



PQC

quality center

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About the Tutorial

HP Quality Center (QC), a commercial test management tool by HP, supports various phases of software development life cycle. It is popularly known as HP-ALM Application Life Cycle Management. HP Quality Center is also available as a Software-as-a-Service offering.

This tutorial will give you an in-depth understanding on HP Quality Center, its way of usage, project tracking and planning, and other tabs in QC such as Management, Test Plan, Test Lab, defects management and Dashboard view.

Audience

This tutorial is designed for Software Testing Professionals with a need to understand HP QC in detail. It will give you enough ingredients to start with QC from where you can take yourself to higher levels of expertise.

Prerequisites

Before proceeding with this tutorial, you should have a basic understanding of software development life cycle (SDLC). In addition, you should have some prior exposure to software testing as a process.

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1. HP QC – Introduction

What is Quality Center?

HP Quality Center (QC), a test management tool, is now popularly known as **Application Life Cycle Management (ALM)** tool, as it is no longer just a test management tool but it supports various phases of the software development life cycle.

HP-ALM helps us to manage project milestones, deliverables, and resources. It also aids in keeping track of project health, standards that allow Product owners to gauge the current status of the product. It is important to understand the history, architecture, and workflow of Quality Center.

History of QC

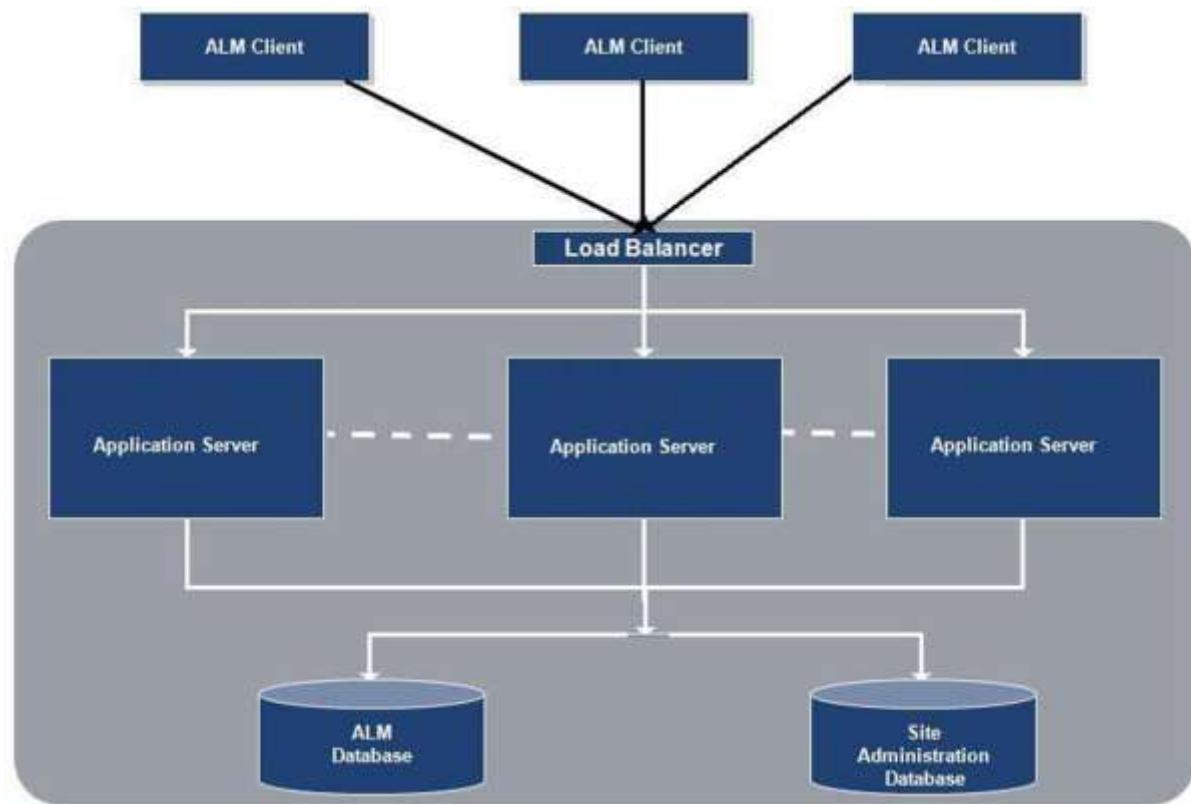
Quality Center was formerly known as Test Director, a product of Mercury Interactive. The following table provides us a better insight about the version history of QC.

S.No#	Commercial Name	Version Numbers	Owned By
1.	Test Director	v1.52 to v8.0	Mercury Interactive
2.	Quality Center	v8.0 to v9.0	Mercury Interactive
3.	Quality Center	v9.2 to v10.0	Hp
4.	ALM	v11.0 to v11.5x	Hp

Architecture of QC

HP-ALM is an enterprise-wide application that is based on Java 2 Enterprise Edition (J2EE) technology and uses MS SQL Server or Oracle as its back end. There is also a load balancer to effectively cater users' requests.

Site Administration Database is hosted on a standalone database server, while other project related data are stored on a separate database server. The following diagram shows how the setup of QC would be in a large corporation.



HP ALM Editions

HP ALM is a commercial licensed tool and HP deploys it in four different editions that are listed below:

- HP ALM
- HP ALM Essentials
- HP Quality Center Enterprise Edition
- HP ALM Performance Center Edition

ALM Edition Feature Comparison

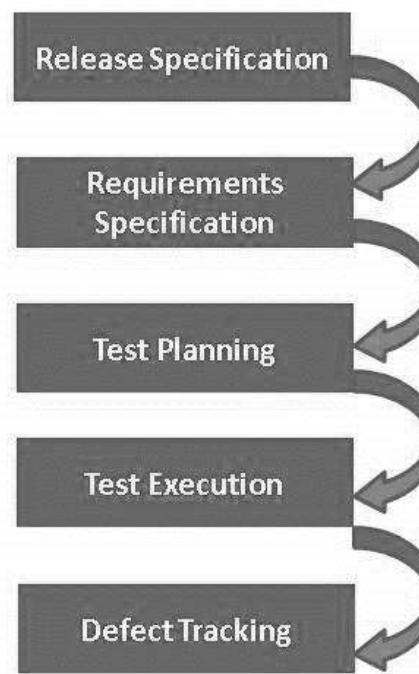
Each one of the above editions has its own limitation in terms of ALM functionalities. Based on the following table, one can decide which license is required for their project purpose.

Feature	HP ALM	HP ALM Essentials	HP QC Enterprise Edition	HP ALM Performance Center Edition
Release Management	Yes	Yes	Yes	Yes
Project Planning and Tracking	Yes	No	No	No

Risk Based Quality Management	Yes	No	Yes	No
Test Authoring and Execution	Yes	Yes	Yes	Yes
Test Resources	Yes	Yes	Yes	Yes
Test Configurations	Yes	No	Yes	Yes
HP Sprinter	Yes	No	Yes	No
Lab Management	Yes	No	No	Yes
Versioning	Yes	No	Yes	Yes
Baselining	Yes	No	Yes	Yes
Cross Project Customization	Yes	Yes	No	Yes
Sharing Defects	Yes	No	No	No

Quality Center Workflow

The following diagram shows the workflow of Quality Center:



2. HP QC – Environment Setup

HP-Quality Center Setup

HP Quality Center Environment Setup is a complicated process and it is NOT the usual installation that we carry out on a Windows operating system.

Enterprise installation would be distributed, however for learning/evaluating purpose, one can install the trial version of HP-ALM 11.5x on a standalone server. One should also need to take care of the prerequisites carefully to carry out a successful installation.

Prerequisites for Installing QC

For evaluation purpose, both client and server can reside on the same system and in this chapter, we will do the installation of that kind.

Supported Windows Operating Systems

Only the following list of Windows OS are supported, hence one has to ensure that HP-ALM is installed on one of the following Windows OS only:

- Microsoft Windows Server 2008 Enterprise SP2 32 Bit/64 Bit
- Microsoft Windows Server 2008 R2 Enterprise SP1 64 Bit
- Microsoft Windows Server 2012 Standard 64 Bit
- Microsoft Windows Server 2012 R2 Standard 64 Bit

Supported Databases

Ensure that you have one of the following databases installed in your system before proceeding to install HP-ALM:

- Oracle 10.2.0.5
- Oracle 11.2.0.3
- Oracle 11.2.0.4
- Microsoft SQL Server 2005 SP4
- Microsoft SQL Server 2008 R2 SP1
- Microsoft SQL Server 2008 R2 SP2

Supported AppServers

Ensure that the server has got any of the following AppServers installed:

- Apache 2.2
- Microsoft IIS 7.0
- Microsoft IIS 7.5
- Microsoft IIS 8.0
- Microsoft IIS 8.5

Supported Browsers

HP ALM can be accessed only by using Active X based browsers, hence Internet Explorer is the only browser that is supported:

- Microsoft Internet Explorer 8
- Microsoft Internet Explorer 9
- Microsoft Internet Explorer 10
- Microsoft Internet Explorer 11

Downloading HP-ALM

Following are the steps for downloading the 30-day trial version of HP-ALM from HP website.

Step 1 : Launch the following URL - <http://www8.hp.com/us/en/software-solutions/software.html?compURI=1174315>

Step 2 : Click on "Trials and Demos" and Select "HP Application LifeCycle Management 11.50 English SW E-Media Evaluation" as shown below:



Step 3 : Fill in all the necessary details and click on "NEXT" as shown below:

Software /Application Lifecycle Management /ALM Development Management

1 About yourself > 2 Terms of service > 3 Download

HP Application Lifecycle Management 11.50 English SW E-Media Evaluation

About yourself

First Name *

Last Name *

Email *

May HP contact you via email? *?

Yes No

What are your plans for using this software? *

Please select one

About your company

Company *

Phone *

Country *

Address1 *

Address 2

City/town *

State/province *

Zip/postal code *

Required *

[Privacy Statement](#)

[Cancel](#)

[Next](#)

Step 4 : Accept the Software terms and click on "NEXT" as shown below

1 About yourself > 2 Terms of service > 3 Download

HP Application Lifecycle Management 11.50 English SW E-Media Evaluation

Software Download Terms of Use

READ CAREFULLY BEFORE DOWNLOADING THE SOFTWARE.

1. This license agreement (the "Agreement") states the terms between you ("You" or "Your") and Hewlett-Packard Company and its subsidiaries ("HP") for the software that You download from HP's website (the "Software"). By downloading, copying, or using the Software You agree to this Agreement. If You do not agree to be bound by the terms of this Agreement, do not click on "I Agree" below and do not download, install, copy, or use the Software.
2. **Terms.** This Agreement includes supporting terms and information referenced by HP, which may be software license information, additional license authorizations, software specifications, published warranties, supplier terms, open source software licenses and similar content ("Supporting Material"). Additional license authorizations are available at: www.hp.com/go/SWLicensing.
3. **Authorization.** If you agree to this Agreement on behalf of another person or entity, you warrant you have authority to do so. This Agreement will be enforceable against You and any entity for which you download, install or use the Product.
4. **Consumer Rights.** If you obtained the Software as a consumer, nothing in this Agreement affects your statutory rights.
5. **License Grant.** As long as you comply with this Agreement, HP grants You a non-exclusive non-transferable license to use one copy of the version of software or the Software until for Your internal business purposes. Each copy is subject to any specific end-user licensing information located in BY CLICKING I AGREE AND USING THE SOFTWARE YOU INDICATE YOUR ACCEPTANCE OF THE HP SOFTWARE DOWNLOAD AGREEMENT. IF YOU CLICK I DISAGREE AND DO NOT ACCEPT THE HP SOFTWARE DOWNLOAD AGREEMENT, THEN YOU ARE NOT GRANTED ACCESS TO THE SOFTWARE, YOU ARE NOT AUTHORIZED TO USE THE SOFTWARE, AND YOU MAY NOT DOWNLOAD THE SOFTWARE.

[I DISAGREE](#)

[I AGREE](#)

Step 5 : Download link appears and select the appropriate edition you want to install (windows/Unix)

Name	File Size	Using HP Download Manager
Software, HP QC/ALM 11.50 + SP2 Windows English (T7333-15018.iso)	PDF 2542 MB	Download
Software, HP QC/ALM 11.50 + SP2 Unix English (T7333-15019.iso)	PDF 1917 MB	Download
Ltr, HP ALM 11.50 Welcome	PDF 0.00 MB	Download

Installing HP-ALM

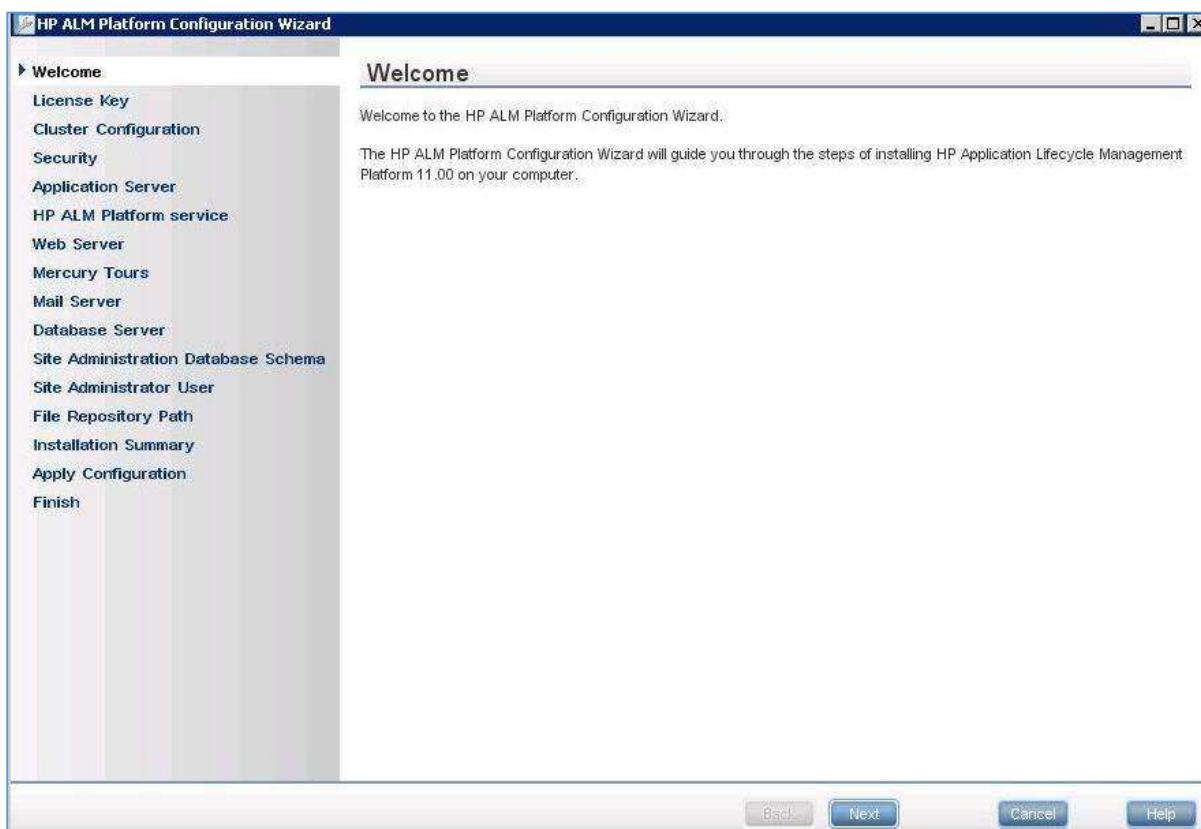
Step 1 : After downloading the ISO file, unzip the contents and after unzipping, the folder structure would be as shown below:

Name	Date modified	Type	Size	Tags
ALM_Demo_Project	4/15/2013 7:40 PM	File Folder		
ALM_Win32	4/22/2013 1:31 PM	File Folder		
ALM_Win64	4/22/2013 1:34 PM	File Folder		
dat	4/24/2013 3:47 PM	File Folder		
Docs	4/28/2013 4:41 PM	File Folder		
Readme	4/28/2013 4:42 PM	File Folder		
Third_Party_Products	4/15/2013 7:49 PM	File Folder		
Utilities	4/22/2013 1:39 PM	File Folder		
autorun.inf	10/1/2009 4:32 PM	Setup Information	1 KB	
setup.exe	4/23/2013 5:40 PM	Application	55 KB	

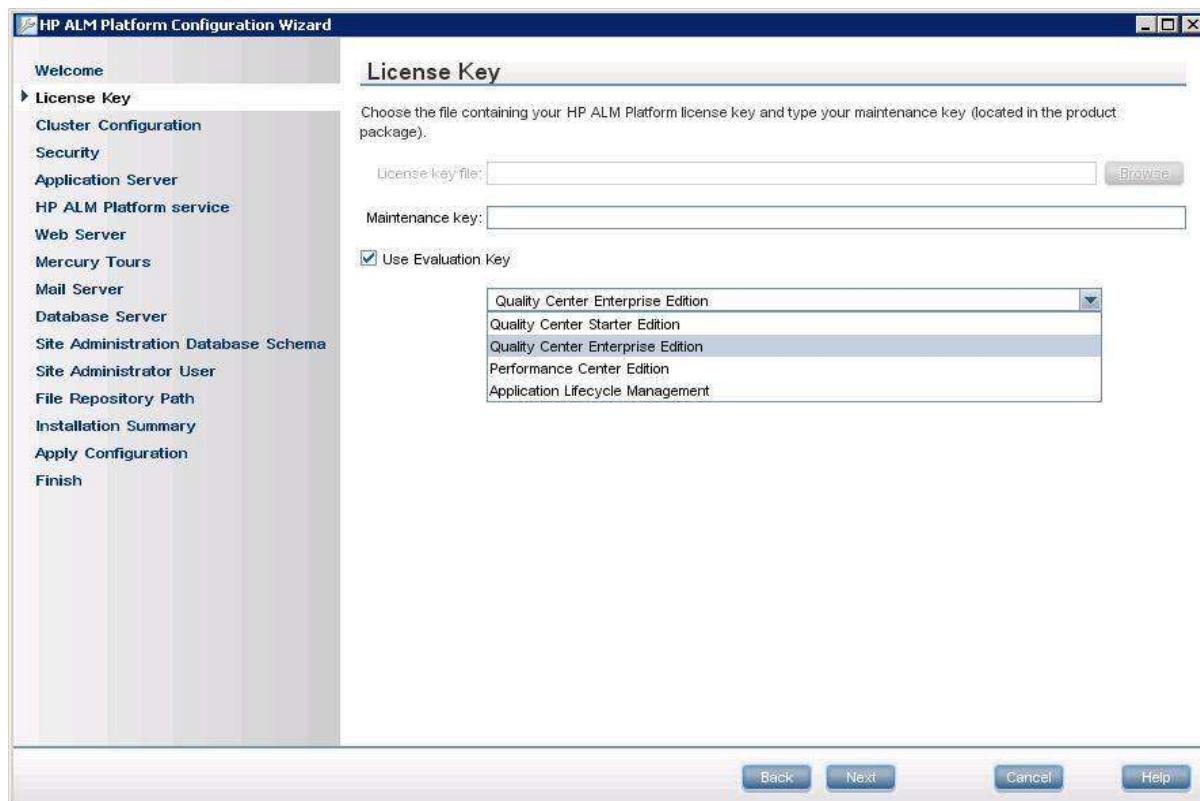
Step 2 : After the Welcome screen opens up, click the "NEXT" button as shown below. Continue to click the Next button until you reach the Finish screen.



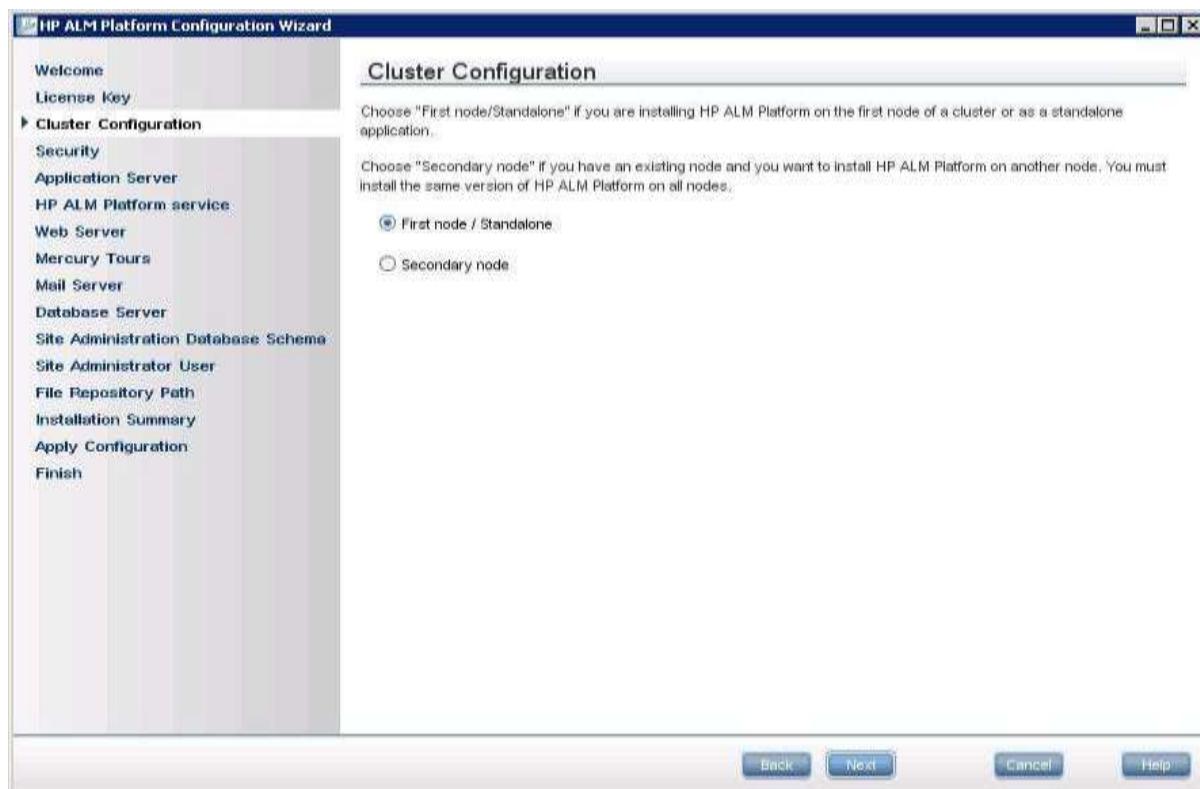
Step 3 : Upon finishing, the HP ALM Platform Configuration Wizard opens as shown below.



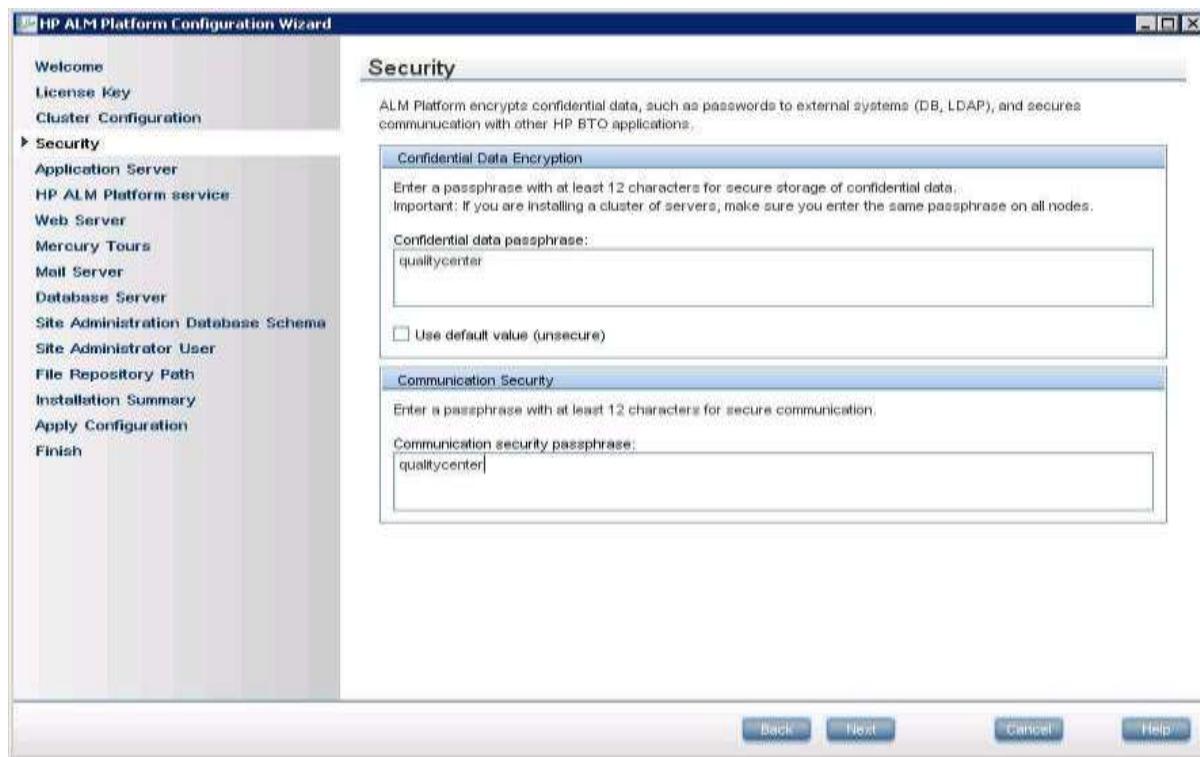
Step 4 : License Key Tab opens and the user needs to select "Application Life Cycle Management" so that we can access all the features of the package.



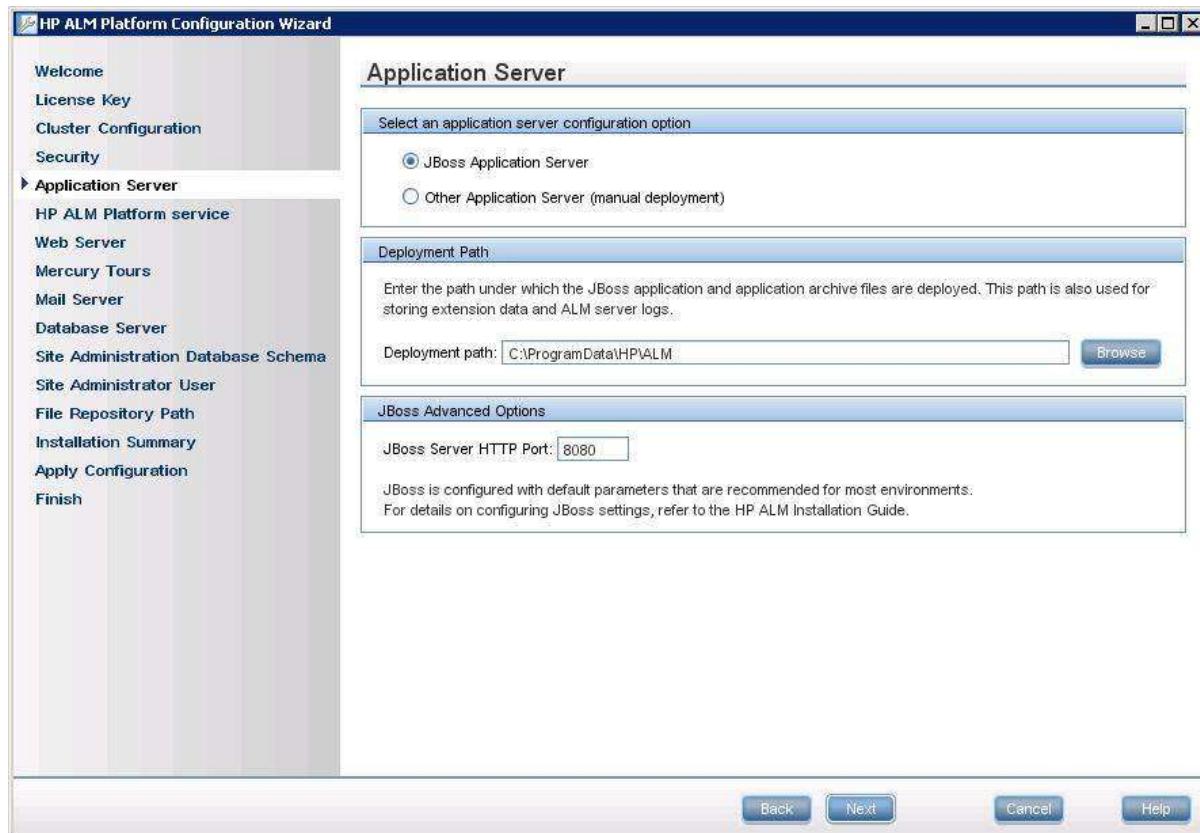
Step 5 : Cluster Configuration Tab opens and choose Standalone, as we will install all services in a standalone host and NOT as a distributed system.



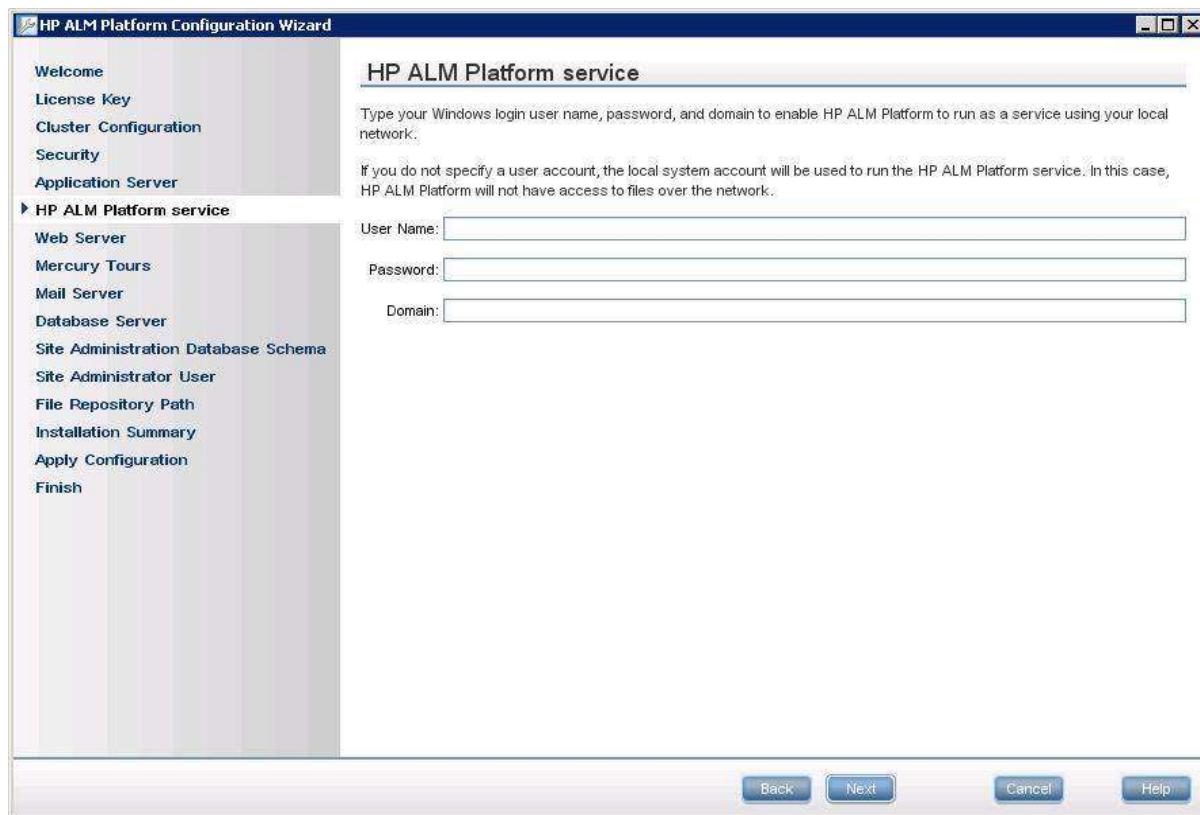
Step 6 : Security Tab opens. Here you need to key-in the passphrase such that there is a minimum of 12 characters.



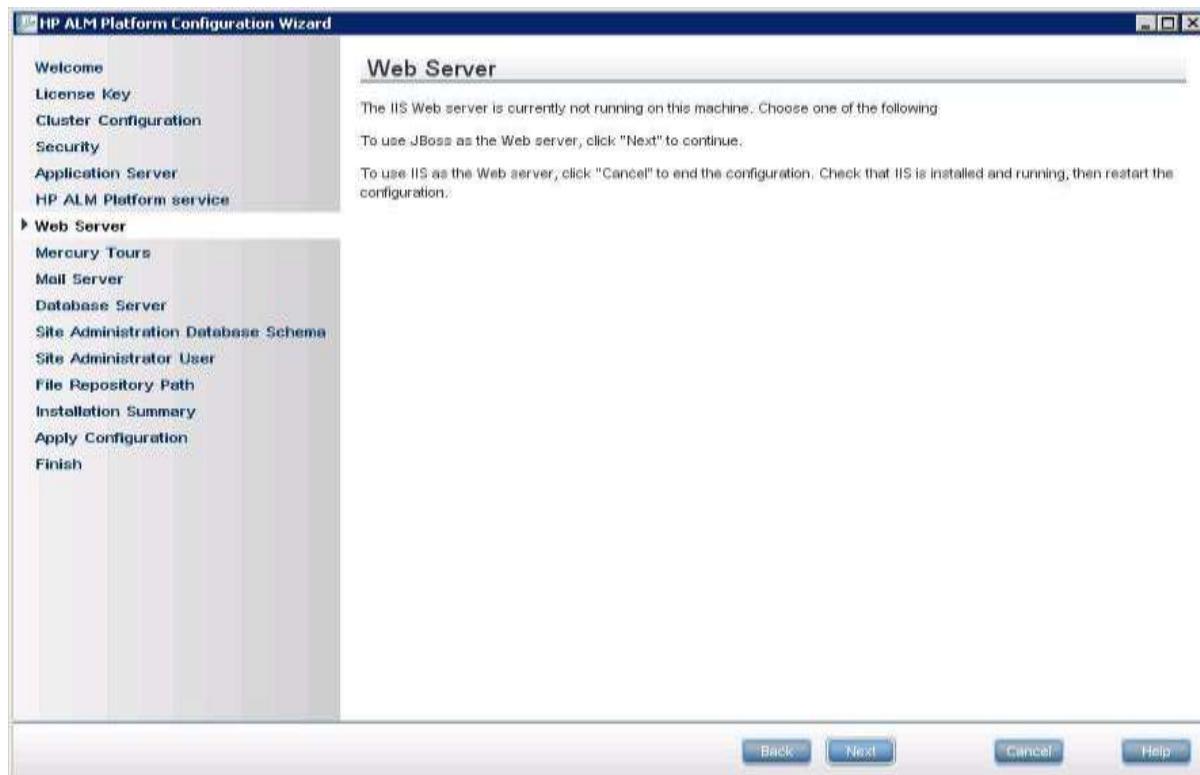
Step 7 : Application Server Tab opens. Choose "Jboss Application Server" and allow all others as default values.



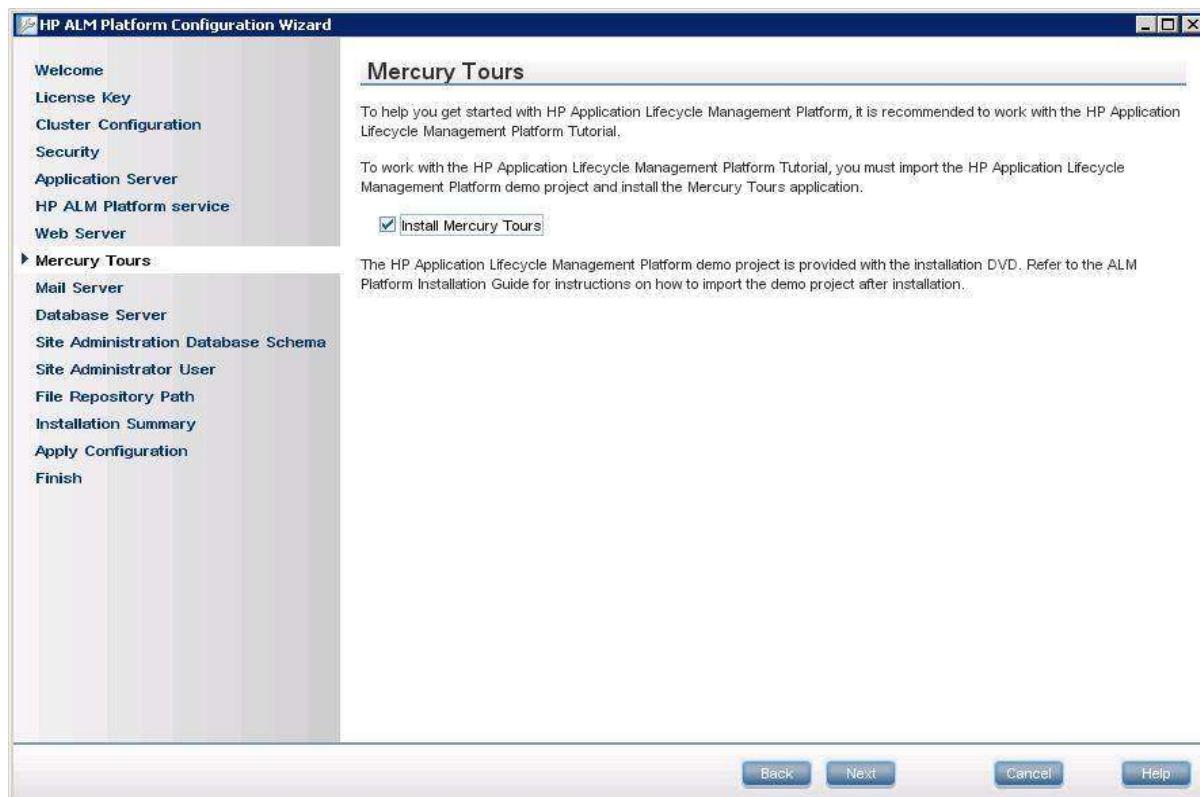
Step 8 : HP ALM Platform Service tab opens. Leave it empty so that your Windows login is used as the userid for starting the ALM Services.



Step 9 : Web Server selection window opens. We will use JBOSS as the Webserver. Hence we need NOT select anything but just click on the "NEXT" button.



Step 10 : If you would like to install the sample application "Mercury Tours", please select and click "NEXT".

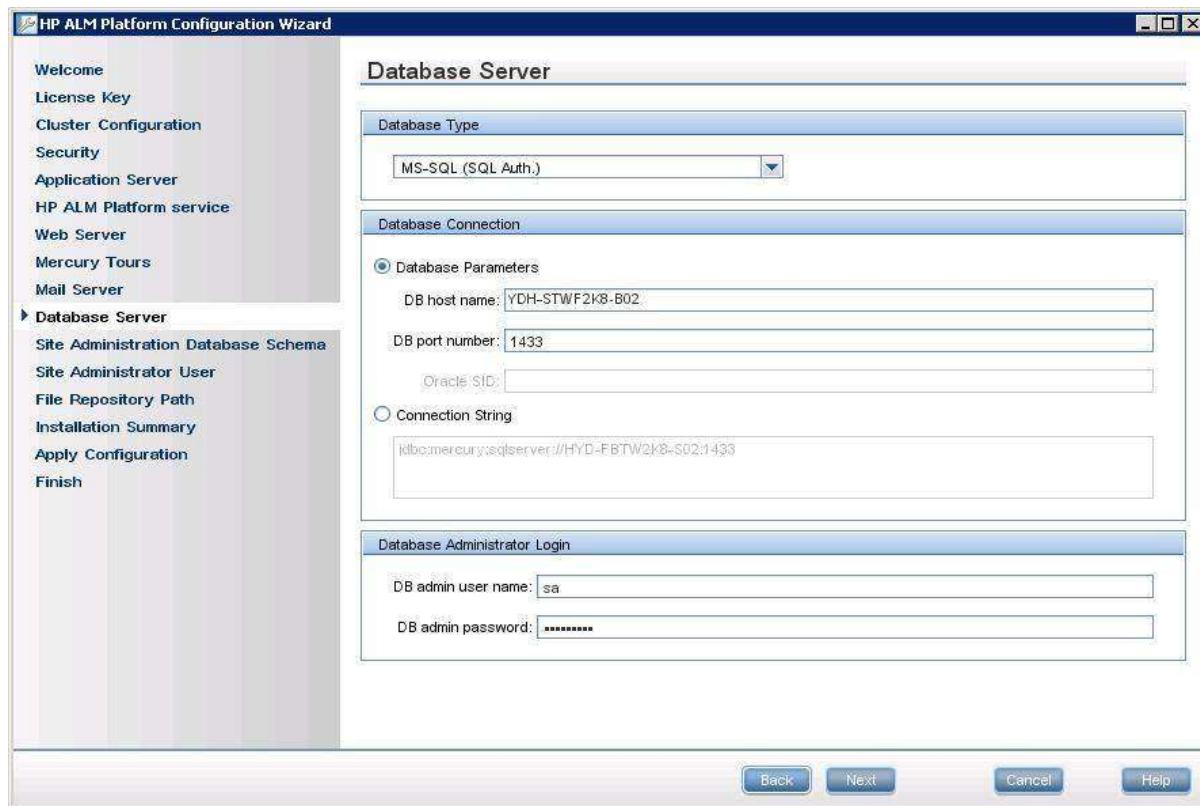


Step 11 : For Mail Server Configuration, add your SMTP or MS IIS SMTP server name or Select None and Click "NEXT". This server setting will enable you to interact with other QC users via Email or it triggers an email based on the settings.

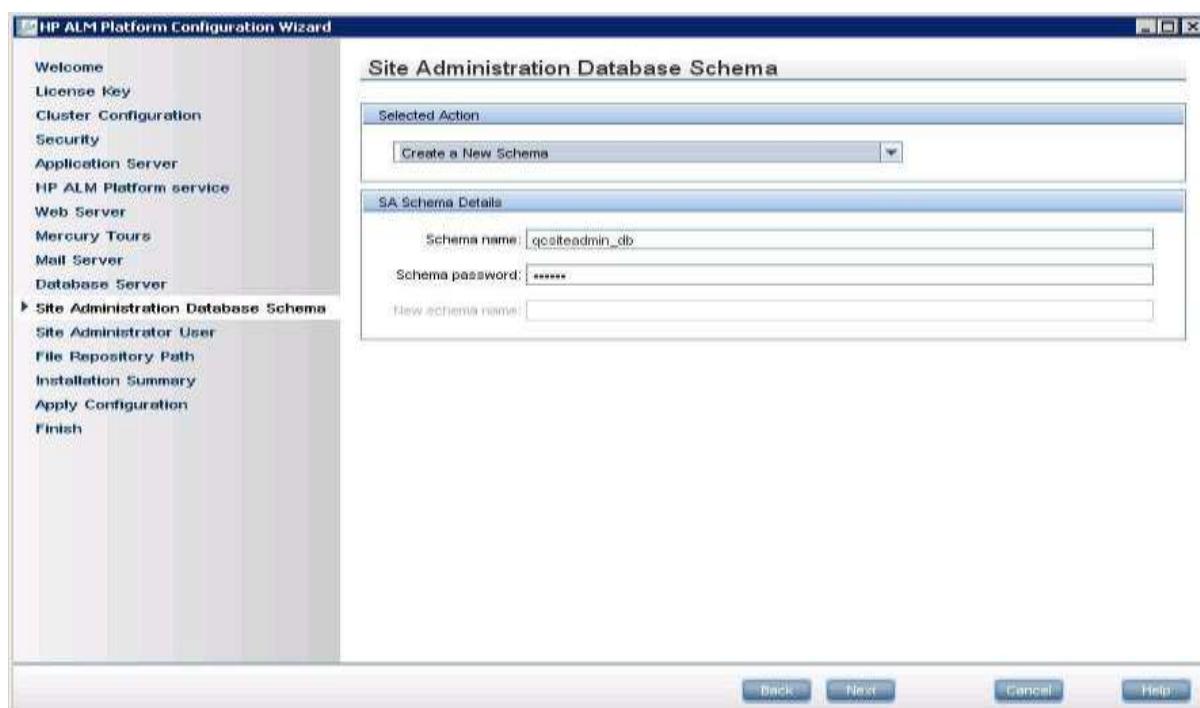


Step 12 : Choose the correct database Server Configuration. Please note that the database corresponds to the one that is already installed on the server. The user

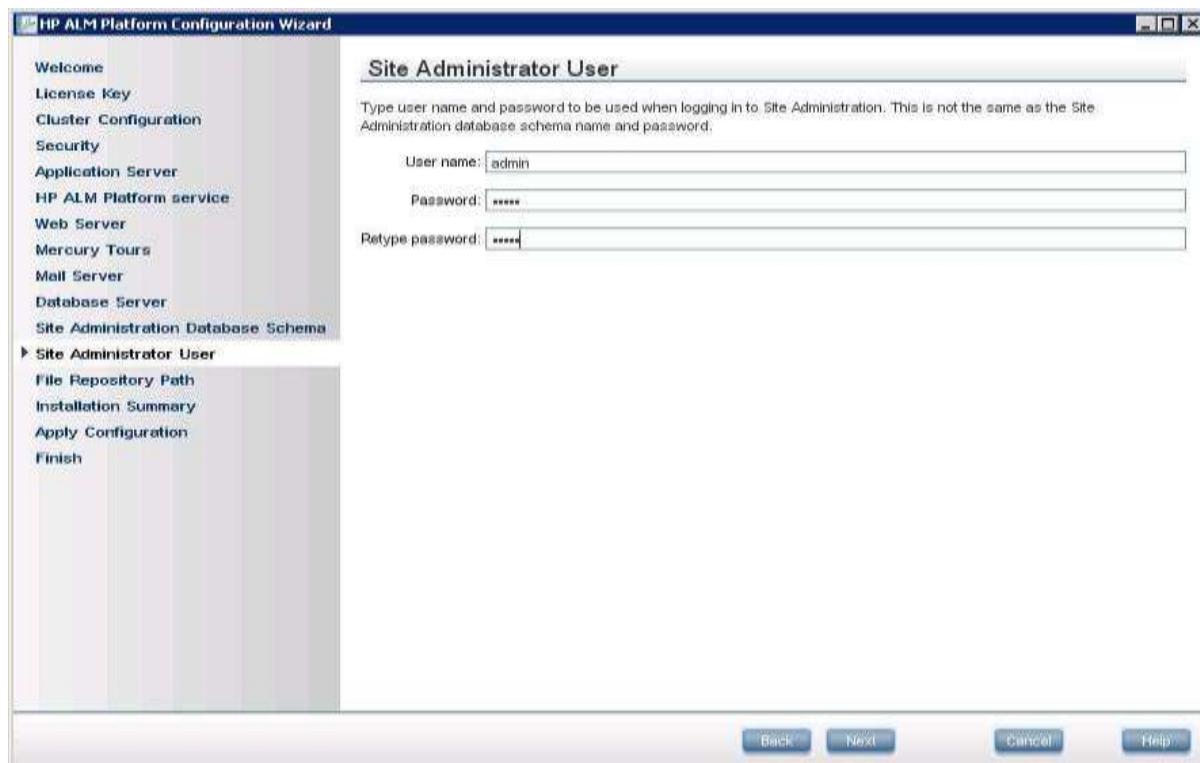
credentials should have privileges to create Database on the server. Only if all the field values are correct, it moves on to the next screen.



