



**Tool Integration
Training Document for
Administrative Users**

Pritam's Sa

Document Version History		
Release	Date	Comments
Version 1.0 (Initial Release)	MM-DD-YYYY	

Table of Contents

About Tool Integration	3
An Integrated Environment.....	5
Story of Integration.....	6
How the Integration has been configured in ABC Application	7
Getting Started	7
Registering a Tool Instance in ABC Application	7
Defining a Service Flow in between registered Tool Instances.....	8
Configuring new Integration Flows between tools	10
How to register Tool Instance.....	10
How to define Service Flow.....	12
When a Service Flow executes Alternative Action.....	15
What happens when disabling an Event, Action or both.....	15
Index Table.....	16

About Tool Integration

Integration Bus is an SOA based Enterprise Service Bus for integrating different classes of Application Development and IT tools to the application platform. The Integration Bus reduces the complexity of integrations and maintenance by an order of magnitude from point-to-point integrations that are typical in the industry. Organizations can utilize certain tools they own such as Doors for Requirements Management, ClearCase for Configuration Management, and Quality Center for Test Management and connect them all together to the ALM Platform to achieve integrated ALM. The 'Bus' of ABC Software can integrate custom-made homegrown products to support a variety of application lifecycle phases by integrating through the Integration Bus. This ensures cross-lifecycle transparency, macro and micro-level process automation and correspondence of activities across all disciplines.

It is generally well known that in the entire product development lifecycle, developers work in isolation or silos based on their functions, technology, geographic or plant locations. Another way of explaining this would be to say that the Requirements Management tools do not talk to Test Management tools and the Test Management tools do not talk to the Issues/Bug Tracking Tools.

ABC Application helps to resolve this issue in two dimensions. However, this is not the case in real life as most organizations use the *best-of-breed* tools from multiple vendors which seldom have interconnectivity and data transferability unless point to point integrations are carried out. Even different tools from the same vendor are not typically connected with each other. So, this is where the second dimension of ABC Application's integration capability comes into use by way of the Bus technology.

To integrate 5 different tools following 'point to point' connections require 10 separate integration paths. On the other hand, in a bus or hub like architecture the same integrated setup can be achieved by just 5 adapters. ABC Application's web based architecture facilitates remote communication and collaboration even for the tools located outside the local network.

Major Components of ABC Application Bus

Configuration and Administration Tools: ABC helps in setting up integration with different ALM tools. It includes:

- Registering ALM tools (like – RequisitePro, HP QC, SharePoint) by providing the Adapter location (web service URL)
- Configuring and controlling security access to registered tools
- Defining the integration flow between lifecycle entities exposed by the registered ALM tools through event-action mapping
- Viewing the detail log of events received from different ALM tools and the actions executed subsequently

Execution Engine: This is the execution component for BUS integration. It includes:

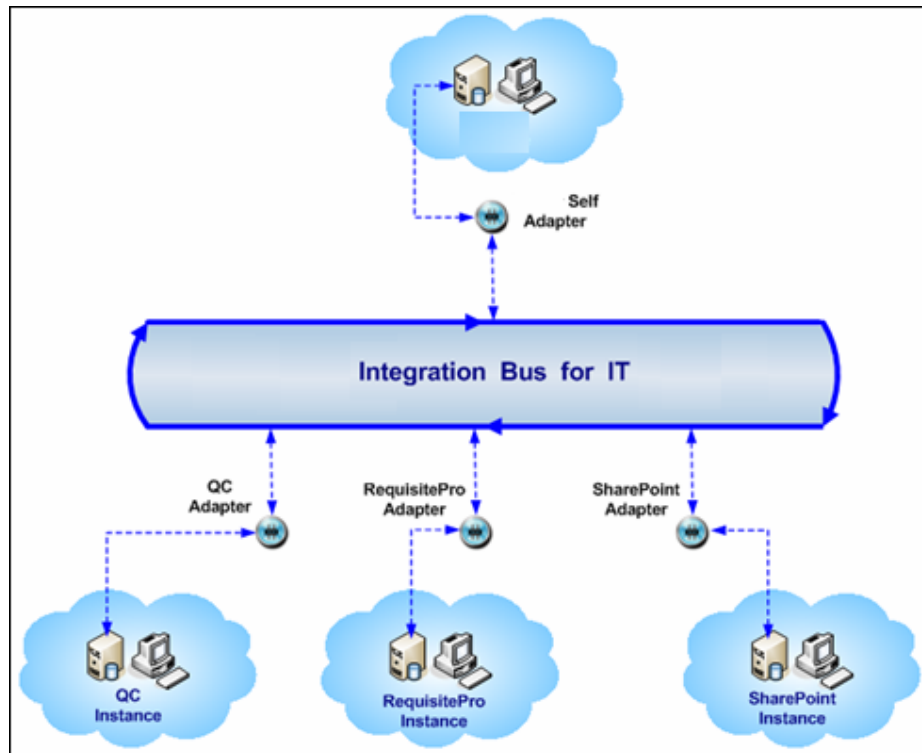
- Polling at regular intervals for any events that occurred and collected at the Adapters from ALM tools.
- Retrieving the event messages collected by Adapters
- Maintaining the event messages in an Event Queue
- Processing the event messages as per the Integration Flow defined above and sending action messages (synchronous or asynchronous) to ALM tools through Adapters
- Recording all received and processed events in a log

