

# Release Automation Integration with Team Foundation Server -2015



Author	Manjunath Narayan
Team	Customer Advocate Team, Continuous Delivery
Version	1.1
File Name	Release Automation integration with TFS 2015
Date	11/23/2016

## Table of Contents

Introduction.....	3
Assumption.....	3
TFS Plugin Download .....	3
TFS Plugin Installation.....	4
Adding the Release Automation Deployment Step in the Build Definition .....	7
Option 1: Run Existing Deployment Plan .....	10
Option 2: Run Deployment Plan from Scratch.....	12
Common Error during Integration .....	14
No agent found in pool 1 which satisfies demands .....	14
Could not find a deployment plan [HelloWorldTFSPProject_5] with project_id [11] and build [5]. .....	16
Unhandled: Unexpected Token n .....	17

## Introduction

This documents will you guide to integrate Release Automation with Team Foundation Server 2015. We have used CA Release Automation Plugin Version 1.0.0 .

## Reference

Please find more information about the Plug-In [HERE](#)

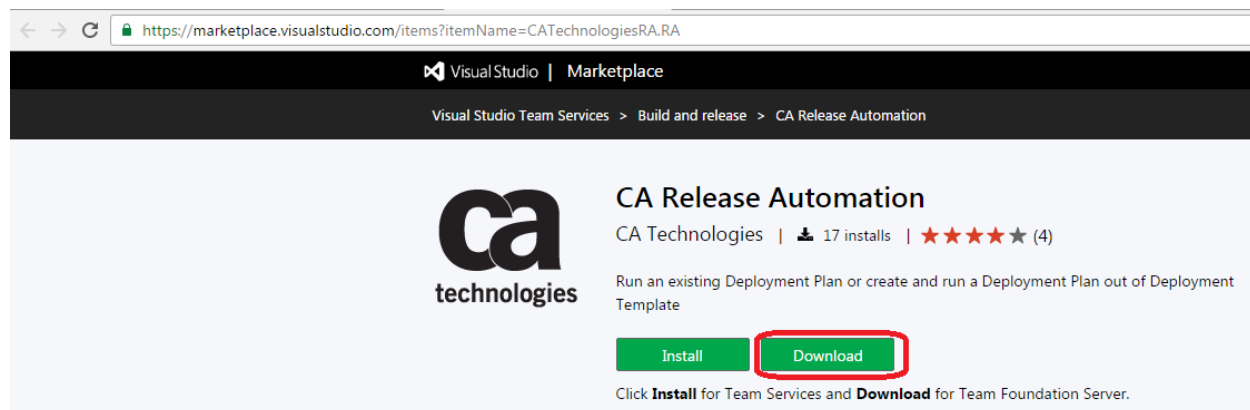
## Assumption

It is assumed that you have set up the below prerequisites

- 1) TFS 2015 Server (Update 2.1 and higher ) is Installed
- 2) Build Agent is Installed and Configured
- 3) Build Definition is created
- 4) Required Software is already installed
- 5) Release Automation (Version 6.1 and above ) is installed
- 6) Processes are already created

## TFS Plugin Download

Download the CA- RA - TFS Plugin from Microsoft Market Place [Link](#)



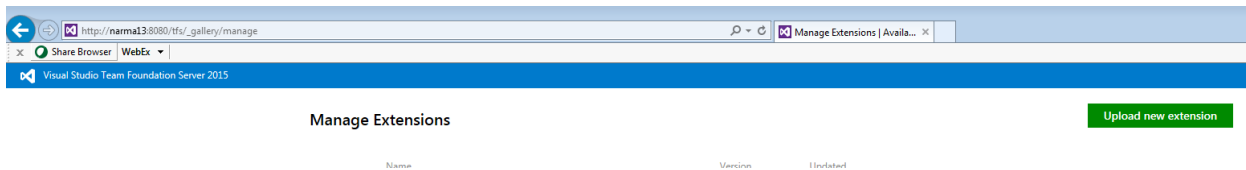
Download “**CATechnologiesRA.RA-1.0.1.vsix**” file

**Note:** Latest Version is 1.0.1 which would help you to resolve most of the error (covered in last section)

## TFS Plugin Installation

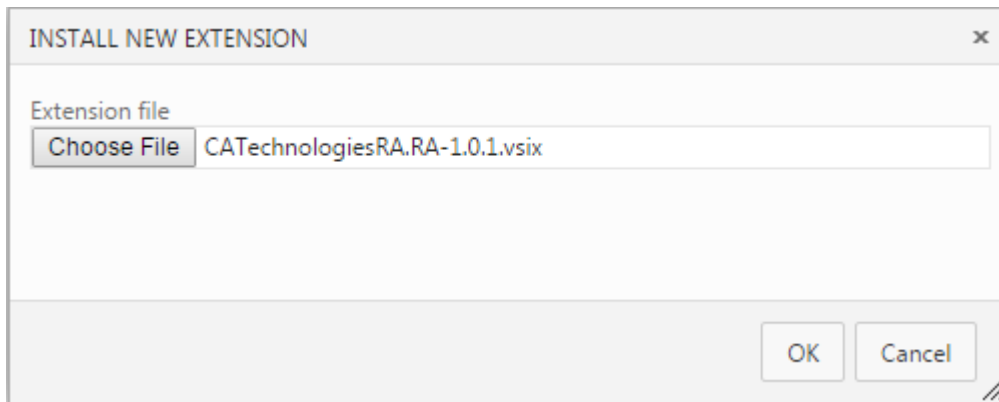
Go to server path

Example:




**Upload new extension**

Select **Upload new extension** and choose the “**CATechnologiesRA.RA-1.0.1.vsix**” file and select OK to upload the plugin



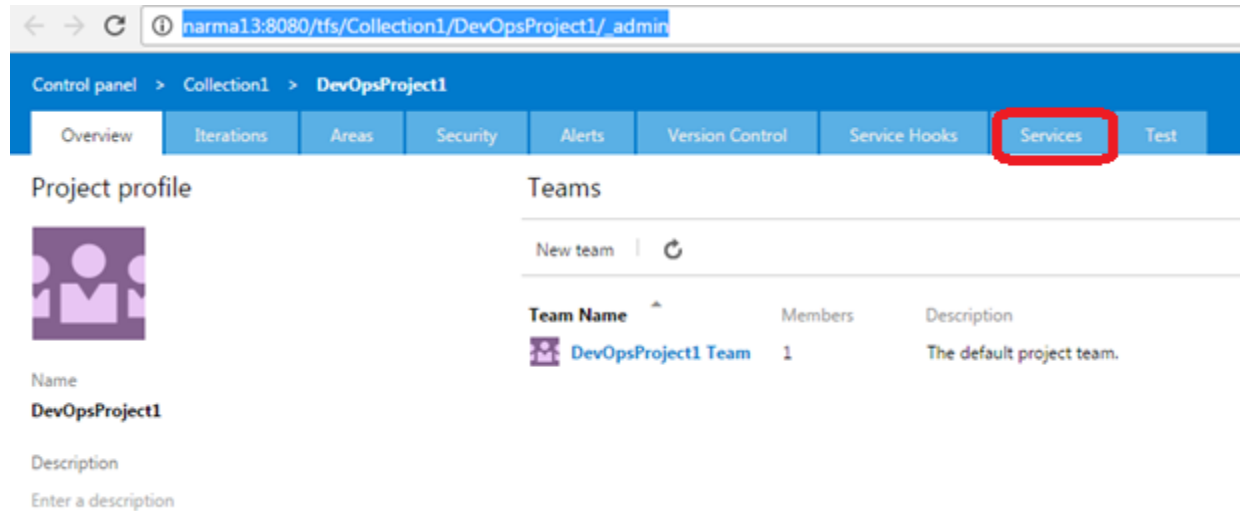
Select Install

### Manage Extensions

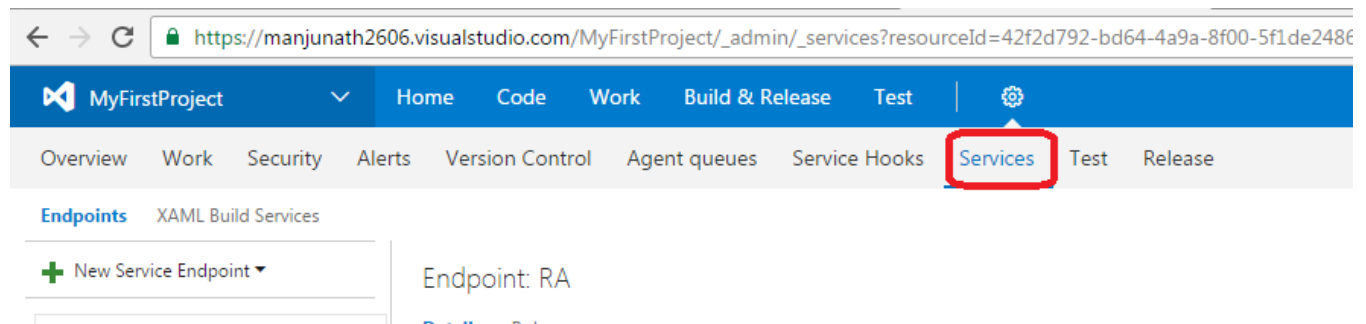
	Name	Version	Updated	
	<b>CA Release Automation</b> Run an existing Deployment Plan or create and run a Deploymen...	1.0.1	3 weeks ago	<b>Install</b>

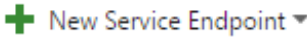
Navigate to TFS SERVER admin page

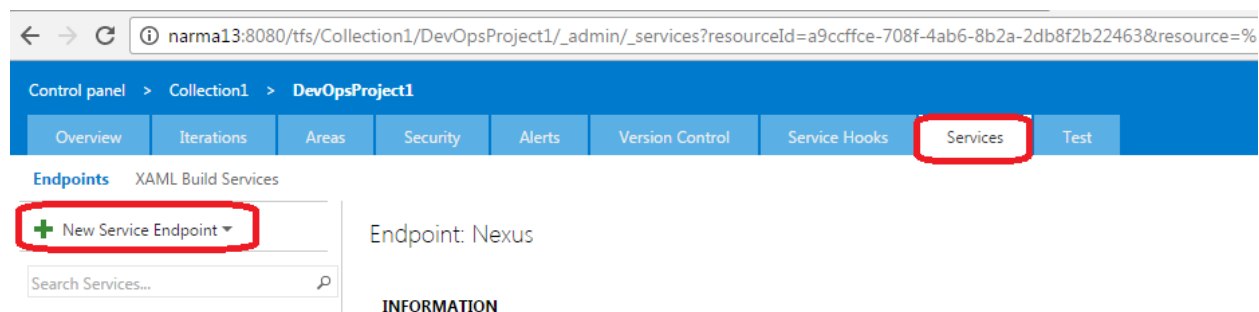
Example1: TFS SERVER



Example2: VSTS Server



Go to the Services tab and select  to add CA Release Automation server details



Enter the below information

Connection Name: Desired Name for the connection [Example: RA]

