

CA Release Automation

Microsoft Team Foundation
Server Plug-In

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Table of Contents

Microsoft Microsoft Team Foundation Server Plug-In 10.9.1506	7
Supported Platforms	7
Prerequisites	7
Security	8
Limitations	8
 Using the Microsoft TFS Plug-In	 9
 Install the Plug-In	 10
 Configure the Plug-In for TFS Build Definitions	 11
 Configure TFS Build Definitions	 13
 Create Generic CA Release Automation Deployment Processes	 14
 Create a Generic CA Release Automation Deployment Template	 15
 Create a Generic CA Release Automation Deployment Plan	 16
 Configure to Run Asynchronous Deployment Plans	 17
 View Run Time Progress and Status	 18

Acknowledgment for Microsoft TFS Plug-In	19
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Microsoft Team Foundation Server Plug-In

Microsoft Team Foundation Server Plug-In 10.9.1506

The Microsoft Team Foundation Server (TFS) Plug-In uses the TFS event listener to trigger a matching Automation Studio deployment process. After a TFS Build Definition completes the build, the Plug-In is triggered.

Contents

- [Microsoft Team Foundation Server Plug-In 10.9.1506](#)
 - [Supported Platforms](#)
 - [Prerequisites](#)
 - [Security](#)
 - [Limitations](#)
- [Using the Microsoft TFS Plug-In](#)
- [Install the Plug-In](#)
- [Configure the Plug-In for TFS Build Definitions](#)
- [Configure TFS Build Definitions](#)
- [Create Generic CA Release Automation Deployment Processes](#)
- [Create a Generic CA Release Automation Deployment Template](#)
- [Create a Generic CA Release Automation Deployment Plan](#)
- [Configure to Run Asynchronous Deployment Plans](#)
- [View Run Time Progress and Status](#)
- [Acknowledgment for Microsoft TFS Plug-In](#)

Supported Platforms

The Microsoft TFS Plug-In supports CA Release Automation versions 4.7 and later.

The Microsoft TFS Plug-In supports the following TFS versions.

Microsoft TFS 2010

Microsoft TFS 2012

Microsoft TFS 2013

Prerequisites

The TFS Plug-In requires the following prerequisites.

- **For Microsoft TFS 2010:**
Microsoft Visual Studio 2010
Microsoft TFS 2010
Microsoft .NET Framework 4.0
- **For Microsoft TFS 2012:**
Microsoft Visual Studio 2012
Microsoft TFS 2012
Microsoft .NET Framework 4.5.1
- **For Microsoft TFS 2013:**
Microsoft Visual Studio 2013
Microsoft TFS 2013
Microsoft .NET Framework 4.5.1
- Confirm that your firewall allows the connection between Microsoft TFS and the CA Release Automation http/https server port. The TFS Plug-In uses the port to connect to the CA Release Automation web service API.
Default: Port 8080.

Note: Run Template is only available in 4.7 and version 5.x that is upgraded from 4.7. Run Deployment Plan is only available in 5.x.

Security

- The CA Release Automation Plug-In for Microsoft TFS has two components, the CA Release Automation Plugin for TFS Manager, and the plug-In DLLs, that run within the TFS server process.
 - The CA Release Automation Manager for TFS requires write permission to the folder <TFS server root folder>\Application Tier\Web Services\bin\Plugins\CARA_Config and the files under the folder.
 - The TFS Plug-In DLLs and the TFS server process run with the same roles and permissions

Limitations

- The CA Release Automation Plugin for TFS Manager UI does not enable you to delete the existing build definition. To delete the build definition, go to the <TFS server root folder>\Application Tier\Web Services\bin\Plugins\CARA_Config folder and delete the file and folder with the build definition name.

Using the Microsoft TFS Plug-In

The Team Foundation Server user creates builds definitions to trigger the matching Automation Studio deployment process in the following workflow:

In Team Foundation Server:

- Edit a Build Definition.

In the TFS Plug-In UI:

- Create a Build Definition for the TFS Build Definition.
- Edit the Build Definition Configuration.

In Automation Studio:

- Create a matching generic process.
- Create a matching template.

In Release Operations Center:

- Create a matching deployment plan.

At Run-time:

- After a successful TFS build for Continuous Deployment, the Plug-In triggers the matching Automation Studio or Release Operations Center build deployment process or template.
- The TFS Plug-In supports running the process, template, and deployment plan in one of the following modes:
 - Synchronous mode submits the execution and waits for the completion.
 - Asynchronous mode submits the execution and returns directly. To enable asynchronous mode, select the option in the Plugin for TFS Manager UI.

TIP: For long process, template, and deployment plan runs, we recommend that you use asynchronous mode.

Install the Plug-In

To enable TFS to create the build definition that triggers a matching Automation Studio process, template, or a Release Operations Center deployment plan to run, install the Plug-In.

Follow these steps:

1. Log in to support.ca.com.
2. Click Download Center, specify the search parameters, and click GO.
3. Select the TFS 2013, 2012, or 2010 Plug-In, and click Download.
4. Select the delivery type.

Note: We recommend HTTP via Download Manager.

The installation file is downloaded to the specified folder.