Web Service API: This is the web service interface for BUS. ALM tools can directly access this interface for back and forth data exchange. Using this API, extensions or Add-Ins for ALM tools can be developed to provide information about lifecycle entities like Requirements, Test Cases, Use Cases, Defects, Tasks etc. from within the tool environment.

Adapters: Adapters are Web Services built on ALM tools. These web services follow a common interface model to expose the following information about the tools.

- Lifecycle entities supported by the tool
- For each lifecycle entity – the information fields that are maintained by the tool
- For each lifecycle entity – the events that are triggered by the tool
- For each lifecycle entity – the actions that are possible on the entity

An Integrated Environment



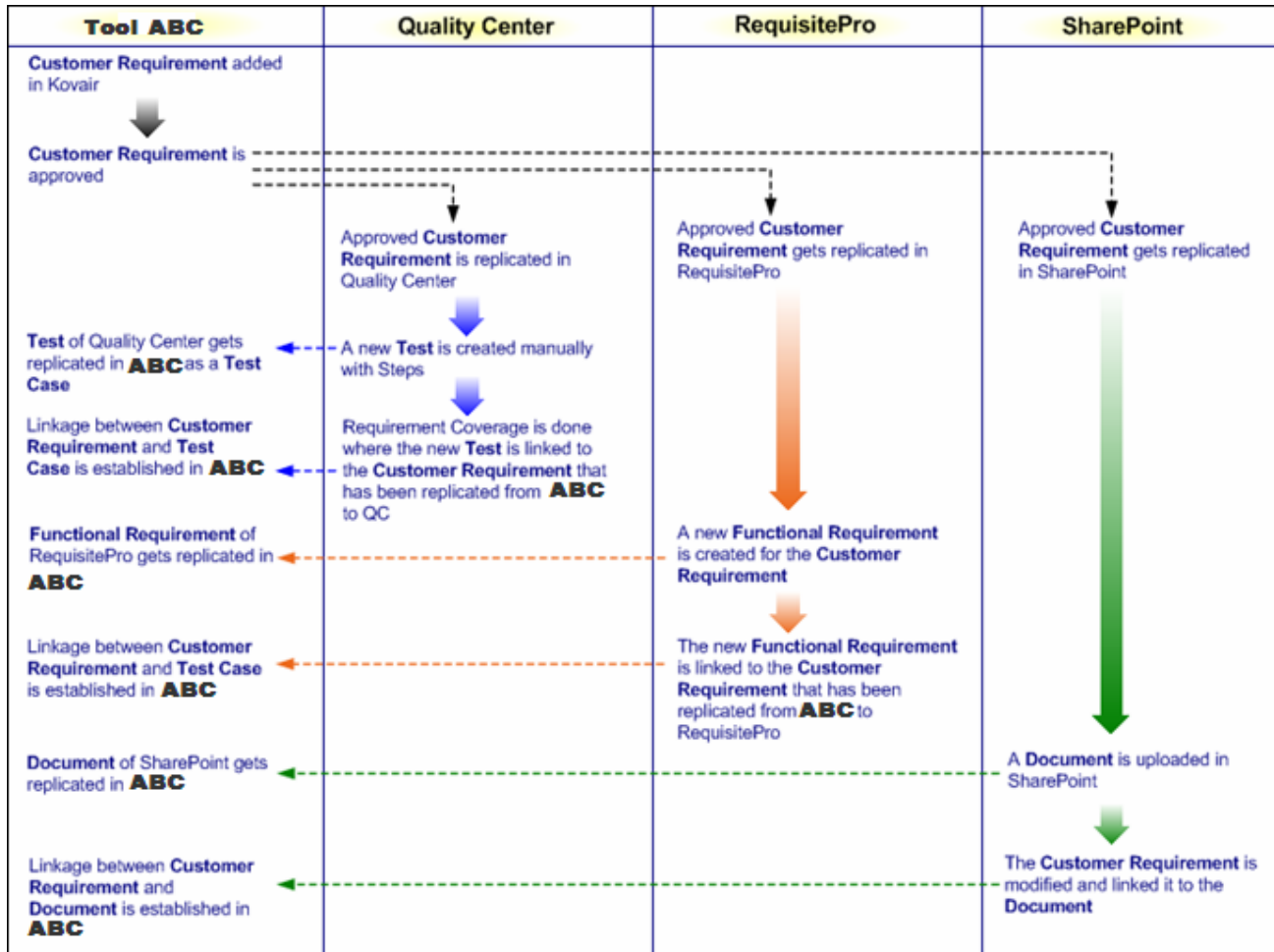
Integrated Environment

The above figure explains the bus/hub architecture where cross-tool integrations have been set up with ABC Application, Quality Center, RequisitePro, and SharePoint. ABC Application BUS – the Integration Bus for IT with four tool adapters play the key role for establishing tool-to-tool communications.

	ABC Application	Quality Center	RequisitePro	SharePoint
Objectives	<ul style="list-style-type: none"> To submit Customer Requirements To track related items of Quality Center, RequisitePro and SharePoint without leaving ABC Application environment 	<ul style="list-style-type: none"> To create a Test for Customer Requirement added in ABC Application To establish Requirement Coverage between the Test and Customer Requirement 	<ul style="list-style-type: none"> To create Functional Requirement for the Customer Requirement added in ABC Application To establish link between Functional Requirement and Customer Requirement 	<ul style="list-style-type: none"> To upload Document against the Customer Requirement To establish link between uploaded Document and Customer Requirement

