

## Application Lifecycle Management(ALM)

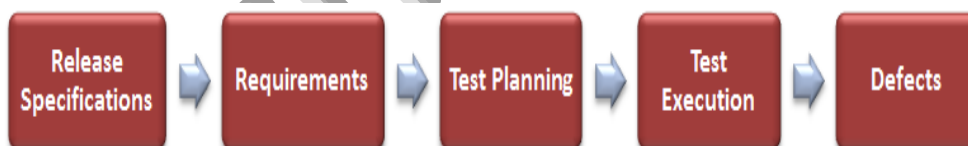
HP ALM formerly known as Quality Center is a Test Management tool to manage entire Quality Assurance and testing process for an organization. Before being called HP Quality center it used to be Mercury Test Director

### Why is ALM/QC used?

ALM helps make project management, from requirements to deployment easier. It increases predictability and creates a framework to manage projects from a central repository. With ALM you will be able to:

1. Define and maintain requirements and tests.
2. Create Tests
3. Organize tests into logical subsets
4. Schedule tests and execute them
5. Collect results and analyze the data
6. Create, monitor and analyze defects
7. Share defects across projects
8. Track progress of a project
9. Collect metrics
10. Share asset libraries across projects
11. Integrate ALM with HP testing tools other third party tools for a complete automation experience.

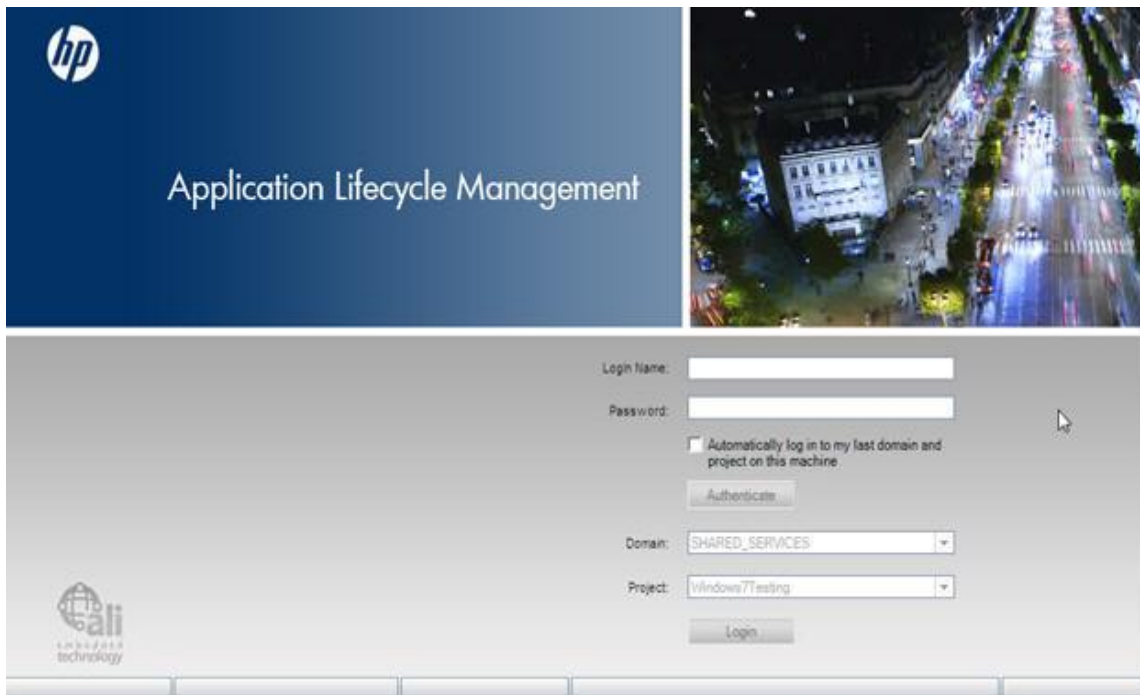
### Application Lifecycle Management (ALM) flow:



### How to start ALM

**Step #1:** To start ALM type the address <http://QC url/qcbin/login.aspx>

**Step #2:** Enter the user name and password. “Authenticate “button gets activated. Click on it. The Domain and Project fields get activated. Depending on your login credentials you have access to certain projects.



**Step #3:** Choose the Domain and Project as required and click “Login”. Once you are logged in, ALM window opens up and displays the module in which you were working last.

Domain is nothing but a logical division of departments for your organization. Example: Banking, Retail, Health Care etc.

Projects are the different teams working within the domain. For example in a Retail project, they could be working on the front end store Point of sale app or the back end inventory module.

The Domain and Project information is set by the ALM Admin.



**Step #4:** The user domain, Project and user information is displayed on the upper right hand corner. Also notice the side bar. It contains the components from the ALM flow.

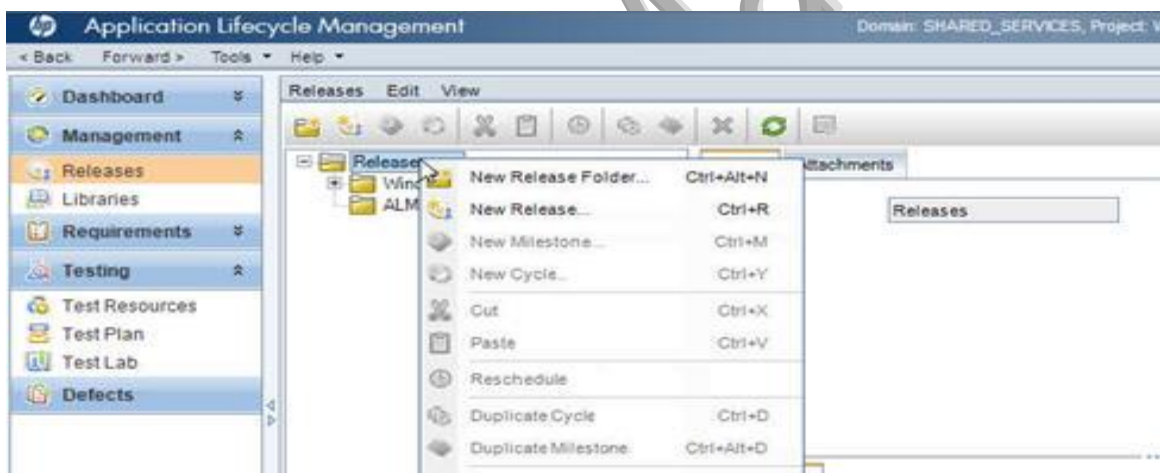
- Dashboard
- Management
- Requirements
- Testing
- Defects

### Steps to create a new release/cycle in ALM:

**Step #1:** Login to ALM into with your user name and password, into the domain and project you required.

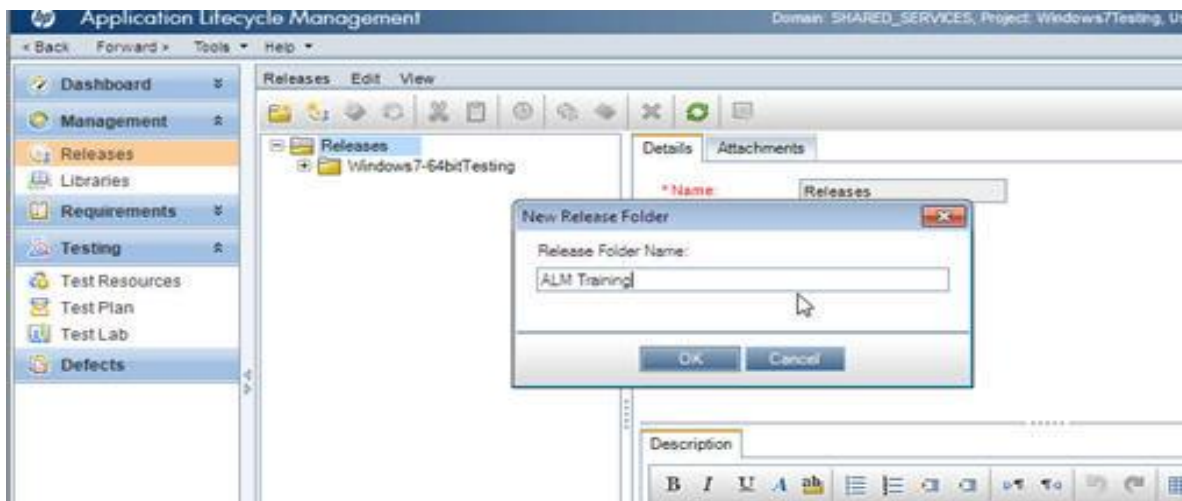
**Step #2:** Go to the side bar options “Management->Releases”.

**Step #3:** Create Release folder: You can create a new release folder or directly create a release here. To create a new folder, choose the “New Release Folder” from the menu or right click on the “Releases” root folder and choose “New Release Folder”. Enter the name and Click OK. The folder gets added to the hierarchical structure under Releases.

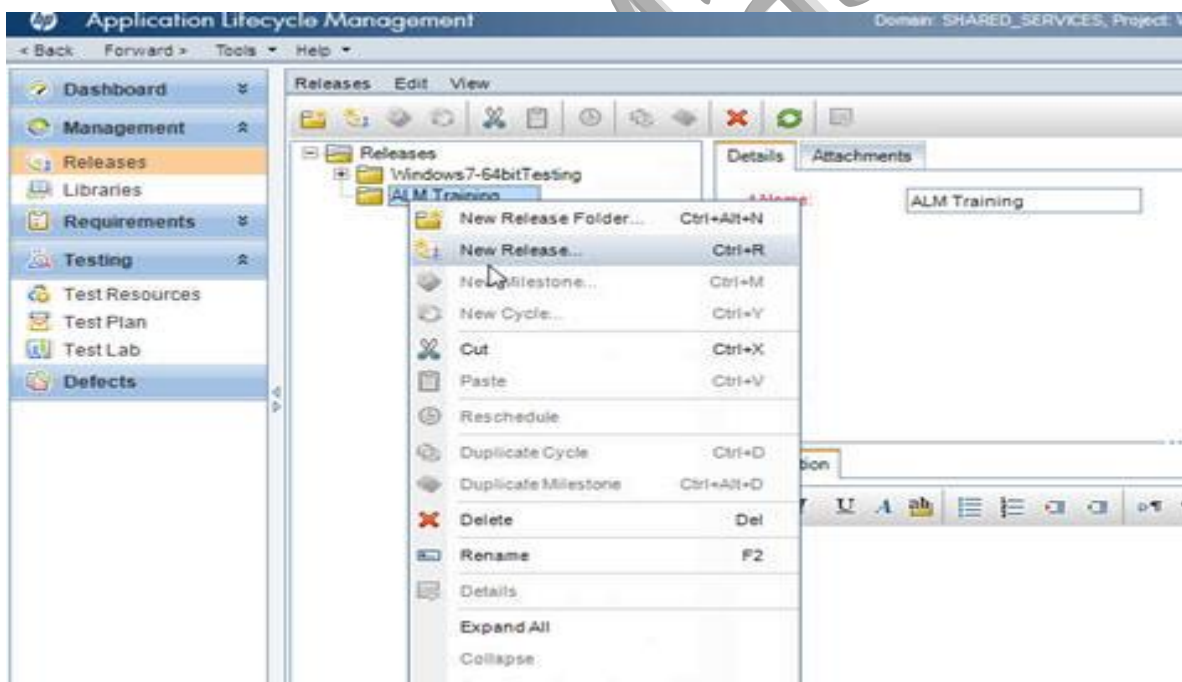


Enter the folder name:

## ALM/QC Material

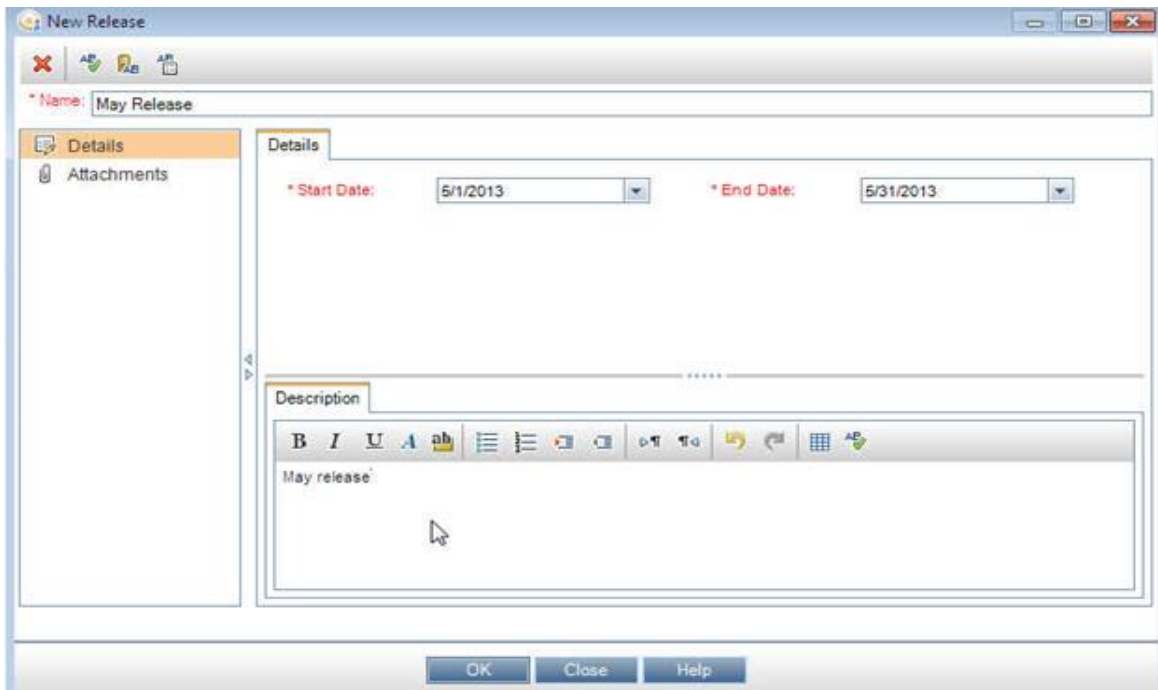


**Step #4:** Create Release: Under the newly created folder, I am going to add a 'New Release'. You can choose the "New Release" from the menu or right click on the root folder and choose "New Release" or choose Ctrl+R. Enter the Name. As you can see, a start date and end date are the required fields. There is a description box where you can enter any text and then you can upload any supporting documents under attachments. Enter the information as required and click OK.

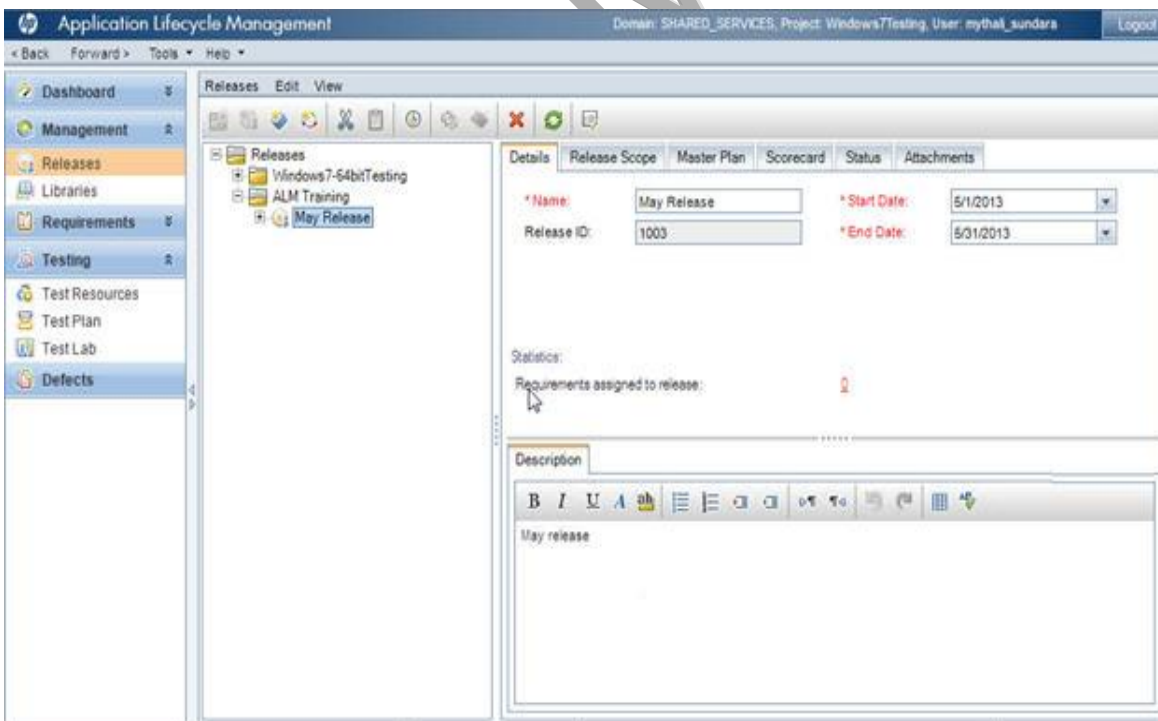


Enter release details

## ALM/QC Material



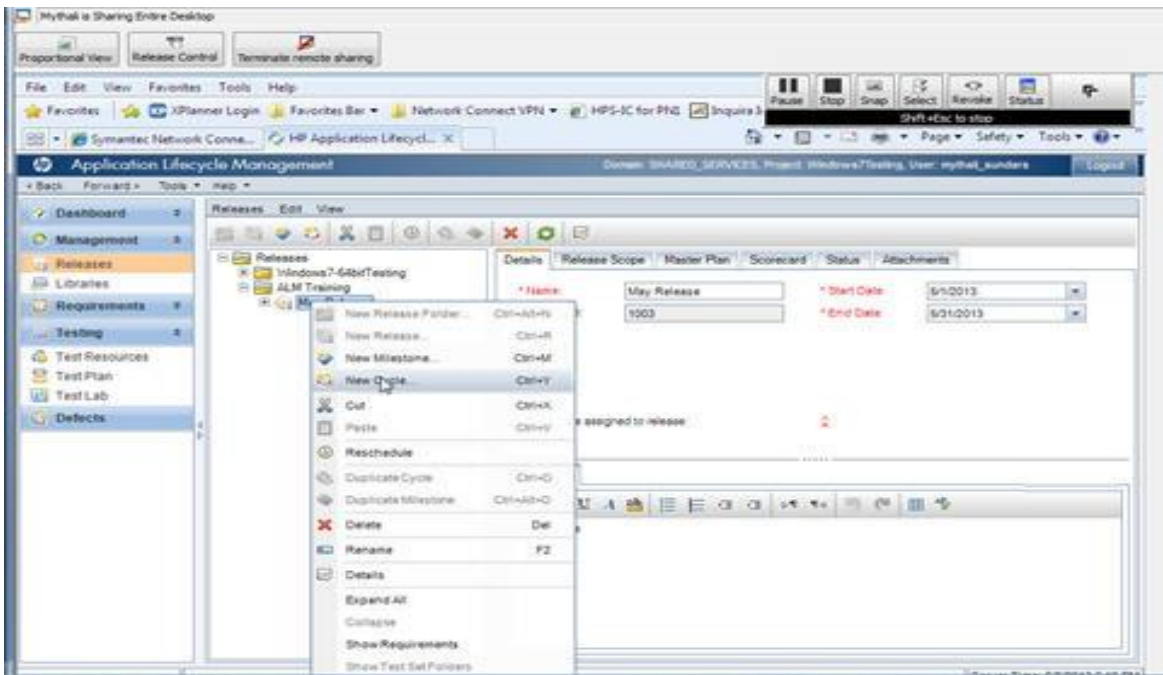
**Step #5:** The release gets added.