Server URL: Release Automation Server URL

User Name: Release Automation Admin User

Password: Automation Admin Password

## Update Authentication for RA

×

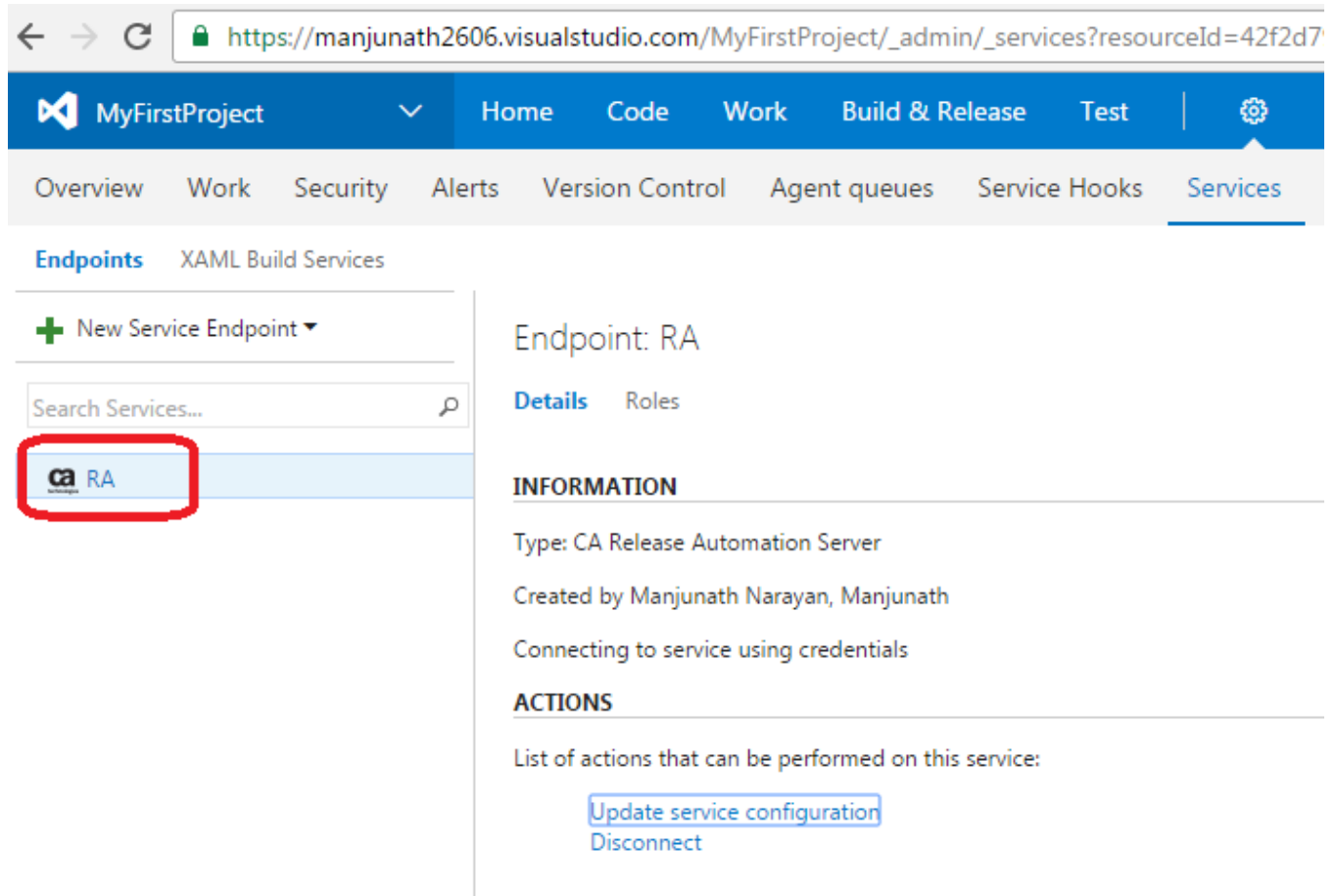
Connection name	<input type="text" value="RA"/>
Server URL	<input type="text" value="http://narma13-u182330:8080"/>
Username	<input type="text" value="superuser"/> ⓘ
Password	<input type="password" value="....."/> ⓘ

Server URL i.e. <http://my-server:8080>, <https://my-secured-server:8443> etc...

OK

Close

Click on “**OK**” to complete the configuration



← → ↻ [https://manjunath2606.visualstudio.com/MyFirstProject/\\_admin/\\_services?resourceId=42f2d7](https://manjunath2606.visualstudio.com/MyFirstProject/_admin/_services?resourceId=42f2d7)

MyFirstProject ▾ Home Code Work Build & Release Test | ⚙

Overview Work Security Alerts Version Control Agent queues Service Hooks **Services**

**Endpoints** XAML Build Services

+ New Service Endpoint ▾

Search Services... 🔍

**ca RA**

Endpoint: RA

**Details** Roles

**INFORMATION**

Type: CA Release Automation Server

Created by Manjunath Narayan, Manjunath

Connecting to service using credentials

**ACTIONS**

List of actions that can be performed on this service:

[Update service configuration](#)

