize is executed, or if the 'TFS -> Configure Module For Synch.." option is exectuted.

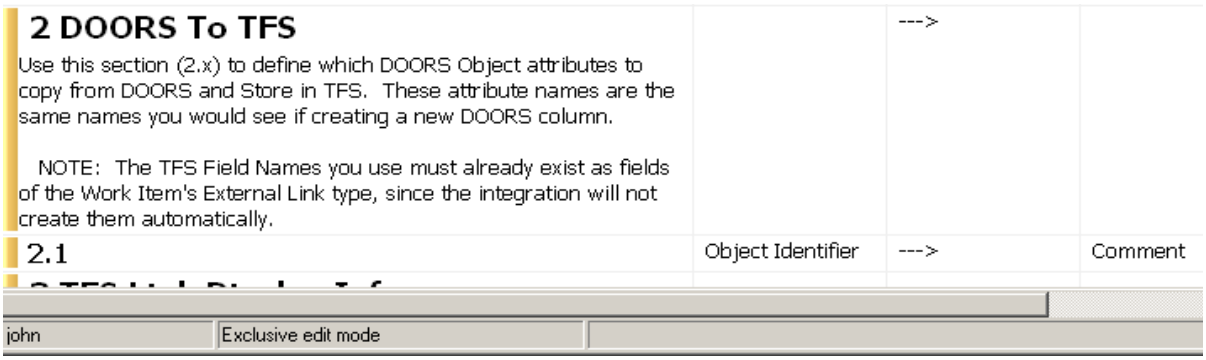
   It is highly recommended that what ever name you choose - it is prefixed with "TFS" as a mandated naming standard for DOORS integrations. This mandate is to insure unique attribute names that will not conflict with other integrations. The attributes "Description" and "Title" are reserved names and apply to the External link "Description" and "Name" system attributes

4. Click in the TFS Attribute column. Enter in the name of the TFS workItem attribute to be imported. A list of work item attributes available can be viewed by using the Visual Studio TFS query results dialog Column setup menu option after running any TFS query.

DOORS To TFS

Section 2 of the TFS DOORS CONFIGURATION module can be used to define additional DOORS Object Attribute data (in addition to the Default attributes) to be exported to TFS and stored in a TFS DoorsProxy workitem. This provides the same data per link capability as External Link Attributes in DOORS.

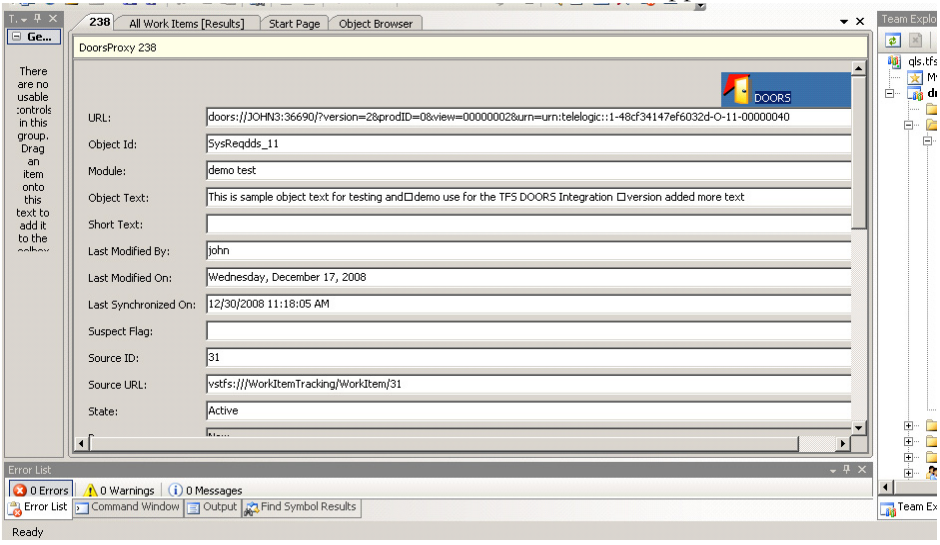
IMPORTANT: In version 2 of the integration, simply adding in new attribute mapping data as done in Section 1 WILL NOT cause the integration to import and store attributes as a new attribute of the DoorsProxy work item. As stated the in section 1 the TFS attribute data must be an existing attribute of the TFS workItem. Since version 2 uses a NEW workItem type (DoorsProxy) to store imported data. The DoorsProxy type definition must be modified to define attributes/fields to store the NEW attributes you wish to import. (see registering DoorsProxy definition for more information).