So, from the above table it is clear that each tool has its own objective, and is used to perform tool specific specialized operations. These tools (ABC Application, Quality Center, RequisitePro, and SharePoint) when integrated through ABC Application's Bus technology it becomes easy to replicate data from ABC Application to integrated vendor neutral tools, and same from integrated tools to ABC Application. Thus ABC Application can be treated as a centralized management tool from where one can track the data of integrated tools with ease, and without leaving ABC Application's environment ,

Story of Integration



How the Integration has been configured in ABC Application

Getting Started


Access Details for Administrative User

ABC Application URL: <http://xxx.xx.x.xxx/ABC Application6>

Login: user

Password: user

After successful Login, application redirects you to the end user mode (Home) of Project: **ABC Application Demo**. You have to change your user mode from end user mode (Home) to Project admin user mode (Project Setup).

	<p>How to navigate from end user mode to Project Setup?</p> <ol style="list-style-type: none"> 1. Locate the top-right corner of the context bar where application displays welcome note, Project name, and other links like - 'Logout' and 'Project Setup'. 2. Click the link 'Project Setup'. Application redirects you to the Project admin user mode, and by default you will be able to see the list of all users already assigned to the current Project (ABC Application High Level Demo).
---	--

Registering a Tool Instance in ABC Application

The primary criterion to integrate a tool instance through BUS is to register a valid Web Services, with appropriate security parameters. Security parameters depend on what tool instance you are registering. Tool instance registration is one time job, and can be used in all Projects under a Site. For example, consider a site consists of three Projects – Requirement Management, Test Management, and Issue Management. For all three Projects you need to integrate the same instance of HP QC, for real-life use. Once you register an instance of HP QC, under any one Project stated above, the registered instance becomes available to remaining Projects. So, you don't need to register the same instance separately for each Project.

