

DemandBlue Salesforce TFS App

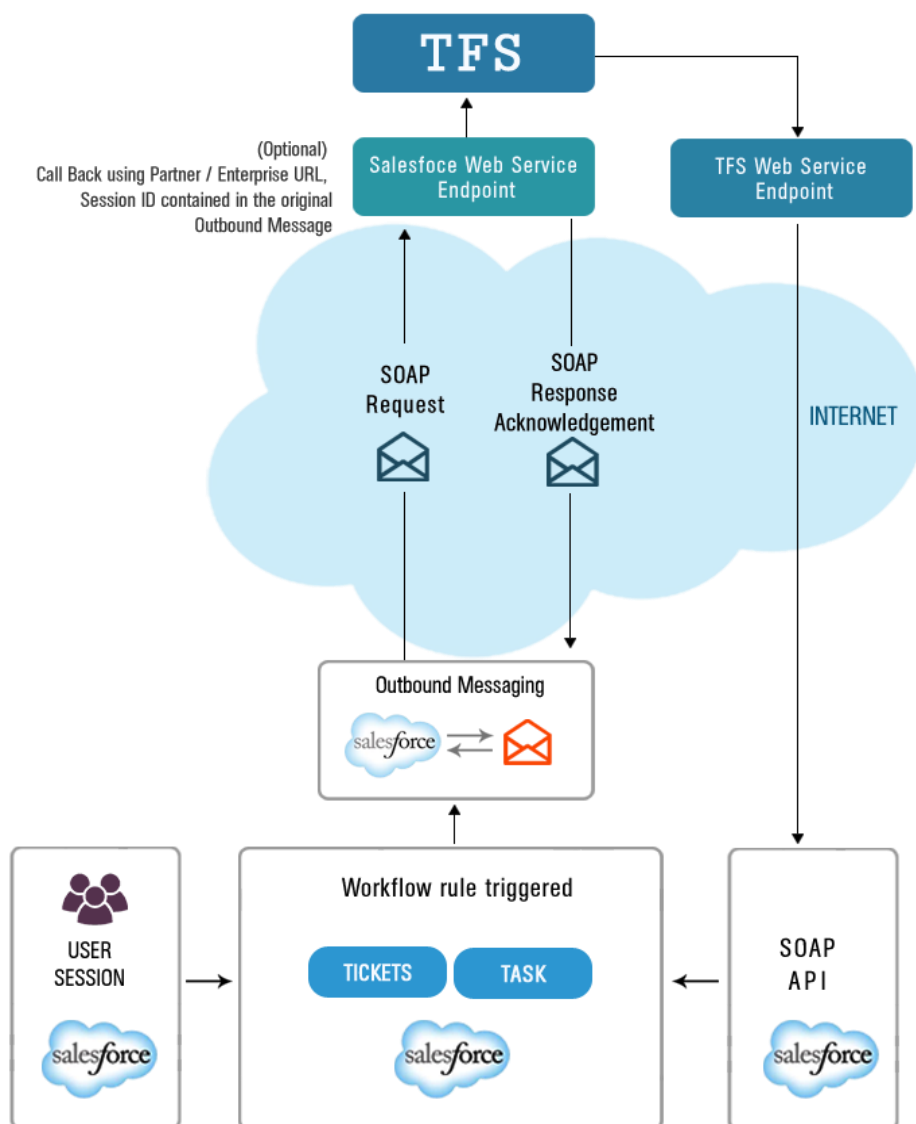
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1. Introduction

This App is mainly used to integrate Salesforce and TFS. Whenever there is a Case is created or updated in Salesforce, a Bug/User Story will be created/updated in TFS automatically and Vice-versa. The validations in creating a bug in TFS are same implemented in Salesforce too.

2. Architecture Diagram

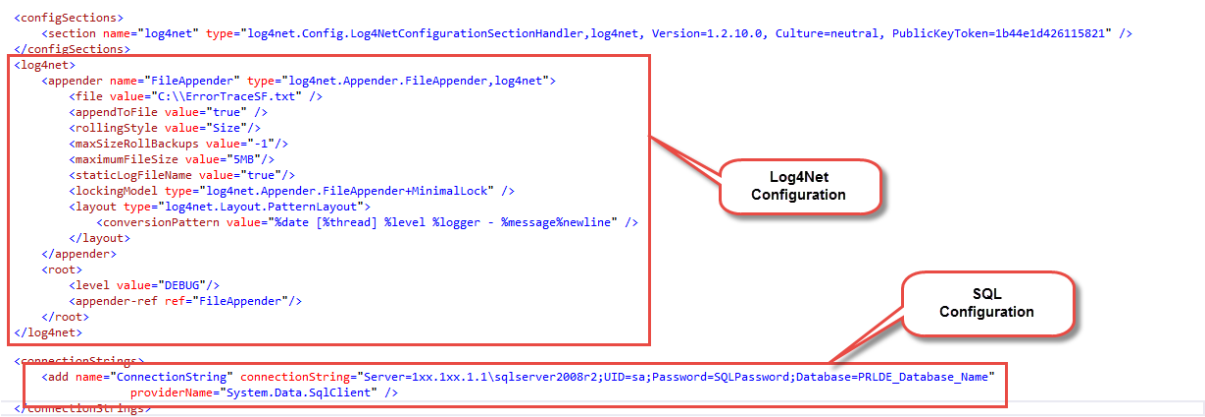


3. Prerequisites

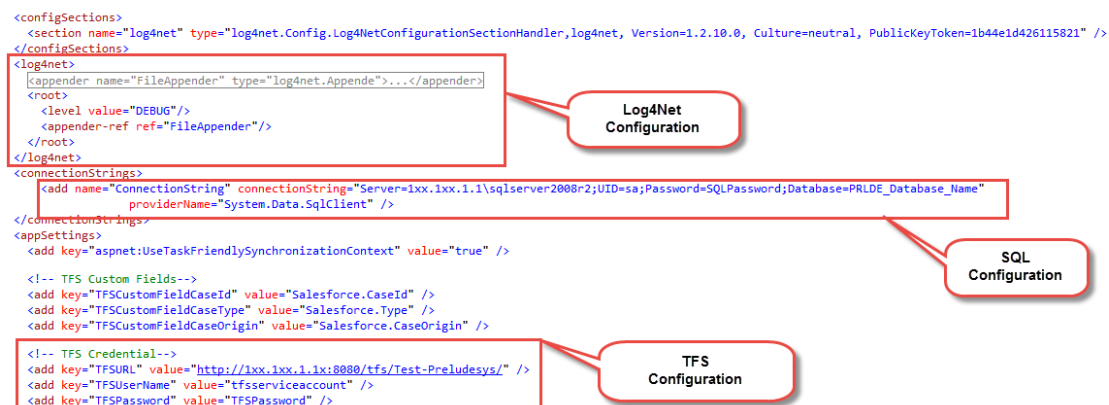
- I. Public IP server is mandatory to host the services.
- II. The hosted service run in the below ports.
 - 80: This port only accepts HTTP connections.
 - 443: This port only accepts HTTPS connections.
 - 1024–66535 (inclusive): These ports accept HTTP or HTTPS connections.
- III. Outbound message URL need to be configured to the public IP server.