In version 2, a standard Set of Attribute data is always imported into TFS From DOORS. These standard attributes are:

- Object URL:
- Module Name
- Object ID
- Object Text
- Object Short Text
- Last Modified On
- Last Modified B

They are stored using a new workitem type called 'DoorsProxy' which is created for each workitem to DOORS link. The standard attributes are mapped as seen below:

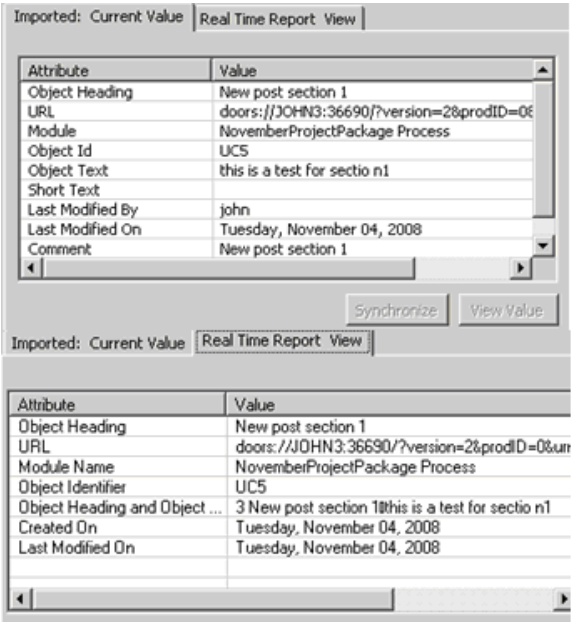


Configure Link Display Info

Section 3 - is used to define the which of the DOORS Object Attributes you want to display in the TFS Link Editor: Real Time Report View tab panel

TFS5	**3 TFS Link Display Info** use this section (3.x) to define which DOORS Object attributes to retrieve (in real time) and display in the TFS DOORS addin window when a link item is selected. These attribute names are the same names you would see if creating a new DOORS column. To insert a blank line just create an empty (blank) object.	
TFS6	3.1	Module Name
TFS7	3.2	Object Identifier
TFS8	3.3	
TFS9	3.4	Object Heading and Object Text
TFS10	3.5	Created On
TFS11	3.6	Last Modified On
TFS12	3.7	Last Modified By

. DOORS Link Editor Dialog accessed from TFS Link Edit option



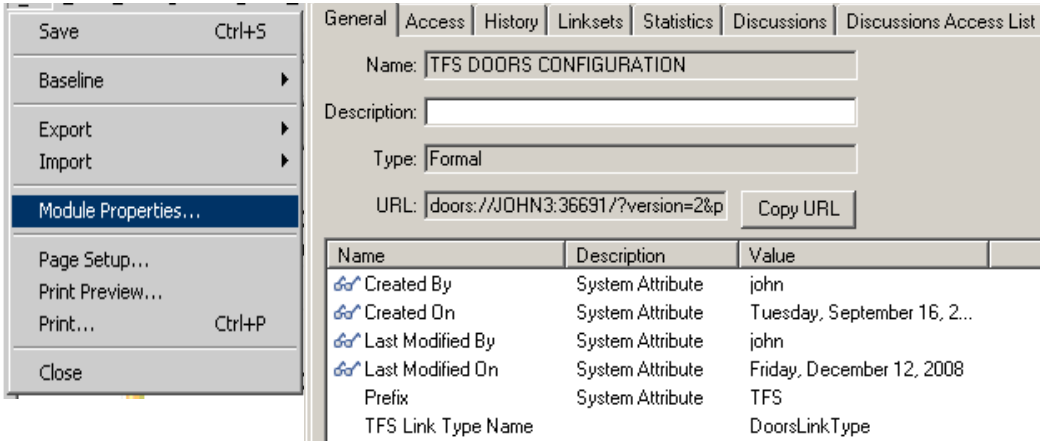
To display Object Heading and Object Text similar to the DOORS main column enter '**Object Heading and Object Text**' as the '**DOORS Attribute**' value. To display the module name use '**Module Name'** for the attribute value.