Navigate to Project Setup: Bus → Registration to view the list of tool instances which are registered with Web Service URL, and are enabled to ensure cross-tool communication. For each tool (like – ABC Application, RequisitePro, Quality Center, and SharePoint) you will find separate Web Services. These tool specific web services are provided by ABC Application.

Registration of a vendor neutral tool instance is the first criteria to ensure cross-tool communication between ABC Application and another tool. We use the term 'Instance' to address each server setup of a tool. BUS (the Integration Bus of ABC Application), and tool specific Adapter, together they establish the communication network. The tools remain hooked with the BUS through ABC Application's in-built adapters. Each adapter refers to a Web Service, and each Web Service is defined for specific tool. Role of adapter is to route information from one tool to another according to its event log. Tool integration through ABC Application's BUS can be of two types:

- between two ABC Application servers
- between ABC Application server and a third-party tool server

Click the Tool Name from the list to view registration details. For each tool instance, you will find separate set of security parameters are stored in the system. For each tool instance, you will find separate set of security parameters are stored in the system. These security parameters vary from one instance to another on the basis of 'information' required to connect to that tool.

Let's pick up one registered tool instance say, QC Client. Click the Tool Name from the list to view its registration details. Application displays registration details of the selected instance. Initially system displays the section General Information, the other two sections – Security Parameters and Work Area remain collapsed. Expand the collapsed sections and view registration details of the instance – QC Client.

[How to register a Tool Instance in ABC Application?](#)

Defining a Service Flow in between registered Tool Instances

Service flow refers to a communication rule that acts on integrated tool instances. Each communication rule is a pair of event and action. The objective of a Service Flow is to define what action to be performed in a tool instance (say, a project in HP QC), when an event occurs in another tool instance (say, a Project of ABC Application), considering both instances should be integrated by BUS technology. For every Service Flow you need to specify details of event, and action.

	Tool Instance	Instance Entity	Entity Mapping	Event / Action Details
Event	The first criteria of event details are to identify a tool instance where an event will occur.	Since an Event usually occurs on entity item of a tool instance, therefore, you have to specify the 'Entity' of a tool instance for which event will take place.	Not required for defining Event details.	All events are predefined. Display of events is subject to the instance you select, and may vary from one tool instance to another.
Action	The first criteria of action details are to identify a tool instance where the action will take place.	Since an Action usually occurs on entity item of a tool instance, therefore, you have to specify the 'Entity' of a tool instance for which action will take place.	An action replicates information (like – Field values, Relational links) from one instance (where the event occurs) to another instance (where the action takes place). Hence, you need to specify appropriate map that ensures correct replication of data from one tool instance to another.	All actions are predefined. Display of actions is subject to the instance you select for an action to take place. In absence of an entity, you can set alternate action.

Event and Action are the main parts of any Service Flow. These parts are mandatory for specifying 'When to execute a Service and from which Tool Instance' (Event), and 'What to be performed by the Service and in which Tool Instance' (Action). Application allows you to set condition for the Event in Event Condition section that displays in-between Event and Action. Event Condition is an extended part of event definition. Event Condition helps to set criteria on a generic event, and thereby, you can address to specific or granular sub-set of that event.

Navigate to Project Setup: Bus → Service Flow to view the list of flows already defined in ABC Application.

Let's pick up one service flow say, Add Test Case in ABC Application when added in QC. It is a flow from QC to ABC Application, the objective of this flow is – whenever any new Test is created in HP QC instance, the same record gets replicated in ABC Application instance as a Test Case. Click a Name of a Service Flow from the list to view its details. Application displays mapping details in four sections – Event, Event Condition, Actions, and Event Execution History. Among these the first three sections are relevant sections to understand the details of the flow. The last section keeps record or log of this service's execution.

