



Tri-Service Workspace Management Guide *for ProjectWise*

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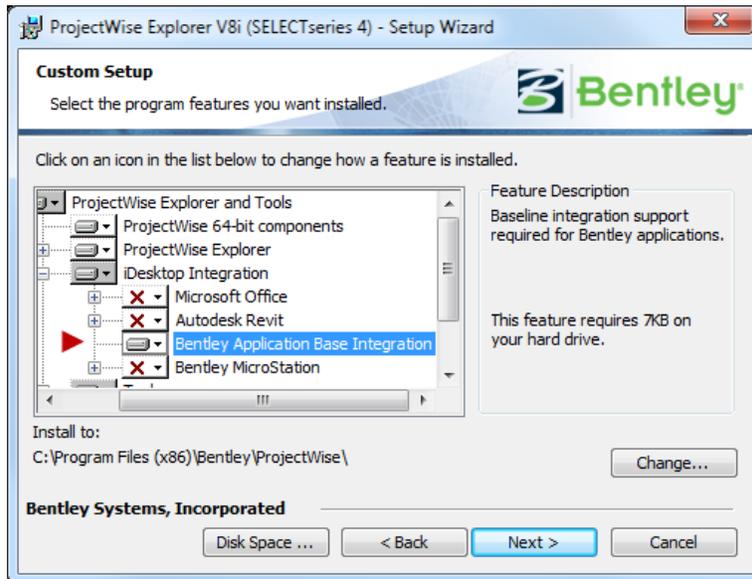
This document is intended to provide an administrative overview of the TS_WS_001 version of the Tri-Service’s Workspace in a ProjectWise managed environment. This guide offers best practices for implementing, maintaining, and troubleshooting the workspace, but should not be deemed a substitute for proper CAD or ProjectWise Administration training.

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Before You Begin

A fully operational and configured ProjectWise integration Server V8i (SELECTseries 3) or (SELECTseries 4) server and a defined datasource must be available. Access to ProjectWise Administrator V8i (SELECTseries 4) and the ProjectWise Explorer V8i Client (SELECTseries 4) applications with corresponding administrator privileges are also required. Please consult your ProjectWise implementation team and/or administrators before initiating ProjectWise Manage workspaces.

ProjectWise Explorer V8i (SELECTseries 4) Client must be installed to include the *iDesktop Integration for Bentley Application base Integration*, in order to fully support application integration for ProjectWise Managed Workspaces.



Install and configure applications to be integrated with the Managed Workspaces onto a client workstation. This will ensure that the application(s) workspace has all the required components for your application

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Local Disk Space:

In a ProjectWise Managed workspace, documents from the ProjectWise Server are downloaded to the local machine and made available to the intended applications. The local machine may require a significant amount of available disk space to accommodate several projects, dataset and other supporting documents.

Once project documents are local, the exchange between the ProjectWise Server and the local machine are conducted using Delta file transfer. **Delta file transfer** is a ProjectWise technology that improves performance when sending large files over networks by only sending the changes needed to update the file, rather than the entire file. This local repository can easily be managed by the Local Document Organizer, found in Project Explorer (**Tools > Local Document Organizer...**).

For ProjectWise Managed Workspaces, ProjectWise administrators and users are encouraged to set the user option to "*Leave Local Copy on check in*". This will improve operational performance for large projects. If changes in files are detected, ProjectWise will synchronize as required.

ProjectWise Compatibility

ProjectWise Integration Server	ProjectWise Integration Server (SELECTseries 3) and ProjectWise Integration Server (SELECTseries 4)
ProjectWise Client	ProjectWise Explorer Client (SELECTseries 4)* * Required to support the Dynamic View capabilities in MicroStation V8i SELECTseries 3 (including layered applications) and Power Products that utilize Dynamic Views such as AECOsim Building Designer V8i SELECTseries 3
ProjectWise Administrator	ProjectWise Administrator (SELECTseries 4)

Overview of Steps

The following sections describe the best practices for implementing the TS_WS_001 Workspace as a ProjectWise Managed Workspace. When implemented as described in this document, the Tri-Service Workspace does not require any input from the Bentley user to determine the workspace settings, and does not require customized application shortcuts to redirect the workspace.

Non-ProjectWise Task

1. [Install the Tri-Services Workspace](#)

ProjectWise Administrator Tasks

2. [Create ProjectWise Applications](#)
3. [Update the "Variables to exclude from copy-out"](#)
4. [Import MicroStation Configuration Files to ProjectWise Configuration Setting Blocks](#)
5. [Import Workspace and Project Template to ProjectWise](#)
6. [Modify Imported Workspace CSB's](#)
7. [Associate CSB's to ProjectWise Applications](#)

ProjectWise Explorer Tasks

8. [Upgrade Template Project B01 to a Rich Project](#)
9. [Associate CSB's to folders in Template Project B01](#)

Step 1: Install the Tri-Services Workspace

The Tri-Services Workspace Installer should be run prior to starting the ProjectWise Implementation. Follow the steps in the [Tri-Services Workspace Management Guide](#) to install the Tri-Services workspace. We will refer to the Project Drive and Workspace Drive when importing the workspace to ProjectWise. It is a good practice to keep a networked version of the workspace for troubleshooting when issues may arise. Refer to the [Workspace Troubleshooting Guide](#) for additional information.



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ProjectWise Administrator Tasks

Step 2: Create ProjectWise Applications

ProjectWise Applications are used in place of application shortcuts used in a non-ProjectWise environment. The Tri-Service Workspace configuration outside of ProjectWise requires a special set of shortcuts to initiate the Bentley application(s) within the Tri-Service Workspace. This is not necessary within the ProjectWise Managed Workspace configuration detailed in this document. This means that the same ProjectWise Application for MicroStation could be used to initiate the application with the Bentley delivered workspace, the Tri-Service TS_WS_001 Workspace, or any other custom workspace. This is achieved by redirecting the configuration through Configuration Settings Blocks attached to ProjectWise Projects and Folders rather than the application as is the case outside of ProjectWise.

ProjectWise V8i (SELECTseries 4) is delivered with predefined application definitions for MicroStation SELECTseries 3, AECOSim Building Designer SELECTseries 3, Bentley Navigator, and many other applications using the applications' registry program class definitions. The program class name is the preferred method to define ProjectWise application support because it uses the Window registry to locate the designated executables. ***This is the recommended and most reliable method for application initiation in a ProjectWise Managed Workspace.***

In the event the applications definitions are not predefined or you are working on a version previous to ProjectWise (SELECTseries 4), please use one of the two methods ([Importing Applications](#) or [Manual Application Creation](#)) below to create the application definitions for Bentley applications to be used.

Importing ProjectWise Application List from XML

Select the highlighted text below copy and paste into notepad and save as an XML file. This file will be used to import the applications into your ProjectWise Administrator.

NOTE: This XML file is delivered in the Tri-Service Workspace in the following directory:

...\TS_Workspaces\TS_WS_001\Program_ProjectWise\

Once you have the XML file created save the file to the ProjectWise Integration Server and run the DMSCONV with the -appfile switch and point to XML file. See samples of the syntax to be used below. Refer to Figure 1 for additional information.

SQL:

`DMSCONV -d MyODBCDataSourceName -u DbUser -p DbPass -appfile c:\WSApps.XML`

Oracle:

`DMSCONV -d MyODBCDataSourceName -u Username.Password -appfile c:\WSApps.XML`

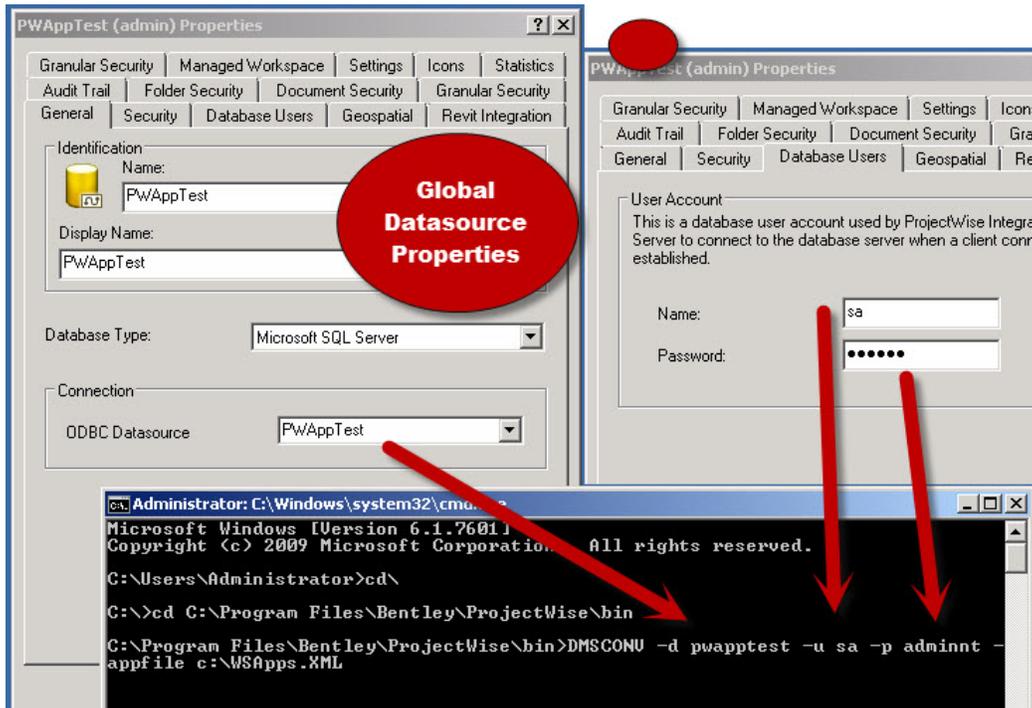


Figure 1: Attributes required for DMSCONV

- d: is your ProjectWise ODBC Connection Name
- u: is your Database Connection Account
- p: is your Database Connection Account Password
- appfile: switch tells DMSCONV to look for XML in specific location in our case it's the root of C:\

The XML import procedure is by far the easiest way to get the applications imported into your ProjectWise Datasource. If for some reason you don't have remote access to your ProjectWise Integration Server you might want to ask your local ACE-IT person to assist.

NOTE: The application names imported will all be prefixed with "TS_WS - " which can be removed after the import is complete. This was done to avoid importing applications that may already exist. As previously noted, this configuration does not require TS_WS_001 specific ProjectWise Applications and therefore it is recommended to remove this prefix after importing and remove any redundant ProjectWise Applications.

Manually Creating the ProjectWise Application List

The applications can be manually created by selecting New Application in the ProjectWise Administrator. The Application Name, Program Class, Command Line Arguments and Replace Default Arguments are listed in the chart below (*Figure 2*). The applications can be creating using the chart below and a sample (*Figure 3*) is provided for the placement of each value.

ProjectWise Application List

Application Name	Program Class	Command Line Arguments	Replace Default Args.
AECOSim Architectural Building Designer	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Architectural	OFF
AECOSim Building Designer	Bentley.AECOSimBuildingDesigner.Application	NONE	ON
AECOSim Electrical Building Designer	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Electrical	ON
AECOSim Electrical SUBTYPE MANAGER	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Electrical	ON
AECOSim Electrical SYMBOL MANAGER	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Electrical	ON
AECOSim Mechanical Building Designer	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Mechanical	OFF
AECOSim Microstation w/ Building Enablers	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Microstation	OFF
AECOSim Structural Building Designer	Bentley.AECOSimBuildingDesigner.Application	-wsBB_DISCIPLINE=Structural	OFF
Bentley Map Enterprise	Bentley.MapEnterprise.Application	-ws_USTN_PRODUCT_SHORTNAME=MapEnterprise	OFF
Bentley Navigator	Bentley.Navigator.Application	NONE	OFF
GEOPAK	Bentley.MicroStation.Application	-wsLoad_GEOPAK_SS2=1	OFF
InRoads	Bentley.MicroStation.Application	-wsLoad_InRoads_SS2=1	OFF
InRoads Suite	Bentley.MicroStation.Application	-wsLoad_InRoads_SS2=1	OFF
Power GEOPAK	Bentley.PowerGEOPAK.Application	NONE	OFF
Power InRoads	Bentley.PowerInRoads.Application	NONE	OFF
Bentley i-model Composer	Bentley.imodelComposer.Application	NONE	OFF

Figure 2: Application List for the ProjectWise Administrator

Select the Application Node from the list in the ProjectWise Administrator - *Figure 2*

- *Select New Application*
- *Add the name from the list above*
- *Select Actions and select the Create button*
- *From the Create Association add the Program Description, Program Class Name, Command Line Arguments and Replace default arguments if required.*
- *For the Program Class Name you need to select the ... browse button than select the Advanced Tab and paste the Program Class Name provided from the list.*
- *Save and create the additional applications.*

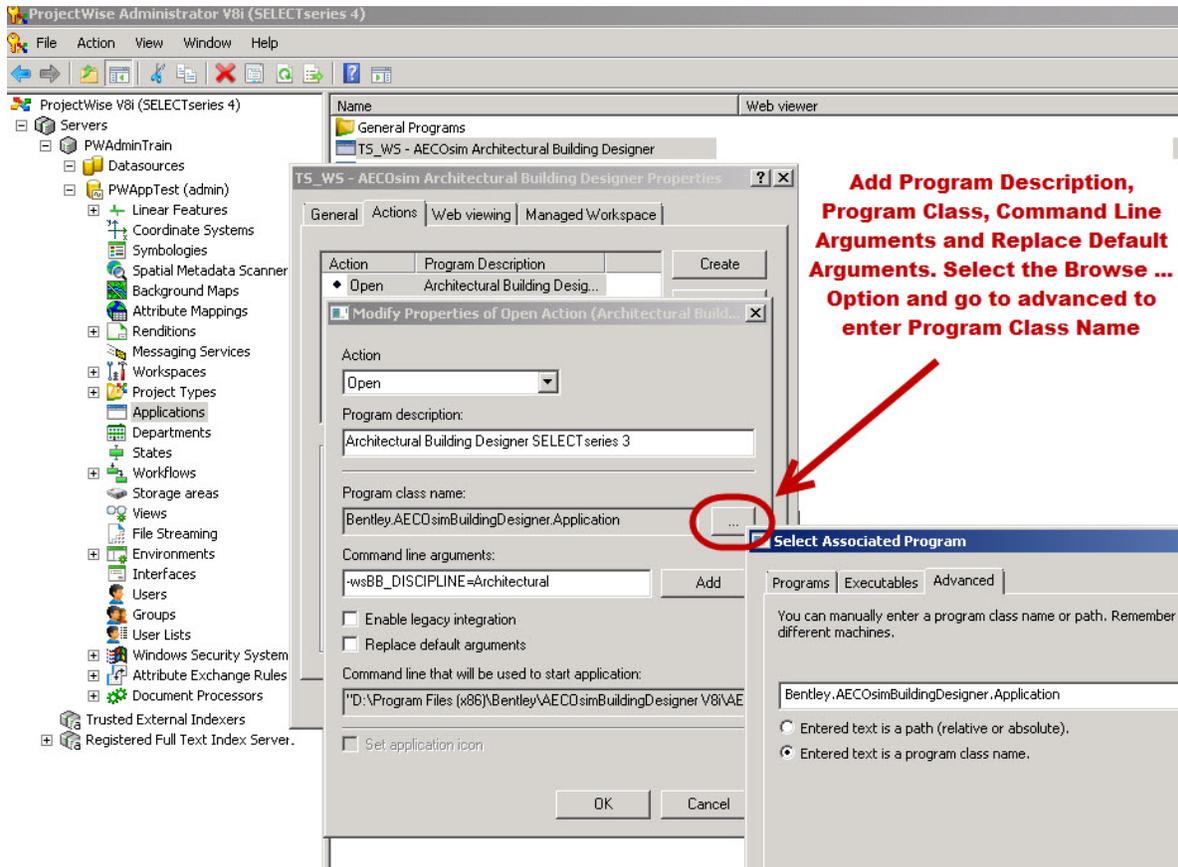


Figure 3: Creating Applications in the ProjectWise Administrator

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Step 3: Update Workspace Variables to Exclude from Copy-Out

When using a ProjectWise Managed Workspace, all folders and files referenced in the active workspace configuration will be copied down to the Local Working Directory to have available as needed by the Bentley Application. Sometimes this may result in many files being copied down to the Local Working Directory that are either not needed or are handled differently by ProjectWise, potentially causing performance delays. “Variables to exclude from copy-out” is used to prevent unnecessary files from being copied to the local workstation. The files and/or folders specified by any of the variables defined here will not be copied down to the local workstation.

NOTE: If more than one configuration variable points to the same folder/file, then all configuration variables referencing the folder/file must be defined in **Variables to exclude from copy-out** for the file to not be copied locally.

List of Variables to Exclude from Copy-Out

Variables to Exclude from Copy-out	
_DGNDIR	MS_PRINTDEF_PATH
* DWGRDL_DIR	* MS_REF_DEFAULTATTACHDIRECTORY
* MS_DEF	* MS_RFDIR
MS_DESIGNDIR	* MS_ROSEDB
MS_DRAWINGDIR	* MS_SCR
* MS_IMAGE	MS_SHEETDIR
* MS_IMAGEMNGR	* MS_TMP
* MS_IMAGEMNGR_RFDIR	* RDL_DIR
* MS_IMAGEMNGRTMP	TF_DRAWINGS
* MS_IMGIMAGW	TS_PROJEXP
* MS_IMGOUT	TS_PROJEXP_CAD
* MS_MARKUPPATH	TS_RFDIR_DRAWINGS
* MS_PLTFILES	TS_RFDIR_ROOT
* VariableName = Default variables excluded in SS3	

Figure 4: Workspace Variables to Exclude

Should any of the above variables not exist use the ProjectWise Administrator to update any that are missing. This can be accomplished by right mouse clicking the Variables to exclude option under **Workspace Profiles > Managed** and selecting **New Variable**.

Refer to [Variables to Exclude from Copy-out](#) for detailed instructions on adding variables to this list in your datasource.