Default Configuration

After client installation and TFS server configuration is complete, the integration can operate normally without further configuration of the DOORS environment. If the integration is executed and links are created the default configuration is used and the initiating operation continues normally

Default Work Item Link Type

The integration defaults to the new 'DoorsLinkType' when a new configuration module is created or if no configuration module is found



The integration defaults to the new 'DoorsLinkType' when a new configuration module is created or if no configuration module is found.

If the DoorslinkType is not defined then the integration will attempt to create the link useing the known Standard TFS Link Type Names:

- Workitem Hyperlink
- Source Code File
- Test Result

In version 2, a standard Set of Attribute data is always imported into TFS From DOORS. These standard attributes are:

- Object URL:
- Module Name
- Object ID
- Object Text
- Object Short Text
- Last Modified On
- Last Modified B

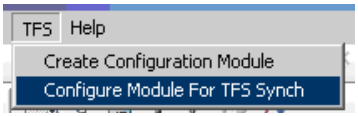
Running without a TFS CONFIGURATION module

Version 2 can operate with no existing configuration on the DOORS side. When a module is linked or synched without configuration the software searches the local folder and then all ancestor folders to locate a TFS CONFIGURATION module. If no configuration module is found then the attempted operation continues using the default settings

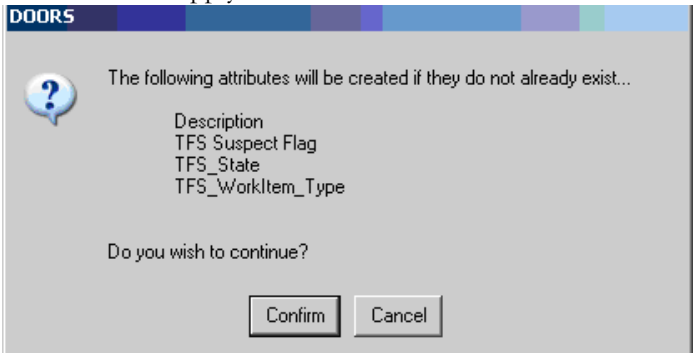
5 Configure DOORS Requirements Module

Before creating links it is best to configure your requirements module using the "**Configure Module for TFS Synch**" option. Configuration of a module attempts to create any user defined attributes identified in Section 1 of the nearest TFS DOORS CONFIGURATION module. The software will automatically attempt to create the attributes it needs at run time, but it is best to pre-configure each module to minimize the possibility of errors due to a user's access to create new object level attributes.

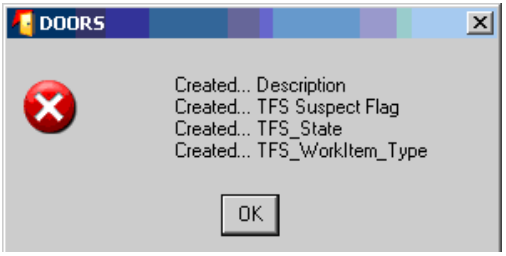
1. To configure open the module, then select from the tool bar 'TFS' menu select the 'Configure Module For TFS Synch' option