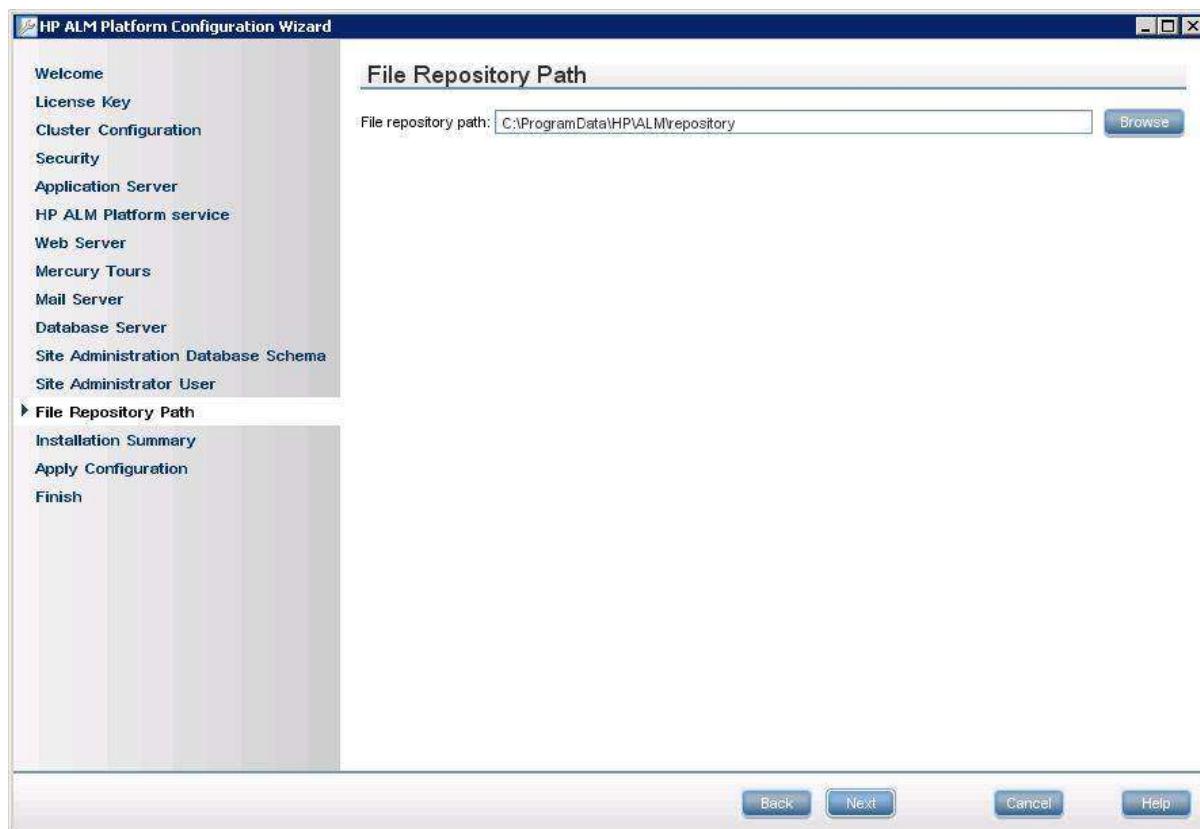
Step 13 : The Site Administration Database Schema configuration window Opens. Ensure that you give a unique DB Schema name where all the Admin data of QC will be stored.



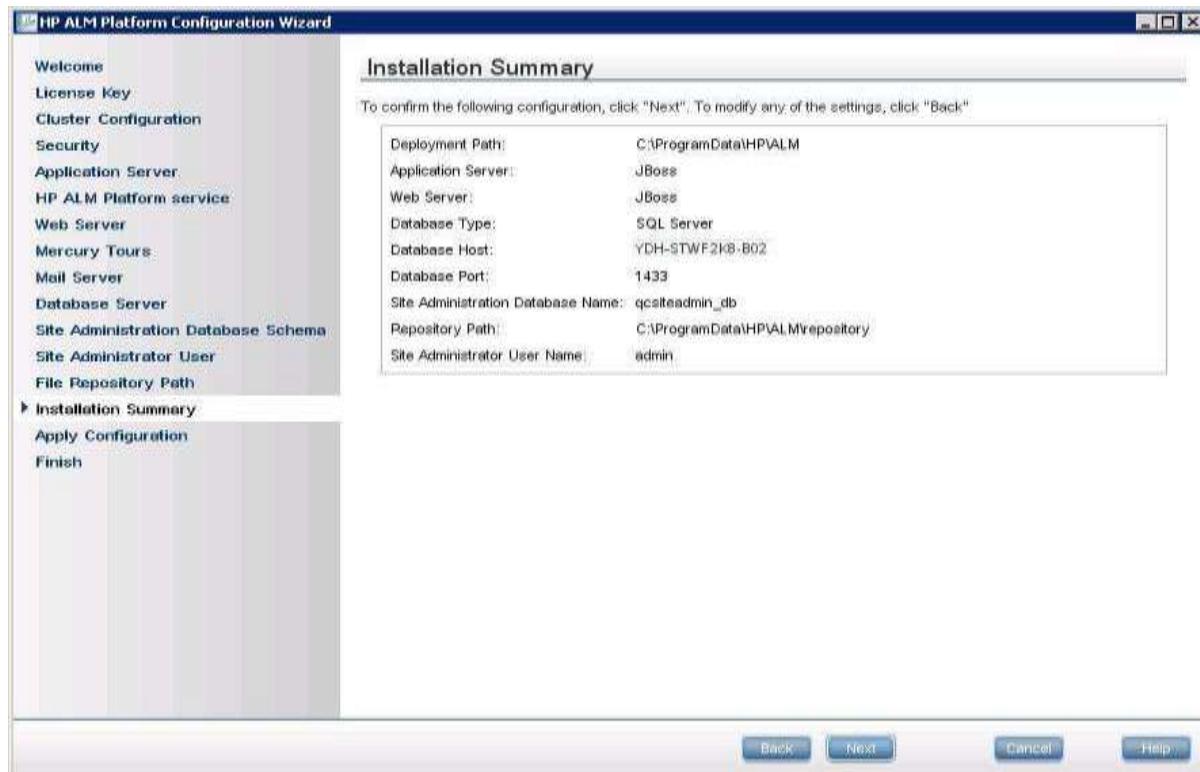
Step 14 : Enter the Site Administrator user credentials. Do NOT forget to remember these credentials so that you can log into QC using these credentials after successful installation.



Step 15 : File Repository Path is the location where all the QC related assets which we create would be saved.



Step 16 : The Installation Summary Window opens up which shows the complete summary of the selected configuration. If the user wishes to make any changes, then he can do so by going back to the previous window.

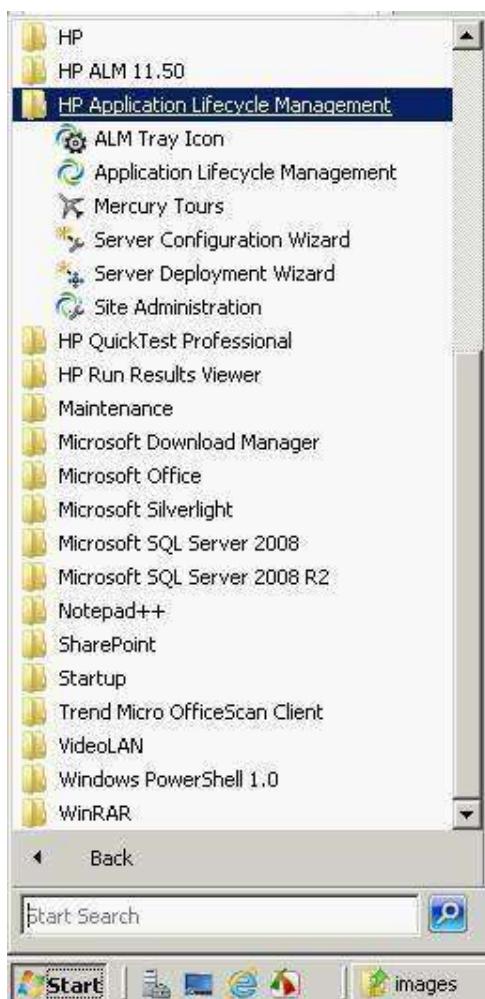


Step 17 : Apply Configuration shows that the selected components will be installed with the selected configuration. Upon Completion the message is thrown to the user if the installation is successful.



Launching HP-ALM

Step 1 : Upon installing HP-ALM successfully, the ALM can be launched from the Start menu as shown below.



Step 2 : After installation, we can also launch ALM by typing the following URL in Internet Explorer: <http://localhost:8181/qcbin/>

ALM would open as shown below.

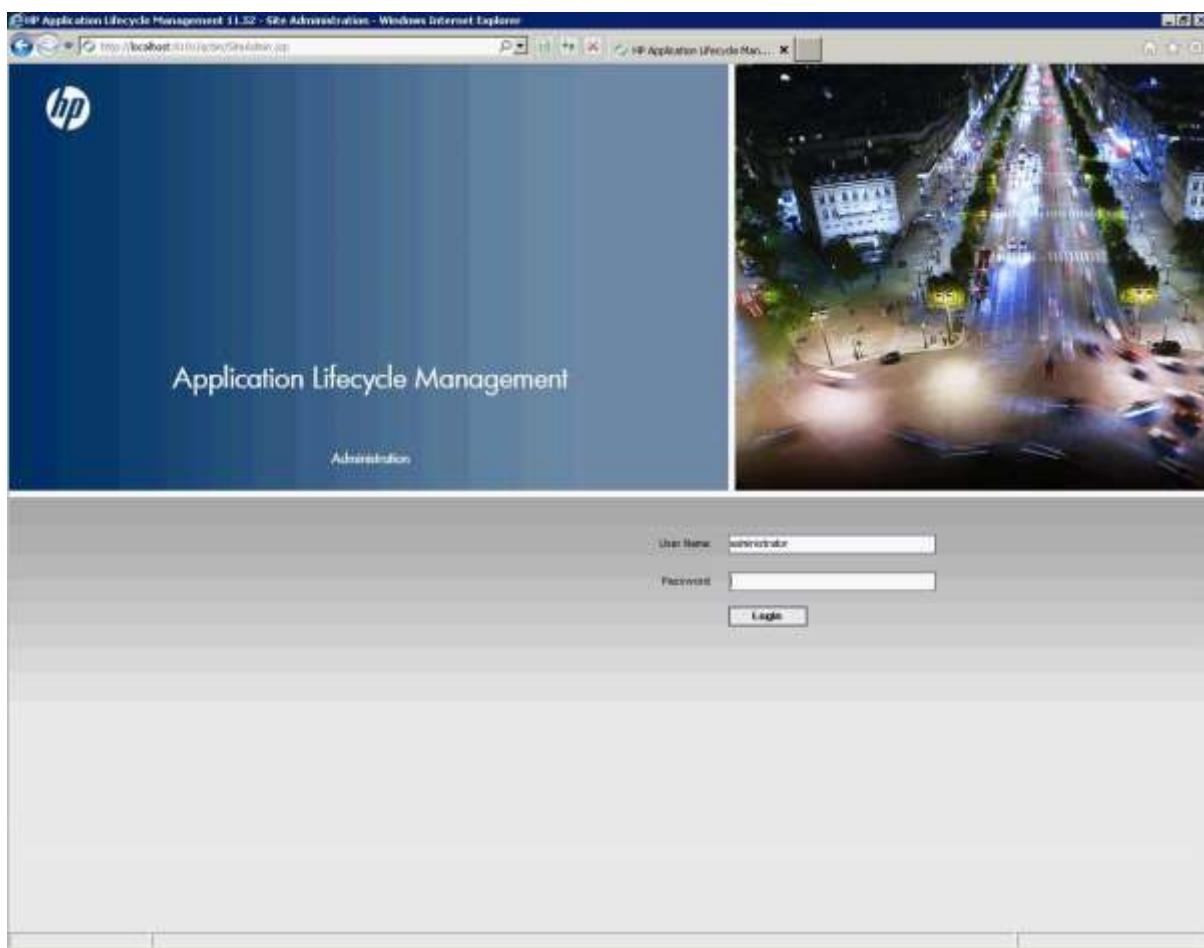


3. HP QC – Server-side Configurations

Once the HP-ALM is installed, we can continue to work with ALM only after creating domain, project, and users. In this chapter, we will discuss how to create Project, Domain and Users.

Creating Domain

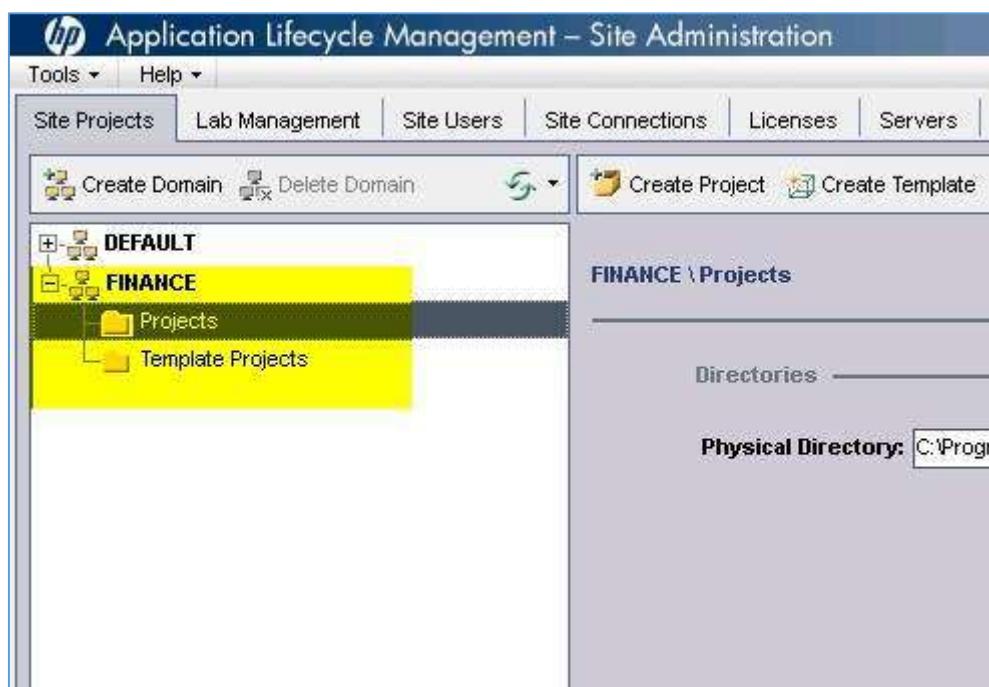
Step 1 : For creating a Domain, the first step is to get into Site Administrator Page. Launch QC using the URL - <http://localhost:8181/qcbin/SiteAdmin.jsp> and enter the Admin credentials that was set up while installing QC.



Step 2 : After logging into Site Admin page, we will land in Site Projects Tab as shown below. The next step from there is to create a Domain.

Step 3 : Click the 'Create Domain' button on the top-left corner. Enter Domain Name and click OK.

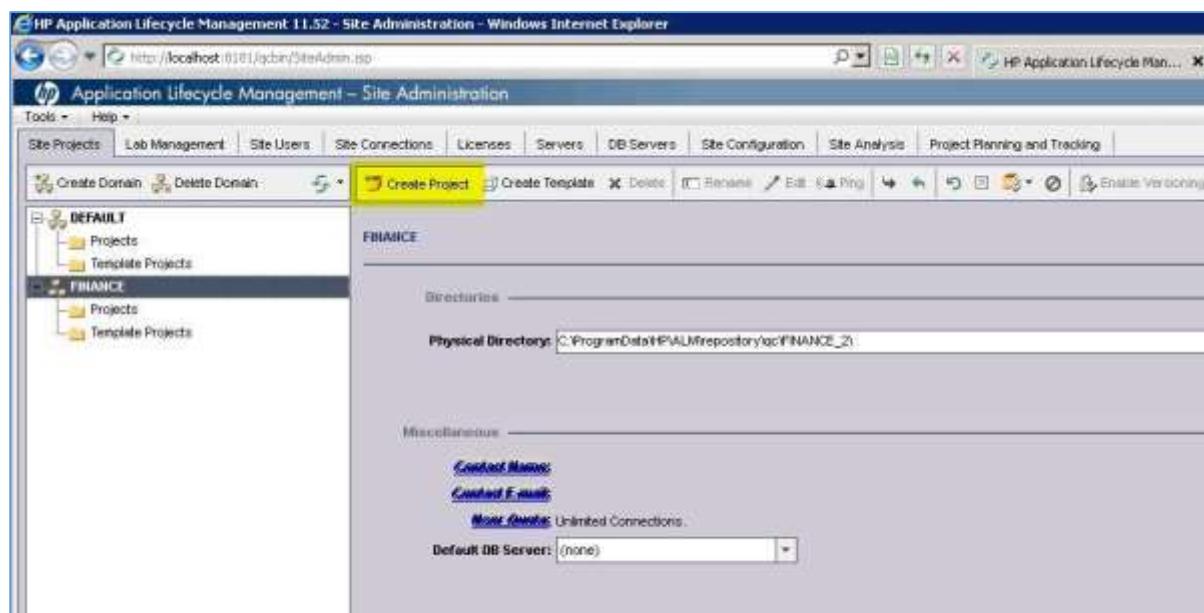
Step 4 : Domain would be created as shown below.



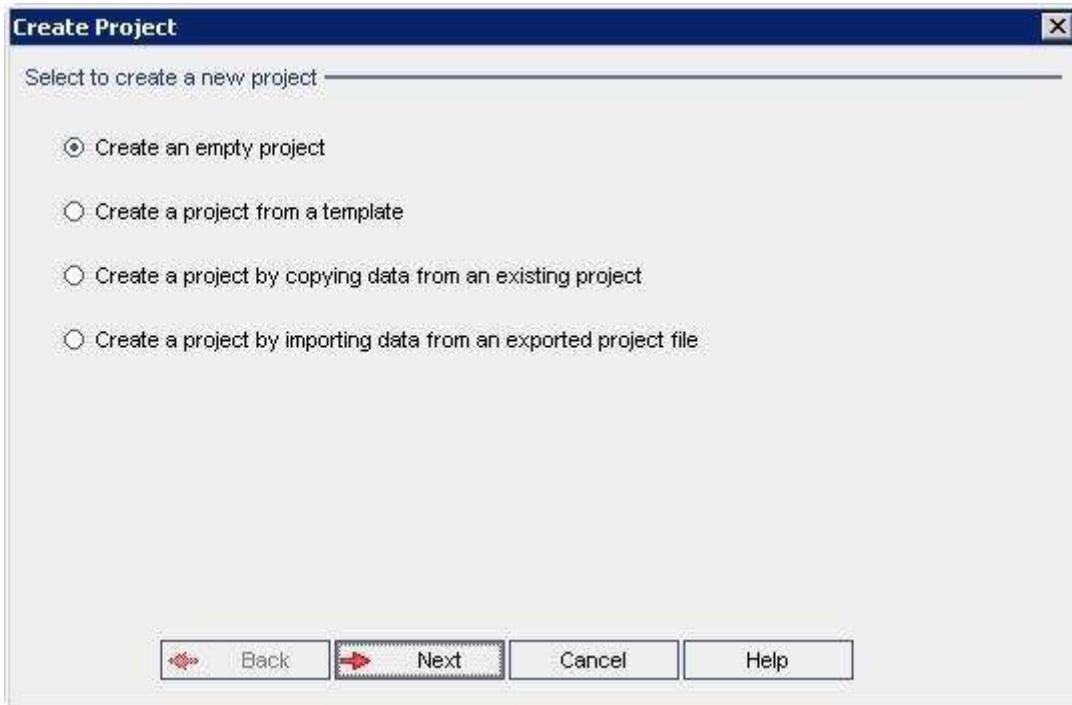
Creating Projects

Once a Domain is created, the next step is to create 'Projects'. Creating a Project takes us through a wizard and one should follow the steps given below to create 'Projects'

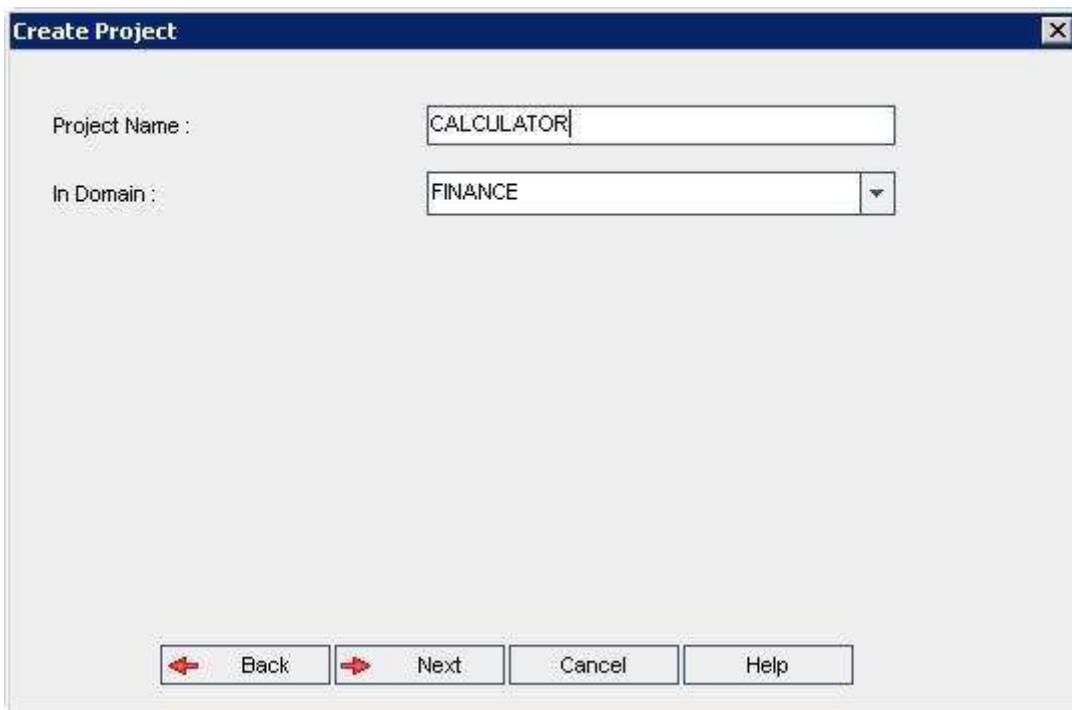
Step 1 : Select the Domain under which the project needs to be created and then click the "Create Projects" button as shown below.



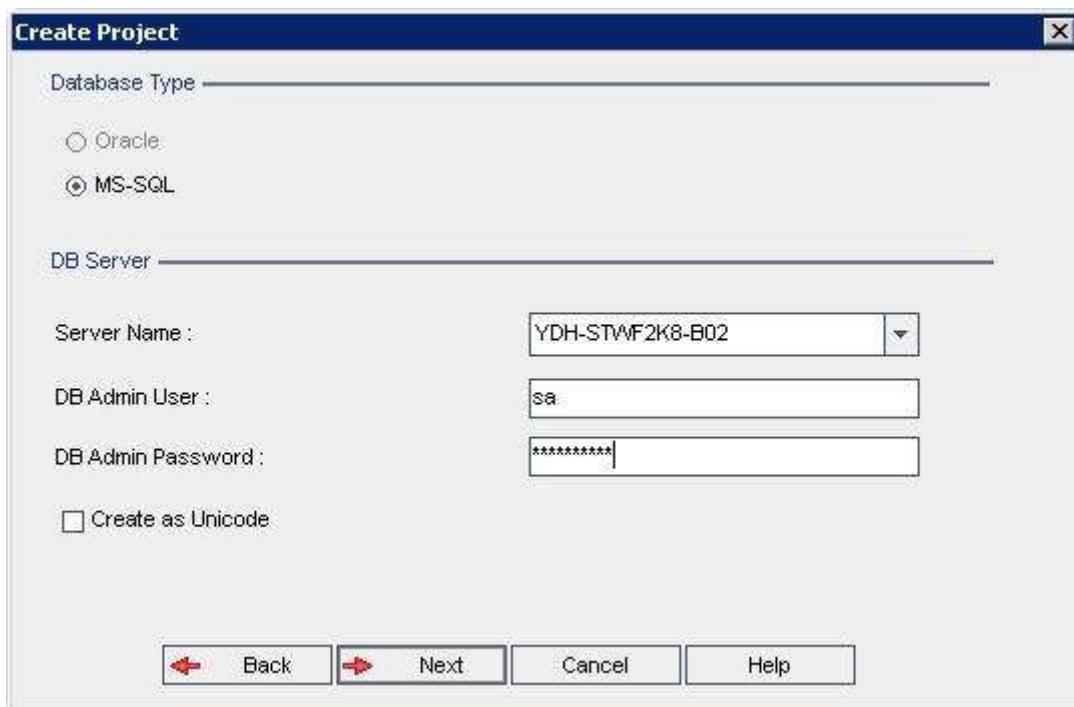
Step 2 : The Create Project Wizard opens. Select "Create an Empty Project" and click "Next".



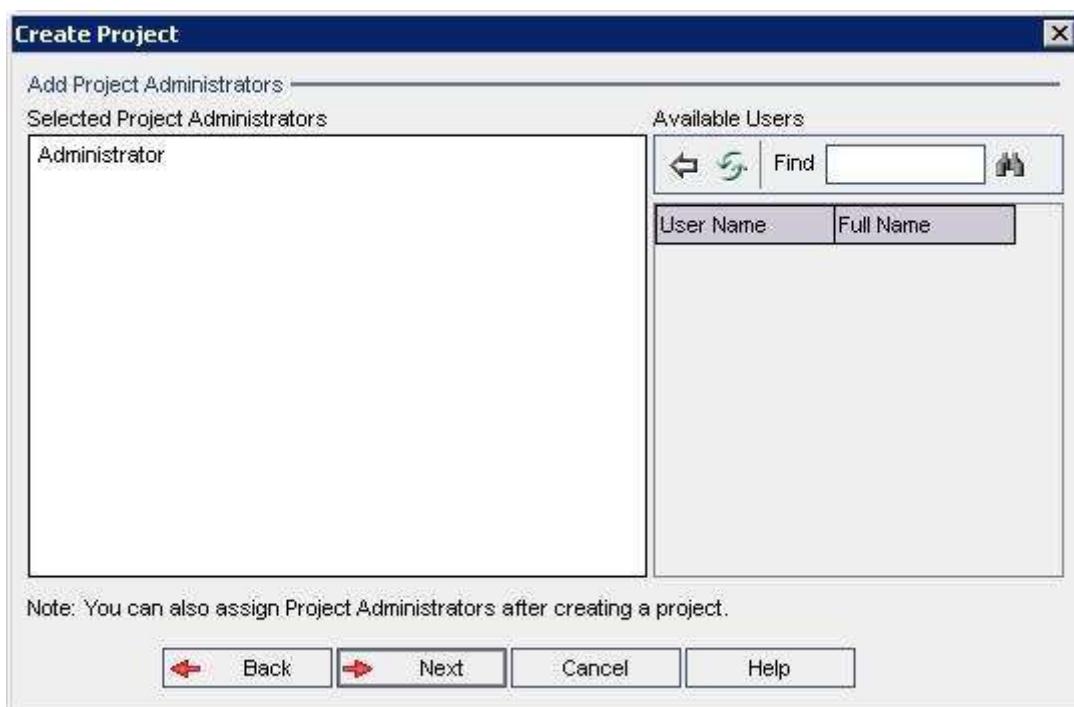
Step 3 : Enter the "Project Name" and select Domain and click "Next".



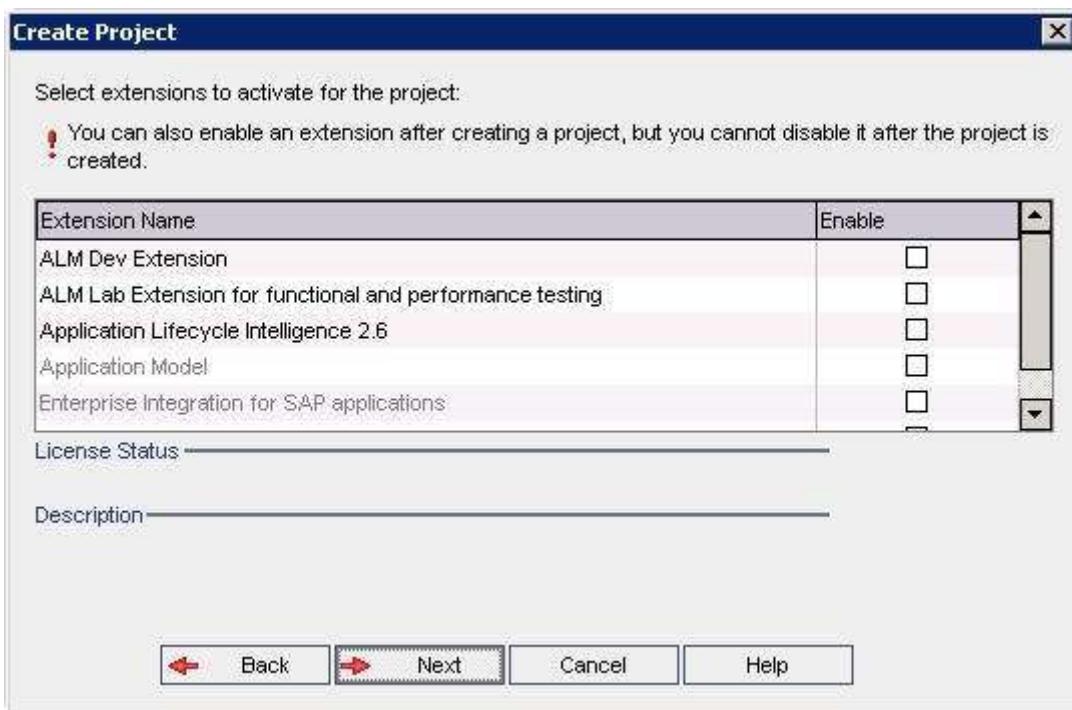
Step 4 : Enter the Database credentials and click "NEXT".



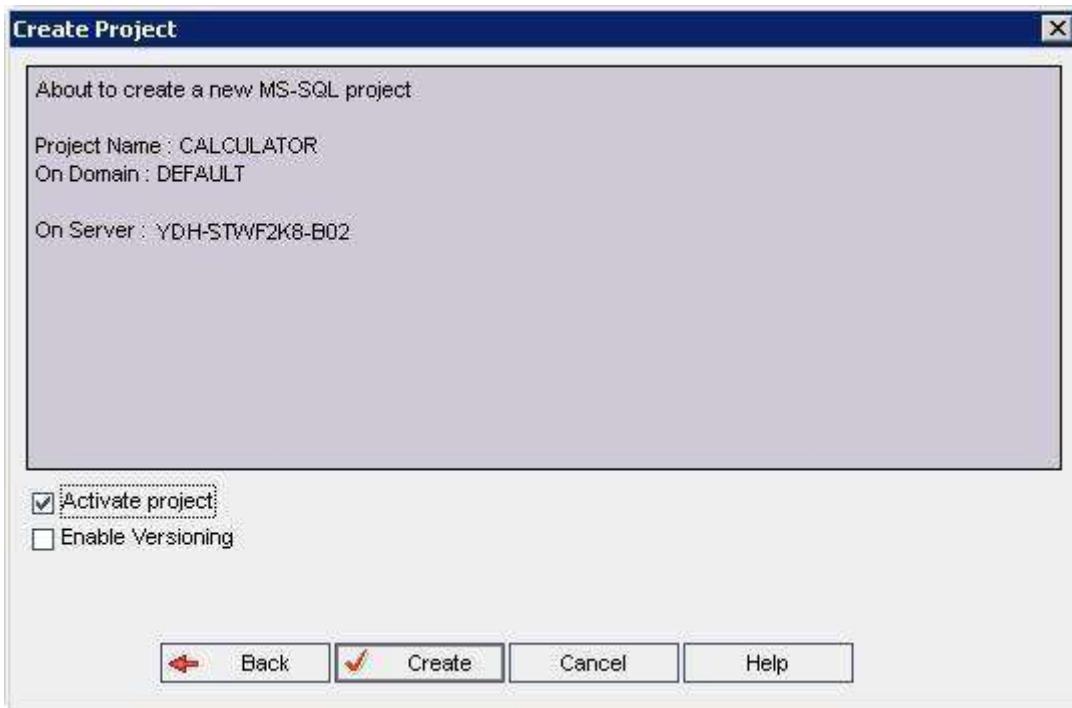
Step 5 : Select the Project Administrator user ID and click "NEXT".



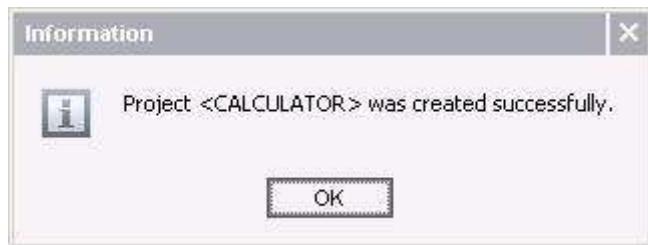
Step 6 : Select the extensions to activate the project and click "NEXT".



Step 7 : Check the Activate checkbox and enable Version controlling (if you want) and click "NEXT".



Step 8 : Upon clicking "Next", the project "Calculator" is created successfully. Click "OK" to see the created project in the Project Pane.



Creating Users

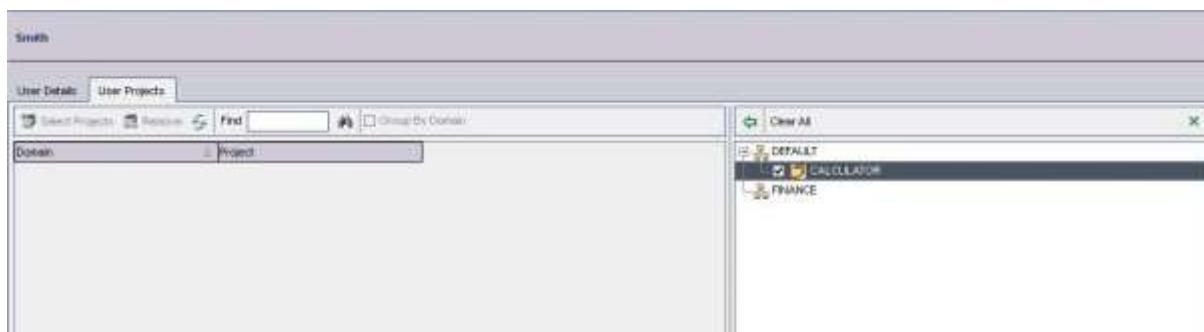
Step 1 : Select the Site Users Tab in "Site Admin" Page as shown below and click the "Add New User" button.

A screenshot of the HP Application Lifecycle Management - Site Administration interface. The browser title bar says "HP Application Lifecycle Management 11.52 - Site Administration - Windows Internet Explorer". The main menu has tabs like Site Projects, Lab Management, Site Users (which is highlighted with a yellow box), Site Connections, Licenses, Servers, DB Servers, Site Configuration, Site Analysis, and Project Planning and Tracking. On the left, there's a toolbar with icons for creating new users, projects, and connections. The main content area shows a list of users with columns for User Name and Full Name. One user named "Administrator" is selected. On the right, there's a detailed view for the selected user, showing tabs for User Details and User Projects. Under User Details, fields include User Name (Administrator), Full Name (empty), Status (Active), and Deactivation Date (empty). There's also a checkbox for Deactivate.

Step 2 : The New User window opens up. Fill the user details and click "OK".

 A screenshot of the "New User" dialog box. It has fields for User Name (filled with "Smith"), Full Name (filled with "Jane Smith"), E-mail (filled with "JaneSmith@Tutorialspoint.COM"), and Phone Number (empty). Below these is a large Description text area. At the bottom are three buttons: OK, Cancel, and Help.

Step 3 : After Creating the user, give the user the project access that they need.



Step 4 : Verify the user list in "Project Users" Tab after giving the user the access to the project.

4. Quality Center – Common Functionalities

Commonly Used Functionalities

HP Application Lifecycle Management (ALM) displays data in infragistics grid view or in a tree structure and users can manipulate the data in various ways, such as rearranging columns, filtering, sorting, and grouping.

One can also attach files to those grid records, search for specific text in records, and view history of various entities. The following features are to be understood to ensure that users are able to work with Quality Center seamlessly.

Click on each one of these links to know more about the common functionalities.

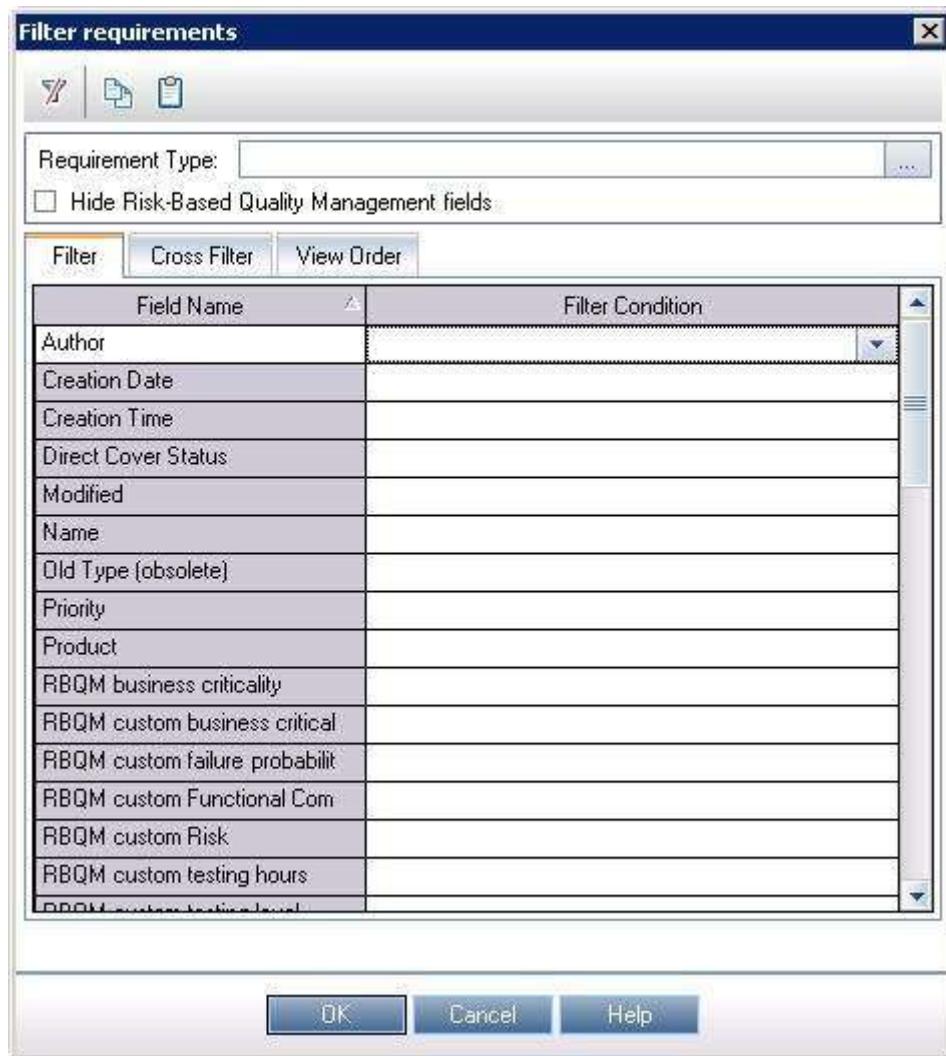
Common Functionality	Description
Filter Dialog Box	Enables user to perform filter ALM data based on defined criteria.
Users Dialog Box	Enables users to choose a user name from the list of users.
Find Dialog Box	Enables users to search for a particular record in a tree view or grid view
Replace Dialog Box	Enables user to find and replace a specific field value in a tree or grid.
History Tab	Enables user to view a list of changes made to the currently selected work item.
Send Email Dialog	Enables quality center users to send an email about the details of an entity to other users.
Attachments Dialog	Enables users to add and manage attachments to a specific record.
Snapshot Dialog	Enables users to capture and attach screenshot of your application under test to an entity in ALM.

<u>Column chooser Dialog</u>	Allows users to select the columns that they wish to see in the grid view.
<u>Set Defaults Dialog</u>	Enables users to set default values for certain fields in ALM.
<u>Alerts and Flags Dialog</u>	Enables users to view a list of alerts for a selected record and also allows them to create, view, and modify a follow up flag to remind themselves to follow up on an issue
<u>Favorites Dialog</u>	Allows user to create and organize favorites.

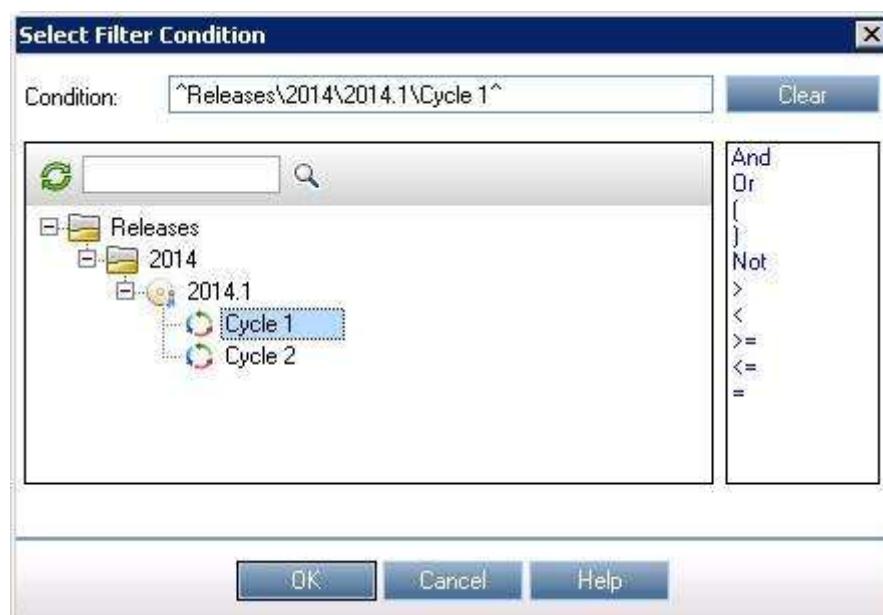
HP QC Filter

Filter functionality in ALM helps users to view a specific data based on certain criteria. Filters are applicable across all modules viz. Requirements, Test Plan, Test Lab and Defects.

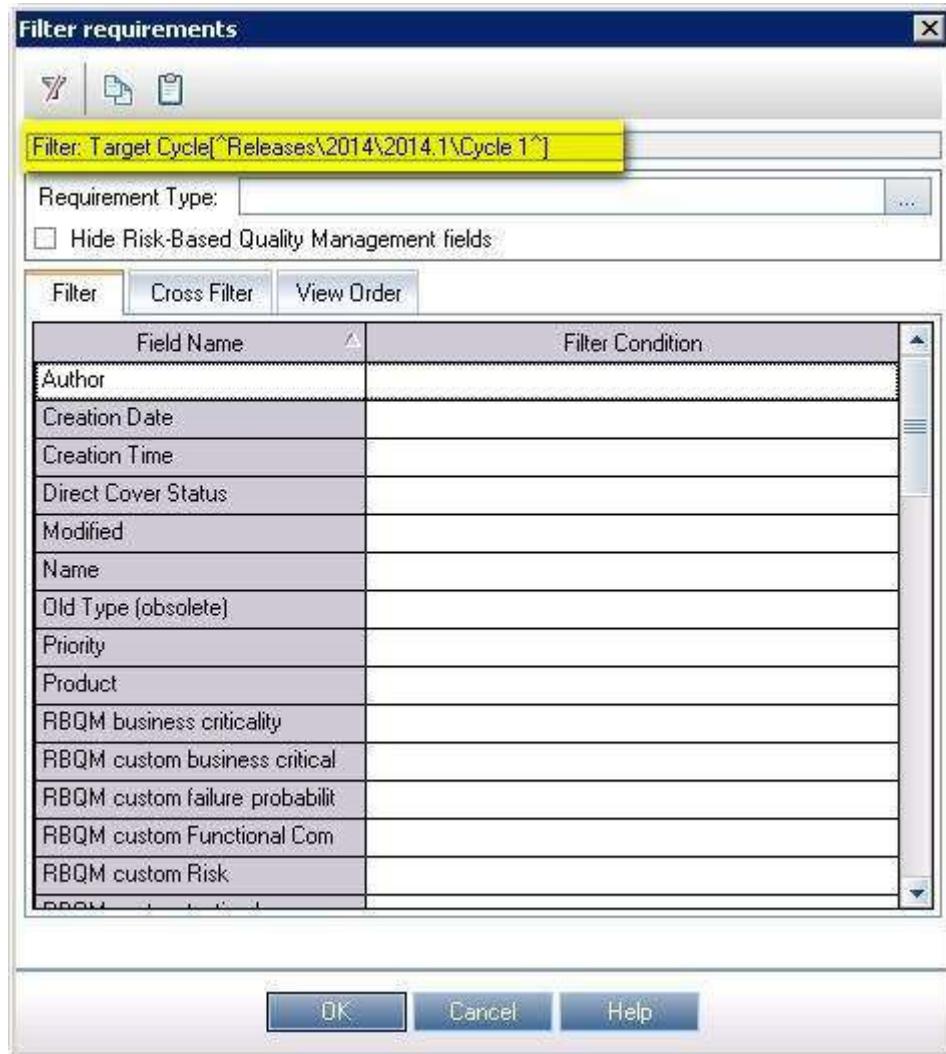
Let us understand how it works in Requirements module. Users can specify one or more criteria in the Filter dialog box.



Select a Field, the "select Filter" dialog box opens. Specify the Filter and click "OK". Users can use combination of filters - use "OR" or "AND" etc.



Upon clicking "OK" after selecting the filter criteria, the main filter dialog displays the selected filter.



The Filter would be applied for the selected entity and can be traced what filter is applied by looking at the filter status bar.

Name	Req ID	Direct Cover Status	Author
Requirements	0	---	
2014.1	1	---	admin
Functional	2	---	admin
Requirement 1 - Home Page	5	No Run	admin
UI Design	6	Not Covered	admin
Math Calculation Creation	11	---	admin

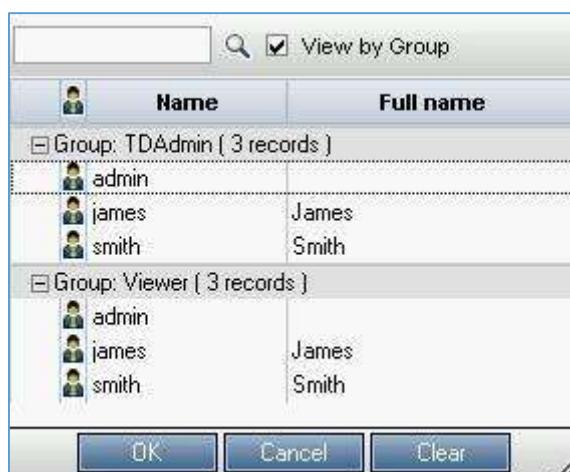
HP QC Users

Users dialog box enables ALM users to choose a user name from the user list. One can sort the users list, search for users, group users by user groups, and select users from the list.

Users list is present in all major modules such as requirements, Test Plan, and Defects.



Users can also be listed based on the groups. Users can also search the user by exactly keying in the user name.



HP QC Find

This dialog box enables ALM users to search for a particular record in a tree or grid. Users can search records based on the value of a particular field, a folder or a particular subfolder or record.

Find dialog can be accessed either by pressing **ctrl+F** or by navigating to "Edit" >> "Find"



Users can enter the field name and value that they would like to search and press Enter or click "Find". Results would be shown in a small search results dialog.

Search Results in: < Requirements > for < 7 >	
ID	Name
7	💡 2014.1\Functional\UI Design\Left Pane

At the bottom of the dialog are two buttons: 'Go To' and 'Close'.

HP QC Replace

This dialog box enables users to find and replace specific field values in a tree or grid. Users can replace a field value for a selected record or for all records in the tree or grid. The Find and Replace dialog can be accessed by navigating to "Edit" Menu and selecting "replace" or "Replace all" appropriately.

The screenshot shows the HP Application Lifecycle Management interface. On the left, there's a navigation sidebar with sections like Dashboard, Management, Requirements (which is selected and highlighted in orange), Testing, and Defects. The main area is titled "Requirements" and contains a table with columns "Req ID" and "Title". A context menu is open over the first row of the table, specifically over the "Req ID" column. The menu items include Cut (Ctrl+X), Copy (Ctrl+C), Copy URL, Paste (Ctrl+V), Delete (Del), Rename (F2), Find... (Ctrl+F), Find Next (Ctrl+L), Replace, Update Selected..., Text Search, Alerts, Clear Alerts, Flag for Follow Up..., and Clear Follow Up Flag. The "Replace" option has a submenu with "Replace Selected..." and "Replace All...".

Users cannot use this feature to replace "Ready only" Fields like "ID". Users should select the field to be searched and value to be replaced.

The screenshot shows the "Replace" dialog box. It has fields for "Find in Field" (Priority), "Value to Find" (4-Very High), and "Replace with" (3-High). There is a checked checkbox for "Prompt on replace". Below that is a "Match Criteria" section with two checkboxes: "Exact Match" and "Case Sensitive", and two other checkboxes: "Use Wildcard" and "Case Sensitive" (which appears to be a duplicate entry). At the bottom are buttons for "Replace", "Close", and "Help".

Upon selecting the criteria and replacing it, ALM displays how many instances got replaced as an information to the user.



HP QC History

This tab enables users to view all the changes made to the currently selected entity. It also displays a history of baselines in which the entity appears. History includes date, time, old value and New value.