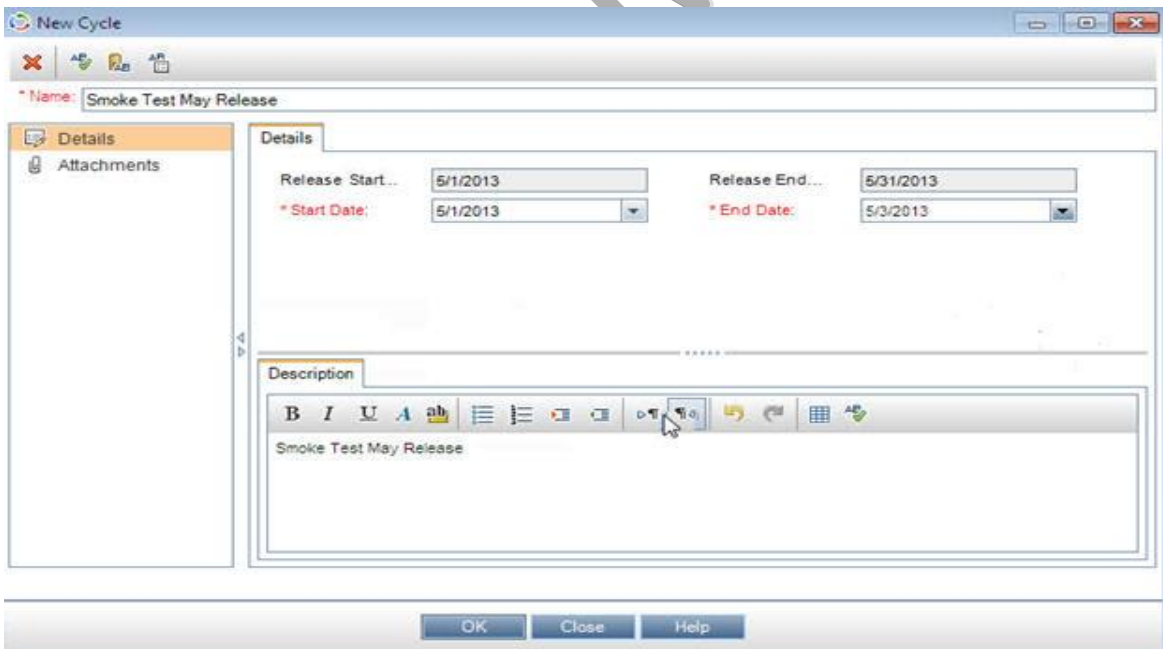
**Step #6:** Adding cycles: The next step is to add cycles. Under the newly added release, the options to add a new release folder or release are disabled. You have options in the menu to add new cycle activated or the right click menu has the option or Ctrl+Y keys can be used. Use one of these and



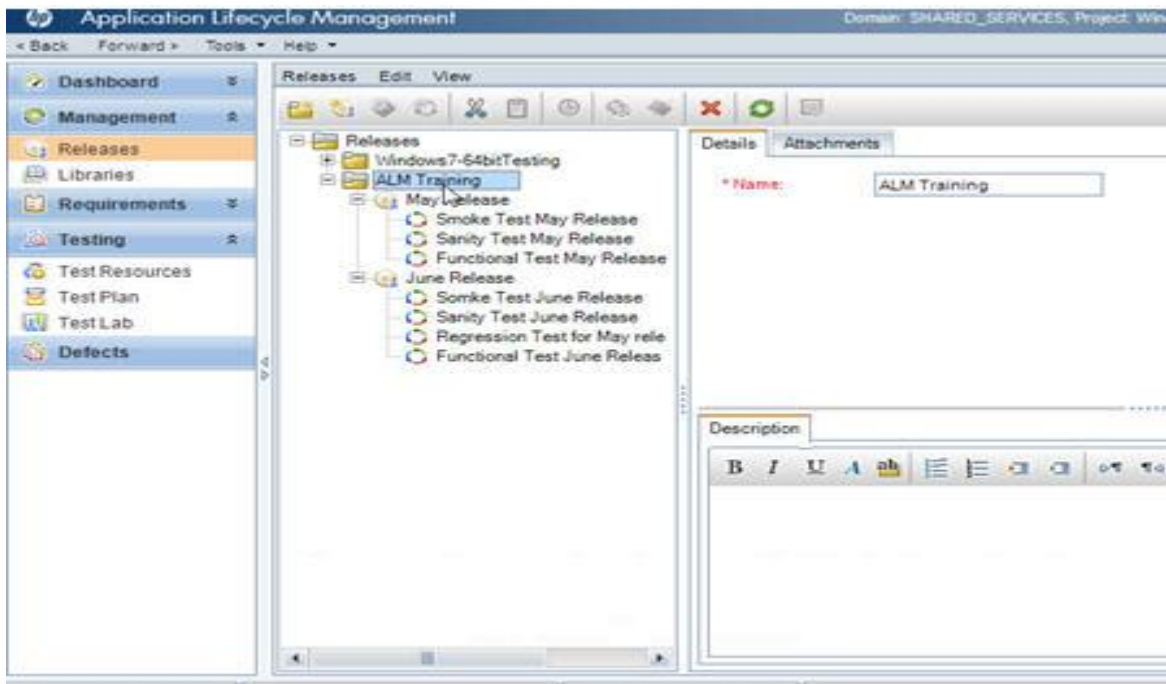
choose to add a new cycle. Again name, start date and end date are mandatory items. Enter the same and click OK.



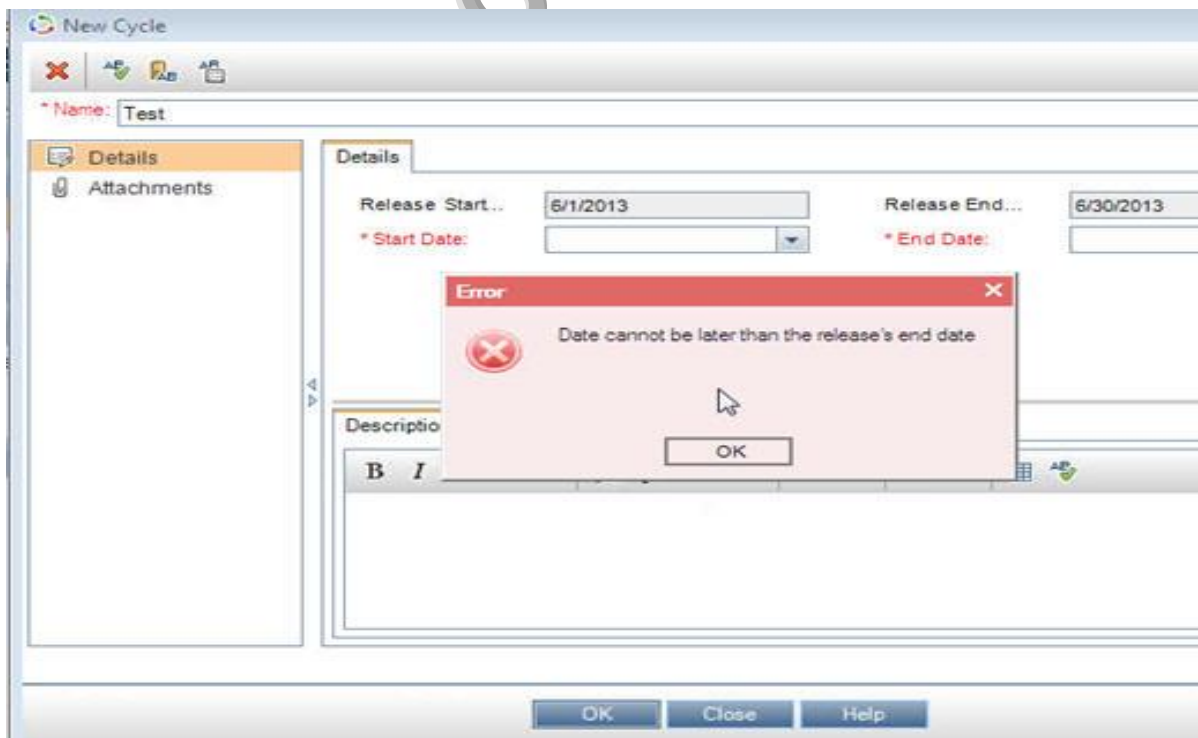
Enter cycle details:



**Step #7:** The cycle will now get added under the cycle. This is how the May and June release information from our table is going to look once it is all added to ALM.

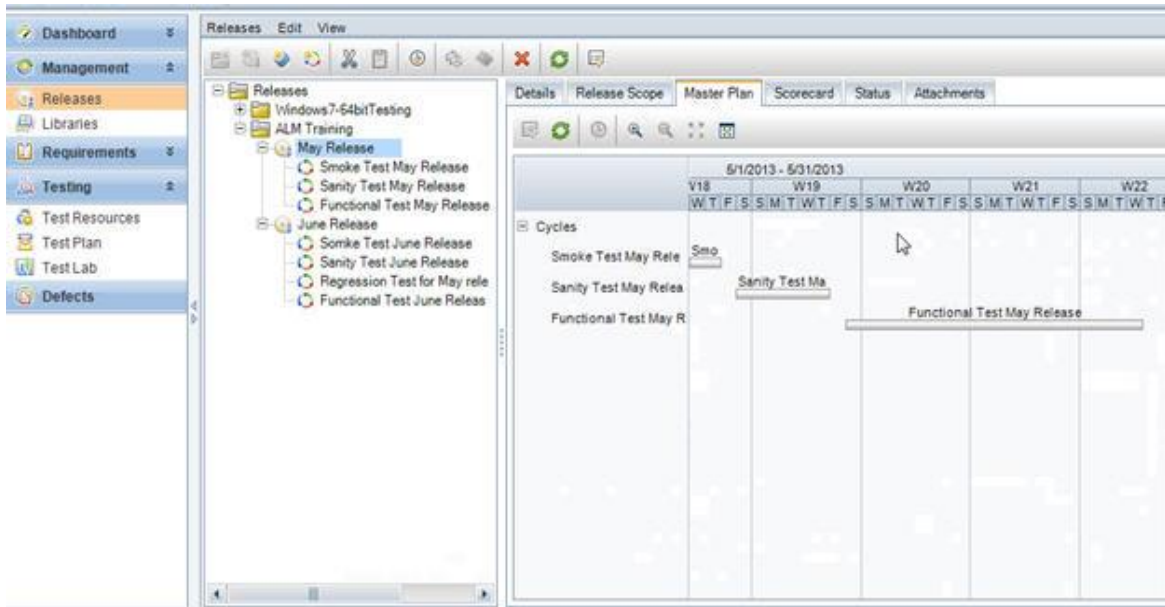


**Step #8:** There are some validations for entering the cycle dates. They have to fall within the range of the release dates under which the cycle is created. If not, a validation message gets displayed.

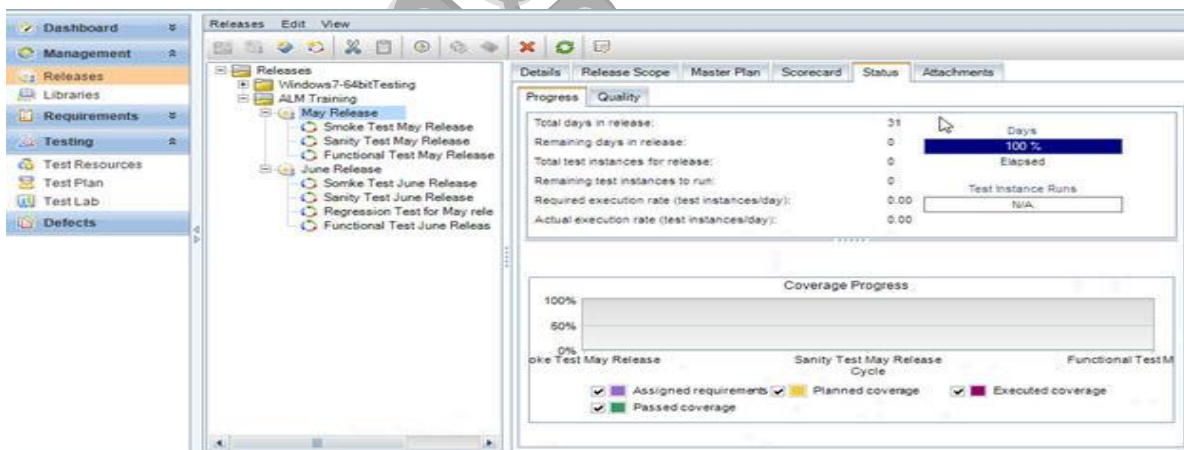


**Step #9:** Once it is created. Choose the “May release” and observe its data.

The master plan tab will display the time line for the release with its cycle information:



**Step #10:** The Status attachment displays the progress of the release:

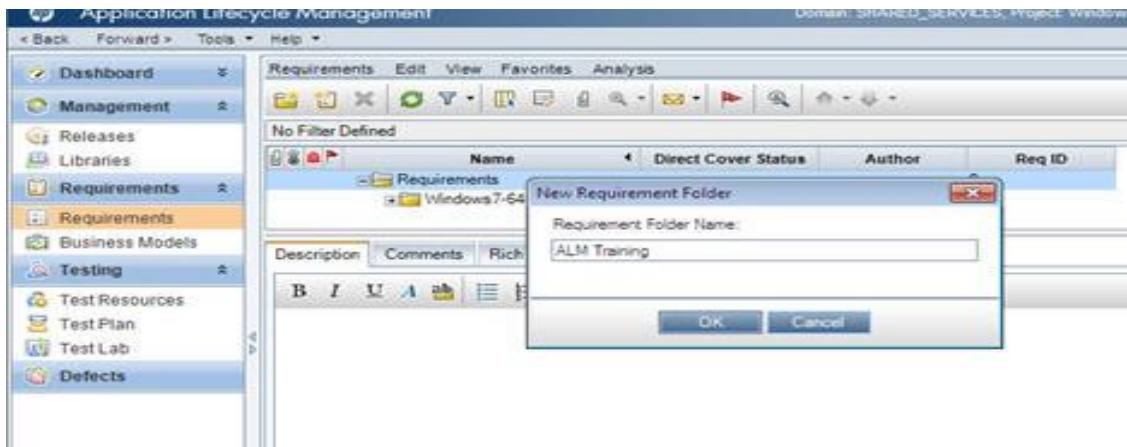


## Steps to Create requirements:

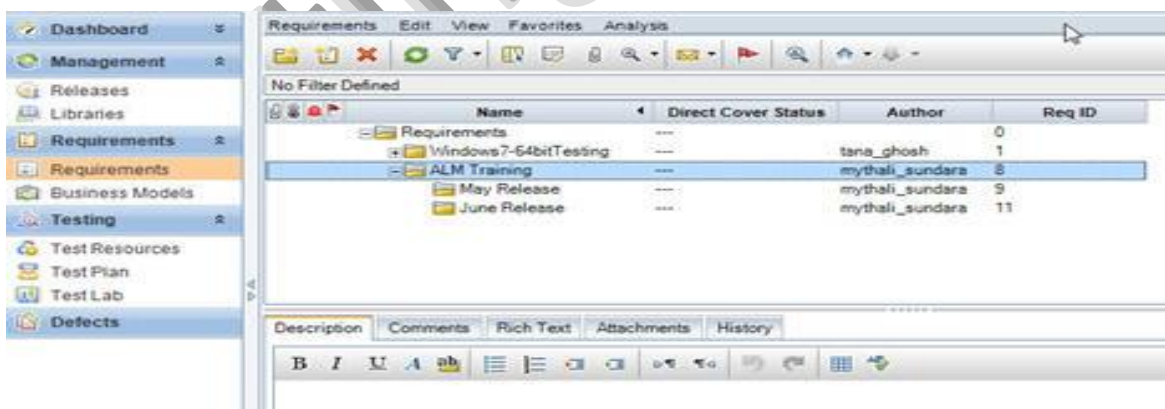
**Step #1:** Go to “Requirements->Requirements” option from the ALM sidebar.