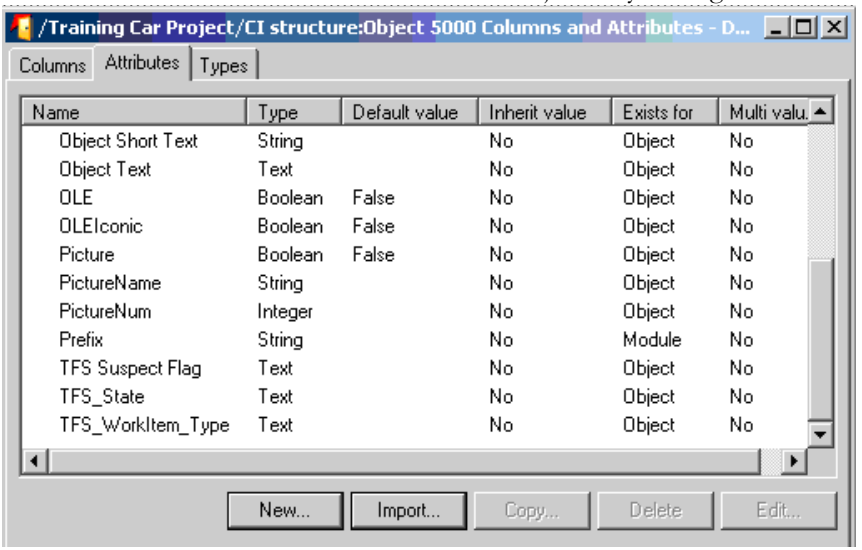
2. A dialog will display listing all the attributes identified in the configuration module that apply to the current module.



3. Select 'Confirm' to attempt attribute creation.



The configured attributes will be created in the Module as Object level attributes. Imported TFS data will actually be stored on the Objects External Link, but in DOORS external links inherit the same attributes as the Object they belong to.

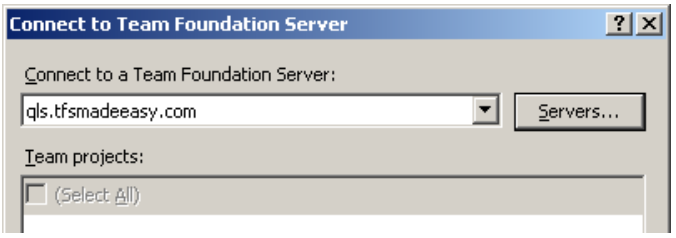


Note It is highly recommended that what ever attribute name you choose - it is prefixed with "TFS" as a mandated naming standard for DOORS integrations. This mandate is to insure unique attribute names that will not conflict with other integrations. The attributes "Description" and "Title" are reserved names and apply to the External link "Description" and "Name" system attribute

6 Connect to TFS Server From Visual Studio

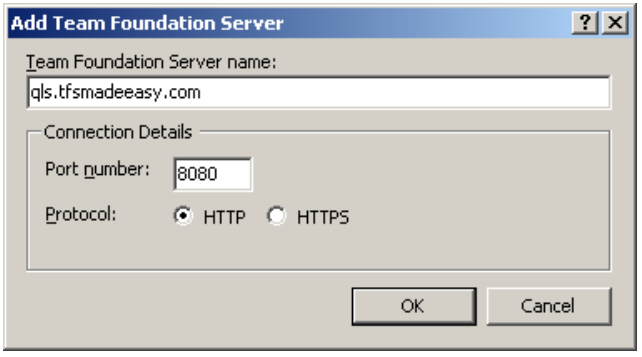
To execute Team System from the Visual Studio Environment for the first time - do the following:

1. Start Visual Studio
2. Select 'Connect to Team Foundaton Server' from Visual Studio 'Tools' menu
3. Click 'Servers' option