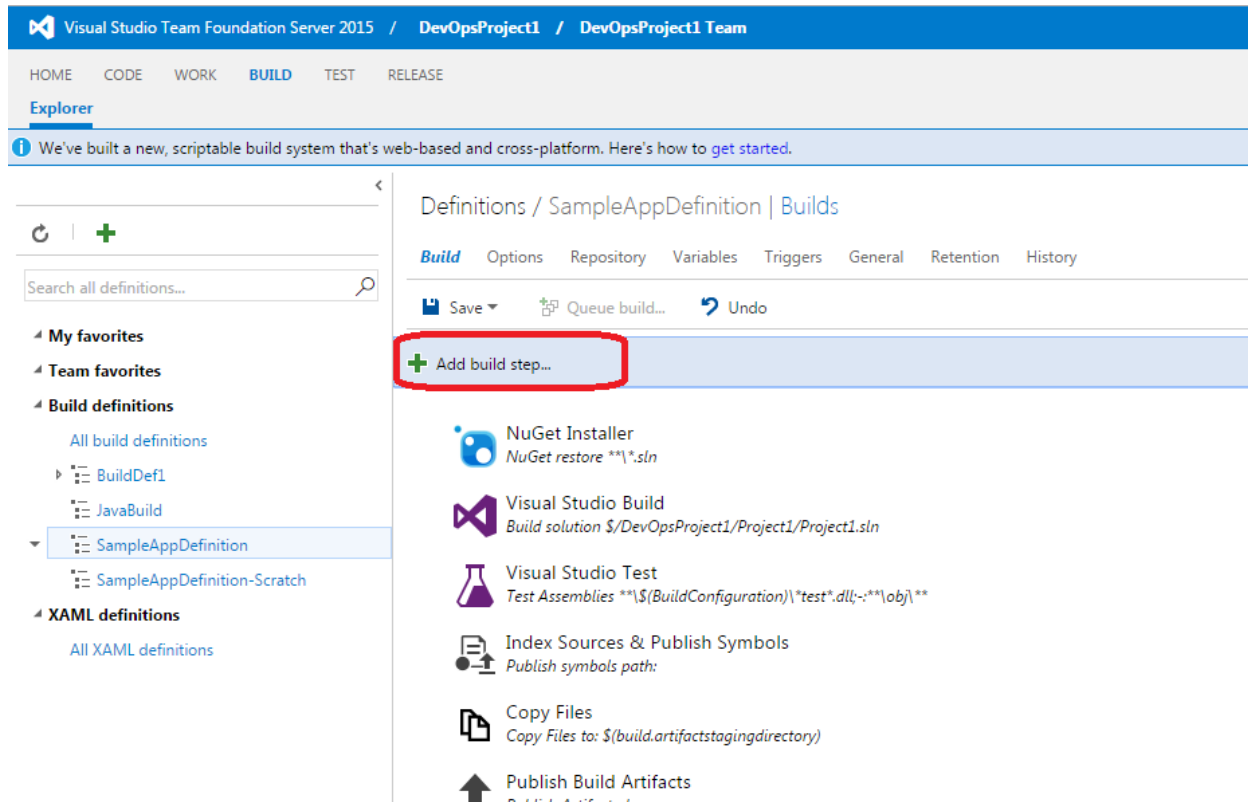
[Disconnect](#)

## Adding the Release Automation Deployment Step in the Build Definition

Navigate to Project Collection Page to Create the Build Definition of the project

Example: Editing the **SampleAppDefinition** (Name of the Build Definition)

Select **"Add build Step"**



Visual Studio Team Foundation Server 2015 / DevOpsProject1 / DevOpsProject1 Team

HOME CODE WORK BUILD TEST RELEASE

Explorer

We've built a new, scriptable build system that's web-based and cross-platform. Here's how to [get started](#).