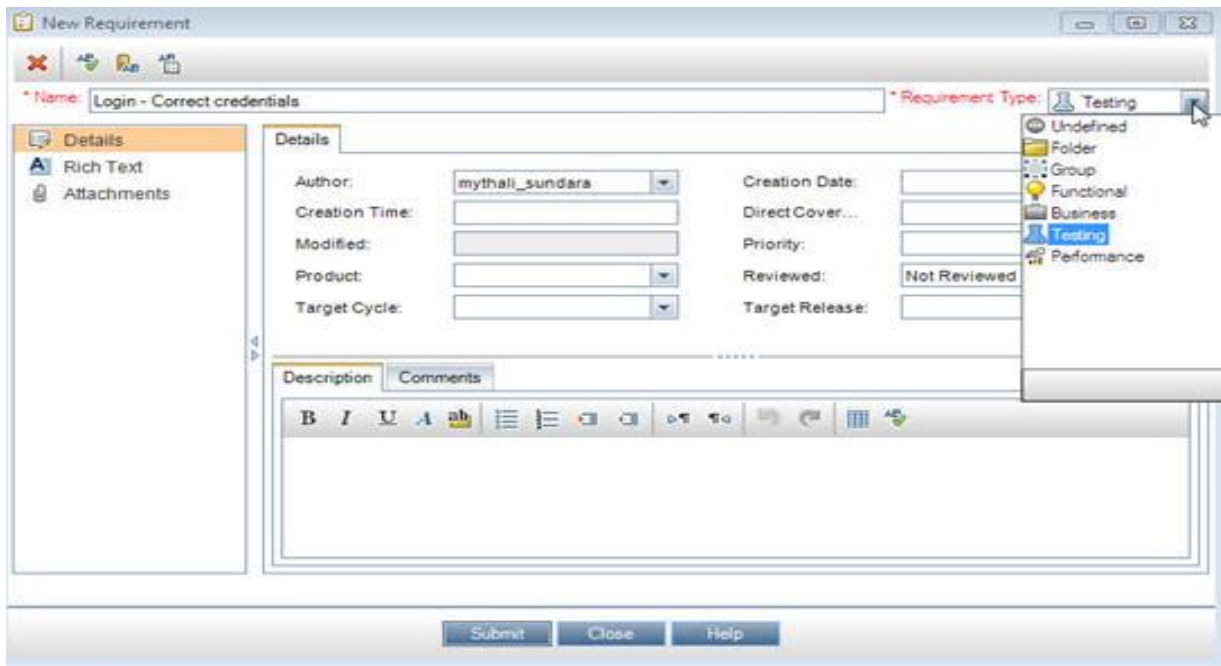
**Step #2:** Create new requirement folder. For consistency I am going to go with the name, ALM training- May release and June Release subfolders. Enter the name and click OK.



**Step #3:** Once created, you can choose in the tree folder structure and add additional properties.

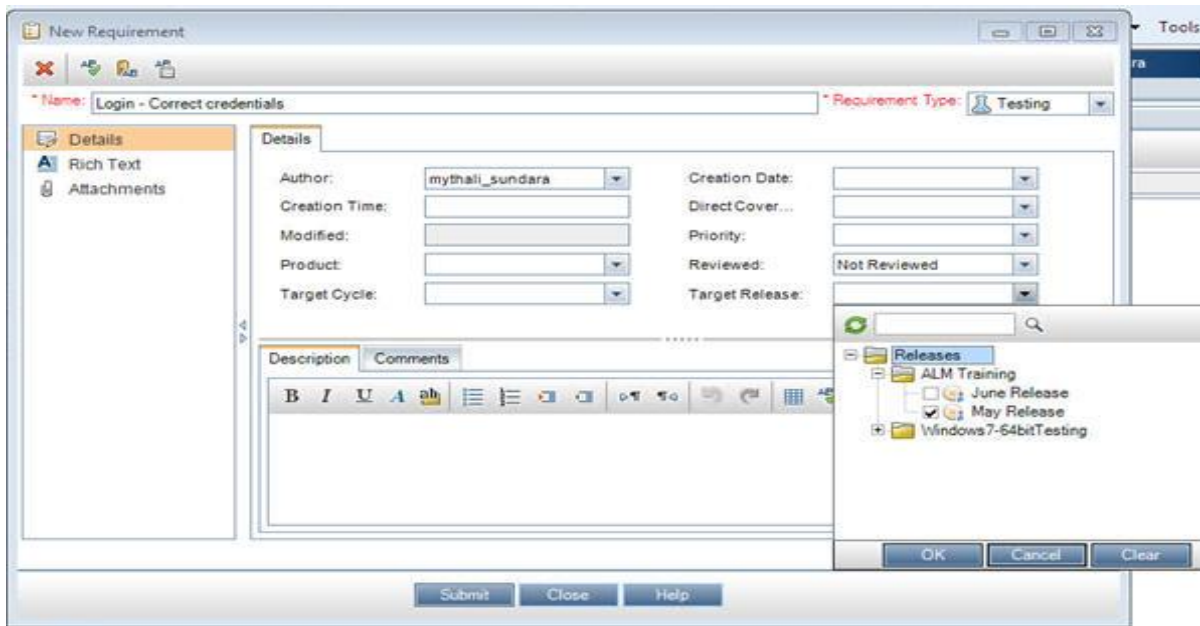


**Step #4:** Adding Requirements: Click on “New Requirement” icon from the menu while choosing the folder under which you want to add the requirement. The author name gets auto-populated. Enter the name and choose the relevant requirement type from the drop down. I am going to choose “Testing”.

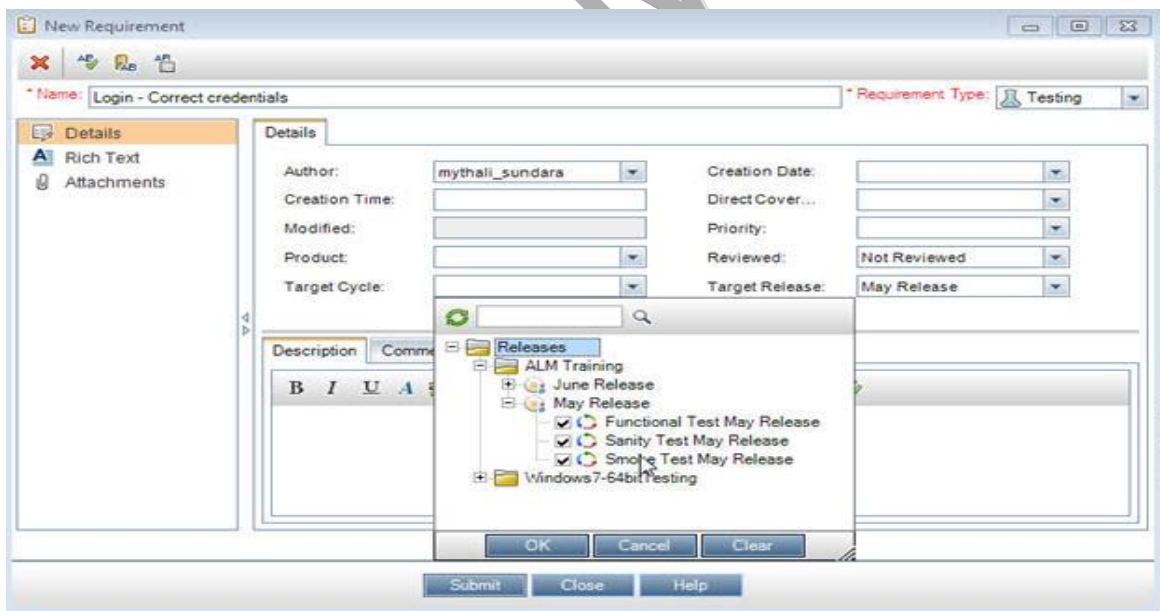


**Step #5:** Link the requirement to a cycle and release: Once you have added the requirement name and other details, you can now link it to any release and cycles as desired. You can do that by clicking on the “Target Release” drop down and selecting the release information.

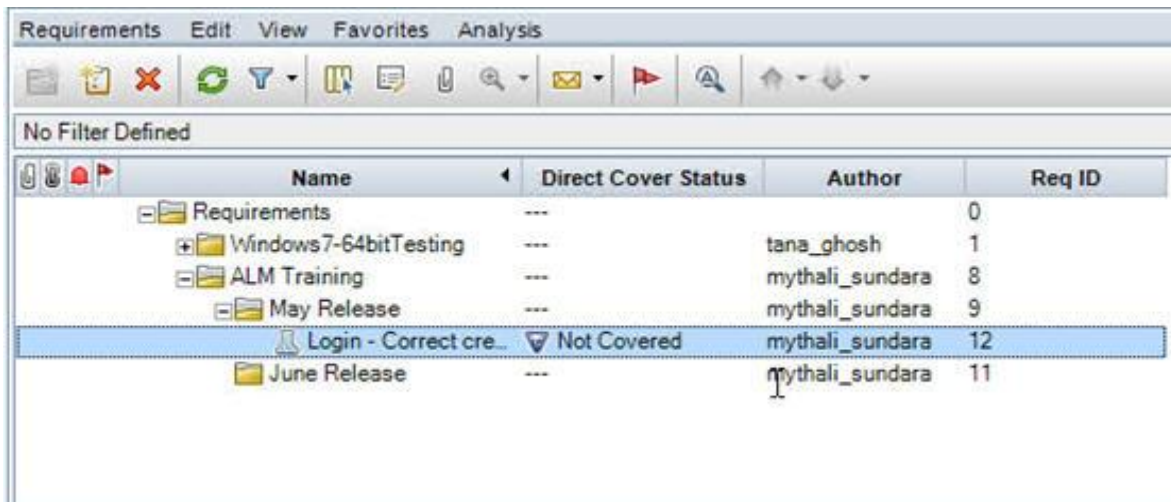
Note: You can associate a requirement with more than one release.



**Step #6:** To choose the Cycle. Click on “Target Cycle” drop down and choose the required Cycle.

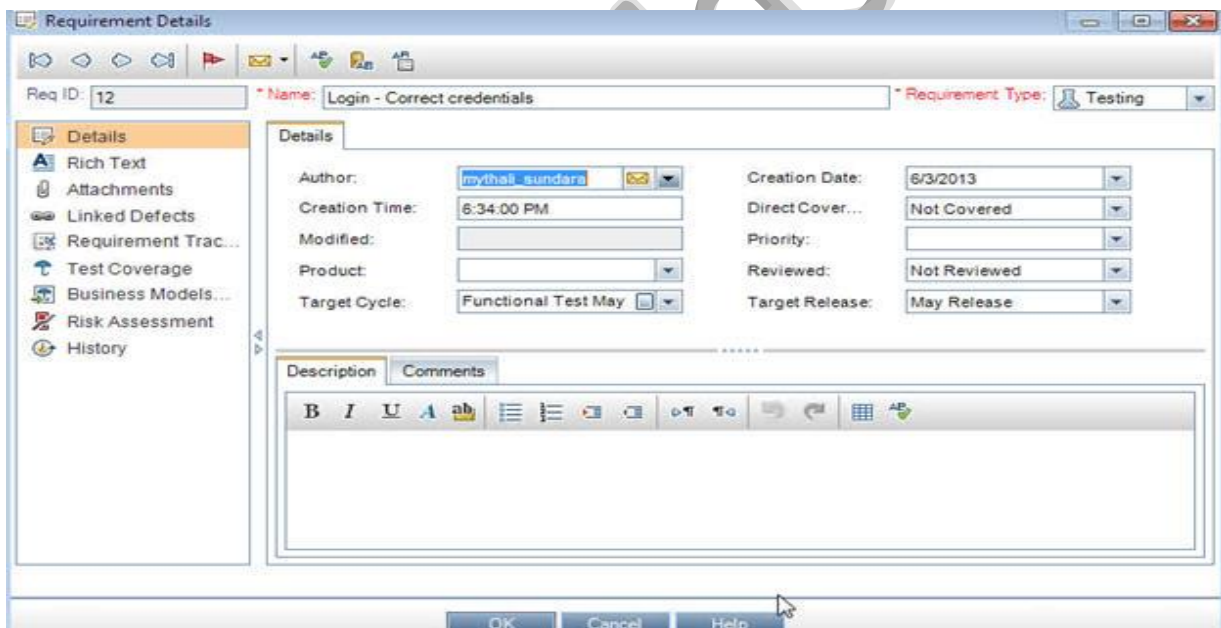


**Step #7:** You can then assign additional details like the priority, provide attachments and other details before you Submit. The requirement gets added.



Name	Direct Cover Status	Author	Req ID
Requirements	---		0
Windows7-64bitTesting	---	tana_ghosh	1
ALM Training	---	mythali_sundara	8
May Release	---	mythali_sundara	9
Login - Correct cre...	Not Covered	mythali_sundara	12
June Release	---	mythali_sundara	11

**Step #8:** If you need to modify or update the requirement you can do so, by double clicking from the tree view. The following window opens up:



Req ID: 12    \* Name: Login - Correct credentials    \* Requirement Type: Testing

Author:	mythali_sundara	Creation Date:	6/3/2013
Creation Time:	6:34:00 PM	Direct Cover...	Not Covered
Modified:		Priority:	
Product:		Reviewed:	Not Reviewed
Target Cycle:	Functional Test May	Target Release:	May Release

Description    Comments

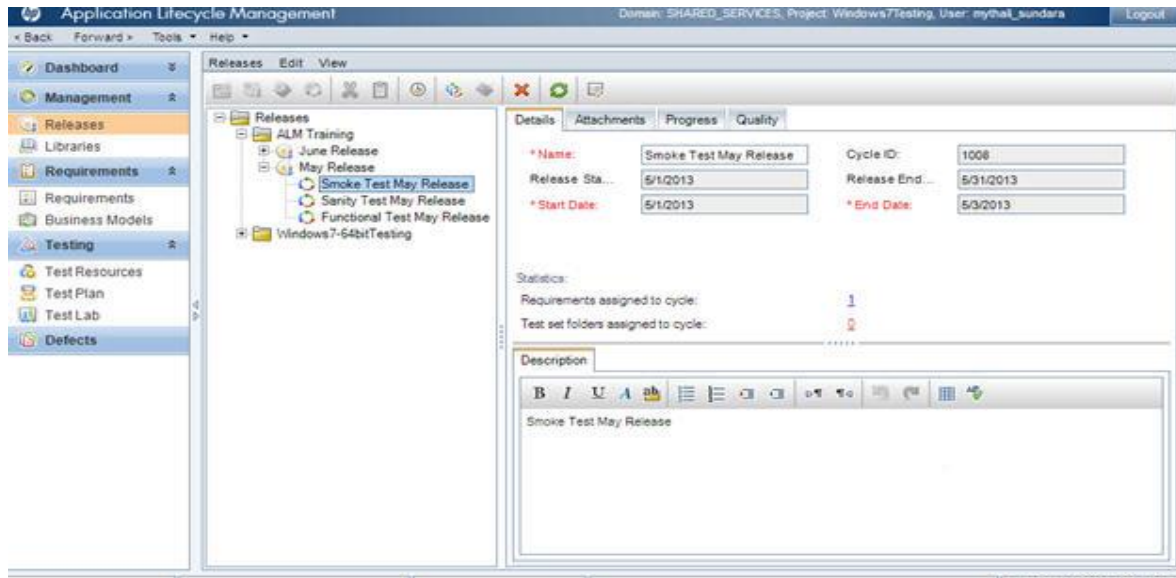
Rich Text Editor toolbar: B I U A ab [List icons]

Buttons: OK Cancel Help

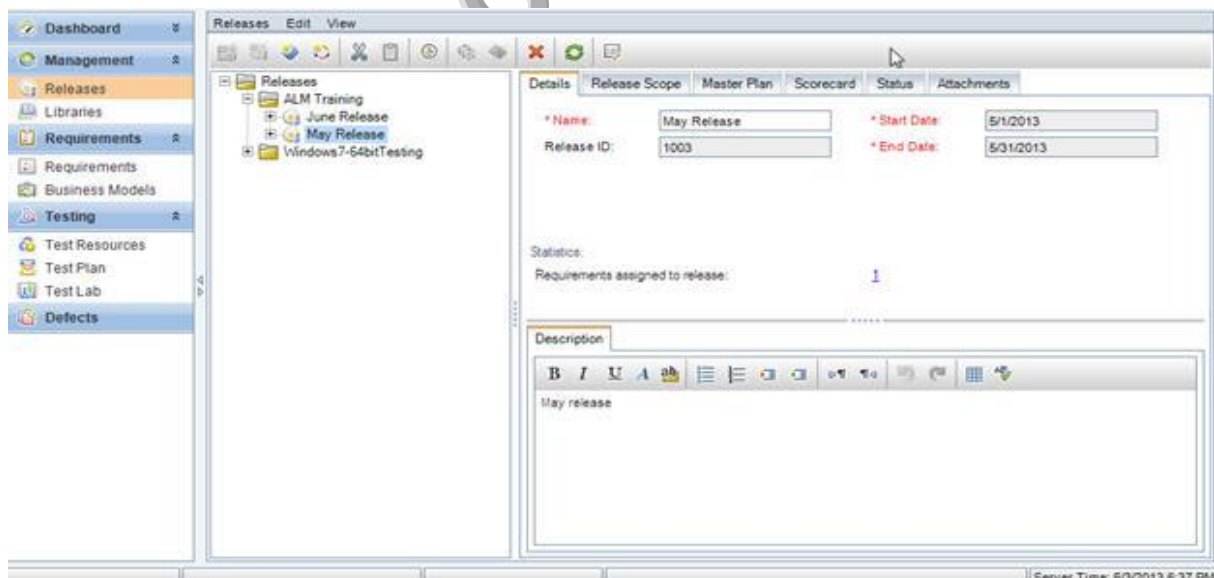
**Step #9:** For every requirement a 'Req. ID' gets auto generated. In this case, it is "12".