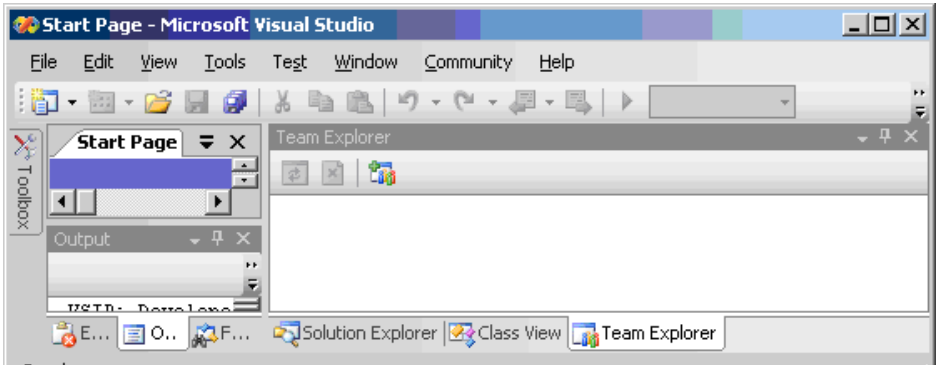


4. Select "Add..." new server option

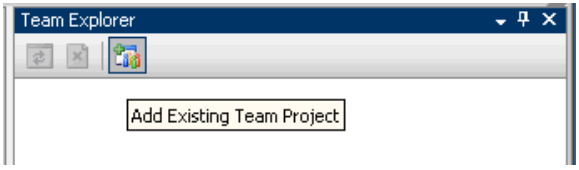
5. Enter in Server Name, Port Number and Protocol of your TFS server



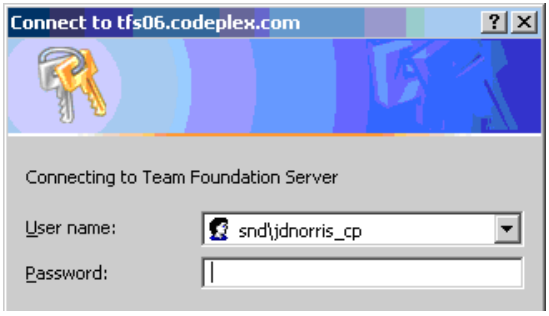
6. Select '**Team Explorer**' tab found in the far right corner of Studio



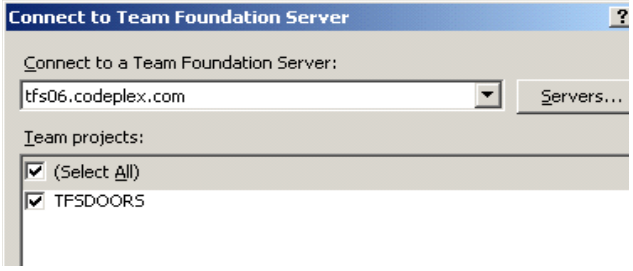
7. Select the '**Add Existing Team Project**' option at the top of the Team Explorer



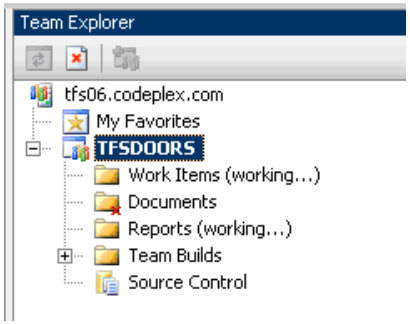
8. Provide a valid TFS user login name and password:



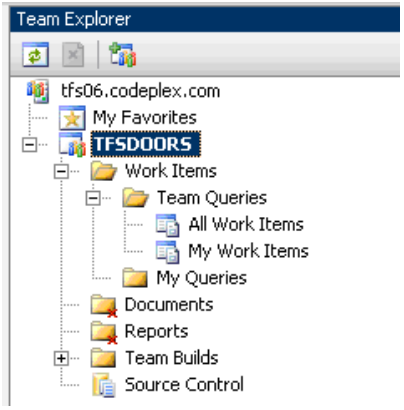
9. Select the Project you wish to open



10. Expand the Project Tree (TFSDOORS in our example case) and wait until 'Work Items' are loaded



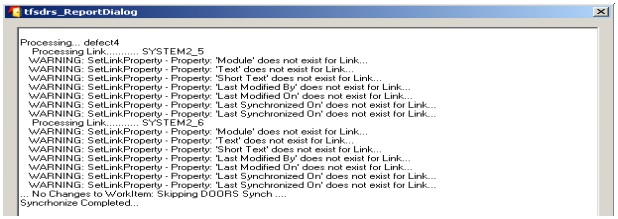
11. Expand Work Items folder, then expand 'Team Queries folder



12. Activate the "All Work Items" query.

7 Message Ouput Display and Logging

Report Dialog:



Version 2 displays multi item operation messages using a dialog that pops up when you do a synchronize operation or if there were errors on a link drag and drop or delete operation.