A screenshot of the 'Requirement Details' window in HP ALM. The window title is 'Requirement Details'. The left sidebar shows tabs for 'Details', 'Rich Text', 'Attachments', 'Linked Defects', 'Requirement Trac...', 'Test Coverage', 'Business Models...', 'Risk Assessment', and 'History'. The 'History' tab is currently selected and highlighted in orange. The main area has tabs for 'Baselines' and 'Audit Log', with 'Audit Log' being the active tab. It shows a table of changes:

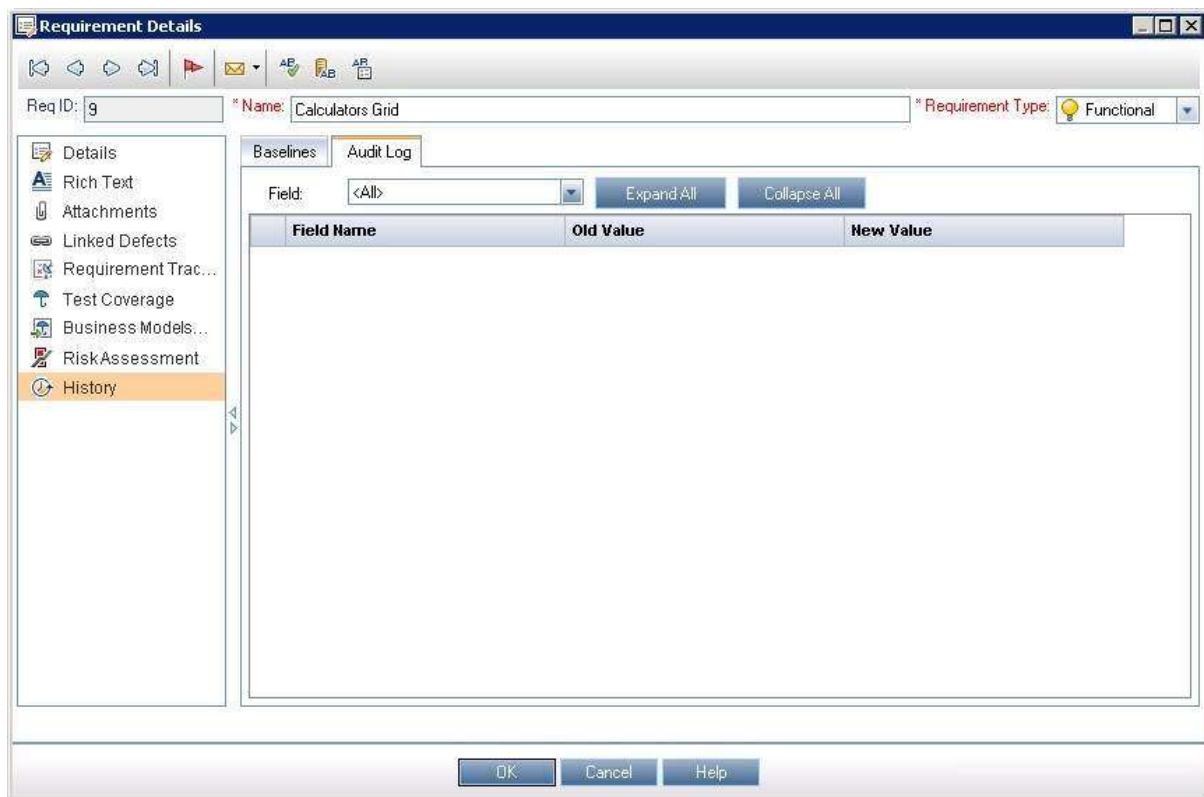
Field Name	Old Value	New Value
Change #2: Date: 3/19/2014 11:26:06 PM Changer: admin		
Reviewed	Reviewed	Not Reviewed
Priority	4-Very High	3-High
Change #1: Date: 3/6/2014 7:01:24 AM Changer: admin		
Direct Cover Status		Not Covered
Reviewed		Reviewed
Priority		4-Very High

At the bottom of the window are 'OK', 'Cancel', and 'Help' buttons.

One can also delete the history for a particular entity or for all entities by executing **clear history** from "Tools" >> "Clear History".

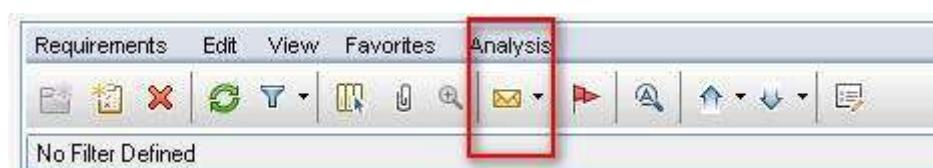


Once the history is cleared, users will NO longer see the changes made to that entity. Hence it is advised NOT to clear history unless otherwise required. After clearing the history, the history tab becomes empty as shown below.

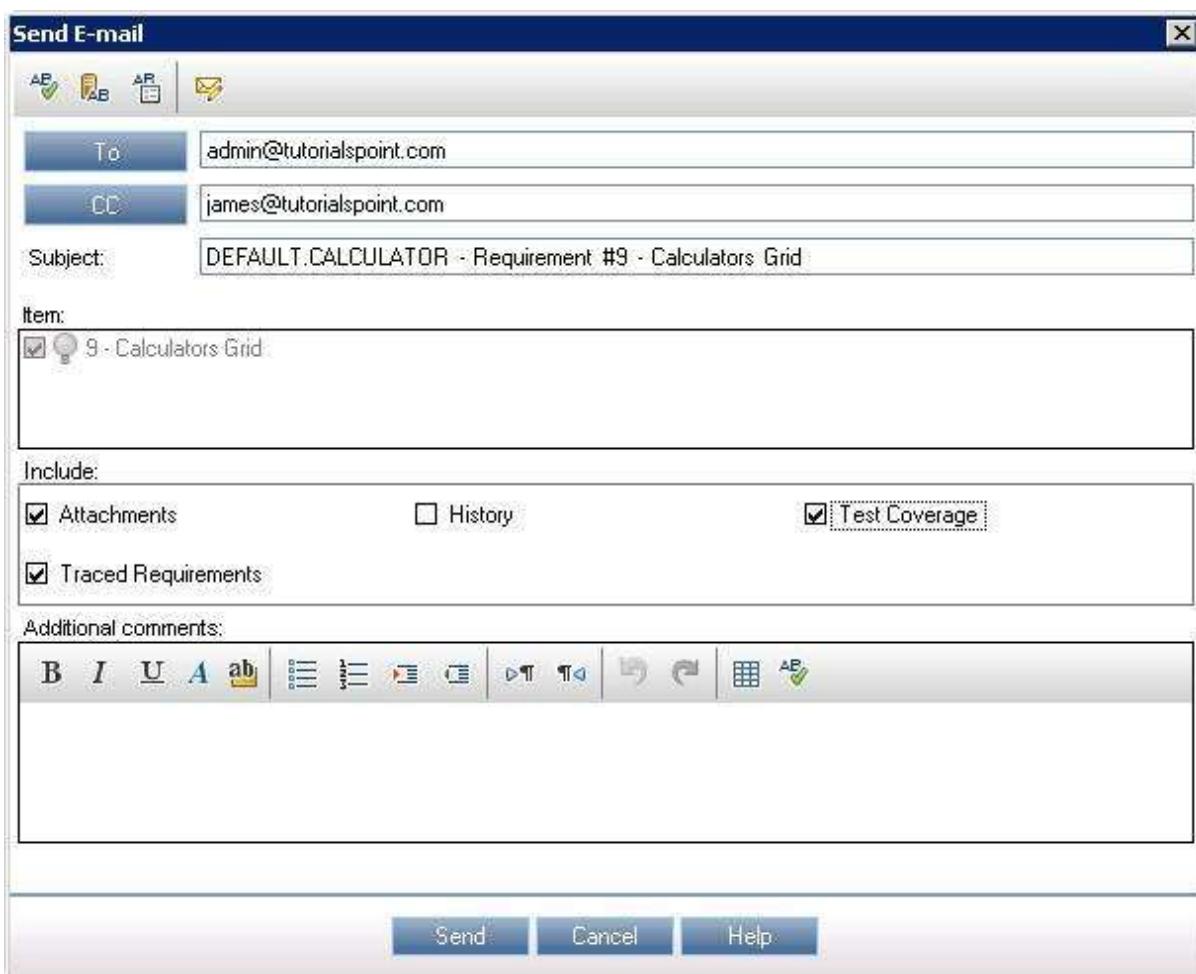


HP QC Send Mail

Send Mail dialog box enables users to send an email about an entity to other users. The mail can include attachments/history and also enables the recipient to directly access that entity. Send mail functionality can be accessed from various modules by clicking on "Send Mail" button as shown below:



Upon clicking on the "Send Mail" button, the Send Mail dialog opens.



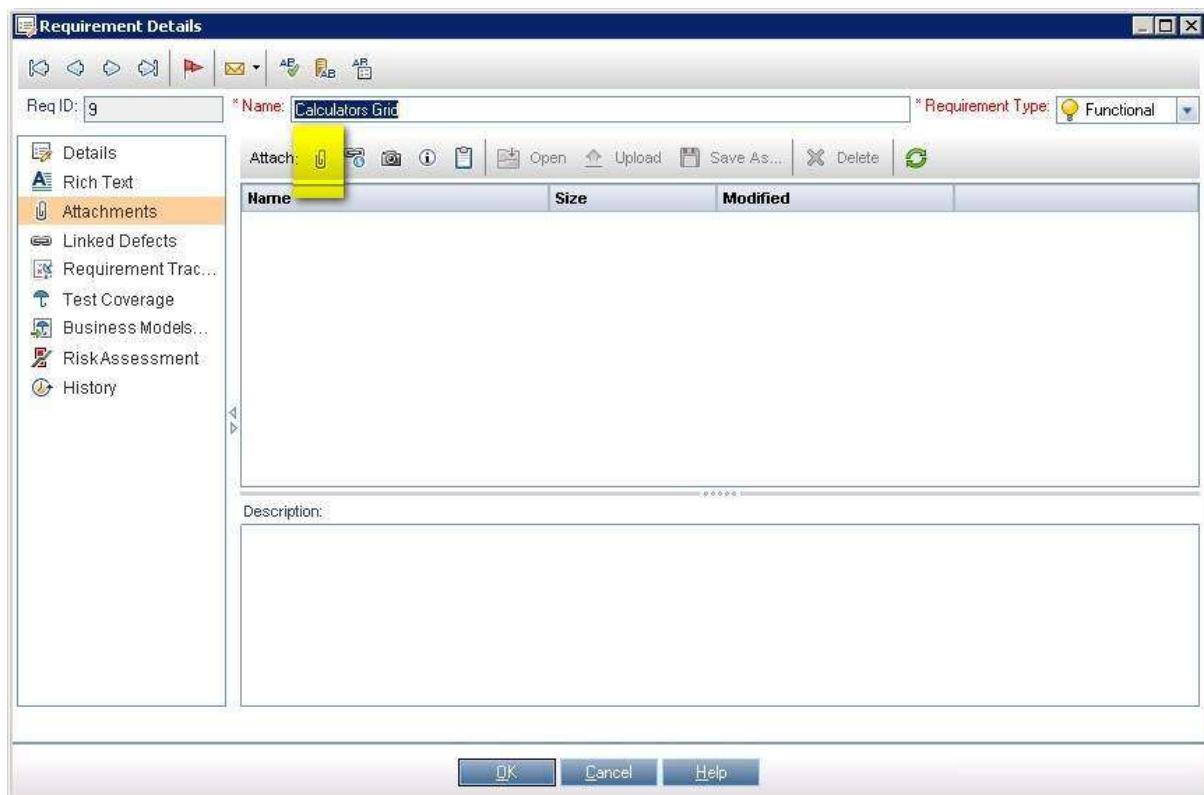
Here, the user has to fill in the following information:

- To Email Address - Two or more addresses are separated by semicolon.
- CC Email Address - Two or more addresses are separated by semicolon.
- Subject – Auto-populated based on the selected entity.
- Include - Users can include attachments, traced Requirements, Test Coverage, History
- Enter Additional Comments if any.

HP QC Attachments

Attachments section enables users to add and manage attachments to ALM records. Users can attach a file, URL, snapshot of the application under test, items from the Clipboard, or even system information.

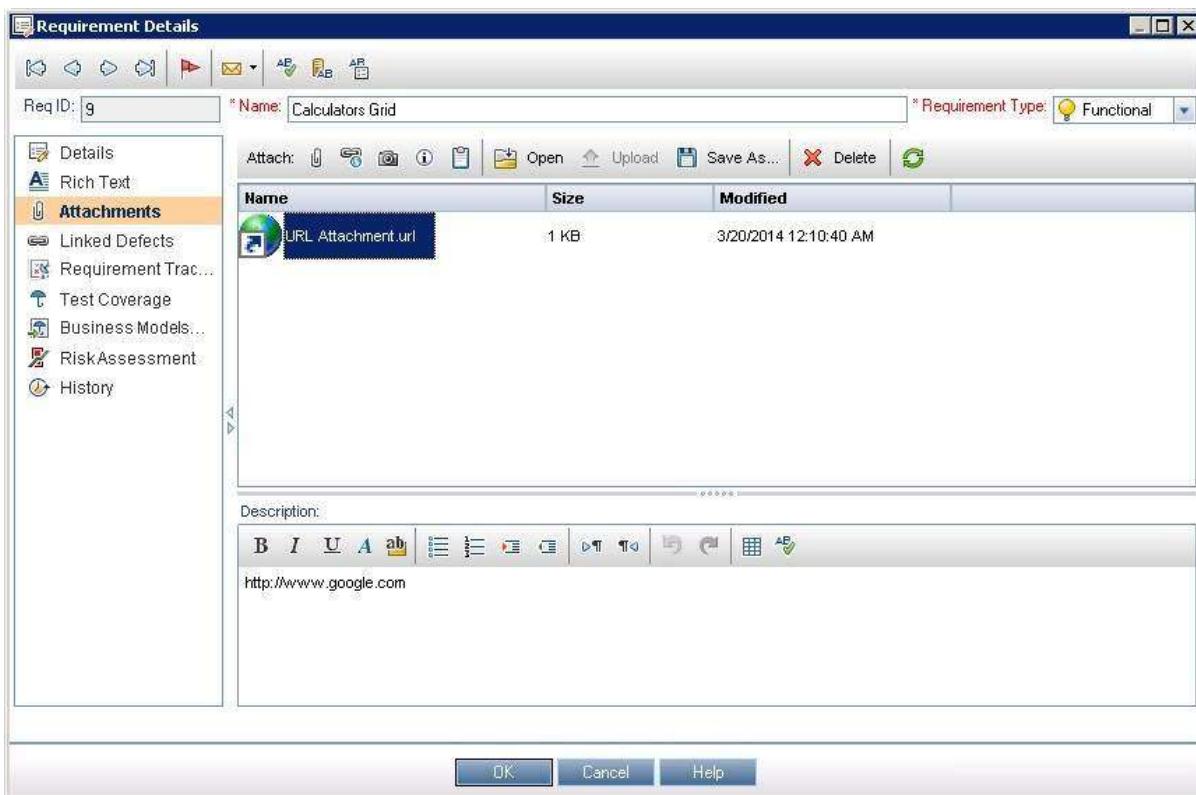
To attach a file, a user has to click on the "upload attachments" icon. This feature is available across entities.



Users can also attach "URL's" by clicking on the "Link" button available from the menu.



Upon attaching a URL, users can see the full URL in "Description" panel.

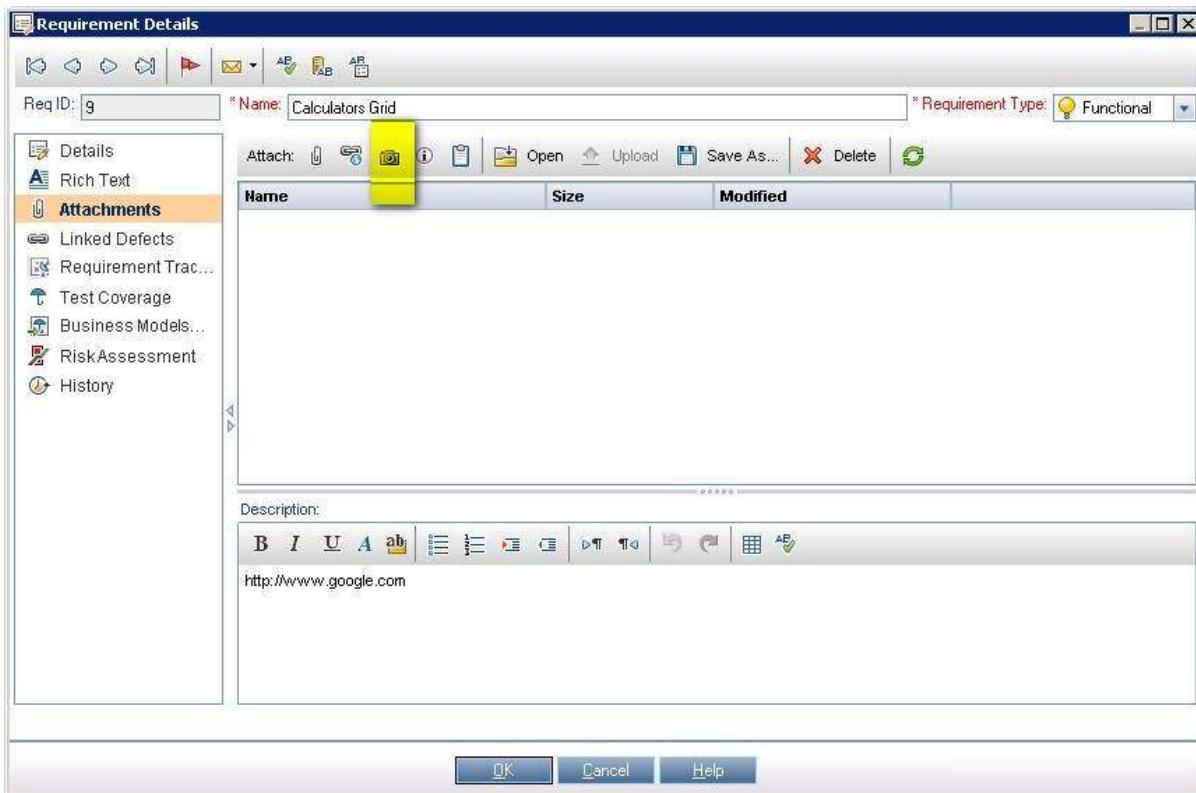


Apart from the above features, the following features are also widely used:

- **System Info** - Captures all System parameters automatically and adds it to the attachments list.
- **Screenshot** - Captures the active screen and uploads into the attachments pane.
- **Clipboard** - If clipboard is having some data, it automatically uploads as a file.
- **Open** - Allows users to open an already uploaded attachment.
- **Save as** - Enables users to save the file into local drive.
- **Delete** - Used to delete an attachment in the attachment list.
- **Refresh All** - To Refresh attachments pane.

HP QC Snapshot

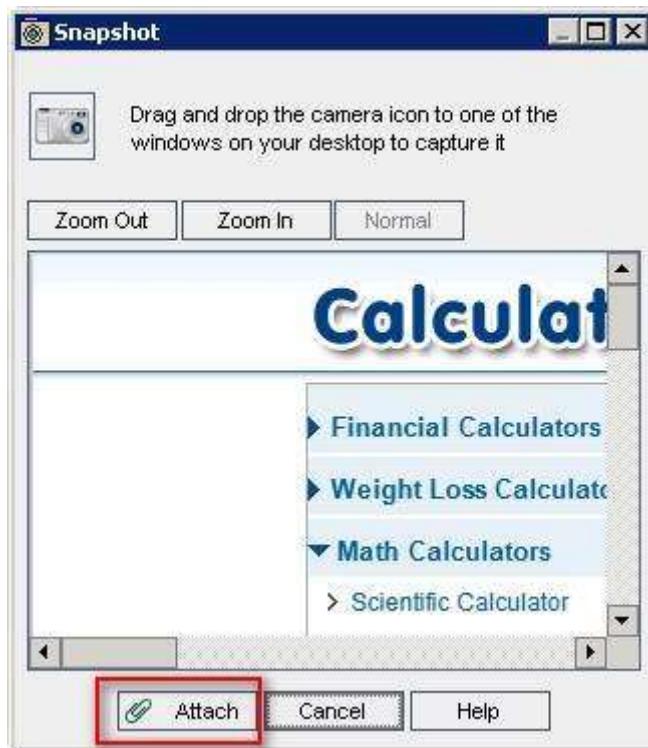
Snapshot dialog box enables users to capture and attach the screenshot to an ALM record. It can be accessed from attachments pane.



The Snapshot dialog opens where one can Zoom in, Zoom out, and see on a normal scale.



Drag the "Camera" icon and drop on the window which you want to take it as a screenshot. Click on "Attach" once the screenshot is taken.



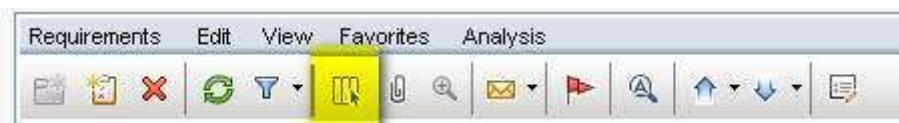
The taken screenshot is automatically placed in the entity as shown below. Two or more snapshots to the same entity will be named uniquely by HP-ALM.

The screenshot shows the HP QC Requirements Details screen. The sidebar on the left has tabs for "Details", "Rich Text", "Attachments" (which is selected and highlighted in orange), "Linked Defects", "Requirement Traceability", "Test Coverage", "Business Models", "RiskAssessment", and "History". The main area shows a requirement with Req ID: 9 and Name: "Calculators Grid". Below this, there's an "Attachments" section with a toolbar for "Attach", "Open", "Upload", "Save As...", "Delete", and "Edit". A table lists an attachment named "ALM_snapshot.jpg" with a file size of 151 KB and a modified date of 3/20/2014 2:35:36 PM.

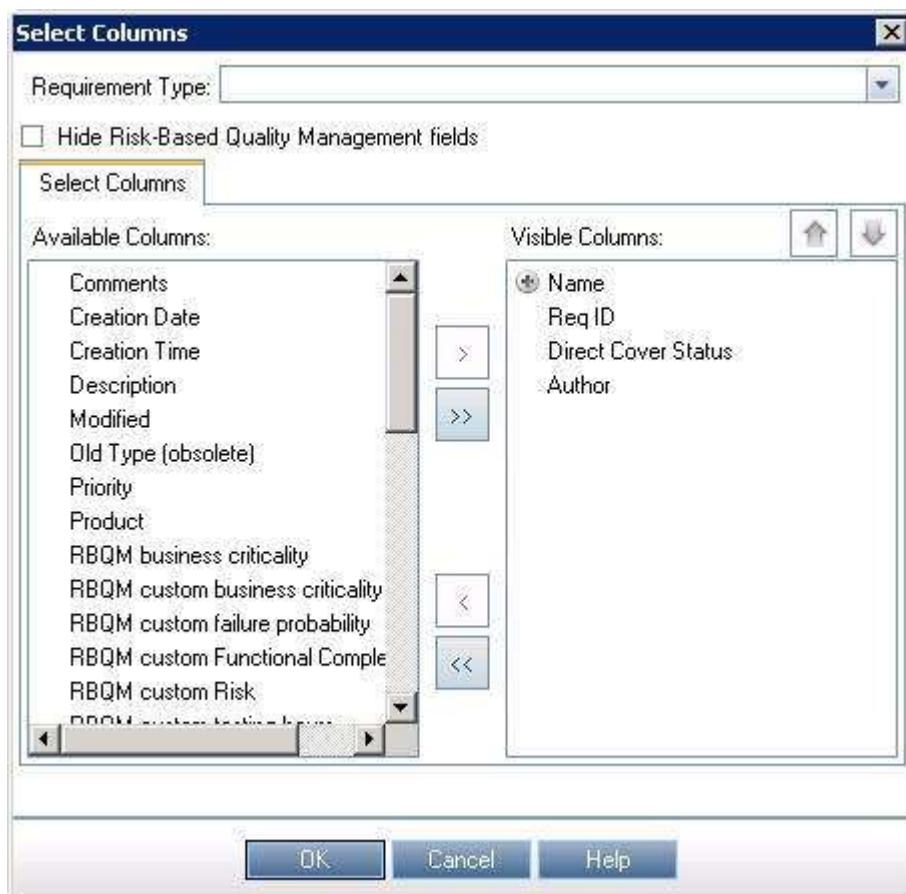
HP QC Column Chooser

Column Chooser option in ALM allows users to select only the columns that the user would like to see in their view. Rest of the columns will be hidden from the user view. Column chooser option is available in requirements, Test Lab, Test Runs and Defects module.

For choosing only the necessary columns, a user has to click the "Column Chooser" button.



The Column Chooser dialog opens for the user to choose the necessary columns. There are only 4 columns that are visible to the user at the moment and can be added by the user.



Users cannot unselect everything from their view as "Name" field will always be there under "Visible Columns". Select any field and click the ">" button. The selected field moves to visible columns list.

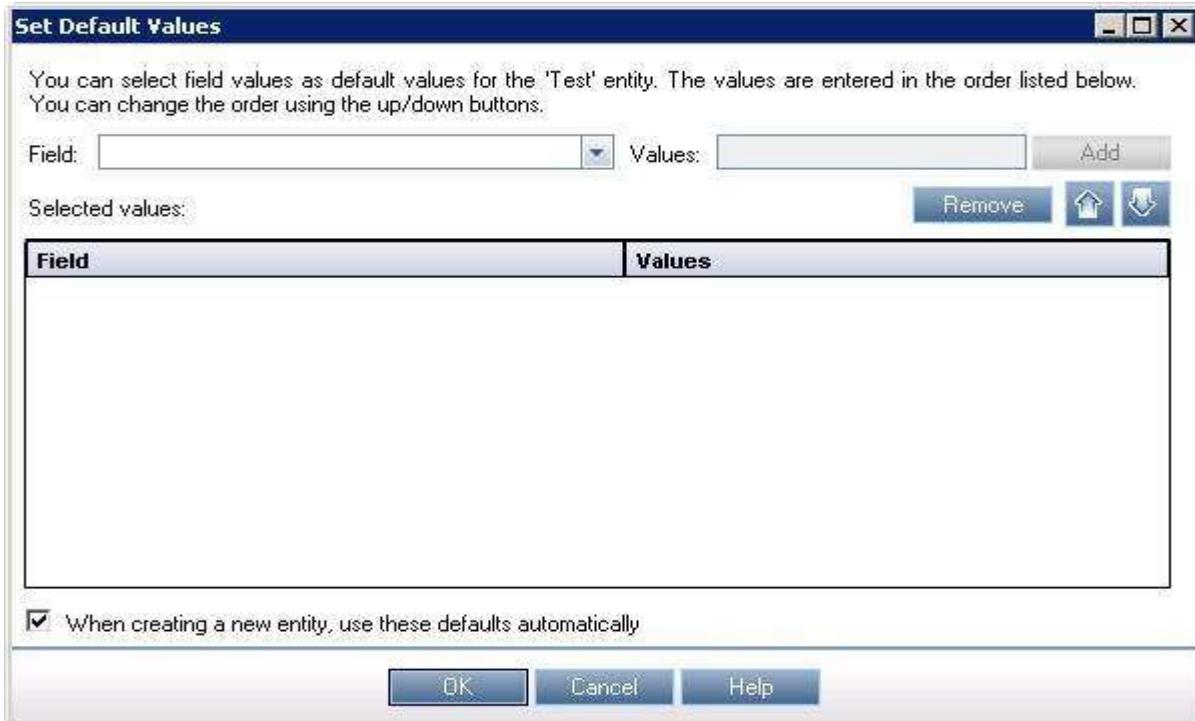
After selecting the relevant columns, press "OK". You will be able to see the selected columns in the view. In this case "Priority" is added to the user view as shown below.

	Name	Req ID	Direct Cover Status	Author	Priority
U	Calculators Grid	9	Not Covered	admin	3-High
U	Link to Social WebSites	10	Not Covered	admin	3-High
U	Math Calculation Creation	11	...	admin	5-Urgent
U	Advertisement Panel	14	Not Covered	admin	1-Low
U	Social Websites Grid	16	Not Covered	admin	1-Low
U	Website Footer Grid	18	Not Covered	admin	1-Low
U	Non Functional	3	...	admin	

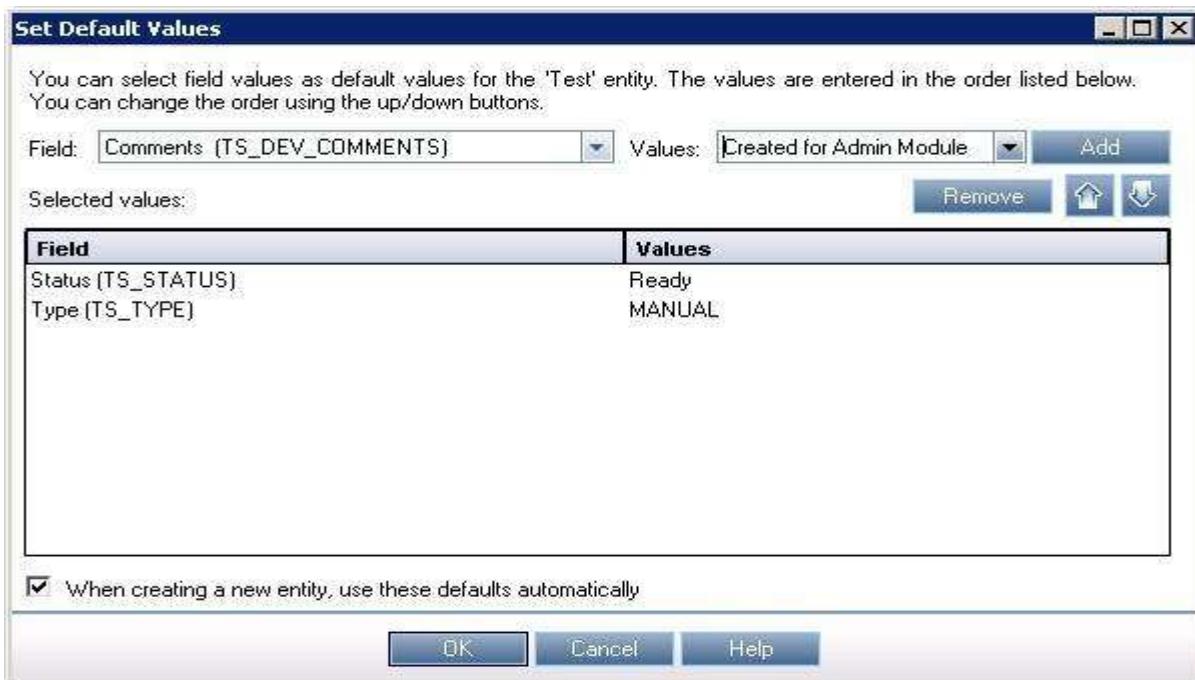
HP QC Set Defaults

Set defaults allows HP ALM users to set default values for certain fields which will auto-populate when the user creates a new item of that type. It is applicable for the modules - new tests, test configurations, design steps, and defects.

The Set Defaults option can be accessed by navigating to "Edit" >> "Set Defaults". The Set defaults dialog opens as shown below.



The next step is to select the field and default Field values that the user wish to key in for that entity type.



Add/Remove from the list using the appropriate buttons and the user can also enable "when creating a new entity, use these defaults automatically" which will prepopulate these fields the moment the user creates a new item of that type.

HP QC – Alerts and Flags

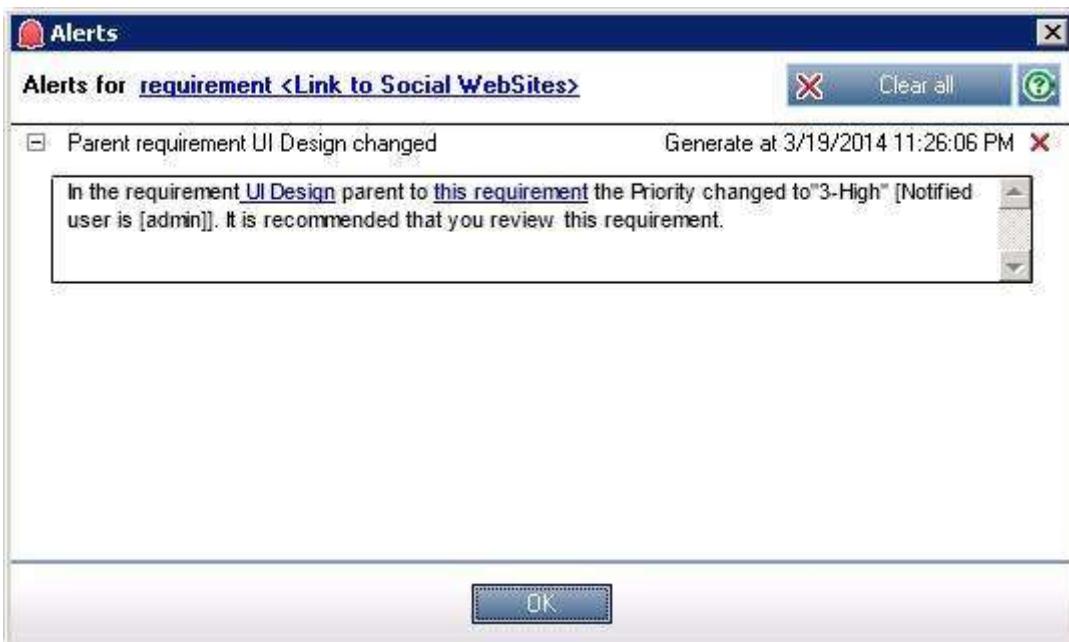
Alerts

HP ALM can alert the associated entities and notify those responsible for any associated entities. Project administrators can activate alert rules based on associations that users make between requirements, tests, and defects.

Once the alert criteria is satisfied, the users are alerted with a "RED" colored bell symbol as shown below.

No Filter Defined						
	Name	Req ID	Direct Cover Status	Author	Priority	
	Calculators Grid	9	Not Covered	admin	3-High	
	Link to Social WebSites	10	Not Covered	admin	3-High	

Users can click on the "Red" Bell symbol and understand what the alert is all about.



The alert message shows very clearly that priority of that item got changed and we need to review it. This was set under "Alert Rules" under project customization page.

Users can click on the "Clear all" button to clear the alert which will be shown in the History of that work item.

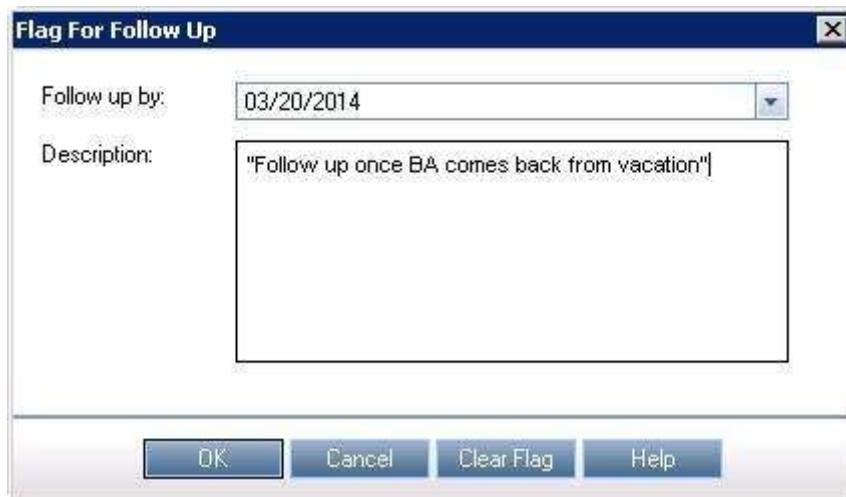
Flags

ALM users can add a follow-up flag to a specific requirement, test, test instance, or a defect to remind themselves to follow up on an issue. This will make the users conscious about a work-item that needs a follow up.

Users can access the Flag functionality right from the menu buttons available in each one of the modules - Requirements, Test Plan, Test Lab, and Defects.



Upon clicking on "Flag", the "Flag for Follow up" dialog opens where a user can specify the date and a brief description about the follow up as shown below.



After adding a flag, it will display against that specific work-item as shown below. Users can clear that flag anytime by clicking on the flag icon and pressing the "clear flag" button.

HP QC Favorites

Favorites in ALM work similar to "Bookmarks" on a web-browser. It allows users to navigate to that page with just a single click. Users can save this view as a favorite view to be reloaded and navigate to that page easily in future.

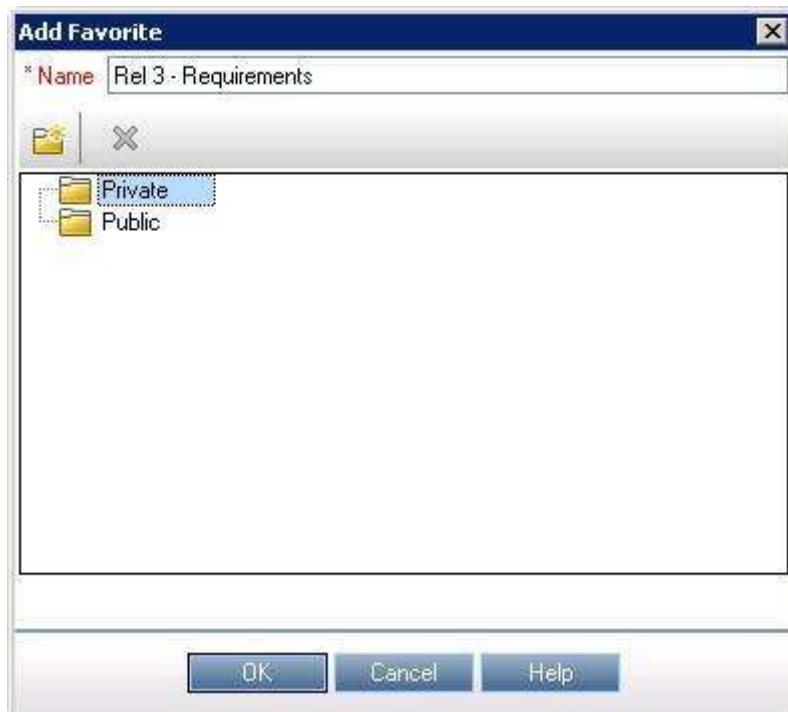
Favorites are of two variants as explained below :

- **Private** - Available only for the user who has logged in.
- **Public** - Available for all users who have got access to that project.

Favorites are allowed in the following modules - Requirements, Test Plan, Test Lab, and Defects. Favorites can be created after filtering/choosing definite columns. Whenever the favorites are loaded, it loads with the same view as it was created.



Upon clicking the "Add to favorites" button, the "Add to favorite" dialog opens. Users have to key in the favorite name and the type of favorite (public / private).



Upon creating the favorite successfully, we can access it by navigating to "favorites" menu and selecting the type of favorite and the favorite name that the user has created.



Users can also know if the favorites are loaded or not by looking at the status bar. It will clearly display the filters applied and the name of the favorite that was loaded.

5. HP QC – Management

Management Tab

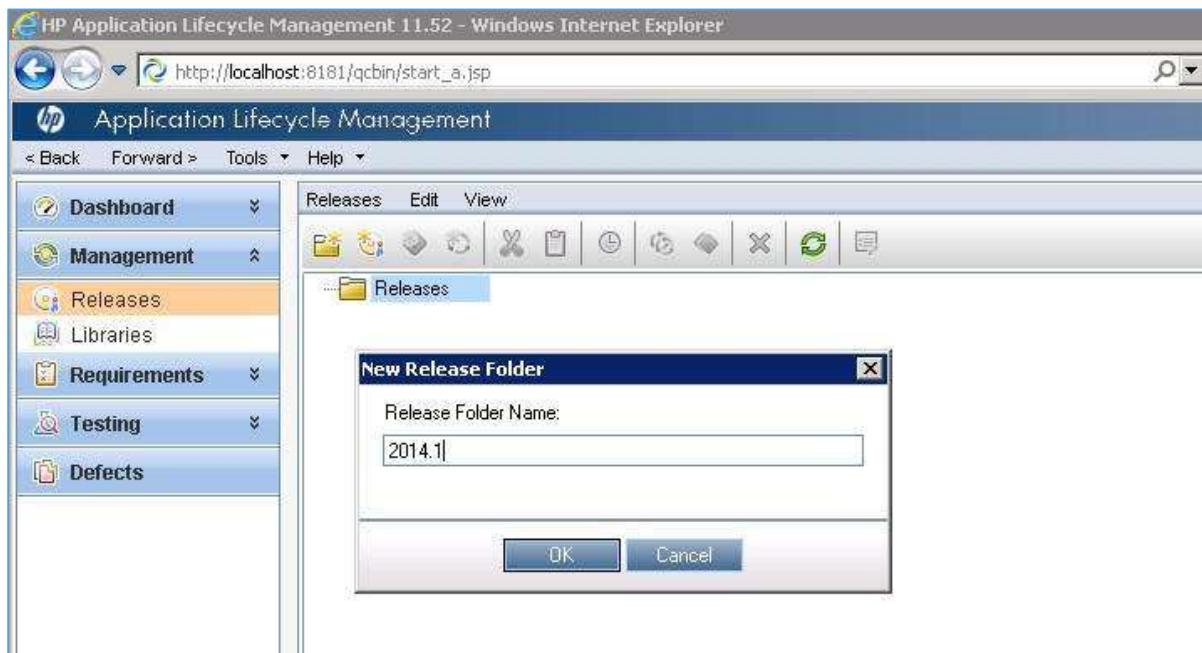
This area helps us to create and manage releases and cycles. It also helps us make project planning and tracking. Management tab helps us to work with the following areas in ALM:

- Creating Releases
- Creating Cycles
- Release Scope and Milestone
- Master Plan and Status
- Libraries
- Baselining

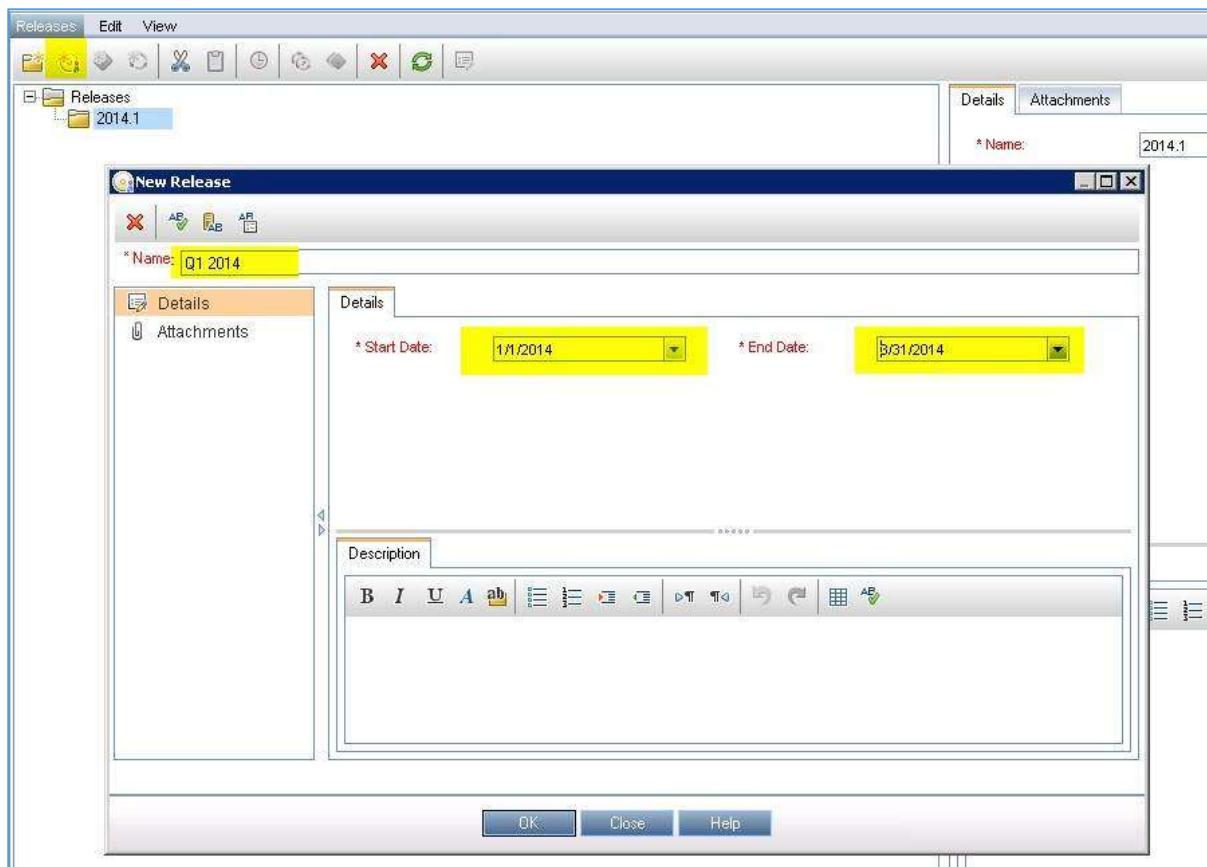
Releases

Creating Releases is the first step in Quality Center. All the work item such as libraries, test execution, and defects are tracked based on the release.

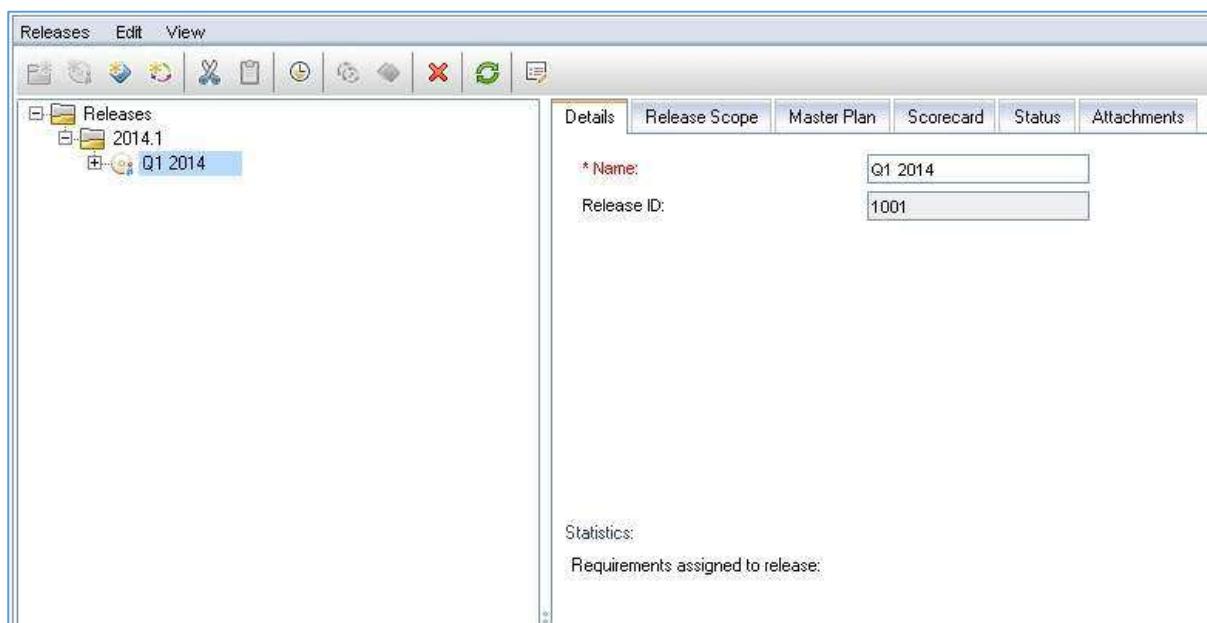
Before creating a release, one can create a container/folder for the same by clicking the new folder icon as shown below.



Click the New Releases button and the New Release dialog opens. Enter the name of the release and click OK. The Release will be created as shown below.