5. Open the installation file and follow the setup wizard.
The wizard installs the TFS Plug-In.
In the TFS Plug-in directory, the Plug-In file is named:
– **For Team Foundation Server 2010:**
C:\Program Files\Microsoft Team Foundation Server 10.0\Application Tier\WebServices\bin\Plugins
– **For Team Foundation Server 2012:**
C:\Program Files\Microsoft Team Foundation Server 11.0\Application Tier\WebServices\bin\Plugins
– **For Team Foundation Server 2013:**
C:\Program Files\Microsoft Team Foundation Server 12.0\Application Tier\WebServices\bin\Plugins
In the \Plugins folder:
– *RAPuginForTFS.dll*
– *RAPuginForTFSTBase.dll*
– *RAPuginForTFSEventHandler.dll*
In the CARA_Config directory, XML configurations for the plug-in are held.

Configure the Plug-In for TFS Build Definitions

Configure the TFS Plug-In to enables you to control and configure the Plug-In response for different TFS Build Definitions.

Follow these steps:

1. On the desktop, click Start, and All programs.
2. Select CA Release Automation for TFS Manager.
The CA Release Automation Build Configuration Editor window opens.
3. To create a new TFS Build Definition, specify the TFS Build Definition name.

Important! The TFS Build Definition name that is specified must match.

4. Select the plug-in to configure for the build:
 - RA Run ASAP Process Plugin
 - RA Run Template Plugin
 - RA Run Deployment Plan Plugin

5. Specify the parameters in the RA Plugin Configuration Wizard that is based on your selection and click Next.

Auto-generated input fields:

The Release Name, Release Type, and Release Version fields can be left blank to auto-generate unique values at run time when configuring the template. The Deployment Plan Name, Deployment Plan Build Name, Deployment Name, Artifact Package Name, and the Artifact Version fields can be left blank to auto-generate unique values at run time when configuring the deployment plan.

Variable input fields:

The following Template fields support and only support the variable "\${build_id}" in the value, "\${build_id}" refers to the build number of Team Foundation Server Build. The Release Name, Release Type, and Release Version.

The following Deployment Plan fields support and only support the variable "\${build_id}" in the value, "\${build_id}" refers to the build number of Team Foundation Server Build. The Deployment Plan Name, Deployment Plan Build Name, Deployment Name, Artifact Package Name, and the Artifact Version.

Tool tips:

Mouseover the Process, Template, and Deployment Plan input fields for tips on usage.

The RA Plugin Configuration Summary page appears.

6. Click Finish.

The configurations are saved.

Configure TFS Build Definitions

To create TFS build definitions for Automation Studio and Release Operations Center to deploy, see [Microsoft Team Foundation Server](#).

Note: The TFS Plug-In triggers when any build completes.

Create Generic CA Release Automation Deployment Processes

Create the deployment processes in Automation Studio before configuring a TFS Post-build Actions template.

Automation Studio requires the following steps to create a process that can be executed from a Release Operations Center template:

- Each process must be assigned to the application environment.
- Each process must be published.

Create a Generic CA Release Automation Deployment Template

Create the Release Operations Center generic process template with the release definitions and preparatory steps that are related to a TFS post-build action.

Follow these steps:

1. Create a deployment template in Release Operations Center that executes the generic deployment processes created in Automation Studio. Each process is executed as a unit in a template step.
2. Set the Agents for each server type in the template.
3. Set the template status to Active.
The deployment template is created.

Note: All parameters to be used in the deployment process are required to be defined as user input in Automation Studio.

Create a Generic CA Release Automation Deployment Plan

To create the Release Operations Center generic deployment plan with application, project, template, and other configuration that are related to a TFS post-build action.


- Create a template category and template in Release Operations Center. For more information, see [How to Create a Deployment Template](#).
- Create deployment plan in Release Operations Center. For more information, see [How to Create a Deployment](#).

Note: All parameters to be used in the deployment plan are required to be defined as user input in Automation Studio.

Configure to Run Asynchronous Deployment Plans

To run deployment plans simultaneously, configure both the Microsoft TFS Plug-In and Automation Studio. This configuration enables the deployment to run without stoppage due to a block or failure. The default settings do not enable this function if there is dependencies.

Follow these steps.

1. In the TFS Plug-in, select Run Deployment Plans Asynchronously, and click Save.
2. In Release Operations Center, click Designer, Application Model.
3. Select the application, and click the Server Types tab.
4. Mouseover the server type and click .
5. Clear the Requires exclusive execution check box and click Save.
6. Click Releases, Deployment Plan by Project, and double-click the deployment plan.
7. Click Deploy.
Deployment plans continue to run simultaneously.
For more information, see [How to Create Processes](#).

View Run Time Progress and Status

Use the Release Operations Center UI to view the build progress from completion on TFS to its deployment. The Plug-In event logs are available to view and manage using the Microsoft Management Console Event Viewer.

Follow these steps:

1. On the desktop click Start, and in the search field type Event Viewer, and click Enter. The Event Viewer folder tree opens.
2. Open the Applications and Services Logs folder.
3. Select RA.
4. In the Actions panel, find and view the event logs.

Note: Each step in the process is recorded as an event.

Examples of possible events are:

An Event Handler exit: Approved=True Message=Nolio updated manifest for build <build_definition>.

The Updated deployment manifest which includes the definition name, date, time, and name of the manifest file in the format of <build_definition><timestamp>.xml.

Acknowledgment for Microsoft TFS Plug-In

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