The above example shows some of the messages and format when things go wrong.. such as doors links using link types other than the DOORS Link Type in this case.

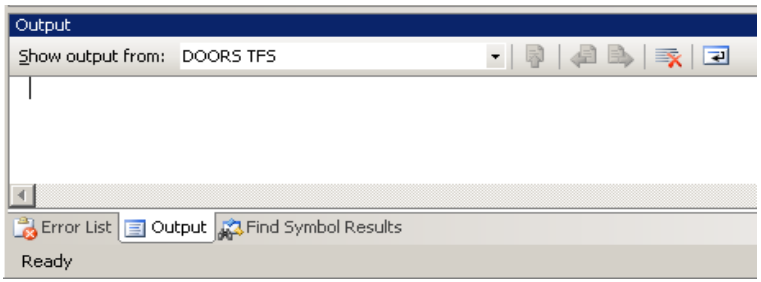
Log File:

The integration also generates a log file each time it is executed. The log file will be placed in the directory path specified by the environmental settings in the 'TEMP' environment variable standard on most windows platforms. Normally the path is similar to the example below:

C:\Documents and Settings\JohnDoe\Local Settings\Temp\tfsdrslog.txt

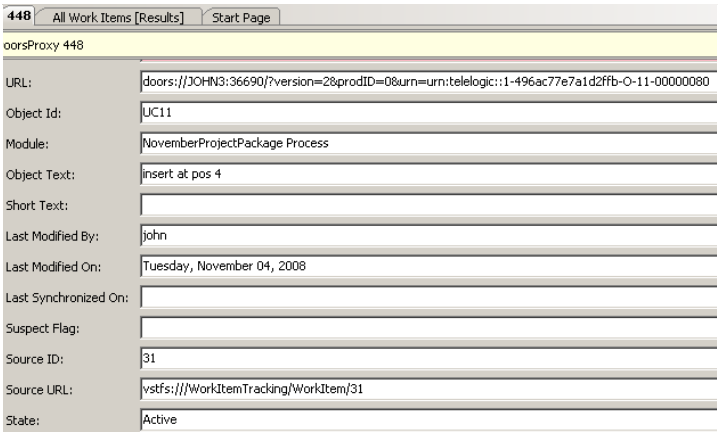
The log file contents can also be viewed in real time from the Visual Studio Output Pane

Visual Studio Output Window:



Error and log messages are also displayed on the Visual Studio Output window. To display goto toolbar menu 'Edit->Other Windows->Output'

8 DOORS Proxy Item



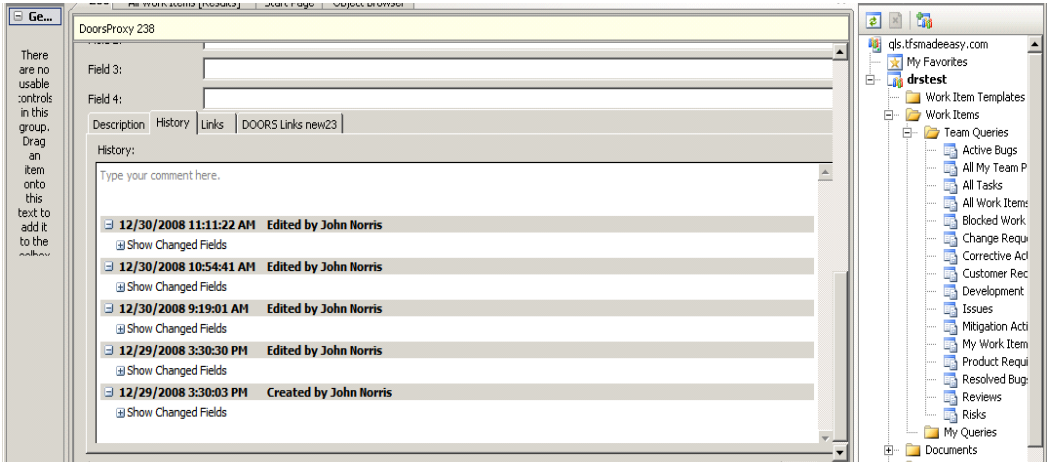
In order to support the extended "Link Attributes" for links of 'DoorsLinkType', a proxy/surrogate workitem object is used as recommended by Microsoft. For this version of the integration a new WorkItem type is defined (DoorsProxy) and will live in the same WorkItem DB Table.. This design requires less configuration and more Reporting capability. Normally new external link types, require a NEW SQL DB to be created to house the external proxy items.