Event					
Name	Add Test Case in Tool when added in QC				
Instance Name	QC Eval				
Instance Entity	Test				
Event	New Test Added				
Status	Enable				

Event Condition					
"("	Field	Condition	Value	Operator)"

Actions							
Add Action Save Order							
	Action	Instance Name	Instance Project	Instance Entity	Alternative Action	Is Asynchronous	Status
+	Add Test Case	QC Eval	High Level Demo	Test Case		N	Enable

Event Execution History							

Details of a Service Flow

A Service Flow is able to execute multiple Actions on different tool instances as a result of an Event in a tool instance. All actions are listed under the section – Actions. To view details of an Action, click the action name (say, Add Test Case).

Action Mapping		Save	Save & Continue	Cancel
Add new action or edit existing Action				
* Instance Name	QC Eval			
* Instance Project	High Level Demo			
* Instance Entity	Test Case			
* Entity Mapping	QC Eval - Test - QC Test			
* Action	Add Test Case			
Alternate Action when entity item does not exists	<None>			
<input checked="" type="checkbox"/> Enable				
<input type="checkbox"/> Asynchronous				
<input type="checkbox"/> Need Sync Back				

Details of an Action

[How to define a Service Flow?](#)

Configuring new Integration Flows between tools

How to register Tool Instance

Where to Navigate

Project Setup: Bus → Registration

To register a Tool Instance:

1. Click the link '**Create New Tool Instance**' located at top right corner of the page. New Tool Registration page is displayed. The page contains set of tabs (**General**, **Security Parameters**, and **Project Selection**) and acts like a wizard to help you registering a tool instance:
 - **General:** This section is to define tool name, tool type, web service URL to be used, and the communication frequency between ABC Application, and the tool instance. (Fields marked with '*' are mandatory)

New Tool Registration

General Security Parameters Project Selection

Next >> Save & Finish Cancel

* Tool Name QC Eval

* Tool Type Quality Center

* Web Service URL http://.../QCAdapter6/Service.sv

Enable ☒

Event Collection Scheduling

Frequency

☒ Daily ☒ Monday ☒ Saturday

☐ Weekly ☒ Tuesday ☒ Sunday

☐ Monthly ☒ Wednesday ☒ Thursday ☒ Friday

Time

☒ Recurring ☐ One Time

Start Time 00:00

End Time 23:59

Running Frequency 1 Min(s)

Summary

Calls every day every 1 min(s) between 00:00 and 23:59 (Pacific Standard Time)

Register a Tool with Web Service URL

- **Tool Name** – Type appropriate name for new tool instance. The name should be logical, and self explanatory so that other users can understand what tool instance has been registered. For example, if you are registering an instance of HP Quality Center, the tool name can be 'HP QC', 'QC', 'Quality Center' or some other name suitable to represent the Tool (Quality Center).
- **Tool Type** – Select appropriate tool type from the drop-down list.
- **Web Service URL** – Enter valid URL for the web service. We Service URL's are tool specific and will be provided to you by ABC Software Inc. For example, to register an instance of HP Quality Center the Web Service URL will be somewhat like - http://xxx.xxx.x.xx/QCAdapter/Service.asmx.
- **Enable** – Check the option to make the tool instance enable for BUS integration. Only enable instances can communicate with ABC Application.
- **Event Collection Scheduling** – Event collection scheduling is defined by the combination of two parameters – Frequency and Time. Based on the defined parameters' values Events of ABC Application and integrated tools will be collected in the Bus Engine for further processing.
You can set the collection **Frequency** for – 'Daily', 'Weekly', or 'Monthly' basis.

- ◆ With the option 'Daily' you can set Event to be collected on all 7 days of the week
- ◆ With the option 'Weekly' you can set Event to be collected on any particular days or all 7 days of the week
- ◆ With the option 'Monthly' you can set Event to be collected on any particular day of a month (say, 1st day, 2nd day, 3rd day, ... and so on to 31st day of every month)

For each frequency you can set the **Time** either 'Recurring' or 'One Time'.

- ◆ With the option 'Recurring' you can set Event to be collected based on a Start Time, End Time, and Running Frequency
- ◆ With the option 'One Time' you can set Event to be collected on a particular time

Application displays the summary of Event Collection Scheduling on the basis of specified combination of Frequency and Time settings.