## Requirements and Release Statistics:

- 1) Navigate back to “Management->Releases” from the sidebar.
- 2) Select one of the cycles we added earlier. Notice the properties:



- 3) Notice the statistics section, it shows “1” for the “Requirements assigned to cycle”. It now clearly indicates how many requirements are associated to this cycle.
- 4) Same thing with the Release. Hit the refresh button if the statistics don’t get updated immediately.



## Test Plan tab in ALM

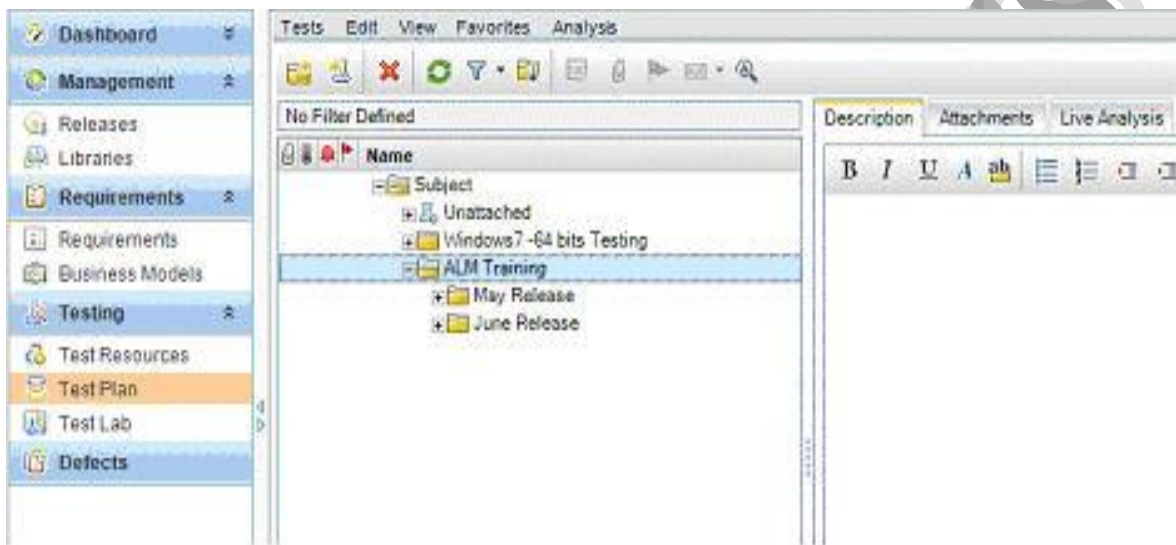


**Steps to create test cases under Test Plan tab:**

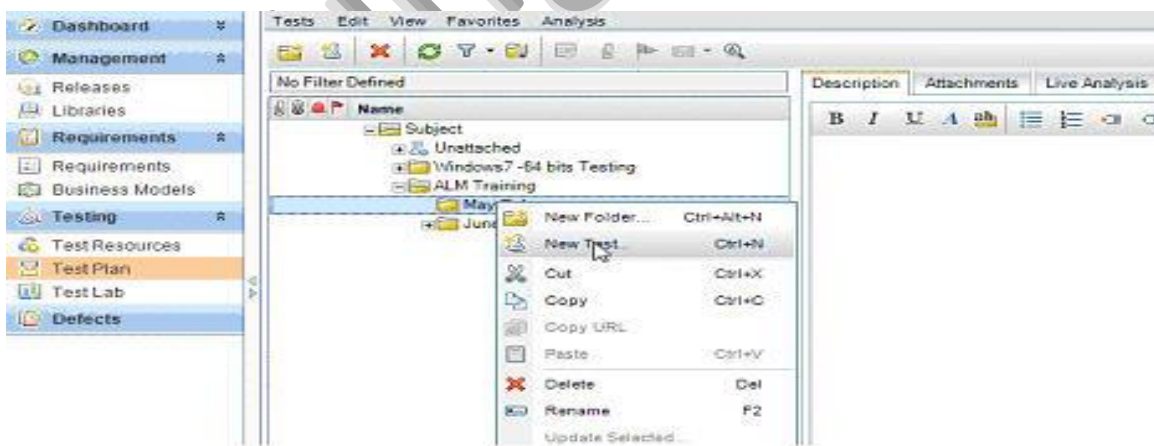
**Step #1:** Login to ALM into the right project. Create the release, cycles and requirements as described in the previous tutorials.

**Step #2:** Go to the Test Plan tab by choosing “Testing->Test Plan” from the side bar.

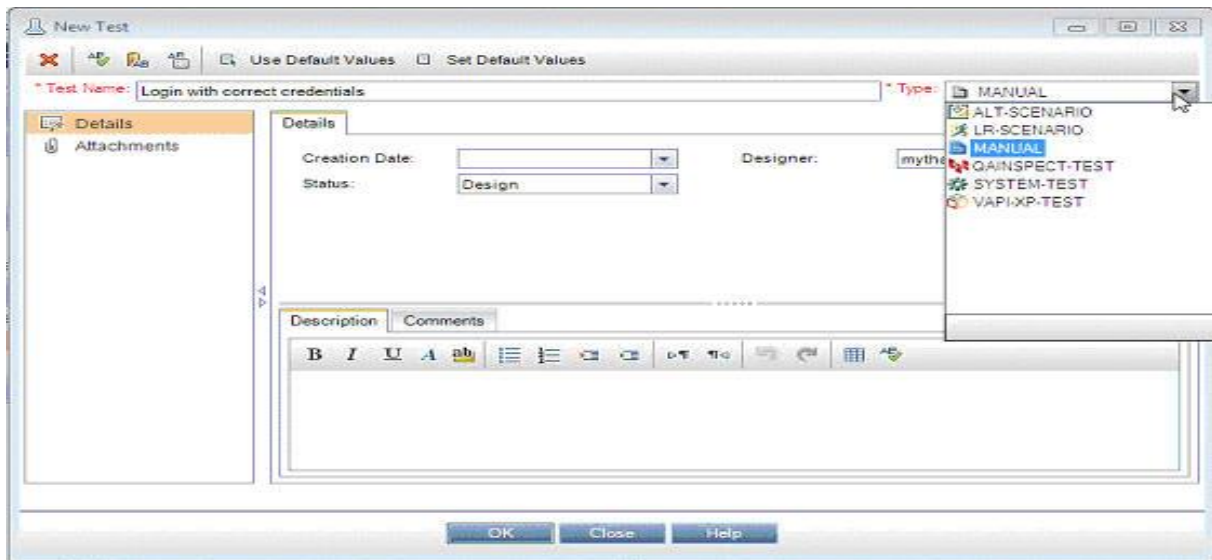
**Step #3:** Choose “Subject” as your home folder and create a sub folder “ALM training” under it. I am going to create “May Release” and “June Release” Sub folders under it.



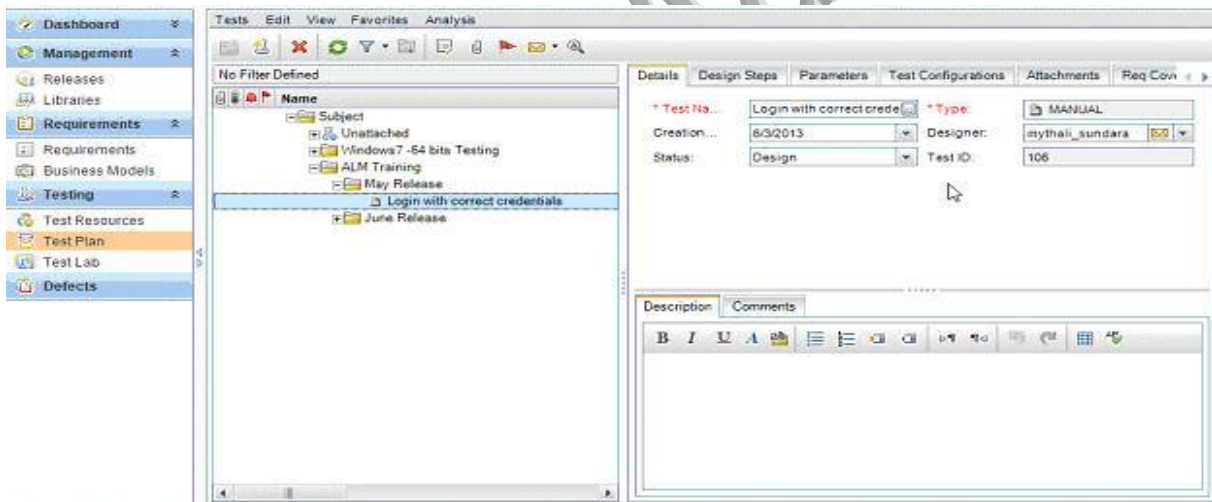
**Step #4:** Go to May Release folder and choose the option to create a new test.



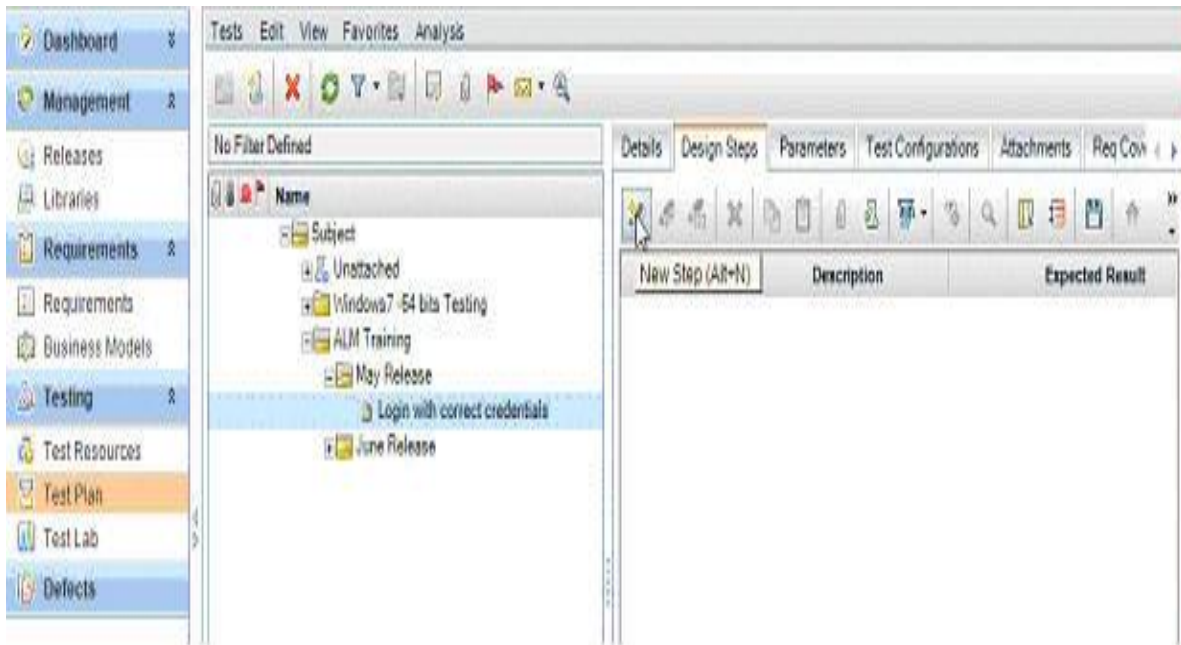
**Step #5:** Enter name and then choose the “type”. Choose “manual” for our tutorial.



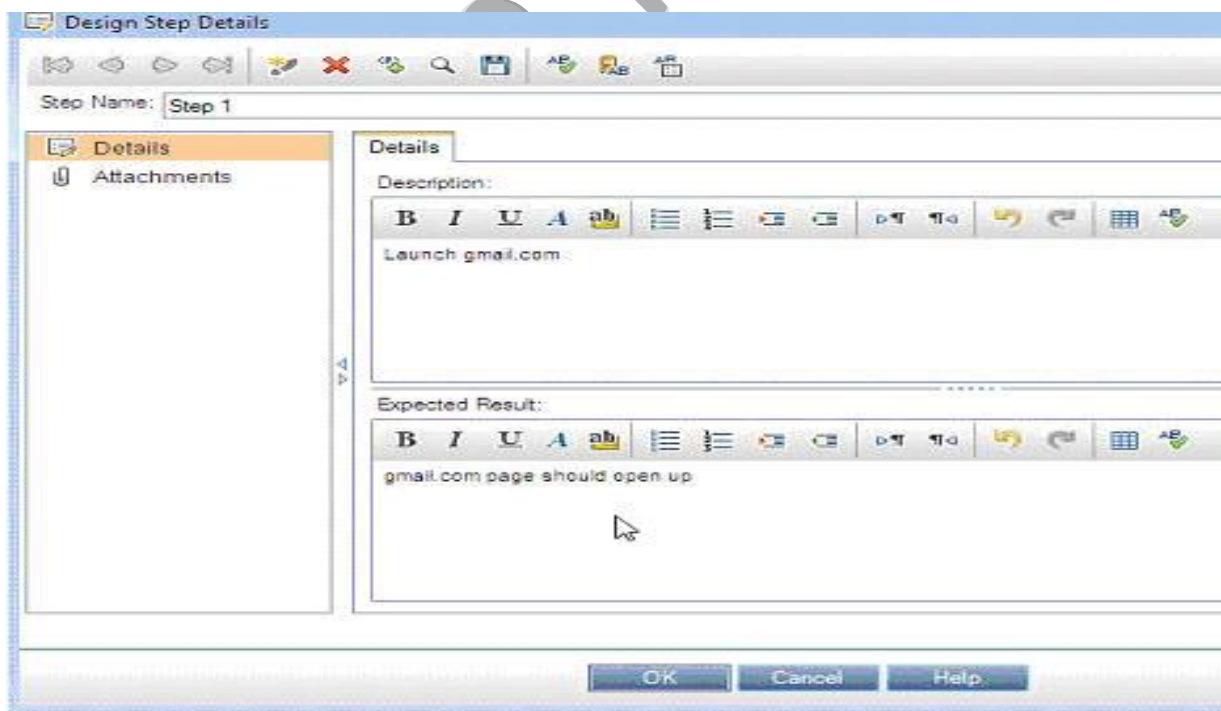
**Step #6:** Enter the other details. The designer name will be auto populated based on your login credentials. Click OK. The test gets added.



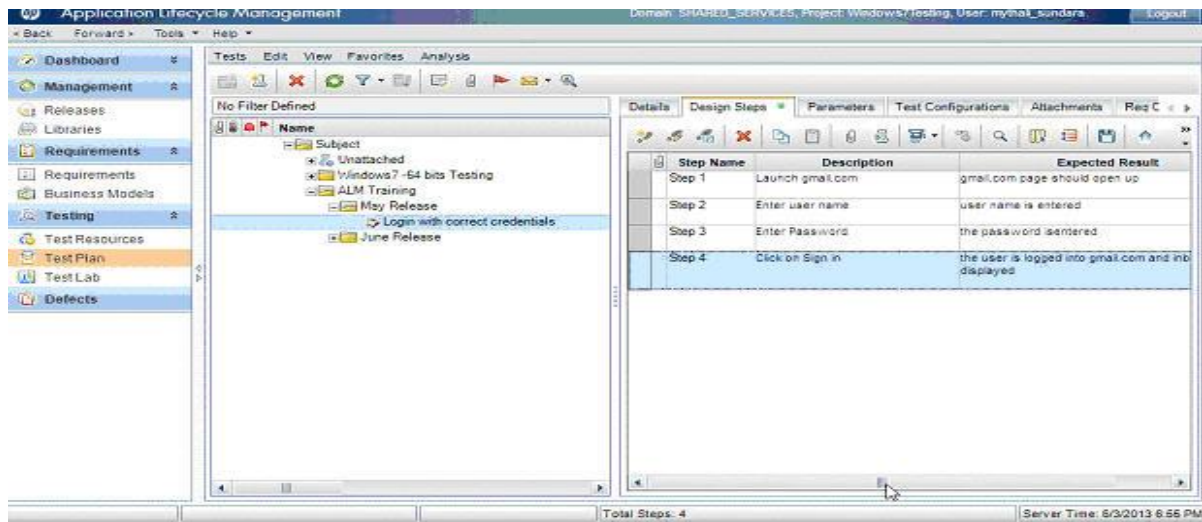
**Step #7:** Now you can add your steps. Click on the “Design Steps” tab. Click on “New Step” icon.



**Step #8:** Enter the step details. The description and Expected Results fields come up complete text editing features that are self explanatory.

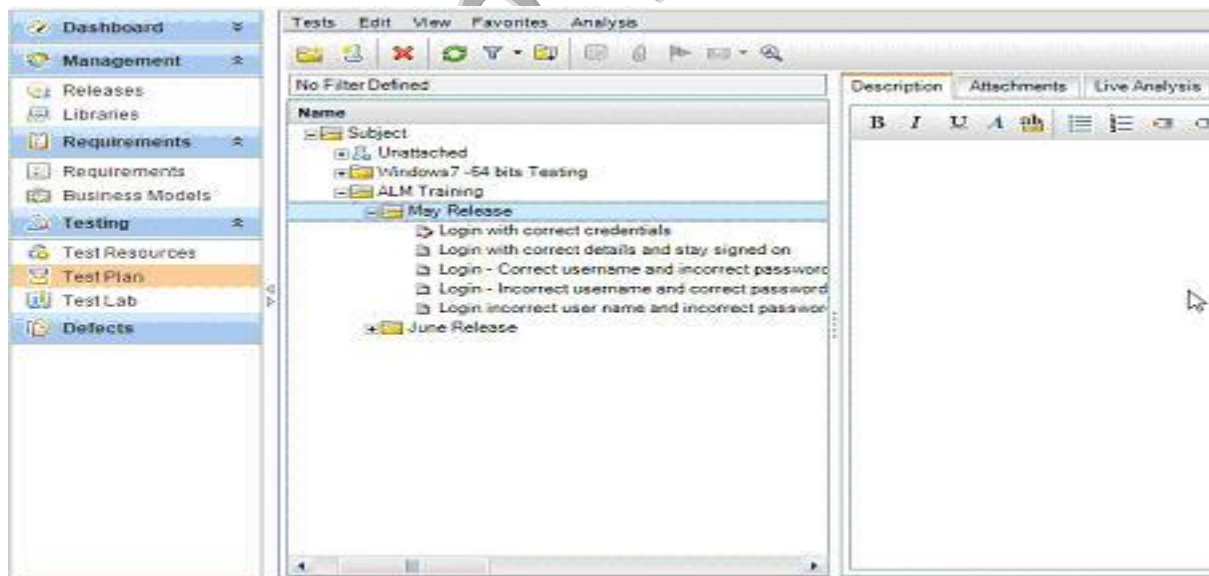


**Step #9:** I am going to create all the steps as shows above. This is how the completed test case looks like:



This completes the process of adding test cases and steps to them.