To help isolate these proxy items from the normal WorkItems, the proxy objects live in different area paths. The first area path is called "Doors" and is a sub area under the main Project area. The second area path is called "Doors\Deleted" and is a sub area under 'Doors'. When a Link to DOORS is created a new Proxy object is created and placed into the "Doors" area. At this time the only way to filter these objects out of the "All workItems" Query is to modify the query to not accept items of type "DoorsProxy" or not accept "Blocked" items or filter for "areaPath" != @Project "/Doors"

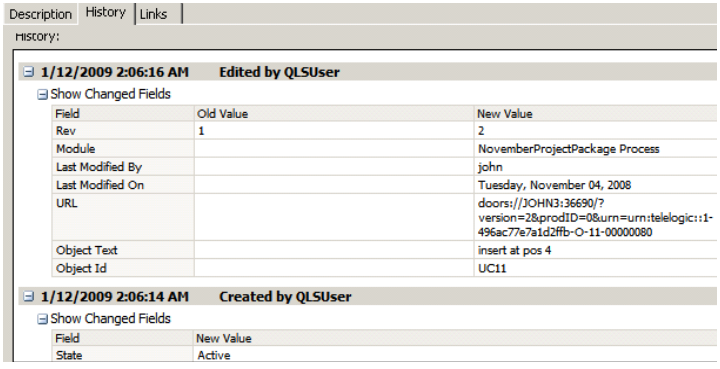
The second area "Doors\Deleted" is used when a DOORS link is deleted USING ONE OF THE DOORS INTEGRATION DELETE OPTIONS… Normal link delete will delete the workitem link but it does not modify the DoorsProxy item and it will remain ACTIVE until an Admin clean up is performed… If the link is deleted using the integration, the DoorsProxy object will changed to a new STATE of 'Deleted' and will be moved into the 'Doors\Deleted' areaPath.. This area path if configured as instructed later, should have security settings so that 'contributors' do not have certain access rights. These restricted rights will automatically filter the DELETED items from any future queries..

The reason for not just 'deleting' the proxy object from the database is because the TFS process does not allow any workitem deletions physically from the database.. The reason is documented as to support Sarbanes Oxley compliance -which restricts deletion of data for any reason through the interface or api… However; since TFS is hosted on SQL server, a Server Admin could clean up records in the WorkItem Table and bypass the TFS Server layer.. This is only recommended for removal of DoorsProxy objects that are in a State of Deleted or have no link to an existing WorkItem

Link Attribute Change History



One of the added benefits of the DoorsProxy item is that an automatic change History is kept by the system



9 Contact Support

Support and information for Telelogic products is currently being transitioned from the Telelogic Support site to the IBM Rational Software Support site. During this transition phase, your product support location depends on your customer history.

If you are a heritage customer, meaning you were a Telelogic customer prior to November 1, 2008, please visit the Telelogic DOORS Support site.

Telelogic customers will be redirected automatically to the IBM Rational Software Support site after the product information has been migrated.

If you are a new Rational customer, meaning you did not have Telelogic-licensed products prior to November 1, 2008, please visit the IBM Rational Software Support site.