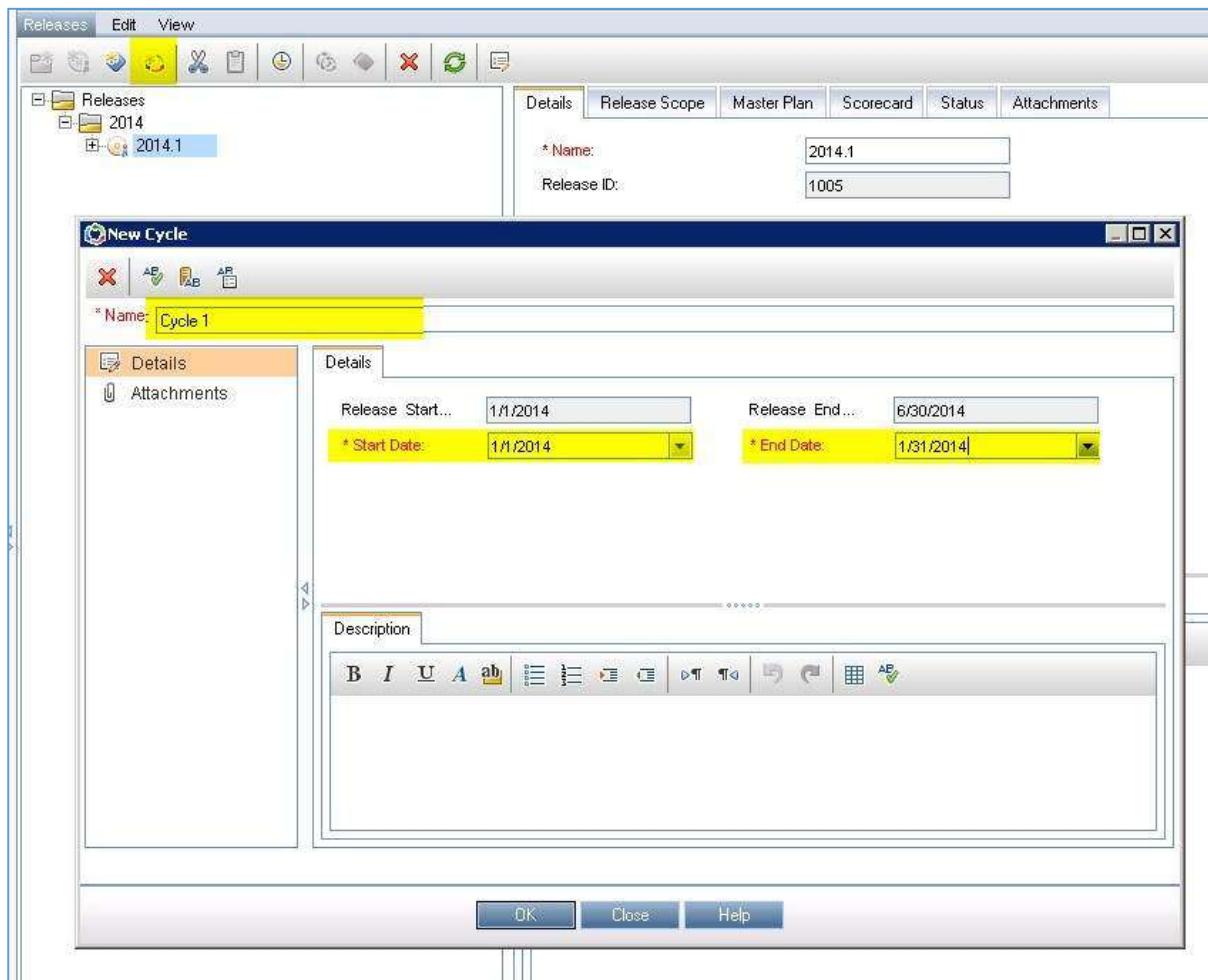
Upon selecting the created release, one can notice that the tabs - Details, release scope, master plan, scorecard, status and attachments are generated.



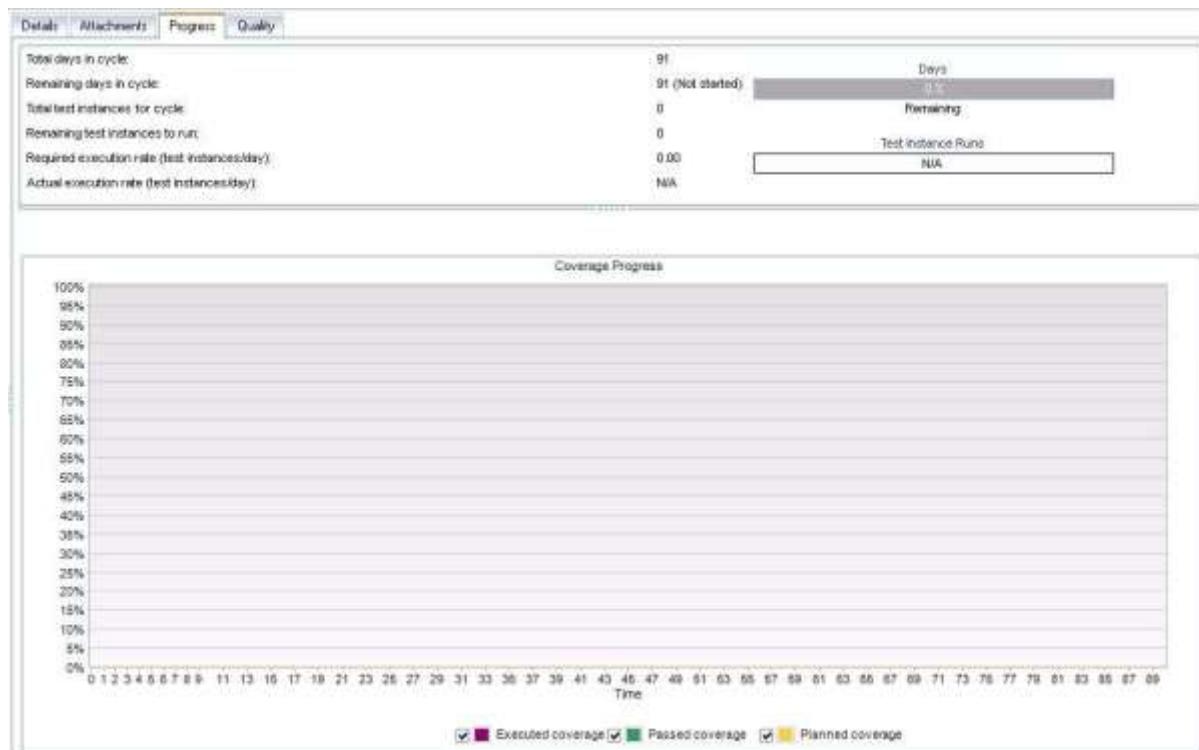
Cycles

Each release is further divided into cycles. Let us see how to create cycles in Quality Center.

Select the Release under which one would like to create cycles. Click the New Cycles button and the New Cycles dialog opens as shown below. Users have to enter the start date and the end date of the cycle. Users can create as many cycles as they can under a release.



Under Cycle, one can see the progress and Quality. The Progress is shown in a pictorial representation.



Release Scope and Milestone

Each Release has a scope and scope can be added under "Release Scope" tab under Releases as shown below.

The screenshot shows the 'New Scope item' dialog box. The title bar says 'New Scope item'. The top menu bar includes 'Details', 'Release Scope' (which is highlighted in yellow), 'Master Plan', 'Scorecard', 'Status', and 'Attachments'.

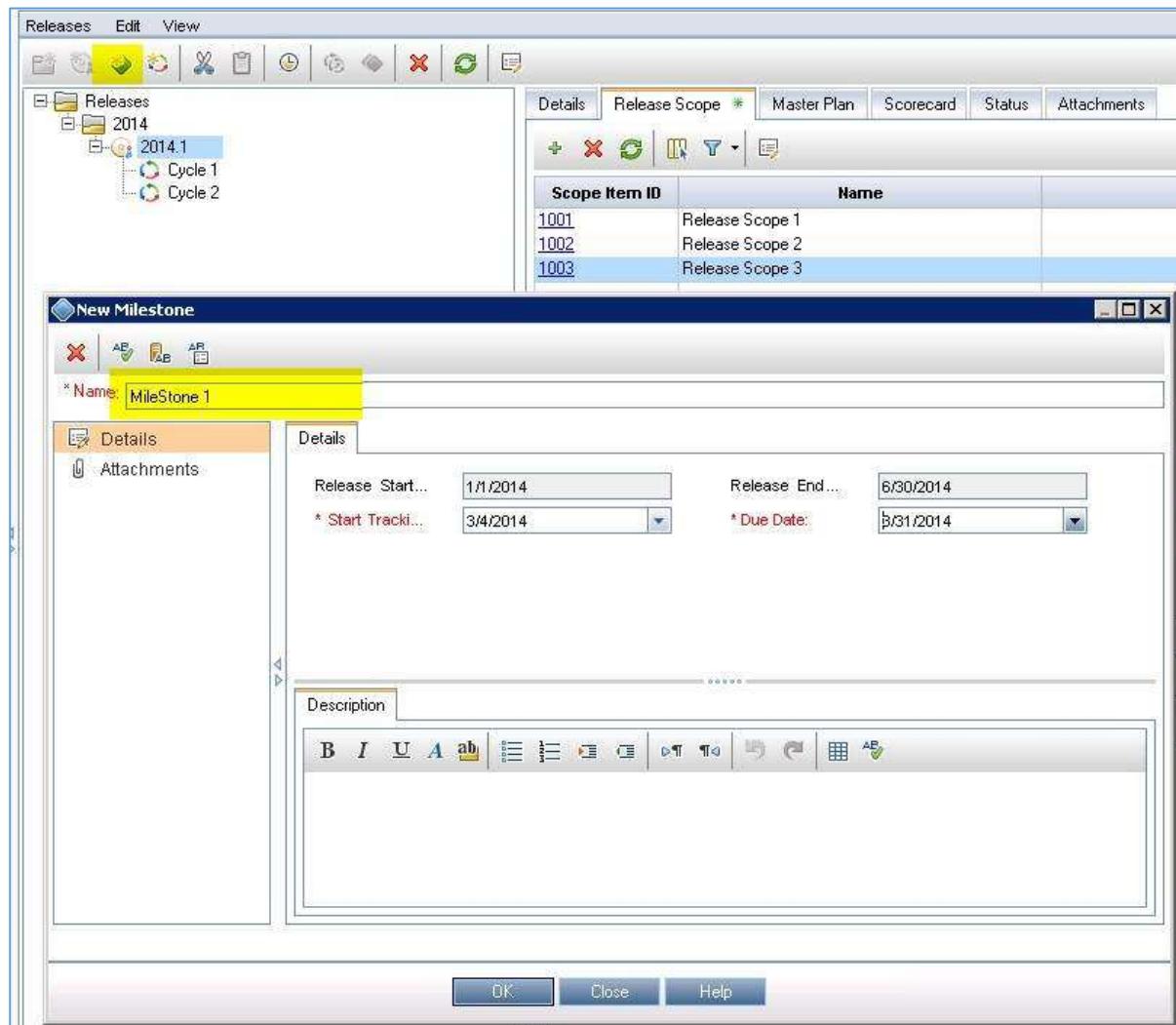
The main area of the dialog box contains a form with the following fields:

- Name:** Feature 1
- Priority:** 1-Low
- Owner:** admin
- Description:** (A rich text editor window with toolbar icons for bold, italic, underline, etc.)

On the left side of the dialog box, there is a sidebar with two sections: 'Details' (selected) and 'Content'. There are also icons for creating new items and deleting existing ones.

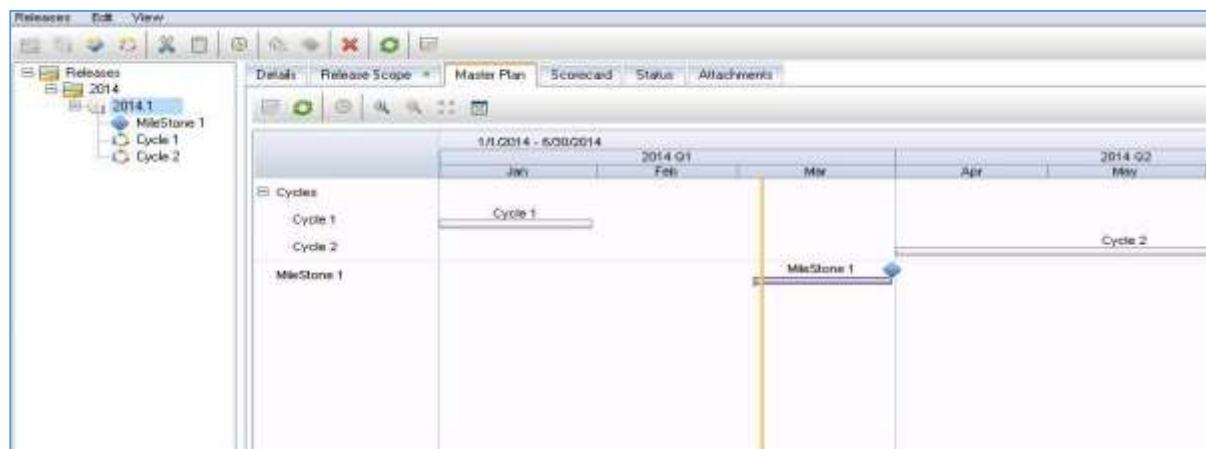
At the bottom of the dialog box are buttons for 'OK', 'Close', and 'Help'.

Each Release has also a milestone associated with it and can be added using the Milestone icon under Releases module as shown below.

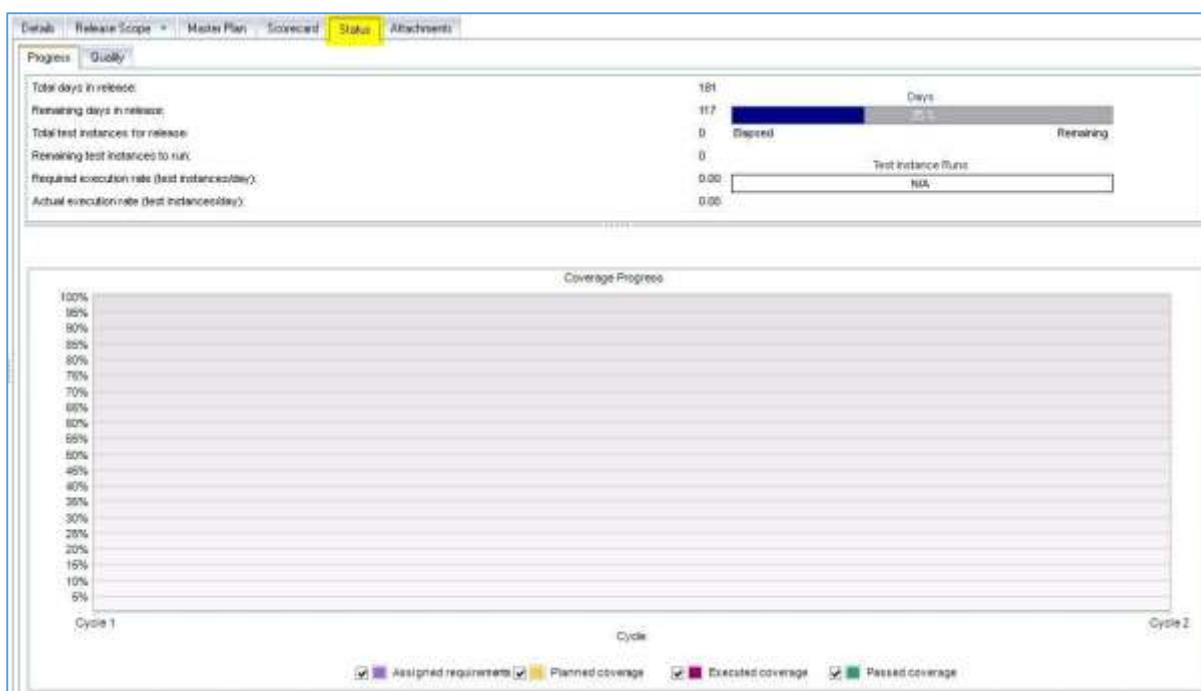


Master Plan and Status

Master plan can be accessed under "Releases" tab which displays the cycles and milestone timelines as shown below.



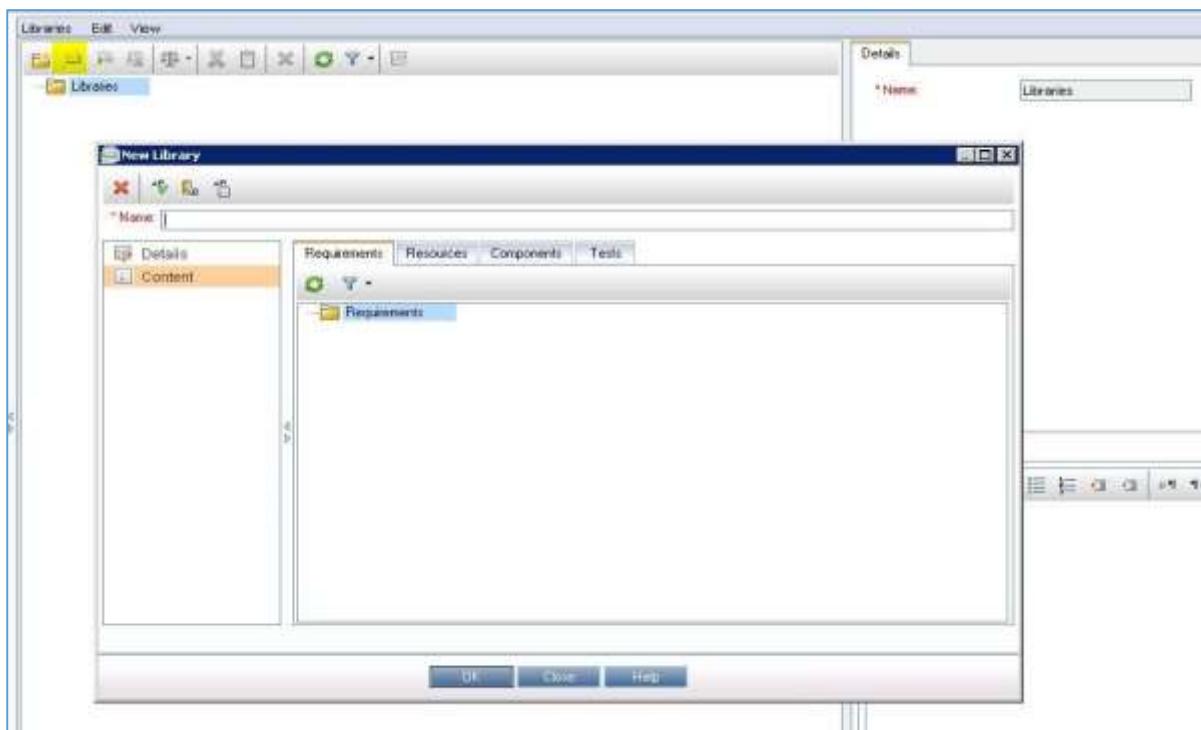
Status shows the pictorial representation of the progress and Quality.



Libraries

A library represents a set of entities in a project and the relationships between them which consists of requirements, tests, test resources, and business components.

A New Library can be created by clicking the "New Library" icon in the Library Navigation bar. A new window would be as shown below and one can name the library and add resources such as requirements, test plan, and components.



Baseline

Once Libraries are created, the libraries can be baselined which is a snapshot of the library at a specific point in time. Users can compare baselines at any stage of the development phase. A baseline includes all the entities defined in the library, including requirements, tests, and test resources.

A New Baseline can be created by clicking on the New Baseline button under "Libraries" Navigation bar. Users can also compare baselines and export to CSV format.

6. HP QC – Requirements

Requirements

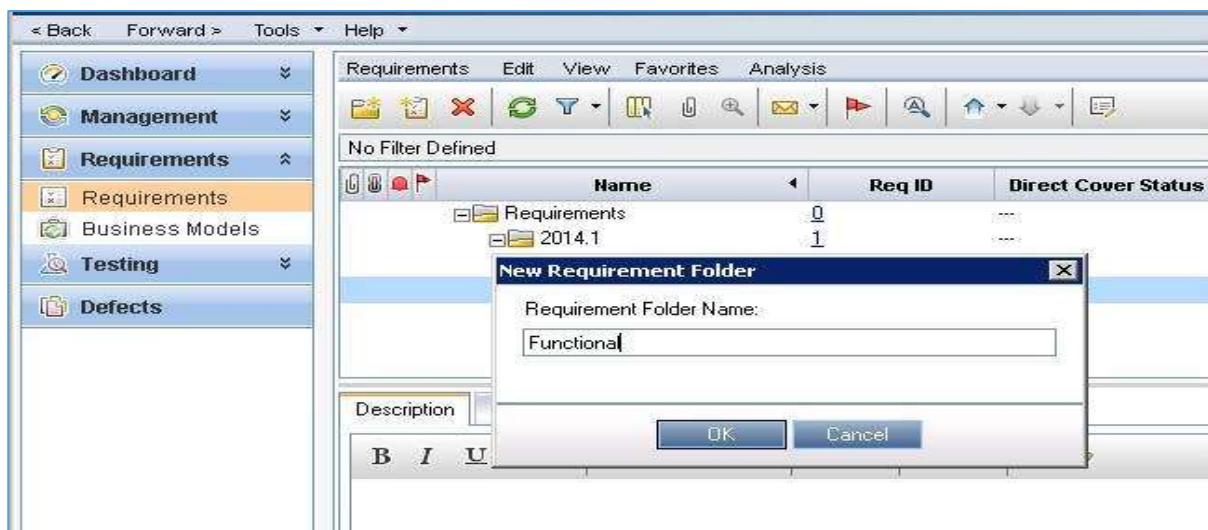
Defining and Capturing Requirements is one of the key criteria for any software development process. Describing Requirements refers to what needs to be done to meet the objectives during development. Establishing requirements clearly and correctly upfront is very much emphasized so that there would be minimal/no rework after UAT.

The Requirements module enables users to define, manage and track requirements at all stages of the software lifecycle. The following are the key functionalities in Requirements module. Click on each link to know more about them.

Functionality	Description
<u>Creating Requirements</u>	Create requirements, assign to releases/cycles.
<u>Uploading Requirement</u>	Uploading requirements using ALM-MS Excel Addins
<u>Requirement Traceability</u>	Enables how to define traceability links between requirements and dependencies that exist between the requirements.
<u>Traceability Matrix</u>	Enables user to view the traceability matrix that lists source requirements and their associated requirements and tests.

HP QC Create Requirements

Step 1 : Before creating a requirement, a container/folder for requirement is created. The structure is created such the requirements for that release are in a folder as shown below:



Step 2 : In the new requirements dialog, the following fields are filled in, as shown in the following screenshot.

- Requirement Name
- Requirement Type
- Author
- Creation Date
- Priority
- Reviewed
- Target Cycle
- Target Release
- Description
- Comments
- Rich Text
- Attachments

* Name: Requirement 1 - Home Page * Requirement Type: Functional

Author:	admin	Creation Date:	3/6/2014
Creation Time:		Direct Cover...	
Modified:		Priority:	4-Very High
Product:		Reviewed:	Not Reviewed
Target Cycle:	Cycle 1	Target Release:	2014.1

Description

Rich Text Editor Tools: B I U A ab

Buttons: Submit, Close, Help

HP QC Upload Requirements

Every time the user will NOT be in a position to create requirements manually. Hence HP has come up with an excel Addin with which the user can upload from excel directly. Let us understand the step-by-step procedure to upload requirements into QC from Excel.

Step 1 : Navigate to ALM home page and click on "Tools" from the list of links.

- [Application Lifecycle Management](#)
- [Lab Management](#)
- [My Performance Center](#)
- [Site Administration](#)
- **Tools**
- [Readme](#)

Step 2 : Click the "More HP ALM Addins" link from the Addins page as shown below.

HP ALM Connectivity
Enables you to integrate HP ALM with other tools.

HP ALM Lab Service
Enables you to remotely trigger functional tests and maintenance tasks on a testing host using HP ALM Management.

HP ALM Client Registration
Deploys and registers ALM components on a client machine.

Shared Deployment for Virtual Environments
Deploys ALM components on a shared location of a client machine.

Webgate Customization
Customizes the WebGate client component.

More HP ALM Add-ins

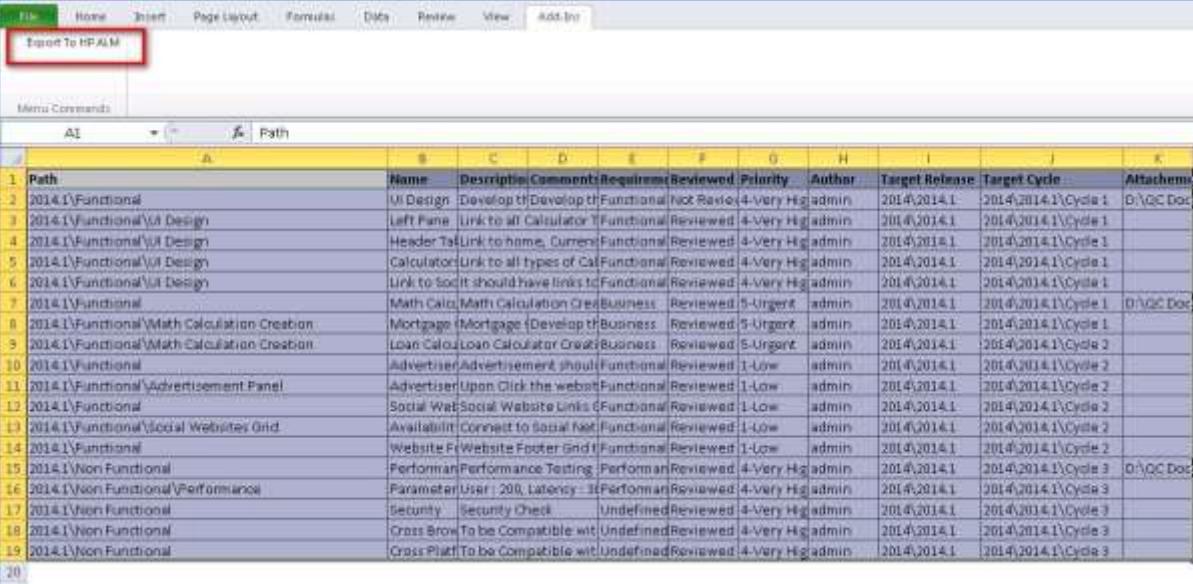
Step 3 : In the Addins page, select "Addins for Microsoft applications" and choose "Microsoft Excel"

The screenshot shows the 'Add-ins' page in HP ALM. On the left, there's a sidebar with 'Add-ins for HP Applications (12)' and 'Utility Add-ins (13)'. The main area is titled 'Add-ins for Microsoft Applications'. It lists three items: 'Microsoft Word' (enables export from Microsoft Word), 'Microsoft Excel' (enables export from Microsoft Excel, highlighted with a red box), and 'Business Views Microsoft Excel' (enables creating Excel reports based on Business Views).

Step 4 : Upon selecting "Microsoft Excel", choose ALM 11.5 Excel addin. The exe file will be downloaded. Please also take a note of the supported MS Office Editions as shown in the following screenshot.

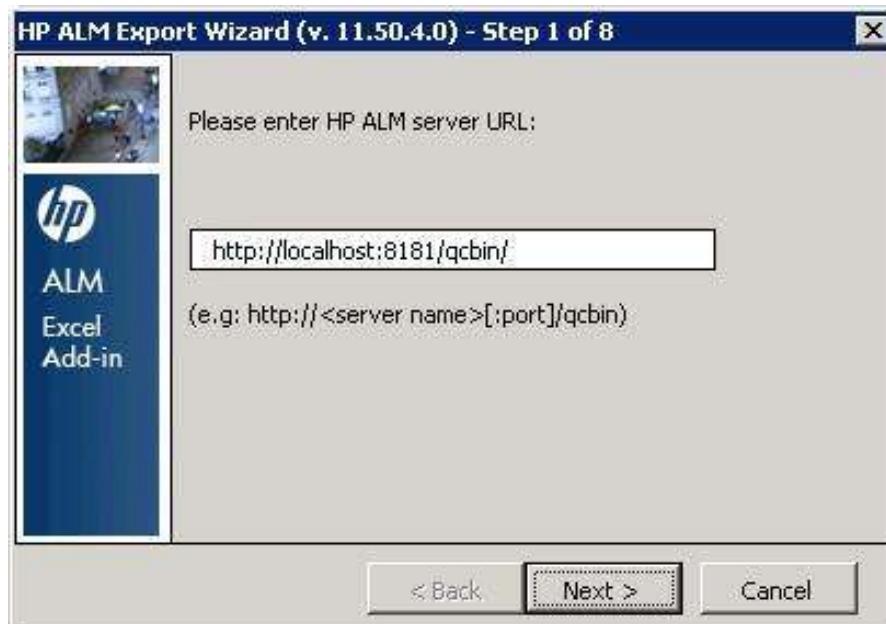
The screenshot shows the 'Excel Versions Supported' section with links to Microsoft Excel 2007 and 2010 (32 bit). Below it is a section for 'Downloads for ALM 11.50 and later', which includes links to the 'HP ALM Microsoft Excel Add-in Readme', 'HP ALM Microsoft Excel Add-in Guide', and 'HP ALM Microsoft Excel Add-in Download (Build 11.50.4.0)'. A red box highlights the download link. At the bottom, there's a section for 'Downloads for ALM 11.00' with links to the 'HP ALM 11.00 Microsoft Excel Addin Readme', 'HP ALM 11.00 Microsoft Excel Addin Guide', and 'HP ALM 11.00 Microsoft Excel Add-in Download (Build 11.0.1.15)'. A note at the bottom states 'Last updated: 25-April-2013'.

Step 5 : Once the Addin is installed, you can open the Excel file and go to Addins tab to see the Export to ALM button.



Path	Name	Description	Comments	Requirements	Reviewed	Priority	Author	Target Release	Target Cycle	Attachment
2014.1\Functional	UI Design	Develop th	Develop th Functional	Not Review	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 1	0\QC Doc	
2014.1\Functional\UI Design	Left Pane	Link to all Calculator	T Functional	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 1		
2014.1\Functional\UI Design	Header Tab	Link to home, Current Function	Functional	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 1		
2014.1\Functional\UI Design	Calculator	Link to all types of Cal	Functional	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 1		
2014.1\Functional\UI Design	Link to SocIt	should have links to Functional	Functional	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 1		
2014.1\Functional	Math Calc	Math Calculation Create	Business	Reviewed	5-Urgent	admin	2014.2014.1	2014.2014.1\Cycle 1	0\QC Doc	
2014.1\Functional\Math Calculation Creation	Mortgage	Mortgage (Mortgage)	Develop th Business	Reviewed	5-Urgent	admin	2014.2014.1	2014.2014.1\Cycle 1		
2014.1\Functional\Math Calculation Creation	Loan Calc	Loan Calculator Create	Business	Reviewed	5-Urgent	admin	2014.2014.1	2014.2014.1\Cycle 2		
2014.1\Functional	Advertiser	Advertiser	Advertisement	Reviewed	1-Low	admin	2014.2014.1	2014.2014.1\Cycle 2		
2014.1\Functional\Advertisement Panel	Advertiser	Upon Click the web	Functional	Reviewed	1-Low	admin	2014.2014.1	2014.2014.1\Cycle 2		
2014.1\Functional	Social Web	Social Web	Social Website Links	Reviewed	1-Low	admin	2014.2014.1	2014.2014.1\Cycle 2		
2014.1\Functional\Social Websites Grid	Availability	Connect to Social Net	Functional	Reviewed	1-Low	admin	2014.2014.1	2014.2014.1\Cycle 2		
2014.1\Functional	Website Footer	Footer Grid	Functional	Reviewed	1-Low	admin	2014.2014.1	2014.2014.1\Cycle 2		
2014.1\Non Functional	Performance	Performance	Testing	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 3	0\QC Doc	
2014.1\Non Functional\Performance	Parameter	User : 200, Latency : 10	Performance	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 3		
2014.1\Non Functional	Security	Security Check	Undefined	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 3		
2014.1\Non Functional	Cross Brow	To be Compatible wit	Undefined	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 3		
2014.1\Non Functional	Cross Platf	To be Compatible wit	Undefined	Reviewed	4-Very High	admin	2014.2014.1	2014.2014.1\Cycle 3		

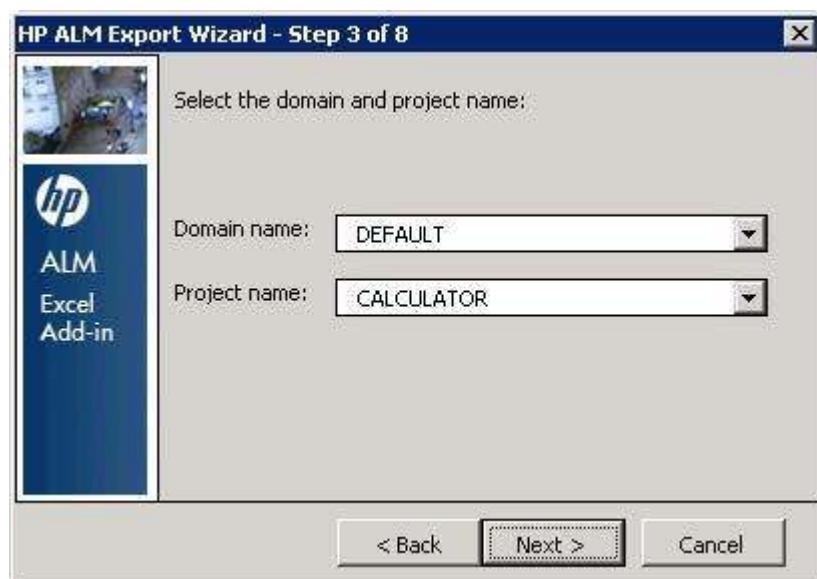
Step 6 : Select the Records that one would like to upload into ALM and click on "Export to ALM Button". The HP ALM Export Wizard opens as shown below. Enter the Quality Center URL.



Step 7 : Enter the Quality Center credentials to successfully establish a connection.



Step 8 : Select the Domain and Project as shown below and click "Next".



Step 9 : Select the Type of data that the user wishes to upload. In this case, it is requirements.



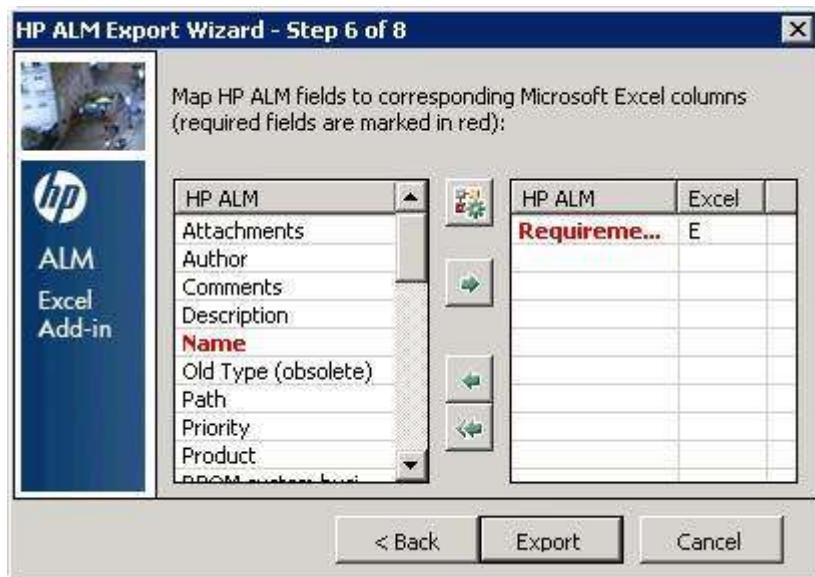
Step 10 : Enter a New map name. Upon creating once, we can reuse it any number of times for uploading Requirements.



Step 11 : Select the "Requirement Type" column that we are going to upload. This should match as that of the Excel that we wish to upload.



Step 12 : The Field Mapping dialog opens. Here the user has to map the field in Quality Center against the column ID in Excel.



Step 13 : Select the HP ALM field and click the Arrow button. Map Field with Column Dialog opens. There, the column Name in Excel should be entered.



Step 14 : Map all the relevant columns. The Column Name in Red are the mandatory fields. Now, click "Export".



Step 15 : The Data would be uploaded and it displays the final output. If successful, it will upload completely and displays a message to the user with the "Finish" Button.



Step 16 : Login to Quality Center and check if the requirements are uploaded correctly. The requirements will be uploaded as shown below.

	Name	Req ID	Direct Cover Status	Author
0	Requirements	0	...	
1	2014.1	1	...	admin
2	Functional	2	...	admin
5	Requirement 1 - Home Page	5	Not Covered	admin
6	UI Design	6	Not Covered	admin
11	Math Calculation Creation	11	...	admin
14	Advertisement Panel	14	Not Covered	admin
16	Social Websites Grid	16	Not Covered	admin
18	Website Footer Grid	18	Not Covered	admin
3	Non Functional	3	...	admin
19	Performance	19	Not Covered	admin
21	Security	21	Not Covered	admin
22	Cross Browser	22	Not Covered	admin
23	Cross Platform	23	Not Covered	admin

HP QC Requirement Traceability

Requirements traceability defines a relationship between two or more requirements. When performing impact analysis, the traceability links shows all stakeholders how other requirements are affected.

Select the "Requirements" against which the users need to add the dependent requirements. Press "ctrl+D" or go to requirement details.

The screenshot shows the 'Requirement Details' window in HP QC. The 'Req ID' is 5 and the name is 'Requirement 1 - Home Page'. The left sidebar has a tree view with 'Attachments' selected. The main area has tabs for 'Relationships' (selected) and 'Impact Analysis'. Under 'Relationships', there is a button for 'Add Requirement Traceability'. A grid table titled 'Trace From (Requirements that affect <Requirement 1 - Home Page>)' is empty. The 'Impact Analysis' tab is also visible.

Click "Add Requirement Traceability" button and requirement Tree opens. Users can select and add those as the dependent requirement.

The screenshot shows the 'Relationships' tab selected in the top header. Below it is a grid table with columns 'Req: Name' and 'Trace Comment'. Two rows are present: 'Website Footer Grid' and 'Availability of all the Social Websites'. To the right is a 'Requirements Tree' pane showing a hierarchy of requirements under '2014.1' and 'Functional' categories. The requirement 'Availability of all the Social Websites' is highlighted in the tree.

Select "Impact Analysis" tab and all the relevant requirements would be shown which will help us to test the impacted areas.

The screenshot shows the HP Quality Center Impact Analysis interface. At the top, there are tabs for 'Relationships' and 'Impact Analysis'. Below the tabs are icons for relationships: Child, Parent, Trace From, TraceTo, and Recursive. A legend defines these symbols. The main area displays a hierarchical tree of requirements under 'Trace From (Requirements that affect <Requirement 1 - Home Page>)'. The tree includes nodes for 'Requirement 1 - Home Page', 'Functional', '2014.1', 'Requirements', 'Website Footer Grid', 'Functional', '2014.1', 'Requirements', 'Availability of all the Social Websites', 'Social Websites Grid', 'Functional', '2014.1', and 'Requirements'.

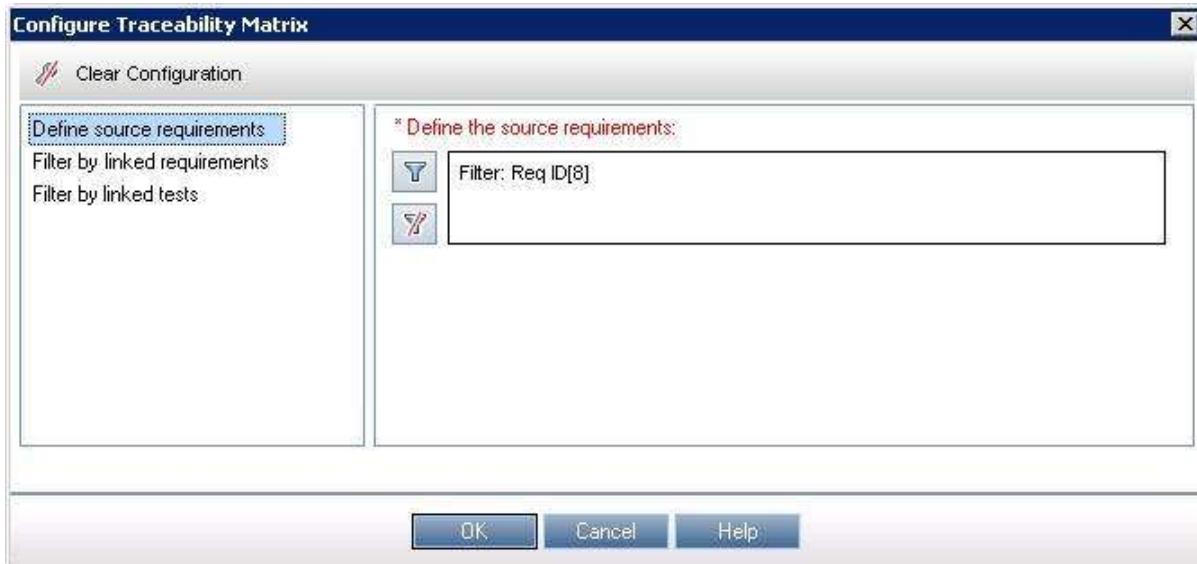
Hp-QC Traceability Matrix

The traceability matrix enables ALM users to determine the extent of relationships between requirements and other requirements. It is also used to determine the extent of relationships between requirements and tests. It helps users to verify if all the requirements are met and helps product owners to identify changes to the scope of the requirements when they occur.

Traceability matrix can be generated by navigating to "Requirements" module and then to "View" >> "Traceability Matrix".

The screenshot shows the HP Quality Center Requirements module. The 'View' menu is open, displaying various options like 'Indicator Columns', 'Expand All', 'Information Panel', 'Filter / Sort', 'Refresh All', 'Select Columns...', 'Zoom', 'Test Coverage', 'Requirements Tree', 'Requirement Details', 'Requirements Grid', 'Coverage Analysis', and 'Traceability Matrix'. The 'Traceability Matrix' option is highlighted with a yellow background.

Click "configure Traceability Matrix" and define source requirements. Also define Filter by linked requirements or tests and click OK.



Now click the "Generate Traceability Matrix" which will generate the traceability matrix based on the filter criteria.

Application Lifecycle Management Traceability Matrix										
Generated by: admin Domain: FINANCE Project: CALCULATOR										
Link Type	Linked Tests									
		[2] 01 - UI Design Check	[3] 02 - Left Pane Check	[4] 03 - Calculators Grid	[5] 04 - Mortgage Calculators Grid	[6] 05 - Links to Social websites				
										Grand Total
Source Requirements										
[3] Mortgage Calculator		✓	✓							2
[4] Loan Calculator			✓	✓	✓					3
Grand Total		1	1	1	1	1				5

The traceability matrix is generated which shows how each one of the requirements are affected. It also generates two other sheets - source requirements and linked test in the same Excel.

Application Lifecycle Management Traceability Matrix					
Generated by: admin Domain: FINANCE Project: CALCULATOR					
Source Requirement	Source Requirement Path	Requirement Type	Link Type	Linked Entity Type	Linked Entity
[3] Mortgage Calculator	Requirements\Functional\Mortgage Calculator	Functional	Linked Tests: Test	[2] 01 - UI Design Check	
[3] Mortgage Calculator	Requirements\Functional\Mortgage Calculator	Functional	Linked Tests: Test	[3] 02 - Left Pane Check	
[4] Loan Calculator	Requirements\Functional\Loan Calculator	Functional	Linked Tests: Test	[4] 03 - Calculators Grid	
[4] Loan Calculator	Requirements\Functional\Loan Calculator	Functional	Linked Tests: Test	[5] 04 - Mortgage Calculators Grid	
[4] Loan Calculator	Requirements\Functional\Loan Calculator	Functional	Linked Tests: Test	[6] 05 - Links to Social websites	

7. Quality Center – Test Plan

Test Plan

The crucial step in testing any application is developing a clear and a precise test plan. A good test plan enables the team to assess the quality of the application under test at any point in the software development life cycle.

Following functionalities are very important in order to understand in the test plan module better. Click on each one of the functionalities to know more about it.

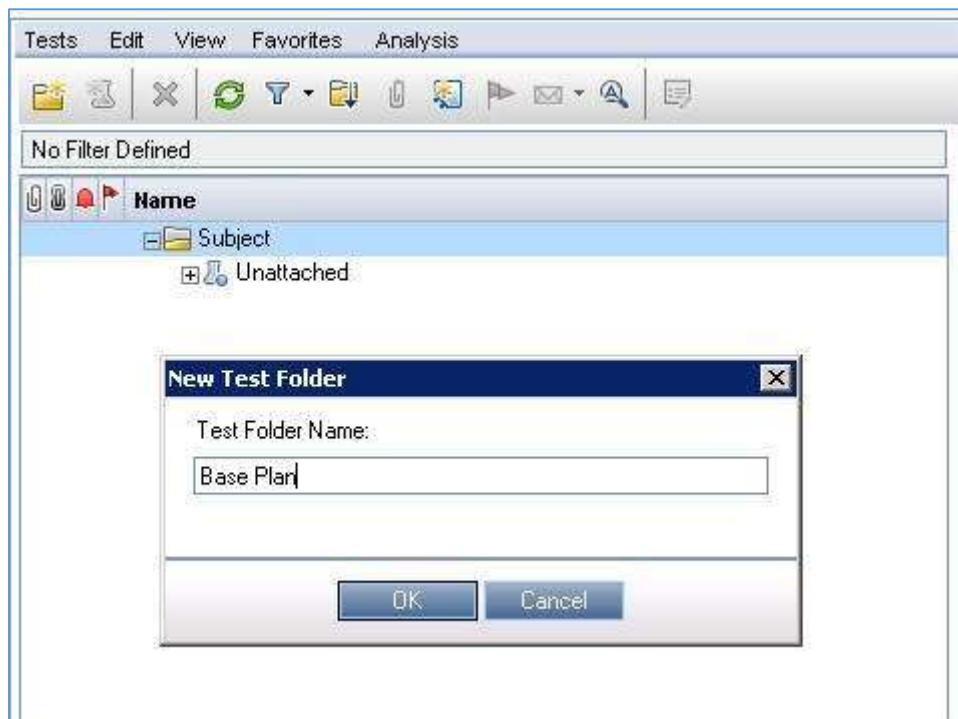
Functionality	Description
<u>Creating Tests</u>	This module describes how to create folders of test subjects in the test plan tree and also to add tests.
<u>Uploading Tests</u>	Uploading Tests using ALM-MS Excel Addins
<u>Requirement and Test Coverage</u>	Enables how to define the relationship between the requirements and tests.
<u>Test Configuration</u>	Specifies the subset of data or a run-time environment that the test should use.

HP QC Create Tests

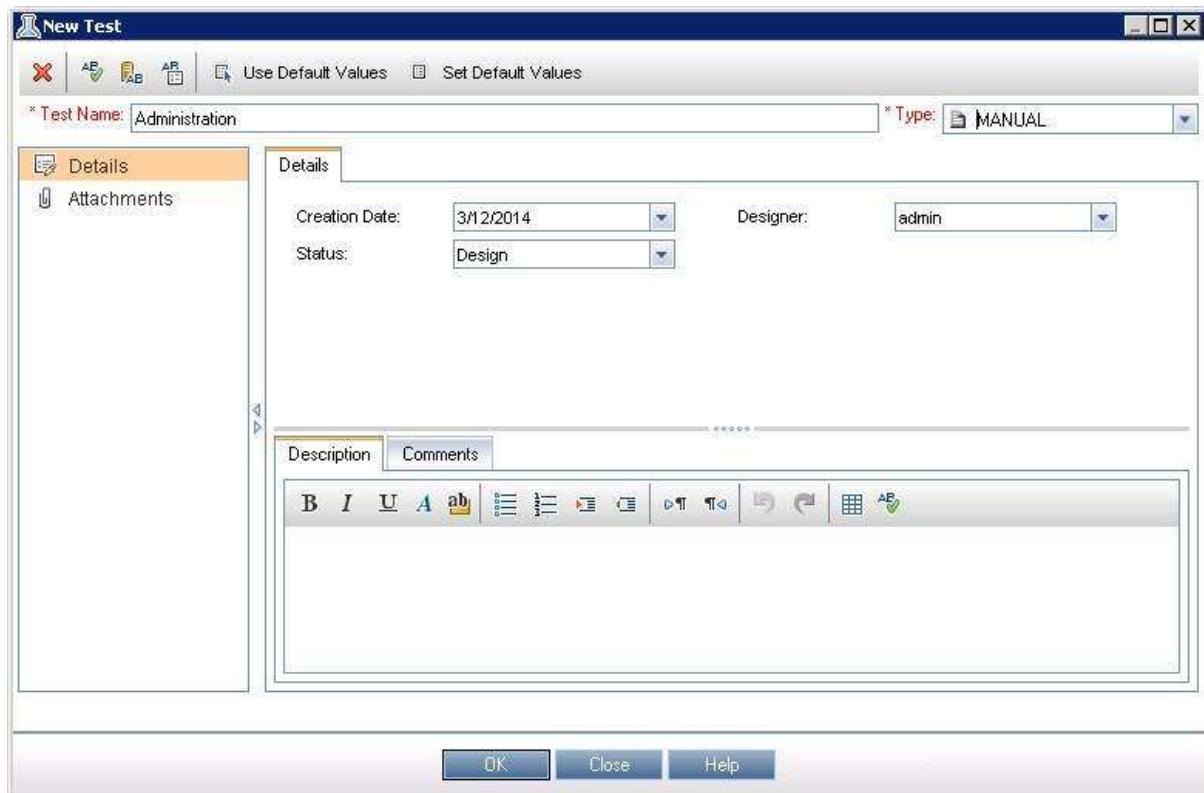
Tests are created based on the requirements. Creating tests and covering all scenarios/parameters is the crucial factor for the success of any product.