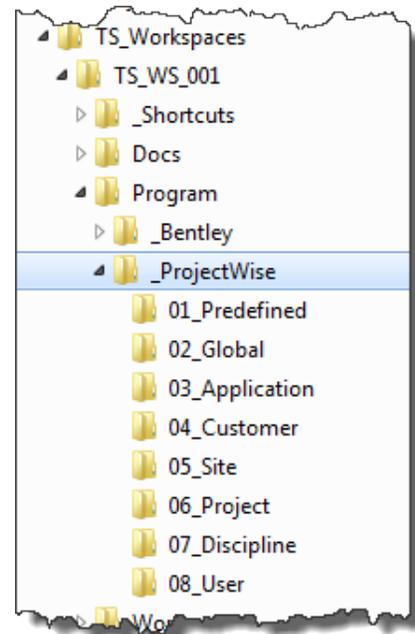
Step 4: Import Configuration files to ProjectWise CSB's

After installing the Tri-Service TS_WS_001 Workspace, you will find template configuration files in the 01_Predefined, 06_Project and 07_Discipline directories located at $\{NetworkDrive\}TS_Workspaces\ TS_WS_001\Program_ProjectWise\$. It is recommended that these templates be imported into ProjectWise Administrator to create baseline Configuration Settings Blocks (CSB) as detailed in this section.

The template configuration files contain instructional comments within them have been included to assist in making the necessary modifications after importing to complete the setup. These should be imported using **Import Managed Workspaces** in ProjectWise Administrator to the corresponding ProjectWise Managed Workspace configuration levels according to Table 1. The template configuration files that beginning with “_” must be manipulated after being imported into ProjectWise as a CSB ([Step 6](#)), to localize the workspace per your ProjectWise datasource and network workspace and because configuration directives may not be imported into CSBs.

Tri-Service Workspace Folder Name	ProjectWise Configuration Level
01_Predefined	Predefined
06_Project	Project
07_Discipline	Discipline

Table 1: Import template configuration files from the Workspace folder to destination ProjectWise configuration level



There should be a total of 26 CSB's imported; 5 into Predefined level, 1 into Project level, and 20 into Discipline level. See Figure 5 for the expected results.

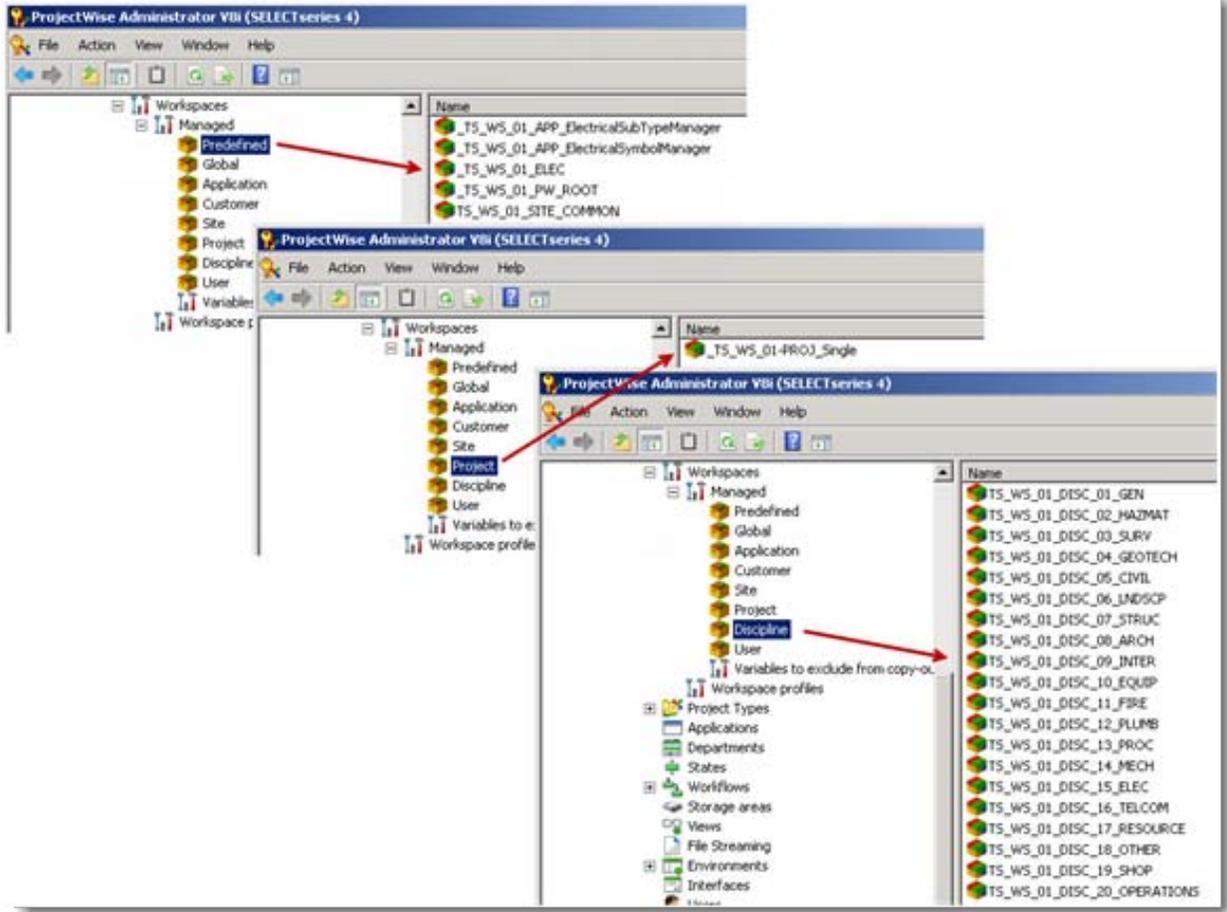


Figure 5: ProjectWise CSB's after importing Template Configuration Files

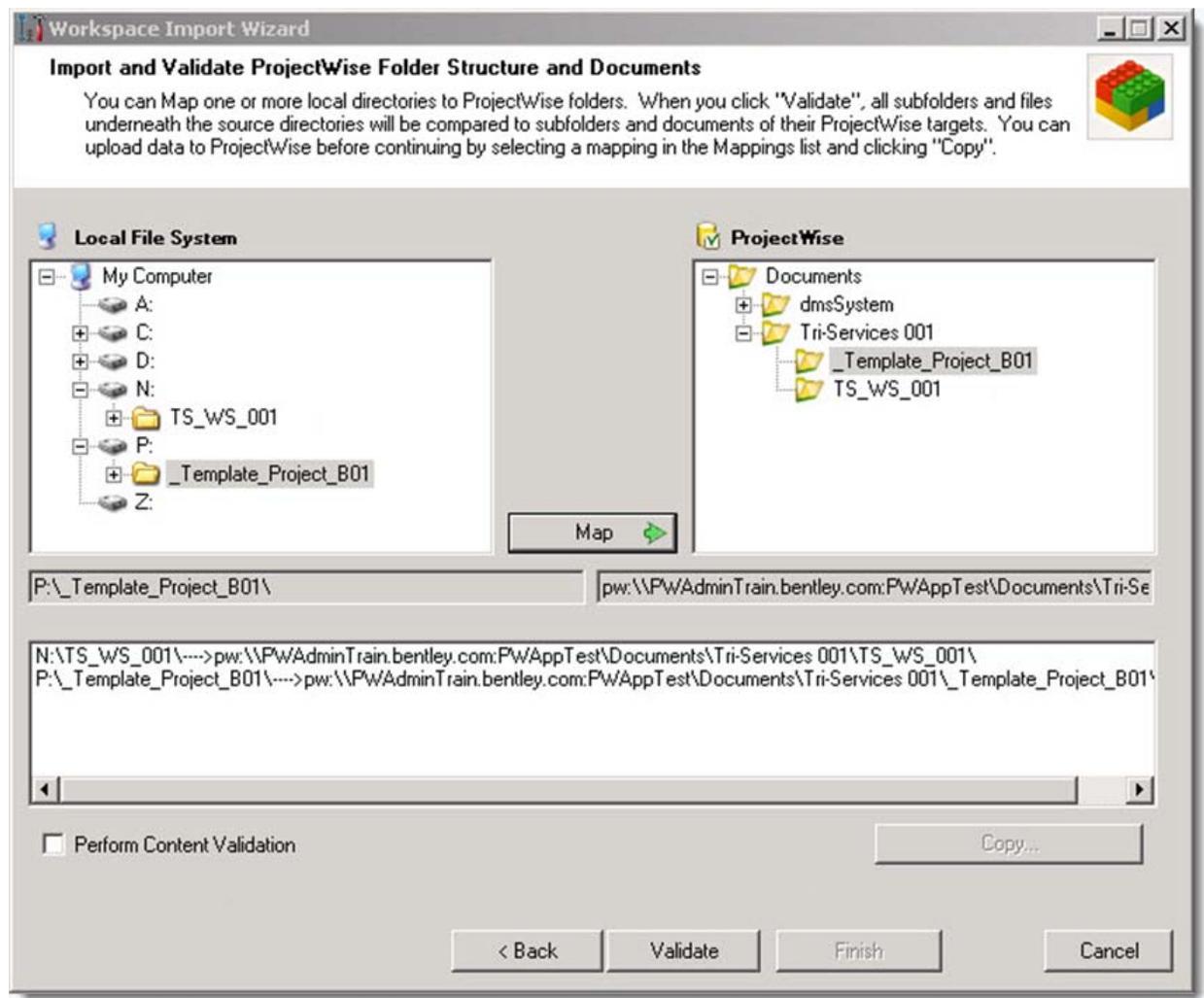
Refer to [Importing Configuration Files as ProjectWise CSB's](#) for detailed instructions on importing the Tri-Service template configuration files as ProjectWise Configuration Settings Blocks.

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Step 5: Import Workspace and Project Template to ProjectWise

Now that we have imported the template configuration files as CSB's into the ProjectWise Administrator we will use the Workspace Wizard to import the Tri-Services Workspace folders, Project folders and files.

Use the Import Managed Workspace Wizard to import the import the Workspace Drive and Template Project from the Tri-Service Workspace installed in [Step 1](#). It is recommended that both the Workspace and Template Project are imported to a location where user permissions are limited.



Refer to [Import Workspace & Project Template to ProjectWise](#) for detailed instructions on importing the Tri-Service Workspace and Project Template using the Import Managed Workspaces Wizard.

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Step 6: Modify Imported Workspace CSB's

Now that the workspace, project folders and workspace variables have been imported successfully there are a few modifications that need to be completed to the ProjectWise CSB's that were imported in Step 4. This section will cover the manual edits that are required to support the Tri-Services Workspace.

The modifications to the imported CSB's are required to either localize the workspace to specific directories with your ProjectWise Datasource or to create configuration directives that are not able to be imported from configuration files.

The template configuration files from the Tri-Service Workspace imported in Step 4 contain notes on which modifications need to be made, and can be used to copy string values needed to complete some of the directives.

Imported CSB Name	ProjectWise Configuration Level
__TS_WS_01_PW_ROOT	Predefined
__TS_WS_01-PROJ_Single	Project
__TS_WS_01_ELEC	Predefined
__TS_WS_01_APP_ElectricalSubTypeManager	Predefined
__TS_WS_01_APP_ElectricalSymbolManager	Predefined

Predefined Level

The Predefined Level of ProjectWise managed workspace configuration is used by the Tri-Service Workspace to replace the function of the [Command Line Configurations](#) and [Application Initiation Configurations used](#) by the Tri-Service Workspace outside of ProjectWise. The settings within the Tri-Service Predefined CSB's eliminate the need for creating customized application shortcuts (or ProjectWise Applications).

Refer to the [Command Line Configurations](#) and [Application Initiation Configurations](#) section of the [Tri-Service Workspace Management Guide](#) for additional information on the function of the Tri-Service Predefined CSB's.

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TS_WS_01_PW_ROOT CSB

This CSB is attached to the ProjectWise Project and its primary purpose is to establish the baseline configuration variables that serve as the root directories of all Tri-Service Workspace components. This effectively replaces the top portion of TS_mslocal.cfg (excerpt shown in Figure 22) that is needed to configure the workspace outside of ProjectWise. In the case of the ProjectWise Managed Workspace, TS_ROOT should point to your ProjectWise location for the ...\\TS_Workspaces\\TS_WS_001\\ directory using the CSB Variable value type of 'ProjectWise Folder'. TS_PROJECTDIR should point to a non-ProjectWise directory where any project resources not managed by ProjectWise are stored, which in most cases is only the [AECOSim Building Designer Electrical](#) project database files. After setting the two variables the TS_WS_01_SITE_COMMON CSB is included.

```

6  #=====
7  # Standard Editable Workspace configuration variables (EDIT THESE VARIABLES TO LOCALIZE THE WORKSPACE)
8  #=====
9  # Location of the TriServices Workspace Root
10 TS_ROOT          = N:/TS_Workspaces/TS_WS_001/
11
12 # Location of the Project Drive, container for the project data folders
13 TS_PROJECTDIR    = P:/Projects/

```

Figure 6: TS_MSlocal.cfg used in configuration outside of ProjectWise

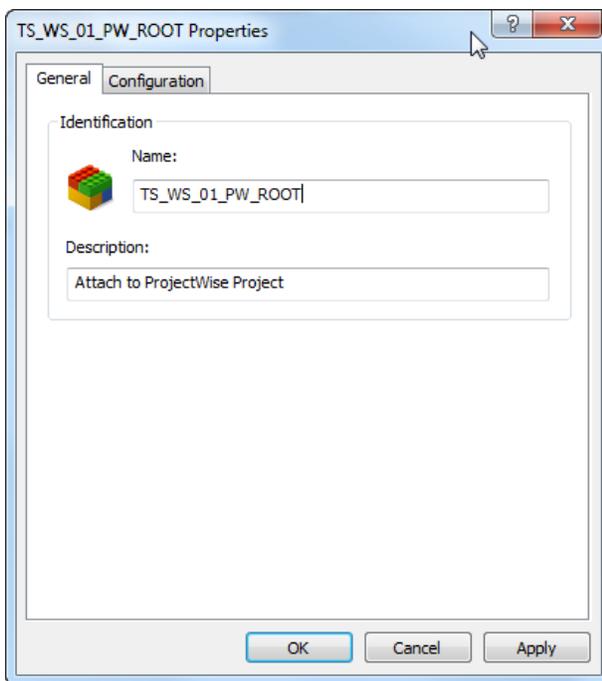


Figure 8: TS_WS_01_PW_ROOT General Settings

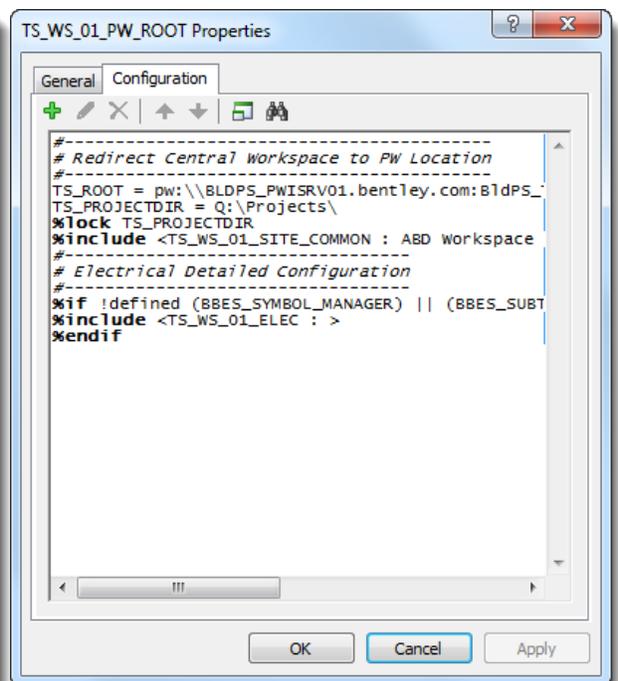


Figure 7: TS_WS_01_PW_ROOT Configuration Settings

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Now that `_TS_WS_01_PW_ROOT.cfg` (Step 4) has been imported as a CSB, the following modifications are required to complete the setup of this CSB:

1. Point `TS_ROOT` to your ProjectWise location for the `TS_WS_001` Tri-Service Workspace
2. Point `TS_PROJECTDIR` to the non-ProjectWise root of project content that cannot be managed by ProjectWise.
 - This is usually only for AECOSim Building Designer Electrical project database files. If you are not using the AECOSim Building Designer Electrical package this step may not be necessary
3. Create **%include** Statement for `TS_WS_01_SITE_COMMON` CSB

**** IF NOT USING ELECTRICAL FOR AECOSim BUILDING DESIGNER PROCEED TO [TS_WS_01_SITE_COMMON](#) CSB**

4. Create **%if !defined (BBES_SYMBOL_MANAGER) || (BBES_SUBTYPE_MANAGER)**
 - Checks to makes sure the Electrical Symbol Manager or SubType Manager Applications are not being used.
5. Create **%include** statement for `TS_WS_01_ELEC` CSB
6. Create **%endif** statement

Recommended: Remove “_” at beginning of CSB name to indicate modifications have been made.