4. Server Configuration

1. Configure the Salesforce WCF service configuration file as below:



2. Configure the TFS service configuration file as below:



3. Configure the TFS service configuration file as below:



```

<configSections>
  <section name="log4net" type="log4net.Config.Log4NetConfigurationSectionHandler,log4net, Version=1.2.10.0, Culture=neutral, PublicKeyToken=1b44e1d426115821" />
</configSections>
<!-- Log4Net Logging Setup -->
<log4net>
  <appender name="FileAppender" type="log4net.Appender.FileAppender">
    <root>
      <level value="DEBUG"/>
      <appender-ref ref="FileAppender"/>
    </root>
  </appender>
</log4net>
<connectionStrings>
  <add name="ConnectionString" connectionString="Server=1xx.1xx.1.1;sqlserver2008r2;UID=sa;Password=SQLPassword;Database=PRLDE_Database_Name"
    providerName="System.Data.SqlClient" />
</connectionStrings>
<appSettings>
  <add key="TimeInterval" value="1" />
<!-- TFS Credentials -->
  <add key="TFSURL" value="http://1xx.1xx.1.1x/tfs/Test-Preludesys" />
  <add key="TFSUserName" value="tfserviceaccount" />
  <add key="TFSPassword" value="TFSPassword" />
  <add key="RetryCount" value="3" />
<!-- TFS Custom Fields Bug Template -->
  <add key="BugType" value="Salesforce.Type" />
  <add key="BugOrigin" value="Salesforce.CaseOrigin" />
  <add key="BugCaseData" value="Salesforce.CaseValues" />
  <add key="BugCaseId" value="Salesforce.CaseId" />
<!-- TFS Custom Fields Bug Template -->
  <add key="USCaseId" value="Salesforce.CaseId" />
  <add key="USCaseData" value="SalesforceUser.CaseData" />
<!-- Salesforce Credentials -->
  <add key="SecurityToken" value="m80Lw*****6Fwv51" />
  <add key="ConsumerKey" value="3MVG9ZL*****P7Ut43uU.UX4LFCYrqJl067YffjgZP*****u1_NM8Ruy*****" />
  <add key="ConsumerSecret" value="456456*****1235535" />
  <add key="Username" value="sf@preludesys.com" />
  <add key="Password" value="SFPASSWORD" />
  <add key="IsSandboxUser" value="false" />
  <add key="SFSandboxURL" value="https://test.salesforce.com/services/oauth2/token" />
  <add key="SFProductionURL" value="https://login.salesforce.com/services/oauth2/token" />
<!-- Flag to Send Email or not to the configured users.
  If flag is set to "On" then Email will be sent to the Admins configured below in "ToAddress" tag.
  If flag is set to "Off" then Email will be not be sent to the Admins configured below in "ToAddress" tag.
  <add key="SendEmailNotification" value="On"/>
  <add key="MailServer" value="smtp.office365.com"/>
  <add key="Port" value="587"/>
  <add key="EnableSSL" value="true"/>
  <add key="EmailFromAddress" value="abc@preludesys.com"/>
  <add key="MailAuthUser" value="def@preludesys.com"/>
  <add key="MailAuthPass" value="Password"/>
  <!-- Email Subject when exception occurs and retry count exceeds -->
  <add key="EmailSubject" value="Error in Windows Service"/>
  <!-- To addresses separated by comma '-->
  <add key="ToAddress" value="XX1@preludesys.com,XX2@preludesys.com"/>
  
```

Log4Net Configuration

SQL Configuration

TFS Configuration

Salesforce Configuration

Email Configuration

Configuration Settings	
Log4Net Configuration	In "maximumFileSize" node error file size should be configured. If the size exceeds the value specified then it again recreates the file. In "level" node if value is set to "DEBUG" then debug trace will be logged. If value is set to "INFO" then only exception will be logged in the error log. In "file" node the path of the file is mapped.
SQL Configuration	In this section SQL Server- Server name, User name, Password and Database name is configured.
TFS Configuration	In this section TFS Credentials are configured also if the custom fields name is changed in TFS then it should be modified in this section too.

**Salesforce
Configuration**

In this section Salesforce Credentials are configured.

5. Salesforce Configuration

In Salesforce we need to configure the below items:

1. Remote Site Settings

In Remote site settings add the base URL of the WCF service in "Remote Site URL". Please find the below screenshot for your reference.

Remote Site Edit (Managed)

Enter the URL for the remote site. All s-controls, JavaScript OnClick commands in custom buttons, Apex, and AJAX proxy calls can access the site.

 This Remote Site Setting is managed, meaning that you may only edit certain attributes. [Display More Information](#)

Remote Site Edit Save Save & New Cancel

Remote Site Name

Remote Site URL

Disable Protocol Security ☐ 

Description

Active ☒

Save Save & New Cancel

2. Outbound Message

In the outbound message add the Salesforce WCF service endpoint URL. Please find the below screenshot for your reference.

Edit Outbound Message: Case

Name: PRLDE_Case_Outbound

Unique Name: PRLDE_Case_Outbound ⓘ

Namespace Prefix: sftfs

Description:

Endpoint URL: http://1xx.1xx.8.2xx:8080/SalesforceService/SalesforceService.svc

User to send as: Salesforce TFS ⓘ

Protected Component: ☐

Send Session ID: ☒

Case fields to send:

Available Fields		Selected Fields
Description		Priority
sftfs__Over_All_Description__c		Reason
	Add ▶	Status
	◀ Remove	Subject
		SuppliedCompany
		SuppliedEmail
		SuppliedName
		SuppliedPhone
		SystemModstamp
		TFS_Bug_Id__c
		TFS_Projects__c
		TFS_Template__c
		Type
		sftfs_Description__c