Let us take a look at how to create a test suite and its important significance.

Step 1 : Create a Root folder as a container for having the test sets.



Step 2 : Click the New Test button. Enter the details of the test scenario and select the test type as shown below.



Step 3 : Select the Test and the Tabs would be generated as shown.

The screenshot shows the 'Test Details' screen in HP QC. At the top, there is a horizontal bar with tabs: Details, Design Steps, Parameters, Test Configurations, Attachments, Req Coverage, Linked Defects, Dependencies, Business Models Linkage, and History. Below this, there are several input fields:

- * Test Name: Administration
- * Type: MANUAL
- Creation Date: 3/12/2014
- Designer: admin
- Status: Design
- Test ID: 1

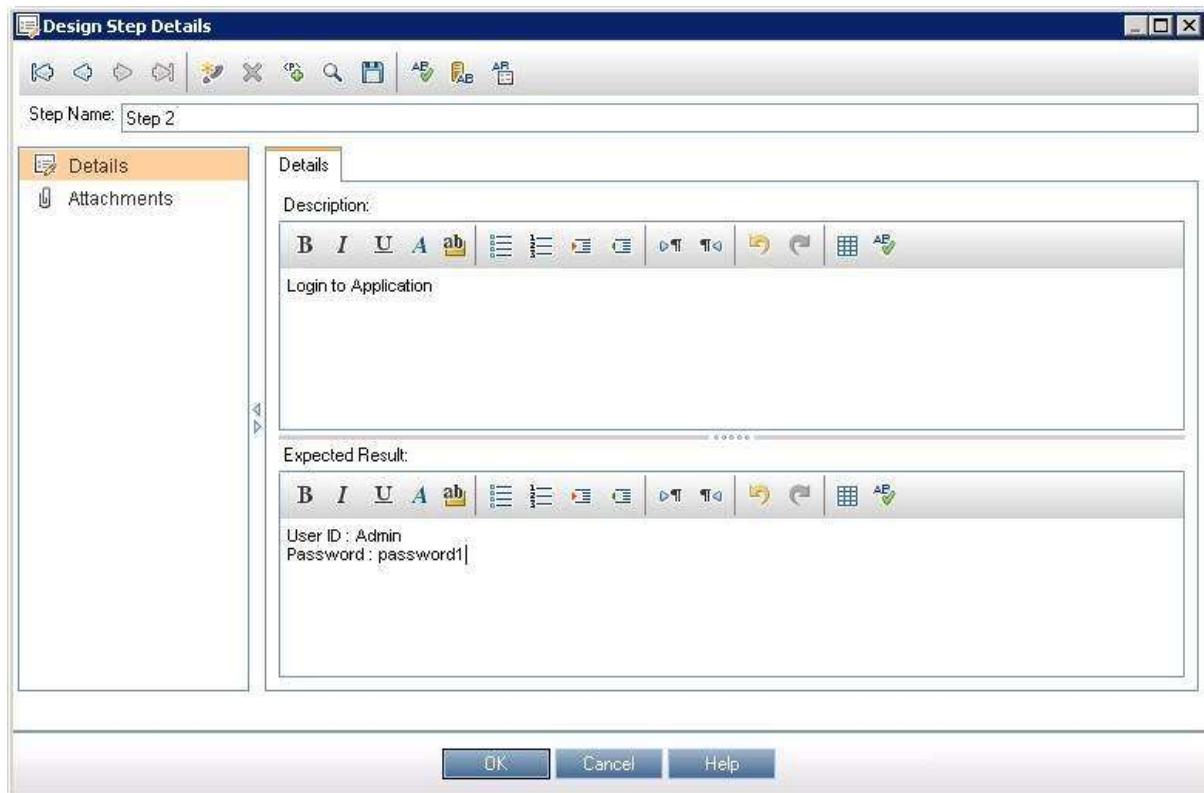
Below these fields is a large text area labeled 'Description' with a 'Comments' tab next to it. A rich text editor toolbar is positioned above the text area, containing buttons for bold (B), italic (I), underline (U), link (A), and other document operations.

Step 4 : Click the design step details and provide the following info: step name, details, and description.

The screenshot shows the 'Design Step Details' dialog box. The title bar says 'Design Step Details'. The main area has a toolbar with various icons. On the left, there is a sidebar with tabs: 'Details' (which is selected and highlighted in orange) and 'Attachments'. The 'Details' tab contains two main sections:

- Description:** A rich text editor area with a toolbar. The text 'Launch IE' is entered into this field.
- Expected Result:** Another rich text editor area with a toolbar. The text 'User Should be able to Launch QC' is entered into this field.

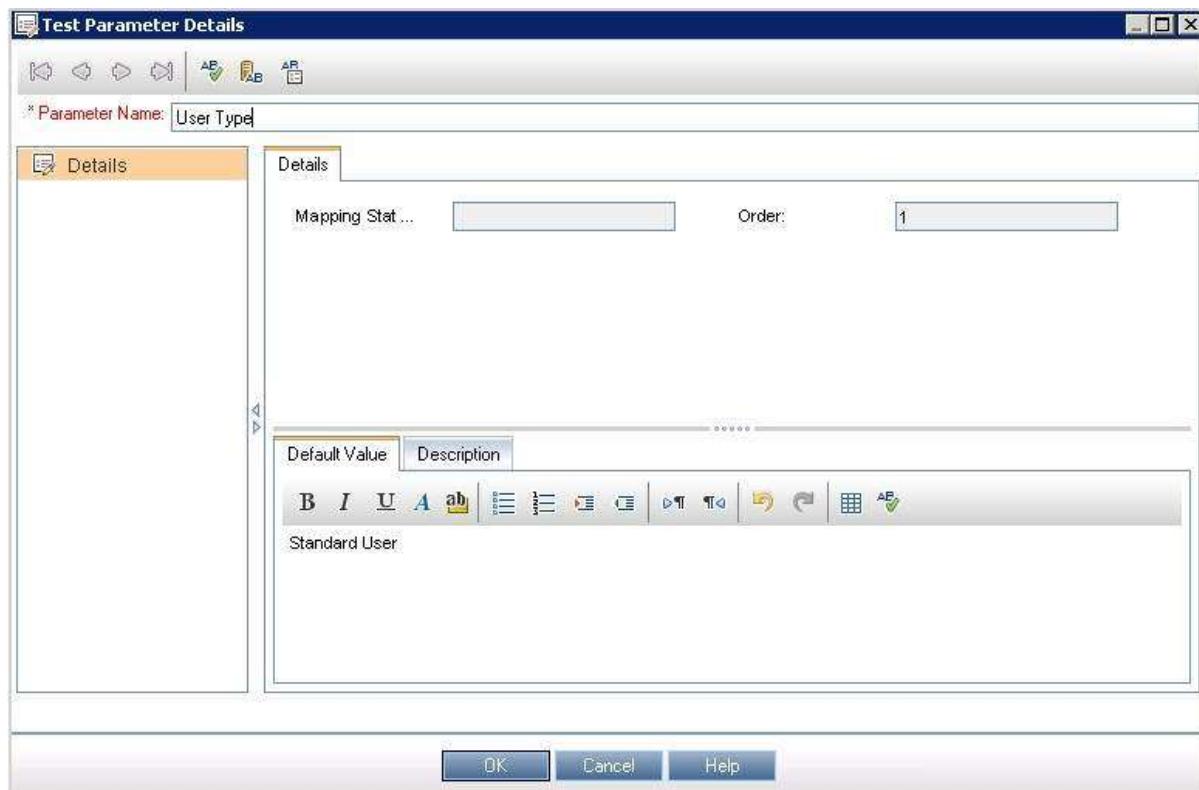
At the bottom of the dialog box are three buttons: 'OK', 'Cancel', and 'Help'.



Step 5 : All the design steps can be accessed using "Design" steps tab as shown below.

Details	Design Steps *	Parameters	Test Configurations	Attachments	Req Coverage	Linked Defects	Dependencies								
<table border="1"> <thead> <tr> <th>Step Name</th> <th>Description</th> <th>Expected Result</th> </tr> </thead> <tbody> <tr> <td>Step 1</td> <td>Launch IE</td> <td>User Should be able to Launch QC</td> </tr> <tr style="background-color: #ADD8E6;"> <td>Step 2</td> <td>Login to Application</td> <td>User ID : Admin Password : password1</td> </tr> </tbody> </table>	Step Name	Description	Expected Result	Step 1	Launch IE	User Should be able to Launch QC	Step 2	Login to Application	User ID : Admin Password : password1						
Step Name	Description	Expected Result													
Step 1	Launch IE	User Should be able to Launch QC													
Step 2	Login to Application	User ID : Admin Password : password1													

Step 6 : Test Parameter details are entered using "Parameters" tab.



Step 7 : One can view history of this particular test case in History-Audit Log tab as shown below.

Baselines		Audit Log
Field:	<All>	Expand All
Field Name	Old Value	New Value
<input checked="" type="checkbox"/> Change #1: Date: 3/12/2014 6:53:19 AM Changer: admin		
Status		Design
Execution Status		No Run

Hp-QC Upload Tests

Every time the user will NOT be in a position to create test cases manually. Hence HP has come up with an Excel Addin with which the user can upload from excel directly. Let us understand the step-by-step procedure to upload test cases into QC from Excel.

Step 1 : Navigate to ALM home page and click on "Tools" from the list of links.

- [Application Lifecycle Management](#)
- [Lab Management](#)
- [My Performance Center](#)
- [Site Administration](#)
- **Tools**
- [Readme](#)

Step 2 : Click on "More HP ALM Addins" Link from the addins page as shown below.

HP ALM Connectivity
Enables you to integrate HP ALM with other tools.

HP ALM Lab Service
Enables you to remotely trigger functional tests and maintenance tasks on a testing host using HP ALM Management.

HP ALM Client Registration
Deploys and registers ALM components on a client machine.

Shared Deployment for Virtual Environments
Deploys ALM components on a shared location of a client machine.

Webgate Customization
Customizes the WebGate client component.

More HP ALM Add-ins

Step 3 : In the Addins page, select "Addins for Microsoft applications" and choose "Microsoft Excel"

The screenshot shows the 'Add-ins' page in HP ALM. On the left, there's a sidebar with links: 'Add-ins for HP Applications (12)', 'Add-ins for Microsoft Applications (13)' (which is highlighted in blue), and 'Utility Add-ins (13)'. The main content area is titled 'Add-ins for Microsoft Applications'. It lists three items:

- Microsoft Word**: Enables you to export your existing test plan data or requirement data stored in Microsoft Word directly to HP ALM.
- Microsoft Excel**: This item is highlighted with a red box. It enables you to export your existing tests, requirements, or defects stored in Microsoft Excel directly to HP ALM.
- Business Views Microsoft Excel**: Enables you to create and populate Excel reports based on ALM Business Views.

Step 4: Upon selecting "Microsoft Excel" and choosing ALM 11.5 Excel addin, the exe file will be downloaded. Please also take a note of the supported MS Office Editions as shown in the below screenshot.

The screenshot shows the 'Excel Versions Supported' and 'Downloads for ALM 11.50 and later' sections.

Excel Versions Supported

- Microsoft Excel 2007
- Microsoft Excel 2010 (32 bit)

Downloads for ALM 11.50 and later

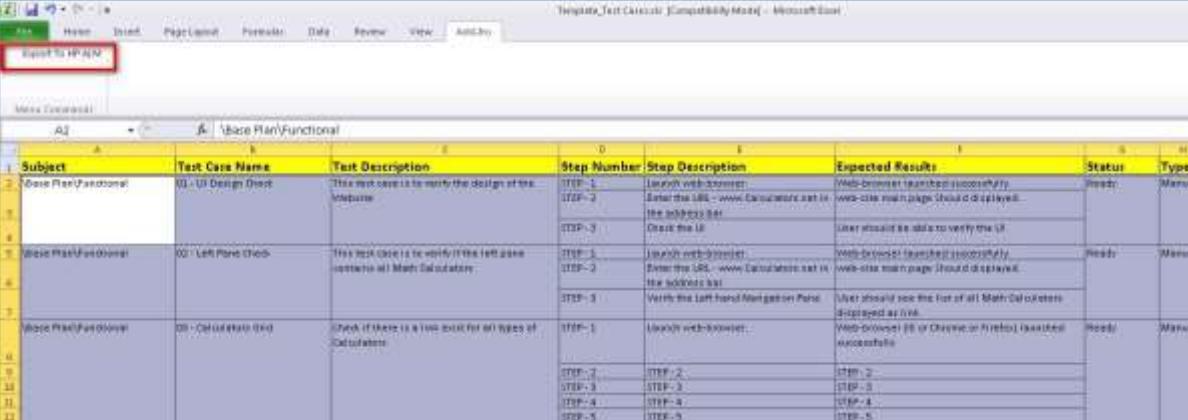
- [HP ALM Microsoft Excel Add-in Readme](#)
- [HP ALM Microsoft Excel Add-in Guide](#)
- [HP ALM Microsoft Excel Add-in Download \(Build 11.50.4.0\)](#)

Downloads for ALM 11.00

- [HP ALM 11.00 Microsoft Excel Addin Readme](#)
- [HP ALM 11.00 Microsoft Excel Addin Guide](#)
- [HP ALM 11.00 Microsoft Excel Add-in Download \(Build 11.0.1.15\)](#)

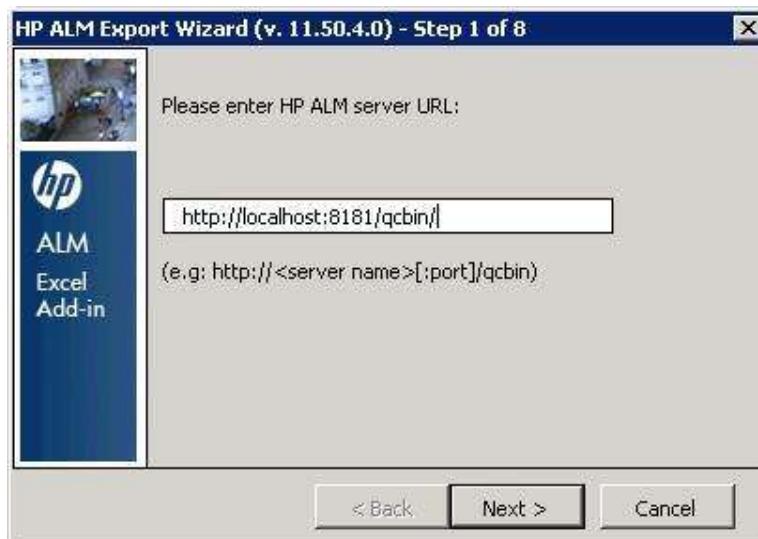
Last updated: 25-April-2013

Step 5 : Once the Addin is installed, upon opening the Excel file, one can see "Export to ALM" button under Addins tab.



Base Plan/Functional								
Subject	Test Case Name	Test Description	Step Number	Step Description	Expected Results	Status	Type	
Base Plan/Functional	01 - UI Design Check	This test case is to verify the design of the interface.	STEP-1	Login with Username.	Web browser launches successfully.	Ready	Manual	
			STEP-2	Enter the URL - www.Calculator.net in the address bar.	www.Calculator.net page should display.			
			STEP-3	Check the UI.	User should be able to verify the UI.			
Base Plan/Functional	02 - Left Panel Check	This test case is to verify if the left pane contains all Math Calculators.	STEP-1	Login with Username.	Web browser launches successfully.	Ready	Manual	
			STEP-2	Enter the URL - www.Calculator.net in the address bar.	www.Calculator.net page should display.			
			STEP-3	Verify the Left-hand Navigation Pane.	User should see the list of all Math Calculators displayed as links.			
Base Plan/Functional	03 - Calculation Grid	Check if there is a loss in data for all types of Calculators.	STEP-1	Login with Username.	Web browser launches successfully.	Ready	Manual	
			STEP-2	Enter the URL - www.Calculator.net in the address bar.	www.Calculator.net page should display.			
			STEP-3	STEP-4	STEP-5	STEP-6	STEP-7	
			STEP-4	STEP-5	STEP-6	STEP-7	STEP-8	
			STEP-5	STEP-6	STEP-7	STEP-8	STEP-9	

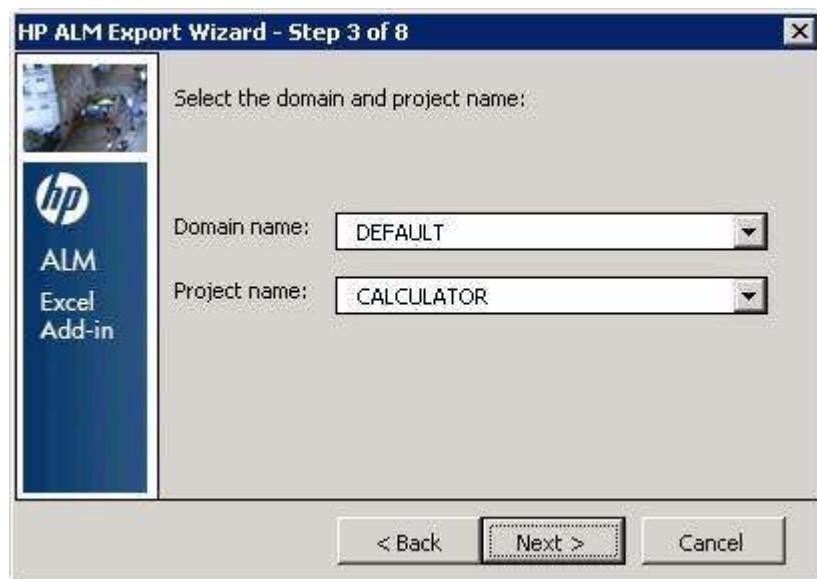
Step 6 : Select the Records that one would like to upload into ALM and click on "Export to ALM Button". The HP ALM Export Wizard opens as shown below. Enter the Quality Center URL.



Step 7 : Enter the Quality Center credentials to successfully establish a connection.



Step 8 : Select the Domain and Project as shown below and click "Next".



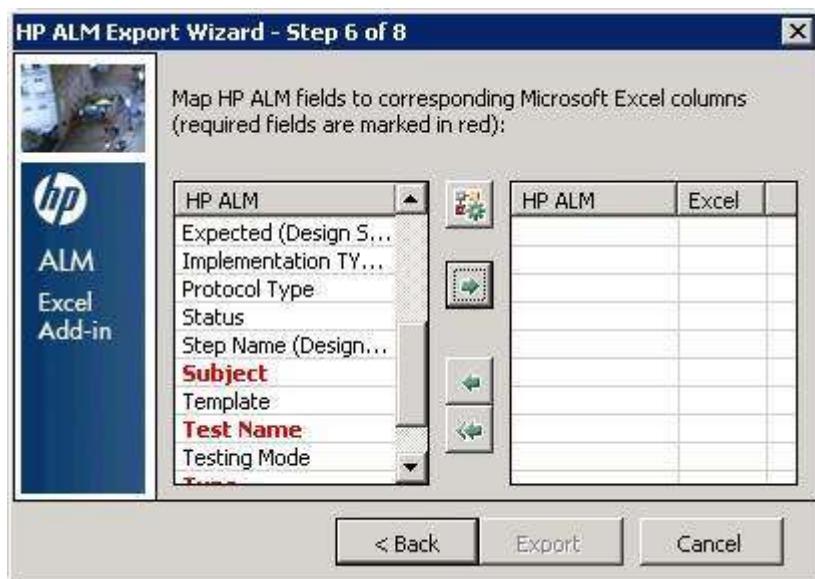
Step 9 : Select the Type of data that the user wishes to upload. In this case it is "Tests".



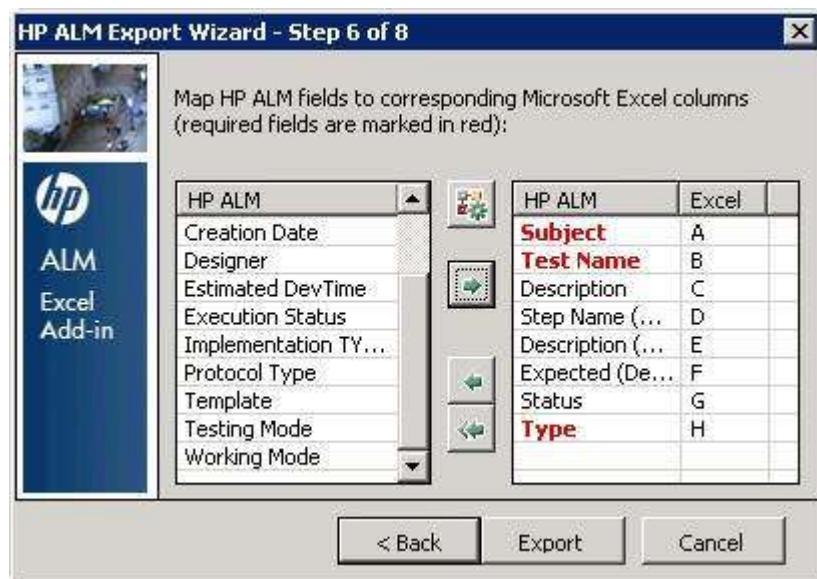
Step 10 : Enter a New map name. Upon creating once, we can reuse it any number of times for uploading tests.



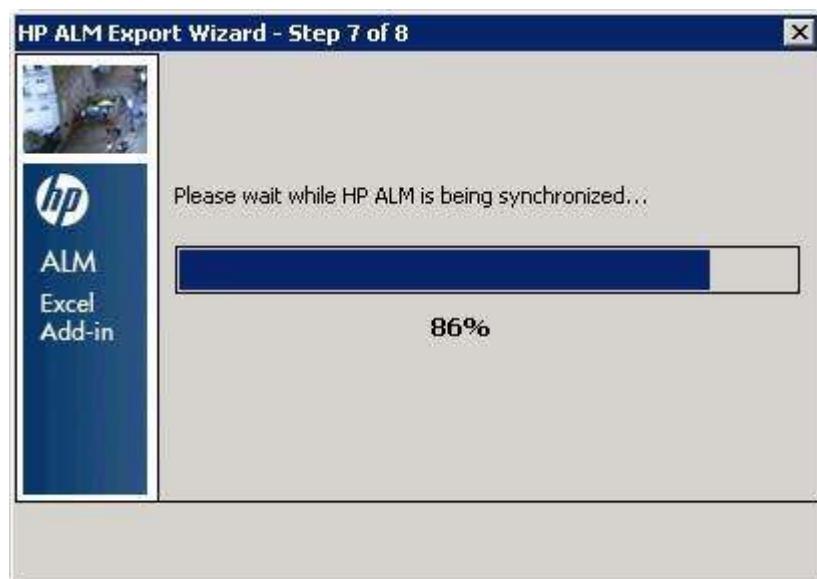
Step 11 : The Field Mapping Dialog opens. Here the user has to map the field in Quality Center against the column ID in Excel.



Step 12 : Once the Field mapping is done, click Next.



Step 13 : HP ALM will start uploading the tests into Quality Center and show the progress as shown below.



Step 14 : If the upload is successful, the HP-ALM Export Wizard would show the message that it got successfully uploaded.



Step 15 : Upon successful upload, the uploaded Test cases can be seen in HP-ALM directly.

A screenshot of the HP ALM application interface. The title bar says "No Filter Defined". The main area shows a hierarchical tree view of test cases. The root node is "Subject", which has three children: "Unattached", "2013", and "Non Functional". "Non Functional" has four children: "01 - Verify the Performance Parameters", "02 - Verify the Security Parameters", "03 - Verify Cross Browser Functionality Testing", and "04 - Verify Cross Platform Testing". The "2013" node has one child, "Functional", which has twelve children: "01 - UI Design Check", "02 - Left Pane Check", "03 - Calculators Grid", "04 - Mortguauge Calculators Grid", "05 - Links to Social websites", "06 - Math Calculators Check", "07 - Loan Calculators Check", "08 - Profit and Loss Calculators", "09 - Currency Converter", "10 - Advertisement Panel", "11 - Social Networking Websites", and "12 - Webiste Footer". At the bottom of the interface, there is a footer bar with the text "Administration".

HP QC Requirements and Test Coverage

As a tester, one would be interested in establishing the connection between requirement and test coverage. This will help the test managers to take informed decisions about the status of each one of those requirements.

Let us now understand how to link requirements and tests so that the metrics can be generated.

Step 1 : Go to the Test Plan tab and select the test against which the requirement has to be mapped.

The screenshot shows the HP QC Test Plan interface. On the left, there is a tree view of test steps under a subject named 'Unattached'. On the right, there are several tabs: Details, Design Steps, Parameters, Attachments, Test Configurations, Req Coverage (which is highlighted with a red box), and Linked Defects. The 'Req Coverage' tab displays fields for Test Name ('01 - Verify the Performance'), Type ('MANUAL'), Creation Date ('3/12/2014'), Designer ('admin'), Status ('Ready'), and Test ID ('14').

Step 2 : Click "Select Req", the requirement tree opens in right pane and user can select the related requirements.

The screenshot shows the HP QC Test Plan interface with the 'Req Coverage' tab selected. In the center, there is a table with columns 'Entity Name' and 'Req: Description', containing a single row for 'Requirement 1 - Home Pa...'. On the right, there is a 'Requirement Tree' panel showing a hierarchical structure of requirements. The 'Functional' folder under '2014.1' contains 'Requirement 1 - Home Page', 'UI Design', 'Math Calculation Creation', 'Advertisement Panel', 'Social Websites Grid', and 'Website Footer Grid'. There is also a 'Non Functional' folder.

Step 3 : This mapping is important to generate traceability matrix, and upon execution of tests we will be able to see what percent of tests for a specific requirement has passed/failed.

HP QC Test Configuration

Test Configurations helps the testers to test various use cases with a different set of data. Testers can use a single test to cover multiple requirements by associating to different test configurations in the same test for each requirement.

It can also correspond to a run-time environment and can be associated with test configuration with data in the Parameters tab of the Test Plan module. Following are the steps to work with Test Configurations.

Step 1 : Ensure that the prerequisite such as requirement and test cases are created. Tests are created with parameters.

Step 2 : The Test Configuration is created by navigating to the "test configurations" tab of test plan module. One Default configuration is present in the list.

ID	Name	Created by	Creation date	Execution Status
1014	01 - Verify the Pe...	admin	3/12/2014	No Run

Step 3 : Click on "+" Icon to create a New test configuration and test configuration window opens as shown below.

Step 4 : Upon creating new test configurations, the test configuration is listed as shown below.

ID	Name	Created by	Creation date	Execution Status
1014	01 - Verify the Pe...	admin	3/12/2014	No Run
1018	Internet Explorer...	admin	3/13/2014	No Run
1019	FireFox Check...	admin	3/13/2014	No Run

Step 5 : Create Requirement coverage as discussed in previous module - Requirement and Test Coverage.

Step 6 : Create test set in test lab module and execute them for each one of those configurations.

Step 7 : Upon execution, analyze the results in the test runs tab.

8. Quality Center – Test Lab

Test Lab

This module helps the testers to execute the created tests. One can schedule, run and analyze, post defects using this module.

The Following functionalities in Test Lab module helps us to understand test lab module in depth.

Functionality	Description
<u>Creating Test Set</u>	This functionality describes how to create and define test sets in the Test Lab module.
<u>Test Run Schedules</u>	Helps the testers to control the execution of test instances in a test set.
<u>Test Execution</u>	Enables testers to execute the test/test set.
<u>Test Results</u>	This Functionality enables testers to analyze the test results.

HP QC Create Test Set

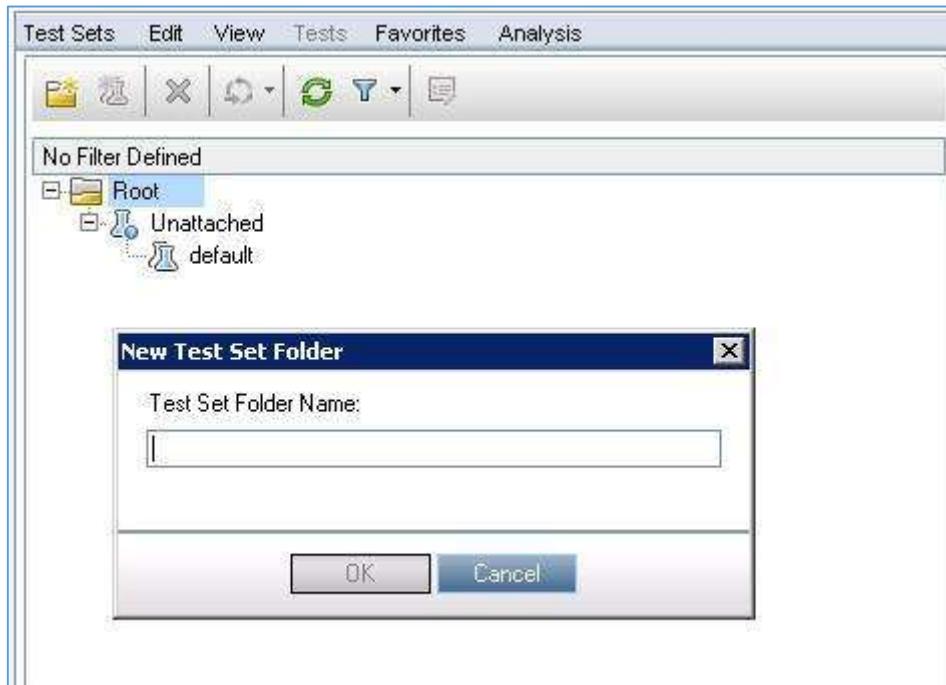
Once the test design is completed using Test Plan, testers organize test execution by creating test sets in the Test Lab module. A test set contains a set of the tests that are designed to achieve specific test goals.

HL ALM supports different types of test sets and are listed below:

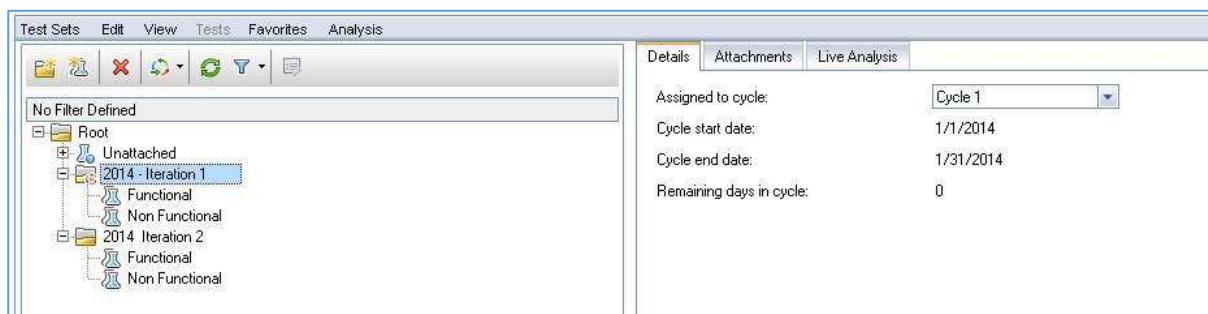
- Performance
- Functional
- Default

Following are the steps to create test sets in Test Lab module.

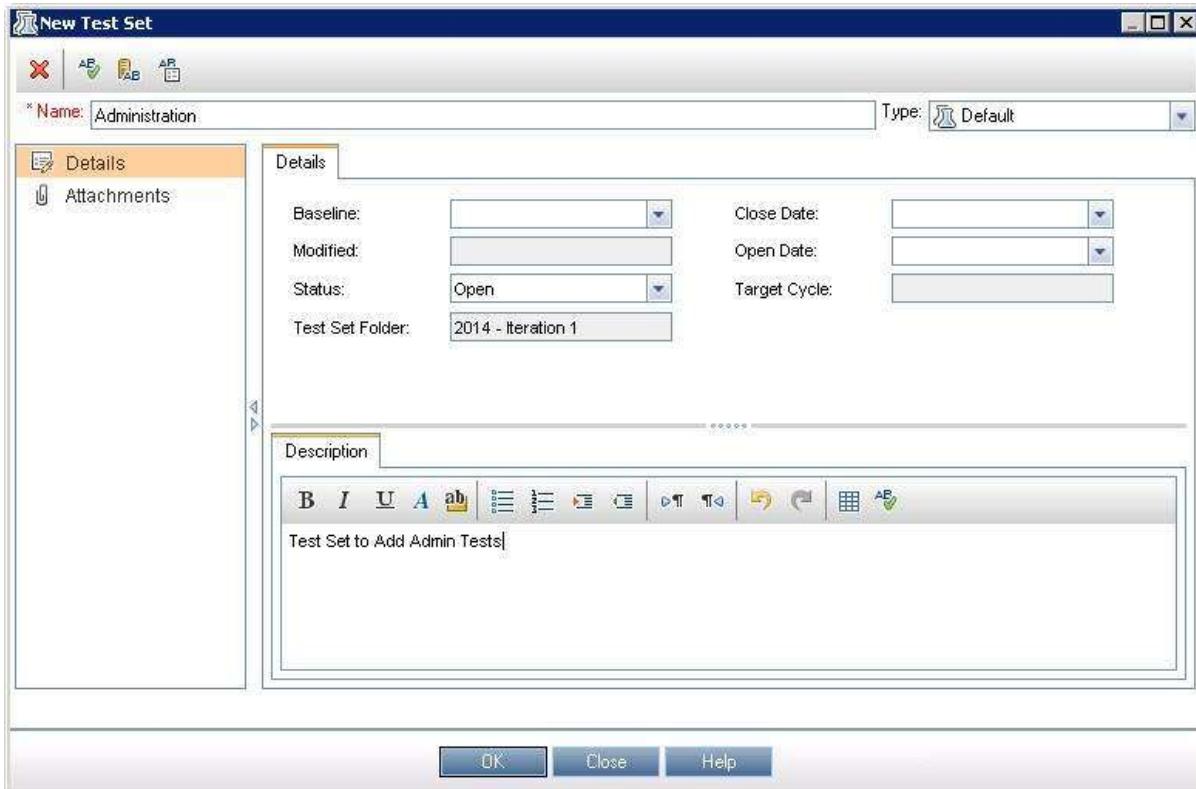
Step 1 : Create a Root folder as a container for having the test sets. Name it in-line with the release and cycle so that it is easy to track.



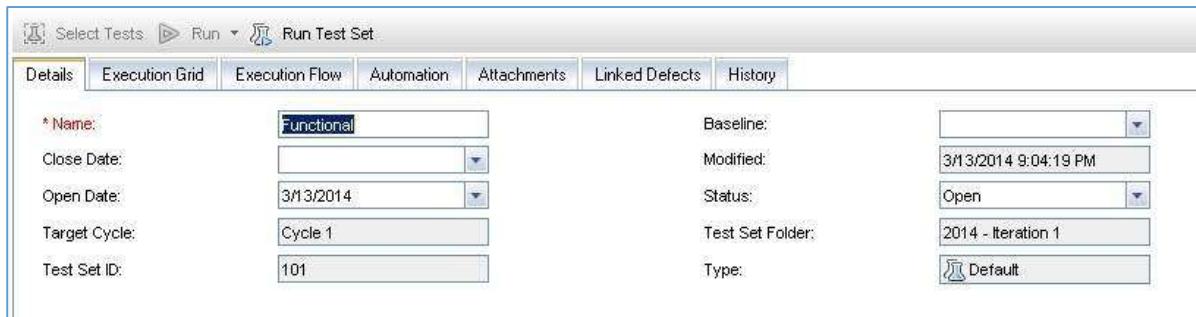
Step 2 : Upon creating root folder, testers can assign it to a specific cycle on root folder level. Only if it is mapped to a particular cycle, we can track the test results based on a cycle.



Step 3 : Create a new test set by entering the type, description and attach documents/attachments if any.



Step 4 : Upon creating a test set, the details can be accessed using details tab.



Step 5 : Select "Execution Grid", the "Select Test" Button would be activated as shown below.

Step 6 : When "Select test" button is clicked, Test Plan tree opens for the user to select the tests into this test set.

Step 7 : The "Execution Flow" tab shows how the tests are organized.

Step 8 : "History" tab shows the sequence of changes that this particular test set underwent since the user created it.

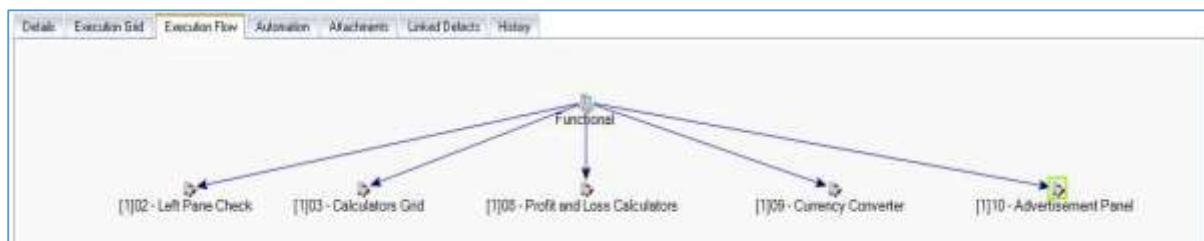
Details	Execution Grid	Execution Flow	Automation	Attachments	Linked Defects	History
Field: <All>						
					Expand All	Collapse All
Field Name	Old Value	New Value				
Change #1: Date: 3/13/2014 9:14:11 PM Changer: admin						
Target Cycle		Cycle 1				

HP QC Test Run Schedules

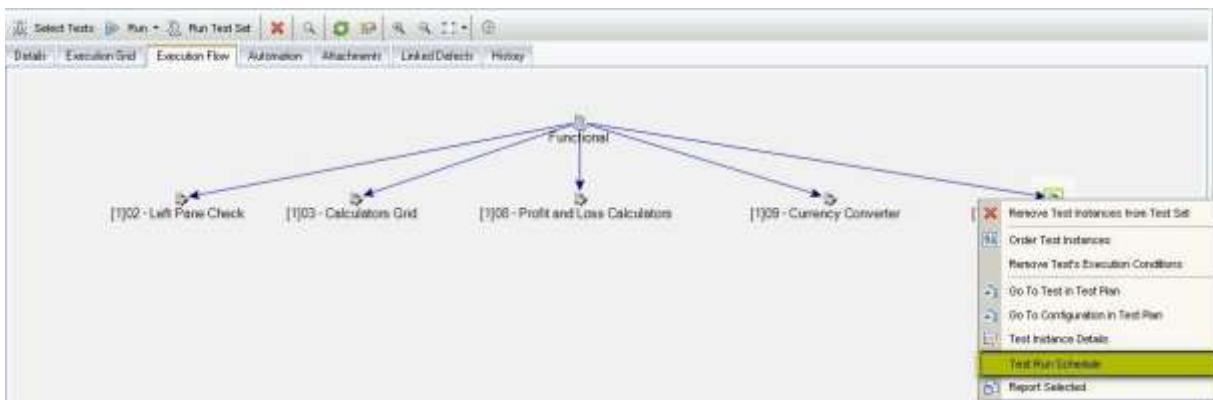
The test execution can be controlled using "Execution Flow" Tab. Testers can specify a date and time, and set conditions for executing a particular test instance. It is usually based on results of another specified test instance in the Execution Flow.

Now, let us see the step by step procedure on how to schedule the test flow in HP-ALM.

Step 1 : Select "Execution Flow" tab from Test Lab module.



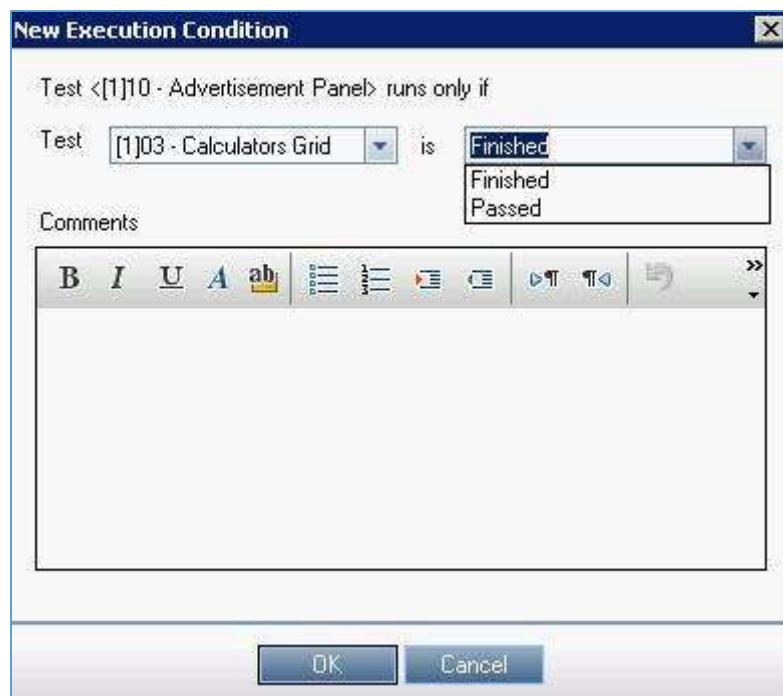
Step 2 : Right-click on the test instance and select "Test Run Schedule" as shown below.



Step 3 : Run Schedule window opens as shown below. Click the "+" icon.



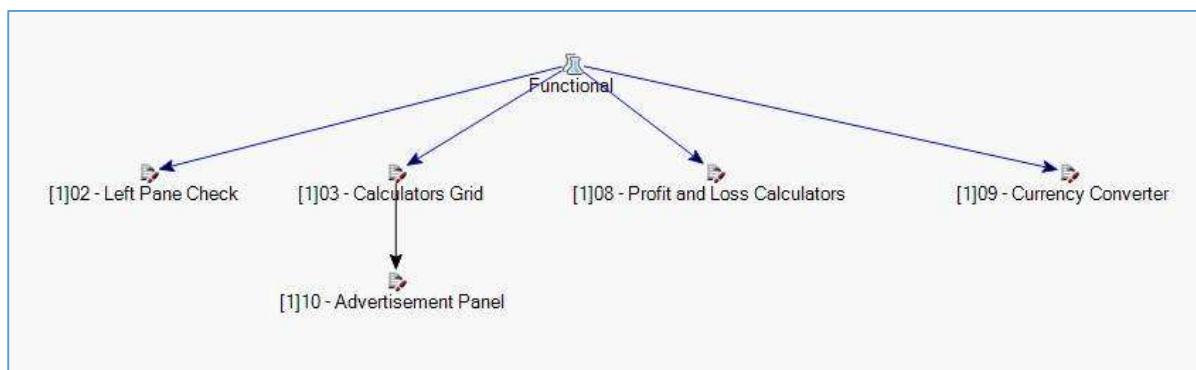
Step 4 : The New Execution Condition window opens. In this window, we can select the test which would be precondition for the selected test. We can make it as a prerequisite to pass or finish the test before the selected test is executed.



Step 5 : Run Schedule window displays the option that is selected by the user.



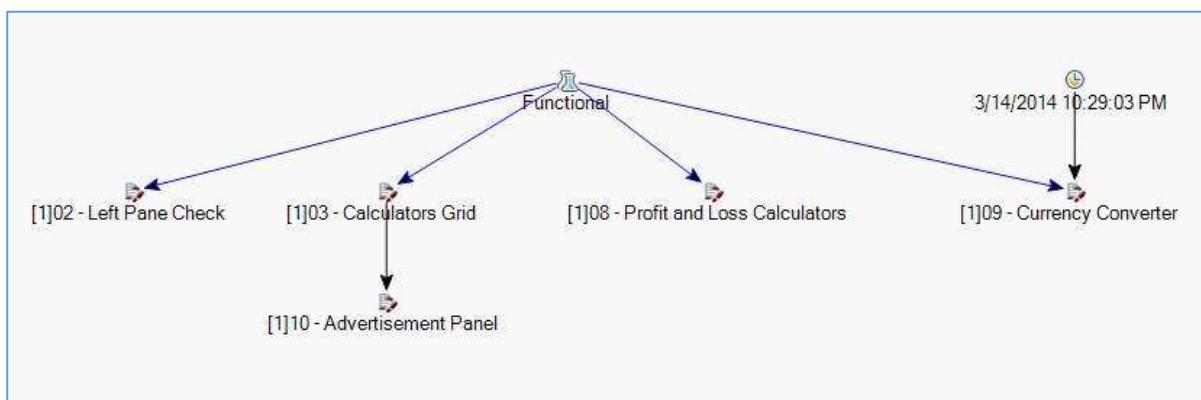
Step 6 : The Execution flow realigns automatically as show below.



Step 7 : The same process can be repeated for Time Dependency setting which will be triggered only after that specified time.



Step 8 : The Scheduler realigns based on the specified date and time as shown below.



HP QC Test Execution

After creating a test set, scheduling, test execution comes into the picture. Upon execution, we compare the actual result against expected result and raise defects if any. Following are the steps for test execution.

Step 1 : Select the tests that you would like to execute and click Run Button. Three options would be shown to the user.

The screenshot shows the HP Quality Center application window. The 'Run' menu is open, with the option 'Run with Sprinter' highlighted. Below the menu, a table lists several test cases with their status set to 'No Run'. The columns include Status, Iterations, Planned Host..., and Responsible... . All entries under 'Status' are 'No Run'.

Status	Iterations	Planned Host...	Responsible...
No Run			admin

Step 2 : The First Option, "Run with Sprinter" is used only when sprinter is installed. Sprinter is a plugin within HP which assists the manual testers to execute tests with advanced options and settings.

Step 3 : The Second Option, "Run with Manual Runner" is the option for executing tests manually. The manual runner window opens as shown below.

The screenshot shows the 'Manual Runner' window for the test set 'Functional' and test case '02 - Left Pane Check'. The 'Run Details' section contains the following information:

* Run Name:	Run_3-13_22-52-14	* Status:	Not Completed
* Test Instantiation:	[1]02 - Left Pane Check	* Test Set Name:	Functional
* Tester:	admin	Baseline:	
Change Details:		Change Status:	
Configuration:	1003	Configuration:	02 - Left Pane Check
Draft Run:	N	Duration:	0
Exec Date:	3/13/2014	Exec Time:	10:52:15 PM

The 'Comments' section has an 'Add Comment' button and a rich text editor toolbar. The 'Test Details' section shows the test name '02 - Left Pane Check' and a description: 'This test case is to verify if the left pane contains all Math Calculators'.

Let us now understand the functionalities in manual runner dialog.

- **Begin Run** - Kick starts the execution of Manual Tests
- **End Run** - User can exit the execution at any point by clicking on "End Run" button.
- **Cancel Run** - User can cancel the execution at any point in time.
- **New Defect** - A New Defect can be raised right from the Manual runner window
- **OS info** - Gives detailed information about the Operating System

Step 4 : Click "Begin Run" and the Manual runner pops up with all the manual steps as shown below.

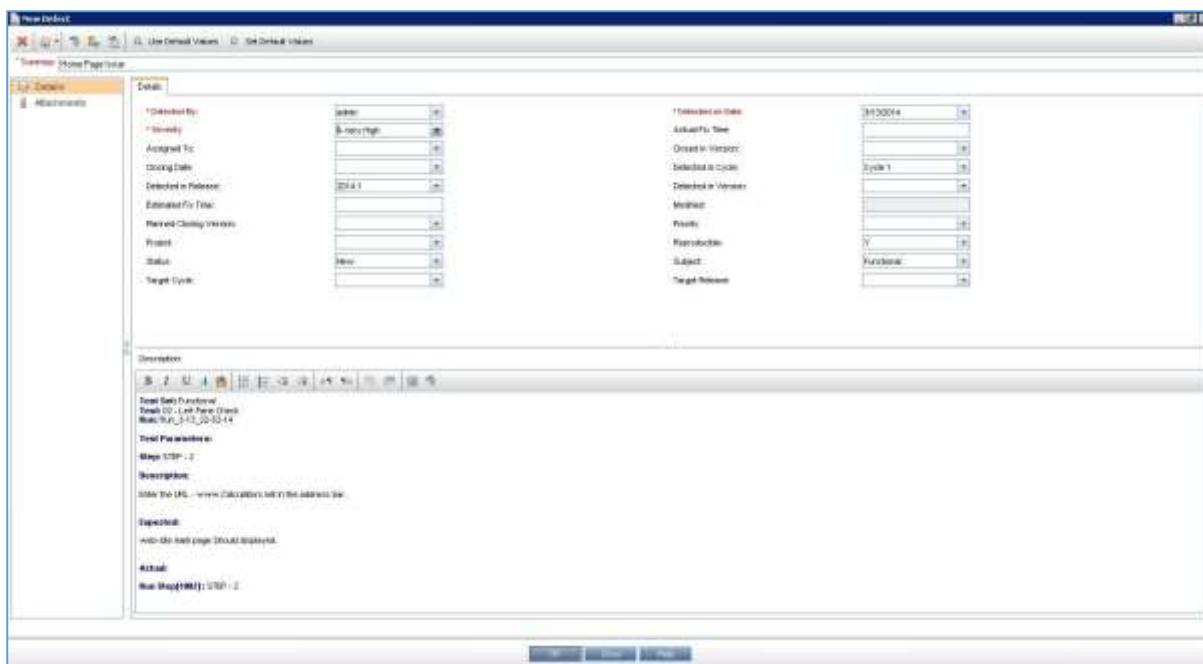
The screenshot shows the 'Manual Runner' dialog box with the title 'Manual Runner: Test Set <Functional>, Test <[1]>02 - Left Pane Check'. The dialog has a toolbar with various icons for managing tests. Below the toolbar is a table with four columns: Step Name, Status, Exec Date, and Exec Time. The table contains three rows labeled STEP - 1, STEP - 2, and STEP - 3, each with a status of 'No Run' and execution dates/times of 3/13/2014 at 10:52:38 PM. Below the table is a 'Description' section containing a rich text editor toolbar and a text area with the instruction 'Launch web-browser.' Below this is an 'Expected:' section with a rich text editor toolbar and a text area containing the text 'Web-browser launched successfully.' To the right of the 'Expected:' section is an 'Actual:' section with its own rich text editor toolbar and an empty text area.