For Detailed Instructions on Required Modifications to Imported CSB’s Refer to the following:

- [TS_WS_01_PW_ROOT](#) CSB

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TS_WS_01_SITE_COMMON.CSB

TS_WS_01_SITE_COMMON contains configuration variables that redirect specific components of the Central Workspace. The locations for the variables being redirected are established relative to the ProjectWise Folder defined for TS_ROOT in the TS_WS_01_PW_ROOT.CSB. This.CSB replaces the bottom portion of TS_mslocal.cfg and TS_Building.cfg (AECOSim Building Designer only) that are required for the configuration outside of ProjectWise. Because this.CSB is included by [TS_WS_01_PW_ROOT](#) it does not need to be explicitly assigned to a ProjectWise Folder or Project.

```

=====
# Establish Building Dataset Name and Location (THERE IS NO NEED TO EDIT THIS FILE)
=====
TF_DATASETS           =  $(TS_WORKSPACEROOT)Datasets/      # Location of the TriServices BIM Dataset
TF_DATASETNAME        :  Building_US                      # Name of the TriServices BIM Dataset
HVAC_DATASETNAME      :  $(TF_DATASETNAME)

```

```

=====
# Redirect Site, Proj & User Configs to Corp location (DO NOT EDIT BELOW THIS LINE)
=====
TS_WORKSPACEROOT     =  $(TS_ROOT)Workspace/              # Location of the TriServices Workspace Root
_USTN_USER           =  $(TS_WORKSPACEROOT)Users/         # Location of the TriServices User Configuration Files
_USTN_PROJECT        =  $(TS_WORKSPACEROOT)Projects/      # Location of the TriServices Project Configuration Files
_USTN_SITE           =  $(TS_WORKSPACEROOT)Standards/     # Location of the TriServices Site Level Configurations/Resources

```

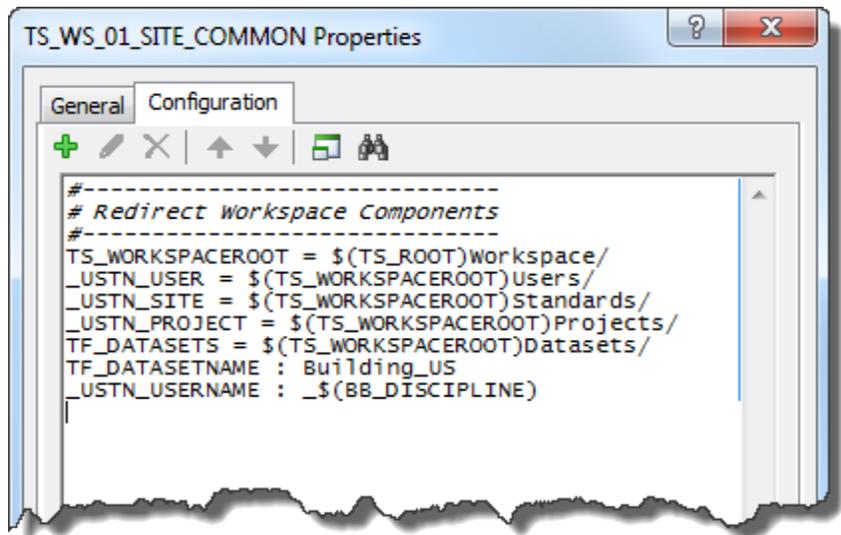


Figure 9: *TS_WS_01_SITE_COMMON* after removing descriptions created from import process

No modifications are required after importing TS_WS_01_SITE_COMMON.cfg as a.CSB. For your own benefit you may wish to remove the descriptions that are automatically created during the import process and put in some notes that describe what the.CSB is doing (ex. Figure 10)

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Project Level

Project-Level CSB's are primarily used as a substitute for the Project Configuration File that is necessary for workspaces not managed by ProjectWise. The Project-Level CSB will dynamically locate the root of the project and extract the project name based on the location of the file being opened. This allows a baseline ProjectWise Project to be established and used a template when creating any new projects. There is no need to create a unique CSB for each project, nor use a Project Configuration File (PCF) with this Dynamic Project configuration.

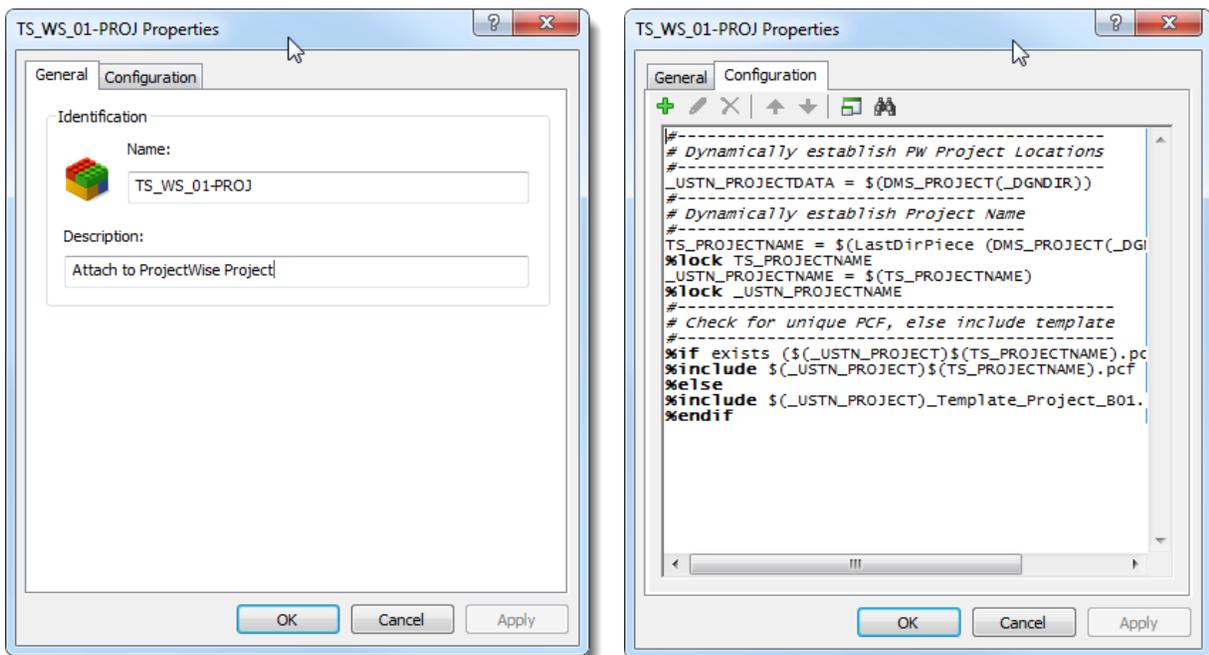
The Project Level of ProjectWise managed workspace configuration is used by the Tri-Service Workspace to replace the function of the *Project Configurations* used by the Tri-Service Workspace outside of ProjectWise. It is recommended that each Tri-Service ProjectWise Project should only have Project Level CSB associated with it. Typically this would be TS_WS_01_PROJ, which eliminates the need for a project configuration file (.pcf) or project-specific CSB for each project.

Refer to the *Project Configurations* section of the Tri-Service Workspace Management Guide for additional information on the function of the Tri-Service Project Level CSB's.

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[TS_WS_01_PROJ_CSB](#)

This CSB establishes configurations that create what is referred to as a **dynamic project**. A dynamic project is dynamic in that there is no need for a PCF file or a CSB unique to each project and that the user is never prompted to choose the Project. The project, and associated project dataset, is dynamically established based on the location of the file within the ProjectWise Datasource, meaning that if the user opens a file contained within a ProjectWise Project called PROJ_1234 the workspace will automatically determine that they project name is 'PROJ_1234' and that the project dataset that should be loaded with the configuration is contained within that ProjectWise Project.



Now that `_TS_WS_01-PROJ_Single.cfg` has been imported as a CSB (Step 4), the following modifications are required to complete the setup of this CSB:

1. Create `%if exists ($_USTN_PROJECT)$ (TS_PROJECTNAME).pcf` directive
2. Create `%include ($_USTN_PROJECT)$ (TS_PROJECTNAME).pcf` directive
3. Create `%else` directive
4. Create `%include ($_USTN_PROJECT)_Template_Project_B01.pcf` directive
5. Create `%endif` directive

Recommended: Remove “_” at beginning of CSB name to indicate modifications have been made.

[Refer to TS_WS_01_PROJ_Single CSB for Detailed Instructions on Required Modifications to TS_WS_01_PROJ_Single CSB](#)

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Discipline Level

With the TS_WS_001 Workspace, the discipline-level managed configurations replace the need for User Configuration Files that are used in the workspace outside of ProjectWise. The Discipline-level CSB's are assigned to the numbered discipline folders in the project directory structure; there is one CSB corresponding to each of the twenty discipline folders.

The primary function of these CSB's is to establish variable values for TS_DISCDIR and TS_DISCIPLINE, which are defined in the `_{DisciplineName}.ucf` files in the workspace when it is not managed by ProjectWise. The CSB's for disciplines that use AECOsim Building Designer's Electrical package (Electrical, Fire Protection, and Telecommunications) have some additional settings that are discussed further in [AECOsim Building Designer Electrical Configurations](#).

```

15 #=====
16 # User Information
17 #=====
18 # TS_DISCIPLINE: Sets the discipline for this user. This drives the folder location for
19 # Valid Arguments: (PICK ONE) = [Architectural, Civil, Electrical, Fire_Protection, Geotech
20 TS_DISCIPLINE = Structural
21
22 # TS_DISCDIR: Sets the discipline for this user. This drives the folder location for des
23 # Valid Arguments: (PICK ONE) = [01_Gen, 02_HazMat, 03_SurvMap, 04_Geotech, 05_Civil, 06
24 TS_DISCDIR = 07_Struc
25

```

Refer to the [User Configurations](#) section of the Tri-Service Workspace Management Guide for additional information on the function of TS_DISCDIR and TS_DISCIPLINE variables.

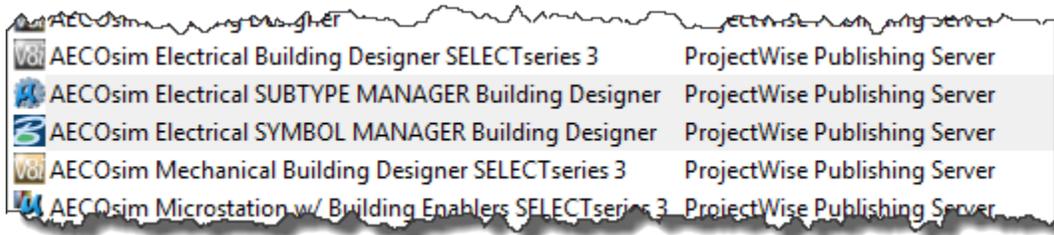
No modifications are required after importing the Discipline level CSB's from the template configuration files. You may wish to remove the descriptions that are automatically created during the import process and put in some descriptions for your reference.

-  TS_WS_01_DISC_01_GEN Attach to 01_Gen Folder
-  TS_WS_01_DISC_02_HAZMAT Attach to 02_HazMat Folder
-  TS_WS_01_DISC_03_SURV Attach to 03_SurvMap Folder
-  TS_WS_01_DISC_04_GEOTECH Attach to 04_Geotech Folder
-  TS_WS_01_DISC_05_CIVIL Attach to 05_Civil Folder
-  TS_WS_01_DISC_06_LNDSCCP Attach to 06_Lndscp Folder
-  TS_WS_01_DISC_07_STRUC Attach to 07_Struc Folder
-  TS_WS_01_DISC_08_ARCH Attach to 08_Arch Folder
-  TS_WS_01_DISC_09_INTER Attach to 09_Int Folder
-  TS_WS_01_DISC_10_EQUIP Attach to 10_Equip Folder
-  TS_WS_01_DISC_11_FIRE Attach to 11_FireProt Folder
-  TS_WS_01_DISC_12_PLUMB Attach to 12_Plumb Folder
-  TS_WS_01_DISC_13_PROC Attach to 13_Proc Folder
-  TS_WS_01_DISC_14_MECH Attach to 14_Mech Folder
-  TS_WS_01_DISC_15_ELEC Attach to 15_Elec Folder
-  TS_WS_01_DISC_16_TELCOM Attach to 16_Telcom Folder
-  TS_WS_01_DISC_17_RESOURCE Attach to 17_Resource Folder
-  TS_WS_01_DISC_18_OTHER Attach to 18_Other Folder
-  TS_WS_01_DISC_19_SHOP Attach to 19_Shop Folder
-  TS_WS_01_DISC_20_OPERATIONS Attach to 20_Ops Folder

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AECOSim Building Designer Electrical Configurations

There are some functional limitations to managing the AECOSim Building Designer dataset(s) in ProjectWise. Most notably among these is the restriction on creating or modifying electrical Symbols and Symbol Sub-Types. To circumvent this we create two additional ProjectWise Applications ([Step 2](#)), one for creating and editing Symbols and a second for creating and modifying Symbol Sub-types that each have a corresponding CSB assigned to them.



For additional information on restrictions and limitations of integrating AECOSim Building Designer in a ProjectWise Managed Workspace refer to the [AECOSim Building Designer ProjectWise Deployment Guide](#).

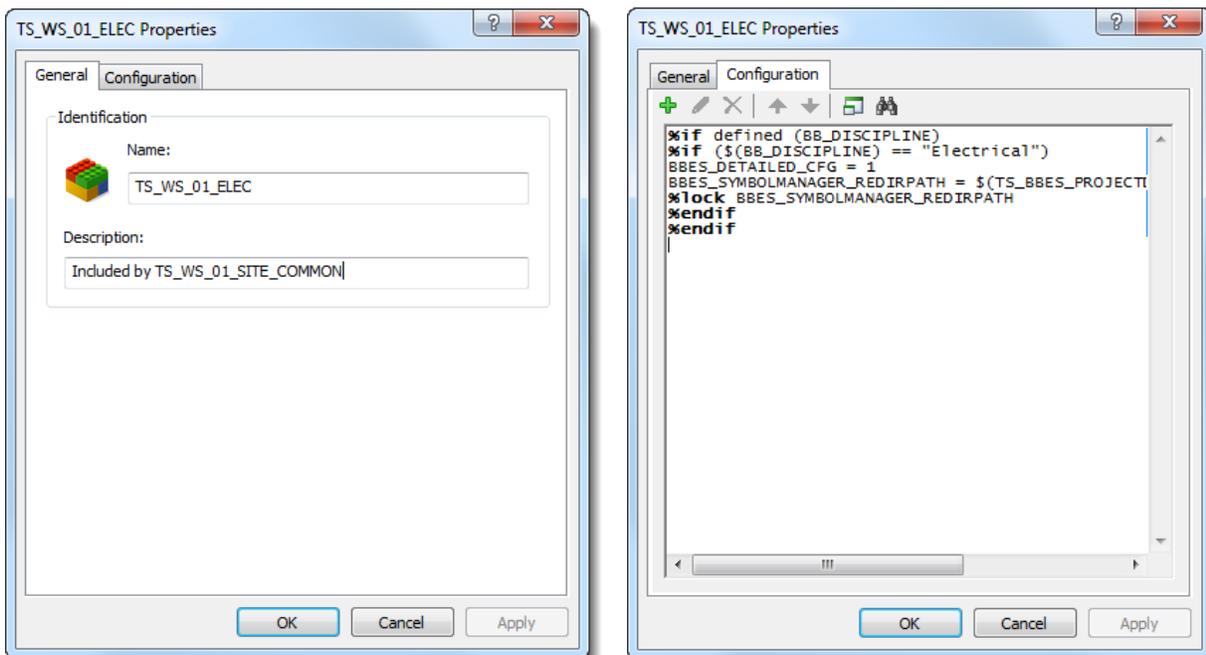
NOTE: While the AECOSim Building Designer ProjectWise Deployment Guide states “only one symbol library can be used in a project” the Tri-Service Managed Workspace is setup to use three symbol libraries (Lighting/Power, Telecommunication, and Fire Detection & Signaling Devices) by establishing the library to be used is assigned in the Discipline-Level CSB’s applied to the 11_FireProt, 15_Elec, and 16_Telcom folders. Therefore the correct symbol library is loaded simply by opening a design file with the AECOSim Electrical Building Designer Application in one of the aforementioned folders.

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[TS_WS_01_ELEC CSB](#)

Now that `_TS_WS_01-PROJ_Single.cfg` has been imported as a CSB (Step 4), the following modifications are required to complete the setup of this CSB:

1. Create `%if defined (BB_DISCIPLINE)` directive
 - This MUST be the first configuration line in this CSB
2. Create `%if ($(BB_DISCIPLINE) == "Electrical")` directive
 - This MUST be the second configuration line in this CSB
3. Create (2) `%endif` directives
 - These MUST be the last two configuration lines in this CSB



Refer to [TS_WS_01_ELEC](#) for detailed instructions on modifications required to `TS_WS_01_ELEC` CSB.

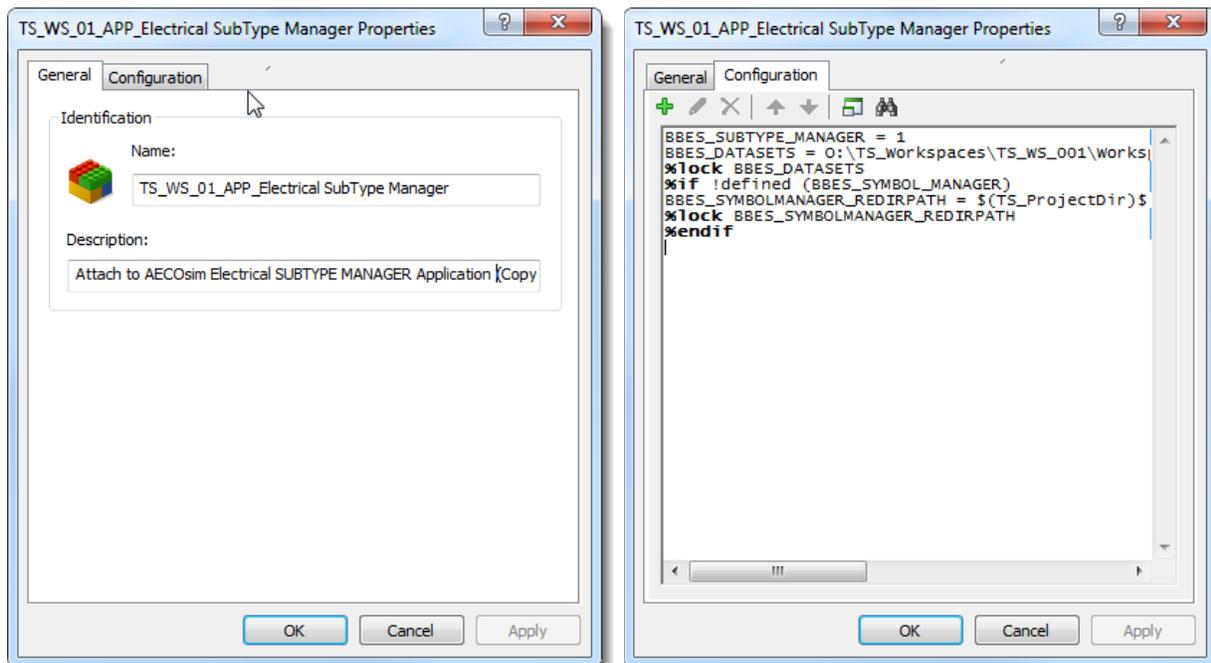
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[TS_WS_01_APP_ElectricalSubTypeManager CSB](#)

Now that `_TS_WS_01_APP_ElectricalSubTypeManager.cfg` has been imported as a CSB (Step 4), the following modifications are required to complete the setup of this CSB:

1. Modify `BBES_DATASETS` to redirect to the **network location** (outside of ProjectWise) of `...\TS_Workspaces\TS_WS_001\Workspace\Datasets\` using the value type "Directory"
 - This would have been established when the Tri-Service Workspace was installed.
2. Create `%if !defined (BBES_SYMBOL_MANAGER)` directive
 - This MUST be after `%lock BBES_DATASETS` configuration line in this CSB
3. Create `%endif` directive
 - This MUST be at the end of the configuration for this CSB

This CSB will be associated with AECOsim Electrical SUBTYPE MANAGER Application in [Step 7](#).