Save Save & New Cancel

3. Generating Consumer Secret and Consumer Key

Following are the steps to generate consumer secret and consumer key,

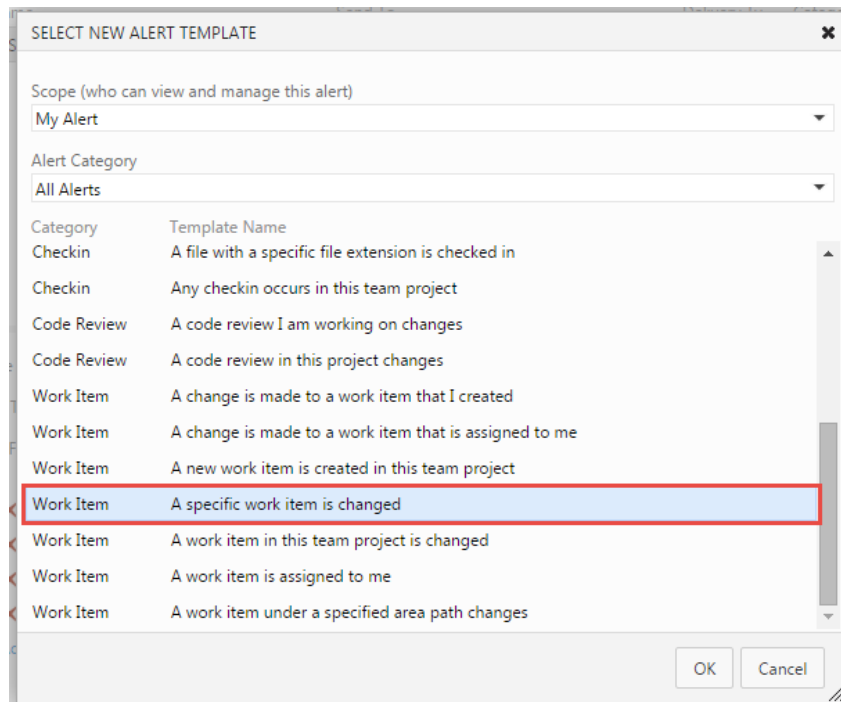
- Click on your username in the top right corner, and choose "Setup" from the menu.
- In the left hand navigation, you'll see App Setup
 - Click "Create"
 - Click "Apps"
 - Scroll down to the bottom, and you'll see "Connected Apps"
 - Click "New."
- Fill out the required fields
 - Connected App Name is "TFS Integration"
 - API Name= TFS_Integration (filled automatically)
 - Enter the contact email
- Click the checkbox to enable OAuth settings.
 - The callback URL is not used in the integration.
 - Select "Full Access" and click "Add"
 - Then click "Save"
- On the next page, under OAuth Settings, you'll see Consumer Key and the option to reveal and get your Consumer Secret

6. TFS Configuration

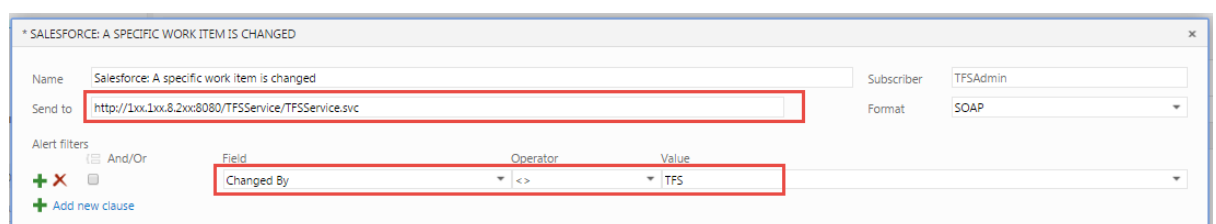
In this section we have explained how to create custom fields and alert in TFS.

1. Creating Alert

In Team Foundation Server, go to settings menu and click alert tab. In this new window, select the below highlighted template name.

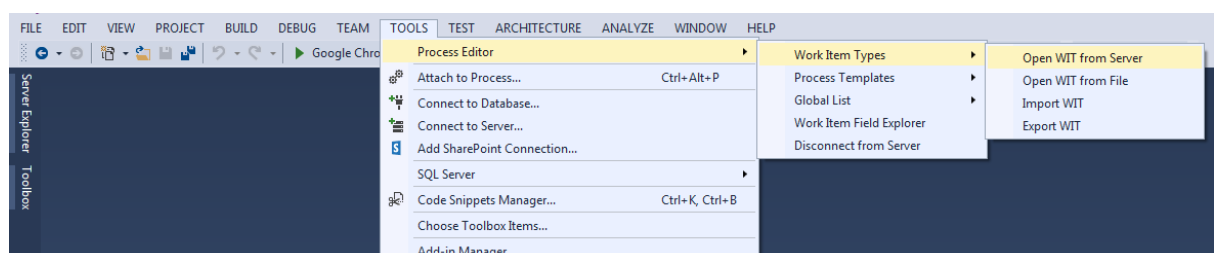


Please find the below filters to be added for project. In Send To field we need to add the TFS WCF endpoint URL.