Step Name	Status	Exec Date	Exec Time
STEP - 1	No Run	3/13/2014	10:52:38 PM
STEP - 2	No Run	3/13/2014	10:52:38 PM
STEP - 3	No Run	3/13/2014	10:52:38 PM

Following options are available during execution:

- **Add Step** - Tester can add steps at runtime.
- **Delete Step** - Testers can remove a step at runtime if redundant.
- **Cancel Run** - The execution will be cancelled
- **Pass Selected** - The Selected Step will be marked as Pass.
- **Pass All** - All the Steps in the test will be marked as Pass.
- **Fail Selected** - The Selected Step will be marked as Fail.
- **Fail All** - All the Steps in the test will be marked as Fail.
- **Parameters** - Shows the list of parameters that was added as part of the test
- **Attach to Step** - Enables user to attach a file to a particular step
- **Attach to Run** - Enables user to attach a file on a test set level
- **Add Defect** - Testers can add a defect by selecting the step and clicking on "Add a Defect"
- **Filter** - Testers can filter based on the status like - completed, blocked etc.
- **End Run** - Even while execution is in progress, testers can end the execution.
- **Description** - Shows the description of that step.
- **Expected** - Displays the expected result of that step.
- **Actual** - Tester can fill in the actual result.

Step 5 : Raising Defects is just a click away while the execution in progress, which prepopulates the step details such as description and expected result which is very handy for testers and easy for developers to investigate. It saves a lot of time in posting the defect, however the details about the usage of defects will be dealt in defects module.



HP QC Test Results

After executing tests, testers can view the results in the "Test Runs" module which contains tabs which lets testers to analyze the results of test instance runs and test set runs.

Go to "Test Runs" in "Testing" Tab and the window opens as shown below:

	Run ID	Run Name	Test: Test Name	Configuration...	Status	State	Duration
7	Run_3-14_7-1...	02 - Left Pane Ch...	02 - Left Pane Ch...	Not Completed	782		
5	Run_3-13_23...	10 - Advertiseme...	10 - Advertiseme...	Passed	6		
4	Run_3-13_23...	09 - Currency Co...	09 - Currency Co...	Passed	5		
3	Run_3-13_23...	08 - Profit and Lo...	08 - Profit and Lo...	Passed	7		
2	Run_3-13_23...	03 - Calculators...	03 - Calculators...	Passed	14		
1	Run_3-13_22...	02 - Left Pane Ch...	02 - Left Pane Ch...	Failed	582		

Following are the features of Test Run tab.

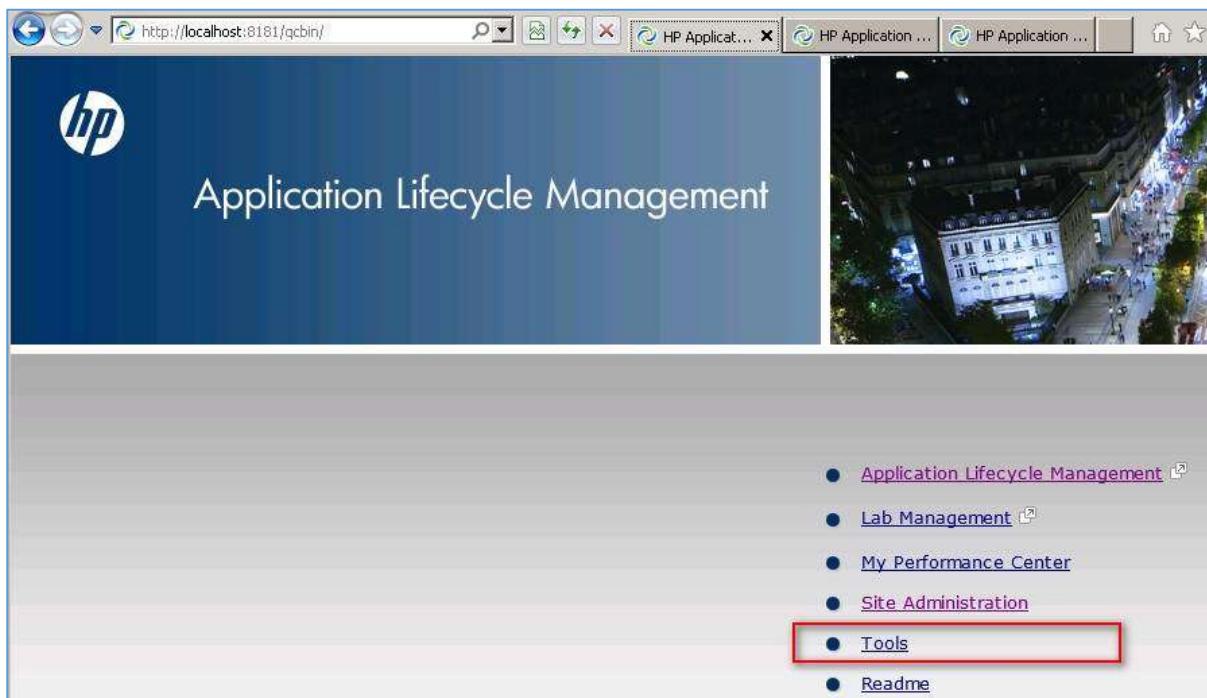
- Delete** - Enables testers to delete a particular test Run and can be controlled by user privileges.
- Details** - Upon opening the details tab the execution details of each step is shown.
- Continue Manual Run** - Enables testers to continue with manual run if suspended in between.
- Go to Test Instance** - This option takes to the test instance under test Lab module.

- **Comments** - Allows testers to add comment to the test run.
- **Report** - Displays the details of the Run with steps and its status.
- **Attachments** - Enables testers to add attachments for that particular execution.
- **Run ID** - HP-ALM assigns a unique run ID(date-TimeStamp) automatically so that it can easily tracked.
- **Exec Date** - Enables testers to track the test execution based on execution date.
- **Exec Time** - Enables testers to track the test execution based on execution time.
- **Host** - Displays the host system on which the test was performed.

9. HP QC – QC-QTP Integration

In this section, we are going to learn how to integrate QTP and QC. By Integrating, the QTP automation scripts can be executed right from Quality Center. For establishing a connection, first step is to install the required Addins. We will understand how to integrate by taking a sample QTP script and execute it from QC.

Step 1 : Navigate to ALM home page and click on "Tools" from the list of links.



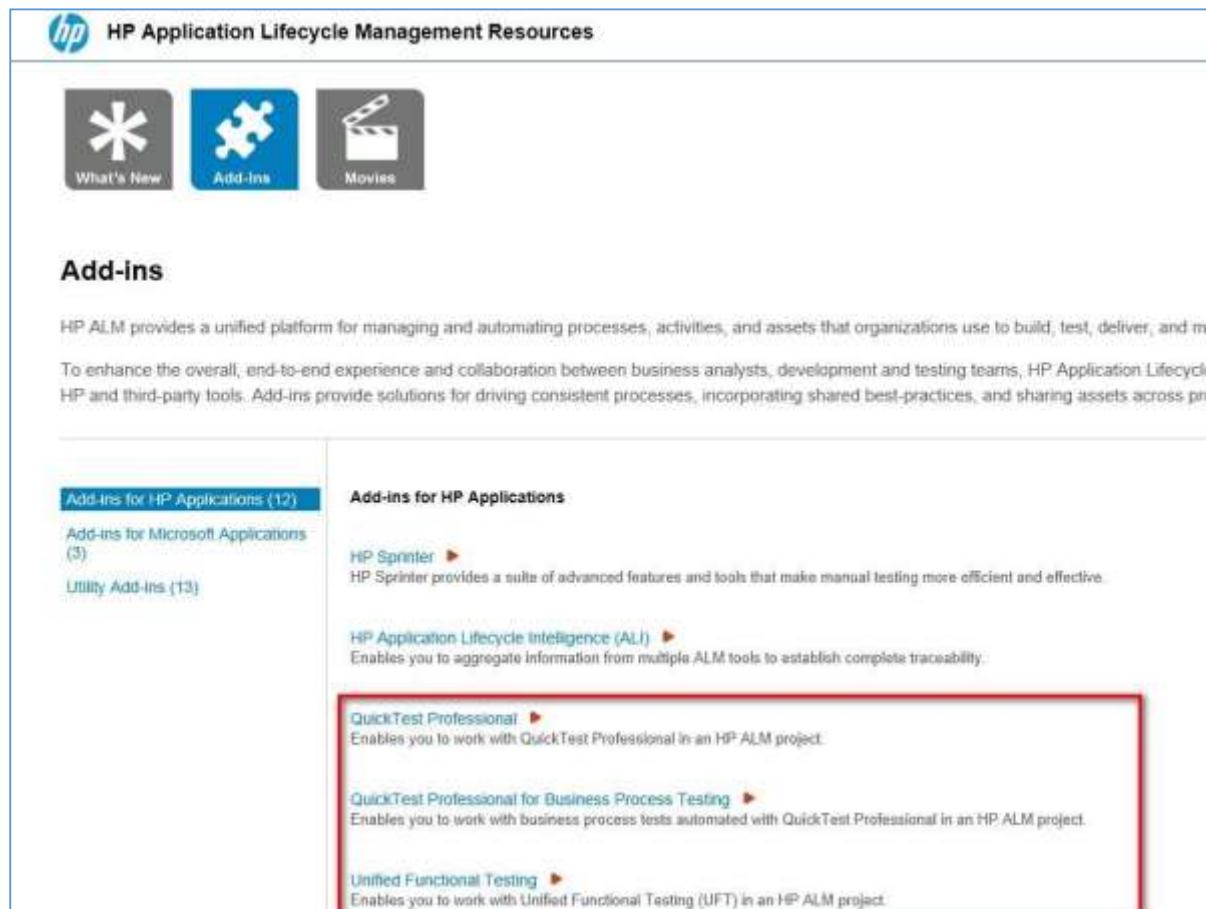
Step 2 : Click on "More HP ALM Addins" Link from the addins page as shown below.

The screenshot shows a web browser window titled 'HP ALM Tools - Windows Internet Explorer'. The address bar displays the URL 'http://localhost:8181/qcbin/addins.html'. The main content area is titled 'Application Lifecycle Management - Tools'. It lists several add-ins:

- HP ALM Connectivity**: Enables you to integrate HP ALM with other tools.
- HP ALM Lab Service**: Enables you to remotely trigger functional tests and maintenance tasks on a testing host using HP ALM Management.
- HP ALM Client Registration**: Deploys and registers ALM components on a client machine.
- Shared Deployment for Virtual Environments**: Deploys ALM components on a shared location of a client machine.
- Webgate Customization**: Customizes the WebGate client component.

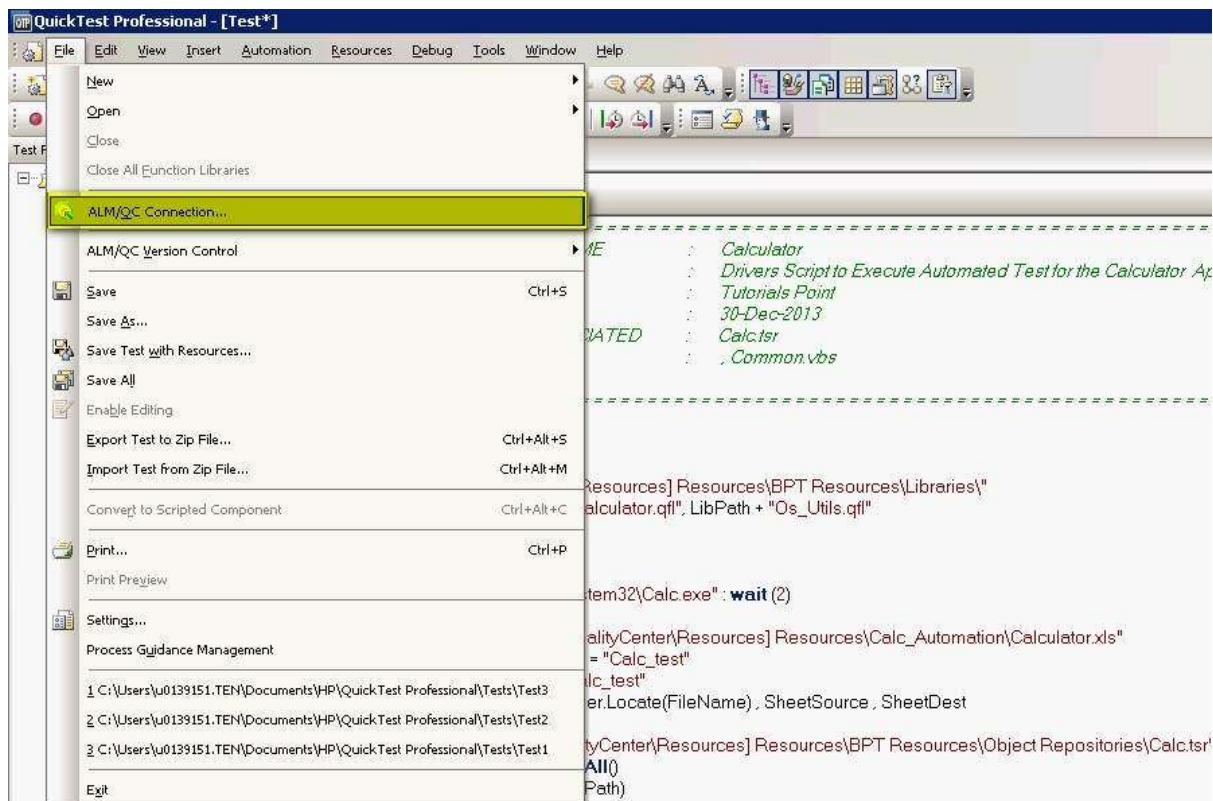
A yellow button at the bottom left of the list area contains the text 'More HP ALM Add-ins'.

Step 3 : In the Addins page, select "Addins for HP applications" and choose "Quick Test Professional". In case of "Unified Functional testing" (UFT), choose the options appropriately and install the addins. The Installation is similar to HP-MS Office Addins.

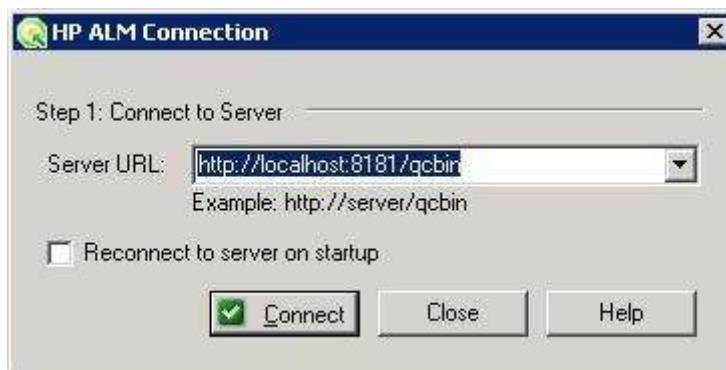


The screenshot shows the HP Application Lifecycle Management Resources website. At the top, there are three icons: 'What's New' (a star), 'Add-ins' (a gear), and 'Movies' (a film strip). Below this, the 'Add-ins' section is titled 'Add-ins'. It lists categories: 'Add-ins for HP Applications (12)', 'Add-ins for Microsoft Applications (3)', and 'Utility Add-ins (13)'. Under 'Add-ins for HP Applications', there are three items: 'HP Sprinter' (described as providing advanced features for manual testing), 'HP Application Lifecycle Intelligence (ALI)' (described as enabling traceability across multiple tools), and 'QuickTest Professional' (described as enabling work with QuickTest Professional in an HP ALM project). The 'QuickTest Professional' item is highlighted with a red border.

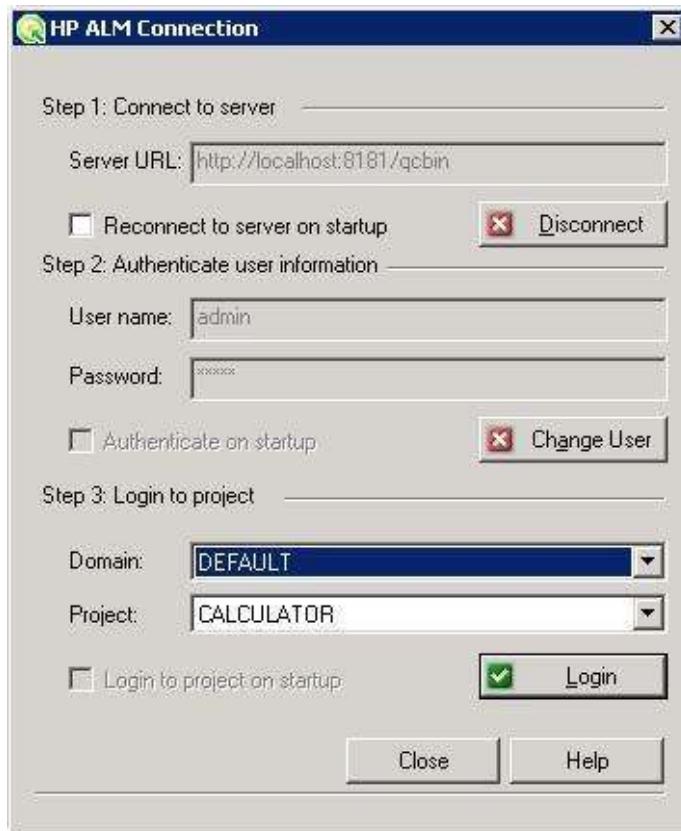
Step 4 : Establish a connection between QTP and QC by Navigating to "File" >> "ALM/QC Connection".



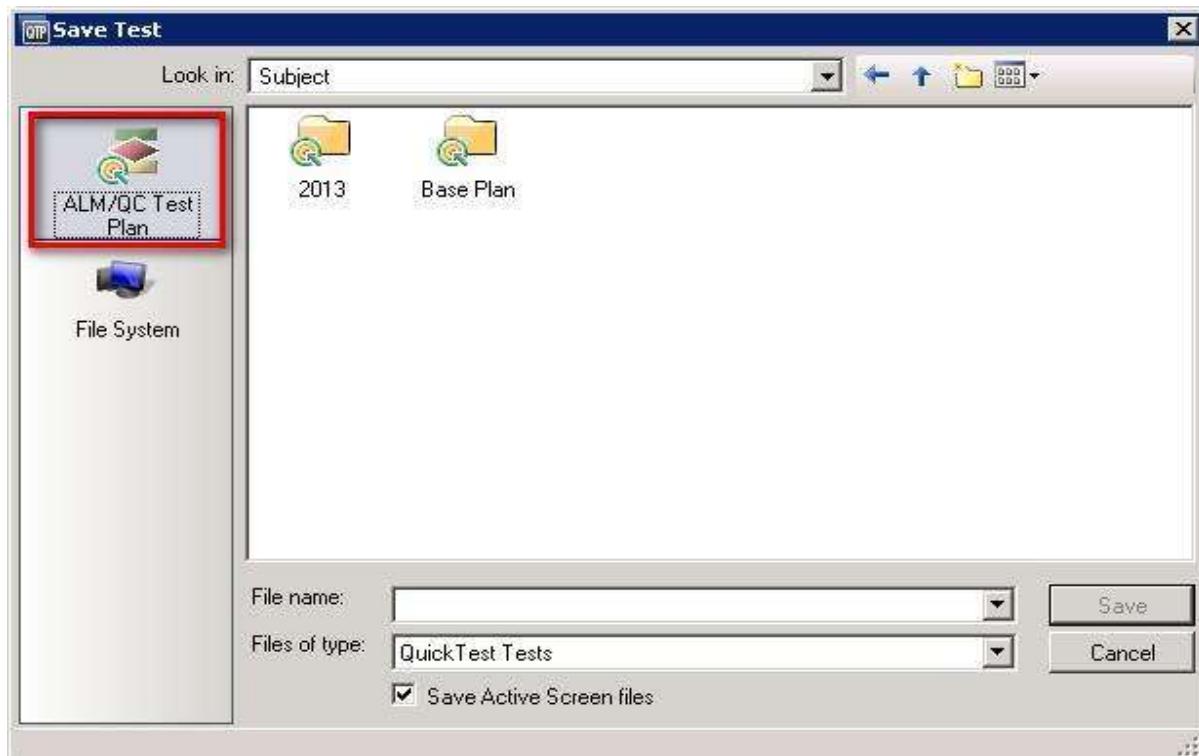
Step 5 : HP ALM Connection dialog opens. Enter the Server URL as shown in the below example.



Step 6 : Once the URL is correct, the credentials dialog opens. Tester has to connect to the relevant project area.



Step 7 : Once ALM Connection is successful, we need to save the Driver Script in Quality Center. Select ALM/QC Plan as shown below.

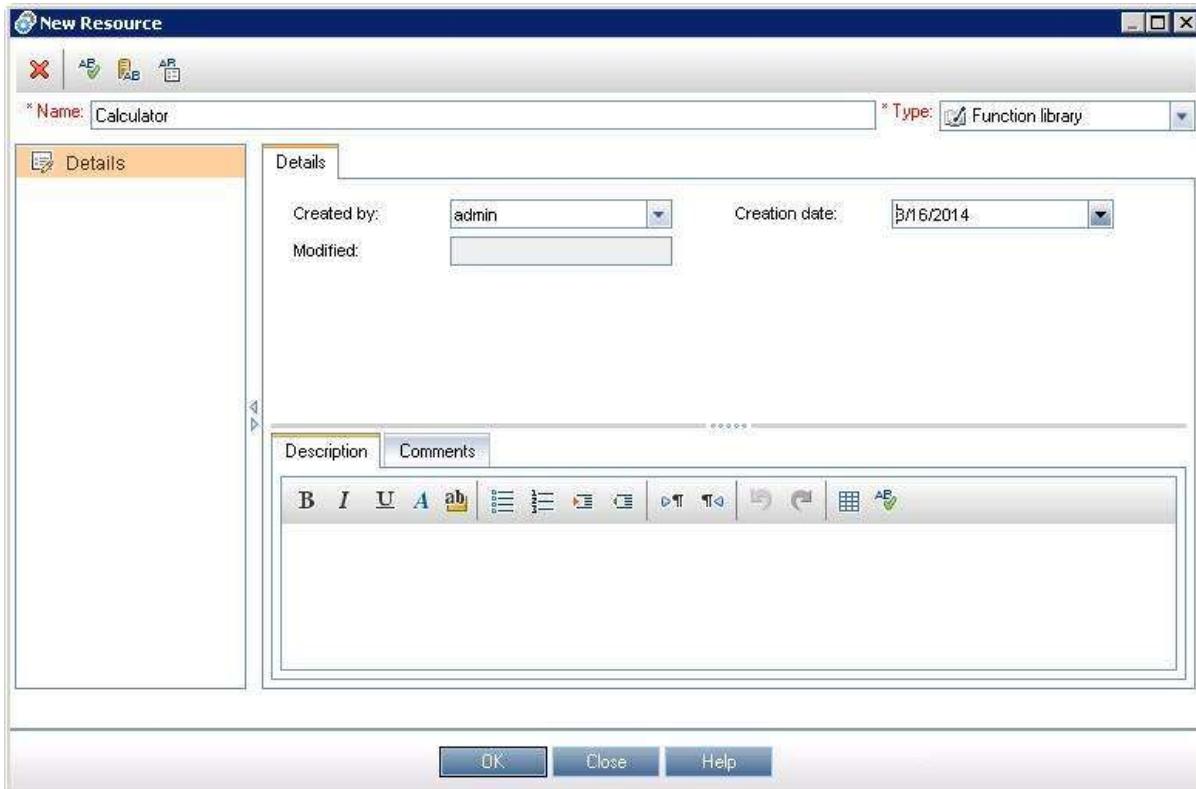


Step 8 : Once the test is saved, we can see the in ALM where the test type is shown as "Quick Test".

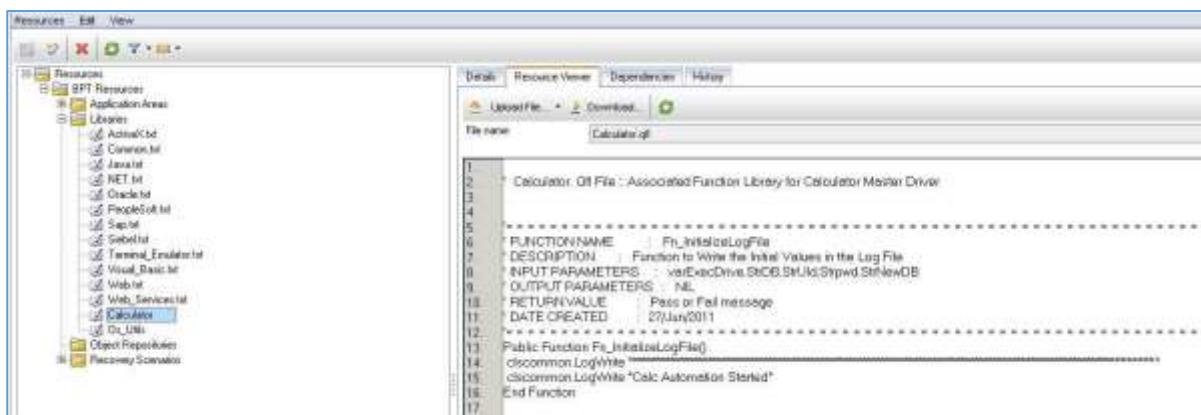
Step 9 : Upon Navigating to "Test Script" Tab which appears only if the test type is of "Quick Test", The script shown in QTP screen would be displayed in Quality Center as well.

Step 9 : The other necessary component that is required for script execution is Library files which can be placed under "Test Resources" Folder.

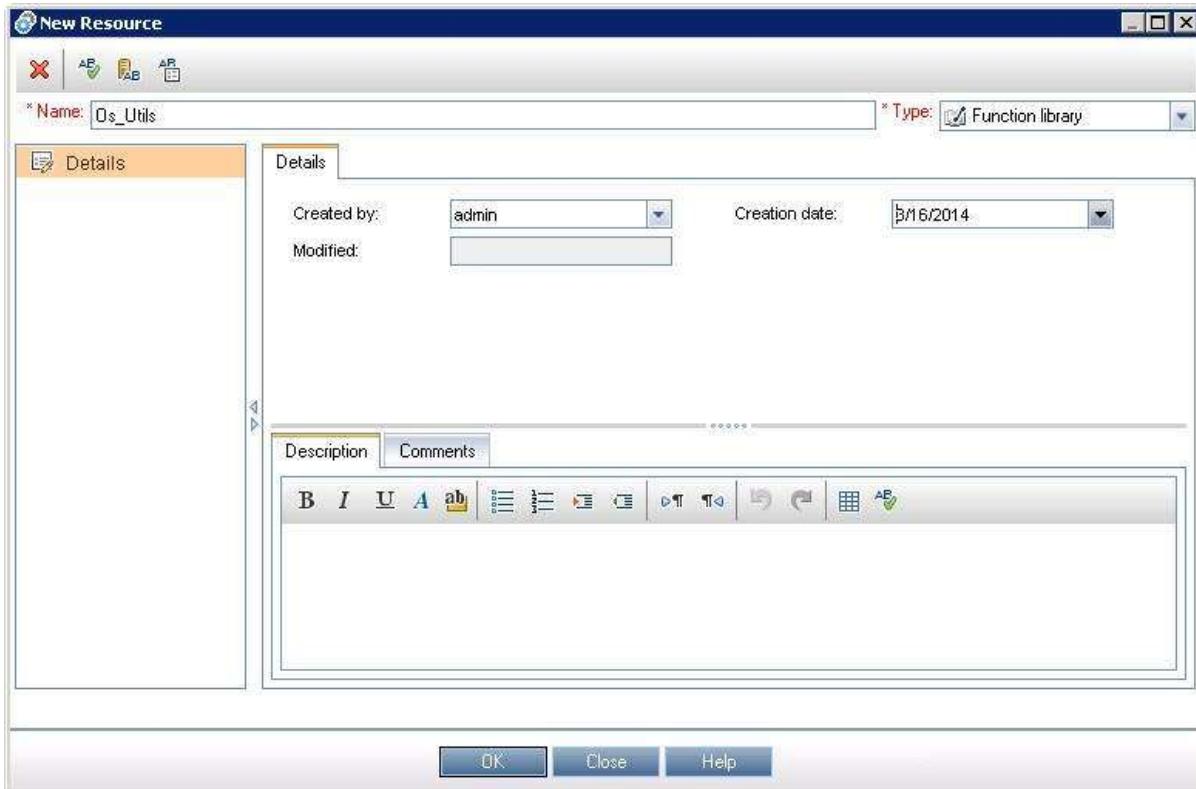
Step 10 : The Function Library file can be added by creating a new resource of type ".qfl" or ".vbs" .



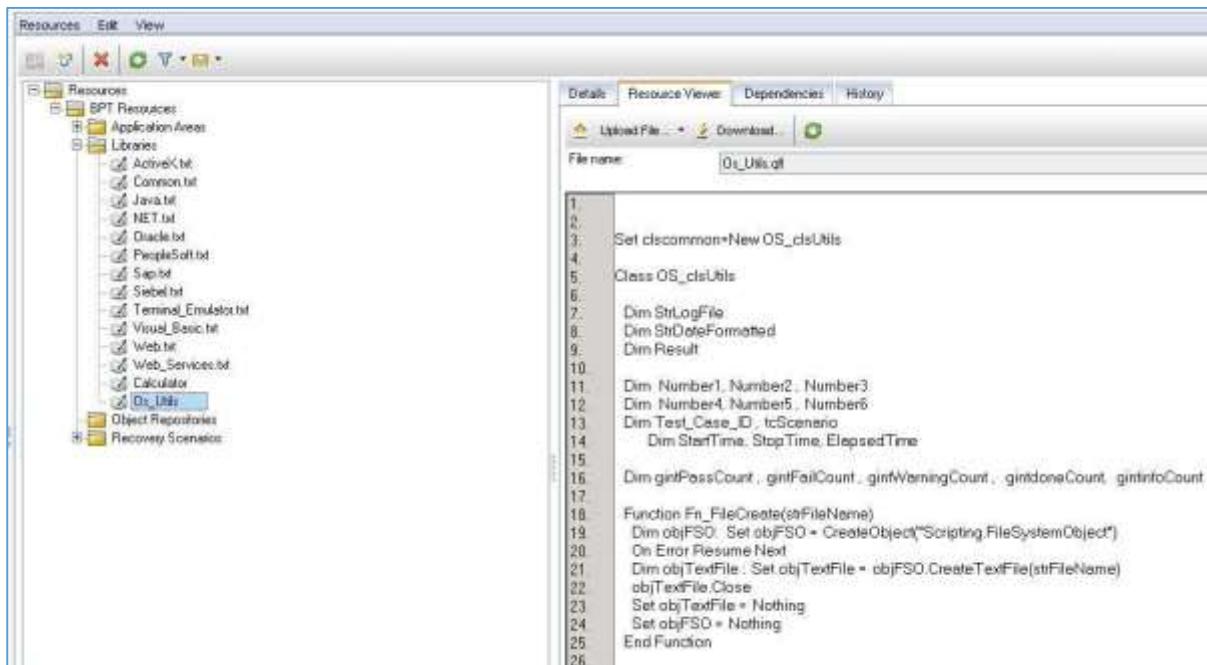
Step 11 : The Added library file can be accessed in quality Center using resource Viewer.



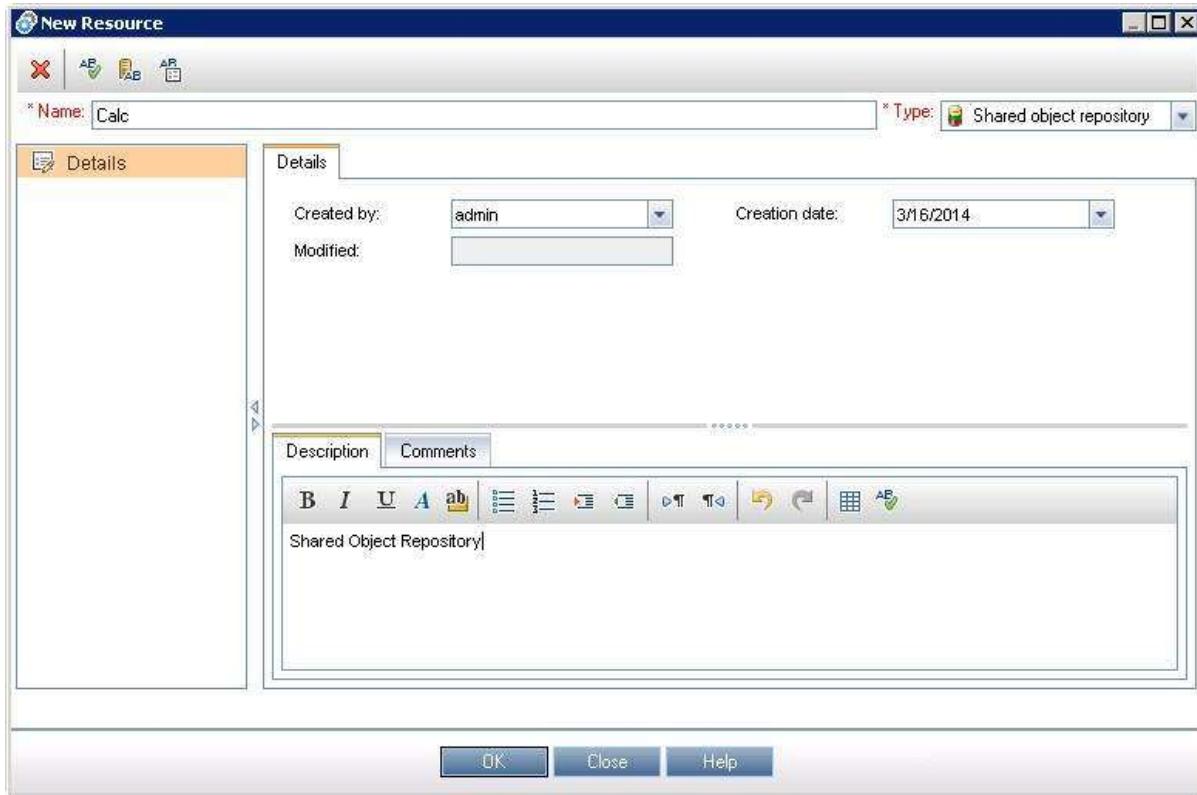
Step 12 : If there are more library files, the same is added by creating a new resource of type ".qfl" or ".vbs".



Step 13 : Once again, Added library file can be accessed in quality Center using resource Viewer.



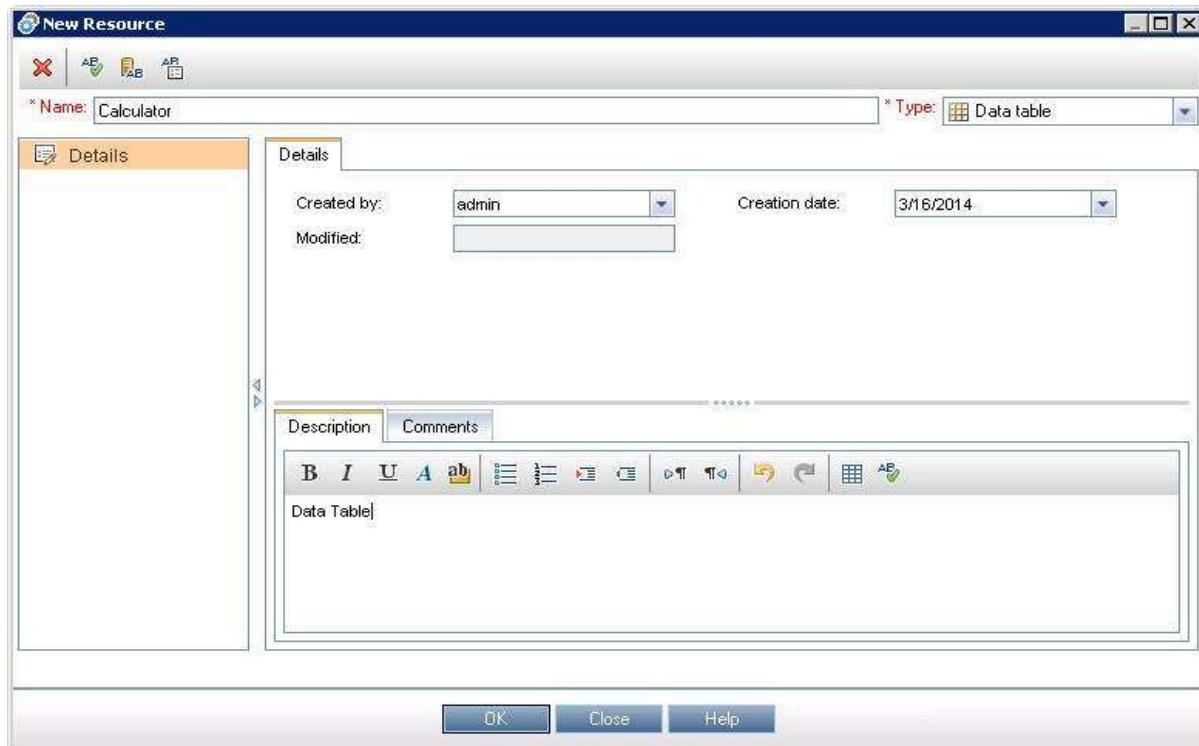
Step 14 : The Next dependent component for any script execution is "Object Repository" which is again placed under "Resources" section.



Step 15 : The added Object Repository and its properties can be viewed using "Resource Viewer".

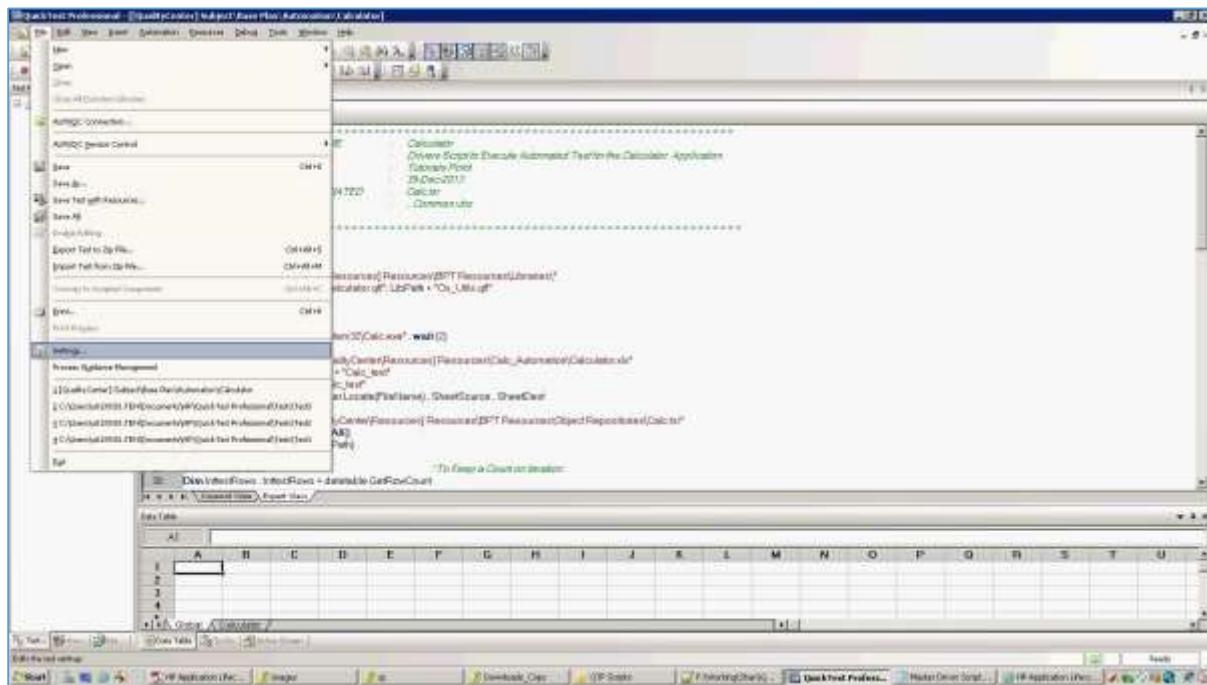
Name	Value
text	%
nativeclass	Button
Visual relation identifier	[None]
Type , Value	None
Enable Smart Identification	False
Comment	

Step 16: The Datatable, parameterized data setup also be placed in Quality Center under "Test Resources" section.

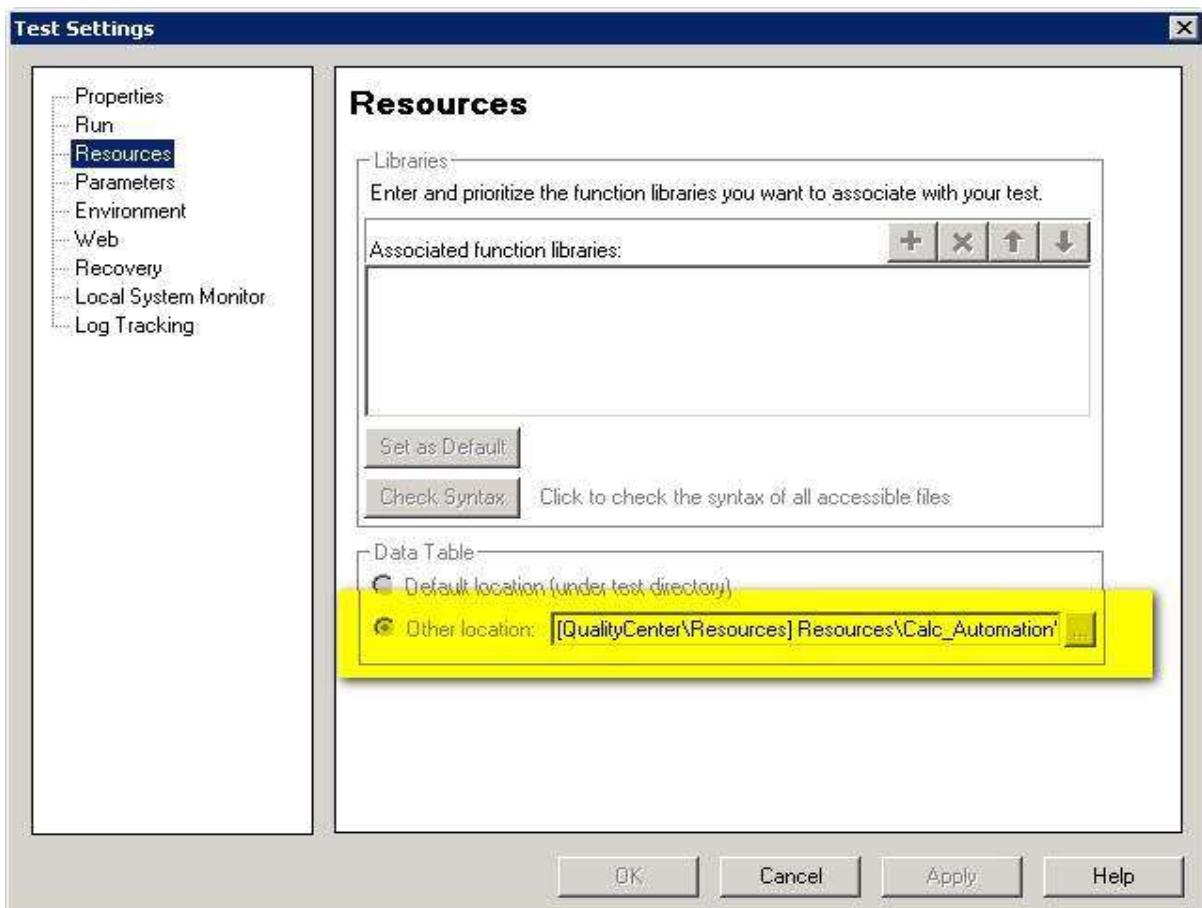


Step 17 : The added data Table can be viewed using in "Resource Viewer".

Step 18 : The Datatable should now also be mapped to the test settings so that they can be picked while execution. The same can be done using "Settings" of "File" Menu.



Step 19 : The Test Settings dialog opens. Navigate to Resources Tab and select the Datatable that we added in Step 16.



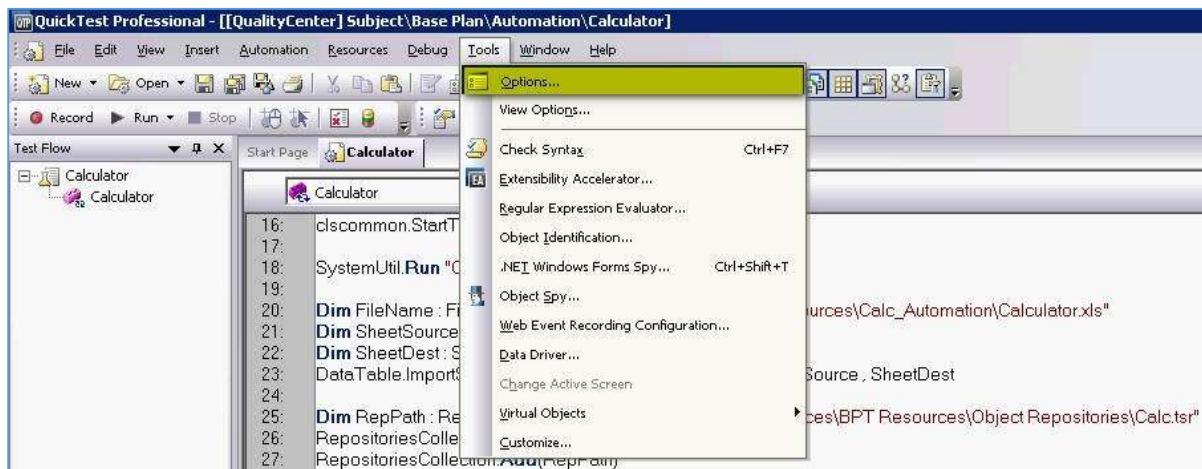
Step 20 : Now we can access those test resources that are uploaded in Quality Center in QTP script as shown below. The Libraries files and Object Repositories are bound dynamically.

```

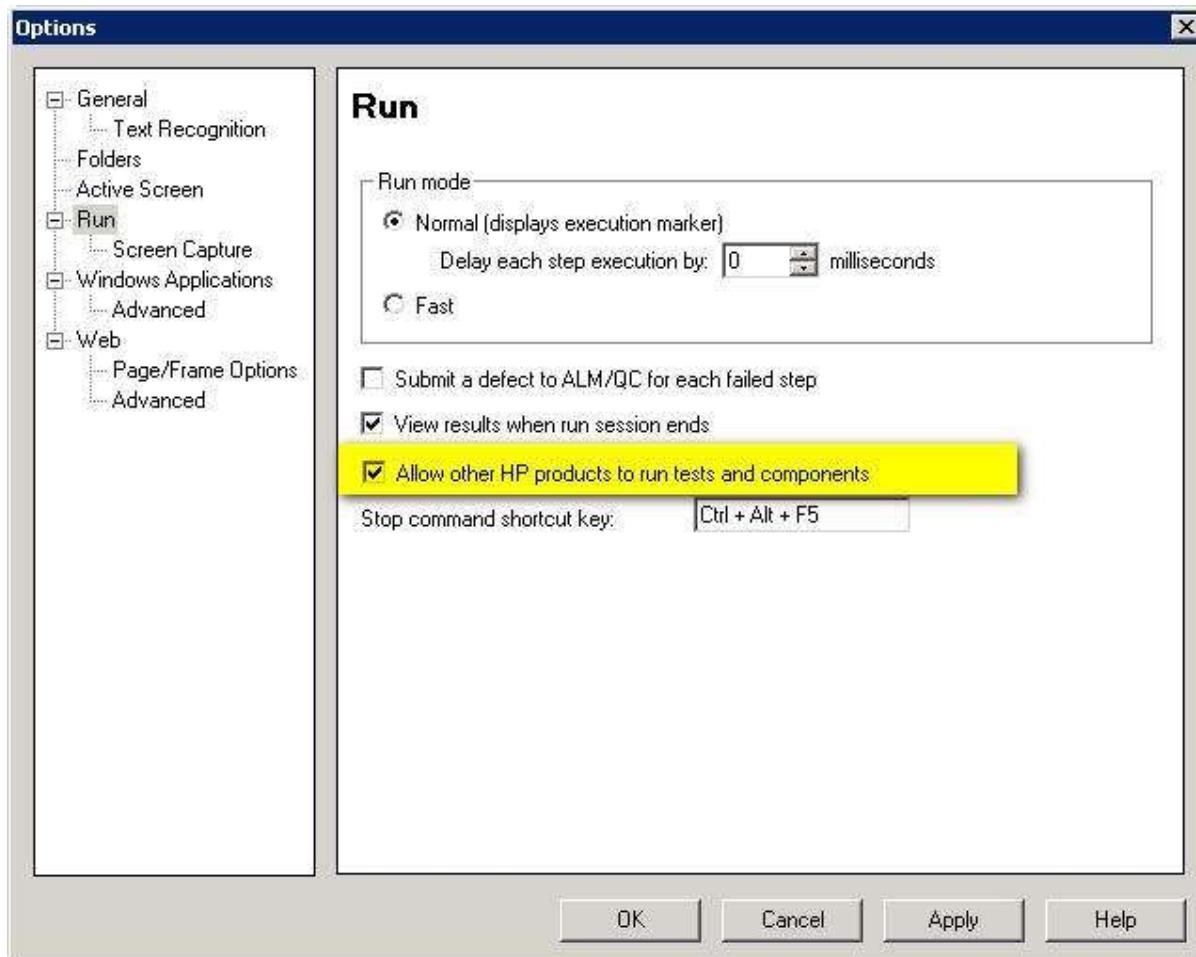
11: Option Explicit
12:
13: 'Associate Function Libraries
14: Const LibPath = "[QualityCenter\Resources] Resources\BPT Resources\Libraries"
15: LoadFunctionLibrary LibPath + "Calculator.qfl", LibPath + "Os_Utils.qfl"
16:
17: clscommon.StartTime = Time()
18:
19: SystemUtil.Run "C:\Windows\System32\Calc.exe": wait(2)
20:
21: "Access the Parameterized Data Table from Quality Center
22: Dim FileName : FileName = "[QualityCenter\Resources] Resources\Calc_Automation\Calculator.xls"
23: Dim SheetSource : SheetSource = "Calc_test"
24: Dim SheetDest : SheetDest = "Calc_test"
25: DataTable.ImportSheet PathFinder.Locate(fileName), SheetSource, SheetDest
26:
27: ' Associate Object Repository
28: Dim RepPath : RepPath = "[QualityCenter\Resources] Resources\BPT Resources\Object Repositories\Calc.tsr"
29: RepositoriesCollection.RemoveAll()
30: RepositoriesCollection.Add(RepPath)
31:

```

Step 21 : Now, we should allow QTP to interact with other HP Products. This will allow QTP to interact with Quality Center. Go to "Tools" >> "Options"



Step 22 : Now, enable "Allow other HP products to run tests and components" as shown below.