Refer to [TS_WS_01 App_ElectricalSubTypeManager](#) for detailed instructions on modifications required to [TS_WS_01_App_ElectricalSubTypeManager](#)

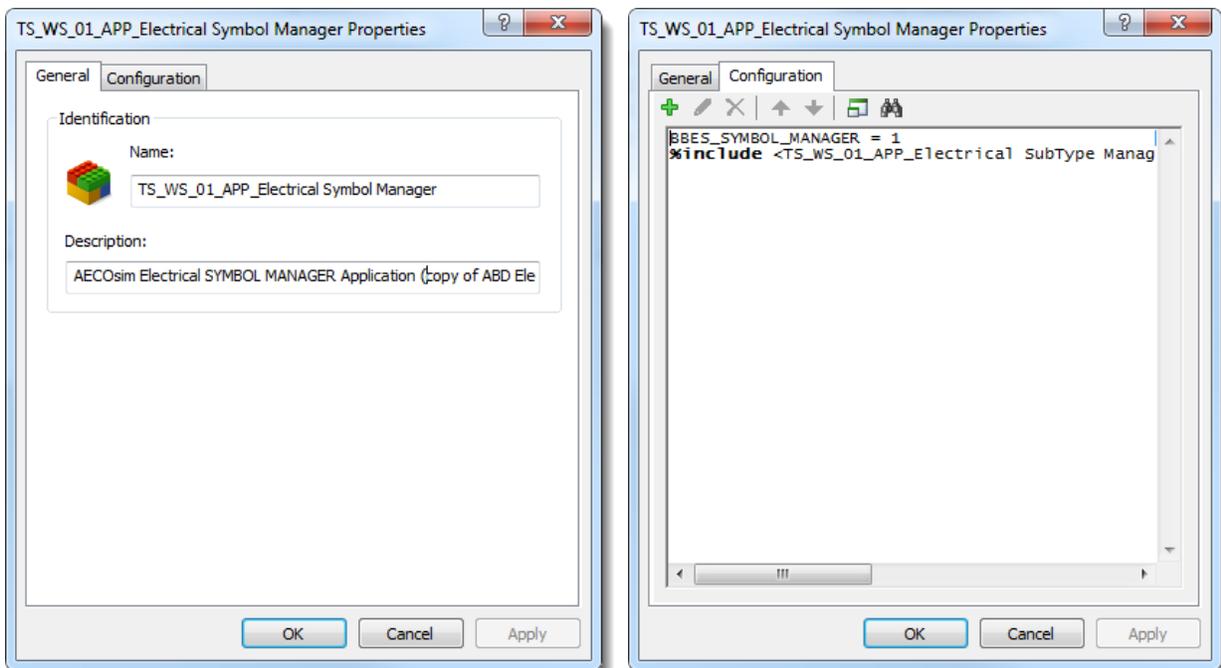
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TS_WS_01_App_ElectricalSymbolManager CSB

Now that `_TS_WS_01_App_ElectricalSymbolManager.cfg` has been imported as a Predefined level CSB (Step 4), the following modifications are required to complete the setup of this CSB:

1. Create `%include <TS_WS_01_App_ElectricalSubTypeManager : >` directive
 - NOTE: `<TS_WS_01_App_ElectricalSubTypeManager : >` is a CSB
 - This `%include` must come after `BBES_SYMBOL_MANAGER = 1`

This CSB will be associated with AECOSim Electrical SYMBOL MANAGER Application in [Step 7](#).



Refer to [TS_WS_01_App_ElectricalSymbolManager](#) for detailed instructions on modifications required to `TS_WS_01_App_ElectricalSymbolManager`

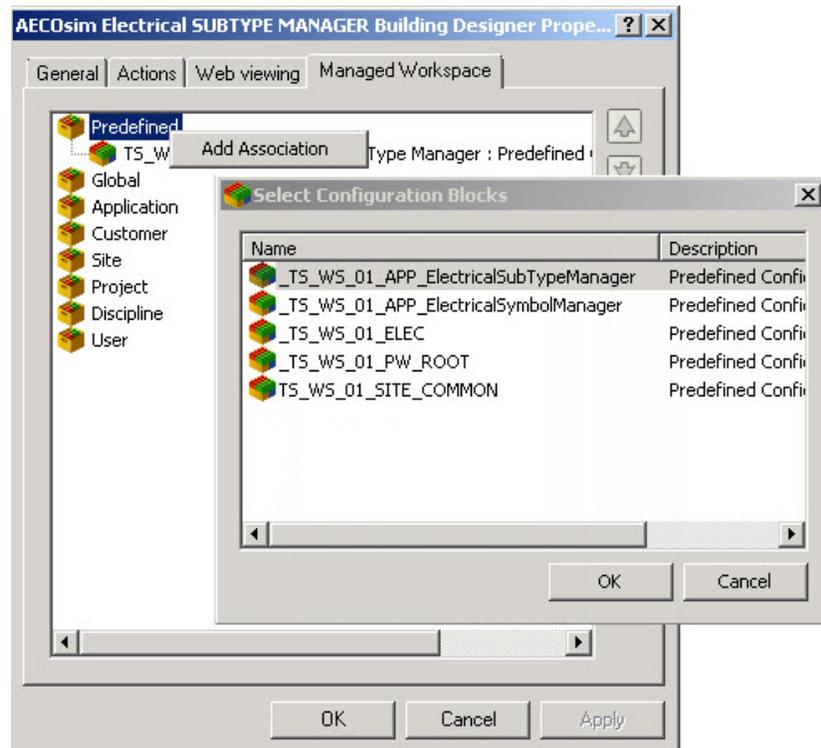
Step 7: Associate CSB's to ProjectWise Applications

The AECOsim Electrical SUBTYPE MANAGER Building Designer and the AECOsim Electrical SYMBOL Building Designer applications in ProjectWise Administrator need to be modified to associate workspace Managed CSB's.

AECOsim Electrical SUBTYPE MANAGER Building Designer Application

- From the ProjectWise Administrator
 - Go to the Applications Node
 - Double click the AECOsim Electrical SUBTYPE MANAGER Building Designer application
 - Go to the Managed Workspace Tab
 - Right-click on and select **Add Association**
 - Select the **TS_WS_01_APP_ElectricalSymbolManager** CSB

Figure 10: Modify ProjectWise Application



AECosim Electrical SYMBOL MANAGER Building Designer Application

- From the ProjectWise Administrator
 - Go to the Applications Node
 - Double click the AECosim Electrical SYMBOL MANAGER Building Designer application
 - Go to the Managed Workspace Tab
 - Right-click on and select **Add Association**
 - Select the ***TS_WS_01_APP_ElectricalSymbolManager*** CSB

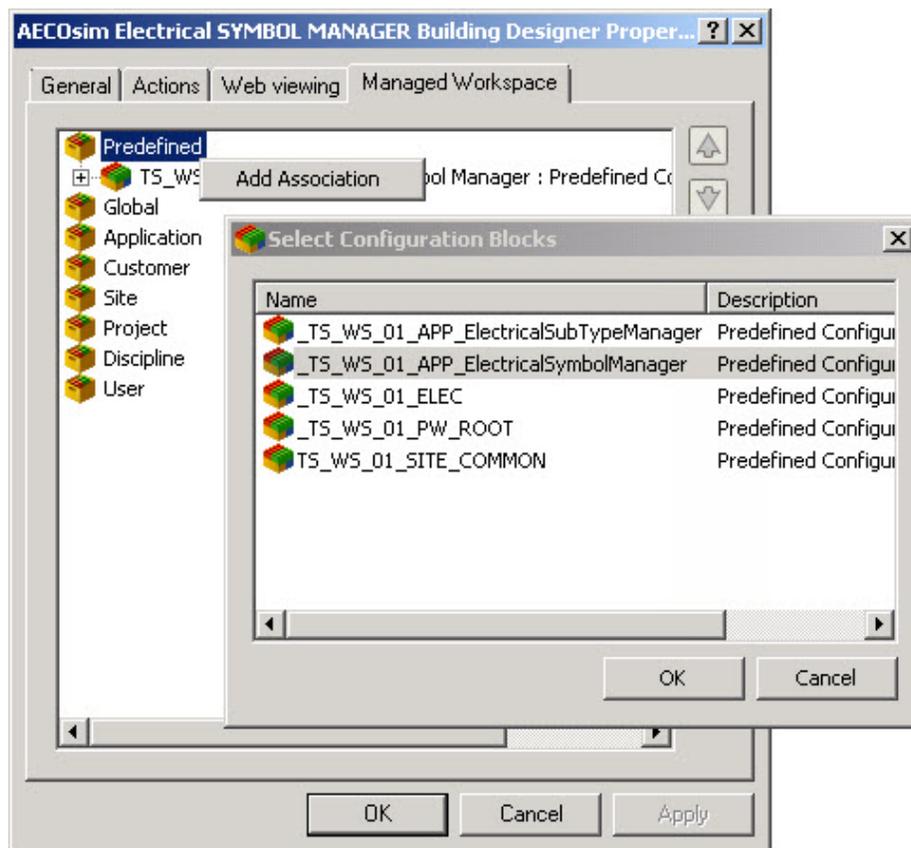


Figure 11: Modify ProjectWise Application

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ProjectWise Explorer Tasks: Creating a Template Project

If you do not have a ProjectWise Project Type already setup in your Datasource refer to [Creating Project Types](#) before continuing on to Step 8.

Step 8: Upgrade _Template_Project_B01 to a Rich Project

Go to the ProjectWise Explorer if you currently have the Explorer open close and reopen so you can see your ProjectWise Administrator changes. We will upgrade the _Template_Project_B01 to a ProjectWise Project and apply the Workspace Configuration Variable.

NOTE: Make sure your ProjectWise Account has permissions to create Projects if not update your user settings in ProjectWise Administrator and give yourself Project Create permissions.

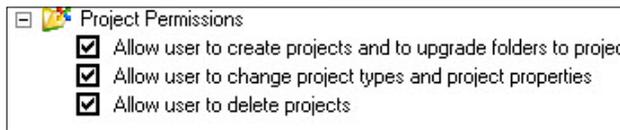


Figure 12: ProjectWise Administrator Project Permissions under User > Settings

- From ProjectWise Explorer
 - Go to the **_Template_Project_B01** folder
 - Right-click on the **_Template_Project_B01** folder and select **Upgrade to a Project...**
 - Select Next at the Project Creation Wizard start up screen
 - Take the defaults at the "Define the project root folder properties" dialog
 - Select Finish to complete the Project Creation Wizard

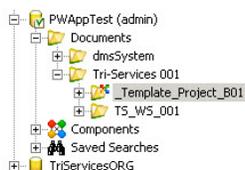
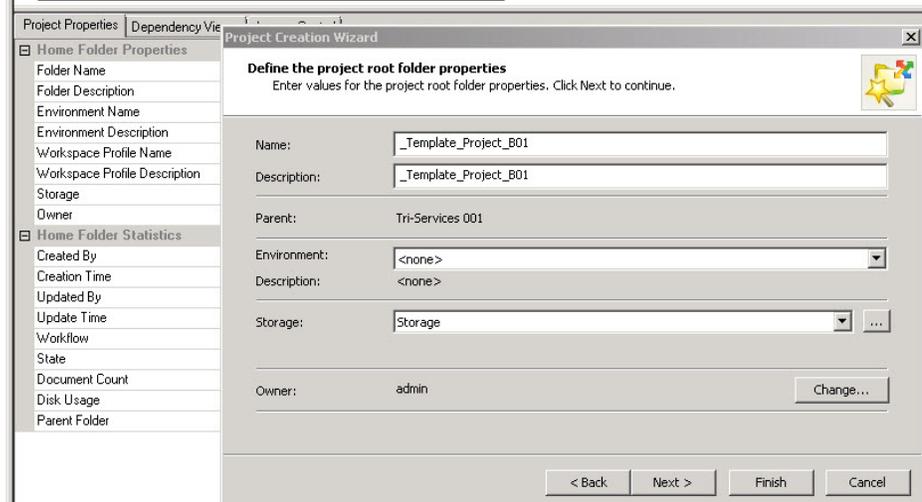


Figure 13: Upgrading a ProjectWise Folder to a Rich Project



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Step 9: Associate CSB's to folders in _Template_Project_B01

Now that all of the ProjectWise CSB's have been imported and modified, they can be associated to the appropriate ProjectWise Projects, Folders, and Applications. Apply the CSB's specified in Table 2 to the corresponding ProjectWise Project or Folder in the _Template_Project_B01 project.

CSB Name	CSB Configuration Level	Associated Element
TS_WS_01_PW_ROOT	Predefined	...\ProjectWise Project\ (ProjectWise Project)
<i>TS_WS_01_SITE_COMMON</i>	<i>Predefined</i>	<i>Inherited from TS_WS_01_PW_ROOT</i>
<i>TS_WS_01_ELEC</i>	<i>Predefined</i>	<i>Inherited from TS_WS_01_SITE_COMMON</i>
TS_WS_01_PROJ_SINGLE	Project	...\ProjectWise Project\ (ProjectWise Project)
TS_WS_01_DISC_01_GEN	Discipline	...\ProjectName\CAD_BIM\01_Gen\
TS_WS_01_DISC_02_HAZMAT	Discipline	...\ProjectName\CAD_BIM\02_HazMat\
TS_WS_01_DISC_03_SURV	Discipline	...\ProjectName\CAD_BIM\03_SurvMap\
TS_WS_01_DISC_04_GEOTECH	Discipline	...\ProjectName\CAD_BIM\04_Geotech\
TS_WS_01_DISC_05_CIVIL	Discipline	...\ProjectName\CAD_BIM\05_Civil\
TS_WS_01_DISC_06_LNDSCP	Discipline	...\ProjectName\CAD_BIM\06_Lndscp\
TS_WS_01_DISC_07_STRUC	Discipline	...\ProjectName\CAD_BIM\07_Struc\
TS_WS_01_DISC_08_ARCH	Discipline	...\ProjectName\CAD_BIM\08_Arch\
TS_WS_01_DISC_09_INTER	Discipline	...\ProjectName\CAD_BIM\09_Int\
TS_WS_01_DISC_10_EQUIP	Discipline	...\ProjectName\CAD_BIM\10_Equip\
TS_WS_01_DISC_11_FIRE	Discipline	...\ProjectName\CAD_BIM\11_FireProt\
TS_WS_01_DISC_12_PLUMB	Discipline	...\ProjectName\CAD_BIM\12_Plumb\
TS_WS_01_DISC_13_PROC	Discipline	...\ProjectName\CAD_BIM\13_Proc\
TS_WS_01_DISC_14_MECH	Discipline	...\ProjectName\CAD_BIM\14_Mech\
TS_WS_01_DISC_15_ELEC	Discipline	...\ProjectName\CAD_BIM\15_Elec\
TS_WS_01_DISC_16_TELCOM	Discipline	...\ProjectName\CAD_BIM\16_Telcom\
TS_WS_01_DISC_17_RESOURCE	Discipline	...\ProjectName\CAD_BIM\17_Resource\
TS_WS_01_DISC_18_OTHER	Discipline	...\ProjectName\CAD_BIM\18_Other\
TS_WS_01_DISC_19_SHOP	Discipline	...\ProjectName\CAD_BIM\19_ShopDwgs\
TS_WS_01_DISC_20_OPERATIONS	Discipline	...\ProjectName\CAD_BIM\20_Ops\

Table 2: Apply CSB's to ProjectWise Project and Folders

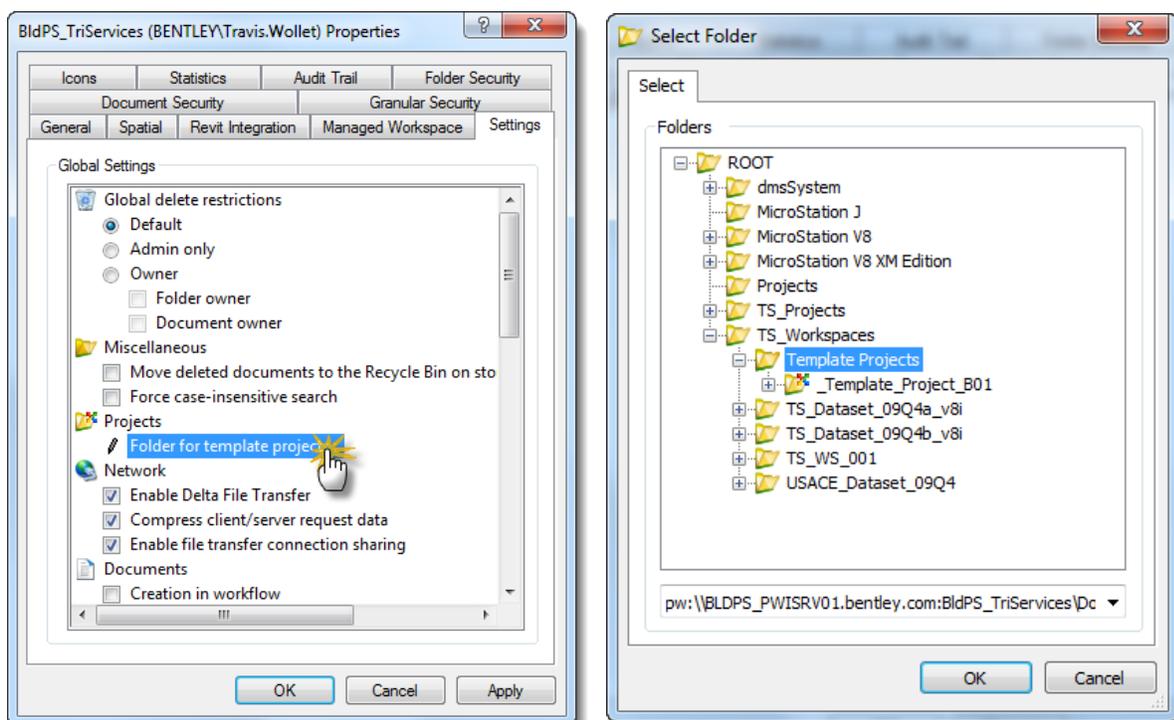
Refer to [Associate CSB's to ProjectWise Project & Folders](#) for detailed instructions on associating ProjectWise CSB's to Projects and Folders.

This completes the ProjectWise Tri-Services Workspace configuration. You are now ready to create new Projects from the _Template_Project_B01 template. Best practice would be to secure the _Template_Project_B01 template so no one has access to alter the template.