Definitions / SampleAppDefinition | Builds

Build Options Repository Variables Triggers General Retention History

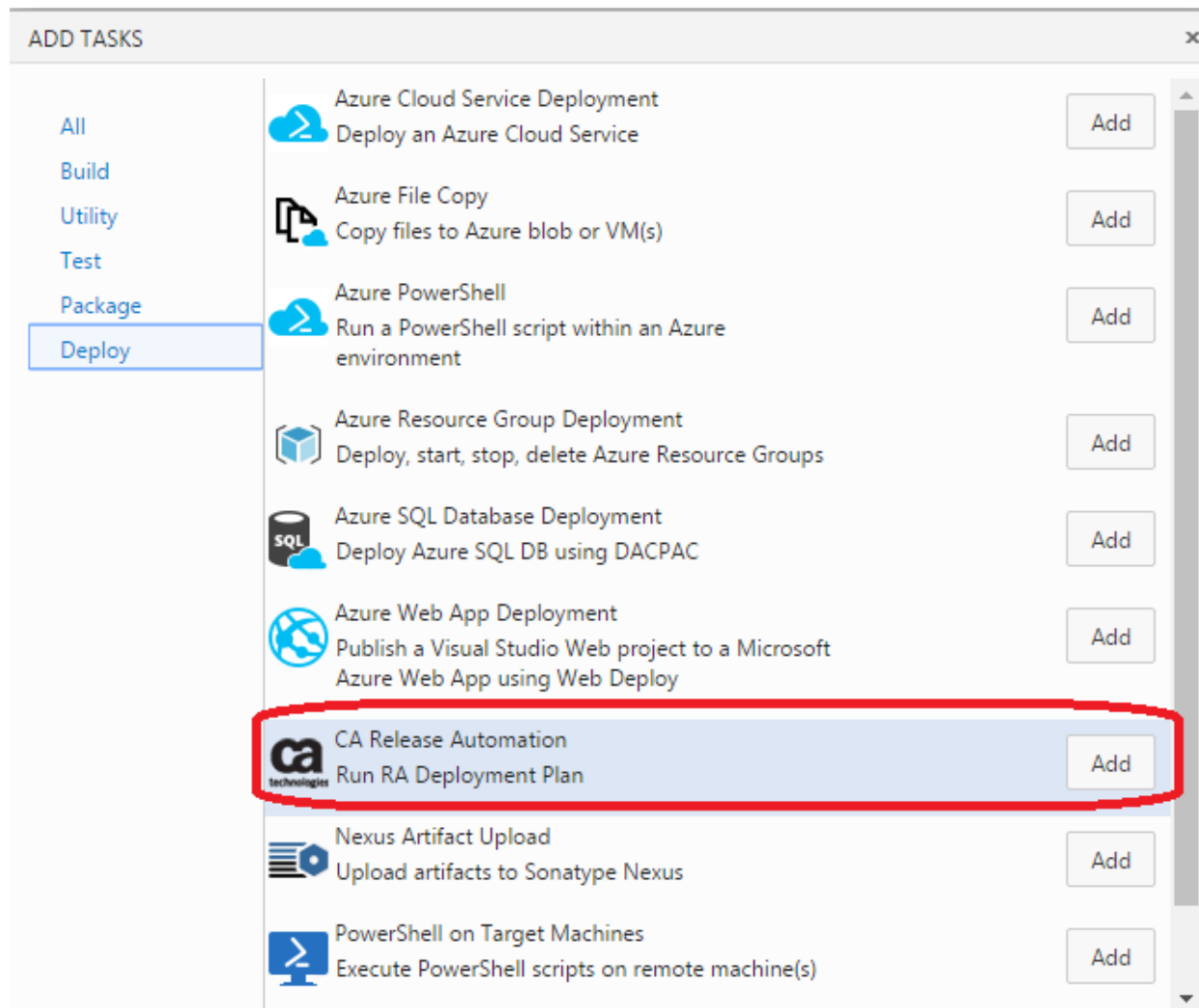
Save Queue build... Undo

**+ Add build step...**

- NuGet Installer  
*NuGet restore \*\*\\*.sln*
- Visual Studio Build  
*Build solution \$(DevOpsProject1/Project1/Project1.sln*
- Visual Studio Test  
*Test Assemblies \*\*\\$(BuildConfiguration)\\*test\*.dll;\*.obj\\*\**
- Index Sources & Publish Symbols  
*Publish symbols path:*
- Copy Files  
*Copy Files to: \$(build.artifactstagingdirectory)*
- Publish Build Artifacts



GO to “**Deploy**” and Select “**CA Release Automation**” and **Add**



## Option 1: Run Existing Deployment Plan

### Enter the Below Details:

RA Server:	Choose the RA plugin connection from the dropdown
Strategy:	Choose “Run existing Deployment Plan”
Application Name:	Existing Application from RA Server
Project Name:	Existing Project from RA Server
Build Number:	Manually Enter the Build Number
Deployment Name:	Manually Enter the Deployment Name
Deployment Stage:	Enter Deployment
Environment:	Enter the existing RA Environment to be deployed

**Note:** that you may use [TFS variables](#) in all of these fields

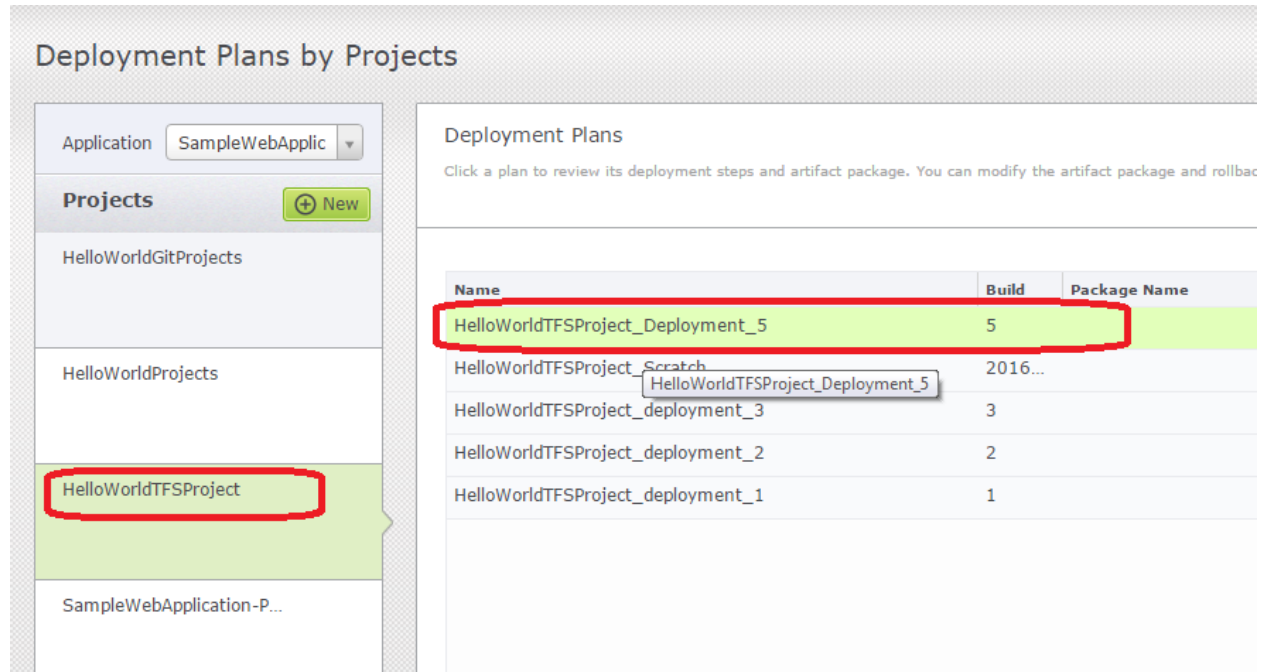
### Example:

#### Run Deployment Plan HelloWorldTFSPProject\_Deployment\_5

RA Server	nolio
Strategy	Run Existing Deployment Plan
Application Name	SampleWebApplication
Project Name	HelloWorldTFSPProject
Deployment Plan Name	HelloWorldTFSPProject_Deployment_5
Build number	5
Deployment Name	Deployment_5
Deployment Stage To Perform	Deployment
Environment	QA

**Note:** Deployment Plan “**HelloWorldTFSPProject-Deployment\_5**” should already exist on Release Automation server as we are running an Existing Deployment Plan

Queue the Build in TFS and Deployment will be started on the Release Automation Server when it reaches the Deployment step in the Build Definition



**Deployment Plans by Projects**

Application: SampleWebApplic

**Projects** (+ New)

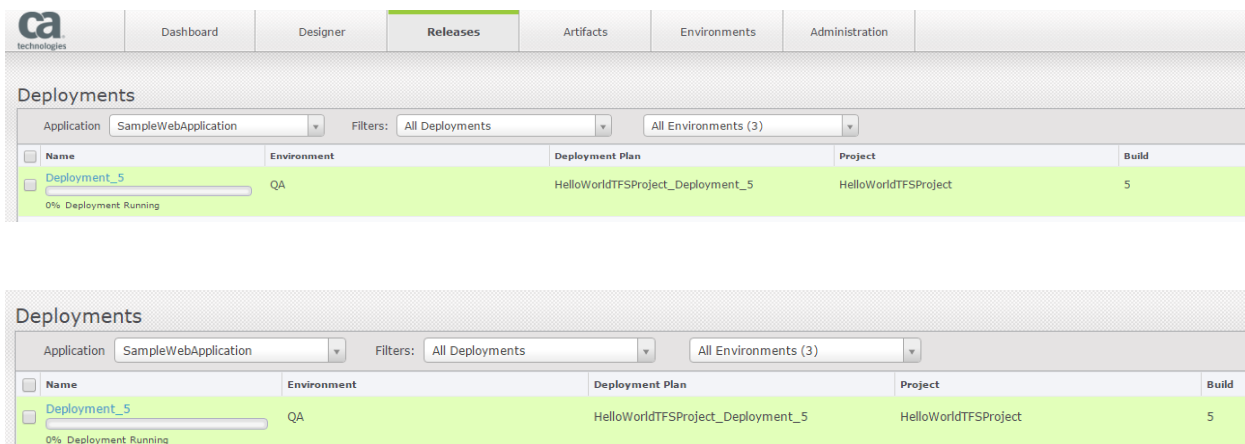
- HelloWorldGitProjects
- HelloWorldProjects
- HelloWorldTFSPProject**
- SampleWebApplication - P...

**Deployment Plans**

Click a plan to review its deployment steps and artifact package. You can modify the artifact package and rollback.

Name	Build	Package Name
HelloWorldTFSPProject_Deployment_5	5	
HelloWorldTFSPProject_Scratch	2016...	
HelloWorldTFSPProject_deployment_3	3	
HelloWorldTFSPProject_deployment_2	2	
HelloWorldTFSPProject_deployment_1	1	

You can notice the Deployment is started on Release Automation Server



**Deployments**

Application: SampleWebApplication | Filters: All Deployments | All Environments (3)

Name	Environment	Deployment Plan	Project	Build
Deployment_5	QA	HelloWorldTFSPProject_Deployment_5	HelloWorldTFSPProject	5

0% Deployment Running

Deployment Step is complete

**Deployment\_5**  
 ✓ Deployment Succeeded

✓ PRE-DEPLOYMENT 00:00  
 Validation Done

✓ DEPLOYMENT 00:25  
 Done

ⓘ POST DEPLOYMENT 00:00  
 No Post-Deployment operations  
 have been defined

Pre Deployment   **Deployment**   Summary

#	Name	Dependencies	Status
1	Deploy		✓ Done 100%

## Option 2: Run Deployment Plan from Scratch

### Enter the Below Details:

RA Server: Choose the RA plugin connection from the dropdown

Strategy: Choose "Run Deployment Plan from Scratch"

Application Name: Existing Application from RA Server

Project Name: Existing Project from RA Server

Build Number: Enter the \$(Build.BuildNumber)

Deployment Name: Deployment\_\$(Build.BuildNumber)

Deployment Stage: Enter Deployment

Environment: Enter the existing RA Environment to be deployed

**Note:** that you may use [TFS variables](#) in all of these fields

RA Server	nolio
Strategy	Run Deployment Plan from Scratch
Application Name	SampleWebApplication
Project Name	HelloWorldTFSPProject
Template Category	SampleWebApplication-TFS
Deployment Template	HelloWorldTFSPProject
Deployment Plan Name	HelloWorldTFSPProject_Scratch
Build number	\$(Build.BuildNumber)
Deployment Name	Deployment_\$(Build.BuildNumber)
Deployment Stage To Perform	Deployment
Environment	QA
Timeout	200

**Advanced options for "Scratch" strategy**

Artifacts Package as...	<input type="radio"/> Package Name <input checked="" type="radio"/> XML
Artifact Package as XML	
Manifest	
Properties	"key1":"value1","key2":"value2"

Note: Properties field cannot be null , so enter "key1":"value1", "key2":"value2"



When you run the build, When it reaches the Deployment Step, deployment will start

Deployments			
Application <span>SampleWebApplication</span>		Filters: <span>All Deployments</span>	<span>All Environments (3)</span>
Name	Environment	Deployment Plan	Project
<input type="checkbox"/> Deployment_20161031.5 0% Deployment Running	QA	HelloWorldTFSPProject_Scratch	HelloWorldTFSPProject