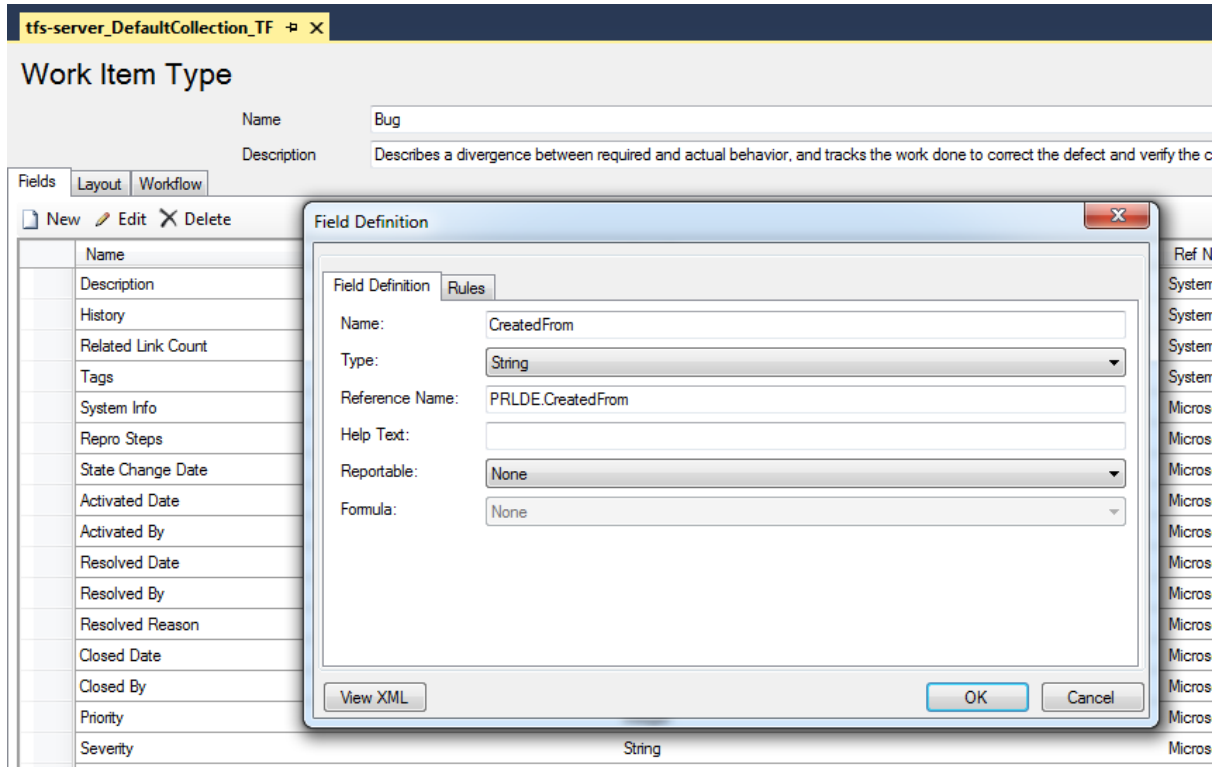


2. Creating Custom Fields

- I. Open Visual Studio, In "Tools" menu select the Process Editor -->Work Item Types -->Open WIT from Server.



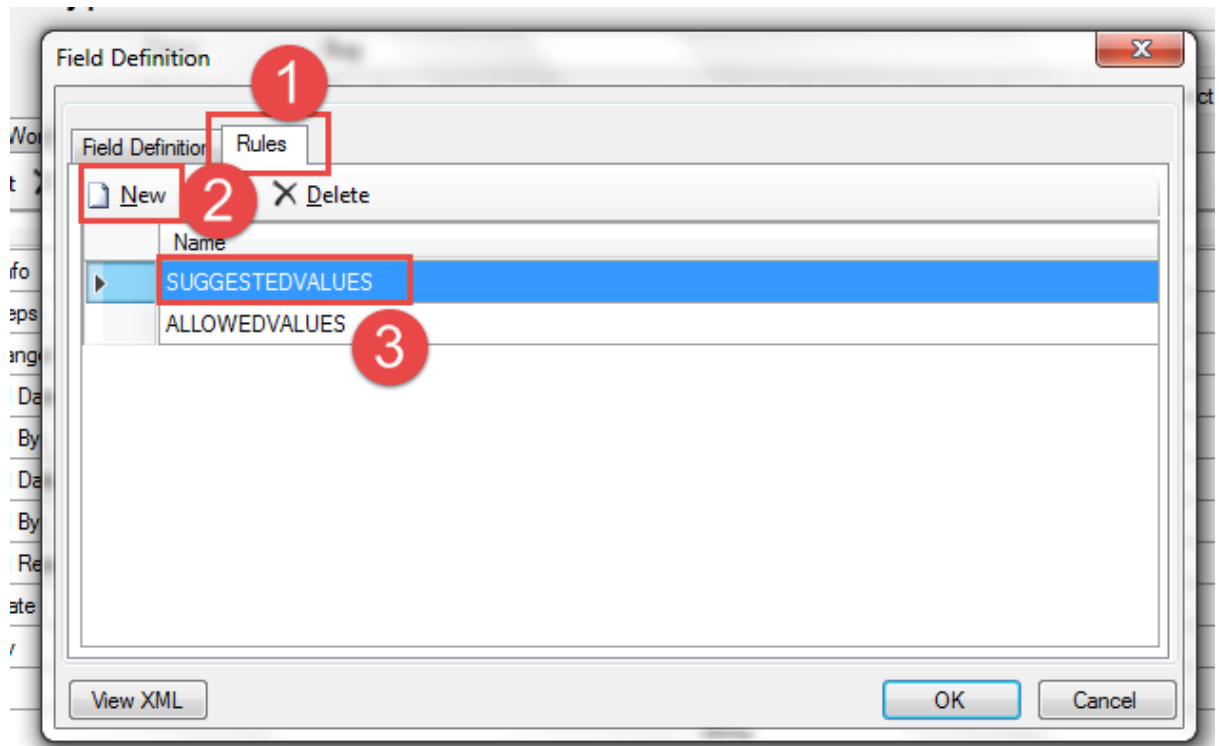
- II. Click New from Fields tab and enter "Field Name" field and select Type as below screenshot:



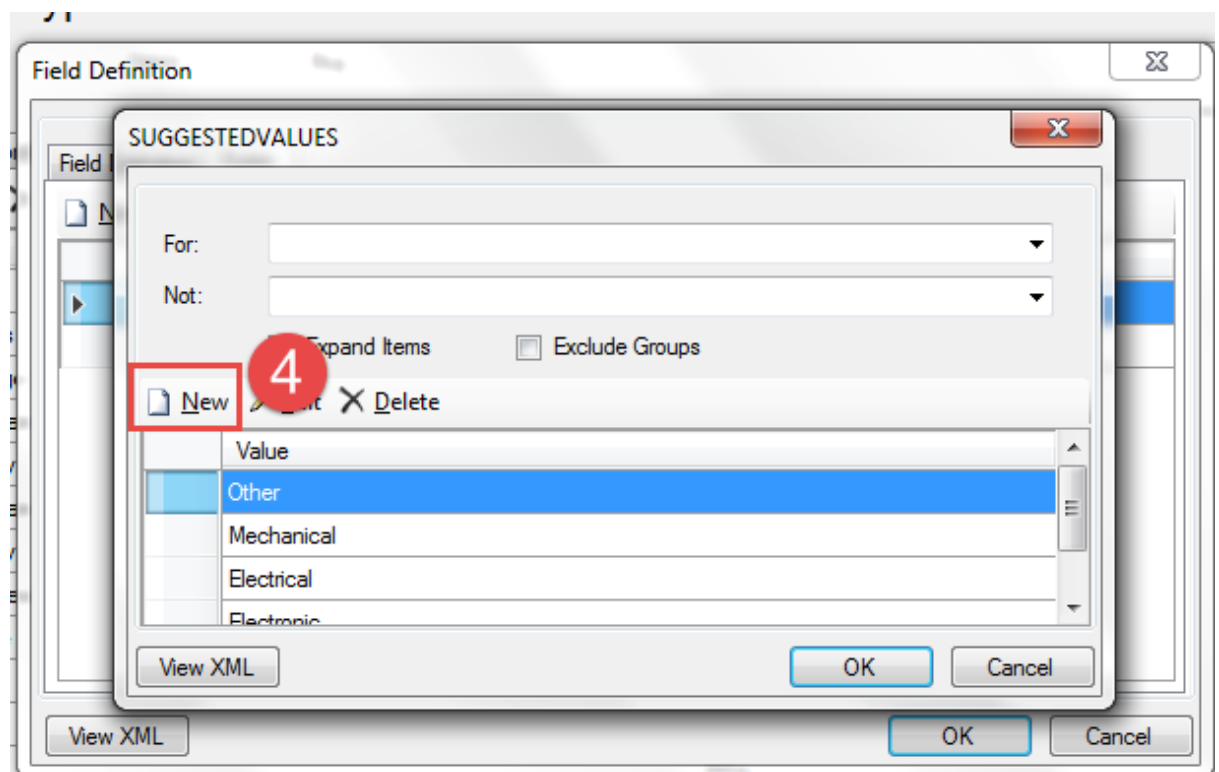
- III. Using the above steps we should create the below fields with their corresponding datatype:

Field Name	Data Type	Template	Values
Salesforce.CaseId	String	Bug	
Salesforce.Type	String	Bug	Other, Mechanical, Electrical, Electronic, Structural
Salesforce.CaseOrigin	String	Bug	Phone, Email, Web, None
Salesforce.CaseValues	HTML	Bug	
Salesforce.CaseId	String	User Story	
SalesforceUser.CaseData	HTML	User Story	

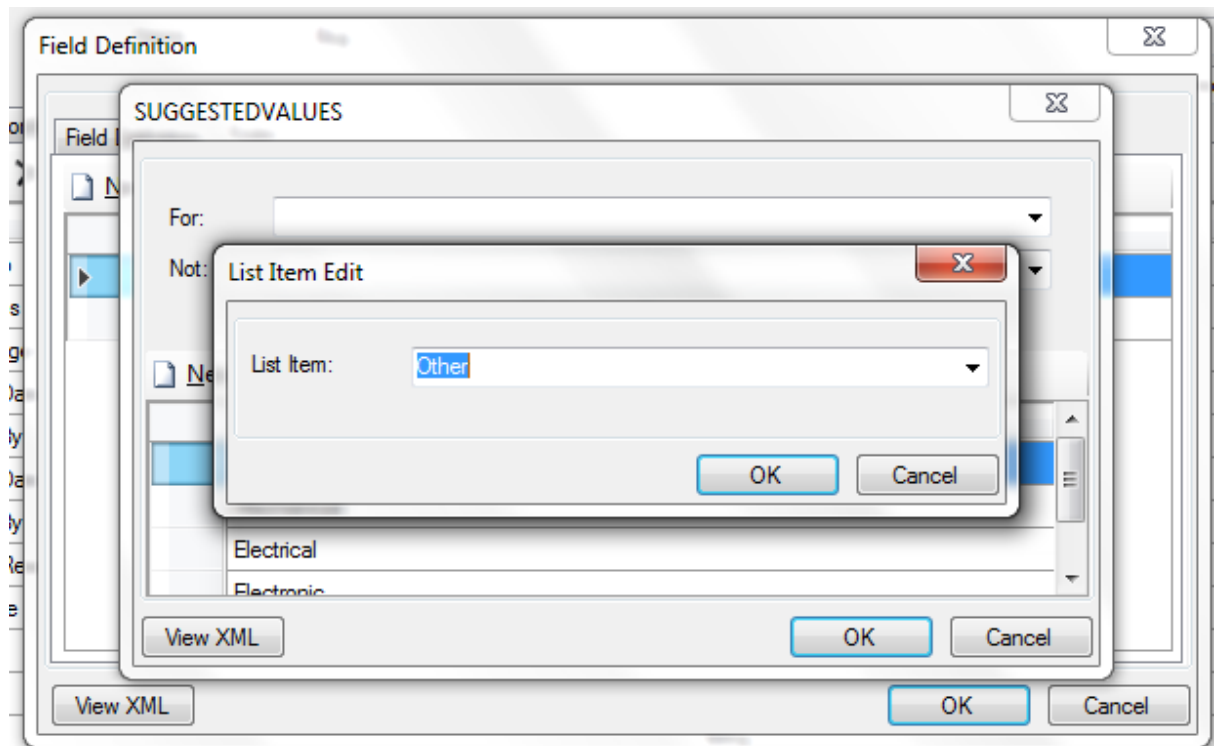
- IV. Using the below steps we can add the values to the fields:
- Open the WorkItem Bug template and click the Field which need to be added with values. In the popup window click Rules tab, from this tab click New button and Select SUGGESTEDVALUES as below:



b. In SUGGESTEDVALUES windows, click New button as below:



c. In List Item Window add the values and click Ok as below:

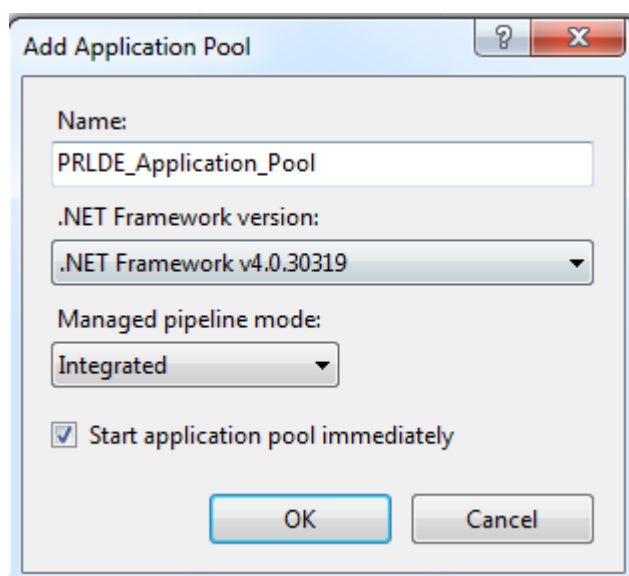


- d. Repeat the above steps for ALLOWEDVALUES also to make the field as mandatory.