Create New Project from Template

Set Folder for Template Project(s)

- From ProjectWise Administrator, right click on the *DatasourceName* > **Properties** > **Settings** tab.
- Expand the Project node
- Double-click on **Folder for template projects**
- The *Select Folder* dialog will open. Navigate to the ProjectWise parent directory of *_Template_Project_B01*
- Click **OK**

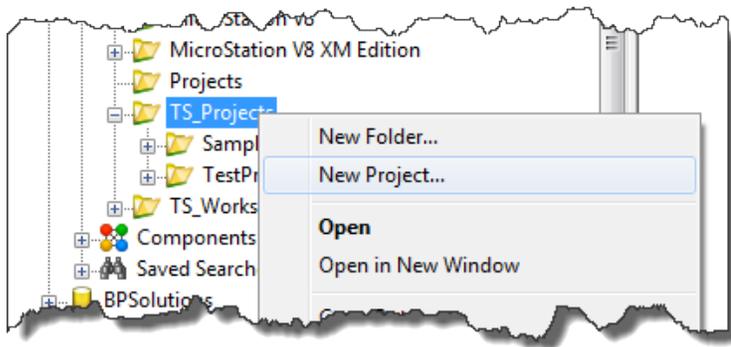


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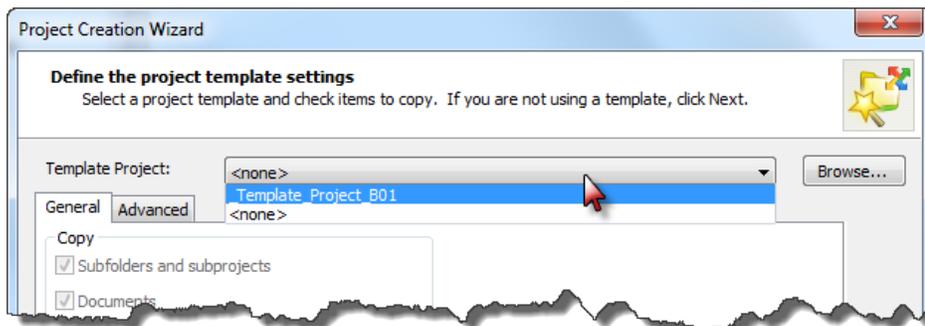
Create New Project from Template

From ProjectWise Explorer, refresh the Datasource to load changes made in ProjectWise Administrator.

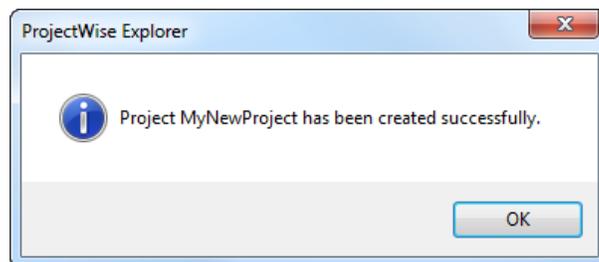
- In a ProjectWise directory to contain a new Project, right-click on ProjectWise Folder
- Select **New Project...** to launch the Project Creation Wizard.



- Click **Next** on first dialog of Project Creation Wizard
- From the **Template Project:** selection menu choose *_Template_Project_B01*



- Click **Next**
- Give the new Project a Name and Description
- Navigate through the remaining Project settings menus and then select **Finish**.



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Appendix

Create a Project Type in the ProjectWise Administrator

If you don't already have a Project Type in the ProjectWise Administrator we will need to create one to support the project template that was imported during our workspace import. The Project Type does not need to contain any project attributes and can be modified at any point after creation. For the configuration variable to function they require a ProjectWise Project to function properly.

NOTE: *If you are already using ProjectWise Projects you can skip this section.*

- From the ProjectWise Administrator
 - Go to the Project Types Node
 - Right-click on Project Types and Select New / Project Type



Figure 14: New Project Type

- The New Project Type Wizard will start / Select Next
- Name the Project Type - Example CESPk Projects
- Description can be the same - CESPk Projects / Select Next
- At the Adding Project Properties dialog - leave blank for now and Select Next
- And Finish the New Project Type Wizard



Figure 15: New Project Type

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Detailed Setup Instructions

Variables to exclude from copy-out

1. From the Workspace node
 - Expand and select the **Managed** node.
 - Expand again and select the "Variables to exclude from copy-out".
 - Right mouse the "Variables to exclude from copy-out" and select New Variable (Figure 30).

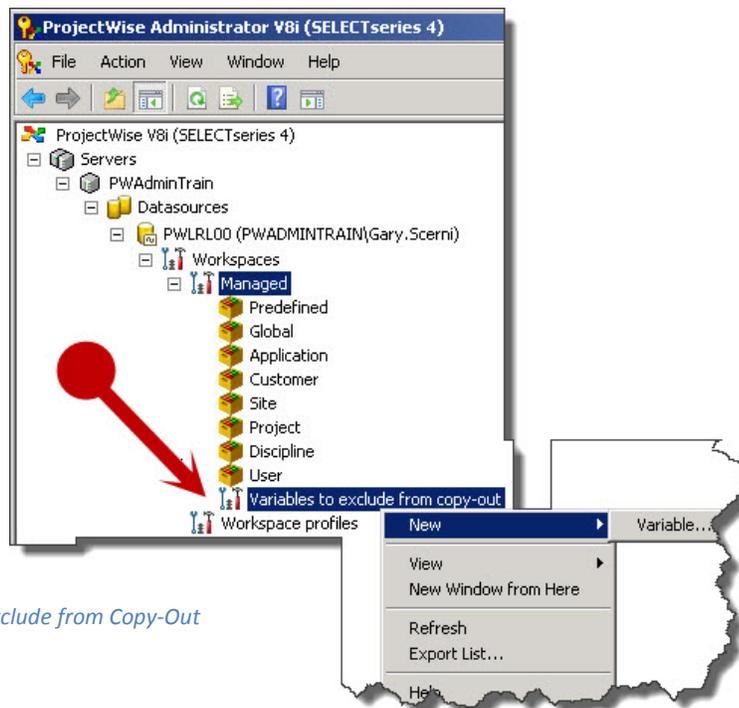


Figure 16: Exclude from Copy-Out

**** Return to [Step 3: Update Workspace Variables to Exclude from Copy-out](#) ****

Import Configuration Files as ProjectWise CSB's

From **ProjectWise Administrator** expand the Workspaces Node and expand the sub Managed node. Here is where we will use the Workspace Import Wizard to add the variables into ProjectWise.

- Right-click on the Managed node.
 - Select Import Managed Workspace.
- The Workspace Import Wizard will start.
 - Select next at the welcome page.
 - At the Actions page select the "Import MicroStation Configuration Files to ProjectWise Configuration Settings Blocks" select next.

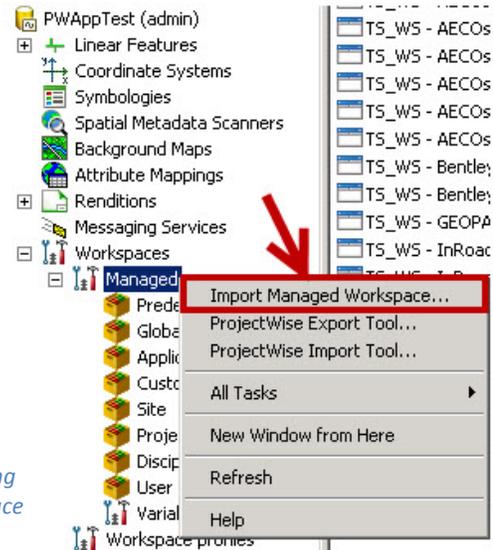


Figure 17: Importing Managed Workspace

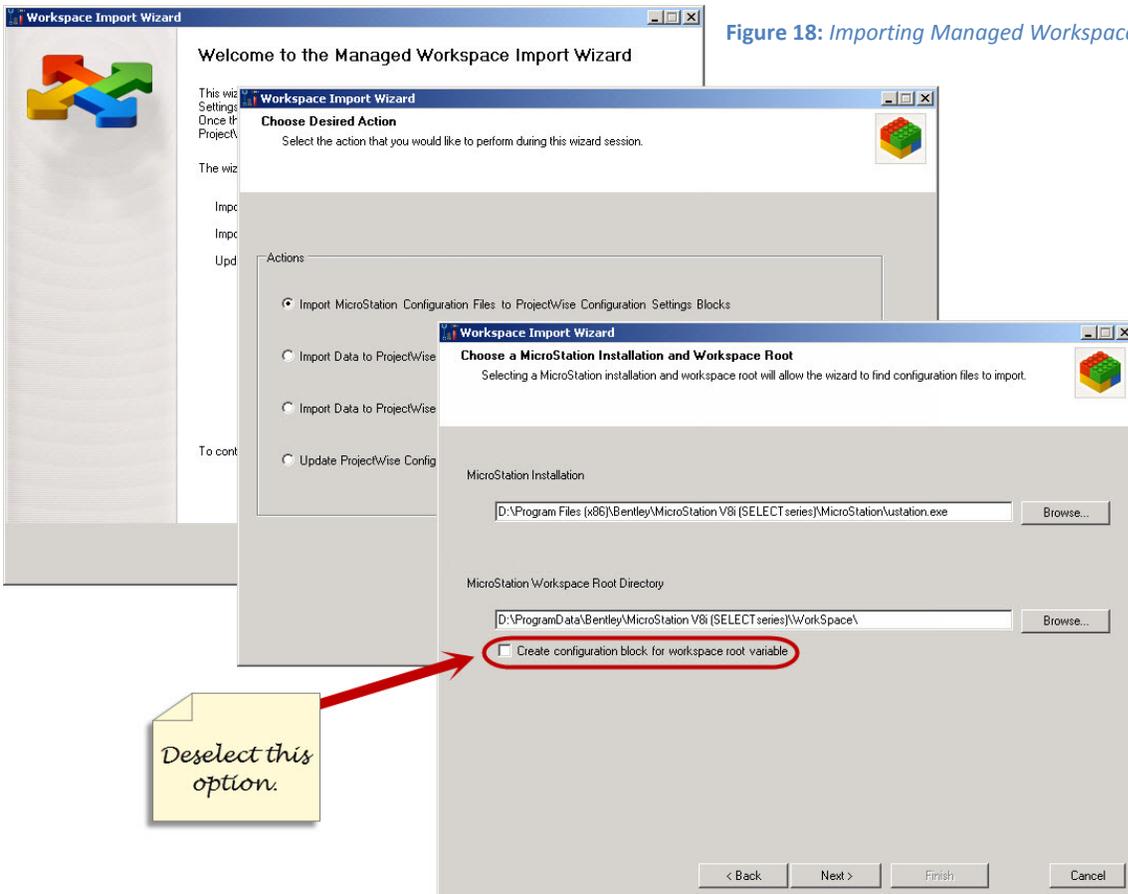


Figure 18: Importing Managed Workspace

- At the "Choose a MicroStation Installation and Workspace Root" dialog (see Figure 7)
 - Deselect the option "Create configuration block for workspace root variable"
 - Select Next
- At the "Workspace Configuration Files" dialog
 - Select Add
 - Browse to the path where you installed the Workspace from the Workspace Installer.
 - Expand the folder structure and go to the _ProjectWise folder (see Figure 26)
Example -- N:\TS_Workspaces\TS_WS_001\Program_ProjectWise

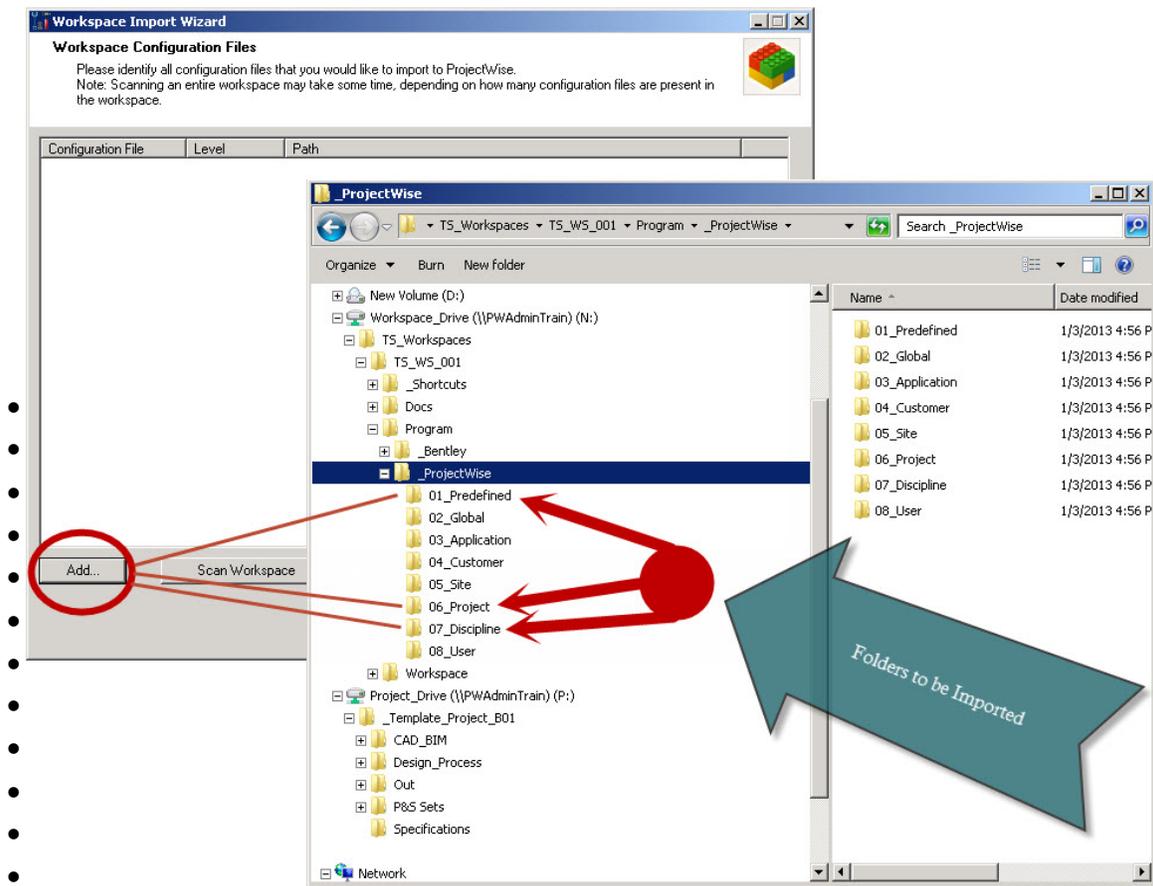


Figure 19: Importing Managed Workspace

- Add the CFG files delivered from the Workspace Installer under the following folders.
 - 01_Predefined
 - 06_Project
 - 07_Discipline

- You will need to add one folder at a time just select Add again after selecting the contents of 01_Predefined.

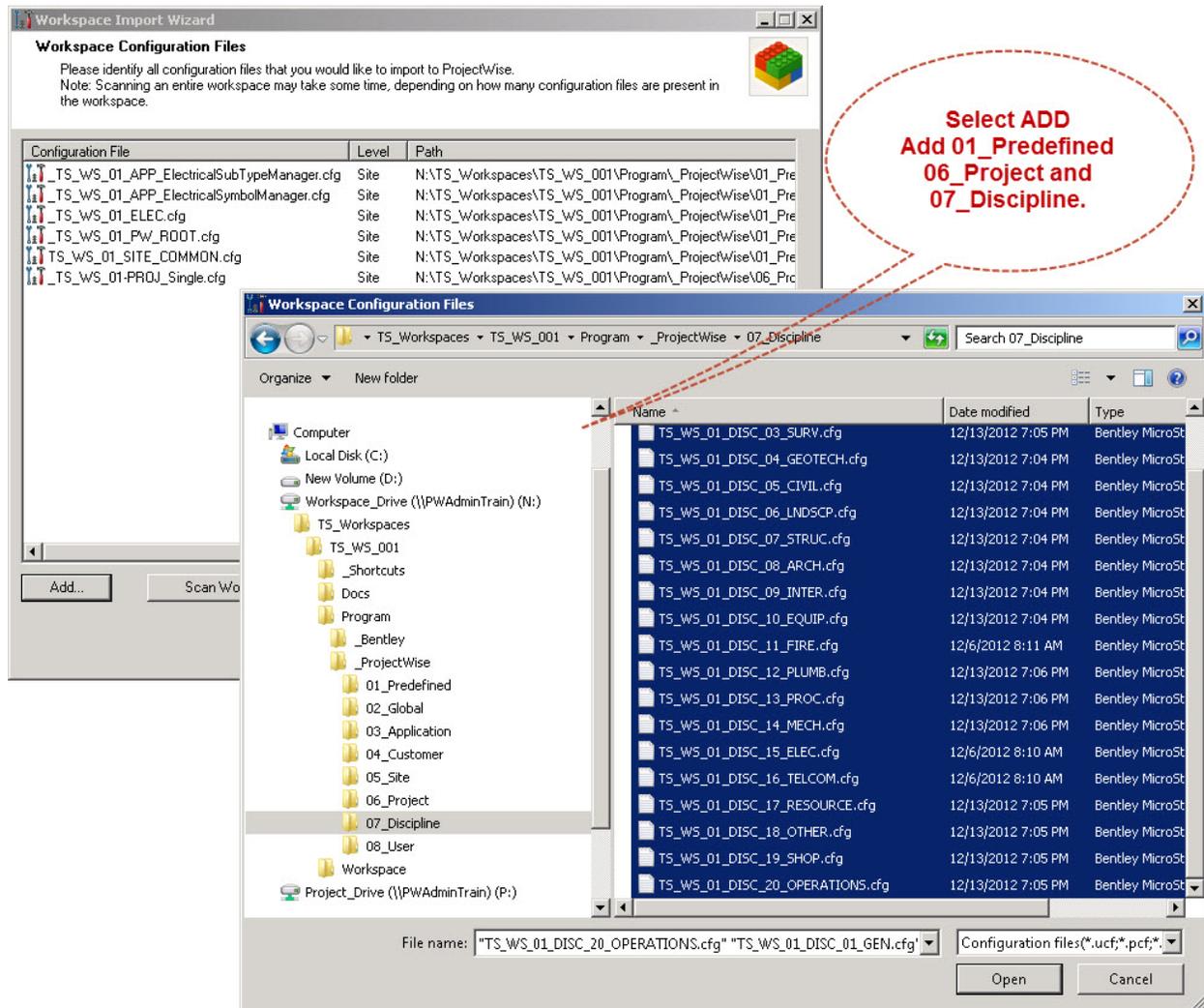


Figure 20: Importing Managed Workspace

- Once you have all 26 CFG files selected
 - Return to the "Workspace Configuration Files" dialog.
 - Leave all the settings as is:
 - Scan Workspace is not required
 - Leave Automatically fix configuration files - toggled on
 - Select **Next**
 - The "Processing Configuration Files" dialog will display - Select **Next**