2. Click the **Next >>** button to set Security Parameters for the adapter.

- **Security Parameters:** This section is to set security parameters for new instance tool. Security parameters are not always same for all tool instances. Display of parameters is subject to – **Tool Type**, and **Web Service** that you have specified in previous section.

The screenshot shows the 'New Tool Registration' window with the 'Security Parameters' tab active. The fields are as follows:

Field	Value
Server	entmshs01.slp
Port	
Domain	QC_HLD
Domain Password	
User Name	test
Password	****
Host Name	

Define Security Parameters

- **Server** – Type name of the server where the tool (say. HP Quality Center) need to be installed prior to this registration.
- **Port** – Type a valid port address through which data will be transferred and received during cross-tool communication.
- **Domain** – Type the valid domain address.
- **Domain Password** – Type valid Password for accessing the domain that you have specified for this tool instance.
- **User Name** – Type valid user name for accessing the Server and its Domain.
- **Password** – Type valid password for accessing the Server and its Domain.
- **Host Name** – Type a Host Address if the Server and Host are set up at two different locations (addresses). Leave this field blank if the Server and Host are located in same address.

3. Click the **Next >>** button to select **default Project(s)** and **default User** for the integrated tool.

- **Project Selection:** This section is to specify Projects for new tool instance. For new tool instance it is mandatory to associate the instance with at least one Project, and one user of that Project. The page contains two drop-down lists – **Default Project**, and **Default User**. (Fields marked with '*' are mandatory)

The screenshot shows the 'New Tool Registration' dialog box with the 'Project Selection' tab selected. The 'Default Project' is set to 'HLD_Eval6' and the 'Default User' is 'tedt (tedt)'. There is a 'Notify To' field for an email address. Navigation buttons include '<< Previous', 'Save & Finish', and 'Cancel'. Action buttons are 'Get Project' and 'Get Users'. An 'Add More Project' link is at the bottom.

Select the Default Project and Default User

- **Default Project** – Select Project from associated drop-down list. Regarding this tool, all further mappings (Field Mapping, Relationship Mapping, User Mapping) will be done based on Project selected as **Default Project**. Apart from Default Project, you can select other Projects. Ensure that structure (Users, Entities, Lookups, Fields, and Relations) of other selected Projects should be same.
- **Default User** – Click the button **Get Users** to retrieve users of Default Project in Default User drop-down list. Select a user from the drop-down list. The list displays users of Default Project who have authorization/access to use integrated tools.
- **Notify To** – Provide an email address of an administrative user (say, Primary Admin of the Project). That authorized user will receive a notification at the given email address only when the application fails to connect the integrated tool.

4. Click the **Save & Finish** button.

How to define Service Flow

Where to Navigate

Project Setup: Bus → Service Flow

To define a Service Flow:

1. Click the link '**Create New Service Flow**' located at top right corner of the page. Application displays a page to create new service flow for integrated instances. The page contains three tabs, and acts like wizard to help you defining service flow components – event details, condition, and action details.
 - **Event:** This section is to specify a name for the service flow and event details. (Fields marked with '*' are mandatory):

The screenshot shows the 'Create New Service flow' dialog box with the 'Event' tab selected. The 'Service Flow Name' is 'Link Req - Test when linked in QC'. The 'Instance Name' is 'QC Eval', 'Instance Entity' is 'Requirement', and 'Event' is 'New Requirement Coverage Added'. The 'Enable' checkbox is checked. Navigation buttons include 'Next >>', 'Save & Finish', and 'Cancel'. A prompt 'Select source instance, source entity and event.' is at the top.

Define Service Flow – Event Details

- **Service Flow Name** – Type an appropriate name for the service flow. The name should be logical and self explanatory so that other users can understand the flow.
- **Instance Name** – Select a tool instance where the event will occur. The drop-down list displays instances for which you have registered Web Services in the current Project.
- **Instance Entity** – Select an entity from the drop-down list for which the event will take place. Entities displays in the list are subject to the selection of tool instance.

- **Event** – Select an event from the drop-down list. The list displays all pre-defined events. Events displays in the list are subject to the selection of tool instance and its entity.
- **Enable** – Check this option to activate the Service Flow to operate against the Event. If you uncheck the option, then Event will not be tracked, and against that Event no Action will be executed by BUS Engine.