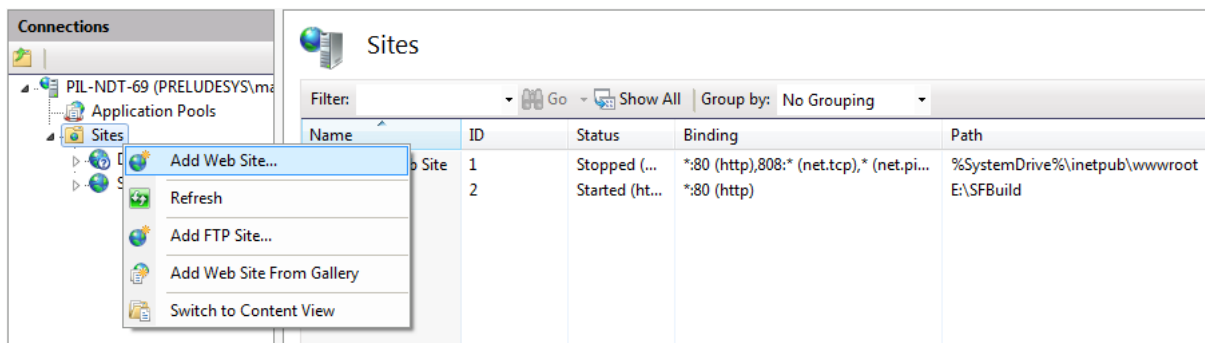
7. Hosting WCF Services

Following are the steps to be followed for hosting the Salesforce, Attachment and TFS Service

1. Add new "Application Pool" with .Net Framework version 4.0.3 and select Managed pipeline mode to "Integrated" as below.



- Right click the "Sites" and select "Add Web site". Please refer the below screenshot for your reference.



- Give Site name for the WCF Service, select the Newly created application pool and browse the Physical path where the published source code is located as screenshot below.

Add Web Site

Site name: Application pool:

Content Directory

Physical path:

Pass-through authentication

Binding

Type: IP address: Port:

Host name:

Example: www.contoso.com or marketing.contoso.com

☒ Start Web site immediately

If we are going to use "Windows Authentication" for SQL server then we have to follow the below two steps:

1. Select the Application Pool and click "Advanced Settings" menu from Actions pane as below:

Connections

- Application Pools
- Sites
 - Default Web Site
 - SFService

Application Pools

This page lets you view and manage the list of application pools on the server. Application pools are associated with worker processes, contain one or more applications, and provide isolation among different applications.

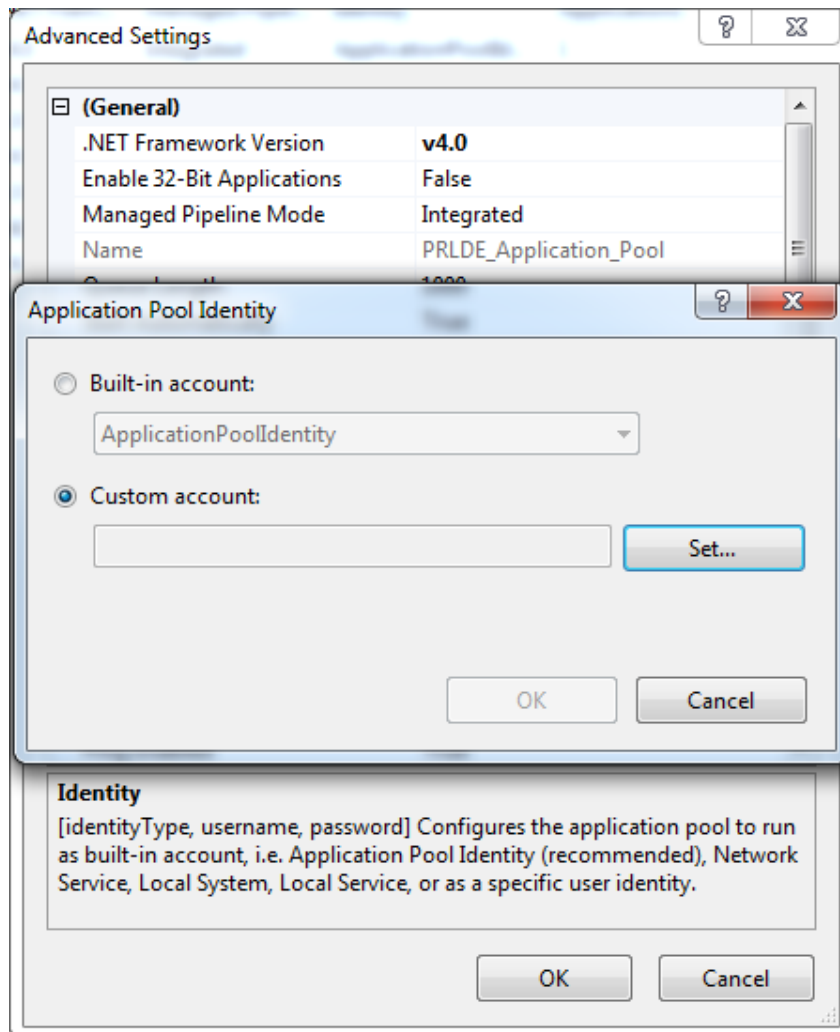
Filter: Go Group by: No Grouping

Name	Status	.NET Fram...	Managed Pipel...	Identity	Applications
ASP.NET v4.0	Started	v4.0	Integrated	ApplicationPoold...	1
ASP.NET v4.0 CL...	Started	v4.0	Classic	ApplicationPoold...	0
Classic .NET Ap...	Started	v2.0	Classic	ApplicationPoold...	0
DefaultAppPool	Started	v4.0	Integrated	ApplicationPoold...	1
PRIDE-Applicat...	Started	v4.0	Integrated	ApplicationPoold...	1
	Started	v4.0	Integrated	ApplicationPoold...	0
	Started	v2.0	Integrated	ApplicationPoold...	0

Actions

- Add Application Pool...
- Set Application Pool Defaults...
- Application Pool Tasks**
 - Start
 - Stop
 - Recycle...
- Edit Application Pool**
 - Basic Settings...
 - Recycling...
 - Advanced Settings...**
 - Rename
 - Remove
 - View Applications

- In the "Process Model" tab, select the "Application Pool Identity" menu. A new window will open as below. In that window select the custom account that has windows authentication rights to access the SQL server.