## Common Error during Integration

### No agent found in pool 1 which satisfies demands

[BuildDef1](#) / Build 20161022.1

 Queue new build...  Download all logs as zip

**Build Failed**


 Build 20161022.1  
Ran for 0 seconds (Default), completed 10 days ago

[Summary](#) [Tests](#)


### Build details

Definition	<a href="#">BuildDef1 (edit)</a>
Source branch	\$/DevOpsProject1
Source version	15
Requested by	Manjunath Narayan, Manjunath
Queued	Saturday, October 22, 2016 2:02 PM
Started	Saturday, October 22, 2016 2:02 PM
Finished	Saturday, October 22, 2016 2:02 PM

### Issues

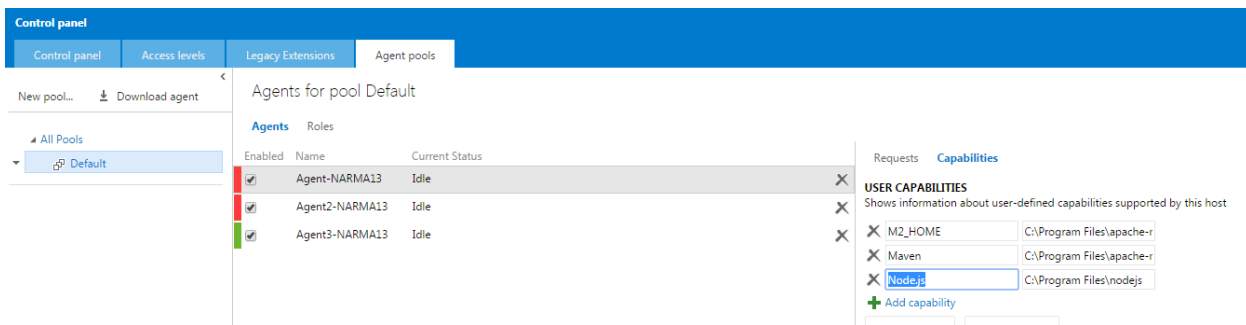
 No agent could be found with the following capabilities: msbuild, visualstudio, vstest, node.js

### Build

 No agent found in pool 1 which satisfies the specified demands:

- msbuild
- visualstudio
- vstest
- node.js
- Agent.Version -gtVersion 1.94.0

## Solution: Install msbuild and node.js and do the below configuration



The screenshot shows the TFS 2015 Control panel interface. The top navigation bar includes 'Control panel', 'Access levels', 'Legacy Extensions', and 'Agent pools'. The 'Agent pools' tab is active, showing 'Agents for pool Default'. On the left, a sidebar lists 'All Pools' with 'Default' selected. The main area displays a table of agents:

Enabled	Name	Current Status
<input checked="" type="checkbox"/>	Agent-NARMA13	Idle
<input checked="" type="checkbox"/>	Agent2-NARMA13	Idle
<input checked="" type="checkbox"/>	Agent3-NARMA13	Idle

To the right of the table, the 'Capabilities' tab is active, showing 'USER CAPABILITIES'. It lists installed capabilities with their paths:

- M2\_HOME: C:\Program Files\apache-r
- Maven: C:\Program Files\apache-r
- Node.js: C:\Program Files\nodejs

There is an 'Add capability' button at the bottom of the capabilities list.

## Could not find a deployment plan [HelloWorldTFSPProject\_5] with project\_id [11] and build [5].

SampleAppDefinition / Build 20161031.10 / Build / Run Deployment Plan HelloWorldTFSPProject\_5

 Queue new build...  Download all logs as zip

### Build Partially succeeded

Run Deployment Plan HelloWorldTFSPProject\_5

Ran for 1 seconds (Agent3-NARMA13), completed 26.9 hours ago

#### Logs

```

1 2016-10-31T20:22:52.8992321Z Set workingFolder to default: C:\MANJU\vsts\agent\tasks\RA\1.0.0
2 2016-10-31T20:22:53.2502321Z ##[debug]Started running RA Run Deployment task.
3 2016-10-31T20:22:53.2512321Z ##[debug]Getting the user inputs.
4 2016-10-31T20:22:53.2512321Z ##[debug]strategy=Run Existing Deployment Plan
5 2016-10-31T20:22:53.2522321Z ##[debug]NAC=43819c17-59dd-417d-a9b9-e98eee46310c
6 2016-10-31T20:22:53.2562321Z ##[debug]43819c17-59dd-417d-a9b9-e98eee46310c={"parameters":{"username":"","password":"","scheme":"UsernamePassword"}}
7 2016-10-31T20:22:53.2562321Z ##[debug]43819c17-59dd-417d-a9b9-e98eee46310c=http://narml3-u182330:8080/
8 2016-10-31T20:22:53.2572321Z ##[debug]deploymentPlanName=HelloWorldTFSPProject_5
9 2016-10-31T20:22:53.2572321Z ##[debug]applicationName=SampleWebApplication
10 2016-10-31T20:22:53.2582321Z ##[debug]project=HelloWorldTFSPProject
11 2016-10-31T20:22:53.2582321Z ##[debug]build=5
12 2016-10-31T20:22:53.2592321Z ##[debug]deploymentName=Deployment_5
13 2016-10-31T20:22:53.2592321Z ##[debug]deploymentStageToPerform=Deployment
14 2016-10-31T20:22:53.2602321Z ##[debug]environments=QA
15 2016-10-31T20:22:53.2602321Z ##[debug]Running deployment out of an existing deployment plan.
16 2016-10-31T20:22:53.2612321Z ##[debug]RA URL request is: http://narml3-u182330:8080/datamanagement/a/api/v4/run-deployments
17 2016-10-31T20:22:53.2622321Z ##[debug]RA URL request body is: {"environments":["QA"],"deploymentPlan":"HelloWorldTFSPProject_5","application":"SampleWebApplication","project":"HelloWorldTFSPProject_5"}
18 2016-10-31T20:22:53.2632321Z ##[debug]Requesting RA Server to run http://narml3-u182330:8080/datamanagement/a/api/v4/run-deployments.
19 2016-10-31T20:22:53.8032321Z ##[debug]RA server responded. Got status code 200.
20 2016-10-31T20:22:53.8042321Z ##[debug]Analysing RA server response for running deployment.
21 2016-10-31T20:22:53.8052321Z ##[debug]Deployment creation result: false
22 2016-10-31T20:22:53.8072321Z ##[error]ERROR! Failure reason : Could not find a deployment plan [HelloWorldTFSPProject_5] with project_id [11] and build [5].
23 2016-10-31T20:22:53.8082321Z ##[debug]task result: undefined
24 2016-10-31T20:22:53.8122321Z ##[debug]load strings from: C:\MANJU\vsts\agent\tasks\RA\1.0.0\node_modules\vsts-task-lib\lib.json
25 2016-10-31T20:22:53.8132321Z ##[debug]load loc strings from: C:\MANJU\vsts\agent\tasks\RA\1.0.0\node_modules\vsts-task-lib\strings\resources.resjson\en-US\resources.resjson
26 2016-10-31T20:22:53.8152321Z ##[debug]task result: Failed
27 2016-10-31T20:22:53.8172321Z Return code: 1