2. Click the **Next >>** button to set **Event Condition**.

- **Event Condition:** This section is to set condition for the event. You may not be interested for a Service Flow to execute against any generic event (like – add, modify, delete), rather want it to execute on special cases. This means you have to run some filter on an event. Event Condition helps you to set that filtering criteria for an event. Based on Event Condition, the execution of a Service Flow becomes very particular. It executes on special occurrences of an event that depends on one or more field values of event entity items.

Example

Consider a Service Flow that replicates Tests from HP QC instance to ABC Application as Test Case. Now, replicating all Test items from QC instance may not be required for you. Suppose you are not interested to replicate all new Test items from QC to ABC Application. Instead, you want only 'MANUAL' Tests to replicate, and for which estimated development time are less than 8 hours.

Condition helps you to narrow down the event to a particular sub-set. It is possible when appropriate attributes (fields) of event entity are available. In HP QC the Test entity has fields like – Type (a lookup field to specify type of Test item), and Estimated DevTime (an integer field to set estimated development time for each Test item). Once you use these fields in Event Condition of a Service Flow, its execution gets restricted. Instead for all new Tests, the Service Flow will execute an Action whenever any new Tests satisfy the Event Condition.

(Field	Condition	Value)	Operator
*	Type(Lookup)	In	Customer		<None>
*	<None>	<None>			<None>
*	<None>	<None>			<None>

Add More Row

Define Service Flow – Event Condition

- **Field** – Select appropriate field from the drop-down list. Display of fields the list is subject to selection of an instance and its entity.
- **Condition** – Select appropriate criteria from the dropdown. Display of fields the list is subject to the 'field type' of selected Field.
- **Value** – Specify value to evaluate the value of selected Field as per a condition.

3. Click the **Next >>** button to define **Action**.

- **Action:** This section is to define an action. Action replicates data from one tool instance to another. (Fields marked with '*' are mandatory):
 - **Instance Name** – Select a tool instance where the action will take place. The drop-down list displays tool instances for which you have registered Web Services in the current Project.
 - **Instance Project** – Select a project of the instance. A tool instance can have multiple projects/Projects, but when a Service Flow executes certain action it acts on a particular project. You cannot use a Service Flow to act on multiple projects/Projects at a time. For example, if the instance is Host (i.e., ABC Application), there can be multiple Projects, but a Service Flow should point to a specific workflow, say, ABC Application Demo.
 - **Instance Entity** – Select an entity of the project. A project can have multiple entities, but when a Service Flow executes certain action it acts on a particular entity. The reason is, any action is

determined by 'one-to-one' Entity Mapping. Therefore, you cannot use a Service Flow to act on multiple entities at a time.

- **Entity Mapping** – Select a map based on which data will be replicated from one instance to another. When a Service Flow performs certain action, data gets replicated from one tool to another tool Entity Mapping. The drop-down displays list of Entity Mapping that you have already defined in the application. See: Entity Mapping.
- **Action** – Select an action that will be performed by the Web Service in targeted tool instance. All actions are pre-defined in this application. You cannot define any other action of your own.
- **Alternative Action When Entity Item Does Not Exists** – Select an alternative action for Web Service. An We Service, when executes it performs the 'Action' according to a Service Flow, but in absence of an entity item in targeted tool instance the 'Alternative Action' is performed by that service.
- **Enable** – Check this option to activate the Service Flow to execute Action against an Event. If you uncheck this option, then no Action will be executed by BUS Engine irrespective of whether Event has occurred or not.
- **Asynchronous** – Check this option to allow Services to work in asynchronous mode. By default, all Service Flow are synchronous, but you can turn it asynchronous if required. Synchronous and Asynchronous settings of a Service Flow depends on its Action definition and it has no relation with real-time (or 'just in time') communication between integrated tool instances.
- **Need Sync Back** – Check this option when you want to trigger another Action back to the tool instance from where the event has generated. When you check the option application displays further fields to select Sync Back Action, and Sync Back Fields.