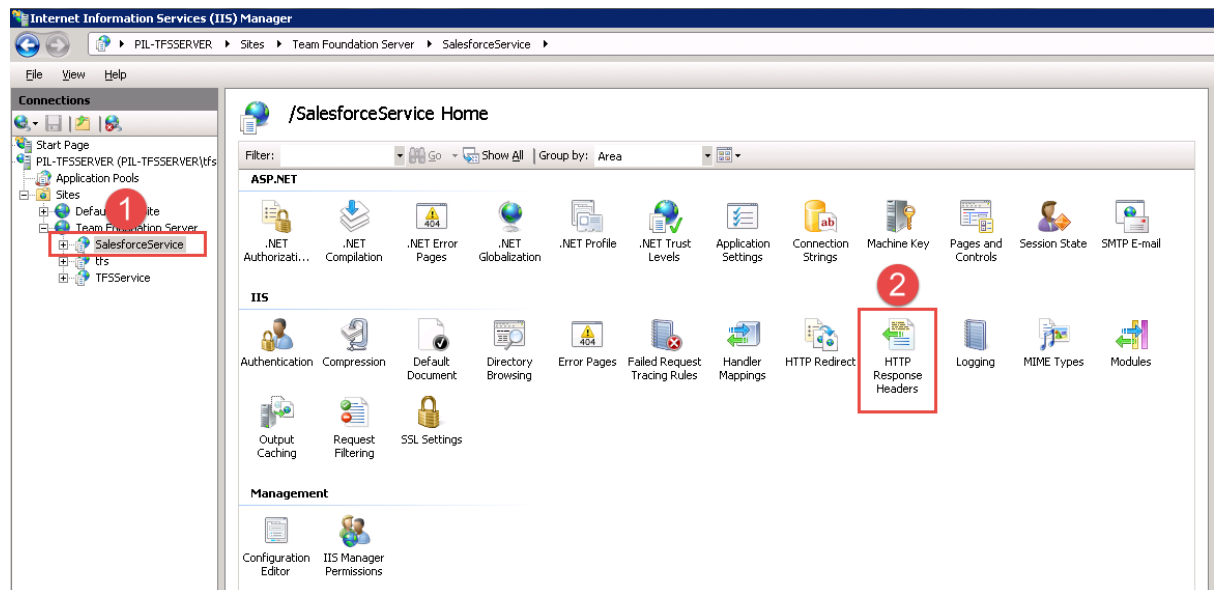


Once the above steps completed then we need to add the below **HTTP Response Headers** in the Internet Information Services (IIS).

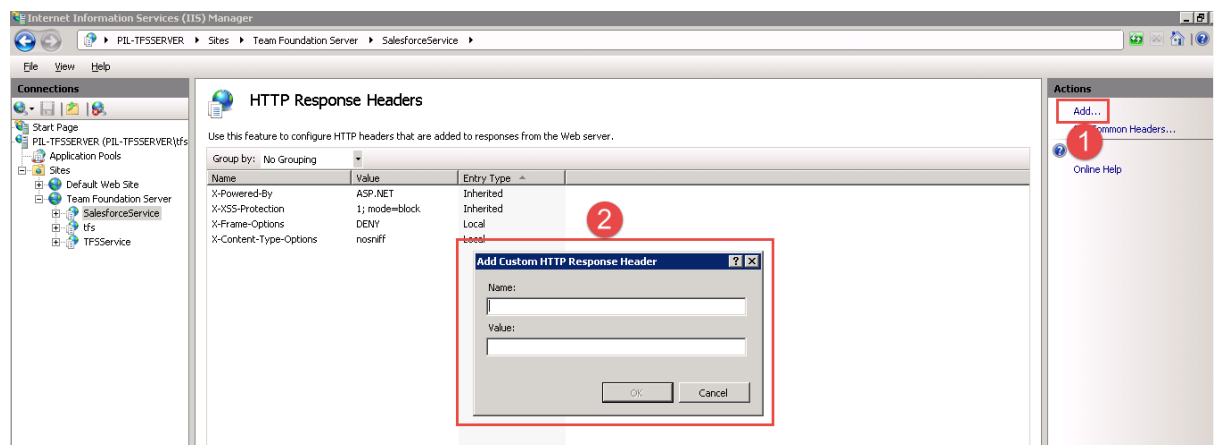
Name	Value
X-XSS-Protection	1; mode=block
X-Frame-Options	DENY
X-Content-Type-Options	nosniff

Please follow the below steps to add the **HTTP Response Headers** in Internet Information Services (IIS).

1. Open the Internet Information Services (IIS) and select the Services hosted and click the “HTTP Response Headers”



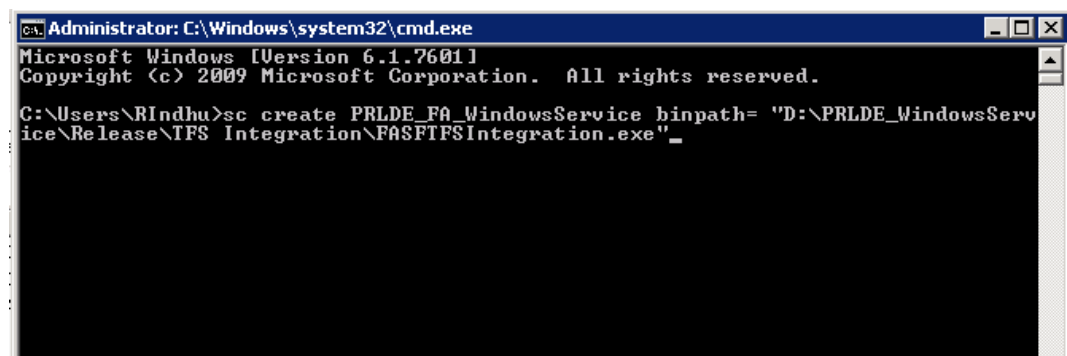
2. In the opened window click **Add** link then in the **Add Custom HTTP Response Header** pop up add the Response Header Name and values.



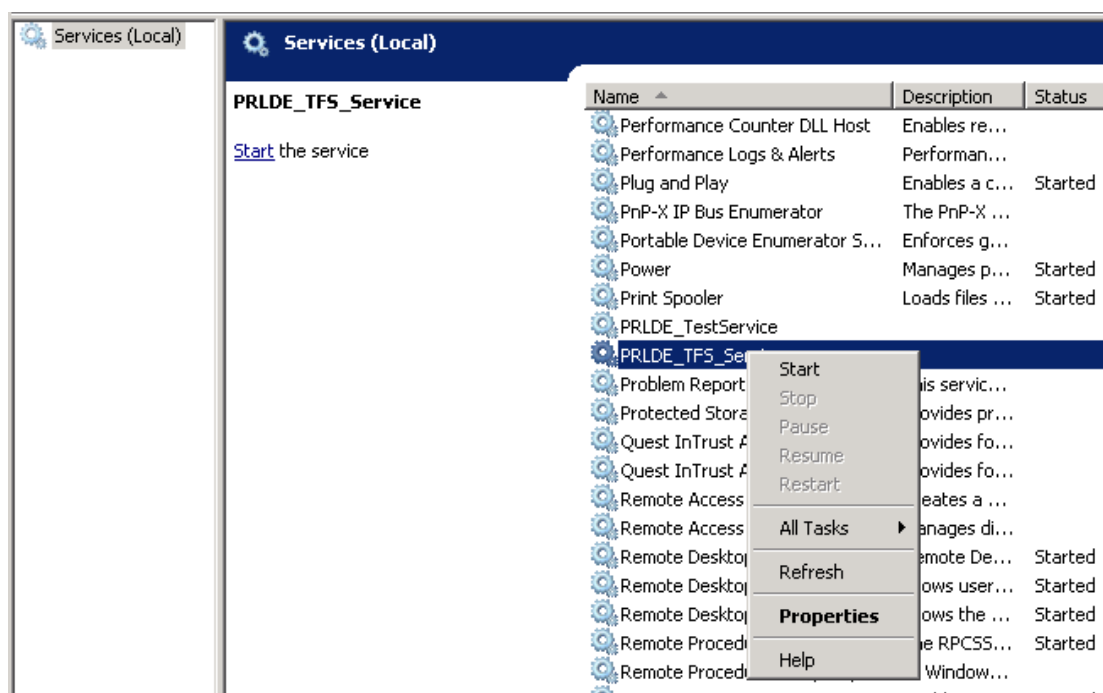
8. Hosting Windows Service

Following are the steps to be followed for hosting the Windows Service.