- The "Configuration Settings Blocks" dialog will display
 - Sort by the Source File Menu
 - Modify the ProjectWise Level from Site to match the Source File directory name

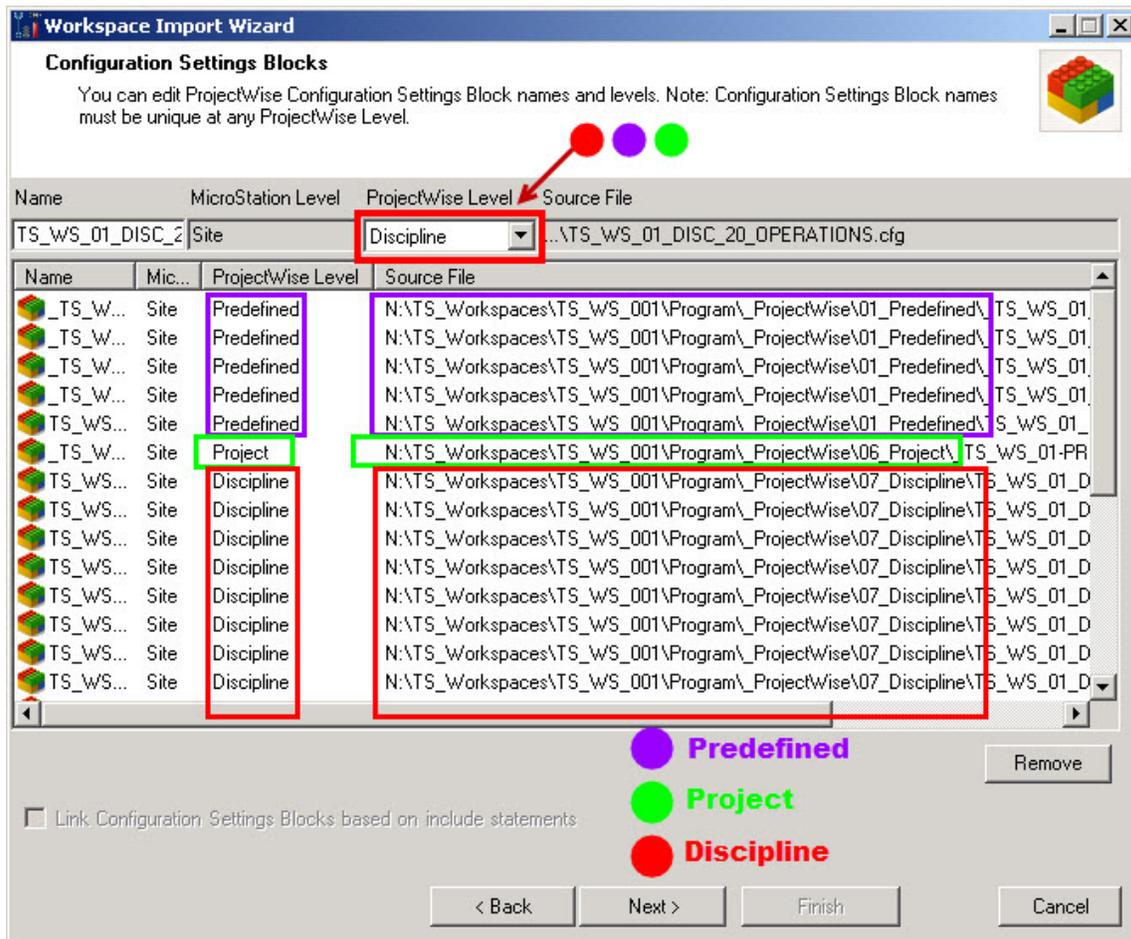


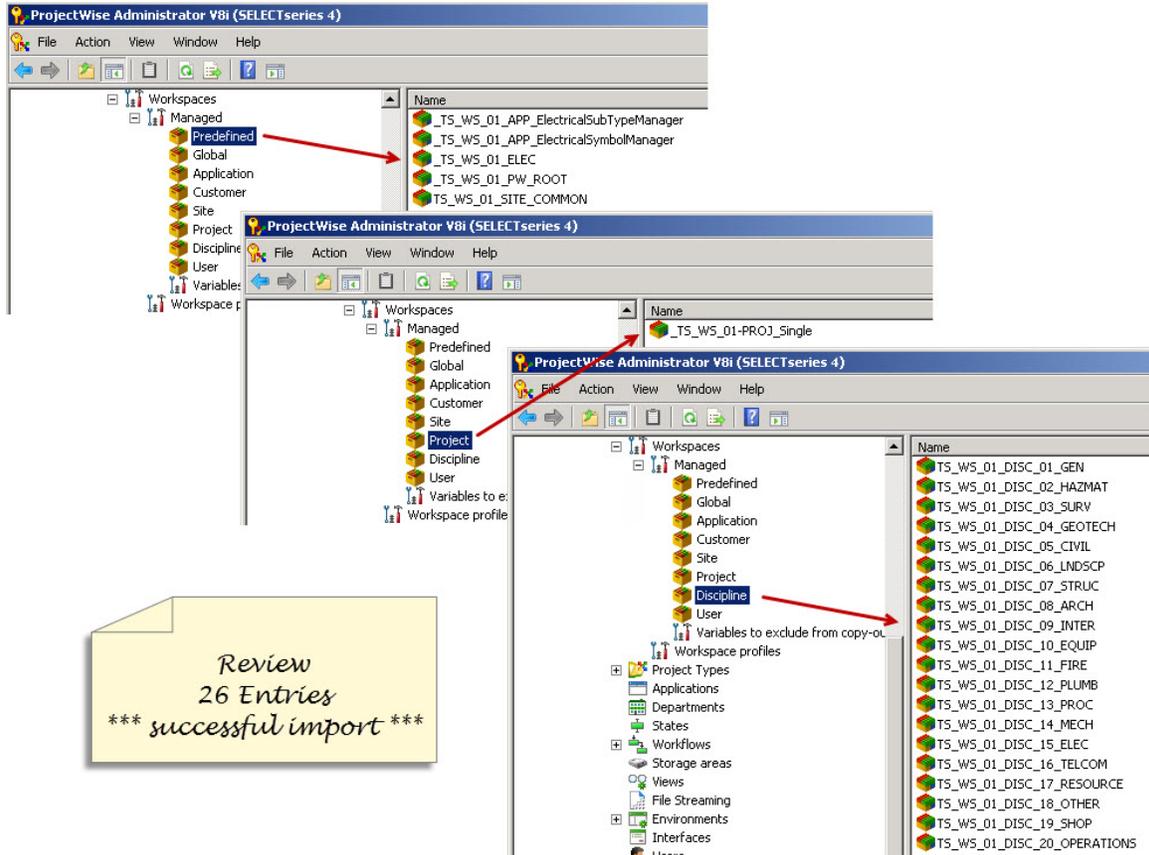
Figure 21: Importing Managed Workspace

- Example - 01_Predefined would be Predefined for the ProjectWise Level
- Change to all 26 entries
 - Remember to match the folder name to the ProjectWise Level
- Select Next
- The "Please Review Configuration File Settings" dialog will display.
 - Select Import
- The "Importing Configuration Files" dialog will process the configuration
 - You should get *** IMPORT SUCCESSFUL ***
 - Select Close to return to the ProjectWise Administrator

Verifying Configuration File Import

Once you have completed the Workspace Wizard lets verify that the ProjectWise Configuration Blocks have been created in the Administrator.

1. In the ProjectWise Administrator expand the Workspace > Managed



2. Verify that the Workspace Wizard added the 26 entries or CSB's - (CSB's are the ProjectWise Configuration Settings Blocks)
3. If for some reason you are not successful or you are missing any entries you can go back through the steps adding or removing the appropriate entries.

**** Return to [Step 4: Import Configuration Files as ProjectWise CSB's](#) ****

Import Workspace and Project Template to ProjectWise

- 1) In the ProjectWise Administrator expand the Workspace > Managed node
 - a) Right-click and select "**Import Managed Workspace**"
 - b) At the Choose Desired Action select "**Import Data to ProjectWise from the File System**"

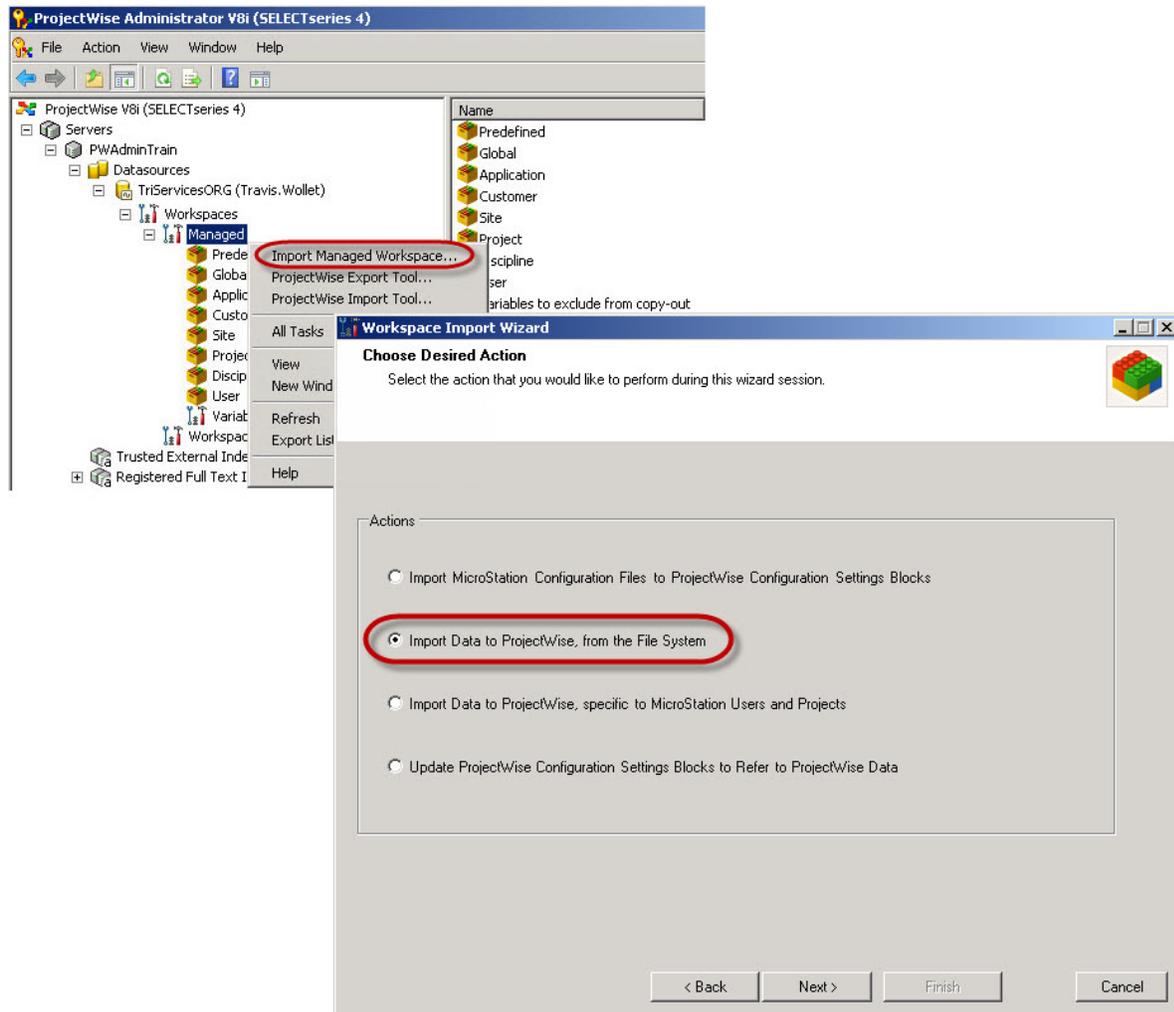


Figure 22: Importing Managed Workspace

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- 2) At the "**Import and Validate ProjectWise Folder Structure and Documents**" dialog we will be adding the folders and files to import from our workspace.
 - a) From the *Local File System* Panel expand the *Workspace Drive** and the *Project Drive**
 - * Inputs specified for the Workspace Installer from [Step 1](#).
Example -- N: Drive is mapped to my \\PWAdminTrain\Workspace_Drive share.
 - b) From the ProjectWise Panel Right-click on Documents and Select **New Folder ****.
 - i) Create the TriServices 001 *** folder and 2 sub folders:
 - (1) _Template_Project_B01
 - (2) TS_WS_001

**** This location can vary, but should be a location readable and non-editable for users**
***** This may be named anything you want, and if you have previous Tri-Service Workspace versions you may already have a TS_Workspaces directory that could be used.**

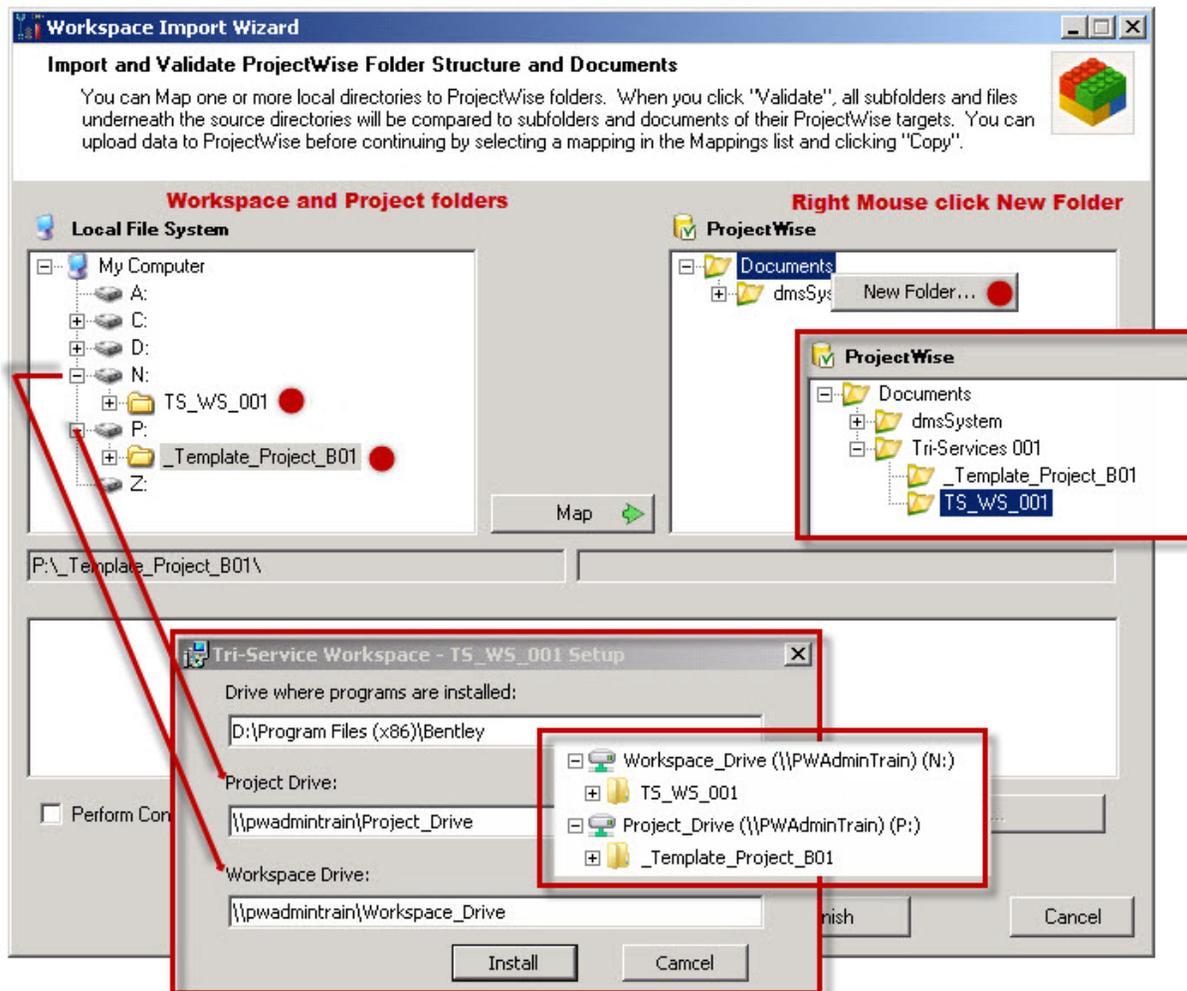


Figure 23: Importing Workspace data to ProjectWise

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- 3) Once the folders are created and you have located your Workspace and Project Drives you will need to map each of these using the Workspace Wizard.
 - a) Highlight the **TS_WS_001** in the left & right panels and select the **Map** button.
 - b) Do the same for the **_Template_Project_B01** Project Drive - Sample #4
 - c) Uncheck **Perform Content Validation** and then select **Validate**