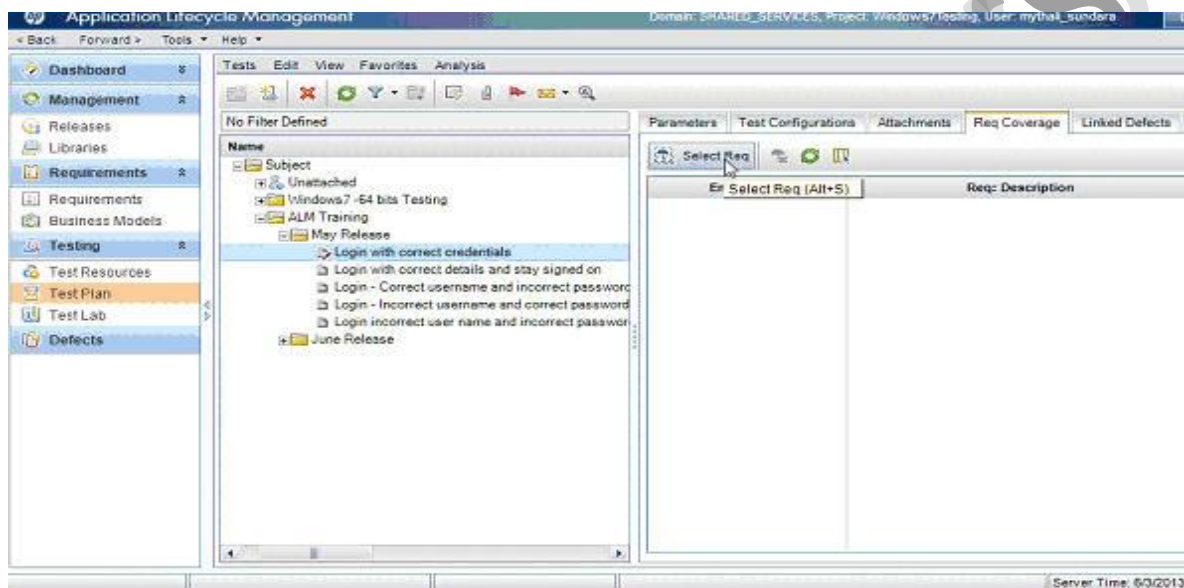
**Step #10:** Under May release I am going to add some more test cases.



## Linking Test Cases to Requirements:

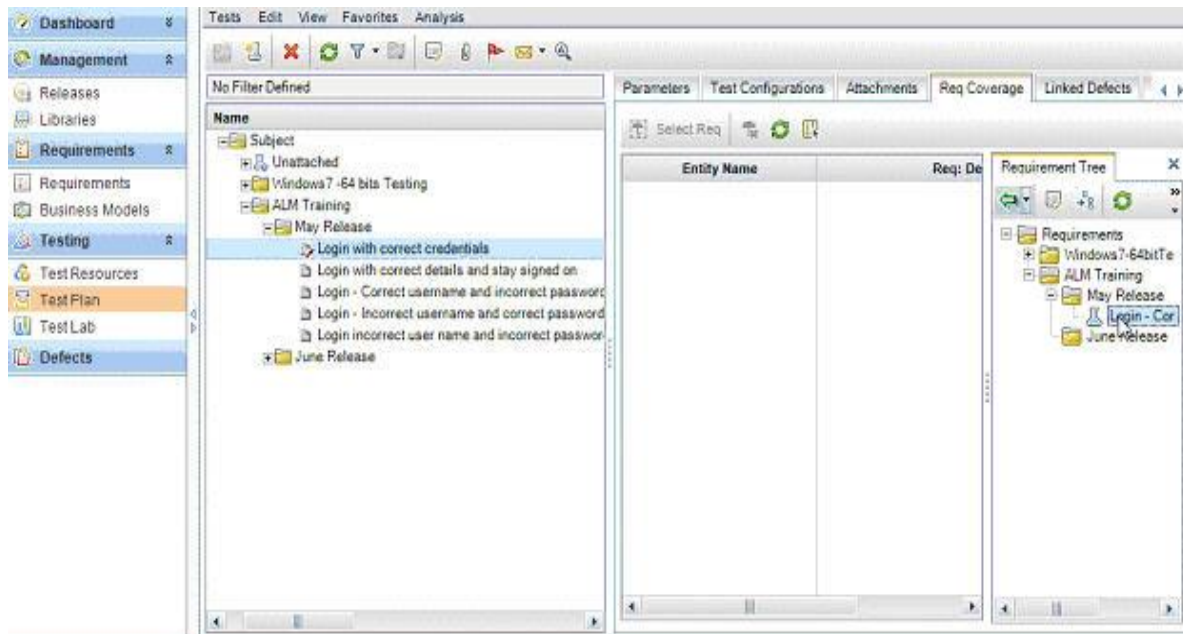
### Steps to link test cases and requirements:

- 1) Select a test case created and click on it. All the properties get displayed in the right hand side tab. Go to "Req coverage" tab and click on "Select Req"

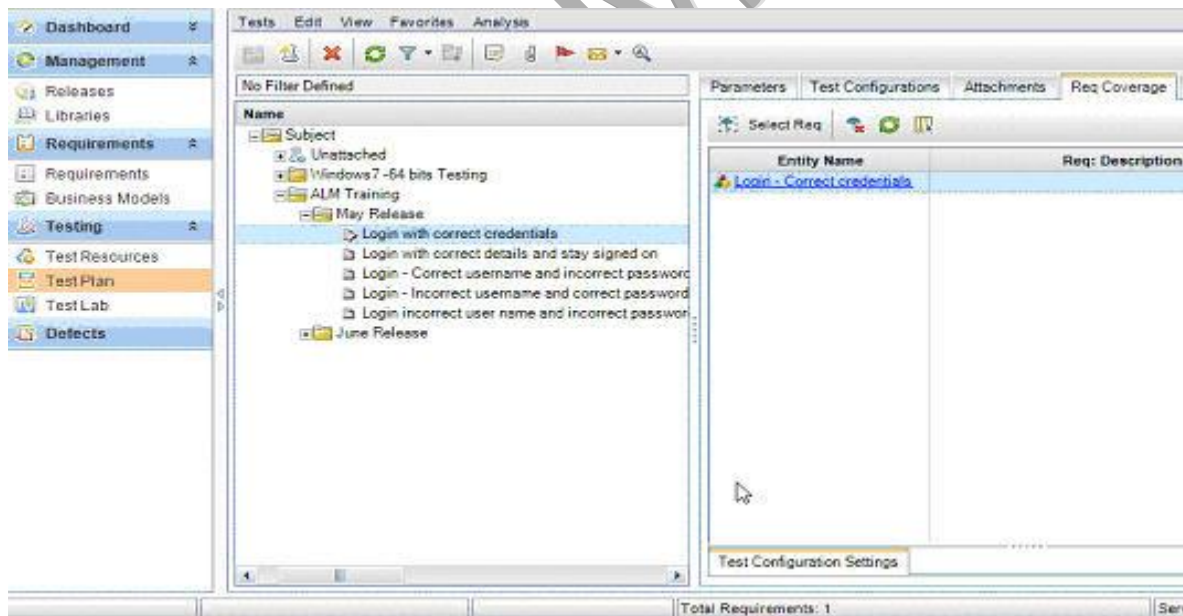


- 2) The requirements tree gets displayed on the side. Expand the tree and select the needed requirements.

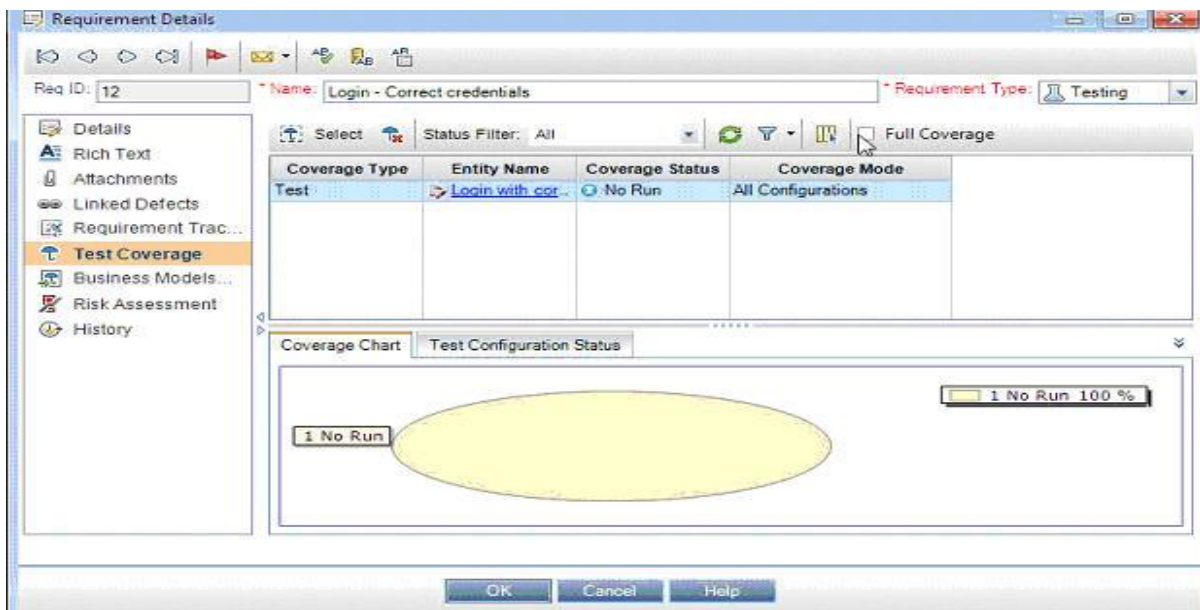




3) Once done, close the requirement tree. You can link a test case to as many requirements as you would like. This is how the added requirement looks.



4) Let us now check, how this mapping effects the requirement. Go to Requirements tab from the side bar. Double click on the requirement that you just mapped and notice the “Test Coverage” details:



You see how the test details and it's the test's status is displayed. Since this test was just created and never run, the coverage status shows as "No Run". Let us now move on in our tutorial and learn how to run a test.

## Test Lab tab in ALM:

Imagine we have just begun the May release testing phase. The first cycle is Smoke test. We are not going to execute all the test cases we have.

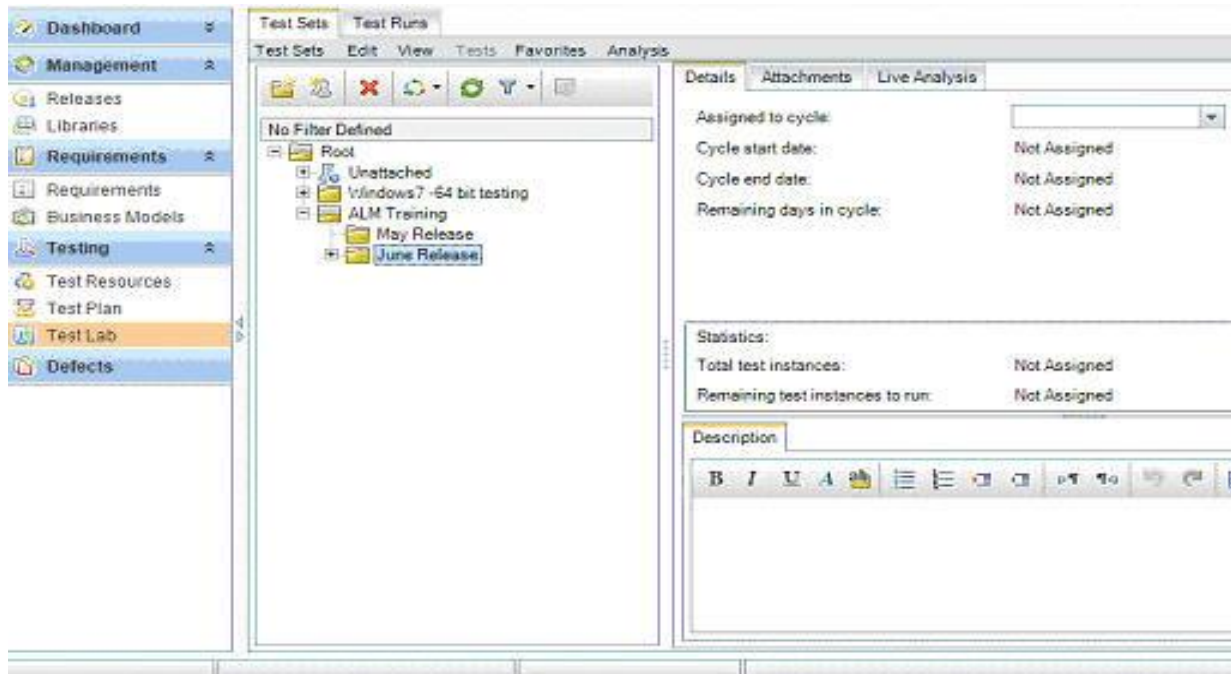
- Briefly, a smoke test is a high level test performed by the QA team on an AUT as soon as the code is deployed to make sure the application did not break. So we are only going to execute test cases 1-a and 2-c.
- Similarly for sanity testing, which is checking the key functionality of the AUT. We will execute 1-a, 1-b and 2-e
- Functional testing is everything.

Test lab tab will help us create test sets that contain the test cases that we need to execute in each phase. This is where the tester can execute the tests and record the test results. Let's see how.

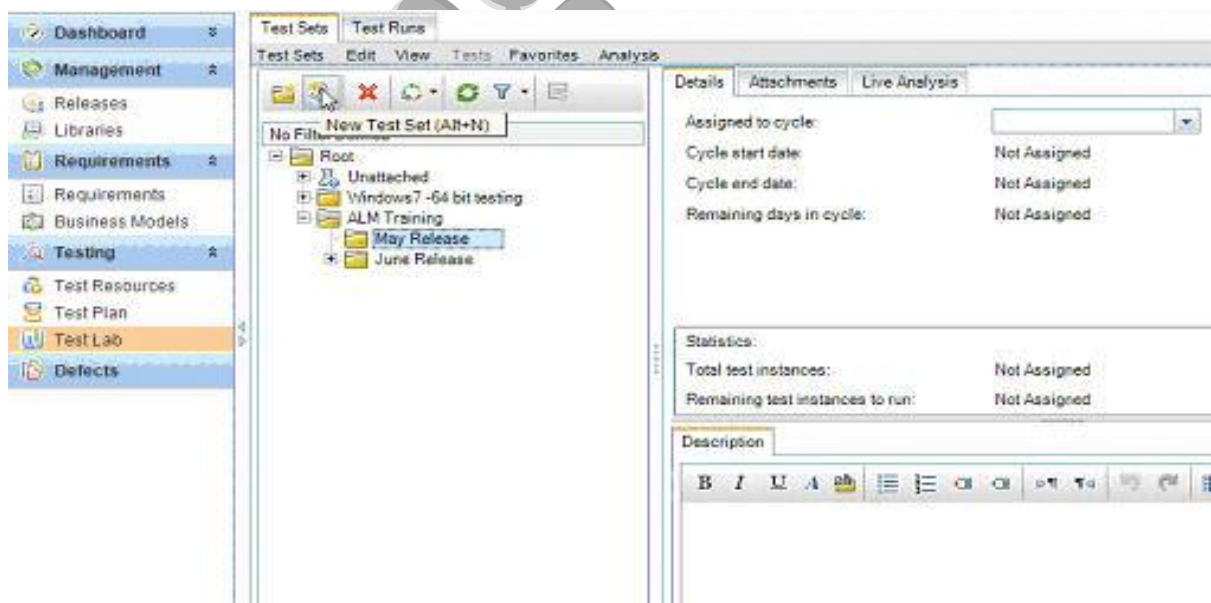
## Steps to create test suites in Quality Center:

## ALM/QC Material

**Step #1:** Go to Test lab tab by navigating from the side bar. Create the folders as shown below:

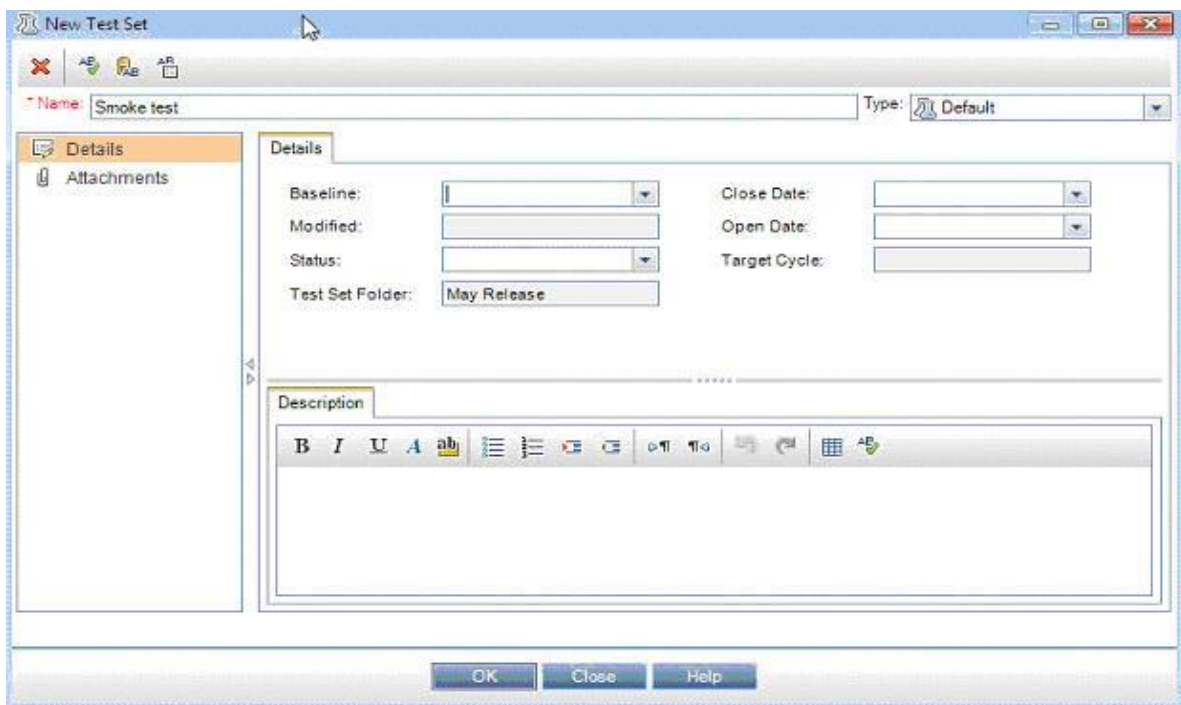


**Step #2:** Under May release, choose the option to create a new test set

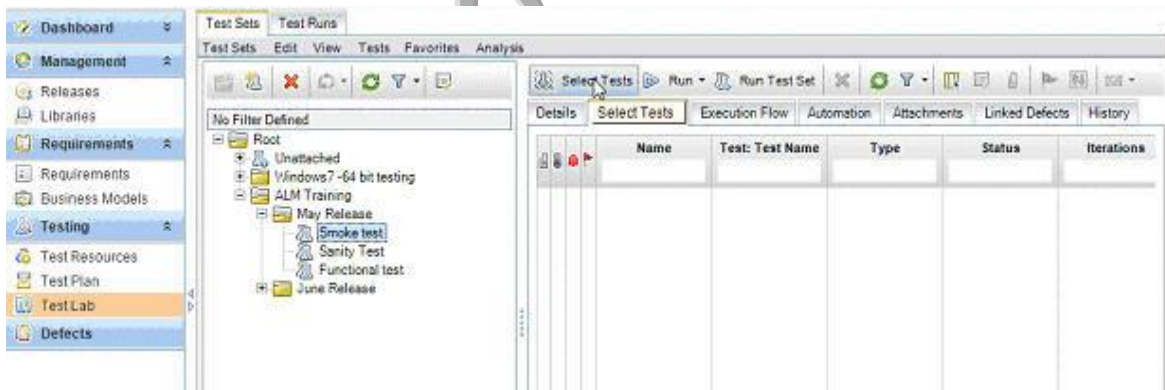


**Step #3:** Enter the test set name. Click OK.

## ALM/QC Material

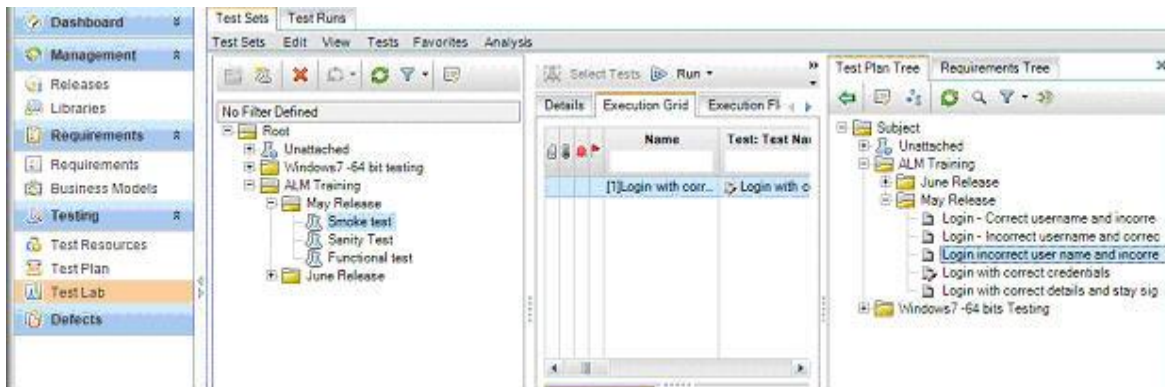


**Step #4:** Once it is created. Click on “Select Tests” from the menu

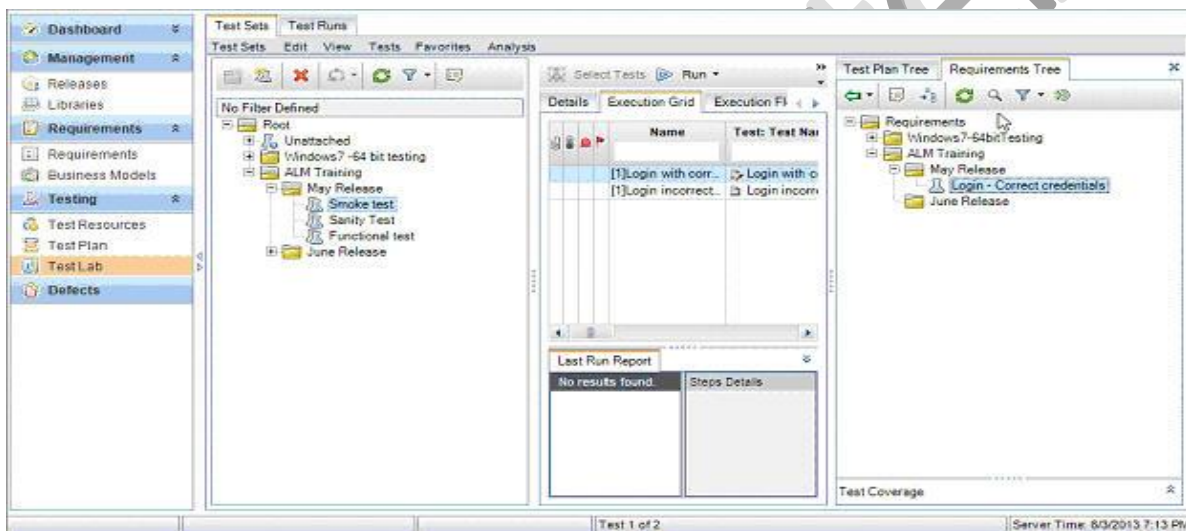


**Step #5:** Select the tests as required





**Step #6:** Alternately if you choose the “Requirements Tree” tab, you can choose requirement and all the tests that are linked to it get added to your test set.

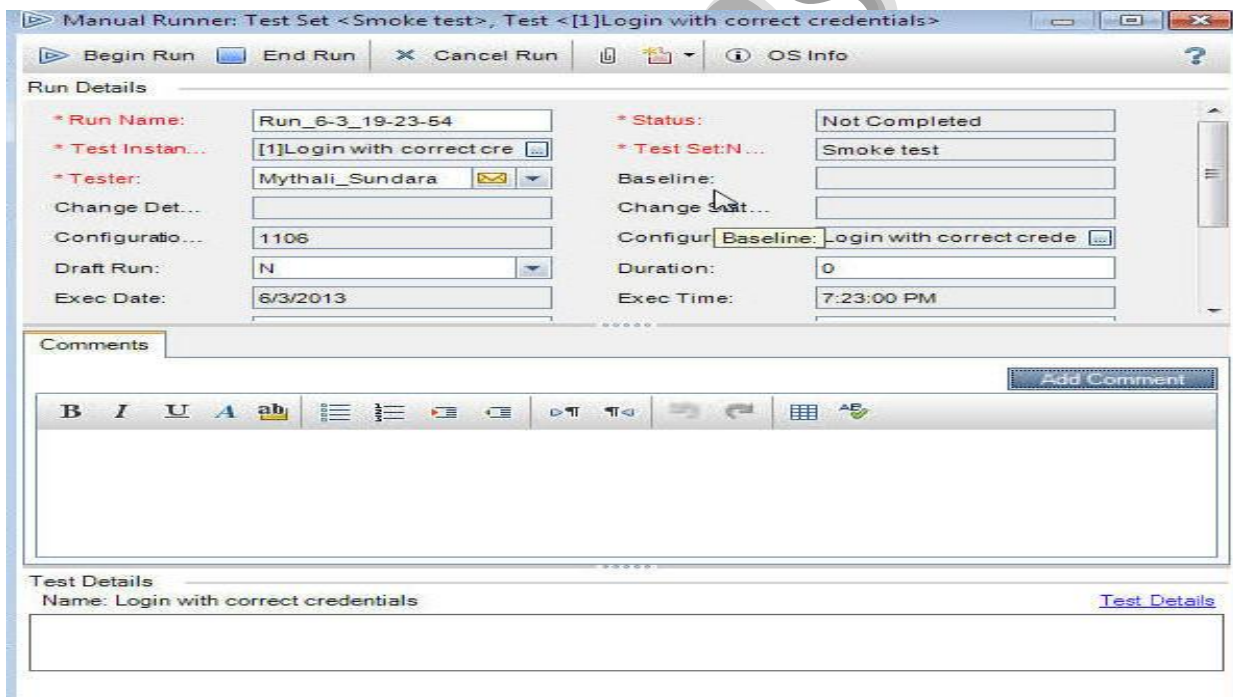
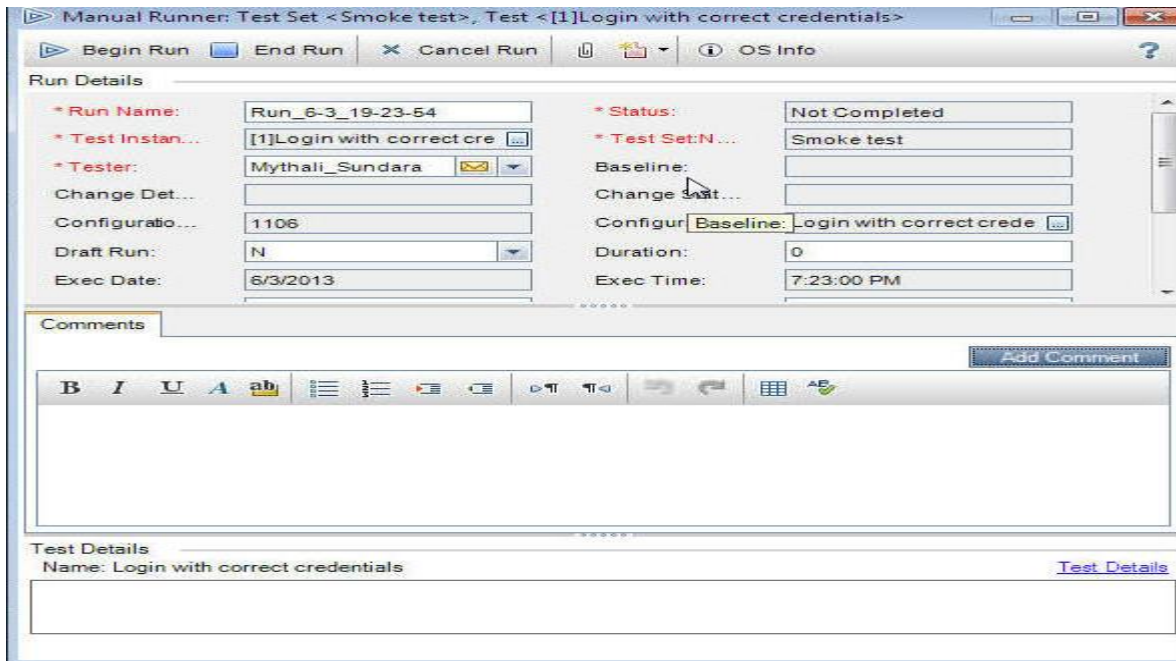


**Step #7:** Go ahead and create all the test sets. As you can see from the above screen shot I have created a test set each for each cycle.

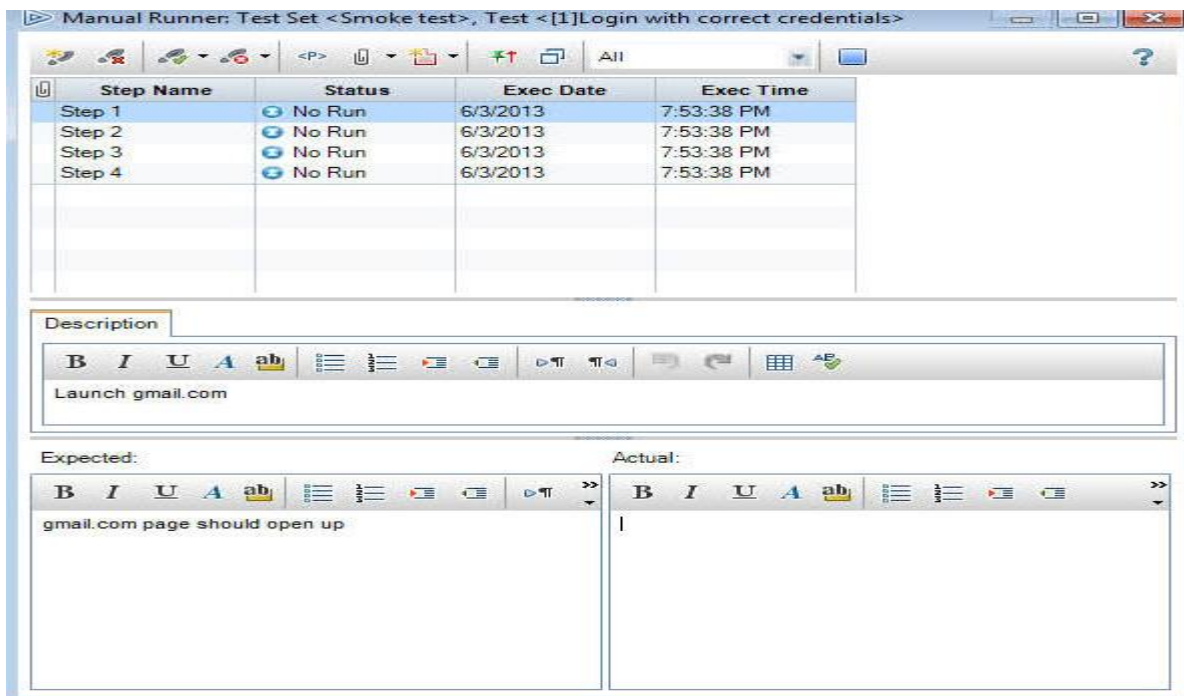
## How to Execute Test Cases Using ALM/QC

**Step #1:** In the Test lab tab, choose the test set that you would like to run and click on “Run Test” or “Run Test Set”. Run Test- will execute the test set selected and the “Run test set” will run the entire set one test after the other until the end. Click on “Being Run

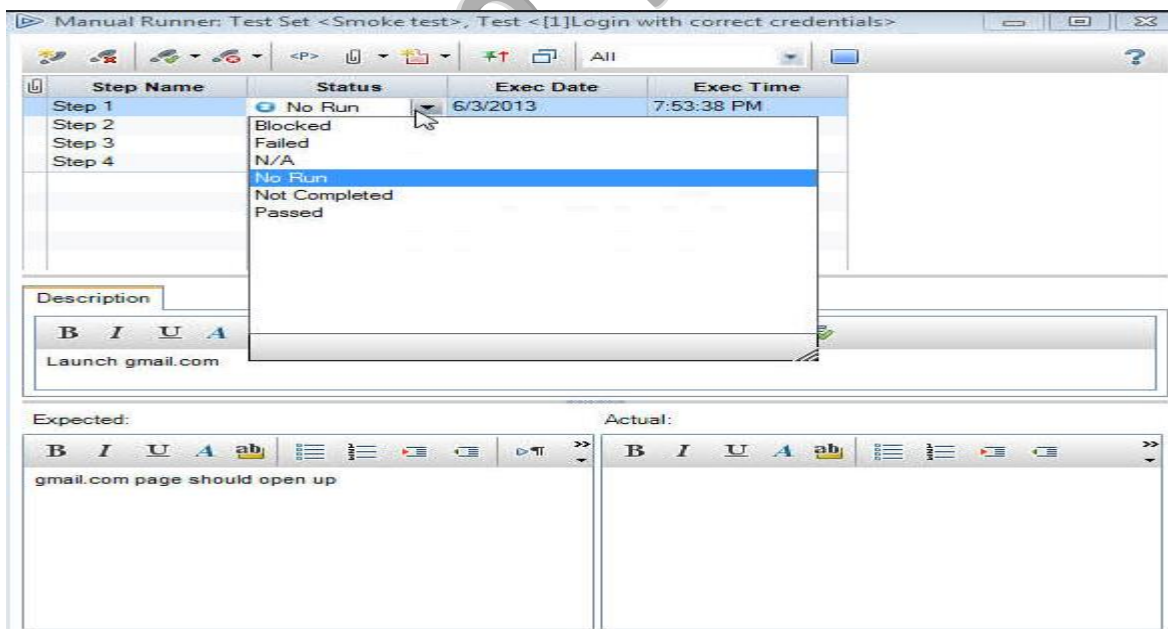




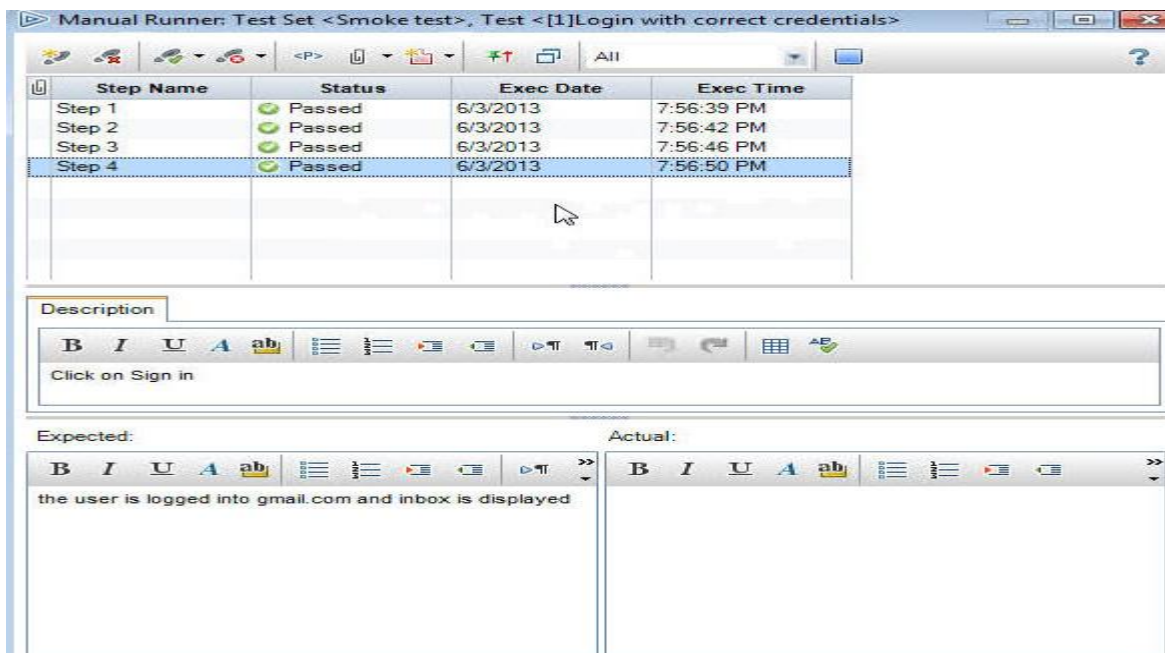
**Step #2:** If it is an automation test and the tool is integrated, then it launches and runs it in the testing tool. In that case it auto populates the test result.