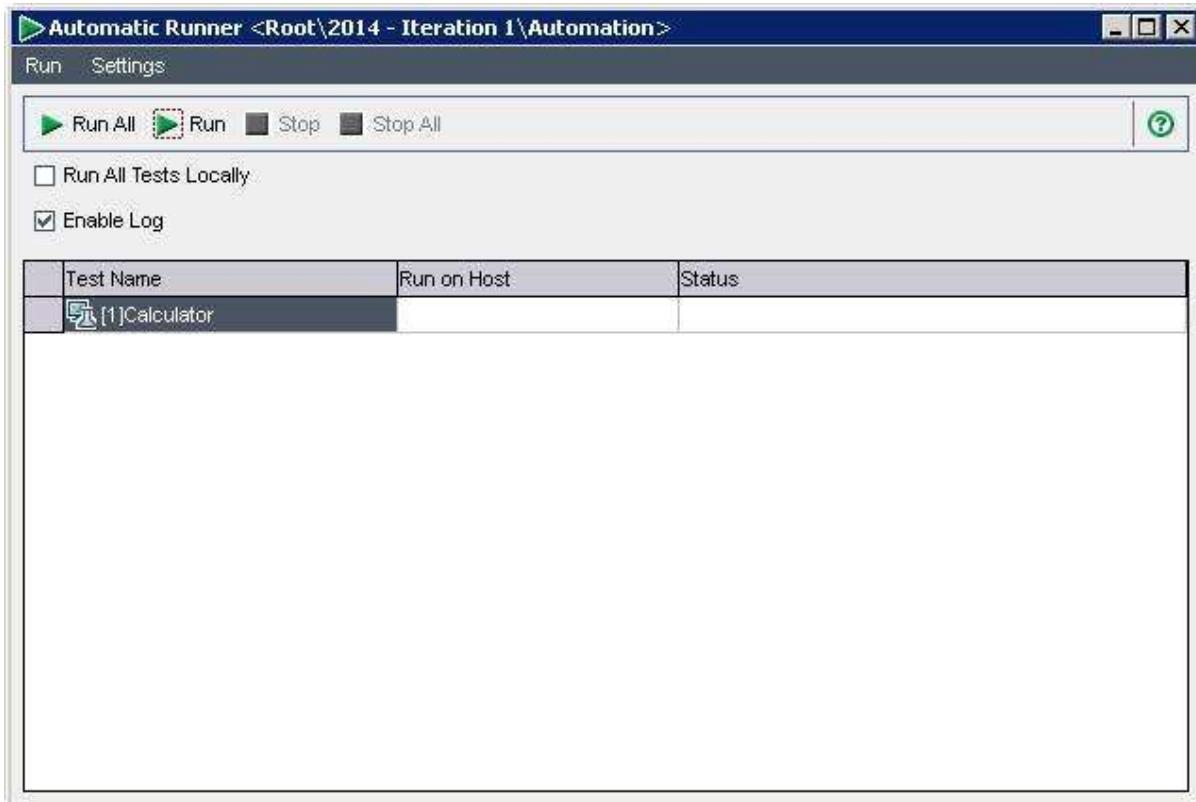


Step 23 : The Next Step is to add the test in "Test Lab" and execute the test. The Procedure to Add tests into Test Lab remains the same as that of manual tests.

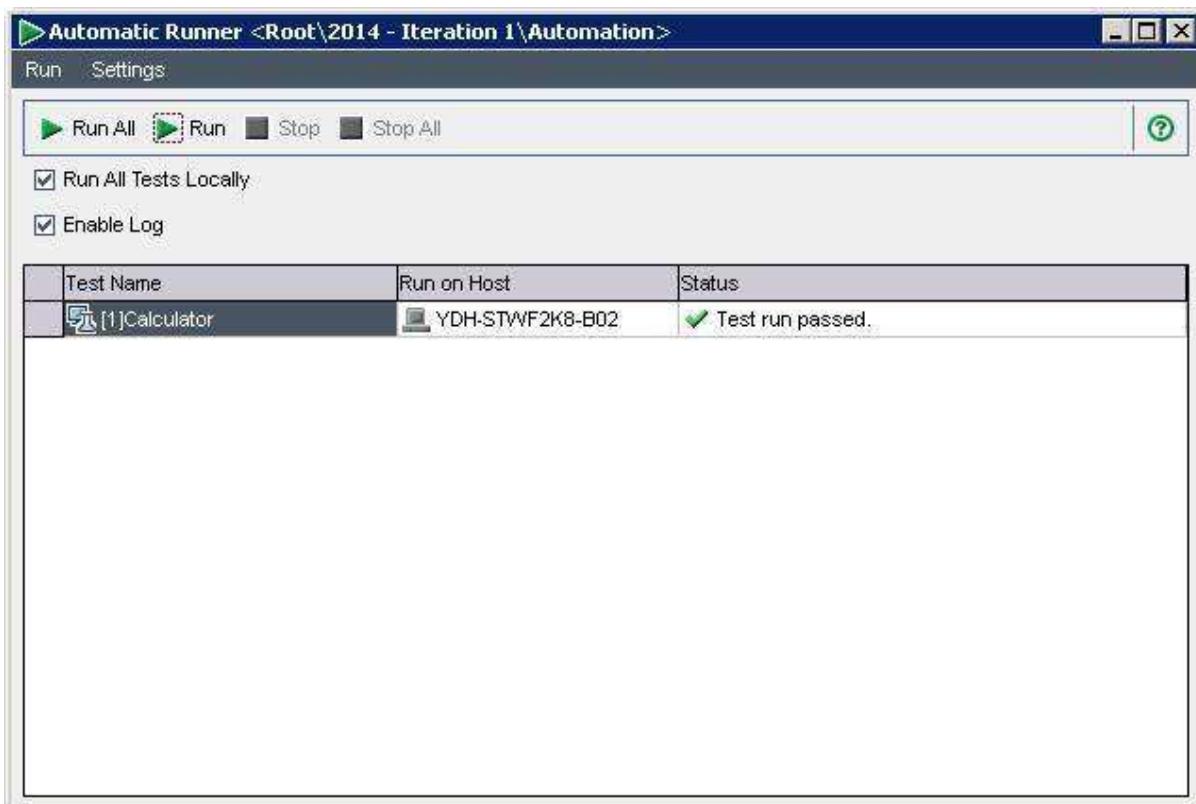
The screenshot shows the HP QC Test Lab interface. On the left, the 'Test Plan Tree' pane displays a hierarchy of test plans and iterations. In the center, a grid table shows test details. One row is selected, showing 'Name: Calculator', 'Test: Test Name: Calculator', 'Type: QUICKTEST_TE...', and 'Status: No Run'. On the right, the 'Requirements Tree' pane shows a tree structure of requirements. The 'Calculator' requirement under the 'Functional' section of the 'Base Plan' is selected and highlighted with a blue box.

Name	Test: Test Name	Type	Status	Iterations
Calculator	Calculator	QUICKTEST_TE...	No Run	

Step 24 : Upon clicking on "Run", the automatic runner opens and enable "Run all tests locally" and hit "Run".



Step 25 : Once execution is complete, the test result is displayed on the same "Automatic Runner" dialog.



Step 26 : In Test Lab QTP report is loaded automatically. User can click on "Launch report" to get to know about more details of the execution.

The screenshot shows the HP Application Lifecycle Management 11.52 interface in a Windows Internet Explorer browser. The left sidebar navigation includes: Dashboard, Management, Requirements, Testing (selected), Test Resources, Business Components, Test Plan, Test Lab (selected), Test Runs, and Defects. The main content area displays a 'Test Sets' view with a tree structure under 'Root'. The 'Test Sets' tab is selected, showing a grid of test sets. One row in the grid is highlighted for 'Calculator' (Type: QUICKTEST_TE, Status: Parsed). Below the grid is a 'Last Run Report' section. A yellow box highlights the 'Launch Report' button in the 'Last Run Report' section. The report table shows the following data:

Step Name	Status	Exec Date	Exec Time	Condition	Implementation	Steps Details
Start Test		3/16/2014	11:20:37 AM			
Start Global Iteration		3/16/2014	11:20:42 AM			
Start Action		3/16/2014	11:20:50 AM			
End Action		3/16/2014	11:21:07 AM			
End Global Iteration		3/16/2014	11:21:07 AM			
End Test		3/16/2014	11:21:07 AM			

Details of the first step 'Start Test':

- Description: Start Test Calculator
- Expected:
- Actual:

10. HP QC – Defects

During test execution, when the expected result does not match with the actual result, a defect should be logged. Now Let us focus various functionalities associated with defects.

Navigate to defects Tab in Quality Center and Click on "New Defects".

The screenshot shows the HP Application Lifecycle Management interface. The left sidebar has sections for Dashboard, Management, Requirements, Testing, and Defects. The 'Defects' section is highlighted with an orange box. The main area is titled 'Defects' and contains a toolbar with icons for New Defect, Edit, View, Favorites, and Analysis. Below the toolbar is a message 'No Filter Defined'. A table with columns 'Actual Fix Time', 'Assigned To', 'Closed in...', 'Closing Date', and 'Comments' is displayed. The 'Defects' tab in the left sidebar is also highlighted with an orange box.

Fill in the mandatory parameters such as defect summary, detected by, Severity and Description.

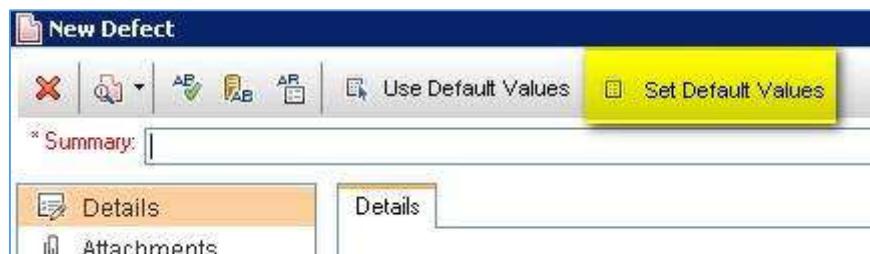
The screenshot shows the 'New Defect' dialog box. The 'Details' tab is selected. The form includes fields for 'Detected By' (dropdown), 'Severity' (dropdown set to 'Very High'), 'Assigned To' (dropdown), 'Closing Date' (calendar), 'Detected in Release' (dropdown), 'Estimated Fix Date' (calendar), 'Planned Closing Version' (dropdown), 'Project' (dropdown), 'Status' (dropdown set to 'New'), 'Target Cycle' (dropdown set to 'Cycle 1'), 'Detected on Date' (text input '2000-04-01'), 'Actual Fix Date' (text input '2000-04-01'), 'Closed in Version' (dropdown), 'Detected in Code' (dropdown), 'Detected in Header' (dropdown), 'Module' (dropdown), 'Roots' (dropdown), 'Reproducible' (checkbox checked), 'Impact' (dropdown), and 'Target Release' (dropdown set to '2001'). Below the details tab is a large 'Description' text area with placeholder text 'Unable to logon to Application'. At the bottom are 'Cancel' and 'Save' buttons.

Once a defect is posted, the same be accessed in Defects Tab as shown below.

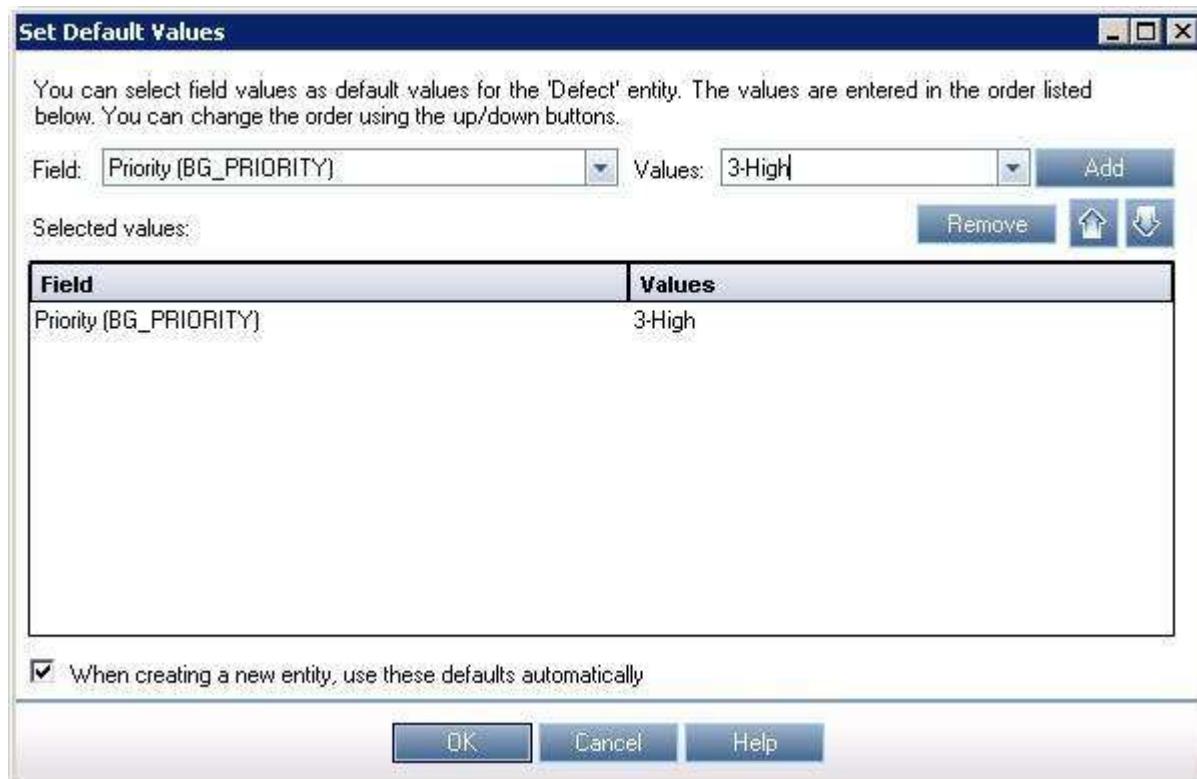
Defect ID	Description	Detected By	Detected in...	Severity	Detected in...	Detected on...
1	Test Set: Functionality	admin	Cycle 1	4-Very High		3/13/2014
2	Unable to Login 1	admin		4-Very High		3/16/2014

If the defects are logged during the test execution the step and description would be auto-populated from test case whereas If a defect is logged by clicking on "New Defect" in defect module the steps, description and summary needs to be entered manually by the user.

Many a times testers will NOT be in a position to enter all field values in "New Defect" Window. Instead they can make use of "Set Default Values" Option. It can be accessed from "New Defect" Window as shown below.



The "Set Default Values" dialog opens. We will be able to set a default value for each one of the fields in "Defects" Section which would be prepopulated once we click on "New Defect" button. We can also add/remove Default values using the appropriate button in this dialog box.



Defects can also be uploaded from Excel to Quality Center and the procedure remains the same as that of uploading "Requirements" and "Test Cases" using HP-MS Excel plugin utility.

All the defects are displayed by default, hence the user has to use filter functionalities to display only those that are filtered by user.

11. HP QC – Dashboard Analysis

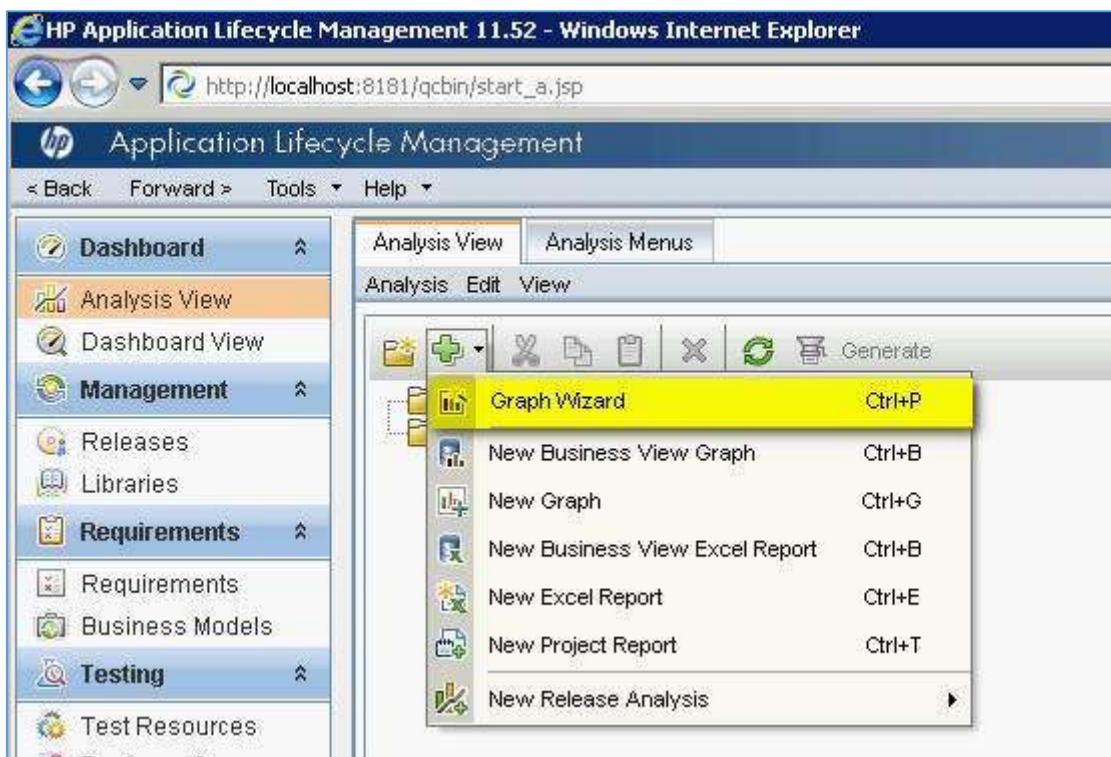
Dashboard Analysis

Dashboard Tab contains "Analysis View" and "Dashboard View" enabling user to analyze and display ALM data in various formats. Let us understand the importance of each one of them in detail.

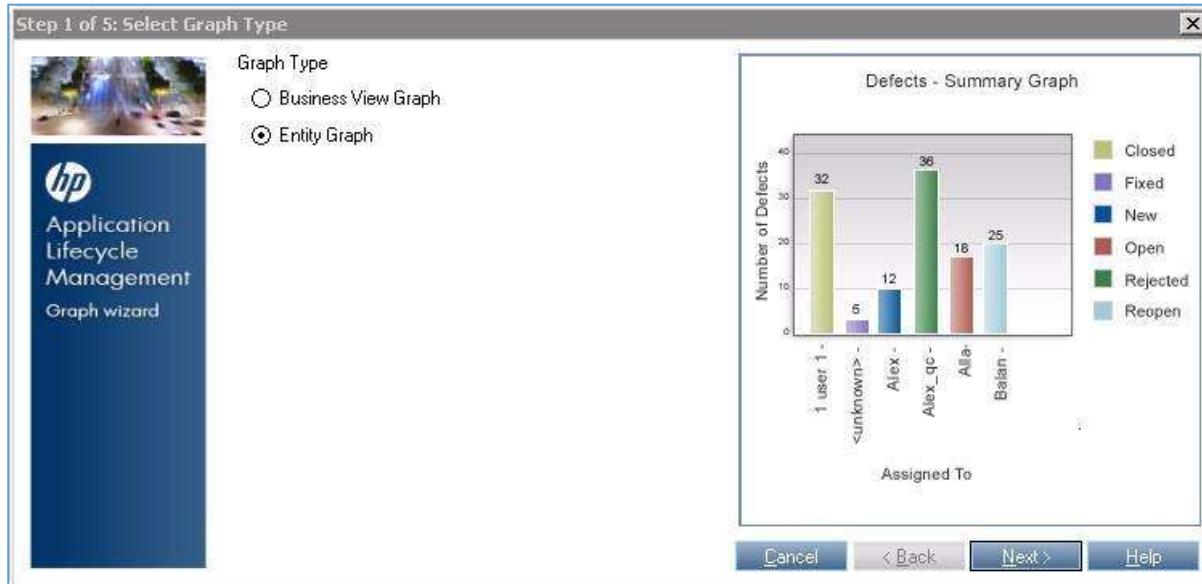
- **Analysis View** : It Contains the analysis tree using which project managers/QA can organize all of their analysis items which can be any one of the following viz. graphs, project reports, and Excel reports.
- **Dashboard View** : It Contains the dashboard tree in which managers/testers organize dashboard pages that can arrange multiple graphs that was created in the analysis tree, and display them in a single view.

Analysis View

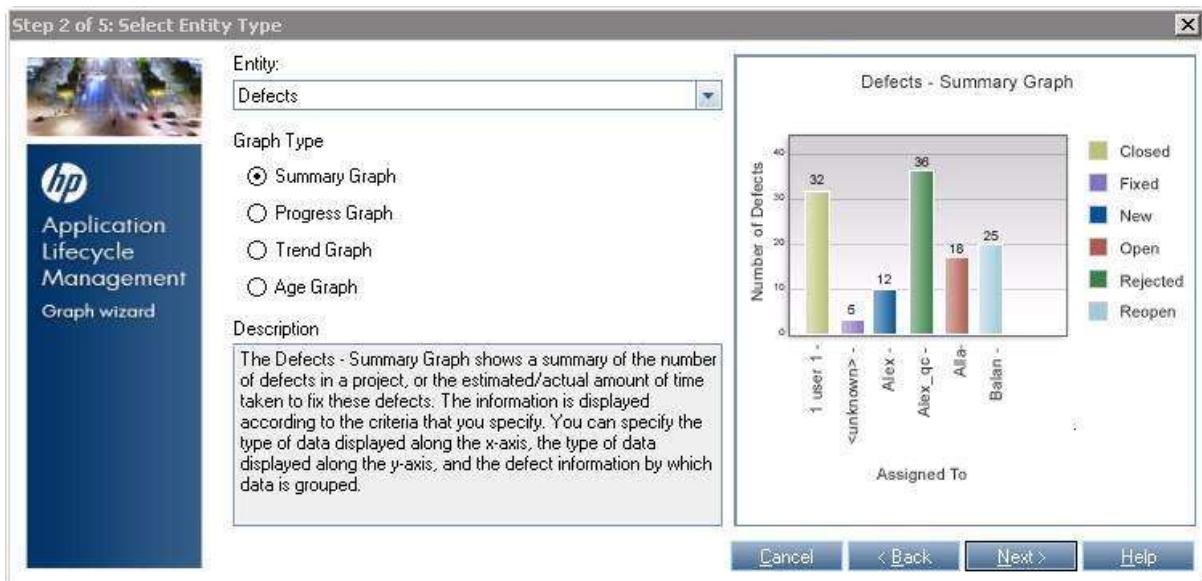
Step 1 : Go to "Analysis View" and click on "+" button and select "Graph wizard". The "Graph Wizard" dialog opens.



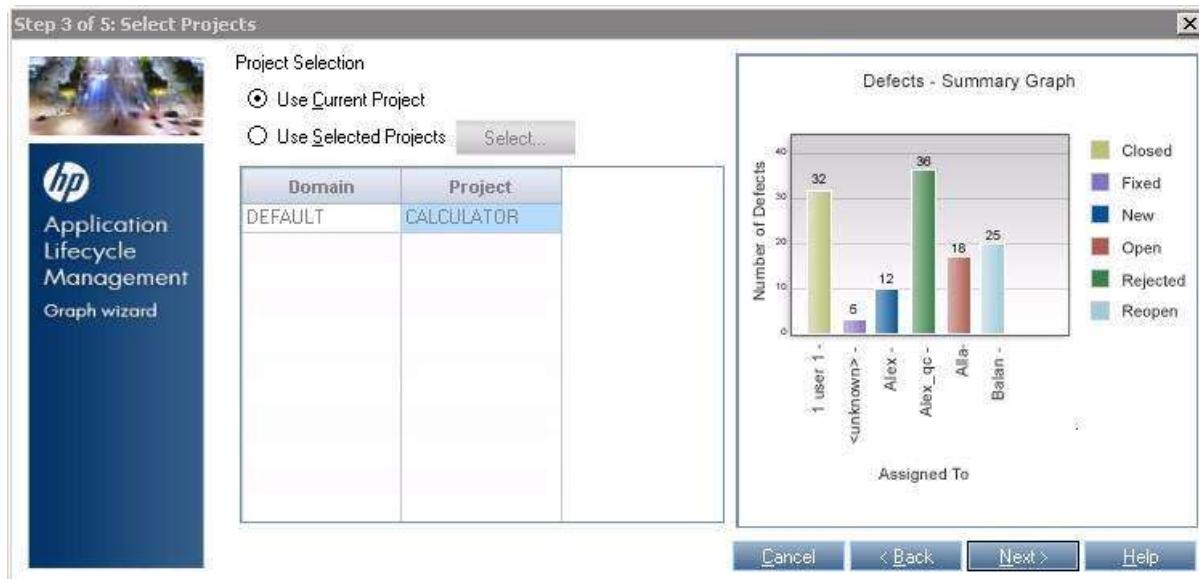
Step 2 : Select "Entity Graph" and click "Next" as shown below.



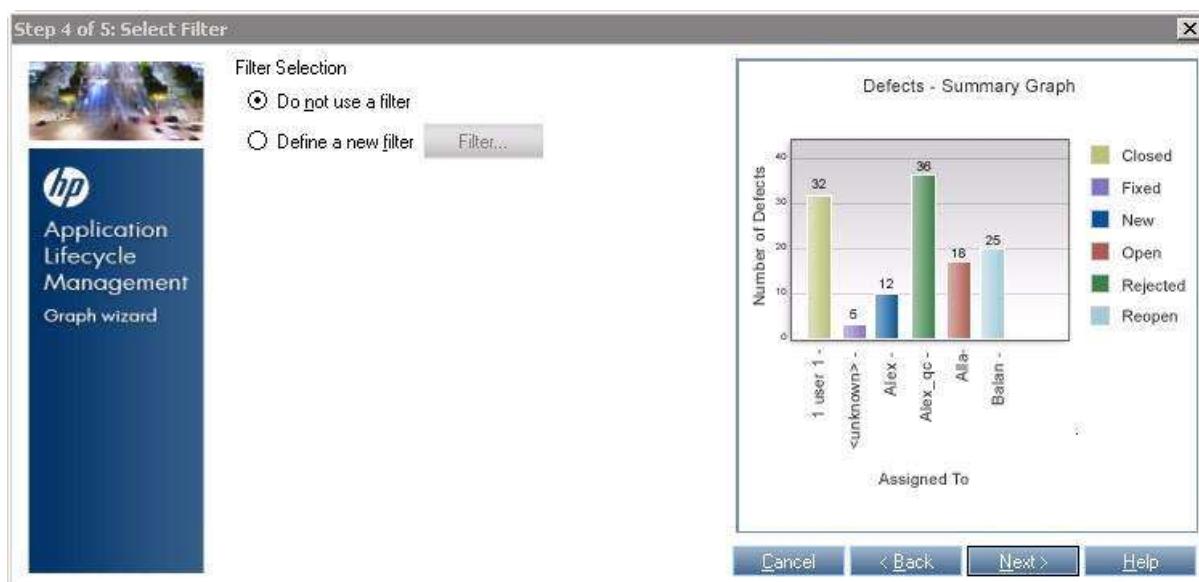
Step 3 : Select the kind of Entity(Defects, Test Case, runs, Test Configuration) against which the graph needs to be generated.



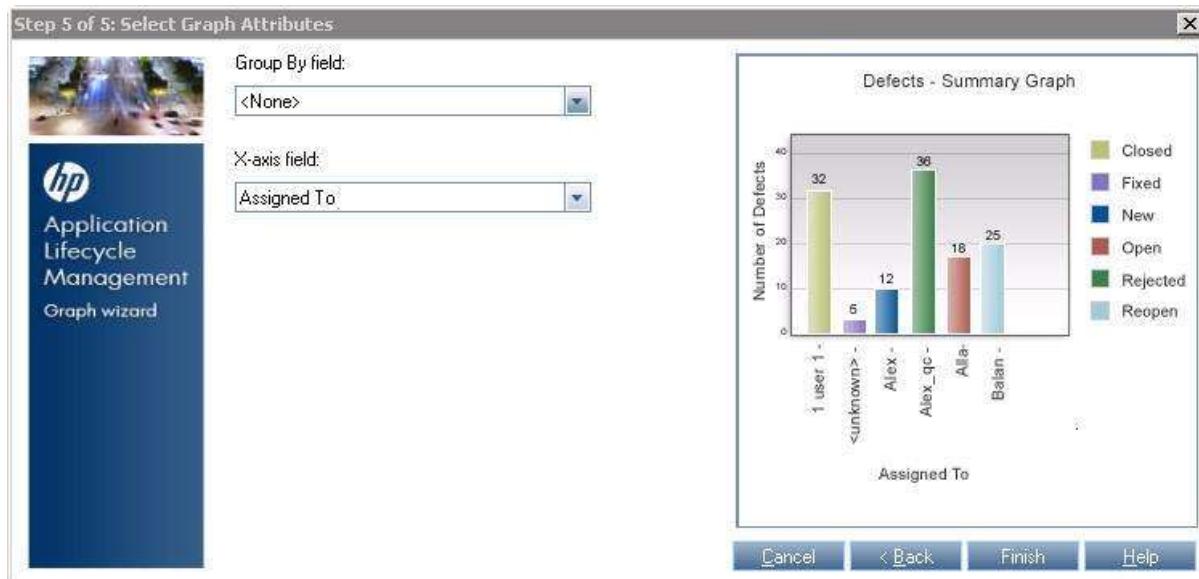
Step 4 : One can choose all projects that they have got access to or they can choose just the current project.



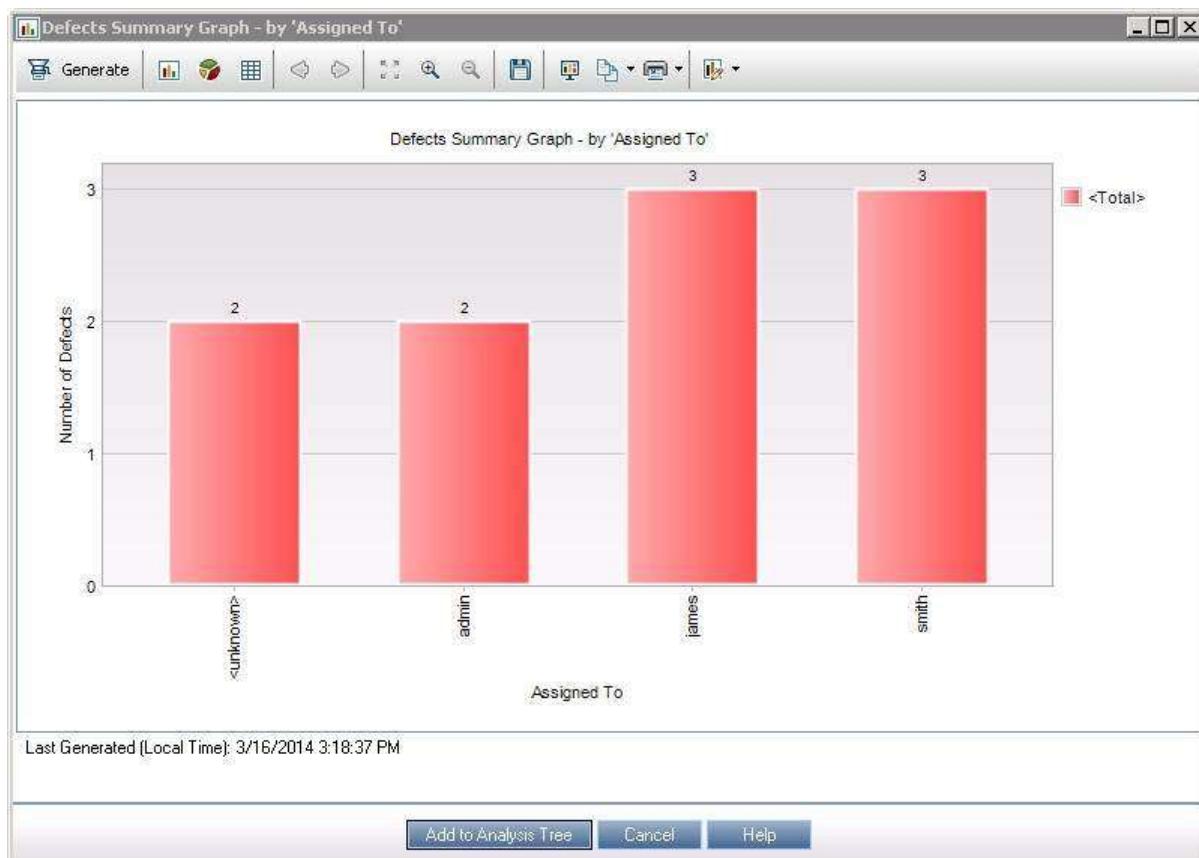
Step 5 : One can filter based on release/cycle and ensure that only the relevant data is displayed.



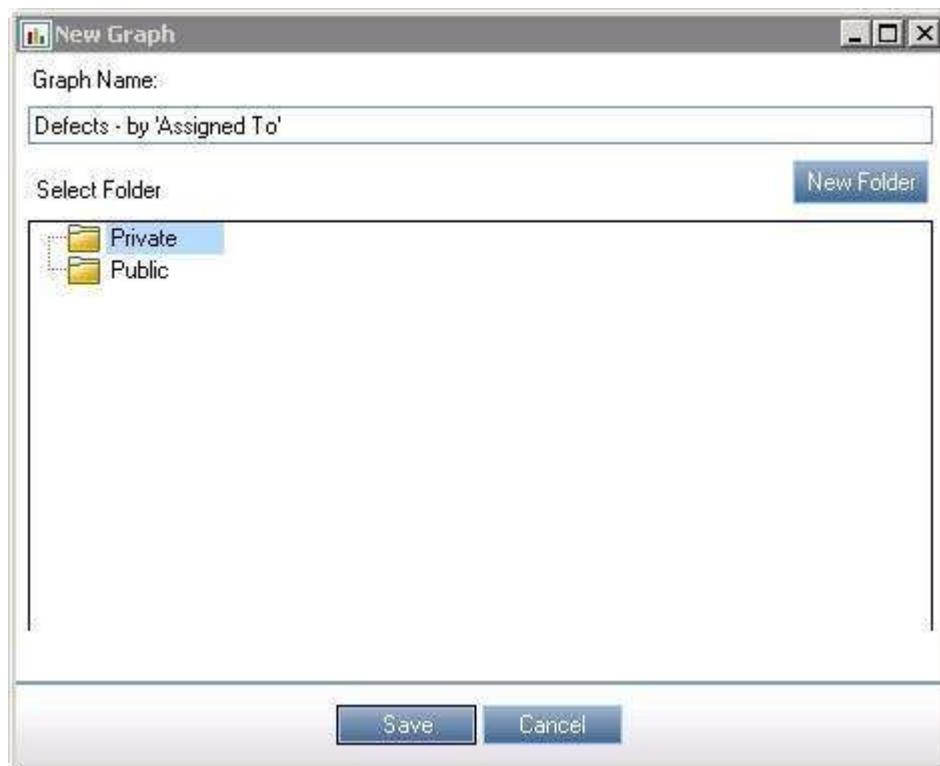
Step 6 : We can also "group by" based on a particular field and choose what needs to be mapped against X-Axis.



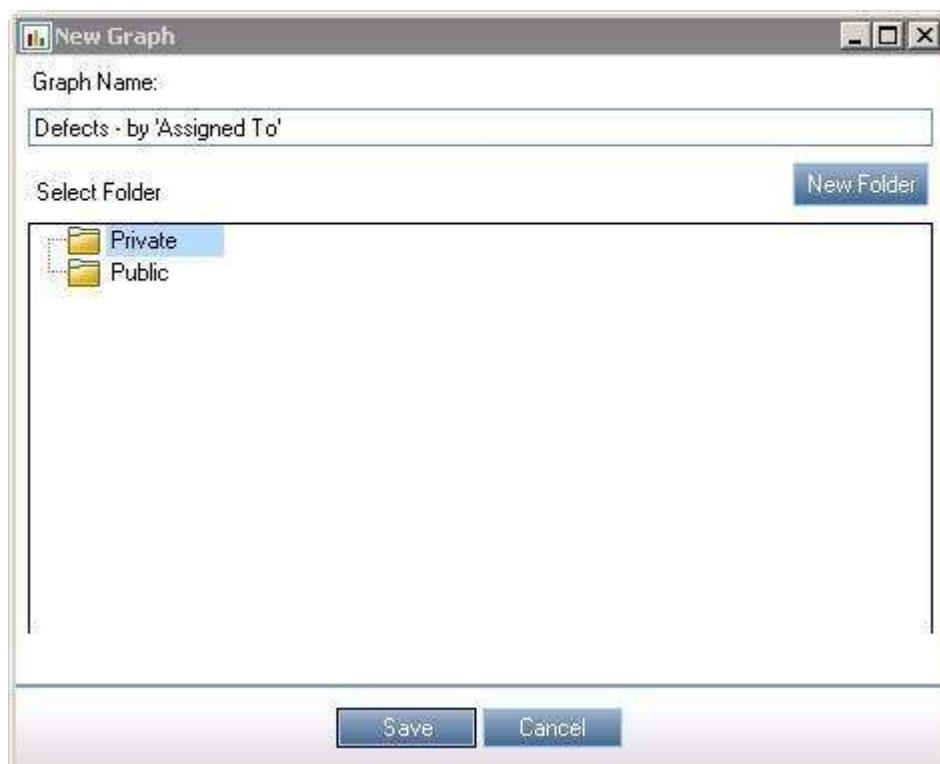
Step 7 : Once the Finish button is clicked, the graph is generated based on the user's choice/settings.



Step 8 : The generated graph can be named and saved either as public or private.

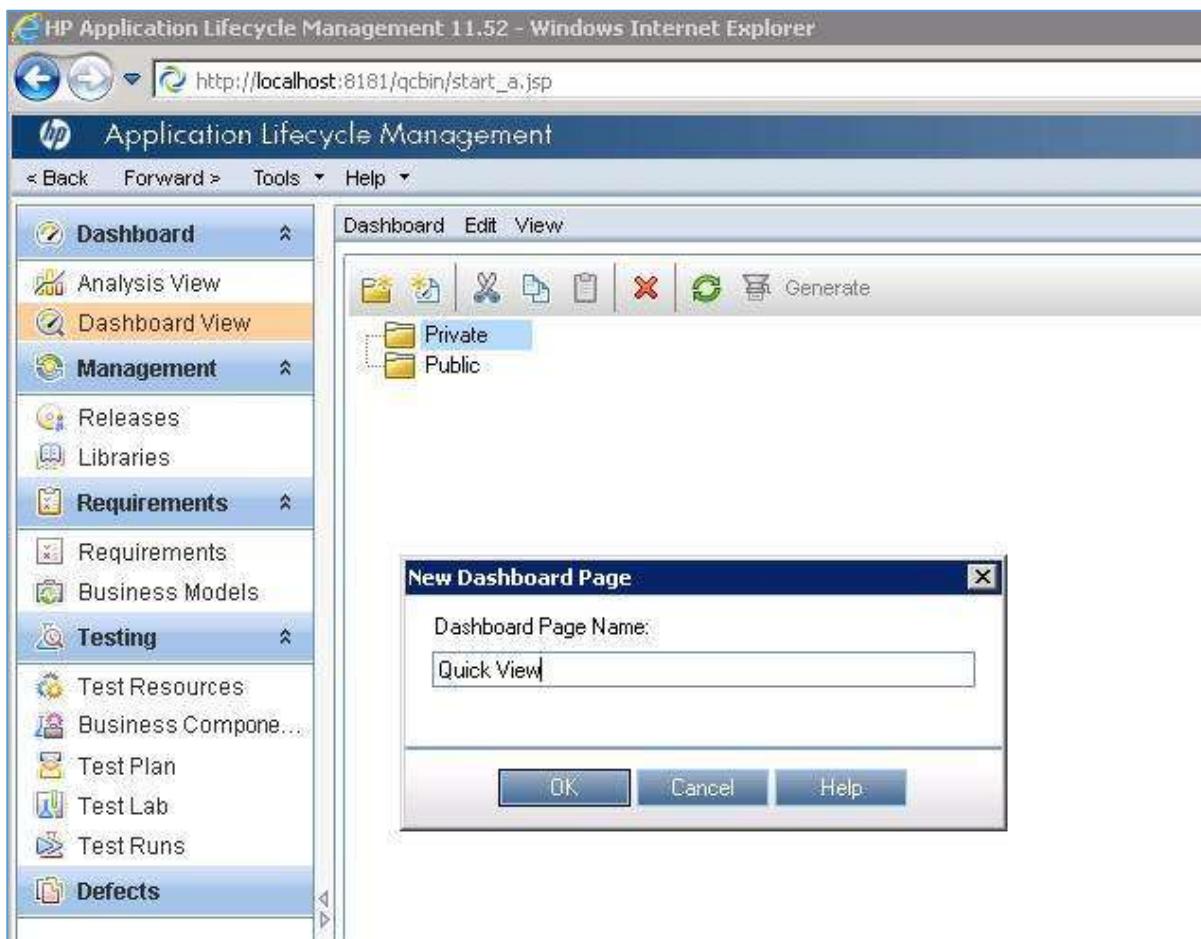


Step 9 : The added graph can now be accessed from "Dashboard" >> "Analysis View".

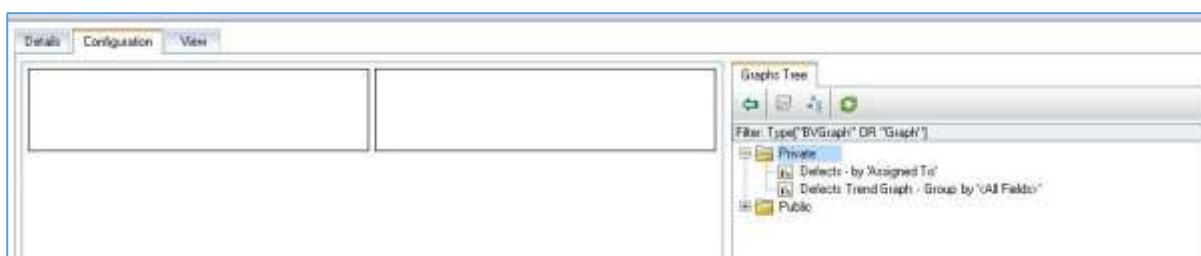


Dashboard View

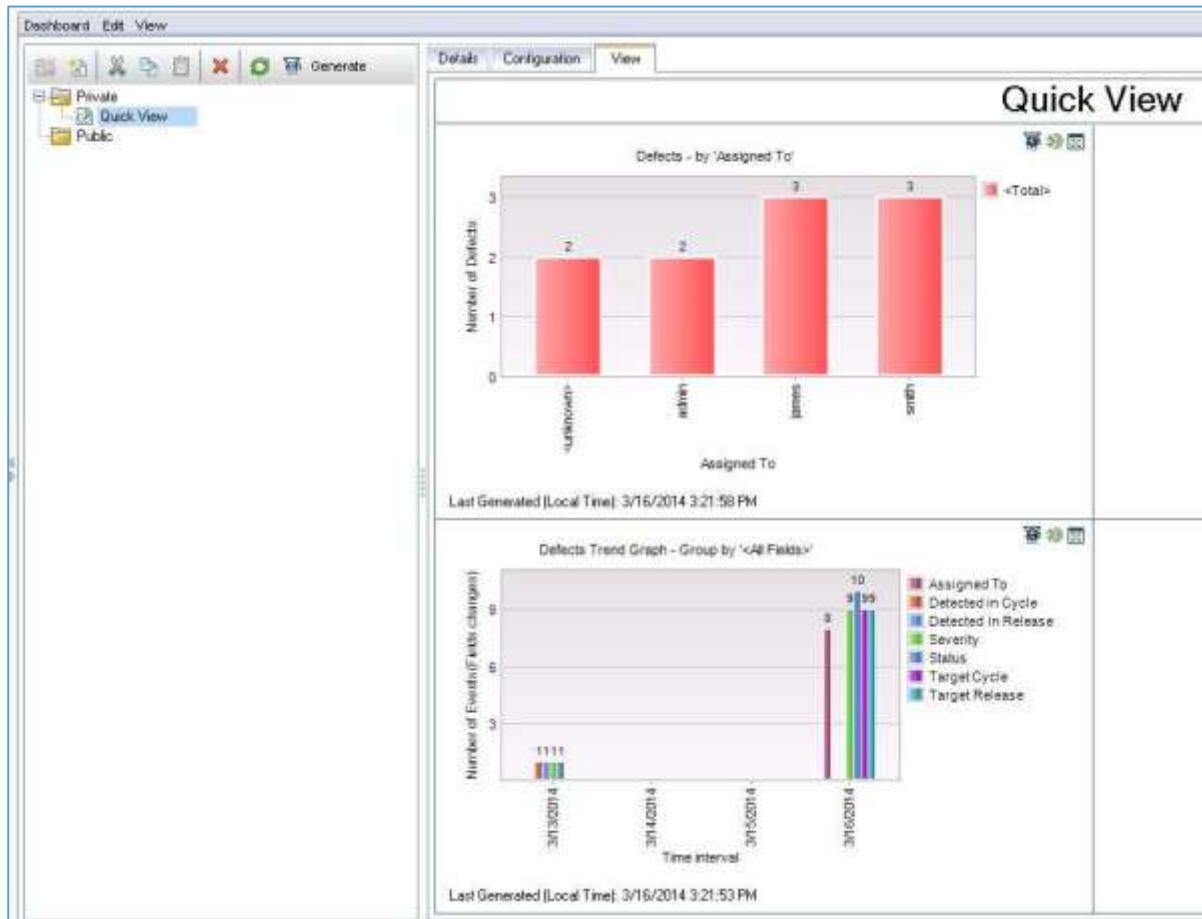
Step 1 : Go to "Dashboard View" and create a "New Folder" if you wish to [or] create a "New Dashboard" page straight away.