4. Click the **Save & Finish** button to define **Action**.

When a Service Flow executes Alternative Action

Alternative Action takes place in absence of appropriate entity item in targeted tool instance. Usually, a Service Flow executes an Action based on following criteria:

- a Service Flow need to be defined correctly to execute an Action on occurrence of an Event
- Action and Alternative Action need to be specified in Action details of that Service Flow definition
- the Service Flow need to be activated, so that when a particular 'Event' occurs it can execute 'Action' or 'Alternative Action'

Consider a real-life example of integrated setup between ABC Application Project and Quality Center Project to understand when a Service Flow will execute Alternative Action. It is assumed that all pre-requisites (Web Services, Adapters, Entity Mapping, Relation Mapping, Service Flows, and Users Mapping) for cross-tool integration are already defined.

Let's take an example of a Service Flow that takes care of any modification of Test items in QC Project, and accordingly, update the filed value of mapped Test Cases in ABC Application Project. In absence of appropriate (mapped) entity items in ABC Application, application will replicate the modified Test items as new Test Cases. We move forward with a pair of mapped items (say, Test 1 and TC 1), one from each tool instance. The following Table describes when a service will execute 'Action' and 'Alternative Action' on occurrence of a Event.

Test item in QC	Test Case in ABC Application	Event in QC	Action in ABC Application
Test 1	TC 1	Event: Test Modified Test 1 modified in a QC Project	Action: Modify Test Case in ABC Application If the Test Case (TC 1) exists in ABC Application instance, the service updates field values of TC 1, as per Entity Mapping used in the Service Flow.
			Alternative Action: Add New Test Case in ABC Application If the Test Case (TC 1) does not exist in ABC Application instance (as it can be deleted), the service adds or replicate that updated Test (Test 1) as a new Test Case item in ABC Application.

What happens when disabling an Event, Action or both

Event and Action are two major part of – Service Flow definitions. 'Enable' option is available in both parts separately. So, there can be four possible ways regarding occurrence of an Event, and execution of an Action:

Event Status	Action Status	Description
Enable	Enable	The BUS Engine is able to trap Event of a tool instance, and successfully execute Action in integrated tool instance.
Enable	Disable	The BUS Engine is able to trap Event of a tool instance, but unable to execute Action in integrated tool instance.
Disable	Enable	The BUS Engine is unable to trap Event of a tool instance. So, it becomes immaterial that whether Action is set Enable/Disable. No Action will be executed in either cases.
Disable	Disable	

Index Table

A

Action	8, 9, 13, 14, 15
Adapter	4, 7
admin user mode	7
ALM tools.....	4
Asynchronous	14
automation.....	3

B

bus.....	3, 5
----------	------

C

Condition	8, 13
Configuration	3, 4
cross-tool communication	7, 11

D

Default Project	11, 12
Default User.....	11, 12
domain.....	11

E

end user mode.....	7
Engine	4, 10, 13, 14, 15
Enterprise Service Bus	3
Entity Mapping.....	14
Event	4, 8, 9, 10, 11, 12, 13, 14, 15
Event collection	10
Execution History.....	8

H

Home	7
Host.....	11, 14
hub	3, 5

I

instance	7, 8, 9, 10, 11, 12, 13, 14, 15
Integration Bus	3, 5, 7
Integration Flow	4

L

lifecycle.....	3, 4
log.....	4, 7, 8

Login	7
-------------	---

M

Mapping	8, 12, 14, 15
---------------	---------------

N

navigate	7
----------------	---

P

parameters.....	7, 10, 11
password	11
port.....	11

R

Registering	
Register.....	10
registration	7, 11
Registration.....	7, 10
Relation Mapping	15
replicate data	5

S

server.....	7, 11
Service flow.....	8
Service Flow	8, 9, 12, 13, 14, 15
SOA	3
Sync.....	14
Synchronous	14

T

tool instance.....	7, 8, 10, 11, 14, 15
Tool instance.....	7

U

URL.....	4, 7, 10
user	7, 11, 12
Users Mapping.....	15

W

Web Service.....	4, 7, 10, 11, 14
Web Service API.....	4
Web Services.....	4, 7, 12, 14, 15
Project Setup	7, 8, 10, 12