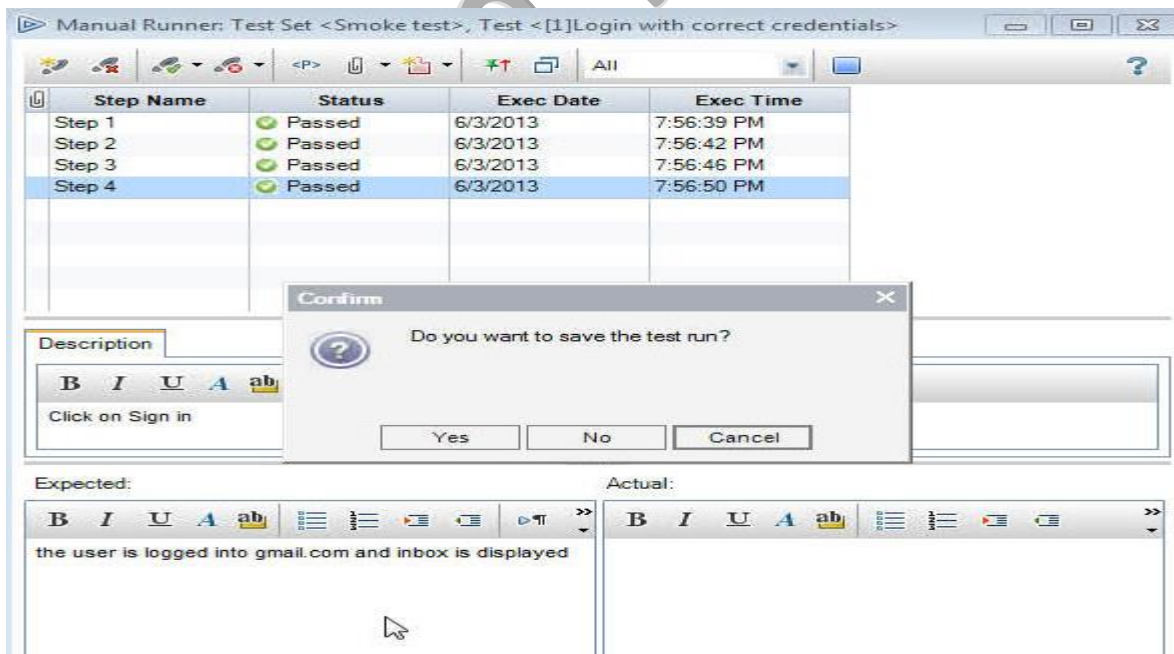
**Step #3:** Since ours is a manual test, we will have to execute the steps manually on our AUT and set the results. Go to the test status field and click on it to set it to a certain value. You can also enter the actual result in the space provided.



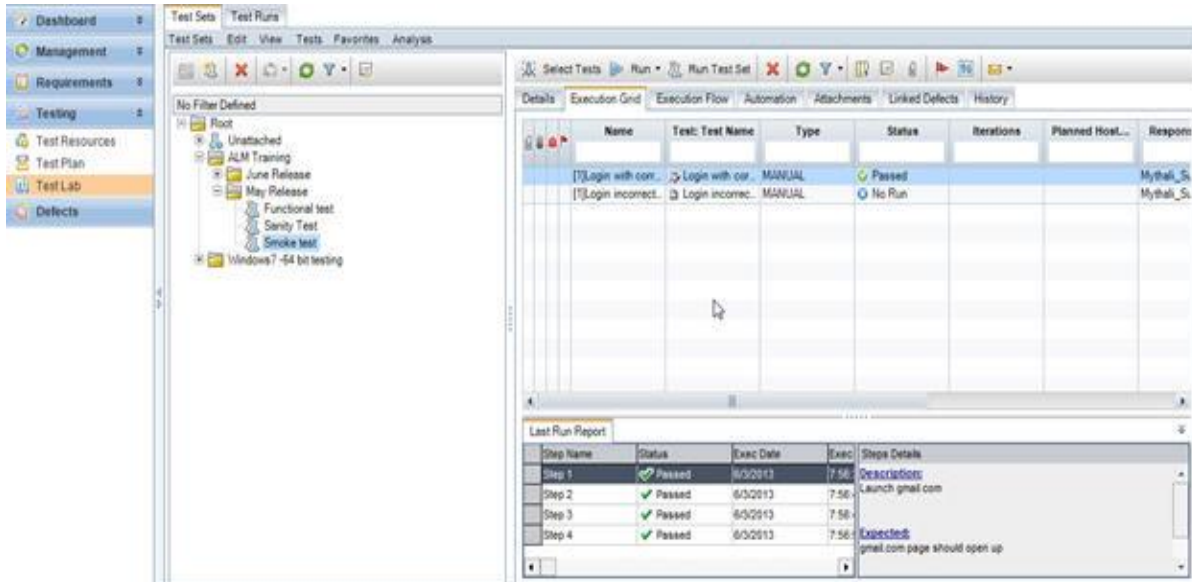
**Step #4:** I am going to choose “Passed”. And am going to do the same for all the steps.



**Step #5:** When done, click on the cross button to the dialog. The following confirmation message is displayed. Click Yes



Step #6: Now you see, the status of the test is marked as passed.



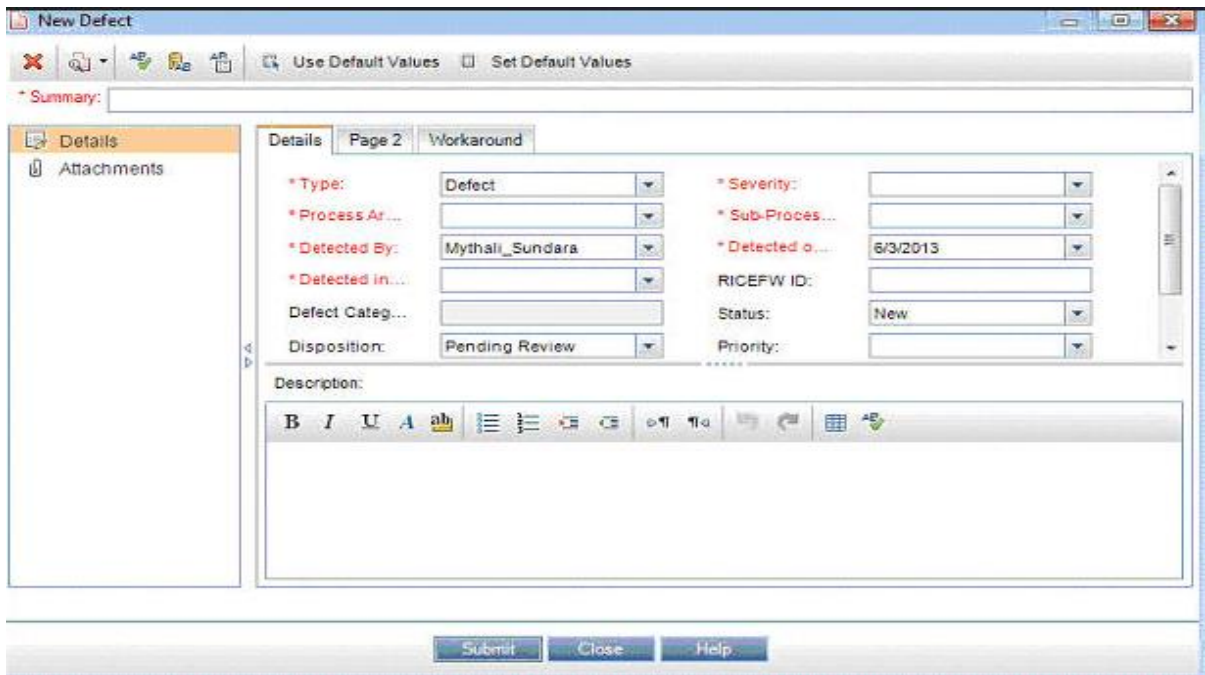
QC has a wonderful mechanism that lets you create and track any kind of defects.

Testing Masters

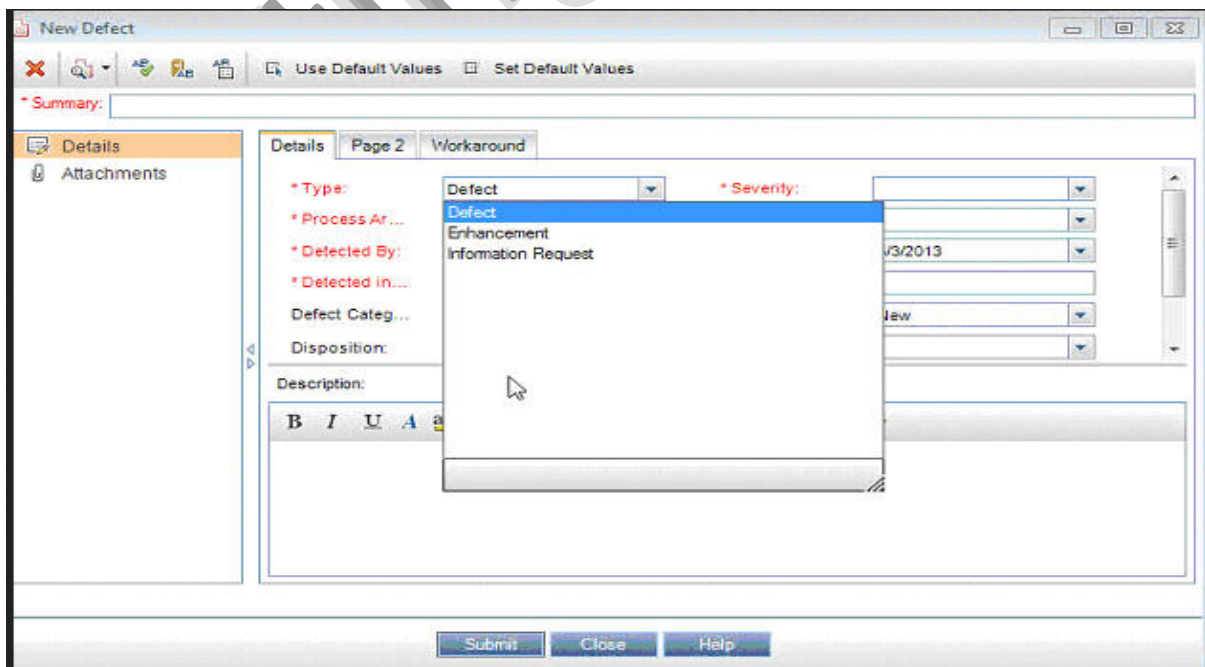
## How to add a defect to ALM

**Step #1:** Login to ALM to the right project and go to “Defects” tab by navigating from the sidebar. The lists of defects under the project are displayed in a list here.

**Step #2:** Click on “New Defect”. Enter the required details. As you can see all the fields in red are mandatory to enter