Step 2 : Upon creating a "New Dashboard" Page, various tabs are generated. "Configuration" tab is one of them in which users can add those graphs which can be added to the dashboard.

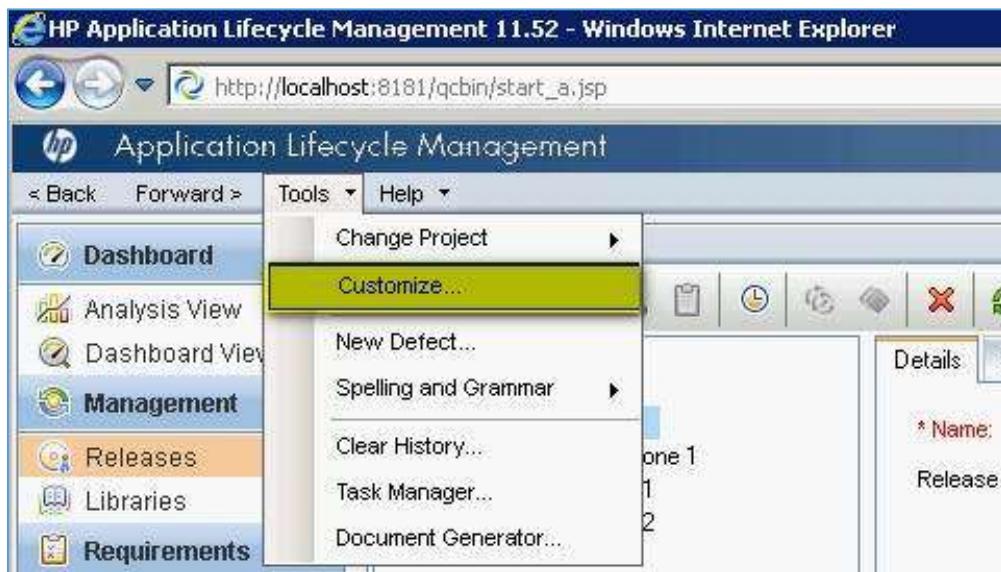


Step 3 : Users should use the "View" tab to view the added dashboard and hit refresh to get the latest data.



12. HP QC – Project Customization

Sometimes we are in a situation to customize the project. Below are the modules which will help us in customizing the project. Click on each one of these links to understand the functionalities in detail. Project Customization module can be accessed by navigating to "tools" >> "Customize" as shown below:



When a project administrator accesses project Customization, then the following modules would be shown to the user for customization.

The screenshot shows the HP Application Lifecycle Management 11.52 interface. The left sidebar contains a tree view of customization options:

- User Properties (selected)
- Project Users
- Groups and Permissions
- Module Access
- Project Entities
- Requirement Types
- Risk-Based Quality Management
- Project Lists
- Automail
- Alert Rules
- Workflow
- Project Planning and Tracking
- Project Report Templates
- Business Process Test
- Business Views
- Sprinter

The right panel is titled "User Properties" and includes a "Save" button and a "Change Password" link. It displays the following fields:

User Name:	<input type="text" value="admin"/>
E-mail:	<input type="text"/>
Status:	<input checked="" type="radio"/> Active

Functionality	Description
<u>User Properties</u>	Helps user to update profile details.
<u>Project Users</u>	Add/Remove user and user roles.
<u>Groups and Permissions</u>	Add/Remove group privileges.
<u>Module Access</u>	Edit Module Level Access.
<u>Project Entities</u>	Add/Edit/Delete Project Fields
<u>Requirement Type</u>	Create,Edit,delete requirement Type
<u>Project Lists</u>	Add,Edit,Delete all project list box fields.
<u>Automail</u>	Send mail based on specific settings.
<u>Alert Rules</u>	Alert users based on specific changes.
<u>WorkFlow</u>	Defect Fields Customization.

HP QC User Properties

User properties module helps users to customize their user profile information such as name, email ID and also helps users to change password.

Click "User Properties" Link which is on the left pane of the project customization window.

User Properties	
<input type="button" value="Save"/>	<input type="button" value="Change Password"/>
User Name:	<input type="text" value="admin"/>
E-mail:	<input type="text"/>
Status:	<input checked="" type="radio"/> Active
Full Name:	<input type="text"/>
Phone Number:	<input type="text"/>
Deactivation Date:	<input type="text"/>

Click "Change Password" button on user properties pane. Current logged in users credentials can only be changed.

Change Password for [admin]	
Old Password:	<input type="text" value="*****"/>
New Password:	<input type="text" value="*****"/>
Confirm New Password:	<input type="text" value="*****"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Users can also update their personal profile information and hit save.

User Properties	
<input type="button" value="Save"/>	<input type="button" value="Change Password"/>
User Name:	<input type="text" value="admin"/>
E-mail:	<input type="text" value="admin@tutorialspoint.com"/>
Status:	<input checked="" type="radio"/> Active
Full Name:	<input type="text" value="Webmaster"/>
Phone Number:	<input type="text" value="(123)4567890"/>
Deactivation Date:	<input type="text"/>

HP QC Project Users

This module helps us to add a list of valid users from the overall ALM users list. In addition to that we can also assign each project user to a user group. Each user group has a specific set of permissions to perform certain tasks.

Click the "Add user" button in the project users module.

The screenshot shows the 'Project Users' screen. At the top, there are three buttons: 'Save', 'Add User' (highlighted with a red box), and 'Remove User'. Below these are two tabs: 'Details' (selected) and 'Membership'. A table lists users with columns 'Name' and 'Full Name'. The first user listed is 'admin' with 'James Smith' as the full name. On the right, there are fields for 'User Name' (set to 'admin'), 'E-mail' (empty), and 'Status' (set to 'Active').

The "Add user" dialog opens. The project administrator has to key in the user name in order to add users successfully.



After adding the user successfully, select the user to whom the membership levels have to be edited. Select the Membership level and click the ">>" button.

The screenshot shows the 'Project Users' screen again. The 'Membership' tab is selected. The 'Details' panel shows 'Not Member of' and 'Member of' sections. The 'Member of' section is highlighted with a red box and contains 'TDAdmin' and 'Viewer'. The 'Selected Membership levels' box is also highlighted with a red box. Below the membership panels are two buttons: a single arrow pointing right and a double arrow pointing right.

Project Administrators can also remove an user from the project area using "Remove user" button. Remember this will just remove the user from the project areas and it will still retain the user in HP-ALM site Administration.

The screenshot shows the 'Project Users' screen in HP QC. A confirmation dialog box is overlaid on the main interface. The dialog asks, "Do you want to remove user james from the project?" with 'Yes' and 'No' buttons. In the background, the 'Membership' tab is selected for the user 'james'. The 'Details' tab is also visible. The user list includes 'admin', 'james', and 'smith'.

HP QC Groups and Permissions

To protect a project from unauthorized access, ALM enables project administrators to assign each user to one or more predefined with default privileges that has access to perform certain ALM actions.

Select "Groups and Permissions" Link and user will notice that there are five user groups by default. The below groups and permissions are known as System groups and are "READ ONLY". The Permissions of those CANNOT be modified(Edit/Remove) even by project administrators.

- Developer
- Project Manager
- TD Admin
- QA Tester
- Viewer

Each one of those user groups displays membership information which shows the users "In group" and "Not in group".

The screenshot shows the 'Groups and Permissions' screen in HP QC. The 'Developer' group is selected. The 'Membership' tab is selected, showing users 'admin (admin)', 'james (James)', and 'smith (Smith)' listed under 'Not in Group'. The 'Permissions' tab is also visible.

The Next tab "Permissions" shows the permission levels for the selected "Group". It is READ ONLY and Cannot be edited for the above said default groups. It shows that the group "QA Tester" has permissions to create and update defects but can't delete.

Permission Level		By Owner Only
Defect <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Create <input checked="" type="checkbox"/> Update <input type="checkbox"/> Delete 		
Link <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Create <input checked="" type="checkbox"/> Update <input type="checkbox"/> Delete 		

In case user wants to create a customized user group, they can do so by hitting "New Group" button and select the name of the group and type of profile they would like to create.



In the following scenario, we allow "Business Analysts" user group to create and update requirement but cannot move/delete. We can customize each one of the areas such as tests and defects according to our requirements.

HP QC Module Access

Module Access allows project Administrators to control the level of access for each one of those user groups that we discussed in groups and permissions module. By default, all types of users have access to all modules however they are NOT allowed to perform all actions which are controlled in permissions module.

As per below snapshot, user can turn off Test plan module for user group "Business Analyst". Similarly, components and models module are turned off for all user groups.

HP QC Project Entities

Sometimes project administrators would be in a position to customize a project to meet the specific needs of project. Hence we might have to add or customize fields, customize requirement types, and create categories and lists to meet the needs of the project. We should also keep in mind that the System fields are default fields and cannot be added or deleted but can be modified. This module deals with how to create/edit customize fields.

Let us understand this topic with an example. We will add a user defined field "Build Number" as a text box in "New defects" Module.

Step 1 : Go to Project Entities and select "Defect". Hit "New Field" Button after selecting the "User Fields" folder.

The screenshot shows the 'Project Entities' interface in HP ALM. The left sidebar lists various project management categories. Under 'Project Entities', the 'Defect' folder is expanded, showing its subfolders: 'System Fields' and 'User Fields'. A new user field named 'BG_USER_01' is currently being configured. The 'Settings' panel on the right provides the following details:

- Name: BG_USER_01
- Label: BG_USER_01
- Type: String
- Length: 255
- History:
- Required:
- Masked:
- Searchable:

Step 2 : Enter appropriate label name and select the correct data type "String/Date/User List/lookup List/Number/Float". We can also make it as "Required" Field so that user has to enter that field in order to successfully post a defect. After creating the user defined field hit "Save".

This screenshot shows the same 'Project Entities' interface as the previous one, but with a different configuration. The 'Build Number' field has been created under the 'User Fields' subfolder of 'Defect'. The 'Settings' panel now displays:

- Name: BG_USER_01
- Label: Build Number
- Type: String
- Length: 255
- History:
- Required:
- Masked:
- Searchable:

Step 3 : Click "New Defect" Button in defects module. The user defined field will pop up and it will be shown as the mandatory field as we have marked it as a "Required" field while creating the same.

The screenshot shows the 'New Defect' form in HP QC. On the left, there's a sidebar with 'Attachments'. The main area has tabs for 'Details' and 'Attachments'. Under 'Details', there are several input fields: 'Build Number' (highlighted with a red box), 'Actual Fix Date', 'Closed in Version', 'Detected in Cycle', 'Detected in Version', 'Modified', 'Priority' (set to 'High'), 'Reproducible', 'Subject', 'Target Release', 'Assigned To', 'Closing Date', 'Detected in Release', 'Estimated Fix Date', 'Planned Closing Version', 'Project', 'Status' (set to 'New'), and 'Target Cycle'. Below these fields is a 'Description' section with rich text editor tools.

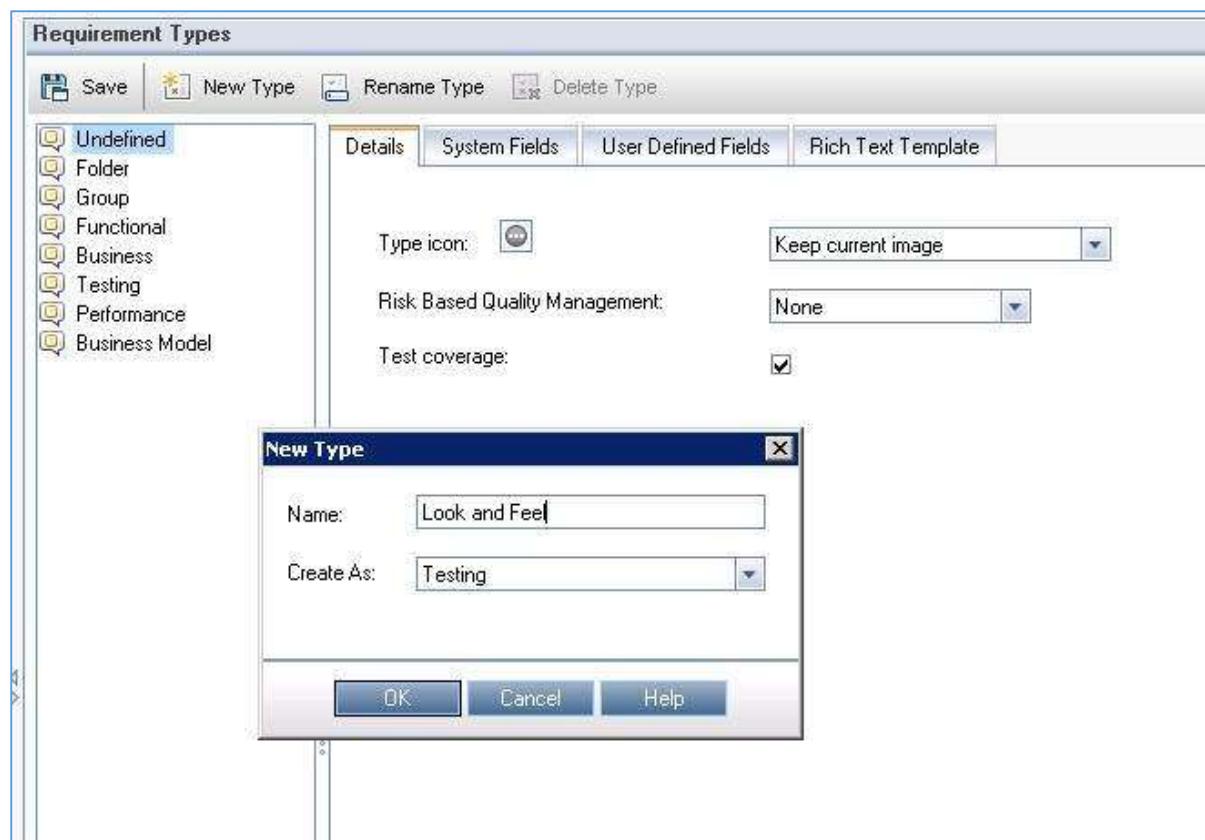
Step 4 : Similarly we can create user defined fields across modules wherever necessary. Please do note that for creating a user defined Look up list one has to create the list using project lists and the select the list while creating a user defined field.

HP QC Requirement Types

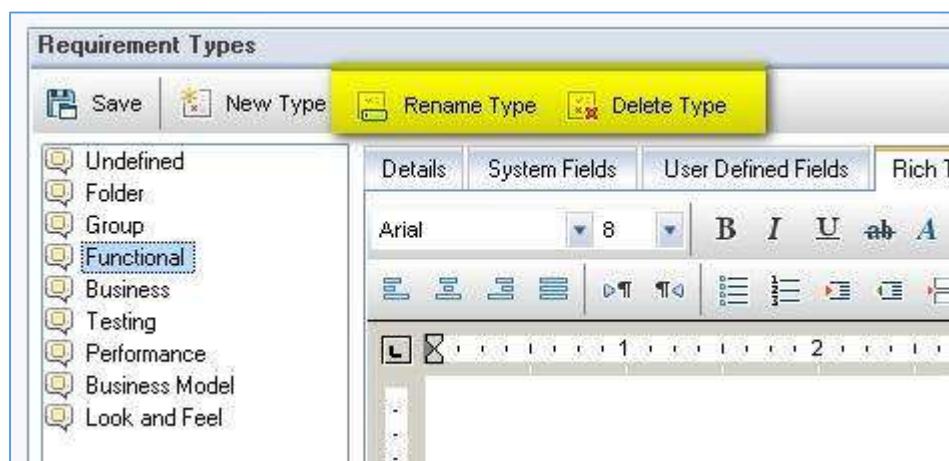
This module helps us to create different requirement types apart from the default ones and also allows us to customize their properties. These requirement types are shown as a list to the user in "Create Requirements" page.

The screenshot shows the 'Requirement Types' configuration page. On the left is a tree view with nodes like 'Undefined', 'Folder', 'Group', 'Functional', 'Business', 'Testing', 'Performance', and 'Business Model'. The main area has tabs for 'Details', 'System Fields', 'User Defined Fields', and 'Rich Text Template'. Under 'Details', there are fields for 'Type icon' (with a preview image), 'Keep current image', 'Risk Based Quality Management' (set to 'None'), and 'Test coverage' (with a checked checkbox).

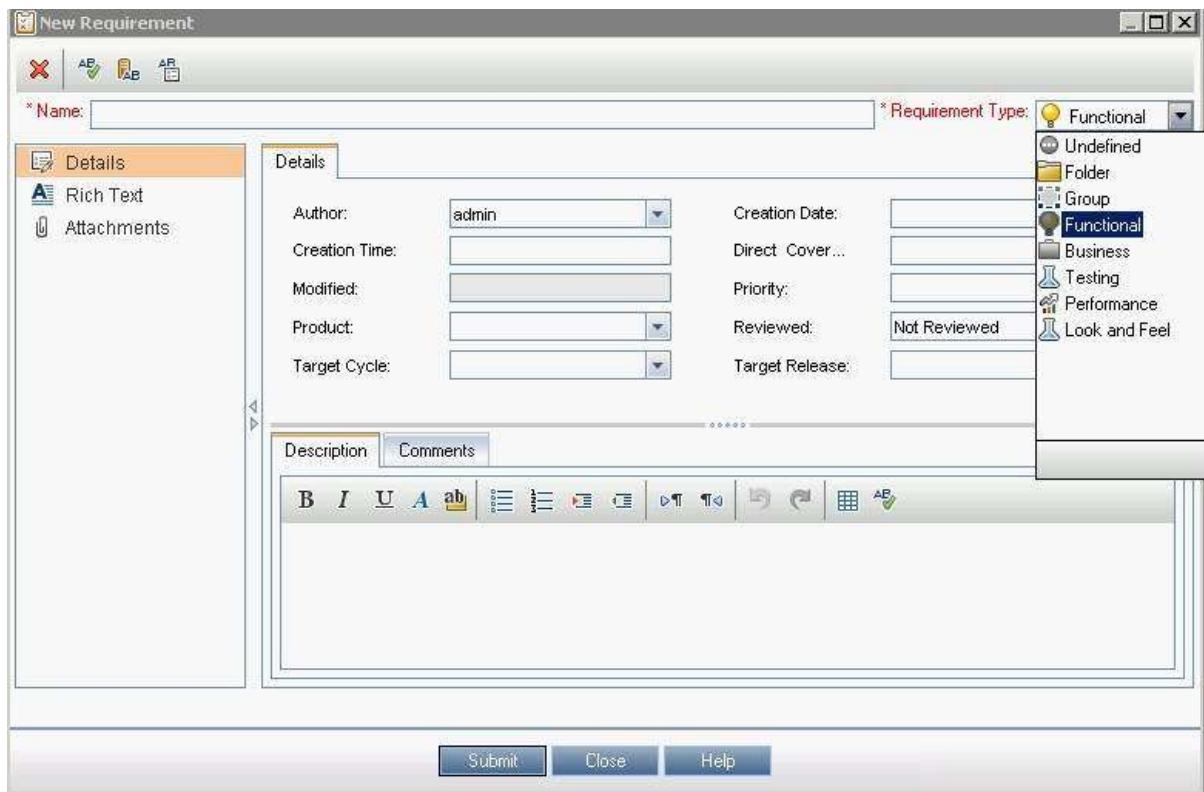
Project Administrators can create a New requirement type and map it against a predefined requirement type. Each requirement type has got System Fields and User defined fields associated with it.



Project Admins can also "Rename" or "Delete" a predefined or user defined requirement type.



After creating a new requirement type, the user can choose the created requirement type("look and feel" in this case) while creating new requirements.

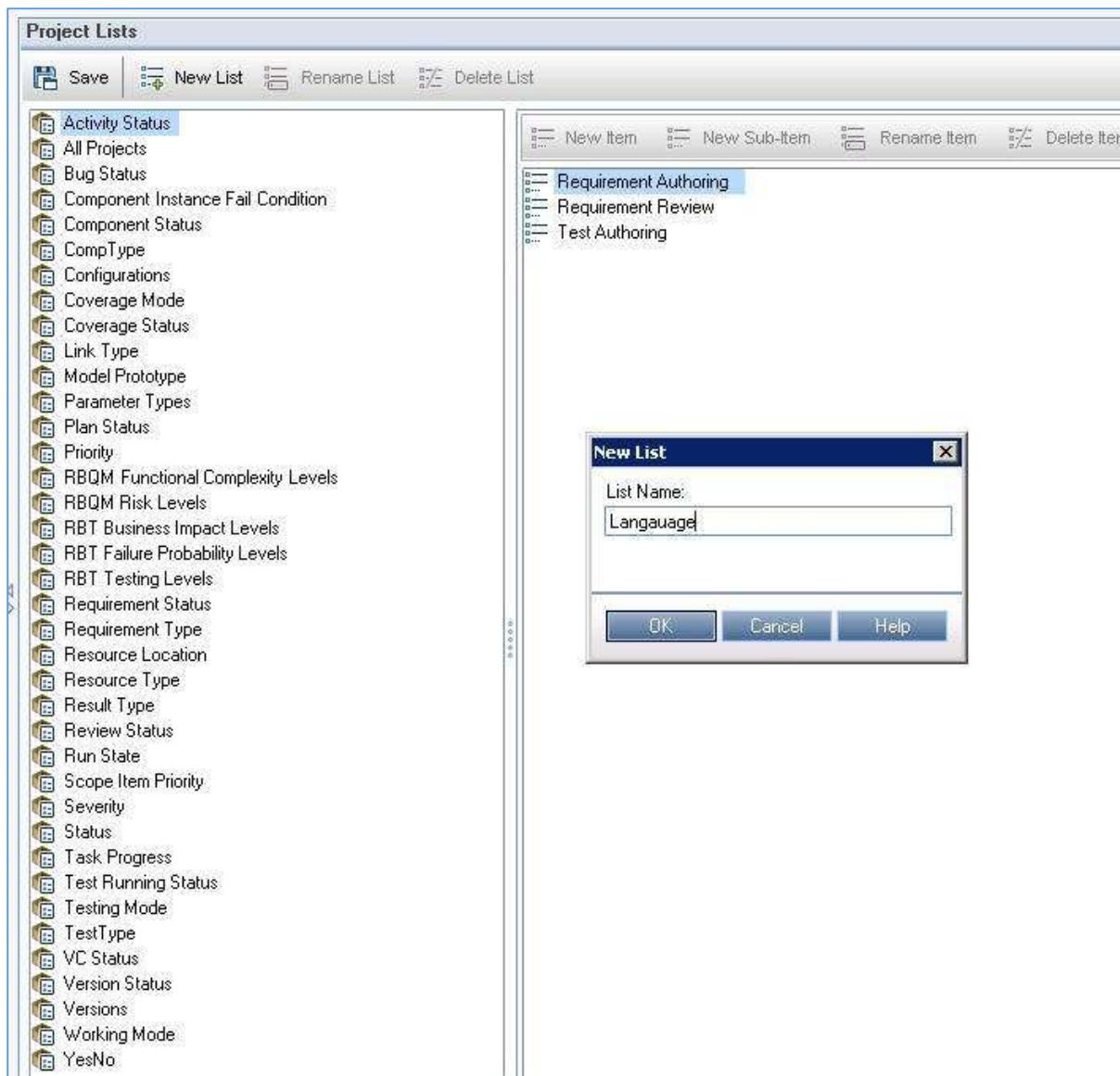


HP QC Project Lists

Project Lists module allows users to create, rename, and delete user-defined lists. All the prepopulated drop downs are known as system lists while user can also create their own list. The default System list is shown below.

The screenshot shows the 'Project Lists' interface in HP Quality Center. The left pane displays a large list of predefined and user-defined lists. The right pane shows a smaller list of items under a selected category. The top navigation bar includes options for saving, creating, renaming, and deleting lists and items.

Project Admins can create a user defined list (say language list) and add items to the list.



While adding items to the user defined fields, user can add it as a main item or a sub item. They also have access to rename/delete the user defined lists.

The screenshot shows the 'Project Lists' interface in HP QC. The left pane displays a tree view of system-defined lists, and the right pane shows the items for a selected list. The 'Langauge' list is currently selected.

System-defined lists:

- Activity Status
- All Projects
- Bug Status
- Component Instance Fail Condition
- Component Status
- CompType
- Configurations
- Coverage Mode
- Coverage Status
- Link Type
- Model Prototype
- Parameter Types
- Plan Status
- Priority
- RBQM Functional Complexity Levels
- RBQM Risk Levels
- RBT Business Impact Levels
- RBT Failure Probability Levels
- RBT Testing Levels
- Requirement Status
- Requirement Type
- Resource Location
- Resource Type
- Result Type
- Review Status
- Run State
- Scope Item Priority
- Severity
- Status
- Task Progress
- Test Running Status
- Testing Mode
- TestType
- VC Status
- Version Status
- Versions
- Working Mode
- YesNo
- Langauge

Items for the 'Langauge' list:

- Chinese
- English - UK
- English - US
- German
- French

System defined lists Cannot be delete or renamed, however new items/sub items can be added to the list.

The screenshot shows the 'Project Lists' interface with a red box highlighting the 'Delete List' button in the toolbar. The 'Component Instance Fail Condition' list is selected in the tree view.

Buttons in the toolbar:

- Save
- New List
- Rename List
- Delete List

Selected list:

- Activity Status
- All Projects
- Bug Status
- Component Instance Fail Condition
- Component Status
- CompType
- Configurations
- Coverage Mode
- Coverage Status
- Langauge
- Link Type

Items for the 'Component Instance Fail Condition' list:

- New item
- Continue
- Exit

HP QC Automail

ALM enables the users to automatically notify them via email each time a specific defect fields changes. Configuring mail for an ALM project involves the below steps:

Click the link "Automail" Link in "Project Customization" page.

Selected	User	Condition
<input type="checkbox"/>	admin	<no filter defined>
<input type="checkbox"/>	james	<no filter defined>
<input type="checkbox"/>	smith	<no filter defined>
<input type="checkbox"/>	Assigned To	<no filter defined>
<input type="checkbox"/>	Detected By	<no filter defined>

Project Admin can select, under what circumstances mail should be triggered. Project Admin can also select as many fields as they can and select "To" users. Users can also filter the criteria the project users to receive an email.

Selected	User	Condition
<input checked="" type="checkbox"/>	admin	<no filter defined>
<input checked="" type="checkbox"/>	james	<no filter defined>
<input checked="" type="checkbox"/>	smith	<no filter defined>
<input type="checkbox"/>	Assigned To	<no filter defined>
<input type="checkbox"/>	Detected By	<no filter defined>

HP QC Alert Rules

When an entity changes (requirement, defect, test runs), project admins can instruct ALM to notify those responsible for any associated entities that may impact the application management process. The below setting shows that the default alert rules.

Alert Rules		
	Save	
Rule Description	Alert Associated Entity	Send E-mail To
When a requirement is modified, alert the associated tests.	<input type="checkbox"/>	<input type="checkbox"/> Test Designer
When a defect status changes to "Fixed", alert the associated test instances.	<input type="checkbox"/>	<input type="checkbox"/> Responsible Tester
When a test runs successfully (status changes to "Passed"), alert the linked defects.	<input type="checkbox"/>	<input type="checkbox"/> Assigned To
When a requirement is modified or deleted, alert traced to requirements and child requirements.	<input type="checkbox"/>	<input type="checkbox"/> Author

The following setting will alert both the entity as well as the person responsible for it.

Alert Rules		
	Save	
Rule Description	Alert Associated Entity	Send E-mail To
When a requirement is modified, alert the associated tests.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Test Designer
When a defect status changes to "Fixed", alert the associated test instances.	<input type="checkbox"/>	<input checked="" type="checkbox"/> Responsible Tester
When a test runs successfully (status changes to "Passed"), alert the linked defects.	<input type="checkbox"/>	<input type="checkbox"/> Assigned To
When a requirement is modified or deleted, alert traced to requirements and child requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Author

HP QC Workflow

The Workflow module provides links to script generators and a script editor. Script generators are used to perform customizations on the input fields of the Defects module dialog boxes while the script editor is used to create scripts to control the workflow in any ALM module.

Workflow

 Save

Workflow enables you to restrict and dynamically change the fields and values in your modules. You can use the following tools:

Script Generator - List Customization for Defects Module

Enables you to adjust the available list values for a "secondary" field, depending on the input value of a "primary" field. For example, for every project you use, you may want to specify a different list of available project versions. You select "Project" as primary and "Versions" as secondary, and set unique version lists for each project.

Script Generator - Add Defect Field Customization

Enables you to customize the fields displayed for each user group in the Add Defects dialog box. You can also specify field order and whether a field is required.

Script Generator - Defect Details Field Customization

Enables you to customize the fields displayed for each user group in the Defect Details dialog box. You can also specify field order and whether a field is required.

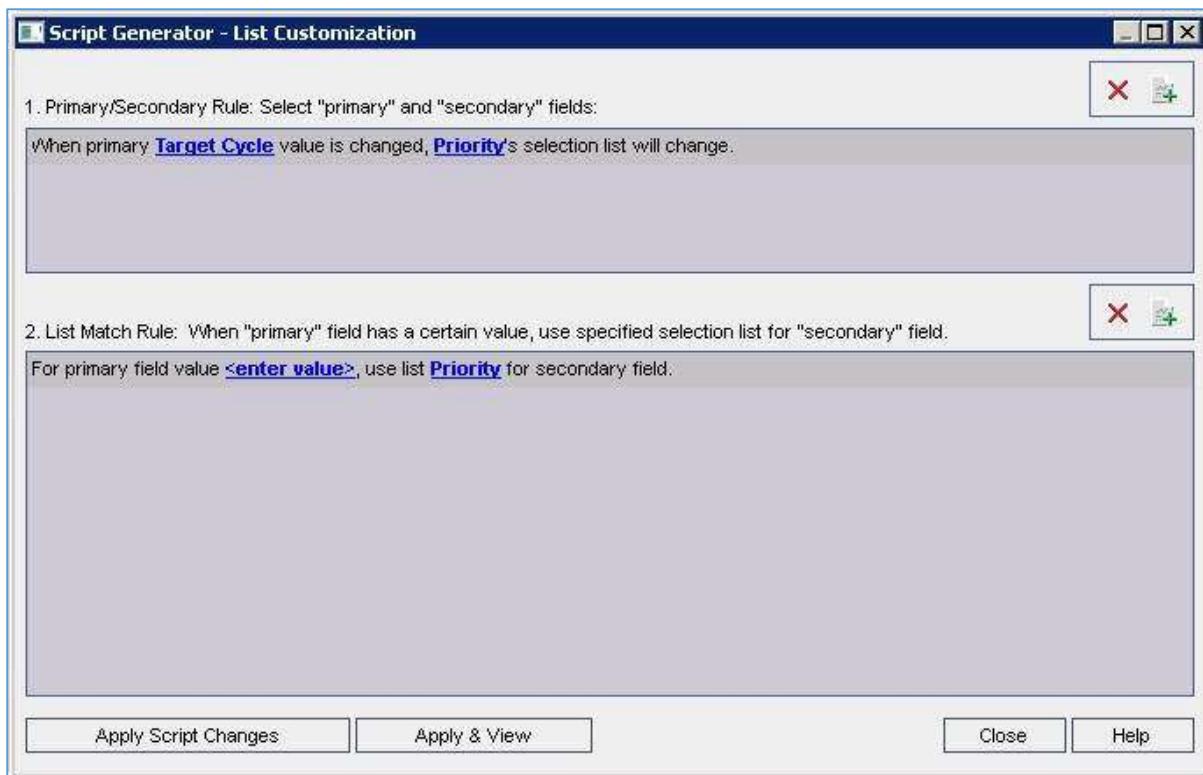
Script Editor

Enables you to write VBScript code for all modules.
You can also use the Script Editor to modify the scripts generated by the above tools.

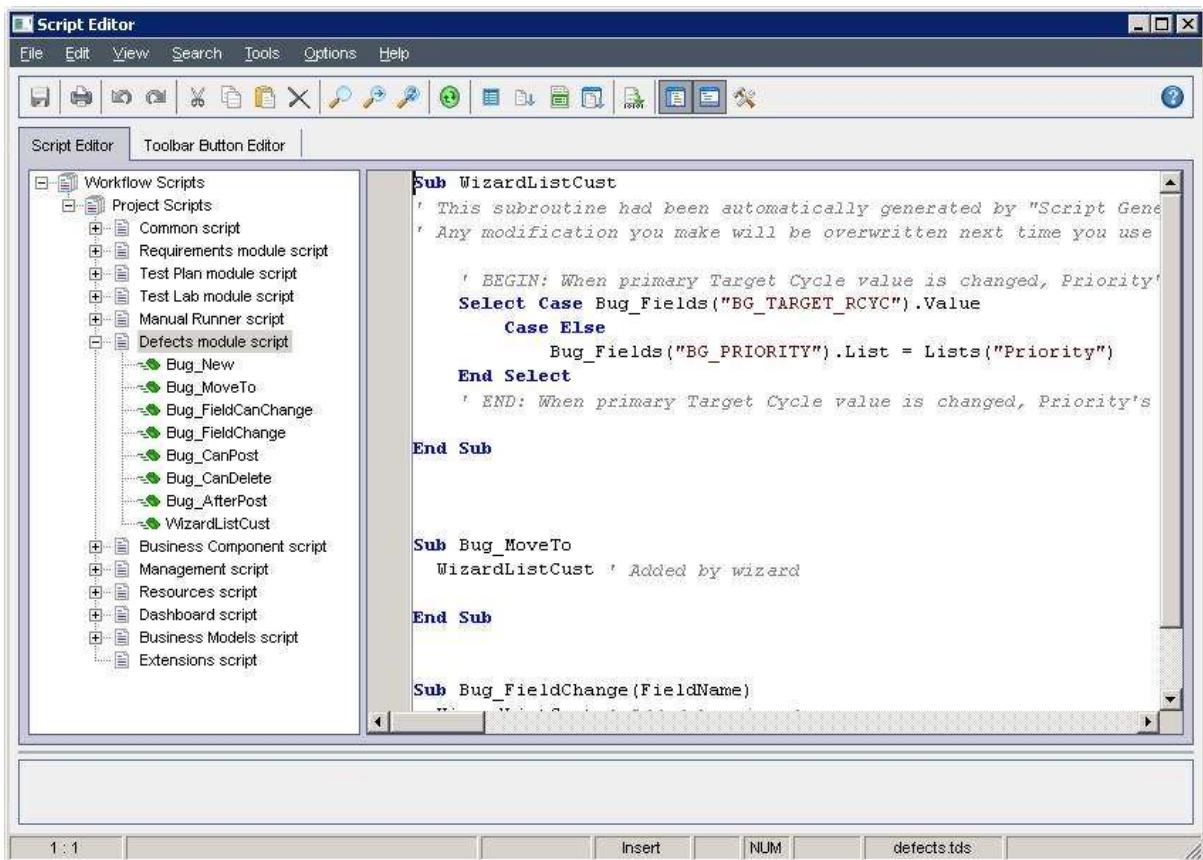
Script Generator – List Customization

When workflow customization is used to change a list of values for a field that has transition rules defined, the field may only be modified in a way that satisfies both the workflow script and the transition rules.

Select Primary field and when it changes, user can set an appropriate secondary field. In the below example, we have selected the primary field as target cycle and priority as secondary field.

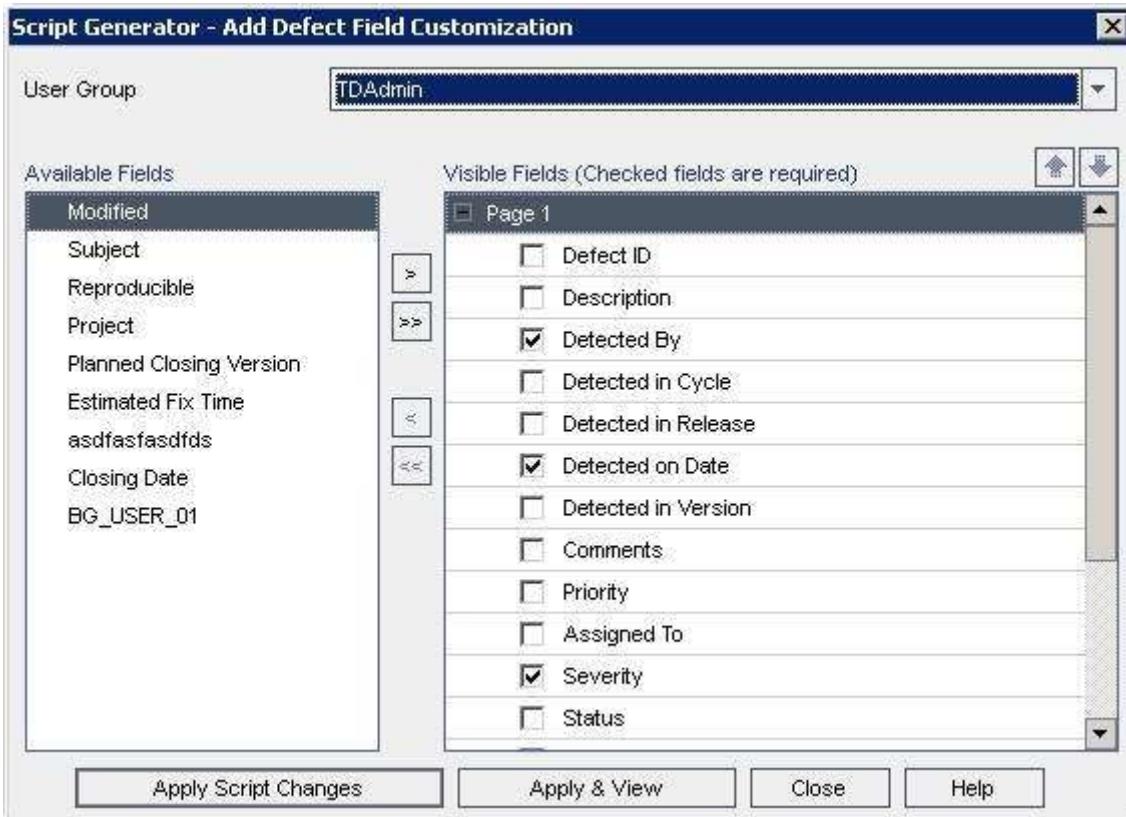


Upon setting the primary and secondary field, click "Apply Script Changes". Upon clicking "Apply and View", the script window will be opened with the script placed in appropriate place.



Script Generator – Add Defect Field Customization

This module helps project admins to configure the fields that should be displayed in "new defect" dialog for each one of the user profiles. First Select the user profile and by default all the fields are visible to the Admin user in "New Defect" dialog. But, user can push the fields out of visible fields and also make any field mandatory by checking the field "ON" under visible fields pane.



Click on "Apply and View" , the Script editor window opens and shows the changes as script. Scroll down and check "TD Admin" profile which we have modified just now. Following things are to be noted.

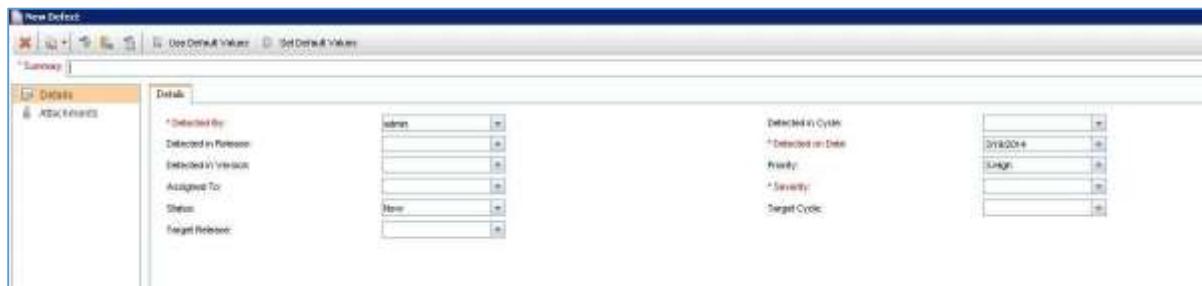
- The First Parameter corresponds to the Field Name
- The Second parameter corresponds to the "Visibility" flag. If Set "True" then it is visible.
- The Third Parameter corresponds to the "Mandatory" Flag. If set "True" then it is Mandatory.
- The fourth parameter corresponds to the Page Number. If "0" then it will display in the first page.
- The last parameter corresponds to the view order. The field with flag 0 will be displayed first and field with flag value "1" will be displayed next and so on.

```

ElseIf User.IsInGroup("TDAdmin") Then
    SetFieldApp "BG_BUG_ID", True, False, 0, 0
    SetFieldApp "BG_DESCRIPTION", True, False, 0, 1
    SetFieldApp "BG_DETECTED_BY", True, True, 0, 2
    SetFieldApp "BG_DETECTED_IN_RCYC", True, False, 0, 3
    SetFieldApp "BG_DETECTED_IN_REL", True, False, 0, 4
    SetFieldApp "BG_DETECTION_DATE", True, True, 0, 5
    SetFieldApp "BG_DETECTION_VERSION", True, False, 0, 6
    SetFieldApp "BG_DEV_COMMENTS", True, False, 0, 7
    SetFieldApp "BG_PRIORITY", True, False, 0, 8
    SetFieldApp "BG_RESPONSIBLE", True, False, 0, 9
    SetFieldApp "BG_SEVERITY", True, True, 0, 10
    SetFieldApp "BG_STATUS", True, False, 0, 11
    SetFieldApp "BG_SUMMARY", True, True, 0, 12
    SetFieldApp "BG_TARGET_RCYC", True, False, 0, 13
    SetFieldApp "BG_TARGET_REL", True, False, 0, 14
    SetFieldApp "BG_CLOSING_VERSION", False, False, 0, 15
    SetFieldApp "BG_ACTUAL_FIX_TIME", False, False, 0, 16
    SetFieldApp "BG_CLOSING_DATE", False, False, 0, 17
    SetFieldApp "BG_ESTIMATED_FIX_TIME", False, False, 0, 18
    SetFieldApp "BG_VTS", False, False, 0, 19
    SetFieldApp "BG_PLANNED_CLOSING_VER", False, False, 0, 20
    SetFieldApp "BG_PROJECT", False, False, 0, 21
    SetFieldApp "BG_REPRODUCIBLE", False, False, 0, 22
    SetFieldApp "BG SUBJECT", False, False, 0, 23

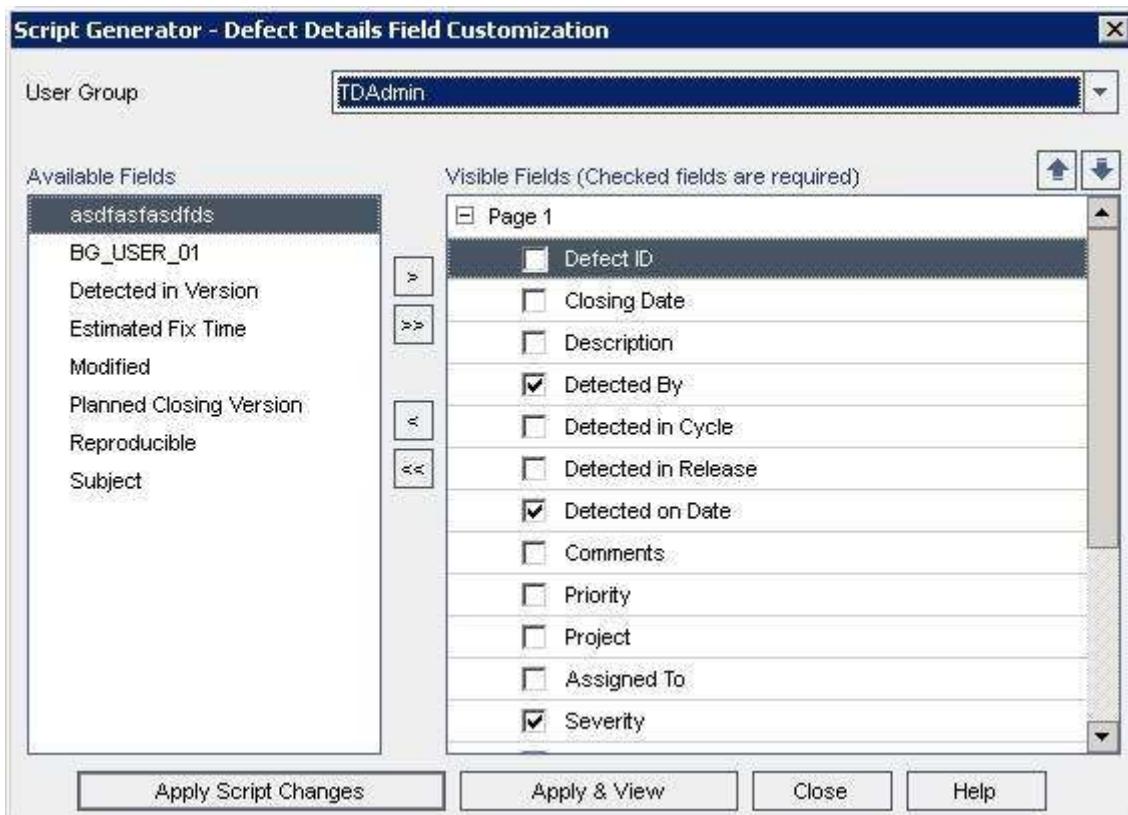
```

Now let us take a preview of the "TD Admin" user group's "Add Defect" Window.



Script Generator – Defect Details Field Customization

This module helps project admins to configure the fields that should be displayed in "View defect Details" dialog for each one of the user profiles. First Select the user profile and by default all the fields are visible to the Admin user in "View Defects Defect" dialog. But, user can push the fields out of visible fields pane and also make any field mandatory by checking the field "ON" under visible fields pane. It works the same way as that of "Add Defect Field" Customization.



Click on "Apply and View" , the Script editor window opens and shows the changes as script. Scroll down and check "TD Admin" profile which we have modified just now. Following things are to be noted.

- The First Parameter corresponds to the Field Name
- The Second parameter corresponds to the "Visibility" flag. If Set "True" then it is visible.
- The Third Parameter corresponds to the "Mandatory" Flag. If set "True" then it is Mandatory.
- The fourth parameter corresponds to the Page Number. If "0" then it will display in the first page.
- The last parameter corresponds to the view order. The field with flag 0 will be displayed first and field with flag value "1" will be displayed next and so on.

```

ElseIf User.IsInGroup("TDAdmin") Then
    SetFieldApp "BG_BUG_ID", True, False, 0, 0
    SetFieldApp "BG_CLOSING_DATE", True, False, 0, 1
    SetFieldApp "BG_DESCRIPTION", True, False, 0, 2
    SetFieldApp "BG_DETECTED_BY", True, True, 0, 3
    SetFieldApp "BG_DETECTED_IN_RCYC", True, False, 0, 4
    SetFieldApp "BG_DETECTED_IN_REL", True, False, 0, 5
    SetFieldApp "BG_DETECTION_DATE", True, True, 0, 6
    SetFieldApp "BG_DEV_COMMENTS", True, False, 0, 7
    SetFieldApp "BG_PRIORITY", True, False, 0, 8
    SetFieldApp "BG_PROJECT", True, False, 0, 9
    SetFieldApp "BG_RESPONSIBLE", True, False, 0, 10
    SetFieldApp "BG_SEVERITY", True, True, 0, 11
    SetFieldApp "BG_STATUS", True, False, 0, 12
    SetFieldApp "BG_SUMMARY", True, True, 0, 13
    SetFieldApp "BG_TARGET_RCYC", True, False, 0, 14
    SetFieldApp "BG_TARGET_REL", True, False, 0, 15
    SetFieldApp "BG_CLOSING_VERSION", False, False, 0, 16
    SetFieldApp "BG_ACTUAL_FIX_TIME", False, False, 0, 17
    SetFieldApp "BG_DETECTION_VERSION", False, False, 0, 18
    SetFieldApp "BG_ESTIMATED_FIX_TIME", False, False, 0, 19
    SetFieldApp "BG_VTS", False, False, 0, 20
    SetFieldApp "BG_PLANNED_CLOSING_VER", False, False, 0, 21
    SetFieldApp "BG_REPRODUCIBLE", False, False, 0, 22
    SetFieldApp "BG SUBJECT", False, False, 0, 23

```

Now let us take a preview of the "TD Admin" user group's "View Defect details" Window.



Script Editor

Script Editor helps the project Admins to create a user-defined workflow script. From the following screenshot, it is obvious that a script can be created commonly across modules or specific to a module viz. - test lab, defects, etc.