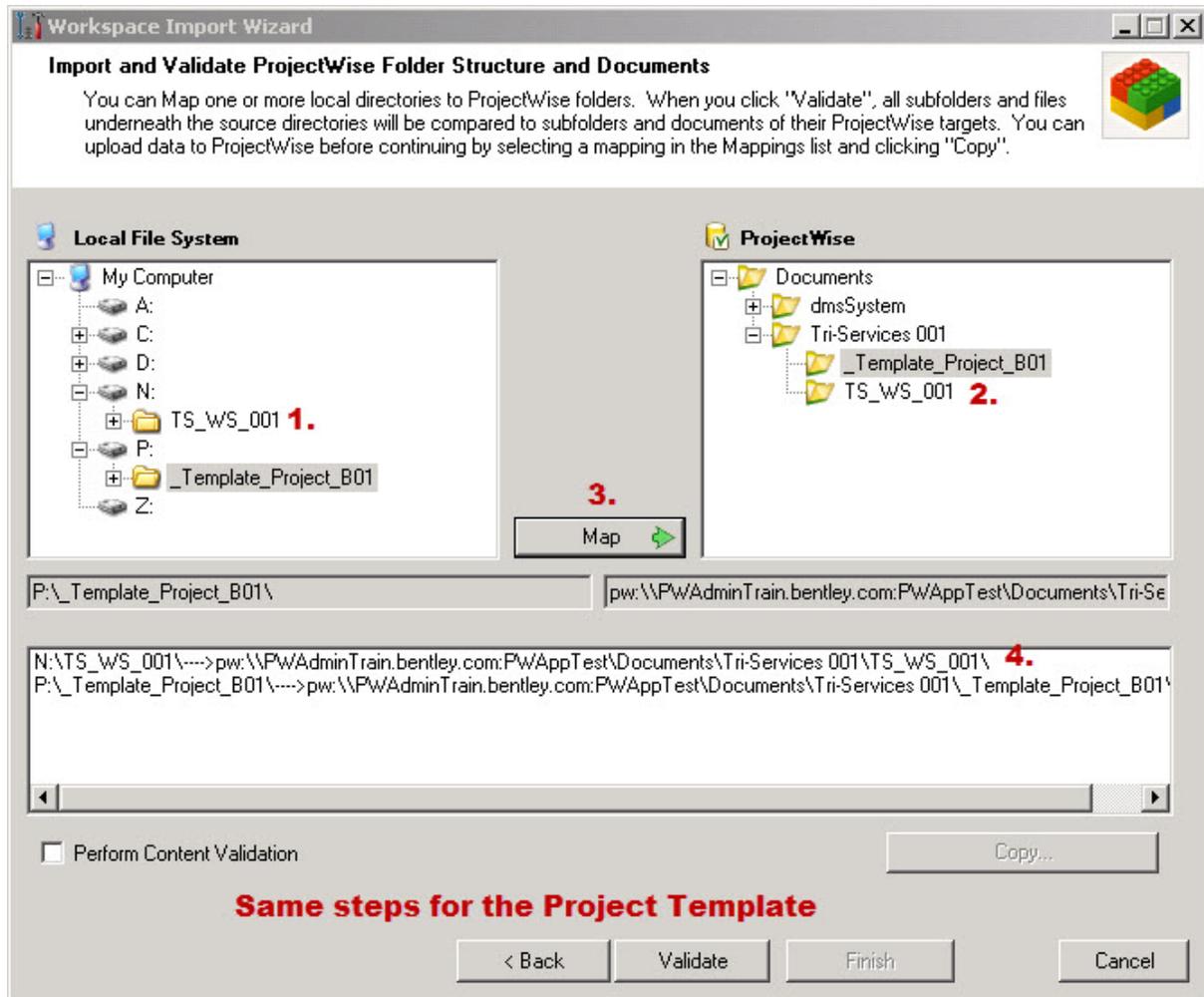


Figure 24: Importing Workspace data to ProjectWise

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- 4) At the "Validation of File System Structure against ProjectWise" dialog
 - a) Select **Resolve**

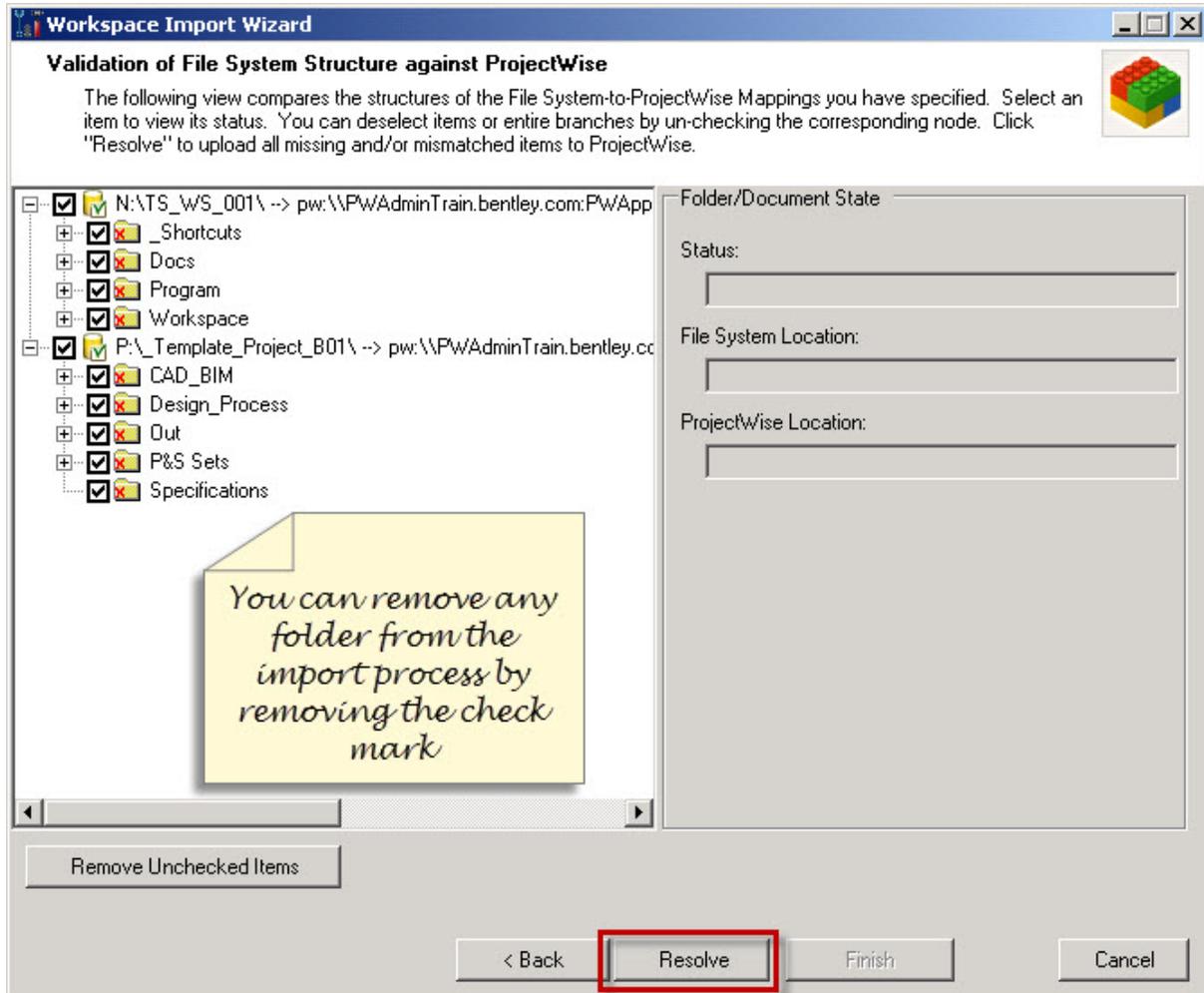


Figure 25: Importing Workspace Data to ProjectWise

- b) The "Resolving ProjectWise Structure based on File System Mappings" dialog will run.
- c) The process will end with ***** IMPORT SUCCESSFUL *****

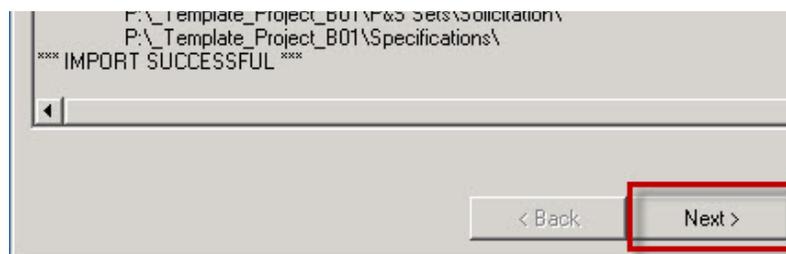


Figure 26: Importing Workspace data to ProjectWise

- d) Select Next and Close the Workspace Import Wizard

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Verify the Workspace and Project Import

Now that the Workspace Wizard has completed the import process review the ProjectWise Explorer to make sure the workspace and project folder structure imported correctly.

- Launch the ProjectWise Explorer Client
 - Login to the ProjectWise Explorer
 - Expand the Documents Folder

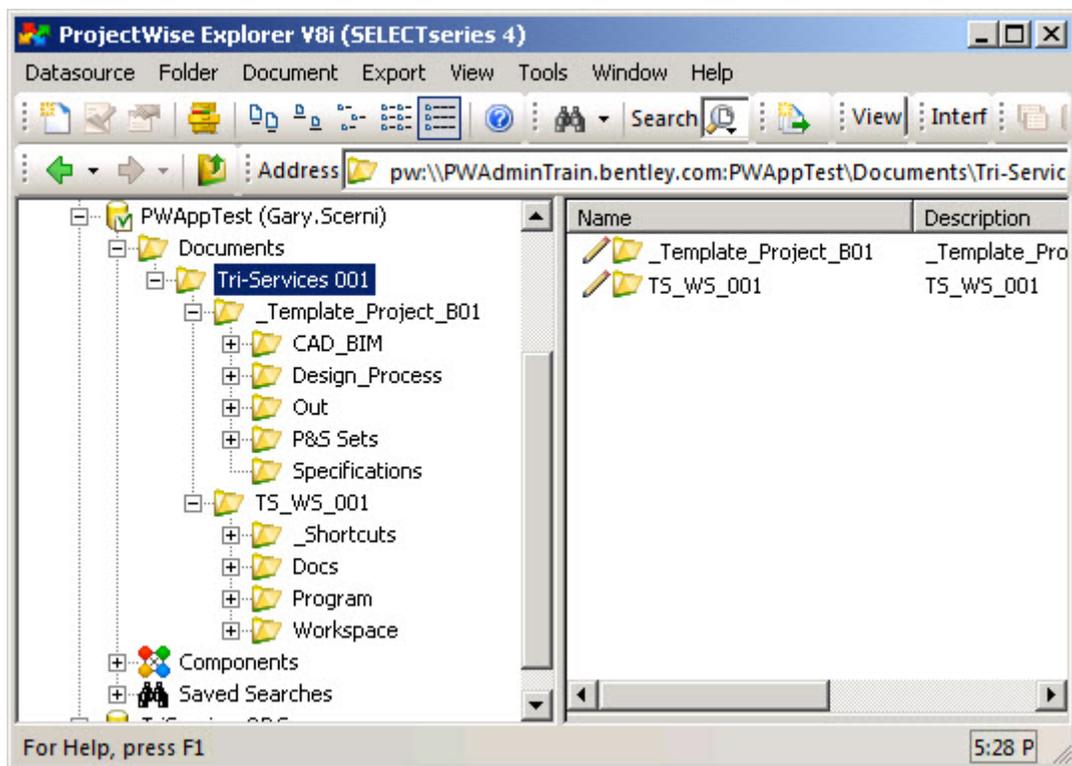


Figure 27: Verify Workspace and Project Import

- Review the folder structure. In my example the Tri-Services 001 and sub folders _Template_Project_B01 and TS_WS_001 were created

**** Return to [Step 5: Import Workspace & Project Template to ProjectWise](#) ****

TS_WS_01_PW_ROOT CSB

1. Direct TS_ROOT configuration variable to your imported location in ProjectWise datasource
 - o From the Configuration Tab double click the **TS_ROOT** variable
 - o In the **TS_ROOT** window leave *Locked* and *Inactive* unchecked
 - o Highlight the line under Values and select Modify
 - Operation type: '=' - **Assignment**
 - Value type: **ProjectWise Folder**
 - In the Value section select the **Browse** button
 - From Select Folder Dialog browse to **TS_WS_001** folder in your ProjectWise Datasource (See Figure 23).

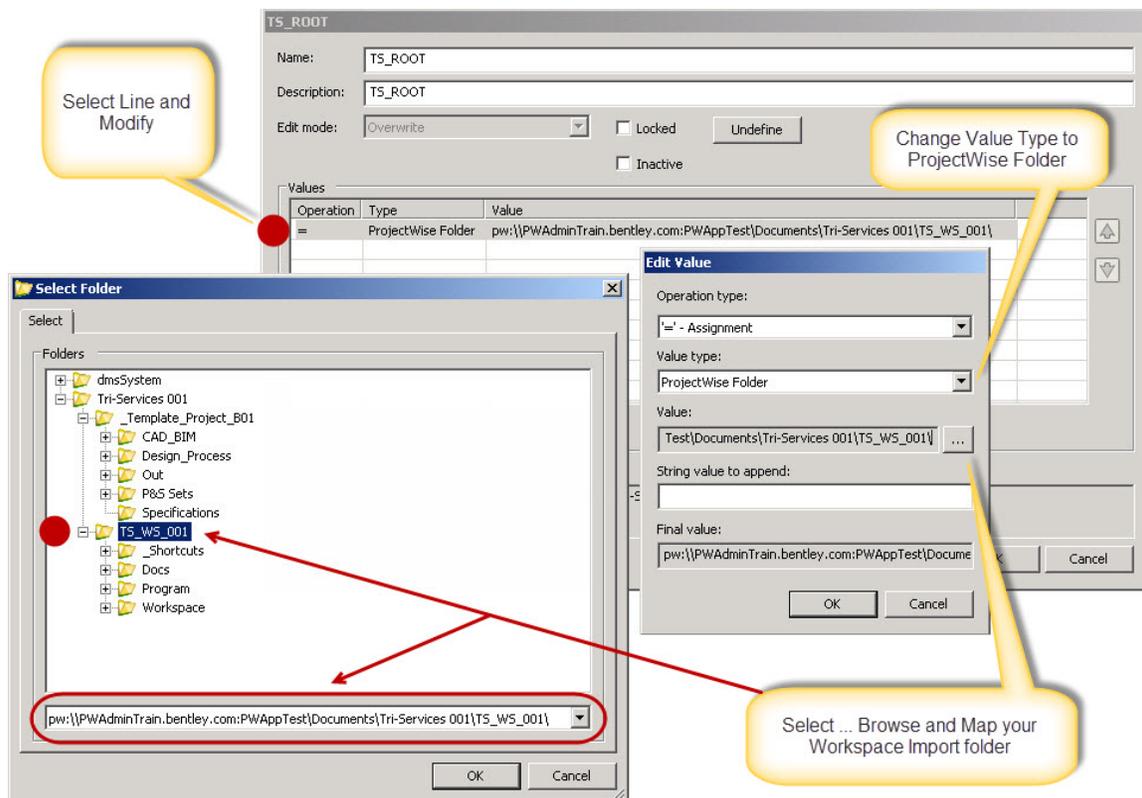


Figure 28: Redirect TS_ROOT to ProjectWise Location

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2. Modify for TS_PROJECTDIR to Network Project Location
 - From the Configuration Tab double click the **TS_PROJECTDIR** variable
 - Description can be left blank
 - Toggle the **Locked Option ON** and leave Inactive unchecked
 - In the **TS_PROJECTDIR** window highlight the line under Values and select Modify
 - Operation type: '=' - **Assignment**
 - Value type: **Directory**
 - In the Value section select the **Browse** button
 - In the Select Folder Dialog browse to your Project location created by the Workspace installer

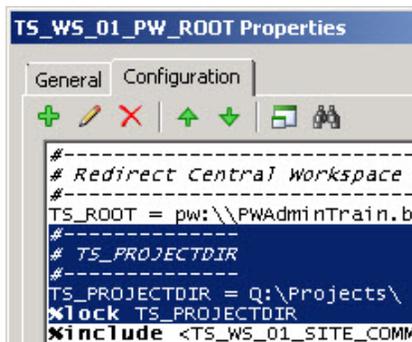


Figure 29: *TS_PROJECTDIR* settings after modifications.

3. Add include statement for **TS_WS_01_SITE_COMMON** CSB
 - Select the '+' icon and select "**Add Directive**"
 - Pick the **%include** for the Directive and leave Inactive unchecked
 - Under Values select Add
 - Value Type: **Configuration Setting Block**
 - Value: **TS_WS_01_SITE_COMMON**

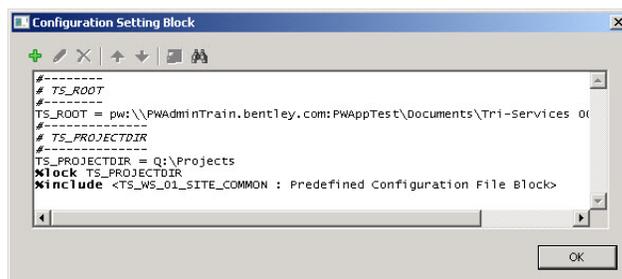


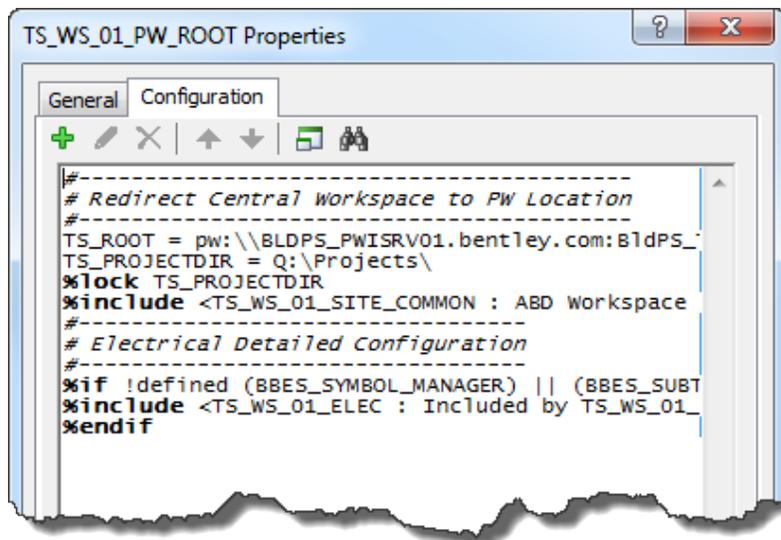
Figure 30: *TS_WS_01_PW_ROOT* after adding include statement

4. Add conditional statement
 - Select the '+' icon and select "**Add Directive**"
 - Pick the **%if** for the Directive
 - Leave Inactive unchecked
 - Under Values select **Add**
 - Value Type: **String**
 - Value: **!defined (BBES_SYMBOL_MANAGER) || (BBES_SUBTYPE_MANAGER)**
5. Add include statement



- Select the '+' icon and select "Add Directive"
 - Select the **%include** for the Directive
- Leave Inactive unchecked
- Under Values Select **Add**
 - Value Type: **Configuration Setting Block**
 - Value: **TS_WS_01_ELEC**
- 6. End conditional statement
 - Select the '+' icon and select "Add Directive"
 - Select the **%endif** for the Directive
 - Leave Inactive unchecked
 - Values Section: Leave Blank
- 7. From the General tab remove the "_" at the beginning of the CSB name to indicate the post-import modifications are complete
- 8. Select **OK** to complete modifications to TS_WS_01_PW_ROOT
- 9. From the General tab remove the "_" at the beginning of the CSB name to indicate the post-import modifications are complete
- 10. Select **OK** to complete the modifications of TS_WS_01_PW_ROOT