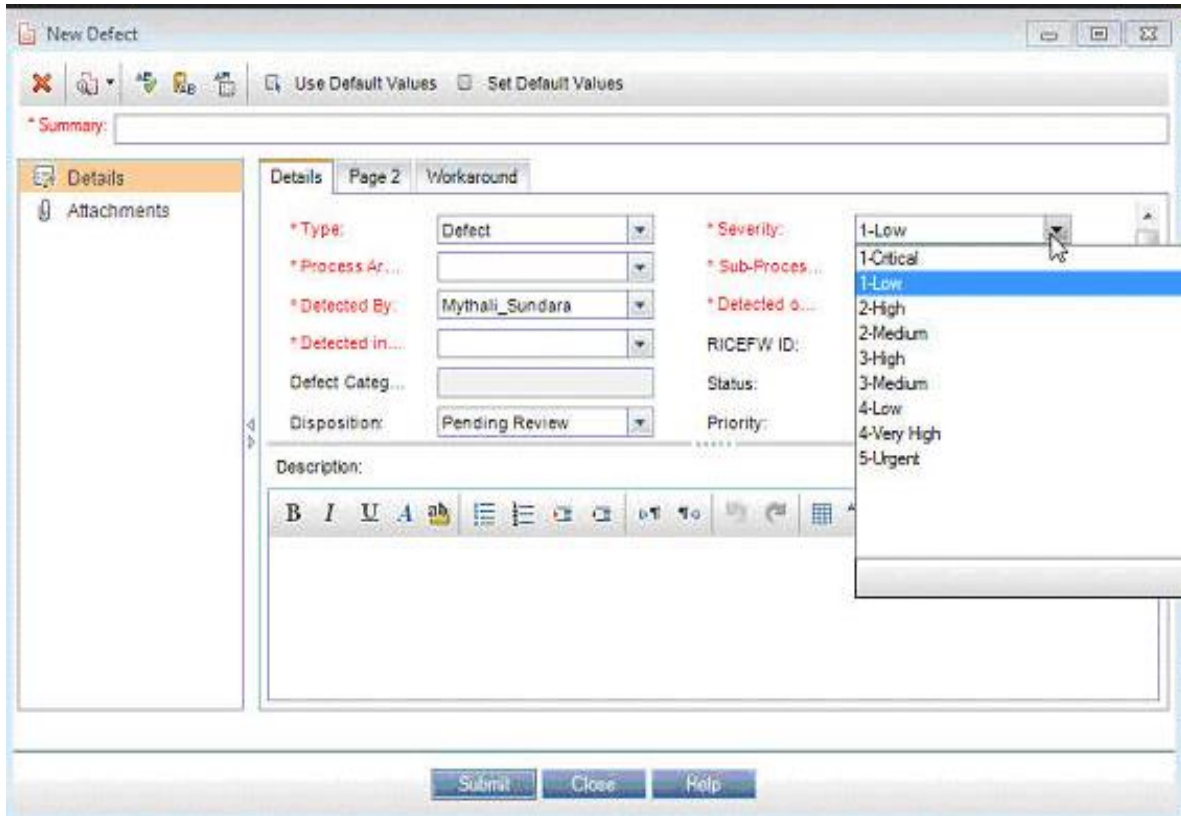


**Step #3:** Choose defect type

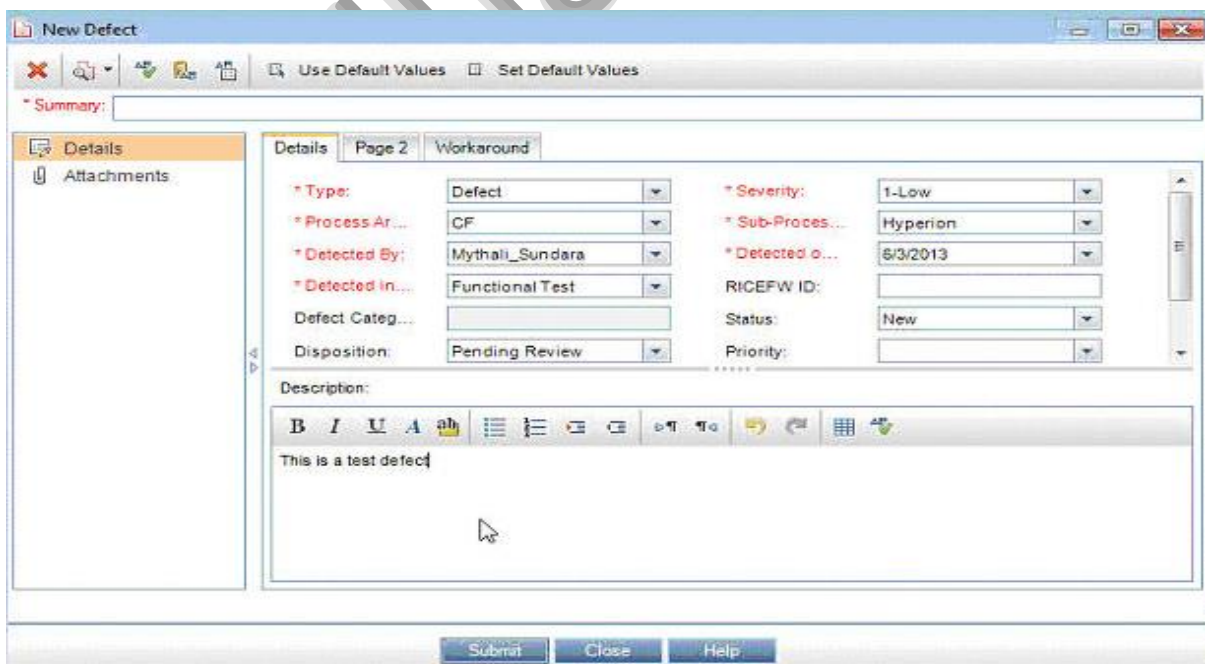




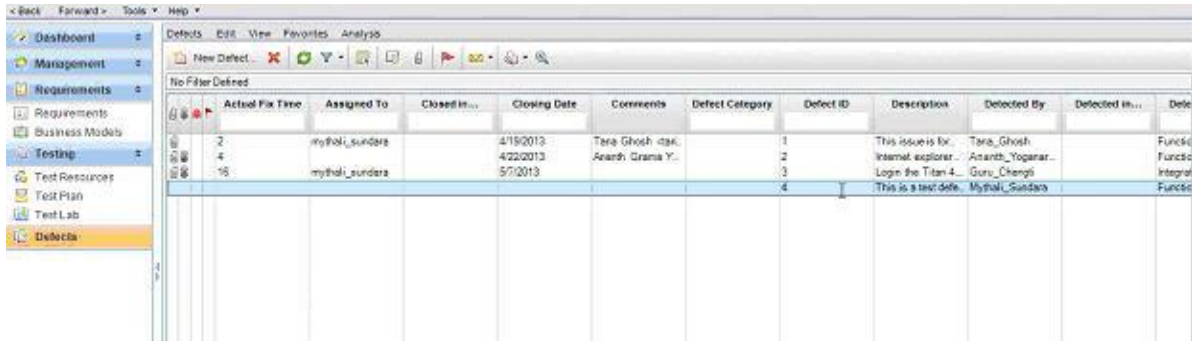
**Step #4:** Choose severity



**Step #5:** Enter other details and describe the defect in the “Description” box.

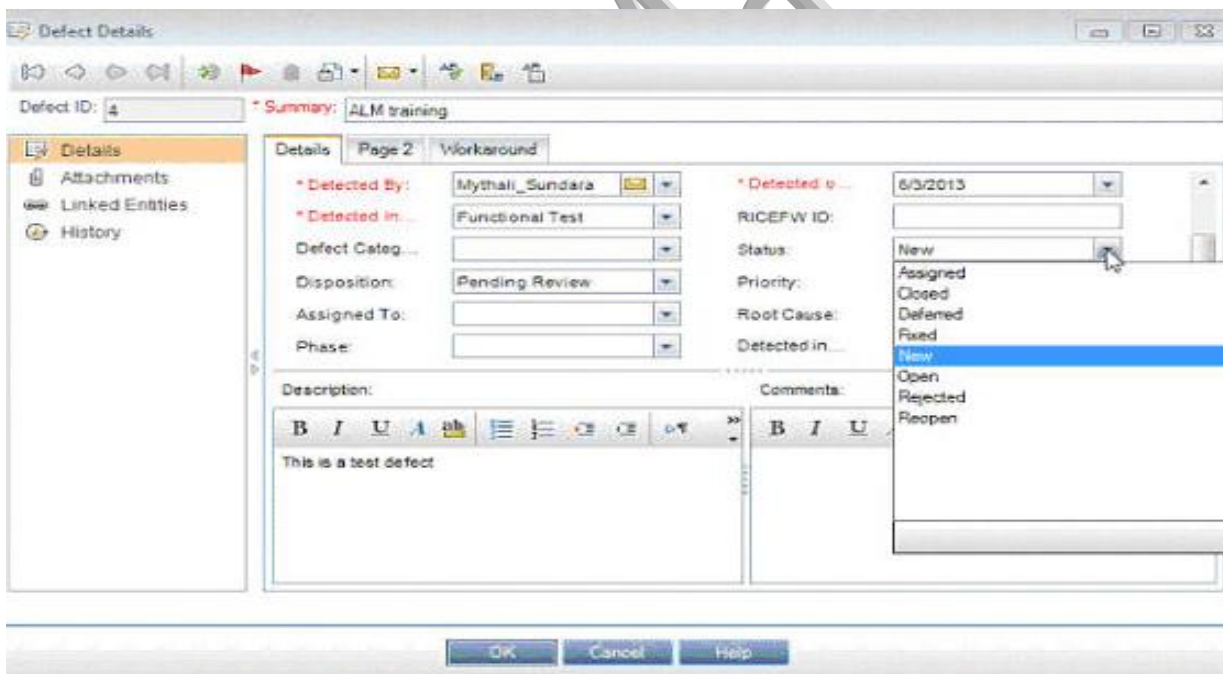


**Step #6:** This defect will now appear in the list. It has a unique ID to be identified with.



Acted Fix Time	Assigned To	Closed In...	Closing Date	Comments	Defect Category	Defect ID	Description	Detected By	Detected in...	Defe
2	mythal_sundara		4/19/2013	Tara Ghosh (tar...	1		This issue is fo...	Tara_Ghosh		Funcio
4	mythal_sundara		4/22/2013	Rearah Grama Y...	2		Internet explorer...	Anantb_Yogana...		Funcio
15	mythal_sundara		5/7/2013		3		Login the Titan 4...	Guru_Chengli		Integrat
						4	This is a test defe...	Mythal_Sundara		Funcio

**Step #7:** You can now change its status.



Defect ID: 4    Summary: ALM training

Details    Page 2    Workaround

\* Detected By: Mythal\_Sundara    \* Detected in...: 6/3/2013

\* Detected in...: Functional Test    RICEFW ID: [ ]

Defect Categ...: [ ]    Status: New

Disposition: Pending Review    Priority: [ ]

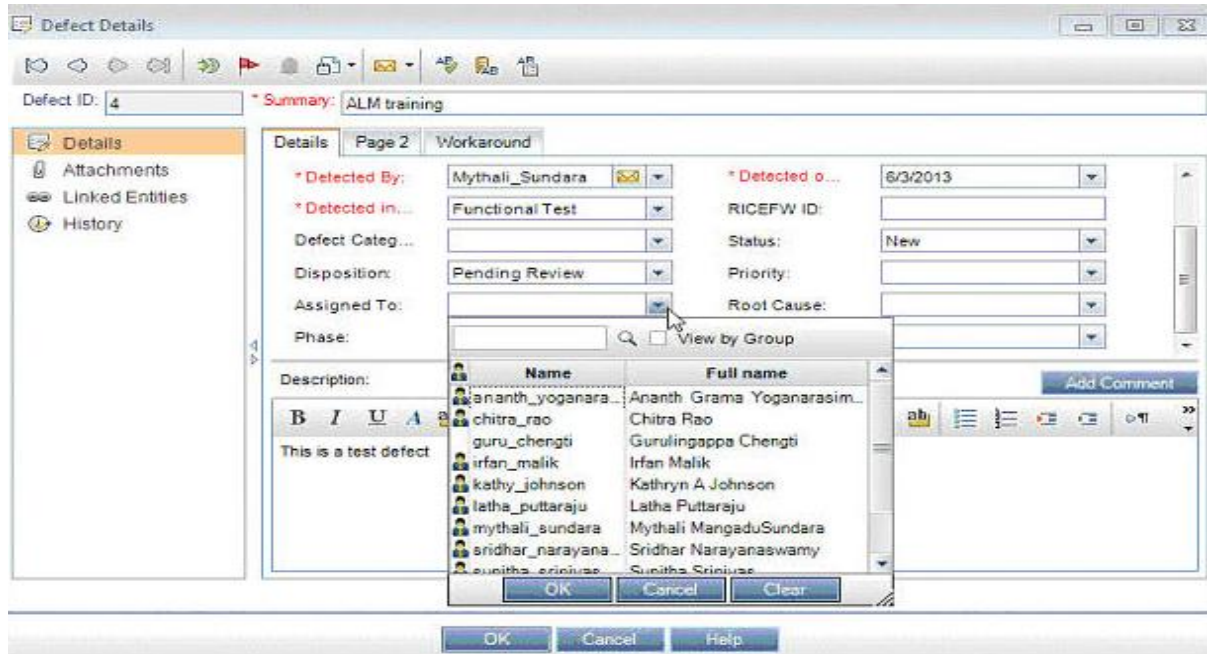
Assigned To: [ ]    Root Cause: [ ]

Phase: [ ]    Detected in...: [ ]

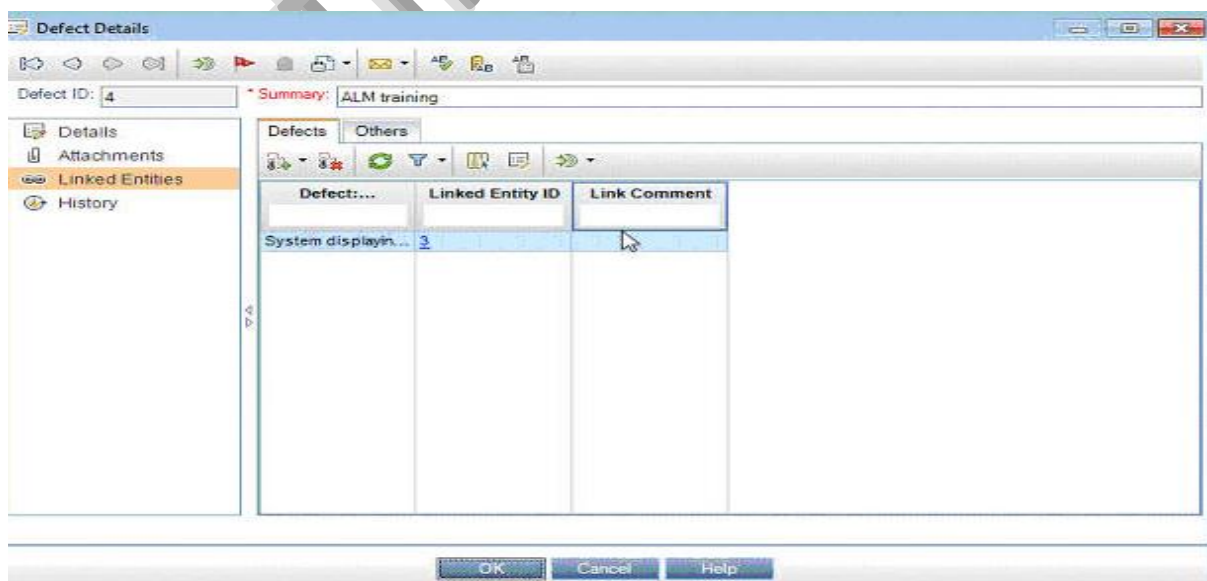
Description: This is a test defect    Comments: [ ]

OK    Cancel    Help

**Step #8:** Assign it to another user:

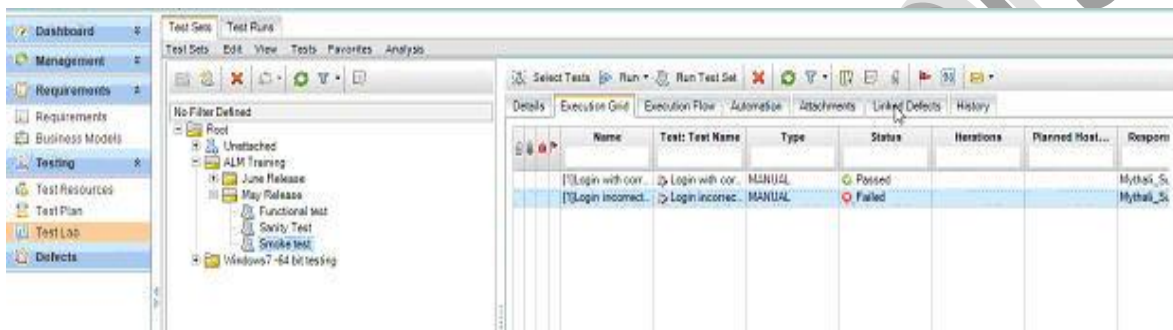



**Step #9:** Or if this defect is linked to any other defect or you can do so, by choosing “Linked Entities” from the left side bar and choose the other defect that is causing or effecting this defect.




## How to link the defect to a test case:

**Step #1:** Go to Test lab tab and choose the test that failed and the defect is related to that failure.

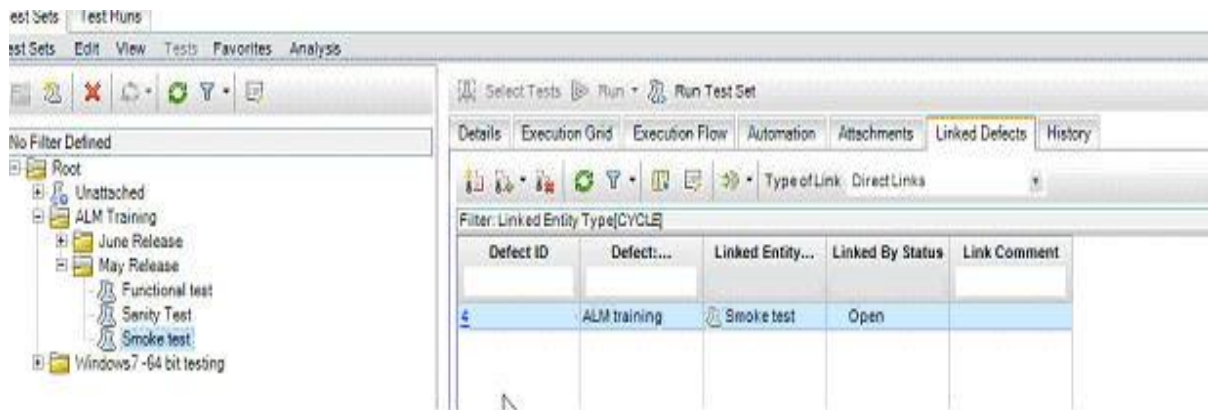


**Step #2:** Click on “Linked Defects”. Here you can either add a new defect and link it by click on this icon: . If you do so, follow the steps that you did in the above section and the defect created will get linked.

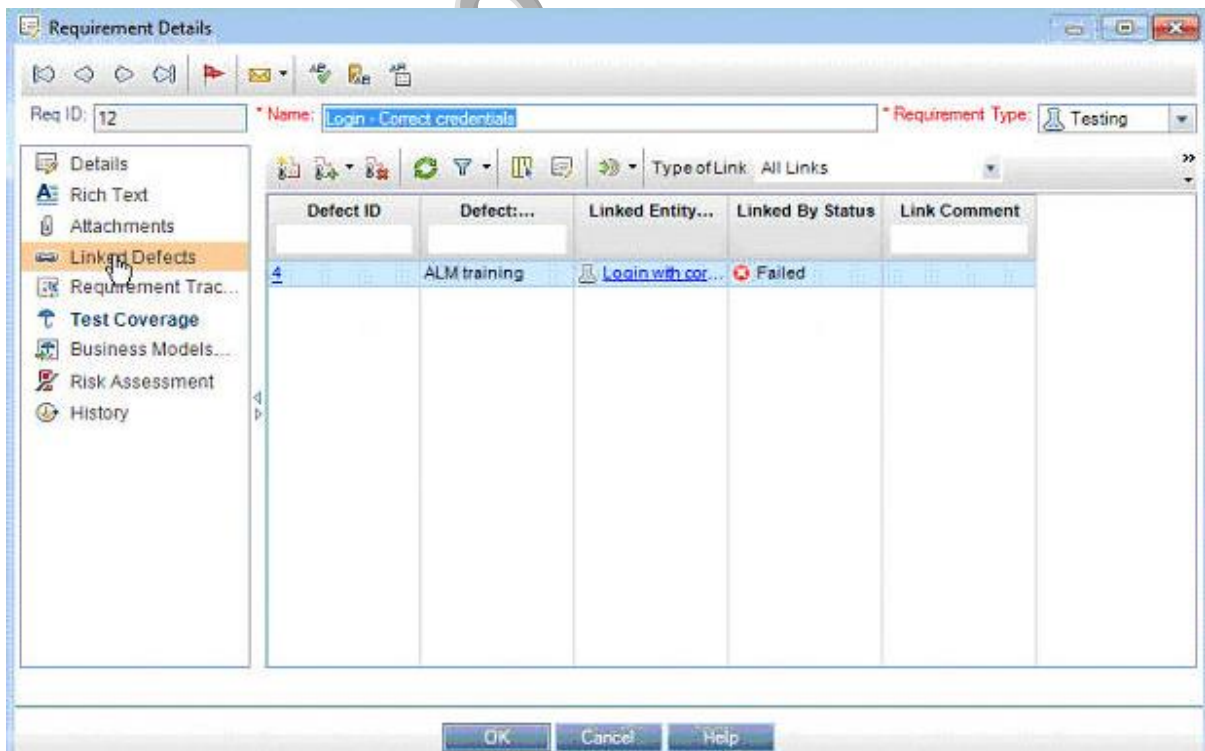
**Step #3:** I am going to choose the icon:  To link already created defect



**Step #4:** Enter the ID and Click “Link”. The defect gets linked.



**Step #5:** The linked defect can be seen in the test plan as well as requirements.





Testing Masters