- Open the command prompt as administrator and execute the below command to create the windows service.
 - SC CREATE <SERVICENAME> binpath= "<EXECUTABLEPATH>"
 - Please refer the below screenshot for your reference.



- Once the above command is executed then the service is created in the server.
- Go to Run and execute "Services.msc" command.
- All the services in the server are displayed in this window. In this right click the installed service and start. Please refer the screenshot below:



9. Firewall Instruction

The Windows server firewall (WCF services are deployed) should be enabled for the below two URL:

<https://test.salesforce.com/services/oauth2/token>

<https://login.salesforce.com/services/oauth2/token>

10. Using the System

This section provides a detailed description of system functions.

1. Whenever a Case is created in Salesforce, the case details will be created as bugs/user stories in TFS.
2. Whenever a TFS bug/user story is updated, the related Salesforce Case will be updated in Salesforce.
3. Whenever a created case is updated in Salesforce, the related TFS bug/user story will be updated in TFS as below example.

Salesforce System

Case Number 00001111 Created Date 11/3/2016 1:45 AM

Status Active
Priority High
Case Owner Salesforce TFS

Ticket By Prelude Salesforce

No Description

Feed Details

Case Detail
Edit Delete Close Case Clone

Case Owner	Salesforce TFS (Change)	TFS Template	Bug
Case Number	00001111	Status	Active
Contact Name	Andy Young	Priority	High
Account Name	Dickenson plc	Contact Phone	(785) 241-6200
Case Reason	Installation	Contact Email	a_young@dickenson.com
Type		Case Origin	Web
Subject	Ticket By Prelude Salesforce		
Description			
Over All Description	Test TFS Salesforce		

TFS Details

TFS Projects	ASPNET	TFS Bug Id	94
Date/Time Opened	11/3/2016 1:45 AM	Date/Time Closed	
Product	GC3020	Engineering Req Number	
Potential Liability		SLA Violation	
Created By	Salesforce TFS, 11/3/2016 1:45 AM	Last Modified By	TFS Service, 11/3/2016 1:55 AM
Custom Links	Up-sell / Cross-sell Opportunity		

Edit Delete Close Case Clone

TFS System

Bug 94: Ticket By Prelude Salesforce

Tags [Add...](#)

Ticket By Prelude Salesforce

STATUS		CLASSIFICATION		PLANNING	
Assigned To	TFS	Area	ASP.NET	Priority	4
State	Active	Iteration	ASP.NET	Severity	3 - Medium
Reason	Regression			Story Points	

REPRO STEPS SYSTEM INFO TEST CASES **SALESFORCE DETAILS** HISTORY ALL LINKS ATTACHMENTS

Case Origin: Web

Case Type:

Case Id: 500280000UUVX0tAAH

Account Name: Dickenson plc
Asset Id: : Null
Case Number: 00001111
Closed: No
Closed Date: No
Closed Date Specified: No
Closed Specified: Yes
Contact Name: Andy Young
Contact Phone: (785) 241-6200
Contact Email: a_young@dickenson.com
Created By: Salesforce TFS
Created Date: 11/03/2016
Deleted: No
Deleted Specified: Yes
Escalation: Product Manager & BDI

Case Values

History: New → Active → Fixed → Resolved → Verified → Closed → Regression → Active

DISCUSSION ONLY ALL CHANGES

TFS (3 weeks ago)
Salesforce

4. Two-way sync will occur whenever the following fields are updated in both Salesforce and TFS.

Salesforce Case Fields	TFS Fields
Case Subject	Title
Status	State
Priority	Priority
Case Origin	Origin (Custom)
Type	Type

Comments

History

****We can also Sync other fields in Salesforce with TFS.**

11. Record Type Configuration

Follow the below steps to create bug for specific record type.

- Clone the existing Workflow and delete the old one.

The screenshot shows the 'Workflow Rule Detail' page for a managed workflow rule named 'PRLDE_Case_Workflow'. A red box highlights the 'Clone' button. The page includes a table with the following details:

Workflow Rule Detail		Object	Case
Rule Name	PRLDE_Case_Workflow	Object	Case
Namespace Prefix	sftfs	Evaluation Criteria	Evaluate the rule when a record is created, and every time it's edited
Installed Package	PRLDE_Salesforce_TFS_App		
Active	☒		
Description			
Rule Criteria	true		
Created By	Nandhini A. 5/15/2017 5:44 AM	Modified By	Nandhini A. 5/15/2017 5:44 AM

- In **Run this rule if the following**, mention as '**Criteria are met**' in the **Rule Criteria** Section

The screenshot shows the 'Step 2: Configure Workflow Rule' page. It includes sections for 'Edit Rule', 'Evaluation Criteria', and 'Rule Criteria'. In the 'Rule Criteria' section, a dropdown menu is open, showing 'formula evaluates to true', 'criteria are met' (highlighted with a red box), and 'formula evaluates to false'. Below this, an example is provided: 'Example: OwnerId <=> LastModifiedById evaluates to true when the person who last modified the record is not the record owner. [More Examples...](#)'

- In Filter Criteria , Mention the name of the particular Record Type.

Edit Rule
= Required Information

Object

Case

Rule Name

PRLDE_Case_Workflow

Description

Evaluation Criteria

Evaluate the rule when a record is:

☐ created
 ☒ created, and every time it's edited

You cannot add time-dependent workflow actions with this option.

☐ created, and any time it's edited to subsequently meet criteria

How do I choose?

Rule Criteria

Run this rule if the following

criteria are met

Field	Operator	Value	
Case: Case Record Type	equals	Sample Record Type	AND
--None--	--None--		AND
--None--	--None--		AND
--None--	--None--		AND
--None--	--None--		