** Return to [Step 6: TS WS 01 PW ROOT CSB](#) **



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TS_WS_01_ELEC

1. Line 1 to Add for _TS_WS_01_ELEC
 - Select the '+' icon and select "Add Directive"
 - Pick the %if for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - Under Values select Add
 - Value Type: **String**
 - Value: **defined (BB_DISCIPLINE)**

2. Line 2 to Add for _TS_WS_01_ELEC
 - Again select the '+' icon and select "Add Directive"
 - Select the %if for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - Value Type: **String**
 - Value: **\$(BB_DISCIPLINE) == "Electrical"**

3. Line 3 to Add for _TS_WS_01_ELEC
 - Select the '+' icon and select "Add Variable"
 - Type **BBES_DETAILED_CFG** for the Name
 - Description can be left blank
 - Leave Locked and Inactive unchecked
 - Under Values select Add
 - Operation Type: '=' - **Assignment**
 - Value Type: **String**
 - Value: **1**

4. Line 4 to Add for _TS_WS_01_ELEC
 - Select the '+' icon and select "Add Variable"
 - Type **BBES_SYMBOLMANAGER_REDIRPATH** for the Name
 - Description can be left blank
 - Toggle the Locked Option ON
 - Leave Inactive unchecked
 - Under Values select Add
 - Operation Type: '=' - **Assignment**
 - Value Type: **String**
 - Value: **\$(TS_BBES_PROJECTDATABASE)\$(TS_DISCIPLINE)/**



Figure 31: Modify Variables

5. Line 5 to Add for `_TS_WS_01_ELEC`
 - o Select the '+' icon and select "Add Directive"
 - o Select the `%endif` for the Directive
 - o No description
 - o Leave Inactive unchecked
 - o For the Values section leave blank

6. Line 6 to Add for `_TS_WS_01_ELEC`
 - o Select the '+' icon and select "Add Directive"
 - o Select the `%endif` for the Directive
 - o No description
 - o Leave Inactive unchecked
 - o For the Values section leave blank

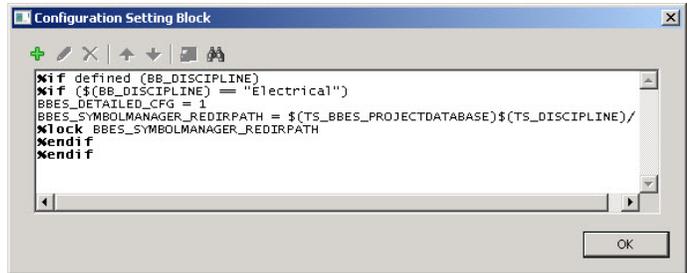
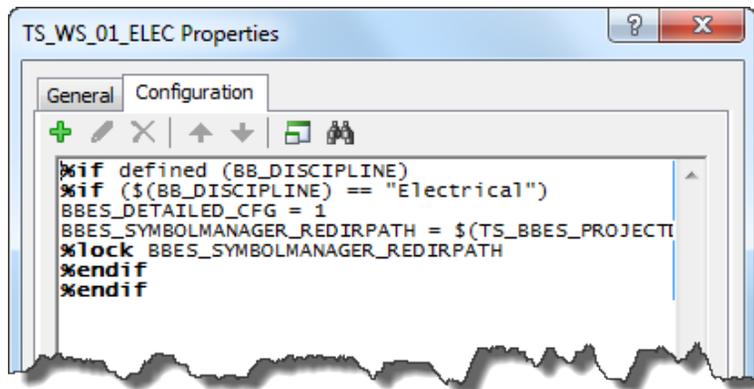


Figure 32: Modify Variables

```
%if defined (BB_DISCIPLINE)
  %if ($(BB_DISCIPLINE) == "Electrical")
    BBES_DETAILED_CFG = 1
    BBES_SYMBOLMANAGER_REDIRPATH =
      $(TS_BBES_PROJECTDATABASE)$(TS_DISCIPLINE)/
    %lock BBES_SYMBOLMANAGER_REDIRPATH
  %endif
%endif
```

7. Select OK this completes the `TS_WS_01_ELEC` CSB

**** Return to [Step 6: TS_WS_01_ELEC CSB](#) ****



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TS_WS_01_APP_ElectricalSubTypeManager

- Double click the "_TS_WS_01_APP_ElectricalSubTypeManager" variable
- Go to the Configuration Tab

1. Line 1 to Add for TS_WS_01_APP_ElectricalSubTypeManager
 - Select the '+' icon and select "Add Directive"
 - Pick the **%if** for the Directive
 - Type **BBES_SYMBOL_MANAGER** for the description
 - Leave Inactive unchecked
 - Under Values select Add
 - Value Type: **String**
 - Value: **!defined (BBES_SYMBOL_MANAGER)**

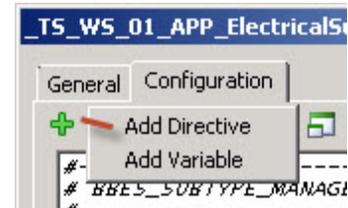


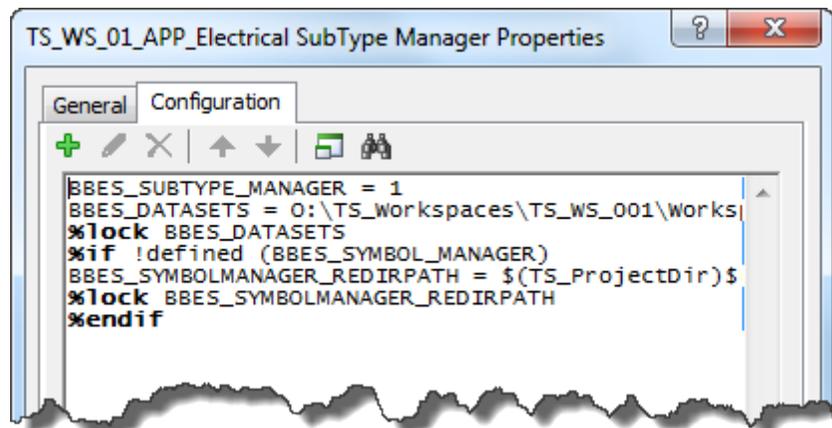
Figure 33: Adding Directive

2. Line 2 to Add for TS_WS_01_APP_ElectricalSubTypeManager
 - Again select the '+' icon and select "Add Directive"
 - Select the **%endif** for the Directive
 - No description
 - Leave Inactive unchecked
 - For the Values section leave blank

Once you return to the Configuration window select the **%if** Directive and using the Green Up Arrow move the directive up under the **%lock BBES_Datasets** variable.

Select OK this completes the TS_WS_01_APP_ElectricalSubTypeManager CSB.

**** Return to [Step 6: TS WS 01 APP ElectricalSubTypeManager CSB](#) ****



TS_WS_01_APP_ElectricalSymbolManager

Line 1 to Add for

TS_WS_01_APP_ElectricalSymbolManager

- Select the '+' icon and select "Add Directive"
- Pick the **%include** for the Directive
- Description leave blank
- Leave Inactive unchecked
- Under Values select Add
- Value Type: **Configuration Setting Block**
- Value: **TS_WS_01_APP_ElectricalSubTypeManager**

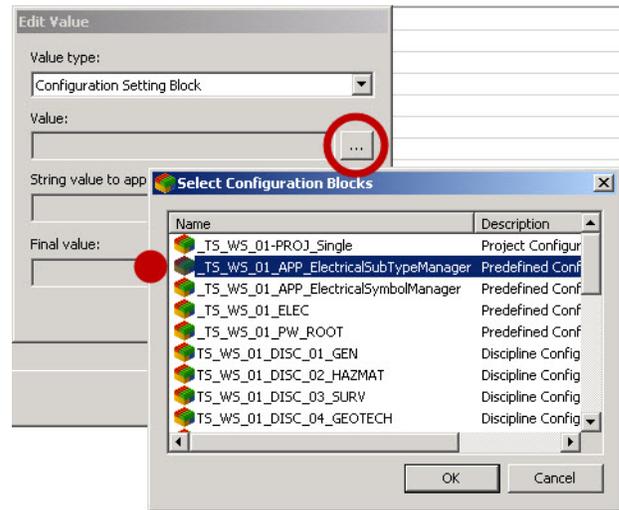
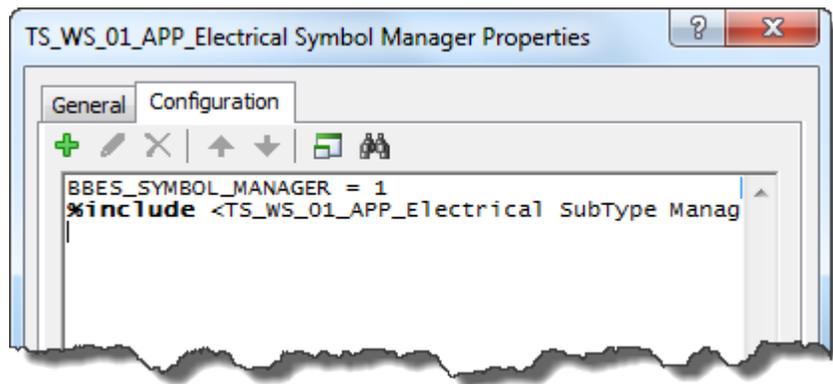


Figure 34: Modify Variables

Select OK this completes the TS_WS_01_APP_ElectricalSymbolManager CSB.

**** Return to [Step 6: TS_WS_01_APP_ElectricalSymbolManager CSB](#) ****



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TS_WS_01-PROJ_Single

1. Line 1 to Add for TS_WS_01-PROJ_Single
 - Select the '+' icon and select "Add Directive"
 - Select the **%if** for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - Under Values Select Add
 - Value Type: String
 - Value: **exists (\$(_USTN_PROJECT)\$ (TS_PROJECTNAME).pcf)**

2. Line 2 to Add for TS_WS_01-PROJ_Single
 - Select the '+' icon and select "Add Directive"
 - Select the **%include** for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - Under Values Select Add
 - Value Type: String
 - Value: **exists \$(_USTN_PROJECT)\$ (TS_PROJECTNAME).pcf**

3. Line 3 to Add for TS_WS_01-PROJ_Single
 - Select the '+' icon and select "Add Directive"
 - Select the **%else** for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - For the Values section leave blank

4. Line 4 to Add for TS_WS_01-PROJ_Single
 - Select the '+' icon and select "Add Directive"
 - Select the **%include** for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - Under Values select Add
 - Value Type: **String**
 - Value: **\$(\$(_USTN_PROJECT)_Template_Project_B01.pcf**

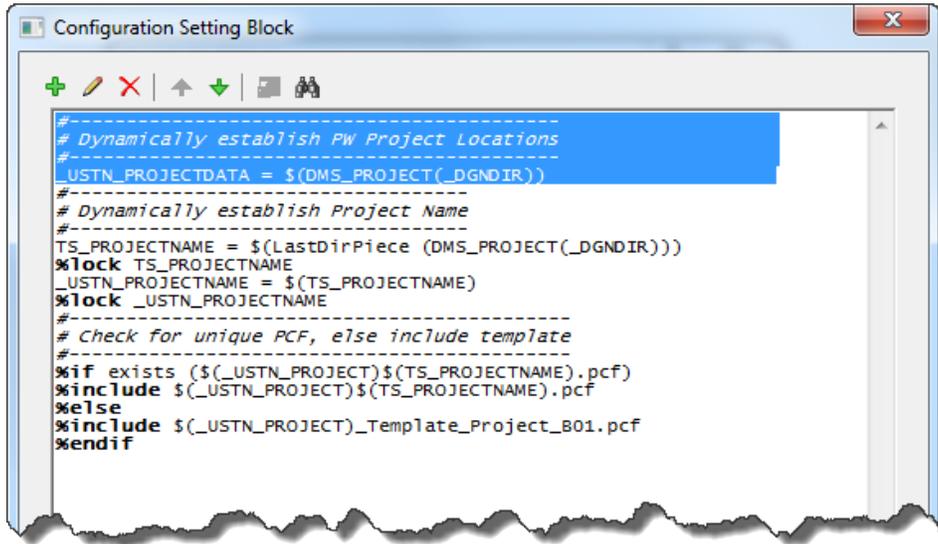


Figure 35: TS_WS_01_PROJ after modifications

5. Line 5 to Add for TS_WS_01-PROJ_Single
 - Select the '+' icon and select "Add Directive"
 - Select the %endif for the Directive
 - Description can be left blank
 - Leave Inactive unchecked
 - For the Values section leave blank

**** Return to [Step 6: TS WS 01 PROJ CSB](#) ****

Associate CSB's to ProjectWise Project & Folders

- Right-click on the **_Template_Project_B01**
- Select Properties
- Go to the Workspace Tab
- Right-click on Predefined
- Select Add Association
- Select the **TS_WS_01_PW_ROOT** for the configuration block
- Right-click on Project
- Select Add Association
- Select the **TS_WS_01-PROJ_Single** for the configuration block

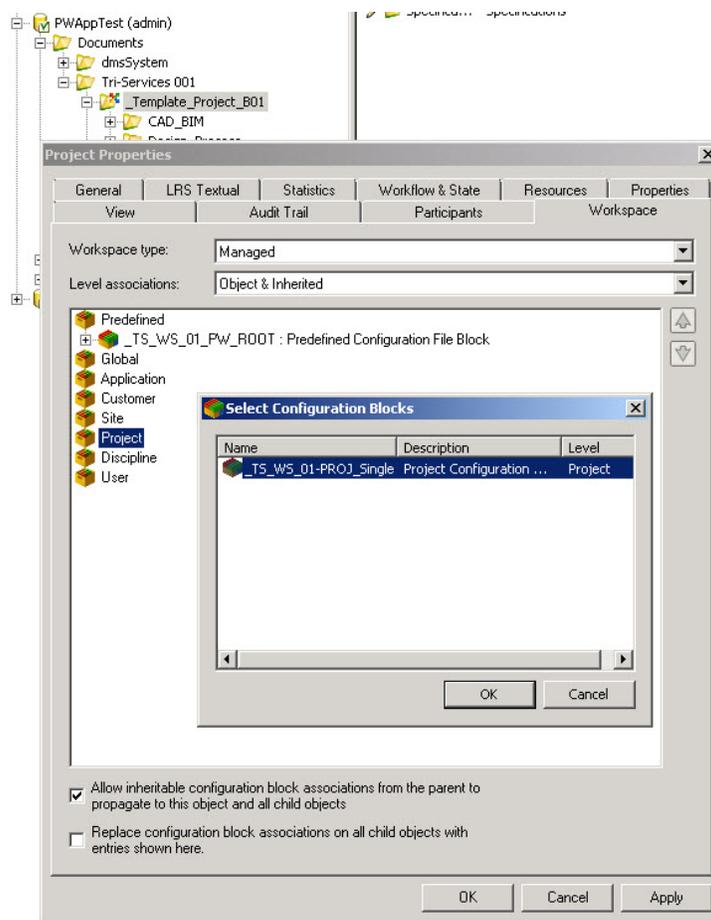


Figure 36: Update Project to Support Workspace

- Select Ok to close the Properties dialog
- Expand the **_Template_Project_B01** template
- Expand CAD_BIM
- Go to the 01_Gen folder
- Right-click and select Properties
- Go to the Workspace tab
- Right-click on Discipline
- Select Add Association
- Select the **TS_WS_01_DISC_01_GEN** for the configuration block

Repeat above for 02_HazMat, 03_SurvMap , 04_Geotech , 05_Civil, 06_Lndscp, 07_Struc, 08_Arch, 09_Int, 10_Equip, 11_FireProt, 12_Plumb, 13_Proc, 14_Mech, 15_Elec, 16_Telcom, 17_Resource, 18_Other, 19_ShopDwgs, and 20_Ops adding the correct configuration block for each.

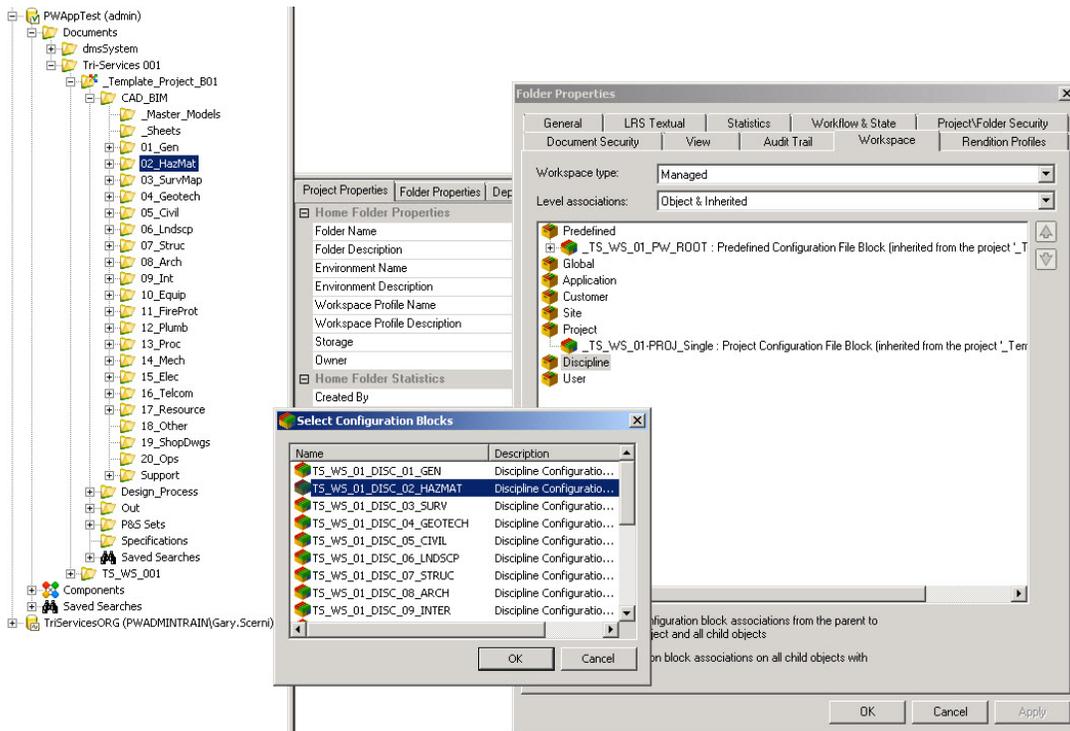


Figure 37: Update Project to Support Workspace

**** Return to [Step 9: Associate ProjectWise CSB's](#) ****