```

**Solution:** This error is seen when you Run Existing Deployment Plan, without the deployment plan already created in Release Automation



## Unhandled: Unexpected Token n

Build Partially succeeded

Run Deployment Plan OnlineServiceApp-Dep1

----- Ran for 1 seconds (Agent3-NARMA13), completed 24.2 minutes ago

**Logs**

```

1 2016-10-28T17:02:33.642000Z Set workingFolder to default: C:\MANJU\vsts\agent\tasks\RA\1.0.0
2 2016-10-28T17:02:34.485000Z ##[debug]Started running RA Run Deployment task.
3 2016-10-28T17:02:34.486000Z ##[debug]Getting the user inputs.
4 2016-10-28T17:02:34.487000Z ##[debug]strategy=Run Deployment Plan from Scratch
5 2016-10-28T17:02:34.488000Z ##[debug]NAC=43819c17-59dd-417d-a9b9-e98eee46310c
6 2016-10-28T17:02:34.493000Z ##[debug]43819c17-59dd-417d-a9b9-e98eee46310c={"parameters":{"username":"*****
7 2016-10-28T17:02:34.493000Z ##[debug]43819c17-59dd-417d-a9b9-e98eee46310c=http://narma13-u182330:8080/
8 2016-10-28T17:02:34.494000Z ##[debug]deploymentPlanName=OnlineServiceApp-Dep1
9 2016-10-28T17:02:34.495000Z ##[debug]applicationName=OnlineService
10 2016-10-28T17:02:34.495000Z ##[debug]project=OnlineService-Sprint1
11 2016-10-28T17:02:34.496000Z ##[debug]build=20161028.2
12 2016-10-28T17:02:34.496000Z ##[debug]deploymentName=Deployment_20161028.2
13 2016-10-28T17:02:34.497000Z ##[debug]deploymentStageToPerform=Deployment
14 2016-10-28T17:02:34.497000Z ##[debug]environments=QA
15 2016-10-28T17:02:34.498000Z ##[debug]templateCategory=OnlineServiceApp
16 2016-10-28T17:02:34.498000Z ##[debug]deploymentTemplate=FullDeployment
17 2016-10-28T17:02:34.499000Z ##[debug]timeout=200
18 2016-10-28T17:02:34.499000Z ##[debug]manifest=
19 2016-10-28T17:02:34.500000Z ##[debug]properties=
20 2016-10-28T17:02:34.500000Z Unhandled: Unexpected token n
21 2016-10-28T17:02:34.501000Z ##[debug]artifactsMethod=Package Name
22 2016-10-28T17:02:34.501000Z ##[debug]Running deployment plan from scratch.
23 2016-10-28T17:02:34.501000Z ##[debug]RA URL request is: http://narma13-u182330:8080/datamanagement/a/api/v
24 2016-10-28T17:02:34.502000Z ##[debug]load strings from: C:\MANJU\vsts\agent\tasks\RA\1.0.0\node_modules\vs

```

**Solution:** This error would appear when you “Run Deployment Plan from Scratch”, if you leave the properties field blank.

You will have to enter the below values to resolve the above error

“key1”:“value1”;“key2”:“value2”;

### Run Deployment Plan HelloWorldTFSPProject\_Scratch

RA Server	nolio
Strategy	Run Deployment Plan from Scratch
Application Name	SampleWebApplication
Project Name	HelloWorldTFSPProject
Template Category	SampleWebApplication-TFS
Deployment Template	HelloWorldTFSPProject
Deployment Plan Name	HelloWorldTFSPProject_Scratch
Build number	\$(Build.BuildNumber)
Deployment Name	Deployment_\$(Build.BuildNumber)
Deployment Stage To Perform	Deployment
Environment	QA
Timeout	200

**Advanced options for "Scratch" strategy**

Artifacts Package as...

☐ Package Name ☒ XML

Artifact Package as XML

Manifest

Properties

"key1":"value1","key2":"value2"